

**Regulatory Submittal Part I (D)  
Deconstruction Operation Work Plan**

**Project:**

**Deconstruction of  
Fiterman Hall – 30 West Broadway  
New York, New York**

**Prepared for:**

**The Dormitory Authority of the State of New York  
City University of New York**

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## **1.0 General**

This document is the work plan for the deconstruction of Fiterman Hall. Waldorf Exteriors (Deconstruction Contractor, Subcontractor) has been retained by the PAL Environmental Safety Corp. (Abatement Contractor, Contractor) to prepare the work plan and to conduct the structural deconstruction of the Fiterman Hall Building located at 30 West Broadway, New York, NY (Fiterman Hall, the Building, the Site or 30 West Broadway). Waldorf Exteriors will perform the deconstruction, handling and disposal of non-ACM structural systems and members as well as any crane assisted lifting operations. PAL Environmental Safety Corp. will perform the abatement, handling and disposal of a specific limited amount of asbestos containing materials including any asbestos abatement activities requiring the use of vehicular equipment. All asbestos abatement activities will be performed under the asbestos license of PAL Environmental Safety Corp. (License No. 28675, File No. 99-0690). The deconstruction operation will be conducted in accordance with this work plan and all applicable regulations and variances. The deconstruction work plan may be subject to amendment based on field conditions, logistical changes and/or regulatory requirements.

The Building is a fifteen-story, three hundred seventy thousand square foot classroom building owned by DASNY and operated prior to 9/11 by CUNY/Borough of Manhattan Community College. 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. Prior to structural deconstruction, the Building will have undergone remediation for the abatement of environmental contaminants with the exception of poly-sealed contaminated heavy equipment and machinery and non-friable ACM mastic on the spandrel beams which are scheduled for abatement during the deconstruction operation as described in this document.

The purpose of Regulatory Submittal Part I(D) – Deconstruction Operations Work Plan, is to provide an overview of the procedures to be followed for:

- The removal of heavy equipment and machinery, including items requiring environmental handling and disposal.
- Dismantling, removal and disposal of windows and façade components
- Dismantling of the scaffolding system
- Removal and disposal of concrete slabs
- Removal and disposal of non-friable asbestos containing materials from the structure
- Dismantling, removal and disposal of structural steel
- Installation of shoring and bracing for the foundation walls

Engineering means and methods for the deconstruction operation has been designed by the engineer of record for the deconstruction, Howard I. Shapiro and Associates (HIS, HIS & Associates). The procedures outlined in this work plan conform to the

deconstruction design HIS has completed. The deconstruction design was formulated by engineering calculations made using historical data about the construction and renovation of the Fiterman Hall building as well as engineering analyses of the damage sustained by the structure as a result of the collapse of 7WTC. This data was supplemented with field inspections of the existing structural condition of the building performed by HIS engineers. The execution of the activities outlined in this work plan will conform to the HIS design for the deconstruction. The engineering design for this project will be submitted for review and acceptance by the New York City Department of Buildings (NYC DOB, DOB) prior to the commencement of the deconstruction operation. HIS engineers will perform regular inspections throughout the deconstruction process. Additionally, the field superintendent for the deconstruction contractor may request engineering inspections by the engineer of record for the deconstruction at any time during the course of the deconstruction project.

The information contained in this work plan is a description of the deconstruction sequence and work procedures. The deconstruction sequence and work procedures are subject to change based on the requirements of the engineer of record for the deconstruction, the Deconstruction Contractor foreman/superintendent and/or based on field conditions encountered during the course of the deconstruction operation. Amendments to this work plan will be submitted to the regulators for review as required by any changes in the deconstruction sequence and/or work procedures.

## **2.0 Related Documents**

### **2.1 Regulatory Submittal Part II – Environmental Community Air Monitoring Program**

Prior to initiation of the remediation operations, an environmental community air monitoring program (ECAMP) was approved by the USEPA and detailed in the related document, Regulatory Submittal Part II- Environmental Community Air Monitoring Program. ECAMP will remain operational during deconstruction work. The Program will consist of daily air monitoring at eight points on the perimeter of the project site. Community Monitoring will continue until Building deconstruction is complete. A Quality Assurance Project Plan (QAPP) is included as Attachment D to the ECAMP.

### **2.2 Regulatory Submittal Part III(D) – Health & Safety Plan (HASP)**

A site-specific HASP has been developed to be applied to the project. The HASP details requirements for access/egress and requirements for Personal Protective Equipment (PPE) for workers at the Site. The deconstruction HASP is included as Part III of the submittal package.

### 2.3 Regulatory Submittal Part IV(D) – Waste Sampling and Management Plan

A site-specific Waste Sampling and Management Plan (WSMP) to be applied to all waste operations for the deconstruction has been developed. The WSMP provides details on how, and by whom, waste determinations and categorizations will be made, and provides detail on sampling and analysis protocols. The WSMP is included as Part IV of the submittal package. A QAPP for the WSMP is included as Attachment B to the WSMP.

## 3.0 **Regulatory Notifications**

### 3.1 Asbestos Survey

To comply with New York State Department of Labor (NYS DOL) requirements for building demolition, Airtek has undertaken an asbestos survey intended to coordinate and complete previous survey work that was conducted at the Site. All previous documentation was reviewed and a site survey and bulk sampling were conducted. Based on this survey work, an inventory of in-place asbestos has been developed. Please refer to Attachment VIII – Asbestos Survey Table of this work plan to review asbestos survey results. The results of this survey are also included in Appendix IV to the Environmental Characterization Report.

### 3.2 NYS DOL Notification

Various federal, state and city agencies have joint regulatory jurisdiction for this remediation project. Regulatory Submittal Part I(D) will comply with Industrial Code Rule 56 (ICR56) as amended on March 21, 2007. Procedures requiring variance are outlined in Attachment II – NYS DOL Deconstruction Variance Decision. The remaining environmental work to be performed during deconstruction constitutes a ‘Large Project’ according to the criteria outlined in ICR56, written notification of the entire project has been made to the NYS DOL prior to the commencement of the remediation. New York State DOL Regulatory notification is included as Attachment I of this work plan.

### 3.3 NYS DOL Variance Decision

The remaining environmental work to be performed during deconstruction requires a site specific variance be granted by NYS DOL. Copies of the variance petition letter and decision are included as Attachment II of this work plan.

### 3.4 NYC DEP Notification

A copy of the Regulatory Submittal Part I(D) will be provided to NYC DEP for the remaining environmental work to be performed during deconstruction. An ACP7 notification has been made to the NYC DEP including the environmental work to be performed during deconstruction. However, jurisdiction for

environmental work practices and variances is under joint environmental regulatory agency guidelines. ACP7 notification is included as Attachment IV of this work plan.

### 3.5 USEPA Notification

The remaining environmental work to be performed during deconstruction constitutes a ‘Large Project’ according to the criteria outlined in EPA NESHAP, written notification of the entire project has been made to the US EPA. The submitted notification is included as Attachment III of this work plan.

### 3.6 NYC DOB Notification

All required NYC DOB permitting for deconstruction work will be obtained. A separate submittal providing details regarding the engineering of the deconstruction operation has been prepared for the review and acceptance of NYC DOB. The required site safety plan will be submitted to NYC DOB for review and acceptance. Work on the deconstruction operation will not proceed without the acceptance of the deconstruction engineering and proposed procedures from NYC DOB. Copies of all NYC DOB submittals and permitting will be provided to the regulators once it has been issued. Details of the air tugger equipment to be used for lifting and lowering during the deconstruction operation have been provided to NYC DOB for their reference.

## **4.0 Utilities - General:**

### 4.1 Electric

Permanent electrical service to the building structure will be disconnected and de-commissioned prior to the start of the deconstruction operations. Temporary electrical power will be supplied by the existing exterior temporary electrical service consisting of 800 Amps, 120 / 208 VAC electric power off of a Con Edison meter located in a protective enclosure and shed situated at the northwest corner of the Site. This temporary electrical service will be used as needed to provide power for the deconstruction operations.

### 4.2 Plumbing

Water will originate from fire hydrants located on West Broadway, Barclay Street and Greenwich Street. Directly off the hydrant a NYC DEP approved back flow preventer will be installed and a 1-1/2” hose will be installed in Stairwell C, then through a series of pumps to be distributed throughout the work area of the building for dust control during deconstruction. The backflow preventers will not impede FDNY access to the hydrants. Care will be taken to control water usage throughout the deconstruction process using only amounts of water required to ensure effective dust control. Any runoff water generated will be controlled so it

does not migrate from the site. For details regarding water control and disposal during the deconstruction operation refer to Section 7.0. Permitting for hydrant usage will be kept current by the Contractor and/or Subcontractor for the duration of the deconstruction operation.

## 5.0 Prior to Structural Deconstruction

### 5.1 Remaining Asbestos Containing Material & Limited Environmentally Contaminated Items

All non-fixed items, building components, partition walls and ceiling systems and any non-structural elements will be removed from the building during the remediation operation prior to the structural deconstruction. The only asbestos containing materials (ACM) or environmentally contaminated items remaining that will require environmentally controlled removal will be non-friable asbestos containing mastic on spandrel beams as well as a limited amount of specific large items and heavy machinery (see below list) that were sealed in poly and prepared for rigging during the remediation operation. To access and perform the removal of such items some structural components will require removal and/or the use of deconstruction equipment. To view the removal procedure for these items please refer to the below Sections 7.2.1, 7.3 and 7.7. Prior to the start of the deconstruction operations a remote decontamination facility will be installed on the ground, exterior to the building on the west side of the site. Please refer to Attachment V – Deconstruction Operations Logistics Plan of this work plan to view the decontamination facility location.

Below is a list of limited environmentally contaminated heavy machinery and equipment that is scheduled for removal during the deconstruction operation:

<u>Quant.</u>	<u>Description</u>	<u>Location</u>	<u>Floor</u>
1	Freight Elevator Motor	Elevator Machine Room	Above 15
4	Passenger Elevator Motors	Elevator Machine Room	Above 15
4	Passenger Elevator Motors	Elevator Machine Room	12th Floor
1	Fire Pump Motor	Southeast Side	Basement
1	Generator Muffler	Southwest Side	Basement

### 5.2 Bracing Installation

In order to provide additional structural bracing to the compromised Gash Area on the south side of the Building a cable bracing system will be installed. The cable bracing system has been designed by and will be installed under the engineer of record for the deconstruction, (HIS). Cable bracing will be manually wrapped around columns, fastened together utilizing cable clamps and hand tools. Slack will be taken out of the cables by tightening (twisting) the affiliated turnbuckles until the cable is secured and tightened to the specifications of the engineer of record for deconstruction. Additionally, the engineer of record for the

deconstruction will inspect the deconstruction work areas to determine if additional bracing is required in non-compromised areas in order to support the deconstruction activities being conducted. If deemed necessary additional bracing will be designed by the engineer of record and installed by the deconstruction contractor as per the specifications of the engineer of record for the deconstruction.

As the deconstruction progresses downward through the building it will become necessary to install foundation bracing in the basement for structural support. The bracing installation will be completed by the time the deconstruction operation reaches the Third Floor of the building. The basement bracing will consist of connected steel members (walers and rakers) installed on the foundation walls and connected to the basement floor slab. The basement bracing will be designed by the engineer of record for deconstruction and fabricated according to that engineer's specifications. The basement bracing design will be provided to the Metropolitan Transit Authority (MTA) for review and acceptance prior to installation. Once the deconstruction reaches the Third Floor level the bracing will be installed by the deconstruction contractor. The installation of the basement bracing will be inspected by the engineer of record for the deconstruction.

The bracing insulation may begin prior to the final approval of the Deconstruction Operation Work Plan as outlined in the Preliminary Deconstruction Activity Letter dated April 13, 2009 and accepted by the regulators on April 15, 2009.

### 5.3 Establishment of Equipment Exclusion Zones

Locations in the Gash Area that have been identified by HIS & Associates as damaged will be demarcated with danger tape installed between the beams at the perimeter of the damaged areas as an initial warning that there is an equipment exclusion zone. As a secondary means of equipment exclusion zone demarcation red paint will be applied to the surfaces of all columns in the damaged areas. Slab surfaces in the exclusion zones will not be painted due to the potential to be scuffed off during the deconstruction work.

### 5.4 Restrictions of Equipment Operation

- 1) All equipment operators (operators) and laborers will be briefed about equipment operation restrictions in the first tool box talk prior to starting the deconstruction. Operators and laborers will have the above equipment restrictions reinforced each week during tool box talks or when new operators and laborers join the deconstruction team.
- 2) Operators are to keep vehicular equipment four feet (4' 00") from slab edges at all times.
- 3) Operators are to maintain a twenty foot (20' 00") separation between their vehicular equipment and all other vehicular equipment at all times.

- 4) Operators will not allow over ten inches (0' 10") of masonry debris to pile up on a slab surface at any given time.
- 5) All operators and laborers will obey the direction of the deconstruction contractor and the contractor's NYC DOB Site Safety Manager at all times during the deconstruction work.

#### 5.5 Deconstruction Contractor Foreman/Superintendent Inspection During Work

- 1) Deconstruction Contactor foreman/superintendent will be on the floors during deconstruction and conduct periodic inspection which will occur at a minimum of once each morning and once each afternoon.
- 2) Deconstruction Contactor foreman/superintendent will walk the slab being deconstructed and the slab below at the end of each shift to look for cracks or any changes in the slab conditions. Any cracks or other changes discovered during Forman/Superintendent inspection will be reported immediately to HIS and Associates. HIS and Associates will inspect the slab and determine applicable means and methods to proceed.
- 3) The work area will be inspected and maintained to ensure that no light or loose materials are left out in the open.
- 4) HIS will perform regular engineering inspections of the deconstruction operation prior to the start deconstruction in a new work area and once per week and/or as deemed necessary by the engineer of record for the deconstruction. Additionally, then engineer of record will perform engineering inspections as requested by the Deconstruction Contractor foreman/superintendent as the deconstruction operation progresses.

### **6.0 Equipment**

The following equipment will be used at various stages during the deconstruction process. All equipment will be approved according to the deconstruction design completed by HIS and Associates prior to mobilizing the equipment for work at the site or within the building. To view equipment cut sheets on major equipment to be used during the deconstruction process refer to Attachment VII of this work plan. Required regulatory noise mitigation protocols will be complied with during the operation of equipment during deconstruction. To view the noise mitigation plan to be implemented during the deconstruction operation, refer to Attachment VI of this work plan.

#### 6.1 Crane

The crane to be used during the deconstruction operation is a mobile track mounted crawler crane. It is a free standing machine and is not connected to the building for support. The crane will be stationed at the southwest corner of the Building (corner of Barclay Street and Greenwich Street). To view a diagram of the crane location, refer to Attachment V of this work plan. A flagperson or flagpersons will be used to direct traffic, pedestrians and/or employees out of the

path of the crane when it is in use. An engineering lift plan has been designed and will be implemented by under the professional oversight of the engineer of record for the deconstruction. The lift plan will govern the usage of the crane at all times. The engineer of record for the deconstruction and the site superintendent will inspect all rigging equipment and materials prior to usage. Rigging equipment and materials will be maintained in proper working condition. All required permitting and sign-offs for the installation and operation of the crane will be obtained from NYC DOB prior to the mobilization of the crane to the site.

Crane will be used to:

- 1) Remove heavy equipment and machinery that is too large or too heavy to be downsized for chuting to the 1<sup>st</sup> floor or that was wrapped in poly during remediation for disposal as asbestos waste at a minimum or in accordance with any waste characterization results.
- 2) After roof level equipment and machinery has been rigged and lowered to the ground, the crane will lift deconstruction equipment as listed below in Section 6.3 on to the roof.
- 3) The lifting of debris and structural members off of the building for disposal.
- 4) Lift deconstruction equipment onto the main roof level to begin the deconstruction process. For details on deconstruction equipment, refer to Section 6.3. For details regarding the deconstruction process refer to Section 7.0.

## 6.2 Emergency and Readiness Hoist

The emergency and readiness hoist installed during the remediation operation will be maintained for the duration of the deconstruction operations. The hoist will only be used for emergency vertical transportation for Fire Department New York (FDNY) and any other first responder personnel. To view a diagram indicating the location of the emergency and readiness hoist refer to Attachment V of this work plan.

## 6.3 Deconstruction Equipment

The following is a summary of the equipment to be utilized to accomplish the deconstruction. Please refer to Attachment VII for cut sheets of this equipment. No more than three (3) operating machines will be placed on any single floor at a time and no more than six (6) operating machines will be in the building at any given time. Refer to the engineer of record's NYC DOB Mechanical Means Submittal to review details as to how the number of machines was established. A non-operating, idle machine will be present on the floor under deconstruction for use in the event an operating machine must be taken out of service.

- Vehicular excavators/mini excavators will be used for the systematic removal of floor slabs and walls

- Vehicular front loaders (i.e. bobcats, skid steer loaders) will be used to handle debris and material on each floor.
- Hydraulic breaker attachments will be utilized to break concrete slabs and walls and to downsize and break apart concrete.
- Grapple bucket attachments will be utilized to push and/or pull structural components and to gather debris
- Vehicular bucket loaders will be utilized to move chuted deconstruction debris from the 1<sup>st</sup> Floor or basement into trucks for disposal.
- Skip pans will be utilized to lower debris with the crane.
- Oxygen/acetylene torches for the cutting (hot work) of structural components.
- Power tools including but not limited to: chipping hammers, hand tools, power saws, percussion hammers, air compressors.
- Air tugger equipment will be used for lifting and lowering of materials, equipment, waste and other items.

Deconstruction equipment will be loaded onto the main roof level via the crane. The lifting of equipment will comply with the engineering lift plan designed by the engineer of record for the deconstruction. Please note that all diesel fuel powered equipment will utilize low sulfur diesel fuel. Various equipment manufacturers will be used to supply equipment for the deconstruction. As such, the capability of machinery to operate on low sulfur diesel will be subject to manufacturer availability.

In the event that additional deconstruction equipment is required during the course of work, the above list will be amended to include new equipment as determined by the engineer of record for the deconstruction. The amended list will be provided to the regulators for review prior to the introduction of new deconstruction equipment to the site.

Fuel for equipment and torches will be stored in lockable cages on the east side of the site. Please refer to Attachment V – Deconstruction Operations Logistics Plan to view the fuel storage cage. The storage cage for flammable materials will be properly labeled as to type of hazard and identity of material, as well as with no smoking signs. Flammable materials will be properly secured. Fire extinguishers will be available for use. Materials will be stored as per applicable permitting requirements.

## **7.0 Deconstruction Process**

This deconstruction work as outlined in this work plan will be implemented under the direction of HIS and Associates for this project. In general the structural deconstruction will start from the top and proceed downward through the building on a floor by floor basis. The general sequence of deconstruction activities is as follows:

1. Remove all windows in the building and board up openings with fire retardant plywood.
2. Install cable bracing to support damaged areas or other areas as determined by the engineer of record for the deconstruction.
3. Detach roof level machinery and equipment, prep for rigging and remove via the crane and/or other deconstruction equipment capable of performing rigging/lowering operations. Load deconstruction equipment onto the main roof level via the crane.
4. Removal of the penthouse/mechanical levels.
5. Removal of the main roof slab.
6. Removal of structural steel members within/under main roof slab.
7. Removal of façade walls and kneewalls.
8. Removal of columns and spandrel beams (including asbestos abatement).
9. Removal of floor slabs.
10. Removal of steel members within/under floor slabs.
11. This procedure then repeats from Step No. 6 through Step No. 9 for all floors downward through the Building floor by floor. Scaffolding will be dismantled floor by floor so it remains one floor below a floor that is under deconstruction. Community air monitoring stations 5 through 8 will be removed once the deconstruction operation reaches the Sixth Floor level.
12. Install steel bracing in the basement when deconstruction activities reach the Third Floor.

The above sequence is subject to change based on the requirements of the engineer of record for the deconstruction operation, the Deconstruction Contractor foreman/superintendent and/or field conditions encountered during the execution of the deconstruction operation. In some instances it may be necessary to partially remove the structure in strategic locations on lower floors ahead of the full completion of the deconstruction of a given floor. This procedure known as a “wedding cake” methodology will be performed under the oversight of the engineer of record for the deconstruction. If this methodology is employed during the deconstruction, it will be necessary to perform the removal of assumed contaminated heavy machinery and equipment and abatement of spandrel mastic as these conditions are encountered. In this method, the abatement will proceed with the deconstruction. Abatement will not be performed separately from the deconstruction on floors below deconstruction operations. For details on the removal and abatement procedures for these conditions, please refer to Sections 7.2.1, 7.2.2 and 7.7. In order to maintain a flow in the deconstruction schedule, piping and equipment within the machine rooms, steel and miscellaneous equipment will be downsized by torch cutting where necessary. During torching operations a fire guard shall be present for each torch operator and one fire guard on the floor below. All fire guards shall have access to a fire extinguisher/water hose. All fire guards and Torch Operators shall have a current FDNY Certificate of Fitness. At the termination of torching activities, an examination for fire in the area of operations and the floor below shall be conducted at the 30 and 60 minute time interval.

During the deconstruction operation, the Building standpipe system will be maintained one floor below the deconstruction. The stand pipe will be cut and capped floor by floor as the deconstruction operation progresses downward through the building. The standpipe system will be deconstructed and maintained in accordance with NYC DOB and FDNY requirements. Perimeter protection on the floors will be provided in accordance with NYC DOB and FDNY requirements. The scaffolding system will be dismantled as the deconstruction progresses downward so that the planked surface of the scaffold is one floor below a floor that is being deconstructed. Fire retardant plywood will be installed between the perimeter edge of a deconstruction floor and the scaffolding to create a barrier to prevent debris from falling to the ground from a deconstruction floor.

During the deconstruction process, dust control will be a primary concern. Water will be used at all potential sources of dust generation, throughout all phases of the deconstruction operation to ensure low levels of dust during the deconstruction process. Laborers with water hoses equipped with fogging nozzles will wet down material which may result in dust generation during removal. It is not anticipated that the deconstruction process will result in significant run-off water at the site. Any run off water will be collected and disposed of into the building sanitary sewer system and/or will be absorbed with mops, rags and/or other absorbent material and disposed of as conventional construction and demolition waste (C&D) Please note that wetting procedures and water disposal for the removal of asbestos containing materials are detailed in Section 7.7, which addresses asbestos abatement.

NYS DOL certified asbestos inspectors will be present during deconstruction activities to determine if any asbestos containing material and/or contaminated dust and debris is present that will require environmentally controlled removal. In the event that asbestos material or contaminated dust and debris are discovered during the deconstruction operation deconstruction operation work activities will stop, the Regulators will be notified and the requirements of ICR 56-11.2(f) as modified by pertinent variance decisions will be followed. Air sampling and response actions will be conducted as described for poly wrapping breaches in Section 7.2.1 below. The regulatory notifications will be subsequently amended to provide for the additional quantity and type of material abated. Evaluation criteria, monitoring procedures and abatement work practices will be as detailed in Section 7.2.2 below.

## 7.1 Window Removal

Prior to the start of deconstruction work, all windows will be removed from the entire building. Fire retardant plywood will be installed over the removed window openings so that, at a minimum, the window openings on the floor being deconstructed and four (4) floors below will be sealed. As the deconstruction progresses the window openings will be sealed maintaining a minimum the four (4) floor buffer. For example, if the 15<sup>th</sup> Floor is being deconstructed, the window openings on Floors: 14-11 will be sealed. When the deconstruction progresses to the 14<sup>th</sup> Floor, the plywood from the 14<sup>th</sup> Floor will be rotated down to seal the window

openings on the 10<sup>th</sup> Floor. The purpose of this rolling procedure is to reduce the total fire load on the Building during deconstruction. Windows will be removed by a combination of manual means, mechanical means and torch cutting. Glass will be separated from the window frames. Glass from the windows will be disposed of as C&D waste. Metal from the window frames will be separated for recycling (scrap). After windows are removed the window openings will be boarded up with fire retardant plywood.

## 7.2 Heavy Machinery & Equipment

Any non-contaminated and/or decontaminated heavy machinery and equipment will be downsized by torch cutting and prepped for rigging. Prepped machinery and equipment will be picked off the building by the crane and/or lowered by air tugger equipment either external to the building or interior to the building via shaftways, collected and placed into trucks and sent to a metal recycling facility. Refer to attachment VII to view a cut sheet for air tugger equipment. During the removal of heavy machinery and equipment the crane will be used to lift deconstruction equipment (outlined in Section 6.3) onto the main roof.

### 7.2.1 Assumed Contaminated Heavy Machinery & Equipment

Heavy machinery and equipment that were wrapped in poly during the remediation operations will be removed at this time and disposed of as asbestos containing waste at a minimum or in accordance with any waste characterization results. The plasticized surfaces of the wrapped machinery and equipment were cleaned by HEPA vacuuming and wet wiping during the remediation operations. These items will remain sealed in poly at all times during removal and will be removed wholly intact.

During this operation, in addition to the daily ICR-56 compliance asbestos air sampling array daily during each entire shift (decon clean room, 10' from the decon, etc. as determined by the OEC Asbestos Project Monitor), a minimum of three (3) outside work area (OWA) asbestos air samples (TEM analysis) will be collected around the perimeter of the area of origin of the wrapped items to be transferred to the waste loading area, and a minimum of three (3) inside work area (IWA) asbestos air samples (TEM analysis) will be collected within the demarcated area of origin of the wrapped items. In addition, OWA samples will be collected every 25 feet along the route taken to deliver the wrapped materials to the waste loading area, and a minimum of three (3) OWA asbestos air samples (TEM) will be collected in close proximity to the waste loading area during loading

operations. In addition to the three OWA samples at the area of origin, the standard daily sampling array and the community monitoring ACM air samples will serve as OWA air samples for the operation. The OEC Asbestos Project Monitor will determine the appropriate deployment of sampling equipment based on the location of the equipment to be moved and the configuration of the work area. The project will rely on the community monitoring TEM air samples for the vertical lowering of the equipment. Per the Variance Decision only “During Air Samples” will be run. In conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the last set of during samples run for any work operation will serve as final air samples for that operation unless there is an exceedance of the 70 s/mm standard for any sample. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

Heavy machinery and equipment will be removed as it is encountered as the deconstruction operation progresses downward through the building. For instance, elevator motors located on the 12<sup>th</sup> Floor will be removed when the deconstruction procedure has reached that floor. Wrapped machinery and equipment will be prepped for rigging and picked off of the building by the crane and/or lowered by air tigger equipment. Refer to Attachment VII to view a cut sheet for air tigger equipment. If it will be lowered down an interior shaftway, the poly wrapped machinery and equipment will be centered on the pallets so that pallet acts as a buffer to prevent damage to the wrapping. The crane and/or air tigger equipment will lower wrapped items to the ground exterior to the building or via interior shaftways where they will be collected and placed into trucks parked in the West Broadway and/or Greenwich Street lane closures, First Floor and/or loading dock area and sent to an asbestos waste disposal facility or otherwise disposed of in accordance with any waste characterization results. An OEC NYS DOL certified project monitor will be present during prepping and picking of wrapped machinery and equipment to ensure that proper handling is employed to prevent damage to the poly wrapping. In the event that the poly wrapping is compromised, the regulators will be notified immediately via phone and email. Also immediately, a minimum of three (3) OWA area asbestos air samples (TEM) will be established around a 25-foot perimeter of the item, and 3 IWA area asbestos samples will established around the wrapped item within ten feet of the item. The item will be cordoned-off with barrier tape to a

distance of 25 feet around the item and all communicating openings within the restricted area will be sealed per ICR 56-11.2(f) as modified by pertinent variance decisions. The OEC NYS DOL certified project monitor will perform a visual assessment to determine if visible debris has been released.

If no visible release is observed the poly will be re-sealed, the exterior of the item will be wet-wiped and HEPA vacuumed, and the area within a circumference of ten feet around the item will be wet wiped and HEPA vacuumed. In conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the IWA and OWA area asbestos samples run during this operation will serve to document airborne fiber levels for the purpose of re-occupancy of the affected area. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

If visible debris is noted, the NYS DOL certified project monitor will quantify the area affected by the debris. The Contractor will comply with the requirements of ICR 56-11.2(f) as modified by pertinent variance decisions as follows:

If debris is present and the affected area does not exceed 10sf the debris will be cleaned up via HEPA vacuuming and wet wiping, the poly will be re-sealed, the exterior of the item will be wet-wiped and HEPA vacuumed, and the area within a circumference of ten feet around the area will be wet wiped and HEPA vacuumed. In conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the IWA and OWA area asbestos samples run during this operation will serve to document airborne fiber levels for the purpose of re-occupancy of the affected area. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

If debris is present and the affected area exceeds 10sf, the Regulators will be notified as in all cases of compromised poly wrapping and additional OWA and IWA samples may be collected at the discretion of the OEC NYS DOL certified project monitor dependent on the size and configuration of the affected area. As necessary, the cordoned-off restricted area will be expanded to 25 feet from the outermost limit of the affected area. The debris will be cleaned up via HEPA vacuuming and wet wiping, the poly will be re-sealed, the

exterior of the item will be wet-wiped and HEPA vacuumed, and the area within a circumference of ten feet around the area will be wet wiped and HEPA vacuumed. In conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the IWA and OWA area asbestos samples run during this operation will serve to document airborne fiber levels for the purpose of re-occupancy of the affected area. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

If debris is present and the affected area exceeds 160sf, the Regulators will be notified and the number of perimeter (OWA) air samples will be increased to a minimum of 5 (five), and the number of IWA samples will likewise be increased to 5 (five). In consultation with the Regulators, the OEC asbestos project designer will determine the configuration of a negative air containment to be installed by the contractor. The specific details of the enclosure construction and cleaning procedures shall be submitted to the regulators as a re-opening to the approved variance decision and an amendment to the approved work plan. Additional samples may be collected at the discretion of the OEC NYS DOL certified project monitor dependent on the size and configuration of the affected area, and the cordoned-off restricted area will be increased to extend at least 25 feet beyond the outer edge of the affected area. Generally after the negative pressure containment is established, the debris will be cleaned up via HEPA vacuuming and wet wiping, the poly will be re-sealed, the exterior of the item will be wet-wiped and HEPA vacuumed, and all surfaces in the work area will be wet wiped and HEPA vacuumed. After the clean-up is complete, a visual inspection will be performed by the NYS DOL and NYC DEP certified asbestos supervisor. Once the area passes the NYS DOL and NYC DEP certified supervisor visual inspection, the OEC NYS DOL certified project monitor will perform a visual inspection of the area. Once the area passes 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 prior to regulatory visual inspection. After the area passes regulatory visual inspection, clearance sampling for asbestos and metals (5 IWA and 5 OWA – asbestos, and 5 IWA - Metals) will be conducted for the purpose of re-occupancy of the affected area. If elevated airborne asbestos fiber or metals levels are detected, the Regulators will be notified, the work area re-cleaned, and the clearance sampling

re-run. Any additional measures required based on discussions with the Regulators will be applied.

### 7.2.2 Asbestos Project Air Sampling Exceedances

In the case of any exceedance, work will stop in the area where the exceedance occurred, and a minimum of three (3) OWA area asbestos air samples (TEM) will be established around the area of the exceedance in addition to the daily ICR-56 compliance sampling being conducted. The area will be cordoned-off with barrier tape to a radius of 25 feet around the area. In addition, 3 IWA area air samples will be established within 10 feet of the exceedance location. The OEC NYS DOL certified project monitor will perform a visual assessment to determine if visible debris has been released and will review the work practices conducted in the prior shift in that area that could have resulted in an exceedance.

If no visible release is observed all surfaces within the 25-foot radius of the exceedance location will be wet-wiped and HEPA vacuumed. In conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the IWA and OWA area asbestos samples run during this operation will serve to document airborne fiber levels for the purpose of re-occupancy of the affected area. If elevated airborne asbestos fiber levels are detected the process will be repeated until sample results meet the 70s/mm<sup>2</sup> standard.

If visible debris is noted, the debris-release clean-up procedures detailed in Section 7.2.1 will be applied.

### 7.3 Removal of Penthouse/Mechanical Levels

The penthouse/mechanical level masonry façade walls and roofing will be pulled onto the main roof slab by a combination of manual means, mechanical means and/or vehicular equipment. Any heavy machinery located within the penthouse/mechanical levels will be removed by the procedures described in Section 7.2 and/or 7.2.1. Elevator shafts will be opened up from the penthouse/mechanical levels to the First Floor for use as debris chutes. For more details regarding shafts/debris chutes, refer to Section 8.0. Debris from the penthouse/mechanical levels façade walls and roofing will be pushed down the debris chute. Chuted debris will be collected by vehicular machines operating on the First Floor with the assistance of laborers. Collected debris will be placed into waste dumpsters and/or waste trucks docked either on the First Floor, the loading dock and/or in an exterior lane closure at the site. Masonry debris will be

sent to a recycling facility and roofing debris will be disposed of as C & D waste. This procedure will continue until only the steel structure of the penthouse/mechanical levels are remaining. Simultaneous with the removal of the penthouse/mechanical levels the Deconstruction Contractor will create an opening in the main roof slab and install a ramp and/or ramps between the main roof and the Fifteenth Floor slab so that equipment can travel between these floors. The ramps will be installed in accordance with the specifications of the engineer of record for the deconstruction.

The penthouse/mechanical levels steel columns, girders and beams will be removed in sequence in accordance with the specifications of the engineer of record for the deconstruction. Points of attachment will be made with steel cables, chokers or nylon slings around the columns, mullions and other structural components remaining at one end and a skid steer/loader at the other end of the cabling chokers. The skid steer loaders will assist in the removal of perimeter columns. These machines will be used as anchors, ensuring that steel columns can only move in the planned direction, onto the roof slab during the deconstruction process. The skid steer loaders will provide the necessary mass to anchor the columns, as well as provide the necessary power to pull columns onto the roof slab. After the skid steer loaders are in place and secured to the perimeter columns, the remaining procedures will continue. Penthouse/mechanical levels structural steel perimeter columns will be removed by torch cutting the steel columns above the floor slab. Scaffold deconstruction levels will be planked and protected with fire retardant plywood during the course of the work. All workers utilizing the scaffolding during deconstruction will have the required training and hold the proper certification to do so. During torch cutting operations, the operators of front loaders with the assistance of laborers, will monitor cable tension and remove slack in cables, maintaining a constant pull on the section being brought inward. Columns will be cut, leaving tabs that will ensure that the columns remain vertical until they are pulled inward with the positive control applied by deconstruction equipment. Pre-burning will be performed to create hinges allowing columns to be pulled inward in a controlled manner. After columns have been prepared, front loaders will move away from the column pulling the columns inward onto the roof slab. After the columns have been pulled inward and onto the roof slab, the bent over tabs will be torch cut to sever the columns from the column stub below. The steel columns, steel girders and non-ACM impacted steel beams will be detached from the severed columns by torch cutting and prepped for rigging and then lowered to the ground via the crane and/or air tugger equipment, collected and placed into containers, flatbeds and/or trucks on the First Floor, loading dock and/or in a lane closure at the site. Please refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. An NYS DOL

certified asbestos inspector will be present during deconstruction activities to determine if any asbestos containing material is present that will require environmentally controlled removal. As a secondary means of steel removal, detached steel members will be downsized by torch cutting for handling by deconstruction vehicular equipment and dropped to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds or trucks docked either on the First Floor, the loading dock and/or in an exterior lane closure at the site. A flagperson or flagpersons will direct traffic, pedestrians and employees away from the lane closure(s) when waste/recycling trucks are leaving the site. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0. If any steel beams are found to be impacted by ACM mastic, the asbestos abatement procedure outlined in Section 7.7 will be performed.

#### 7.4 Removal of Main Roof Slab

The main roof slab will be deconstructed using excavators and loaders, equipped with hydraulic breakers. The main roof slab surface will be systematically broken into small pieces. The acceptable size of chopped slab pieces will be determined by the engineer of record for the deconstruction. Debris from the roof slab removal will be sent to the floor slab below (Fifteenth Floor) the roof slab. Vehicular equipment operating on the floor below the roof slab will collect concrete debris and push it into the elevator shaft which will be used as a debris chute to the First Floor. Debris from the roof slab removal will not be allowed to accumulate beyond the amount specified by the engineer of record for the deconstruction. Chuted debris will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected debris will be placed into waste dumpsters and/or waste trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Concrete slab debris will be sent to a recycling facility. This procedure will continue until only the steel members within and/or under the main roof slab remain. Once the main roof slab has been removed to a point determined by the engineer of record for the deconstruction, vehicular equipment will travel to the floor below (Fifteenth Floor) via the ramp(s). The remainder of the main roof slab will be removed from the floor below (Fifteenth Floor) by vehicular excavators. Removal of setback roof slabs will be performed by the same procedure as the removal of the main roof slab.

## 7.5 Removal of Structural Steel Members Within/Under Main Roof Slab

Structural steel members (girders and beams) existing within and/or under the main roof slab will be detached from the tops of the columns on the floor below (Fifteenth Floor columns) by torch cutting and will be dropped onto the slab below (Fifteenth Floor slab). Detached steel members will be prepped for rigging and lowered to the ground by the crane and/or air tugger equipment either exterior to the building or via interior shaftways, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal, detached steel members will be downsized by torch cutting for handling by deconstruction vehicular equipment and lowering to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds and/or trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0.

## 7.6 Façade Wall and Kneewall Removal

The façade wall consists of brick and mortar backed on the interior side with masonry block kneewall. The upper portion (above window opening) of the façade wall will be pulled onto the slab surface using vehicular equipment with the assistance of laborers. There is no asbestos containing material present in the upper portion of the façade walls. Debris will not be allowed to accumulate beyond the amount specified by the engineer of record for the deconstruction. Removed brick and mortar debris will be collected by vehicular equipment with the assistance of laborers. Brick and mortar debris will be pushed down debris chutes to the First Floor. Vehicular equipment operating on the First Floor with the assistance of laborers will collect the debris. Collected debris will be placed into waste dumpsters or waste trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. The non-ACM impacted brick and mortar debris will be sent to a recycling facility.

After the removal of the upper portion of the façade between bays is complete the lower portion of the façade wall (below window openings) including the kneewalls will be removed. All asbestos containing material present on the lower portion (below the window openings) of the façade wall system was removed during the remediation operation. To view a survey table of all asbestos containing materials remaining in the Building after the completion of the remediation operation, refer to Attachment VIII

of this work plan. The lower portion of the façade including the kneewall will be pulled onto the slab surface using vehicular equipment with the assistance of laborers. Debris will not be allowed to accumulate beyond the amount specified by the engineer of record for the deconstruction. Removed masonry, brick and mortar debris will be collected by vehicular equipment with the assistance of laborers. Masonry, brick and mortar debris will be pushed down debris chutes to the First Floor. Vehicular equipment operating on the First Floor with the assistance of laborers will collect the debris. Collected debris will be placed into waste dumpsters or waste trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. The non-ACM impacted brick and mortar debris will be sent to a recycling facility.

#### 7.7 Removal of Perimeter Columns and Spandrel Beams (Incl. ACM Abatement)

There is non-friable, non-organically bound, asbestos containing mastic applied to the exterior surface on the web of steel spandrel beams located around the perimeter of the floors. The perimeter columns that the spandrel beams are connected to are not impacted by the mastic material.

All personnel performing the removal of asbestos containing materials (ACM) during the deconstruction will hold valid NYS DOL and NYC DEP certified asbestos handler and/or supervisor certifications. All personnel operating vehicular equipment to assist in asbestos abatement without disturbing ACM will hold valid NYS DOL allied trades certification. A twenty-five foot (25') separation between asbestos work areas and non-asbestos work areas will be observed in all areas where asbestos abatement activities will take place. All personnel performing the removal of ACM during the deconstruction operations are required to utilize the proper personal protective equipment (PPE) at all times. The minimum PPE required for deconstruction operations ACM removal is as follows:

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

The remote decontamination unit established on the west side of the site will be used for the decontamination of personnel performing the removal of ACM. Approval is requested to use the remote decon without attaching airlocks to each work area. Two (2) layers of 6mil poly will be installed on the floor surface adjacent to each work area. The plasticized section of floor will serve as a

changing area. NYS DOL and NYC DEP certified asbestos handlers leaving the work areas will proceed to the changing area. Once on the poly, NYS DOL and NYC DEP certified asbestos handlers remove their outer layer of disposable coverall suit and place them into asbestos bags. NYS DOL and NYC DEP certified asbestos handlers will clean the outside of the underlying coverall suit by HEPA vacuuming. Once the underlying suit has been cleaned, the NYS DOL and NYC DEP certified asbestos handlers will don a second disposable coverall suit, exit the changing area and proceed to the remote decontamination facility. Full bags of suits from the changing areas will be disposed of as asbestos waste at a minimum and in accordance with any waste characterization results. Daily asbestos air samples will be collected both inside (IWA) the changing area, and at the exit (OWA) of the changing area, as it will be considered part of the “decon” for the project.

After the removal of an area of the façade wall and kneewall sufficient to provide the required twenty-five foot (25’) separation between abatement and other non-certified trades is complete on a given floor, the removal of steel columns and steel spandrel beams, including ACM abatement, will begin in that area. Torch cutting of ACM covered steel will be prohibited during the deconstruction operation. In areas where torch cutting operations will be performed in close proximity to plasticized surfaces, fire resistant torch/welding blankets will be installed over the poly adjacent to the item to be cut/downsized prior to the commencement of torch cutting. Fireguard(s) will be present during torch cutting operations.

The abatement of the spandrel beams may be performed on the floors interior to the Building or from the scaffolding exterior to the Building. There are four abatement methods that may be used to perform the asbestos removal. One method or any of the others may be used or some combination of all methods may be used. A determination of which abatement method shall be used will be made by the Abatement Contractor’s NYS DOL certified project designer based on consultation with field management and supervision. The four abatement methods are as follows:

1. Disposal of Spandrel Beams with ACM Mastic Intact (Section 7.7.2)
2. Removal of ACM Mastic from Spandrel Beams (Floor Slab Work Area) (Section 7.7.3)
3. Spot Removal of ACM Mastic (Section 7.7.4)
4. Removal of ACM Mastic from Spandrel Beams (Scaffold Platform Work Area) Section 7.7.5)

Please note that in order to perform methods, 1, 2 and 3, it is necessary for the deconstruction contractor to lower the spandrel beams onto the floor slab prior to the commencement of asbestos removal. In method 4, the lowering of the beams will be performed after the abatement is completed.

### 7.7.1 Lowering of Spandrel Beams Onto Floor Slabs

The columns and spandrel beams will be removed in sequence in accordance with the specifications of the engineer of record for the deconstruction with the ACM mastic still in place on the spandrel beams. In this scenario, points of attachment to perimeter columns will be made with steel cables, chokers or nylon slings around the columns remaining at one end and a skid steer/loader at the other end of the cabling chokers. The skid steer loaders will assist in the removal of perimeter columns. These machines will be used as anchors, ensuring that steel columns can only move inward, onto the floor slab during the deconstruction process. The skid steer loaders will provide the necessary mass to anchor the columns, as well as provide the necessary power to pull columns onto the floor slab. Structural steel perimeter columns will be removed by torch cutting the steel columns above the floor slab. OSHA compliant fall protection will be maintained during this and other deconstruction activities performed close to the open perimeter of the structure. The scaffolding enclosure system surrounding the building will remain in place one floor below the deconstruction to manage fall exposure. Scaffolding at deconstruction levels will be planked and protected with fire retardant plywood during the course of the work. All workers utilizing the scaffolding during deconstruction will have the required training and hold the proper certification to do so.

In each location where there are spandrel beams with non-friable ACM mastic present on the exterior surface of the web the following procedure will be performed. NYS DOL and NYC DEP certified asbestos handlers will place two layers of 6mil fire retardant poly below the affected spandrel beam to be removed. If the abatement method to be performed is method 3 (spot abatement) wood and or metal supports will be installed over the plasticized floor slab. Perimeter column and spandrel beam removal will take place floor by floor as the deconstruction progresses downward through the building. Cabling and chokers will be secured around the spandrel beams to provide a means of handling the beams with deconstruction equipment. After the cabling is installed, pre-burning will be performed to create hinges allowing columns to be pulled inward in a controlled manner. Columns will be torch cut, leaving tabs that will ensure that the columns remain vertical until they are pulled inward with the positive control applied by deconstruction equipment. After columns and spandrel beams have been prepared, front loaders will move away from the perimeter pulling the columns inward with the spandrel beams connected and aligned over the plasticized area onto the floor slab and/or wood or metal supports on the plasticized area of the floor slab. After the columns have been pulled inward and onto the floor slab, the bent over tabs will be torch cut to sever the columns from the column stub below. Spandrel beams will be detached from the columns by torch cutting by at

column connection points where there is no ACM mastic present leaving the spandrel beam on top of the plasticized section of the floor slab and/or onto the wood and/or metal supports on the plasticized section of the floor slab. The beams will be oriented with the ACM mastic facing upward. As ACM mastic was applied only to the exterior surface of the spandrel beam web it is not anticipated that any mastic will be present at the connection points. Preliminary deconstruction contractor inspections confirm this position. OEC NYS DOL certified asbestos inspector will be available to determine if ACM mastic is present at the connection points. In the event that ACM mastic is present at the connection points, the columns will be torch cut in an area above and/or below the ACM-impacted connection points to detach the spandrel beam and a portion of the impacted columns without disturbing the ACM mastic. The ACM-impacted section of column at the connection point (if any exist – none observed to date) will be cut away from the (non-ACM-impacted) remainder of the column so that it remains attached to the ACM-impacted spandrel and is abated with the ACM-impacted spandrel. The detached columns will be prepped for rigging and then lowered to the ground via the crane and/or air tugger equipment either exterior to the building or via interior shaftways, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal, detached columns will be downsized by torch cutting for handling by deconstruction vehicular equipment and dropped to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds and/or trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0.

#### 7.7.2 Disposal of Spandrel Beams With ACM Mastic Intact

In this method, the detached beams will be wrapped in two layers of 6-mil fire retardant poly with the non-friable ACM mastic intact and prepped for rigging. After the beams have been wrapped in poly, NYS DOL and NYC DEP certified asbestos handlers will clean the surface of the wrapped beams by HEPA vacuuming and wet wiping. In order to prevent damage to the poly wrapping, whole beams being lowered down an interior shaftway will be wrapped with a rubber matting material, such as EPDM or similar product. Rubber matting will be installed after the beams have been sealed in poly. The poly and rubber matting wrapped spandrel beams will be lowered to the ground by the crane and/or air tugger equipment either exterior to the building or via interior shaftways where they will be collected and placed into asbestos waste trucks, trailers and/or

dumpsters and sent to an asbestos waste disposal facility or otherwise disposed of in accordance with any waste characterization results.

During this operation, in addition to the daily ICR-56 compliance asbestos air sampling array collected daily during each entire shift (decon clean room, 10' from the decon, etc. as determined by the OEC Asbestos Project Monitor), a minimum of three (3) OWA asbestos air samples (TEM analysis) will be collected around the perimeter of the spandrel beam cutting and wrapping work area, and a minimum of three (3) IWA asbestos air samples will be collected within the work area. In addition, OWA samples will be collected every 25 feet along the route taken to deliver the wrapped beams to the waste loading area (i.e., crane swing path or rolling transport path), and a minimum of three (3) OWA asbestos air samples (TEM) will be collected around the waste loading area during loading operations. The OEC Asbestos Project Monitor will determine the appropriate deployment of sampling equipment based on the location of the equipment to be moved and the configuration of the work area. The project will rely on the community monitoring TEM air samples for the vertical lowering of the wrapped beams. Only “During Air Samples” will be run. As per the Variance Decision, in conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the last set of during samples run for any work operation will serve as final air samples for that operation unless there is an exceedance of the 70 s/mm<sup>2</sup> standard for any sample. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

### 7.7.3 Removal of ACM Mastic From Spandrel Beams (Floor Slab Work Area)

In the second method, a drop cloth consisting of fire retardant poly will be installed on the floor surface contiguous to the spandrel beam work area. This drop cloth will function as a decontamination area. After the spandrel beams are laid onto the plasticized slab, NYS DOL and NYC DEP certified asbestos handlers will wet down the non-friable ACM spandrel mastic with amended water. NYS DOL and NYC DEP certified asbestos handlers will then remove the mastic from the surface of the beams using manual and/or mechanical means. Any power tools used to disturb ACM will be manufacturer equipped with HEPA filter exhaust ventilation. Removed mastic debris will be placed directly into 6-mil asbestos bags and the bags will be sealed with duct tape.

The sealed bags will be transported to the adjacent changing area where they will be placed into a second 6-mil asbestos bag. The second bag will then be sealed with duct tape. The exterior surface of sealed bags will be decontaminated by HEPA vacuuming and wet-wiping. Once

decontaminated, the bags will be properly labeled. The containerized waste will be placed into carts made of a hardwall material such as plastic or metal that are lined with poly. The full carts will then be transported by lowering down a shaft and/or down the exterior of the building with the crane and/or air tugger equipment. As an alternate means of transport, containerized waste may be carried down the stairs and/or scaffolding stair towers by NYS DOL and NYC DEP certified asbestos handlers. Refer to Attachment VII to view a cut sheet for air tugger equipment. Sealed, cleaned bags of mastic will be placed into the asbestos waste storage facility. The asbestos waste storage facility will be located inside the construction fence, adjacent to the sidewalk bridge on the northwest side of the site. To view the location of the asbestos waste storage facility, please refer to Attachment V – Deconstruction Operation Logistics Plans. Once enough waste has accumulated in the asbestos waste storage facility, the bags will be loaded into asbestos waste trucks and/or containers docked on the First Floor, loading dock and/or in an exterior lane closure at the site for disposal as asbestos waste at a minimum or in accordance with any waste characterization results. It is not anticipated that a significant amount of run-off water will be generated during the spandrel mastic abatement. HEPA vacuums, mops, rags and/or other absorbent material used to collect any run-off water will be containerized and decontaminated for disposal as asbestos waste or in accordance with any waste characterization results. Collected water will be filtered to five (5) microns and discharged into the NYC sewer system.

After the mastic is removed from spandrels the surface where the material was removed will be cleaned by HEPA vacuuming and wet wiping. Once cleaning is complete, the Abatement Contractor's NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection of the clean spandrel beams. Once the beams have passed the Abatement Contractor's visual inspection, the Owner's Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the cleaned spandrel beams. Once the spandrel beams have passed OEC visual inspection the cleaned spandrel beams will be released for removal by the Deconstruction Contractor. Fully cleaned beams will be prepped for rigging and lowered to the ground via the crane and/or air tugger equipment either exterior to the building or via interior shaftways, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the Site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal for full cleaned beams, cleaned spandrel beams will be downsized by torch cutting for handling by deconstruction vehicular equipment and lowering to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds and/or

trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. To view waste containers and lane closure locations please refer to Attachment V – Deconstruction Operation Logistics Plans. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0.

During this operation, in addition to the daily ICR-56 compliance asbestos air sampling array collected daily during each entire shift (decon clean room, 10' from the decon, etc. as determined by the OEC Asbestos Project Monitor), a minimum of Three (3) OWA asbestos air samples (TEM analysis) will be collected around the perimeter of the spandrel beam scraping work area, and three (3) IWA asbestos air samples will be collected within the work area. An additional three (3) OWA samples will be collected at the perimeter of the waste packaging and decontamination area long with three (3) IWA samples within the waste packaging and decontamination area. A minimum of three (3) samples will be collected at the waste loading area during waste loading operations. The OEC Asbestos Project Monitor will determine the appropriate deployment of sampling equipment based on the location of the materials being processed and the configuration of the work area. The project will rely on the community monitoring TEM air samples for the vertical lowering of the spandrel mastic waste. Only “During Air Samples” will be run. As per the Variance Decision, in conjunction with a satisfactory visual inspection by the OEC Asbestos Project Monitor, the last set of during samples run for any work operation will serve as final air samples for that operation unless there is an exceedance of the 70 s/mm<sup>2</sup> standard for any sample. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

#### 7.7.4 Spot Removal of ACM Mastic

In the third method, spot removal of the ACM mastic will be performed to allow for the downsizing of spandrel beams prior to lowering. The spandrel beams will be lowered to the plasticized floor slab and detached from the columns onto wood and/or metal supports installed on the plasticized floor slab as described above in Section 7.7.1. The size of the pieces to which the spandrel will be downsized will be determined by the engineer of record for the deconstruction. Spot abatement locations will be determined based on the specifications of the engineer of record's downsizing requirements to coincide with the locations where the abated beams will be torch cut. The spot removal locations to be abated will be a minimum of twelve inches (12”) in width and from flange to flange. NYS DOL and NYC DEP certified asbestos handlers will wet down the non-friable ACM spandrel mastic with amended water at each spot removal location. NYS DOL and NYC DEP certified asbestos handlers will the

remove the mastic from the surface of the beams using manual and/or mechanical means. Any power tools used to disturb ACM will be manufacturer equipped with HEPA filter exhaust ventilation. Removed mastic debris will be placed directly into 6-mil asbestos bags and the bags will be sealed with duct tape.

The sealed bags will be transported to the adjacent changing area where they will be placed into a second 6-mil asbestos bag. The second bag will then be sealed with duct tape. The exterior surface of sealed bags will be decontaminated by HEPA vacuuming and wet-wiping. Once decontaminated, the bags will be properly labeled. The containerized waste will be placed into carts made of a hardwall material such as plastic or metal that are lined with poly. The full carts will then be transported by lowering down a shaft and/or down the exterior of the building with the crane and/or air tugger equipment. As an alternate means of transport, containerized waste may be carried down the stairs and/or scaffolding stair towers by NYS DOL and NYC DEP certified asbestos handlers. Refer to Attachment VII to view a cut sheet for air tugger equipment. Sealed, cleaned bags of mastic will be placed into the asbestos waste storage facility. The asbestos waste storage facility will be located inside the construction fence, adjacent to the sidewalk bridge on the northwest side of the site. To view the location of the asbestos waste storage facility, please refer to Attachment V – Deconstruction Operation Logistics Plans. Once enough waste has accumulated in the asbestos waste storage facility, the bags will be loaded into asbestos waste trucks and/or containers docked on the First Floor, loading dock and/or in an exterior lane closure at the site for disposal as asbestos waste at a minimum or in accordance with any waste characterization results. It is not anticipated that a significant amount of run-off water will be generated during the spandrel mastic abatement. HEPA vacuums, mops, rags and/or other absorbent material used to collect any run-off water will be containerized and decontaminated for disposal as asbestos waste or in accordance with any waste characterization results. Collected water will be filtered to five (5) microns and discharged into the NYC sewer system.

After the spot removal of mastic from spandrels is complete, the spot abated surfaces where the material was removed will be cleaned by HEPA vacuuming and wet wiping. Once cleaning is complete, the Abatement Contractor's NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection of the clean spot removal locations. Once the spot abated beams have passed the Abatement Contractor's visual inspection, the Owner's Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the spot abated spandrel beams. After the spot abated beams have passed OEC visual inspection, NYS DOL and NYC DEP certified asbestos handlers will remove the sections of poly on the floor slab from between the supports.

The removed poly will be containerized and disposed of as asbestos waste at a minimum and in accordance with any waste characterization results.

After the poly is removed, the spot abated beams will be downsized into segments by torch cutting while the beams are still situated on the supports. Once the beams have been downsized, NYS DOL and NYC DEP certified asbestos handlers will wrap the beam segments in two (2) layers of fire retardant poly. To prevent damage to the poly wrapping during lowering, the poly wrapped beam segments will either be wrapped in rubber matting material and/or loaded into skip pans and/or carts made of a hardwall material such as plastic or metal. Rubber matting will be installed after the beam segments have been sealed in poly. The poly and rubber matting wrapped spandrel beam segments and/or skip pans and/or carts of poly wrapped spandrel beam segments will be lowered to the ground by the crane and/or air tugger equipment either exterior to the building or via interior shaftways where they will be collected and placed into asbestos waste trucks, trailers and/or dumpsters and sent to an asbestos waste disposal facility or otherwise disposed of in accordance with any waste characterization results.

During this operation, in addition to the daily ICR-56 compliance asbestos air sampling array collected daily during each entire shift (decon clean room, 10' from the decon, etc. as determined by the OEC Asbestos Project Monitor), a minimum of Three (3) OWA asbestos air samples (TEM analysis) will be collected around the perimeter of the spandrel beam scraping work area, and three (3) IWA asbestos air samples will be collected within the work area. An additional three (3) OWA samples will be collected at the perimeter of the waste packaging and decontamination area long with three (3) IWA samples within the waste packaging and decontamination area. A minimum of three (3) samples will be collected at the waste loading area during waste loading operations. The OEC Asbestos Project Monitor will determine the appropriate deployment of sampling equipment based on the location of the materials being processed and the configuration of the work area. The project will rely on the community monitoring TEM air samples for the vertical lowering of the spandrel mastic waste. As per the Variance Decision only "During Air Samples" will be run, and the last set of during samples run for any work operation will serve to document airborne asbestos fiber levels for reoccupancy purposes for the operation unless there is an exceedance of the 70 s/mm standard for any sample. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

#### 7.7.5 Removal of ACM Mastic From Spandrel Beams (Scaffold Platform Work Area)

The scaffolding enclosure system surrounding the building will serve as a working platform for the in place ACM abatement procedure. Access to the work areas will be either via the scaffolding system stair towers and/or interior stairwells. NYS DOL and NYC DEP certified asbestos handlers will install one (1) layer of reinforced 6mil fire retardant poly from the underside of the exposed spandrel beams to the scaffold structure, across the surface of the scaffolding platform and up the surface of the scaffolding outside guardrail forming a poly basin beneath the spandrel beam and over the scaffolding platform and outside guardrails. Refer to the diagram attached to the NYSDOL Variance in Work Plan Attachment II to view a sketch of a typical installation. Due to space limitations on the site, a ground level drop cloth will not be installed in accordance with the Deconstruction Operation Variance Decision. In lieu of the plastic, an area will be cordoned-off that extends at least 10' beyond the demarcated work area above, and the OEC NYSDOL certified Project Monitor will visually inspect the cordoned-off area for debris.. As the building is undergoing deconstruction and will not be occupied, the fire retardant plywood sealed window openings within twenty-five feet of the work areas will not be plasticized in accordance with the Deconstruction Operation Variance Decision. The plywood will be HEPA vacuumed at the completion of work in a particular work area. Once plasticization is complete in a work area, NYS DOL and NYC DEP certified asbestos handlers will wet the non-friable ACM mastic with amended water. NYSDOL and NYC DEP certified asbestos handlers will remove the mastic from the spandrel beams by manual and/or mechanical means. Any power tools used to disturb ACM will be manufacturer equipped with HEPA filter exhaust ventilation. Removed mastic debris will be placed directly into 6-mil asbestos bags and the bags will be sealed with duct tape.

The sealed bags will be transported to the adjacent changing area where they will be placed into a second 6-mil asbestos bag. The second bag will then be sealed with duct tape. The exterior surface of sealed bags will be decontaminated by HEPA vacuuming and wet-wiping. Once decontaminated, the bags will be properly labeled. The containerized waste will be placed into carts made of a hardwall material, such as plastic or metal, that are lined with poly. The full carts will then be transported by lowering down a shaft and/or lowering in skip pans down the exterior of the building with the crane and/or air tugger equipment. As an alternate means of transport, containerized waste may be carried down the stairs and/or scaffolding stair towers by NYS DOL and NYC DEP certified asbestos handlers. Refer to Attachment VII to view a cut sheet for air tugger equipment. Sealed, cleaned bags of mastic will be placed into the

asbestos waste storage facility. The asbestos waste storage facility will be located inside the construction fence, adjacent to the sidewalk bridge on the northwest side of the site. To view the location of the asbestos waste storage facility, please refer to Attachment V – Deconstruction Operation Logistics Plans. Once enough waste has accumulated in the asbestos waste storage facility, the bags will be loaded into asbestos waste trucks and/or containers docked on the First Floor, loading dock and/or in an exterior lane closure at the site for disposal as asbestos waste at a minimum or in accordance with any waste characterization results. It is not anticipated that a significant amount of run-off water will be generated during the spandrel mastic abatement. HEPA vacuums, mops, rags and/or other absorbent material used to collect any run-off water will be containerized and decontaminated for disposal as asbestos waste or in accordance with any waste characterization results. Collected water will be filtered to five (5) microns and discharged into the NYC sewer system.

After the mastic is removed from spandrels the surface where the material was removed will be cleaned by HEPA vacuuming and wet wiping. Once cleaning is complete, the Abatement Contractor's NYS DOL and NYC DEP certified asbestos supervisor will perform a visual inspection of the clean spandrel beams. Once the beams have passed the Abatement Contractor's visual inspection, the Owner's Environmental Consultant NYS DOL certified project monitor will perform a visual inspection of the cleaned spandrel beams. Once the spandrel beams have passed OEC visual inspection the cleaned spandrel beams will be released for removal by the Deconstruction Contractor. The cleaned spandrel beams and affiliated structural members will be detached by the procedure described in Section 7.7.1. Fully cleaned beams and affiliated structural members will be prepped for rigging and lowered to the ground via the crane and/or air tugger equipment either exterior to the building or via interior shaftways, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the Site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal, cleaned spandrel beams and affiliated structural members will be downsized by torch cutting for handling by deconstruction vehicular equipment and lowering to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds and/or trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. To view waste containers and lane closure locations please refer to Attachment V – Deconstruction Operation Logistics Plans. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0.

During all of these abatement methods, in addition to the daily ICR-56 compliance asbestos air sampling array collected daily during each entire shift (decon clean room, 10' from the decon, etc. as determined by the OEC Asbestos Project Monitor), a minimum of Three (3) OWA asbestos air samples (TEM analysis) will be collected around the perimeter of the spandrel beam scraping work area, and three (3) IWA asbestos air samples will be collected within the work area. An additional three (3) OWA samples will be collected at the perimeter of the waste packaging and decontamination area long with three (3) IWA samples within the waste packaging and decontamination area. A minimum of three (3) samples will be collected at the waste loading area during waste loading operations. The OEC Asbestos Project Monitor will determine the appropriate deployment of sampling equipment based on the location of the materials being processed and the configuration of the work area. The project will rely on the community monitoring TEM air samples for the vertical lowering of the spandrel mastic waste. As per the Variance Decision, only "During Air Samples" will be run, and the last set of during samples run for any work operation in conjunction with a satisfactory visual inspection of the work area, the waste area, and the waste loading area will serve to document airborne asbestos fiber levels for reoccupancy purposes for the operation unless there is an exceedance of the 70 s/mm standard for any sample. If elevated airborne asbestos fiber levels are detected the Regulators will be notified and the asbestos project exceedance procedures detailed in Section 7.2.2 will be applied.

## 7.8 Removal of Interior Columns

After the removal of the perimeter columns and spandrel beams is complete on a given floor, the removal of interior steel columns will begin. Interior beams and girders will have been removed by this point following the removal of the slab above the affected floor. The interior columns will be removed in sequence in accordance with the specifications of the engineer of record for the deconstruction. Points of attachment to interior columns will be made with steel cables, chokers or nylon slings around the columns remaining at one end and a skid steer/loader at the other end of the cabling chokers. The skid steer loaders will assist in the removal of interior columns. These machines will be used as anchors, ensuring that steel columns can only move inward, onto the floor during the deconstruction process. The skid steer loaders will provide the necessary mass to anchor the columns, as well as provide the necessary power to pull columns onto the floor slab. Structural steel interior columns will be removed by torch cutting the steel columns above the floor slab. Interior column removal will take place floor by floor as the deconstruction progresses downward through the building. Pre-burning will be performed to create hinges allowing columns to be pulled inward in a controlled manner. Columns will be torch cut, leaving tabs that will

ensure that the columns remain vertical until they are pulled inward with the positive control applied by deconstruction equipment. After columns have been prepared, front loaders will move away from the curtain wall pulling the columns inward onto the floor slab. After the columns have been pulled inward and onto the floor slab, the bent over tabs will be torch cut to sever the columns from the column stub below. The detached columns will be prepped for rigging and then lowered to the ground via the crane and/or air tugger equipment, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal, detached columns will be downsized by torch cutting for handling by deconstruction vehicular equipment and lowering to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds and/or trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0.

#### 7.9 Removal of Floor Slabs

After removal of the interior columns is complete on a given floor the removal of the floor slab will begin on that floor. Floor slabs will be deconstructed using excavators and loaders, equipped with hydraulic breakers. The slab surface will be systematically broken into small pieces. The acceptable size of chopped slab pieces will be determined by the engineer of record for the deconstruction. Debris from the slab removal will be sent to the floor slab below. Vehicular equipment operating on the floor below will collect concrete and masonry debris and push it into to the elevator shaft which will be used as a debris chute to the First Floor. Debris from the slab removal will not be allowed to accumulate beyond the amount specified by the engineer of record for the deconstruction. Chuted debris will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected debris will be placed into waste dumpsters or waste trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Concrete slab debris will be sent to a recycling facility.

The structural steel supporting any metal decking and slab of each bay will be cut with torches. Any metal decking present will be separated from the concrete through the means of a hammer attachment on one of the pieces of equipment permitted for use on the floors during deconstruction. The equipment permitted for use on the floors during deconstruction will be determined by the engineer of record for the deconstruction. Some

concrete will remain attached to the metal decking and this combination of metal decking and concrete will be disposed of as construction debris by pushing down debris chutes or loading into skip pans for lowering by the crane and/or air tugger equipment. Refer to Attachment VII to view a cut sheet for air tugger equipment. This procedure will continue until only the steel members within and/or under the slab remain. Once the slab has been removed to a point determined by the engineer of record for the deconstruction, vehicular equipment will travel to the floor below (Fifteenth Floor) via ramp(s) installed in accordance with the specifications of the engineer of record. The remainder of the slab will be removed from the floor below by vehicular excavators.

#### 7.10 Removal of Structural Steel Members Within/Under Slabs

Structural steel members (girders and beams) existing within and/or under the floor slabs will be detached from the tops of the columns on the floor below by torch cutting and lowered onto the slab below. Detached steel members will be prepped for rigging and lowered to the ground by the crane and/or air tugger equipment, collected and placed into containers, flatbeds and/or trucks docked on the First Floor, loading dock and/or in a lane closure at the site. Refer to Attachment VII to view a cut sheet for air tugger equipment. These whole steel members will be sent for recycling. As a secondary means of steel removal, detached steel members will be downsized by torch cutting for handling by deconstruction vehicular equipment and lowering to grade via debris chutes. Chuted steel will be collected by vehicular equipment operating on the First Floor with the assistance of laborers. Collected steel will be placed into dumpsters, flatbeds or trucks docked either on the First Floor, loading dock and/or in an exterior lane closure at the site. Scrap steel will be sent to a recycling facility. For more details regarding shafts/debris chutes refer to Section 8.0. When the removal of structural steel members within/under slabs is complete a floor will have been completely deconstructed.

### **8.0 SHAFTS AND CHUTES**

During the deconstruction operation, the north elevator shaft will be the primary shaft used for chuting debris from masonry brick/block, concrete and steel. The South elevator shaft will be used as a back up chute. Uncontainerized and/or uncontrolled chuting of asbestos containing materials and assumed contaminated materials will be prohibited at all times during the deconstruction operation. In the event that shafts/chutes will be used for the transport of asbestos containing materials and/or assumed contaminated material the materials will be containerized and/or wrapped in poly and lowered in a controlled manner utilizing the crane and/or air tugger equipment. The type and size of debris material chuted down elevator shafts will be determined by the engineer of record for the deconstruction. Stop blocks will be installed at the entrances to shafts/chutes to provide

safety barriers for vehicular equipment and personnel. Chain link fence will be installed around the perimeter of the shaft/debris chute enclosure as a safety barrier. Water will be used at the primary means of dust control during the chuting of debris. The material will be wetted on the upper floor prior to the material being pushed down the chute. Additionally the material will be misted on the lower floor after chuting is complete.

Chute/shaft debris removal will take place while deconstruction is in process on the upper levels. There will be a laborer stationed at the chute/shaft opening on the upper floor from where debris will be chuted. He will remain direct communication with laborers and operators working on the ground floor or basement level depending on the shaft in use. The debris chute will be sealed off at all times except when there is debris to be chuted. When enough debris has been generated the designated chute will be opened and the debris will be pushed in by front loaders working on the floor. Only when the chute is closed at the top will load out commence at the lower level. A bucket loader operating on the First Floor level will load the material out of the chute and pile. Material will only be allowed to stock pile in accordance with the specifications of the engineer of record. A telehandler or other equivalent machine will then take the material and load trucks docked on the First Floor, loading docks and/or lane closures.

The chuting of debris will be performed in accordance with the engineer of records requirements and any applicable NYC DOB regulations.

## **9.0 Fire Protection**

The following fire protection measures will be implemented and maintained during the deconstruction operation at Fiterman Hall.

- A zero tolerance policy regarding smoking and open fires has been implemented and will be enforced at all times during the remediation operations.
- The existing standpipe system, comprised of two connected risers, has been tested and is functional. Standpipes are located in Stairwell B and Stairwell C and Siamese connectors are located at the construction fence line, outside of the fence, on the northeast (corner of Park Place & West Broadway) and southwest (corner of Barclay & Greenwich) sides of the Building. The Siamese locations are marked by the required signage and lighting. The standpipe system will be maintained as a dry system and will be tested regularly. The standpipe system will be dismantled during the deconstruction operation in accordance with NYC DOB and FDNY regulations and requirements.
- All standpipe piping will be fully painted red. Signage stating, “Active Standpipe” will be installed.
- As the building is deconstructed. The standpipe will be capped at the floor below deconstruction by licensed plumber/sprinkler contractor. The subcontractor for the deconstruction is Plumbing Works (License # is 976-B). Cutting and capping of standpipe will be subject to NYC DOB inspection. Hydrostatic testing of the standpipe, to 300 PSI, will be conducted following each cut and cap.
- After the first hydrostatic test, the water in the standpipe system will be retained

- as a visual indicator of any breaches in the system and in preparation for the next hydrostatic test.
- The horizontal standpipe spur that served the former 8<sup>th</sup> Floor mechanical area will be removed as this area has been dismantled. The purpose of this removal is to avoid any confusion with the active standpipe system. Following the removal of this spur, a hydrostatic test will be performed.
  - Siamese connections and hydrants at the site will be maintained free of obstructions. NYC DEP – Water Board Hydrant Use Permits are currently in effect on site and will be maintained in effect through out the deconstruction. Hoses will be attached to hydrants when in use.
  - FDNY guidelines for fire extinguisher availability will be complied with.
  - Access to the Building interior for FDNY will be maintained free of obstruction at the West Broadway ground floor entrance identified by FDNY personnel as the designated point of FDNY access. Please refer to Attachment V – Deconstruction Operations Logistics Plan to view the FDNY access point.
  - Stair B & C enclosures, as well as the stairway doors, will be maintained one level below deconstruction.
  - Plywood brought to the building for use during the deconstruction operations will be fire retardant. Where practicable non-wood, non-combustible wallboard products will be considered for use in place of plywood. Plywood and other combustible materials will not be stored on the upper floors of the building.
  - Oxygen and acetylene fuel tanks will be stored in lockable cages on the east side of the 1<sup>st</sup> Floor. Refer to Attachment V – Deconstruction Operations Logistics Plan to view the location of this fuel storage area. Proper permitting will be obtained and maintained for the use and storage of oxygen and acetylene fuel.
  - Prior to the start of deconstruction, all shafts will be confirmed clear of combustible materials, including plywood.
  - A project status board will be kept at the entrance level to provide updates on the progress of the deconstruction and indicate the number and locations of equipment and laborers in the building.
  - Exit signage and phosphorescent strips will be maintained in the stairways during deconstruction.
  - In the event of an emergency the guard on duty will be responsible for contacting first responders by calling 911. A security guard is on site 24/7.