

APPENDIX 2
PHASE I - VARIANCE DECISION FILE NO. 05-
0427 DATED MAY 11, 2005



STATE OF NEW YORK
DEPARTMENT OF LABOR
Engineering Services Unit
Room 154 Building 12
Governor W. Averell Harriman State Office Building Campus
Albany, New York 12240

FACSIMILE TRANSMITTAL SHEET

TO: _____

FROM: Christopher Alonge

COMPANY: _____

DATE: 5/11/05

FAX NUMBER: _____

TOTAL NO. OF PAGES INCLUDING COVER: 60

PHONE NUMBER: _____

SENDER'S FAX NUMBER: (518) 457-1301

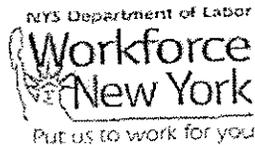
RE: _____

SENDER PHONE NUMBER: (518) 457-1536

NOTES/COMMENTS:

- Robert Lewin
- Robert IwLO
- Gil Gillen
- Pat Evangelista
- Krish Radhakrishnan
- Amy Peterson
- Richard FBAM

George E. Pataki, Governor



Linda Angello, Commissioner

May 11, 2005

Weston Solutions Inc
85 Wellington Court
Yorktown Heights NY 10598

RE: File No. 05-0427

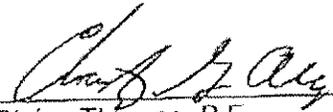
Dear Sir/Madam:

**STATE OF NEW YORK
DEPARTMENT OF LABOR
DIVISION OF SAFETY AND HEALTH**

The attached is a copy of Decision, dated 5/11/2005, which I have compared with the original filed in this office and which I DO HEREBY CERTIFY to be a correct transcript of the text of the said original.

If you are aggrieved by this decision you may appeal within 60 days from its issuance to the Industrial Board of Appeals as provided by Section 101 of the Labor Law. Your appeal should be addressed to the Industrial Board of Appeals, Empire State Plaza, Agency Building 2, 20th Floor, Albany, New York, 12223 as prescribed by its Rules and Procedure, a copy of which may be obtained upon request.

WITNESS my hand and the seal of the
NYS Department of Labor, at the City of
Albany, this 11th day of May
Two thousand five.


Blaise Thomas, P.E.
Associate Safety and Health Engineer
Engineering Services Unit

cga

Phone: (518) 457-1538 Fax: (518) 457-1301
W. Averell Harriman State Office Campus, Bldg. 12, Room 154, Albany, NY 12240

STATE OF NEW YORK
DEPARTMENT OF LABOR
STATE OFFICE BUILDING CAMPUS
ALBANY, NEW YORK 12240-0100

Variance Petition

of

Weston Solutions, Inc.

On Behalf of

Lower Manhattan Development Corporation

Petitioner

in re

Premises: Vacant High Rise Office Building
130 Liberty Street
New York, New York

**Phase I Interior Friable and Non-friable ACM
Removals, WTC Dust/Residue Removals and
Cleanup, Limited Exterior Non-friable
Caulking Removals and Limited Exterior WTC
Dust Residue Removal/Cleanup**

File No. 05-0427

DECISION

Cases 1- 18

ICR 56

The Petitioner, pursuant to Section 30 of the Labor Law, having filed Petition No. 05-0427 on April 13, 2005 with the Commissioner of Labor for a variance from the provisions of Industrial Code Rule 56 as hereinafter cited on the grounds that there are practical difficulties or unnecessary hardship in carrying out the provisions of said Rule; and the Commissioner of Labor having reviewed the submission of the petitioner dated April 11, 2005, along with additional information received on May 7, 2005; and

Upon considering the merits of the alleged practical difficulties or unnecessary hardship and upon the record herein, the Commissioner of Labor does hereby take the following actions:

Case No. 1	ICR 56-2.1 DENIED
Case No. 2	ICR 56-2.2 DENIED
Case No. 3	ICR 56-5.1 limited
Case No. 4	ICR 56-8.1(j)
Case No. 5	ICR 56-7.1(c)
Case No. 6	ICR 56-7.1(j) limited
Case No. 7	ICR 56-8.1(g, h, i)
Case No. 8	ICR 56-8.1(k1-k5) limited
Case No. 9	ICR 56-9.1(a) limited
Case No. 10	ICR 56-10.1(a) limited
Case No. 11	ICR 56-11.1(b)
Case No. 12	ICR 56-12.1(c-e) limited
Case No. 13	ICR 56-15.2(b-e)
Case No. 14	ICR 56-17.1 (backgrounds)
Case No. 15	ICR 56-17.2(a1)
Case No. 16	ICR 56-17.3(a) DENIED
Case No. 17	ICR 56-17.3(a4)
Case No. 18	ICR 56-17.8(a) clearance criteria

VARIANCE GRANTED. The Petitioner's proposal for removal of interior friable and non-friable ACM, WTC dust/residue including contaminated components, limited exterior non-friable ACM caulking and limited exterior WTC dust/residue cleanup, with quantities and locations as listed by the petitioner, at the subject premises in accordance with the attached 42-page stamped copy of the Petitioner's marked-up submittals, is accepted; subject to the Conditions noted below:

THE CONDITIONS

Remote Personal and Waste Decontamination Units

1. A personal decontamination enclosure system that complies with Subpart 56-9 shall be utilized. A waste decontamination enclosure system that fully complies with Subpart 56-10 shall be utilized. These enclosure systems can be remote, but must be located on-site within the structure that is subject to abatement. These enclosure systems shall be removed only after satisfactory clearance air monitoring results have been achieved or the abatement project is complete. The walkway from the regulated abatement work area to the decontamination system or next work area shall have a cleared pathway. This walk way must be restricted to certified personnel access only.
2. If remote decontamination units are to be used, workers shall don two (2) suits, as described in ICR 56-4.1(d). Each containment shall have an attached air lock within which workers shall remove their outer suit, wipe

off their inner suit and don a clean outer suit prior to proceeding to another work area or to the remote decontamination unit over a walk way as defined above.

3. If remote decontamination units are to be used, an airlock as defined in Subpart 56-1.4(e) of this Code Rule shall be constructed at the entrance to each regulated abatement work area, and shall be large enough to serve as a changing area. This area shall not be used as waste decontamination area or a waste storage area.
4. The regulated abatement work areas, decontamination units, airlocks, and dumpster areas shall be cordoned off at a distance of twenty-five feet (25') and shall remain vacated except for certified workers until satisfactory clearance air monitoring results have been achieved or the abatement project is complete. These areas shall have Signage posted in accordance with Subpart 56-8.1(b) of this Code Rule.

Work Area Electric Power

5. All electric for the removal project shall be brought into each work area through a separate GFCI panel box located outside the work area.

General Building Access Restrictions

6. Any firm and their employees may access the cleaned and decontaminated portions of the building to complete their work.
7. Firms and their employees that require occasional access to the contaminated portions of the building for maintenance of building systems, and related work may enter as building owner authorized visitors/representatives. Entry to and exit from the contaminated portions of the building shall proceed using the established procedures within the petitioner's proposal and the building owner's Health and Safety Plan (HASP). Copies of all documents referenced within the HASP shall be posted on-site in the immediate vicinity of the personal decontamination enclosure. No disturbance to ACM or WTC dust/residue is allowed by these authorized visitors/representatives.
8. Any firm requiring routine access to the contaminated portions of the building to perform maintenance of building systems shall be a NYS DOL licensed asbestos contractor and their employees accessing the contaminated portions of the building shall be a minimum of NYS DOL/NYC DEP restricted asbestos handler (allied trades) certified. Entry to and exit from the contaminated portions of the building shall proceed using the established procedures within the petitioner's proposal and the

building owner's HASP. No disturbance to ACM or WTC dust/residue is allowed by individuals with restricted asbestos handler certification.

General Handling of Generated Waste

9. All ACM and asbestos contaminated waste must be appropriately bagged/containerized within the regulated abatement work area and attached waste decontamination system enclosure. ACM and asbestos-contaminated materials on detachment from the substrate shall be directly bagged/containerized or dropped into a flexible catch basin and subsequently bagged/containerized.
10. The use of a portable shredder within the regulated abatement work area or negative pressurized containment repackaging area to reduce the volume of generated waste is allowed. However, the portable shredder must be located within a secondary negative pressure containment, wet methods must be utilized, and all processed asbestos-contaminated waste must be adequately wet within the sealed waste bags/containers when removed from the secondary containment.
11. The portable shredder must be designed for wet processing of waste, and adequate power must be supplied from outside the work area on a GFCI circuit.
12. No sealed bags/containers of ACM waste or asbestos-contaminated waste may be opened for repackaging once transferred from the regulated abatement work area, unless the bags/containers are opened within a HEPA filtered, negative pressurized hard wall containment enclosure, with attached personal and waste decontamination system enclosures in compliance with ICR 56. This repackaging area must be located within the building/structure.
13. Dust-free inclined chutes are only allowed for waste transfer within an interior one-floor or two-floor negative pressurized containment waste repackaging regulated area at the mezzanine level. All waste repackaging regulated areas utilizing chutes for asbestos-contaminated waste material shall have a minimum of 8 air changes per hour once the negative air has been established. A minimum of 4 air changes per hour must be maintained within the chute/waste container combination. In addition, within all negative pressurized containment repackaging regulated work areas a manometer shall be used to document a minimum of -0.02 column inches of water pressure differential, relative to pressure outside the regulated area. Once installed, on an hourly basis per workshift, the asbestos abatement contractor's supervisor shall document the manometer reading within the daily project log.

Negative Air Machine Exhaust Location & Make-up Air Source(s)

14. If the requirements of Subpart 56-6.1(j) cannot be met, the negative air machine exhaust(s) shall be installed in conformance to the following condition:
 - a. Negative air machines shall be exhausted to the outdoors, with each exhaust duct termination point being located a minimum of fifty (50) feet from all nearby building/structures, including tunnels and subway HVAC system intakes.
15. Negative air exhaust tubes may be banked together in groups of no more than five (5) tubes, discharged at a single location. However, each negative air machine shall have its own independent exhaust tube, to reduce the potential of exhaust airflow short-circuiting. Only one daily abatement air sample is required to be collected at each exhaust bank discharge location per workshift.
16. Sufficient backup units must be available to maintain the minimum required air changes per hour, during any required shutdown of a bank of units due to an elevated air sample result. If an elevated exhaust air sample is obtained, the bank of 5 units must be shut down, the units and filters inspected, repaired/changed out as necessary, and then put back into service. Each of those five units must be sampled independently for a minimum of three days to ascertain if any problems still exist. Upon receipt of additional elevated air sample results, the affected unit(s) must be taken out of service and removed from the work area for appropriate repair.
17. All make-up air for each regulated abatement work area must enter the work area from uncontaminated areas through the decontamination enclosures. Supplementary non-contaminated make-up air, if required, shall be provided through HEPA-filtered exterior air sources.

Interior Negative Pressurized Containment Sequential ACM Removals

18. Once the regulated abatement work area is occupied by the abatement contractor, the asbestos project begins and PPE shall be worn at all times even during Preparation.
19. A personal decontamination enclosure system that complies with Subpart 56-9 shall be utilized. A waste decontamination enclosure system that fully complies with Subpart 56-10 shall be utilized. These enclosure systems **must be attached** to each regulated abatement work area and shall be removed only after satisfactory clearance air monitoring results have been achieved for the regulated abatement work area.

20. (Pre-cleaning) The floors, walls, ceilings, fixtures, and movable and fixed objects contaminated with asbestos debris shall be either removed or cleaned (non-porous materials only) as part of this abatement project. **Prior to removal of Debris (ACM materials) necessary for preparation work, installation of isolation barriers as per ICR 56-8.1(j) and establishment of negative air as per ICR 56-8.1(a-c) shall be completed. All visible Debris (accumulations of ACM) shall then be misted and bagged for disposal and then any remaining polyethylene shall be installed.**
21. Isolation Barriers to each room/area/space where work is being performed shall be installed in conformance to Subpart 56-8.1(j). All openings shall be wet-cleaned and covered with two (2) layers of (6) six-mil fire retardant plastic sheeting or for around pipes or similar openings an expandable foam or other sealant may be used.
22. All openings and penetrations to exterior curtain walls, shafts/stairwells and non-asbestos project buffer floors, from the regulated abatement work area shall be isolated in compliance with ICR 56-8.1(j) and ICR 56-8.1(k1-k4).
23. A minimum of 4 air changes per hour must be observed once the negative air has been established. A minimum eight-hour pre-abatement settling period shall be required.
24. For mechanical floor work areas with removal of exterior wall transite panels, a minimum of 6 air changes per hour must be maintained, and a maximum opening of 64 sq. ft. is allowed at any one time during transite panel intact removal. No other ACM or WTC dust/residue disturbance is allowed during exterior wall transite panel removal and hardwall isolation barrier installation. In addition, for these mechanical floor work areas a manometer shall be used to document a minimum of -0.02 column inches of water pressure differential, relative to pressure outside the regulated abatement work area. Once installed, on an hourly basis per workshift, the asbestos abatement contractor's supervisor shall document the manometer reading within the daily project log.
25. All movable and fixed objects shall be either decontaminated if non-porous and cleanable, or wrapped/containerized and disposed of as asbestos waste.
26. When multiple types of abatement work are done in a common area or enclosure, a sequential order of removal is required as shown below.

27. Simultaneous removal of multiple types of ACM within a single containment, as requested, shall, nevertheless, allow for only one type of removal of ACM at a time (sequential order) within a containment until that type of material is completely removed and a clean up is performed. Thereafter, another type of ACM can be removed within the same containment. A complete clean up of each material is required (NOTE Poly Removal is not required) prior to proceeding to the next type of removal.
28. **Relief from plasticizing as per ICR 56-8.1(k5) is for contaminated surfaces and the surfaces to be abated only.**
29. Before any removal of drywall or plaster systems, all surfaces shall be inspected to insure they are free of any penetrations and are a closed system.
30. For the purpose of the variance, the following example of sequence of removal within a containment unit is given. Note removal shall be from the ceiling down and or from most friable type to least friable type.
31. Example:
 - a. First. The friable pipe and fitting insulations and other friable types of ACM shall be removed so that no visible asbestos remains and the area shall be cleaned of all debris using HEPA vacuuming and wet wiping. Glovebags shall be utilized within the work area for all pipe/fitting insulation removals and for wrap-and-cut removal cut locations, consistent with ICR 56-16.1(b), AV-108, and OSHA 29 CFR 1926.1101. Dropcloths shall be used on the floors below the removal surfaces during gross or glovebag removals.
 - b. Second. Porous WTC dust/residue contaminated components shall be removed so that no component remnants remain and the area shall be cleaned of all debris using HEPA vacuuming and wet wiping. Dropcloths shall be used on the floors below the removal surfaces during gross removals.
 - c. Third. Non-friable material shall be removed. Transite, interior caulking/sealant, and other non-friable types of ACM other than flooring materials shall be removed so that no visible asbestos remains and the area shall be cleaned of all debris using HEPA vacuuming and wet wiping. Dropcloths shall be used on the floors below the removal surfaces during gross removals.
 - d. Fourth. Flooring removals may be completed next. Floor tile and mastic shall be removed so that no visible asbestos remains and

the area shall be cleaned of all debris using HEPA vacuuming and wet wiping. Floor Tile and mastic may be removed first, provided adequate floor protection and isolation barriers are installed to ensure the floor of the work area is watertight. Beadblaster methods or similar type of abrasive removal methods shall not be used.

- e. Last. Cleaning and Decontamination of Walker Ducts and Raceways.
32. Power tools used to drill, cut or otherwise disturb ACM or WTC dust/residue within the work area, shall be manufacturer equipped with HEPA filtered local exhaust ventilation. The only exception to this requirement is for powered floor buffers using low abrasion pads at speeds lower than 300 rpm to aid with chemical mastic removal.
33. Torch cutting is not allowed within any negative pressurized containment enclosure.
34. Use of a pressure washer for gross removal of ACM or asbestos-contaminated materials is not allowed.
35. Only battery powered heavy equipment shall be utilized within each asbestos project work area, as concerns regarding exhaust emissions have been raised by all pertinent regulatory agencies. The use of diesel-powered heavy equipment or other emission-generating heavy equipment is not allowed within any negative pressurized containment work area. Upon submission of a reopening request which provides adequate details regarding "reasonable and appropriate measures" to be undertaken by the contractor, the Department will review the information and render a decision regarding additional heavy equipment use. Regardless of the type of heavy equipment to be utilized within the work area, an equipment decontamination area must be constructed and utilized within the regulated abatement work area. This equipment decontamination area shall be configured for adequate control of all generated wastewater during equipment decontamination procedures.
36. Dry removals of ACM materials will not be allowed. Amended water shall be used to thoroughly wet the asbestos-containing materials during the abatement process. Materials removed shall be bagged/containerized within 6-mil ACM waste bags, non-porous cleanable hardwalled containers, or immediately wrapped in 6 mil plastic sheeting and secured air tight prior to passing through the waste decontamination facility where they shall be cleaned and containerized again as applicable, then labeled and prepared for waste transport. No uncontainerized ACM waste or

asbestos contaminated waste is allowed to remain within the regulated abatement work area at the end of the workday.

37. On completion of each type of asbestos removal within these containment enclosures, a cleaning will be done as defined in Part 56-15.2(b) except for the encapsulation requirements. No clearance air samples will be required for each type of asbestos removal, until the last type of asbestos is removed. Prior to dismantling the enclosure, clearance air sampling shall be conducted as per the requirements of ICR 56.
38. The contractor shall observe, at a minimum, eight-hour waiting (settling/drying) periods.
39. Encapsulation of any asbestos removal surfaces **shall not** be performed, until satisfactory clearance air sample results have been obtained.
40. Prior to final air clearance samples being taken, a full cycle of cleanup of the entire area – ceiling, walls and floors - shall be performed by HEPA vacuuming and/or wet wiping, during each multiple clean-up stage as defined in Subpart 56-15.2(b,d,e) of this Code Rule. When relief is granted to not plasticize floor, wall and ceiling surfaces, one thorough cleaning as described in ICR 56-15.2(e) and one settling, waiting period shall suffice.
41. After a minimum waiting/drying period has elapsed, an authorized and certified individual; independent of the removal Contractor, (i.e.: the Project Monitor; Design Engineer; Air Monitoring Technician or other appropriately certified representative of the Owner), shall determine if the area (including internal surfaces of walker ducts and raceways) is dry and free of visible debris/residue. If the area is determined to be acceptable, this qualified individual may authorize clearance air sampling to be performed.
42. A reopening request regarding the method of visual inspection of Walker Duct and Raceway internal surfaces must be submitted to the Department and approved prior to commencement of cleaning procedures. Adequate information must be provided regarding the method of visual inspection to be utilized, as well as sufficient manufacturer information regarding equipment to be utilized for the inspections.
43. Clearance air monitoring shall comply with Industrial Code Rule 56-17.2(f).
44. Acceptable TEM clearance criteria shall be as per the petitioner's proposal for each work area.

45. All proposed clearance air monitoring for contaminants other than asbestos must be submitted to the appropriate regulatory agency for their review and approval. The Department will not grant or deny approval for any proposed non-asbestos contaminant clearance air monitoring procedures.

Negative Pressure Tent Enclosure Friable and Non-friable Removals:

46. Remote Decontamination Units **are allowed** for minor size gross removals of friable ACM, any quantity of glovebag or wrap-and-cut removal of friable ACM, or any quantity removal of non-friable ACM within negative pressurized tent enclosure regulated abatement work areas. **If gross removal of friable quantities of ACM and/or WTC dust/residue greater than 10 sq. ft. or 25 lin. ft. is scheduled within a specific tent enclosure, attached decontamination units must be installed and utilized, consistent with the requirements of ICR 56.** Where available space for contiguous decontamination systems is limited, small project decontamination system enclosures may be constructed and utilized for the tent enclosure regulated abatement work area.
47. For all negative pressure tent work areas within contaminated floors/rooms/spaces, uncontaminated make-up air shall be provided through HEPA-filtered exterior air sources, and routes for entry/exit of personnel and waste bags/containers to/from the tent enclosure shall be provided in a manner that will not recontaminate the environment and surfaces within the negative pressure tent enclosure. A reopening request regarding the project design for these tent enclosures must be submitted to the Department and approved prior to commencement of tent enclosure preparation.
48. Tents shall be constructed of two layers of six-mil fire-retardant polyethylene sheeting and shall include walls, ceiling and a floor (except for portions of floors, walls and ceilings that are the removal surfaces) with double-folded seams and used in accordance with Subparts 56-16.1(c & d). Where an existing non-porous ceiling or wall exists, the tent enclosure may be sealed to the existing non-plasticized ceiling. The tent shall be adequately supported for the duration of the abatement activities. This plastic sheeting will be treated as contaminated material and properly disposed of as asbestos waste at the end of the project. Each tent enclosure shall be large enough to accommodate workers, equipment, removal and cleaning operations as well as the piping, component or surface subject to removal activities.
49. At all penetrations and openings to the tent work area, isolation barriers shall be installed in conformance to Subpart 56-8.1(j). All openings shall be covered with two (2) two layers of (6) six-mil fire retardant polyethylene

or for around pipes or similar openings an expandable foam or other sealant may be used.

50. Negative air shall be established as per ICR 56-6.1(a-c) once each tent has been constructed. A minimum of 4 air changes per hour for tent work areas must be observed once the negative air has been established.
51. Glovebags shall be utilized within the tent enclosure for all pipe/fitting insulation removals and for wrap-and-cut removal cut locations, consistent with ICR 56-16.1(b), AV-108, and OSHA 29 CFR 1926.1101.
52. Torch cutting is not allowed within any negative pressurized tent enclosure.
53. Use of a pressure washer for gross removal of ACM or asbestos-contaminated materials is not allowed.
54. Dry removals of ACM materials will not be allowed. Amended water shall be used to thoroughly wet the asbestos-containing materials during the abatement process. Materials removed shall be bagged/containerized within 6-mil ACM waste bags, non-porous cleanable hardwalled containers, or immediately wrapped in 6 mil plastic sheeting and secured air tight prior to passing through the waste decontamination facility where they shall be cleaned and containerized again as applicable, then labeled and prepared for waste transport. No uncontainerized ACM waste or asbestos contaminated waste is allowed to remain within the tent enclosure at the end of the workday. As waste bags/containers are generated each workshift within the tent enclosure work area, waste bag/container transfer shall occur as needed, so accessibility within the work area is not impeded.
55. Lockdown encapsulant shall not be applied to any removal surface until satisfactory clearance air results have been obtained.
56. When relief is granted to not plasticize or when a tent/enclosure unit is used, one thorough cleaning as described in ICR 56-15.2(e) and one settling, waiting period shall suffice, except if clearance air sampling is unsatisfactory, then a recleaning and another waiting period is required.
57. The contractor shall observe, at a minimum, four-hour waiting (settling/drying) periods.
58. At a minimum, once tent enclosure work area preparation has been completed and abatement activities commence, on a daily basis and per workshift, an air sample shall be collected within 10 feet of the tent enclosure entrance/exit, and one air sample shall be collected within 10

feet of the tent enclosure isolation barriers. Negative air exhaust sampling is not required for tent enclosures with HEPA vacuum negative air pressure ventilation systems.

59. Clearance air monitoring shall comply with Industrial Code Rule 56-17.2(f).
60. The tent, shroud or airlock shall not be dismantled until final clearance sampling has been performed and acceptable results obtained.
61. Actions that shall be taken in the event of a loss of tent integrity that are as outlined in Subpart 56-15.4.
62. After a minimum waiting/drying period has elapsed, an authorized and certified individual; independent of the removal Contractor, (i.e.: the Project Monitor, Design Engineer, Air Monitoring Technician or other appropriately certified representative of the Owner), shall determine if the area is dry and free of visible debris/residue. If the area is determined to be acceptable, this qualified individual may authorize clearance air sampling to be performed.
63. Acceptable TEM clearance criteria shall be as per the petitioner's proposal for each work area.
64. A minimum of one clearance air sample shall be collected from inside and one clearance air sample outside of each tent enclosure. The quantity of ACM and/or WTC dust/residue removed within each tent enclosure determines the required number of clearance air samples for that enclosure (i.e. small = 3 in & 3 out, large = 5 in & 5 out).
65. All proposed clearance air monitoring for contaminants other than asbestos must be submitted to the appropriate regulatory agency for their review and approval. The Department will not grant or deny approval for any proposed non-asbestos contaminant clearance air monitoring procedures.
66. For interior negative pressure tent enclosure work areas necessary for installation of interior concrete chutes (to be used for transport of "Clean" concrete slab debris from non-asbestos project work areas), the entire intended path of the chute within contaminated floors/areas/spaces must be abated, cleaned and cleared prior to chute installation. The project design for this work must be submitted to the Department and approved prior to commencement of tent enclosure preparation. It is recommended that appropriate approvals be obtained from applicable federal, state and local agencies regarding use and installation of cranes, hoists and non-asbestos project chutes proposed to be used on the project.

67. Tents or tent-like structures or enclosures, when used, shall be adequately supported and reinforced to withstand local environmental conditions and the negative pressures developed within the abatement structure.

Exterior Non-friable ACM Caulking Removals & WTC Dust/Residue

Cleanup:

68. Exterior point attachments for installation of exterior hoist(s) and tower crane(s) which require disturbance of asbestos-containing caulk must be completed within a HEPA-filtered negative pressurized mini-enclosure. A reopening request regarding the project design for these type of mini-enclosures must be submitted to the Department and approved prior to any disturbance of asbestos-containing caulk.
69. All necessary roof and façade WTC dust/residue cleanup for the Phase I portion of the project shall be completed in compliance with the attached three-page procedural document provided by NYC DEP.
70. Usage of this variance is limited to those asbestos removals identified in this variance or as outlined in the Petitioner's proposal.

In addition to the conditions required by the above specific variances, the Petitioner shall also comply with the following general conditions:

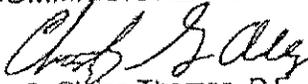
GENERAL CONDITIONS

1. A copy of this DECISION and the Petitioner's proposals shall be conspicuously displayed at the entrance to the personal decontamination enclosure.
2. This DECISION shall apply only to the removal of asbestos-containing materials and WTC dust/residue from the aforementioned areas of the subject premises.
3. The Petitioner shall comply with all other applicable provisions of Industrial Code Rule 56-1 through 56-18.
4. The Department reserves the right to issue reopenings and/or amendments to this DECISION, based upon additional information submitted by the petitioner or site conditions observed by enforcement personnel.

5. The final say as to interpretation of this variance rest solely with the NYS Dept of Labor Engineering Services Unit. Any deviation from variance conditions shall render this variance Null and Void pursuant to 56-18.2.
6. Prior to commencement of "Phase I Pre-demolition Cleaning and Abatement" asbestos project work, revised plans for Phase I of the project shall be submitted to all pertinent federal, state and local regulatory agencies, and all necessary approvals obtained.
7. This DECISION shall terminate on May 31, 2007.

Date: May 11, 2005

By

LINDA ANGELLO
COMMISSIONER OF LABOR

For Blaise Thomas, P.E.
Associate Safety and Health Engineer

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

REVIEWED BY: Blaise Thomas, P.E.
Associate Safety and Health Engineer

05 04 27

130 LIBERTY STREET, NEW YORK, NY
REQUEST FOR VARIANCE
FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

EXECUTIVE SUMMARY

On September 11, 2001, the 130 Liberty Street building ("Building") was severely damaged when debris from the World Trade Center broke hundreds of windows and cut a fifteen story gash in the north façade of the Building. Since September 11, 2001, the Building has been unoccupied. The current owner of the Building, Lower Manhattan Development Corporation ("LMDC"), plans to abate and deconstruct the Building as part of the redevelopment and rebuilding of the larger World Trade Center ("WTC") Site. Currently, plans for the 130 Liberty Street site include underground truck security and bus parking away from the locations of the former WTC Towers 1 and 2 and a proposed fifth office tower which will reduce the building density on the WTC Site and create approximately 30,000 square feet of open space for public use.

This request for a variance arises from the commitment by LMDC, its consultants, and its contractor to comply in all respects with federal, state, and local laws applicable to the deconstruction of 130 Liberty Street. By doing so, LMDC, its consultants and its contractor will prevent potential exposure of workers and the public to asbestos fibers and other contaminants in the Building, safeguard workers and the public from construction debris and materials, and maintain a safe working and neighborhood environment. Accordingly, LMDC, its consultants and its contractor propose to (i) conduct the abatement work in a protective and expeditious manner in full compliance with applicable law, thereby protecting workers and the public; (ii) to the extent feasible, bulk load waste materials to minimize truckloads, traffic congestion, and air pollution and noise concerns associated with vehicles servicing the site; and (iii) address letters from the regulatory agencies concerning the previously submitted draft Phase I Deconstruction Plan.

This Request for Variance was developed and is intended to meet the spirit and intent of the law, by protecting workers and the general public from exposure to asbestos fibers and other contaminants of potential concern (COPC), both inside and outside the Building, in the vicinity of 130 Liberty, and during shipment and ultimate disposal of the deconstruction debris and wastes. This Request for Variance, at the same time, addresses unprecedented operational opportunities and challenges arising from unique conditions caused by the events of September 11th and the logistical realities of cleaning and deconstructing a high-rise building in an active urban setting.

This Request for Variance is being submitted to the New York State Department of Labor ("NYS/DOL") due to the presence of asbestos in the Building. Eventually, due in part to the presence of contaminants in the Building other than asbestos, the revised Deconstruction Plan for the Building will be submitted to NYSDOL as well as other federal, state, and city regulatory agencies prior to the start of deconstruction.

NATURE OF THE WORK

The proposed cleanup and abatement will be conducted so that the Building can be safely deconstructed to allow for redevelopment of the WTC Site. This project entails: (i) the general area cleanup of WTC dust and debris, which as stated by the regulators must be treated as asbestos, (ii) removal and disposal of installed porous and certain non-porous building materials and

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components contaminated by WTC dust and debris, (iii) cleaning and salvage of certain installed non-porous building equipment and components contaminated by WTC dust and debris, and (iv) removal of building materials containing asbestos which were present in the Building prior to September 11th, 2001 (referred to herein as "ACBM"), primarily within the Building interior. During the cleanup and abatement, a minimum buffer zone of two floors, as previously required by NYSDOL, will be maintained between the active abatement (Phase I) area and the exterior abatement/structural demolition (Phase II) portion of the project.¹ This variance request primarily addresses Phase I of the cleaning and deconstruction; it is anticipated that an additional variance request will be submitted in the future addressing Phase II.

REASON FOR REQUESTING A VARIANCE

LMDC, its consultants and its contractor are committed to compliance with applicable law throughout the cleaning and deconstruction of the Building. Accordingly, the Request for Variance is intended to comply with applicable federal, state and local law. It is the goal of LMDC, its consultants, and its contractor to conduct the proposed cleanup and abatement in a manner which (i) will not expose the general public to asbestos, (ii) will minimize worker exposure to asbestos through the use of appropriate controls and personal protective equipment, (iii) will minimize adverse impacts of the project on the adjacent community, (iv) will address the practical operational opportunities and challenges presented by the Building and the Building conditions, and (v) will prepare the Building for exterior cleaning, abatement and deconstruction to be conducted during Phase II.

PROPOSED EXEMPTIONS

** SEE VARIANCE CONDITIONS CJA 5/10/05*

We are requesting exemption from the following sections of Title 12 NYCRR Part 56, also known as Industrial Code Rule ("ICR") 56:

56-2.1, 56-2.2 - Limited Exemption for Specialty Trades

We are requesting limited exemption from this section based on the following:

- a. The Building has been vacant for a period in excess of three years. Therefore, concern exists about the reliability and operability of various Building system components necessary to support the project.
- b. ~~NYSDOL and other regulatory agencies have stated that~~ *CJA 5/10/05* the interior of the entire structure (with the exception of previously cleaned areas of the "Gosh Area", Cellar A Decon Areas and Loading Dock) is contaminated with asbestos. Therefore, no non-contaminated access route exists to access Building systems to repair or replace system components to ensure the operability of critical system components for the duration of the project.
- c. Specialty building trades which are not normally required to support abatement projects may be required to support operation, repair or maintenance of critical Building systems during the project. These specialty trade personnel may require access to or through contaminated areas.
- d. The contractor who employs specialty trade personnel might not possess a valid asbestos handling license issued by NYSDOL.

OCCASIONAL ACCESS CJA 5/10/05

¹ NYSDOL letter to USEPA dated January 7, 2005, page 4, 1st bullet.

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To address the above, the following is proposed:

I. Specialty Trade Contractor

1. The contractor who employs specialty trade personnel requiring either occasional ~~or routine~~ access to the Building shall be exempted from the NYSDOL and New York City Department of Environmental Protection (NYCDEP) licensing requirements and procedures and will not need to possess a valid asbestos handling license issued by NYSDOL or NYCDEP. However, all specialty trade personnel entering the Building shall comply with the site specific Health and Safety Plan ("HASP").

II. Specialty Trade Personnel - Occasional Access

(BUILDING OWNER'S AUTHORIZED VISITORS) OK 5/10/05

1. Specialty trade personnel with expertise in maintenance or repair of critical Building system components who are not required to support routine on-going operations, but who nonetheless require periodic access to the Building, shall be exempted from NYSDOL and NYCDEP certification requirements.
2. Specialty trade personnel shall receive asbestos awareness and site-specific HASP safety training prior to commencing such work. Safety training topics shall include the scope of the abatement project, project specific requirements as detailed in the site-specific HASP, proper selection and use of Personal Protective Equipment ("PPE") and precautions to observe during the performance of their work.
3. Prior to performance of specialty trade work, certified abatement personnel possessing all NYSDOL and NYCDEP required certifications will inspect the floor and equipment surfaces in the immediate area where work will be performed. Suspect debris identified on floor or equipment surfaces shall be thoroughly wetted and bagged for disposal as asbestos material/asbestos waste prior to work by specialty trade workers.

4. Personnel assigned solely to specialty trade work shall not disturb intact ACBM ~~but may~~ OR ~~incidentally disturb~~ other non-intact ACBM or WTC dust. OK 5/10/05

III. Specialty Trade Personnel - Routine Access

1. Specialty trade personnel performing limited or special tasks in preparation for or ancillary to the project, or as necessary to support routine on-going operations, shall be trained and certified by NYSDOL as Restricted Asbestos Handler - Allied Trades, at a minimum.
2. Personnel assigned solely to specialty trade work shall not disturb intact ACBM ~~but may~~ OR ~~incidentally disturb~~ other non-intact ACBM or WTC dust. OK 5/10/05

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56-5.1 - Handling of Waste *SEE VARIANCE CONDITIONS *CJA 5/10/05*

We request exemption from this section based on the following:

- a. It is anticipated that a high volume of asbestos waste, including ACBM, WTC dust and asbestos-contaminated waste, will be generated during this project. Therefore, conventional bagging of all asbestos waste on a project of this size would result in the generation of very large waste volumes for handling and packaging, an increase in the number and/or size of trucks required for waste transportation, an increase of off-site burial volume, and a requirement that workers hand process waste in a time- and labor-intensive manner. Therefore an exemption is being requested to reduce the volume of asbestos waste trucked through Lower Manhattan, reduce the volume of waste to be placed in landfills, and minimize workers' direct handling and packaging of asbestos-contaminated waste.
- b. Given the size and layout of the Building, the use of carts for the removal of waste via the stairwell or elevators is extremely inefficient.
- c. Accordingly, a portable shredder may be utilized for processing of compatible building materials waste streams (except for ACBM, which will not be processed through the shredder) contaminated with WTC dust such as, for example, wall board. All such materials will be treated and disposed of as asbestos wastes.
- d. Certain materials when wetted may result in blockage within the portable bulk shredder system. Therefore, these waste streams may be processed utilizing a double lined bulk transfer container with a closing lid and transferred directly into a double lined disposal container using a dust-free inclined chute. All such materials also will be handled and disposed of as asbestos wastes in accordance with applicable federal, state and local laws.
- e. Upon removal, ACBM and contaminated spray-on fire-proofing will be packaged into properly labeled leak-tight containers (e.g., bags, gaylord boxes, drums) for handling and disposal as asbestos wastes in accordance with applicable federal, state and local laws.

Based on the above, the following is proposed:

- I. Use of a Portable Shredder *SEE VARIANCE CONDITIONS *CJA 5/10/05*
 - 1. If a portable shredder is utilized, upon removal from the substrate, waste materials identified above (other than ACBM) shall be thoroughly wetted and placed into a portable bulk shredder. These materials shall be wetted while in the portable bulk shredder.
 - 2. Waste processed through the portable bulk shredder shall be packaged into properly labeled leak tight containers for disposal as asbestos waste in accordance with applicable federal, state and local laws. Local High Efficiency Particulate Air ("HEPA") ventilation exhaust equipment shall be utilized to minimize and filter emissions from the portable bulk shredder system.
 - 3. Porous waste material that is not compatible with use of a portable bulk shredder shall be bagged, boxed or drummed directly or, processed in accordance with Item II of this section, in each case as asbestos waste.

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4. Removal of non-porous, non-movable salvage shall be performed in compliance with 56-8.2(a).
- II. Use of a Dust-Free Inclined Chute Directly into a "Bladder" Bag Installed within the Waste Container - FOR USE WITHIN A NEGATIVE PRESSURIZED CONTAINMENT WASTE REPACKAGING REGULATED AREA - SEE VARIANCE CONDITIONS *OK 5/10/05*
1. If the bladder bag waste container option is utilized, the removed ACBM (and other asbestos waste if deemed suitable by the contractor) shall be transported for disposal in a hinged-top six-sided hard wall container ("disposal container") lined with a "bladder" bag. The "bladder" bag shall consist of a pre-fabricated fire-retardant multi-layered leak-tight container with a nominal 20-millimeter ("mil") thickness.
 2. The chute shall be air and dust tight along its lateral perimeter and at the terminal connection to the "bladder" bag at ground level.
 3. Prior to transport from the site, the bladder bag within the disposal container shall be wrapped and sealed and the top of the disposal container shall be closed and sealed over the top of the load. The upper end of the chute shall be furnished with a hinged lid, to be closed when the chute is not being used.
 4. Disposal containers staged and loaded ~~within~~ ^{WITHIN} the Building or active work area shall be enclosed within a fully framed and sheathed enclosure of sufficient size to accommodate the entire disposal container. The interior of the disposal container enclosure shall be fully lined with at least two layers of six millimeter (6-mil) polyethylene sheeting ("poly") and sealed with tape. A minimum of ~~four~~ ⁸ air changes per hour shall be maintained within the disposal container enclosure. *OK 5/10/05*
 5. Prior to transport from the work site, the disposal container will be disconnected from the chute and sealed air and dust tight utilizing 6-mil poly and tape. The asbestos waste will be transported in the disposal container in accordance with applicable federal, state and local laws.
 6. Asbestos contaminated tools and equipment shall be decontaminated by utilizing the ~~decontamination enclosure system ("personal decon")~~ ^{ATTACHED WASTE} in conjunction with the applicable requirements of Subpart 56-5.1. Storage of waste materials in the clean room area of the personal decon shall be prohibited. *OK 5/10/05*
 7. The exterior surfaces of waste containers shall be thoroughly decontaminated by wet wiping and/or HEPA vacuuming prior to release from the site.

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III. Use of a Dust-Free Inclined Chute Directly into a Double Lined Waste Container *SEE VARIANCE CONDITIONS
~~FOR USE WITHIN A NEGATIVE PRESSURIZED CONTAINMENT WASTE REPACKAGING REGULATED AREA~~

1. If the chute to double-lined container option is utilized, removed ACM and other asbestos wastes shall be transported for disposal in a hinged-top six-sided hard wall container ("disposal container") lined with a two layers of 6-mil fire-retardant poly. CR 5/10/05
2. The chute shall be air and dust tight along its lateral perimeter and at the terminal connection to the Double Lined Waste Container at ground level.
3. Prior to transport from the site, the 6-mil poly within the disposal container shall be wrapped and sealed and the top of the disposal container shall be closed and sealed over the top of the load. The upper end of the chute shall be furnished with a hinged lid, to be closed when the chute is not being used.
4. Disposal containers staged and loaded ~~outside~~ ^{UTILIZED} to the Building or active work area shall be enclosed within a fully framed and sheathed enclosure of sufficient size to accommodate the entire disposal container. The interior of the disposal container enclosure shall be fully lined with at least two layers of 6-mil poly and sealed with tape. A minimum of ~~four~~ ⁸ air changes per hour shall be maintained within the disposal container enclosure. CR 5/10/05
5. Pending disposal, asbestos-contaminated waste shall be placed in the disposal container with at least 6-mil plastic draped loosely over the sides to facilitate being wrapped over the top of the load and sealed prior to transport from the site.
6. Prior to transport from the work site, the disposal container will be disconnected from the chute and sealed air and dust tight utilizing 6-mil poly and tape. The asbestos waste will be transported in the disposal container in accordance with applicable federal, state and local laws.
7. Asbestos contaminated tools and equipment shall be decontaminated by utilizing the ~~personal~~ ^{ATTACHED WASTE} decon in conjunction with the applicable requirements of Subpart 56-5.1. Storage of waste materials in the clean room area of the personal decon shall be prohibited. CR 5/10/05
8. The exterior surfaces of waste containers shall be thoroughly decontaminated by wet wiping and/or HEPA vacuuming prior to release from the site.

56- 6.1(f) - Exhaust Location *SEE VARIANCE CONDITIONS CR 5/10/05

We seek exemption from the minimum distance requirement of 50 feet from a facility air intake receptor based on the following:

- a. The subject facility is a 40 floor high-rise office building in Manhattan.
 - b. Negative ventilation exhausts will be installed to ensure the minimum distance of 50 feet is maintained from air intake receptors in adjacent buildings, ^{TUNNELS & SUBWAY HVAC SYSTEM INTAKES}
- CR 5/10/05

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- c. Existing windows within the facility contain fixed pane glass which is sealed to the Building exterior.

Based on the above, the following is proposed:

1. Exterior louvers associated with mechanical room fresh air intakes will be sealed from the Building interior using two layers of 6-mil poly and tape.
2. Missing windows will be sealed using rigid sheathing, caulk and tape in compliance with ICR 56-8.1(k)(1) and ICR 56-8.1(k)(2), adhering to requirements approved by a New York State Licensed Professional Engineer. The interior surface of the rigid sheathing will be covered with two layers of 6-mil poly and sealed with tape.
3. Exhaust duct hose will be installed and maintained in the work area to avoid damage to the extent possible and shall be inspected on a daily basis to ensure no damage has occurred. Any damage noted shall require the immediate shut down of that negative air machine to allow for repair or, if repair is not possible, the length of exhaust duct shall be replaced prior to placing the unit back into service.
4. Sufficient HEPA ventilation units shall be installed to maintain at least 4 air changes per hour during abatement and clean up activities.
5. Air outlet from the work area shall be at or near floor level. Power tools used to drill, cut into or otherwise disturb asbestos material shall be equipped with HEPA filtered local exhaust ventilation. *MANUFACTURER CMA 5/10/05*
6. HEPA ventilation units shall be operated at a maximum of 2 air changes per hour during clearance sampling.
7. HEPA ventilation exhaust will be installed within exterior building openings, where practical. In areas where there are no exterior building openings available, ventilation exhaust will occur at existing window locations. To facilitate those exhausts points, the following procedure will be utilized:
 - > The window pane will be secured from the interior and cut along the interior framing.
 - > The window will be angled and brought into the work area and either cleaned of WTC dust or disposed of as an asbestos-contaminated material. *AND HEPA VACUUMS CMA 5/10/05*
 - > The interior frame area will be cleaned using wet methods. *A rigid barrier with cutouts to accommodate up to six negative air exhaust flex hoses will be inserted into the opening of the interior frame area and all seams shall be sealed using caulk or foam. Flex hose penetrations shall be sealed airtight using caulk, foam or 6-mil poly and tape, as needed.*

56-8.1(g) - Movable Objects *SEE VARIANCE CONDITIONS CMA 5/10/05

Exemption from this section is requested for moveable objects remaining within the work area based on the following:

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- a. Moveable equipment remaining within the negative pressure work area will be either cleaned or removed during the abatement phase (Phase I) of the project. Covering these surfaces with poly will restrict access to these surfaces for cleaning or removal and will not enhance worker safety.

56-8.1(h) - Fixed Objects *SEE VARIANCE CONDITIONS *OK 5/10/05*

We request exemption from this section for fixed objects remaining within the work area based on the following:

- a. Fixed objects within the negative pressure work area will be either cleaned or removed during the abatement phase (Phase I) of the project. Covering these surfaces with poly will restrict access to these surfaces for cleaning, crating or removal and will not enhance worker safety.

56-8.1(i) - Precleaning *SEE VARIANCE CONDITIONS *OK 5/10/05*

Exemption is requested from pre-cleaning of all interior surfaces and the prohibition of disturbing asbestos during pre-cleaning. Pre-cleaning shall consist of cleaning of surfaces over which isolation barriers will be installed and removal of large debris (e.g., building components, materials, wastes) that may inhibit the installation of isolation barriers, the negative pressure system equipment or the movement of personnel on a floor. Once negative pressure work areas have been established, all ACBM and WTC dust and debris will be removed within that work area during the abatement phase of the project.

The Building interior was impacted by WTC dust and debris, and ~~NYS DOL and other regulatory agencies have stated that~~ the interior of the entire structure is contaminated with asbestos. Accordingly, pre-cleaning of the work area would require wetting and removal of WTC dust and debris. However, pre-cleaning of the walls, floors and ceiling surfaces prior to establishing negative pressure work areas provides no additional benefit to either worker or public health and safety since such cleaning will occur under negative pressure during subsequent Phase I abatement activities. Traditional pre-cleaning as required by 56-8.1(i) without negative pressure would actually increase potential exposures and would provide no benefit to workers or the public. *OK 5/10/05*

Based on the above, the following is proposed:

1. Loose material on exposed surfaces over which isolation barriers and negative pressure ventilation exhaust duct manifolds will be installed shall be wetted thoroughly with amended water prior to disturbance and/or HEPA vacuumed. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall be prohibited. *#1 COMPLETE BEFORE COMMENCEMENT OF #2 WITHIN EACH WORK AREA *OK 5/10/05*
2. Large pieces of debris (e.g., building components, building materials) on the floor that may inhibit the installation of isolation barriers, the negative pressure system equipment or the movement of personnel on a floor will be removed and either containerized for proper disposal or, if non-porous material, may be staged for cleaning and salvage during subsequent Phase I abatement activities.

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3. Pre-cleaning shall consist of cleaning of surfaces over which isolation barriers will be installed. HEPA vacuuming or wet wiping of surfaces throughout the work area to clean WTC dust, to remove pieces of debris that inhibit work process as described above, or to remove installed building components/materials will be performed within a negative pressure enclosure during subsequent Phase I abatement activities.

56-8.1(i) - Isolation Barriers *SEE VARIANCE CONDITIONS CA 5/10/05

Isolation barriers conforming with the requirements of 56-8.1(j) shall be constructed. The isolation barriers shall consist of two layers of 6-mil fire retardant poly sealed individually with tape. Small openings may be sealed with expandable foam.

- 56-7.1(e) and (f) - General Removal Requirements;
- 56-8.1(k)(1) Through (5) - Isolation Barriers;
- 56-11.1(b) - Preabatement Settling Period;
- 56-15.2(b) through (e) - Post Abatement Requirements;
- 56-17.2(a) - Drying Time

*SEE VARIANCE CONDITIONS CA 5/10/05

LIMITED Exemption from these sections is requested based on the following:

CA 5/10/05

- a. The Building exterior construction is fixed pane windows and sealed spandrel panels. Plasticizing of Building and equipment surfaces will restrict access to surfaces requiring cleaning and impede access to building materials and areas requiring abatement.
- b. All interior non-structural building materials will be removed under negative pressure during subsequent Phase I abatement activities.
- c. The project involves concurrent decontamination of non-porous Building and equipment surfaces, disposal of building materials contaminated with WTC dust and debris, and removal of ACBM from within the same negative pressure work area.
- d. Installed ACBM, located above or behind contaminated building materials, will be exposed during interior demolition to permit removal of this material inside of the existing negative pressure work area.
- e. All remaining non-porous interior surfaces/equipment shall be cleaned as part of the post-abatement cleaning process.

Based on the above, the following is proposed:

1. No demolition or abatement shall occur within a negative pressure work area until area preparations and pre-cleaning activities as previously defined are completed.
2. Building materials will be removed using the following general sequencing within each designated work area, as applicable. However, within a given work area or floor several aspects of this sequence may be underway concurrently and/or, to the extent that a safe workplace can be maintained, out of sequence work may occur to facilitate the overall project. Out of sequence work may occur to address field conditions, preferences and/or to improve the

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overall efficiency of the abatement process. The following are the general anticipated sequences of work:

> TYPICAL OFFICE FLOOR GENERAL SEQUENCE: *SEE VARIANCE CONDITIONS*

CM
5/10/05

- Pre-cleaning as described;
- Area preparation consisting of the installation of HEPA ventilation equipment and isolation barriers in accessible openings along the exterior boundary of the negative pressure work area and establish waste load out decons as desired;
- Limited demolition of walls and ceilings to facilitate work area preparation;
- Installation of isolation barriers in penetrations exposed along the exterior boundary of the negative pressure work area;
- Removal of ACBM flooring and any ancillary demolition of walls required to access such ACBM flooring;
- Demolition of remaining walls and ceilings;
- Removal of ACBM pipe insulation;
- Removal of installed utilities (i.e., conduit, piping, HVAC duct);
- Removal of HVAC duct flange sections containing non-friable ACBM duct seal;
- Removal for decontamination or disposal of large non-porous fixed equipment and components;
- Installation of drop cloths to facilitate removal of spray-on fireproofing and fireproofing removal;
- Decontamination of walker duct and raceways;
- Removal of flooring mastic;
- Detail cleaning of work area; and
- Clearance air monitoring shall be performed at the completion of all work within each negative pressure work area.

> MECHANICAL EQUIPMENT ROOM GENERAL SEQUENCE: *SEE VARIANCE CONDITIONS*

CM
5/10/05

- Pre-cleaning as described;
- Area preparation consisting of the installation of HEPA ventilation equipment and isolation barriers in accessible openings along the exterior boundary of the negative pressure work area and establish waste load out decons as desired;
- Removal of transite panels serving as louver blanks and installation of isolation barriers in penetrations exposed along the exterior boundary of the negative pressure work area;
- Installation of isolation barriers in penetrations exposed along the exterior boundary of the negative pressure work area;
- Demolition of walls and ceilings;
- Removal of ACBM flooring and any ancillary demolition of walls required to access such ACBM flooring;
- Removal of remaining transite panels;
- Removal of ACBM mechanical insulation;
- Removal of installed utilities (i.e. conduit, piping, HVAC duct);
- Removal of HVAC duct flange sections containing non-friable ACBM duct seal;
- Decontamination or disposal of large non-porous fixed equipment and components;

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- Installation of drop cloths to facilitate removal of spray-on fireproofing and fireproofing removal;
 - Removal of flooring mastic;
 - Detail cleaning of work area; and
 - Clearance air monitoring shall be performed at the completion of all work within each negative pressure work area.
- > EXTERIOR GASH AREA GENERAL SEQUENCE: **SEE VARIANCE CONDITIONS* *CM 5/10/05*
- Area preparation consisting of the installation of a caulked, sealed barrier with rigid sheathing covered with two layers of fire retardant 6-mil poly on the Building interior side in compliance with ICR 56-8.1(k)(1) and ICR 56-8.1(k)(2), adhering to requirements approved by a New York State Licensed Professional Engineer. This barrier shall enclose the opening in the exterior façade;
 - Installation of HEPA ventilation equipment as required;
 - Demolition of the existing wall separating the gash area from the remaining floor space in order to access the ACBM wall/floor joint tar paper existing at its base;
 - Cleaning of walker ducts/raceways in these areas will be done in conjunction with cleaning of these systems in the adjacent interior containment;
 - Detail cleaning of work area; and
 - Clearance air monitoring shall be performed at the completion of all work within each negative pressure work area.
- > INSTALLATION OF EXTERIOR HOIST(S) AND TOWER CRANE GENERAL SEQUENCE: **SEE VARIANCE CONDITIONS* *CM 5/10/05*
- Prior to initiating exterior work the abatement subcontractor shall ensure that there is a scaffold bridge on the sidewalk below the installation point.
 - Exterior building façade surfaces directly impacted by the installation will be cleaned in conformance with the following façade cleaning protocol *IN ACCORDANCE WITH PROVIDED NYCDER PROCEDURES* *CM 5/10/05*
 - o Access to the area below the façade cleaning shall be restricted and marked with caution tape. Cleaning shall not be performed during wind speeds greater than 20 mph. The area below the façade cleaning shall be covered with a layer of polyethylene sheeting.
 - o Directly upon removal from the surface, all debris shall be placed in an appropriate waste bag for proper disposal as asbestos waste.
 - o All impacted horizontal and vertical surfaces that are required to be removed to install the hoist(s) and/or tower crane shall be cleaned of large bulk material by wetting and hand brushing, scraping with non-metallic bristle brushes or non-metallic scrapers, by wet-wiping and /or HEPA vacuuming from the top to bottom. Only water shall be used for wet wiping. Removed materials shall be placed in appropriate waste bag for proper disposal as asbestos waste.
 - o Windows and panels shall be wet-wiped. Free running water shall not be evident during this procedure. Power for HEPA vacuums shall be supplied through ground fault interrupters.

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- o At the completion of the work, a visual inspection of the abated surfaces, sidewalk and scaffold bridge shall be performed to verify the absence of visible debris.

- Column covers and aluminum fascia at various locations on floors where necessary connections for this equipment must be made may be breached in the process of this installation and therefore care will be taken in the removal of the aluminum sheetmetal covering.
- The abatement subcontractor shall identify the joints located on these column covers and inspect for the presence of asbestos containing caulking material. If caulking is present, the abatement subcontractor shall utilize a non-abrading cutting tool to cut the required portion of the sheetmetal covering while wetting the material with amended water. Any dust generated in this process shall be immediately HEPA vacuumed. The removed sheetmetal covering shall be placed in an appropriate waste bag for proper disposal as asbestos waste.
- Interior attachment points: the abatement subcontractor shall establish an enclosure using one layer of 6-mil poly and appropriate support structures surrounding the interior attachment points.
- The enclosure shall be attached and sealed to the exterior wall inside the Building at the location where windows will be removed and/or other openings to the exterior environment must be created.
- Once the enclosure is established, the abatement subcontractor shall clean all dust and surfaces within the area via HEPA vacuuming and wet wiping.
- The Project Monitor shall then perform a visual inspection and clearance air sampling within the attachment point enclosure prior to allowing the opening to the exterior to be established.
- Once the opening to the exterior has been established and the necessary connections are made for the erection of the hoist and tower crane, the abatement subcontractor shall temporarily seal the exterior opening with a rigid barrier covered with 6-mil poly with appropriate supports to ensure the barrier will remain in place until completion of Phase I activities on that floor.

SEE
 VARIANCE
 CONDITIONS
 CJA 5/10/05

> INSTALLATION OF INTERIOR CONCRETE CHUTE TO BE USED TO TRANSPORT CONCRETE SLAB DEBRIS GENERATED DURING CLEAN PHASE II ACTIVITIES ONLY *SEE VARIANCE CONDITIONS CJA 5/10/05

- For the purpose of transporting clean concrete floor slab debris that is generated during the clean Phase II structural deconstruction activities only, steel debris chutes shall be installed from the top down at four (4) locations which do not breach the raceway and walker duct system. These debris chutes shall be used for clean concrete only and shall not be used to transport asbestos.
- Every effort will be made to locate the 4 shaft locations to avoid interference as it transverses the mechanical floor (5th floor). However, the possibility exists that some out of sequence work must occur to relocate equipment.
- Chute dimensions shall be approximately 36 inches in diameter.

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- On floors where Phase I work has not yet been completed, work shall be performed in a controlled manner by a licensed asbestos abatement subcontractor utilizing licensed personnel and sequenced as follows: **SEE VARIANCE CONDITIONS* *CSA 5/10/05*
 - o Tent enclosures, with a nominal dimension of 8' x 8', shall be constructed with one layer of fire retardant 6-mil poly to contain the areas where the chute is to be installed. The tent enclosures shall extend from the top of the floor slab to the underside of the concrete ceiling slab above. The tent enclosures shall be placed under negative air and the abatement work shall be performed out of sequence.
 - o The area immediately below the proposed penetration location shall be prepared in a similar manner
 - o Localized removal of ACBM, WTC dust and obstructions potentially interfering with chute installation (such as ducts, conduits and black iron) existing within the tent enclosures shall be performed. Debris generated shall be bagged and handled as asbestos-contaminated waste. Non-porous materials may be removed from the tent enclosure and staged for cleaning and salvage during subsequent Phase I abatement activities.
 - o Chute sections will be capped at both ends before bringing them into the work area.
 - o Jackhammers will be used to create concrete slab openings of sufficient size to accommodate the installation of the chute. Concrete rubble will be picked up and then the Q deck will be removed.
 - o Chute sections shall be incrementally installed, fitting conically shaped fore sections into larger aft sections of each chute.
 - o Chute sections shall be secured to the Building's structure adhering to requirements approved by a New York State Licensed Professional Engineer.
 - o Floor penetrations around the chute shall be sealed using spray foam, 6-mil poly and tape or similar means.
 - o Where chute sections have been joined, seams shall be sealed with duct tape to ensure the chute remains airtight.
 - o The exterior surface of the chute shall be fully plasticized, from slab to slab, with two layers of fire retardant 6-mil poly; as a means of further segregating it from any ongoing Phase I work activities.
 - o Clearance air samples shall be required, within the individual tent enclosure, only when Phase I abatement activities and satisfactory clearance air monitoring results have been achieved on the floor above. If Phase I abatement activities have not been completed on the floor immediately above and below the tent enclosure, clearance air monitoring shall not be required within the individual tent enclosure prior to disassembly. Clearance air monitoring for the tent enclosure area shall be performed at the completion of Phase I abatement activities within the applicable negative pressure work area.
 - o The Phase I abatement subcontractor shall perform daily inspections, within the active abatement area, to verify the integrity of the poly covering the chute. Any defects identified will be repaired immediately. *CSA 5/10/05*

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- o The Phase I abatement subcontractor will remove the polyethylene covering the chute as part of its final cleaning work within each work area prior to performance of air clearance sampling.
- In building areas where Phase I abatement activities have been completed and satisfactory clearance air monitoring results have been achieved, on that floor and the floor directly below, slab penetrations and installation of chute sections shall not require use of a tent enclosure. Disposal of removed concrete and Q deck in these areas shall be as clean material.
- 3. Each floor may be segregated into one or more negative pressure work areas. Multiple floors may be interconnected to form a single work area. Work areas within or between floors may be segregated by constructing an isolation barrier consisting of two layers of at least 6-mil poly within existing structural openings (e.g., doorways, corridors).
- 4. All openings and penetrations to the exterior of the work area shall be sealed in accordance with ICR 56-8.1(j). *ICR 56-8.1(k1-k4) AS APPLICABLE (SEE VARIANCE CONDITIONS) CM 5/10/05*
 Small penetrations around piping, conduit, etc., may be sealed with expandable foam. Floor drains shall be covered with two layers of 6-mil poly.
- 5. Prior to the start of abatement activities, the contained work area shall be inspected to ensure that it is free of any penetrations to outside the work area and is a closed system. Should any penetrations be found, they shall be properly sealed. Smoke testing of barriers and enclosure systems will be performed in conformance with ICR 56-11.1(e).
- 6. If during the removal operations a penetration is found, work shall stop immediately and the penetration shall be properly sealed.
- 7. Materials containing asbestos shall be wetted frequently with amended water. No dry removal or disturbance of asbestos shall be permitted.
- 8. Floor tile and mastic will be removed via the following work practices: ** SEE VARIANCE CONDITIONS CM 5/14/05*
 - > Floor tiles and mastic shall be periodically misted with amended water prior to, during and subsequent to removal
 - > Floor tiles will be removed using manual methods only, to the extent practical.
 - > Floor tiles shall be directly containerized for disposal.
 - > Chemical mastic remover using manual methods and or a mechanical buffer may be used to remove gross residual mastic from areas.
 - > Concrete staining or discoloration caused by absorption of liquefied petroleum based mastics will be visually inspected to verify that all residual mastic has been removed from the concrete substrate. Upon verification that residual mastic has been removed, concrete staining or discoloration may remain.
- 9. ACBM pipe insulation shall be removed within an existing negative pressure work area and will be removed either using glovebags or a "wrap & cut" procedure. The abated area of the pipe to be cut need not be plasticized. Pipe sections to be removed with the ACBM insulation intact shall be wrapped with two layers of 6-mil poly and sealed with tape. A label shall be

WITH GLOVEBAG REMOVALS AT
 CUT LOCATIONS CM 5/10/05

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placed on each length of pipe. Pipe shall be adequately supported prior to cutting and shall be cut only on abated or clean surfaces.

10. Sprayed-on Fireproofing ("SOFP") shall be removed within an existing negative pressure containment as follows: **SEE VARIANCE CONDITIONS CM 5/10/05*
- > The floor within the active SOFP removal area shall be covered utilizing a single layer 6-mil poly drop cloth extending beyond the active SOFP removal area by at least ten feet in every direction; *CM 5/10/05*
 - > ~~Dirt removal of SOFP may be performed using a pressure wash system.~~ If a pressure wash system is used, waste water will be collected, filtered through a system with at least 5.0 micron particle size capability prior to discharge in accordance with all applicable regulations. *FOR FINAL CLEANING CM 5/10/05*
11. Walker Duct and raceways will be cleaned as follows: **SEE VARIANCE CONDITIONS CM 5/10/05*
- > Remove all wires and cables from ducts and raceways.
 - > Marker holes shall be drilled in the raceways at the junction points of the walker ducts and raceways, as required.
 - > Openings will be made in the raceways at the location of the marker holes. The openings should be of sufficient size to permit passage of water and debris from the walker duct cleaning. *ALL GENERATED WASTEWATER SHALL BE CONTROLLED & COLLECTED. CM 5/10/05*
 - > Interior surfaces of the walker ducts shall be thoroughly rinsed using water.
 - > Additional openings shall be made in the underside of the raceways, as required, to permit access to interior surfaces for cleaning.
 - > Local negative ventilation shall be utilized in the section of the raceway actively being cleaned.
 - > The interior surfaces of the raceways should be cleaned using a combination of manual and mechanical means.
 - > All methods used shall incorporate the use of vacuum collection devices that are operated continuously during cleaning. A vacuum device shall be connected to the downstream end of the section being cleaned through a predetermined opening. The vacuum collection device must be of sufficient power to render all areas being cleaned under negative pressure.
 - > All vacuum devices shall be equipped with HEPA filters (minimum efficiency), including hand-held vacuums and wet-vacuums.
 - > All methods require mechanical agitation devices to dislodge debris adhered to interior duct/raceway system surfaces, such that debris may be safely conveyed to vacuum collection devices.
12. Large non-porous unventilated equipment that cannot be moved manually may be cleaned in place and left uncovered during clearance air monitoring. This equipment will be removed as clean material after the completion of the abatement phase of this project.
13. Large non-porous ventilated equipment that cannot be internally cleaned or moved manually may be (i) packaged in a double lined hardwall container, properly labeled as asbestos

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contaminated waste, and staged for removal by mechanical means after the completion of the abatement phase; or (ii) ~~torch~~ cut, as needed, to reduce the size of these components for handling and/or complete decontamination.

- 14. Porous demolition debris and porous material within the work area shall be disposed of as asbestos-contaminated waste. *MECHANICALLY CH 5/10/05*
- 15. Non-porous salvage items may be decontaminated and released as specified in Industrial Code Rule 56-8.2.

16. Torch cutting and welding shall be performed in accordance with the contractor's standard cutting and welding safety procedures and in accordance with applicable federal, state and local laws, including but not limited to the following requirements:

**NOT ALLOWED WITHIN CONTAINMENT CH 5/10/05*

- > All cutting and welding will be performed under a Hot Work (Welding/Cutting) Permit Program;
- > All work will be performed by personnel who possess the appropriate New York City Fire Department Flammable Gas Torching/Welding Certificate of Fitness;
- > All work will be performed under firewatch supervision by personnel who possess the New York City Fire Department Flammable Gas Torching/Welding Fire Guard Certificate of Fitness;
- > Protection from fire hazards with guarding will be required to confine heat, sparks and slag generated by operation;
- > Prior to cutting/welding, inspections will be conducted by experienced and certified personnel authorized to issue Hot Work Permit; and
- > Additional special precautions will be taken when combustible materials are located within 35 feet of the point of operation or wall or floor openings that are within a 35 foot radius of operation.

17. Diesel-powered heavy equipment (e.g., bobcat, forklift) may be utilized to move and remove debris, perform ~~some interior demolition and place debris in containers~~, provided the contractor can take reasonable and appropriate measures to demonstrate that safety issues such as potentially harmful emissions can be adequately controlled in accordance with applicable federal, state and local occupational requirements. Prior to removal from the work area, heavy equipment used on the project shall be cleaned as follows: *CH 5/10/05*

- > **SEE VARIANCE CONDITIONS CH 5/10/05* An equipment decontamination area shall be cordoned off within the work site for cleaning heavy equipment, e.g. backhoes, excavators, loaders. The floor surface in this decontamination area shall be plasticized and banked on the side to confine the contaminated wastewater.
- > Equipment shall be washed with water after which all exposed surfaces of the equipment shall be manually wet wiped. Upon completion of the decontamination procedures, the interior of the equipment decontamination area shall be wet wiped.

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- > The floor surface below the equipment decontamination area shall be cleaned and any residual asbestos contamination shall be removed and disposed of as asbestos-contaminated waste.
 - > Wastewater shall be confined within the equipment wash area and shall be collected and filtered through a system with at least 5.0 micron particle size capability prior to discharge.
18. Upon completion of all work within each floor of the negative pressure work area the following work practices will apply: **SEE VARIANCE CONDITIONS CJA 5/10/05*
- > The entire work area shall be thoroughly washed (a pressure wash system may be used) using amended water and HEPA vacuumed dry.
 - > All standing water shall be collected by HEPA vacuuming or mopping the area. All standing water shall be removed.
 - > Wall/Floor poly, as applicable, shall be encapsulated and removed. All standing water shall be removed.
19. Following a minimum drying time of four hours after wet cleaning has been completed, an authorized and qualified individual, independent of the removal project, such as the Project Monitor or Design Engineer, shall determine if the surfaces in the work area are dry and free of dust and debris. ~~The exception to this would be the raceways and walker ducts, which cannot be visually inspected.~~ Once the accessible work area has been inspected and found to be clean and dry, aggressive clearances may be performed. *CJA 5/10/05*

56-9.1(a) - Large Project Decontamination Enclosure System **SEE VARIANCE CONDITIONS*
 LIMITED *CJA 5/10/05*
 An exemption is requested from portions of this section as ^{A PORTION OF TENT ENCLOSURE} ~~the~~ areas where removal of ACBM and asbestos-contaminated materials will occur are not contiguous. *CJA 5/10/05*

We are proposing that:

1. A large project personal decontamination enclosure system, which may be remote from the TENT work area but otherwise complies with the provisions of ICR 56-9, shall be utilized. The large project personal decontamination enclosure system shall be fully framed and sheathed. *CJA 5/10/05*
2. Personnel shall don two layers of protective clothing prior to entering the work area.
3. Provided that workers are moving from a contaminated work space to another contaminated work space or from a contaminated work space through the yet uncleaned remainder of the Building (which NYSDOL and other regulatory agencies have stated is contaminated with asbestos), they need not return to the decon or remove/change their protective clothing.

56-10.1(a)(1) - Waste Decontamination Enclosure System; and **SEE VARIANCE CONDITIONS*
56-12.1(c) through (e) - Handling and Removal Procedures *CJA 5/10/05*

Exemption from portions of these sections is requested based on the following:

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- a. It is anticipated that a high volume of asbestos waste, including ACM, WTC dust and asbestos-contaminated waste, will be generated during this project. Therefore, conventional bagging of all asbestos waste on a project of this size would result in generation of very large waste volumes for handling and packaging, an increase in the number and/or size of trucks required for waste transportation, an increase of off-site burial volume, and require workers to hand process waste in a time- and labor-intensive manner. This exemption is being requested to reduce the volume of asbestos waste trucked through Lower Manhattan, reduce the volume of waste to be placed in landfills, and minimize workers' direct handling and packaging of asbestos-contaminated waste.
- b. The project may be performed using a portable bulk shredder for processing of the asbestos-contaminated waste in order to facilitate its transport to a waste packaging station.
- c. The removal of large sheet metal sections and steel components will require use of heavy equipment to move and lower them to grade level.
- d. The majority of the large sheet metal and steel components will be washed and decontaminated for release as clean salvage. Porous materials will be properly packaged for disposal as asbestos waste and lowered to the ground using controlled methods (e.g., hoists).

Based on the above, it is proposed that:

**SEE VARIANCE CONDITIONS CJK 5/10/05*

- 1. No dry removal or disturbance of asbestos shall be permitted.
- 2. Asbestos shall be wetted frequently with amended water. Sufficient time shall be allowed for penetration to occur prior to abatement activities. All friable asbestos shall be saturated. All non-hygroscopic asbestos shall be wetted on a continuous basis.
- 3. If a portable bulk shredder is utilized, it shall remain within the active negative pressure work area during use. Asbestos-contaminated waste material within the portable bulk shredder shall be wetted during system operation.
- 4. Asbestos contaminated tools/equipment shall be decontaminated by utilizing the ~~personal or~~ waste decontamination enclosure system. *SHALL CJK 5/10/05*
- 5. A waste decontamination enclosure system ("waste decon") ~~may~~ *SHALL* be constructed within the negative pressure work area at the exit from the contained area. The waste processing area shall be fully framed and the interior floor, wall and ceiling surfaces shall be lined with two layers of 6-mil reinforced fire-retardant poly. *CJK 5/10/05*
- 6. The interior ~~and exterior~~ *REPACKAGING CJK 5/10/05* entrance to the waste ~~processing~~ area shall be of sufficient size to accommodate large metal components, to permit safe entry and exit of heavy equipment and contain "flaps" or a curtain drape to assist in maintaining negative pressure within the waste processing area. *ACM & ASBESTOS-CONTAMINATED MATERIALS CJK 5/10/05*
- 7. All removed ~~ACM~~ *ACM & ASBESTOS-CONTAMINATED MATERIALS* must be packaged at the time of removal and will not remain in the work area, unpackaged at the end of the work day. ~~All other removed asbestos waste not packaged~~ *CJK 5/10/05*

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~~For disposal during the shift, shall be thoroughly wetted and covered with poly during non-work periods. Poly used to cover asbestos waste piles shall be disposed of as asbestos waste.~~ *OK 5/10/05*

- 8. The floor surface in the waste process area shall be banked on the side to confine the contaminated waste water. Waste water shall be drained, collected and filtered through a system with at least 5 micron particle size collection capability. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtration system by large particles. Filtered wastewater shall be discharged in conformance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.
- 9. Non-porous materials may be decontaminated utilizing wet methods (a pressure wash system may be used). Removal of non-porous, movable salvage shall be performed in compliance with 56-8.2(a). *NON-POROUS, SEALED OK 5/10/05*
- 10. Any loaded Gaylord type boxes will be placed on pallets and passed through the waste decon via a pallet jack where they will be wet wiped and HEPA vacuumed.
- 11. Upon completion of the decontamination procedure, the interior of the waste process area shall be wet cleaned. All standing water shall be collected by HEPA vacuuming or mopping the area. All standing water shall be removed.

56-12.1(d) - Chutes **SEE VARIANCE CONDITIONS OK 5/10/05*

Relief is requested from the maximum vertical distance of 10 feet for the removal of asbestos contaminated materials based on the following:

- a. Typical ceiling heights in the finished interior spaces exceed a height of 10 feet. The maximum ceiling height in the finished interior space is 21 feet.
- b. The typical ceiling height in the finished interior space, from Floors 6-36, is approximately 12 feet.
- c. Ceiling heights in the Mechanical Rooms located on Floors 5, 38 & 39 are 28 feet, 17 feet and 15 feet, respectively.
- d. Ceiling height in the first floor atrium area is approximately 21 feet.
- e. Ceiling in the cellar B, Cellar A and Floors 2-5 range from approximately 16 feet to 18 feet.

We propose to do the following: **SEE VARIANCE CONDITIONS OK 5/10/05*

- 1. Asbestos contaminated materials shall be thoroughly wetted prior to disturbance. Upon removal from the substrate, contaminated materials will be wetted and properly packaged for disposal. Packaging of waste shall be performed concurrent with on-going removal activity. Accumulations of unpackaged waste shall be minimized. All removed materials shall be properly packaged by the end of the work day for disposal as asbestos waste.

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56-17.1 - Background Air Samples

Relief is requested from the requirement to perform Background Air Sampling (prior to start of project) based on the following:

- a. Static area air sampling has been performed on an on-going basis at the site since 2001.

56-17.2 - Post Abatement Air Monitoring

The asbestos abatement portion of the project shall be considered complete within each work area when the area is visually clean of all dust ~~(with the exception of walk-off ducts and raceways which, as noted, cannot be visually inspected)~~ and the results of aggressive interior air clearance sampling are below the asbestos clearance criteria of 70 structures/mm² (collected and analyzed in accordance with AHERA TEM protocols). Where areas fail the visual inspection or any asbestos clearance air sample is found to be above 70 structures/mm², the work area must be re-cleaned and re-tested until successful air clearance is achieved. Final air samples will be collected following "aggressive" air sampling techniques, as per ICR 56 17.2 (f). A minimum of five (5) air samples shall be collected and analyzed per work area. A minimum of five (5) asbestos air samples per floor will be collected. The asbestos abatement clearance air sampling criteria will be deemed to have been met in a work area when all samples, collected and analyzed in accordance with AHERA TEM protocols, are less than 70 structures/mm².

In addition to the asbestos abatement clearance air sampling, a minimum of five (5) air samples shall be collected per work area following "aggressive" air sampling techniques and analyzed for all of the contaminants listed below. The sampling may be performed concurrent with or subsequent to asbestos abatement clearance air monitoring. Although the asbestos abatement cleanup portion of the project under ICR 56 will be deemed complete following receipt of successful TEM clearance air sample results, containments will remain and the area will be sampled and re-cleaned, as and if necessary, to achieve the following supplemental air clearance levels:

Metals (NIOSH protocols)	Clearance Level
Antimony	250 ug/m ³
Barium	250 ug/m ³
Beryllium	1.0 ug/m ³
Cadmium	5.0 ug/m ³
Chromium (III)	250 ug/m ³
Copper	500 ug/m ³
Lead	25 ug/m ³
Manganese	100 ug/m ³
Mercury	12.5 ug/m ³
Nickel	50 ug/m ³
Zinc	1,000 ug/m ³

* NOT APPROVED BY NYS DOL
 5/11/05

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56-17.3 - Air Sampling During Abatement

Relief is requested from the requirements for daily air monitoring during non-work periods.
We propose the following:

CM 5/10/05

CM 5/10/05 FULL WORKSHEET CM 5/10/05

1. Daily air monitoring shall be performed each working day. Daily air monitoring shall be conducted during any period of asbestos disturbance (including pre-cleaning, set up, abatement/cleaning, final cleaning and waste removal).
2. On days when the above activities are not performed, daily air monitoring will not be conducted. If work is temporarily suspended for this project, daily air monitoring will not be required under this Site Specific Variance.
3. Independent of this request for variance, during deconstruction, air monitoring conducted by LMDC's consultant outside of the Building will continue on a daily basis, 24-hours per day, regardless of whether work is or is not occurring in the Building. The nature and scope of this monitoring will be set forth in the revised Deconstruction Plan.

CM 5/10/05

56-17.3(4) - Air Monitoring on Negative Filtration Unit Exhaust

*SEE VARIANCE CONDITIONS
CM 5/10/05

Exemption from portions of this section is requested based on the following:

- a. Each floor in the work area is approximately 35,000 SF with a nominal ceiling height of 13 feet. More than 20 operating HEPA negative ventilation units will be required to maintain the required air change rates on each floor.
- b. The subject facility is a 40 floor high-rise office building in Manhattan. Exterior windows are fixed pane with no existing exterior access for sampling.

We propose the following:

1. Negative ventilation unit exhausts shall be placed into groups of not to exceed six units.
2. An access port will be cut into the rigid barrier to provide access for placement of an exterior sample. The access port shall remain sealed during sampling and when not in use.
3. One area sample shall be taken within ten feet of each unobstructed negative pressure ventilation equipment "group" exhaust.
4. In the event that results of exhaust samples exceed 0.01 f/cc or background, whichever is greater, negative pressure ventilation exhausts within the affected "group(s)" shall be separated and sampled individually. Negative pressure ventilation exhausts within the affected "group(s)" shall remain separated until either a defective unit is identified or sample

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BE SAMPLED INDEPENDENTLY
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results for three consecutive days of sampling are less than 0.01 f/cc or background,
whichever is greater.

Independent of this request for variance, air monitoring conducted during deconstruction by
LMDC's consultant outside of the Building, both at ground level and at elevation, will take place
on a daily basis, 24 hours per day. The nature and scope of this monitoring will be set forth in the
revised Deconstruction Plan.

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ATTACHMENT #1

TABLE 1
 SUMMARY OF INSPECTION RESULTS
 FOR CONFIRMED ASBESTOS-CONTAINING MATERIALS

CONFIRMED ACM	APPROXIMATE QUANTITY		CONDITION and FRIABILITY	NOTES / LOCATION
	SF	LF		
Floor Materials (Linoleum, 9" x 9" and 12" x 12" Floor Tile) and Associated Mastic including Baseboard Mastic	138,940		Damaged, Non-friable	Approximately 138,940 SF of asbestos-containing "Floor Tiles & Associated Mastic including baseboard Mastic" were identified in the following locations: 28 th up to 39 th Floor; 22 nd up to 25 th Floor; and Basement B up to the 20 th Floor.
Sealant at Cable Entrances	50		Damaged, Non-friable	Located in Basement A.
Pipe Insulation, Greater than 8"		600	Damaged, Friable	Located in Basement A pipe shaft up to the 40 th floor
Pipe Insulation, Greater than 6"		550	Damaged, Friable	Located on the 20 th Floor
30" Pipe Insulation	400		Damaged, Friable	Located in Basement A above ceiling tiles.
Transite Board	110,200		Good, Non-friable	Located on the Roof Cooling Tower, 40/41 st and 5 th / 6 th Floor MERs, Basement B.
Pipe Insulation, Greater Than 12"		1,200	Damaged, Friable	Located on the 5 th and 6 th Floor MER.
Gash: Wall/Floor Joint Tar Paper	2,250		Good, Non-friable	Located in the North Side Gash area: 7 th Floor up to the 12 th Floor; 15 th Floor up to the 17 th Floor.
HVAC Duct Caulking Material (Joint)		1510	Good, Non-friable	Located on the 23 rd Floor and 40/41 st Floor MER.
Black Fan Room Wall Insulation	11,600		Damaged, Non-friable	40 th & 41 st Floor MER.
Caulking at Fans		50	Minor Damage, Non-friable	Located on the Roof.
Window Caulking		40	Minor Damage, Non-friable	
Gray Caulking/sealant on column and beam aluminum covers	145,000		Minor Damage, Non-friable	Located on the Exterior Façade. (Estimated quantity for 38 Floors and excludes material quantity from Gash area).
Brown/Red Sealant on High Pressure Supply Duct System and	30,000		Good, Non-friable	Located inside each radiator unit from 7 th Floor up to 34 th Floor; Supply Duct System located in the plenum area from 7 th Floor up to 34 th Floor; and four 36" diameter

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TABLE 1
 SUMMARY OF INSPECTION RESULTS
 FOR CONFIRMED ASBESTOS-CONTAINING MATERIALS

CONFIRMED ACM	APPROXIMATE QUANTITY		CONDITION and FRIABILITY	NOTES / LOCATION
	SF	LF		
Convector Units,				supply duct system from the 5 th Floor up to the 40 th Floor (from two Pipe/HVAC shafts).
WTC Dust/Residue Contamination	1,900,000		Damaged, Friable	Located on all surfaces within Building and on exterior of building.
Note:				
1. All quantities are approximate.				

TABLE 2
 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR

FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
ROOF				
	Exhaust Fans & West Side/BC-45	Caulking at Fans		50
	Tank Bulkhead Window/ED-45	Window Caulking		48
40TH AND 41ST FLOORS MECHANICAL ROOM				
	Mechanical Room/CD-56	12" x 12" Floor Tile (Black) and Associated Mastic on Floor Tiles	3,700	
	Elevator Machine Room/CD-34			
	Equipment Room/CD-45			
	North/Area of the Exposed Steel Deck/GF-56	12" x 12" Floor Tile (Grey) and Associated Mastic on Floor Tiles	1,000	
	East/Area of the Exposed Steel Deck/GF-56			
	Room Next to Louvers/EF-34			
	Cooling Tower Transite/CD-23	Transite Wall/slats	20,000	
	Mechanical Room Perimeter Wall	Transite Wall	37,000	
	HVAC Units at North Side of Bldg./BC-78	Fan Room Walls Insulation (Black)	11,600	
	Mechanical Space/BC-56	HVAC Duct Joint Caulking		10

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TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
39TH FLOOR				
	South Corridor/East/ED-34	12" x 12" Floor Tiles 2 Layers (Pink and Tan) and Associated Mastic on Floor Tiles	400	
	South Corridor/Middle/ED-34			
	Vending Machine Room/CB-34			
	North Corridor/West/CD-67	12" x 12" Floor Tiles (Grey) and Associated Mastic on Floor Tiles	2,300	
	South Corridor/East/CD-67			
	South Corridor/Middle/CD-34			
38TH FLOOR				
	South Corridor/BC-34	12" x 12" Floor Tiles (Grey) and Associated Mastic on Floor Tiles	3,000	
	North Corridor/DC-34			
	South Corridor/Middle/DC-67			
	Room by S. Corridor/W. Side/BC-34	12" x 12" Floor Tiles Composite 3 Layers (Blue) and Mastic	120	
	Room by S. Corridor/W. Side/BC-34			
37TH FLOOR				
	North Corridor/DC-67	12" x 12" Floor Tiles (Brown/Beige/Blue) and Mastic	2,550	
	North Corridor Storage Room/ED-56			
	North Corridor Storage Room/DC-56			
	Elevator Hallway/CD-45			
	South Corridor/DC-34			
	Storage Room North/CB-56			
36TH FLOOR				
	Small Storage at W. Side/BC-45	12" x 12" Floor Tiles (Black) and Mastic	170	
	Elevator Base			
35TH FLOOR				
	Storage Room North/ED-56	12" x 12" Floor Tiles 2 Layers (Beige)	800	
	North Corridor/DC-67			
34TH FLOOR				
	Small Office at E. Side/ED-23	12" x 12" Grey Floor Tiles [2-layer composite] Mastic associated with 12" x 12" Grey Floor Tiles	1,500	
	Room in the Middle/ED-34			
	Room in the Middle/ED-45			
	North Corridor Storage Room/ED-56			
	North Corridor Storage Room/DC-56			
	Office in The Middle/ ED-34			

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TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	North Hallway E.Side/ CB-78			
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	Office W.Side/ AB-56	12" x 12" Black Floor Tiles [1 layer]	3,300	
33RD FLOOR				
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct to Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	Small Office S.Side/ GF-12	12" x 12" Floor Tiles (Tan) Associated Mastic with 12" x 12" composite Floor Tiles	1,500	
	Small Office S.Side/ GF-23			
	Large Office S/E Side/ FE-23			
	East Hallway Small Office/ ED-23			
	S. Corridor Frate Elevator/ DC-34			
	N/E Small Storage Room/ GF-78			
	N.Side Small Office/ ED-78			
	W.Side Small Storage Room/ CB-34			
	W.Side Small Storage Room/ AB-34			
	S/W Small Storage Room/ CB-23			
	East Hallway Electrical Room/ ED-34	12" x 12" Black Floor Tiles Associated Mastic	1,000	
	Electrical Room/ N. Middle/ ED-56			
	Large Office/ N.Side/ ED-56			
	S.Hallway Electrical Room/ ED-34			
	W.Side A/W Room/ AB-34			
	Room Adj To Freight Elevator/ ED-23			
	N.Corridor Small Storage Room/ DC-56			
		12" x 12" Floor Tiles (Grey)	200	
32ND FLOOR				

05 04 27'

130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	S/E. Small Room/ FE-34	12" x 12" Black/Beige Floor Tiles Mastic Associated with 12" X 12" Floor Tiles	850	
	Conference Room E.Side/ GF-45			
	N/E Small Room/ FE-56			
	Stairwell B / ED-56			
	N. Corridor Small Storage Room/ DC-56			
31ST FLOOR				
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	East Side Small Office/ HG-45	12" x 12" Black and Beige Floor Tiles and Mastic	4,200	
	East Hallway Into Open Area/ HG-45			
	Conference Room E.Side/ GF-45			
	East Side Small Office N/ GF-56			
	East Side Small Office S/ GF-56			
	EP. Room N. Corridor/ FE-56			
	Middle Elevator Room/ ED-45			
	North Corridor Small Storage Room/ ED-56			
	Conveyor Room North/ DC-56			
	West Side Small Office/ CB-34			
	West Side Small Office/ CB-45			
30TH FLOOR				
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	S Corridor Electrical Panel Room/ DC-34		500	
	S. Small Room By Stairway A/ FE-34	12" x 12" Pink Floor Tiles		
	N. Corridor Small A/C Room/ FE-56	Mastic associated with 12" X 12" Pink Floor Tiles		
	Conveyer Room North/ DC-56			
	Open Area North/East/ GF-67		3,600	
	North Side Small Office/ FE-67			
	North Side Small Office/ FE-67			
	North Side Small Office/ ED-67			
	North Side Small Office/ GF-78			
	North Side Small Office/ GF-78	12" x 12" Black Floor Tiles		
	North Side Small Office/ FE-78	Mastic associated with 12" X 12" Black Floor Tiles		
	North Side Small Office/ FE-78			
	North Side Small Office/ FE-78			
	North Side Small Office/ ED-78			
	North Side Stairwell B / ED-56			
	South Side Telecom Room/ ED-34			
	South Open Area by Stairs/ DC-23			
29TH FLOOR				
	Entire	Brown Seal inside each convecter unit	230	
	Entire	Convecter Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	East Side Room/ OF-34		2,200	
	East Side Room/ GF-45			
	North East Side Small Office/ GF-56			
	North East Side Small Office Storage/ GF-56			
	Kitchen N Side Room/Middle/ DE-67	12" x 12" Floor Tiles (Grey)		
	N. Side Room/Middle/ ED-78	Associated Mastic on Floor Tiles		
	N. Corridor Storage Room/ DC-56			
	N. Corridor Small Room/ CB-56			

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	S/W Side Small Room/ BC-34			
	S/W Side Small Room/ BC-34			
28TH FLOOR				
	North Side Small Office/ DC-67	12x12" Floor Tiles (Grey)	1,500	
	North Side Small Office/ DC-67			
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	Mechanical Space/AB-34	12" x 12" Floor Tiles (Light Brown)	120	
27TH FLOOR				
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	Entire	Brown Seal inside each convector unit	230	
26TH FLOOR				
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	
	N/E Side Office/GF-67	12" x 12" Floor Tiles (Beige) and Mastic	750	
	Room Adjacent to Men's Room E./DC-56			
	Room Adjacent to Men's Room W./DC-56			
25TH FLOOR				
	Entire	Brown Seal inside each convector unit	230	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	750	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE 1: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	South Hall / Open Area / Middle / FE-23	12" x 12" Floor Tiles (Black)	2,000	
	South Hall / Small Office / Middle / FE-34			
	Room Adj. To Men's Room/West / CD-56			
24TH FLOOR				
	Entire	Brown Seal inside each convector unit	200	
	Entire	Convector Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	By Women's B/Room/Middle/ DC-34	12" x 12" Floor Tiles (Grey) and Mastic	120	
23RD FLOOR				
	South Corridor Conveyor hall/ ED-34	12" x 12" Floor Tiles 2nd Layer (Black) and Mastic	500	
	South Corridor Women's Room/ FE-34			
	South Side Corridor/ DC-34	12" x 12" Floor Tiles (Grey)	900	
	Vending Machine Room/DC-34			
	East Hall / Room 2304 / CB-34			
	East Hall / Open Area / AB-34			
	Office 2307 W. Side / AB-56			1,500
	Above ceiling tiles, restricted area	HVAC Duct Caulking (Joint)		
	Entire	Brown Seal inside each convector unit	200	
	Entire	Convector Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	West Open Area / AB-34	Associated Mastic on Baseboard (Brown)	300	
	South Open Area / DC-23			
	East Open Area / GF-34			
22ND FLOOR				

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	Entire	Brown Seal inside each convector unit	200	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Hallway 2254 SE Side / GF-23	12" x 12" Floor Tiles 2 Layers (Grey) and Mastic	400	
	Hallway 2253 / FE-23			
	SW Corner Room / AB-12			
21ST FLOOR				
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convector unit	200	
20TH FLOOR				
	Large South Hall West / ED-12	Pipe Insulation at 6"-12" Pipe		500
	Large South Hall Middle / FE-12			
	Large South Hall East / FE-12			
	Vending Machine Room / GF-34	Pipe Joint Insulation at 1" Pipe		50
	South Corridor / DC-34			
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convector unit	200	
West Small Office / GF-34	12" x 12" Floor Tiles 2nd Layer (Black)	300		
Stairwell at South Corridor / GF-23				
19TH FLOOR				
	Storage Adj. to Stair 3/GF-23, closet adj. to vending machine	12" x 12" Floor Tiles 1st Layer (Beige)	350	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convector unit	200	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	Vending Machine Room, Stair 3, closet adj. to vending machine	12" x 12" Floor Tiles 2nd Layer (Black)	600	
18TH FLOOR				
	Stair 3 Stairwell/ GF-23	12" x 12" Floor Tiles 2nd Layer (Black)	200	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convactor unit	200	
	West Side Small Storage Room/ GF-34	Linoleum Sheeting and Mastic	100	
	South Side Men's Room/ CD-34			
17TH FLOOR				
	SE From Hallway At Stair A/ FE-34 Room At NE Gash/ GH-56	12" x 12" Floor Tiles (Black) and Mastic	300	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convactor unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
16TH FLOOR				
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convactor unit	200	
	Mens Bathroom Womens Bathroom	Linoleum and Mastic (Brown)	500	
15TH FLOOR				
	Room in Front Of Stair A/ GF-34	12" x 12" Floor Tiles 2nd Layer (Black)	150	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	Entire	Brown Seal inside each convector unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
14TH FLOOR				
	S. Small Office Adj To Large Hallway / FE-23	12" x 12" Floor Tiles 2 Layers (Beige)	500	
	E. Side Room / Middle / GF-23			
	East Corridor Storage Room / GF-34	12" x 12" Floor Tiles (Black)	1,250	
	East Open Area / GF-45			
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convector unit	200	
	West Small Office / CB-34			
	West Small Kitchen / CB-34			
	S. Room Adj. To Large Hallway / FE-12			
	Room South To Hallway At Stair A / FE-34	12" x 12" Floor Tiles 2 Layers (Gray)	1,250	
	S. Room Adj. To Hallway Small Office / FE-12			
12TH FLOOR				
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
	Mens Bathroom	Linoleum and Mastic (Brown)	500	
	Womens Bathroom			
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convector unit	200	
	West Corridor Storage Room / FE-34	Associated Mastic on Baseboard (Brown)	50	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
11TH FLOOR				
	Small Office W. Side/ AB-45	12" x 12" Floor Tiles 2nd Layer (Black) and Mastic	6,000	
	Large Office W. Side/ AB-34			
	West Corridor / AB-34			
	Large Office W. By Open Area / GF-34			
	SE in Fr. Of Corner Room / CB-23			
	SE Small Storage Room/ GF-34			
	West Side Large Office/ GH-34			
	West Side Small Office/ GH-45			
	West Side Small Office/ GH-45			
	West Side Small Office/ GH-45			
	West Side Small Office/ GH-45			
	West Side Small Office/ GH-45			
	Large Office Adj. To Small Office's / GF-45			
	East Corridor / GH-45			
	Large Office Adj. To Small Office's / GF-56			
	W. Corridor / 2nd Room From S. / AB-34			
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convactor unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
10TH FLOOR				
	Column locations FG-34, FE-23, BC-23, BC-34,	12" x 12" Floor Tiles (Beige)	600	
	Storage by Main Corr. EF-34	12" x 12" Floor Tiles (Black)	200	
	Entire	Convactor Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convactor unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
9TH FLOOR				
	Entire South West Section: Column locations AE-16	12" x 12" Floor Tiles (Beige) and Mastic		
		12" x 12" Floor Tiles 2 Layers (Grey/Composite) and Mastic	9,000	
	Entire	Convectector Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convectector unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
8TH FLOOR				
	SE Corner: FH-23, GF-34	12x12 Gray/Black VAT and Mastic	350	
		Convectector Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convectector unit	200	
	Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250	
7TH FLOOR				
	SW Section AD-14, Hallway ED-34, ED-34 Small Office, FE-23 Small Offices	12" x 12" Floor Tiles	6,000	
		Gash South Wall Base	Gash: Wall/Floor Joint Tar Paper	250
	Entire	Convectector Main Supply Air Duct in Plenum Area (24" dia., 16" dia., and 12" dia.)	585	
	Entire	Brown Seal inside each convectector unit	200	
		Associated Mastic on Baseboard (Brown)	500	
5TH AND 6TH FLOORS MECHANICAL ROOM				
	Along Perimeter South, East, North, and West Wall	Transite Board Wall	53,000	
	Upper Level of Maintenance Shop BC-56	Pipe Insulation (white Block), Greater Than 12"		1,200
	Entire North Section AH-68, AB-18, Interior Corridor GC-36	12" x 12" Floor Tiles (Gray, Beige) and Mastic	11,600	

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
4TH FLOOR				
	Small Offices GH-54, DG-13	12x12 Beige and Mastic	300	
3RD FLOOR				
	SE Section and Corridors: CG-16	12" x 12" Floor Tiles and Mastic	4,500	
2ND FLOOR				
	Small Office: GH-56	12x12 Floor Tiles and Mastic	200	
MEZZANINE				
	Corridor: FE-36	12" x 12" Beige Floor Tiles	800	
1ST FLOOR				
	South Section AH-14, Corridors CH-46, and NW section AD-68	12" x 12" Floor Tile [2 Layers]	13,500	
BASEMENT A				
	Mid Section of the Entire Floor AH-37	12" x 12" Floor Tile/3rd Layer (Black)	15,500	
		12" x 12" Floor Tile/3rd Layer (Light Brown)		
		Associated Mastic on Floor Tiles		
		12" x 12" Floor Tile/2nd Layer (Dark Gray) and Mastic		
		12" x 12" Floor Tile (Black)		
	Vault Area (DF-69)	9x9 black and Beige Floor Tile and Associated Mastic	3,500	
	Security Area BE-12	12x12 White Floor Tiles	720	
	Electrical Room	Sealant at Cable Entrances	50	
	Above ceiling tiles	30" Pipe Insulation (White Block Inst.)	400	
BASEMENT B				
	Entire Vault Area: AH-13, and Storage Room FH-56	12x12 Beige (2 layers) and Mastic	9,250	
	Small Room ED-45, Hallway, Vault Area, and Exterior Space Underneath Cellar A Exterior Vault.	12" x 12" Floor Tile (Black) and Mastic	10,690	
	Main Lobby ED-57	Transite Pipe	200	
HVAC/PIPE SHAFTS				

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130 LIBERTY STREET, NEW YORK, NY
 REQUEST FOR VARIANCE
 FOR PHASE I: PRE-DEMOLITION CLEANING AND ABATEMENT

TABLE 2 SUMMARY OF INSPECTION RESULTS FOR ASBESTOS BY FLOOR				
FLOOR	LOCATION	CONFIRMED ACM	APPROXIMATE QUANTITY	
			SF	LF
	Pipe Shaft (HVAC #1) by Service Elevator: Cellar A up to 40th Floor	>8" Diameter Pipe Insulation (White Block Insulation)		600
	Pipe/HVAC Shaft, from 5 th Floor to 40 th Floor (There are 2 supply duct units in Pipe Shaft #1 and 2 supply duct units in Pipe Shaft #3).	Red Sealant on Seams of 36" Diameter Supply Duct Unit. On each seam, red sealant is approximately 6" to 8" wide.	5,000	
INTERIOR/EXTERIOR SURFACES				
	Loosened on all surfaces within Building and on exterior of building.	WTC Dust Residue Contamination -	1,900,000	
EXTERIOR				
	Exterior Facade	Caulking/sealant between Spandrel Panel and Column Metal Parts/Covers	145,000	
TOTAL			2,336,407	3,950

05 04 27'

05-0427

May 7, 2005

Christopher Alonge, P.E.
 NYS Department of Labor
 Engineering Services Unit
 State Campus Bldg. 12, Room 154
 Albany, NY 12240

Subject: Additional Information Submittal (1) Regarding File No. 05-0427; 130 Liberty Street, New York, NY

Dear Mr. Alonge,

We respectfully submit this additional information regarding the referenced File No. for this project. Please note the following:

Portable Shredder:

The feasibility of small portable shredders for use within the active abatement areas is currently being evaluated. Consideration is also being given to use of a truck mounted shredder(s) as part of centralized waste processing area. Therefore, specific information relating to manufacturer specification is under review. However, either approach will include construction of secondary containment which encloses the area surrounding the shredding equipment and the bagging/containerization area. Use of supplementary engineering controls is also planned for use with this equipment. Supplementary engineering controls may include, but not be limited to, use of HEPA equipped negative ventilation for general area ventilation within the secondary containment, HEPA equipped negative ventilation equipment for localized ventilation and/or use of misting or other dust suppression techniques.

*REPACKAGING UAS/10/05
 WET METHODS & UAS/10/05*

Removal of Window Panes for Exhaust Termination Manifolds

ACM window pane caulk was not identified during conduct of the ICR 56-1.9/EPA NESHAPS Pre-demolition asbestos survey conducted at the site. Removal of window pane will not impact asbestos containing aluminum panel caulking. It is anticipated that disturbance of asbestos will be minimized, to the extent practical, prior to installation of negative ventilation units. Window removal and manifold installation will occur prior to any other preparation or potential asbestos disturbance, including debris removal within work area. Pre-cleaning of window removal locations will occur prior to manifold installation activities. Visible gross debris, existing on interior and exterior window surfaces, that will be impacted by installation of negative ventilation units/manifolds will be wetted and placed directly into a disposal container. All impacted window surfaces will be HEPA vacuumed and/or wet-wiped prior to disturbance. Work area preparation and cleanup of gross debris will commence upon completing installation of negative ventilation equipment. No dry removal or disturbance of asbestos shall be permitted.

Typical Office Floor General Sequence

Flooring Mastic will be removed in sequence immediately following floor tile removal. Per clarification above, negative air systems and isolation barriers will be completed prior to bulk debris removal.

Typical Mechanical Floor General Sequence

Flooring Mastic will be removed in sequence immediately following floor tile removal. Per clarification above, negative air systems and isolation barriers will be completed prior to bulk debris removal.

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Transite panels serving as louver blanks will be removed manually as part of the isolation barrier installation process. Localized negative exhaust will be used during the removal process. Transite panels will be removed intact, to the extent feasible. As transite panels are removed, louvers will be HEPA vacuumed and/or wet-wiped and isolation barriers installed. At no time will greater than ~~one louver unit~~ be open at any one time prior to installation of isolation barriers.

↑ 64 sq. Ft. *CM 5/10/05*

Access to Interior Tent Enclosures From Contaminated Areas *SEE VARIANCE CONDITIONS *CM 5/10/05*
Tents constructed within the contaminated area will be constructed and maintained utilizing appropriate engineering and contamination controls. Use of proper contamination control techniques are proposed to minimize the potential for contamination of interior surfaces of clean installed equipment (e.g. steel chutes) during equipment installation. Exterior openings on installed equipment, which will remain within contaminated areas, will be sealed prior to disassembly of the interior tent enclosures.

*POSITIVE PRESSURE TENT ENCLOSURES ARE NOT ALLOWED *CM 5/10/05*

Interior tent areas will be constructed with an attached 3'x 3' airlock. Upon completion of the tent construction, the exhaust of a HEPA filtered ventilation unit or vacuum will be attached to the tent to create a slight positive pressure within the tent enclosure. Positive pressure within the tent interior will be maintained through a HEPA filtration system; this system will operate continuously until satisfactory air sampling results are achieved within the tent. The interior surfaces of the tent shall be HEPA vacuumed and wet-wiped.

- Personnel entering the interior tent enclosures from a contaminated area shall proceed as follows:
 - Prior to entering the attached airlock, personnel shall remove the outer layer of protective clothing.
 - The exterior surface of the respirator shall be wet-wiped or HEPA vacuumed.
 - Upon entering the airlock, personnel shall don a clean exterior layer of PPE prior to entering the tent.
- Transport of clean material through contaminated areas shall be as follows:
 - Prior to being brought into the contaminated area, clean material shall either be placed into two clear plastic 6-mil poly bags or two layers of 6-mil poly which are to be individually sealed with tape.
 - Clean packaged equipment may be staged on a clean drop placed outside the entrance to the airlock
 - Personnel shall enter the interior tent enclosure following the above procedure and remain within the enclosure.
 - Personnel remaining outside the airlock should put on a clean pair of gloves.
 - Personnel outside the airlock should remove the outer package, wet-wipe the inner package and place the item into the airlock.
 - Personnel within the tented enclosure should reach into the airlock and bring the packaged material into the interior tent enclosure.
 - The outer package should be removed and the clean equipment may be installed within the interior tent enclosure.

CM 5/10/05

Sprayed-on Fireproofing Removals *SEE VARIANCE CONDITIONS *CM 5/10/05*
The lowest elevation within each active work area shall be rendered water tight. Clean-up of waste water shall be on-going during pressure washing. Absorbent materials and/or plasticizing will be utilized within the containment, as required, to control water during cleaning activities. Waste water will be contained within the active work area during pressure washing activities. Pressure washer may be used to assist in detail work area cleaning only.

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Relief of ICR 56-12.1(d) - Chutes *SEE VARIANCE CONDITIONS *cmx 5/10/05*
 This exemption is requested based solely on the fact that typical floor to ceiling height within the facility exceeds ten feet. Typical ceiling heights within the building are 1) Office Floor 12'-13', 2) Data Center Floor 13'-15' and 3) Cellar 16'. Exceptions to these typical ceiling heights are Tenant Floor Nos. 1 (21'), 2 (17.7'), 3 (18'), 5 (28') and 40 (17.2'). Therefore, throughout the building, materials removed from near ceiling height would require construction of a flexible catch basin or chute to lower materials to the floor level approximately 12' to 28 feet below. There is no intent to drop waste materials in an uncontrolled fashion. Asbestos materials and asbestos-contaminated materials on detachment from the substrate shall be directly bagged/containerized.

Negative Air Exhausts and Associated Air Monitoring *SEE VARIANCE CONDITIONS *cmx 5/10/05*
 An additional secondary bank of five (5) negative exhaust air units will be installed in each work area as a back-up to maintain the minimum required air changes per hour should a primary bank of five (5) units be taken out of service during required shutdowns. If an elevated exhaust air sample is obtained, the bank of 5 units with the elevated result will be shut down, the units and filters inspected, repaired/changed out as necessary, and then put back into service. Each of those five units will be sampled independently for a minimum of three days to ascertain if any problems still exist. Upon receipt of additional elevated air sample results, the affected unit(s) will be taken out of service and removed from the work area for appropriate repair.

NEGATIVE PRESSURE
 An Interior Tent Enclosure, as described above, will be used and maintained to create the air sampling access port for negative air exhaust air sampling at each bank of negative exhaust air filtration unit manifolds. This tent enclosure will also used to access the air sampling port to facilitate negative air exhaust air sampling exterior to the building. The interior tent enclosure will be maintained until final clearance air sampling is performed.

If you have any questions please feel free to contact us on my cell phone at (917) 549-6197.

Sincerely,

Edward Gerdtz CIH, CSP
 Vice President

cc: Amy Peterson - LMDC
 Vincent Lander - QUEST
 Robert Lewin - WESTON

05 0427

File No. 05-427

May 7, 2005

Christopher Alonge, P.E.
NYS Department of Labor
Engineering Services Unit
State Campus Bldg. 12, Room 154
Albany, NY 12240

Subject: Additional Information Submittal (2) Regarding File No. 05-0427; 130 Liberty Street, New York, NY

Dear Mr. Alonge,

We respectfully submit the additional information regarding the referenced File No. for this project. Please note the following:

Sequencing Of Asbestos Project Work Within Shafts And Stairwells

The current approach provides for conducting a wall to wall gut on each floor within the active work area. CMU walls are limited to 1) building core stairwells, elevators, MEP shafts (vertical shafts) between Cellar B to 3rd Floor, 2) some limited walls at the 39th floor and above and 3) minor continuous vertical utility shafts (three). *SEE VARIANCE CONDITIONS 05/10/05

The balance of vertical shaft walls are constructed with a 1" gypsum core board on the interior side and two layers of 5/8" sheetrock on the exterior (Tenant Side). One or more interior vertical shafts will be maintained for use by abatement personnel during the project. Airlock(s) with a minimum dimension of 3'x3' will be constructed at each entrance to these vertical shafts. Visible debris shall be wetted and bagged, and exposed building and equipment surfaces within these vertical shafts shall be cleaned using HEPA vacuuming and or wet-wiping. Upon completion of wet-cleaning activities within the shaft, a four hour drying period will be observed. At the completion of the four hour drying period aggressive clearance sampling shall be performed within the cleaned vertical shafts. Upon satisfactory completion of clearance air sampling, exposed surfaces within the vertical shaft shall be sealed with encapsulant.

Use of cleaned vertical shafts by abatement personnel shall be limited to work area exit to the remote decon constructed at the lower building level and removal of properly packaged waste to the remote waste decon. Exterior surfaces of properly packaged waste shall be wet-wiped prior to placing in the airlock for transfer to the cleaned vertical shaft. Prior to entering the cleaned vertical shafts and while within the airlock, personnel shall remove the outer layer of PPE and wipe the exterior surfaces of their respirators. Bulk waste material containers shall not be transported through these cleaned vertical shafts.

The exterior layers of 5/8" sheetrock shall be removed from the exterior of these vertical shafts as part of the Phase I project and disposed of as asbestos waste. Following removal of the exterior sheetrock layer, the exposed core board surface shall be inspected for penetrations to the vertical shaft interior. Any observed penetrations shall be properly sealed. The exposed interstitial space and the back side of the 1" core board shall be thoroughly cleaned using HEPA vacuuming and wet wiping. Upon satisfactory completion of clearance air monitoring the exposed exterior surface of the 1" core board will be encapsulated. Core board within the cleaned vertical shafts shall be removed as clean debris during Phase II demolition.

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Non-Contaminated Make-Up Air Source For All Work Areas

*SEE VARIANCE CONDITIONS *CSA 5/10/05*

Non-contaminated make-up air will be drawn from cleaned vertical shafts and areas which have been previously cleaned and released which exist above the active work area. Airlock(s) with a minimum dimension of 2'x3' will be constructed at the isolation barrier on the "cleaned" floor immediately above the upper most floor within the active abatement area. Supplementary non-contaminated make-up air, if required, will be provided using temporary "duct runs" or HEPA filtered make-up air vestibules from either cleaned areas or exterior sources.

Entry/Exit to Asbestos Project Work Areas

*SEE VARIANCE CONDITIONS *CSA 5/10/05*

REPACKAGING
CSA 5/10/05

Material Transport: Inclined chutes will not be utilized for transfer of asbestos-containing or asbestos-contaminated waste from the asbestos project work areas. Waste materials from the abatement project will be wetted with amended water and placed into lined and covered bulk material containers staged within the active work area. The containers shall be lowered using controlled methods (hoist, elevator) to the waste processing area which is tentatively proposed to be on the Mezzanine Level. The containers will be moved into the secondary containment area constructed around the waste processing area. The use of an "inclined dust-free chute" shall be in conformance with the requirements of ICR 56-12(d) and will be limited to transport of waste from the waste processing area to the waste transport container. It is anticipated that the secondary containment enclosing the waste processing area will be located on the Mezzanine level and the waste container will be located at ground level. The exact location of the waste processing area and transport container will be determined upon finalization of both the site traffic and staging logistics plan.

REPACKAGING
CSA 5/10/05

INCLUDING WITHIN REPACKAGING *CSA 5/10/05*

Personnel Transport: With the exception of the first grouping of work areas on the upper floors, abatement personnel will enter the active abatement areas from an air lock established on the cleaned floor(s) above. Transport of workers will be through use of an exterior hoist. Abatement personnel will enter the remote personnel decon and shall don two layers of PPE, without their respirators. Personnel will exit the hoist and enter the clean area through an opening in the curtain wall. Prior to entering the airlock at the entrance to the vertical shaft, abatement personnel shall don their respirators.

ATTACHED
CSA 5/10/05

VIA ATTACHED DECONTAMINATION ENCLOSURES *CSA 5/10/05*

Access between floors within the active abatement area will be primarily through interior stairwells; which have not been cleaned. Work area egress shall be as stated previously in the section entitled, "Sequencing of asbestos project work within shafts and stairwells".

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With the exception of Specialty Trade personnel involved in abatement project support activities, non-certified worker access to non-asbestos project areas above the floors still subject to abatement and cleaning will be primarily by use of an exterior hoist(s) or stair tower(s) through established exterior access openings. Construction of tunnels within cleaned stairwell(s) may also be utilized for interior access.

If you have any questions please feel free to contact me on my cell phone at (917) 549-6197.

Sincerely,
Edward Gerdts, CIH, CSP
Vice President

cc: Amy Peterson - LMDC
Vincent Lander - QuES&T
Robert Lewin - WESTON

NYC DEP WTC Dust/Residue Roof & Façade Cleaning Procedures

05 04 23

Roof Clean-Up

Application: This procedure utilizes wet methods and careful hygiene protocol for cleaning roofs contaminated with asbestos containing material (ACM).

1. The entire roof shall be considered the work area for entry/access determinations. All abatement will be performed by NYSDOL licensed contractors with NYC DEP certified workers.

For non-gravel or stone covered roofs with localized accumulations of visible debris, the clean-up areas shall be specified ("specified area") by DEP.

For gravel/stone covered roof surfaces, the entire roof shall be included in the specified roof area for clean-up. The gravel/stone shall be taken to a clean-up staging area on the roof and washed. Water shall be collected, filtered, and discharged into the drain/sewer as applicable.

2. A changing area consisting of two adjacent step-off pads located on the roof immediately adjoining the roof entrance/exit. This area shall consist of a clean pad and a change pad. The clean pad shall be adjacent to the building interior access way (or at the point of entry to the roof for exterior access). The change pad shall be adjacent to the contaminated roof areas. Each pad (change pad and clean pad) shall consist of two layers of 10-mil reinforced plastic on the roof/access way surface and shall be large enough to facilitate changing and decontamination as described herein. A minimum of 4' x 4' is recommended, though the exact configuration will be specific to the roof.
3. Workers shall first step from the building interior (or exterior at the point of entry to the roof) directly onto the clean pad. On the clean pad, each worker shall be double suited with disposable coveralls, plastic booties, gloves, and head coverings. Rubber boots may be used instead of the plastic booties. The boots shall be wet wiped and HEPA vacuumed prior to leaving the roof. Each worker shall wear a minimum of a half-face air-purifying respirator equipped with HEPA cartridges.
4. All penetrations at the roof within 10 feet of the specified roof area included in the clean-up shall be cleaned by wet methods/HEPA vacuum and sealed with 6-mil polyethylene sheeting.
5. Roof cleanup shall begin at the entrance/exit and proceed in a path working away from the entrance/exit. Amended water shall be the primary engineering control to minimize the potential for fiber release.
6. Roof surfaces shall be wetted and then wet cleaned using wet wiping techniques with amended water, mops, rags, brushes, etc. HEPA vacuuming may also be used as alternative to or in combination with wet cleaning.
7. Throughout the procedure, all personnel entering or existing the roof shall observe the personal decontamination practices. Attention shall be paid to limiting unnecessary walking on or disturbance of material on the roof. These personal decontamination procedures shall be strictly adhered to, in order to minimize the potential for spreading contamination to the interior of the buildings.
8. Solid nonporous objects, such as metal patio furniture, plant pots, and plastic furniture cushions, shall be wet wiped with damp rags. Wooden objects such as decking shall be HEPA vacuumed, wet wiped, and lightly brushed with a bristle brush utilizing simultaneous misting and local HEPA exhaust. Woven materials shall either be disposed as ACM or bagged and removed off-site for

NYC DEP WTC Dust/Residue Roof & Façade Cleaning Procedures

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proper laundering in accordance with 29 CFR 1901. 1001. Potted plants with visual contamination should be disposed as ACM waste unless the owner requests decontamination. Potted plants will be repeatedly rinsed, and provisions shall be made to catch the runoff water (i.e. into ACM disposal bags or by using rags and HEPA wet-vacuums).

9. After completion of the above, the specified area roof shall be carefully washed.
10. Some common outdoor spaces (i.e. alleys, yards, setbacks) may be included in this clean-up. They have been included in the quantity estimates and shall be cleaned using the same procedures as the roof clean-up.
11. Air Monitoring shall be performed by NYSDOL licensed a Third Party Air Monitoring firm with certified workers. The Third Party Air monitoring firm shall perform a visual inspection to confirm the absence of ACM or debris after the areas are completely dry. Clearance air monitoring shall not be required if all samples collected during the work were found to be below 70 s/mm^2 .

NYC DEP WTC Dust/Residue Roof & Façade Cleaning Procedures

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Building Façade Clean-up

Work shall be performed by a NYSDOL licensed asbestos contractor with NYCDEP and NYSDOL asbestos certified workers.

The contractor performing the cleaning should be experienced in cleaning building façades.

The clean up area shall be specified ("specified area") by DEP. The area below the façade cleaning shall be covered with a layer of polyethylene sheeting. All debris must be collected for disposal as ACM directly upon removal from the surface. (i.e. All waste must be double bagged in ACM waste labeled bags.) Running water or water runoff on the building façade is not permitted.

Building occupants shall be notified prior to the façade cleaning. Access to the street below the façade cleaning shall be restricted and marked with caution tape. Cleaning shall not be performed during wind speeds greater than 20 mph.

All HVAC systems and air conditioners shall be turned off. All windows shall be closed during the cleaning of the building. Some air conditioners and windows may require sealing with duct tape to prevent water penetration.

In cases where equipment is rigged from the roof: All clean-up activities on the roof must be completed prior to rigging equipment from the roof.

All horizontal surfaces and all windows on the façade shall be cleaned of large bulk material by wetting and hand brushing or scraping with non-metallic bristle brushes or non-metallic scrapers, by wet wiping and/ or by HEPA vacuuming from top to bottom. Only amended water shall be used for wet wiping and low-pressure washing. Solvents, and any other chemical cleaning agents are prohibited. The removed material shall be immediately placed into containers (e.g. bags). Windows shall be wet wiped. Free running water shall not be evident during this procedure. Power for HEPA vacuums shall be supplied through ground fault interrupters.

After completion of debris removal, the specified area shall be carefully washed. A low pressure washing technique, moving from top to bottom, shall be employed to minimize water bounce-back. Façades shall be washed with a low-pressure wash not to exceed 250 psi.

At the completion of work, a visual inspection of the abated surfaces and sidewalk shall be performed to verify the absence of visible debris.

Air monitoring shall be performed by an independent NYSDOL licensed third party air monitoring firm with certified workers.

In order to minimize disruption to the public and to the building occupants, it is recommended this work be performed during off-hours.