

**Regulatory Submittal Part IV(S)**

**Scaffolding Waste Plan**

**Remediation and Deconstruction of  
Fiterman Hall  
30 West Broadway  
New York, New York**

**Prepared for:**

Dormitory Authority of the State of New York  
&  
City University of New York

**Prepared by:**

Airtek Environmental Corp.  
39 West 38<sup>th</sup> Street  
New York, NY 10018

212-768-0516

**Date:**

February 28, 2007

## **Table of Contents**

<b>1.0</b>	<b>General</b>	<b>3</b>
1.1	Objective	
1.2	Background	
1.3	Remediation Phase - Scaffolding Erection	
<b>2.0</b>	<b>Primary Material Categories</b>	<b>5</b>
2.1	Contaminants and ACM Building Materials	
2.2	PPE and Scaffolding Process Consumables	
2.3	Conventional Building Materials	
2.4	Other Waste Categories	
2.5	Unanticipated Waste Materials	
<b>3.0</b>	<b>Scaffold Erection Operation Waste Characterization</b>	<b>7</b>
<b>4.0</b>	<b>Sampling Frequencies</b>	<b>10</b>
4.1	Contaminants and ACM Building Materials	
4.2	PPE and Scaffolding Process Consumables	
4.3	Conventional Building Materials	
4.4	Other Waste Categories	
4.5	Unanticipated Waste Materials	
<b>5.0</b>	<b>Analytical Methodologies</b>	<b>13</b>
5.1	Toxicity	
5.2	RCRA Characteristics	
5.3	Total PCBs	
5.4	NYC Sewer Discharge Parameters	
<b>6.0</b>	<b>Waste Packaging &amp; Storage</b>	<b>15</b>
6.1	Asbestos Waste	
6.2	PPE and Process Consumables	
6.3	Liquid Waste	
6.4	Unanticipated Waste	
6.5	Conventional (C&D) Waste	
<b>7.0</b>	<b>Transportation Requirements</b>	<b>17</b>
<b>8.0</b>	<b>Travel Routes</b>	<b>18</b>
<b>9.0</b>	<b>Disposal Facilities</b>	<b>19</b>
<b>10.0</b>	<b>Documentation</b>	<b>19</b>

**Attachment A: Waste Routes**

**Attachment B: Waste Storage Areas**

**Attachment C: Quality Assurance Project Plan**

**Attachment D: Previous Waste Characterization Results**

## **1.0 General**

### **1.1 Objective**

The objective of the Scaffolding Waste Plan (SWP) is to characterize, manage, containerize, and legally transport and dispose of waste streams that will be generated as part of the Fiterman Hall scaffolding erection that is to be conducted as the first operation of the remediation & deconstruction project's Remediation Phase.

### **1.2. Background**

Pei Cobb Freed & Partners, Architects, LLP (PCF-P) has engaged the Environmental Consultant, Airtek Environmental Corp. (Airtek) on behalf of the Dormitory Authority of the State of New York (DASNY) and the City University of New York (CUNY) to prepare the SWP in support of the remediation and deconstruction of Fiterman Hall, located at 30 West Broadway, New York, NY (the Building). This plan is specific to the scaffolding erection operation, and is in response to a request by the WTC Regulators for a documented approach to the project, and is Part IV(S) of the Regulatory Submittal Package for the Project.

The Building was severely impacted by fallout from the events of September 11, 2001. It is the Owner's intent to conduct remediation of WTC-related contamination and abatement of in-place asbestos and other regulated building components so that conventional deconstruction activities can be completed.

### **1.3 Remediation Phase – Scaffolding Erection Operation**

Scaffolding erection is to be conducted as the first operation of the Remediation Phase of the project. The Scaffolding Operation will include:

- Establishment of decontamination units to support the work;
- Establishment of waste processing and storage facilities to support the work;
- Removal of the existing exterior netting;
- Cleaning of the specified sections of the building façade;
- Scaffolding erection/fascia brick removal Pilot Program;

- Erection of scaffolding to support the remediation and deconstruction project, including the installation of new exterior netting; and
- Removal, handling, packaging, transport and disposal of all waste generated by these operations.

For purposes of this plan, the term “scaffolding erection operation” refers to all of the above-listed activities. This plan addresses only the scaffolding erection operation. A subsequent document titled *Regulatory Submittal Part IV – Waste Sampling and Management Plan* is under development to detail waste management operations in support of the balance of the Remediation Phase and the Deconstruction Phase of the project.

## **2.0 Primary Material Categories**

This SWP has been developed to address the handling, packaging, storage, transport and disposal of all waste materials generated by the scaffolding erection. For the purpose of this plan, “conventional building materials” are those building materials that are not normally environmentally regulated (i. e., not ACM, not lead-based paint, not universal waste). Anticipated waste streams for the scaffolding erection operation are listed below:

### **2.1 Contaminants and ACM Building Materials**

- Façade Surface Dust
- Asbestos-containing Spandrel Mastic (ACM)
- Exterior Netting
- Pilot Program Fascia Brick & Mortar
- WTC Dust

### **2.2 PPE and Remediation Process Consumables**

- Personal Protective Equipment (Suits/filters/gloves/booties)
- Abatement Materials (rags, bags, poly sheeting)
- HEPA Vacuum Bags/Negative Air Filters
- Miscellaneous Contaminated Disposables
- Cleaning Process Liquids

### **2.3 Conventional Building Materials**

- Brick and Mortar Fascia

### **2.4 Other Waste Categories**

#### **2.4.1 Universal Waste**

No universal waste as defined by 40 CFR Part 273 and 6 NYCRR Section 374.3 is anticipated to be generated by the scaffold erection operation.

#### **2.4.2 PCB Waste**

No PCB waste is anticipated to be generated by the scaffold erection operation.

#### **2.4.3 Miscellaneous Contents**

The scaffolding erection operation will not involve the removal of interior contents.

Refrigerant-Containing Equipment will not be impacted by the scaffolding operation.

#### **2.4.4 Non-Porous (Cleanable) Waste**

No non-porous (cleanable) waste is anticipated to be generated by the scaffolding erection operation.

### **2.5 Unanticipated Waste Materials**

Materials, if any, encountered during the work that have not been previously categorized for waste handling and disposal will be identified, quantified, and characterized by the Owner's Environmental Consultant. Representative testing will be conducted as discussed in Section 4.0 below. Solid materials will be tested for RCRA/PCB compliance, liquids intended for filtration and disposal to the NYC Sewer will be tested for RCRA/TSCA compliance and also for NYC DEP sewer discharge parameters.

The classification of building components will be an ongoing effort and will be conducted by the Owner's Environmental Consultant in accordance with applicable New York City, New York State and federal laws, rules, and regulations. This Plan is intended as a working document to be used during ongoing operations at the Site, and will be updated as necessary as new information becomes available.

### **3.0 Scaffold Erection Operation Waste Characterization**

#### **3.1 Previously Characterized Waste**

##### **3.1.1 Dust Characterization**

Preliminary testing of WTC dust within the building was conducted to identify areas of the building where concentrations of RCRA – regulated contaminants within WTC dust may exist. Dust was collected with HEPA vacuums from at least five distinct areas of each floor of the building. As the sampling team moved down through the building, a geographic zone was selected for each floor (east, north, south, west, center, or throughout), and sampling as concentrated in that zone. The purpose of this bias was to allow geographic trends to be identified for further investigation in the event of detections and/or exceedances of RCRA/TSCA criteria. Samples (including the HEPA vacuum bag used to collect the samples, were submitted for full TCLP, total PCB and RCRA characteristic analyses. No dust tested is regulated for RCRA/TSCA disposal based on the waste characterization sampling results, with the exception that it is assumed to be asbestos-contaminated, and is to be treated and disposed of as such. Based on observation of site conditions and the number of samples taken, the sampling conducted is considered to be representative of the site dust loading conditions.

##### **3.1.2 ACM Spandrel Mastic**

Spandrel mastic is ACM.

##### **3.1.3 Exterior Netting**

Both black and orange exterior netting were collected and analyzed for waste characterization parameters. Composite samples of each type of netting were collected from the 1<sup>st</sup>, 5<sup>th</sup> and 12<sup>th</sup> floors. Results are included in Attachment D. The netting is not regulated for RCRA/TSCA disposal based on the waste characterization sampling results, with the exception that it is assumed to be asbestos-contaminated, and is to be treated and disposed of as such.

##### **3.1.4 Roof Ballast Fines (Sands)**

Roof ballast fines were collected and submitted for the same analyses to assist in determinations of waste characterization of materials associated with the cleaning and handling of the stone roof ballast. Four samples of ballast fines were collected from geographically distinct areas (north, east, south, west) of each roof and roof setback. Each set of four samples was composited in the laboratory to form one sample for each roof and roof setback. Based on observation of site conditions and the number of samples taken, the sampling conducted is considered to be representative of the site conditions.

### **3.1.5 Miscellaneous Materials**

Window Caulk: Three samples of first floor window caulk were composited in the field to form one sample for analysis. Three samples of bulkhead roof window caulk were composited in the field to form one sample for analysis. Both samples were submitted for Total PCB analysis. Further sampling of first floor window caulk and bulkhead roof window caulk is currently being conducted for full TCLP and RCRA characteristics analyses. Results of this sampling will be submitted upon receipt as a supplemental submittal and window caulk will be handled and disposed of as appropriate based on the results of the analyses.

Façade Marble Caulk: Three samples of black façade marble caulk were composited in the field to form one sample for analysis. Three samples of grey façade marble caulk were composited in the field to form one sample for analysis. Three samples of dark grey column caulk were composited in the field to form one sample for analysis. The three samples were submitted for Total PCB analysis. Further sampling of façade marble caulk is currently being conducted for full TCLP and RCRA characteristics analyses. Results of this sampling will be submitted upon receipt as a supplemental submittal and façade marble caulk will be handled and disposed of as appropriate based on the results of the analyses.

Sprayed-on Fireproofing: Samples of sprayed-on fireproofing were collected from the 1<sup>st</sup>, 5<sup>th</sup> and 12<sup>th</sup> Floors of the building. The three grab samples were composited in the field and submitted for analysis for full TCLP, total PCB and RCRA characteristics.

Cleaning Process Liquids: Cleaning liquids from the decontamination unit and the cleaning operations conducted under a variance from the NYS DOL were collected and drummed. Liquid in the drums was agitated through stirring and one grab sample was collected from each of five drums. The five grab samples were composited in the field and one sample for each set of five drums was submitted for analysis for full TCLP, total PCB and RCRA characteristics.

PPE and Process Consumables: PPE and process consumables from the cleaning operations conducted under a variance from the NYS DOL were sampled for waste characterization. One grab sample was collected from each of five drums. The five grab samples were composited in the field and one sample for each set of five drums was submitted for analysis for full TCLP, total PCB and RCRA characteristics.

Further waste characterization, as required, will be conducted upon review and approval of *Regulatory Submittal Part IV – Waste Sampling & Management Plan*, and its associated QAPP document.

### **3.2 Fascia Brick and Mortar**

Three grab samples of fascia brick and mortar removed within the tents will be collected from each of the four Pilot Program tents and composited for waste characterization analyses (four analyses, one composite sample per tent). The remaining brick/mortar of the Pilot Program tents will be handled, packaged and stored on site as ACM waste pending results of the analyses. If the brick and mortar debris removed within the four Pilot Program tent enclosures does not exceed RCRA/TSCA limits, it will remain categorized as ACM waste.

If the air sampling characterization results confirm there is no airborne ACM impact from brick/mortar and spandrel mastic removal within the Pilot Program tents, if no residual WTC dust is observed and if waste characterization results do not exceed RCRA/TSCA limits, fascia brick and mortar removed subsequent to the Pilot Program tents in non-gash areas will be handled and disposed of as conventional construction and demolition (C&D) waste. Any uncharacterized waste materials encountered during the Scaffolding Erection Operation (SEO) will be characterized according to Section 3.3 below.

Due to potential impact from WTC dust, representative samples of gash area fascia brick and mortar will be tested for waste characterization in addition to the fascia brick and mortar testing described for the Pilot Program. This sampling is described in 4.1.4 below.

### **3.3 Uncharacterized Waste**

Any uncharacterized material suspected to be hazardous waste or other RCRA/PCB-regulated waste will be tested and evaluated based on its composition. For materials requiring sampling, a representative sampling strategy will be used as detailed in Section 4.0, and composite samples representative of the suspect waste streams will be collected. The locations and frequency of samples to be combined into composite samples shall be determined by the Environmental Consultant such that a representative sample of the waste type has been obtained. All sampling personnel shall be familiar with sample collection and waste storage protocols and shall have been trained appropriately per the Health and Safety Plan. Any uncharacterized/suspect porous material will be assumed to be asbestos waste and handled as such, at a minimum, and in addition, will be managed, transported and disposed of based on its waste characterization sampling results. Further, any suspect material that is non-porous and is not cleaned (i.e., it is not wet-wiped and HEPA vacuumed) will be assumed to be asbestos waste and handled as such, at a minimum, and in addition, will be managed, transported and disposed of based on its waste characterization sampling results.

The waste classification samples will be sent to laboratories accredited by the NYS Department of Health under the ELAP Program, certified under 6 NYCRR Section 370.1(f), and qualified for waste classification analysis (e.g., TCLP, total

PCBs and RCRA characteristics). Testing will determine waste classification and handling requirements (40 CFR Section 262.11). Liquid to be filtered to the NYC Sewer will also be tested for NYC Sewer Discharge Criteria. Other sampling and laboratory analysis may be required by the disposal facility prior to waste acceptance. The laboratory subcontracted to perform the analysis will also be certified through NYS DOH ELAP for the analytical parameters being analyzed.

All potentially hazardous waste will be managed as hazardous waste until analytics prove otherwise. If greater than 100 kg/month of hazardous waste is generated during the deconstruction process, Contractor will comply with, among other things, 6 NYCRR Part 373, Subpart 373-3, section 373-3.3(b).

If results of waste characterization sampling and analysis dictate that waste material must be managed and disposed of as both an asbestos and a hazardous waste, both asbestos and hazardous waste management and disposal requirements will be met. If there are conflicts between the requirements for asbestos and hazardous waste that preclude compliance with both, then the hazardous waste requirements will dictate specific management and disposal requirements.

If 50 ppm or more PCBs are detected in any waste stream the materials will be classified as both federal Toxic Substances Control Act (TSCA) waste and New York State hazardous waste.

## **4.0 Sampling Frequencies**

### **4.1 Contaminants and ACM Building Materials**

#### **4.1.1 Façade Surface Dust**

Façade surface dust will be captured in the remediation process consumables (cleaning materials and wash water). These materials will be sampled on representative basis, tested and treated as noted in Sections 3.3 “Uncharacterized Waste” and 5.0 “Analytical Methodologies.” These materials will be treated as ACM waste at a minimum, and according to the results of waste characterization testing.

#### **4.1.2 Asbestos-containing Spandrel Mastic (ACM)**

The ACM Spandrel Mastic is not a suspect hazardous, suspect RCRA/TSCA-regulated or suspect PCB waste. It will be treated as ACM.

#### **4.1.3 Exterior Netting**

Representative samples of Exterior Netting have been tested waste characterization. The materials are neither RCRA, TSCA, nor PCB regulated. The netting is assumed to be ACM contaminated, and will not be tested further.

#### **4.1.4 Gash Area Fascia Brick and Mortar**

Due to potential impact from WTC dust, representative samples of gash area fascia brick and mortar will be tested for waste characterization in addition to the fascia brick and mortar testing described for the Pilot Program tents. Three composite samples of brick and mortar together will be collected from the gash area. Composite samples will be comprised of a minimum of five grab samples will be analyzed per Sections 3.3 and 5.0. A minimum of five grab samples will be collected from low floors (Floors 1-5) to make one sample. A minimum of five grab samples will be collected from middle floors (Floors 6-10) to make a second sample, and a minimum of five grab samples will be collected from high floors (11-16) to make the third sample.

### **4.2 PPE, Remediation Consumables and Cleaning Process Liquids**

#### **4.2.1 Personal Protective Equipment (Suits/filters/gloves/booties)**

Representative samples of PPE will be tested for waste characterization per Sections 3.3 and 5.0. Three composite samples of PPE will be collected. Samples will be comprised of a minimum of five grab samples. A minimum of five grab samples will be collected from PPE used on the lower floors to make one sample. A minimum of five grab samples will be collected from PPE used on the middle floors to make a second sample, and a minimum of five grab samples will be collected from PPE used on the high floors to make the third sample. These materials will be treated as ACM waste at a minimum, and according to the results of waste characterization testing.

#### **4.2.2 Abatement Materials (rags, bags, poly sheeting)**

##### **HEPA Vacuum Bags/Negative Air Filters**

##### **Miscellaneous Contaminated Disposables**

Representative samples of Miscellaneous Remediation Consumables will be tested for waste characterization per Sections 3.3 and 5.0. Three composite samples of these materials will be collected. Composite samples will be comprised of a minimum of five grab samples. A minimum of five grab samples will be collected from materials on the lower floors to make one sample. A minimum of five grab samples will be collected from materials used on the middle floors to make a second sample, and a minimum of five grab samples will be collected from materials used on higher floors to make the third sample. These materials will be treated as ACM waste at a minimum, and according to the results of waste characterization testing.

### **4.2.3 Cleaning Process Liquids**

As façade cleaning will be conducted by moist wiping and HEPA vacuuming, it is not anticipated that a large quantity of liquid waste will be produced. Most of the liquid produced is anticipated to be produced at the decontamination unit showers/cleaning stations. All liquid waste produced will be drummed and stored in a secure waste storage facility with secondary containment until analytical testing is complete. Liquids intended for filtration and disposal to the NYC Sewer will be tested for RCRA/TSCA compliance and also for NYC DEP sewer discharge parameters.

Drums will be standard 55-gallon waste drums. Every ten drums of cleaning and decon liquids will be composited for analysis per Sections 3.3 and 5.0. Liquid in each container will be agitated through stirring, and one grab sample will be collected from each of the ten drums with a disposable plastic bailer. Sampling bailers collect a sample that is a water column representative of the various strata in a liquid container. If the liquids do not exceed RCRA/TSCA limits, they will be assumed to be ACM-contaminated and will be filtered per NYC DEP Title 15 to the NYC Sewer.

### **4.3 Conventional Building Materials**

If the air sampling characterization results confirm there is no airborne ACM impact from brick/mortar and spandrel mastic removal within the Pilot Program tents, if no residual WTC dust is observed and if waste characterization results do not exceed RCRA/TSCA limits, fascia brick and mortar removed subsequent to the Pilot Program tents in non-gash areas will be handled and disposed of as conventional construction and demolition (C&D) waste. Any uncharacterized waste materials encountered during the Scaffolding Erection Operation (SEO) will be characterized according to Section 3.3. Fascia brick and mortar will be handled and disposed as C&D waste. Procedures for addressing previously unseen WTC dust and its impact to the project (and on conventional building materials) will be developed based on a situation-specific assessment by the Site Hygienist and submitted to the Regulators for review and approval.

### **4.4 Other Waste Categories**

No universal waste as defined by 40 CFR Part 273 and 6 NYCRR Section 374.3 is anticipated to be generated by the scaffold erection operation.

#### **4.4.1 PCB Waste**

No PCB waste is anticipated to be generated by the scaffold erection operation.

#### **4.4.2 Miscellaneous Contents**

The scaffolding erection operation will not involve the removal of interior contents.

Refrigerant-Containing Equipment will not be impacted by the scaffolding operation.

#### **4.4.3 Non-Porous (Cleanable) Waste**

No non-porous (cleanable) waste is anticipated to be generated by the scaffolding erection operation.

### **4.5 Unanticipated Waste Categories**

Materials, if any, encountered during the work that have not been previously categorized for waste handling and disposal will be identified, quantified, and characterized by the Owner's Environmental Consultant as detailed in Section 3.3 and 5.0. Based on the type, quantity and location of any unanticipated materials, the Owner's Environmental Consultant will develop a representative sampling protocol. If a sampling protocol needs to be developed, it will be provided to the regulators for review and approval prior to final disposal of the unanticipated waste streams.

## **5.0 Analytical Methodologies**

Analyses conducted to support waste characterization will be performed according to the following methodologies. Where more than one method is identified, each analytical method is valid per the regulations.

### **5.1 Toxicity**

Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as follows:

– Volatile organic compounds (VOCs) - Method 8260B of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846. VOC toxic constituents include benzene (D018), carbon tetrachloride (D019), chlorobenzene (D021), chloroform (D022), 1,4-dichlorobenzene (D027), 1,2-dichloroethane (D028), 1,1-dichloroethylene (D029), methyl ethyl ketone (D035), tetrachloroethylene (D039), trichloroethylene (D040), and vinyl chloride (D043).

- Semivolatile organic compounds (SVOCs) - Method 8270C of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. SVOC toxic constituents include 2,4-dinitrotoluene (D030), hexachlorobenzene (D032), hexachlorobutadiene (D033), hexachloroethane (D034), o-cresol (D023), m-cresol (D024), p-cresol (D025), cresol (D026), nitrobenzene (D036), pentachlorophenol (D037), pyridine (D038), 2,4,5-trichlorophenol (D041), and 2,4,6-trichlorophenol (D042).
- Pesticide toxic constituents - Method 8081A of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. Pesticide toxic constituents include chlordane (D020), endrin (D012), heptachlor and its epoxide (D031), lindane (D013), methoxychlor (D014), and toxaphene (D015).
- Herbicide toxic constituents - Method 8151A of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. Herbicide toxic constituents include 2,4-D (D016) and 2,4,5-TP (also known as Silvex, D017).
- Mercury (D009) - Method 7470A (aqueous samples) of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.
- Metals/inorganics other than mercury - Method 6010B, or Method 6020 of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. These constituents include arsenic (D004), barium (D005), cadmium (D006), chromium (D007), lead (D008), selenium (D010), and silver (D011).

## **5.2 RCRA Characteristics**

### **5.2.1 Ignitability**

SW 846 1030P

### **5.2.2 Corrosivity**

Method 9045D or 9040C as set forth in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846. National Association of Corrosion Engineers (NACE) Standard TM-01-69 as standardized in SW-846 shall be utilized to evaluate corrosion rate if the suspected corrosive hazardous waste is a liquid.

### **5.2.3 Reactivity**

7.3.3.2 or 7.3.4.2 of “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,” EPA Publication SW-846.

### **5.3 Total PCBs**

SW-846 Method 8082, Analysis of Polychlorinated Biphenyls by Gas Chromatography is specified by regulation for determining the concentration of PCBs in wastes.

### **5.6 NYC Sewer Discharge Parameters**

NYCDEP Target List – EPA Method 624. Parameters are listed below:

- Cadmium
- Chromium (hexavalent)
- Copper
- Cyanide (amendable)
- Lead
- Mercury
- Nickel
- Zinc
- 1,1,1-trichloroethane
- 1,2,4-trichlorobenzene
- 1,4-dichlorobenzene
- Toluene
- Xylene
- Benzene
- Carbon Tetrachloride
- Chloroform
- Ethylbenzene
- MTBE
- Naphthalene
- Tetrachloroethylene

## **6.0 Waste Packaging and Storage**

Locked waste storage areas will be established on the west side of the site outside the Building to accommodate both categorized waste awaiting transport, and suspect waste awaiting analyses (See Attachment B). Storage areas will be plasticized, and any liquid storage will have secondary containment. An inspection will be conducted to identify any NYC Sewer access points proximate to the waste storage facility. Any access points will be sealed. Incompatible waste streams will be segregated, and waste labeling and signage will be in strict accordance with regulations. Within the storage area, posted signs, labeled accumulation start dates, labeled description of the waste, aisle space, proper segregation of incompatible and or/ignitable waste, etc. will be inspected on a daily basis by the Environmental Consultant. Statutory waste volume and holding times shall not be exceeded.

All containers on site will have proper labeling, which includes information such as waste type and accumulation date.

### **6.1 Asbestos Waste**

Waste containing asbestos, containerized and labeled per NYS ICR 56 may be stored in an area maintained under a negative pressure ventilation system. ACM packaging and waste decontamination procedures will be in accordance with NYS Industrial Code Rule 56. Containers holding

asbestos waste will be inspected daily to ensure no visible emissions of asbestos dust in the air or breaks in the container.

Storage of asbestos waste will not exceed 50 cubic yards without notification of the New York City Department of Sanitation (DSNY). If more than 50 cubic yards of waste will need to be stored on site, a letter of notification to DSNY is to be submitted that details the amount to be stored, and the location.

## **6.2 PPE and Remediation Process Consumables**

PPE and Remediation Process Consumables will be packaged, labeled and stored as ACM waste as a minimum, and based on the results of the dust characterization study. In addition, packaging and storage of these wastes will be subject to the results of representative sampling conducted according to Section 4.2.

## **6.3 Liquid Waste**

Decon water, wash-down liquids and any other liquid waste will be drummed, labeled and segregated from all other waste until analytical results determine the waste categorization. All liquid waste will be stored in a separate locked storage area with secondary containment sufficient to contain the total volume of stored liquid.

## **6.4 Unanticipated Waste**

### **6.4.1 Hazardous Waste**

Hazardous waste, if any (none anticipated), will be placed in containers made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired (e.g., USDOT approved drums, bags, roll-off containers) and transferred to the waste storage area pending transport. While being accumulated on-site, each container shall be labeled or marked clearly with the words, “Hazardous Waste”. Containers will be inspected at least weekly to identify any leaks, and/or deterioration caused by erosion or other factors, and to ensure containers are not over-packed. Hazardous waste will not be placed in an unwashed container that previously held an incompatible waste. Any disposal container holding a hazardous waste that is incompatible with any waste or other materials contained nearby will be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

### **6.4.2 Universal Waste**

After having been cleaned of dust with HEPA-vacuuming and wet-wiping procedures, universal waste, if any (none anticipated), will be handled, packaged, and stored pending transport according to all regulations governing universal wastes. The requirements for handling, packaging and storage of hazardous waste apply, and are discussed in Section 6.4.1.

### **6.4.3 PCB Waste**

Non-leaking PCB waste (PCB bulk product waste, including fluorescent light ballasts), if any (none anticipated), will be packaged in suitable containers, properly labeled and stored for transport in the Waste Storage Area. Any leaking PCB articles or containers will be transferred to properly marked, non-leaking containers or an over-pack container, and likewise labeled and stored for transport.

### **6.4.4 Other Waste**

Any other waste category encountered will be handled, packaged and stored in accordance with all regulations pertinent to the specific category of waste.

### **6.5 Conventional (C&D) Waste**

Unregulated waste materials such as non-impacted, non-gash area fascia brick and mortar generated during the SEO will be handled and disposed of as C&D waste. Materials such as fascia brick and mortar from the gash area scaffold attachment locations, or from other areas found to have been WTC dust-impacted, if any, during the SEO will be handled and disposed as ACM at a minimum and according to waste characterization results.

## **7.0 Transportation Requirements**

All waste materials will be transported in accordance with applicable local, state and federal DOT regulations including, but not limited to, bills of lading, manifests, placards, etc. PAL will utilize the services of waste transporters Asbestos Transportation Corp. (ATC) and Tri-State Transfer (TST). These transporters use landfill Minerva Enterprises for asbestos disposal. All wastes will be shipped using properly permitted vehicles operated by drivers with Commercial Drivers Licenses (CDLs) and Hazardous Materials endorsements. All hazardous waste will be shipped using transporters with RCRA identification numbers. The actual modes of transportation to be utilized will be determined following the identification of all anticipated waste streams and will take into account the location and distance to the selected disposal facility as well as cost considerations. All off-site shipments of waste will adhere to the site-specific transportation requirements. As required by NYSDEC (6 NYCRR Part 364) all

hazardous and asbestos wastes will be transported using Part 364 permitted haulers.

Shipments of PCB waste (none anticipated for this operation) will be in properly labeled and marked containers, the waste must be shipped under a properly executed manifest and Land Disposal Restriction (LDR) form, and the transporter must have a valid EPA Identification number and a valid New York State Part 364 transporter permit, as well as the latest version of U.S. Department of Transportation’s Emergency Response Guide (2004). The vehicle in which PCB wastes are being shipped must be properly placarded and marked to reflect that it is transporting PCBs and must also be marked with the New York State waste transporter permit number on its sides and rear.

## **8.0 Travel Routes**

The proposed waste route for SEO will be from the northwest corner (Greenwich & Park Place) down Greenwich, right onto Barclay, right onto West Side Highway.

Travel route(s) will be finalized following discussion with the appropriate regulatory agencies (e.g., New York City Department of Transportation), and the Lower Manhattan Construction Command Center (LMCCC). The selected waste transporter(s) will follow the designated travel routes. Proposed routes are illustrated in Attachment A - These routes cannot be finalized until EPA approval of the project, as the timing and routing are interdependent on other project occurring in the area. If any change is made to the routes proposed, this plan will be amended in writing and subject the review of the Regulators.

## **9.0 Disposal Facilities**

Waste recycling/disposal facilities will be selected based on several factors including waste types, facility acceptance criteria, regulatory compliance history, etc.

Potential facilities to be used include:

Asbestos: Minerva Enterprises  
9000 Minerva Road SE, Waynesburg, OH 44688  
Permit # 1576001700

C&D Waste: Waldorf Carting – 50 East Palisades Avenue – Englewood, NJ 07631. Disposal Site: Royal Rail – 3700 West Side Avenue – North Bergen, NJ 07407.

Transporter: Liberty Carting – 25-31 94<sup>th</sup> Street – North Bergen, NJ 07407. Disposal Site: 25-31 94<sup>th</sup> Street Rail Transfer – 25-31 94<sup>th</sup> Street – North Bergen, NJ 07407.

Lead: Disposal: Clean Earth of New Jersey  
(None Anticipated) 105 Jacobus Avenue  
Kearny, NJ 07032  
EPA ID 991291105

RCRA Exceedance: Republic Environmental Systems  
2269 Sandstone Dr., Hatfield, PA 19440  
EPA ID 085690592

Only those facilities that have valid federal/state/local permits to accept the waste type proposed for recycling/disposal at the facility will be used.

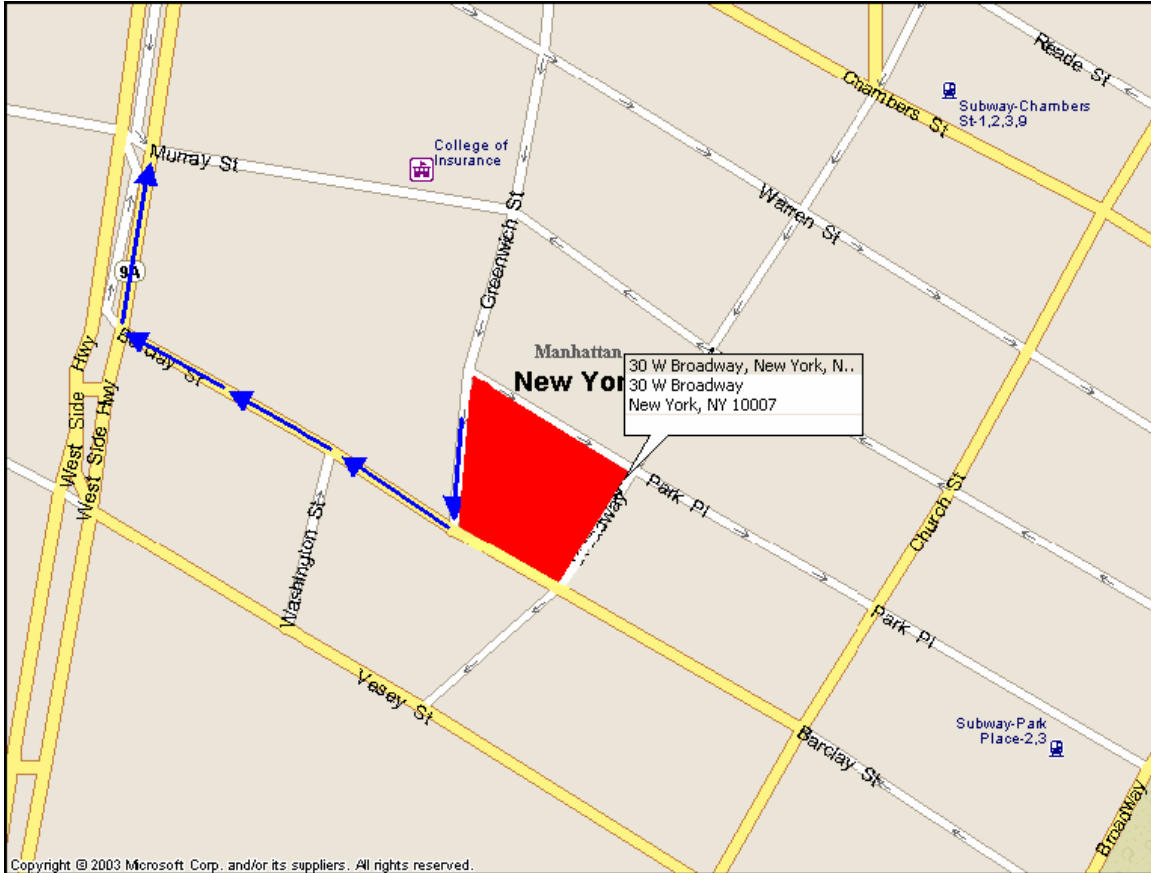
## **10.0 Documentation**

All applicable local, state and federal documentation and record keeping requirements/guidelines will be followed. Documentation for hazardous waste disposal includes hazardous waste determination documentation including all analytical results, Hazardous Waste Manifesting, EPA Generator ID, EPA transporter ID, EPA ID for waste disposal facility and waste storage locations and capacities. Also documented will be emergency notification and operating procedures, organizational chart, unexpected waste procedures, contractor involvement list and copies of the regulatory requirement certifications of transporters, disposal facilities, etc. Specific regulatory documentation may change depending on the types and amounts of waste to be generated. The Contractor shall be responsible for document management.

All documentation noted under this Section shall be retained for a period of not less than three years after the completion of the project.

## Attachment A: Waste Routes

**Waste route for SEO will be from the northwest corner (Greenwich & Park Place) down Greenwich, right onto Barclay, right onto West Side Highway.**





**Attachment C:**  
**Quality Assurance Project Plan**

**Attachment D:**  
**Previous Waste Characterization Results**