Appendix L Asbestos and Lead Contained Materials Report, June 2018

Asbestos and Lead Contained Materials Report

269 37th Street

Brooklyn, New York

Red Hook Container Terminal, LLC

Brooklyn, New York

60558675

June 2018

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position

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1. Executive Summary

AECOM conducted asbestos and lead paint survey of the Tower Building, J-1, J-2 and N-2 Shed Building, Graffiti Building located at the South Brooklyn Marine Terminal (SBMT) in Brooklyn, New York. Observations for other environmental concerns were also noted. The building is potentially scheduled to be renovated in the near future. The J-1 shed building was surveyed on March 23, March 26 and March 29, 2018; the J-2 shed building was surveyed on February 27, 2018; N-2 shed building was surveyed on March 25, 2018 and March 29, 2018; Graffiti Building was surveyed on March 27, 2018 and March 29, 2018; the Tower Building was surveyed on several occasions from March 19, 2018 through March 29, 2018 by AECOM personnel and specifically focused on each level of the buildings for potential upcoming renovation. The building is comprised of one large open Warehouse area, Men's and Women's restrooms, Boiler Room, Water Meter/Pump Room, Voltage Room, Janitor's Closet, small shed, various offices, Sprinkler Pump Room, two (2) Sprinkler Control Valve Rooms (north and south sides), storage rooms, an old bathroom area, one (1) story truck weight booth area, two (2) story warehouse area and a four (4) story tower building section.

The AECOM inspection team included Mr. Mark Reed with assistance by Mr. Mark Connors. Mr. Reed and Mr. Connors are both New York State Department of Labor (NYSDOL) certified asbestos inspectors as well as New York City certified asbestos investigators. Mr. Reed is also a New York State certified Lead inspector. Certifications can be found in Appendix C of this report.

2. Asbestos and Lead Sampling Methodology and Analysis

2.1 J-1 Shed Building

During the sampling, the suspect material was sprayed with amended water to minimize any airborne dust generated during the sampling. A utility knife/screwdriver or coring tool was then used to penetrate each suspect asbestos material to extract a bulk sample. The samples are then placed in sample bags, sealed and labeled with a sample number, material type description and location. The sampling instrument is then subsequently wiped with a clean moist cloth to decontaminate the tool and to reduce the possibility of a potential release of asbestos fibers or contamination of subsequent samples. Data pertinent to each collected sample such as sample number, location, and material description are then recorded on a chain of custody sheet and sample location plan.

Samples and laboratory chain-of-custody submittal sheets were then delivered to EMSL Analytical, Inc. (EMSL); EMSL is approved by the National Voluntary Laboratory Accreditation Program (NVLAP) and New York State Department of Health's Environmental Laboratory Accreditation Program (NYS ELAP) for asbestos and lead analysis. The samples for asbestos analysis were analyzed using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM) as necessary to determine asbestos content. Materials containing greater than one percent (>1%) asbestos are considered to be asbestos-containing materials (ACM).

Paint samples were also collected throughout the building and analyzed by Flame Atomic Absorption Spectroscopy (AAS) to determine lead content.

The following suspect materials sampled during the inspection were determined via laboratory analysis to be non-asbestos containing materials (non ACM):

- Tan spray-on fireproofing (w/vermiculite);
- Black joint caulking material;
- Green wall paint/plaster material;
- 1'x1' White/tan hidden spline ceiling tile;
- Tan roof material;
- Black tar paper wall material;
- Gray/brown terrazzo flooring material;
- Brown fire alarm box insulation;
- Gray exterior caulking material (at foundation walls);
- Brown fire alarm box insulation material;
- White/tan sheetrock ceiling material

ACM identified at the site through laboratory analysis or those suspect materials that were presumed to be asbestos-containing material (ACM) and not sampled include the following:

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Roof – entire roof	Dark gray built-up roofing material		130,000	J1-12A	-
Exterior Roof – around perimeter of roof	Black roof flashing material		1,800	J1-15A	Remove 12" away from roof edge

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Sides of Building – on north and south sides of building (nine doors)	Gray exterior door caulking material	180		J1-18A	-
Exterior Sides of Building – on north and south sides of building (at 1'x1' windows)	Gray exterior window caulking material	1,600		J1-20A	-
1st Floor – Men's and Women's Restroom - at perimeter of glass blown windows (total)	Gray interior window caulking sample	120		J1-01A/01B	-
1st Floor – Main Open Warehouse area - at north and south side windows	Gray interior bracket joint caulking	600		J1-10A	At metal bracket joints of windows
1 Floor – Main Open Warehouse area - at north and south side windows	Gray interior window glazing material	4,800		J1-11A	-
1st Floor – Main Open Warehouse area - throughout, inside electrical panels and conduit	Braided wire insulation	3,500		Assumed	Possible live electric
1st Floor – Main Open Warehouse area - throughout inside electrical panels	Black/gray transite electrical backing board		15	Assumed	Possible live electric
1st Floor – Main Open Warehouse area - roof of small wooden shed in middle of Warehouse	Black tar roofing material		300	J1-16B	-
1st Floor – Main Open Warehouse area – on floor of small wooden shed in middle of Warehouse	9"x9" Dark green vinyl floor tile and mastic material		280	J1-08A	-
1st Floor – NE Corner Enclosed Area - on piping throughout enclosed area	Gray aircell pipe insulation	60		Assumed	Some insulation floor debris
1st Floor – NE Corner Enclosed Area - inside electrical panels in area	Braided wire insulation	500		Assumed	Possible live electric
1st Floor – NE Corner Enclosed Area - inside electrical panels in area	Black/gray transite electrical board		20	Assumed	Possible live electric
1st Floor – Sprinkler/Valve Room (Room 115A) - throughout	Solid white (4-6" o.d.) pipe insulation	65		Assumed	Homogenous (J1-03A)
1st Floor – Sprinkler/Valve Room (Room 115A) - throughout	Braided wire insulation	700		Assumed	In electrical panels and conduit

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
1st Floor – Sprinkler/Valve Room (Room 115A) - throughout	Solid white (14-16" o.d.) pipe insulation	40		Assumed	Homogenous (J1-03A)
1st Floor – Janitor's Closet - throughout	Solid white (14-16" o.d.) pipe insulation	40		Assumed	Homogenous (J1-03A)
1st Floor – Northside Office - throughout	Solid white (14-16" o.d.) pipe insulation	60		Assumed	Homogenous (J1-03A)
1st Floor – Boiler Room - throughout	Solid white/gray pipe insulation/fittings	320		J1-14A	
1st Floor – Boiler Room - throughout	Gray duct insulation		800	J1-13A	
1st Floor – Hallway (outside Rm. 114) - throughout	Solid white/gray pipe insulation/fittings	350		J1-03A	Contaminated ACM floor debris
1st Floor – Voltage Room - throughout	Solid white/gray pipe insulation/fittings	30			Homogenous (J1-03A)
	Black/gray transite electrical board		20		
1st Floor – Bathroom - throughout	Solid white/gray pipe insulation/fittings	30			Homogenous (J1-03A)
1st Floor – Storage Room (Rm. 111) - throughout	Solid white/gray pipe insulation/fittings	120			Homogenous (J1-03A)
1st Floor – Rm. 112 - throughout	Solid white/gray pipe insulation	135			Homogenous (J1-03A)
1st Floor – Pump Room - throughout	Solid white/gray pipe insulation	120			Homogenous (J1-03A)
1st Floor – Room adjacent to Pump Room - throughout	Solid white/gray pipe insulation	70			Homogenous (J1-03A)
	Totals	**13,470 LF**	**133,235 SF**		

Cost Estimate for abatement and remediation are as follows:

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Decontamination Chamber	1	1	3,500.00	$3,200.00
Exterior Roof Level – Dark gray built-up roofing material	167,000	SF	$ 10.00	$1,670,000.00
Exterior Roof Level - Black Roof Flashing material	1,800	SF	$ 10.00	$18,000.00
Exterior Sides of Building – Gray exterior door caulking material around doors on north and south sides of building (total nine doors)	180	LF	$ 15.00	$2,700.00
Exterior Sides of Building – Gray exterior window caulking material around 1'x1' windows on north and south sides of building	1,600	LF	$ 15.00	$24,000.00
1st Floor – Men's and Women's Restrooms in Warehouse area - Gray interior window caulking around perimeter of glass blown windows of both rooms (total)	120	LF	$ 15.00	$1,800.00
1st Floor – Main Open Warehouse area - Gray interior bracket joint caulking at north and south side windows	600	LF	$ 15.00	$9,000.00
1st Floor – Main Open Warehouse area - Gray interior window glazing material at north and south side windows	4,800	LF	$ 15.00	$72,000.00
1st Floor – Main Open Warehouse area - Braided wire insulation inside electrical panels and conduit throughout	3,500	LF	$ 10.00	$35,000.00
1st Floor – Main Open Warehouse area - Black/gray electrical backing board inside electrical panels throughout	15	SF	$ 50.00	$750.00
1st Floor – Main Open Warehouse area - Black tar roofing material on top of small shed in middle of	300	SF	$ 20.00	$6,000.00

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Warehouse				
1st Floor – Main Open Warehouse area - 9"x9" Dark green vinyl floor tile and mastic on floor of small shed in middle of Warehouse	280	SF	$ 20.00	$5,600.00
1st Floor – NE Corner Enclosed area - Gray aircell pipe insulation on piping throughout the area	60	LF	$ 50.00	$3,000.00
1st Floor – NE Corner Enclosed area - Braided electrical wire insulation inside electrical panels throughout area	500	LF	$ 10.00	$5,000.00
1st Floor – NE Corner Enclosed area - Black/gray transite electrical backing board material inside electrical panels throughout area	20	SF	$ 50.00	$1,000.00
1st Floor – Sprinkler/Valve Room (Room 115A) - Solid white (4-6" o.d.) pipe insulation throughout room	65	LF	$ 50.00	$3,250.00
1st Floor – Sprinkler/Valve Room (Room 115A) - Braided wire insulation inside electrical panels and conduit throughout room	700	LF	$ 10.00	$7,000.00
1st Floor – Sprinkler/Valve Room (Room 115A) - Solid white (14-16" o.d.) pipe insulation throughout room	40	LF	$ 50.00	$2,000.00
1st Floor – Janitor's Closet - Solid white (14-16" o.d.) pipe insulation throughout room	40	LF	$ 50.00	$2,000.00
1st Floor – Northside Office - Solid white (14-16" o.d.) pipe insulation throughout room	60	LF	$ 50.00	$3,000.00
1st Floor – Boiler Room - Solid white (various sizes) pipe and pipe fitting insulation throughout room	320	LF	$ 50.00	$16,000.00
1st Floor – Boiler Room - Gray boiler and duct insulation throughout room	800	SF	$ 50.00	$40,000.00
1st Floor – Hallway (outside Room 114) - Solid white/gray (various sizes) pipe and pipe fitting	350	LF	$ 50.00	$17,500.00

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
insulation throughout hallway along ceiling				
1st Floor – Voltage Room - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	30	LF	$ 50.00	$1,500.00
1st Floor – Voltage Room - Black/gray transite electrical backing board inside electrical panels throughout room	20	SF	$ 50.00	$1,000.00
1st Floor – Bathroom - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	30	LF	$ 50.00	$1,500.00
1st Floor – Storage Room (Room 111) - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	120	LF	$ 50.00	$6,000.00
1st Floor – Room 112 - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	135	LF	$ 50.00	$6,750.00
1st Floor – Pump Room - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	120	LF	$ 50.00	$6,000.00
1st Floor – Room adjacent to Pump Room - Solid white/gray (various sizes) pipe and pipe fitting insulation throughout room	70	LF	$ 50.00	$1,500.00
ABATEMENT SUBTOTAL				**$1,972,050.00**
Abatement Oversight				$493,012.50
TOTAL				**$2,465,062.50**

2.2 J-2 Shed Building

During the sampling, the suspect material was sprayed with amended water to minimize any airborne dust generated during the sampling. A utility knife/screwdriver or coring tool was then used to penetrate each suspect asbestos material to extract a bulk sample. The samples are then placed in sample bags, sealed and labeled with a sample number, material type description and location. The sampling instrument is then subsequently wiped with a clean moist cloth to decontaminate the tool and to reduce the possibility of a

potential release of asbestos fibers or contamination of subsequent samples. Data pertinent to each collected sample such as sample number, location, and material description are then recorded on a chain of custody sheet and sample location plan.

Samples and laboratory chain-of-custody submittal sheets were then delivered to EMSL Analytical, Inc. (EMSL); EMSL is approved by the National Voluntary Laboratory Accreditation Program (NVLAP) and New York State Department of Health's Environmental Laboratory Accreditation Program (NYS ELAP) for asbestos and lead analysis. The samples for asbestos analysis were analyzed using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM) as necessary to determine asbestos content. Materials containing greater than one percent (>1%) asbestos are considered to be asbestos-containing materials (ACM).

Paint samples were also collected throughout the building and analyzed by Flame Atomic Absorption Spectroscopy (AAS) to determine lead content.

The following suspect materials sampled during the inspection were determined via laboratory analysis to be non-asbestos containing materials (non ACM):

- Black built-up roofing material;
- Gray transite/slate wall panel material

ACM identified at the site through laboratory analysis or those suspect materials that were presumed to be asbestos-containing material (ACM) and not sampled include the following:

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Roof – around perimeter of roof edge	Black roof flashing material		1,200	J2-01A (3/23/18)	Remove 12" away from roof edge
1st Floor – Water Meter/Pump Room – inside main electrical panel	Gray braided wire insulation	100		Assumed	Possible live electric
1st Floor – Water Meter/Pump Room – inside main electrical panel	Black transite electrical backing board		6	Assumed	Possible live electric
1st Floor – Water Meter/Pump Room – inside red S2 electrical panel (480 volt)	Braided wire insulation	80		Assumed	Possible live electric
1st Floor – Water Meter/Pump Room – inside electrical conduit throughout room	Braided wire insulation	1,000		Assumed	Possible live electric
	Totals	**1,180 LF**	**1,206 SF**		

Cost Estimate for abatement and remediation are as follows:

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Decontamination Chamber	1	1	$3,200.00	$3,200.00
Roof Level - Black Roof Flashing material around perimeter of roof	1,200	SF	$ 15.00	$18,000.00
1st Floor – Water Meter/Pump Room – Gray braided wire insulation inside main electrical panel	100	LF	$ 10.00	$1,000.00
1st Floor – Water Meter/Pump Room – Black transite electrical backing board inside main electrical panel	6	SF	$ 50.00	$300.00
1st Floor – Water Meter/Pump Room – Gray braided wire insulation inside red S2 electrical panel (480 Volt)	80	LF	$ 10.00	$800.00
1st Floor – Water Meter/Pump Room – Gray braided wire insulation inside electrical conduit throughout room	1,000	LF	$ 10.00	$10,000.00
ABATEMENT SUBTOTAL				**$33,300.00**
Abatement Oversight				$8,325.00
TOTAL				**$41,625.00**

2.3 N-2 Shed Building

During the sampling, the suspect material was sprayed with amended water to minimize any airborne dust generated during the sampling. A utility knife/screwdriver or coring tool was then used to penetrate each suspect asbestos material to extract a bulk sample. The samples are then placed in sample bags, sealed and labeled with a sample number, material type description and location. The sampling instrument is then subsequently wiped with a clean moist cloth to decontaminate the tool and to reduce the possibility of a potential release of asbestos fibers or contamination of subsequent samples. Data pertinent to each collected sample such as sample number, location, and material description are then recorded on a chain of custody sheet and sample location plan.

Samples and laboratory chain-of-custody submittal sheets were then delivered to EMSL Analytical, Inc. (EMSL); EMSL is approved by the National Voluntary Laboratory Accreditation Program (NVLAP) and New York State Department of Health's Environmental Laboratory Accreditation Program (NYS ELAP) for asbestos and lead analysis. The samples for asbestos analysis were analyzed using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM) as necessary to determine asbestos content. Materials containing greater than one percent (>1%) asbestos are considered to be asbestos-containing materials (ACM).

Paint samples were also collected throughout the building and analyzed by Flame Atomic Absorption

Spectroscopy (AAS) to determine lead content.

The following suspect materials sampled during the inspection were determined via laboratory analysis to be non-asbestos containing materials (non ACM):

- Sprinkler pipe gasket material;
- Gray exterior door caulking material;
- Black tar paper roofing material;
- Gray pipe fitting/elbow insulation;
- Gray interior window glazing material;
- Black/brown concrete joint filler material;
- White/tan sheetrock ceiling material

ACM identified at the site through laboratory analysis or those suspect materials that were presumed to be asbestos-containing material (ACM) and not sampled include the following:

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Roof – entire roof	Black built-up roofing material		128,400	N2-11B	
Exterior Roof – around perimeter of roof	Black roof flashing material		1,600	N2-12A	Remove 12" away from roof edge
Exterior Sides of Building – on north, south and west sides of building	Gray exterior transite material			N2-04A	
1st Floor – Men's Restroom, behind sink/urinals	Tan layered paper pipe insulation	15		N2-02A	
1st Floor – Men's Restroom, on floor	Gray transite board material		10		
1st Floor – Men's Restroom, back of wall heaters in room	Gray wall heater backing board		6	Assumed	2 heaters (3SF each)
1st Floor – Warehouse Open Area, on south side wall, inside electrical panel	Braided wire insulation	200		Assumed	Possible live electric; recommend sampling prior to work
1st Floor – Warehouse Open Area, inside SE corner electrical panel	Black/gray transite electrical board		3	Assumed	Possible live electric
1st Floor – Warehouse Open Area, interior window bracket caulking, between brackets of windows	Gray interior window bracket caulking	1,650		Assumed	Only on north, south and west sides of building
1st Floor – Sprinkler Pump Room, inside Acme Fire Alarm panel	Black/gray transite electrical board		14	Assumed	
1st Floor – Sprinkler Control Valve	Metal pipe gaskets		60	Assumed	Inaccessible for

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Room (north and south sides)					sampling
	Totals	**1,865 LF**	**130,093 SF**		

Cost Estimate for abatement and remediation are as follows:

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Decontamination Chamber	1	1	$3,200.00	3,200.00
Roof Level - Black Built-Up Roofing and Roof Flashing material (entire roof)	102,000	SF	$10.00	1020000
Exterior Sides of Building – Gray corrugated exterior transite wall panel material on north, south and west sides of building	16,000	SF	$ 10.00	160,000.00
1st Floor Men's Restroom – tan layered paper pipe insulation from behind sink/urinals in restroom	15	LF	$ 50.00	750
1st Floor Men's Restroom – gray transite board debris on floor of restroom	10	SF	$ 10.00	100
1st Floor Men's Restroom – gray wall heater backing board on walls of restroom (2 heaters, 3 SF each)	6	SF	$ 50.00	300
1st Floor Warehouse Open area – braided electrical wire insulation inside electrical panel on south side wall of Warehouse	200	LF	$ 10.00	2,000.00
1st Floor Warehouse Open area – Black/gray transite electrical backing board inside SE corner electrical panel of Warehouse	3	SF	$ 50.00	150
1st Floor Warehouse Open area – Gray interior window bracket caulking between brackets of windows in Warehouse	1,650	LF	$ 15.00	24,750.00
1st Floor Sprinkler Pump Room – Black/gray transite electrical backing board inside "Acme" fire alarm	14	SF	$ 50.00	700

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
panel				
1st Floor Sprinkler Control Valve Room – Gray/tan metal pipe gasket material between joints of piping	60	SF	$ 50.00	3,000.00
ABATEMENT SUBTOTAL				**$1,214,950.00**
Abatement Oversight				$303,737.50.00
TOTAL				**$1,518,687.50**

2.4 Graffiti Building

During the sampling, the suspect material was sprayed with amended water to minimize any airborne dust generated during the sampling. A utility knife/screwdriver or coring tool was then used to penetrate each suspect asbestos material to extract a bulk sample. The samples are then placed in sample bags, sealed and labeled with a sample number, material type description and location. The sampling instrument is then subsequently wiped with a clean moist cloth to decontaminate the tool and to reduce the possibility of a potential release of asbestos fibers or contamination of subsequent samples. Data pertinent to each collected sample such as sample number, location, and material description are then recorded on a chain of custody sheet and sample location plan.

Samples and laboratory chain-of-custody submittal sheets were then delivered to EMSL Analytical, Inc. (EMSL); EMSL is approved by the National Voluntary Laboratory Accreditation Program (NVLAP) and New York State Department of Health's Environmental Laboratory Accreditation Program (NYS ELAP) for asbestos and lead analysis. The samples for asbestos analysis were analyzed using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM) as necessary to determine asbestos content. Materials containing greater than one percent (>1%) asbestos are considered to be asbestos-containing materials (ACM).

Paint samples were also collected throughout the building and analyzed by Flame Atomic Absorption Spectroscopy (AAS) to determine lead content.

The following suspect materials sampled during the inspection were determined via laboratory analysis to be non-asbestos containing materials (non ACM):

- Black built-up roofing material;
- 2'x4' White/tan fissured lay-in ceiling tile;
- Gray interior window glazing material;
- Gray exterior door caulking material;
- Gray exterior window caulking material;
- Gray interior door caulking material;
- Gray pipe fitting insulation (on fiberglass insulated piping)

ACM identified at the site through laboratory analysis or those suspect materials that were presumed to be asbestos-containing material (ACM) and not sampled include the following:

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Roof – around perimeter of roof	Black roof flashing material		540	G-02A	Remove 12" away from roof edge
Exterior Roof – around perimeter of equipment on roof	Black equipment flashing material		150	G-03A	Remove 12" away from equipment
Exterior Roof – around ductwork on roof	Black asphalt duct insulation material		1,750	G-04A	
Exterior Foundation – around each side of building foundation	Gray exterior foundation plaster material		2,800	G-07A	
1st Floor – Warehouse Area, inside east side old electrical panels	Braided wire insulation	500		Assumed	Possible live electric
1st Floor – Warehouse Area, Smoke Detection Control board on wall outside Sprinkler Room	Black transite electrical backing board		6	Assumed	Possible live electric
	Totals	**500 LF**	**5,246 SF**		

Cost Estimate for abatement and remediation are as follows:

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Decontamination Chamber	1	1	$3,200.00	$3,200.00
Roof Level - Black Roof Flashing material	540	SF	$15.00	$8,100.00
Roof Level - Black Roof Equipment Flashing material	150	SF	$15.00	$2,250.00
Roof Level - Black asphalt duct insulation material	1,750	SF	$15.00	$26,250.00
1st Floor – Gray exterior foundation wall paint/plaster material	2,800	SF	$12.00	$33,600.00
1st Floor – Warehouse area, East side - Braided wire insulation inside east side old electrical panels and conduit	500	LF	$10.00	$5,000.00
1st Floor – Warehouse area – Black transite electrical backing board inside Smoke Detection Control board outside Sprinkler Room	6	SF	$50.00	$300.00
ABATEMENT SUBTOTAL				**$78,700.00**
Abatement Oversight				$19,675.00
TOTAL				**$98,375.00**

2.5 Tower Building

During the sampling, the suspect material was sprayed with amended water to minimize any airborne dust generated during the sampling. A utility knife/screwdriver or coring tool was then used to penetrate each suspect asbestos material to extract a bulk sample. The samples are then placed in sample bags, sealed and labeled with a sample number, material type description and location. The sampling instrument is then subsequently wiped with a clean moist cloth to decontaminate the tool and to reduce the possibility of a potential release of asbestos fibers or contamination of subsequent samples. Data pertinent to each collected sample such as sample number, location, and material description are then recorded on a chain of custody sheet and sample location plan.

Samples and laboratory chain-of-custody submittal sheets were then delivered to EMSL Analytical, Inc. (EMSL); EMSL is approved by the National Voluntary Laboratory Accreditation Program (NVLAP) and New York State Department of Health's Environmental Laboratory Accreditation Program (NYS ELAP) for asbestos and lead analysis. The samples for asbestos analysis were analyzed using Polarized Light Microscopy (PLM) and/or Transmission Electron Microscopy (TEM) as necessary to determine asbestos content. Materials containing greater than one percent (>1%) asbestos are considered to be asbestos-containing materials (ACM).

Paint samples were also collected throughout the building and analyzed by Flame Atomic Absorption Spectroscopy (AAS) to determine lead content.

The following suspect materials sampled during the inspection were determined via laboratory analysis to be non-asbestos containing materials (non ACM):

- Black built-up roofing material;
- 2'x4' White/tan fissured lay-in ceiling tile;
- Gray interior window glazing material;
- Gray exterior door caulking material;
- Gray exterior window caulking material;
- Gray interior door caulking material;
- Gray pipe fitting insulation (on fiberglass insulated piping)

ACM identified at the site through laboratory analysis or those suspect materials that were presumed to be asbestos-containing material (ACM) and not sampled include the following:

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
Exterior Roof – around perimeter of roof	Black roof flashing material		540	G-02A	Remove 12" away from roof edge
Exterior Roof – around perimeter of equipment on roof	Black equipment flashing material		150	G-03A	Remove 12" away from equipment
Exterior Roof – around ductwork on roof	Black asphalt duct insulation material		1,750	G-04A	
Exterior Foundation – around	Gray exterior foundation plaster		2,800	G-07A	

ACM Material Location	ACM Material Description	Estimated Quantity of ACM		Sample Nos.	Comments
		LF	SF		
each side of building foundation	material				
1st Floor – Warehouse Area, inside east side old electrical panels	Braided wire insulation	500		Assumed	Possible live electric
1st Floor – Warehouse Area, Smoke Detection Control board on wall outside Sprinkler Room	Black transite electrical backing board		6	Assumed	Possible live electric
	Totals	**500 LF**	**5,246 SF**		

Cost Estimate for abatement and remediation are as follows:

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
Decontamination Chamber	1	1	1	3,200.00
Exterior of Building – Gray exterior window caulking around window frames on all four sides of building	102,000	1,300	LF	$ 15.00
4th Floor Exterior Tower Roof Level – Black roof flashing material	16,000	120	SF	$ 15.00
4th Floor Tower Level – Black interior window caulking material	15	120	LF	$ 15.00
2nd Floor Exterior Tower Main Roof Level – Black roof flashing material around perimeter of Main Roof	10	600	SF	$ 15.00
2nd Floor Exterior Tower Main Roof Level – Black roof flashing material around perimeter of equipment on Main Roof	6	100	SF	$ 15.00
2nd Floor Exterior Tower Main Roof Level – Black roof flashing material around perimeter of metal structural beams on Main Roof	200	60	SF	$ 15.00
2nd Floor Tower Level – White/gray exterior door caulking material around perimeter of access door to	3	20	LF	$ 15.00

ACM Material Location and Description	Quantity	Unit	Unit Price	Total
2nd Floor roof				
2nd Floor Stairwell Roof – Black/gray roofing material on top of stairwell	1,650	160	SF	$ 15.00
2nd Floor IT Room – 12"x12" Beige w/ streaks vinyl floor tile and mastic on floor of IT Room	14	360	SF	$ 20.00
1st Floor Exterior Weight Booth Roof Level – Black roof flashing material		600	SF	$ 15.00
1st Floor Boiler Room (off Open Warehouse area) – White/gray boiler insulation material		620	SF	$ 50.00
1st Floor Boiler Room (off Open Warehouse area) – White/gray pipe/pipe fitting insulation material		100	LF	$ 50.00
1st Floor Fire Pump Room (inside Controller Panel) – Gray transite electrical backing board material		10	SF	$ 50.00
1st Floor Fire Pump Room (inside Controller Panel and electrical conduit in room) – Gray/brown electrical wire insulation		200	LF	$ 10.00
1st Floor Fire Pump Room – Gray pipe valve gasket material between joints of metal piping in room		100	SF	$ 50.00
1st Floor Fire Pump Room – Gray pipe fitting insulation on fiberglass insulated piping in room		2	LF	$ 50.00
1st Floor Warehouse/Garage Area – Gray pipe fitting insulation on fiberglass insulated piping in room	60	5	LF	$ 200.00
ABATEMENT SUBTOTAL				**$01,200.00**
Abatement Oversight				$23,300.00
TOTAL				**$126,500.50**

3. Conclusions and Recommendations

3.1 J-1 Shed Building

ACM has been identified in the areas outlined in the above table. It is recommended that a licensed New York State Department of Labor (NYSDOL) asbestos abatement contractor be retained to remove and dispose of the ACM materials prior to upcoming building renovation work scheduled for this project. Removal procedures will need to be conducted in accordance with Title 15 of New York City's Asbestos Control Program.

Lead has also been identified in painted surfaces throughout the building ranging from <0.010% to .68% lead content. Removal procedures will need to be conducted in accordance with the Occupational Safety and Health Administration's (OSHA) Lead in Construction Rule under 29 CFR 1926.62.

There were also observations of many light fixtures on each of the floors throughout the survey that may contain ballasts that contain Polychlorinated Biphenyls (PCBs) as well as mercury containing fluorescent bulbs; it is recommended that these fixtures be disposed of properly. In addition, there was also many lead containing batteries (total 35) observed near the main entrance (stacked adjacent to IT Room) that should also be disposed of properly in accordance with State and Federal law.

3.2 J-2 Shed Building

ACM has been identified in the areas outlined in the above table. It is recommended that a licensed New York State Department of Labor (NYSDOL) asbestos abatement contractor be retained to remove and dispose of the ACM materials prior to upcoming building renovation work scheduled for this project. Removal procedures will need to be conducted in accordance with Title 15 of New York City's Asbestos Control Program.

Lead has also been identified in painted surfaces throughout the building ranging from 0.11% to 2.2% lead content. Removal procedures will need to be conducted in accordance with the Occupational Safety and Health Administration's (OSHA) Lead in Construction Rule under 29 CFR 1926.62.

There were also observations of many light fixtures on each of the floors throughout the survey that may contain ballasts that contain Polychlorinated Biphenyls (PCBs) as well as mercury containing fluorescent bulbs; it is recommended that these fixtures be disposed of properly.

3.3 N-2 Shed Building

ACM has been identified in the areas outlined in the above table. It is recommended that a licensed New York State Department of Labor (NYSDOL) asbestos abatement contractor be retained to remove and dispose of the ACM materials prior to upcoming building renovation work scheduled for this project. Removal procedures will need to be conducted in accordance with Title 15 of New York City's Asbestos Control Program.

Lead has also been identified in painted surfaces throughout the building ranging from <0.010% to 2.0% lead content. Removal procedures will need to be conducted in accordance with the Occupational Safety and Health Administration's (OSHA) Lead in Construction Rule under 29 CFR 1926.62.

There were also observations of many light fixtures on each of the floors throughout the survey that may contain ballasts that contain Polychlorinated Biphenyls (PCBs) as well as mercury containing fluorescent bulbs; it is recommended that these fixtures be disposed of properly. There was also a transformer observed along the east wall of the Warehouse open area that may contain fluid that is PCB containing.

3.4 Graffiti Building

ACM has been identified in the areas outlined in the above table. It is recommended that a licensed New York State Department of Labor (NYSDOL) asbestos abatement contractor be retained to remove and dispose of the ACM materials prior to upcoming building renovation work scheduled for this project. Removal procedures will need to be conducted in accordance with Title 15 of New York City's Asbestos Control Program.

Lead has also been identified in painted surfaces throughout the building ranging from 0.015% to 2.2% lead content. Removal procedures will need to be conducted in accordance with the Occupational Safety and Health Administration's (OSHA) Lead in Construction Rule under 29 CFR 1926.62.

There were also observations of many light fixtures on each of the floors throughout the survey that may contain ballasts that contain Polychlorinated Biphenyls (PCBs) as well as mercury containing fluorescent bulbs; it is recommended that these fixtures be disposed of properly.

3.5 Tower Building

ACM has been identified in the areas outlined in the above table. It is recommended that a licensed New York State Department of Labor (NYSDOL) asbestos abatement contractor be retained to remove and dispose of the ACM materials prior to upcoming building renovation work scheduled for this project. Removal procedures will need to be conducted in accordance with Title 15 of New York City's Asbestos Control Program.

Lead has also been identified in painted surfaces throughout the building ranging from 0.015% to 2.2% lead content. Removal procedures will need to be conducted in accordance with the Occupational Safety and Health Administration's (OSHA) Lead in Construction Rule under 29 CFR 1926.62.

There were also observations of many light fixtures on each of the floors throughout the survey that may contain ballasts that contain Polychlorinated Biphenyls (PCBs) as well as mercury containing fluorescent bulbs; it is recommended that these fixtures be disposed of properly.

4. Assumptions and Limitations

The scope of work conducted by AECOM included a limited survey for asbestos-containing and lead containing materials in the areas noted above. In addition observations of other environmental hazards were also noted.

AECOM's conclusions and recommendations are based on the accessible conditions that existed within the areas surveyed at the time the investigation was conducted. Every reasonable effort was made by the inspection team to access the suspect materials observed without jeopardizing the health and safety of the team and without damaging building materials in occupied areas. No exploratory demolition of walls, ceilings, column enclosures, etc. was conducted during the survey work; ACM may still exist in these voids/inaccessible areas.