THE SCHOOL DISTRICT OF PHILADELPHIA

BOARD OF EDUCATION
Office of Capital Programs
440 North Broad Street, 3rd Floor – Suite 371
Philadelphia, PA 19130

TELEPHONE: (215) 400-4730

Addendum No. 5

Subject: James Rhoads Elementary School Major Renovation
SDP Contracts No B-040C, B-041C, B-043C, B-043C of 2019/20

Location: James Rhoads Elementary School
4901 Parrish Street
Philadelphia, PA 19139

This Addendum, dated June 11, 2020, shall modify and become part of the Bid Documents. Any items not mentioned herein, or affected by, shall remain strictly in accordance with the original document.

DELETE the SPECIFICATION FOR ASBESTOS ABATEMENT AND LEAD BASED PAINT STABILIZATION, dated 2/25/20, 59 pages;

REPLACE with the attached SPECIFICATION FOR ASBESTOS ABATEMENT, LEAD BASED PAINT STABILIZATION AND RE-INSULATION OF PIPEWORK, dated June 10, 2020, 61 pages.

To clarify, the Asbestos Abatement Contractor (AAC) will re-insulate ALL piping that is abated, The Mechanical and Plumbing Contractors are responsible for insulation of all new or modified piping where required under their respective contracts.

NOTE: BID PROCESSING FEE WAIVED FOR THIS PROJECT

Attachment:
Abatement Specification, dated 6/10/20, 61 pages

SPECIFICATION
for
ASBESTOS ABATEMENT,

LEAD BASED PAINT STABILIZATION
and
RE-INSULATION OF PIPEWORK
at the
JAMES RHOADS ELEMENTARY SCHOOL

4901 Parrish Street
Philadelphia, Pennsylvania 19139

prepared for:

THE SCHOOL DISTRICT OF PHILADELPHIA
OFFICE OF ENVIRONMENTAL MANAGEMENT
440 North Broad Street
3rd Floor, Room 3053
Philadelphia, Pennsylvania 19130

prepared by:

SYNERTECH INCORPORATED
228 Moore Street
Philadelphia, Pennsylvania 19148
Project # 010-4375-1

June 10, 2020

Bernard J. Bryson
Certified Pennsylvania Asbestos Project Designer
No. 037636

TABLE OF CONTENTS

1.00 INTRODUCTION

.01 This specification outlines the required tasks and procedures involved in the removal of asbestos containing material (ACM) at the James Rhoads Elementary School in conjunction with the Major Renovation Project. ACM removal, associated equipment demolition and associated decontamination cleaning procedures shall be accomplished under asbestos-abatement conditions. The Asbestos Abatement Contractor (AAC) shall be employed as a sub-contractor to the Prime General Contractor (GC) awarded this project.

a. The AAC shall be a current pre-qualified contractor by the School District of Philadelphia and must demonstrate they have the necessary personnel, equipment, materials, and experience to complete a project of this nature in the required time period.

.02 The abatement work scope summarization includes, but is not limited to:

a. removal and disposal of all pipe fitting insulation throughout the building;
b. removal and disposal of all non-asbestos fiberglass pipe insulation throughout the building;
c. removal and disposal of all pipe fitting insulation throughout the two (2) crawlspaces below the first floor;
d. removal and disposal of all non-asbestos fiberglass pipe insulation throughout the two (2) crawlspaces below the first floor;
e. removal and disposal of all fiberglass duct insulation with outer black tar jacketing in the two (2) crawlspaces below the first floor;
f. decontamination of the dirt floor surfaces and removal/disposal of all moveable objects from the two (2) crawlspaces below the first floor;
g. removal and disposal of wire wrap insulation applied to feeder wires in electrical panels (assumed present);
h. removal and disposal of transite air intake sleeves behind unit ventilators (assumed present);
i. removal and disposal of 12” x 12” tan floor tile and associated mastic in the basement boiler room;
j. removal and disposal of all ash, soot and debris at the base of the smoke stack;
k. demolition and disposal of two (2) sectional boilers and all associated breeching, breeching insulation, catwalks and all associated appurtenances;
l. removal and disposal of the brick flooring throughout the boiler room;
m. removal and disposal of all 2’ x 4’ acoustical ceiling tiles in the IMC (library);
n. removal and disposal of all non-asbestos 1’ x 1’ ceiling tiles and associated glue dots in the IMC (library);
o. removal and disposal of all non-asbestos duct insulation in the high voltage entrance room and auditorium stage;
p. removal and disposal of transite/ebonite electrical panels;
q. removal and disposal of fire doors scheduled to be replaced (remove as indicated on the architectural drawings; fire doors scheduled to be discarded will require interior core investigations by the onsite asbestos project inspector prior to the performance of unhinging and disposal of the doors) - confirmed asbestos containing fire doors shall be removed and disposed of as per *Section 19.00*;

r. removal and disposal of all 9" x 9" floor tile, wall tile and suspended ceiling tile in the Auditorium and Stage (auditorium seating, lighting and HVAC diffusers are intended to be salvaged – the AAC shall remove and store these items in a location designated by the School District of Philadelphia);

s. removal and disposal of all asbestos containing duct insulation and pipe insulation above the Auditorium's suspended ceiling tile system;

t. removal and disposal of all loose/flaking paint throughout the basement (Space #s 1, 2, 3, 003A, 4, 5, 6, 7, S01, S02, S03).

u. re-insulation - installation of fiberglass pipe/pipe fitting insulation on all piping throughout the building (Refer to *Section 22.00*)

.03 All Prime Contractors and Subcontractors shall inform themselves fully of the scope and scale of the asbestos abatement as it relates to this project. At no time shall any Contractor/Subcontractor disturb any Asbestos Containing Material listed on the Asbestos Inspection Report (AIR), in addition to any other suspect material not otherwise identified on the AIR. Contractors and Subcontractors shall prove a copy of the AIR to all personnel from their Company upon admission to each construction work zone. A mandatory pre-commencement meeting shall be attended by all Prime Contractor(s) to discuss the AIR and the School District of Philadelphia's environmental compliance policies for all outside Contractors.

.04 The AAC shall submit a work plan to the School District of Philadelphia Office of Environmental Services (OEMS) ten (10) days prior to beginning the project. The work plan shall include a schedule for all work areas listed in **Section 9-Scope of Work** of the Asbestos Inspection Report. The schedule shall be approved by OEMS and the Asbestos Project Designer prior to the commencement of work. The schedule shall include dates and timelines for the completion of all work areas listed in addition to proposed crew sizes.

.05 Lead based paint (LBP) is assumed present on all painted surfaces throughout the building (i.e. walls, ceilings, pipework, ductwork, etc.). Refer to *Section 21.00 - Lead Based Paint Stabilization* for specific guidelines and procedures in stabilizing loose, flaking, peeling, and non-adhering paint. All renovation work, paint stabilization, and all other activities that impact painted surfaces shall be performed in accordance with the EPA Renovation, Repair, and Painting (RRP) rule under the Toxic Substances Control Act.

a. This includes all painted surfaces throughout the specified work areas.

b. Refer to the Architectural Floor Plans for approximate dimensions of work areas and surfaces/equipment to receive paint stabilization and repainting.

c. Refer to the Architectural Specifications for new paint product requirements.

.06 A representative from the AAC shall attend regularly scheduled construction progress meetings while asbestos abatement is occurring during all phases of the project. The representative of the AAC must have authorization to speak for and make commitments for the AAC. The GC and AAC shall continuously coordinate to fulfill project milestones and phasing requirements. The Owner will not pay remobilization fees, charges and/or change orders issued by the GC and/or AAC.

.07 Asbestos abatement work scope items and asbestos containing material impact may be identified in the asbestos abatement specification and/or the Construction Document drawing set. Asbestos abatement work scope items that are shown in one document and not the other shall not be cause for cost increase via change order requests.

a. No work shall be performed if the AAC believes the work to be performed is a change and/or addition to the work scope outlined in the construction documents without first obtaining a Notice To Proceed (NTP) from the Owner.

1. The Owner shall not be responsible for compensating the AAC for work performed that is considered a change and/or addition to the construction documents without the issuance of a NTP and/or a written work directive.

.08 Regarding the removal of existing fire-rated doors and the removal/replacement of doors and door hardware where door frames are scheduled to remain:

a. All doors throughout the building have some sort of fire rating. Fire-rated doors are assumed to contain an interior door packing which is assumed asbestos-containing. All assumed asbestos-containing fire-rated doors must receive proper disposal at a landfill that accepts friable asbestos waste.

.09 Regarding the removal of existing door and window caulk by the Door and Window Replacement Contractor:

a. Existing window caulks and glazings are presumed asbestos-containing materials (PACMs). The removal of these materials are non-regulated projects according to the City of Philadelphia Asbestos Control Regulation (ACR), provided:

1. the methods utilized to remove the doors and windows do not render the caulk and glazing friable. Powered equipment that sand, grind, cut, or abrade the materials is prohibited;

2. the resulting waste is disposed of at a landfill that accepts non-friable asbestos waste. No recycling of the materials is acceptable without sampling and analysis that would confirm that the caulk and/or glazings are non-asbestos;

3. the supervisor of the crew performing the removal of the doors and windows has successfully completed asbestos awareness training at a minimum, in accordance with the Pennsylvania Department of Environmental Protection (PADEP);

4. appropriate notification of a non-friable asbestos abatement project is submitted to the EPA, DEP, and Philadelphia Air Management Services.

.10 There are no specifications provided on the construction of the boilers, catwalk and breeching.

a. All suspect materials associated with the boilers shall be treated and disposed of as asbestos-containing. Suspect internal materials include, but are not limited to, gaskets, refractory insulation, packing, rope, brick, mortar, ash, and soot. The precise types and quantities of suspect materials are undetermined. Metal components (i.e. boiler sections, burners, supports) may be disposed of as asbestos waste ***or*** decontaminated, encapsulated, inspected by the API, and disposed as construction debris.

1. All soot encountered within the boilers and breeching, regardless of quantity, shall be removed and disposed of in accordance with applicable regulations.

2. All soot buildup and loose debris present in the base of the smoke stack, regardless of quantity, shall be removed and disposed of in accordance with applicable regulations.

b. The boilers and all associated appurtenances shall be removed in their entirety.

c. Any unsecured piping associated with the boilers shall be removed as part of the equipment demolition.

.11 Stated quantities are approximate. By submitting a bid, the AAC signifies they have visited the site, examined conditions that may affect the work, verified quantities of materials, and is informed as to the extent and character of the project. Any discrepancies from stated footages shall not be cause for a contract cost adjustment.

.12 The AAC shall furnish all labor, materials, employee training, services, permits, fees, insurance and equipment necessary to carry out the asbestos removal, decontamination operations and disposal in accordance with EPA, OSHA, and all other applicable Federal, State, and local government regulations, and this Specification.

.13 The AAC must utilize a licensed electrician to install separate temporary electric panels, receptacles, and lights, all with ground fault interruption and current-overload protection.

.14 The AAC shall submit to the API the number of AFDs projected to obtain a negative pressure differential sufficient to provide a minimum of four (4) air changes of the work area per hour along with the calculations used to determine this. The AAC shall install a manometer to confirm the differential, which should read minimum of -0.02 inches of water column.

a. Number of AFDs projected to obtain a negative pressure differential sufficient to provide a minimum of four (4) air changes of the work area per hour:

$$\frac{L \times W \times H \times 4 \text{ air changer per hour}}{\text{CFM Rating of AFD} \times 60}$$

.15 The Work Scope Summarization (Section 9-Scope of Work of the Asbestos Inspection Report) beginning on the following page consists of:

a. The Floor in which the abatement work is being performed;
b. The On-Site Room Name in which the abatement work is being performed;
c. Space Numbers;
d. Description of Material to be Removed;
e. Determination of Confirmed or Assumed Asbestos Containing Material;
f. Friability Classification;
f. Approximate Amount of Material to Be Removed and Disposed of;
g. Pertinent Comments/Description/Notes associated with the ACM to be removed, equipment to be demolished, re-insulation of pipework, and/or in reference to the Construction Document drawing set.

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
-	-	Throughout Building	Re-Insulation							Re-insulate all piping from which abatement occurred; Insulate pipework that was un-insulated prior to the performance of this project - Refer to Section 22.00
-	-	Throughout Building	Windows (Window Caulk and Glazing)	Assumed	NF2	Q/U	LF	ND	**REM**	The Window Replacement Contractor shall remove Windows as indicated on the Architectural Drawings
-	-	Throughout Building	Fire Doors (Door Interiors)	Assumed	NF2	Q/U	EA	ND	**REM**	Remove as indicated on the Architectural Drawings; fire doors scheduled to be discarded will require interior core investigations by the onsite Asbestos Project Inspector prior to the performance of unhinging and disposal of the doors
-	-	Throughout Building	Door Caulk	Assumed	NF2	Q/U	LF	ND	**REM**	The Door Replacement Contractor shall remove Doors as indicated on the Architectural Drawings
-	-	Throughout Building	Pipe Fitting Insulation	Confirmed	FRI	Q/U	EA	ND	**REM**	Remove as indicated on the Architectural, Mechanical, Plumbing Demolition Drawings

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
-	-	Throughout Building	Pipe Fitting Insulation	Confirmed	FRI	5 ACPFs at 4 locations	EA	ND	**REM**	Include an allowance of 20 additional pipe fittings assuming 4 additional Minor Project Work Areas
-	-	Throughout Building	Fiberglass Pipe Insulation	Non Suspect ACM	x	Q/U	LF	x	**REM**	Remove as indicated on the Architectural, Mechanical, Plumbing Demolition Drawings; No Asbestos Saddle Blocks Identified
-	-	Throughout Building	Wire Insulation	Assumed	NF2	15 LF inside each of 2 Panels	LF	ND	**REM**	Wire Insulation Wrap applied to Feeder Wires is assumed present; Remove as indicated on the Electrical Demolition Drawings
-	-	Throughout Building	Transite Air Intake Sleeve behind Unit Ventilators	Assumed	NF2	Q/U	SF	ND	**REM**	Assumed Present behind all Unit Ventilators
B	CS1	Crawlspace below Rooms 101 to 106	Asbestos Debris	Confirmed	FRI	Q/U	SF	DD	**REM**	Decontaminate all Floor Surfaces throughout the 9,000 square foot crawlspace
B	CS1	Crawlspace below Rooms 101 to 106	Fiberglass Duct Insulation with Outer Black Tar Jacketing	NAD	x	Q/U	SF	x	**REM**	Outer Black Lagging associated with Fiberglass Duct Insulation verified non-asbestos Synertech Project No. 010-4375
B	CS1	Crawlspace below Rooms 101 to 106	Vibration Damper Cloth	NAD	x	Q/U	SF	x	**REM**	Vibration Damper Cloth associated with Heat Convectors verified non-asbestos Synertech Project No. 010-4375

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
B	CS1	Crawlspace below Rooms 101 to 106	Stored Items	Non Suspect ACM	x	Q/U	SF	ND	**REM**	Remove all Stored Items Strewn Throughout; The AAC shall visit the site, survey the crawlspace and verify quantities of all materials prior to submitting a bid
B	CS1	Crawlspace below Rooms 101 to 106	Fiberglass Pipe Insulation	Non Suspect ACM	x	500	LF	x	**REM**	
B	CS1	Crawlspace below Rooms 101 to 106	Pipe Fitting Insulation	Confirmed	FRI	150	EA	ND	**REM**	
B	CS2	Crawlspace below Auditorium and Cafeteria	Asbestos Debris	Confirmed	FRI	Q/U	SF	DD	**REM**	Decontaminate all Floor Surfaces throughout the 10,000 square foot crawlspace
B	CS2	Crawlspace below Auditorium and Cafeteria	Fiberglass Duct Insulation with Outer Black Tar Jacketing	NAD	x	Q/U	SF	x	**REM**	Outer Black Lagging associated with Fiberglass Duct Insulation verified non-asbestos Synertech Project No. 010-4375
B	CS2	Crawlspace below Auditorium and Cafeteria	Vibration Damper Cloth	NAD	x	Q/U	SF	x	**REM**	Vibration Damper Cloth associated with Heat Convectors verified non-asbestos Synertech Project No. 010-4375
B	CS2	Crawlspace below Auditorium and Cafeteria	Stored Items	Non Suspect ACM	x	Q/U	SF	ND	**REM**	Remove all Stored Items Strewn Throughout; The AAC shall visit the site, survey the crawlspace and verify quantities of all materials prior to submitting a bid
B	CS2	Crawlspace below Auditorium and Cafeteria	Fiberglass Pipe Insulation	Non Suspect ACM	x	300	LF	x	**REM**	
B	CS2	Crawlspace below Auditorium and Cafeteria	Pipe Fitting Insulation	Confirmed	FRI	80	EA	ND	**REM**	

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
-	-	Throughout Basement - Space #s 1, 2, 3, 003A, 4, 5, 6, 7, S01, S02, S03	Loose/Flaking Paint	-	-	Q/U	SF	-	**REM**	Remove of all loose/flaking paint throughout the basement; Refer to the Architectural Specifications for new new paint product requirements
B	1	Fuel Pump Room to the North	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	40	EA	x	**REM**	
B	1	Fuel Pump Room to the North	Fiberglass Pipe Insulation	Non Suspect ACM	x	200	LF	x	**REM**	
B	2	Storage area next to Fuel Pump Room to the South	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	42	EA	x	**REM**	
B	2	Storage area next to Fuel Pump Room to the South	Fiberglass Pipe Insulation	Non Suspect ACM	x	250	LF	x	**REM**	
B	3	Mechanical Room in front of Elevator	Pipe Fitting Insulation	Confirmed	FRI	53	EA	ND	**REM**	
B	3	Mechanical Room in front of Elevator	Fiberglass Pipe Insulation	Non Suspect ACM	x	300	LF	x	**REM**	
B	3	Mechanical Room in front of Elevator	Tank Insulation	Confirmed	FRI	400	SF	ND	**REM**	
B	003A	Restroom in the Basement Mechanical Area	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
B	003A	Restroom in the Basement Mechanical Area	Fiberglass Pipe Insulation	Non Suspect ACM	x	60	LF	x	**REM**	
B	4	Boiler Room	Transite Electrical Panels	Assumed	NF2	50	SF	ND	**REM**	2 Panels - 25 SF Each
B	4	Boiler Room	Brick Floor	Confirmed	NF2	500	SF	ND	**REM**	Brick Floor confirmed asbestos-containing - Synertech Project No. 010-4375
B	4	Boiler Room	Sectional Boilers (boiler rope, gaskets, insulation and refractory cement)	Assumed	FRI/NF2	2	EA	ND	**REM**	(2) H.B. Smith Sectional Boilers - Approximately 9'x8'x7' high - 16 sections each
B	4	Boiler Room	Boiler Catwalks	Non Suspect ACM	x	x	x	x	**REM**	
B	4	Boiler Room	Boiler Breeching Insulation	NAD	x	2000	SF	x	**REM**	Inner White Block and Outer Skim Coat verified non asbestos - Synertech Project No. 010-4375; this material shall be removed by the AAC using engineering controls, including containment barriers, polyethylene drops cloths, negative pressure and wet removal methods

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
B	4	Boiler Room	Boiler Breeching Gaskets	Assumed	NF1	Q/U	SF	x	**REM**	Gaskets between Flange Connections Assumed Present - Quantity Undetermined
B	4	Boiler Room	Boiler Breeching Packing at Smoke Stack Connection	Assumed	FRI	Q/U	SF	x	**REM**	Assumed Present - Quantity Undetermined
B	4	Boiler Room	Ash, Soot, Debris at base of Smoke Stack	Assumed	FRI	50	SF	DD	**REM**	Remove all accumulated soot and debris
B	4	Boiler Room	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	75	EA	x	**REM**	
B	4	Boiler Room	Fiberglass Pipe Insulation	Non Suspect ACM	x	500	LF	x	**REM**	
B	4	Boiler Room	12" x 12" Tan Floor Tile	NAD	x	208	SF	x	**REM**	12x12 Tan Floor Tile verified non asbestos - Synertech Project No. 010-4375
B	4	Boiler Room	Floor Tile Mastic	Confirmed	NF1	208	SF	ND	**REM**	Mastic confirmed asbestos-containing - Synertech Project No. 010-4375 - Remove using chemical solvent
B	5, 7	High Voltage Room Entrance	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
B	5, 7	High Voltage Room Entrance	Pipe Fitting Insulation	Confirmed	FRI	7	EA	ND	**REM**	
B	5, 7	High Voltage Room Entrance	Transite Electrical Panels	Assumed	NF2	80	SF	ND	**REM**	2 Panels - 40 SF Each
B	5, 7	High Voltage Room Entrance	Duct Insulation	NAD	x	480	SF	ND	**REM**	Duct Insulation verified non asbestos - Synertech Project No. 010-4375; this material shall be removed by the AAC using engineering controls, including containment barriers, polyethylene drops cloths, negative pressure and wet removal methods
B	6	High Voltage Room	Transite Electrical Panels	Assumed	NF2	Q/U	SF	ND	**REM**	Quantity Undetermined
B	6	High Voltage Room	Wire Insulation	Assumed	NF2	Q/U	LF	ND	**REM**	Wire Insulation Wrap assumed present applied to main feeder wires

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
B	S01	Stairs leading to the outside at the North of the Boiler Room	Pipe Fitting Insulation	Confirmed	FRI	11	EA	ND	**REM**	
B	S01	Stairs leading to the outside at the North of the Boiler Room	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
B	S02	Stairs behind Elevator	Pipe Fitting Insulation	Confirmed	FRI	7	EA	ND	**REM**	
B	S02	Stairs behind Elevator	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
B	S02	Stairs behind Elevator	Fiberglass Pipe Insulation	Non Suspect ACM	x	3	LF	x	**REM**	
1	117	Gym/Cafeteria	Fiberglass Pipe Insulation	Non Suspect ACM	x	250	LF	x	**REM**	
1	H11B	Hallway leading into the Cafeteria	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
1	H11B	Hallway leading into the Cafeteria	Fiberglass Pipe Insulation	Non Suspect ACM	x	60	LF	x	**REM**	
1	116	Kitchen Storage Area next to Boy's Restroom	Pipe Fitting Insulation	Confirmed	FRI	1	EA	ND	**REM**	
1	116	Kitchen Storage Area next to Boy's Restroom	Fiberglass Pipe Insulation	Non Suspect ACM	x	2	LF	x	**REM**	
1	112	Cafeteria Boy's Restroom	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
1	111	Cafeteria Girl's Restroom	Pipe Fitting Insulation	Confirmed	FRI	12	EA	ND	**REM**	Includes (1) >6-inch fitting
1	111	Cafeteria Girl's Restroom	Fiberglass Pipe Insulation	Non Suspect ACM	x	25	LF	x	**REM**	
1	122	Women's Restroom next to the Auditorium	Pipe Fitting Insulation	Confirmed	FRI	6	EA	ND	**REM**	
1	122	Women's Restroom next to the Auditorium	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
	109	Auditorium	Auditorium Seating	Non Suspect ACM	x	x	x	x	**REM**	Remove and salvage all Auditorium seating to allow for removal of all 9” x 9” Floor Tile
1	109	Auditorium	9" x 9" Floor Tile	Confirmed	NF1	3200	SF	ND	**REM**	Remove all Floor Tile - Mastic Residue to Remain on Concrete Substrate
1	109	Auditorium	1' x 1' Wall Tile and associated Glue Dots	NAD	x	342	SF	x	**REM**	Wall and ceiling tiles are homogeneous
1	109	Auditorium	1' x 1' Suspended Ceiling Tile	NAD	x	3200	SF	x	**REM**	The ceiling tiles are installed in a suspended grid - all light fixtures and ceiling-mounted air diffusers to be salvaged - Wall and Ceiling Tiles are Homogeneous
1	109	Auditorium	Fiberglass Pipe Insulation	Non Suspect ACM	x	16	LF	x	**REM**	
	109	Auditorium (above suspended ceiling)	Fiberglass Duct Insulation	Non Suspect ACM	x	600	SF	ND	**REM**	
1	109	Auditorium (above suspended ceiling)	Outer Duct Wrap	Confirmed	FRI	600	SF	DD	**REM**	outer white duct wrap fastened over the fiberglass
1	109	Auditorium (above suspended ceiling)	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	Applied to Roof Drain Piping

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
	109	Auditorium (above suspended ceiling)	Fiberglass Pipe Insulation	Non Suspect ACM	x	16	LF	x	**REM**	Applied to Roof Drain Piping
1	109A	Stage	9" x 9" Floor Tile	Confirmed	NF1	1368	SF	ND	**REM**	Remove all Floor Tile - Mastic Residue to Remain on Concrete Substrate
1	109A	Stage	Pipe Fitting Insulation	Confirmed	FRI	3	EA	ND	**REM**	
1	109A	Stage	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
1	109A	Stage	Duct Insulation applied to (2) Air Handling Units	<1% ACM	x	500	SF	ND	**REM**	Duct Insulation verified <1% asbestos - Synertech Project No. 010-4375; This material does not meet the definition of an asbestos containing material (>1%), however the material shall be removed by the AAC using engineering controls, including containment barriers, polyethylene drops cloths, negative pressure and wet removal methods
1	109A	Stage	1' x 1' Suspended Ceiling Tile	NAD	x	175	SF	x	**REM**	
1	109A	Stage	Rubber Steps	Non Suspect ACM	x	175	SF	x	**REM**	
1	113	Storage Closet in Hallway across from the Boy's and Girl's Restroom	Fiberglass Pipe Insulation	Non Suspect ACM	x	33	LF	x	**REM**	
1	113A	Custodial Closet in Hallway across from the Boy's Restroom	Fiberglass Pipe Insulation	Non Suspect ACM	x	15	LF	x	**REM**	
1	H11	Hallway from the Elevator to Classroom 100	Pipe Fitting Insulation	Confirmed	FRI	5	EA	ND	**REM**	
1	H11	Hallway from the Elevator to Classroom 100	Fiberglass Pipe Insulation	Non Suspect ACM	x	5	LF	x	**REM**	
1	H14	Hallway behind Stairwell A and Classroom 100	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
1	H14	Hallway behind Stairwell A and Classroom 100	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
1	S11	Stairwell A - in Front of Classroom 100	Pipe Fitting Insulation	Confirmed	FRI	11	EA	ND	**REM**	
1	S11	Stairwell A - in Front of Classroom 100	Fiberglass Pipe Insulation	Non Suspect ACM	x	55	LF	x	**REM**	
1	S11A	Hallway from Stairwell A to School Yard	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
1	S11A	Hallway from Stairwell A to School Yard	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
1	100A	Girl's Restroom next to Classroom 100	Pipe Fitting Insulation	Confirmed	FRI	1	EA	ND	**REM**	
1	100A	Girl's Restroom next to Classroom 100	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
1	100B	Boy's Restroom between Girl's Restroom and Fan Room	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
1	H12	Hallway from the Auditorium to the IMC (Library)	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
1	H12	Hallway from the Auditorium to the IMC (Library)	Pipe Fitting Insulation	Confirmed	FRI	5	EA	ND	**REM**	
1	11A	Closet next to Main entrance Foyer	Fiberglass Pipe Insulation	Non Suspect ACM	x	25	LF	x	**REM**	
1	S13	Stairwell B	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
1	S13	Stairwell B	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	
1	102	Classroom 102 Kindergarten	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	12	EA	x	**REM**	PFIs were abated and replaced in Summer of 2018
1	102	Classroom 102 Kindergarten	Fiberglass Pipe Insulation	Non Suspect ACM	x	50	LF	x	**REM**	
1	102C	Classroom 102 Supply Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	11	EA	x	**REM**	
1	102C	Classroom 102 Supply Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	22	LF	x	**REM**	
1	104	Classroom 104 Kindergarten	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	16	EA	x	**REM**	PFIs were abated and replaced in Summer of 2018
1	104	Classroom 104 Kindergarten	Fiberglass Pipe Insulation	Non Suspect ACM	x	40	LF	x	**REM**	
1	104C	Classroom 104 Supply Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	4	EA	x	**REM**	
1	104C	Classroom 104 Supply Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
1	104B	Teacher's Lounge across from the IMC (Library)	Pipe Fitting Insulation	Confirmed	FRI	12	EA	ND	**REM**	
1	104B	Teacher's Lounge across from the IMC (Library)	Fiberglass Pipe Insulation	Non Suspect ACM	x	17	LF	x	**REM**	
1	H12A	East Entrance Foyer by IMC (Library) and Teacher's Lounge	Pipe Fitting Insulation	Confirmed	FRI	12	EA	ND	**REM**	
1	H12A	East Entrance Foyer by IMC (Library) and Teacher's Lounge	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
1	103	IMC (Library)	2' x 4' Ceiling Tiles and (remove tiles and associated Metal Grid)	Confirmed	FRI	1808	SF	ND	**REM**	2'x4' Ceiling Tiles confirmed asbestos-containing - Synertech Project No. 010-4375; Impact Anticipated by Window Replacement
1	103	IMC (Library)	1' x 1' Ceiling Tile	NAD	x	1808	SF	x	**REM**	Above Suspended Ceiling
1	103	IMC (Library)	Spline Ceiling Tile Glue Dots	NAD	x	1808	SF	x	**REM**	Above Suspended Ceiling
1	103	IMC (Library)	Fiberglass Pipe Insulation	Non Suspect ACM	x	105	LF	x	**REM**	
1	103	IMC (Library)	Pipe Fitting Insulation	Confirmed	FRI	7	EA	ND	**REM**	

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
1	103A	IMC (Library) Office	2' x 4' Ceiling Tiles and (remove tiles and associated Metal Grid)	Confirmed	FRI	112	SF	ND	**REM**	2'x4' Ceiling Tiles confirmed asbestos-containing - Synertech Project No. 010-4375; Impact Anticipated by Window Replacement
1	103A	IMC (Library) Office	1' x 1' Ceiling Tile	NAD	x	112	SF	x	**REM**	Above Suspended Ceiling
1	103A	IMC (Library) Office	Spline Ceiling Tile Glue Dots	NAD	x	112	SF	x	**REM**	Above Suspended Ceiling
1	103A	IMC (Library) Office	Fiberglass Pipe Insulation	Non Suspect ACM	x	16	LF	x	**REM**	
1	105	Teacher's Leader Room attached to Main Office to the East	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
1	105B	Teacher's Leader Room attached to Main Office to the East - Closet	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
1	105B	Teacher's Leader Room attached to Main Office to the East - Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	16	LF	x	**REM**	
1	105A	Teacher's Leader Room attached to Main Office to the East Restroom	Fiberglass Pipe Insulation	Non Suspect ACM	x	5	LF	x	**REM**	
1	107	Main Office	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
1	107	Main Office	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
1	108B	Principal's Office Closet	Pipe Fitting Insulation	Confirmed	FRI	1	EA	ND	**REM**	
1	108B	Principal's Office Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	9	LF	x	**REM**	
2	S21	Stairwell A	Pipe Fitting Insulation	Confirmed	FRI	22	EA	ND	**REM**	
2	S21	Stairwell A	Fiberglass Pipe Insulation	Non Suspect ACM	x	80	LF	x	**REM**	
2	H25	Hallway from Classroom 200 to Classroom 201	Pipe Fitting Insulation	Confirmed	FRI	34	EA	ND	**REM**	
2	H25	Hallway from Classroom 200 to Classroom 201	Fiberglass Pipe Insulation	Non Suspect ACM	x	140	LF	x	**REM**	
2	200B	Classroom 200 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	202	Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	202B	Classroom 202 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	211	Room 200A across from Classroom 200	Pipe Fitting Insulation	Confirmed	FRI	20	EA	ND	**REM**	
2	211	Room 200A across from Classroom 200	Fiberglass Pipe Insulation	Non Suspect ACM	x	75	LF	x	**REM**	
2	212	Women's Restroom across from Classroom 202	Pipe Fitting Insulation	Confirmed	FRI	9	EA	ND	**REM**	
2	212	Women's Restroom across from Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
2	214	Boy's Restroom across from Classroom 202	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
2	214	Boy's Restroom across from Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	13	LF	ND	**REM**	
2	215	Girl's Restroom across from Classroom 202	Pipe Fitting Insulation	Confirmed	FRI	9	EA	ND	**REM**	
2	215	Girl's Restroom across from Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
2	215	Girl's Restroom across from Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
2	215A	Men's Restroom across from Classroom 202	Pipe Fitting Insulation	Confirmed	FRI	5	EA	ND	**REM**	

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
2	215A	Men's Restroom across from Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	40	LF	x	**REM**	
2	216	Fan Room next to Classroom 202	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
2	216	Fan Room next to Classroom 202	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
2	201	Classroom 201	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	201A	Classroom 201 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	201B	Classroom 201 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	203	Classroom 203	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	203A	Classroom 203 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	203B	Classroom 203 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	205	Classroom 205	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	205A	Classroom 205 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	205B	Classroom 205 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	207	Classroom 207	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	207A	Classroom 207 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	207B	Classroom 207 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	209	Classroom 209	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	209A	Classroom 209 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
2	209A	Classroom 209 Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	4	EA	x	**REM**	
2	209B	Classroom 209 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	60	LF	x	**REM**	
2	209B	Classroom 209 Coat Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	2	EA	x	**REM**	
2	210	Classroom 210	Pipe Fitting Insulation	Confirmed	FRI	5	EA	ND	**REM**	
2	210	Classroom 210	Fiberglass Pipe Insulation	Non Suspect ACM	x	40	LF	x	**REM**	
2	210A	Classroom 210 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	210B	Classroom 210 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	210B	Classroom 210 Coat Closet	Pipe Fitting Insulation	Confirmed	FRI	6	EA	ND	**REM**	
2	208	Classroom 208	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	208A	Classroom 208 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
2	208B	Classroom 208 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	206	Classroom 206	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	206B	Classroom 206 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
2	204	Classroom 204	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
2	204B	Classroom 204 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
2	204B	Classroom 204 Coat Closet	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
2	S23	Stairwell B	Pipe Fitting Insulation	Confirmed	FRI	9	EA	ND	**REM**	
2	S23	Stairwell B	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	
2	S22	Stairwell C	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
2	S22	Stairwell C	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	
3	S31	Stairwell A	Pipe Fitting Insulation	Confirmed	FRI	23	EA	ND	**REM**	
3	S31	Stairwell A	Fiberglass Pipe Insulation	Non Suspect ACM	x	80	LF	x	**REM**	
3	H38	Hallway from Classroom 301 to Classroom 300	Pipe Fitting Insulation	Confirmed	FRI	37	EA	ND	**REM**	
3	H38	Hallway from Classroom 301 to Classroom 300	Fiberglass Pipe Insulation	Non Suspect ACM	x	90	LF	x	**REM**	
3	H37	Hallway from Elevator to Classroom 310	Pipe Fitting Insulation	Confirmed	FRI	21	EA	ND	**REM**	

Attachment 1 - Scope of Work		Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event					010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)		
Floor	***Space #***	***On-Site Room Name***	***Material Description***	***Confirmed Assumed NAD Non Suspect ACM***	***Type (Code 1)***	***Amount of Material***	***SF LF EA***	***Condition (Code 2)***	***Action (Code 3)***	***Comments***
3	H37	Hallway from Elevator to Classroom 310	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	
3	300	Classroom 300	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	300B	Classroom 300 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	302	Classroom 302	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	302A	Classroom 302 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	302B	Classroom 302 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	301	Classroom 301	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	301A	Classroom 301 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	301B	Classroom 301 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
3	301B	Classroom 301 Coat Closet	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
3	303	Classroom 303	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	303A	Classroom 303 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	303B	Classroom 303 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	305A	Classroom 305 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	305B	Classroom 305 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	307	Classroom 307	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	307A	Classroom 307 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
3	307B	Classroom 307 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	309	Classroom 309	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
3	309A	Classroom 309 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
3	309A	Classroom 309 Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	2	EA	x	**REM**	PFIs were abated and replaced in Summer of 2018
3	309B	Classroom 309 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	60	LF	x	**REM**	
3	309B	Classroom 309 Coat Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	2	EA	x	**REM**	PFIs were abated and replaced in Summer of 2018
3	310	Classroom 310	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	12	EA	x	**REM**	PFIs were abated and replaced in Summer of 2018
3	310	Classroom 310	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
3	310B	Classroom 310 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
3	310B	Classroom 310 Coat Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	1	EA	x	**REM**	
3	308	Classroom 308	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	2	EA	x	**REM**	
3	308	Classroom 308	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
3	308B	Classroom 308 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	50	LF	x	**REM**	
3	308B	Classroom 308 Coat Closet	Fiberglass Pipe Fitting Insulation	Non Suspect ACM	x	6	EA	x	**REM**	
3	306B	Classroom 306 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
3	304	Classroom 304	Pipe Fitting Insulation	Confirmed	FRI	2	EA	ND	**REM**	
3	304	Classroom 304	Fiberglass Pipe Insulation	Non Suspect ACM	x	40	LF	x	**REM**	
3	304B	Classroom 304 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	40	LF	x	**REM**	
3	304B	Classroom 304 Coat Closet	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
3	300A	Room 300A across from Classroom 300	Pipe Fitting Insulation	Confirmed	FRI	26	EA	ND	**REM**	
3	300A	Room 300A across from Classroom 300	Fiberglass Pipe Insulation	Non Suspect ACM	x	70	LF	x	**REM**	

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
3	311	Women's Restroom across from Classroom 300	Pipe Fitting Insulation	Confirmed	FRI	9	EA	ND	**REM**	
3	311	Women's Restroom across from Classroom 300	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
3	313	Boy's Restroom across from Classroom 302	Pipe Fitting Insulation	Confirmed	FRI	3	EA	ND	**REM**	
3	313	Boy's Restroom across from Classroom 302	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	314	Girl's Restroom across Classroom 302	Pipe Fitting Insulation	Confirmed	FRI	9	EA	ND	**REM**	
3	314	Girl's Restroom across Classroom 302	Fiberglass Pipe Insulation	Non Suspect ACM	x	30	LF	x	**REM**	
3	315	Nurse's Office	Fiberglass Pipe Insulation	Non Suspect ACM	x	35	LF	x	**REM**	
3	315	Nurse's Office	Pipe Fitting Insulation	Confirmed	FRI	8	EA	ND	**REM**	
3	315PC	Nurse's Office Pipe Chase	Fiberglass Pipe Insulation	Non Suspect ACM	x	25	LF	x	**REM**	
3	316	Custodial Closet near Classroom 302	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
3	316	Custodial Closet near Classroom 302	Fiberglass Pipe Insulation	Non Suspect ACM	x	2	LF	x	**REM**	
3	S33	Stairwell B	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
3	S33	Stairwell B	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
3	S32	Stairwell C	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
3	S32	Stairwell C	Fiberglass Pipe Insulation	Non Suspect ACM	x	14	LF	x	**REM**	
4	400	Classroom 400	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	400A	Classroom 400 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	400B	Classroom 400 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	402	Classroom 402	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	402A	Classroom 402 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	402B	Classroom 402 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	6	LF	x	**REM**	
4	401	Classroom 401	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	401A	Classroom 401 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	401B	Classroom 401 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	5	LF	x	**REM**	
4	401B	Classroom 401 Coat Closet	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
4	403	Classroom 403	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	403A	Classroom 403 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	403B	Classroom 403 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	405	Classroom 405	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	405A	Classroom 405 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	405B	Classroom 405 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	407	Classroom 407	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	407A	Classroom 407 Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	8	LF	x	**REM**	
4	407B	Classroom 407 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	409	Classroom 409	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	410	Classroom 410	Fiberglass Pipe Insulation	Non Suspect ACM	x	12	LF	x	**REM**	
4	408	Classroom 408	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	408B	Classroom 408 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	406	Classroom 406	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	406B	Classroom 406 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	
4	404	Classroom 404	Fiberglass Pipe Insulation	Non Suspect ACM	x	24	LF	x	**REM**	
4	404B	Classroom 404 Coat Closet	Fiberglass Pipe Insulation	Non Suspect ACM	x	4	LF	x	**REM**	

Attachment 1 - Scope of Work	Asbestos Inspection Report - Section 9 James Rhoads Elementary (1410) 4901 Parrish Street, Philadelphia, PA 19139 Prepared by: Bernard J. Bryson Certification # 0437 Date: 06/10/2020 Major Renovation	Survey Type _____ 6 Month Surveillance _____ Three- Year Reinspection IX __X__ AIR/EIE __X__ Asbestos Abatement Activity __X__ Bulk Sampling Event	010-4375-1 The quantities listed for No Asbestos Detected (NAD) and Non-Suspect Materials are estimated and were not measured for the purpose of this report. Field verification of these quantities for renovation purposes would be necessary. (date constructed: 1959)

Floor	Space #	On-Site Room Name	Material Description	Confirmed Assumed NAD Non Suspect ACM	Type (Code 1)	Amount of Material	SF LF EA	Condition (Code 2)	Action (Code 3)	Comments
4	413	Boy's Restroom across from Classroom 402	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
4	414	Girl's Restroom across from Classroom 402	Fiberglass Pipe Insulation	Non Suspect ACM	x	10	LF	x	**REM**	
4	416	Fan Room next to Classroom 402	Pipe Fitting Insulation	Confirmed	FRI	5	EA	ND	**REM**	
4	416	Fan Room next to Classroom 402	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
4	S43	Stairwell B	Pipe Fitting Insulation	Confirmed	FRI	10	EA	ND	**REM**	
4	S43	Stairwell B	Fiberglass Pipe Insulation	Non Suspect ACM	x	18	LF	x	**REM**	
PH	PH-ST	Penthouse Storage Room below Stairwell to Elevator Machine Room	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
PH	PH-ST	Penthouse Storage Room below Stairwell to Elevator Machine Room	Fiberglass Pipe Insulation	Non Suspect ACM	x	20	LF	x	**REM**	
PH	PH-SW	Penthouse Stairwell to Elevator Machine Room	Pipe Fitting Insulation	Confirmed	FRI	4	EA	ND	**REM**	
PH	PH-SW	Penthouse Stairwell to Elevator Machine Room	Fiberglass Pipe Insulation	Non Suspect ACM	x	15	LF	x	**REM**	
PH	EMR	Elevator Machine Room	Wire Insulation	Assumed	NF2	Q/U	LF	ND	**REM**	Assumed inside of Elevator Electrical Panel

2.00 GENERAL ABATEMENT PROJECT CONDITIONS

.01 The asbestos abatement work areas listed in the **Section 9-Scope of Work** of the Asbestos Inspection Report are Major, Minor and Non-Friable Projects as defined by the Philadelphia Asbestos Control Regulation (ACR) and shall comply with all requirements therein.

a. The AAC shall have a PA licensed Supervisor on site at all times during asbestos abatement activities. The AAC shall not perform any abatement activities, including prep, bag-out, and teardown unless a City of Philadelphia certified API is on site.

b. The AAC shall provide a schedule for all work areas listed. The schedule shall be approved by the Owner and API prior to the commencement of work. The schedule shall include dates and timelines for the completion of all work areas listed in addition to proposed crew sizes.

.02 If the AAC seeks a change in the procedures and/or methods for accomplishing a certain asbestos abatement task, the AAC may submit a written request to the Asbestos Project Designer for an alternative method, identifying the procedure for which an alternative is being sought, and the reason for seeking a change. The Asbestos Project Designer shall review the request and render a decision within twenty-four (24) hours of receipt of the written request.

.03 The Owner, API, and AAC shall conduct an inspection for existing damages prior to the commencement of work. All parties shall agree in writing on building conditions and list all damaged materials, furnishings, etc.

.04 AAC access shall be confined to the work areas indicated in this Contract. The Contract may be proceeding concurrently with others in the building. The AAC shall cooperate fully with the other Contractors in expediting the work of all trades, and avoid damage to the work of the other Contractors.

.05 The AAC shall be served with a Stop Work Order by the Project Designer and/or API when they are in non-compliance with this Contract Specification and/or other pertinent regulations (Refer to *Section 3.01.a-p*).

a. The project shall remain halted until all matters identified in the Stop Work Order are corrected.

.06 If it is determined that airborne asbestos contamination has occurred "outside the work area" adjacent to an active asbestos abatement work area, the AAC shall contain and clean the affected premises under the direction of the API at no additional cost to the Owner. Causes for "outside the work area" airborne asbestos contamination include, but are not limited to:

- **a.** The loss of a negative pressure differential inside any active asbestos abatement work area;
- **b.** A breech of containment into any active asbestos abatement work area;
- **c.** Improper maintenance of AFDs/HEPA vacuums (Refer to *Section 15.07.a-c.1-2*)
- **d.** Improper worker decontamination procedures;
- **e.** Negligence of the AAC;
- **f.** Any other poor work practices of the AAC.

.07 The Owner reserves the right to require asbestos abatement and associated work is performed at times when the building is unoccupied.

3.00 QUALITY ASSURANCE

.01 All work and disposal shall be performed in compliance with all applicable Federal, State, and local regulations including, but not limited to:

- **a.** 29 CFR 1926.1101 (OSHA);
- **b.** 29 CFR 1926.501 (OSHA);
- **c.** 40 CFR Part 61 (NESHAP);
- **d.** 40 CFR Part 763 (AHERA);
- **e.** 40 CFR 761 **(**PCB Regulations);
- **f.** Resource Conservation and Recovery Act (RCRA);
- **g.** 40 CFR 300-399, EPA Comprehensive Environmental Response Compensation & Liability Act
- **h.** 40 CFR 745, EPA Toxic Substances Control Act; LBP Poisoning Prevention
- **i.** EPA Renovation, Repair, and Painting (RRP) rule under the Toxic Substances Control Act
- **j.** 49 CFR 171-180, DOT Hazardous Material Regulations
- **k.** 42 CFR Part 84 & 30 CFR Part 11 (NIOSH/DHHS respirator standards);
- **l.** the Asbestos Control Regulation (Philadelphia Department of Public Health);
- **m.** Act 194 & Act 161 (Pennsylvania Department of Labor and Industry);
- **n.** Section F-315.8 (R) of the Philadelphia Fire Prevention Code;
- **o.** NADCA ACR 2006 (HVAC System cleaning standards);
- **p.** this Specification.

.02 The AAC has the responsibility of informing themselves fully of the requirements of these agencies and shall satisfy completely this Specification and all referenced regulations. All other applicable federal state and local regulations are incorporated by reference.

.03 The AAC must be a City of Philadelphia Licensed Asbestos Abatement Contractor as well as a Pennsylvania Licensed Asbestos Contractor and employ asbestos workers certified to work in the state of Pennsylvania.

.04 The Philadelphia Federation of Teacher's (PFT) Environmental Consultant shall have the option to conduct side by side final clearance air samples within 24 hours of notice of work area completion with the API. Samples will be collected, analyzed, and addressed, in accordance with all applicable, Federal, State, and local regulations.

- **a.** Samples may be collected and analyzed via PCM and/or TEM.
- **b.** Results shall be evaluated in accordance with the ACR and AHERA.
- **c.** Acceptable airborne fiber concentrations for individual "outside the work area" air samples shall be < 0.010 f/cc for PCM and < 0.010 s/cc for TEM.

4.00 NOTIFICATIONS

.01 The AAC shall notify all applicable agencies including the EPA, DEP, and Philadelphia Air Management Services, using the appropriate form(s), ten (10) days prior to the commencement of asbestos abatement projects.

.02 The AAC shall submit written notification of the asbestos abatement project schedule to the local police and fire departments ten (10) days prior to beginning the project.

.03 The Owner shall provide a minimum of ten (10) calendar days advance notification of intended asbestos abatement to all occupants. This notice shall conform to the Philadelphia ACR, *Section VI.B.2* and shall remain posted until the re-occupancy standard is met.

5.00 MANDATORY MEETINGS/SUBMITTALS

.01 **Pre-construction meeting** - The AAC shall attend a pre-construction meeting scheduled by the Owner. The AAC shall submit to the Owner the following, if not already submitted:

- **a.** Copies of required notifications, insurance, and bonds.
- **b.** Progress schedule
  - **1.** The AAC shall provide a schedule for all work areas listed. The schedule shall be approved by the Owner and API prior to the commencement of work. The schedule shall include the number of active abatement work areas at any given time, proposed crew sizes, and waiting periods following the delivery of the work area to the API for final visual inspections and clearance testing.
- **c.** Work plan delineating phasing and preparation of the work site, including intended locations of water and electrical sources, and the intended storage locations for furniture and ceiling mounted light fixtures and other ceiling mounted items. Description of decontamination sequence, removal methods to be used and waste handling.
- **d.** Supervisor credentials and delineation of responsibility for work site supervision, including name, telephone number and pager number for both the project manager and the on-site supervisor.
- **e.** Worker qualifications, current licenses, fit tests, and medicals. These may be submitted as the crew is selected or changed, however, no workers will be permitted to remain on site without submission and approval of qualifications.
- **f.** Safety Data Sheets (SDS) for the materials to be used on the job:
  - **1.** Asbestos abatement encapsulant (only encapsulants approved by the Department of Public Health may be used);
  - **2.** Heavy-duty polyethylene tape used for sealing fixed objects, the construction of critical barriers, decontamination chambers and floor/wall containments;
- **g.** Name of Waste Hauler(s) and disposal site with EPA/DEP identification numbers;
- **h.** Name of the firm or competent person performing the AACs OSHA required personnel monitoring and the laboratories PAT Certification and Philadelphia Laboratory Certification;
- **i.** A detailed *written* description of emergency procedures to be followed in the event of injury or fire. This submittal must include execution procedures, source of emergency assistance (including telephone numbers), and access procedures to be used by emergency personnel.

.02 **Progress meetings** - Meetings shall be held at the job site at the discretion of the Owner/Construction Manager/API to discuss the progress of the work, phasing and other Contractor coordination, work schedule, and any conflicts or problems. The representative of the AAC must have authorization to speak for and make commitments for the AAC. The GC and AAC shall continuously coordinate to fulfill project milestones and phasing requirements. The Owner will not pay remobilization fees, charges and/or change orders issued by the GC and/or AAC.

6.00 OWNER'S RESPONSIBILITIES

.01 The Owner shall employ the services of an Asbestos Project Inspector (API) who is licensed by the City of Philadelphia to perform asbestos project inspection as defined by the Asbestos Control Regulation (ACR).

.02 The Owner shall ensure the work areas will be unoccupied prior to abatement activity commencing.

.03 The Owner shall make water and electricity available at the site at no cost to the AAC. The Owner and/or Construction Manager shall notify the AAC of scheduled system shut downs to ensure no interruptions to the project's engineering controls.

.04 The Owner shall be responsible to remove all computers, monitors, printers, all other computer related components, personal effects, books, or other items deemed too valuable or sensitive to leave in the scheduled work areas to be handled by the AAC. A list of such items includes:

- **a.** Personal items throughout any previously mentioned work areas;
- **b.** All computers and computer accessories in any previously mentioned work areas;
- **c.** Stored maintenance and building supply items, paper products, paints, cleaners, replacement ceiling tiles and florescent light bulbs, excess furniture, etc. located in any of the work areas scheduled for abatement, demolition and/or cleaning.
- **d.** Any other items deemed appropriate by the Owner.
- **e.** The Owner shall store items in areas not scheduled for asbestos abatement work.
- **f.** The Owner shall send written notices to the appropriate and responsible School District personnel informing them of this responsibility and the limit of the AACs responsibilities.
- **g.** Any movable items remaining in the scheduled work areas at the time of the mobilization of the AAC shall be removed by the AAC.

7.00 ASBESTOS ABATEMENT CONTRACTOR'S (AAC) RESPONSIBILITIES

.01 The AAC is responsible for visiting the site and verifying quantities of asbestos containing materials, locations of utilities, and waste out routes *prior to* submitting a bid.

a. No work shall be performed if the AAC believes the work to be performed is a change and/or addition to the work scope outlined in the construction documents without first obtaining a Notice To Proceed (NTP) from the Owner.

1. The Owner shall not be responsible for compensating the AAC for work performed that is considered a change and/or addition to the construction documents without the issuance of a NTP and/or a written work directive.

.02 Project phasing, start and completion dates are subject to change at the discretion of the Owner.

.03 The AAC shall provide all labor, tools, materials and scaffold necessary to complete the project safely, in a timely fashion, and in accordance with the specification and all applicable regulations.

a. All tools, ladders, equipment, etc. shall arrive at the project site in good condition and free of any visual residual asbestos contamination.

.04 Any movable items remaining in the scheduled work areas at the time of the mobilization of the AAC shall be removed by the AAC.

.05 The AAC shall protect all non-movable furniture, cabinetry and equipment from damage throughout the duration of this project.

.06 The AAC shall supply, at their own expense, all construction materials, supplies, and all electrical, water, and waste connections, tie-ins, or extensions. Temporary service lines shall be installed to prevent tripping, slipping or falling. The AAC must utilize a licensed electrician to install separate temporary electric panels, receptacles, and lights, all with ground fault interruption and current-overload protection. All temporary electrical set-ups shall be in accordance with OSHA regulation and NEMA standards.

.07 The AAC shall maintain current copies of certifications for workers on-site, and shall keep copies of all pertinent specifications and regulations on-site. The API retains the right to prohibit work by employees without current certifications.

.08 The AAC shall maintain a detailed sign-in/sign-out log, which must be filled out by every person entering the work area. All entries shall be complete and legible.

.09 The AAC shall be responsible for security of the work site, fire/smoke detection, and maintenance of existing utility systems as it relates to the performance of this project.

.10 The AAC shall provide fire protection in accordance with all State and Local codes. This includes, but is not limited to:

a. Providing a written fire prevention and emergency action plan.
b. Providing multi-purpose ABC rated fire extinguishers, insuring that on-site personnel are aware of the location and proper use of all fire extinguishers and other safety equipment.
c. Performing a fire watch of the overall work area.
d. Designating a safety coordinator to implement the above actions. The AACs safety coordinator shall be responsible for:
  1. Fire/life safety entries shall be entered into the AACs log daily and shall be submitted with the AAC's final report.
  2. Daily entries shall include names, dates, duration, problems & corrective actions taken by the fire watch - must be signed by the safety coordinator.

.11 Assure protection of AFD exhaust ducts from damage during asbestos abatement activities.

.12 The AAC Supervisor and API shall perform a visual inspection of the entire floor immediately below all active abatement work areas at the end of each 8-hour shift to verify that no water leaks, fallen material, or any other type of damage has occurred.

a. If water leaks, fallen material, or any other type of damage has occurred:
  1. all asbestos abatement work shall be halted;
  2. the API shall immediately notify the Asbestos Project Manager, Construction Manager and Owner for direction and input;
  3. the source of the leak or damage shall be determined;
  4. the containment breech issue shall be rectified before any asbestos abatement work will be permitted to continue.

.13 As required by the Asbestos Control Regulation, the AAC shall provide a minimum 18" square transparent viewing window consisting of shatterproof material greater than or equal to 1/8" in thickness located at a height appropriate for accessible viewing and in such a manner as to maximize visibility of the abatement work area.

.14 During the performance of final cleaning of all surfaces inside the active abatement work area, all horizontal surfaces "outside the work area" shall also be cleaned. This includes the dirty, shower and clean rooms of decontamination chambers attached to the asbestos abatement work area being tested and all immediate surroundings of representative makeup air entering each independent asbestos abatement work area being tested.

.15 During final cleaning activities, the AAC shall implement the following cleaning process several times until a no visible emission, dust free environment is established: Floors, walls, ceilings, materials, equipment, building supplies, critical and containment barriers shall be swept with the exhaust of electric leaf blowers to dislodge any remaining dust within the asbestos abatement work area. Allow for the HEPA equipped AFDs to provide several air changes within the work area prior to HEPA vacuuming and wet wiping.

a. During the APIs final inspection: floors, walls, ceilings, critical and containment barriers shall be swept with the exhaust of electric leaf blowers. If visible emissions produced from the leaf blowing activity are generated, the AAC shall be directed to continue the cleaning process. This sequence shall be continued until the APIs are satisfied with the outcome of the final visual inspection and can definitively document that the work area is sufficiently clean.

.16 The AAC shall utilize a PA State licensed Mechanical Services Contractor and Certified Mechanic to assure that:

a. all utility services such as oil, natural gas, water and electric are disconnected from the boilers and tagged-out, including the gas lines to the pilot lights, if present. The AAC shall meet and coordinate with the Building Engineer to determine which oil, natural gas, water and electric services associated with the work area are essential and are required to remain functional, if any.

1. The gas/oil lines supplying the boilers shall be disconnected back to a point where the remaining lines are away from potential impact or damage due to the specified demolition tasks. The upstream valves shall be closed, and a secure blind flange shall be installed at the point of disconnection to facilitate future connections.

a. Any oil, gas, water and electric lines that are required to remain 'live' in any work area as determined by the Building Engineer shall be tagged every six feet.

b. Disconnection of the gas lines to the boiler(s) may require coordination with representatives from PGW. The Certified Mechanic shall be assigned the responsibility to determine if or when involvement of PGW is required.

2. The valves connecting the header and hot water return lines to the boilers shall be closed.

a. The valves of the header and hot water return lines supplying the boiler shall be disconnected at the flange at the stop valve. A secure blind flange shall be installed at the point of disconnection.

3. The piping supplying each boiler with make-up water shall be cut and capped. The water supply to the make-up water piping to each boiler shall be temporarily shut down to allow for the cutting and capping of this piping.

b. All utility lines providing water, oil or natural gas are drained or evacuated prior to the AAC continuing work.

c. The boiler systems are drained prior to the AAC commencing boiler demolition work.

8.00 ASBESTOS PROJECT INSPECTOR'S (API) RESPONSIBILITIES

.01 The API shall act as the Owner's representative on the work site to assure and document compliance with this Specification and applicable regulations and to perform all project sampling and analysis required by the Philadelphia ACR and AHERA.

.02 The API shall be responsible to see that required information and notifications are posted and are accessible for review by all concerned parties.

.03 The API shall keep a daily log documenting the progress and performance of the AAC over the course of the project.

.04 The API shall perform continuous inspections to monitor the performance of the AAC and to assure and document compliance with this Specification and applicable regulations. Inspections shall be performed during all phases of the project including verifying compliance with standard operating procedures, checking engineering controls, personal protection and decontamination systems, and handling and disposition of the resulting asbestos waste materials.

.05 The API shall be responsible for performing all project sampling and analysis required by the Philadelphia ACR and AHERA.

a. The API shall also perform representative personal air sampling on themselves during the project as defined within OSHA 1926.1101 and 1910.1001. Personal air samples shall be collected to establish a time weighted average (TWA) and a short-term excursion limit (STEL). Such air samples shall be collected within the breathing zone and used to:

1. initially determine the level of respiratory protection;
2. subsequently to assure that such protections remain adequate throughout the project.

.06 The API shall routinely perform smoke testing at all critical barriers throughout the performance of asbestos abatement activities until the receipt of acceptable clearance air sample results to verify the integrity of critical barriers and presence of an adequate negative pressure differential.

.07 The API shall notify the Owner and Air Management Services of the City of Philadelphia if the AAC is found to be in non-compliance with the technical specifications or those Municipal, State or Federal regulations applicable to this project.

a. The API shall serve written notice to the AAC for all AAC non-compliance actions.

.08 The AAC Supervisor and API shall perform a visual inspection of the entire floor immediately below all active abatement work areas at the end of each 8-hour shift to verify that no water leaks, fallen material, or any other type of damage has occurred.

a. If water leaks, fallen material, or any other type of damage has occurred:

1. all asbestos abatement work shall be halted;

2. the API shall immediately notify the Asbestos Project Manager, Construction Manager and Owner for direction and input;

3. the source of the leak or damage shall be determined;

4. the containment breech issue shall be rectified before any asbestos abatement work will be permitted to continue.

.09 The API shall conduct a detailed final inspection to ensure that no visible dust or debris remains on any surfaces. This includes all surfaces inside the abatement work area and all horizontal surfaces in the immediate surroundings of representative makeup air entering each independent asbestos abatement work area being tested.

9.00 AIR MONITORING BY THE OWNER

.01 The Owner shall employ the services of an API who is in licensed by the City of Philadelphia to perform air monitoring and quality assurance of the AACs work practices.

.02 The API shall collect pre-test and project air samples in accordance with the Philadelphia Asbestos Control Regulations and AHERA. Project air monitoring during abatement activities shall include samples inside and outside the work area to ensure airborne fiber concentrations remain at acceptable levels. Acceptable airborne fiber concentrations outside the work area shall be < 0.010 f/cc for PCM and < 0.010 s/cc for TEM. The API may also perform discretionary random personnel monitoring. Pre-test and project samples shall be analyzed via Phase Contrast Microscopy (PCM), NIOSH Method 7400.

a. Transmission Electron Microscopy (TEM) sampling may be performed in locations outside the containment work areas at the owner/consultant's discretion throughout the abatement project. Results shall be evaluated in accordance with AHERA and/or the ACR.

.03 The API shall provide clearance air sampling:

a. For Major Projects, five (5) clearance samples shall be collected and analyzed via TEM. Results shall be evaluated in accordance with the ACR.

b. For Small and Minor Projects, five (5) clearance samples shall be collected and analyzed via Phase Contrast Microscopy (PCM) or TEM. Results shall be evaluated in accordance with the ACR.

c. For Non-Friable Projects, five (5) clearance samples shall be collected and analyzed via Phase Contrast Microscopy (PCM) or TEM. Results shall be evaluated in accordance with the ACR.

d. Clearance air sampling shall be performed using aggressive techniques. Sampling procedures and clearance criteria shall follow all requirements of the Philadelphia ACR and AHERA.

.04 The Owner shall be responsible for costs incurred for the initial required laboratory work. Any subsequent testing required due to limits exceeded during abatement or any clearance sampling shall be paid by the AAC. These costs include both labor and analysis.

a. The API shall invoice the Owner, on a separate invoice, for all costs relating to labor and analyses resulting from additional testing required due to limits exceeded during abatement or failure of first round clearance sampling.

b. The AACs contract amount shall be reduced by an amount equal to the costs for labor and analyses resulting from additional testing required due to limits exceeded during abatement or failure of first round clearance sampling.

c. The Owner shall retain possession and ownership of all air sampling data and documentation.

.05 The Z-test method found in 40 CFR 763, Subpart E., Appendix A, is a test method in which inside and outside area averages can be used to pass an area based upon the outcome of the arithmetic comparison of both areas. However, the analysis and comparison of the inside and outside air samples via the Z-test method is not permitted as part of this project.

a. Inside the work area samples shall be analyzed using the geometric mean. Outside the work area samples shall be analyzed and compared independently.

1. An Exceedance of the geometric mean inside the work area and/or an exceedance of 0.010 s/cc outside the work area shall require corrective action recleaning by the AAC.

b. Inside and outside final clearance air samples shall be collected and analyzed via PCM or TEM. Results shall be evaluated in accordance with the ACR and AHERA.

c. Acceptable airborne fiber concentrations for individual "outside the work area" air samples shall be < 0.010 f/cc for PCM and < 0.010 s/cc for TEM.

d. During all phases of the project, the API/Consulting Firm shall be required to notify the Department of Public Health in the event an “outside the work area” air sample is in exceedance of 0.01 s/cc.

10.00 AIR MONITORING BY THE ASBESTOS ABATEMENT CONTRACTOR (AAC)

.01 The AAC shall perform representative personal air sampling as defined within OSHA 1926.1101 and 1910.1001. Personal air samples shall be collected to establish a time weighted average (TWA) and a short-term excursion limit (STEL). Such air samples shall be collected within the breathing zone and used to:

a. initially determine the level of respiratory protection;
b. subsequently to assure that such protections remain adequate throughout the project.

.02 Sampling strategy and protocols shall be determined by a competent sampling professional according to NIOSH 7400 method. The AAC shall have a competent person collect personal air samples.

.03 Personal air sample results must be posted within 24 hours of sample collection.

.04 AAC personnel shall comply with the personal air sampling of the competent person and shall not interfere with or alter sampling protocol.

11.00 SCAFFOLDING/WALKWAYS/HOISTS/LADDERS

.01 The AAC shall use appropriate ladders, scaffolds, lifts, and/or hoists to provide safe access for equipment demolition and removal of ACM. Personnel safety lines and harnesses are required where appropriate.

a. Fall protection equipment and guidelines shall comply with OSHA Regulation Standards *29 CFR 1926.501*.

.02 All scaffolding shall be of sound condition and assembled per OSHA requirements on a level, secure base. Scaffolding shall not be overloaded. The scaffolding shall be secured or tied into the building whenever possible. Guardrails consisting of top and mid-rails and toe boards shall always be installed. A post set-up inspection and daily inspections shall be conducted. Scaffold work platforms shall comply with OSHA Regulation Standards *29 CFR 1926.451*.

.03 All stairs, platforms, catwalks and walking surfaces shall be kept, as is practical, free from obstructions, accumulation of water, and tripping hazards, and where elevated, be protected by OSHA specified top-rails, mid-rails, and toe boards.

.04 Ladders of sufficient quantity and of suitable length or height shall be provided. Only electrically non-conductive materials, such as wood or fiberglass, shall be used. Ladders shall be kept in good repair and inspected regularly. Personnel shall be instructed in the proper use of ladders. No structural alterations shall be made to any ladder.

.05 All ladders, scaffolds, lifts, and/or hoists shall arrive at the project site in good condition and free of any visual residual asbestos contamination.

12.00 - CONFINED SPACES

.01 A confined space is defined as any space that has limited or restricted means of entry or exit, is large enough for a person to enter to perform tasks, and is not designed or configured for continuous occupancy. The crawlspaces below the first floor are classified as permit-required confined spaces.

.02 The Occupational Safety and Health Administration (OSHA) defines a **permit-required confined space** as having the three characteristics listed above (which define a confined space) and one or more of the following:

a. Contains or has the potential to contain a hazardous atmosphere.
b. Contains a material that has the potential for engulfing the entrant.
c. Has an internal configuration that might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section.
d. Contains any other recognized serious safety or health hazards.

.03 All work performed in a confined space shall conform to OSHA Construction Industry Standards (29 CFR 1926). The AAC shall notify all employees of the locations and hazards of all confined spaces. Employees shall be instructed how to limit their risk when working in such spaces and in rescue procedures. As needed, an assistant shall remain stationed at the point of entry and maintain a line of visual and/or audible communication with the worker.

.04 Workers in a confined space shall be provided respiratory equipment that provides adequate protection against the potential hazards and is suitable for the activity in that space. As needed, harness belts and lifelines shall also be provided.

12.00 RESPIRATORY AND PERSONAL PROTECTIVE EQUIPMENT

.01 The AAC shall provide approved respirators and protective clothing to all workers. Authorized representatives of the Owner, State or other Government entity who arrive to inspect the work site shall be permitted access to the work area provided the visitor arrives with their own approved respirator. Protective clothing shall be provided to these visitors by the AAC.

a. The AAC shall provide approved respirators to all visitors that can provide proof that a Pulmonary Function Test, Medical exam and chest x-ray has been performed on the visitor, and that a doctor has performed a pulmonary evaluation of the visitor indicating that the visitor has been deemed able to safely wear a respirator.

.02 The AAC shall require that each person entering the work area shall wear an approved respirator and protective clothing. There shall be no exceptions to this rule.

.03 Respiratory protection shall be in compliance with:

a. OSHA regulations 29 CFR 1910.1001, 1926.1101, and 1910.134;
b. ANSI Z88.2-1980;
c. NIOSH 30 CFR Part 11 for type B and C respiratory protection;
d. NIOSH and DHHS 42 CFR Part 84 for non-powered, air-purifying particulate-filter respirators.

.04 At a minimum, the respiratory protection at the start of the project shall be Type B (PAPR). After the initial exposure assessment establishes the expected airborne asbestos concentrations during removal, the respiratory protection shall be:

a. .01-1.0 f/cc - Dual Cartridge, Air Purifying respirator, Type A.
b. 1.0-2.5 f/cc - Powered Air Purifying Respirators - Type B (PAPR).
c. >2.5 f/cc- - Supplied Air with Constant Flow - Type C.

.05 All persons performing asbestos abatement work requiring respiratory protection (including Type B) shall be clean shaven and have an unobstructed face mask seal. Only mustaches that do not exceed the corners of the upper lip and sideburns that do not extend below the earlobes are permitted.

.06 For containments with an attached three (3) stage decontamination unit, asbestos workers shall wear a single disposable suit including hood and footwear. Before exiting the work area, the workers shall remove their respirator filters and disposable suit in the shower after appropriate wetting. These shall be disposed of as asbestos waste.

.07 For containments utilizing a remote decontamination unit, asbestos workers shall wear two (2) disposable Tyvec-type suits. Before exiting the work area, the worker shall remove both suits and change into a clean disposable suit in the one-stage chamber. The worker shall immediately proceed to the remote centralized, decontamination chamber, equipped with a shower and clean room. Dispose of clean suit and respirator cartridges in the centralized decontamination chamber.

a. The use of a remote decontamination FOR MAJOR PROJECTS requires the submission of an Alternative Method Request to the City of Philadelphia's Air Management Services, Asbestos Division, and receipt of approval by that office.

14.00 DECONTAMINATION FACILITIES

.01 For Major Projects, the AAC shall construct and place a three-stage decontamination unit at the entrance to the work area. For Minor Projects, a one-stage decontamination unit shall be constructed and placed at the entrance to the work area, with a two-stage centralized decontamination unit/shower constructed prior to work in any abatement work areas. Decontamination units shall have a sturdy frame comprised of studs or equivalent.

.02 Decontamination units are not required for Non-Friable Projects.

.03 Decontamination units shall be constructed as described below:

a. Three-stage unit (clean room, shower room, equipment room):

1. Interior of the chamber shall be covered with two layers of six (6) mil polyethylene with triple flap airlocks installed between each chamber;
2. Shall have a sturdy frame comprised of studs and ⅜ "plywood.
3. Entrance shall be equipped with a secure, lockable plywood door with louver system;
4. Shall have danger signs posted at the entrance;
5. Shall be provided with hot and cold water for use in the shower room;
6. Shower water shall be added to waste materials or pumped through a five (5) micron filter element prior to discharging it to the sanitary sewer or floor drains.

b. One-stage unit:

1. Interior of the chamber shall be covered with two layers of six (6) mil polyethylene and triple flap airlocks shall be placed at entrance and exit;
2. Shall have a sturdy frame comprised of studs or an approved equivalent.
3. Shall have danger signs posted at the entrance;
4. Asbestos workers shall wear two (2) disposable Tyvek-type suits. Before exiting the work area, the worker shall remove the outer suit in the single-stage decontamination chamber. The worker shall immediately proceed to the remote centralized, decontamination chamber, equipped with a shower and clean room. The inner disposable suit and respirator shall be removed after appropriate wetting. Dispose of the inner suit and respirator cartridges in the centralized decontamination chamber. Workers shall shower with liquid bath soap and shampoo. Clean, dry towels shall be available for drying;
5. Hot and cold water shall be available for use in the shower room;
6. Shower water shall be added to waste materials or pumped through a five (5) micron filter element prior to discharging it to the sanitary sewer or floor drains.

c. The AAC shall provide one decontamination chamber for every eight (8) workers.

.04 The use of a remote decontamination unit for MAJOR PROJECTS requires the submission of an Alternative Method Request to the City of Philadelphia's Air Management Services, Asbestos Division, and receipt of approval by that office.

.05 Asbestos abatement shall not commence until the AAC can demonstrate to the API that the shower unit is fully operational.

15.00 GENERAL PREPARATION FOR ALL ASBESTOS ABATEMENT ACTIVITIES

.01 The AAC shall confine their apparatus, the storage of materials, tools, supplies and the activities of their workman to the limits established by the Owner and local ordinances.

.02 The AAC shall assure that building exits are not obstructed and that appropriate safety barriers are established to prevent access by unauthorized persons. The works areas are to be kept neat, clean and safe.

.03 The AAC shall post OSHA specified, asbestos specific danger signs at the entrance to each work area. Such signs shall also be posted when applicable to decontamination chambers, bagout chambers, critical and separation barriers, and waste storage containers.

.04 Provide isolation barriers to separate the abatement work areas from the remaining occupied areas of each floor.

.05 All necessary building occupants remaining in the building during the asbestos abatement project shall be denied access to the asbestos abatement work area(s) by isolation barriers and/or locked doors.

.06 All moveable objects shall be removed from the work area. Movable objects shall be wet wiped & HEPA vacuumed prior to their relocation to a clean area.

.07 AFDs and HEPA vacuums require different maintenance schedules and attention depending on the model. Check the user's manual to determine and comply with the maintenance, filer replacement, and cleaning requirements of each AFD and HEPA vacuum being used.

- **a.** At no time shall an AFD be dismantled and the inner HEPA filter replaced while onsite. Removal and replacement of HEPA filters shall be performed offsite.
- **b.** At no time shall a HEPA vacuum be opened for cleaning/emptying outside an active asbestos abatement work area.
- **c.** Cleaning/emptying a HEPA vacuum shall be performed INSIDE an active asbestos abatement work area with a minimum negative pressure differential of -0.02 inches of water column.
  - **1.** Cleaning/emptying of HEPA vacuums shall be performed directly beside an operating AFD exhausting to the exterior.
  - **2.** HEPA vacuums shall be cleaned/emptied only during gross removal of asbestos and/or equipment demolition. No HEPA vacuums shall be cleaned/emptied, or opened for any other reason, during final cleaning and/or encapsulation.

.08 AFDs and all other supplies and equipment shall arrive at the project site in good condition and free of any visual residual asbestos contamination.

.09 Assure HVAC systems associated with, or that pass through any abatement work areas are shut down. Provide appropriate lock and tag out devices at the shut off point of the fan.

.10 De-energize the work areas and all conduit running through the work areas.

a. Appropriate lock and tag out devices shall be installed at the breakers.
b. The AAC shall provide a temporary electric panel with ground fault interruption.
c. The AAC shall supply sufficient temporary lighting to illuminate the work areas during asbestos abatement and paint stabilization. All active work areas shall be lighted to not less than the minimum illumination intensities listed in OSHA Regulation 29 CFR 1926.56(a), Table D-3 for Indoors: warehouses, corridors, hallways, and exit ways (e.g. - 5-foot candles).

.11 Only approved noncombustible or flame-resistant materials shall be used for work area preparation. Polyethylene sheeting shall be certified to conform to NFPA 701.

.12 The dropping, lowering, transporting or otherwise moving any open or packaged waste through any shaft during this project is strictly prohibited. When the asbestos abatement work area IS a shaft, asbestos waste must be packaged and lowered in a controlled fashion to the base of the shaft. No dropping of waste in any shaft shall be permitted at any time.

16.00 PREPARATION & ABATEMENT – MAJOR/MINOR PROJECT WORK AREAS

.01 This section is intended to specify the acceptable methods for the removal of all friable and non-friable asbestos containing material listed in **Section 9-Scope of Work** of the Asbestos Inspection Report utilizing full containment protocols.

.02 The AAC shall assure that exits from the building are not obstructed. The work areas are to be kept neat, clean, and safe.

.03 Only approved noncombustible or flame-resistant materials shall be used in the construction of temporary enclosures. Polyethylene sheeting shall be certified to conform to NFPA 701.

.04 Post OSHA specified, asbestos specific danger signs at the entrance to the work area. Such signs shall also be posted when applicable to decontamination chambers, bag-out chambers, critical and separation barriers, and waste storage containers.

.05 All building occupants shall be removed from the work area floors during the performance of the removal project, unless access to the work area is restricted by an isolation barrier or lockable doors.

a. If required, wooden isolation barriers shall be erected to completely isolate the work area from any occupied areas of the building.

1. Isolation barriers shall be eight (8) feet high and shall be constructed of minimum ⅜" fire-rated plywood supported by 2'x3' stud framing, or equivalent, placed on sixteen-inch (16") centerlines. Appropriate footings and bracings shall be installed to provide proper support.

.06 The AAC shall confine their equipment, storage of materials, tools, supplies, and activities of their workers to the limits established by the Owner and local ordinances.

.07 Assure any HVAC systems associated with or which course through the work area are sealed, shut down, and locked out.

.08 Approved high quality HEPA equipped air filtration devices (AFDs) shall be placed so as to develop and hold a negative differential air pressure. Each AFD shall be equipped with a magnehelic gauge or manometer to measure pressure drop across the filters, indicating overload and a need to change filters. An automatic shutdown system shall be provided in the event of improper filter fit, a rupture in the HEPA filter, or a blocked air discharge.

a. The negative differential air pressure shall be sufficient to provide a minimum of four (4) air changes of the work area per hour. The AAC shall install a manometer to confirm this differential, which should read minimum of -0.02 inches of water column.

b. Negative differential air pressure shall be continuously maintained 24 hours a day, from the time the isolation barrier is first established until final clearance air sampling is completed, and the Contractor is released by the API.

c. The AFD exhaust shall be vented outside of the building, where feasible.

.09 For Major Project work areas, construct a three-stage decontamination unit at the work area entrance. For Minor Project work areas, construct and attach a one-stage decontamination unit at the work area entrance. A remote two-stage decontamination unit shall also be constructed at an appropriate location. Exact decontamination unit placements shall be at the discretion of the AAC with approval from the on-site API.

.10 Pre-clean the floor and horizontal surfaces via wet wipe and HEPA vacuum techniques.

a. All fixed objects, including but not limited to, unit-vents, radiators, motors, AHUs, ductwork, etc. shall be wet wiped and sealed with one (1) layer of six (6) mil polyethylene.

.11 Install critical barriers consisting of two (2) separate identifiable layers of six-mil polyethylene over all windows, doors, openings between walls and ceilings, and any other critical openings inside the work area such that the work area is isolated from the rest of the building.

a. Ensure all electrical panels, control panels, and control boxes are protected with watertight critical barriers consisting of two (2) separate identifiable layers of six-mil polyethylene.
b. Areas where critical barriers are to be installed shall first be pre-cleaned via wet wipe and HEPA vacuum techniques.

.12 Critical 'containment' barriers shall be erected to cover openings greater than six feet in width, consisting of two (2) separate identifiable layers of six-mil polyethylene. Studs or equivalent shall support these barrier(s). Note: these are considered critical barriers, and application of two additional layers of wall coverings shall be required.

.13 All floor and wall surfaces (including polyethylene critical 'containment' barriers) shall then be covered with two (2) layers of six-mil polyethylene sheeting. Sheeting shall be installed in such a manner as to cause minimal damage to underlying surfaces. The AAC shall ensure proper adhesion of the sheeting to problem areas, such as walls with peeling paint.

a. Wall coverings shall extend from ceiling level to floor level and overlap the floor sheeting. Floor coverings shall extend twelve inches (12") up behind the wall coverings. All seams shall be staggered as to overlap a minimum of twelve inches and be sealed with duct tape.
b. Note that floor coverings shall be omitted in areas where vinyl asbestos floor tile is scheduled for removal.

.14 The AAC shall de-energize the work area and all conduit running through the work area, if possible.

a. Appropriate lock and tag out devices shall be installed at the circuit breakers.
b. All conduit that cannot be de-energized shall be wrapped with a minimum of one (1) layer of six (6) mil polyethylene sheeting.
1. Suspend OSHA approved, electrical - voltage and shock hazard warning tags from the energized conduit traveling through the work area every six feet. The warning tags shall remain in place for the duration of the abatement project.

c. The AAC shall provide a temporary electrical panel board with ground fault interruption. All electrical power shall be brought into the work area via ground fault interrupters (GFIs).

d. The AAC shall supply sufficient temporary lighting to illuminate the work areas during abatement. Refer to *Section 15.10.c.*

.15 Erect ladders, scaffolding, and/or raised work platforms to access elevated areas of pipe/pipe fitting insulation.

a. Ladders, scaffolding and/or raised work platforms shall be of sound condition and assembled per OSHA requirements on a level, secure base.

b. Ladders, scaffolding and/or raised work platforms shall not be overloaded.

c. Scaffold work platforms shall comply with OSHA Regulation 29 CFR 1926.451.

.16 In locations where vinyl floor tile is scheduled for removal and floor coverings have been omitted, install temporary floor coverings consisting of one (1) layer of six (6) mil polyethylene beneath the pipe/pipe fitting to be removed extending at least five (5) feet in all directions.

.17 Upon completion of the work area preparation, and approval by the on-site API, install containment bags (glove bags) around all pipe/pipe fitting insulation in accordance with the ACR Section VI.C.3.e.2-5. The containment bag, once attached, shall be smoke tested using a smoke tube and aspirator bulb. The containment bags shall be utilized in order to further contain any airborne asbestos fibers released during the removal tasks and simplify the subsequent final cleaning tasks.

.18 Removal of pipe/pipe fitting insulation shall be initiated only after the material has been treated with a solution of water and wetting agent. At the start of each work day, the pipe/pipe fitting insulation to be removed shall be wetted. This wetting shall be repeated at such intervals as to prevent the material from drying out.

.19 Perform removal of pipe/pipe fitting insulation using the containment-bag technique. Containment bag removal practices shall conform to the ACR Section VI.C.3.e.7-20.

.20 The API shall conduct a visual inspection prior to encapsulation. The on-site API shall approve the area when no visible dust is evident.

.21 Prior to removing the glove-bag, any residue shall be removed using a stiff nylon brush or a scraper. The pipe surfaces shall then be wet wiped to remove any visible debris. The API shall conduct a visual inspection and shall approve encapsulation to be performed when no visible ACM dust or debris is evident on any surfaces.

.22 Upon approval by the API, encapsulate the pipe surface prior to removing the containment bag. The API shall inspect the sealant/encapsulant to confirm adequate and proper application and approve subsequent removal of the glove bags. When acceptable, the API shall approve the removal of the glove-bag.

a. A HEPA vacuum shall be used when evacuating and breaking the seal of the glove-bag.

.23 Removal of asbestos shall be initiated only after the material has been treated with a solution of water and wetting agent. This wetting shall be repeated at such intervals as to prevent the asbestos from drying out. Removal shall be performed in a manner that minimizes the release of asbestos fibers.

a. Continually mist the air with water using an airless sprayer to keep airborne fiber levels to a minimum.

b. No standing water shall be tolerated inside of the work area. Standing water would have the potential of leaking to spaces below the work area. The AAC shall designate a worker to constantly monitor the work area and vacuum or mop up any standing water resulting from the pre-wetting or air misting procedures.

c. All wastewater generated in the decontamination chamber shower shall be retrieved and added to packaged asbestos waste materials or pumped through a five (5) micron filter element prior to discharging it to the sanitary sewer or floor drains.

d. All wastewater generated in the abatement work area shall be retrieved and added to packaged asbestos waste materials and/or placed in plastic lined leak-tight drums for disposal in accordance with VI.C.7 of the Asbestos Control Regulation.

e. All removed ACM must be placed in asbestos waste containers simultaneously with their removal. Removed ACMs shall not be permitted to accumulate in the work area, and shall be completely contained in proper asbestos waste containers, ready for disposal, before the end of each shift.

f. ACM removed at a height shall be bagged at that time or lowered to the ground in a controlled manner and then bagged. No dropping of ACM shall be permitted.

g. Remove all fiberglass insulation and any other porous material within the contained work areas.

.24 Perform removal of vinyl floor tile and associated cove base. Mechanical methods may be employed.

a. Remove all carpeting, binding strips, cove base, and other restrictive moldings holding flooring at locations such as doorways, walls, thresholds, etc.

b. Adequately wet flooring prior to removal.

c. Crews shall be structured such that flooring is packaged as it is removed. Removed flooring shall not be permitted to accumulate in the work area, and shall be completely contained in proper asbestos waste containers, without further breakage, ready for disposal, before the end of each shift.

.25 The removal of floor tile mastic is not addressed in this specification, and is not included in this contract's scope of work.

.26 Upon completion of removal, perform final cleaning of all surfaces in the work area. Assure that all surfaces to which asbestos insulation was applied are visibly free of insulation material. Work area surfaces shall then be HEPA vacuumed and/or wet wiped to remove any visible debris.

a. Wet remaining debris with a fine water mister or "Hudson" sprayer.

1. Pick up large pieces by hand and/or shovel and place into asbestos waste bags. Broom sweeping is not permitted at any time on any asbestos abatement project.

b. Any residues shall be removed using a stiff nylon brush or scraper.

c. **The following cleaning process shall be performed several times until a no visible emission, dust free environment is established:** Floors, walls, ceilings, materials, equipment, building supplies, critical and containment barriers shall be swept with the exhaust of electric leaf blowers to dislodge any remaining dust within the asbestos abatement work area. Allow for the HEPA equipped AFDs to provide several air changes within the work area prior to HEPA vacuuming and wet wiping.

.27 During the performance of final cleaning of all surfaces inside the active abatement work area, all horizontal surfaces "outside the work area" shall also be cleaned. This includes the dirty, shower and clean rooms of decontamination chambers attached to the asbestos abatement work area being tested and all immediate surroundings of representative makeup air entering each independent asbestos abatement work area being tested.

.28 Remove the top layer of polyethylene sheeting and dispose as asbestos waste.

.29 The AAC shall again, clean all surfaces in the work area, including polyethylene sheeting, via wet-wipe and HEPA-vacuum techniques.

.30 Upon completion of cleaning activities, the API shall conduct a detailed visual inspection prior to encapsulation and shall approve the area for encapsulation when no visible dust or debris is evident on any surfaces.

a. The AAC must deliver the encapsulant in the manufacturer's original sealed and labeled containers and store encapsulant in compliance with manufacturer's printed instructions. A copy of manufacturer's printed instructions shall be available on site at all times.

b. The AAC shall encapsulate the work area with an encapsulant whose manufacturer's instructions indicate that the encapsulant is approved for use on the intended surfaces following asbestos abatement tasks.

c. Encapsulation shall not be performed with any packaged ACM or objectionable equipment remaining in the work area.

.31 Upon approval by the on-site API, encapsulate all surfaces in the work area and the polyethylene sheeting used in work area preparation. The sealant/encapsulant shall be tinted to provide a visual confirmation of uniformity and completeness of application.

.32 The API shall inspect the sealant/encapsulant to confirm adequate and proper application. After the encapsulant has dried, the AAC shall remove the last layer of polyethylene floor and wall sheeting, leaving only the Critical and Containment Barriers.

.33 The API shall conduct a detailed final inspection to ensure that no visible dust or debris remains on any surfaces. If any suspect or objectionable material is evident, the AAC shall clean the material and sufficient surrounding areas to the satisfaction of the API, via wet-wipe and HEPA-vacuum techniques.

a. During final inspection; floors, walls, ceilings, critical and containment barriers shall be swept with the exhaust of electric leaf blowers. If visible emissions produced from the leaf blowing activity are generated, the AAC shall be directed to continue the cleaning process. This sequence shall be continued until the APIs are satisfied with the outcome of the final visual inspection and can definitively document that the work area is sufficiently clean.

.34 Upon completion of removal, cleaning, encapsulation, and an acceptable visual inspection, final clearance samples shall be collected and analyzed. Refer to *Section 9.00 - Air Monitoring by the Owner*.

.35 If any of the results of clearance samples are unacceptable according to the Philadelphia ACR and AHERA, the AAC shall re-clean the work area via wet-wipe and HEPA-vacuum techniques. Following an acceptable inspection, the API shall re-test the area. This sequence shall be repeated until receipt of acceptable air sample results according to the Philadelphia ACR.

.36 Upon receipt of acceptable final visual inspections and acceptable air sample clearance results according to the Philadelphia ACR and AHERA, the AAC shall carefully dismantle critical barriers, plastic sheeting, tape and other materials used in the work area construction. These materials shall be disposed of in sealable plastic bags as asbestos contaminated waste. Refer to *Section 20.00 - ACM Waste Disposal*.

17.00 PREPARATION & ABATEMENT - PIPE/PIPE FITTING INSULATION - GLOVE-BAG METHOD

.01 This section is intended to specify the acceptable friable methods for the removal of pipe/pipe fitting insulation listed in **Section 9-Scope of Work** of the Asbestos Inspection Report utilizing containment bags (glove-bags).

a. All glove-bag procedures require a 2 man operation (one man removing material while the other man sprays the material with a garden sprayer), stapling across the top of the bag at one-inch intervals over the duct tape, smoke-testing the inside of the glove-bag by placing the smoke tube into the water sleeve and visually checking for leakage, evacuating the glove-bag with a HEPA vacuum, twisting of the pouch holding the tools used inside the glove-bag and cleaning the tools while submerged in a bucket of water, etc. (refer to ACR Section VI.C.3.a-e).

b. pipe/pipe fitting insulation present inside floor/ceiling pipe penetrations within any given work area shall be removed as part of this project.

c. Negative pressure shall be required in all tent containments and larger sized containments for all glove-bag projects.

.02 Approved high quality HEPA equipped air filtration devices (AFDs) shall be placed so as to develop and hold a negative differential air pressure. Each AFD shall be equipped with a magnehelic gauge or manometer to measure pressure drop across the filters, indicating overload and a need to change filters. An automatic shutdown system shall be provided in the event of improper filter fit, a rupture in the HEPA filter, or a blocked air discharge.

.03 For Major Project work areas, construct a three-stage decontamination unit at the work area entrance. For Minor Project work areas, construct and attach a one-stage decontamination unit at the work area entrance. A remote two-stage decontamination unit shall also be constructed at an appropriate location. Exact decontamination unit placements shall be at the discretion of the AAC with approval from the on-site API.

.04 Pre-clean the floor and horizontal surfaces via wet wipe and HEPA vacuum techniques.

a. All fixed objects shall be wet wiped and sealed with one (1) layer of six (6) mil polyethylene.

.05 Install critical barriers consisting of one (1) layer of six-mil polyethylene over all windows, doors, openings between walls and ceilings, and any other critical openings inside the work area such that the work area is isolated from the rest of the building.

a. Ensure all electrical panels, control panels, and control boxes are protected with watertight critical barriers consisting of one (1) layer of six-mil polyethylene.

b. Areas where critical barriers are to be installed shall first be pre-cleaned via wet wipe and HEPA vacuum techniques.

.06 Should the AAC chose to limit the size of each work area to the immediate spaces adjacent to the pipe/pipe fitting insulation to be removed, the AAC may construct a tent containment as specified below. If the AAC chooses not to utilize tent containments to limit the size of the work areas, the entire room/area containing the pipe/pipe fitting insulation to be removed must be considered part of the work area, and is subject to pre-cleaning, polyethylene protective sheeting for all non-movable items, decontamination, and final clearance testing as specified in other paragraphs in this Section.

a. Erect wall coverings, completely enclosing and isolating the pipe/pipe fitting insulation removal locations using one (1) layer of six (6) mil polyethylene sheeting.

b. Tape one (1) layer of six (6) mil polyethylene sheeting to the floors, extending at least five (5) feet from the pipe/pipe fitting insulation to be removed.

c. All fixed, unmovable objects to be enclosed in the tent containment shall be pre-cleaned and sealed with one (1) layer of six (6) mil polyethylene sheeting.

d. Polyethylene sheeting shall be installed in such a manner as to cause minimal damage to underlying surfaces. The AAC shall ensure proper adhesion of the sheeting to problem areas, such as walls with peeling paint.

e. Approved high quality HEPA equipped air filtration devices (AFDs) shall be placed so as to develop and hold a negative differential air pressure.

1. The AFD exhaust shall be vented outside of the building.

.07 The AAC shall construct a one-stage or three stage decontamination chamber, as appropriate at the intended location at each work area and a remote two-stage decontamination chamber complete with a shower at a designated location when utilizing a one stage decontamination chamber. Refer to *Section 14.00 - Decontamination Facilities*. Exact placement shall be at the discretion of the AAC, with approval from the on-site API.

.08 Upon completion of the work area preparation, and approval by the on-site API, install containment bags (glove bags) around the pipe/pipe fitting insulation to be removed, in accordance with the ACR Section VI.C.3.e.2-5. The containment bag, once attached, shall be smoke tested using a smoke tube and aspirator bulb. The containment bags shall be utilized in order to further contain any airborne asbestos fibers released during the removal tasks and simplify the subsequent final cleaning tasks.

a. Pipe insulation covered with metal jacketing shall first require the removal of the metal jacket using appropriate tin snips.

b. The pipe insulation diameter worked shall not exceed one-half of the bag working length above the attached gloves.

c. These bags are for single use and shall not be repositioned.

d. Polyethylene sheeting shall be applied to the work area floors beneath the pipe/pipe fitting insulation to be removed, extending a minimum of five (5) feet in all directions or to the full extent of the floor space included in the tent containment, whichever is larger.

.09 Removal of pipe/pipe fitting insulation shall be initiated only after the material has been treated with a solution of water and wetting agent.

a. At the start of each work day, the material to be removed shall be wetted. This wetting shall be repeated at such intervals as to prevent the insulation from drying out.

1. Continually mist the air with water using an airless sprayer to keep airborne fiber levels to a minimum.

2. No standing water shall be tolerated inside of the work area. Standing water would have the potential of leaking to spaces below the work area. The AAC shall designate a worker to constantly monitor the work area and vacuum or mop up any standing water resulting from the pre-wetting or air misting procedures.

3. All wastewater generated in the decontamination chamber shower shall be retrieved and added to packaged asbestos waste materials or pumped through a five (5) micron filter element prior to discharging it to the sanitary sewer or floor drains.

4. All wastewater generated in the abatement work area shall be retrieved and added to packaged asbestos waste materials and/or placed in plastic lined leak-tight drums for disposal in accordance with VI.C.7 of the Asbestos Control Regulation.

b. All removed ACM must be placed in asbestos waste containers simultaneously with their removal. Removed ACMs shall not be permitted to accumulate in the work area, and shall be completely contained in proper asbestos waste containers, ready for disposal, before the end of each shift.

c. ACM removed at a height shall be bagged at that time or lowered to the ground in a controlled manner and then bagged. No dropping of ACM shall be permitted.

.10 Perform removal of the pipe/pipe fitting insulation using the containment-bag technique. Containment bag removal practices shall conform to the ACR Section VI.C.3.e.7-20.

.11 Prior to removing the glove bag, any residue shall be removed using a stiff nylon brush or a scraper. The pipe surfaces shall then be wet wiped to remove any visible debris. The API shall conduct a visual inspection and approve encapsulation when no visible dust or debris is evident on pipe surfaces.

.12 Upon approval by the API, encapsulate the pipe surfaces prior to removing the containment bag. The API shall inspect the sealant/encapsulant to confirm adequate and proper application and approve subsequent removal of the glove bag(s). When acceptable, the API shall approve the removal of the glove-bag.

a. A HEPA vacuum shall be used to collapse the glove-bag prior to removal.

.13 The AAC shall clean all surfaces in the work area using wet-wipe and HEPA-vacuum techniques.

.14 Upon completion of cleaning activities, the API shall inspect the sealant/encapsulant to confirm adequate and proper application.

.15 The API shall conduct a detailed final inspection to ensure that no visible dust or debris remains on any surfaces. If any suspect or objectionable material is evident, the AAC shall clean the material and sufficient surrounding areas to the satisfaction of the API, via wet-wipe and HEPA-vacuum techniques. **During final inspection; floors, walls and ceilings shall be swept with the exhaust of electric leaf blowers. If visible emissions produced from the leaf blowing activity are generated, the AAC shall be directed to continue the cleaning process. This sequence shall be continued until the APIs are satisfied with the outcome of the final visual inspection and can definitively document that the work area is sufficiently clean.**

.16 Upon completion of removal, cleaning, encapsulation, and an acceptable visual inspection, final clearance samples shall be collected and analyzed. Refer to *Section 9.00 - Air Monitoring by the Owner*.

.17 If <u>any</u> of the results of clearance samples are unacceptable according to the Philadelphia ACR and AHERA, the AAC shall re-clean the work area via wet-wipe and HEPA-vacuum techniques. Following an acceptable inspection, the API shall re-test the area. This sequence shall be repeated until receipt of acceptable air sample results according to the Philadelphia ACR and AHERA.

.18 Upon receipt of acceptable final visual inspections and acceptable air sample clearance results according to the Philadelphia ACR and AHERA, the AAC shall carefully dismantle critical barriers, plastic sheeting, tape and other materials used in the work area construction. These materials shall be disposed of in sealable plastic bags as asbestos contaminated waste.

.19 The AAC shall remove all glue and tape adhesive reside from all walls, floors and all other surfaces in which glue and tape were utilized in containment preparations. The API shall conduct a post teardown inspection to ensure this task has been completed.

.20 All materials used in the work area containment and all removed materials shall be carefully dismantled and disposed in sealable plastic bags as asbestos contaminated waste. Refer to *Section 20.00 - ACM Waste Disposal*.

18.00 PREPARATION & ABATEMENT – WIRE INSULATION – NON-FRIABLE PROJECTS

.01 This section is intended to specify the acceptable methods for non-friable removal of woven wire insulation as listed in **Section 9-Scope of Work** of the Asbestos Inspection Report.

a. Woven wire insulation is classified as a non-friable Category II material. Asbestos wire insulations always contain, in addition to the fabric, coatings or are impregnated by moisture and weather resistant substances - waxes, bituminous compounds, rubber or varnish. Therefore, woven wire insulation would not readily release asbestos fibers unless detrimentally impacted by sanding, grinding, sawing, or otherwise abrading the material.

b. **The removal of woven wire insulation shall be performed as non-regulated non-friable projects.** Only methods that remove the material intact are permitted. The use of any equipment that may sand, grind, saw, or abrade the material is prohibited.

c. The AAC shall wear respiratory and personal protective equipment throughout all phases of asbestos abatement. Refer to *Section 13.00 - Respiratory and Personal Protective Equipment.*

.02 The EC shall provide written notice to the AAC informing the AAC that electricity to the panel, junction box, transformer, etc. in which wrap removal is scheduled to be performed has been de-energized.

.03 All building occupants shall be removed from the work area floors during the performance of the removal project.

a. Install critical barriers consisting of one (1) layer of six-mil polyethylene to completely isolate the work area from occupied areas of the building.

b. Affix asbestos specific danger signs at the entrance to the work area.

c. The work areas are to be kept neat, clean, and safe.

.04 Install floor coverings consisting of one (1) layer of six-mil polyethylene beneath the wire wrap to be removed, extending at least five (5) feet in all directions.

.05 Remove the wire wrap insulation wrap using non-friable methods.

a. Unfasten the wires from the electrical panel and dispose of the wires along with the intact insulation as asbestos contaminated waste.

1. If necessary, wiring may be cut into manageable sections using wire-cutters, which shear through the outer cloth wrap and interior cable. The cloth wrap shall be sprayed with amended water at cut points before and during removal activities, to wet the material and enhance dust control.

.06 After removal of the woven wire insulation, carefully roll up the polyethylene floor sheeting and place into an appropriate asbestos waste container.

.07 Clean all residue from surfaces using HEPA-vacuum and wet-wipe techniques.

.08 Upon conclusion of removal and cleaning, a visual inspection shall be made by the API to ensure completeness of the removal.

.09 Following an acceptable final inspection, the API shall perform clearance air sampling. Refer to *Section 9.00 - Air Monitoring by the Owner*.

.10 If the results of clearance samples are unacceptable according to ACR and AHERA requirements, the AAC shall re-clean the work area. Following an acceptable inspection, the API shall again perform clearance sampling. This sequence shall be repeated until receipt of acceptable air sample results.

.11 Upon receipt of acceptable final visual inspections and acceptable air sample clearance results according to the Philadelphia ACR and AHERA, carefully dismantle all materials used in the work area containment. These materials shall be disposed of in sealable plastic bags as asbestos contaminated waste as per *Section 20.00 – ACM Waste Disposal.*

.12 In the event that the AAC exposes suspect asbestos-containing packing between woven wire insulation and outer electrical sheathing:

- **a.** Work by the electrician shall be immediately halted so as to not disturb the material;
- **b.** The School District of Philadelphia's Office of Environmental Management Services (SDP OEMS) shall be immediately contacted and advised of the situation;
- **c.** A notification revision shall be submitted to the EPA, DEP, and Philadelphia Air Management Services;
- **d.** The removal and disposal of friable packing between the woven wire insulation and outer sheathing shall be performed by an Asbestos Abatement Contractor (AAC) according to the Philadelphia Asbestos Control Regulation (ACR), 40 CFR Part 61 (NESHAP) and 40 CFR Part 763 (AHERA).
- **e.** The API shall perform asbestos project inspection as defined by the Asbestos Control Regulation (ACR) including all project oversight, air sampling and regulatory compliance assurance required by the Philadelphia ACR and AHERA.

19.00 – REMOVAL OF ASSUMED ASBESTOS CONTAINING FIRE DOORS – NON-FRIABLE PROJECTS

.01 This section is intended to specify the acceptable methods for the removal of the assumed asbestos packed fire doors as listed in **Section 9-Scope of Work** of the Asbestos Inspection Report. Fire doors scheduled to be discarded will require interior core investigations by the onsite Asbestos Project Inspector prior to the performance of unhinging and disposal of the doors.

a. Internal asbestos containing door packing is a friable material but is at the same time is enclosed in the wood or metal door casing. This allows for the removal of the doors to be treated in a non-friable method.

.02 If fire doors scheduled to be removed are confirmed asbestos-containing, the AAC shall perform the door removal and disposal. If any door casings become damaged and/or packing becomes exposed, pre-wet the packing with amended water and cover the exposed area with polyethylene sheeting, sealed with tape.

.03 Wrap each fire door with two (2) independent layers of six (6) mil polyethylene sheeting, sealed with tape.

.04 Dispose of each wrapped fire door in an asbestos waste dumpster. Refer to *Section 20.00 - ACM Waste Disposal*.

.05 Dropping of these doors out of windows, down stairwells or during carryout shall be **strictly prohibited.**

.06 Upon completion of removal, cleaning, and an acceptable visual inspection, final clearance samples shall be collected and analyzed. Refer to *Section 9.00 - Air Monitoring by the Owner*.

.07 Upon acceptable final visual inspections and clearance air sample results, all materials used in the work area containment shall be carefully dismantled and disposed in sealable plastic bags as asbestos contaminated waste. Refer to *Section 20.00 - ACM Waste Disposal*.

20.00 ACM WASTE DISPOSAL

.01 **The dropping, lowering, transporting or otherwise moving any open or packaged waste through any shaft during this project is strictly prohibited!** When the asbestos abatement work area IS a shaft, asbestos waste must be packaged and lowered in a controlled fashion to the base of the shaft. No dropping of waste in any shaft shall be permitted at any time.

.02 Approval must be obtained from the API prior for temporary storage of any asbestos waste containers or construction debris on site, prior to being loaded into appropriate dumpsters. The waste shall be appropriately packaged according to the type of waste. A polyethylene drop cloth and covering shall be provided and the storage areas restricted by barrier tape and appropriate signage. Asbestos waste containers must be distinctly stored separately from other waste. No long-term storage may occur in these areas.

.03 The loading, transportation, and disposal of asbestos waste at the landfill shall occur in accordance with regulatory requirements of NESHAPS and applicable state and local guidelines and regulations.

.04 Waste disposal containers shall conform to one of the following. Waste with sharp edges shall not be disposed of solely in polyethylene bags. **All six-mil polyethylene bags shall be transparent so that when filled, the contents of the bag are readily visible.**

a. Two (2) six-mil polyethylene bags, one placed inside the other, separately sealed. The bags shall be carefully closed to minimize dead air space and taped shut.

1. Six-mil polyethylene disposal bags containing asbestos and asbestos contaminated materials shall be placed into a second six-mil polyethylene bag inside an approved bag-out chamber or decontamination chamber while being removed from the work area. **The second bag shall not be applied inside the work area.**

b. Material first shall be placed into burlap bags or equivalent to prevent edges/corners from tearing or penetrating polyethylene waste bags. The encased material may then be placed in two (2) six mil polyethylene bags, as per *Subsection a* above.

c. One (1) six mil polyethylene sealed bag inside an air and water tight drum.

.05 The AAC shall label asbestos waste with the name of the generator and the location from which the waste was generated.

.06 The container used for transporting and disposing of ACM waste shall be clearly and properly labeled as specified in EPA and DOT regulations. In addition to generator labels, containers must carry the following labels:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

-and-

DOT labels requirement: (Easily readable in sharp relief)

CAUTION
Contains Asbestos Fibers
Avoid Opening or Breaking Container
Breathing Asbestos is Hazardous
to your Health
RQ ASBESTOS
9,NA2212,PG III
(ASBESTOS)

.07 During waste load out, post asbestos specific danger signs along the waste disposal route, and on and around the vehicle or dumpster being used to transport the waste off site.

a. Polyethylene drop cloths shall be utilized along routes in which bagged ACM waste is passed through the building. Proposed waste removal route shall be presented to the API and Asbestos Project Manager/Designer for approval prior to performing delivery of asbestos waste material to the intended waste container. The API must document the proposed route and the APIs subsequent approval in an activity log.

.08 Waste routes must be approved by the Owner and on-site API prior to the commencement of work. All waste being transported through the building must be placed in covered/enclosed containers bearing proper warning signs. The waste route must be kept clean.

a. The rolling of waste drums or the dropping of waste bags down stairs is strictly prohibited!

b. After transport of waste through the building is completed, the AAC shall wet mop the waste removal route to assure continued cleanliness and removal of any debris associated with the waste transport tasks.

.09 All documentation of transportation and disposal transactions such as dump receipts, trip tickets and waste manifests shall be completed and delivered to the Owner for their records.

.10 Should the Owner not receive a receipt of the waste shipment record within 35 days, the Owner shall contact the AAC to determine the status/disposition of the waste.

.11 Should the Owner not receive a receipt of the waste shipment record within 45 days, the Owner shall notify the EPA.

21.00 – LEAD BASED PAINT STABILIZATION

.01 Lead based paint (LBP) is assumed present on all painted surfaces throughout the building (i.e. walls, ceilings, pipework, ductwork, etc.). All renovation work, paint stabilization, and all other activities that impact painted surfaces shall be performed in accordance with the EPA Renovation, Repair, and Painting (RRP) rule under the Toxic Substances Control Act.

a. This includes all painted surfaces throughout the specified work areas.
b. Refer to the Architectural Floor Plans for approximate dimensions of work areas and surfaces/equipment to receive paint stabilization and repainting.

.02 Renovation work will involve scraping of loose and flaking paint from walls, ceilings and other surfaces, repairing of wall and ceiling plaster damage, and repainting. This section is intended to specify the acceptable methods for the stabilization of all painted surfaces throughout the building.

.03 All moveable objects shall be removed from the work area. Movable objects shall be wet wiped & HEPA vacuumed prior to their relocation to a clean area.

.04 Cover the floor surface surfaces with taped-down polyethylene sheeting ten (10) feet from the area of paint disturbance or a sufficient distance to contain the dust, whichever is greater. If a vertical containment system is constructed, the floor covering may stop at the vertical barrier, providing the barrier extends from floor to ceiling and is tightly sealed at floors, ceilings, and walls.

.05 Close all windows and doors in the work area.

.06 Construct an airlock at the entrance to the work area. The airlock consists of two sheets of polyethylene sheeting.

a. One sheet is completely taped along all four edges. The polyethylene sheeting is then cut down the middle.
b. The second sheet is only taped along the top and acts as a flap covering the slit in the first sheet of plastic.

.07 Install tack-pads at all paint stabilization work area entrances and exits that are adjacent to areas occupied by other trades and school occupants.

.08 De-energize all HVAC present in the work area or which pass through the work area. Close and cover all ducts openings in the work area with polyethylene sheeting.

.09 Unauthorized persons must be prevented from entering the active work area by posting warning signs and by establishing barriers around the work area.

a. post signs clearly defining the work area and warning occupants and other persons not involved in renovation activities to remain outside of the work area. These signs should be in the primary language of the occupants and should say “Warning – Lead Work Area” and “Poison, No Smoking or Eating.”
b. Utilize barrier tape in large areas and polyethylene sheeting on doorways.

.10 Supply sufficient temporary lighting to illuminate the work area during paint removal and encapsulation (repainting). All electrical power shall be brought into the work areas from a temporary electric panel with ground fault interruption.

a. Sufficient lighting means all active work areas shall be lighted to not less than the minimum illumination intensities listed in OSHA Regulation 29 CFR 1926.56(a), Table D-3 for Indoors: warehouses, corridors, hallways, and exit ways (e.g. - 5-foot candles).

.11 Workers shall wear protective clothing including Tyvek suits, gloves and (minimum) NIOSH-certified disposable respirators with a HEPA (High-Efficiency Particulate Air) filter (N-100, R-100, or P-100) during paint stabilization operations.

.12 Manually remove loose, flaking, peeling, and non-adhering paint only after misting with water. Remaining paint edges should be feathered.

a. All paint chips and dust shall be in packaged in polyethylene bags or water tight drums as removal occurs. No accumulations of removed paint shall be permitted to remain in the work area.

b. Before and during manual paint scraping, spray water on painted surfaces to keep dust from spreading (referred to as wet-scraping). Sanding, drilling and cutting into lead-based paint are prohibited.

.13 Removal of ceiling tiles littered with paint chips:

Lay plastic sheeting on the floor beneath the ceiling tiles to be removed extending at least ten (10) feet beyond the extents of removal. Carefully remove the ceiling tiles. While standing on the plastic sheeting, turn the ceiling tiles on their side and shake to allow settled plaster and paint chips to fall onto the sheeting below. Plastic sheeting may be moved and reused within a specific room. Once all ceiling tiles are removed and the paint chips emptied onto the sheeting, the sheeting shall be carefully rolled up for disposal.

.14 Surfaces shall be HEPA- vacuumed to remove residual paint and dust. Any remaining paint shall be sound and exhibiting good adherence.

.15 Utilize two buckets to fine clean the surfaces in which lead based paint was removed.

a. One bucket containing a trisodium phosphate (TSP) based cleaning solution and the other bucket for rinsing.

b. Change the rinse water frequently and replace rags, sponges, and mop heads often.

.16 Repaint all surfaces as per manufacturer’s recommendations.

a. Refer to the Architectural Specifications for new paint product requirements.

.17 Perform a final cleaning of all surfaces utilizing HEPA vacuum and wet wiping techniques.

.18 Mist the polyethylene sheeting floor coverings before folding it dirty side inward. Sheeting used to isolate contaminated rooms from non-contaminated rooms must remain in place until after the cleaning and removal of other sheeting.

.19 The work area should be left clean at the end of every day and must be cleaned thoroughly at the end of the job. The area must be completely free of dust and debris.

a. Ensure that all personnel, tools, and other items, including the exteriors of containers of waste, are free of dust and debris before leaving the work area.

b. All paint chips, dust and materials used in the construction of the containment shall be packaged in polyethylene bags or water tight drums prior to leaving the work area.

.20 Upon receipt of an acceptable final visual inspection, carefully dismantle materials used in the work area containment.

.21 Removed lead-based paint and materials used in containment shall be disposed of in accordance with the Hazardous and Universal Waste Disposal Regulations set forth by the Resource Conservation and Recovery Act (RCRA); 40 CFR 260-299.

22.00 RE-INSULATION OF PIPEWORK

.01 This project includes the installation of fiberglass pipe/pipe fitting insulation on all piping throughout the building.

a. Re-insulate pipes from where pipe/pipe fitting insulation was removed;
b. Insulate pipework that was un-insulated prior to the performance of this project.
1. Refer to the mechanical and plumbing drawings for locations of existing piping.

.02 Re-insulate piping with pre-molded fiberglass insulation with a factory applied all service jacket (ASJ SSL). Work shall be in accordance with the manufacturers' recommendations.

.03 Re-insulate all elbows, valves, and related joints with pre-molded PVC fitting covers with fiberglass inserts of equal thickness to the adjacent pipe insulation.

.04 Install PVC jacketing on all pipe sections below 6'-0" in height. The PVC jacketing shall be a thickness of 0.020", white gloss finish, and secured by PVC adhesive. The use of stainless-steel tacks to secure the pipe jacketing is prohibited.

.05 All piping shall be insulated to a thickness as listed below:

Pipe System	Diameter	Insulation Thickness
cold water	1" and below	½"
cold water	1¼" and above	1"
hot water	1" and below	½"
hot water	1¼" and above	1"
condensate or returns	1" and below	1"
condensate or returns	1¼" to 2"	1½"
condensate or returns	2¼" and above	2"
steam	1" and below	1"
steam	1¼" to 2"	1½"
steam	2¼" to 8"	2"
steam	8" and above	3½"

23.00 PROJECT CLOSEOUT

.01 After achieving acceptable air sample clearance and dismantling the work area, the AAC shall be released after the following items are completed:

- **a.** Removal of all temporary signs, labels, tape and glue/tape adhesive residue.
- **b.** Removal of all temporary devices, facilities, and equipment.
- **c.** Cleaning the project site and storage areas of trash, etc.
- **d.** Replacement/repair of any damage.
- **e.** Re-insulation of piping.
- **f.** SDP deems the repair work (if any) is acceptable for re-occupancy.
- **g.** Removal of all waste containers (asbestos, scrap, and construction debris) from site and proper disposal of waste.

.02 Upon completion of the project, the AAC shall submit final documentation to the Owner, including but not limited to, all waste handling/shipping documentation/manifests.

END OF SPECIFICATION