

The School District of Philadelphia Asbestos Abatement Program (FINAL)

The School District of Philadelphia (District) has developed an asbestos abatement program jointly with the Philadelphia Federation of Teachers Health (PFT) and Welfare Fund and Union and SEIU Local 32BJ (32BJ SEIU) to reduce the risk of asbestos exposure during abatement activities in schools. The program ensures that the District has and is compliant with all federal, state, and local regulations, as well as best management practices and District standards during all phases of asbestos abatement activities in schools. This program is in addition to the District's Asbestos Hazard Emergency Response Act (AHERA) surveillance program.

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1. **Roles, Responsibilities, and Authority** - The following Team members will be responsible for performing key roles in this Program. Roles in red are new positions which are vacant but funded.
 - a. AHERA Manager - Responsible for managing the AHERA Program for the School District of Philadelphia. Specific duties include the following:
 - i. Coordinating AHERA inspections and re-inspections and reviewing associated reports prepared by consultants/inspectors.
 - ii. Preparing school-specific asbestos management plans and notification letters and disseminating them to each school/facility.
 - iii. Coordinating asbestos training for District employees.
 - iv. Recommending and coordinating asbestos response actions.
 - v. Prepares six-month and three-year inspection reports for District facilities.
 - vi. Managing external consultants and reviewing their work deliverables.
 - vii. Managing record keeping associated with the AHERA Program.
 - viii. Providing notification to Principals and PFT regarding identified, AHERA-related issues.

- b. *Asbestos Abatement Contractor* - This is a Pennsylvania licensed asbestos abatement contractor that is responsible for complying with all contractual requirements as set forth by the District and in accordance with all applicable regulations, best management practices and District standards. Training required for these employees consist of Asbestos Worker training.
- c. *Asbestos Abatement Team (A-Team)* - This is a School District of Philadelphia internal team of Pennsylvania licensed asbestos abatement workers who perform operations and maintenance (O&M) and emergency response asbestos repair and abatement work in District schools. Training required for these employees consist of Asbestos Worker training.
- d. *A-Team Manager* - This is a School District of Philadelphia team lead for the operation and management of the A-Team. Specific duties include:
 - i. Maintaining effective communications between OEMS and A-Team Supervisor to ensure success of planning, execution, and close-out of assigned work orders.
 - ii. Scheduling and coordinating of assigned work orders.
 - iii. Provide notification to OEMS if emergency or routine requests cannot be fulfilled within the required time period.
 - iv. Assigning qualified abatement personnel to execute response actions.
 - v. Provide confirmation of completed work and/or unusual building conditions noted at response sites, as identified by A-Team personnel, via email to Director of OEMS.
- a. *A-Team Supervisor (NEW)* - Responsible for directing, managing, and coordinating the School District of Philadelphia Asbestos Abatement Team (A-Team). Specific duties include the following:
 - i. Inspecting buildings and equipment for repair and conferring with District stakeholders regarding repair, renovations, and asbestos work practices.
 - ii. Reviewing work orders associated with asbestos abatement work and inspecting abatement work to verify conformance with acceptable abatement standards and work practices.
 - iii. Scheduling with external consultants for asbestos project design and/or quality assurance work.
 - iv. Verifying asbestos laboratory accreditations and reviewing/analyzing asbestos bulk and air sampling data.
 - v. Tracking time/attendance of A-Team members.
- b. *Asbestos Project Inspector (API)* - Responsible for acting as the legal building owner representative on site or the API of record as per the Philadelphia Asbestos Control Regulations (ACR). The API is responsible for the following:
 - i. Enforcing the ACR during all abatement activities.

- ii. Monitoring asbestos abatement work, including pre-abatement inspections, in-process abatement inspections, and final abatement inspections.
- iii. Performing and documenting results of smoke testing efforts for containments and glovebags prior to abatement.
- iv. Communicating schedules, work deficiencies, and progress to the Environmental Response Manager.
- v. Conducting all air sampling.
- vi. Implementing work stoppage initiatives if abatement work practices and/or air samples indicated corrections are warranted.
- vii. Communicating with Environmental Response Manager to ensure proper coordinating of final clearance sampling.
- viii. Recording observations and activities onto daily field/project log sheets.
- ix. Executing and submitting final inspection and clearance results using the “Final Visual and Clearance Certification” form.

The API has the authority to stop abatement work at any time. The District encourages APIs to “see it and say it”. Training required for this role includes EPA Asbestos Project Monitor, Asbestos Supervisor, and a minimum of two years of asbestos abatement monitoring experience.

- c. *Asbestos Supervisor/Foreman* – Serves as the asbestos project supervisor for the A-Team. Responsibilities of the Asbestos Supervisor/Foreman include the following:
 - i. Reviewing and implementing abatement design specifications through the work of the A-Team and in coordination with the Environmental Compliance Manager and API of record.
 - ii. Takes direction from the API of record as needed to ensure compliance with all applicable regulations, best management practices, and regulatory standards.
 - iii. Performs administrative tasks as per the OEMS Operations Manager’s direction in terms of supervising abatement workers.
 - iv. Ensures that containment areas remain secured and locked.

Training required for this role consists of EPA Asbestos Supervisor.

- d. *Building Engineer* - Responsible for working the OEMS Operations Manager, Capital Construction Manager, and/or Asbestos Supervisor/Foreman to open school buildings off-hours, and to ensure that buildings are secured and locked at completion of each shift. The Building Engineer shall report any unusual conditions observed within a facility to the OEMS Operations Manager.
- e. *Building Occupants and Stakeholders* - Everyone who occupies a school building and every school community member who sees something that does not look safe in terms of facility conditions or abatement work should report their concerns or observations to one of the following: School Principal, BE, FAC, Environmental Department, any District official, 32BJ SEIU, the PFT, the Philadelphia Asbestos Control Unit, etc. The District’s

mandate is, “if you see it, say it”. Training and informational flyers will be developed and shared to encourage this mandate as the program moves forward. Asbestos awareness training should also be extended to other departments which may have projects within school buildings such as IT and Security. Occupant reports pertaining to asbestos concerns and/or related issues will be shared with the PFT.

- f. *Capital Construction Inspector* - Responsible for daily oversight of construction in schools to ensure compliance with all contractual requirements. Also, works directly with the OEMS Environmental Response Manager to coordinate with API of record to ensure that abatement is compliant with regulations, standards, and contractual requirements; ensures that all final clearance abatement monitoring activities are coordinated with the construction team; and attends bi-weekly construction project meetings (under the direction of the Capital Programs Construction Project Manager). The Capital Construction Inspector will evaluate work sites to ensure that required air quality and engineering controls for non-asbestos trades is implemented in compliance with construction specifications.
- g. *Capital Design Project Manager* - Responsible for ensuring that all Capital designs have been reviewed by the Environmental Department and that, when required, abatement design specifications and Asbestos Inspection Reports are generated and included in bid specifications. Responsible for submitting OEMS Asbestos Control Permit to the Operations Manager for review, processing, and approval prior to the commencement of any project which may impact building materials.
- h. *Capital Programs Construction Project Manager* – District employees who are in charge of projects, maintenance, repair, renovation/demolition, or any activity where asbestos-containing materials may be present. Responsibilities include the following:
 - i. Working jointly with the OEMS Operations Manager to oversee Capital construction projects that have asbestos abatement components performed by abatement contractors or A-Team employees.
 - ii. Coordinating and leading pre-abatement meetings to be held jointly with the school Principal, PFT, OEMS Operations Manager, Environmental Compliance Manager, General Contractor (if applicable), and Asbestos Abatement Contractor.
 - iii. Reviewing the AHERA Inspection Report and AIR/NESHAP Survey Report for specific buildings and locations therein that will be affected by the construction project prior to activities that may disturb any asbestos-containing materials.
 - iv. Ensures selected Asbestos Abatement Contractor and/or General Contractor provides timely submittal of asbestos abatement activities and disseminates approved schedules to the OEMS Operations Manager, PFT, and the school Principal.
 - v. Submitting internal District Asbestos Project Notification (template to be provided) to the OEMS Operations Manager to ensure that asbestos considerations for each project have been dually acknowledged and agreed upon.

- vi. Ensuring that requirements of the District Asbestos Abatement Program are followed by all personnel, trades, and contractors involved with a construction project.
 - vii. Ensures bi-weekly construction project meetings for each site are coordinated and completed.
 - viii. Ensuring that abatement work is performed in a logical sequence with construction activities and within a specified timeframe and cost.
- i. *Director of Environmental Services, Office of Environmental Management & Services (OEMS)* – The Director of OEMS is responsible for the following:
- i. Developing, administering, and periodically assessing this program and the staff and consultants who fulfill this program’s requirements.
 - ii. Preparing technical bids for asbestos abatement projects.
 - iii. Ensuring that the program continually complies with all current and newly emerging regulatory compliance requirements and adheres with best management practices and District standards, and interfaces with federal, state, and city regulators.
 - iv. Reviewing all notifications and permit applications for contractor/ District’s A-Team asbestos abatement work.
 - v. Completing all notifications to regulatory agencies for contractor/A-Team asbestos abatement work.
- j. *Environmental Compliance Manager (NEW)* - Responsible for implementing the specifications of the abatement design scope of work, to include the following:
- i. Reviewing and approving abatement design scopes of work.
 - ii. Coordinating all required air sampling.
 - iii. Coordinating site visits and final side-by-side air sampling with the PFT and assigned Capital Programs Construction Project Manager if the project is under the management of Capital Programs.
 - iv. Overseeing the onsite Asbestos Project Inspector work and ensuring assigned personnel are properly qualified for each project.
 - v. Ensuring consultant is represented at bi-weekly construction progress meetings.

Training for this role includes, at a minimum, EPA Asbestos Project Designer.

- k. *Environmental Response Manager (NEW)* – Responsible for performing field verification and quality control inspections in support of the asbestos program, including:
- i. Observing field operations during abatement to ensure compliance with approved work plans and project designs.
 - ii. Coordinating with and providing District support to APIs.
 - iii. Reporting any observed deficiencies of required Capital Programs protocols to the Capital Programs Construction Inspector.
 - iv. Communicating final clearance requirements and schedules with the Capital Programs Construction Inspector to ensure other trades performing activities that

may adversely impact air sampling are coordinated in a manner that prioritizes the asbestos abatement process.

- v. Attending progress meetings related to asbestos abatement activities.

1. *Environmental Services Clerk, School District of Philadelphia Capital Programs* – Responsibilities include the following:

- i. Preparing and submitting notifications of asbestos removal and abatement to the appropriate regulatory/governmental authorities.
- ii. Assisting with the coordination and scheduling of AHERA work and notifying the District personnel of scheduled AHERA inspections and asbestos abatement work.
- iii. Preparing and distributing operations and maintenance forms to the appropriate District offices.
- iv. Preparing work orders for the collection of asbestos bulk samples.

m. *Facility Area Coordinator* - Responsible for ensuring that Building Engineers have the support needed to comply with this program.

n. *Operations Manager, Office of Environmental Management & Services (OEMS)* - Responsible for overseeing the day-to-day operation of the asbestos abatement program and the consultants and staff who fulfill the program's requirements, and be the authoritative asbestos technical resource and primary asbestos decision maker. Training appropriate for the Operations Manager would include EPA Asbestos Inspector, Asbestos Management Planner, Asbestos Project Designer, and Asbestos Project Supervisor. In this role, Responsibilities of the EM include the following:

- i. Accounting for the locations, types, and conditions of asbestos-containing materials in District buildings.
- ii. Executing and managing the AHERA asbestos survey/inspections (conducted by external consultants).
- iii. Executing and managing the AIR survey/inspections (conducted by external consultants) to ensure NESHAP-compliance.
- iv. Executing and managing the development of asbestos abatement specifications for Capital Program projects (conducted by external consultants).
- v. Reviewing asbestos abatement plans and asbestos survey reports, and interpreting asbestos air sampling data.
- vi. Ensuring that asbestos-containing materials are properly managed, repaired, removed, and disposed of.
- vii. Responding to and providing support to asbestos emergency repair/abatement work.
- viii. Ensuring that abatement response actions are assigned, scheduled, and completed within the allotted time frame prescribed in the DDCs.
- ix. Reviewing, processing, and approving OEMS Asbestos Control Permits.

- x. Ensuring that District employees are trained in accordance with their roles and responsibilities.
 - xi. Coordinating asbestos-related activities (including training opportunities) with other District managers and staff including Capital Construction Managers, Inspectors, Design Project Manager, and Facilities staff.
 - xii. Monitoring the schedule and workload of the A-Team to ensure priority projects are completed as needed.
 - xiii. Ensuring that A-Team workers perform asbestos repair and removal projects in accordance with established work procedures.
 - xiv. Conducting periodic inspections of abatement work and correct deficiencies as they occur.
 - xv. Conducting or coordinating worker exposure monitoring as appropriate to verify that exposures associated with asbestos repair and removal work is within the OSHA Permissible Exposure Limit (PEL) and Excursion Limit.
 - xvi. Ensures that A-Team staff complete EPA Asbestos Worker Training and are qualified to perform asbestos repair/removal work.
 - xvii. Ensures that Asbestos Supervisor/Foreman has completed EPA Asbestos Supervisor Training and is qualified to conduct asbestos repair/removal work.
 - xviii. Ensures that A-Team staff are medically qualified to wear tight-fitting negative pressure respirators and complete annual respirator training and fit testing
- o. *Philadelphia Department of Public Health (PDPH), Asbestos Control Unit* – Regulates through Title 6, Health Code of the Philadelphia Code, Chapter 6-600, Asbestos Projects, the removal, enclosure, and encapsulation of asbestos. An inspector with the PDPH Asbestos Control Unit may visit a District abatement project at any time to perform a compliance inspection.
- p. *Philadelphia Federations of Teachers Health & Welfare Fund & Union (PFTH&WF/U) – Environmental* - Responsible for representing the PFT in all aspects of asbestos abatement activities within schools. Responsibilities of the PFT include the following:
- i. Reviewing asbestos surveys/inspection reports and related information.
 - ii. Reviewing abatement design specifications and corrective action work plans.
 - iii. Participating in asbestos-related work site inspections.
 - iv. Participating/conducting final air sampling.
 - v. Participating in asbestos training, and communicating with school staff and stakeholders about asbestos abatement in schools.
 - vi. Participating in review of asbestos-related portions of capital project designs as described within the Program
 - vii. Participate in planning and solution identification related to asbestos abatement activities.
- q. *Response Team* – Representative stakeholder team including 32BJ SEIU, PFTH&WF/U, and the School District of Philadelphia. This team would engage in collaborative

approaches to develop communications strategies and notifications (including multi-lingual needs) to ensure a common message is delivered to all stakeholders. In order to do effectively and consistently communicate with school staff and all public stakeholders, all relevant data, information, reports, etc, needs to be available to, and shared with, the “team” defined above, prior to the drafting of outreach materials so that a coordinated and consistent message can be delivered.

- r. *School District of Philadelphia Capital Employees* – Shall ensure that asbestos-containing materials will not be disturbed in the course of projects they are performing or managing. If it cannot be determined that the materials to be disturbed are non-asbestos containing, a work permit shall be issued to notify their supervisor and OEMS, and the work suspended until corrective action can be completed. Capital employees shall also notify OEMS of any potential fiber release episodes discovered in the course of their work or building walkthroughs.

Information, reports, data, and materials generated/in the possession of the Capital Program Office that relates to construction activities that are directly related to and/or indirectly impact upon, asbestos materials and project activities should be shared by OEMS with PFT Environmental as soon as they are available.

- s. *School District of Philadelphia Facilities and Custodial Employees* - Shall ensure that asbestos-containing materials will not be disturbed in the course of projects they are performing or managing. If it cannot be determined that the materials to be disturbed are non-asbestos containing, a work permit shall be issued to notify their supervisor and OEMS, and the work suspended until corrective action can be completed. Capital employees shall also notify OEMS of any potential fiber release episodes discovered in the course of their work or building walkthroughs. All Maintenance Employees shall complete Asbestos Awareness training within 60 days of their employment.
- t. *School District of Philadelphia Maintenance Employees* - Shall ensure that asbestos-containing materials will not be disturbed in the course of projects they are performing or managing. If it cannot be determined that the materials to be disturbed are non-asbestos containing, a work permit shall be issued to notify their supervisor and OEMS, and the work suspended until corrective action can be completed. Capital employees shall also notify OEMS of any potential fiber release episodes discovered in the course of their work or building walkthroughs. OEMS shall share any information relating to abatement response actions that result from maintenance requests with PFT, as previously noted. All Maintenance Employees shall complete Asbestos Awareness training within 60 days of their employment.
- u. *School District of Philadelphia Office of Environmental Management and Services (OEMS)* – Provides oversight of the SDP Asbestos A-Team (A-Team), environmental consultants, and asbestos abatement contractors for all projects within the SDP.

Responsibilities specific to this program include, but not necessarily be limited to, the following:

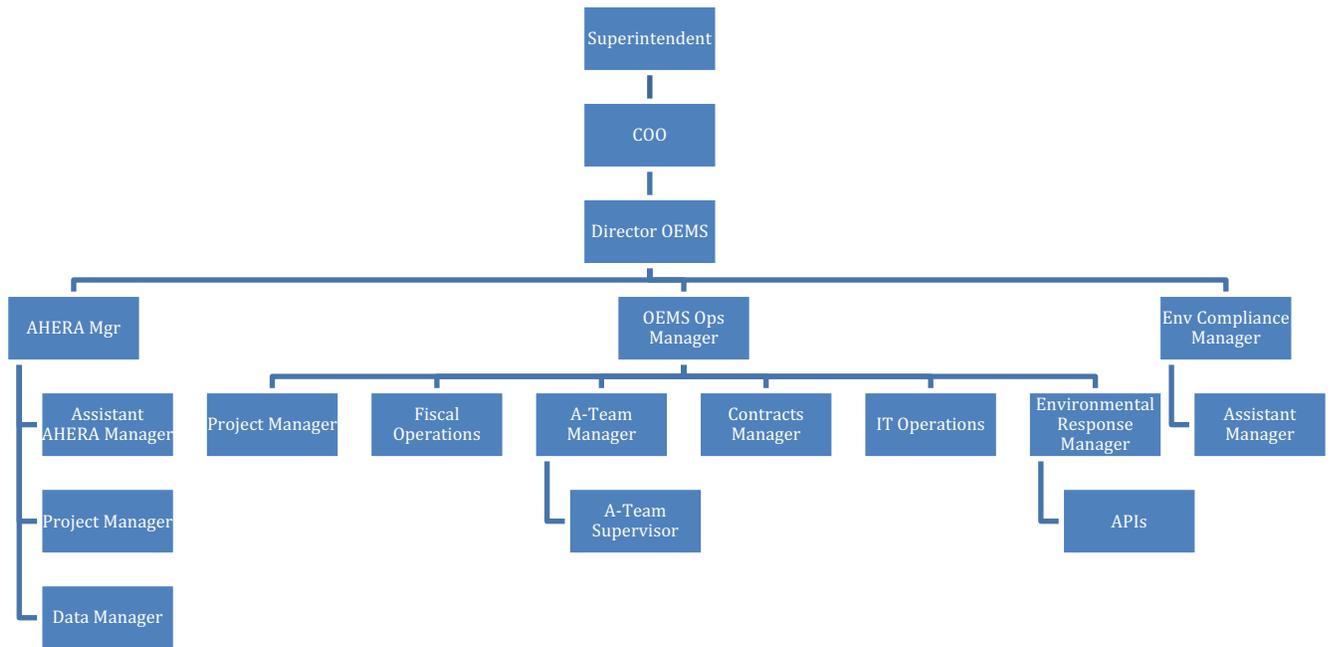
- i.* Conducting Environmental Impact Evaluations, providing Asbestos Hazard Emergency Response Act (AHERA) Inspection Reports, and providing pre-alteration asbestos survey reports compliant with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) prior to renovation, demolition, and/or maintenance activities. The AHERA reports are compiled from inspections conducted by District consultants and revised every three years.

The AHERA Reports are also designed to provide information on the type, location, condition, and amount of asbestos-containing materials in a specific District building for reference prior to any renovation, demolition, and/or maintenance activities that may disturb asbestos-containing materials present, and prior to any work activity to be conducted above all drop ceilings in the building.

The City of Philadelphia Asbestos Inspection Reports (AIRs) are intended to be NESHAP-compliant reports designed to provide comprehensive information related to the presence, quantity, and location of all ACMs located within a project area and shall cover the data gaps inherent to AHERA surveys which are limited to accessible areas and building interiors. The AIR is a portion of a detailed asbestos work plan/design specification specifically written for a construction/demolition/alteration project within a SDP facility. AIRs developed subsequent to surveys in occupied buildings will be limited to accessible, suspect asbestos-containing materials. No destructive means or selective demolition is authorized to be performed as part of survey efforts in occupied buildings; in such instances, additional ACMs may be encountered during demolition and/or construction activities.

- ii.* Manage, primarily through professional consultants, associated asbestos abatement activities, including air sampling, building inspections/surveys, abatement project design, emergency response to fiber release episodes, education/information, medical monitoring of A-Team employees, and employee training.
- iii.* OEMS representatives and staff are also engaged in regular on-site oversight and evaluation activities involving documentation and verification of regulatory and established work practice compliance for all phases of asbestos abatement and remediation work.
- iv.* Identifying and posting where asbestos labels/signs are required.
- v.* Verify certification and training of OEMS A-Team employees, to include Asbestos Worker/Supervisor and annual respiratory protection training and fit testing.

Figure 1: Organizational Structure of SDP Asbestos Program Staff



2. **Communication and Collaboration** – This section addresses communication to and collaboration with the various stakeholders regarding asbestos abatement-related activities. The objective of the asbestos abatement communication and collaboration component is to establish the District’s process for ensuring that every person who occupies a school building and the public in general are aware of the availability of each school’s asbestos management plan; how the District communicates the scheduling of upcoming asbestos abatement projects; how the District notifies regulatory agencies of asbestos abatement projects; and how the District works jointly with the PFT and 32BJ SEIU to ensure that abatement work is conducted in accordance with regulatory requirements and best management practices.

It is understood that all asbestos related evaluation, assessment, inspection and remediation-related documents, data, etc. (including those from District environmental consultants and contractors and all applicable capital program documents) will be shared with PFT Environmental. As part of this Program, on-going collaboration regarding lessons learned and further development of best practices should be shared with all parties, to include the industrial hygiene consultants, and where appropriate develop Standard Operating Procedures (SOPs) and other documentation to solidify practices related to the asbestos abatement program.

Schedule updates, including Gantt charts, outlined further in the Program will be shared and updated to support communication of schedule changes and/or coordination issues related to asbestos abatement activities.

- a. *Training* - APIs will be trained by the District in collaboration with the PFT and 32BJ SEIU to enforce all elements of the applicable regulations, best management practices, and District standards. The District's mandate is "if you see it, say it", and APIs will be asked to perform as advocates of this mandate to ensure robust and full compliance with the best asbestos abatement work practices and procedures.
- b. *Annual Asbestos Notification Letter to School Community* - The Environmental Department delivers printed letters to every school once per school year for distribution to the school community as per the Asbestos Hazard Emergency Response Act. The letter advises the school community that each school has an asbestos management plan and it is located on site at every school and on the District's website for public view. The plan, in addition to describing the type and location of asbestos containing materials in the building, also includes information about asbestos abatement projects and air testing that has occurred in each school.
- c. *Email from Environmental Department to Principal, BE and FAC* - An email notification will be sent to school principals, BEs, FACs and the PFT by the Environmental Department prior to the commencement of asbestos abatement work in their respective schools when the notification to Philadelphia's AMS is notified pursuant to the requirements of the ACR.

For Maintenance Department projects performed by the A-Team, the email will include the Asbestos Design Data Collection (DDC) packet and Philadelphia Department of Public Health Air Management Services' (AMS) Notification and a letter to families and staff announcing the project. For Capital Construction Projects, the Capital Construction Project Manager will initiate all communications through the established Capital Program procedures manual. The Principal will be asked to distribute the information in the email from the Environmental Department to the school's Home and School Association and School Advisory Council members, as well as teaching staff. Still, notification and DDC packages are required for distribution and comment.

- d. *Web-Based Portal Transmission to the City of Philadelphia's Asbestos Control Unit* - This is an official electronic form that is transmitted to the City of Philadelphia by the District's Environmental Department as required by law to notify the agency of asbestos abatement activities planned in schools.
- e. *Communications & Coordination with PFT* - The following notifications will be provided to the Director of Environmental Science and Occupational Safety and Health for the PFT regarding asbestos related activities.
 - i. The Environmental Department will provide notification to the PFT via email as soon as damaged asbestos-containing materials are discovered and/or when asbestos abatement/corrective action is planned in a school. This notification will include, but not be limited to all of the following: any damage assessment reports, access to AHERA Logs (digitally and via provided database information

exports), all DDCs, or Capital Program Design documents, detailed work scopes, any damage assessment reports, the DDC or Design document and the formal AMS Notification Form.

- ii. The Capital Programs Construction Project Manager will provide weekly notification to PFT via email regarding abatement activities and schedule updated associated with Capital Projects within school facilities.
- iii. The Environmental Department will assign an Environmental Compliance Manager to each abatement project to coordinate final side-by-side air sampling directly with the PFT. Notification of the scheduled final air sampling will be via email and phone call at least 24-hours in advance of the testing for major projects. For minor, small or incidental projects, the PFT will reach out to the Environmental Compliance Manager to advise of their interest in the project in terms of coordinating side-by-side air sampling. In those cases, the same notification, and coordination as described above in 2. e.i. above will be followed.
- iv. The Asbestos Consultant will develop sampling plans with the PFT and this will include the number of samples to be collected for TEM analysis, the locations of the samples and the electrical power source to be shared between the District's consultant and the PFT.
- v. Prior to the collection of final air clearance samples, documentation of each work area's final visual inspection will be provided to the PFT via email of a photo of the work area prior to collection of the final air samples.
- vi. The Environmental Department will provide pre-assessment notification associated with the planning and design of projected asbestos abatement work, in addition to providing copies of AIRs, DDCs, and other design documents related to asbestos abatement and related activities to PFT. OEMS will develop and use a scheduling "platform" to help coordinate sampling dates and times with PFT/HWF/U as part of the effort to effectively collaborate and facilitate joint sampling efforts
- vii. The Environmental Operations Manager will provide AIRs to the PFT for review prior to developing abatement designs for renovation and/or demolition projects. The Design Manager will provide a review of the abatement design documents at the 90% Construction Documents milestone. PFT will provide review comments to the Capital Construction Design Manager within 30 days. PFT will also participate in the pre-abatement meeting coordinated by Capital Projects. Shared design documents may not be shared with outside parties in order to best ensure the fair bidding process is maintained.

- viii. OEMS will develop and use a scheduling platform to facilitate coordination of sampling dates and times with PFT/HWF/U.
 - f. *Final Abatement Reports* - The Environmental Compliance Manager will be responsible for providing the Environmental Department with final reports for all abatement projects via hardcopy and electronic means.
 - g. *Permits, Fees, Applications, Forms and Other Mandated Items* - The Environmental Department is responsible for ensuring that all notification forms, permit applications, alternative methods requests, and other supporting documents and fees for abatement licenses and permits are submitted to the appropriate agency(s) according to required timelines to meet all regulatory compliance mandates. Capital Programs is responsible for submitting an internal permit notification to OEMS prior to commencement of any construction activities that may disturb suspect asbestos-containing materials; OEMS shall review and approve (following applicable investigation efforts) each requested District Asbestos Notification Permit within 45 days of receipt. Additionally, the Environmental Department will be responsible for submitting all final reports including air monitoring data to the appropriate agency(s) at the completion of abatement projects.
 - h. *Public Facing Asbestos Abatement Project Information Portal {Planned}* - The Environmental Department will work with Information Technology, PFT, and 32BJ SEIU to develop a portal by which the public and stakeholders can view school asbestos abatement-related information. The District will collaborate with PFT to identify additional, potential stakeholders that may need involved in this project.
 - i. *Automatic Project Updates to School Community {Planned}* - The Environmental Department is developing in coordination with the PFT and 32BJ SEIU a mechanism by which school-based communities will receive automatic information about abatement work in their schools including when a project will be conducted, where in the school and when the project is completed.
3. **Work Scheduling and Prioritization** - This section describes the scheduling and prioritization of asbestos repair and abatement work.
- a. *Work Order System* – All work to be conducted by District maintenance employees or outside contractors, and all capital project RFPs shall require the completion of a work order (PSIT Service Request Form). All work orders are to be forwarded to OEMS for review to determine if the work to be conducted will potentially disturb asbestos-containing materials. This will help prevent damage to or disturbance of asbestos-containing materials during work conducted in SDP buildings by District maintenance personnel or outside contractors and to ensure that AIR inspections required by the City of Philadelphia are conducted prior to renovation and construction projects.

Copies of work orders containing work that may disturb asbestos-containing materials, and related scheduling, scope and progress information and data will be provided to PFT.

- b. *Types of Asbestos Abatement Work* – The categories of asbestos related activities generally fall in one of two categories:
 - i. *Fiber Release Episodes* – Occur when *Presumed Asbestos Containing Materials (PACM) or Asbestos Containing Materials (ACM)* is physically damaged and/or asbestos debris is present. Examples include damage to pipe fittings, pipe insulation, valve breaks, boiler jackets/insulation, or mechanical equipment components that contain PACM/ACM. OEMS will coordinate fiber release episodes with A-Team personnel or an accredited contractor. The area will be isolated and warning signs posted to control access to the area. OEMS will also contact an API to conduct air monitoring and prepare a report documenting the fiber release episode, corrective action, and air sampling data.
 - ii. *Planned Disturbance of PACM or ACM* – Occur when planned maintenance activities may disturb PACM or ACM (e.g. access to a valve, flange, duct, boiler component, or other mechanical system), or when work associated with renovation or construction projects may disturb PACM or ACM. Work order requests for maintenance, renovation, and construction activities in areas where PACM/ACM is suspected or known to be present are to be submitted to OEMS prior to work. OEMS will review the asbestos inspection records to identify PACM/ACM in the area where the work is to be performed. OEMS will physically inspect the area to ensure existing records reflect actual conditions. If no ACM is present, a work order is not necessary and the planned actions can proceed. If PACM/ACM is found to be present in the area, OEMS will sign the work order and obtain an approved and accredited asbestos contractor or assign A-Team personnel to abate the PACM/ACM. Prior to planned work that may disturb PACM/ACM, a completed Asbestos Inspection Report Form shall be issued by OEMS to A-Team or contractor personnel whose work could impact PACM/ACM. The form will accompany each contract issued to an accredited contractor and posted on the jobsite.
- c. *Prioritizing Asbestos Abatement Activities* – Priority for responding to asbestos related work requests are based on the type of material, the extent of damage, the location of the material, and accessibility of the material to students or employees. The SDP AHERA Survey Protocol (include as appendix) divides friable and non-friable materials into five SDP damage categories and assigns a response action time to each category. The appropriate category for the damaged material will be assigned by the inspector at the time of the survey/damage assessment, based on their opinion as to how quickly the material should be abated/repared, and is independent of AHERA hazard rankings. Development of the proposed database management system will further allow on-going prioritization of non-emergency abatement actions.

- i. Category 1 – Abate or repair within 4 weeks. Examples include bulging ceiling tiles, open jackets on pipe insulation, water damage near TSI, separation of insulation runs and fittings, and damaged floor tile in low to moderate traffic areas.
- ii. Category 2 – Abate or repair within 2 weeks. Examples include water-damaged cementitious material (e.g., Transite®), damaged/chipping floor tile in a doorway/walkway, sleeve breaks on TSI, and cracks in floor tile.
- iii. Category 3 – Abate or repair within 1 week. Can remain occupied until abatement or repair is completed. Examples include missing floor tiles, broken or missing pieces in cementitious (e.g., Transite®) panels, cracks in elbow insulation, and open pipe sleeves.
- iv. Category 4 – Immediately evacuate and isolate area. Abate within 72 hours. If area cannot be isolated, consider Category 5. Examples include loose/chipping floor tiles, multiple small areas of damage asbestos, displaced insulation, or TSI jacket separation.
- v. Category 5 – Immediate response. Isolate room or location and perform abatement immediately after identification. Examples include whole floor tiles loose or chipping, excessive holes or missing pieces in material; gouges in pipe insulation; missing jackets on TSI and deteriorating TSI with visible debris observed.

If response times or actions for categories 4 and 5 cannot be met, area should remain isolated and unoccupied until work is completed.

Cross referencing the damage categories with the type, location, and accessibility, the following prioritization for abatement/corrective action have been established. This priority number will be determined by the Environmental Director and noted on the work order form to provide the OEMS Operations Manager and/or Compliance Manager with direction on which work permits should be given priority for completion.

- i. Priority 1 - Damaged friable asbestos that is believed to have resulted in the release of airborne fibers (i.e., a fiber release episode) – any location. These would be considered a Category 5 damage material.
- ii. Priority 2 - Damaged friable asbestos that is accessible to students. Would be considered either a Category 4 or 5.
- iii. Priority 3 - Damaged friable asbestos that is not accessible to students. Would be considered either a Category 1 through 5.
- iv. Priority 4 – Non-damaged asbestos-containing ceiling tiles or non-damaged friable asbestos-containing materials with a high potential for disturbance.
- v. Priority 5 – Non-damaged friable asbestos-containing materials in Elementary Schools.
- vi. Priority 6 – Non-damaged friable asbestos-containing materials in Middle Schools.

- vii. Priority 7 – Non-damaged friable asbestos-containing materials in High Schools.
- viii. Priority 8 – Non-friable asbestos-containing materials.

Abatement of Priority 5, 6, 7, and 8 materials should be completely systematically in such a manner that highly accessible areas such as hallways, classrooms, stairwells, restrooms auditoriums, and gymnasiums are completed first. It is the intent of the program to prioritize the removal of accessible materials and high risk areas over non-friable materials that may be safely managed in place. Abatement of the noted ACMs may be completed by either the A-Team or on-call asbestos abatement contractors.

- 4. Asbestos Surveys and Inventories** – Multiple sources of asbestos-related data exists in associated with the asbestos program. The planned database is intended to collate these various data points to better ensure ease of access and sharing of information. Available inventories and surveys related to asbestos may include, but are not limited to:

- i. AHERA Surveys - required triennial surveys related to friable and non-friable materials within school buildings.
- ii. AIRs - supplemental asbestos surveys intended to align with NESHAP compliance, AIRs are required for pre-renovation or pre-demolition construction activities prior to bid solicitations.
- iii. Periodic Inspections – routine maintenance and/or six month periodic AHERA inspections intended to verify existing building and material conditions.
- iv. DDCs – detailed scope documents identifying damaged asbestos-containing building material conditions and required response actions.
- v. Safety Inspections – comprehensive health and safety inspections performed outside of the asbestos program which may subsequently include information related to the condition of asbestos-containing materials.

OEMS will work in collaboration with PFT to share information, schedules, reports and other data related to the above surveys and inventories and will inform PFT about, and attempt to coordinate schedules to the extent feasible to facilitate joint inspection activity where feasible.

The requirement and associated procedures for conducting building surveys and inspections for asbestos is established and contained in the federal Environmental Protection Agency (EPA) Asbestos Hazard and Emergency Response Act (AHERA). Surveys conducted in District schools and support buildings are conducted by accredited AHERA inspectors who are consultants to the SDP. The surveys are conducted in accordance with the SDP AHERA Survey Protocol, which incorporates EPA AHERA requirements. Surveys are conducted in request from SDP FAC building engineers, Capitol Projects, as part of the AHERA three-year survey requirement. The request is forwarded to OEMS who arranges for one of the District consultants to conduct the survey.

If deficiencies are identified during the survey/inspection, the information is transferred onto an Asbestos Design Data Collection (DDC) form and is forwarded along with the asbestos survey report to OEMS for review. The Damage Category is assigned by the inspector and noted on the

DDC. When the review is completed, a work order is submitted in the MOJO work order system for the A-Team. When completed, the work order is achieved in MOJO. The data from the inspections/surveys are transferred to a database that is managed by OEMS; OEMS will provide exported data deliverables of applicable asbestos-related data to PFT.

The information from the surveys are used to prepare the SDP Three Year Inspection and Asbestos Management Plan for each school building that contains information on presumed and known asbestos-containing materials, to include the type of material, location, amount of material, amount of damaged material, the required response action for damaged material, and materials presumed or confirmed to be non-asbestos containing. Updates are included for asbestos-containing materials that were removed or encapsulated during the previous three-year period.

Supplemental asbestos surveys shall be performed for modernization, alteration, demolition, or construction projects to ensure all potential ACMs within the defined project area have been identified. The primary objectives of these surveys are to provide a working abatement specification and a City of Philadelphia Asbestos Inspection Report (AIR) for various construction project in SDP facilities. These non-destructive surveys are also designed to comply with the National Emissions Standard for Hazardous Air Pollutants (NESHAP); however, selective demolition and invasive survey methods shall not be performed within occupied buildings in an effort to minimize potential fiber releases and incidental disturbance of ACMs. The intended AIR/NESHAP survey will be coordinated and managed by the OEMS in support of planned construction and maintenance projects. The District shall ensure coordination between managing offices in order to comply with this requirement. Departments with planned building activities (e.g., maintenance, IT/cable pulls, meter installations, security/infrastructure projects, renovations, etc.) are required to fill out and submit a OEMS Asbestos Control Permit to OEMS prior to engaging in any field activity which will disturb suspect asbestos-containing building materials.

- 5. Abatement Project Design** – Asbestos work plans and specifications are prepared for capital projects and large renovation projects by third-party EPA-trained and Commonwealth of Pennsylvania-licensed Asbestos Project Designer consultants. The Capitol Program Compliance Manager notifies OEMS about upcoming projects and OEMS engages the third-party consultant to perform required asbestos surveys and draft subsequent abatement specifications for submission throughout the design process.

The work plans/specifications should be jointly reviewed by OEMS and PFT prior to their approval by OEMS and before being provided to the Capitol Program Compliance Manager for incorporation into the construction project manual. An inspection is conducted by an internal inspector to ensure that all asbestos-containing materials have been identified in the work plans/specifications, which are revised as needed based on observations and/or bulk sample analysis of suspected asbestos-containing materials not included in the work plans/specifications. When completed, the work plans/specifications are provided to the construction team for execution.

Formal abatement work plans are not prepared for Operations and Maintenance and small response type work. The DDC prepared by the external consultant who conducted the asbestos survey is used as the scope of work for completion by the A-Team or outside contractor. Should any discrepancies in the DDC or field conditions be identified by the responding abatement personnel, the assigned Abatement Supervisor shall contact OEMS within two hours of the observed change in conditions to ensure expedited resolution.

- 6. Pre-Abatement Steps** - This section describes the actions that must be taken PRIOR TO abatement activities commencing at a school.
- a. *Rigorous and aggressive enforcement of regulations and advocacy for the API's authority to stop work* – The District, in coordination and collaboration with the PFT and 32BJ SEIU, will provide training to all APIs who work for the District to encourage APIs to exercise his/her authority to enforce the ACR and District standards and, in essence, to shut-down a job and report problems to the District and/or regulatory agencies.
 - b. *Air Management Services Notification Form* - Every asbestos abatement project must have a formal AMS notification form submitted to the agency and printed and available on the job site from the start to finish of the project. The API of record will be responsible for this task.
 - c. *Design Specification Asbestos Inspection Report (AIR) and/or Design Data Collection (DDC) Packet* - Every project must have a printed copy of the DDC, Asbestos Inspection Report (AIR) and/or design specification on site. The API of record is responsible for this task.
 - d. *District Asbestos Notification Form* – The Capital Programs Construction Project Manager shall submit to OEMS the internal permit form (template form pending) to serve as notification of a planned construction activity which requires acknowledgement and verification of asbestos-containing materials within the project area. This notification shall be provided to OEMS no fewer than 45 days prior to the planned commencement of construction activities. Upon completion of OEMS' due diligence investigation for the project, the signed form shall be returned to the Capital Programs Construction Project Manager and serve as acknowledgement that the project has been vetted appropriately for ACMs.
 - e. *Negative Pressure Verification* – After a containment is erected, a manometer and/or smoke tubes must be used by the API of record to verify that negative pressure is attained at the start of the project and maintained for the duration of the project. Smoke tubes and visual observations may be used as a secondary method to determine “negative air” when allowed. Smoke tubes should be used by the API to verify adequate air flow toward the air filtration devices (AFDs) is occurring throughout the entire contained work area when allowed. If negative pressure is lost during abatement, the API must follow the Asbestos

Control Regulations, Section 20.e, “Loss of Negative Pressure.” The API must document the loss of negative pressure in the daily log sheet including how long the problem occurred, when it occurred and the actions taken to respond. If negative pressure was lost for a significant time period (more than 1 minute) during final air sampling, the testing should be stopped and the response action above should be followed.

- f. *“Electrician’s Consult”* - Prior to starting abatement, the API and Asbestos Supervisor/Foreman or Capital Construction Manager will consult with a Maintenance Electrician to review electricity capacity at the school. This will allow the API to know where they can plug in equipment without exceeding electrical capacity and causing power outages. All major asbestos abatement projects require an electrical panel installed by an Electrician as per the ACR. The API will be required to verify and record this in their daily log and final report.
 - g. *Aggressive Air Sampling Equipment* - The API of record will bring fans and leaf blowers to the site at the start of the project. These items can be kept in a storage area during the project, but they must be readily available and present to ensure that final aggressive air sampling is not postponed due to a lack of proper equipment.
 - h. *Pre-Abatement Air Sampling* - The API will perform all required pre-abatement air sampling in accordance with the ACR.
 - i. *Construction/Demolition Dust/Fume Interference* - The API of record and/or Environmental Compliance Manager will meet and discuss any planned non-asbestos dust or fume generating construction activities that could impact the asbestos air sampling prior to commencing the abatement project. Measures will be taken to avoid cassette overloads such as performing testing before/after construction activities and using local engineering controls. If conditions arise during the course of abatement that could impact air sample collection, the API will notify the Environmental Compliance Manager, who will contact the appropriate SDP project manager to mitigate the fume or dust generation.
7. **Asbestos Abatement Steps** - This section describes the actions that will be taken DURING abatement activities at a school. Asbestos abatement will take place in accordance with all applicable federal, state and local regulation as well as best management practices and District standards. The required activities include the following:
- a. *Review Design Documents.* A licensed A-Team/contractor in coordination with the API of record will review the AMS Notification Form, AIR, DDC and/or design specification;
 - b. *Adhere to Design Documents.* The A-Team/Contractor will follow the approved abatement design documents in regards to the configuration of work area set-ups including decontamination chambers, showers, location of negative air devices, etc. There will be no deviation from the design unless approval is granted by a competent

person who has the authority to make changes, such as the API of record or Asbestos Project Manager Consultant. Design documents (in the form of a DDC, design specification, etc.) will be forwarded via email to the PFT for review and comment. Comments related to the design specifications will be provided to the Design Manager within 30 days of email transmittal to ensure comments can be reviewed and integrated as necessary within the design process.

- c. *API's knowledge of worksite.* All APIs are required to be fully aware about, and to have been informed of, the details of the abatement work scale, scope and testing situation and conditions associated with the project they are assigned to, even if they are simply acting as a temporary “fill-in” or coverage substitute. Additionally, all project information and records, e.g. notifications, AIRs, DDCs, work scope details, sampling data and relevant project summaries, must be available and on site at all times. All on-site documents are available to be reviewed and/or copied by PFT.
- d. *Set up work area, erect containment and perform abatement.* The A-Team/Contractor will then erect a containment around the asbestos-containing material(s) in accordance with the documents listed in 4.a. The following will be determined for containment set-up:
 - i. The number of, type/size of and positioning of air filtration devices to be used to attain negative pressure. This will be based upon air pressurization calculations provided in the documents by a Pennsylvania-licensed Asbestos Designer and at the direction of the API;
 - ii. The methodology to be employed for abatement, such as glove bag removal, tent, full containment, friable or non-friable methods, etc.;
 - iii. The configuration of the containment set-up including the location of movable flex ducts, where ducts are attached to windows and other penetrations, etc.;
 - iv. The type and location of decontamination chambers, showers and water sources;
 - v. the location of waste “bag-out” chambers and staging areas for asbestos waste and equipment;
 - vi. Safety precautions including fall protection will be included in the abatement specification; and
 - vii. Electrical outlet sources will be identified as per section 3.d. to ensure that adequate power is available for containment and air monitoring.

PFT will have full access to visit and observe the work area and adjacent spaces within the school for the purpose of evaluating asbestos abatement activities.

- c. *Project Air Monitoring.* The API of record will perform monitoring inside and outside of the contained abatement area as per the ACR's requirements. All APIs should be equipped with smoke tubes and/or similar devices to enable them to assess and evaluate “negative air flows” and especially to ensure adequate air movement is occurring throughout the contained spaces and that air is flowing toward air filtration equipment [i.e., to identify “dead spaces” within the work area where no measurable air movement

is present].

- d. *Loss of negative pressure.* If negative pressure is lost during abatement, the API must follow the Asbestos Control Regulations, Section 20.e, “Loss of Negative Pressure.” The API must document the loss of negative pressure in the daily log sheet, including how long the problem occurred, when it occurred and the actions taken to respond. If negative pressure was lost for a significant time period (more than 1 minute) during final air sampling, the testing should be stopped and the response action above should be followed.
 - e. *Secure/lock entrances to abatement work areas* – The A-Team/Contractor will lock and post signage at the entrance of abatement work areas and this will be documented in the API’s daily log.
- 8. Post-Abatement Steps** - This section describes the actions that must be taken AFTER abatement activities are completed inside of a containment. This includes final visual inspections, air sampling, and coordination with the PFT for side-by-side air sampling.
- a. *Final visual inspection of work area* - A final visual inspection inside of the abatement containment shall be completed in accordance with the Philadelphia ACR. The API’s final inspection must be confirmed as passing the visual inspection for dust/debris as per the ACR’s minimum standard prior to scheduling final air sampling.
 - b. *Digital photo of area* - The API will take photographs of the clearance inspection findings to verify that the spaces are free of dust/debris prior to scheduling final air sampling.
 - c. *Verify the removal of interior poly-sheeting from floors, walls, and non-movable, cleanable objects before air sampling* - The API will document via digital photos that poly-sheeting is removed from floors, walls, and cleanable, non-movable objects inside the containment before final air sampling is performed as per ACR.
 - d. *“Mock” aggressive air sampling* - Prior to final air sampling, the API will use fans and/or leaf blowing equipment to aggressively move air within the containment. This step will allow any loose dust/debris to be dislodged by this aggressive means and this can be cleaned prior to final air sampling to avoid any such disturbances during final testing.
 - e. *Aggressive air sampling* – The API will always use leaf blowers/fans during aggressive air sampling as required by the ACR.
 - f. *Visual dust/debris after aggressive sampling* – If, during mock or actual aggressive air sampling, dust/debris becomes disturbed, air testing will be stopped and rescheduled.

- g. *Use of air monitoring cassette stands* – APIs will use air testing equipment stands for cassettes - NOT adhesive taping of cassettes to walls/poly-sheeting when collecting air samples.
 - h. *Joint observations of aggressive air testing methods* – The District’s API of record will work jointly with the PFT’s air monitoring personnel to collect aggressive air samples so that both parties view, witness and/or partake in the aggressive methods.
 - i. *Project Clearance Form* – Following receipt of (acceptable) air sample analytical results, the API will complete a Project Clearance Form (see Attachment 1) and provide a copy of the form to the school principal. In the event that abatement and clearance are achieved after normal hours of building operation, the Project Clearance Form shall be left at identified repository location within the school for collection by the Principal upon returning to the building. This will notify the building engineer and other school officials that the project has been successfully completed. The API shall immediately notify their SDP contact by email or cell phone call that the project has been completed and the final air samples have passed.
9. **Air Monitoring** – There are five types of asbestos air samples that may be collected in support of the Asbestos Abatement Program, summarized below:
- a. Ambient air samples to quantify the airborne concentration of asbestos fibers due to a fiber release episode. Air samples utilized in this capacity should be collected no more than 24-hrs after the reported damage, dislodging, or incidental alteration of a PACM or ACM. No unnatural air movement is permitted.
 - b. Ambient air samples collected in an area prior to the initiation of abatement work to establish the baseline asbestos fiber concentrations. Refer to Table 1 for instructions on pre-abatement air samples (referred to Pre-test air samples). No unnatural air movement is permitted.
 - c. Ambient air samples outside of asbestos abatement negative containments during the abatement project to verify that asbestos fibers are not escaping the containment (i.e., Perimeter Air Samples). The location of these air samples should be near where leakage in the containment is most likely to occur, such as near the decontamination area and critical barriers, and in adjacent occupied areas. No unnatural air movement is permitted.
 - d. Final Clearance Air Samples at the conclusion of an asbestos abatement project or a fiber release episode response to verify that asbestos fiber concentrations are within the EPA AHERA clearance concentration of 0.01 fibers per cubic centimeter of air (f/cc) (PCM air samples) for small projects as defined in Table 1 or within acceptable limits as per the City of Philadelphia geometric mean (TEM air samples) for major projects, as defined in Table 1. Aggressive final air clearance samples, per AHERA, must be collected within the containment; no aggressive sampling is permitted outside containment. Refer to

Table 1 for instructions on Final Air Sampling Requirements. Final sampling shall only occur after the API has performed all visual assessments and has concluded that the work area is compliant, dust-free and ready for final sampling to occur.

Inside (containment) air samples will be collected based on the required number of samples prescribed in the City of Philadelphia ACR and in the appropriate locations (as determined by the API assigned to the project). Outside air samples will be collected in the immediate vicinity of the containment at locations determined by the API assigned to the project and should be representative of air that could enter the containment as make-up air and/or representative areas located outside critical containment barriers.

PFT will be involved in the development of all sampling strategies and approaches to be employed in situations not specifically and fully addressed by applicable regulations and/or in situations where alternative strategies may be warranted for established, regulated work areas. PFT will also be notified of all planned final air sampling events.

Confirmation by the PFT that they plan to collect companion air samples shall be by the close of business for emergency work scheduled the same day and within 24-hours of all other work. If side-by-side air samples are collected by PFT, these samples (both inside and outside) will be collected in the same locations as the API of record in an effort to meet the intentions of the side-by-side sampling.

Inside and outside air samples collected during final air sampling events by the API will be analyzed concurrently on all projects. Interpretation of the inside air samples will be in accordance with the City of Philadelphia requirements. At a minimum, single-sample analytical results of the outside air samples will be compared to 0.01 f/cc for PCMs and 0.01 s/cc for TEMs. If analytical results are greater than the noted evaluation levels, PFT and OEMS will agree on the area that will need to be isolated, cleaned and retested based on joint follow-up investigation, assessment and evaluation activities that will be conducted to determine the potential cause(s) of the elevated samples. Repeat sampling may be appropriate.

If the analytical results of the side-by-side samples collected inside the containment differ (i.e., one set of samples indicate successful clearance while the other set indicates non-successful clearance), the containment will be re-cleaned and sampling repeated. Discrete sample locations where elevated fiber counts were identified shall be carefully investigated for potential fiber sources.

Collection of final clearance samples will be coordinated with PFT and the assigned Capital Programs Project Manager (if applicable) by the respective API. A minimum of 24-hours of notice shall be provided to the stakeholder parties to ensure sufficient time for coordination of affected parties.

- e. Personal breathing zone air samples collected to quantify the exposures of employees who are involved with asbestos abatement, repair, and cleanup activities. These samples are required when information exists that employees' exposure to asbestos fibers may equal or exceed the eight-hour time-weighted average OSHA Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter of air (f/cc) or the 30-minute Excursion Limit of 1 f/cc (referred to OSHA as an initial exposure assessment). Samples are required on workers in each job classification. This requirement applies to work conducted by the SDP A-Team personnel and contractors while performing abatement work. The samples are analyzed via Phase Contrast Microscopy (PCM), with a time-weighted average calculated based on the sample duration (if the sample collection time is less than 8 hours). Data from exposure monitoring performed during prior asbestos abatement work within the past 12 months (i.e., Historical Data) can be used in lieu of collecting new samples. The data selected must be from work operations conducted under conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used in the current operations for which the data is proposed to be used. Use of such data for compliance with OSHA initial exposure assessment requirements must be approved by the OEMS Operations Manager.

The SDP will request from each asbestos consulting firm a Quality Control Plan to address verification of PCM field samples. The plan should include a minimum 10% rate for verification of PCM samples and outline time frames for submission of samples to a third-party lab for quality control. The plan should include action items for NIOSH 7402 analysis in the event that PCM sample results do not align.

Table 1: Air-Monitoring for Asbestos Abatement (abbreviation and definitions are located below the table.)

Abatement Category	Phila ACR	AHERA	District Testing	PFT Coordination
Incidental	Not Required	Not Required	Project PCMs must meet ACR/AHERA Re-occupancy criteria of 0.01 f/cc.	Immediate email or call by assigned consultant or Environmental Department to PFT providing notification of the incidental release/abatement. PFT will accept or decline to collect side-by-side air samples that will occur at the end of a shift. TEMs are always collected by PFT; therefore, District consultant will collect same.
Small	2 final PCMs	5 final PCMs	5 final PCMs*. Project PCMs must meet ACR/AHERA Re-occupancy criteria of 0.01 f/cc.	Immediate email or call by assigned consultant or Environmental Department to PFT providing notification of the small clean-up/abatement. PFT will accept or decline to collect side-by-side air samples within short period of time. TEMs are always collected by PFT, therefore, District consultant will collect same.
Minor -- Friable	3 pre-test PCM	No pre-test	3 pre-test PCM.	Immediate email or call by assigned consultant or Environmental Department to PFT providing notification of the small clean-up/abatement.
	Project PCMs	No project	Project PCMs	24- hour notice for PFT to accept or decline to collect side-by-side air sampling.
	2 final PCMs	5 final PCMs	5 final PCMs*. Project PCMs must meet ACR/AHERA	TEMs are always collected by PFT, therefore, District consultant will collect same.

			Re-occupancy criteria of 0.01 f/cc. Note: TEMs shall be collected when more than 26 LF of TSI is removed.	
Abatement Category	Phila ACR	AHERA	District Testing	PFT Coordination
Minor -- Non-Friable	No air-sampling required.	No air-sampling required.	Project PCMs. Maximum of 5 final PCMs based upon ACR/AHERA Re-occupancy criteria.	Immediate email or call by assigned consultant or Environmental Department to PFT providing notification of the small clean-up/abatement.
				24- hour notice for PFT to accept or decline to collect side-by-side air sampling.
				TEMs are always collected by PFT, therefore, District consultant will collect same.
Major -- Friable	5 pre-test inside work area	5 inside and 5 outside - final PCMs up to 160 SF and 260 LF.	5 pre-test inside work area	Notification is email to PFT 10 days prior to start of project via Environmental Department.
	5 pre-test outside work area	5 inside and 5 outside - final TEMs greater than 160 SF and 260 LF.	5 pre-test outside work area	24- hour notice for PFT to accept or decline to collect side-by-side air sampling.
	Project samples based upon quantities listed in ACR.		5 inside and 5 outside - final TEMs greater than 160 SF and 260 LF. Final TEMs range from 2 to 5 based upon quantities of material abated.	TEMs are always collected by PFT, therefore, District consultant will collect same.

	Final TEMs 2 to 5 based upon quantities of material abated.			
Major -- Non-Friable	No air monitoring required.	No air monitoring required.	Project PCMs. Final PCMs.	Notification is email to PFT in advance of project.
0.01 f/cc and/or 0.01 s/mm Outside Work Area	API to Notify Environmental Department and AMS. Isolate. Reclean and Retest.			
*Note: If any breach of containment or glovebag occurs during a friable asbestos abatement response action, TEM air clearance samples will be collected.				
Abbreviations:				
ACR: Asbestos Control Regulations – Philadelphia Department of Public Health				
District: School District of Philadelphia				
PFT H&WF: Philadelphia Federation of Teachers Union Health and Welfare Fund				
ACM: Asbestos Containing Material				
AHERA: Asbestos Hazard Emergency Response Act – US Environmental Protection Agency				
VAT: Vinyl Asbestos Tile				
Incidental: A project that disturbs or damages either: (a) five (5) square feet or less of friable asbestos material at one location or (b) one (1) linear foot or less of asbestos pipe covering at one location.				
Small: Any project involving the removal, enclosure, or encapsulation of or any renovation, repair or demolition work which disturbs or damages either: (a) twelve (12) square feet or less but more than five (5) square feet of friable asbestos material at one location; or (b) three (3) linear feet or less but more than one (1) linear foot of asbestos pipe covering at one location.				
Minor: Any project involving, within one (1) year, the removal, enclosure, or encapsulation of or any renovation, repair, or demolition work which disturbs or damages either: a. more than twelve (12) square feet but less than eighty (80) square feet of friable asbestos material at one location; or b. more than three (3) linear feet but less than forty (40) linear feet of asbestos pipe covering at one location; or c. any asbestos project in a private residence involving more than twelve (12) square feet of friable asbestos material, or more than three (3) linear feet of asbestos pipe covering				
Major: Any project, except in a private residence, which involves, within one (1) year, the removal, enclosure, or encapsulation of or any renovation, repair, or demolition work which disturbs or damages either: (a) eighty (80) square feet or more of friable asbestos material from ceilings, walls, structural members, mechanical components, or other surfaces at one location; or (b) forty (40) linear feet or more of asbestos pipe covering at one location.				

PCM: Phase Contrast Microscopy				
TEM: Transmission Electron Microscopy				

10. Reporting/Closeout - Every abatement project will include a final report from the District’s Asbestos Project Consultant. The report shall contain the following elements:

- a. *Background/Introduction* - This section will explain where, when and why the project was initiated;
- b. *Asbestos Details* - This section will describe the type, location, condition and quantities of asbestos addressed in the abatement project;
- c. *Regulatory Requirements* - This section will include copies of the official AIR, Notification and other mandated documents;
- d. *DDC/Design Specification* - This section will describe the logistics, configuration and methods by which the abatement will take place;
- e. *Air Monitoring Data* - This section will provide the API’s pre-, project, and post-testing air monitoring data;
- f. *API’s Daily Logs (including containment checklists); and*
- g. *Work Order Request.*

11. Program Evaluation – The Asbestos Abatement Program should be continually evaluated to identify potential areas for improvement. Lessons learned from release episodes, abatement projects, and inspections/surveys should be incorporated into the Program as they occur. A formal comprehensive evaluation/review of the Program will be conducted annually by OEMS in conjunction with PFT. A report will be prepared documenting the review, to include lessons learned during the year, changes made to the Program, and any additional recommendations for improving the Program.

ATTACHMENT 1 – FINAL VISUAL AND CLEARANCE CERTIFICATION

ABATEMENT CONTRACTOR:
PROJECT:
WORK ORDER NO.:
LOCATION:

CONTRACTOR’S CERTIFICATION OF ABATEMENT	
In accordance with appropriate specification requirements, the Contractor hereby certifies by the signature below, that they have visually inspected the work area (ALL surfaces including pipes, beams, ledges, walls, ceilings, floors, decontamination unit, sheet plastic, etc.) and has found no dust, debris, or residue.	
Signature:	Print Name:
Print Title:	Date:
Company Name:	

ASBESTOS PROJECT INSPECTOR’S CERTIFICATION	
The Asbestos Project Inspector hereby certifies by the signature below, that they have accompanied the Abatement Contractor on their final visual observations, that the observations have been thorough to the best of their knowledge and belief, and that the Contractor’s certification above is a true and honest one.	
Signature:	API Accreditation No:
Print Name:	Date:
Company Name:	

ASBESTOS PROJECT INSPECTOR’S WORK AREA CLEARANCE	
The Asbestos Project Inspector hereby certifies by the signature below, that all final clearance air samples were collected and analyzed in accordance with the project specifications/air monitoring plan, and that the results met the required clearance level. The clearance air samples were collected and analyzed by the following method:	
_____PCM Clearance (<0.01 f/cc)	
_____TEM Clearance (Geometric Mean AHERA Protocol & Outside Sample Verification)	
Signature:	Air Monitor Accreditation No:
Print Name:	Date:
Company Name:	

ATTACHMENT 2: OEMS ASBESTOS CONTROL PERMIT