UNIVERSITY OF
SOUTH CAROLINA

ASBESTOS MANAGEMENT PLAN

Table of Contents

1. BACKGROUND

1.1. General Information

The University of South Carolina recognizes asbestos-containing materials (ACM), when not properly managed, may release asbestos fibers into the air and pose a health and environmental risk to University Faculty, Staff, Students, Contractors, and Visitors. Therefore, it is the policy of the University to comply with all Environmental Protection Agency (EPA), South Carolina Department of Health and Environmental Control (SCDHEC) and Occupational Safety and Health Administration (OSHA) regulations pertaining to the management, removal, and disposal of ACM.

Asbestos is a generic term used to describe any of six naturally occurring fibrous materials. Asbestos was incorporated into several widely used products due to the several desirable characteristics.

Common examples of ACM include, but not limited to, heat-resistant fabrics, pipe and boiler insulation, sprayed on fireproofing, troweled on acoustical plaster, wallboard systems, attic and wall insulation (containing vermiculite), floor tile and mastic, floor linoleum, roofing and siding shingles, other roofing materials, wall and ceiling plaster, ceiling tiles and gasket materials.

The potential for exposure to asbestos fibers exists only when the material containing asbestos is disturbed or becomes damaged. When left intact and undisturbed, these materials do not pose a health risk.

1.2. Definitions

- Asbestos Containing Material (ACM) – Any material containing more than one percent asbestos by weight.
- Asbestos Inspection – Prior to beginning any renovation (of any size) and/or demolition operation at a UofSC owned or operated facility; an asbestos inspection must be performed. The purpose of the asbestos inspection is to identify the presence, location, quantity, and condition of any ACM that will or may be disturbed or otherwise impacted during the project.
- Asbestos Program Manager (APM) – Individual within UofSC Facilities Department responsible for managing the processes defined in this document.
- Auxiliary Department – Any UofSC functional unit not within the UofSC Facilities Department.
- Demolition – Wrecking or taking out any load-supporting structural member of a facility and any related handling operations.
- Negative Exposure Assessment (NEA) – A demonstration that employee exposure during an operation is expected to be consistently below the Permissible Exposure Limit (PEL). “NEA Tasks” are those that have been determined by UofSC EHS, via personal air sampling, not to pose a risk of exposure above the OSHA exposure threshold limits.
- Operations and Maintenance (O&M) – Tasks performed for the purpose of maintaining or repairing equipment or other building systems. These tasks typically do not require the removal of ACM or PACM, but if so, may not exceed that which can be contained in one glove bag or one 6-mil polyethylene bag measuring no greater than 60 inches in length and width.
- Permissible Exposure Limit (PEL) – Regulatory limit on the amount or concentration of a substance in the air. The OSHA PELs for asbestos are defined as 0.1 fibers per cubic centimeter

(f/cc) as an 8-hour time weighted average (TWA) exposure, and 1.0 f/cc as a 30-minute excursion limit.

- Presumed Asbestos Containing Material (PACM) – Any building material that has historically contained greater than one percent asbestos but has not been sampled or analyzed to verify or negate the presence of asbestos.
- Project Manager – The individual who is assigned responsibility for the management of a renovation, demolition, or maintenance project. The Project Manager may be an employee of Facilities, Housing, Athletics, or any other department of the University who is sponsoring and/or overseeing the construction or renovation. The Project Manager is responsible for ensuring that all requirements of this document are followed.
- Renovation – Altering a facility or one or more facility components in any way, including the stripping or removal of regulated asbestos-containing materials (RACM) from a facility component. "Remodeling" is considered renovation.
- Site Inspection – The process and procedures employed by the responsible authority, separate from the contractor's own supervision of the works. These inspections allow the University to maintain a safe healthy work environment and help better ensure compliance with safety and environmental regulatory requirements.

1.3. Health Hazards

Asbestos is recognized and regulated as a health hazard by OSHA and the EPA. Asbestos can break apart into very small fibers, which are not visible to the naked eye. Breathing asbestos fibers has been linked to a variety of diseases.

Asbestosis is a condition of the lung tissue which is caused by inhalation of asbestos fibers. High dose or long-term exposure to asbestos fibers can lead to interstitial formation of fibrotic tissue, which may lead to difficulty breathing and an increased chance of malignancies. Asbestosis is generally the result of high intensity or long-term exposure to asbestos fibers. The latency period for asbestosis is 20-30 years.

Lung cancer is generally associated with high dose or long-term exposure to asbestos fibers. The latency period for asbestos related lung cancer is 15-35 years.

Pleural mesothelioma is a rare form of cancer which affects the lungs' protective membrane, called the mesothelium. There is not a clear dose relationship between asbestos exposure and onset of this form of cancer, and the latency period from exposure to disease onset is 20-50 years. There is currently no known cure for mesothelioma.

1.4. General Policy and Purpose

Improper disturbance of asbestos containing materials may lead to asbestos exposure to UofSC staff, faculty, students, contractors, and visitors, and may cause serious illness. The University is committed to preventing exposure by following safe work practices for removal, disturbance, management, and disposal of asbestos containing materials.

The University's Departments of Facilities and Environmental Health and Safety (EHS) have developed specific policies, procedures, and processes to ensure that asbestos projects are

managed throughout the University System in a manner that minimizes risk to human health and the environment.

The University has a regulatory requirement to implement and follow an Asbestos Management Plan (AMP) that sets forth the procedures for the entire University system. All employees must follow the requirements outlined in the AMP for all projects of any size. This includes projects or tasks that disturb any existing building structure, or any other material which may contain asbestos. As defined by SCDHEC, even small projects which require removal, cutting, sanding, drilling or other disturbances of building materials which may contain asbestos are subject to this requirement.

This document will be routinely reviewed and revised as needed to maintain continuous improvement. The procedures and requirements herein are subject to audit by UofSC EHS.

1.5. Regulatory Authorities

Asbestos materials are regulated by the following agencies (with relevant regulation cited):

- OSHA - Asbestos for General Industry, 29 CFR 1910.1001
- OSHA - Asbestos Standard for Construction Industry, 29 CFR 1926.1101
- EPA - National Emissions Standard for Hazardous Air Pollutants, 40 CFR 61 Subpart M
- EPA - Asbestos Model Accreditation Plan, 40 CFR 763 Appendix C – Subpart E
- Hazardous Materials Regulations 49 CFR 171-185
- Asbestos Hazard Emergency Response Act (AHERA), 40 CFR 763 Subpart E
- SC DHEC Regulation 61-86.1, Standard of Performance for Asbestos Projects
- DOT - Transportation of Hazardous Materials 49 CFR 171-185

1.6. Best Management Practices

UofSC EHS recommends guidelines for operations based on best management practices. Currently these include:

- Abate all ACM impacted during renovation or any other work activities.
- Do not cover any ACM such as vinyl floor tile, mastic, rolled vinyl flooring products, pipe insulation, or any other material that has the potential to deteriorate while covered. Leaving these materials results in much higher costs of future removal and presents complications for future projects.
- Do not use asbestos containing lab gloves, wire mesh screens, test-tube holders, or other similar laboratory equipment. Contact the APM for disposal options.
- Use non-ACM in construction materials whenever possible.
- During renovation or new construction, ensure that newly installed materials are tested and demonstrated to contain no asbestos.
- If newly installed construction materials do contain asbestos, please notify UofSC HAZMAT and UofSC EHS immediately. Every effort must be made to ensure no new asbestos containing materials are installed within the University system.

2. GENERAL POLICIES

2.1. General Work Practices for Preventing Asbestos Exposure

The following general requirements must be followed for all work conducted within the University of South Carolina System:

2.1.1. Any tasks requiring the disturbance of ACM or PACM will only be conducted by properly trained and licensed personnel.

2.1.2. All surfaces must be maintained as free as practical of ACM waste, debris, and accompanying dust.

2.1.3. Maintenance and custodial activities performed in areas containing ACM shall be carried out in a manner that does not disturb the material.

2.1.4. Surfaces contaminated with asbestos may not be cleaned using compressed air.

2.1.5. The use of high-speed abrasive disc saws to cut ACM or PACM is prohibited.

2.1.6. Waste, debris, and accompanying surface dust in areas containing accessible and/or visibly deteriorated ACM, shall not be dusted, swept, or shoveled dry.

2.1.7. Where vacuuming methods are selected to clean asbestos dust/debris, HEPA filtered vacuuming equipment must be used.

2.1.8. Any dust or debris from cleaning ACM shall be disposed of properly and turned into UofSC HAZMAT. Do not place debris or cleanup items in a regular waste bin. Contact UofSC HAZMAT for prompt cleanup and disposal.

2.1.9. Report damaged or deteriorating ACM/PACM, or debris that is suspected to be ACM/PACM, to supervisor or directly to UofSC HAZMAT. If visible dust or debris from building materials is discovered in areas that contain ACM, cleanup or repair may only be conducted by trained and authorized personnel.

2.1.10. If any previously unknown or unregulated disturbance of suspect material is found, contact UofSC HAZMAT immediately. Air monitoring/bulk sampling of the disturbed area should be conducted as soon as feasible after the discovery has been made.

2.1.11. The disturbance of ACM or PACM wallboard systems is prohibited unless NEA procedures are in use by trained and authorized personnel. This includes drilling, insertion or removal of screws, insertion or removal of nails, or cutting into wallboard systems.

2.1.12. All vinyl and asphalt flooring should be treated as ACM unless evidence exists to prove otherwise. The following restrictions exist for the care of ACM flooring:

- No sanding is permitted.
- Stripping must be conducted using low abrasion pads at speeds lower than 300 rpm with wet methods.

- Burnishing or dry buffing may be performed only on flooring which has sufficient finish, so the pad doesn't contact the flooring material.
- Broken ACM floor tiles should only be removed by properly trained personnel.

2.1.13. Ceiling tiles should not be moved or replaced until it is confirmed that they are non-ACM. In buildings where spray-applied surfacing materials (e.g., fireproofing, ceiling texture) are known to exist above drop ceilings, tiles must be cleaned of visible debris before they are disturbed. Only trained personnel can replace, clean, or otherwise disturb ACM ceiling tiles or tiles that may be contaminated by ACM surfacing material from above.

2.2. Medical Surveillance Program

UofSC EHS maintains a medical surveillance program for all employees who are engaged in Class I, II or III work for a combined total of more than 30 days per year or are exposed at or above the permissible exposure limit. This medical surveillance consists of a review of medical and work history, a physical exam directed to the pulmonary and gastrointestinal systems, a chest roentgenogram interpreted by a NIOSH certified B Reader, and pulmonary function tests. This exam is offered annually at no charge to affected employees.

2.3. Respiratory Protection

All University employees must be provided with the proper protective clothing and respirators when assigned to do Class I – Class III work (exception: NEA tasks). The University maintains a respiratory protection program for its employees in accordance with OSHA 29 CFR 1910.134. For questions regarding the respiratory protection program, contact UofSC EHS.

2.4. Emergency Protocols

During emergency responses to incidents such as, but not limited to, flooding, fire, or natural disaster, it is the responsibility of the UofSC employee in charge of the incident scene to notify UofSC HAZMAT and/or UofSC EHS of the emergency so HAZMAT and EHS can assist with the presence, location, quantity, and condition of any known ACM within the building. As soon as feasible, a permit to work and/or survey will be issued for the area where the emergency occurred.

In order to mitigate the emergency, material maybe disturbed to stop the emergency then immediately cease disturbing known ACM. Examples of such activities include: cutting into wallboard systems to access a valve to shut off a leaking water pipe, immediately dangerous to life and health situations (fire in a building where people are trapped behind a wall or door), and other emergency situations involving danger to human life or catastrophic damage to property.

If the emergency services (police, paramedics, or fire department) are called to the scene, it is the responsibility of the UofSC employee in charge of the incident scene to inform emergency services of any known ACM in the building.

2.5. Leased Buildings

UofSC has a responsibility to follow the regulations in all owned and operated buildings. Furthermore, UofSC has responsibility for worker safety in buildings that are owned and operated by entities other than the University. All requirements set forth in this document apply to work performed by the University in any properties leased by the University.

2.6. Use of State Credit Cards for Contracted Work

Departments using State Credit Cards to hire outside contractors who perform work covered by this program will assume the role of Project Manager and therefore are responsible any work performed by the contractor. This includes ensuring an asbestos inspection report is generated and all requirements for asbestos contractor management are followed.

3. ASBESTOS INSPECTION PLANNING AND PROCEDURES

3.1. Asbestos Inspections

3.1.1. Per SCDHEC R. 61-86.1, Section VI, A.1., prior to beginning any renovation (of any size) and/or demolition operation at a UofSC owned or operated facility; an asbestos inspection must be performed. The purpose of the asbestos inspection is to identify the presence, location, quantity, and condition of any ACM that will or may be disturbed or otherwise impacted during the course of the project.

3.1.2. Asbestos inspections also must be performed for all operations and maintenance work as well as other activities that disturb building materials (such as drilling, cutting, sanding, inserting and/or removing screws/nails).

3.1.3. All asbestos inspections must be performed in accordance with Section VI of SCDHEC Regulation 61-86.1. The asbestos inspection will be based on the scope of work provided by the requestor.

3.1.4. Any project or activity that begins without a compliant asbestos inspection will be subject to a shut down until an inspection can be performed.

3.1.5. Asbestos inspections may be requested from UofSC HAZMAT via the following procedures:

3.1.5.1. Design and Construction Managers

- Assign a hazmat inspection work order to UofSC HAZMAT in FAMIS. The requestor must supply a detailed description of the proposed work (including the scope of the project, specific location of the work and materials to be disturbed) and anticipated project start date. Please provide project drawings if available.
- After receiving a work order, UofSC HAZMAT will contact the UofSC Project Manager to schedule the inspection. Additional information as well as an on-site project walk-through may be requested at that time.

3.1.5.2. Facilities Maintenance, Auxiliary Departments and Regional Campuses

- Call the Facilities Call Center at (803) 777-9675 or email fmcnotify@fmc.sc.edu.
    - To ensure an accurate inspection report, you must provide a detailed description of the proposed work, including the scope of the project, specific location of the work and materials expected to be disturbed during the work. You must also provide your contact information, department fund code (account number) and the anticipated project start date. Please provide project drawings if available.
- After receiving a work order, UofSC HAZMAT will contact the requestor to schedule the inspection. Additional information as well as an on-site project walk-through may be requested at that time.

3.1.6. Alternatively, a contractor may be hired to conduct the asbestos inspection. If a contractor conducts the inspection, the inspection report and supporting data must be forwarded to UofSC HAZMAT and UofSC EHS for review to ensure that the report is complete and complies with SCDHEC requirements prior to work beginning.

3.1.7. The asbestos inspection will cover all suspect materials that are expected to be disturbed as part of the scope of the project at any given time. A change in the scope of work must be reported to UofSC HAZMAT as soon as possible so the inspection report may be updated. Materials not included in the original inspection report may not be disturbed until the report is updated by UofSC HAZMAT.

3.1.8. Asbestos inspections also may be conducted for entire buildings or building systems (such as walls) in anticipation of future renovations or to determine the presence or absence of ACM for routine maintenance work.

3.2. Asbestos Inspection Planning and Process

3.2.1. As UofSC HAZMAT provides support and services to a wide number of customers throughout the university system, it is critical that any work needed from the team is requested early enough to meet your project schedule while providing high quality service to all customers. While the workload and schedule of UofSC HAZMAT fluctuates throughout the year, the following guidelines can be used when requesting asbestos inspections for project planning purposes. ***For work on regional campuses, these time frames may be slightly longer to accommodate travel requirements.*** When the workload of UofSC HAZMAT does not allow for a timely response, an outside inspection contractor may be utilized.

Project size	Typical time frame for UofSC HAZMAT team to be on-site and collect samples
Small projects (e.g., operations and maintenance work, audiovisual installations, carpet replacements, removing items from or hanging items on walls)	Three days to one week

Mid-size projects (e.g., office/classroom renovations, suite renovations)	one to three weeks
Large capital project (e.g., building renovations or demolitions)	one month or longer

3.2.2. Prior to collecting samples, UofSC HAZMAT will review historical data to determine if this data covers the project scope or if additional sampling is required. In conducting this review, UofSC HAZMAT staff will determine if the data is current (must be less than three years old), covers all the building materials that may be disturbed as part of the project and comes from the appropriate locations. In addition, staff will determine if the appropriate number of samples has been taken, from the historical data, to meet regulatory requirements.

3.2.3. Destructive asbestos inspections are recommended during the feasibility study of all large proposed capital projects. This strategy should minimize the potential for significant change orders and delays as well as unexpected cost increases for all projects. If destructive asbestos sampling does not occur, projects may experience delays during construction. Destructive asbestos inspections do not guarantee that all suspect materials will be identified and sampled initially; some materials may not be found until the work begins.

3.2.4. Once samples have been collected, UofSC HAZMAT will prepare the samples for laboratory for analysis by a third-party certified laboratory.

3.2.5. The inspector will prepare a report of the inspection results and attach them to the survey request in FAMIS. These results and report will also be sent via email to the requestor and other supporting staff.

- Lab results and other supporting documents will also be electronically attached to the survey request in FAMIS.
- This part of the process normally takes up to one week. In rare instances, additional time may be required.

3.3. Asbestos Abatement Project and Design

Certain asbestos abatement activities warrant the development of a comprehensive project design. A project design document will define the expectations of the university, the requirements of the work, the scope of the project, and can ultimately be used as part of the bid process. Many projects are simple enough that a project design is not required, and a “scope of work” may be all that is needed. The determination to prepare a formal specification or scope of work will be made on a case-by-case basis by UofSC HAZMAT and UofSC EHS.

A comprehensive Asbestos Abatement Design is required for all asbestos projects involving the removal of more than 3,000 square feet, 1,500 linear feet, or 656 cubic feet of friable ACM. If an Asbestos Abatement Design is required, a licensed Project Designer must be used to create the design. The Project Designer must provide the Asbestos Abatement Design to the UofSC Project

Manager for review. The UofSC Project Manager should consult with UofSC HAZMAT and UofSC EHS to ensure that all regulatory requirements are being met.

For asbestos jobs that do not require a Project Design, a thorough Scope of Work is needed to clearly define the job and identify special requirements, such as working after hours. For complicated jobs, such as those involving spray applied fireproofing, it may be desirable to hire a Project Designer to create a design even if it is not required based on project size. This will be determined by UofSC HAZMAT on a case-by-case basis.

4. CONTRACTED RENOVATIONS AND DEMOLITION PROCEDURES

4.1. Role of UofSC HAZMAT in Project Planning

4.1.1. UofSC HAZMAT, which is in the Columbia campus Facilities Department, is the University's central point of contact for managing asbestos hazards during renovation and demolition projects at the University.

4.1.2. UofSC HAZMAT and UofSC EHS should be included from the onset of the project design and specifications of all projects to better ensure that any asbestos-related costs associated with the project are captured. UofSC HAZMAT and UofSC EHS must be notified of any changes/revisions to the design and specifications of a project.

4.1.3. UofSC HAZMAT and UofSC EHS must be notified of, and given a reasonable opportunity to attend, any planning meetings that occur prior to work. These include, but are not limited to, feasibility, design, pre-bid, and pre-construction meetings.

4.1.4. Once the project begins, UofSC HAZMAT and UofSC EHS must also be notified of, and given a reasonable opportunity to attend any project progress meetings and/or tailgate meetings. This will help ensure a mutual understanding between Contractors, Project Managers, UofSC HAZMAT and UofSC EHS regarding project status and the effectiveness of asbestos management efforts.

4.2. Contractor Management of Asbestos Inspections and Permits to Work

4.2.1. Prior to beginning any renovation and/or demolition work, it is the responsibility of the UofSC Project Manager to obtain a current asbestos inspection report that represents the proposed scope of work. This report may not be older than three years.

4.2.2. If, prior to work or during the course of the project, work must be complete outside of the original scope, stop work immediately on the affected area. Notify UofSC HAZMAT on all new materials affected by this change. After this notification, UofSC HAZMAT will release a revised asbestos inspection report. This report must be included in the permit to work package before any further work activity in this area may resume.

4.2.3. The UofSC Project Manager must submit a Request for Permit to Work via electronic mail to hazmat@sc.edu no less than forty-eight (48) hours prior to the pre-construction meeting. Once the UofSC Permit to Work is completed by UofSC HAZMAT, the UofSC Project Manager must schedule a time to have the contractor discuss the UofSC Permit to

Work, the asbestos inspection report, and any other special instructions or prohibitions in effect during the project.

4.2.4. The Permit to Work must be signed prior to any work being performed by the general contractor working for the University. Signed copies of the Permit to Work must be retained by UofSC HAZMAT and any contractor signees. The general contractor will be required to ensure that all subcontractors and workers on the job site are familiar with the contents of the asbestos inspection report and any special instructions/prohibitions defined on the Permit to Work. The signed Permit to Work and asbestos inspection report must remain onsite and posted in a conspicuous place for the duration of the project.

4.2.5. If the asbestos inspection report indicates that asbestos containing materials will be disturbed during work, the UofSC Project Manager may elect to have abatement or work requiring ACM disturbance performed by UofSC HAZMAT. Alternatively, a licensed asbestos abatement contractor may be hired. If a contractor is hired, UofSC HAZMAT must be notified prior to beginning abatement work.

4.2.6. UofSC HAZMAT and UofSC EHS are authorized and empowered to shut down any work on campus or in university occupied space that involves actual or potential asbestos exposure or other hazardous activities and does not have a completed work permit.

4.3. Site Inspection and Non-Compliance

4.3.1. Environmental site inspections of construction projects allow the University to maintain a safe and healthy work environment and to ensure compliance with environmental and safety regulatory requirements. Mandatory site inspections will be performed by UofSC EHS for all capital projects and for any project where active abatement is occurring. Site inspections may also be performed upon request.

4.3.2. Site inspections will be charged back to the projects on a as needed basis. Budget estimates and quotes for this service will be provided at the request of the UofSC Project Manager or Requestor.

4.3.3. Unauthorized/improper disturbances or releases of ACM/PACM during work must be reported to the UofSC Project Manager immediately. The UofSC Project Manager must then report the incident immediately to UofSC HAZMAT, who will in turn notify UofSC EHS. The initial notifications may be via phone but must be followed by a written notification.

4.3.4. All infractions will be addressed immediately upon discovery. Each non-compliance will be investigated thoroughly by UofSC EHS and UofSC HAZMAT. The Hazmat Incident Form will be sent to the UofSC Project Manager to be filled out for any unauthorized disturbance. The form shall be sent back to the Asbestos Program Manager as soon as feasibly possible. The information on the form shall include the following at minimum: a narrative of the incident, the root cause of the disturbance, and corrective actions to prevent the incident from reoccurring.

4.3.5. Failure to follow the regulatory requirements or failure to work with the University to correct and prevent future non-compliances may result in removal of the contractor from the project worksite, and/or a negative performance evaluation from the University.

4.3.6. Work Stoppages

4.3.6.1. Authorized University personnel may elect to stop project work on a case-by-case basis. UofSC EHS and UofSC HAZMAT are authorized and empowered to mandate work stoppages. The following conditions will be considered when making the decision:

- When circumstances occur that are considered immediately dangerous to life or health.
- Evidence exists that there has been a release of asbestos outside of contained work areas.
- There has been an accident resulting in serious injury or death.

4.3.6.2. In the case of a work stoppage, the following notification process must be followed:

- Person stopping the work must immediately contact UofSC HAZMAT who will ensure that the UofSC Project Manager is aware of the stoppage. UofSC HAZMAT shall immediately notify EHS.
- The UofSC Project Manager will immediately notify their supervisor.

5. IN-HOUSE ASBESTOS ABATEMENT – Facilities Services HAZMAT Crew

5.1. UofSC HAZMAT

5.1.1. UofSC HAZMAT maintains an in-house asbestos abatement team to serve the University System. The Facilities Services Hazmat Crew are all Asbestos Supervisor Trained. They can remove any type and or amount of asbestos containing material, while following all OSHA and SCDHEC regulations. Asbestos abatement services can be requested via the following procedures:

5.1.1.1. Call the Facilities Call Center at (803) 777-9675 or send an email to fmcnotify@fmc.sc.edu and supply a detailed description of the proposed work, contact information, department fund code (account number) and the anticipated project start date to FMC NOTIFY.

5.1.1.2. The Call Center will normally generate a Service Request (SR) assigned to UofSC HAZMAT in FAMIS. Depending on the scope of the request, the Call Center may submit the request to the Facilities Request Review Committee for review. This review will result in the Call Center generating an SR assigned to UofSC HAZMAT or creating a project for Facilities Design and Construction.

5.1.1.3. After receiving a service request, UofSC HAZMAT will contact the requestor to work out the details of scheduling and/or planning the abatement.

5.1.2. FAMIS UPDATES – The Asbestos Program Manager will be responsible for updating the work order in the capital project workbench to accurately reflect the abatement cost and will provide quotes to Project Managers upon request. The frequency of updates to the work order will depend on the scope of work, the length of the job, and amount of the proposed abatement.

5.1.3. As UofSC HAZMAT provides support and services to a wide number of customers throughout the University system, it is critical that any work needed from the team is requested early enough to meet your project schedule while providing high quality service to all customers. While the workload and schedule of UofSC HAZMAT fluctuates throughout the year, work requests are typically handled within a couple of weeks. For work on regional campuses, the response time may be slightly longer to accommodate travel requirements. When the workload/size of UofSC HAZMAT does not allow for a timely response, an outside abatement contractor may be utilized. If an outside abatement contractor is used, notify the Asbestos Program Manager immediately to ensure proper procedures are followed.

5.1.4. UofSC Hazmat team will utilize email or personal communication to notify building occupants or authorized representatives (i.e., requestor) of the work being performed. Information about the communication (date, time, and method) will be entered into the FAMIS work order system. At times, it will be the representative or requestor's responsibility to inform occupants of work being performed.

5.1.5. Any checklists or other documentation completed by UofSC HAZMAT will be uploaded into the FAMIS work order system under the documents tab.

5.2. In-House OSHA Class III (O&M) Work – Facilities HAZMAT Crew

5.2.1. Operations and Maintenance (O&M) – tasks performed for the purpose of maintaining or repairing equipment or other building systems. These tasks typically do not require the removal of ACM or PACM, but if so, may not exceed that which can be contained in one glove bag or one 6-mil polyethylene bag measuring no greater than 60 inches in length and width.

5.2.2. All workers engaged in Class III work must receive at least 16 hours of training, as per 29 CFR 1926.1101. An annual 8-hour refresher is also required.

5.2.3. Respirators (minimum of ½ face cartridge respirator with P-100 cartridges) are required for all employees engaged in Class III work. Employees wearing respirators must be enrolled in the University's Respiratory Protection Program.

5.2.4. A Class III Work Checklist must be properly completed for each job. Upon completion of the job, the checklist will be uploaded into the FAMIS work order system under the documents tab.

5.2.5. All waste generated from Class III work must be disposed of properly. It must be given to UofSC HAZMAT and disposed of under their quarterly report.

5.3. Negative Exposure Assessment Tasks – Facilities Services HAZMAT Crew

Certain work tasks that require disturbance of ACM/PACM wallboard systems may be performed without the use of respirators or enclosures provided a current Negative Exposure Assessment (NEA) is in place. Please refer to the NEA for specific steps and procedures.

5.3.1. All NEA tasks must be approved by UofSC HAZMAT and UofSC EHS before work may begin. Approval requests must be submitted to UofSC HAZMAT and UofSC EHS using the following procedure:

- Notify the call center by phone or email hazmat@sc.edu with detailed scope of work for any NEA work. With the exception of emergency work, notifications must be submitted a minimum of three days prior to the beginning of the project.

5.3.2. All NEA tasks are subject to audit/inspection by UofSC HAZMAT or UofSC EHS.

6. AUXILIARY DEPARTMENTS AND REGIONAL CAMPUSES

6.1. Auxiliary Departments and Regional Campuses Projects

6.1.1. For any renovation or demolition project within the University system, the responsibility for asbestos management and compliance rests with the managing entity for the project. Auxiliary departments and regional campuses that elect to manage their own renovation/demolition project without involvement from UofSC Construction & Design or UofSC HAZMAT will assume full responsibility for all aspects of asbestos management and compliance for the project.

6.1.1.1. The following requirements apply to any department or campus that elects to manage their own project:

A. Your campus or department must have at least one staff member who will assume responsibility for asbestos management and compliance for the project.

B. Before beginning any renovation or demolition work, you must obtain an asbestos inspection report that is no more than 3 years old. This is a SCDHEC requirement and there are no exceptions. Note that SCDHEC has a very narrow definition of “renovation” – even small projects are regarded as renovations and are therefore subject to this requirement. An asbestos survey may be requested from UofSC HAZMAT. Alternatively, you may hire an outside contractor to conduct the required asbestos inspection. If so, you must forward the completed inspection report to hazmat@sc.edu for review before work may begin.

C. If you hire an outside contractor for a renovation or demolition project, before work begins, you must complete a Permit to Work. You must ensure this permit is signed by all contractor representatives. The completed, signed Permit to Work form must also be submitted to UofSC HAZMAT by emailing

hazmat@sc.edu. A copy of the permit and the asbestos inspection report must always remain on the jobsite.

D. If you decide to hire a contractor for the purposes of asbestos abatement, you must first notify UofSC HAZMAT by emailing hazmat@sc.edu.

E. You must notify building occupants or authorized representatives of any asbestos work being performed. This can be achieved through email or personal communication. It will be the representative or department asbestos manager's responsibility to inform occupants of work being performed.

6.2. Operations and Maintenance Tasks (O&M)

6.2.1. For work that is not considered a renovation or demolition (i.e., operations and maintenance tasks), you are still responsible for ensuring that no ACM is disturbed while performing the work. If building materials that may contain asbestos, such as wallboard systems, pipe insulation, ceiling tiles, mastics, and fireproofing, will be disturbed during the task, it is your responsibility to verify these materials are non-ACM before work.

6.2.2. You may elect to have members of your maintenance staff trained to perform certain routine tasks involving the disturbance of ACM/PACM wallboard systems. The maintenance staff must be trained for Class III work and certifications of training must be sent to UofSC HAZMAT by emailing hazmat@sc.edu.

6.2.3. You also may hire an outside contract group to perform certain routine tasks. A list of employees and copies of their qualifications must be sent to UofSC HAZMAT by emailing hazmat@sc.edu for review before the contract is signed.

7. BUILDING SERVICES

Building Services is UofSC Columbia's in-house construction group. They serve as the general contractors for most of the construction projects they are involved with. Building Services is responsible for obtaining an asbestos survey before the project start date. The electronic asbestos survey will be forwarded by building services to all subcontractors that will work on that the project.

8. ASBESTOS WASTE DISPOSAL

8.1. UofSC HAZMAT has a Temporary Storage License to store asbestos waste. A Temporary Storage License is a license issued by SCDHEC that authorizes storage of asbestos waste from small and minor projects at a secure location deemed acceptable by SCDHEC.

8.2. UofSC HAZMAT disposes of the asbestos waste by notifying SCDHEC using the abatement project quarterly report.

8.3. For permitted projects, UofSC HAZMAT may take the asbestos waste directly to a SCDHEC approved landfill.

FORMS

Permit to Work Request Form

Request for Permit to Work

Please complete this request form and submit to USC's Hazmat Section prior to any contracted work beginning to obtain a permit to work. Any missing information may delay the process of obtaining a permit to work. Please inform any contractor(s) of their responsibility to meet at USC Hazmat's office, located at 700 Pendleton St, at the designated time to review the permit information and obtain the permit packet. This packet will need to be available at the work site at all times.

1. **Contractor Information:** Name of contracting business, name of contractor's personnel in charge of the jobsite, contractor's phone number.

2. **Location of work to be performed:** Be specific, building name, room number, or general area.

3. **Detailed scope of work:** Be very specific. Include work that is to be completed and what surfaces will be disturbed, if any. Include colors, textures, etc.

4. **Duration of work:** Provide a start date and an approximate completion date. The permit **must be** obtained prior to work beginning.

5. **Provide service request number:**

Permit to Work

UNIVERSITY OF SOUTH CAROLINA
PERMIT TO WORK

Project Title	Click here to enter text.	Building	Click here to enter text.	CP/FM #	Click here to enter text.
Contractor Company	Click here to enter text.	Contractor Name/Phone #	Click here to enter text.		
Start Date/Duration	Click here to enter text.	Location(s) of Work in Building	Click here to enter text.		

Description of Work

Click here to enter text.

USC Project Manager: Click here to enter text. USC Safety Manager: **(803) 528-8191** USC EH&S: **(803) 777-5269**

Hazmat Notes

Click here to enter text.

The contractor must review the asbestos/lead survey report(s) prior to commencement of work and satisfy themselves to the best of their knowledge that their work activities will not disturb known asbestos/lead containing materials, unless by trained or licensed personnel. All information in this permit, including the asbestos/lead survey(s), must be shared with all contracted and subcontracted workers. If a material(s) is to be disturbed and has not been sampled but is deemed to be a suspect material for asbestos/lead, the contractor must immediately stop work on that material(s) and call USC HAZMAT at (803) 777-6175.

- **Contractor**

I hereby acknowledge that I have reviewed and understand the asbestos/lead survey(s) associated with the proposed work area as defined by the USC Project Manager and that the above-referenced description of work will not disturb the asbestos/lead containing materials included in the attached survey report(s). Any work involving asbestos or lead containing materials shall be carried out by a licensed asbestos/lead abatement contractor and with the appropriate environmental control methods in place. All removal/management/disposal of hazardous materials shall be performed in accordance with all federal, state, and local (e.g. – EPA, SCDHEC, OSHA) regulations. I hereby declare that no work beyond that described above will be carried out and that all precautionary measures will be adhered to by the contractor/subcontractor(s).

Name/Title:	Signature:	Date:
Click here to enter text.		

- **USC Project Manager**

Name/Title:	Signature:	Date:
Click here to enter text.		

- **USC Hazmat Authorization (if applicable)**

Name/Title:	Signature:	Date:
Click here to enter text.		

THIS PERMIT MUST REMAIN ONSITE AND AVAILABLE TO ALL WORKERS FOR THE DURATION OF THE PROJECT

Hazmat Incident Reporting Form

HAZMAT INCIDENT REPORTING FORM

WHO/WHEN/WHERE?

Where incident occurred:
Date(s) of occurrence:
USC Project Manager:
List any outside contractors involved. Include contact information.

INCIDENT OVERVIEW

Type of material disturbed? *(asbestos/lead)*:
Quantity disturbed: _____ sq. ft. or linear footage _____
Brief description of incident *(unauthorized disturbance, improper disposal, etc.)*:
Is an impact on human health or the environment likely as a result of the incident?

DETAILED NARRATIVE/CHRONOLOGY "ROOT CAUSE"

CORRECTIVE ACTIONS TAKEN TO PREVENT REOCCURENCE *(INCL. DATES OF COMPLETION)*:

SUPPORTING DOCUMENTATION ***(LIST HERE, BUT INCLUDE AS ATTACHMENT ANY PERTINENT CORRESPONDENCE, PHOTOS, DRAWINGS, SAMPLE RESULTS, ETC.)***

PERMIT TO WORK

Attach copy of "Permit to Work" and "Survey". **If no, "Permit to Work" and/or "Survey" why?**

SIGNATURES

Completed by: **Date:**
USC Facility HAZMAT Manager **Date:**

REPORT SUBMITTAL

Report submitted to: Occupational, Environmental, & Fire Safety Bureau Chief
Submission date:

Class I Work Checklist

USC EHS: CLASS I ASBESTOS WORK INSPECTION CHECKLIST

DATE:	TIME:	**DHEC CLASS:**
BUILDING:	AREA:	☐ NESHAP (>260 lf, >160 ft², >35 ft³)
USC PROJECT MANAGER:	WO#:	☐ SMALL (25 - 260 lf, 25 - 160 ft², 10 - 35 ft³)
CONTRACTOR:	AIR MONITOR:	☐ MINOR (<25 lf, <25 ft², <10 ft³)
AMOUNT REMOVED/DISTURBED:	COMPETENT PERSON:	
DESCRIPTION OF WORK:		

Y	N	NA	DOCUMENTATION
☐	☐	☐	1. Asbestos inspection conducted and available onsite?
☐	☐	☐	2. All entities been notified?
☐	☐	☐	3. Workers/supervisors train cert. & SC DHEC licenses?
☐	☐	☐	4. Project notified to SC DHEC prior to activity?
☐	☐	☐	5. SC DHEC permit available and posted?
☐	☐	☐	6. SDS available/posted for all chemicals used?
☐	☐	☐	7. Variances available and posted?
☐	☐	☐	8. Air sampling data available for review?
☐	☐	☐	9. Work area is secured?
☐	☐	☐	10. Air monitoring performed by licensed air monitor?
☐	☐	☐	11. Competent person on site for the duration of work?
☐	☐	☐	12. Regulated area established? (signs, tape)
☐	☐	☐	13. Initial exposure assessment conducted?
			CONTROL METHODS
☐	☐	☐	14. Proper control method in place? *(check at least one)*
☐			Negative Pressure Enclosure
			☐ minimum -0.02″ water pressure (manometer)
			☐ at least 4 ACH (show math)
			☐ smoke test/inspected (beginning of each shift)
			☐ deactivate electrical circuits (unless GFCI)
			☐ HVAC systems isolated
☐			Glovebag
			☐ dropcloth placed under removal activity
			☐ 6 mil minimum, seamless
			☐ smoke test prior to use
			☐ no modifications
			☐ completely covers circumference of pipe
			☐ not reused
			☐ surfaces < 150° F
			☐ collapsed using HEPA vacuum
			☐ wrap/seal loose adjacent material w/ 6 ml poly
			☐ at least 2 people
			☐ HEPA vac/encapsulate after abatement
☐			Small Walk-In Enclosure (no more than 2 persons)
			☐ 6 mil minimum
			☐ negative pressure w/ HEPA vacuum
			☐ smoke tested prior to use
			☐ washed, HEPA vac before re-use
			☐ HVAC systems isolated
☐	☐	☐	15. Decontamination method in place *(check at least one)*
☐			Decontamination Unit (>10 sq. ft. or 25 lf)
			☐ decon consists of 5 chambers in sequence?
			☐ respirators not removed in equipment room?
			☐ workers using shower unit?
☐			Adjacent equip. room/area (<10 sq. ft. or 25 lf)
			☐ enter/exit through equipment room
			☐ clothing cleaned w/ HEPA before removal
			☐ equipment/containers cleaned before removal

Y	N	NA	CONTAINMENT/NPE REQUIREMENTS
☐	☐	☐	21. No visible breaches or holes in containment?
☐	☐	☐	22. Negative pressure differential equipment operating?
☐	☐	☐	23. Water filter working & discharging to sanitary sewer?
☐	☐	☐	24. 24″ x 24″ viewing port available in external wall?
☐	☐	☐	25. Critical barriers over all openings/penetrations?
☐	☐	☐	26. Poly sheet covering walls, floors, ceilings not abated?
☐	☐	☐	27. Proper overlapping of wall/floor/ceiling sheeting?
☐	☐	☐	28. All movable objects cleaned, removed from work area?
☐	☐	☐	29. All non-movable objects covered with poly sheeting?
			WORK PRACTICES
☐	☐	☐	30. No track out or visible emissions observed?
☐	☐	☐	31. Wet methods used?
☐	☐	☐	32. ACM bagged while still wet?
☐	☐	☐	33. Impermeable dropcloth placed below removal activity?
☐	☐	☐	34. Dust/debris collected with HEPA vacuum?
☐	☐	☐	35. Contaminated debris cleaned up/disposed promptly?
			PPE
☐	☐	☐	36. Appropriate respirators worn? (Type:)
☐	☐	☐	37. Coveralls?
☐	☐	☐	38. Foot covers?
☐	☐	☐	39. Head covers?
			WASTE
☐	☐	☐	40. Waste storage dumpster/receptacle labeled?
☐	☐	☐	41. Waste storage dumpster/receptacle closed/locked?
☐	☐	☐	42. Transport vehicle lined with poly? *(except: drums)*
☐	☐	☐	43. Contents of waste containers adequately wet?
☐	☐	☐	44. Maintained in secured, locked location?
☐	☐	☐	45. Waste containers stored onsite properly labeled?
☐	☐	☐	46. Waste containers free of visible residue?
☐	☐	☐	47. Containers free of splits/punctures/tears?
☐	☐	☐	48. Equipment, etc. on transport veh. isolated by barrier?
			COMMENTS

Y	N	NA	AIR MONITORING
☐	☐	☐	16. Pre exposure monitoring conducted? (unless NEA)
☐	☐	☐	17. Daily exposure monitoring conducted? (unless NEA)
☐	☐	☐	18. Background air monitoring? (NESHAP)
☐	☐	☐	19. Daily air monitoring? (NESHAP)
☐	☐	☐	20. Clearance air monitoring? (NESHAP, Small)

CORRECTIVE ACTIONS

Item #	Root Cause	CA Due	Closed Date

Class III (O&M) Work Checklist

CLASS III ASBESTOS WORK COMPLIANCE CHECKLIST

LOCATION OF WORK:	DATE:
USC PROJECT MANAGER:	WO#
CONTRACTOR:	AUDITOR:
COMPETENT PERSON:	AMT. REMOVED:
DESCRIPTION OF WORK:	AIR MONITOR:

Y	N	NA	ITEM	COMMENTS
			Has an exposure assessment been conducted for this job?	
			Has a regulated area been established? (incl. proper signage)	
			Work is supervised by competent person?	
			Personal air monitoring conducted? *(required at sufficient intervals to validate exposure prediction)*	
			At least ½ face respirator and protective clothing worn when exposures >PEL, no NEA, disturbance of TSI/surfacing, dry removal, or emergencies?	
			Wet methods, HEPA vacuums, and prompt cleanup/disposal in effect?	
			Where TSI/surfacing is drilled, cut, abraded, sanded, chipped, broken or sawed, or where no NEA when disturbing other types of ACM, is drop cloth, critical barriers, and an isolation method (glove bag or mini enclosure) in use? *(SEE BELOW)*	Type of isolation method used:
			If no NEA, are adjacent equipment area (impermeable drop cloth) and decon procedures in use?	

MINI – ENCLOSURE CHECKLIST	GLOVEBAG CHECKLIST
☐ 6 mil minimum ☐ negative pressure w/ HEPA vacuum ☐ smoke tested prior to use ☐ washed, HEPA vac before re-use ☐ HVAC systems isolated ☐ Adjacent equipment room/area ☐ enter/exit through equipment room ☐ clothing cleaned w/ HEPA before removal ☐ equipment/containers cleaned before removal	☐ drop cloth placed under removal activity ☐ 6 mil minimum, seamless ☐ smoke test prior to use ☐ no modifications ☐ completely covers circumference of pipe ☐ not reused ☐ surfaces < 150° F ☐ collapsed using HEPA vacuum ☐ wrap/seal loose adjacent material w/ 6 ml poly ☐ at least 2 people ☐ HEPA vac/encapsulate after abatement

ADDITIONAL COMMENTS	Item #	Root Cause	Due	Closed