



**AUBURN UNIVERSITY**

**RISK MANAGEMENT & SAFETY**

**ASBESTOS CONTROL PROGRAM**

**September 22, 2006**

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## **1.0 INTRODUCTION**

Asbestos-containing materials (ACM) have been used widely in the construction industry. While the use of ACM in new building systems has been curtailed for most major applications, the presence of ACM in older building systems is still widespread. On this campus, ACM is still present in numerous buildings in the form of pipe insulation, sprayed-on fireproofing, sprayed-on acoustic insulation, and flooring materials. In most cases, this ACM does not pose a health hazard if left undisturbed. Nevertheless, activities that have the potential to disturb ACM must be carefully managed to prevent fibers from becoming airborne and creating an inhalation hazard.

Auburn University (AU) has established minimum procedures for managing ACM and presumed ACM (PACM) on AU properties in order to provide a safe and healthful work environment for its employees, students, contractors, and visitors. In recognition of the potential health problems associated with Asbestos, AU is committed to an effective ACM and PACM program including but not limited to controls, procedures, and abatement activities. These procedures are implemented and maintained through the AU's Risk Management & Safety, who have the responsibility for establishing procedures for managing the disturbance of ACM and PACM. These procedures are developed to ensure:

1. people are not exposed to significant levels of Asbestos fibers;
2. Asbestos waste is handled and disposed of properly, and;
3. members of the AU community have access to Risk Management & Safety for information, assistance, guidance, and interpretation regarding Asbestos related matters.

The purpose of this plan is to describe a program for controlling exposure to Asbestos in AU buildings. The principal elements of this program involve requirements and responsibilities for surveys, training and certification of workers, employee notifications, proper work procedures for activities that have the potential to disturb ACM and/or PACM, and proper disposal of Asbestos wastes.

The requirements outlined in this section are intended to provide the AU community with recommended procedures and information that should facilitate the successful completion of Asbestos abatement projects. Individual project circumstances may vary greatly depending on factors such as the type(s) or ACM present and whether the facility will remain occupied during the project, however, this document addresses common procedures for Asbestos abatement projects. Individual friable and non-friable Asbestos abatement projects will require project specific specifications developed by the designated representative and/or Project Designer.

## **2.0 PURPOSE AND APPLICABILITY**

This program applies to facilities owned and operated by AU. This program applies to AU personnel, consultants and contractors who may come in contact with or cause disturbance to ACM or PACM.

This program provides procedures and guidelines for maintaining, controlling disturbances, and abatement of non-friable and friable ACM and PACM to control the potential release of asbestos fibers.

The program includes the following key elements:

1. Defining responsibilities for implementation of the program;
2. Ensuring that ACM and PACM is identified and monitored;
3. Establishing procedures for notification and training of personnel, and;
4. Establishing minimum requirements for work involving disturbance of ACM and PACM.

Conflicts between the requirements of this program and regulatory requirements shall be governed by the more stringent regulation or standard.

The program is not intended to provide regulatory guidance for work performed by non-University personnel. AU shall not be responsible for acts or omissions of the contractor, its subcontractors, or any of its agents or employees performing any of the ACM and/or PACM abatement related tasks.

## **3.0 ROLES AND RESPONSIBILITIES**

### **3.1 Facilities**

#### **3.1.1 General**

The applicable Facilities Division e.g., Maintenance & Operations and Design and Construction Services has the responsibility for:

1. Managing all **Class I, II, III, and IV** Asbestos work including but not limited to maintenance, repair, replacement and abatement.
2. Coordinating ACM abatement project pre-planning with all appropriate campus disciplines including but not limited to contractors, designated representatives and/or Project Designer, and Risk Management & Safety.
3. Organizing inspection the work area prior to start of work in order to note existing conditions.
4. Conducting a pre-construction conference before beginning any friable or non-friable Asbestos abatement work. The pre-construction conference will be attended by the Facilities Division Project Manager, Risk Management & Safety, designated representatives and/or Project Designer, and contractors.

In addition, Facilities Building Services is responsible for interior cleaning of building space.

#### **3.1.2 Design and Construction Services**

As applicable to the specific project, Design and Construction Services will be responsible for:

1. Asbestos abatement projects including contractor, Project Designer, and/or designated representative selection, maintaining contractor submittals including those submitted by the Asbestos abatement contractor, overseeing project activities, and maintaining project records. The applicable Design and Construction Services Project Manager will coordinate, as required, with the appropriate Risk Management & Safety representative.
2. Determining the presence of ACM or PCAM by reviewing existing ACM records maintained by Maintenance & Operations or conducting an Asbestos survey in

accordance with EPA 40 CFR 763 Subpart E §85, §86, §87, and §88 of the project area. All Asbestos survey records will be maintained in the project record and a copy will be provided to Maintenance & Operations and Risk Management & Safety.

3. Retaining an accredited third party environmental consultant (Project Designer) to prepare bid documents, project drawings and specifications for Class I and II ACM or PACM abatement projects and/or to oversee the abatement work through completion (designated representative) while coordinating with Risk Management & Safety.
4. Ensuring that appropriate signs and warning labels are posted in project specific work areas.
5. Ensuring that the specifications for proper asbestos waste handling, storage and disposal in Class I and II Asbestos abatement contracts are followed.

Design and Construction Services shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 1:

**Table 1. Asbestos Record Retention Requirements**

<b>Record</b>	<b>Required Retention Time</b>
Project description and summary	Duration of ownership
Contractor project submittals including plans, notifications, certifications, licensure	Duration of ownership
Worker training and medical records	Duration of ownership
Respiratory certifications	Duration of ownership
Exposure measurement results	Duration of ownership
Bulk sampling and analysis	Duration of ownership
Site entry/exit logs	Duration of ownership
Waste disposal	Duration of ownership

**3.1.3 Maintenance & Operations**

For maintenance projects where the disturbance of ACM or PACM is required, Maintenance & Operations will contact and provide project specific information to and coordinate all activities with Risk Management & Safety.

Maintenance & Operations has the responsibility of:

1. Maintaining ACM data that provides information on the location, amount, and condition of ACM and PACM. This information will be disseminated to Design and Construction Services and Risk Management & Safety, and should be consulted prior to scheduling work in buildings.

2. Managing Class III and IV Asbestos work and maintaining all employee exposure and medical surveillance records. Supervisors for each trade are responsible for ensuring that their employees, who may perform Class III or IV Asbestos work or who may potentially disturb ACM, have received appropriate Asbestos Awareness Training and that they adhere to established procedures when working with ACM and PACM.
3. Ensuring that Maintenance & Operation employees who may disturb or come into contact with ACM while performing their duties, receive Asbestos Awareness Training and adhere to established procedures when working with ACM and PACM.
4. Ensuring that applicable employees are fit tested will document its procedure for respirator selection, provide medical evaluations for employees required to wear respirators, conduct fit testing, provide employee training, and document procedures for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators all in accordance with OSHA 29 CFR Part 134.

In order to prevent exposure of building occupants to Asbestos fibers, periodic surveillance of known locations of friable and non-friable ACM will be performed to determine if damage or deterioration has occurred. Maintenance & Operations personnel will conduct the surveillance and maintain the associated records.

If there is a need to perform sampling and analysis of suspect building materials, an accredited inspector shall conduct sampling in accordance with EPA 40 CFR 763.86 followed by analysis in accordance with EPA 40 CFR 763.87.

For asbestos waste generated by Maintenance & Operations activities ("in-house" work), the project supervisor shall ensure that asbestos-containing wastes are accumulated in sealed, labeled, impermeable bags or container in accordance with OSHA 29 CFR 1926.1101(1)(2) and disposed in accordance with EPA 40 CFR 61, Subpart M.

Maintenance & Operations shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 2:

**Table 2. Asbestos Record Retention Requirements**

<b>Record</b>	<b>Required Retention Time</b>
Medical examinations, records (Retained by attending Physician)	Duration of employment plus thirty (30) years
Training Records	Duration of Employment plus one (1) year
Respirator fit test records	Three (3) years
Required notification records(Bulk and air samples)	Duration of ownership
Location of ACM and/or PACM	Duration of ownership

**Table 2 continued**

Maintenance & Operations Asbestos work project records: Location/Date Project description Quantities Name of employees/SSN PPE Exposure measurements, methodology, and analytical results Waste disposal	Thirty (30) years
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**3.1.4 Building Services**

Building Services is responsible for interior cleaning in more than four million square feet of building space. This task is accomplished with a large staff of custodial employees. Custodial personnel assist in emergency response during the weekends.

Building Services personnel are limited to custodial activities during which employees contact but do not disturb ACM or PACM.

Building Services has the responsibility of:

1. Ensuring that all employees who may disturb or come into contact with ACM while performing their duties receive Asbestos Awareness Training.
2. Ensuring that their employees adhere to established procedures when working with ACM and PACM.
3. Reporting all potential occurrences of friable ACM to Maintenance & Operations and Risk Management & Safety.

Building Services shall prepare and maintain appropriate employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 3:

**Table 3. Asbestos Record Retention Requirements**

Record	Required Retention Time
Training Records	Duration of Employment plus one (1) year
Notification and location of potential friable ACM to Maintenance & Operations and Risk Management & Safety	Thirty (30) years

**3.2 Housing and Residence Life**

For projects where the disturbance of ACM or PACM is required, Housing and Residence Life will contact and provide project specific information to and coordinate all activities with Risk Management & Safety.



Housing and Residence Life has the following responsibility.

**3.2.1 In-house Activities**

1. Maintaining ACM data that provides information on the location, amount, and condition of ACM and PACM. This information will be disseminated to the Facilities Division and Risk Management & Safety, and should be consulted prior to scheduling work in buildings.
2. Managing Class III and IV Asbestos work and maintaining all employee exposure and medical surveillance records. Supervisors for each trade are responsible for ensuring that their employees, who may perform Class III or IV Asbestos work or who may potentially disturb ACM, have received appropriate Asbestos Awareness Training and that they adhere to established procedures when working with ACM and PACM.
3. Ensuring that employees who may disturb or come into contact with ACM while performing their duties, receive Asbestos Awareness Training and adhere to established procedures when working with ACM and PACM.
4. Ensuring that applicable employees are fit tested and will document its procedure for respirator selection, provide medical evaluations for employees required to wear respirators, conduct fit testing, provide employee training, and document procedures for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators all in accordance with OSHA 29 CFR Part 134.

In order to prevent exposure of building occupants to Asbestos fibers, periodic surveillance of known locations of friable and non-friable ACM will be performed to determine if damage or deterioration has occurred. Housing and Residence Life personnel will conduct the surveillance and maintain the associated records.

If there is a need to perform sampling and analysis of suspect building materials, an accredited inspector shall conduct sampling in accordance with EPA 40 CFR 763.86 followed by analysis in accordance with EPA 40 CFR 763.87.

For asbestos waste generated by Housing and Residence Life activities ("in-house" work), the project supervisor shall ensure that asbestos-containing wastes are accumulated in sealed, labeled, impermeable bags or container in accordance with OSHA 29 CFR 1926.1101(1)(2) and disposed in accordance with EPA 40 CFR 61, Subpart M.

Housing and Residence Life shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 4:

**Table 4. Asbestos Record Retention Requirements**

Record	Required Retention Time
Medical examinations, records (Retained by attending Physician)	Duration of employment plus thirty (30) years
Training Records	Duration of Employment plus one (1) year

**Table 4 continued**

Respirator fit test records	Three (3) years
Required notification records(Bulk and air samples)	Duration of ownership
Location of ACM and/or PACM	Duration of ownership
Housing and Residence Life Asbestos work project records: Location/Date Project description Quantities Name of employees/SSN PPE Exposure measurements, methodology, and analytical results Waste disposal	Thirty (30) years

**3.2.2 Contract Activities**

As applicable to the specific project, Housing and Residence Life will be responsible for:

1. Asbestos abatement projects including contractor, Project Designer, and/or designated representative selection, maintaining contractor submittals including those submitted by the Asbestos abatement contractor, overseeing project activities, and maintaining project records. The applicable Project Manager will coordinate, as required, with the appropriate Risk Management & Safety representative.
2. Determining the presence of ACM or PCAM by reviewing existing ACM available records or conducting an Asbestos survey in accordance with EPA 40 CFR 763 Subpart E §85, §86, §87, and §88 of the project area. All Asbestos survey records will be maintained in the project record and a copy will be provided to Risk Management & Safety.
3. Retaining an accredited third party environmental consultant (Project Designer) to prepare bid documents, project drawings and specifications for Class I and II ACM or PACM abatement projects and/or to oversee the abatement work through completion (designated representative) while coordinating with Risk Management & Safety.
4. Ensuring that appropriate signs and warning labels are posted in project specific work areas.
5. Ensuring that the specifications for proper asbestos waste handling, storage and disposal in Class I and II Asbestos abatement contracts are followed.

Housing and Residence Life shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 5:

**Table 5. Asbestos Record Retention Requirements**

<b>Record</b>	<b>Required Retention Time</b>
Project description and summary	Duration of ownership
Contractor project submittals including plans, notifications, certifications, licensure	Duration of ownership
Worker training and medical records	Duration of ownership
Respiratory certifications	Duration of ownership
Exposure measurement results	Duration of ownership
Bulk sampling and analysis	Duration of ownership
Site entry/exit logs	Duration of ownership
Waste disposal	Duration of ownership

**3.3 Athletics**

For projects where the disturbance of ACM or PACM is required, Athletics will contact and provide project specific information to and coordinate all activities with Risk Management & Safety.

Athletics has the following responsibility.

**3.3.1 In-house Activities**

1. Maintaining ACM data that provides information on the location, amount, and condition of ACM and PACM. This information will be disseminated to Risk Management & Safety, and should be consulted prior to scheduling work in buildings.
2. Managing Class III and IV Asbestos work and maintaining all employee exposure and medical surveillance records. Supervisors for each trade are responsible for ensuring that their employees, who may perform Class III or IV Asbestos work or who may potentially disturb ACM, have received appropriate Asbestos Awareness Training and that they adhere to established procedures when working with ACM and PACM.
3. Ensuring that employees who may disturb or come into contact with ACM while performing their duties, receive Asbestos Awareness Training and adhere to established procedures when working with ACM and PACM.
4. Ensuring that applicable employees are fit tested will document its procedure for respirator selection, provide medical evaluations for employees required to wear respirators, conduct fit testing, provide employee training, and document procedures for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators all in accordance with OSHA 29 CFR Part 134.

In order to prevent exposure of building occupants to Asbestos fibers, periodic surveillance of known locations of friable and non-friable ACM will be performed to determine if damage or deterioration has occurred. Athletics personnel will conduct the surveillance and maintain the associated records.

If there is a need to perform sampling and analysis of suspect building materials, an accredited inspector shall conduct sampling in accordance with EPA 40 CFR 763.86 followed by analysis in accordance with EPA 40 CFR 763.87.

For asbestos waste generated by Athletics activities ("in-house" work), the project supervisor shall ensure that asbestos-containing wastes are accumulated in sealed, labeled, impermeable bags or container in accordance with OSHA 29 CFR 1926.1101(l)(2) and disposed in accordance with EPA 40 CFR 61, Subpart M.

Athletics shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 6:

**Table 6. Asbestos Record Retention Requirements**

<b>Record</b>	<b>Required Retention Time</b>
Medical examinations, records	Duration of employment plus thirty (30) years (Retained by attending Physician)
Training Records	Duration of Employment plus one (1) year
Respirator fit test records	Three (3) years
Required notification records(Bulk and air samples)	Duration of ownership
Location of ACM and/or PACM	Duration of ownership
Housing and Residence Life Asbestos work project records: Location/Date Project description Quantities Name of employees/SSN PPE Exposure measurements, methodology, and analytical results Waste disposal	Thirty (30) years

**3.3.2 Contract Activities**

As applicable to the specific project, Athletics will be responsible for:

1. Asbestos abatement projects including contractor, Project Designer, and/or designated representative selection, maintaining contractor submittals including those submitted by the Asbestos abatement contractor, overseeing project activities, and maintaining project

records. The applicable Project Manager will coordinate, as required, with the appropriate Risk Management & Safety representative.

2. Determining the presence of ACM or PCAM by reviewing existing ACM available records or conducting an Asbestos survey in accordance with EPA 40 CFR 763 Subpart E §85, §86, §87, and §88 of the project area. All Asbestos survey records will be maintained in the project record and a copy will be provided to Risk Management & Safety.
3. Retaining an accredited third party environmental consultant (Project Designer) to prepare bid documents, project drawings and specifications for Class I and II ACM or PACM abatement projects and/or to oversee the abatement work through completion (designated representative) while coordinating with Risk Management & Safety.
4. Ensuring that appropriate signs and warning labels are posted in project specific work areas.
5. Ensuring that the specifications for proper asbestos waste handling, storage and disposal in Class I and II Asbestos abatement contracts are followed.

Athletics shall prepare and maintain appropriate building records and employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 7:

**Table 7. Asbestos Record Retention Requirements**

<b>Record</b>	<b>Required Retention Time</b>
Project description and summary	Duration of ownership
Contractor project submittals including plans, notifications, certifications, licensure	Duration of ownership
Worker training and medical records	Duration of ownership
Respiratory certifications	Duration of ownership
Exposure measurement results	Duration of ownership
Bulk sampling and analysis	Duration of ownership
Site entry/exit logs	Duration of ownership
Waste disposal	Duration of ownership

### **3.4 Foy Student Union**

Foy Student Union is responsible for interior cleaning of its building space. This task is accomplished with custodial employees. Foy Student Union personnel are limited to custodial activities during which employees contact but do not disturb ACM or PACM.

Foy Student Union has the responsibility of:

1. Ensuring that all employees who may disturb or come into contact with ACM while performing their duties receive Asbestos Awareness Training.
2. Ensuring that their employees adhere to established procedures when working with ACM and PACM.
3. Reporting all potential occurrences of friable ACM to Maintenance & Operations and Risk Management & Safety.

Foy Student Union shall prepare and maintain appropriate employee records to document that prescribed activities are conducted in accordance with this procedure. These records include, but are not limited to, those presented in Table 8:

**Table 8. Asbestos Record Retention Requirements**

Record	Required Retention Time
Training Records	Duration of Employment plus one (1) year
Notification and location of potential friable ACM to Maintenance & Operations and Risk Management & Safety	Thirty (30) years

### **3.5 Risk Management & Safety**

Risk Management & Safety, specifically the Asbestos Program Manager or his/her appointed designee, is responsible for:

1. assisting and facilitating the Asbestos Control Program including, Asbestos Awareness Training, disseminating information, and monitoring contractors, designated representatives, and disturbances and the abatement of non-friable and friable ACM and PACM on AU properties including review of all designated representative and contractor qualifications, submittals, project specifications, and testing.
2. Conducting Asbestos Awareness Training for applicable custodial staff and other employees who may perform Class IV Asbestos work, or who may disturb ACM or PACM while performing their required duties.
3. Periodically auditing the program including but not limited to Maintenance & Operations, Design and Construction Services, designated representative, and contractor activities, files, and records to insure compliance with federal, state, local, and AU regulations and/or guidelines.
4. Responding to complaints of suspected ACM and if necessary sample and analyze the material for Asbestos content. All such data will be shared with and maintained as required by Maintenance & Operations.
5. Coordinating Asbestos related matters not directly associated with maintenance and operations and abatement projects. This includes employee notification efforts and handling inquiries from employees on potential exposure in the workplace or classroom.
6. Providing technical assistance to Maintenance & Operations and Design and Construction Services in work plans, specification development, the planning phase of

Asbestos projects, evaluating credentials of contractors, and evaluating site monitoring activities before, during, and after abatement operations. For asbestos abatement contracts, Risk Management & Safety will provide guidance to Design and Construction Services in order to ensure that provisions for proper asbestos waste handling, storage and disposal are included in the contract specifications. Risk Management & Safety will review and provide comments on project drawings, bid specifications, project design, and project monitoring prepared by the designated representative and/or Project Designer and on contractor required submittals.

7. Evaluating and advising Maintenance & Operations and Design and Construction Services on laboratory results related to airborne Asbestos surveys, including those performed during abatement projects.

Risk Management & Safety will in conjunction with the Project Manager for Maintenance & Operations and Design and Construction Services, provide review and comment on Asbestos abatement project set-up, including the containment barrier, airlock assembly, decontamination facilities, and worker protection program.

### **3.6 Project Designer**

The Project Designer shall prepare bid documents, project drawings and specifications for Class I and II ACM or PACM abatement projects at the direction of the University's Project Manager in accordance with all provisions of these guidelines and under direction of Risk Management & Safety. The Project Designer shall have completed the training requirements for an abatement project designer established by 40 U.S.C. Sec. 763.90(g) and Code of Alabama 1975 Sec. 22-39-3. The Project Designer, if retained by AU and acting on its behalf, may also serve as the designated representative.

### **3.7 Designated Representative**

The designated representative functions as the on-site representative for the University and oversees the activities of the Asbestos abatement contractor and conducts testing as required. The designated representative, if retained by AU and acting on its behalf, may also serve as the Project Designer if all requirements for training as established by 40 U.S.C. Sec. 763.90(g) and Code of Alabama 1975 Sec. 22-39-3 are met.

### **3.8 Asbestos Abatement Contractor**

The abatement contractor for all Class I and Class II non-friable and friable ACM and/or PACM projects at AU shall be a licensed Asbestos Abatement Contractor by the ADEM.

The contractor shall be responsible for:

1. Furnishing all labor, materials, facilities, equipment, services, insurance, and incidentals necessary to remove all specified Asbestos within the work area as indicated in the project specifications and on project drawings provided by AU or our designated representative.
2. Restoring the work area and auxiliary areas utilized during the Asbestos abatement project to conditions equal to or better than original.

3. Completing a pre-bid walk-through of the project area before being allowed to bid on the project in order to verify the Scope of work and quantities. The Contractor shall inspect the work area prior to start of work and note all existing conditions.
4. Verifying all quantity measurements on project drawings due to the fact that quantities indicated may be estimates.
5. Complying with industry standards and use accepted state-of-the-art or better materials and products throughout all phases of the project.
6. Completing all appropriate state Asbestos project notifications and pay all notification fees.

Any damage to AU property by the contractor shall be promptly repaired by the contractor and assessed as a condition of final project acceptance. The contractor shall be responsible for restoring all work areas and surfaces to their original condition or better.

## **4.0 PRE-ABATEMENT PLANNING**

The work area shall be clearly defined by the project documents. Areas and conditions included as part of the work area shall be identified and included in the Class I and II Asbestos abatement project pre-bid project walk-through.

Areas with known ACM shall be clearly identified in project plans and at the pre-bid walk-through. Any suspected ACM not previously identified shall be sampled by AU or our designated representative in advance and any necessary modifications made to the scope of work for the project at that time.

Work areas will be surveyed prior to abatement activities in order to locate and plan the sealing and isolation of the work area through the final clearance phase of the project. This survey will ensure that critical barriers will be placed over all openings to the regulated area, coordination of the shut down of the heating, ventilation and air-conditioning (HVAC) system(s) in the work area, all steam and hot pipes will be cooled prior to work setup, and neutralization of all mechanical hazards (such as moving belts or shafts) in the work area.

Work schedules and activities will be planned to minimize the impact of Asbestos abatement on any areas that may remain occupied during the project. Decontamination and waste storage areas will be located.

## **5.0 CLASS I AND II ABATEMENT PROJECT SUBMITTALS**

### **5.1 Pre-Work Submittals**

Abatement contractors shall submit the following in a bound notebook to AU or our designated representative at the mandatory pre-construction conference prior to beginning any friable or non-friable Asbestos abatement work:

1. A detailed plan, developed by a Project Designer, describing the procedures proposed for use in complying with the requirements of the project specifications. The plan shall include the location and layout of the regulated area, critical barriers, decontamination areas, the sequencing of Asbestos work and methods to be used to assure the safety of



building occupants, workers, and visitors to the site. The plan shall also include methods for controlling visible emissions in the work area and the containerization of Asbestos debris.

2. A signed statement by the contractor that the contractors' employees who will be on site have had medical examinations by a licensed physician in the last 12 months.
3. A copy of the contractor's written OSHA Hazard Communication Program, contingency/emergency plan, and safety program.
4. Documentation that the contractor is currently licensed by ADEM for Asbestos abatement. **Note: License documentation is mandatory prior to beginning any friable or non-friable ACM or PACM work.**
5. Documentation of timely notification to ADEM and documentation of project fees paid.
6. Certificates of accreditation (Asbestos training) for each employee of the contractor who will be on site.
7. Documentation of respirator training and fit testing for each employee of the contractor who will be on the site. Fit test documentation shall be less than or equal to 6 months old at the end of the project.
8. Letter from an ADEM approved disposal site to be used indicating that the ACM removed from the site will be accepted for disposal.
9. A listing of authorized personnel to be granted access to work area.
10. All necessary permits, licenses, and insurance.
11. Documentation of contractor's notifications to Risk Management & Safety, Maintenance & Operations, and Design and Construction Services regarding the abatement project schedule.
12. The names and numbers of person(s) to be contacted on behalf of the contractor in cases of emergency.
13. Material Safety Data Sheets (MSDSs) for chemicals that will be used or that will be present at the job site.

## **5.2 Project Closeout Submittals**

Abatement contractors shall submit the following to AU or our designated representative in a bound notebook upon completion of the Asbestos abatement project:

1. Copies of daily project sign-in/sign-out logs and daily project log forms (including descriptions of unique or unusual events during the project).
2. A copy of final clearance certification.
3. A copy of the Completion Certification to the ADEM.
4. Copies of waste manifests, disposal documents and any other relevant records.
5. Documentation certifying that all replacement materials are Asbestos-free.

## 6.0

# CLASS I AND II ASBESTOS MINIMUM WORK PRACTICES

The following are minimum procedures pertinent to Class I and II Asbestos abatement. These procedures should not be construed as a complete list of requirements for abatement jobs.

1. "Asbestos Health Hazard" danger signs shall be posted at all entrances to the work area per CFR 1910.1001(j)(3) and CFR 1926.1101.(k) .
2. Isolation of the work area from occupied areas of the building shall be provided using 6ml polyethylene barriers and air locks. Anything or anyone leaving the work area shall be properly decontaminated.
3. Negative air pressure shall be maintained within the work area at a pressure differential of -0.02 inches of water relative to the outside environment. A minimum of 4 air changes per hour shall be achieved within the work area throughout the project. At a minimum, high efficiency particulate air (HEPA) filters used in negative air machines shall be replaced after 600 hours of continuous use.
4. Negative air pressure shall be maintained continuously in the work area from the beginning of the Asbestos abatement project until final air clearance is achieved.
5. AU shall provide and/or disconnect electrical services as needed upon the written request of the contractor. AU shall also identify appropriate power sources for contractor's use prior to beginning the project. The contractors electrical equipment shall be ground fault protected.
6. Industry-accepted Asbestos removal procedures shall be utilized. Visible evidence of Asbestos debris shall be removed using methods such as HEPA vacuuming, wet wiping, wet brushing, wet scraping and other state-of-the-art techniques or better. Dry sweeping shall be prohibited in the work area. All areas and surfaces shall be cleaned and restored to original condition or better.
7. Abated surfaces shall **not** be sealed or encapsulated until final visual inspection and clearance test results are accepted by AU or our designated representative.
8. Pigmented sealants/encapsulants shall be sprayed on abated surfaces after Asbestos has been removed and after acceptable final clearance has been achieved.
9. Projects involving contaminated soil crawl space areas shall generally require a minimum of 3 inches of surface soil removal within a 6-foot distance of the Asbestos source.
10. In preparation for ACM waste disposal, the contractor shall remove and properly containerize all Asbestos-contaminated materials including disposable coveralls and polyethylene sheets. Contaminated materials shall be adequately wetted and packaged in sealed leak-tight containers [OSHA 29 CFR 1926.1101(l)(2) and DOT 49 CFR Part 173.216] with approved OSHA and US DOT labels [1910.1001(j)(4) and OSHA 29 CFR 1926.1101(k)(8) and DOT 49 CFR 173 Subpart E], identifying the contents as Asbestos materials. Wet Asbestos waste shall be placed into labeled leak-tight wrappings and/or containers according to industry standards or better.

11. ACM waste containers shall be transported in enclosed vehicles to an ADEM approved disposal site. The contractor shall complete *Asbestos Disposal Manifest Forms* and shall send the appropriate copy to AU or our designated representative at the same time that waste is sent for disposal.
12. Contractors shall pay applicable disposal fees.

<b>7.0 CLASS III AND IV ASBESTOS MINIMUM WORK PRACTICES</b>
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Before Class III and IV Asbestos work is begun, Maintenance & Operations should determine the presence, location, and quantity of ACM and/or PACM at the work site per 1926.1101(k)(1). The following minimum procedures should be completed if ACM and/or PACM are identified. This should not be construed as a complete list of requirements for abatement jobs.

1. Notify the following:
  - a) AU personnel and contractors whose employees may reasonably be expected to work in or adjacent to areas containing the identified ACM and/or PACM.
  - b) Risk Management & Safety
2. Assess the work area(s) and ACM for their potential to release fibers.
3. Control entry to "regulated areas". Regulated areas shall be differentiated and isolated from the remaining workplace in any manner that minimizes unauthorized entry. Authorized personnel shall be supplied with and required to utilize appropriate personnel protective equipment including but not limited respirators as required by OSHA 29 CFR 1910(e). There shall be no eating, drinking, smoking, chewing tobacco or gum, or applying cosmetics in the regulated area.
4. Ensure appropriate signage including warning signs, warning labels per CFR 1910.1001(j)(3) and (j)(4) and CFR 1926.1101.(k)(6), (k)(7), and (k)(8) and are in-place, as applicable.
5. Ensure a "competent person" is on-site.
6. Implement appropriate engineering controls including but not limited to HEPA exhaust ventilation, wet removal methodology.
7. Secure ventilation, seal diffusers.
8. Provide respirators and other PPE, including but not limited to disposable coveralls, gloves, safety glasses, is available and ready for use
9. For Asbestos abatement utilizing a glove bag or small negative air enclosure:
  - Visquene (2 layers) have been placed under and around the ACM and/or PACM being disturbed.
  - TSI around removal location has been taped.
  - Tools, wipes and misc. equipment have been placed in glove bag.
  - Glove bags have been securely affixed. Seams have been sealed and are airtight.

- Glove bags have been tested with smoke tube and do not leak.
  - Glove bag Personal sampling pumps are calibrated with proper cartridges.
  - Glove bag Personal sampling pumps are calibrated with proper cartridges.
10. Ensure area sampling pumps are calibrated and have proper cartridges.
  11. Provide blank cartridges.
  12. Provide amended water or wetting agents and utilize.
  13. Ensure access ways are posted and secured.
  14. Properly label waste bags.
  15. Provide HEPA vacuum and/or other dust controlling methods are present and utilized.
  16. Lock out and tag out electrical circuits, etc.
  17. Ensure electrical cords are grounded and are not frayed.
  18. Ensure work area is left clean, no (visible) signs of Asbestos contamination.
  19. Ensure waste is double bagged and disposed properly.

Note: Class I & II Asbestos work will be performed by a Licensed Asbestos Abatement contractor.

## **8.0 PROHIBITED PRACTICES**

1. High-speed abrasive disc saws that are not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
2. Sand blasting of ACM or PACM.
3. Compressed air used to remove Asbestos, or materials containing Asbestos, unless the compressed air is used in conjunction with an enclosed ventilation system designed to capture the dust cloud created by the compressed air.
4. Dry sweeping, shoveling or other dry clean-up of dust and debris containing ACM and PACM.
5. Dry buffing of ACM or PACM floor tile at speeds greater than 300 rpm.
6. Use of unapproved floor buffing machines.
7. Stripping or finishing that does not utilize low abrasive pads and operate at speeds lower than 300 rpm and wet methods.

Note: Refer to Section 16.0 for projects involving floor tile/mastic or any other projects involving Negative Exposure Assessments.

## **9.0 CLEANING STANDARDS**

1. Inaccessible Asbestos materials (e.g. in wall cavities, etc.) may be sealed or encapsulated in-place with prior approval of AU or our designated representative.

2. All surfaces in the work area and decontamination unit shall be wet wiped, HEPA vacuumed, and cleaned and all debris shall be properly disposed.
3. All areas of the abatement project shall be subject to visual inspection and air sampling by AU and/or our designated representative. Aggressive air sampling procedures shall be used as part of final clearance testing of work areas where required by AU or our designated representative.

## **10.0 SITE SECURITY MEASURES**

AU and our designated representative shall have access to the work area for inspection at all times.

Supervision of the ACM abatement work shall be performed by an accredited Competent Person (as defined by OSHA 29 CFR 1926.1101) employed by the contractor at all times.

The work area shall be restricted to authorized, trained, and properly protected personnel.

Entry into the work area by unauthorized individuals shall be reported immediately to the project supervisor and AU or our designated representative and shall be documented in the project log.

## **11.0 PERSONNEL PROTECTION PRACTICES**

Worker protection measures as required by all provisions of OSHA 29 CFR 1926 (Construction Standards) including protective clothing, respirators and other equipment shall be the responsibility of the contractor. AU and/or our designated representative shall review and approve worker protective measures and methods prior to the beginning the project.

Contractors shall have, in effect on the project site, a written OSHA Hazard Communication Program as required by OSHA 29 CFR 1926.59.

Contractors shall have, in effect on the project site, a written contingency/emergency plan.

Contractors shall have, in effect on the project site, a written safety program for all employees.

Contractors shall remain in compliance with all rules, codes, standards, and regulations governing the safety of all individuals at the worksite and shall be solely responsible for any injuries, accidents, exposures or liabilities occurring due to non-compliance or failure to secure the work area.

## **12.0 PERSONNEL NOTIFICATIONS**

Employees in buildings known to contain ACM shall be notified. The "Asbestos Notification to Employees" will be performed by Risk Management & Safety. The notification will be sent to all employees, including part-time student workers.

Contractors shall be notified in writing by Design and Construction Services and/or Maintenance & Operations, as applicable as to the known existence of ACM in buildings or areas where construction or demolition is scheduled to occur.

## **13.0 TRAINING**

### **13.1 Inspector Training**

Any person engaged in the inspection of a facility for ACM shall have successfully completed an EPA-approved three-day inspector course of study.

### **13.2 Awareness Training**

Asbestos Awareness Training will be provided for Building Services personnel, maintenance, custodial, and trade i.e., electricians, HVAC, plumbers, etc., personnel who contact **but do not disturb** ACM in the course of their work. Awareness Training shall consist of at least two hours of instruction include, but not be limited to:

1. Information regarding Asbestos and its various uses and forms.
2. Information on the health effects associated with Asbestos exposure.
3. Locations of ACBM identified throughout each school building in which they work.
4. Recognition of damage, deterioration, and delamination of ACBM.
5. Contact name and number of the Risk Management & Safety contact and the availability and location of this document.

### **13.3 Class IV Asbestos Worker Training**

AU maintenance, custodial, and trade i.e., electricians, HVAC, plumbers, etc., involved in activities that may disturb ACM or PACM or to clean up dust, waste and debris resulting from Class I, II, and III activities shall be trained in a manner consistent EPA requirements per EPA 40 CFR 763.92(a)(1), subpart G, and OSHA 29 CFR 1910.1001(j)(7). This course shall include but may not be limited to the following information:

1. The health effects associated with Asbestos exposure.
2. The relationship between smoking and exposure to Asbestos producing lung cancer.
3. The quantity, location, manner of use, release, and storage of Asbestos, and the specific nature of operations which could result in exposure to Asbestos.
4. Location and types of identified ACM and PACM.
5. Instruction in recognition of damage, deterioration, and delamination of ACBM.
6. Requirements in OSHA 29 CFR 1910.1001 relating to housekeeping and proper response to fiber release episodes.
7. The engineering controls and work practices associated with the employee's job assignment.
8. The specific procedures implemented to protect employees from exposure to Asbestos, such as appropriate work practices, emergency and clean-up procedures, and personal protective equipment to be used.

### **13.4 Class III Asbestos Worker Training**

AU employees involved in repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed shall be:

1. Trained in a manner equivalent in curriculum to the 16-hour "Operations and Maintenance" course developed by EPA per 40 CFR 763.92 and include as a minimum the elements included in OSHA 29 CFR 1926.1101(k)(9)(viii) and the specific work practices and engineering controls set forth in paragraph (g) of that section, and include "hands-on" training in the work practices applicable to each category of material that the employee disturbs. The course must include "hands-on" training on proper respirator use and work practices.
2. Included in a medical surveillance program per § 7.0.
3. Fitted and instructed in the use and care of a respirator.
4. Refitted for the respirator annually or when a significant change in the face-to-mask fit is detected.

Note: abatement contractor's will be utilized for Class I and Class II non-friable and friable ACM and/or PACM projects at AU therefore training for Class I and Class II operations are outside the scope of this document.

## **14.0 MEDICAL MONITORING**

Personnel who perform Asbestos work for a combined total of 30 or more days per year or are exposed to airborne concentrations of Asbestos at or above the PEL and/or STEL will receive medical surveillance in accordance with OSHA 29 CFR 1910.1001(l) or 1926.1101(m).

## **15.0 EXPOSURE MONITORING**

### **15.1 Class III and IV Abatement Projects**

Initial and periodic personnel monitoring shall be conducted for AU employees who are, or may reasonably be expected to be, exposed to airborne concentrations at or above PEL and/or STEL in accordance with OSHA 29 CFR 1910.1001(d). Personnel monitoring will be performed during the Asbestos work to demonstrate that breathing zone concentrations were maintained below the PELs. Additionally, baseline air samples from the work site prior to Asbestos work may be conducted. Presently, the PELs for Asbestos are 0.1 fibers per cubic centimeter of air as an 8-hour time weighted average and 1.0 fibers per cubic centimeter of air as averaged over a 30-minute period.

#### **15.1.1 Exceptions to Initial Monitoring**

Where AU has relied upon objective data that demonstrate that Asbestos is not capable of being released in airborne concentrations at or above the TWA permissible exposure limit and/or excursion limit under the expected conditions of processing, use, or handling, then no initial monitoring is required.

## 15.2 Class I and II Abatement Projects

1. AU or our designated representative may require the contractor to conduct daily personal air sampling on abatement workers according to the procedures outlined in OSHA 29 CFR 1926.1101.
2. AU or our designated representative shall conduct exposure and assessment monitoring in accordance with OSHA 29 CFR 1926.1101 (f) in order to gauge the effectiveness of the abatement work methods.
3. Any laboratory selected for analyzing air samples shall possess current certification verifying their participation in the NIST, NVLAP and the AIHA PAT program. The laboratory shall also have demonstrated ability in analyzing clearance air samples using Phase Contract Microscopy (PCM) and transmission electron microscopy (TEM). Analysts for the laboratory shall have successfully completed the National Institute for Occupational Safety and Health (NIOSH) 582 course (or equivalent) and show proficiency in the NIOSH 7400 analytical method for fiber counting as published in the NIOSH Manual of Analytical Methods.
4. A complete record of **all** air sampling results and other records such as pump calibration data shall be furnished to the college/AU or their designated representative upon request.

Note : AU or our designated representative as justification to eliminate the need to collect air samples on the project shall not accept air sample results from the contractor's previous projects unless a Negative Exposure Assessment per §16 is performed. The contractor shall conduct personal and area air sampling for a minimum of two days on the project before any decision to terminate sampling will be made. Such air sampling shall continue until the University or our designated representative notifies the contractor that it may be discontinued.

## 15.3 Final Clearance Certification

1. The designated representative is responsible for conducting final project clearance testing.
2. Final clearance testing records shall be maintained by AU and include the results of visual inspections, equipment used, number of samples taken, sample locations, dates, airflow rates and time sampled.
3. All equipment, instruments and procedures used for final clearance testing shall be state-of-the-art or better.
4. Based on the size and configuration of the work area and the type of ACM or PACM being removed, the designated representative shall determine the number and type(s) of visual inspections and the total number of air samples necessary to achieve final clearance certification for the project. In addition, the designated representative shall determine whether aggressive or static air sampling will be required.
5. For larger abatement projects (especially those involving friable ACM) and for facilities that will be re-occupied, the work area is considered clean when there is no visible



residue present on work area surfaces and when the result of each air sample collected and analyzed by TEM reading is less than 70 structures per square cc.

6. Asbestos abatement projects performed in or near occupied areas shall require aggressive air sampling with TEM analysis for final clearance tests.
7. When the tested area(s) fail to meet the specified level of cleanliness, the area shall be re-cleaned by the contractor (at the contractor's expense) and re-sampled under the supervision of the designated representative. Repeated cleaning and clearance testing shall be required (at the expense of the contractor) until the acceptable final clearance level is achieved.
8. The AU or its designated representative may require additional air samples and/or additional analysis as needed.
9. Any questions concerning the Asbestos abatement specifications or clearance testing procedures shall be directed to the designated representative.

## **16.0 NEGATIVE EXPOSURE ASSESSMENT**

For ACM or PACM e.g. vinyl floor tile and/or mastic a Negative Exposure Assessment in accordance with OSHA 29 CFR 1926.1101(f)(2)(iii) may be performed. The Negative Exposure Assessment must be confirmed with the following:

1. objective data demonstrating an ACM or activities involving it **cannot** release airborne fibers in excess of PELs or STELs,
2. historical data from prior monitoring for similar Asbestos projects performed **within** 12 months of the current project and obtained during work operations conducted under similar conditions. Such historical data must have been collected under the direct supervision of and interpreted by an Industrial Hygienist. A National Institute of Standards and Technology (NIST), National Voluntary Laboratory Accreditation Program (NVLAP) and/or the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) program approved laboratory must have conducted the analysis of the collected samples. Such historical data must show a high degree of certainty that exposures will not exceed the PEL or STEL under current conditions and the exposure monitoring used breathing zone air samples representing the 8-hour TWA and 30-minute STEL for each employee in those operations most likely to result in exposures over the PEL or STEL for the Asbestos project, and
3. employee training and experience for the current project is no less than that provided for employees of the previous abatement project documented with historical data. In addition, the abatement contractor shall document appropriate training as required by OSHA 29 CFR 1926.1101(f)(2)(iii).

Note: Successful documentation of a Negative Exposure Assessment **only** alleviates the requirements for daily personal air sampling and donning respirators as set forth in this specification. All other requirements e.g., certified Asbestos contractor, other PPE, trained employees, medical monitoring, etc., set forth in these specifications remains in effect.

## **17.0 REPORTING OF INCIDENTS**

Any incident, accident, or emergency resulting in a known exposure of one or more employees must be immediately report to Risk Management & Safety, who will assess the case to include:

1. The employee(s) is unprotected by an appropriate respirator.
2. The employee(s) is exposed to Asbestos fibers at an 8-hour time-weighted average concentration of greater than 0.1 fibers/cc or a 30-minute time-weighted average concentration of greater than 1 fiber/cc.
3. Number of employees overexposed.
4. Circumstances surrounding the overexposure.
5. Results of any environmental analyses to monitor employee exposure or define the hazard
6. Steps taken to prevent recurrence or avoid future overexposures.
7. Type of structure repaired, constructed, or demolished, or product being manufactured.

## **18.0 FIBER RELEASE EPISODES**

### **18.1 Minor Fiber Release Episodes**

A minor fiber release episode is an incident in which 3 square feet or less of friable ACBM is dislodged. In such an event, Maintenance & Operations will insure the following procedures are followed:

1. Only Class III Asbestos workers perform clean-up operations.
2. Wet methods are utilized in the clean-up operations.
3. Properly package, label, and dispose of the waste material.

### **18.2 Major Fiber Release Episodes**

A major fiber release episode is an incident in which greater than 3 square feet of friable ACBM is dislodged. In such an event, Maintenance & Operations will insure the following procedures are followed:

1. Only Class III Asbestos workers perform clean-up operations.
2. Restrict entry to the work area
3. Post appropriate signage.
4. Shut-off or temporarily modify the air-handling system to prevent distribution of fibers outside the area.
5. Utilize appropriate engineering controls and work methodology in the clean-up operations.
6. Properly package, label, and dispose of the waste material.

## **19.0 WASTE MANAGEMENT**

All asbestos-containing waste materials are considered hazardous wastes and must be handled and disposed in accordance with hazardous waste management procedures (EPA 40 CFR, DOT 29 CFR).

## **20.0 STOP WORK**

Maintenance & Operations Director, General Construction Manager, and/or Asbestos Supervisor, the Design and Construction Services Project Manager, or designated representative may issue a stop work order at any time if concerns arise regarding safety, the integrity of the work area, security or other related concerns. If a verbal or written "stop work order" is issued due to personnel, environmental or property safety risks or due to violations of rules or regulations, the contractor shall immediately stop all work until further notice.

## **21.0 CHANGE ORDERS**

No work beyond the specified scope shall be performed without written permission by AU and an official-approved change order.

# APPENDICES

## **Appendix 1: References**

Work involving potential disturbance of ACM shall be performed in compliance with current federal and state regulations as well as accepted state-of-the-art industry standards. The following references to standards and guidelines are intended to provide guidance:

1. Code of Alabama 1975 Sec. 22-39-2 and 22-39-3 et seq.
2. The Alabama Asbestos Contractors Accreditation Act, 89-517
3. Rules of the Alabama Department of Environmental Management (ADEM) (Chapter 335-3-11)
4. Environmental Protection Agency (EPA) Regulations for Asbestos, Title 40 CFR, Part 61, National Emission Standards for Hazardous Air Pollutants, Subparts A and M
5. EPA Asbestos Model Accreditation Plan (Training of Asbestos Workers), Title 40 CFR 736.92(a)(2)
6. EPA Worker Protection Rule, Title 40 CFR 763 Subpart G
7. Occupational Safety and Health Administration (OSHA), U.S. Department of Labor, Title 29; CFR, Section 1926.1101
8. OSHA, U.S. Department of Labor (Respiratory Protection), Title 29 CFR Section 1910.134
9. OSHA, U.S. Department of Labor (Access to Employee Exposure and Medical Records), Title 29, CFR, Section 1910.20
10. OSHA, U.S. Department of Labor (Hazard Communication for the Construction Industry), Title 29, CFR, Section 1926.59
11. The Asbestos School Hazard Abatement and Reauthorization Act (ASHARA) - 15 USC 2641-2656
12. Transportation, Title 49, CFR, Parts 171 and 172
13. Contractors are required to have a written Confined Space Entry Program in compliance with OSHA 1910.146
14. EPA Guideline "Managing Asbestos In Place", July 1991
15. All other State, County, and City codes and ordinances as applicable.

## Appendix 2: Definitions

1. ADEM – means the Alabama Department of Environmental Management
2. Asbestos - includes chrysotile, amosite, crocidolite, tremolite Asbestos, anthophyllite Asbestos, actinolite Asbestos, and any of these minerals that have been chemically treated and/or altered.
3. Asbestos Abatement Contractor – means any person, firm, or corporation who is licensed by the State of Alabama to remove, enclose, or encapsulate ACM.
4. Asbestos-containing material (ACM) - means any material containing more than 1% Asbestos.
5. Asbestos-containing building material (ACBM) - means surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a building.
6. Asbestos-containing waste materials - means any waste that contains commercial Asbestos and is generated by a source subject to the provisions of these specifications. This term includes filters from control devices, friable/non-friable Asbestos waste material, and bags or other similar packaging contaminated with Asbestos. As applied to demolition and renovation operations, this term also includes regulated Asbestos-containing material waste and materials contaminated with Asbestos including disposable equipment and clothing.
7. Asbestos Program Manager – The Asbestos Program Manager for AU is the Associate Director of Risk Management & Safety or his/her appointed designee. The Asbestos Program Manager is responsible for facilitation of abatement activities related to friable and non-friable ACM or PACM.
8. Authorized person - means any person authorized by AU and required by work duties to be present in regulated areas.
9. Category I non-friable ACM means Asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent Asbestos as determined using the method specified in appendix E, subpart E, EPA 40 CFR part 763, section 1, Polarized Light Microscopy.
10. Category II non-friable ACM means any material, excluding Category I non-friable ACM, containing more than 1 percent Asbestos as determined using the methods specified in appendix E, subpart E, EPA 40 CFR part 763, section 1, Polarized Light Microscopy that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.
11. Certified Industrial Hygienist (CIH) - means one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.
12. Class I Asbestos work - means activities involving the removal of thermal system insulation (TSI) and surfacing ACM and PACM.
13. Class II Asbestos work - means activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the

removal of Asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

14. Class III Asbestos work - means repair and maintenance operations, where "ACM", including TSI and surfacing ACM and PACM, is likely to be disturbed.
15. Class IV Asbestos work - means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, and III activities.
16. Competent person - means, in addition to the definition in OSHA 29 CFR 1926.32 (f), one who is capable of identifying existing Asbestos hazards in the workplace and selecting the appropriate control strategy for Asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in OSHA 29 CFR 1926.32(f): in addition, for Class I and Class II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (EPA 40 CFR 763) for supervisor, or its equivalent and, for Class III and Class IV work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at EPA 40 CFR 763.92 (a)(2).
17. Damaged friable miscellaneous ACM - means friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACM in question may also indicate damage.
18. Damaged friable surfacing ACM - means friable surfacing ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACM in question may also indicate damage.
19. Damaged or significantly damaged thermal system insulation ACM - means thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; occasional water damage on the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACM in question may also indicate damage.

20. Demolition means the wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of Asbestos products
21. Disturbance - means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.
22. Employee exposure - means that exposure to airborne Asbestos that would occur if the employee were not using respiratory protective equipment.
23. Encapsulation - means the treatment of ACBM with a material that surrounds or embeds Asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).
24. Enclosure - means an airtight, impermeable, permanent barrier around ACBM to prevent the release of Asbestos fibers into the air.
25. Excursion limit (Short term exposure limit) – The employer shall ensure that no exposure to an airborne concentration of Asbestos in excess of 1.0 fiber over cubic centimeter of air (1f/cc) as averaged over a sampling period of thirty (30) minutes.
26. Exposure monitoring – means employee exposure measurements made from breathing zone air samples representing the 8-hour TWA and 30-minute short-term exposures for each employee.
27. Fiber - means a particulate form of Asbestos, 5 micrometers or longer, with a length-to diameter ratio of at least 3 to 1.
28. Fiber release episode - means any uncontrolled or unintentional disturbance of ACBM resulting in visible emission.
29. Friable - means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.
30. Functional space - means a room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling and the floor or roof deck above), such as classroom(s), a cafeteria, gymnasium, hallway(s), designated by a person accredited to prepare management plans, design abatement projects, or conduct response actions.
31. Glovebag - means not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an Asbestos-containing material, with glove-like appendages through which material and tools may be handled.
32. High-efficiency particulate air (HEPA) filter - means a filter capable of trapping and retaining at least 99.97 percent of 0.3 micrometer diameter mono-disperse particles.



33. Homogeneous area - means an area of surfacing material or thermal system insulation that is uniform in color and texture.
34. Industrial hygienist - means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.
35. Intact - means that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the Asbestos is no longer likely to be bound with its matrix.
36. Negative Initial Exposure Assessment - means in addition to a demonstration by the employer, which complies with the criteria in paragraph OSHA 29 CFR 1926.1101(f)(2)(iii), that employee exposure during an operation is expected to be consistently below the PELs, the ability to provide written documentation at the time of the Negative Initial Exposure Assessment of the criteria in paragraph OSHA 29 CFR 1926.1101(f)(2)(iii).
37. Non-friable - means material which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.
38. PACM - means presumed Asbestos containing material.
39. Permissible exposure limits (PELs)
  - a) Time –weighted average (TWA). The project specific specifications shall ensure that no employee is exposed to an airborne concentration of Asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight (8) hour TWA as determined by the methods prescribed in Appendix A of OSHA 29 CFR 1926.1101, or by an equivalent method.
  - b) Excursion limit or STEL. The employer shall ensure that no exposure to an airborne concentration of Asbestos in excess of 1.0 fiber over cubic centimeter of air (1f/cc) as averaged over a sampling period of thirty (30) minutes.
40. Potential damage means circumstances in which:
  - a) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.
  - b) There are indications that there is a reasonable likelihood that the material or its covering will become damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage
41. Potential significant damage - means circumstances in which:
  - a) Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.
  - b) There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

- c) The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion
42. Presumed Asbestos containing material - means thermal system insulation and surfacing material found in buildings constructed no later than 1980. All materials meeting this definition must be presumed to be Asbestos containing and handled as such unless analytical data proves otherwise.
  43. Preventive measures - means actions taken to reduce disturbance of ACM or otherwise eliminate the reasonable likelihood of the material's becoming damaged or significantly damaged.
  44. Prohibitions – means work practices and engineering controls that shall not be used for work related to Asbestos or for work which disturbs ACM or PACM, regardless of measured levels of Asbestos exposure or the results of initial exposure assessments.
  45. Project Designer – means a person who has successfully completed the training requirements for an abatement project designer established by 40 U.S.C. Sec. 763.90(g) and Code of Alabama 1975 Sec. 22-39-3.
  46. Project Manager – means a person who functions as the on-site representative of AU and oversees the activities of the Asbestos abatement contractor.
  47. Regulated area - means an area established by the employer to demarcate areas where airborne concentrations of Asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limits.
  48. Regulated Asbestos-Containing Material (RACM) - means friable Asbestos material; Category I Non-Friable Asbestos-Containing Material that has become friable or will be subjected to sanding, grinding, cutting or abrading; and Category II Non-Friable Asbestos-Containing Material that has a high probability of becoming crumbled, pulverized or reduced to a powder by the forces expected to act on the material in the course of demolition or renovation operations.
  49. Removal - means all operations where the taking out or the stripping of substantially all ACM and/or PACM from structures or substrates occurs. This includes remodeling, renovation, and/or demolition.
  50. Renovation – means the modifying of any existing structure or portion thereof.
  51. Repair - means overhauling, rebuilding, reconstructing, and/or reconditioning of structures or substrates, including encapsulation or other repair of ACM and/or PACM attached to structures or substrates or returning any portion thereof to an undamaged condition or to an intact state.
  52. Response action - means a method, including removal, encapsulation, enclosure, repair, operations and maintenance, which protects human health and the environment from friable ACM.
  53. Routine maintenance area - means an area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.

54. Surfacing ACM - means surfacing material which contains more than 1 percent Asbestos.
55. Surfacing material - means material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes.
56. Thermal System Insulation (TSI) - means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.
57. Thermal System Insulation ACM - means thermal system insulation which contains more than 1 percent Asbestos.