

Prepared for:

**Kyrene Elementary School District
8700 South Kyrene Road
Tempe, Arizona 85284**

**AHERA ASBESTOS
MANAGEMENT
PLAN**

FOR

**KYRENE DEL MILENIO ELEMENTARY SCHOOL
4630 EAST FRYE ROAD
PHOENIX, ARIZONA 85048**

Prepared by:



Dominion Environmental Consultants, Inc.
20045 North 19th Avenue, Building 7
Phoenix, Arizona 85027
(623) 516-1415

June 20, 2025

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SECTION 1



GENERAL INVENTORY

Dominion Environmental Consultants, Inc.
General Inventory

Client: Kyrene Elementary School District		Campus: Kyrene Del Milenio Elementary			
Date: June 20, 2025		Address: 4630 East Frye Road, Phoenix, Arizona 85048			
Building	Building Description	BSC or AL	Friable ACBM	Non-Friable ACBM	Assumed ACBM
Main Building	Classrooms, Restrooms, Main Office, Library, Kitchen, Multi-Purpose Room, Storage Areas, Janitor Closets, Electrical Room, Teacher Work Room, Stage, & Health	BSC	No	None	Yes

Key:
BSC = Bulk Samples Collected
Architectural Letter = AL



SECTION 2



INSPECTION REPORT

SECTION 3



DESIGNATED PERSON IDENTIFICATION

AHERA
Designated Person
796.93(c)(4)

LEA Designated Person

Print Name:

Address:

Phone:

Training Course Name:

Dates of Training:

Hours of Training:

Signature:

Date:

SECTION 4



AHERA TRAINING CERTIFICATIONS OF SCHOOL STAFF MEMBERS

SECTION 5



RESPONSE ACTIONS WITH DETAILS, REASONS AND SCHEDULES

Response Actions

Management Planner:

Print Name: Tracey Carpenter

Signature:

Tracey Carpenter

State of Accreditation or EPA: EPA AHERA - Arizona

Accreditation # & Date: # ON-4651-14588-071124 – July 11, 2025

Date: June 20, 2025

Building: Main Building

Homogeneous Area #: 30

Homogeneous Area Description: Insulation for Silver Flex Duct Wrap

Location: Above the Ceiling

Action:	Repair	Remove	O & M	X
	Encapsulation	Enclose		

Reason: Assumed ACBM in Good Condition with No Potential for Disturbance

Schedule (Start/Finish): End of ACBM Life

ACBM Remaining After Response Action: 2,250 sq. ft.

Response Actions

Management Planner:

Print Name: Tracey Carpenter

Signature:

Tracey Carpenter

State of Accreditation or EPA: EPA AHERA - Arizona

Accreditation # & Date: # ON-4651-14588-071124 – July 11, 2025

Date: June 20, 2025

Building: Main Building

Homogeneous Area #: 31

Homogeneous Area Description: Insulation for Silver Duct Wrap

Location: Above the Ceiling

Action:	Repair	Remove	O & M	X
	Encapsulation	Enclose		

Reason: Assumed ACBM in Good Condition with No Potential for Disturbance

Schedule (Start/Finish): End of ACBM Life

ACBM Remaining After Response Action: 2,250 sq. ft.

Response Actions

Management Planner:

Print Name: Tracey Carpenter

Signature:

Tracey Carpenter

State of Accreditation or EPA: EPA AHERA - Arizona

Accreditation # & Date: # ON-4651-14588-071124 – July 11, 2025

Date: June 20, 2025

Building: Main Building

Homogeneous Area #: 32

Homogeneous Area Description: Insulation for Silver Ceiling Wrap

Location: Above the Ceiling

Action:	Repair	Remove	O & M	X
	Encapsulation	Enclose		

Reason: Assumed ACBM in Good Condition with No Potential for Disturbance

Schedule (Start/Finish): End of ACBM Life

ACBM Remaining After Response Action: 2,250 sq. ft.

Response Actions

Management Planner:

Print Name: Tracey Carpenter

Signature:

Tracey Carpenter

State of Accreditation or EPA: EPA AHERA - Arizona

Accreditation # & Date: # ON-4651-14588-071124 – July 11, 2025

Date: June 20, 2025

Building: Main Building

Homogeneous Area #: 34

Homogeneous Area Description: Insulation for White Pipe Wrap

Location: Above the Ceiling

Action:	Repair	Remove	O & M	X
	Encapsulation	Enclose		

Reason: Assumed ACM in Good Condition with No Potential for Disturbance

Schedule (Start/Finish): End of ACM Life

ACBM Remaining After Response Action: 2,250 sq. ft.

SECTION 6



ACCREDITATION STATEMENT

**Assurance of Accreditation
Under this Management Plan**
763.93(e)(7)

Inspector:

Name: Isai Portillo

State of Accreditation or EPA: EPA AHERA Building Inspector - Arizona

Accreditation Date(s): December 12, 2024 – December 12, 2025

Accreditation Number(s): ON-188748-19438-121224

Management Planner:

Name: Tracey Carpenter

State of Accreditation or EPA: EPA AHERA Management Planner – Arizona

Accreditation Date(s) Valid: July 11, 2024-July 11, 2025

Accreditation Number(s): ON-4651-14588-071124

Any Project Designer, Contractor/Supervisor or Worker who performs work on response actions under this Management Plan shall be accredited by either an EPA approved state contractor accreditation plan or an EPA approved course under section 206(b) to Title II of the Toxic Substance Control Act.

SECTION 7



REMAINING ACBM

Dominion Environmental Consultants, Inc.
Remaining ACBM After Planned Response Actions

Client: Kyrene Elementary School District		Campus: Kyrene Del Milenio Elementary	
		Address: 4630 East Frye Road, Phoenix, Arizona 85048	
Building: Main Building			
Homogeneous Area Number	Material Description	Location(s)	Approximate Quantity (sq ft)
Assumed ACBM			
9	Smooth Drywall System	Storage Rms 5 & 8	350
10	White 4" x 4" Ceramic Wall Tile & Grout	Storage Rms 5 & 8	512
11	Gray Epoxy Flooring	Storage Rms 5 & 8	240
12	New Fixture Caulking	Storage Rms 5 & 8	15
13	Concrete Foundation	Storage Rms 5 & 8	330
14	Orange Peel Drywall System	Storage Rms 5 & 8	460
15	White Vinyl 2' x 2' Ceiling Tile	Library	1,100
16	White w/Black Specs 12" x 12" VCT & Mastic	Rms 1, 7 & 15	350
17	Black Sink Coating	Rms 17 & 22	20
18	Concrete Foundation	Throughout	88,000
19	Brown 16" x 4" Brick & Mortar	Multi-Purpose Room	5,000
20	Floor Expansion Joint	Multi-Purpose Room	200
21	Interior Expansion Joint	Multi-Purpose Room	100
22	Brown Frame Sealant	Multi-Purpose Room	150
23	Beige 2' x 4' Ceiling Tiles	Kitchen	540
24	Silver Caulking	Kitchen	50
25	White 2' x 4' Ceiling Tiles	Kitchen	50
26	Black Square Vinyl Stair Tread	Stairs to Rm 22 & Stage	84
27	Black 12" x 60" Vinyl Stair Tread	Stairs to Rm 22 & Stage	100
28	Gray Door Sealant	Office Entry	20
29	Interior Drywall Mat	Above Ceiling	20,000
30	Silver Flex Duct Wrap & Insulation	Above Ceiling	2,250
31	Silver Duct Wrap & Insulation	Above Ceiling	2,250
32	Silver Ceiling Wrap & Insulation	Above Ceiling	2,250
33	Gray Duct Mastic	Above Ceiling	2,250
34	White Pipe Wrap & Insulation	Above Ceiling	2,250
35	Black Foam Pipe & Insulation	Above Ceiling	2,250
36	Red Fire Stop Caulking	Above Ceiling	2,250

Dominion Environmental Consultants, Inc.
Remaining ACBM After Planned Response Actions

Client: Kyrene Elementary School District		Campus: Kyrene Del Milenio Elementary	
		Address: 4630 East Frye Road, Phoenix, Arizona 85048	
Building: Main Building			
Homogeneous Area Number	Material Description	Location(s)	Approximate Quantity (sq ft)
37	Gray 4" x 4" Ceramic Wall Tile & Grout	Restroom	3,000
38	Black 4" x 4" Ceramic Wall Tile & Grout	Restroom	200
39	Beige 4" x 4" Ceramic Wall Tile & Grout	Restroom	4,000
40	Beige 4" x 4" Ceramic Cove Base Tile & Grout	Restroom	600
41	Gray w/White Specs 2"x2" Ceramic Floor Tile	Restroom, Storage, & Rm 15	3,100
42	Blue 2" x 2" Ceramic Floor Tile	Restroom	500
43	Tan 2" x 2" Ceramic Floor Tile	Restroom	500
44	Fixture Caulking	Restroom	100
45	Tan w/White Specs 12" x12" Vinyl Flooring & Mastic	Rm 41	5
46	Fiberglass Reinforced Plastic (FRP) & Mastic	Wing C - Boy's RR & Custodial Rm	40
47	Mop Sink Caulking	Wing C - Boy's RR & Custodial Rm	6
48	White Pipe Wrap & Insulation	Wing C - Boy's RR & Custodial Rm	5
49	Gray w/White Specs 12"x12" Vinyl Flooring & Mastic	Wing C - Boy's RR & Custodial Rm	80
50	Yellow 4" x 4" Ceramic Wall Tile	Wing C - Boy's RR	108

SECTION 8



OPERATIONS & MAINTENANCE PLAN

KYRENE ELEMENTARY SCHOOL DISTRICT

OPERATIONS AND MAINTENANCE PLAN

for

ASBESTOS CONTROL

O & M POLICIES AND PROCEDURES

1. INTRODUCTION

Asbestos is a common name for a group of natural minerals that separate into strong, fine fibers when crushed or broken. Its unique fiber properties include tensile strength, thermal insulation, chemical resistance, condensation control, friction resistance, and non-combustibility. Asbestos has been mined from the earth like coal for thousands of years.

The two groups of asbestos are serpentine and amphibole. The three most commonly found asbestos types are:

- * Serpentine chrysotile, known as the "white" asbestos, is found in about 91 percent of all asbestos used in commercial products. It has fine, long, flexible fibers with high tensile strength and is primarily mined in Canada and the Soviet Union.
- * Amphibole amosite, known as the "brown" asbestos, is found in about 8 percent of all asbestos used in commercial products. It has straight, brittle fibers and resists temperatures up through 480 degrees Celsius. It is mined primarily in South Africa.
- * Crocidolite, known as the "blue" asbestos, is found in less than 1 percent of all asbestos used in commercial products. It is the strongest of asbestos with straight and brittle fibers and is also mined in South Africa.

Also included in the amphibole group are anthophyllite, tremolite and actinolite. These types are rarely used in commercial products but may be found as contaminants included in the base ingredients of commercial products.

History

The asbestos industry began in the 1870s when the first commercial chrysotile mine opened in Quebec, Canada. In South Africa, crocidolite was mined in the 1880's while amosite mining began in 1916.

From 1870-1900, asbestos was used in insulation and gaskets. After 1900, its most common use was on steam pipes and boilers in ships. In the 1940's, asbestos was mostly used in the form of mechanical insulation. The three classifications of building materials that contain asbestos include: (1) Thermal System Insulation (TSI), which is mechanical system insulation used to control heat transfer or condensate on plumbing and HVAC systems; (2) Surfacing Material, which is any material sprayed or troweled on surfaces, such as fireproofing, plaster or acoustical applications; (3) Miscellaneous Material, which includes anything which is not TSI or Surfacing, such as roofing, flooring, drywall, or asbestos cement products.

The 1940's marked major changes in the use of asbestos in the United States. Asbestos use was expanded to include architectural finishes. Amosite became widely used for insulation in ships and shipyards. Spray-applied fireproofing materials were largely used in buildings. From 1945 to 1980, it has been estimated that more than half of the large, multi-story buildings constructed contain asbestos spray-applied materials.

Asbestos-Related Diseases

Asbestos fibers enter the body in two ways: (1) inhalation or (2) ingestion. They cannot enter the body by penetrating the skin.

The three main asbestos-related diseases are (1) Lung Cancer, a cancer of the bronchial tube area of the lungs, (2) Asbestosis, a scarring of the lung at the alveoli area which restricts oxygen intake, and (3) Mesothelioma, a tumor or cancer occurring on the tissue which lines the lung area and the intestinal area of the body.

The latency period for asbestos-related diseases is usually 20 - 40 years, depending on the disease. Exposure to asbestos is asymptomatic. While generally not treatable, asbestos diseases are dose-response related and quite preventable (the purpose of a pro-active O & M program).

Asbestos Today

At one time there were over 3,600 commercial products that contained varying amounts of asbestos. The Federal Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) estimate that over 2,000 of the 3,600 asbestos containing products were used in a variety of building materials. By 1978 EPA had banned the use of asbestos in any spray application and TSI. However, most other uses of ACM are still allowed.

Asbestos Management In Buildings

The first three steps to manage ACM in a facility are:

- * Identify and determine the extent of the problem,
- * Perform a hazard assessment on each material to determine its potential for asbestos fiber release, and
- * Develop a plan and schedule to deal with ACM in each facility. This is the Asbestos Management Plan.

In the planning process, there are five options to deal with the ACM. They include (1) operations and maintenance (O & M) program, (2) repair, (3) enclosure, (4) encapsulation and (5) removal. While removal of asbestos from facilities is the only permanent option, and will be required at some point of building use, (disturbance by renovation or demolition: see 40 CFR 61 Subpart M, 11/20/90), it is not always the most practical initial option. Often, O & M practices are recommended as the most feasible and economic option that may protect human health and the environment. It should also be noted that any control option other than removal will result in the need for an O & M program to maintain the ACM which is being left in the building until removal is required.

Description of an O & M Plan

An O & M plan is a set of policies, procedures and work practices that are intended to minimize occupant exposure to ACM. The O & M plan is designed to protect workers and other building occupants who work around ACM. A good O & M plan will provide guidance for protection by (1) cleaning-up and repairing any existing contamination from past damage or disturbances, (2)

preventing further release of asbestos fibers through good work practices, and (3) maintaining asbestos in good condition through an effective program of monitoring the condition of ACM and repairing any damage. An O & M Program is proactive.

* All good O & M plans have common elements that include:

- 1 . A Policy Statement
- 1 . Labeling and Notification
- 2 . Training
- 3 . Employee Protection Programs
- 4 . Medical Surveillance Program
- 5 . Special Cleaning
- 6 . Work Permit System
- 7 . Special Work Practices
- 8 . Exposure Monitoring
- 9 . Emergency Response Programs
- 10 . Periodic Surveillance
- 11 . Record Keeping
- 12 . Disposal Of ACM

Technical assistance to develop a complete plan may be needed from building staff, maintenance and custodial personnel, and other journeymen who may work at the facility. Architects, engineers, consultants, contractors, medical advisors, and legal counsel can also be good resources to develop the O & M Plan.

An Operations and Maintenance Plan, to be useful and understandable, must be site specific to each individual building. It should address *specifically* O & M cleaning, repair, and maintenance in areas of asbestos containing building materials (ACBM) at certain locations in the building. For instance, it should not be a general statement on worker protection but should be an ACBM specific statement on work practices and policy.

The O & M Program must be based on a complete and comprehensive building inspection designed to identify and locate *all* the ACBM in a building. Only with this important pre-requisite in place, will an O & M Program be successful in avoiding potential ACM exposure to people and resulting liability to the building owner.

Survey Summary

The O & M Program manual should include a summary of the asbestos survey information. It should include the types of material found to contain asbestos and the locations at which it is to be found. Schematic floor plan drawings can be very helpful in this section.

2. POLICY STATEMENT

Personnel Responsibilities

The success of the O & M plan depends on the active involvement and understanding of all parties. This may range from the facility administration to the manager of the asbestos program and the

building staff. Each facility must ensure all asbestos-related activities are done to comply with relevant federal, state, and local laws. To do this, each facility must designate a person to ensure compliance with relevant laws and the policies and procedures of the O & M manual. This person is known as the Asbestos Program Manager (APM).

In addition, each facility may provide support staff, including a response team, to assist the APM in carrying out his/her responsibilities. Below is a list of job responsibilities assigned for key personnel to develop and implement O & M plans.

Asbestos Program Manager

The APM, or designee, must implement the asbestos control program. As appropriate, responsibilities include the following:

- * Manage the O & M plan; document, update and announce its activities.
- * Notify *all* short-term and outside contractors of the presence, location and quantity of ACM in the facility, and all tenants occupying areas that contain ACM.
- * Maintain and manage the documented inventory of ACM and its location.
- * Review and approve/reject all work permit applications.
- * Participate in the development, review, and monitoring of abatement project designs, and/or repair and alteration projects. Comply with relevant standards and laws when disturbing ACM.
- * Ensure that asbestos projects are documented and record keeping complies with relevant laws and the O & M Manual.
- * Seek technical direction and assistance from a qualified industrial hygienist or environmental services firm. This may be for the program development and implementation, inspection, and reinspection of ACM, and/or personnel training.
- * **It is essential that the APM have the authority to enforce the O & M Program and the support of management to accomplish that.**

Response Team Leader

- * Keep an inventory of equipment and supplies.
- * Check warning labels and replace them as needed.
- * Coordinate and report work and emergency practices.
- * Assist the APM, or designee, with his/her duties.

Response Team

- * Conduct OSHA Class III (small-scale, short duration) activities.
- * Conduct initial and periodic cleaning.
- * Respond to fiber release episodes.
- * Conduct or help conduct periodic surveillance.
- * Assist the APM, or designee, and response team leader with record keeping duties.

Consulting Staff

- * Assist in development and implementation of O & M plan.
- * Enhance the facilities asbestos program through consultation.
- * Perform air monitoring when requested.

3. TRAINING

Federal and/or state OSHA regulations require training of any employee who may come in contact with, disturb, or clean up ACM.

A written plan is vital to provide step-by-step procedures and the documented intent at each facility. To implement and carry out a successful O & M program, a well-designed training program is needed.

Training provides an awareness of the presence of ACM, types of ACM, consequences of disturbing ACM, and proper work practices to minimize release of fibers. Also, training must alert people to the presence of management goals in dealing with ACM and proper procedures in the event of an emergency.

Below is a review of the three training levels which should be required for O & M programs.

OSHA Class IV Training (General Awareness Training)

OSHA requires this level of training for any employee who may come in contact with or clean up previously generated debris containing asbestos. OSHA training is required before an employee conducts this work and annually thereafter.

All custodial and maintenance personnel who work in a building containing ACM should have at least two hours of asbestos awareness training. This training should extend to temporary as well as permanent employees. Training topics include types and uses of asbestos, health effects of exposure, location of ACM in each building they work in, how to recognize damage/deterioration of ACM, the name and telephone number of the APM, or designee, and the availability and location of the facility's Asbestos Inspection Report. This training may be done by the APM or designee, or by an outside trainer. The training required by OSHA is described in EPA's AHERA regulation at 40 CFR 763.92(a)(1).

OSHA Class III Training (Small-Scale, Short Duration Work)

Employees who conduct any activity that may result in the disturbance of ACM should complete an approved 16-hour training course. Topics should include the two-hour awareness, proper handling methods, personal protective equipment, applicable regulations, and hands-on training. A review examination of the training may be useful as a tool to encourage study and understanding of the subjects covered.

The training for each individual must be documented as to date, location, and length of training. This documentation should be preserved in permanent files and new employees must be trained prior to working with ACM. This training is defined in EPA's AHERA regulations at 40 CFR 763.92(a)(2).

Asbestos Program Manager (APM) Training

APMs should receive training in the health effects of asbestos exposure, detection, identification and assessment of ACM, options for controlling ACM, asbestos management programs, and relevant federal, state, and local laws. The extent of this training must be adequate to manage the asbestos issues at the site. It may be as brief as the 16 hour training, or as extensive as accredited courses under EPA's Model Accreditation Program. (It may be useful for the APM to receive training as an EPA Inspector and Management Planner, Project Designer or Contractor/Supervisor).

All training must be documented. Records of all training should be kept for an indefinite period.

Training records/forms must be kept for each person who takes any asbestos-related training. The list below contains training records which must be kept by each facility.

- * For each employee taking the two-hour General Awareness Training complete the **General Awareness Training Form** or equivalent form.
- * For each employee who completes the 16-hour training fill out a **Small-Scale Worker Training Form** or equivalent form.
- * Regardless of the training taken, the APM, or designee should complete and sign an **Asbestos Management Coordinator Training Form** or equivalent form.
- * Also, each facility should require proof of proper training for all outside contractors who handle or come in contact with asbestos in the facility. This documentation for training should be kept in permanent record keeping files for the facility.

AHERA training requirements are discussed in the EPA regulation 40 CFR 763.84 and 763.92. All facilities covered by AHERA should review this regulation to comply with training requirements. OSHA training requirements are found at 29 CFR 1926.1101(k)(9) as Class III and Class IV Training.

Note: Some states and/or local regulatory agencies may differ from these recommendations. Please seek consultation concerning this matter to ensure compliance with regulations.

4. EMPLOYEE PROTECTION

Each facility should develop and implement an employee protection plan to ensure safe work practices for employees handling ACM.

Respiratory Protection

OSHA at 29 CFR 1926.1101 requires respiratory protection when employee exposure levels exceed or may exceed the permissible exposure limit (PEL) as defined below:

- * PEL includes the 8-hour time-weighted average limit (TWA) and the excursion limit (EL).
- * TWA is defined as 0.1 f/cc averaged over eight hours.
- * EL is defined as 1.0 f/cc measured for 30 minutes.

It is not always possible to know the exact employee exposure until after an O & M or small-scale project is done. Therefore, OSHA requires that an initial exposure assessment be conducted before a project begins, to determine any potential exposure to the workers involved (see OSHA at 29 CFR 1926.1101(f). Interim protection with at least a half-face, negative-pressure, air-purifying respirator, equipped with P100 filters should be required, along with protective clothing. A higher level of respiratory protection may be needed for some projects decided on a case-by-case basis.

However, these OSHA exposure levels are compliance triggers only and have no reference to "safe" levels of exposure, nor were they intended to. They are meant only to be levels which could be easily quantified or measured and therefore, demonstrated in a court of law if need be, to enforce a variety of mandated compliance issues.

To better protect workers from exposure and protect building owners and employers from liability, the stated intent of all good Respirator Protection Programs should be to protect workers to *at least* a maximum level of exposure calculated at 0.01 f/cc. The U.S. EPA AHERA regulation, although not mandatory for public and commercial buildings, requires that schools document a "final clearance" air sampling of at least this level before an asbestos abatement area may be reoccupied by unprotected building users.

Each facility should develop and implement a written respiratory program to comply with relevant federal, state, and local laws. The elements for an acceptable respiratory protection program are found at 29 CFR 1910.134©, and include:

1. Procedures for selecting respirators;
2. Medical evaluations of employees required to use respirators;
3. Fit testing procedures for employees required to use respirators;
4. Procedures for proper use of respirators;
5. Procedures and schedules for cleaning, storing and maintaining respirators;
6. Procedures to ensure adequate air for atmosphere-supplying respirators;
7. Training of employees in respiratory hazards;
8. Training of employees in use and limitations of respirators; and
9. Procedures for regular evaluation of the program.

The following OSHA regulations are mandatory as they apply to respirator use in asbestos O & M programs:

- * 29 CFR 1910.134
- * 29 CFR 1926.1101(h)
- * 29 CFR 1926.1101(m)
- * 29 CFR 1926.1101 Appendix D

Personal Protective Equipment

OSHA requires that respirators and protective clothing be used by any employee disturbing ACM (generating visible debris), unless a valid negative exposure assessment is documented for that particular job. This requirement does not extend to Class IV work.

In addition to respirators, each facility should provide and, under most conditions, require the use of protective coveralls, rubber boots or shoe covers, and gloves. Each facility should also provide and require the use of eye protection as needed. If the facility does not use disposable, single-use coveralls, they must abide by regulatory requirements for laundering contaminated clothing. These requirements include, but are not limited to, laundering clothing in such a manner that asbestos fibers are not released and notifying the person doing the laundering that the clothing is asbestos contaminated. The clothing must be transported in properly labeled, sealed, impermeable bags or containers. (See 29 CFR 1926.1101(I)). Although the use of launderable coveralls is allowed by Federal regulations, their use is not recommended. Complete decontamination of cloth is difficult to verify. It is therefore recommended that filtered, breathable coveralls be used, with a tested particulate holdout of at least 98% on 3–5-micron particulate.

Decontamination Procedures

Each facility should ensure that all workers perform proper decontamination procedures following all small-scale and/or O & M projects. These procedures may include, but are not limited to:

- * Vacuuming. The worker must vacuum the disposable coveralls with an HEPA (high efficiency particulate air) vacuum. If a worker is wearing two suits, he/she should use a HEPA vacuum to decontaminate the outer suit and then remove it.
- * Showering. Showering is not required by OSHA and may be used at the discretion of the APM. The worker will proceed to a shower to further decontaminate or to a room to change into street or work clothing.
- * Disposal. In all cases, the worker will dispose of the coveralls and gloves as asbestos-contaminated waste.
- * Respirator Care. The last item a worker will remove is the respirator. Respirators are decontaminated as follows:
 - * Wipe off respirators with a damp cloth prior to removal.
 - * Loosen straps and exhale as the respirator is removed.
 - * Soak filters and dispose of asbestos contaminated waste.
 - * Wash, dry, reassemble, and store respirator according to procedures outlined in each facility's written respirator program.

5. MEDICAL SURVEILLANCE

Medical surveillance is required under the OSHA Construction Standard at 29 CFR 1926.1101(m) for employees working with ACM. Where this regulation is more protective than 29 CFR 1910.134, it takes precedent over it.

Medical Surveillance is required:

- * When employees conduct work for 30 or more days per year that may expose them at or above the PEL (0.1 f/cc); or
- * When they are required to wear negative-pressure respirators.

To determine the need for medical surveillance for employees, each facility should provide an ongoing program of personnel air monitoring when employees perform asbestos work.

Each facility should ensure that employees participate in a medical surveillance program under the situations below:

- * If an employee is handling ACM;
- * If an employee, regardless of their job, meets the criteria specified by the Asbestos Construction Standard as described above; and
- * If an employee, regardless of their job, meets the criteria specified by the Asbestos General Industry Standard, at 29 CFR 1910.1001 (l).

If an employee in the asbestos medical surveillance program has employment terminated for any reason, a final medical exam should be made available within thirty (30) days of termination. No termination exam is needed if the employee has completed an asbestos examination within the previous six (6) months.

Medical surveillance is conducted to comply with relevant federal, state, and local laws.

The following is an example of a written medical surveillance program which may be used to comply with the OSHA regulations, and which must be maintained on the site where the asbestos related O & M work takes place.

MEDICAL SURVEILLANCE PROGRAM

The Medical Surveillance Program for _____ consists of the following main elements:

1. Initial Examination
2. Annual Examination
3. Termination Examination
4. Signed opinion by physician
5. Employee medical record

1. Initial Examination

As required in the OSHA regulations at both 29 CFR 1926.1101 and 29 CFR 1910.1001, all employees who will be assigned to an occupation exposed to airborne asbestos must have an initial examination performed by a licensed physician.

The initial examination may cover the following items:

1. General medical history
2. Initial OSHA Medical Questionnaire
3. Respiratory Measurements
4. Anthropometric Measurements
 - A. Height
 - B. Weight
5. Vital Signs
 - A. Blood Pressure
 - B. Pulse
 - C. Temperature
6. Ophthalmologic Screening
 - A. Visual Acuity - near and far
 - B. Color Vision
 - C. Depth Perception
7. Urinalysis
8. Pulmonary Function Screen
 - A. FEV-1, FVC, FEV1/FCV ratio
9. Chest X-ray
10. Complete physical exam by a licensed physician
11. Physician evaluation for respirator use clearance
12. Report of the medical evaluation.

A copy of the physician approval for occupational respirator use will be maintained on the job site and a copy of the medical exam will be given to the employee. All medical records will be filed and sorted in a safe place indefinitely and for a minimum of 30 years.

2. Annual Examination

All employees who may be exposed to airborne asbestos will undergo an annual medical examination, which will be the same as the Initial Examination, except for the OSHA questionnaire and the X-rays. The OSHA questionnaire will be the abbreviated form for use with annual examinations and the X-rays will be given every five years, except for those employees with 10+ years into the asbestos latency period and 35 to 45 years of age. This X-ray will be given every 2 years. All employees over 45 years of age must have the X-ray annually.

	Years since <u>1st exposure</u>	Age of Employee:		
		<u>15-35</u>	<u>35-45</u>	<u>45+</u>
Frequency	0-10	every 5 yrs.	every 5 yrs.	every 5 yrs.
of X-rays	10+	every 5 yrs.	every 2 yrs.	annually

The annual signed physicians' opinion on fitness for work in a respirator in an asbestos environment will be maintained on the job site and a copy of the annual medical exam will be forwarded to the employee. All medical documentation will be stored and kept indefinitely for a minimum of 30 years.

3. Termination Examination

As per the OSHA standard at 29 CFR 1910.1001(1)(4)(I) and (ii), _____ will provide or make available a termination of employment medical examination for any employee who has been exposed to asbestos. The medical examination will be in accordance with the requirements of the periodic or annual medical examination and will be given, or made available, within 30 calendar days before or after the date of termination of employment.

4. Information provided to Physician

_____ will provide the following information to the examining physician:

1. A copy of the OSHA Regulations at 29 CFR 1926.1101 and Appendices D, E, and I.
2. A description of the employees' duties as they relate to asbestos exposure.
3. The employee's anticipated exposure level.
4. A description of any personal protective and respiratory equipment used.
5. Information from previous medical examinations not otherwise available to the physician.
6. Instructions to the physician not to reveal, in the written opinion given to the employer, specific findings or diagnoses unrelated to occupational exposure to asbestos, without a signed consent form from employee.

A copy of this information will be maintained in the company files and a reference to this information will be included in the medical file on each employee.

5. Physician's Written Opinion

_____ will establish, as a part of its permanent records, a medical surveillance record on each employee. This record will be maintained for the duration of the employment, plus a minimum of 30 years. This record will be made available, upon written request, to OSHA, the affected employee, and former employees or their designated representatives. The employee medical record will contain at least the following information:

1. The name and social security number of the employee.
2. A copy of the employee's medical examination results, including the medical history, questionnaire responses, results of any tests and physicians recommendations.
3. Any employee medical complaints related to asbestos exposure.
4. A copy of or reference to the information provided to the physician by the employer.

Physician Information

This information is for compliance with the OSHA standard at 29 CFR 1926.1101(m)(3) and is to be used as a reference for all medical surveillance exams conducted for _____.

1. The employee's duties will be to work with asbestos containing building materials (ACBM) in an asbestos abatement setting. Various job descriptions are work area preparation, work inside the contaminated area (encapsulation, enclosure, removal), loading, transporting, and unloading of ACBM.
2. The employees' anticipated exposure level range will be from a trace (.001 f/cc) to an anticipated maximum of 10 f/cc. This exposure will vary with the task performed, but will mainly be below the PEL of 0.1 f/cc.
3. The personal protective equipment furnished with the employee will be a respirator, full body covering with disposable coveralls, latex gloves, and rubber boots. Hard hats will be issued when applicable. The respirator system used will be NIOSH approved for the work and will be well within the limits of the OSHA protection factor chart.

The minimum respirator protection usually furnished by _____ is a half-mask air-purifying respirator equipped with P100 cartridges. If the fiber level in the ambient air in the work area ever elevates past 1 f/cc, the respiratory protection will be changed to a full-face air-purifying respirator.

4. According to federal regulations at 29 CFR 1926.1101(m)(4)(ii), the physician is to be instructed by the employer not to reveal in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to asbestos.

6. NOTIFICATION PROCEDURES

A notification program informs employees and building occupants about the presence of ACM in their facility. It shows the steps to take to avoid disturbing ACM. It also informs occupants and employees about what to do and who to contact in case of an asbestos-related emergency.

Notification of occupants can be done through letters, meetings and/or the posting of warning signs and labels. Warning signs and labels can be attached directly to ACM or posted to alert people to a hazard prior to entering an area. It is suggested that new employees receive this information during employee orientation. "Awareness" sessions like those discussed in Section 3 of this manual can also be used.

Each facility must also inform short-term workers and outside contractors who may come in contact with ACM, about the presence of ACM in the facility in which they are working. This step is necessary to avoid the disturbance of ACM during contracted activities, and to comply with the OSHA standard at 29 CFR 1926.1101(k)(2). OSHA requires that the building owner identify, quantify, and locate all ACM, and inform persons who may disturb the material before that disturbance takes place. OSHA holds the building owner responsible for employee exposure to asbestos in a facility, even though the employee does not work for him.

Notification Letters

Each facility should provide notification that complies with relevant federal, state, and local laws. Employees, tenants, and occupants should receive notification containing the details below:

- * The presence and location of asbestos in their facility.
- * The content, location, and availability of the Asbestos Inspection Report and O & M Plan.
- * The health hazards associated with exposure to airborne asbestos fibers.
- * The types of actions that could result in the release of asbestos fibers.
- * The name, location, and phone number of the APM, or designee, in the event of damage or disturbance of ACM.

All contractors and short-term workers, including the telephone company, repair and utility workers and exterminators, are to be notified of the presence of ACM in the facility. The specific location of ACM in the areas where contractors and short-term workers are working is given along with instructions not to disturb any ACM. The APM, or designee, must be consulted prior to any disturbance of ACM. The contractor and short-term workers should sign the Contractor Notification Form, or equivalent form and the Short-term Worker Notification Form, or equivalent form, stating that they have been informed of ACM.

Each facility should instruct the appropriate contractors that no ACM may be installed without prior written approval of the APM, or designee. The contractor must sign a statement certifying that the products they used and/or installed are non-asbestos-containing materials. A Non-Asbestos-Containing Material Certification Form, or equivalent form, is to be signed by each contractor prior to installing products within the facility. This information will save subsequent testing and sampling prior to future maintenance, renovation, and demolition projects that affect this material.

Signs

Danger signs must be posted in regulated areas, as required by OSHA, any time disturbance of ACM is about to take place. To comply with this requirement, each facility must post warning signs at each entrance and exit to an area where O & M activities involving ACM are taking place. O & M activities include initial cleaning, repair, small-scale removal, and emergency response cleanup, regardless of the fiber contamination level.

Warning signs must comply with all relevant federal, state, and local laws and must bear the following:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY**

(And where it is required, the sign will also include)

**RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA**

In cases where warning signs are posted because of fiber contamination levels, each facility should document:

- * The location of warning signs.
- * The extent of the contamination.
- * The length of time the signs were posted.
- * The corrective action taken to reduce contamination levels; and
- * Proof of the action's effectiveness (i.e., air samples).

Signs must also be posted at the entrance to any mechanical area, warning of the presence of ACM, with instructions on who to contact before working in the area.

Labels

Each facility should attach warning labels on all mechanical system insulation that has not been sampled and proven not to contain asbestos. In addition, all suspect asbestos containing materials in routine maintenance areas should be labeled:

**DANGER
CONTAINS ASBESTOS FIBER
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

All labels must be clearly visible. Labels should be attached at the beginning and end of each continuous pipe run and at least every 75 feet. Extra labels should be required at each valve, flange, or change in direction. Each time a pipe passes through a wall, floor, or ceiling a label should be posted on each side of the penetration.

SAMPLE NOTIFICATION LETTER

Dear Occupants:

As you may be aware, this facility has had an asbestos survey completed and an O & M Program developed. The survey documents the areas that have asbestos containing materials (ACM), and the O & M Program provides the guidance needed to maintain ACM in good condition until its eventual removal. This survey and O & M Program are in the Asbestos Program Manager's office and is available during office hours to anyone for review.

Inhalation of asbestos fibers can be harmful. However, when ACM is maintained in good condition, the potential hazard diminishes, and ACM may be kept in place for the life of the building or until renovation could disturb it.

To avoid exposure, it is **important** to: **(1)** know what types of materials may contain asbestos; **(2)** avoid damaged areas; and **(3)** contact the building management when damaged areas are found so the problem can be immediately remedied. Common applications of asbestos in buildings have included spray-applied fireproofing, soundproofing, or thermal insulation, acoustic plaster soundproofing or ceiling tiles, pipe insulation, asbestos cement products (transite), floor tile and mastic, vinyl sheet flooring and backing, and roofing materials.

Most buildings contain some of these materials, but it is important to realize that not all of them contain asbestos. The survey pinpoints ACM and their locations throughout the building.

To prevent potential release of asbestos fibers, the Asbestos Program Manager must approve any activity that may disturb these materials.

Please call management concerning any damaged areas.

When feasible, we will continue the process of removing asbestos containing materials. All work is done to comply with relevant federal and state laws. Much of the work is done during off hours to further protect building occupants from exposure.

Should you have any questions or comments, please contact the building management.

7. PERIODIC SURVEILLANCE AND REINSPECTION PROGRAM

An important aspect of the O & M program is visual monitoring of ACM, done at set intervals. The purpose of the monitoring is to detect damage or deteriorated ACM as early as possible so that corrective action can be taken.

Custodial and maintenance personnel are instructed to observe the condition of ACM in their area. They are also instructed to report any damage to their supervisor and the APM, or designee, as soon as possible.

Periodic Surveillance

Although no formal training is required by regulatory agencies, it is recommended that person(s) conducting the periodic surveillance receive training and experience beyond the general awareness training. This may include EPA Inspector/Management Planner certification and training on interpreting the facility's Asbestos Assessment Study.

Periodic surveillance documents the condition of all ACM by using a Periodic Surveillance Form. A copy of the form is submitted to the APM, or designee. Periodic surveillance should be done at least every 6 months. This may be more frequent depending on such factors as accessibility, area use, and the type of ACM present.

Schools covered by AHERA are subject to special surveillance programs. The APM, or designee, should consult 40 CFR 763.92(b), for more details.

Reinspection

A complete reinspection of the facility by an accredited Inspector/Management Planner should be accomplished every 3 years and the O & M Plan updated at that time. This reinspection is necessary to keep the O & M Plan updated as to any response actions that may have occurred, and to address any change in the condition of ACBM. Any change in use of an area containing ACM or use of the functional space that contains the ACBM should be noted for purposes of assessment.

In February 1992, EPA published a useful checklist guide for reinspection's titled "A Guide to Performing Reinspection Under The Asbestos Hazard Emergency Response Act (AHERA)" (EPA 77/B-92/001). The guide may be obtained by calling EPA's Toxics Hotline at (202) 554-1404.

8. EXPOSURE MONITORING

Air monitoring can be a useful tool to further evaluate the condition of ACM and its potential to release asbestos fibers. Air sampling, when done correctly, may provide early warning about any deterioration of ACM. To be meaningful, air monitoring is done over a long period of time throughout the entire building under normal use conditions.

Periodic Area Monitoring

Periodic air monitoring in a building is merely a supplement to an ACM surveillance program. Each facility may conduct periodic monitoring in buildings with friable ACM found in conjunction with air plenums, in areas of significant air movement, and in areas with significant vibration.

Air sampling is recommended on a regular basis, appropriate for the specific conditions as referenced above. The samples may be analyzed using either phase contrast microscopy (PCM) or transmission electron microscopy (TEM), or a combination of both. Each method has advantages and disadvantages.

	<u>Advantages</u>	<u>Disadvantages</u>
PCM	Standardized procedures Quick (less than 1 hour) Less Expensive	Sees only long &/or fat fibers; Can't distinguish between asbestos and non-asbestos fibers
TEM	Standardized procedures Sees thin &/or short fibers Distinguishes between asbestos and non-asbestos fibers	Slow (more than 6 hours) Expensive

Employee Exposure Monitoring

Each facility should provide an employee exposure monitoring plan to comply with relevant federal, state, and local laws. Although OSHA allows the use of previously generated data (see 29 CFR 1926.1101(f)) in place of actual employee air monitoring, air monitoring of employees should be done in order to better design work practices which not only protect the employee from exposure, but also protect the facility from potential contamination. The data, which this air monitoring generates, should be preserved in the permanent record in order to protect the employer or building owner from any future liability. However, even though employee air monitoring is done, a formal negative exposure assessment must document each disturbance or clean up of ACM.

9. WORK PERMIT SYSTEM

Each facility should implement a "work permit" program to control indiscriminate disturbance from maintenance, renovation, and remodel work. It is also recommended that a "work permit" program be designed to control other asbestos-related activities. A sample program is outlined below. If the facility contracts for asbestos-related activities, this task could be included in the bid specification and/or contract documents. The APM, or designee, may choose another person to assist in implementation and coordination.

The "work permit" system requires any person doing work impacting building materials in the facility to submit a Job Request Form, or equivalent form, to the APM, or designee, prior to doing any work. This form would identify the specific personnel who do the work, including outside contractors, and would describe:

- * the time and location of the job in question;
- * the type of job; and
- * any known information about the presence of ACM.

Once the APM, or designee, receives the Job Request Form, the steps below are taken:

- * Review data. Review the Asbestos Inspection Report and any other records to determine whether or not any asbestos will be affected by the job. If ACM is unlikely to be disturbed, the APM, or designee, will note the presence of ACM on the form. The APM, or designee, will instruct the proper people not to disturb the ACM and the steps to take in the unlikely event of a disturbance.
- * Visit the site. Make a site visit of the proposed work if it is determined that ACM is present and likely to be disturbed. The APM, or designee does the site visit.
- * Plan work practices. Comply with the O & M plan and all relevant federal, state, and local laws to minimize disturbance of ACM. If not found in the O & M manual, document the work practices to be used and add them to the O & M plan. New procedures must comply with all aspects of the O & M plan and relevant laws.
- * Record information. Use a "Maintenance Work Authorization Form", or equivalent form, and send to the proper personnel. Provide a copy to any outside contractor involved in the work.
- * Revisit the worksite. Visit the work site during the job. Document any observations on an "Evaluation of Work Form", or equivalent form. See that the work practices being used comply with the OSHA standard at a minimum.
- * Filing. Place a copy of the forms listed above in the permanent files.

This work permit system is the key to avoiding accidental exposure to workers or contamination of the facility. It is therefore essential that the APM have the authority to enforce the program.

10. RECORD KEEPING

The purpose of record keeping is to document information regarding each facility's O & M activities. A well-maintained and organized system of record keeping will demonstrate that the health and safety of those working or visiting each facility was not compromised.

A benefit of a comprehensive, organized record keeping program is that renovation of a facility is easier because of historical documentation. Also, the complex legal issues involved with asbestos make record keeping especially important.

Each facility should keep the following, or equivalent, records:

ACTIVITYRECORDS

O & M work done by outside
Contractors

Copy of training documents
Copy of Respirator Protection Program
Copy of Medical Surveillance Program
Final Clearance Documentation

Notification to occupants

Copy of notification letter or minutes, etc.

Notification to short-term
Workers

Short-term Notification Record
Everything listed for outside contractors

Training

OSHA Class IV (General Awareness)
OSHA Class III (Small-scale, short duration work)
Respirator Training
Hazard Communication Training

Medical Surveillance

Physician's Written Opinion
Name & SSN of employee
Employee complaint, re-exposure
Copy of information to physician

Respiratory Protection

Copy of training program
Respirator Inspection Form
Fit-test Record
Copy of Respirator Protection Program

Periodic Surveillance

Periodic Surveillance Record

Re-Inspections

Re-inspection Record and Report

O & M Activities

Job Request Form
Job Authorization Form
Visual Inspection Report
Notification to Regulators

Emergencies

Emergency Record

Fiber Release Episodes

Fiber Release Record

Transportation of Waste

Chain-of-custody Form
Dump Receipts
Hazardous Waste Manifest

Each facility also keeps records of all major abatement operations such as enclosure, encapsulation, and removal. The asbestos consultant and/or the abatement contractor may supply these records. The records below may be kept as part of abatement records:

- * The contract documents including specifications, RFPs, and scope of work;
- * The abatement contract qualifications;
- * The abatement contractor submittals, including those specified in contract documents;
- * The asbestos consultant qualifications;
- * The asbestos laboratory qualifications including QA/QC plans;
- * The results of analysis of all air samples;
- * Contractor logbooks;
- * The laboratory QA/QC records; and
- * All final reports from consultant.

The APM, or designee, is responsible for keeping records. The APM, or designee, may need the assistance of clerical and maintenance staff to fulfill record keeping duties. At minimum, record keeping must meet relevant federal, state, and local laws.

<u>RECORDS</u>	<u>RETENTION</u>
* Medical surveillance	Employment + 30 years
* Air Sampling/Employee Exposure Monitoring	30 years
* Training	Employment + year (Recommended: 30 years)
* Respiratory Protection (Inspections, fit-tests, and training)	30 years
* All other records	30 years

Schools covered by AHERA are subject to additional record keeping requirements. The APM or designee should consult 40 CFR 763.94 for more information.

SAMPLE FORMS

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APM:

APM:

**CONTRACTOR
NOTIFICATION FORM**

To comply with relevant federal and state laws, and the Facilities Operations and Maintenance Policies and Procedures, Facility will provide the Contractor with data regarding the locations of asbestos-containing material (ACM). This will be done prior to the Contractor entering any building under the facility's jurisdiction.

Please complete this form and return to:

I, _____, representing and having authority for (company), hereby indicate and agree that a representative of _____ (name and title), has provided me information regarding the specific locations and materials that are asbestos-containing and which may be encountered or have the potential of being encountered during the course of activities on project _____ (name or number) in (building).

I agree that neither I, nor any of my employees, agent, subcontractors, or other individuals or entities over whom I have any responsibility or control will disturb ACM as found in the Asbestos Survey for the above-mentioned building.

I further understand and agree that should I, my employees, agents, subcontractors or other individuals or entities over whom I have control, encounter any material(s) suspected of containing asbestos, said material(s) shall not be disturbed without first notifying the agency's Asbestos Program Manager, or appointed designee, and receiving approval that such material may be disturbed.

Print Name

Signature

Company _____

Position _____

Date _____

**SHORT-TERM WORKER
NOTIFICATION FORM**

FACILITY:

BUILDING NAME OR NUMBER WHERE WORK IS TO BE PERFORMED:

DESCRIPTION OF WORK TO BE PERFORMED:

DATE WORK TO BE PERFORMED:

NAME OF PERSON PERFORMING WORK:

I have reviewed the facility's Asbestos Survey regarding the location(s) of asbestos-containing material (ACM) and have been cautioned against any disturbance and damage of these materials.

If my work requires the disturbance or damage of any ACM, or if I accidentally disturb or damage the material, I will stop my work and immediately inform the Asbestos program manager, or appointed designee.

Print Name

Signature

Company _____

Position _____

Date _____

PERIODIC SURVEILLANCE FORM

BUILDING INFORMATION:

Building Number: _____ Building

Name:

Location:

AREA INFORMATION:

Number: _____ Location:

Changes in Condition:

MATERIAL INFORMATION:

COMMENTS:

INSPECTED ON: _____ BY: _____ (Please Print)

SIGNATURE: _____ :

JOB REQUEST FORM

SUBMIT APPLICATION TO ASBESTOS PROGRAM MANAGER, OR APPOINTED
DESIGNEE. DO NOT BEGIN WORK UNTIL AUTHORIZATION IS RECEIVED.

NAME: _____ DATE: _____

NUMBER: _____ REQUEST NUMBER: _____

START DATE: _____

ANTICIPATED FINISH DATE: _____

LOCATION OF WORK: _____

WILL ASBESTOS-CONTAINING MATERIALS BE AFFECTED? ____ YES ____ NO

NAME AND TELEPHONE NUMBER OF SUPERVISOR: _____

APM COMMENTS: _____

SIGNATURE: _____

Asbestos Program Manager
(or appointed designee)

DATE: _____

FACILITY: _____

(Print or type)

APM: _____

(Print or type)

**MAINTENANCE WORK
AUTHORIZATION FORM**

FACILITY: _____ NO. _____

AUTHORIZATION IS GIVEN TO PROCEED WITH THE FOLLOWING MAINTENANCE-WORK:

PRESENCE OF ASBESTOS-CONTAINING MATERIAL (ACM):

- _____ ACM IS NOT PRESENT IN THE VICINITY OF THE MAINTENANCE WORK
- _____ ACM IS PRESENT BUT DISTURBANCE IS UNLIKELY. HOWEVER, IF
CONDITIONS CHANGE, THE APM WILL RE-EVALUATE THE WORK REQUEST
PRIOR TO PROCEEDING.
- _____ ACM IS PRESENT AND MAY BE DISTURBED.

THE FOLLOWING WORK PRACTICES SHALL BE EMPLOYED TO AVOID OR

MINIMIZE DISTURBANCE OF ACM: _____

THE FOLLOWING PROTECTIVE EQUIPMENT SHALL BE USED/WORN DURING THE

WORK TO PROTECT WORKERS: _____

SPECIAL PRACTICES AND/OR EQUIPMENT REQUIRED: _____

SIGNATURE: _____

Asbestos Program Manager
(or appointed designee)

DATE: _____

**ACM WORK
EVALUATION FORM**

FACILITY:

LOCATION OF WORK PERFORMED:

DATE OF WORK:

APPROVAL FORM NO:

DESCRIPTION OF WORK:

EVALUATION OF WORK PERFORMED:

EVALUATION OF EQUIPMENT & PROCEDURES TO PROTECT WORKERS:

AIR SAMPLE RESULTS

NAME: _____

RESULTS:

NAME: _____

RESULTS:

NAME: _____

RESULTS:

STORAGE LOCATION:

DISPOSAL SITE:

DATE:

SIGNED: _____

DATE:

Asbestos Program Manager
(or appointed designee)

**INITIAL AND PERIODIC
CLEANING FORM**

FACILITY:

BUILDING NAME:

TYPE OF CLEANING: _____ INITIAL _____ PERIODIC _____ OTHER

NAME OF PEOPLE PERFORMING CLEANING:

CLEANING METHODS (CHECK METHODS USED)

____ HEPA VACUUMED ____ WET METHODS ____ PROPER DISPOSAL

____ PROTECTIVE EQUIPMENT USED

WRITTEN DESCRIPTION OF CLEANING METHODS:

LOCATION OF CLEANING:

RESPONSE TEAM LEADER CERTIFIES THAT THE ABOVE CLEANING WAS DONE TO COMPLY WITH THE RELEVANT FEDERAL AND STATE LAWS AND THE FACILITIES MANUAL.

_____	_____	_____
Print Name	Signature	Date

CONTRACTOR REPRESENTATIVE CERTIFIES THAT THE ABOVE CLEANING WAS DONE TO COMPLY WITH THE FACILITIES CLEANING SPECIFICATIONS/ REQUIREMENTS.

_____	_____	_____
Print Name	Signature	Date

Asbestos Program Manager:

_____	_____	_____
Print Name	Signature	Date

**FIBER RELEASE EPISODE (UNCONTROLLED RELEASE)
REPORT**

FACILITY:

LOCATION OF FIBER RELEASE (BUILDING NAME, ADDRESS, ROOM NUMBER):

NAME OF PERSON REPORTING THE RELEASE:

DATE OF RELEASE:

DESCRIBE THE EPISODE:

DESCRIBE CLEAN-UP PROCEDURES:

NAME OF PERSON(S) CLEANING UP RELEASE:

ARE THEY CERTIFIED ASBESTOS WORKERS? ____ YES ____ NO

IF YES, WHAT ARE THE CERTIFICATION NUMBERS?

Signed: _____ Date: _____
Asbestos Program Manager
(or appointed designee)

RESPIRATOR TRAINING RECORD

Employee Name: _____

Date: _____

The following has been discussed with me:

1. The nature of the respiratory hazard.
2. Why engineering controls cannot be used in place of respiratory equipment.
3. The reasons why I must wear the respirator, and the disciplinary actions that will be taken for intentional incorrect wear.
4. What type of respirator will be used for particular hazards.
5. The limitations and capabilities of each respirator.
6. Purpose of the medical evaluation to determine authorization for respirator use.
7. The conditions that prevent a good face seal.
8. The necessity of wearing the respirator as instructed, without modification.
9. Recognizing and handling emergency situations when wearing a respirator.

I have been instructed in the following:

1. How to wear a respirator.
2. How to adjust a respirator.
3. How to determine a proper fit and to perform a fit-check every time I put on a negative-pressure, air-purifying respirator.
4. How to inspect the respirator.
5. How to clean the respirator.
6. How to store the respirator.

I understand the above items concerning respirator use, care, and inspection.

Signature

Date

Witness

Make and Model of respirator:

Type of Mask:

Fit-Testing Method

___ Quantitative Fit Test

___ Banana Oil Test

___ Irritant Smoke

___ Saccharin Test

___ Positive-Pressure Fit-Check

___ Negative-Pressure Fit-Check

Respirator Size

___ Small

___ Medium

___ Large

Employee's Signature

Fitter's Signature

MEDICAL/SAFETY LETTER

To Whom It May Concern:

The following is a description of our employee's duties as they relate to the employee's exposure to airborne asbestos.

_____ is a _____ in our facility's maintenance department.

His/Her primary asbestos-related job duties include the following:

- * Small-scale, short-duration activities.
- * Minor fiber release episode clean-ups.
- * Initial cleaning.

OSHA Class III (small-scale, short-duration) Activity:

Our employee may perform small-scale, short-duration asbestos abatement activities. Normally, this work involves tasks such as, but not limited to:

- * Removal, encapsulation, enclosure, or repair of asbestos-containing materials in small quantities.
- * Replacement of asbestos-containing gaskets on valves and other items.
- * Installation of electrical conduits or other items through or proximate to asbestos-containing materials.

The anticipated exposure levels while working on small-scale, short-duration activities is expected to be below 0.1 fibers per cubic centimeter (f/cc) based on an 8-hour TWA. Of course, our employees are required to wear a negative-pressure respirator and disposable coveralls, at a minimum, every time that they handle ACM.

Minor Fiber Release Episodes:

Our employee may perform clean-up of minor fiber releases. The anticipated exposure levels while cleaning up a minor fiber release episode is expected to be below 0.1 f/cc based on an 8-hour TWA. Our employees are required to wear, at a minimum, a negative-pressure respirator and disposable clothing while performing this work.

Initial Cleaning:

Our employee may perform initial cleaning in buildings with friable ACM. The anticipated exposure levels while clean-up of a minor fiber release episode is expected to be below 0.1 f/cc based on an 8-hour TWA. Our employees are required to wear, at a minimum, a negative-pressure respirator and disposable clothing while performing this work.

If information from the previous medical examination of the employee is available, this information will be brought to the exam with the employee.

A copy of the following OSHA regulations has also been provided:

- * 29 CFR 1926.58
- * Appendix D
- * Appendix E
- * Appendix I

Important note to physician:

To comply with regulation 1926.58 of OSHA, the physician shall not reveal in the written opinion given to the employer, specific findings or diagnoses unrelated to occupation exposure to asbestos, tremolite, anthophyllite, or actinolite.

If you have any questions or concerns regarding this information, please contact me at the below address or phone:

Name

Phone

Street

City

State

Zip

Agency

Facility

=====

Documentation

Name of Clinic

Phone

Street

City

State

Zip

Signature of Clinic Representative

Date

Signature of Employee

Date

MEDICAL AUTHORIZATION FOR RESPIRATOR USE

Employer:

Employee:

Social Security Number:

Date of Birth:

Supervisor

Department

Circle Types of Respirator(s) to Be Used:

Atmosphere-supplying respirator	Continuous-flow respirator
Open-circuit SCBA	Closed-circuit SCBA
Supplies-air respirator	Combination air-line SCBA
Air-purifying (non-powered)	Air-purifying (powered)

Level of Work Effort (Mark one)

____ Light ____ Moderate ____ Heavy ____ Strenuous

Extent of Use

1. On a daily basis
2. Occasionally - but more than once a week
3. Rarely - or for emergency situations only

Length of Time of Anticipated Effort in Hours:

Special Work Considerations (i.e., high places, temperature, hazardous material, protective clothing, etc.) If none, state "none".

Asbestos Program Manager Signature
(or appointed designee)

Date

Employee:

Have you ever worn a respirator before? ____ Yes ____ No

If yes, describe any difficulties noted with respirator use:

Employee Signature

Date

MEDICAL AUTHORIZATION FOR RESPIRATOR USE (CONT.)

Physician's Evaluation:

CLASS: 1. No Restrictions on respirator use
(Circle) 2. Some specific use restrictions
3. No respirator use permitted

Restrictions:

Examining Physician's Signature: _____ Date: _____

11. WORK PRACTICES

Work practices in each of the three areas addressed in this section should be specific to the ACBM located in the facility, and to the functional spaces (room/area) which contain the ACBM.

A. Special Cleaning

All initial and periodic or additional cleaning areas of friable or damaged ACBM must be done with wet methods, HEPA vacuums, steam cleaners or a combination of those methods. The training program should impress on the maintenance and custodial staff the importance of *never* using conventional vacuums to clean up asbestos contaminated debris, and *never* dry sweep or dust in contaminated environments. Initial cleaning should be done in protective coveralls and respirators, with proper decontamination procedures being followed upon completion. All waste or debris should be treated as asbestos and properly disposed of. For regulatory guidance, see AHERA at 40 CFR 763.91(c) and OSHA at 29 CFR 1926.1101(g)(10) and (l)(1)&(2).

These special cleaning procedures will also apply to any clean up after an uncontrolled fiber release episode.

B. Emergency Response

An accidental contamination or "fiber release episode" may be addressed in one of two ways, depending on the size of the episode. For small or "minor" fiber release episodes (i.e., the falling or dislodging of 3 square or linear feet or less of friable ACBM), the custodial or maintenance people trained in the 16-hour O & M procedures may address cleanup in the following manner:

1. Turn off the HVAC system in the area.
2. Thoroughly saturate the debris.
3. Clean the area using the methods mentioned in A above.
4. Dispose of all debris as asbestos using the methods in Chapter 11.
5. Immediately repair the damages to the ACBM.

For larger or "major" fiber release episodes (i.e., the falling or dislodging of more than 3 square or linear feet), the custodial or maintenance people trained in the 16-hour O & M procedures may only:

1. Restrict entry in the area and post signs.
2. Turn off the HVAC system.
3. Contact the accredited outside contractor or in-house emergency response team.

The clean-up of a major fiber release episode should include planning, special work practices (see OSHA at 29 CFR 1926.1101), final clearance documentation, and record keeping of a major asbestos abatement project.

C. Maintenance Work Practices

The user of this document should be familiar with all the major federal requirements for conducting asbestos related maintenance work (OSHA 29 CFR 1926.1101(g)(9) &(10); AHERA 40 CFR 763, Subpart E, Appendix B; NESHAP 40 CFR 61.145 and 61.150 where applicable) and design his work procedures within the intent of these rules and guidelines. If more stringent safeguards are needed to protect workers and the facility, they should be researched and implemented.

An enormous amount of this research specific to O & M work procedures has already been completed by a panel of over 100 experts under the guidance of the National Institute of Building Sciences (NIBS). NIBS has produced a "Guidance Manual, Asbestos Operations and Maintenance Work Practices" which details approximately 125 O & M work procedures step by step. Also included are sections on Asbestos Program Manager and asbestos worker procedures preparatory to these work practices. To duplicate any of this work here would be redundant and probably inadequate, as the work procedures must necessarily be specific to both the ACBM being addressed and the exposure element involved.

The APM is urged to obtain a copy of the NIBS guide and use it in the design and execution of the work to be addressed at each particular site. NIBS may be contacted at: National Institute of Building Sciences, 1201 L street, N.W., Suite 400, Washington, DC 20005, or by telephone at (202) 289-7800.

12. DISPOSAL/STORAGE REQUIREMENTS

The following section explains the federal requirements for storage and disposal of asbestos-containing waste. Although the federal regulations will not normally apply to maintenance amounts of generated asbestos waste, they should be used as guidelines for liability management. *Please consult with the state and local regulatory agencies if more stringent requirements apply.*

1. GENERATOR REQUIREMENTS

The term "Generator" refers to the owner or operator of the facility or the owner or operator of the demolition/renovation operator or both. The generator is legally responsible and liable for the proper handling, storage and disposal of all ACM abated from the building(s) and/or property. Refer to the NESHAP requirements at 40 CFR 61.150 for the federal requirements.

2. HANDLING OF ASBESTOS WASTE

The generator must discharge no visible emissions during collection, processing, packaging, or transportation of the waste. To accomplish this requirement, the generator must adequately wet the waste material and seal it while wet in leak tight containers or wrapping. The containers must be labeled with the following 3 labels:

(OSHA)

**DANGER
CONTAINS ASBESTOS FIBERS
CANCER AND LUNG DISEASE HAZARD
AVOID BREATHING AIRBORNE ASBESTOS FIBERS**

(DOT)

**RQ ASBESTOS
NA 2212
CLASS 9**

(EPA)

**Name and address of generator
(site specific)**

Although not specified by federal law, 6 mil. poly bags are normally used where applicable as a minimal level of compliance.

3. DISPOSAL

All asbestos-containing waste should be deposited as soon as is practical at a waste site approved by the state NESHAP agency. Vehicles used to transport the waste must be marked during loading and unloading with the following sign:

**DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY**

4. ON-SITE STORAGE

In some instances, the generator cannot arrange for prompt off-site transportation of the asbestos waste. Also, it may not be economically feasible for a generator to provide transportation until substantial waste has been generated. However, there may be local regulations which govern how long the waste may be stored on-site. The limit for storing waste on-site in most states is 3 months to one year beginning on the date the asbestos waste is generated. It is advisable, but not required, to place the disposal bags in impermeable containers (i.e., steel, fiberboard, or fiberglass drums). The date of generation should be marked on the outside of the containers. If the storage vessels are also deemed for disposal, the appropriate labels must be affixed to the outside of the container.

5. WASTE SHIPMENT RECORD

A "Waste Shipment Record" must be sent with the waste transporter to the disposal site, containing the following information:

- A. Name, address, and telephone of Generator
- B. Name and address of local NESHAP authority
- C. Approximate quantity in cubic yards
- D. Name and telephone of disposal site operator
- E. Name and site location of disposal site
- F. Date transported
- G. Name, address, and telephone of transporter
- H. Certification of compliance

If a signed copy is not received back from the disposal site within 35 days, the transporter, and/or disposal site must be contacted for information. If the signed copy is then not received within 45 days of shipment, the local or regional EPA must be contacted in writing. All waste shipment records must be retained for at least 2 years. An example of a waste shipment records form and instructions are provided.

Waste Shipment Record

(1) Work Site Name

Mailing Address

Owner's Name

Owner's Telephone Number

(2) Operator's Name and address

Operator's Telephone Number

(3) Waste Disposal Site (WDS) Name and Mailing Address

Physical Site Location

WDS Telephone Number

(4) Name, and address of responsible agency

(5) Description of Materials

(6) Containers: Number and type

(7) Total quantity m³ (yd³)

(8) Special handling instructions and additional information:

(9) Operators Certification: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/typed name & title

Signature

Date

(10) Transporter 1 (Acknowledgment of receipt of materials):

Printed/typed name & title

Signature

Date:

Address and telephone number

(11) Transporter 2 (Acknowledgment of receipt of materials)

Printed/typed name & title

Signature

Date

Address and telephone number

(12) Discrepancies:

(13) Waste disposal site owner or operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.

Printed/typed name & title

Signature

Date

Instructions

Waste Generator Section (Items 1-9)

1. Enter the name of the facility at which asbestos waste is generated and the address where the facility is located. In the appropriate spaces, also enter the name of the owner of the facility and the owner's phone number.
2. If a demolition or renovation, enter the name and address of the company and authorized agent responsible for performing the asbestos removal. In the appropriate spaces, also enter the phone number of the operator.
3. Enter the name, address, and physical site location of the waste disposal site (WDS) that will be receiving the asbestos materials. In the appropriate spaces, also enter the phone number of the WDS. Enter "on-site" if the waste will be disposed of on the generator's property.
4. Provide the name and address of the local, state, or EPA regional office responsible for administering the asbestos NESHAP program.
5. Indicate the types of asbestos waste materials generated. If from a demolition or renovation, indicate the amount of asbestos that is:
 - * Friable asbestos material
 - * Non-friable asbestos material
6. Enter the number of containers used to transport the asbestos materials in item 5. Also enter one of the following container codes used in transporting each type of asbestos material (specify any other type of container used if not listed below):
 - * DM - Metal drums, barrels
 - * DP - Plastic drums, barrels
 - * BA - 6 mil plastic bags or wrapping
7. Enter the quantities of each type of asbestos material removed in units of cubic meters (cubic yards).
8. Use this space to indicate special transportation, treatment, storage, disposal, or bill of lading information. If an alternate waste disposal site is designated, note it here. Emergency response telephone numbers or similar information may be included here.
9. The authorized agent of the waste generator must read and then sign and date this certification. The date is the date of receipt by transporter.

*NOTE: The waste generator must retain a copy of this form.

Transporter Section (Items 10 & 11)

10,11. Enter the name, address, and telephone number of each transporter used, if applicable. Print or type the full name and title of the person accepting responsibility and acknowledging receipt of materials as listed on this waste shipment record for transport. Enter date of receipt and signature.

* NOTE: The transporter must retain a copy of this form.

Disposal Site Section (Items 12 & 13)

12. The authorized representative of the WDS must note in this space any discrepancy between waste described on this manifest and waste received as well as any improperly enclosed or contained waste. Any rejected materials should be listed, and the destination of those materials provided. A site that converts asbestos-containing waste material to non-asbestos material is considered a WDS.
13. The signature (by hand) of the authorized WDS agent includes acceptance and agreement with statements on this manifest except as noted in item 12. The date is the date of signature and receipt of shipment.

Note: This WDS must retain a completed copy of this form. The WDS must also send a completed copy to the operator listed in item 2.

13. COST ESTIMATES OF CLEANING EQUIPMENT

The list below includes enough equipment for small-scale abatement jobs. Most facilities will not need as much equipment and, therefore, much of this equipment is optional. This section will not be applicable to facilities that do not have an in-house program for small-scale abatement.

<u>One Time Purchase</u>	<u>Character</u>	<u>Costs</u>
HEPA vacuum	w/1.5" attachments	1600.00
Full face respirator		141.00
Half face respirator		18.00
Personal monitor kit	8 hrs. at max. capacity	285.00
Mister - hand held	quart	1.50
with tank	3 gallon	35.00
Caution signs	12 or more (10 x 14")	3.85
Extension cord	100 feet	15.00
Ground fault circuit interrupter		15.00
Nylon brushes	5	32.52

Disposable Materials/Cleaning Supplies

Filters: HEPA Vacuum	12-gallon capacity	65.00
paper vacuum	microfilter	7.50
HEPA respirator	case of 10	22.50
Vacuum bags	6 mil polyethylene	34.65
Wet wipe cloths	20 x 40" case of 300	10.00
Muslin	10 square yards	16.20
Cheese cloth	10 square yards	7.00
Latex gloves	box of 100	62.00
5-micron water pump filter		3.50

Abatement Supplies

Surfactant	5 gallons	45.00
Encapsulant	lag kote	40.72
	lag kloth	75.50
Duct tape	2" case of 24	87.00
Protective disposable		
clothing with hooded, zipping		
type, booties	case of 25	43.00
6 mil polyethylene		
plastic bags	22 x 50" case	45.00
polyethylene	20 x 100' rolls	27.00
Glove bags	44 x 60" case of 25	90.00
Razor knives	10	35.00
Wire saws	10	15.00
Scrapers	10	77.70
Wire cutters	10	75.00
Chisel rock hammer	1	25.00

14. TERMS AND ABBREVIATIONS

ACBM - Asbestos Containing Building Materials.

Accessible - When referring to ACM, accessible means the material is subject to disturbance by building occupants, custodial, or maintenance personnel in the course of their normal activities.

Accredited or Accreditation - Refers to a person, firm, or laboratory having met the requirements found in Section 206 of Title II of the AHERA Act.

ACM - Asbestos Containing Materials.

Acoustical Material - Material which often contains Asbestos, Vermiculite, and Perlites that has been applied to ceilings or walls to dampen sound.

AHERA - The Asbestos Hazard Emergency Response Act of 1986 (40 CFR Part 763). Final rule as published in the Federal Register, Vol. 52, No. 210.

Air Plenums - A space above a ceiling used to circulate or condition air throughout the adjacent areas.

Air Samples - Samples of airborne fibers taken by drawing air through an appropriate filter media which traps the fibers. This sample is then analyzed by polarized light or electron microscopy.

Amosite - Brown asbestos, with brittle fibers often used for extreme thermal conditions.

APM - Asbestos Program Manager.

Approved Shower - A shower used for decontamination, with wastewater filtered down to the 5 micron range, and capable of supplying hot water at a temperature of 100 degrees F. or greater.

APR - Air-purifying respirator.

Asbestos - A naturally occurring mineral which includes chrysotile, actinolite, anthophyllite, tremolite, or crocidolite in fibrous structure, or any combination of these that have been chemically treated or altered, as determined by polarized light microscopy (PLM).

Asbestos Containing Material (ACM) - When referring to a building means any material or product that contains greater than 1% of asbestos.

Asbestos Containing Building Materials (ACBM) - is surfacing ACM, thermal ACM, or miscellaneous ACM that is found in or on the structural members of a building.

Asbestos Debris - Pieces of ACBM that can be identified by color, texture, or fiber content as originating from adjacent ACM.

Asbestos Fiber - Is any fiber of chrysotile, actinolite, amosite, tremolite, anthophyllite, crocidolite at least 5 micrometers in length and with a length-to-width ratio (aspect) of greater than 3 to 1.

Asbestos Management Plan - A document to assist in administering the asbestos program in a facility, that includes recommendations for response to ACM in the building, and which includes the O & M Program.

Asbestosis - A chronic disease during which the lungs become scarred because of a biological reaction to the inhalation of asbestos fibers.

ASHAA - Asbestos School Hazard Abatement Act of 1984. A funding vehicle for schools.

Authorized Person - Is any person authorized by an employer and required by work duties to be present in regulated area or activities.

Bulk Samples - Samples of suspect asbestos containing material. These samples are then analyzed by Polarized Light Microscopy (PLM).

CFR - Code of Federal Regulations.

Chrysotile - White asbestos, fine, silky, flexible fibers with high tensile strength.

Clean Room - Is an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated supplies and equipment.

Competent Person - Is a person capable of identifying existing asbestos hazards in the workplace and who has the authority to take prompt corrective measures.

Condition Factors - A description of the ACM's condition.

Crawl Space - An area of a building only a few feet high, often below the building level, but above the ground.

Crocidolite - Blue asbestos, has brittle fibers.

Decontamination Area - Is an enclosed area adjacent and connected to the work area consisting of an equipment room, shower area, and clean room which are used for the decontamination of personnel, equipment, and materials.

Demolition – As regulated by the NESHAP, means the wrecking or taking out of any load-supporting structural member. It generally should be interpreted as wrecking the structure or leveling the site.

Doffing - The action of taking off personal protective equipment.

Donning - The action of putting on personal protective equipment.

Employee Exposure - Exposure to airborne asbestos, actinolite, tremolite, anthophyllite, or any combination of these minerals that would occur if the employees were not wearing respiratory protection.

Encapsulation - The treatment of ACM/ACBM in place in a building with a liquid material that bridges or penetrates the asbestos fibers in an adhesive matrix to prevent the release of those fibers.

Bridging - Encapsulation technique that creates a membrane on the ACM surface.

Penetration - Encapsulation technique where the encapsulating mixture penetrates the ACM material and binds its components together.

Enclosure - Is an airtight, impermeable, permanent mechanical barrier around or over ACM/ACBM to prevent the release of asbestos into the air.

Equipment Room - A contaminated room located within the decontamination area, that is supplied with impermeable bags for the disposal of contaminated personal protective clothing and equipment. Usually called the “dirty” room.

F/CC - Fibers per cubic centimeter. A measurement to express the level of fibers in the air.

Facility - Is any institutional, commercial, public, industrial, or residential structure, installation or building; any ship; any active or inactive waste disposal sites. Defines a facility where NESHAP applies. A single residential building no larger than 4 dwelling units is not a facility.

Facility Component - Any pipe, duct, boiler, tank, reactor, turbine or furnace at or in a facility; or any structural members of a facility.

Fiber Release Episode - Is any uncontrolled or unintentional disturbance of ACM/ACBM that results in a visible emission.

Fibrils - A small bundle of individual fibers.

Fireproofing - Material sprayed or troweled onto facility components or structural members to prevent or retard their loss of strength during a fire. Often contains asbestos.

Fit-testing - The action, either by qualitative or quantitative measurement, of ensuring a respirator has a proper seal to the workers' face and is functioning properly.

Friable - Easily crumbled by hand pressure or material that has been made friable.

Friable Asbestos Containing Material - Is any material, containing greater the 1% asbestos, that can be crumpled, pulverized, or reduced to powder, when dry, by hand pressure.

Glove bag - A poly bag used to remove pipe insulation.

Hazard - Is any circumstance, mechanism, or event which has the potential to create injury or loss.

HEPA – High Efficiency Particulate Air. This prefix to the word “filter” defines a level of filter efficiency capable of trapping and retaining at least 99.97% of all mono-dispersed fibers greater than 0.3 micrometers in diameter.

Homogeneous Area - An area that is determined to be uniform in color, texture, depth, content, or age.

Inadvertent Contamination - The disturbance of ACM/ACBM not caused intentionally by individuals or parties involved in the project.

Inspection - The process of locating ACM, determining its condition, and reporting the results. This inspection is the basis of the management plan.

Latency - The period of a disease without manifestation of symptoms. The length of time between exposure and diagnosis.

Magnesia - A type of thermal insulation, usually white and often pre-formed into squares or rectangles, often contains asbestos.

Mechanical Area - An area of a facility not normally accessed by the public; often contains HVAC equipment, boilers, heat exchangers, tanks, pipes, ducts, and other mechanical equipment.

Medical Surveillance Program - A program to ensure that personnel are physically and psychologically able to wear respiratory protection equipment and are able to perform asbestos related activities.

Mesothelioma - A cancer of the lining of the lungs (pleural) or abdominal (peritoneal) cavity.

Miscellaneous ACM - Miscellaneous material that contains greater than 1% asbestos.

Miscellaneous Material - Building materials that are not thermal system or surfacing material.

MSDS - Material Safety Data Sheets. A technical document or report that provides precautions, protective measures, chemical makeup (active ingredients), and steps to take after a release. A primary source of information concerning chemical hazards.

Mudded Joint Fittings - Plaster compound packed onto pipe joints and around valves, tees, and pumps for thermal insulation; often contains asbestos; also called "hard-cast fittings".

Negative Air - A reduced pressure, or pressure differential process where the air pressure in the work area is less than that outside the work area. The differential is measured in inches of water column (vacuum).

NESHAP - National Emission Standards for Hazardous Air Pollutants.

NIOSH - National Institute of Occupational Safety and Health. The agency that sets the standards for respirators and other protective equipment.

Non-friable - That material in a building which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.

O & M - Operations and Maintenance.

Operations and Maintenance Program (O & M) - A program aimed at maintaining friable ACM/ACBM through training, awareness, and standardized work practices. An outreach of a comprehensive O & M program is the cleanup and repair of previously damaged ACM, as well as the prevention of further damage.

OSHA - The Occupational Safety and Health Administration of the United States Department of Labor.

Outside Air - The air outside the regulated area; often called "ambient".

Packing - Material used as gasketing in valves; often contains asbestos.

PAPR - Powered Air Purifying Respirator.

PCM - Phase Contrast Microscopy. A method used to analyze air samples for the presence of airborne fibers. **PEL** - Permissible Exposure Limit. A level of airborne asbestos above which no unprotected employee shall be exposed. Currently the PEL (Federal) is 0.1 f/cc of air as an 8-hour Time Weighted Average, and an Excursion Limit of 1.0 f/cc measured for 30 minutes. See 29 CFR 1926.1101.

Planned Renovation - Facility work such as remodel, or asbestos removal, which has been planned.

PLM - Polarized Light Microscopy. A method used to analyze bulk samples for the presence of asbestos.

Potential Damage - Circumstances in which:

1. Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal duties, and
2. 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.

Preventive Measures – As used in the AHERA regulation, a preventive measure is a response to non-friable ACM and/or small scale, short duration work on ACM. It is also used as a recommended remedy for friable or TSI in good condition but about to become significantly damaged.

Regulated Areas – An area in which Class I, II or III asbestos work is done. It must be posted with regulatory posting and administered by a competent person.

Re-Inspection - A re-evaluation of the ACM's condition once every three years by an accredited inspector.

Removal - A response action where the asbestos is stripped or permanently removed

Renovation - Is the modification of any existing structure or portion thereof where exposure to airborne asbestos may result.

Repair - Is the restructuring, overhauling, rebuilding, or reconditioning of structures or surfaces where asbestos is present. Repair is a response action under AHERA, requiring certified persons to design and conduct the work.

Respirator - A device worn over the mouth and nose to prevent the inhalation of noxious substances.

Respiratory Protection Plan - A program to provide the information, training, and equipment necessary for proper respiratory protection while working with ACM.

Response Action - Methods of controlling asbestos that include Repair, Removal, Encapsulation, O & M, or Enclosure. A response action is a response to friable material or TSI, bigger than maintenance, and inside the building.

Routine Maintenance Area - An area, such as a boiler room or mechanical room, not normally frequented by the public in which maintenance employees or contract workers regularly conduct maintenance activities.

SEM - Scanning Electron Microscopy. A method to analyze air or bulk samples for the presence of asbestos.

Serpentine - A major classification of asbestos minerals. Chrysotile is serpentine asbestos.

Surfacing Material - That material which is sprayed-on, troweled-on, or otherwise applied as acoustical plaster, fireproofing, or as decorative finishes.

TEM - Transmission Electron Microscopy. Currently the most definite analysis method for the determination of asbestos presence in air, water, or bulk samples.

Thermal System Insulation - Material applied to pipes, fittings, boilers, interior mechanical structures, and ducts to prevent heat loss or gain, condensation or for other purposes. TSI is mechanical system insulation.

TSCA - Toxic Substance Control Act.

TWA - Time Weighted Average. An average concentration of material over an 8 hour time period.

TYVEK - A brand name for non-breathable disposable clothing worn while working with asbestos.

USEPA - United States Environmental Protection Agency. The agency charged with implementing AHERA and NESHAP.

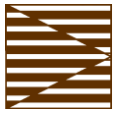
Visible Emissions - Any emissions, which are visually detectable without special instruments coming from asbestos containing material. Visible emissions include trash on the ground and water leaking out of containers.

Wet Cleaning - A cleaning technique where the material is kept wet, and/or towels or mops are used to reduce the potential of the material becoming airborne.

SECTION 9



EXAMPLE OF INITIAL & ANNUAL NOTIFICATION



DOMINION

EXAMPLE OF INITIAL AND ANNUAL NOTIFICATION LETTER

June 20, 2025

To Whom It May Concern,

In accordance with the Asbestos Hazard Emergency Response Act (AHERA), accredited building inspectors have completed an asbestos inspection of the Kyrene Del Milenio Elementary campus, located at 4630 East Frye Road in Phoenix, Arizona. The inspection, performed May 20, 2025, was conducted in accordance with the Environmental Protection Agency's (EPA) Rule "Asbestos-Containing Materials in Schools", 40 CFR Part 763.

Samples of suspect asbestos-containing materials were collected during the inspection and were submitted to a laboratory for analysis.

A copy of the inspection report for the buildings on the Kyrene Del Milenio Elementary campus, as well as the periodic surveillance records and the site's Management Plan are kept at the District LEA's office. An additional copy of the previously referenced documents is available during normal business hours from 8:00 a.m. to 5:00 p.m. in the Administrative Office of Kyrene Del Milenio Elementary.

Sincerely,

Kyrene Elementary School District

SECTION 10



COST ESTIMATION

KYRENE ELEMENTARY SCHOOL DISTRICT
Kyrene Del Milenio Elementary School

COST ESTIMATION

Asbestos-Containing Building Materials	Location	Estimated Quantity	Cost (per Sq. Ft.)	Estimated Removal Cost
Smooth Drywall System	Main Bldg	350	\$10.00	\$ 3,500.00
White 4" x 4" Ceramic Wall Tile & Grout	Main Bldg	512	\$8.00	\$ 4,096.00
Gray Epoxy Flooring	Main Bldg	240	\$5.00	\$ 1,200.00
New Fixture Caulking	Main Bldg	15	\$3.00	\$ 45.00
Concrete Foundation	Main Bldg	330	\$5.00	\$ 1,650.00
Orange Peel Drywall System	Main Bldg	460	\$10.00	\$ 4,600.00
White Vinyl 2' x 2' Ceiling Tile	Main Bldg	1,100	\$5.00	\$ 5,500.00
White w/Black Specs 12" x 12" VCT & Mastic	Main Bldg	350	\$8.00	\$ 2,800.00
Black Sink Coating	Main Bldg	20	\$12.00	\$ 240.00
Concrete Foundation	Main Bldg	88,000	\$5.00	\$ 440,000.00
Brown 16" x 4" Brick & Mortar	Main Bldg	5,000	\$8.00	\$ 40,000.00
Floor Expansion Joint	Main Bldg	200	\$3.00	\$ 600.00
Interior Expansion Joint	Main Bldg	100	\$3.00	\$ 300.00
Brown Frame Sealant	Main Bldg	150	\$3.00	\$ 450.00
Beige 2' x 4' Ceiling Tiles	Main Bldg	540	\$5.00	\$ 2,700.00
Silver Caulking	Main Bldg	50	\$3.00	\$ 150.00
White 2' x 4' Ceiling Tiles	Main Bldg	50	\$3.00	\$ 150.00
Black Square Vinyl Stair Tread	Main Bldg	84	\$3.00	\$ 252.00
Black 12" x 60" Vinyl Stair Tread	Main Bldg	100	\$3.00	\$ 300.00
Gray Door Sealant	Main Bldg	20	\$3.00	\$ 60.00
Interior Drywall Mat	Main Bldg	20,000	\$5.00	\$ 100,000.00
Silver Flex Duct Wrap & Insulation	Main Bldg	2,250	\$8.00	\$ 18,000.00
Silver Duct Wrap & Insulation	Main Bldg	2,250	\$8.00	\$ 18,000.00
Silver Ceiling Wrap & Insulation	Main Bldg	2,250	\$8.00	\$ 18,000.00
Gray Duct Mastic	Main Bldg	2,250	\$5.00	\$ 11,250.00
White Pipe Wrap & Insulation	Main Bldg	2,250	\$8.00	\$ 18,000.00
Black Foam Pipe & Insulation	Main Bldg	2,250	\$8.00	\$ 18,000.00
Red Fire Stop Caulking	Main Bldg	2,250	\$3.00	\$ 6,750.00
Gray 4" x 4" Ceramic Wall Tile & Grout	Main Bldg	3,000	\$8.00	\$ 24,000.00
Black 4" x 4" Ceramic Wall Tile & Grout	Main Bldg	200	\$8.00	\$ 1,600.00
Beige 4" x 4" Ceramic Wall Tile & Grout	Main Bldg	4,000	\$8.00	\$ 32,000.00
Beige 4" x 4" Ceramic Cove Base Tile & Grout	Main Bldg	600	\$8.00	\$ 4,800.00
Gray w/White Specs 2"x2" Ceramic Floor Tile	Main Bldg	3,100	\$5.00	\$ 15,500.00
Blue 2" x 2" Ceramic Floor Tile	Main Bldg	500	\$5.00	\$ 2,500.00
Tan 2" x 2" Ceramic Floor Tile	Main Bldg	500	\$5.00	\$ 2,500.00
Fixture Caulking	Main Bldg	100	\$3.00	\$ 300.00

KYRENE ELEMENTARY SCHOOL DISTRICT
Kyrene Del Milenio Elementary School

COST ESTIMATION

Asbestos-Containing Building Materials	Location	Estimated Quantity	Cost (per Sq. Ft.)	Estimated Removal Cost
Tan w/White Specs 12" x12" Vinyl Flooring & Mastic	Main Bldg	5	\$8.00	\$ 40.00
Fiberglass Reinforced Plastic (FRP) & Mastic	Main Bldg	40	\$8.00	\$ 320.00
Mop Sink Caulking	Main Bldg	6	\$3.00	\$ 18.00
White Pipe Wrap & Insulation	Main Bldg	5	\$8.00	\$ 40.00
Gray w/White Specs 12"x12" Vinyl Flooring & Mastic	Main Bldg	80	\$8.00	\$ 640.00
Yellow 4" x 4" Ceramic Wall Tile	Main Bldg	108	\$3.00	\$ 324.00
Total Estimated Cost				\$801,175.00

KYRENE ELEMENTARY SCHOOL DISTRICT
Kyrene Del Milenio Elementary School

RESOURCE EVALUATION		
Reinspection Costs / Year	Estimated Years	Totals
\$1,200.00	20	\$24,000.00
O & M / Year	Estimated Years	Totals
\$500.00	20	\$10,000.00
6 Month Periodic Surveillance / Year	Estimated Years	Totals
\$2,400.00	20	\$48,000.00

Training/ Year	Training Cost/Year	Estimated Years	
2 Hour Initial Training Class	10 Staff Members @ \$150.00 ea. = \$1,500.00	20	\$30,000.00
16 Hour Initial Training Class	2 Staff Members @ \$250.00 ea. = \$500.00	20	\$10,000.00
Refresher Class	12 Staff Members @ \$150.00 ea = \$1,800.00	20	\$36,000.00

Total Annual Cost	\$7,900.00
Total Cost Over Life of O & M	\$158,000.00
Cost of Removal at End of Building Life	\$801,175.00
Total Cost at End of Building Life	\$959,175.00

SECTION 11



MANAGEMENT PLANNER
OPTIONAL COMPLIANCE STATEMENT

**Optional Management Planner
Compliance Statement**
763.93(f)

I certify that I have prepared and/or reviewed this Management Plan and that such plan is in compliance with the Asbestos Hazard Emergency Response Act at 40 CFR 763, Subpart E.

I also certify that I have no financial connection with any party who implements or will implement this Management Plan.

Printed Name: Tracey Carpenter Date: June 20, 2025

Signature: Tracey Carpenter

State of Accreditation or EPA: EPA AHERA Management Planner - Arizona

Accreditation Date: July 11, 2024 – July 11, 2025

Accreditation Number: ON-4651-14588-071124

THE ASBESTOS INSTITUTE

Certifies that

Tracey Carpenter

has attended and received instruction in the EPA approved course

AHERA Management Planner Refresher

on

July 11, 2024

and successfully completed and passed the competency exam.

Certificate:
ON-4651-14588-071124

Date of Examination:
11-Jul-2024

Date of Expiration:
11-Jul-2025



William T. Cavness
Director



Approved Instructor

THE ASBESTOS INSTITUTE

20033 N. 19th Ave, Building 6, Phoenix, AZ 85027
602-864-6564 – www.theasbestosinstitute.com

The person receiving this certificate has completed the requisite training for asbestos accreditation under TSCA Title II.

SECTION 12



SIGNED STATEMENT BY
DESIGNATED PERSON

Local Education Agency (LEA) General Responsibilities Under AHERA

Pursuant to Section 763.84 and Section 763.93 of the EPA Asbestos in Schools Regulations (40 CFR, Part 763), each management plan must contain a true and correct statement signed by the LEA designated person, that certifies that the general LEA responsibilities have been met. This form is provided to assist you in complying with this portion of AHERA.

LEA Name: _____

LEA Address: _____

Designated Person Name: _____

Designated Person Address: _____

ASSURANCES

1. This AHERA management plan was developed and has been submitted pursuant to the Asbestos Hazard Emergency Response Act of 1986, Public Law 99-915; and the United States Environmental Protection Agency Rule: Asbestos Containing Material in Schools, 40 CFR, Part 763; and the undersigned does hereby certify that the LEA has and will ensure the following:
2. The activities of any persons who perform inspections, reinspections and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Part 763.
3. All custodial and maintenance employees are properly trained as required in Part 763 and all other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration Asbestos Standard for Construction, the EPA Worker Protection Rule or applicable state regulations).
4. All workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, post-response action activities, including period reinspection and surveillance activities, that are planned or in progress.
5. All short-term workers (e.g., telephone repair workers, utility workers or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACM and suspected ACM assumed to be ACM.
6. All warning labels are posted in accordance with Section 763.95.
7. All management plans are available for inspection and notification of such availability has been provided as specified in the management plan under Section 763.93(g).
8. The undersigned person designated by the LEA pursuant to Section 763.84 (g)(1) has received adequate training as stipulated in Section 763.84(g)(2).
9. The LEA has and will consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under Part 763.

SIGNATURE _____ DATE _____

LEA Designated Person, pursuant to
40 CFR 763.93(i) and 763.84.