

**Asbestos Hazard Emergency Response Act (AHERA)
3-Year Inspection Report**

**For Compliance with the EPA Asbestos Hazard Emergency Response Act
Title 40 CFR Part 763, Subpart E**

PREPARED FOR:

**Block Island School
15 High Street
New Shoreham, RI 02807**

PREPARED BY:



**Asbestos Inspector: Danny Mullen
RIDOH License Number: AI00963
Expiration Date: 08/31/2022**

**Asbestos Management Planner: Kenneth Davis
RIDOH License Number: AMP00510
Expiration Date: 06/30/2023**

RI Analytical Project #2022004

February 2022



R.I. ANALYTICAL

41 Illinois Avenue - Warwick, RI 02888

P: (401) 737-8500 F: (401) 732-8034

March 21, 2022

Attn: Mr. Robert J. Gerardi, Jr. PhD
Superintendent
Block Island School
15 High Street
New Shoreham, RI 02807

W: 401.466.7727; C: 774.254.0713
E: rgerardi@bischool.net

Re: Three-year AHERA inspection completed February 28, 2022.
Block Island School, 15 High Street, New Shoreham, RI 02807
RI Analytical Project #2022004

Dear Mr. Gerardi:

RI Analytical conducted visual inspections on February 28, 2022, of accessible, suspect asbestos containing materials within The Block Island School, 15 High Street, New Shoreham, RI 02807. The inspection and management plan preparation were performed by RI Analytical staff who are EPA accredited and RIDOH licensed asbestos inspectors and/or management planners. The school is required by law to maintain all asbestos-containing building materials or suspect asbestos-containing building materials in accordance with EPA Title 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice (AHERA; Asbestos Hazard Emergency Response Act, Oct. 17, 1987) and RIDOH asbestos regulations (216-RICR-50-15-1). As part of this compliance, a visual inspection of all Asbestos-Containing Building Material (ACBM) and all suspect materials (materials suspected of containing asbestos) that are assumed to be ACBM must be performed every three (3) years. In addition, 6-monthly periodic surveillance inspections must also be completed and documented.

This three (3) year inspection was performed to establish the current condition of the suspect materials in the school building. It will ensure that the response actions chosen for all known ACBM or suspect asbestos-containing building materials within the functional areas of the building are being appropriately maintained.

This report is intended to be an addition to all known information regarding asbestos-containing building materials within the school, asbestos abatement, associated asbestos activities, training, and awareness sessions. This information must be maintained at the administration or Local Education Agency (LEA) office.

Schools should have a Designated Person who knows the AHERA requirements and can more effectively manage the schools asbestos program. The AHERA Designated Person is responsible for overseeing and ensuring that school occupants and employees are not exposed to asbestos. The Designated Person ensures that asbestos-containing materials are maintained in good condition and that activities that might disturb asbestos-containing materials are conducted following regulatory requirements. Additional responsibilities and details are available in the EPA self-study guide included in **Appendix L**.

Note on training school staff custodial and maintenance workers. AHERA regulation 40 CFR §763.92 (a) - *Training and periodic surveillance*; All school staff custodial and maintenance workers who conduct any activities that may result in the disturbance of ACBM must complete two hours of Awareness Training whether or not they are required to work with ACBM. New custodial and maintenance employees shall be trained within 60 days after the commencement of employment. Maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM shall receive 14 hours of additional O&M training and be licensed as required by RIDOH asbestos regulations. Further clarification on training requirements may be found at the reference above.

As indicated above, in addition to this 3-year inspection, at least once every 6 months after a management plan is in effect, each local education agency shall conduct periodic surveillance in each building that it leases, owns, or otherwise uses as a school building that contains ACBM or is assumed to contain ACBM. Each person performing periodic surveillance shall:

- (i) Visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM.
- (ii) Record the date of the surveillance, his or her name, and any changes in the condition of the materials.
- (iii) Submit to the person designated to carry out general local education agency responsibilities under §763.84 a copy of such record for inclusion in the management plan.

Note on training for surveillance inspections. AHERA regulation 40 CFR §763.92 (3) Local Education Agency maintenance and custodial staff who have attended EPA-approved asbestos training or received equivalent training for O&M and periodic surveillance activities involving asbestos shall be considered trained for the purposes of this section.

RI Analytical can provide specific training to meet the requirements for workers who could be exposed to asbestos, or who work in a building with ACM present, as well as Designated Person training for staff completing the responsibilities of the designated person including completing the 6-month surveillance inspections [refer to §763.84 General local education agency responsibilities (g)(1) & (2)].

As part of fulfilling AHERA requirements, The Block Island School is required to annually notify all students, parents, and staff that an AHERA management plan is available and maintained at the school building. Refer to **Appendix G** for an example. A digital version in a Microsoft word document is available from RI Analytical free of charge.

The information gathered during this visual asbestos inspection is compiled in the charts included in **Appendix O**. The charts list material type, location, amount, and physical condition.

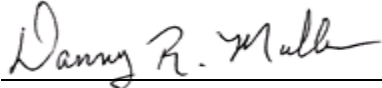
RI Analytical does not consider this to be a complete and comprehensive asbestos inspection but rather a visual inspection of accessible building materials. Only limited bulk sampling of building materials suspected of containing asbestos was performed as part of this inspection. There may also be hidden asbestos materials and exterior asbestos materials not included under the regulations of asbestos management.

All observations documented in this report were made under the conditions existing at the time of this inspection. Should changes from existing conditions occur in the future, warranting additional inspection or laboratory analysis, they should be brought to the attention of RI Analytical.

If you have any questions regarding this AHERA inspection report, please call (401) 737-8500 ext. 120.

Sincerely,

RI Analytical Laboratories, Inc.
Exposure Assessment and Management Division



Danny Mullen
Environmental Consultant
Project Manager, EAM Division
RIDOH Inspector #AI00963



Kenneth Davis
Senior Environmental Scientist
Manager, EAM Division
Management Planner #AMP00510

Doc: 2022004 COVER LETTER AHERA 3-YR MPLAN_DRM-JJ

Block Island School Asbestos Hazard Emergency Response Act (AHERA) 3-Year Inspection

Block Island School
15 High Street
New Shoreham, RI 02807

Prepared by:
Rhode Island Analytical Laboratories, Inc.
Exposure and Assessment Division
41 Illinois Avenue
Warwick, RI 02888

February 2022

RI Analytical Project #2022004



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I. Introduction

A. Purpose

The purpose of this inspection is to assess the condition and friability of known or assumed ACBM within the school in accordance with the AHERA requirements. Our findings are included in the management plan and provide recommendations based on condition of the material.

No copies of previous AHERA 3-year inspections or 6-monthly surveillance inspections or pre-renovation inspections were available from the Owner. RI Analytical searched for previous such documents in our paper and electronic files. Only limited previous report information was found and copies of these documents are included in the attachments.

This AHERA 3-year inspection was completed as a new inspection.

B. Warranty

RI Analytical Laboratories warrants that the findings contained herein have been prepared in accordance with accepted professional practices at the time of this report's preparation. The inspection results reported herein are detailed to the extent necessary to determine condition of the ACBM.

C. Disclaimer

As stated in 40 CFR Part 763, Final Rule and Notice, Inspections and reports are based on the original Management Plans. The Block Island School 2022 AHERA Plan utilizes information based on the AHERA inspection conducted on February 28, 2022.

D. Scope of Services

- * Review of existing available paperwork and record-keeping.
- * Assessment of suspect and assumed ACBM for friability and condition.
- * Identification of areas that have become friable or damaged.
- * Recommendations for areas of concern.
- * Submission of management plans.

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II. Statement of Compliance

A. Activity Plan

Re-inspection of The Block Island School will be performed by an AHERA certified, State Licensed asbestos inspector no later than February 2025.



Mr. Tom Risom
LEA Designated Person

AUG 9, 2022

Date

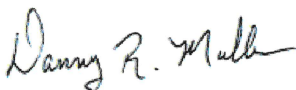
The following dates indicate the time the three (3) year AHERA re-inspection must be completed by:

December 2025	December 2034
December 2028	December 2037
December 2031	December 2040

These re-inspections (as well as required 6-monthly surveillance inspections) shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island Rules and Regulations.

B. Responsible Parties

The primary inspector assigned to conduct the 3-year inspection survey was Danny Mullen, an accredited AHERA inspector, of RI Analytical Laboratories. Mr. Kenneth Davis was the assigned accredited AHERA management planner, of RI Analytical Laboratories. Copies of those certifications are included.



Danny Mullen
RIDOH Inspector #AI00963

2/29/2022

Date

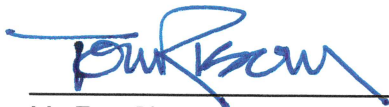


Kenneth Davis
RIDOH Management Planner #AMP00510

2/29/2022

Date

I hereby state that the general LEA responsibilities under 763.84 have been or shall be met.



Mr. Tom Risom
LEA Designated Person

AUG 9, 2022

Date

February 2022

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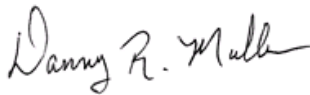
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Danny Mullen
RIDOH Inspector #AI00963

2/29/2022
Date



Kenneth Davis
RIDOH Management Planner #AMP00510

2/29/2022
Date

I hereby state that the general LEA responsibilities under 763.84 have been or shall be met.

Mr. Tom Risom
LEA Designated Person

Date

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C. Periodic Surveillance:

Periodic surveillance shall be performed by personnel who are competent persons at intervals of no more than six (6) months unless conditions of asbestos-containing building material(s) change and warrant additional surveillance monitoring.

The school department shall initiate a six (6) month surveillance of The Block Island School. This surveillance shall include a thorough re-inspection of all previously identified and assessed asbestos-containing building materials. The inspector conducting this six-month surveillance shall be adequately trained and have the appropriate EPA accredited training.

The following dates indicate the time the six-month AHERA surveillance inspection must be completed by:

August 2022

February 2024

February 2023

August 2024

August 2023

February 2025

These re-inspections and surveillance inspections shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island rules and regulations.

Robert J. Gerardi, Jr. Ph.D
LEA or Asbestos Coordinator

8/9/2022
Date

February 2022

C. Periodic Surveillance:

Periodic surveillance shall be performed by personnel who are competent persons at intervals of no more than six (6) months unless conditions of asbestos-containing building material(s) change and warrant additional surveillance monitoring.

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The following dates indicate the time the six-month AHERA surveillance inspection must be completed by:

August 2022	February 2024
February 2023	August 2024
August 2023	February 2025

These re-inspections and surveillance inspections shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island rules and regulations.

LEA or Asbestos Coordinator

Date

February 2022**D. Periodic Surveillance Program:**

The Block Island School shall be inspected every six months to monitor the condition of the asbestos containing building materials as denoted within the management plan and asbestos hazard inspection forms. The individual conducting these 6-month surveillance inspections must be selected by the designated trained LEA and have the minimum 2-hour asbestos awareness training. In addition, we recommend these surveillance inspectors should have additional training as a "RI Asbestos Competent Person" (16 hr.) and/or be under the direction of the Asbestos Coordinator or designated LEA person.

The individual inspecting The Block Island School shall utilize the AHERA Inspection information concerning the asbestos containing building materials as well as suspect asbestos containing building materials. These materials should be inspected for the following:

- 1) Deteriorated condition
- 2) The friable state of the material
- 3) New damage or increased damage to the ACBM
- 4) Changes in the accessibility of the ACBM
- 5) Water damage
- 6) Vibration
- 7) Air erosion
- 8) Increases or decreases in the potential for damage
- 9) Increase or decrease in the potential for significant damage

The above information shall be denoted within the current management plan at the individual school building as well as the LEA office. In addition to the 6-month surveillance data, any minor removal (spot repair/removal), or any abatement activities conducted within The Block Island School were denoted within each copy of the management plan.

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III. Local Education Agency (LEA) Responsibilities

The following list summarizes the LEA's responsibilities as denoted in the Rule. The complete text may be found at Section 763.84 of the Rule.

1. All aspects of the inspection and management plan are carried out in accordance with the Rule.
2. Custodial and maintenance staff receives proper training as required by all federal and state regulations.
3. Workers and building occupants or their legal guardians are informed at least once each school year about all asbestos-related activities that are planned or are in progress.
4. Short-term workers, including outside contractors, who may come in contact with asbestos are informed about the locations of ACM and assumed ACM.
5. Required warning labels are posted in routine maintenance areas according to Section 763.95 of the Rule.
6. Parent, teacher, and employee organizations are notified yearly of the availability of the Plan. The School maintains a copy of the Plan at the School for inspection per Section 763.93(g) of the Rule.
7. Per Section 763.84(g)(l) of the Rule, the LEA shall "Designate a person to ensure that requirements under this section are properly implemented and ensure that the designated person receives adequate training as described in Section 763.84 (g)(2)."
8. "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 this Subpart." (Section 763.84(h) of the Rule.)

IV. Review of Existing Paperwork/Recordkeeping

Response Actions:

Section 763.94 (Record-keeping) of the AHERA Final Rule (40 CFR Part 763, Subpart E) requires that the following paperwork be obtained for all abatement activities: copies of all accreditations and licenses, copy of the company's (Abatement Contractor) license, copies of any required notifications, copies of disposal receipts, and records of the particulars of the job as to activity, location, and personnel used with their signatures, where applicable.

A summary of RI Analytical record review indicated the following:

1. Response Actions Completed by In-House Staff:

No documentation of activities was available since last AHERA inspection. No product information records or SDS of newer installed building products were available.

2. Response Actions Completed by Independent Abatement Contractors:

No documentation of activities was available since last AHERA inspection.

3. Six-Month Periodic Surveillance:

Six-month records since last AHERA inspection were available.

4. Annual Notifications:

Annual letter was available. Template letter is available in current AHERA plan.

5. Contractor Notifications:

*No record of contractor release forms from contractors notified of ACM within the building. Records of all outside contractors who conduct work within the school should sign the **Worker Acknowledgement Form** enclosed in **Appendix G** and the LEA should keep a record of contractors who sign the form.*

V. AHERA Reinspection Report

A. AHERA TERMS, ABBREVIATIONS, AND ACRONYMS

AHERA	Asbestos Hazard and Emergency Response Act
Rule	40 CFR Part 763 Subpart E - Asbestos-Containing Materials in Schools Rule, including Appendices A, B, C, and D
Section	Sections 763.80 - 763.99 in the Rule
LEA	The Schools' Local Education Agency (as defined in the Rule)
Plan	The AHERA Management Plan for the School
Section	Subsections of the Plan
EPA	Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
NESHAP	National Emission Standards for Hazardous Air Pollutants
ACBM	Asbestos-containing Building Material (as defined in the Rule)
ACM	Asbestos-containing Material
Non-ACM	Non-Asbestos-containing Material
S. No.	Bulk Sample Number
F	Friable
NF	Non-friable
HA	Homogeneous Area
FS	Functional Space
O&M	Operation and Maintenance Program
MIS	Miscellaneous Building Material (as defined in the Rule)
CT	Ceiling Tile
FT	Floor Tile
FBGL	Fiberglass
TSI	Thermal Systems Insulation (as defined in the Rule)
SURF	Surfacing Materials
HVAC	Heating, Ventilation, Air Conditioning System
N/A	Not Applicable
RIDOH	Rhode Island Department of Health

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B. ASBESTOS INFORMATION

1. General

"Asbestos" is the term used to describe certain fibrous silicate minerals that were formerly widely used for insulating, construction, and other purposes. Asbestos fibers were used throughout the construction industry due to their properties of non-flammability, high tensile strength, and low heat conductance. In the northeast United States, the most commonly encountered types of asbestos are "chrysotile" and "amosite". Other types of asbestos are found in a wide variety of construction materials.

Asbestos poses a health hazard when very small asbestos fibers, approximately five micrometers in length, are released into the air and inhaled into the lungs. Once in the lungs these fibers can either be expelled or become trapped. If they become trapped the body cannot break the fibers down, and the lungs try to encase the foreign material with tissue. This process can cause scarring of the lung tissue that may ultimately result in impaired lung elasticity and subsequent chronic dysfunction. This disease is called asbestosis.

Asbestos diseases may manifest in other forms that are equally dangerous, such as mesothelioma, a form of lung cancer. The latency period of these diseases has been determined by medical professionals to be anywhere between ten and thirty years following exposure. For additional information regarding the health hazards of asbestos, consult Health Hazards of Asbestos, U.S. Department of Labor, Occupational Safety and Health Administration (OSHA 3040), and Guidance for Controlling Friable Asbestos-Containing Materials in Buildings, U.S. Environmental Protection Agency (EPA 560/5-83-002, March 1983). These documents are available from the regional office of the U.S. Environmental Protection Agency, Federal Office Building, 26 Federal Plaza, New York, New York 10007, 212-264-2525.

Asbestos-containing building materials (ACBM) can be categorized into two groups: (1) friable; and (2) non-friable. Friable asbestos-containing material is that which can be crumbled, pulverized, or reduced to dust or powder using hand pressure. The presence of friable ACBM creates the need for the most urgent attention, while the presence of non-friable ACBM should be documented and proper handling procedures established, in order to avoid allowing the material to deteriorate to a friable and hence potentially hazardous condition. Non-friable ACBM, as well as friable ACBM, must be assessed periodically to determine their potential for fiber release. An operation and maintenance program including preventive measures must be established to prevent disturbance of all asbestos-containing materials.

Note:

The AHERA Rule differentiates between ACBM and ACM. In the remainder of this report, with the exception of the summary tables, all asbestos-containing material, including ACBM, will be referred to by the acronym "ACM".

2. AHERA Classifications

AHERA classifies asbestos-containing materials as thermal system insulation, miscellaneous materials, or surfacing materials.

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a. **Thermal System Insulation (TSI)**

The most common asbestos-containing thermal system insulation (TSI) materials are the following: Aircell, which is an asbestos-containing paper; calcite and magnesia, which are powdery fibrous silicas; and preformed asbestos lagging or blocks. These types of TSI were used for many years as insulation wrapped around pipes, boilers, ducts, and hot water tanks in order to reduce thermal heat loss and prevent condensation.

When asbestos-containing insulation and its outer wrapping are in good condition there is minimal chance that asbestos fibers will become airborne, provided the insulation is not disturbed. Insulation that is intact may remain in place as long as its location and condition are documented, and proper education is provided to individuals who may potentially disturb the insulation, thereby causing a fiber release episode.

If TSI is intact and in good condition, it must be maintained according to an Operations and Maintenance Program in order to monitor its condition, since the physical condition of the insulation may change, thereby increasing the potential for fiber release. If asbestos insulation is frayed, punctured, ripped, water damaged, or vandalized, a fiber release episode may occur. Whenever a fiber release occurs, the insulation should be repaired, encapsulated, enclosed, or removed in order to decrease the potential hazard to both human health and the environment.

b. **Miscellaneous Materials**

Floor and ceiling tiles are categorized as miscellaneous interior building materials. Of the two, ceiling tiles are the most common friable materials. Ceiling tiles may release asbestos fibers upon the slightest disturbance. Air currents from HVAC systems may also cause erosion of ceiling tiles and subsequent asbestos fiber release. Routine maintenance of pipes located above asbestos-containing ceiling tiles can possibly cause some quantity of fibers to be released due to disturbance of the tiles. Under normal conditions, non-friable miscellaneous ACM has virtually no potential for fiber release. However, if these materials are sanded drilled, broken, or otherwise structurally disturbed they can release fibers to the air and the environment.

c. **Surfacing Materials**

Acoustical troweled-on-plaster and sprayed-on fireproofing are categorized as surfacing ACM. Fireproofing insulation was applied as a fluffy coating in order to provide two to four-hour fire protection, so that structural beams would not warp and collapse during a fire. Insulation of this type has a high potential to release fibers into the air upon any physical contact or by the action of air currents. Asbestos-containing plaster was also used for fireproofing and for acoustical purposes. Non-friable surfacing ACM that has a low potential for disturbance also presents a low potential for fiber release.

3. Methods of Survey Classification and Response Action Determination

This school was inspected for ACM by a trained and certified asbestos inspector. The inspector assessed the building materials and categorized similar materials into a group called a homogeneous material (HM). The HM are listed by number, with a description of the material and a list of areas

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that contain the material, which are called functional spaces.

The inspector recorded the following for each AHEHA: activity in the area, risk factors, condition of the ACM, type of damage, if any, and the distribution of damage. These factors were considered when developing the recommended response actions presented in this plan.

These factors, future building uses, and planned renovations all should be taken into consideration when the LEA must choose among the alternative response actions recommended, or otherwise available, for reducing the hazard to human life and the environment posed by the presence of ACM.

4. Asbestos Treatment Methods

Three categories of alternative treatments are available to treat or control asbestos-containing materials. Conditions that must be taken into consideration when determining the appropriate method of treatment for ACM are location, quantity, physical condition, future uses, renovation or demolition plans, and any social, political, or economic constraints that may apply. The following are brief descriptions of the three categories of alternative treatments.

a. **Repair and Encapsulation**

Repair and encapsulation generally offer the least expensive form of treatment. Although this brings the material back to its original and/or non-friable condition, the activity must still be documented in an O&M Program to monitor the future condition of the material and its potential for hazard. This method, however, leaves the ACM in the building where it will continue to age and deteriorate.

b. **Enclosure**

Enclosure offers a more expensive but more secure solution for some ACM. Building an impermeable case around asbestos-containing pipes or plaster can prevent release of asbestos fibers due to deterioration and physical disturbance. However (as is also true for repair and encapsulation), the NESHAPS legislation requires that if future plans call for renovation, repair, or demolition, the ACM must first be removed. Enclosed ACM must also be included in an O&M Program.

c. **Removal**

Removal, although initially the most expensive option, is often the most permanent and cost-effective solution. Not only are future potential hazards associated with asbestos-containing materials eliminated, operations and maintenance, repairs, and periodic surveillance and reinspections (as required with the options described above) become unnecessary. Future problems or costs for asbestos control are thus completely eliminated.

5. Response Action Recommendation/Implementation

Regardless of the abatement method chosen, it is important to bear in mind that any disturbance of friable asbestos-containing material can cause fibers to be released, if proper procedures and precautions are not observed.

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Asbestos abatement workers licensed in Rhode Island must be employed to perform any large-scale operation (one involving greater than three square or three linear feet of asbestos). It is recommended that a Rhode Island DOH certified asbestos inspector be employed to ensure the safety of employees and building occupants and to ensure that proper work practices and procedures are followed during all phases of an abatement project. Collection of samples to determine ambient air fiber levels upon completion of a project is also required. It is also recommended that ambient air fiber levels be measured before and during a project. These added precautionary measures greatly increase a school's ability to document and record pertinent data and thereby reduce its own potential liability.

6. Risk Assessment and Asbestos Control

Actual risk due to asbestos exposure cannot be quantitatively defined, nor can the relationship between an exposure and its consequential effect be estimated. The only precise quantitative statement that can be made concerning asbestos is that zero exposure will give zero risk. It is generally agreed, however, that the greater the exposure, the greater the risk.

The above consideration, combined with the fact that over time, any building material will decay and eventually most systems will be replaced by newer, more advanced and efficient systems, is the basis for the recommendation that, whenever possible, all exposed friable asbestos be removed and that any remaining asbestos-containing materials be controlled with an asbestos O&M Program. Recommended control methods are outlined in the Operation and Maintenance Program in Part VIII of the Plan should be consulted regularly as a guide for specific work practices to use for jobs that require contact with asbestos in a school. Again, bear in mind that NESHAPS regulations currently in place require the proper removal of ACM before any major renovation, repair, or demolition occurs.

C. BULK SAMPLE ANALYSIS

RI Analytical did not complete any bulk sample collection during the inspection. Materials are assumed to contain asbestos and must be treated as ACM without being disturbed in any way.

D. RECOMMENDATION TO THE LEA

Overall, the school appears to be well maintained and most of the materials inspected on February 28, 2022, in The Block Island School are in good condition. For future repairs, RI Analytical recommends maintaining records of Safety Data Sheets for all replacement products for future reference. For any response actions, the LEA should complete an **Operations and Maintenance Form** enclosed in **Appendix F** and the LEA should keep a record in the AHERA plan for documentation purposes.

The Block Island School staff members that currently possess Asbestos Competent Person OSHA Class III (16hr) training are able to perform Class III work (repair and maintenance of any **asbestos** containing material). A Rhode Island licensed asbestos abatement contractor must be employed to perform any asbestos abatement response action operation (any clean-up, removal, repair, encapsulation, enclosure, or other disturbance). Any asbestos abatement involving greater than three square or three linear feet of asbestos requires an abatement plan written by a licensed project designer and must be submitted and approved by the state of RI prior to any activity. In addition, an Operations and Maintenance Form (See Appendix F) should be completed for any asbestos abatement response action operation as a

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record of documentation and kept within the AHERA report.

The asbestos inspection form (**Appendix O - Inspection Form with 6-month surveillance columns**) should be reviewed in its entirety and areas where damage of the homogeneous area of assumed ACM occurred should be investigated further and preventative measures should be taken to reduce disturbance. The Block Island School may find it beneficial to implement a long term plan to conduct more extensive sampling to define which materials are known to be asbestos in an effort to reduce the amount of "assumed asbestos containing materials". Another option would be to treat the materials as asbestos and abate the entire presumed asbestos containing material within the school to avoid a potential fiber release episode. Refer to **Section VIII - The Operations and Maintenance Program** for guidance on how to handle ACM or PACM. Other than these limited items, the school should continue with their O&M plan.

For future AHERA inspections, RI Analytical recommends budgeting additional funds toward sampling of suspect or presumed friable asbestos containing materials (i.e. drywall/skimcoat plaster and ceiling tiles). RI Analytical recommends further investigation and additional sampling in order to remove presumed asbestos containing materials (PACM) from the AHERA report.

VI. Public Notification

A. OCCUPANT NOTIFICATION

In accordance with Section 763.84(c) of the Rule, the LEA will notify in writing, at least once yearly, all relevant occupants of the school of all asbestos-related activities that take place at the school. Relevant occupants include, but are not limited to: building occupants or their legal guardians; staff, including teaching, administrative, custodial, maintenance, and all other personnel; all parent, teacher, employee, and administrative organizations; and/or any similar organizations at the school which serve similar functions. A sample notification letter is included in **Appendix J**.

Asbestos activities include, but are not limited to: inspections; response actions, including removal, encapsulation, enclosure, repair, and operation and maintenance; and post-response action activities, including periodic surveillance and re-inspection. In addition, Section 763.93(g)(4) of the Rule requires the LEA to inform occupants at least once per year that the AHERA Management Plan exists and is available for review in the school's Administration Office.

In accordance with the aforementioned Sections and Section 763.93(b) of the Rule, the LEA must maintain a dated copy of all such notifications. The list of relevant groups to be notified will be added to and updated as necessary and should also be kept on file.

B. PLAN FOR NOTIFICATION

In accordance with Sections 763.84(c) and Sections 763.93(e)(1 0) and (g)(4) of the Rule, all school building occupants will be informed by written notification about all asbestos-related activities at least once every school year.

Building occupants to be notified include, but are not limited to, all students or their legal guardians, and all staff members and their committees, representatives, and organizations.

As of February 2022, building occupants at the school include the following:

- Students and their legal guardians
- Faculty and staff (including teaching, custodial, maintenance, administrative, and all other personnel)

The LEA may choose various methods of notification to building occupants. The method of notification, such as written notification via posted notices at the school, or through publications such as a legal notice in the local newspaper, must be documented and details of the new notification methods used must be included in the Management Plan. Copies of the annual public notice must be included in the Management Plan.

C. ACBM LOCATIONS

According to Section 763.84(d) of the Rule, the LEA must ensure that all short-term workers who may come in contact with asbestos in the school (e.g., telephone, plumbing, HVAC, electrical workers, etc.) are provided information regarding the locations of identified or assumed ACM. In addition, as required

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by Section 763.92(a)(i)(iii), all members of the school's maintenance and custodial staff must be informed of the locations of ACM identified throughout each school building in which they work.

To avoid the unintended disturbance of asbestos containing building material, available information regarding known locations of ACBM must be made available to all hired contractors or sub-contractors. The Block Island School requires that all contractors and contractor's employees have been informed of potential ACBM, have received proper training for the level of activities for which they are engaging, have read and signed the Worker Acknowledgement Form (**Appendix G**), and are appropriately accredited or licensed if they are to come into contact with ACBM. All contracting trades must adhere and review all of the AHERA Plan supplied specifications and applicable federal and state regulations.

D. ASBESTOS ACTIVITIES

Prior to the start of asbestos abatement and/or associated or remediation projects, proper notifications must be made by the appropriate entities to all applicable federal, state, and local agencies and authorities. In addition, the Local Fire Department should be notified prior to asbestos abatement and/or associated or remediation projects. The local Health and Fire Departments are often good places to begin researching local regulations and notification requirements. Notifications may include but are not limited to the following.

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VII. Asbestos-containing Materials Response Actions

A. RESPONSE ACTION DETERMINATION SUMMARY

Response Action determinations were made by using the EPA recommended method to determine the risk to human health associated with exposure to asbestos within a given ACM category. Appropriate response actions that are consistent with applicable regulations and protect human health and the environment are then recommended in order to best respond to and/or control ACM.

B. RESPONSE ACTION DESCRIPTIONS

The following is a brief and general description of the Response Actions recommended in the Plan. The following response actions may only be undertaken in accordance with all applicable federal, state, and local regulations governing the handling and disposal of asbestos. Procedural requirements and work practices regarding small-scale, short-duration asbestos activities may be found in the O&M Section of this Plan. Refer to **Appendix O** for a complete list of ACMB and recommended response actions.

1. Removal

Removal means the complete removal and disposal of designated asbestos-containing material of any kind. If ACM debris is present, the area must be isolated and the debris cleaned up immediately.

2. Repair

Repair means to restore a damaged area to its original intact condition. This includes making the damaged area airtight to prevent the release of fibers into the air. If ACM debris is present, the area must be isolated and the debris cleaned up immediately. Place all repaired ACM in the O&M Program.

3. Encapsulation

Encapsulation means the application of a material with a bonding or sealing property to prevent the release of airborne fibers. If ACM debris is present, the area must be isolated and the debris cleaned up immediately. Place encapsulated ACM in the O&M Program.

4. Enclosure

Enclosure means creating an airtight structure around an affected area to prevent the release of airborne fibers and significantly reduce the possibility of future physical disturbance or damage to the ACM. Any damaged ACM must be repaired prior to enclosure. If ACM debris is present the area must be isolated and the debris cleaned up immediately. Place the enclosed area in the O&M Program.

5. Operation & Maintenance (O&M) Program

An O&M program describes a structured plan of action to maintain ACM in a condition that protects the health and safety of the occupants in a building and provides for remedial action in the event that ACM is disturbed.

February 2022**C. CATEGORY ASSESSMENT KEY FOR FUNCTIONAL SPACES**

1. Damaged or significantly damaged TSI.
2. Damaged friable surfacing material.
3. Significantly damaged friable surfacing material.
4. Damaged or significantly damaged friable miscellaneous material.
5. ACM with potential for damage.
6. ACM with potential for significant damage.
7. Any remaining friable known or suspect ACM.

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VIII. The Operations and Maintenance Program

A. Introduction

In compliance with the AHERA Rule, the LEA must establish and implement an operations and maintenance (O&M) program whenever any asbestos-containing building materials are found in a school building. The purpose of the O&M program is to prevent the release of asbestos fibers through careful management of asbestos-containing building materials.

Since National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations require that friable and non-friable ACM which is likely to become friable be removed from buildings before demolition, the O&M program is not a permanent solution. In addition, the asbestos NESHAP may regulate the removal of asbestos as part of a renovation. It is also not a means by which full-scale asbestos abatement can be accomplished. The intentional disturbance of ACM should be limited to the repair or removal of small areas of significantly damaged ACM or to small areas where removal is necessary to make maintenance or minor renovation activities easier. Some small scale, short duration activities may be subject to asbestos NESHAP requirements if enough ACM will be disturbed during a calendar year. Larger abatement projects that require extensive planning and technical expertise may not be part of the AHERA O&M program. Limited encapsulation and enclosure could be used to enhance an O&M program by reducing the likelihood of contact with the ACM, however.

B. Objectives of the O&M Program

The O&M program consists of a set of procedures and practices for operating and maintaining a building to keep it as free of asbestos contamination as possible. The O&M program has three main objectives:

1. Clean up existing contamination.
2. Minimize future fiber release by controlling access to ACM and instituting proper work practices.
3. Properly maintain the ACM until it is removed.

C. Specialized Work Practices and Procedures

The LEA must ensure that the following procedures are followed for any O&M activities disturbing friable ACM:

1. Restrict entry into the area by persons other than those necessary to perform the maintenance project.
2. Post signs to prevent entry by unauthorized persons.
3. Shut off or temporarily modify the air-handling system and restrict other sources of air movement.
4. Use work practices or other controls, such as wet methods, protective clothing, HEPA vacuums, mini-enclosures, and glove bags, as necessary to inhibit the spread of any released fibers.
5. Clean all fixtures or other components in the immediate work area.
6. Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

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D. Emergency Response Procedures

As long as ACBM remains in a building, there is a risk of a fiber release episode. Custodial and maintenance workers should be aware of this and should always report any of the following occurrences to the LEA designated person:

1. Any debris found on the floor or other horizontal surface
2. Any water or physical damage to the ACBM
3. Any other evidence of possible fiber release

There are two types of fiber release episodes: minor episodes and major episodes. The specific procedures that must be followed depend on which type of episode occurs.

i. Minor Fiber Release Episode

A minor fiber release episode consists of the falling or dislodging of three square or linear feet or less of friable ACBM. Section 763.91(f)(1) of the AHERA Rule requires that when such an event occurs, the LEA must ensure that:

1. The debris is thoroughly saturated using wet methods
2. The area is cleaned
3. The asbestos debris is placed in a sealed, leak-tight container
4. The area of damaged ACBM is repaired with such materials as asbestos-free spackling, plaster, cement, or insulation; sealed with latex paint or an encapsulant; or an appropriate response action is implemented as required by § 763.90 of the AHERA Rule.

The designated person will assign an appropriately trained O&M in-house team to clean up the debris and make repairs as soon as possible and if needed, will contact a licensed outside asbestos abatement contractor to clean up the remaining debris and make necessary repairs according to the Plan.

ii. Major Fiber Release Episode

A major fiber release episode consists of the falling or dislodging of more than three square or linear feet of friable ACBM. All response actions involving more than three linear feet or square feet of ACM will be designed by a Rhode Island accredited Project Designer and performed by Rhode Island licensed and accredited consultants and asbestos abatement contractors. The State of Rhode Island requires that proper notifications be made as necessary to the Department of Health (DOH) and the U.S. EPA.

Section 763.91(f)(2) of the AHERA Rule requires that when such an episode occurs, the LEA must ensure that:

1. Entry into the area is restricted and signs posted to prevent entry into the area by persons other than those necessary to perform the response action.
2. The air-handling system is shut off or temporarily modified to prevent the distribution of fibers to other areas in the building.
3. The response action for any major fiber release episode is designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.

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After a response action is implemented to manage a major fiber release episode, the final air clearance requirements of AHERA must be met before the response action is considered complete.

Major and minor fiber-release episodes must be documented and included in the management plan regardless of whether the LEA uses in-house staff or an outside asbestos abatement contractor to implement an appropriate response action. If an outside contractor is used, be sure that the contractor's crew has been properly trained or certified before signing a contract. *(See the Fiber Release Episode Report in the **Appendix D** Forms.)*

E. Labeling

Under § 763.95 of the AHERA Rule, the LEA must attach a warning label immediately adjacent to any friable and non-friable ACBM and suspected ACBM that is located in routine maintenance areas (such as boiler rooms) at each school building. Such material includes friable ACBM that was responded to by a means other than removal (e.g., encapsulation) and ACBM for which no response action was carried out. The labels must be prominently displayed in readily visible locations, must be in print that is readily visible due to its large size or bright color (normally black print on bright yellow background), and must remain posted until the ACBM that is labeled is removed. The warning label must read:

**CAUTION:
ASBESTOS. HAZARDOUS.
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT.**

Unlike notification, labeling is not intended as a way to disseminate general information. Instead, it is a last line of defense to prevent unprotected individuals from unknowingly disturbing ACBM.

F. Handling and Disposing of Asbestos Wastes

Waste generated from asbestos projects must be properly stored and disposed. A minimum of a half-face elastomeric negative pressure respirator and disposable clothing with a hood and booties, are required when handling asbestos-containing materials. The following procedures must be implemented when handling asbestos containing waste:

- a. All waste must be placed in either sealed barrels or two six-mil polyethylene disposal bags. All waste containers must have two labels as required by both OSHA and the U.S. Department of Transportation (DOT). The labels are worded as follows:

OSHA Label:

**Danger
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard**

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DOT Label:

RQ Hazardous Substance
Solid, NOS
ORM-E, NA 9188
(Asbestos)

- b. Waste must be adequately wet. Once the debris is in the barrel or disposable bag, sufficient water must be added so that there is a noticeable amount.
- c. Disposal bags must be sealed to reduce airspace and make them leak-tight. Twisting and sealing with duct tape is one method to prevent leaks at the opening of the bag. All waste must be double-bagged and sealed. In the case of a glove-bag, the use of one labeled bag around the glove-bag is considered double-bagging. If the second bag is used to dispose of other contaminated waste and water, a third labeled bag must then be properly sealed around both.
- d. Place the bags into a drum or other rigid container equipped with secure or locking ring lids and label with the same information described above.
- e. The drums or container must be secured in a temporary storage area previously identified at your facility. This should be an area with limited access and preferably with a locked entry door.
- f. Record the date and amount of waste placed in the temporary storage area. A log sheet should be established for this purpose.
- g. Keep the temporary storage clean by using good work practices. If any bags of waste break, clean the area using the “Asbestos Debris Cleanup Procedures” in part IX , and in compliance with all applicable regulations.
- h. Before the temporary storage area is full or the expiration of the maximum allowable storage date, make arrangements to have the asbestos waste picked up and delivered to an approved asbestos waste disposal site.
- i. Make advance arrangements with the waste disposal facility to ensure that your waste will be accepted.
- j. Arrange to have the asbestos waste delivered safely to the previously identified disposal facility.
- k. Receipts from both the transporter and the landfill for each shipment of waste must be kept on file. Record all dates, destinations, and responsible persons involved in transporting the waste from the temporary storage area to the disposal facility previously identified in the Plan. For further information concerning storage, transportation, and disposal of asbestos-containing waste, contact the Rhode Island DOH.

G. Preventative Measures

Preventative measures include any action or actions taken in order to eliminate or reduce the possibility of disturbing ACM. All preventative measures taken must be properly recorded according to section 763.94(b) of the Rule. Examples of precautions to take include the following:

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1. Do not cut, sand, drill, break, nail into, or otherwise disturb ACM or create dust.
2. Avoid contact damage to any ACM. Remove any adjacent items that may contact ACM.
3. Keep suspended ceiling tiles in place whenever any ACM exists above them. Do not remove or displace ceiling tiles without taking the proper precautionary measures outlined in "ACM Above Ceilings" in Part IX below.
4. Do not hang fixtures, wires, etc. from ACM.
5. Prevent water damage to ACM
6. Do not disturb asbestos-containing materials when replacing lights, etc.
7. Do not allow doors or dividers to rub against ACM.
8. Isolate, redirect, or eliminate direct airflow onto any friable or damaged ACM.
9. Always take proper precautions when working around ACM. Report any damaged ACM to the Designated Person Immediately.

H. Maintenance & Renovation Permit System

One of the most difficult tasks that the LEA designated person faces is minimizing accidental disturbances of ACBM during maintenance and renovation operations. One way that a designated person can control such disturbances is by establishing a permit system where all work orders or requests are processed through the designated person.

In a permit system, all requests for maintenance or renovation activities are given to the designated person before a work order to proceed is issued. The designated person then checks the management plan for information about the presence of ACBM where work is to be performed and physically inspects the area in question to make sure that the records reflect actual conditions. If no asbestos is present, the designated person can sign and issue the work order. If ACBM is present, the designated person can sign the work order and then either ensure that trained maintenance or renovation workers are properly equipped to handle the ACBM or dispatch an "emergency response" team to remove the ACBM. In situations where there are large amounts of ACBM, maintenance or renovation work that does not have to be done immediately should be postponed until the ACBM in the area can be removed by an accredited contractor. The permit system should be in place for all facility maintenance work conducted by the LEA staff, outside contractors, and outside short-term workers.

When outside contractors or short-term workers are likely to come into contact with ACBM in a school building, they must be notified of the locations of ACBM or suspected ACBM in the building. This notification should be documented. These workers should have documentation of appropriate training, should they disturb ACBM during their work. Note that State licensing requirements vary. (*See example Operations and Maintenance form in Appendix F*)

I. Cleaning

All areas of a building where friable ACBM and suspected ACBM, or significantly damaged TSI ACBM is present must be cleaned at least once after the completion of the AHERA inspection. It must also be

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cleaned before the initiation of any response action (other than O&M activities or repair). The exception would be where the building had been cleaned using similar methods within the previous six months.

The cleaning must include the following:

1. HEPA-vacuuuming or steam-cleaning all carpets
2. HEPA-vacuuuming or wet-cleaning all other floors and all other horizontal surfaces
3. Disposing of all debris, filters, mop heads, and cloths in sealed, leak-tight containers

In addition to initial cleaning that is required after any fiber release episode, the LEA is required to perform additional cleaning according to Section 763.91 (c)(2) of the Rule. Additional cleaning recommendations include, but are not limited to, cleaning all proximate surfaces of the areas previously identified:

- Periodically in the boiler room because of the high concentrations of ACM and high air movement.
- Areas containing ACM where a suspect film or dust occurs
- Anytime friable or non-friable ACM becomes damaged or significantly damaged
- Anytime the LEA's Designated Person determines cleaning is necessary to protect the health and environment of the building occupants.

It is important that all cleaning be completed prior to the initiation of other response actions that may be necessary. The initial cleaning will prevent or greatly reduce the possibility of further contamination within an affected area as well as surrounding areas, and reduce the possibility of exposure to school workers and all other building occupants.

J. Special Work Practices for Maintenance Activities

In buildings where ACBM is present, routine maintenance activities, such as work on light fixtures, plumbing fixtures and pipes, air registers, HVAC ducts, and other accessible parts of a building's utility systems, can disturb ACBM and raise levels of airborne asbestos. As a result, maintenance workers should be instructed not to perform any maintenance work that could disturb ACBM unless they are appropriately trained and use specific work practices. These work practices should be tailored to reflect the likelihood that an activity will disturb the ACBM and cause fibers to be released. In determining which work practices should be followed, activities should be placed in one of four categories:

1. **Contact with ACBM Unlikely** -- In some buildings with ACBM, many routine maintenance activities can be conducted without contacting the ACBM. Changing a light bulb in a fixture that has asbestos-containing acoustical plaster nearby can usually be performed without jarring the fixture, for example. (*Note that under the AHERA Rule, the top of the fixture should already have been wet-cleaned to remove settled fibers.*) In such situations where contact with ACBM is unlikely, the only precaution other than normal care generally necessary is to ensure that respirators and a HEPA vacuum are available if needed. These do not have to be taken to the site of the project; they should just be available at a known location in the building. When maintenance is performed in parts of the building that are free of ACBM, no special precautions are usually necessary. An exception would be work in an area containing no ACBM that causes

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vibrations to be transferred to a location where ACBM is present.

2. **Accidental Disturbance of ACBM Possible** -- Where routine maintenance and repair activities are conducted on fixtures or system parts that are located near friable ACBM, maintenance workers may unintentionally disturb the ACBM and release asbestos fibers. Maintenance work on ventilation ducts in an air-handling room where asbestos fireproofing is on the structural beams could accidentally disturb the fireproofing, for example.

3. **Disturbance of ACBM Intended or Likely** -- Some maintenance and repair activities will make ACBM disturbance almost unavoidable. Installing new sprinkler or piping systems will make it necessary to hang pipes from structural members or from the ceiling, and if the beams or ceilings are insulated with ACBM, the ACBM will be scraped away to install hangers. Similarly, pulling cables or wires through spaces with ACBM or ACBM debris is likely to dislodge pieces of the ACBM or disturb ACBM debris and dust. Any time ceiling tiles are moved to allow for entry into the space above a suspended ceiling, settled dust on top of the tiles will be recirculated into the air. If the beams or decking above the ceiling are covered with ACBM, the dust is likely to contain asbestos fibers. A designated person should not allow such intentional disturbances of ACBM to proceed in an uncontrolled manner. The designated person should ensure that the elements required under § 763.91 of the AHERA Rule to be part of an O&M program are implemented effectively and that the regulatory requirements of the EPA Worker Protection Rule and the OSHA Asbestos Standard for the Construction Industry are followed.

4. **A Large Amount of ACBM Will be Disturbed** -- If the maintenance work is part of general building renovation, federal regulations may require that ACBM be removed before the project begins. Even if smaller amounts of ACBM are to be disturbed, building owners should consider removing all ACBM from the area of the building where the maintenance work is planned. Typically, an outside abatement contractor would be hired for the removal project before the maintenance work begins. If the LEA decides to use its own staff to remove the ACBM, these workers must be fully trained and accredited in asbestos abatement.

Maintenance of Vinyl Asbestos Tile

(Revised from a "Guidelines for the Maintenance of Asbestos-Containing Floor Coverings" developed by Rhode Island Department of Health and the Environmental Protection Agency, New England)

Vinyl Asbestos Tile (VAT) is the most prevalent source of asbestos containing material in our schools and most likely will be for years to come. Although VAT is considered non-friable, the frictional forces exerted on these materials during routine floor-care maintenance operations can release asbestos fibers.

The principal types of floor covering maintenance performed routinely on resilient floor tiles include:

1. spray-buffing and dry burnishing; and
2. wet scrubbing and stripping followed by refinishing.

The following are guidelines on the maintenance of asbestos-containing floor coverings. When properly implemented, these guidelines should help you reduce the potential for the release of asbestos fibers into the air. You may want to keep a copy of these guidelines in the Operations and Maintenance

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section of your AHERA Management Plan.

Stripping of Vinyl Asbestos Floor Coverings

Training

Custodial and maintenance personnel who are responsible for the care and maintenance of asbestos containing floor coverings should be thoroughly trained to safely and properly operate the machines, pads and floor care chemicals used at the facility.

Frequency of Stripping

Stripping of vinyl asbestos floor coverings should be done as infrequently as possible (e.g., once per year maximum and preferably when the building is unoccupied). Excessive stripping of floors using aggressive techniques will result in increased levels of asbestos fibers in the air.

Prior to Stripping

Prior to machine operation, apply an emulsion of chemical stripper in water to the floor. Use a mop to soften the wax or finish coat.

Stripping Operations

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When stripping floors becomes necessary, the machine used for stripping the finish should be equipped with the least abrasive pad as possible (black pads are usually the most abrasive and the white pad the least abrasive). Consult with your floor tile and floor finish product manufacturer for recommendations on which pad to use on a particular floor covering. Incorporate the manufacturer's recommendations into your floor maintenance work procedures. If any flooring damage occurs during stripping, stop work and notify DOH or the Asbestos Program Manager. Do not strip, scrape, sand, or grind resilient asbestos flooring to remove any blemishes or imperfections.

The machine used to remove the wax or finish coat should be run at a low rate of speed (i.e., ranging between 175-300 rpm) during the stripping operation. There is a direct correlation between machine speeds and the release of asbestos fibers from asbestos containing floor coverings. The higher the machine speed the greater the probability of asbestos fiber release.

Never perform dry stripping. Always strip floors while wet. Do not operate a floor machine with an abrasive pad on unwaxed or unfinished floor containing-asbestos materials. Consult with floor tile and floor finish product manufacturers concerning specific or unique problem(s) on the maintenance of your floors.

After Stripping

After stripping and before application of a high solids floor finish, the floor should be thoroughly cleaned, while wet, preferably with a Wet-Vac HEPA filtration vacuum system.

Finishing of Vinyl Asbestos Floor Coverings

Use of Sealer and Solids Finish

Prior to applying a finish coat to a vinyl asbestos floor covering, apply 2 to 3 coats of sealer. Continue to finish the floor with a high percentage solids finish. It is an industry recommendation to apply several

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thin coats of a high percentage solid finish to obtain a good sealing of the floor's surface, thereby minimizing the release of asbestos fibers during finishing work.

Spray-Buffering Floors

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When spray-buffering floors, always operate the floor machine at the lowest rates of speed possible and equip the floor machine with the least abrasive pad as possible. A recent EPA study indicated that spray-buffering with high-speed floor machines resulted in significantly higher airborne asbestos fiber concentrations than spray-buffering with low speed machines. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Burnishing Floors

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When dry-burnishing floors, always operate the floor machine at the lowest rate of speed possible to accomplish the task (i.e., 1200-1750 rpms), and equip the floor machine with the least abrasive pad as possible. The flooring should have sufficient finish so that the pad cannot contact the asbestos flooring material. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Cleaning After Stripping & Sealing Floors

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. After stripping a floor and applying a new coat of sealer and finish, use a wet mop for routine cleaning whenever possible. When dry mopping, a petroleum-based mop treatment is not recommended for use. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Maintenance During Winter

During the winter months when sanding and/or salting of icy parking lots becomes necessary, it is an industry recommendation that matting be used at the entrance way to the school building and inside the doorway where feasible. This would significantly eliminate the scuffing of floors by abrasive sanding materials brought into the building on the shoes of building occupants. More frequent wet mopping and dry mopping of floors should be performed during the winter months to minimize damage to the floors.

Additional Precautions

Conditions of Glides

Check to see if chair and desk glides are in good condition and replace where indicated. Worn glides can gouge the floor coverings and possibly cause asbestos fiber release.

Parking Lot/Walkway Maintenance

During the winter months, have parking lots and walkways swept to avoid tracking salt and ice-melting compounds into the school by students. These materials can cause severe scuffing of floor coverings and lead to the release of asbestos fibers into the school building(s).

Use of Mats

Where feasible, use mats at entrance ways to cafeterias, gymnasiums, libraries, etc., to protect against

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possible scuffing of floor covering(s), etc. from salt and ice melting compounds and from ocean sand.

K. Special Work Practices for Renovation/Remodeling

Building renovation or building system replacement can cause major disturbances of ACBM that are beyond the scope of school O&M programs. Moving walls, adding wings, and replacing heating or air conditioning systems are likely to involve breaking, cutting, or otherwise disturbing ACBM that may be present. It is highly recommended that ACBM that may be disturbed be removed before any of these activities are begun. The LEA may be required to remove the ACBM if the amount of ACBM that is likely to be disturbed exceeds the threshold amounts of 160 square feet or 260 linear feet established by the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations.

Although remodeling projects change the building structure less dramatically than renovation projects, disturbances of ACBM are still possible. When a remodeling project involves direct contact with ACBM (such as painting or wallpapering over ACBM), the O&M procedures described in § 763.91(d) of the AHERA Rule must be followed. If the work to be done will make the material friable, the work must either be limited to small-scale, short-duration or be treated as a response action.

L. Training

The LEA must ensure that within 60 days of hire, maintenance and custodial staff who may work in a building that contains ACBM must receive at least two hours of asbestos awareness training.

The awareness training must include, but is not limited to:

1. Information regarding asbestos and its various uses and forms
2. Information on the health effects associated with asbestos exposure
3. Locations of ACBM identified throughout each school building in which they work
4. Information on how to recognize damaged, deteriorated, and delaminated ACBM
5. The name and telephone number of the LEA designated person
6. Information on the availability and location of the management plan

Those members of the maintenance and custodial staff who conduct any activity that will disturb ACBM must receive 16 hours of training. Once this additional training is completed, attendees will be adequately trained to conduct small-scale, short-duration activities and/or minor fiber release episode cleanup and repair procedures. The additional training must include, but is not limited to:

1. Descriptions of the proper methods for handling ACBM
2. Information on the use of respiratory protection as contained in the EPA/NIOSH Guide to Respiratory Protection for the Asbestos Abatement Industry (September 1986) and other personal protection measures
3. The provisions of the AHERA Rule relating to O&M activities (§ 763.91) and training and periodic surveillance (§ 763.92) as well as Appendices A-E of the Rule, EPA regulations contained in 40 CFR Part 763, subpart G, and in 40 CFR Part 61, Subpart M, and OSHA regulations
4. Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices

Members of the building's maintenance or engineering staff or outside contractors (plumbers,

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electricians, installers, etc.) who may be required to handle or disturb ACM are required by the Rhode Island DOH to be trained by the Rhode Island DOH to be trained by a state-certified training provider regarding the proper handling techniques for asbestos.

All short-term workers (generally outside contractors) must also be provided with information regarding the locations of ACM and assumed ACM within the building prior to work within the facility. (*See the Worker Acknowledgement Notification form in the Appendix G Forms.*)

Update Training

All project designers, contractors/supervisor, and asbestos workers must complete a one day annual refresher training course for reaccreditation. Building inspectors must complete a half-day refresher course. Management planners must attend the half-day building inspector refresher course as well as a half-day management planner refresher course. Documentation of any annual training should be kept in the management plan. Maintenance and custodial staff who may work in a building that contains ACBM must receive at least two hours of annual asbestos awareness training.

M. Employee Protection & Medical Surveillance Programs

The OSHA Asbestos Standard for the Construction Industry and the EPA Worker Protection Rule explain when employees are required to wear a negative-pressure respirator and must be involved in a medical surveillance program (see also OSHA Asbestos Standard for General Industry). The purpose of a medical surveillance program is to determine whether or not an employee is healthy enough to wear a respirator and to detect any health changes in an employee's body resulting from working in asbestos-contaminated areas. Changes in health may indicate the onset of an asbestos-related disease.

In addition, any employee who works in an environment where fiber levels are at the permissible exposure limit or higher or who wears a negative-pressure respirator as part of his or her job must participate in a respiratory protection program. The only way to determine whether these fiber levels exist is to collect air samples during projects that disturb ACBM. In an O&M program, the use of negative-pressure respirators will make it necessary for most custodial and maintenance workers to participate in both the medical surveillance program and the respiratory protection program. Even if fiber levels are below the permissible exposure limit described above, it is strongly suggested that an LEA establish these programs and require that employees wear respirators any time they are likely to disturb ACBM.

N. Re-inspections and Periodic Surveillance

Once the management plan has been approved by the Governor's Designee, the plan is considered to be "in effect". Every three years after implementation of a management plan, a Rhode Island accredited inspector must conduct a re-inspection of all friable and non-friable known or assumed ACBM in every school building in order to determine if there has been any change in the condition of the ACBM in accordance with section 763.85(b) of the rule. An accredited management planner must then review the re-inspection report to identify any new hazard potential and revise the management plan to address newly identified hazards. Based on the updated data, new response actions to address these hazards must be selected, and these actions must be carried out in a timely manner.

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The first periodic surveillance will have to occur before the expiration of six months from the “effective date”. At least once every six months after a management plan is in effect, the LEA must conduct periodic surveillance in each building that contains ACBM or is assumed to contain ACBM. The surveillance does not have to be conducted by an accredited person, but it should be conducted either by the LEA designated person (if he or she is trained) or by someone who is appropriately trained on asbestos (such as a maintenance person).

Periodic surveillance involves a visual inspection of all areas that are identified in the management plan as ACBM or assumed ACBM. In evaluating each homogeneous area, the person conducting the surveillance must visually inspect all areas identified in the management plan as ACBM or suspected ACBM and record whether there are any changes in the condition of the material (including if there are no changes). The date of the surveillance, the name of the person conducting the surveillance, and any change in condition of the ACBM or assumed ACBM must be documented and included in the management plan within a reasonable amount of time, such as 30 days from the periodic surveillance.

It is recommended that copies of the Field AHERA Survey Forms be made prior to periodic surveillances. These survey forms will serve as records of the periodic surveillance and will include the date of the surveillance, the name of the person conducting the surveillance, and any change in condition of the ACBM or assumed ACBM. Include the forms in the “periodic surveillance” section and post to serve as a frequent schedule reminder.

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IX. Safe Work Practices & Procedures

A. INTRODUCTION

The following safe work practices and procedures are minimum requirements and/or recommended guidelines for working with or around asbestos-containing materials. School personnel may perform work involving three linear or square feet or less of ACM and small-scale or short-duration projects provided that they have received the required sixteen-hour asbestos awareness training.

All school employees who perform small-scale or short-duration projects must be provided with appropriate personal protective equipment. This equipment includes, at a minimum, half-face negative-pressure respirators equipped with High Efficiency Particulate Air (HEPA) filters and full-body Tyvek[®] disposable coveralls or their equivalent. The following procedures are to be performed ONLY after FIRST donning this minimum personal protective equipment.

Activities which will disturb greater than three linear or three square feet of ACM must be designed and performed by persons or companies licensed in Rhode Island to perform such activities. All asbestos activities must be performed in compliance with all applicable federal, state, and local regulations. Notifications to appropriate agencies are necessary. Isolation of the affected area is usually required. All asbestos work must also be performed in such a manner as to minimize the release of asbestos fibers and protect the health and environment of all building occupants.

B. EQUIPMENT

In addition to protective equipment such as disposable clothing and respirators, the following equipment may be necessary to perform work involving asbestos.

1. Duct Tape
Heavy-gauge tape used to seal glove-bags and secure adjacent sheets of polyethylene.
2. Polyethylene or Plastic Sheeting
Plastic sheeting (6 - mil thick) used to seal off an area in which an asbestos project is taking place in order to prevent contamination of other areas. Also used to seal waste.
3. Surfactant
A chemical wetting agent added to water that improves the ability of water to penetrate asbestos-containing material.
4. Disposal Bags
Six-mil-thick bags used to dispose of asbestos-containing materials. All bags must be properly labeled according to OSHA and DOT regulations.
5. Retractable Utility Knife
Used to cut asbestos-containing materials or equipment during removal. Always use retractable utility knives so as not to risk puncturing glove-bags.

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6. Glove-bag

A pre-manufactured polyethylene bag generally used as a containment around asbestos containing insulation on pipes or valves so that the insulation may be removed without releasing asbestos fibers into the ambient air. The glove-bag consists of a 6- to 12-mil-thick polyethylene bag fitted with long-sleeve gloves, a tool pouch and an opening for a HEPA vacuum hose and garden sprayer wand. The size, quality, style, and cost vary depending on the manufacturer.

7. Warning Signs

Warning signs are posted at the entrance to the work area and at a sufficient distance so as to allow all building occupants adequate forewarning of the occurrence of an asbestos associated project. The purpose of warning signs is to keep unauthorized personnel away from the work area. The OSHA warning sign is worded as follows:

<p>DANGER ASBESTOS CANCER AND LUNG DISEASE HAZARD AUTHORIZED PERSONNEL ONLY RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA</p>

8. HEPA Vacuum Cleaner

A High Efficiency Particulate Air (HEPA) filtered vacuum cleaner capable of trapping and retaining 99.97% of all particles larger than 0.3 microns. The HEPA vacuum cleaner is equipped with an extensive filtering system consisting of primary, secondary, and HEPA filters which trap fine particles.

9. Re-wettable Fiberglass Cloth

A canvas-like material impregnated with glue. The cloth is saturated with water and molded over asbestos-containing pipe and boiler insulation, and hardens as it dries. When completely dry, it is sealed with latex paint. Because the cloth contains fiberglass, it is best to wear gloves when handling this material.

10. Garden Sprayer

A garden sprayer is filled with amended water and is used to wet asbestos-containing material or to lock down fibers remaining on substrate from which asbestos-containing material has been removed. When performing the glove-bag technique, a garden sprayer with a 2-3 gallon capacity is sufficient. It is best to have a hose at least six feet long. If the hose is not sufficiently long, it can be replaced or extended with flexible tubing.

11. Encapsulant

A substance applied to asbestos-containing materials that controls the release of asbestos fibers. Encapsulant is applied over re-wettable fiberglass cloth, after the cloth has dried. Latex paint is suitable for this purpose. Be sure the encapsulant chosen has a fire rating appropriate to the area where it is used.

12. Spray Bottle

A spray bottle filled with water is used to wet any suspect debris.

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13. Smoke Tubes and Aspirator Bulb
Used to test glove-bags for leaks and for respirator fit-testing.

If repairs to pipe insulation are completed using the glove-bag technique, the patching material (i.e., re-wettable fiberglass cloth) must remain free of asbestos contamination. Placing the material inside a storage bag will prevent contamination.
15. Rags, Nylon Bristle Scrub Brushes (or Scrub Pads)
These items are used to clean the surface of a pipe or valve once asbestos-containing insulation has been removed. The scrub brush or pad are particularly useful when removing debris from threading. These items cannot be decontaminated and must be discarded as asbestos waste.
16. Patching Compound (or Cement)
Used to fill in cracks or holes in pipe or boiler insulation.
17. Staple Gun and Staples
Used to temporarily secure polyethylene sheeting and glove-bags.
18. Bucket
Preferably plastic and washable. Do not use wooden buckets. Used to catch asbestos debris and to wash equipment following use.

C. BOILER AND PIPE INSULATION REPAIR

Boiler and pipe insulation often can be easily repaired using a patching compound and re-wettable fiberglass cloth. Follow all applicable regulations, including Rhode Island DOH (R23-24.5-ASB), and proceed as follows.

1. Isolate and seal off the work area, as required in DOH (R23-24.5-ASB). If the repair is to pipe insulation, a glove-bag may be used instead.
2. Seal a piece of six-mil polyethylene sheeting to the floor in the immediate work area, using duct tape. If floor debris is present, first vacuum all visible debris using a HEPA vacuum.
3. Thoroughly wet damaged area with a light mist of amended water, using a spray bottle.
4. Remove any loose debris on the damaged insulation using the HEP A vacuum.
5. Prepare patching compound according to the manufacturer's instructions. Patch the hole or crack.
6. Wet a piece of re-wettable fiberglass cloth thoroughly and place over damaged area. Cover all exposed insulation.
7. Properly clean and carefully peel the polyethylene sheeting off the floor, rolling the sheet so that the contaminated side is inward. Place the sheet into a six-mil polyethylene disposal bag.
8. Place all cleanable tools in a re-sealable storage bag and take the bag to a sink to clean the tools.
9. Remove disposable suit and place in asbestos disposal bag. Double-bag all waste and dispose according to all applicable regulations.

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10. Remove, clean, and store respirator.
11. When the re-wettable fiberglass cloth has dried, paint with latex (which has an appropriate fire rating), to ensure airtight seal.

D. CEILING TILE

Asbestos-containing ceiling tiles or non-asbestos-containing ceiling tiles that physically enclose other ACM require special treatment. Preventive measures must be taken to ensure that the underlying area does not become contaminated. Any movement of these tiles can result in the release of asbestos fibers. Any work that will result in disturbance of these tiles must be done after occupied school hours. Plastic sheeting must be placed on the floor to contain falling debris. See the following Section 'ACM Above Ceilings' for proper procedural techniques.

After ceiling tile activities are complete, the plastic sheeting must be HEPA-vacuumed and wet-wiped until all visible debris has been removed. Suits and other presumed contaminated equipment and debris must be cleaned, or properly sealed and disposed of according to all applicable regulations.

E. ACM ABOVE CEILINGS

The following procedures must be followed when working on or around ACM located above ceilings (usually in the form of thermal system insulation, such as pipe and fitting insulation) and in cases where the ceiling tile is asbestos-containing.

1. *When Working Above Suspended Ceilings Where ACM Pipe and Fitting Insulation is Present, Proceed as Follows:*

- a. Isolate and seal the work area as required in DOH (R23-24.5-ASB).
- b. Adhere six-mil polyethylene sheeting to the floor in the immediate work area using duct tape.
- c. Gently move or remove the suspended ceiling tile, taking care to keep the ceiling tile flat
- d. HEPA-vacuum any debris on top of the ceiling tile and adjacent tiles.

If applicable, continue with Step 'e' below.

2. *When Cutting Into Friable ACM, After Completing the First Four Steps Above, Continue as Follows:*

- e. Thoroughly wet both the area of material to be cut or disturbed and the material adjacent to the area to a distance of six inches, using a fine mist of amended water. Gradually soak the material, since directing a strong stream of water can dislodge and disperse fibers.
- f. Holding or placing a plastic bag or bucket under the area, gently cut into the material so that the debris falls into the bag or bucket. Clean entire removal area of all debris. Use a spray encapsulant in the cut area to seal any unseen asbestos fibers. Refer to

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manufacturer's instructions for details regarding encapsulant.

- g. Check the area for asbestos debris. Clean up any debris according to guidelines presented in 'Asbestos Debris Clean-up Procedures' below, and according to all applicable regulations.
- h. Clean all tools and the bucket by rinsing them with the garden sprayer over a six-mil polyethylene disposal bag or seal them in a disposable bag and take to a sink to clean.
- l. Properly clean and carefully peel the polyethylene sheeting off the floor, rolling the sheet so that the contaminated side is inward. Place the sheet into a six-mil polyethylene disposal bag.
- J. Remove the disposable suit and place it in the disposal bag. Double-bag all waste and dispose of according to all applicable regulations.
- k. At a sink, re-clean bucket, thoroughly rinse sink, and remove, clean, and store respirator properly.
- l. Remove all barriers and posted warning signs.

F. NON-FRIABLE ACM

Asbestos-containing or assumed asbestos-containing materials such as transite board and transite pipe are non-friable in their undamaged state. However, routine maintenance and renovation activities can disturb non-friable ACM and cause it to become friable. When non-friable material is removed, friable asbestos-containing dust and fibers may be released. For this reason, any activities that may possibly break these non-friable materials must be undertaken with care, including the application of control methods and preventive measures.

Control methods to minimize the possibility of creating asbestos dust include using water mist to significantly reduce the release of dust and fibers, together with isolation of the area when disturbing non-friable ACM. Precautions must be taken so as not to allow non-friable materials to become broken and damaged, thereby causing fibers to be released. Cutting, sanding, abrading, or drilling will also promote fiber release from non-friable ACM. As a further safety measure, personal protective clothing should be worn when disturbing these materials.

Asbestos-containing, or assumed asbestos-containing floor tiles are also non-friable in their undamaged state. Small-scale (less than three square feet) repair of these floor tiles may be performed, but the control methods for transite board described above must be applied. At no time should any amount of floor tiles be sanded, drilled, broken, or otherwise damaged. Large-scale repair and/or removal of floor tiles will require plans to be designed by a Rhode Island licensed designer. In this event, a simplified containment system may be constructed for the ACM locations.

Note: Refer to 'Preventive Measures, in Part VIII above for additional information regarding appropriate work practices.

G: GLOVE-BAG TECHNIQUE

The glove-bag technique is primarily used to remove or repair asbestos- insulated pipes or valves. This procedure requires two people. Follow all applicable regulations and proceed as follows.

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1. MATERIALS NEEDED
 - a. Glove-bag
 - b. Two garden sprayers
 - c. Surfactant
 - d. Duct tape
 - e. Disposal bags
 - f. Retractable utility knife
 - g. Scrub brush or scrub pad, rags
 - h. Re-wettable fiberglass cloth
 - i. Re-sealable storage bags
 - j. Heavy-duty hand stapler and staples
 - k. Polyethylene sheeting
 - l. Asbestos warning signs
 - m. Smoke tubes
 - n. Aspirator bulb
 - o. HEPA vacuum cleaner
 - p. Bucket of water
 - q. Disposable clothing
 - r. Half-face negative pressure respirator
 - s. Bridging encapsulant
 - t. Spray bottle

2. TECHNIQUE

Preparation Activities:

- a. All persons not immediately involved in glove-bag activities must be excluded from the work area. Sufficient physical barriers must be installed to limit access to the work area for the duration of the glove-bag operation.
- b. All employees who perform glove-bag operations must be provided with appropriate personal protective equipment, at a minimum, half-face negative pressure respirators equipped with HEPA filters and full-body disposable Tyvek suits or equivalent.
- c. All moveable objects must be removed from the work area. Any reusable items that may previously have been contaminated with asbestos must be HEPA-vacuumed and/or wet-wiped. Non-moveable objects may be sealed with six-mil polyethylene sheeting and duct tape.
- d. Check the integrity of the pipe insulation. If the insulation is loose, damaged, or if it is believed that cutting into the insulation will worsen its condition, do not proceed. Old, deteriorated pipe insulation may become loose during the repair or removal process, generating airborne asbestos fibers.
- e. Gather all necessary tools and supplies. Use the garden sprayers to mix the surfactant, water, and encapsulant separately according to the manufacturers' guidelines.
- f. Cut two pieces of re-wettable fiberglass cloth to cap the ends of the insulation. The inner diameter should be one-half inch smaller than the diameter of the pipe itself (not

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the insulation). The outer diameter of the cap should be about three inches longer than the diameter of the pipe insulation. Cut a slit through one side of the cap. Cut additional pieces of cloth in strips to be used as a patch if necessary. Place pieces in the re-sealable storage bag.

- g. Seal off the work area and post asbestos warning signs, as required by DOH (R23-24.5-ASB).
- h. Put on the negative pressure respirator and perform negative and positive pressure checks. Put on the disposable clothing.
- l. Adhere six-mil polyethylene sheeting to the floor extending at least 10 feet in all directions in the immediate work area with duct tape.
- j. Place two layers of duct tape around the pipe at each end where the glove-bag will be attached. Determine the distance by holding the glove-bag up to the pipe to determine the length. The duct tape serves two purposes: (1) it provides a good surface on which to seal the ends of the glove-bag; and (2) it minimizes the possibility of releasing fibers when the tape is removed.
- k. With the retractable utility knife, cut from the top of the glove-bag down the side seams so as to create incisions approximately twelve inches long.
- l. Run duct tape horizontally along one of the top flaps for reinforcement.
- m. Place the utility knife, rags, nylon scrub brush or scrub pad, and re-wettable fiberglass cloth into a re-sealable storage bag and place them in the tool pouch of the glove-bag.
- n. Place the glove-bag around the section of pipe to be worked on and staple the top together with staples approximately one inch apart.
- o. Fold the stapled section over and tape it horizontally to the glove-bag with short pieces of duct tape.
- p. Lift up the glove-bag so that the bottoms of the side incisions are flush against the bottom of the pipe insulation. There should be adequate room at the top of the glove-bag to reach over the top of the pipe. If the glove-bag is not lifted up and taped, there may be insufficient room to cut the top of the pipe insulation. Seal all seams, holes, cracks, etc. securely with duct tape.
- q. Poke a hole at the top of the glove-bag large enough to allow the end of the smoke tube to be inserted.
- r. Pre-cut a few pieces of duct tape and set aside for sealing the holes and any leaks. If a hole is not already provided, tape a portion of the bag below the gloves and cut a cross slit. Insert HEPA vacuum hose and reseal bag around hose securely with duct tape.
- s. Holding the smoke tube into a wastebasket, carefully snip off both ends of the smoke tube using a pair of scissors. Eye protection should be worn to protect against stray pieces of glass. Place one end of the smoke tube into the aspirator bulb and insert the other end into the glove-bag.
- t. Squeeze the aspirator bulb until there is adequate smoke. Do not allow too much smoke to enter the bag.

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- u. Take out the smoke tube, patch the hole and squeeze the bag. Seal any leaks with the duct tape. Place the smoke tube in a bucket of water for 5-10 minutes and discard.
- v. Insert the wand of the garden sprayer into the same hole used for the smoke tube. Tape the wand securely with duct tape.

Removal and/or Repair Activities

- w. If an aluminum jacket is present on the insulation, remove with tin snips and wire cutters. Fold the sharp edges inward to prevent cutting the waste disposal bag and place gently in the bottom of the bag. Be careful not to cut yourself on the sharp edges. The insulation should now be exposed.
- x. Wet the asbestos pipe insulation thoroughly and begin cutting with the retractable utility knife. Water should be sprayed on the cutting area and sides of the bag throughout the process to reduce dust levels in the glove-bag. Use HEPA vacuum to filter air, if necessary. As the material is cut off gently, place the insulation in the bottom of the bag. Wet the material on the bottom of the bag as well as any remaining debris on the pipe.
- y. Clean all debris off the pipe with water, scrub brush, and rags. Clean excess debris from the exposed ends remaining on the pipe.
- z. Wet the cloth end pieces made from the re-wettable fiberglass cloth and apply to exposed ends of asbestos. Enclose all visible insulation with patch strips as necessary. Any asbestos that has been exposed as a result of the glove-bag operation must be properly repaired, encapsulated, or enclosed prior to removal of the glove-bag.

H. MINI-ENCLOSURE OPERATIONS

1. Persons not immediately involved in asbestos-related activities are to be excluded from the work area. Use physical barriers where necessary to limit access to the work area for the duration of the work.
2. Construct airtight barriers to prevent the release of asbestos fibers. Where feasible, glove-bags are permitted in place of barriers to remove insulation on pipes and ducts.
3. Adequately wet the asbestos before disturbing it. Removed asbestos and asbestos-contaminated items are to be containerized in two six-mil polyethylene bags, or double-wrapped in six-mil polyethylene sheeting. If the material has sharp edges, double-wrap or bag it and then place the material in metal, fiber, or plastic drums that can be sealed.
4. Properly repair, enclose, or encapsulate friable asbestos that has been exposed during asbestos work.
5. HEPA-vacuum and wet-wipe until there is no visible debris or dust.
6. Asbestos-containing waste must be containerized, transported, and disposed of at an approved asbestos landfill in accordance with all applicable regulations.

I. ASBESTOS DEBRIS CLEAN-UP PROCEDURES

Any debris suspected of containing asbestos found on the floor, tops of ceiling tiles, or other building

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structures should be cleaned up immediately. Asbestos debris is extremely friable. Remember, any suspected debris that is equal to or greater than three linear or square feet must be cleaned up by an accredited and licensed asbestos abatement contractor according to a plan designed by an accredited and licensed project designer.

1. *When Asbestos-Containing Debris Is Dry or Damp and Small in Size*

- a. Isolate and seal the work area and post warning signs, as required by DOH (R23-24.5-ASB).
- b. Thoroughly wet-mop, using a bucket of water, rags and/or mops, all of the structures and items on which the debris has fallen. Be sure all visible debris is removed.
- c. Vacuum the floor using a HEPA vacuum. Again, be sure all visible debris is removed.
- d. When the area is dry, inspect for any visible asbestos debris. Sometimes wet asbestos debris becomes hidden during the clean-up. If any visible asbestos material is found, repeat the wet-mop or HEPA-vacuumping procedure until no visible asbestos debris is observed.
- e. Dispose of the protective clothing, mop heads, and rags into a six-mil polyethylene disposable bag. Pour the water from the bucket into the disposal bag also. Twist the top of the polyethylene bag and seal it with duct tape. Double-bag the waste material with another six-mil polyethylene bag. Dispose of the bagged asbestos waste according to all applicable regulations.
- f. Remove respirator, clean, and place in re-sealable storage bag.
- g. Clean the bucket in a sink, if available, and thoroughly rinse the sink used.
- h. Remove barriers and posted warning signs.

2. *When Asbestos Is Too Wet or Too Large to be Vacuumed*

- a. Isolate and seal the work area and post warning signs as required by DOH (R23-24.5-ASB).
- b. Thoroughly wet the asbestos material and the surrounding area to a distance of six inches with the garden sprayer. Use a light mist of water when wetting the area and the material, as a heavy stream of water could dislodge and disperse asbestos fibers.
- c. If the material is intact and too large to be easily handled with a shovel, pick up the wet material and place it in a six-mil polyethylene disposable bag.
- d. Scoop up smaller debris with a shovel, dust pan, or garden trowel and place in a six-mil polyethylene bag. Use another washable item, such as another garden trowel or ice scraper, to push the material into the shovel, dustpan, or trowel. Do NOT USE A BROOM OR BRUSH! A broom or brush cannot be decontaminated and also will increase the possibility of dispersing asbestos fibers into the air.
- e. Wet-mop the entire area and items that the asbestos material contacted, using a bucket of water, rags, and mops. If the floor is carpeted, vacuum the carpet with a HEPA-filtered vacuum cleaner. If the carpet is wet, or the debris is wet, the carpet must be steam-cleaned. A HEPA-filtered vacuum cleaner cannot be used to pick up water or wet

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material unless the vacuum is designed to do so.

- f. Wash the items used in the cleanup, including hands, shovel, ice scraper, etc., by holding items over the six-mil disposal bag and washing them thoroughly with the garden sprayer. Pour the bucket of contaminated water into the disposal bag.
- g. Place the protective clothing, mop heads, and rags in a six-mil polyethylene disposable bag and dispose of as contaminated waste. Twist the top of the polyethylene bag and seal it with duct tape. Double-bag the waste material with another six-mil polyethylene bag.
- h. Remove respirator, clean, and place in re-sealable storage bag.
- i. Clean the bucket in a sink, if available, and thoroughly rinse the sink used.
- j. Remove barriers and posted warning signs.

J. ASBESTOS EMERGENCY PROCEDURES

An asbestos emergency situation is one in which there is an unexpected change in the condition of asbestos-containing material that results in the release of asbestos fibers. This is called an asbestos fiber release episode. Fiber release episodes have the potential to contaminate the area and expose the building occupants to asbestos fibers.

The following procedures should be followed in the event of an emergency:

1. Remove occupants from the immediate area and contact the appropriate building supervisor and the School's Designated Person.
2. Isolate the area as described in DOH (R23-24.5-ASB).
3. Trained personnel who will perform the work should wear the appropriate disposable clothing and respiratory protection.
4. Vents and ducts leading into or out of the emergency area should be shut down and sealed with six-mil polyethylene sheeting and duct tape according to DOH (R23-24.5-ASB).
5. If the asbestos debris or material is less than three linear or square feet, continue by following the "Asbestos Debris Clean-up Procedures" described above. If the asbestos material is greater than or equal to three square or linear feet, DO NOT TOUCH OR REMOVE THE ASBESTOS. Contact a Rhode Island licensed asbestos abatement contractor and a Rhode Island accredited project designer.

K. HEPA VACUUM

The HEPA vacuum cleaner is the ONLY vacuum cleaner designed to clean asbestos debris. Using a household or shop vacuum will not only contaminate the vacuum cleaner itself, but will expose the user and the area to high levels of airborne asbestos dust.

It is important that personnel read and follow manufacturer's directions for proper use and maintenance of the HEPA vacuum. Some HEPA vacuum cleaners cannot pick up wet materials. Consult the manufacturer's directions.

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L. MAINTENANCE AND CLEANING

When the inside of the vacuum cleaner needs to be accessed, whether to change a filter, a bag, or a part, the following procedures must be followed.

1. Gather the necessary equipment required by this section, including:
 - a. Half-face negative pressure respirator
 - b. Re-sealable storage bag or similar substitute
 - c. Disposable clothing
 - d. Bucket of water
 - e. Sponges or rags
 - f. Disposal bags
 - g. Duct tape
2. Take the HEPA vacuum cleaner to a location away from non-authorized personnel.
3. Put on the half-face negative pressure respirator and disposable clothing.
4. Perform the necessary maintenance or repair according to the manufacturer's instruction. Place any of the contaminated, used, or worn parts, bags, and filters in the six-mil polyethylene disposal bag.
5. With a damp rag or sponge, clean visible debris from the interior and exterior of the vacuum cleaner.
6. Pour the bucket of water into the disposal bag. Thoroughly rinse the bucket and pour the rinse water into disposal bag.
7. Place the sponge or rag in the six-mil polyethylene disposal bag, along with the disposable clothing and any other contaminated items.
8. Seal the six-mil bag securely with duct tape, making sure there are no leaks in the bag. Place the used and sealed disposal bag into a second labeled six-mil polyethylene disposal bag. Twist the top of the bag and seal with duct tape.
9. Remove, clean, and store respirator.
10. Store and dispose of the asbestos waste properly.

X. Recordkeeping

A. SUMMARY

Under §763.93(g) of the AHERA Rule, each LEA is required to keep in its administrative office a copy of the management plans for each school. The management plan must be available, without cost or restriction, for inspection by the public, including teachers, other school personnel and their representatives, and parents, as well as by representatives of EPA and the State.

In addition, each school is required to maintain in its administrative office a complete and updated copy of the management plan for that school. The school must make the plan available for inspection to those individuals listed above as well as to workers before work begins in any area of a school building.

It is the responsibility of the LEA designated person to ensure that complete and up to-date records are maintained and included in the management plan. Section 763.94 of the AHERA Rule requires that the LEA maintain the following records:

Training Information

For each person required to be trained under §§ 763.92(a)(1) and (2) of the AHERA Rule (maintenance and custodial worker training), the LEA must provide:

- The person's name and job title
- The date that training was completed
- The location of the training
- The number of hours completed in the training

Periodic Surveillance Information

Each time that periodic surveillance is conducted under § 763.92(b) of the AHERA Rule, the LEA must record:

- The name of each person conducting the surveillance
- The date of the surveillance
- Any changes in the conditions of the materials being examined

Cleaning Information

Each time that cleaning, as required under § 763.91(c), is conducted, the LEA must record:

- The name of each person performing the cleaning
- The date of the cleaning
- The locations cleaned
- The methods used to perform the cleaning

Small-Scale, Short-Duration O&M Activity Information

Each time that O&M activities under § 763.91(d) of the AHERA Rule are performed, the LEA must provide:

- The name of each person performing the activity
- The start and completion date of the activity
- The locations where such activity occurred
- A description of the activity, including the preventive measures used
- If ACBM is removed, the name and disposal site of the ACBM

February 2022**Information on O&M Activities Other Than Small-Scale, Short-Duration**

Each time maintenance activities are performed that are not of small scale and short duration under § 763.91(e) of the AHERA Rule, the LEA must provide:

- The name and signature of each person performing the activity
- The State, accreditation number, and training provider name of each person performing the activity (a copy of a certificate is ideal)
- The start and completion dates of the activity
- A description of the activity, including preventive measures used
- If the ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Fiber Release Episodes

- For each fiber release episode occurring as the result of O&M activities, the LEA must provide:
- The date and location of the episode
- The method of repair, preventive measures or response action taken
- The name of each person performing the work
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Response Actions and Preventive Measures

For each preventive measure and response action taken for friable and non-friable ACBM and friable and non-friable suspected ACBM assumed to be ACBM, the LEA must provide:

- A detailed written description of the measure or action, including the method used
- The location where the measure or action was taken
- Reasons for selecting the measure or action
- The start and completion dates of the work
- If applicable, the names and addresses of all contractors involved with the work
- If applicable, the State, accreditation number, and training provider name of all contractors involved with the work (a copy of the certificate)
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Air Sampling Information

In addition to the information required to be provided for each preventive measure and response action taken for friable and non-friable ACBM and friable and non-friable suspected ACBM assumed to be ACBM (*See above*), when air sampling is performed for final air clearance of response actions, the LEA must provide:

- The name and signature of any person collecting any air sample required to be collected at the completion of a response action
- The locations where samples were collected
- The date(s) of collection
- The name and address of the laboratory analyzing the samples
- The date(s) of analysis
- The results of the analysis
- The method of analysis
- The name and signature of the person performing the analysis
- A statement that the laboratory is NVLAP accredited or EPA approved

February 2022

B. SAMPLE RECORD FORMS

In order to maintain all proper records required, it is essential to establish an organized format for record keeping. The following record forms and recommended formats are provided as guidance for creating and maintaining adequate records. The information requested in the forms should only be viewed as minimum requirements as stated in the Rule. It is important to be sure that additional records be kept as necessary to fully comply with all applicable regulations.

Additional record-keeping forms, such as medical surveillance or respiratory protection forms, may similarly be recorded and continued as necessary. Keep a blank copy of the record forms used in the Record-keeping section and revise as necessary. Copy several blank forms and keep these blanks and completed forms in the **Appendix** section.

Project records may be compiled (copied as necessary in the case of repeat records, such as Worker Training) and grouped together, project by project, in order of occurrence.

February 2022

Appendix A – Certifications

**Rhode Island Department of Health
Asbestos Program
Asbestos Inspector**

KENNETH DAVIS

Exp. Date: **06/30/2023**

License #: **AI00510**

Member of C.O.N.E.S.



**Rhode Island Department of Health
Asbestos Program
Asbestos Management Planner**

KENNETH DAVIS

Exp. Date: **06/30/2023**

License #: **AMP00510**

Member of C.O.N.E.S.



**Rhode Island Department of Health
Asbestos Program
Asbestos Project Designer**

KENNETH DAVIS

Exp. Date: **06/30/2023**

License #: **APD00510**

Member of C.O.N.E.S.





This is to certify that

Kenneth J Davis

RI Analytical, 15 Lark Industrial Drive, Smithfield, RI 02828
MA DLS Asbestos Inspector License# AI060869



*has completed requisite training by Video Conference, and has passed an examination for
reaccreditation as:*

Asbestos Inspector Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

Course Location

Zoom Video Conference

Institute for Environmental Education 16 Upton Drive Wilmington, MA 01887

April 21, 2022

Course Dates

22-4297-106-503369

Certificate Number

April 21, 2022

Examination Date

April 21, 2023

Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887

Telephone 978.658.5272

www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION



This is to certify that

Kenneth J Davis

RI Analytical, 15 Lark Industrial Drive, Smithfield, RI 02828
MA DLS Asbestos Management Planner License# AP060870



*has completed the requisite training by Video Conference, and has passed an examination for
reaccreditation*

Asbestos Management Planner Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

Course Location

Zoom Video Conference

Institute for Environmental Education 16 Upton Drive Wilmington, MA 01887

April 21, 2022

Course Dates

22-4503-136-503369

Certificate Number

April 21, 2022

Examination Date

April 21, 2023

Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887

Telephone 978.658.5272

www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION

Rhode Island Department of Health
Asbestos Program
Asbestos Inspector

DANNY MULLEN

Exp. Date: 08/31/2022

License #: A100963

Member of C.O.N.E.S.





This is to certify that

Danny R. Mullen

RI Analytical, 15 Lark Industrial Dr, Smithfield, RI 02828

MA DLS Asbestos Inspector License# AI900798



*has completed requisite training by Video Conference, and has passed an examination for
reaccreditation as:*

Asbestos Inspector Refresher

pursuant to Title II of the Toxic Substance Control Act, 15 U.S.C. 2646

Course Location

Zoom Video Conference

Institute for Environmental Education 16 Upton Drive Wilmington, MA 01887

May 3, 2022

Course Dates

22-4299-106-400496

Certificate Number

May 03, 2022

Examination Date

May 03, 2023

Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887

Telephone 978.658.5272

www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION

February 2022

Appendix B - List of Suspect Asbestos-Containing Building Materials

- | | |
|--|-------------------------------------|
| Cement Pipes | Elevator Brake Shoes |
| Cement Wallboard | HVAC Duct Insulation |
| Cement Siding | Boiler Insulation |
| Asphalt Floor Tile | Breeching Insulation |
| Vinyl Sheet Flooring | Cooling Towers |
| Vinyl Floor Tile | Ductwork Flexible Connection |
| Flooring Backing | Pipe Insulation |
| Construction Mastics
(Floor tile, carpet, etc.) | (air cell, corrugated, block, etc.) |
| Acoustical Plaster | Heating & Electrical Ducts |
| Decorative Plaster | Electrical Panel Partitions |
| Textured Paints/Coatings | Electrical Cloth |
| Ceiling Tile And Lay-in Panels | Electrical Wire Insulation |
| Spray-Applied Insulation | Chalkboards |
| Blown-in Insulation | Roofing Shingles |
| Fireproofing Materials | Roofing Felt |
| Thermal Taping Compounds | Base Flashing |
| Packing Material
(for wall/floor penetrations) | Thermal Paper Products |
| High Temperature Products | Fire Doors |
| Laboratory Hoods/Table Tops | Sheet rock/Gypsum Board |
| Laboratory Gloves | Caulking/Putties |
| Fire Blankets | Adhesives |
| Fire Curtains | Wallboard |
| Elevator Equipment Panels | Joint Compounds |
| Cinder Block | Vinyl Wall Coverings |
| Mortar | Spackling Compounds |
| | Concrete Block |

Note: This list was copied from the Environmental Protection Agency’s “Green Book”, Managing asbestos in Place – A Building Owner’s Guide to Operations and Maintenance Programs for Asbestos-Containing Materials.

RI Analytical added suspect ACM commonly found during asbestos surveys. This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of material may contain asbestos.

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Appendix C – ACM Sampling Records

No Records Available

Appendix D – Fiber Release Episode Report

Fiber Release Episode Report	
1. Address, building, and room number(s) (or description of area) where episode occurred:	<hr/> <hr/> <hr/> <hr/>
2. The release episode was reported by _____ on _____ (date).	
3. Describe the episode: _____	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
4. The asbestos-containing material was ____/was not ____ cleaned up according to approved procedures. Describe the cleanup: _____	<hr/> <hr/> <hr/> <hr/>
Signed _____	Date: _____
Asbestos Coordinator	

Appendix E – Work Permit Form

Work Permit Application	
1.	Address, building, and room number (or description) where work is to be performed: _____ _____
2.	Requested starting date: _____ Anticipated finish date: _____
3.	Description of work: _____ _____ _____ _____
4.	Description of any asbestos-containing material that might be affected, if known (include location and type): _____ _____ _____ _____ _____
5.	Name and telephone number of requestor: _____
6.	Name and telephone number of supervisor: _____
Submit this application to the asbestos program manager:	
NOTE: An application must be submitted for all maintenance work whether or not asbestos-containing material might be affected. this authorization must then be signed before any work can proceed.	
_____	Granted (Work Permit No. _____)
_____	Denied (See Asbestos Program Manager)
_____	Denied (until further sampling is conducted)
Signed _____	Date: _____
Asbestos Coordinator	

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Appendix F - Operations & Maintenance Form

* The following information is to be filled out by building owner.

Date: _____

Name: _____

Building: _____

Location: _____

Type of Material: _____

Condition of Material: _____

Approximate Amount of Material: _____

Detail Description of Concern: _____

* The following information is to be filled out by the Asbestos Coordinator

Action Required: (Circle all that apply)

- Bulk Sampling Air Monitoring Repair Asphalt Roofing (Exterior)
- Removal Decontamination Glove bag Encapsulation *none

*Explain: _____

Recommended Contractor(s): _____

Start Date: _____

Asbestos Coordinator Signature: _____

Appendix G – Worker Acknowledgement Form & Yearly Notification Form

Worker Acknowledgment Form

FIRM: _____ **DATE:** _____
NAME: _____ **BUILDING:** _____
SUPERVISOR: _____ **LOCATION:** _____

Prior to performing work of any kind at The Block Island School, New Shoreham, RI all contractors are responsible for contacting the building owner for types and locations of asbestos containing materials in the respective building where work is to be performed. The contractor shall not disturb, damage or otherwise handle any suspect asbestos containing material. If material that is suspected to be asbestos containing is disturbed and becomes airborne, the contractor shall immediately notify the Building Owner.

Any suspect asbestos containing material that is observed by the contractor to be crushed, ripped, broken or in any way damaged should be reported to the building owner immediately. Contractors must immediately convey to the building owner any information they discover pertaining to the presence, location, and quantity of asbestos containing or potentially asbestos containing materials.

By signing this document, I hereby acknowledge that I fully understand and am completely responsible for adhering to all policies set forth in this document. I hereby understand that working with asbestos can be dangerous. Inhaling asbestos fibers has been linked with various types of cancer. I also understand that if I smoke and inhale asbestos fibers my chances of developing lung cancer are greater than those of the non-smoking public.

Signature: _____ Date: _____

Printed Name: _____

Example

Model AHERA Yearly Notification Form

[Date]

Dear Parents, Teachers, Building Occupants, and Employee Organizations:

In the past, asbestos was used extensively in building materials because of its insulating, sound absorbing, and fire retarding capabilities. Virtually any building constructed before the late 1970s contained some asbestos. Intact and undisturbed asbestos materials generally do not pose a health risk. Asbestos materials, however, can become hazardous when, due to damage or deterioration over time, they release fibers. If the fibers are inhaled, they can lead to health problems, since as cancer and asbestosis.

In 1986, Congress passed the Asbestos Hazard Emergency Response Act (AHERA) which requires schools to be inspected to identify any asbestos containing building materials. Suspected asbestos-containing building materials were located, sampled (or assumed) and rated according to condition and potential hazard. Every three years, [Name of School District or School] has conducted a reinspection to determine whether the condition of the known or assumed asbestos containing building materials (ACBM) has changed and to make recommendations on managing or removing the ACBM. At the last reinspection conducted on [Date of Reinspection], all materials listed in the Management Plan as asbestos containing (or assumed to be asbestos-containing) were inspected [and found to be in good condition].

The law further requires an asbestos management plan to be in place by July 1989. [Name of School District or School] developed a plan, as required, which has been continually updated. The plan has several ongoing requirements: publish a notification on management plan availability and the status of asbestos activities; educate and train its employees about asbestos and how to deal with it; notify short-term or temporary workers on the locations of the asbestos containing building materials; post warning labels in routine maintenance areas where asbestos was previously identified or assumed; follow set plans and procedures designed to minimize the disturbance of asbestos containing building materials; and survey the condition of these materials every six months to assure that they remain in good condition.

The following buildings contain no asbestos-containing building materials; therefore, no operations and maintenance programs or future inspections are required: [Name of Buildings]. During the past year, asbestos containing building materials have been removed, encapsulated, or enclosed in the following buildings: [Name the Buildings]. During the next year, we plan to conduct the following asbestos related activities at the following school buildings [describe the activities and name the buildings].

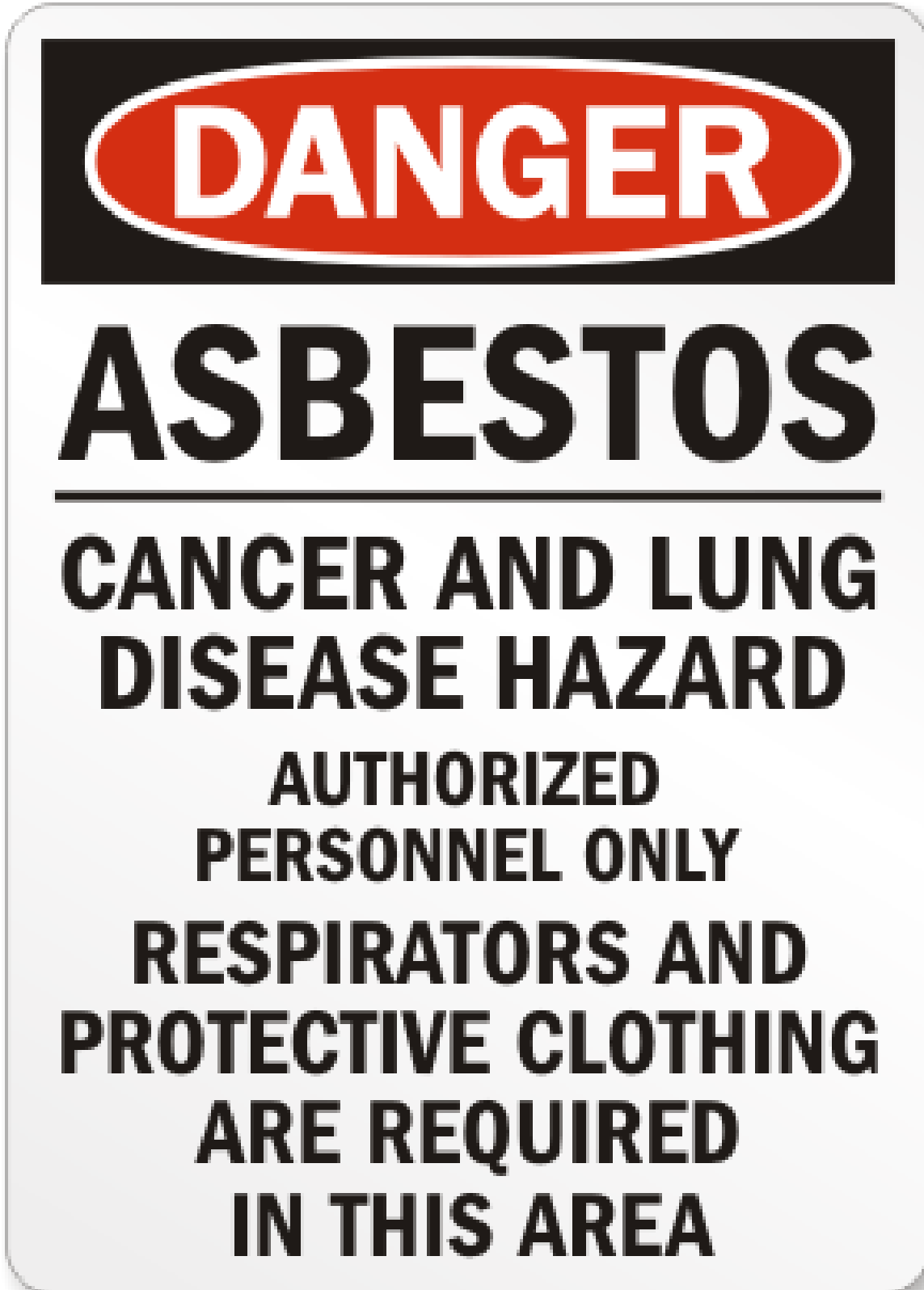
It is the intention of [Name of School District or School] to comply with all federal and state regulations controlling asbestos and to take whatever steps are necessary to ensure students and employees a healthy and safe environment in which to learn and work. You are welcome to review a copy of the asbestos management plan in school district administrative office or administrative office of the school during regular business hours. [Name of AHERA Designated Person] is our designed asbestos program coordinator, and all inquiries regarding the asbestos plan and asbestos-related issues should be directed to [him/her] at [telephone number].

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Appendix I – Asbestos Signage and Caution Labels



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Appendix J – Sample Parent Notification Letter

**NOTICE TO PARENTS AND STAFF
REQUIRED AHERA NOTIFICATION PER 40CFR PART 763**

This notice is to provide you with a yearly notification and status report regarding asbestos materials contained in schools. This notice is required each year by the Asbestos Hazard Emergency Response Act (AHERA).

During the 2022-23 school year, either the required six-month surveillance or a three-year re-inspection of all of the facilities will be conducted at your school site, depending on your inspection schedule. The six-month surveillance is designed to provide a quick walk through the building to see that nothing has been disturbed and the condition of any asbestos containing material has not dramatically changed. The three-year re-inspection is an in-depth survey of every classroom building and portable classroom on your campus. The purpose of this re-inspection is to identify any changed conditions, new asbestos locations, if any, and ensures that the proper management of asbestos occurs throughout your school system. The inspections determined that the management plan and periodic inspections are complete and no significant changes or anomalies were noted.

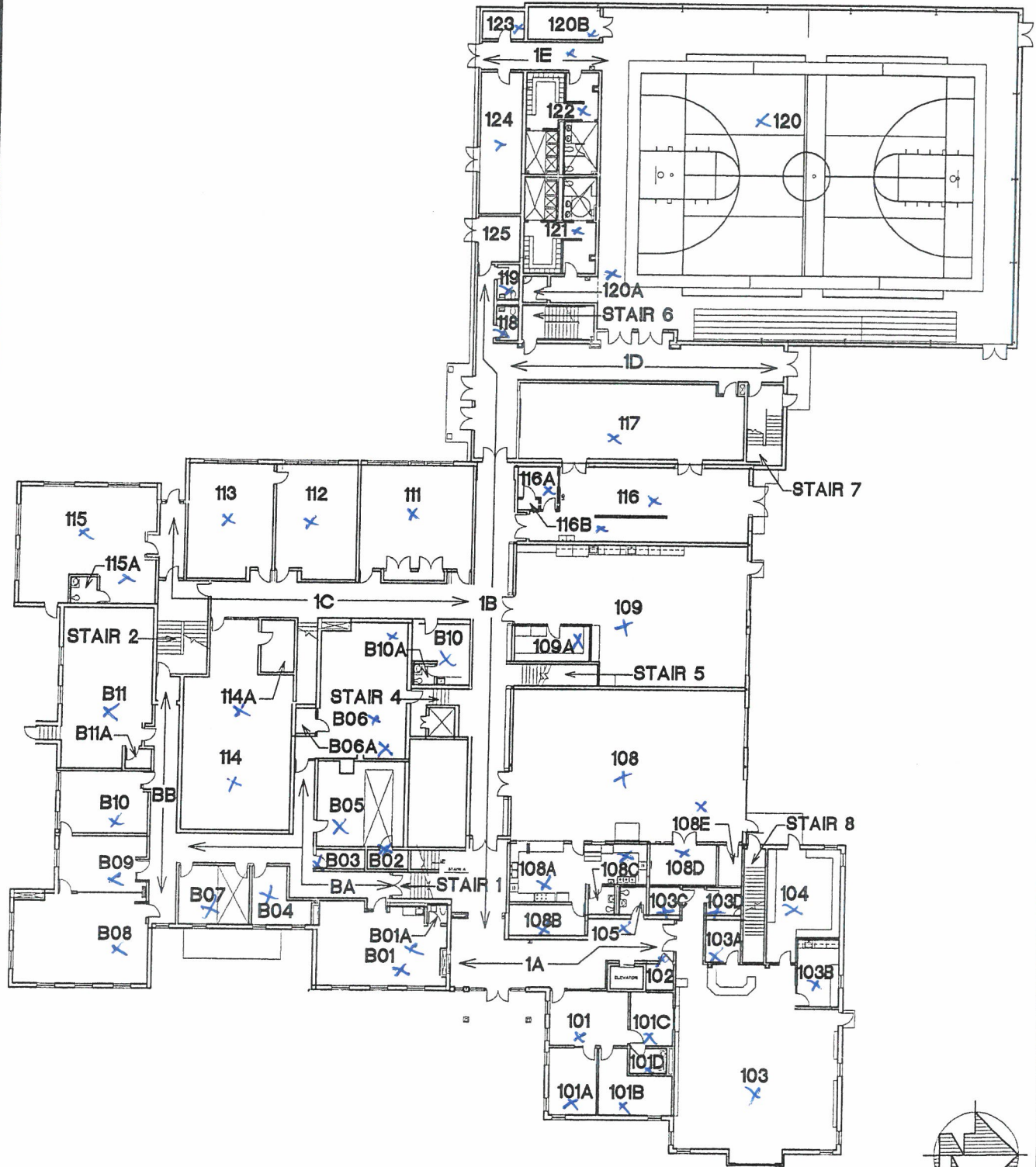
Your current Asbestos Management Plan can be found at your school administrator’s office and is titled:

AHERA Asbestos Management Plan

Please contact your school administrator for additional details. Any technical questions or concerns should be directed to my office.

_____ Maintenance Supervisor
_____ School District

Appendix K – Building Diagram



1

FIRST FLOOR PLAN

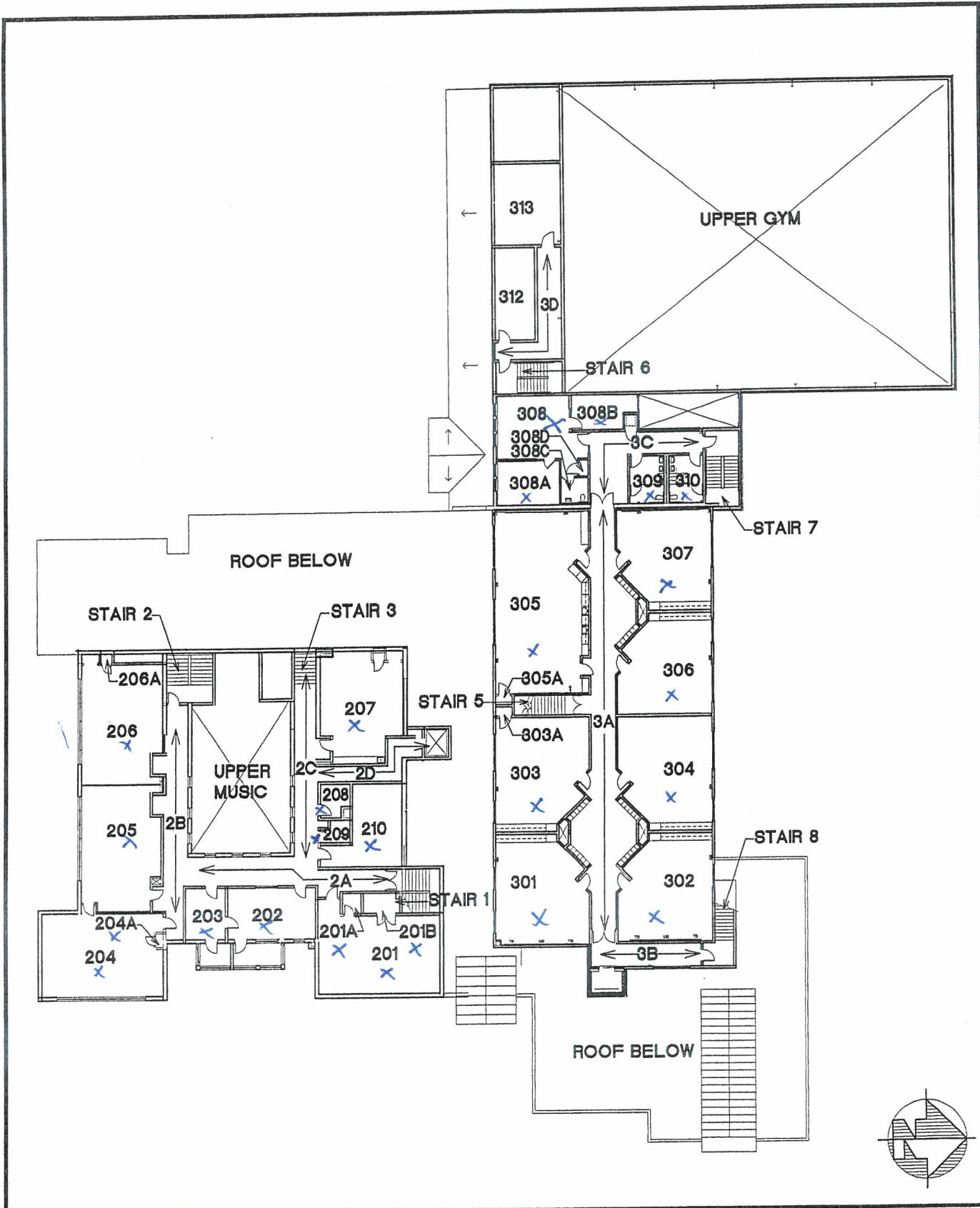
BLOCK ISLAND SCHOOL

15 HIGH STREET, NEW SHOREHAM, RI



SACCOCCIO & ASSOCIATES, INC.
architects

1085 Park Avenue tel 401. 942. 7970
Cranston, R.I. 02910 fax 401. 942. 7975



2 SECOND FLOOR PLAN

BLOCK ISLAND SCHOOL
 15 HIGH STREET, NEW SHOREHAM, RI



SACCOCCIO & ASSOCIATES, INC.
 architects
 1085 Park Avenue tel 401. 942. 7970
 Cranston, R.I. 02910 fax 401. 942. 7975

February 2022

Appendix L

“How to Manage Asbestos in School Buildings: The AHERA Designated Person’s Self Study Guide”

**How to Manage Asbestos in School Buildings:
The AHERA Designated Person's Self Study Guide**

January 1996

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PRE-COURSE QUIZ

The questions in this pre-course quiz are related to the information found in this guide. The quiz will serve as an immediate self-assessment of your knowledge of some of the basic principles of the Asbestos Hazard Emergency Response Act (AHERA). Please answer all of the following questions. The answers to the questions immediately follow the quiz.

1. **Asbestos that is easily crumbled into a powder by hand pressure when dry is:**
 - A. Friable
 - B. Non-friable
 - C. Decomposable
 - D. Asbestos powder
 - E. None of the above

2. **Exposure to asbestos may result in:**
 - A. Asbestosis (a disease characterized by lung scarring)
 - B. Lung cancer
 - C. Mesothelioma (a cancer arising in the chest cavity or abdominal cavity)
 - D. All of the above
 - E. None of the Above

3. **Asbestos-related diseases are _____ and have a latency period of _____.**
 - A. dosed related, 15 to 30 years
 - B. fatal, 30 days
 - C. non-existent, 60 years
 - D. dangerous, 1 hour
 - E. serious, 10 years

4. **The three main federal government agencies that regulate asbestos are:**
 - A. Food and Drug Administration, Department of Transportation, Environmental Protection Agency
 - B. Department of Transportation, Environmental Protection Agency, Occupational Safety and Health Administration
 - C. Department of Health and Human Services, Environmental Protection Agency, Occupational Safety and Health Administration
 - D. General Services Administration, Department of Health and Human Services, Occupational Safety and Health Administration
 - E. No federal government agencies regulate asbestos

- 5. Which of the following are not the responsibility of the Local Education Agency?**
- A. must conduct periodic surveillance in each building under its authority at least once every six months and use an accredited inspector to conduct the reinspections every three years
 - B. must attach a warning label immediately adjacent to any friable and nonfriable asbestos-containing building material (ACBM) and suspected ACBM located in routine maintenance areas, such as boiler rooms, at each school building
 - C. must send all notification, inspection, and periodic surveillance records to EPA on an annual basis
 - D. ensure that complete and up-to-date records of inspections, reinspections, response activities, periodic surveillances, and operations and maintenance activities are maintained
 - E. must comply with the notification requirements to workers, students, building occupants, parents, and short-term workers
- 6. Which activities must be conducted by an accredited inspector?**
- A. Identify all homogeneous areas of material that are suspected to contain asbestos
 - B. Gather information on the uses and functions of the spaces within the homogeneous areas
 - C. Collect samples of material suspected to be ACBM and send them to the lab for analysis
 - D. Perform a physical assessment of the material and document the results in an inspection report
 - E. All of the above activities
- 7. Some of the most common uses of asbestos-containing building materials found include:**
- A. Fireproofing on structural members
 - B. Plaster, pipe and boiler insulation
 - C. Acoustical or sound proofing material
 - D. Flooring and ceiling tiles
 - E. All of the above
- 8. In addition to imposing other requirements, the Asbestos Hazard Emergency Response Act requires that a Local Education Agency:**
- A. Close buildings in which asbestos is found
 - B. Perform inspections to identify asbestos-containing building materials in its buildings
 - C. Notify the Environmental Protection Agency on the locations of asbestos-containing building materials in the schools of the district
 - D. Remove all asbestos-containing building materials from its buildings
 - E. B and D

Pre-Course Quiz

- 9. A management plan must contain appropriate response actions. Which of the following is not an appropriate response action:**
- A. Replace damaged asbestos-containing building materials with new undamaged asbestos-containing building materials
 - B. Repair damaged asbestos-containing building materials to an undamaged or intact condition
 - C. Encapsulate asbestos-containing building materials with a material that surrounds or embeds asbestos fibers
 - D. Enclose asbestos-containing building materials in an airtight, impenetrable permanent barrier
 - E. None, all of these are appropriate response actions
- 10. At least once every ____ months, the Local Education Agency must conduct a visual inspection of all areas identified in the management plan as asbestos-containing building materials (ACBM) or assumed to contain asbestos-containing building materials to determine whether the condition of the ACBM or assumed ACBM has changed. This is called a(n) _____.**
- A. 12, periodic surveillance
 - B. 12, inspection
 - C. 6, periodic surveillance
 - D. 6, inspection
 - E. 24, reinspection
- 11. Final air clearance of a functional space after a response action to remove, encapsulate, or enclose ACBM involves the following:**
- A. visual inspection
 - B. collection of air samples
 - C. analysis of samples by PLM
 - D. analysis of samples by TEM, unless the project involves less than 160 square feet or 260 linear feet, in which PCM may be used
 - E. A, B, D
- 12. How can the Local Education Agency best minimize accidental disturbances of ACBM during maintenance and renovations activities?**
- A. establish a permit system that calls for all work orders and requests to be processed through the AHERA designated person
 - B. require the AHERA designated person to maintain AHERA inspector and management planner accreditations
 - C. require the principals of all schools to attend asbestos awareness training
 - D. require all periodic surveillance inspections to be conducted by accredited inspectors
 - E. assure that all AHERA management plans are updated on an annual basis

- 13. A designated person must:**
- A. Receive training that provides basic knowledge of a number of asbestos-related subjects, as listed in EPA's asbestos regulations
 - B. Complete EPA-or State-approved inspector course and become accredited
 - C. Have a college degree
 - D. Pass an EPA test on Designated Person roles and responsibilities
 - E. Complete no training
- 14. An asbestos management program is subject to which EPA statutes and regulations:**
- A. Asbestos Hazard Emergency Response Act
 - B. Asbestos Hazard Emergency Response Act, National Emissions Standards for Hazardous Air Pollutants
 - C. Asbestos Hazard Emergency Response Act, National Emissions Standards for Hazardous Air Pollutants, EPA Worker Protection Rule
 - D. Asbestos Hazard Emergency Response Act, National Emissions Standards for Hazardous Air Pollutants, EPA Worker Protection Rule and Asbestos School Hazard Abatement Reauthorization Act
 - E. None of these
- 15. Local Education Agencies must conduct the following notifications:**
- A. annually to parents, teachers, and employee organizations on the availability of the asbestos management plan
 - B. annually to workers, building occupants and their guardians on recent or planned asbestos activities (such as inspections, response action, etc.)
 - C. to short-term workers (e.g. telephone repair workers, utility workers, or exterminators) who may come into contact with asbestos on the locations of asbestos-containing building materials (or assumed ACBM)
 - D. annually to EPA or state agencies on updates to the management plan.
 - E. A, B, C
- 16. The management plan must:**
- A. be kept in the Local Education Agency's administrative office
 - B. be kept in the administrative office of each school building
 - C. be available to persons for inspection without cost or restriction
 - D. be complete and up-to-date
 - E. all of the above

(1) A (2) D (3) A (4) B (5) C (6) E (7) E (8) B (9) A (10) C (11) E
(12) A (13) A (14) D (15) E (16) E

1

USING THE SELF-STUDY GUIDE

Aim of the Guide

EPA requires schools to appoint an asbestos management coordinator, called the "AHERA designated person" to be responsible for a number of asbestos-related activities, including the implementation of the plan for managing asbestos-containing building materials (ACBM) in the school buildings and compliance with the federal asbestos regulations.

Even though the AHERA requirements have been in place for some time, EPA inspectors have found misunderstanding and confusion on how to implement the requirements, as well as how to best manage asbestos in school buildings. *EPA has designed this self-study guide to help the designated person understand his or her responsibilities and comply with the federal asbestos requirements.* This manual is recommended for persons recently appointed to the position of AHERA Designated Person, as well as persons who have held the position for some time.

Background

On October 22, 1986, Congress promulgated the Asbestos Hazard Emergency Response Act (AHERA), Public Law 99-519. AHERA mandated that EPA develop regulations to respond to asbestos in schools. On October 30, 1987, EPA promulgated the Asbestos-Containing Materials in Schools Rule (hereinafter referred to as the AHERA Rule), 40 CFR Part 763, Subpart E. This rule requires that all of the nation's nonprofit elementary and secondary schools, both public and private, inspect their school buildings for asbestos-containing building materials (ACBM), develop a plan to manage the asbestos for each school building, notify parents and staff regarding management plan availability, provide asbestos awareness training to school maintenance and custodial workers, and other requirements described in detail in this manual. A list of key responsibilities for school districts is located on page 18. *(Note that certain States consider pre-schools the first step of the elementary education process and therefore have included pre-schools under their State AHERA regulations.)*

The governing authority responsible for AHERA compliance is the Local Education Agency (LEA). "Local Education Agency" means either any local educational agency as defined in Section 198 of the Elementary and Secondary Education Act of 1965 (often called school district), the owner of any private, non-profit elementary or secondary school building, or the governing authority of any school operated under the Defense Department's education system.

In July 1991, EPA released the results of an evaluation of AHERA implementation. The results showed that certain elements of school asbestos programs were not being effectively implemented. The agency concluded that schools needed better guidance on how to run their

CHAPTER 1

Using the Self-Study Guide

asbestos programs. Shortly after, EPA hired a contractor to develop the *Designated Person Self-Study Guide*. Due to the shortage of funding, this project was abandoned in 1992.

Over the past seven years, EPA staff have observed that the quality of school asbestos programs depend heavily on the dedication and work of the AHERA Designated Person (DP). Schools without a competent DP tend to have more AHERA violations. Common violations are listed on the table "Frequent Problems with the Management Plan" on page 47. Schools with DPs who know the AHERA requirements can effectively prevent the release of asbestos fibers through their own actions, as well as their ability to hire and oversee the work of personnel conducting asbestos-related activities at their school buildings.

The *AHERA Designated Person Self Study Guide* is an important tool to improve LEA's compliance with AHERA and to protect the health of school building occupants through preventing the release of asbestos fibers. With the support from EPA HQ and all the other EPA regional offices, the Seattle office of EPA undertook the task of updating and finalizing this manual on August 1995.

Responsibilities of the AHERA Designated Person

The responsibilities of the AHERA Designated Person include:

- ensure that all activities of anyone who conducts the following are carried out in accordance with the AHERA requirements: conduct inspections, reinspections, periodic surveillance; develops, implements and updates management plans; and plans and implements asbestos-related activities (such as maintenance or removal);
- ensure that all custodial and maintenance employees are properly trained;
- ensure that all workers, building occupants, students, and their parents are notified annually about management plan availability and recent and upcoming asbestos-related activities;
- ensure that short-term workers who may come into contact with asbestos are provided information regarding the location of this asbestos;
- ensure that all warning labels are posted; and
- consider any conflicts of interest that may arise when selecting accredited personnel to conduct asbestos-related activities.

AHERA Designated Person Required Training

AHERA requires that the DP be *adequately* trained to carry out his or her responsibilities. Due to the differing needs of school districts based on the size of the district and the amount and condition of the ACBM, AHERA does not list a specific training course or specific number of hours of training for the DP. Further, AHERA does not require the DP to be accredited. Specifically, the regulations note the training must include the following topics:

- health effects of asbestos;
- detection, identification and assessment of asbestos-containing building materials (ACBM);
- options for controlling asbestos-containing building materials; and
- asbestos management programs.
- relevant Federal and State regulations concerning asbestos, including AHERA and its implementing regulations and the regulations of the Occupational Safety and Health

Administration, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency (*See Chapter 11 for further information on regulations related to AHERA.*)

Instructions for Using this Guide

To use this guide effectively:

- Assemble all documents that appear in the list entitled "Documents Required for Completion of Self-Study Guide."
- Make copies of the tables, figures and supplemental materials that appear in this guide to use as working copies.
- Review the chapter summaries and supplemental materials at the end of each chapter as you proceed through the guide.
- Take the Quiz before and after you have completed this Self-Study Guide.

Documents Required for Completion of Self-Study Guide

A designated person using this guide should have copies of the following documents for reference:

- Environmental Protection Agency
40 CFR Part 763; *Asbestos-Containing Materials in Schools*; Final Rule (October 30, 1987), the *Model Accreditation Plan*, Interim Final Rule (February 3, 1994), and *Asbestos Abatement Projects; Worker Protection; Final Rule* (February 25, 1987; note: this rule must undergo revision to conform to the OSHA Worker Protection Rule, 29 CFR 1926.1101, 8/10/94).

100 Commonly Asked Questions About the New Asbestos-in-Schools Rule
(May 1988).

- Your School Asbestos Inspection Report/Management Plan
Choose a document that is representative of your school buildings if you have multiple schools.
- Occupational Safety and Health Administration
29 CFR §1910.1001: *General Industry Standard on Asbestos* and 29 CFR §1926.1101: *Construction Industry Standard* (August 10, 1994).

Useful References

CHAPTER 1

Using the Self-Study Guide

A designated person may also wish to refer to one or more of the following EPA documents in completing this guide:

- Environmental Protection Agency
40 CFR Part 61; *National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision*; Final Rule (November 20, 1990);

Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book):
(June, 1985; 560/5-85-024);

Managing Asbestos in Place: A Building Owners Guide to Operations and Maintenance Programs for Asbestos-Containing Materials (Green Book) (July, 1990; 20T-2003);

Asbestos in Buildings; Guidance for Service and Maintenance Personnel
(June 1985; 560/5-85-018);

A Guide to Performing Reinspections Under the Asbestos Hazard Emergency Response Act (AHERA) (Yellow Book) (February 1992);

Answers to the Most Frequently Asked Questions About Reinspections Under AHERA
(May 1991);

Environmental Hazards in Your School: A Resource Handbook (October 1990).

Policy Clarification for the Asbestos Hazard Emergency Response Act: *Under What Circumstances is Removal of Vinyl Asbestos Tile or Similar Materials a Response Action under AHERA?* (EPA, July 1992).

To obtain any of the documents listed above, contact the EPA Toxic Substances Control Act (TSCA) Hotline at (202) 554-1404 or the U.S. Government Printing Office.

2

AN INTRODUCTION TO ASBESTOS

The History of Asbestos

The word "asbestos" is derived from the Greek language. The Greeks admired the "miracle mineral" because of its softness and flexibility and its ability to withstand heat. The Greeks used asbestos much like cotton, spinning and weaving it into cloth. Asbestos was not widely available anywhere in the world until the late 1800s, when major deposits were found in Canada. Thereafter, asbestos was used to make thermal insulation for boilers, pipes, and other high temperature applications, and was also used as a fireproofing and reinforcement material. During World Wars I and II, the military used asbestos extensively in ships and other applications. Commercial usages of asbestos in buildings increased greatly thereafter, but growing concerns about the health risks associated with asbestos exposure resulted in a voluntary reduction in the use of asbestos beginning in the 1970s.

Characteristics of Asbestos

Asbestos is comprised of a group of natural minerals. Unlike other minerals, however, the crystals of asbestos form long, thin fibers. Asbestos deposits are found throughout the world, but the primary sites of commercial asbestos production are Canada, Russia, and South Africa. Commercial mining of asbestos in the United States was halted in the 1980s.

Once extracted from the earth, asbestos-containing rock is crushed, milled (or ground), and graded. This produces long, thread-like fibers of material. What appears to the naked eye as a single fiber is actually a bundle of hundreds or thousands of fibers, each of which can be divided even further into tiny fibers (fibrils), invisible without the aid of a microscope.

Asbestos materials are divided into two groups -- *serpentine* and *amphibole*. All asbestos in the serpentine group is called Chrysotile. This is the most common type of asbestos found in buildings in the United States, accounting for approximately 95 percent of the asbestos found in the nation's buildings. It is commonly known as "white asbestos" because of its natural color.

The amphibole group contains five types of asbestos. Amosite, the second most common type of asbestos found in buildings in the United States, is often referred to as "brown asbestos" for the color of the natural mineral. Crocidolite, or "blue asbestos" has been used in high-

CHAPTER 2

An Introduction to Asbestos

temperature insulation products and on chemical resistant surfaces, such as laboratory tables for chemistry and biology classes (upon occasion, the custodial staff will drill holes in table tops for new fixtures without realizing that the material may contain crocidolite. The remaining three types of asbestos in the amphibole group -- Anthophyllite, Tremolite, and Actinolite -- are rare and have little commercial value. They are occasionally found as contaminants or minor constituents in asbestos-containing materials.

Uses of Asbestos

Asbestos has been used in thousands of products, largely because it is plentiful, readily available, cheap, strong, does not burn, conducts heat and electricity poorly, and is resistant to chemical corrosion. Products made with asbestos are often referred to as asbestos-containing materials (ACM).

Asbestos proved particularly useful in the construction industry. Building materials that contain asbestos are referred to as asbestos-containing building materials (ACBM). Commercial usage of asbestos products in the construction industry was most common from about 1945 to 1980. Some of the most common uses of ACBM include:

- **Fireproofing material** -- Usually spray-applied to steel beams used in construction of multi-story buildings to prevent structural members from warping or collapsing in the event of fire.
- **Insulation material** -- Usually spray-applied, trowel-applied, or manually installed after being preformed to fit surfaces such as pipes for thermal insulation and condensation control.
- **Acoustical or soundproofing material** -- Trowel- or spray-applied. May also be used for decoration. Asbestos was mixed with other materials and sprayed onto ceilings and walls to produce a soft, textured look.
- **Miscellaneous materials** -- Asbestos has been added to asphalt, vinyl, cement and other materials to make products like roofing felts, exterior siding and roofing shingles, wallboard, pipes for water supply, combustion vents, and flues for waste gases and heat. Fibers in asbestos cement, asphalt, and vinyl materials are usually firmly bound into materials in good condition and typically will be released only if the material is damaged mechanically -- for example through drilling, cutting, grinding, or sanding. In addition, asbestos in roofing shingles and siding exposed to weathering may slowly deteriorate and has the potential to release fibers.

Examples of the more common ACBM found in schools are flooring, vinyl base, mastic, roofing materials, gaskets in heating and air-conditioning equipment, ceiling panels and tiles, wallboard, joint compound, plaster, pipe and boiler insulation, duct-wrap insulation, duct joint tape, duct vibration dampening cloth, fireproofing on structural members, fire brick for boilers, fire doors, acoustical spray-on, cement pipes, and panels.

Friable vs. Nonfriable ACBM

Friable ACBM will release fibers into the air more readily than nonfriable ACBM. Therefore, the AHERA Rule differentiates between friable and nonfriable ACBM. The regulations define friable ACBM as material that may be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friable ACBM also includes previously nonfriable material when it becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure. *Undamaged non-friable ACBM should be treated as friable if any action performed on the material will make them friable.*

Categories of Asbestos-Containing Building Materials

EPA identifies three categories of ACBM (*See the definitions appearing in § 763.83 of the AHERA Rule*):

- **Surfacing Materials** -- Interior ACBM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls, ceilings, etc.) for acoustical, decorative, fireproofing, or other purposes. This includes acoustical plaster, hard plasters (wall or ceiling), fireproofing insulation, spray-applied or blown-in thermal material, joint or patching compound (wall or ceiling), and textured paints or plasters.
- **Thermal System Insulation** -- Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers, breeching, tanks, ducts, and other parts of hot and cold water systems; heating, ventilation, and air conditioning (HVAC) systems; or other mechanical systems. These insulation materials include pipe lagging, pipe wrap, HVAC duct insulation, block insulation, cements and muds, and a variety of other products such as gaskets and ropes.
- **Miscellaneous Materials** -- Other, mostly nonfriable products and materials found on structural components, structural members or fixtures, such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth. "Miscellaneous materials" do not include thermal system insulation or surfacing materials.

Please note that batt, blanket, and blown-in insulation should be placed in one of the above categories according to use.

Chapter 2 Summary
Key Points About Asbestos

This chapter introduces some important terms used in the AHERA Rule. The designated person should be especially familiar with the following:

Asbestos-Containing Material (ACM) -- Any material or product that contains more than one percent asbestos.

Asbestos-Containing Building Material (ACBM) -- Surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building.

Friable ACBM -- Material that may be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friable ACBM also includes previously nonfriable material when it becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

Nonfriable ACBM -- Material that, when dry, may not be crumbled, pulverized, or reduced to powder by hand pressure.

Surfacing ACM -- Interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls, ceilings, etc.) for acoustical, decorative, fireproofing, or other purposes.

Thermal System ACM -- Insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers, breeching, tanks, ducts, and other parts of hot and cold water systems; heating, ventilation, and air-conditioning (HVAC) systems; or other mechanical systems.

Miscellaneous ACM -- Other, mostly nonfriable, products and materials (found on structural components, structural members or fixtures) such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth.

Undamaged non-friable ACBM should be treated as friable if any action performed would render these materials friable. When previously non-friable ACBM becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure, it should be treated as friable.

3

ASBESTOS HEALTH RISKS

Health Effects Associated with Asbestos Exposure

The health effects associated with asbestos exposure have been studied for many years. Results of these studies show that inhalation (breathing in) of asbestos fibers leads to increased risk of developing several diseases. Exactly why some people develop these diseases remains a mystery, but it has been well demonstrated that most asbestos-related illnesses are dose-response related (*i.e.*, the greater the exposure to airborne asbestos fibers, the greater the risk of developing an illness).

Relative Hazards of Asbestos Exposure

Almost daily, we are exposed to some prevailing level of asbestos fibers in buildings or experience some existing level in the outdoor air. Some fibers that are inhaled remain in the lungs. Brief "bursts" of exposure, when added to the background level, increase the potential to cause or trigger the development of an asbestos related disease. These brief bursts of exposure occur in many ways. For example, when a carpenter drills a hole in an asbestos fire door without taking any precautions, an increased amount of asbestos may be released into the air. The more often these bursts of exposure occur, the greater the risk of breathing asbestos fibers.

People most at risk for this additional exposure are maintenance and construction workers who work on and disturb asbestos in buildings. This clearly demonstrates the need for an active asbestos policy and an ongoing operations and maintenance (O&M) plan for buildings that contain ACM.

It is important to recognize that the majority of people who have developed diseases because of asbestos exposures are former asbestos workers. These workers were frequently exposed to high levels of asbestos fibers each working day, with little or no protection. Today's asbestos maintenance workers and AHERA-trained asbestos abatement workers are trained to follow specific work practices and wear appropriate protection, including respirators, to minimize the risk of exposure. However, increased risk may occur when a worker who does not use a respirator or follow specific work practices disturbs any ACM.

The Respiratory System

The effects of asbestos exposure most often involve the lungs. Air breathed into the body passes through the mouth and nose, continuing into the windpipe. The windpipe divides into smaller and smaller tubes that end up in the lungs as air sacs called alveoli. It is in these air sacs that respiration occurs. Oxygen is absorbed into tiny blood vessels (or capillaries), and waste gases, such as carbon dioxide, pass out of the blood and are exhaled.

The body has several mechanisms to "filter" the air it breathes. First, large particles are removed in the nose and mouth. Many smaller particles are caught on the mucus-coated walls of the airway tubes. These airways have "hairy" linings (ciliate cells) that constantly propel mucus upward. Particles caught in the mucus are swept up into the back of the mouth. From here they are swallowed or expelled (spit out). Unfortunately, cigarette smoking temporarily paralyzes these hair-like cells, disabling one of the body's natural defenses against unwanted dust or fibers.

Despite natural bodily defenses, some dust particles inevitably reach the tiny air sacs in the lungs. When this occurs the human immune system dispatches large cells called macrophages to engulf the particles and "digest" them. These cells deposit a coating on the particles and may begin forming scar tissue around them. This is just another natural defense mechanism the body uses against unwanted debris in the lungs.

Asbestos-Related Diseases

If the body's defenses fail to control or remove asbestos fibers that enter the lungs, the risk of developing an asbestos-related disease increases. Asbestos-related diseases include asbestosis, lung cancer, mesothelioma, and other cancers.

- **Asbestosis** -- Asbestosis is a disease characterized by lung scarring. It reduces lung elasticity -- the ability to inhale and exhale in response to muscular contractions of the diaphragm -- and makes breathing very difficult. Asbestosis is most common among workers who have been exposed to large amounts of asbestos fibers over a period of time. It is a serious disease and, in those persons exposed to high levels of asbestos, can eventually lead to disability or death. All forms of asbestos are suspected to have the potential to cause asbestosis. Like all diseases associated with asbestos exposure, it may take many years for the disease to show up. The typical latency period for asbestosis is 15 to 30 years. Available data indicate that the frequency of occurrence of asbestosis rises and the disease worsens with increasing dust exposure. The Occupational Safety and Health Administration (OSHA) Asbestos Standards were developed to minimize the incidence of asbestosis among asbestos workers by reducing their exposure to asbestos.
- **Lung Cancer** -- As with asbestosis, there appears to be a dose-response relationship between asbestos exposure and lung cancer. In addition, lung cancer arising from

asbestos exposure also has a latency period before development -- typically 30 years or longer. The risk of contracting lung cancer as a result of exposure to asbestos increases if the worker is a cigarette smoker. Cigarette smokers who are exposed to asbestos are over 50 times more likely to develop lung cancer than the normal, non-smoking population. As a result, a program to help workers stop smoking and an asbestos operations and maintenance program will help reduce the risk of lung cancer among asbestos maintenance workers.

- **Mesothelioma** -- Mesothelioma is a cancer that occurs in the chest cavity lining or in the lining of the abdominal (stomach) lining. This type of cancer spreads rapidly and is always fatal. Cases of mesothelioma have been found in people who have had a limited exposure to asbestos. The onset of this disease appears to be independent of smoking behavior but related to dose and to time from first known asbestos exposure. Mesothelioma tends to have a long latency period -- usually 30 to 40 years.
- **Other Diseases** -- Several other diseases seem to occur more frequently among people who have been exposed to asbestos. These include cancer of the esophagus, stomach, colon, and pancreas; pleural (fibrous) plaques; pleural thickening; and pleural effusion.

The risks of contracting any of these diseases make it extremely important that asbestos maintenance workers utilize proper work practices and respiratory protection.

Risks Associated with Low Exposure

While studies of asbestos workers and laboratory animals clearly reveal that asbestos is hazardous, the risks associated with low-level, non-occupational exposure (*i.e.*, an occupant of a building who is not actually disturbing the asbestos) have not been directly demonstrated. Estimating low-level risks from exposure data is not a straightforward process, and the validity of current methodologies is questionable.

Based on a thorough review of the literature available on the health effects of asbestos, the National Institute for Occupational Safety and Health (NIOSH) has concluded that there is no level below which the risks of contracting an asbestos-related disease are zero. This means that there is no established safe level of exposure to asbestos.

EPA Policy for Asbestos Control in Schools

EPA bases its policy for asbestos control in schools on the following premises:

- Although asbestos is hazardous, the risk of asbestos-related disease depends upon exposure to airborne asbestos fibers.
- Based upon available data, the average airborne asbestos levels in buildings seem to be very low. Accordingly, the health risk to most building occupants also appears to be very low.
- Removal is often not a building owner's best course of action to reduce asbestos exposure. In fact, an improper removal can create a dangerous situation where none previously existed.
- EPA only requires asbestos removal to prevent significant public exposure to airborne asbestos fibers during building demolition or renovation activities.
- Asbestos that has been identified will pose little risk if it is well maintained under an operations and maintenance program. Improper operations and maintenance also can cause dangerous situations. Therefore, EPA requires a pro-active, in-place management program whenever ACM is discovered and is not removed.

Chapter 3 Summary
Key Points About Asbestos Health Risks

Asbestos-related diseases are dose-response related (the greater the exposure to airborne fibers, the greater the risk of developing an illness) and have a latency period (typically 15 to 30 years).

Exposure to asbestos may result in **asbestosis** (a disease characterized by lung scarring, which reduces the lungs' ability to function), **lung cancer**, **mesothelioma** (always-fatal cancer arising in the chest or abdominal cavity), and **other diseases**.

Risks associated with low-level, non-occupational exposure (e.g., a building occupant who is not actually disturbing the asbestos) are not well established. The National Institute for Occupational Safety and Health (NIOSH) has determined, however, that there is no established safe level of exposure.

Asbestos that has been identified will pose little risk if it is well maintained under an operations and maintenance program. EPA only requires asbestos removal to prevent significant public exposure to airborne asbestos fibers during building demolition or renovation activities.

4

WHAT IS REQUIRED OF THE LEA?

Scope and Purpose of AHERA

Broadly stated, AHERA requires that each Local Education Agency (LEA) perform inspections to identify asbestos-containing materials in each of the public and private elementary and secondary schools under its authority; develop, implement and update asbestos management plans; take appropriate response actions; safely maintain asbestos-containing building materials (ACBM); and comply with AHERA's recordkeeping requirements.

The AHERA Rule outlines the general responsibilities of a LEA in § 763.84 and the specific duties of the LEA in the succeeding sections of the rule.

General LEA Responsibilities

Under § 763.84 of the AHERA Rule, the LEA has the following general responsibilities:

- Ensure that the activities of any persons who perform inspections, reinspections, and periodic surveillance, develop and update management plans, develop and implement response actions, and conduct operations and maintenance activities are in compliance with all of the AHERA requirements.
- Ensure that all custodial and maintenance workers are properly trained.
- Ensure that workers and building occupants or their legal guardians are notified at least annually about activities relating to ACBM.
- Ensure that short-term workers who may come in contact with asbestos in a school are provided the locations of ACBM and suspected ACBM assumed to be ACBM.
- Ensure that warning labels are properly posted.
- Ensure that management plans are available for inspection.

- Appoint a "designated person" to ensure proper implementation of the AHERA requirements.
- Ensure that the designated person receives adequate training to perform duties assigned.
- Consider whether any conflict of interest may arise among personnel undertaking activities related to the ACBM in a school or schools.

(See the Checklist of LEA General Responsibilities Under AHERA at the end of this chapter.)

Conflicts of Interest

The AHERA Designated Person (school asbestos coordinator) should take into consideration any conflict of interest and determine whether it should influence their selection of contractors to accomplish asbestos related work in their schools. The AHERA Rule identifies several situations where a conflict of interest may arise. For example, the abatement contractor is not allowed to conduct final air sampling for clearance by TEM analysis (*See 40 CFR Part 763, Appendix A to Subpart E ((II)(B)(2))*). The group that determines whether an abatement site is acceptable for re-occupancy should not be the same (or a related group) that is conducting the abatement work. Similarly, if the LEA requires a management planner to sign a statement certifying that the management plan is in compliance with AHERA, then the LEA may not want the planner signing the statement to be the one who implements or will implement the plan. The LEA may have unique concerns regarding potential conflicts that should be discussed with and addressed by the designated person.

Specific Responsibilities of the LEA

Sections 763.85-763.99 of the AHERA Rule detail the specific responsibilities of the LEA. These responsibilities are listed below, followed by brief descriptions. The responsibilities are discussed in greater detail in subsequent chapters of this guide.

- **Inspections** -- An accredited inspector must conduct inspections of each school building under the authority of the LEA. This involves visually inspecting buildings for friable and nonfriable ACBM, sampling such materials unless they are assumed to be ACBM, and having samples analyzed in accordance with the AHERA regulations. Only accredited laboratories may be used to perform bulk material sampling analyses.
- **Reinspections** -- An accredited inspector must conduct a reinspection of all friable and nonfriable known or assumed ACBM in each school building at least once every three years that a management plan is in effect. A management planner must review all three year inspection reports.

CHAPTER 4

What is Required of the LEA?

- **Assessment** -- For each inspection and reinspection, an accredited inspector must provide a written assessment of all friable known or assumed ACBM in the school building.
- **Management Plans** -- Each LEA must complete an asbestos management plan for each school under its authority. An accredited management planner must prepare the management plan based on the results of the inspection. In the management plan, the management planner recommends appropriate response actions, prepares cost estimates on the response actions, and schedules the response actions. The management plan must be updated on a timely basis.
- **Response Actions** -- Based on the recommendations of the management planner, the LEA must select the appropriate response actions consistent with the assessment of the ACBM. The designated person must see to it that the response actions are carried out in a timely manner and in compliance with the AHERA requirements. "Timely manner" is not defined in the regulations but involves the joint development of a schedule for plan implementation by the management planner and the designated person. Only accredited laboratories may be used to perform final clearance air sample analyses.
- **Operations and Maintenance** -- The LEA must implement an operations and maintenance (O&M) program whenever any friable ACBM is present or assumed to be present in a building under its authority. Where material identified as nonfriable ACBM or nonfriable assumed ACBM is about to become friable as a result of activities performed in the building, it must be treated as friable and thus must also be subject to an O&M program. EPA recommends that the LEA also manage nonfriable ACBM in their school buildings under an O&M program.
- **Training** -- AHERA requires that building inspectors, management planners, project designers, contractors/supervisors, and asbestos workers be accredited before they can perform asbestos-related activities. The AHERA regulations details specific training requirements for the designated person and for custodial and maintenance workers, although these individuals are not required to complete any EPA-approved courses or receive accreditation.
- **Notification** -- The LEA must issue the following notifications regarding asbestos identified in its schools:
 - An annual notice to all workers and building occupants, or their legal guardians, of all inspections, reinspections, and activities being conducted to control asbestos exposure, including periodic surveillance and asbestos removal, that are planned or in progress. This notification should be documented in the management plan.
 - An annual written notice informing parent, teacher, and employee

organizations of the availability of the management plan for their review. A dated copy of this notice must be maintained as part of the management plan.

- A notice to short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come into contact with asbestos in a school identifying the location of ACBM or assumed ACBM in the building. This notification should be documented in the management plan.

A description of all notification processes must be maintained as part of the management plan. The Parent Teacher Association (PTA) or school newsletter may be used as a means to distribute the notifications to the students and their families.

- **Periodic Surveillance** -- The LEA must conduct periodic surveillance in each building under its authority at least once every six months after a management plan is in effect. The periodic surveillance inspection report must be kept in the management plan.
- **Recordkeeping** -- Records involving the inspection of and response to ACBM must be kept in a centralized location in the administrative office of both the school and the LEA. EPA recommends keeping these records in the management plan for each school building and the overall management plan for all school buildings. Recordkeeping is the responsibility of the designated person. The following records must be kept:
 - Descriptions of preventive measures and response actions taken for friable and nonfriable ACBM and suspected ACBM
 - Sampling information
 - Training information
 - Periodic surveillance information
 - Information on initial and additional cleaning performed
 - Information on operations and maintenance activities, including information on any maintenance activities disturbing friable ACBM
 - Notifications to parents, building occupants, and short-term workers
 - Information on any fiber-release episodes
- **Warning Labels** -- The LEA must attach a warning label immediately adjacent to any friable and nonfriable ACBM and suspected ACBM assumed to be ACBM located in routine maintenance areas (such as boiler rooms) at each school building.

Chapter 4 Summary
Key Points About LEA Responsibilities

The LEA must have an accredited inspector conduct **inspections** of each school building under its authority. A **reinspection** of all friable and nonfriable known or assumed ACBM in each school building must be conducted at least once every three years that a management plan is in effect. A management planner must review all three year inspection reports.

For each inspection and reinspection, an accredited inspector must provide a written **assessment** of all friable known or assumed ACBM in the school building.

The LEA must have an accredited management planner review the results of the inspection/reinspection and the assessment and make written recommendations on appropriate response actions. The accredited management planner also prepares the asbestos **management plan** for each school under its authority.

The LEA must select the appropriate **response actions** consistent with the assessment of the ACBM and the recommendations of the management planner.

The LEA must implement an **operations and maintenance (O&M) program** whenever any friable ACBM is present or assumed to be present in a building under its authority.

Building inspectors, management planners, project designers, contractors/ supervisors, and asbestos workers must complete EPA- or State-approved courses and receive accreditation before they can perform any asbestos-related activities. The AHERA Rule also specifies training requirements for LEA designated persons and custodial and maintenance workers, although these individuals are not required to complete any EPA-approved courses or receive accreditation.

The LEA must conduct **periodic surveillance** in each building under its authority at least once every six months after a management plan is in effect.

The LEA must comply with the requirements to provide **notification** about asbestos activities to workers, students, parents, teachers, and short-term workers.

The LEA must maintain **records** in accordance with the AHERA regulations.

The LEA must attach a **warning label** immediately adjacent to any friable and nonfriable ACBM and assumed ACBM located in routine maintenance areas (such as boiler rooms) at each school building.

**Checklist of the Local Education Agency's
General Responsibilities Under AHERA**

The AHERA Designated Person must complete and sign a statement that the Local Education Agency has met (or will meet) the responsibilities listed below. All references are to specific provisions to the AHERA regulations (under § 763.84). The AHERA Designated Person should be able to answer "yes" to each statement below.

- ___ 1. 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 40 CFR Part 763, Subpart E.
- ___ 2. All custodial and maintenance employees are properly trained as required in 40 CFR Part 763, Subpart E 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).
- ___ 3. 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 periodic reinspections and surveillance activities, that are planned or in progress.
- ___ 4. All short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in school are provided information regarding the locations of ACBM and assumed ACBM.
- ___ 5. All warning labels are posted in accordance with § 763.95.
- ___ 6. All management plans are available for inspection, and notification of this availability has been provided in accordance with § 763.93(g).
- ___ 7. The undersigned person designated by the LEA according to § 763.84(g)(1) has received adequate training as required by § 763.84(g)(2).
- ___ 8. The LEA has and will consider whether any conflict of interest may arise from the interrelationship between accredited personnel, and whether this potential conflict should influence the selection of accredited personnel to perform activities under 40 CFR Part 763, Subpart E.

5

THE AHERA INSPECTION

Introduction

An AHERA inspection must be conducted by an "accredited inspector," *i.e.*, one who has attended and successfully completed a course approved by EPA or an EPA-approved State program, passed an exam and received an accreditation number and certificate. This accreditation must be updated annually. Once an AHERA inspection is complete, the inspector must submit the results to the LEA in an inspection report. There are two elements to an AHERA inspection: identification and physical assessment.

Identification of ACBM

The initial inspection to identify all the ACBM in a building begins with locating and listing all "homogeneous areas" of material that are suspected to contain asbestos. A "homogeneous area" is an area of surfacing material, thermal system insulation, or miscellaneous material that is uniform in color and texture. Suspected ACBM in a homogeneous area or functional space must then be treated as ACBM unless samples are taken and the sample analyses show the material to be non-asbestos. "Functional space" means a room, group of rooms, or homogeneous area designated by a person accredited to prepare management plans, design abatement projects, or conduct response actions.

Homogeneous Areas

As was discussed in Chapter 2, interior materials suspected of containing asbestos must be categorized as one of the following three types:

- Surfacing Materials
- Thermal System Insulation (TSI)
- Miscellaneous Materials

Once a material is classified as a particular type, the inspector should identify areas where the materials are all of one type.

Note, EPA suggests that wings or additions added to a building should not be considered homogeneous with the original structure. Building materials used in different buildings should not be considered homogeneous. If there is any reason to suspect that materials

might be different, even if they appear similar, they should be assigned to separate homogeneous areas, and if it is determined that sampling is needed, such materials should be sampled separately. It is important that the inspector correctly identify all homogeneous areas in the inspection report.

(See Example Form 1 at the end of this chapter for an example of how to record information about the homogeneous areas in a school building.)

Functional Spaces

Once the inspector has identified the homogeneous areas in a building, he or she must gather information that will tie each area to the uses or functions occurring within it. The management planner will use the information gathered by the inspector to determine functional spaces. Under the AHERA Rule, a functional space is essentially a room, group of rooms, or space in a building that has an identified use. Examples of functional spaces are classrooms, hallways, offices, mechanical rooms, ceiling plenums, tunnels, and crawl spaces.

(See Example Form 2 at the end of this chapter for an example of how to record information relating each homogeneous area to a functional space.)

Bulk Sampling

Under the AHERA Rule, all material suspected to be ACM must be assumed to be ACM unless:

The homogeneous area is sampled as required by § 763.86 of the AHERA Rule, and the samples are analyzed as required by § 763.87 of the AHERA Rule and found to be non-asbestos; or

The suspect or assumed ACM is in a building built after October 12, 1988, that is certified by an architect or developer as being asbestos-free.

Where sampling and analysis is performed on suspected ACM, the procedures must be properly documented and the sample's asbestos content must be below the EPA definition of ACM (*See Glossary in Appendices*) in order for any of the suspect material to be treated as asbestos-free.

Section 763.86 of the AHERA Rule sets forth requirements for bulk sampling based on the type of material involved. Table 5-1 shows the number of samples required to be collected from each type of homogeneous area to meet the regulation requirements.

Table 5-1

Bulk Sampling Requirements	
Type of Material	Samples Required
Friable Surfacing Material	
Area ≤ 1,000 sq. ft.	3
Area > 1,000 sq. ft. but ≤ 5,000 sq. ft.	5
Area > 5,000 sq. ft.	7
Thermal System Insulation (TSI)	
TSI not assumed to be ACBM	3
Patched TSI not assumed to be ACBM (if patched section < 6 linear or sq. ft.)	1
Each insulated mechanical system not assumed to be ACBM where cement or plaster is used on fittings such as tees, elbows, or valves	Samples in a manner sufficient to determine if material is or is not ACBM*
Friable Miscellaneous Material not Assumed to Be ACBM	Samples in a manner sufficient to determine if material is or is not ACBM*
Nonfriable Suspected ACBM not Assumed to Be ACBM	Samples in a manner sufficient to determine if material is or is not ACBM*

* EPA recommends that three samples be taken to meet this requirement

Note: The designation of ACM for a homogeneous area based on one positive bulk sample result is acceptable.

The regulations do not indicate how many samples are required to meet the "in a manner sufficient to determine." However, the EPA policy statement in the document *100 Commonly Asked Questions About the New AHERA Asbestos-in-Schools Rule* recommends that a minimum of three samples be taken from any homogeneous area to prove that a material does not contain asbestos. However, the designation of ACM for a homogeneous area based on one positive bulk sample result is acceptable.

Bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACBM.

It is recommended that all samples taken always be analyzed, since one sample analysis is rarely representative of a homogeneous area. EPA recommends the use of an improved test method entitled "Method for the Determination of Asbestos in Bulk Building Materials" in place of the 1982 procedures as found in 40 CFR Part 763, Appendix E to Subpart E. Further EPA recommends that LEAs which have Polarized Light Microscopy (PLM) laboratory results indicating floor tiles to be non-asbestos containing may want to retest these materials using this new method. This method should be considered for the following: 1) floor tiles which may contain thin fibers and which were analyzed under the 1982 method and found not to contain asbestos, and 2) materials such as hard wall and acoustical plaster, stucco or other similar multi-layered materials or systems which were not analyzed and reported by layers.

(See Example Form 3 at the end of this chapter for a form that is representative of a bulk sampling log that should appear in your inspection report.)

Exclusions to the AHERA Inspection Requirements

Under the AHERA Rule, all ACM that are used as interior building materials in a school must be identified by ACBM category so that they may be properly sampled and assessed for appropriate response action. However, identification of ACM at schools is not required for ACM that is not installed (stored on site) or for consumer products at the school (auditorium curtains, electrical wiring stored on-site, fire blankets, etc.). ACM installed outside of the building (such as roofing materials and siding) is also excluded from inspection under AHERA. However, this exemption does not extend to the underside of any portico or covered exterior hallway or walkway or to any exterior portion of a mechanical system.

Section 763.99 of the AHERA Rule also excludes from the inspection requirements any sampling area or homogeneous area of a school building where:

- An accredited inspector has determined that, based on sampling records, friable ACBM was identified in the area during an inspection conducted before December 14, 1987. However, such ACBM must still be physically assessed by the accredited

inspector.

- An accredited inspector has determined that, based on sampling records, nonfriable ACBM was identified in the area during an inspection conducted before December 14, 1987. In such a case, the accredited inspector must identify whether material that was nonfriable has become friable since the previous inspection and must assess the newly friable ACBM.
- Based on sampling records and inspection records, an accredited inspector has determined that no ACBM is present in the area and the records show that the area was sampled before December 14, 1987, in substantial compliance with the AHERA Rule.
- The lead agency responsible for asbestos inspection in a State that has been granted a waiver from the inspection requirements of the AHERA Rule has determined that, based on sampling records and inspection records, no ACBM is present in the area. The records must show that the area was sampled before December 14, 1987, in compliance with the AHERA Rule.
- An accredited inspector has determined that, based on records of an inspection conducted before December 14, 1987, suspected ACBM identified in the area is assumed to be ACBM. In such a case, the inspector must identify whether material that was nonfriable suspected ACBM assumed to be ACBM has become friable since the previous inspection and must assess any newly friable material and previously identified friable suspected ACBM assumed to be ACBM.
- Based on inspection records and contractor and clearance records, an accredited inspector has determined that all ACBM was previously removed from the area.
- An architect or project engineer responsible for the construction of a new school building built after October 12, 1988, or an accredited inspector signs a statement that no ACBM was specified as a building material in any construction document for the building or no ACBM was used as a building material in the building.

Physical Assessment

Once the inspector has identified all of the ACBM in a building, he or she must perform a physical assessment of all TSI and friable material. Under § 763.88 of the AHERA Rule, the physical assessment of ACBM involves classifying the material into one of the following seven Physical Assessment Categories:

1. Damaged or significantly damaged thermal system insulation (TSI) ACBM
2. Damaged friable surfacing ACBM

3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or friable suspected ACBM

The physical assessment may include the following considerations:

- Location and amount of the material
- Condition of the material, specifying:
 - Type of damage or significant damage
 - Severity of damage
 - Extent or spread of damage
- Whether the material is accessible
- Material's potential for disturbance
- Known or suspected causes of damage or significant damage
- Preventive measures that might eliminate the reasonable likelihood of undamaged ACBM from becoming significantly damaged

To determine which of the seven Physical Assessment Categories a material should be placed into, several terms must be defined. The preamble to the AHERA Rule, Federal Register, October 30, 1987, p. 41830, examines the difference between "damaged material" and "significantly damaged" material. According to the preamble, significant damage exists where damage is evenly distributed across 10 percent or more of a functional space or is localized over 25 percent of a functional space.

(See Example Form 4 at the end of this chapter for a form that may be used to show why ACBM was assigned to a particular category.)

The preamble goes on to state that material has potential for significant damage, as opposed to only potential for damage, if it is subject to major or continuing disturbance due to factors such as accessibility or, under certain circumstances, vibration or air erosion. If the accredited inspector determines that there is a high or strong likelihood of major disturbance due to accessibility, vibration, or air erosion, there is a potential for significant damage. If the likelihood of any of these factors occurring is moderate, there is only a potential for damage. If the likelihood of any of these factors occurring is low, the inspector should assign Physical Assessment Category No. 7 (any remaining friable ACBM or friable suspected ACBM) to the material.

Because the physical assessment is used to determine which response actions will be chosen to manage the asbestos, proper identification and assessment of ACBM are vital to the effective implementation of the AHERA program. The decision tree that follows can help

CHAPTER 5
The AHERA Inspection

determine the correct assessment category for material in a functional space (*See the Exercise at the end of this chapter for a brief exercise for determining the correct Physical Assessment Category for a functional space*).

The Inspection Report

The results of an AHERA inspection or reinspection must be documented in an inspection report. All decisions regarding ACBM in the LEA's buildings will be based on the information found in this report, so it is vital that the report information be correct. If materials are incorrectly identified as containing asbestos, the LEA will take on needless expense for preventive measures, while if materials are incorrectly identified as not containing asbestos, the LEA may expose building occupants to increased health risks and itself to legal liability.

Contents of the Inspection Report

Section 763.85 of the AHERA Rule lists the required elements of the inspection report:

General Inspection Information

- Date of the inspection
- Signature of each accredited person who conducts inspection-related activities
- Ideally, a copy of the accreditation certificate for each accredited person making the inspection; at minimum, the state of accreditation and accreditation number of each accredited person who conducts inspection-related activities.

Information on Sampling/Assumed ACBM

- Inventory of the locations of the homogeneous areas where samples are collected
- Exact location where each bulk sample is collected
- Dates that samples are collected
- Homogeneous areas where friable suspected ACBM is assumed to be ACBM
- Homogeneous areas where nonfriable suspected ACBM is assumed to be ACBM
- Description of the manner used to determine sampling locations
- Name and signature of each accredited inspector who collected the samples
- State of accreditation of each accredited inspector who collected the samples
- Accreditation number of each accredited inspector who collected the samples, if applicable

Identification and Assessment Information

- List of whether the homogeneous areas identified in the report are surfacing material, thermal system insulation, or miscellaneous material
- Assessments made of friable material and reasons for these assessments
- Name and signature of each accredited inspector making the assessment
- State of accreditation of each accredited inspector making the assessment

- Accreditation number of each accredited inspector making the assessment, if applicable

The inspection report should list the required elements in the order in which they are listed above to promote uniformity and ease of comprehension. The inspection report should also contain an introductory summary that briefly explains what will be found in the report. Documentation such as field data sheets and optional photographs should appear in appendices to the report.

(See the Inspection Report Compliance Checklist at the end of this chapter.)

Common Inspection Report Problems and Deficiencies

The designated person should ensure that the inspection report is complete. *Asbestos in Schools: Evaluation of the Asbestos Hazard Emergency Response Act: A Summary Report* identifies several areas in which inspection reports are often deficient. Examples include:

- Many inspection reports failed either to indicate areas where ACBM were present or did so incompletely.
- Vibration dampening cloth, duct insulation, fire doors and linoleum were not regularly identified as suspect ACBM.
- Eighty-two percent of school buildings had at least one ACBM unidentified in the original AHERA inspection.

The best time to review the inspection report for completeness is during a building walk-through, which is usually performed during the 6 month periodic surveillance inspection. Such problems as missing or confusing warning labels, improper identification of homogeneous areas, incomplete lists of suspect materials, and inaccurate or unclear sample locations may be identified during the walk-through. Correction of problems identified should be started immediately.

The designated person should be aware that an adequate number of samples must be collected in order to determine whether an area is considered asbestos-containing (*See Table 5-1 above*). If an adequate number of samples was not collected, the area must be considered to be ACBM regardless of the results of the analyses. In such a situation, the management planner, who reviewed the inspection/reinspection report, may advise the LEA to either collect additional samples or may update the management plan to assume that the areas in question are ACBM.

Chapter 5 Summary
Key Points About the AHERA Inspection

An AHERA inspection must be conducted by an **accredited inspector**.

The inspector must identify all **homogeneous areas** of material that are suspected to contain asbestos. Homogeneous areas contain asbestos that is uniform (alike) in color and texture.

All material suspected to be ACBM must be assumed to be ACBM unless the homogeneous area is **sampled**, and the analysis of the samples shows them to be non-asbestos. Adequate number of samples must be taken or the area will be considered to be ACBM regardless of the results of the analyses.

Once the inspector has identified all ACBM in a building, he or she must perform a **physical assessment** of all TSI and friable ACBM. This involves categorizing the material into one of seven Physical Assessment Classifications.

The results of an AHERA inspection and the assessment must be documented in an **inspection report**. This report will be used by the management planner to make written recommendations on appropriate response actions.

Chapter 5 Forms

On the following are blank forms, similar to those used by AHERA accredited inspectors.

Form 1 requires that the inspector enter information pertaining to homogeneous areas of *suspected and known ACBM* in a school building. Using the inspection report, the inspector will: 1) list all of the homogeneous areas in the school buildings, 2) enter the number of linear or square feet for each area, 3) indicate whether the material is friable or non-friable, 4) enter the type of ACBM that is present, and 5) indicate whether the ACBM is assumed to be ACBM.

Form 2 requires that the inspector enter information in order to relate each homogeneous area to a functional space. Using the inspection report, the information entered on Form 1, and the building's floor plan, the inspector will 1) link the homogeneous areas to a functional space, 2) assign a number to each homogeneous area, 3) assign a letter to each functional space, and 4) create a key for the numbers and letters that are used.

Form 3 is representative of a bulk sampling log that should be in the inspection report.

Form 4 may be used to gather the information needed to show why a certain category was assigned to ACBM.

Example Form 1

Inspection Report: List of Homogeneous Areas						
Project Name: _____ Address: _____ _____ _____						
Area #	Area Description	Linear or Sq. Ft.	L S	Friable Y/N	Type S/T/M	ACBM Y/N

Example Form 3

Bulk Sample Log	
School:_____Date Sampled_____	
Homogeneous Area_____Sampler's Name_____	
Functional Space/Room:_____Accreditation No. _____	
Linear Feet:_____ Type of Suspect Material_____	
Square Feet:_____ Surfacing_____ TSI_____ Misc. _____ Friable _____ Non-friable _____	
Manner of Sampling:_____	
AREA DESCRIPTION:_____	
Number	Location

Example Form 4

Individual Assessment Form			
AREA #: _____ AHERA CATEGORY #: _____ DESCRIPTION: _____ _____ _____			
1. Location & Amount _____ _____ _____			
2. Condition, Type of Damage: _____ _____ _____			
Severity of Damage: _____ _____			
Extent/Spread of Damage: _____ _____			
3. Accessibility: _____ _____ _____			
4. Potential for Disturbance: _____ _____ _____			
5. Causes of Damage: _____ _____ _____			
6. Preventive Measures: _____ _____ _____			
TYPE NAME:		SIGNATURE:	
ACCREDITATION	STATE:	ACCREDITATION:	DATE ISSUED:
AGENCY:			

Inspection Report Compliance Checklist

This checklist is designed to enable you to determine if the inspection report is complete and contains each and every element required by law.

GENERAL:

- ___ 1. The date of the inspection
- ___ 2. The signature of each accredited person making the inspection
- ___ 3. The State of accreditation of each accredited person making the inspection
- ___ 4. If applicable, the accreditation number of each accredited person making the inspection

INVENTORY OF LOCATIONS:

- ___ 5. An inventory of the locations of the homogeneous areas where samples were collected
- ___ 6. The exact location where each bulk sample was collected
- ___ 7. The date(s) that each sample was collected
- ___ 8. The homogeneous areas where friable suspected ACBM is assumed to be ACBM
- ___ 9. The homogeneous areas where nonfriable suspected ACBM is assumed to be ACBM

SAMPLING:

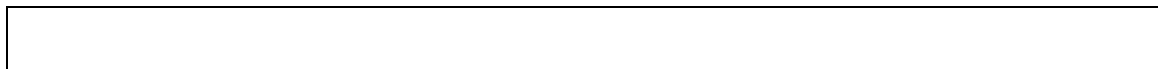
- ___ 10. A description of the manner used to determine sampling locations
- ___ 11. The name and signature of each accredited inspector who collected the samples
- ___ 12. The State of accreditation of each accredited inspector who collected the samples
- ___ 13. If applicable, the accreditation number of each accredited inspector who collected the samples

MATERIALS IDENTIFIED IN HOMOGENEOUS AREAS:

- ___ 14. A list of whether the homogeneous areas identified are surfacing material, thermal system insulation, or miscellaneous material

ASSESSMENTS:

- ___ 15. Assessments made of friable material
- ___ 16. The name and signature of each accredited inspector who made the assessment
- ___ 17. The State of accreditation of each accredited inspector who made the assessment
- ___ 18. If applicable, the accreditation number of each accredited inspector who made the assessment



6

THE MANAGEMENT PLAN

Introduction

Once the accredited inspector has identified the ACBM in the building(s) and has documented this information in the inspection report, an accredited management planner will use the report to identify and address hazards or potential hazards relating to the friable ACBM identified. The information from the inspection report will become part of the management plan. The management plan, which is a site-specific guidance document that the LEA designated person must follow in managing the ACBM present in each school building, must be prepared by an accredited management planner. A management plan must be updated to keep it current with ongoing operations and maintenance, periodic surveillance, inspection, reinspections and response action activities.

Table 6-1 identifies the elements required to be in the management plan under § 763.93 of the AHERA Rule. These requirements are discussed in greater detail in the remainder of this chapter.

Table 6-1

Contents of the Management Plan

General Information

- List of the names and addresses of all school buildings
- Whether the school building contains friable ACBM, nonfriable ACBM, assumed friable ACBM or assumed nonfriable ACBM

Designated Person Information

- Name, address, and telephone number of the LEA designated person
- Course name, dates, and hours of training taken by the designated person

Inspector Information

- Date of inspection or reinspection
- Name and signature of each accredited person making the inspection or reinspection
- State and accreditation number of each accredited person making the inspection or

reinspection (or copy of accreditation)

Information on Sampling/Assumed ACBM

- Blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACBM
- Exact location where each bulk sample was collected
- Date of collection of each bulk sample
- Homogeneous areas where friable suspected ACBM is assumed to be ACBM
- Homogeneous areas where nonfriable suspected ACBM is assumed to be ACBM
- Description of the manner used to determine sampling locations
- Name and signature of each accredited inspector collecting samples
- State of accreditation and accreditation number of each accredited inspector collecting samples (or copies of the accreditation certificates)

Analysis of Samples

- Copy of the analyses of any bulk samples collected and analyzed
- Name and address of any laboratory that analyzed bulk samples
- Statement that any laboratory used meets the accreditation requirements of § 763.87(a) of the AHERA Rule
- National Voluntary Laboratory Accreditation Program number (or certificate)
- Dates of any analyses performed
- Name and signature of the person performing each analysis

Physical Assessment Information

- Description of the assessments required by § 763.88 of the AHERA Rule of all friable ACBM and suspected ACBM assumed to be ACM.
- Name and signature of each accredited person making the assessments
- State of accreditation and accreditation number of each accredited person making the assessment (or copies of the accreditation certificates)

Response Action Information

- Recommendations made to the LEA by (an) accredited management planner(s) regarding response actions
- Name and signature of each person making the recommendations
- State of accreditation and accreditation number of each person making the recommendations (or copies of the accreditation certificates)
- Detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM
- Locations where such measures and actions will be taken
- Reasons for selecting the response action or preventive measure
- Schedule for beginning and completing each preventive measure and response action

CHAPTER 6
The Management Plan

Information on ACBM Remaining after Response Actions

- A blueprint, diagram, or written description of any ACBM or suspected ACBM assumed to be ACBM that remains in the school once response actions are undertaken. This should be updated as soon as response actions are completed,

Information on Future Activities

- A plan for reinspection under § 763.85 of the AHERA Rule
- A plan for operations and maintenance (O&M) activities under § 763.91 of the AHERA Rule
- A plan for periodic surveillance under § 763.92 of the AHERA Rule
- Description of the management planner recommendations regarding additional cleaning under § 763.91(c)(2) of the AHERA Rule as part of an O&M program
- The response of the LEA to any recommendation for additional cleaning

Information on Required Notifications

- Copies of the notifications and description of steps taken to inform workers and building occupants (and their guardians) about inspections, reinspections, response actions, and post-response actions, including periodic surveillance, and the location and availability of the management plan on an annual basis

Periodic Surveillance Inspection Reports

Cost Estimate

- Evaluation of the resources needed to complete response actions and carry out reinspection, O&M activities, periodic surveillance and training

Consultant Information

- Name of each consultant who contributed to the management plan and accreditation certificates

Optional Information

- The LEA may require each management plan to contain a statement signed by an accredited management plan developer that such person has prepared or assisted in the preparation of such plan, or has reviewed such plan, and that such plan is in compliance with AHERA. The statement should not be signed by a person who, in addition to preparing or assisting in preparing the management plan, also implements (or will implement) the management plan.

(See the Management Plan Compliance Checklist at the end of this chapter.)

The Laboratory Report

AHERA requires that laboratories that perform the bulk material sampling analysis and final clearance air sample analysis using Transmission Electron Microscopy (TEM) be accredited. The National Institute of Standards and Technology (NIST) has developed an accreditation program for laboratories, known as the National Voluntary Laboratory Accreditation Program (NVLAP). This program replaces the older EPA interim laboratory proficiency program; after October 30, 1989, all laboratories accredited under the EPA

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The Management Plan

interim laboratory proficiency program were required to become NIST accredited. Laboratories performing analyses under AHERA must maintain appropriate NVLAP certification. If analyses of either bulk material samples collected during the inspection process or final clearance air samples collected after a response action and analyzed using Transmission Electron Microscopy (TEM) are performed by a laboratory without current NVLAP credentials, the analyses may not be used for AHERA compliance purposes.

Under § 763.87 of the AHERA Rule, a laboratory performing a bulk sample analysis must submit the following documentation for inclusion into the management plan:

- The name and address of each laboratory performing an analysis.
- The date of the analysis.
- The name and signature of the person performing the analysis. The name and signature requirements apply to the microscopist(s) who actually performed each analysis; it is recommended that the laboratory manager also sign the reports.
- Proof that the laboratory has received NVLAP accreditation. This proof should consist of a copy of the laboratory's NVLAP certificate, not just a statement that the laboratory is accredited. For laboratory reports prepared before the NVLAP program was started, proof of the laboratory's EPA interim accreditation is acceptable but should include the laboratory's EPA laboratory accreditation number.

Response Actions

In the management plan, the accredited management planner must recommend an appropriate response action (operations and maintenance, repair, encapsulation, enclosure, or removal) for all areas of thermal system insulation (TSI) and friable ACBM. The final decision on which action should be taken, however, rests with the LEA. Under AHERA, the response action to be taken must be "sufficient to protect human health and the environment." Once it is determined which response actions meet these criteria, the LEA may choose the action that is the "least burdensome."

AHERA identifies five possible response actions for managing asbestos in schools:

- **Operations and Maintenance (O&M) Program** -- This is a program of work practices designed to maintain friable ACBM in good condition and ensure cleanup of asbestos fibers previously released. An effective O & M program can prevent further release by minimizing and controlling friable ACBM disturbance or damage. (*See Chapter 8 for a complete description of the O&M Program.*)
- **Repair** -- This involves returning damaged ACBM to an undamaged condition or to an intact state by replacing limited sections or patching damaged areas.

- **Encapsulation** -- This involves the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers. The encapsulant either creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant). Both types of encapsulants are applied to the material surface using airless spray equipment at low pressure to reduce release of fibers during the application.

- **Enclosure** -- This involves creating an airtight, impermeable, permanent barrier around ACBM to prevent the release of asbestos fibers into the air. The barrier is typically attached physically or sprayed on. For example, materials such as PVC or corrugated metal may be fastened around insulated piping, or a barrier may be constructed around asbestos fireproofing on structural members by spraying material that cures into a hard shell.

- **Removal** -- This involves the taking out or the stripping of substantially all ACBM from a damaged area, a functional space, or a homogeneous area in a school building.

Selecting the Appropriate Response Action

The LEA is required to implement an O&M program whenever any friable ACBM is present or assumed to be present in a building. An O&M program is not appropriate as an initial response action for any damaged or significantly damaged material, however. The flow charts on Figure 6-1 on the following page illustrate when each response action is appropriate.

Project Design

All persons who design response actions for schools or public and commercial buildings (including removal, encapsulation, enclosure, or repair -- other than small scale, short duration repairs) must be accredited as a project designer. A response action is defined by AHERA as a method that protects human health and the environment from friable ACBM. Activities which create a high probability that ACBM will be damaged or weakened to such an extent that it would be rendered friable are also considered response actions.

Although a written design is not mandated, EPA cannot recommend them strongly enough. To undertake a response action without the benefit of a written design plan to guide the work in progress is not only highly imprudent, but may unnecessarily expose the public to an asbestos fiber release and/or the building owner to certain liabilities. A written project design must be prepared by an accredited project designer. An accredited project designer is one who has received accreditation under AHERA by completing a prescribed training course for project designers and passing an exam (*See Chapter 9 for further information*

on accreditation).

Final Air Clearance After Response Actions

Final clearance of a functional space after a response action to remove, encapsulate, or enclose ACBM or material assumed to be ACBM involves two steps: visual inspection and the collection and analysis of air samples.

Visual Inspection

A visual inspection involves visually examining the asbestos removal area for evidence that the abatement has been successfully completed, including thorough clean-up. Visual inspections are also an important means of determining acceptable completion of small-scale, short-duration O&M or repair operations.

To avoid a potential conflict of interest, it is highly recommended that the visual inspection be performed by an inspector not affiliated with the abatement contractor or anyone else financially associated with the conducting of the asbestos response action.

The inspection should be conducted as rigorously as possible, with all spaces and surfaces where the abatement was conducted being extensively examined for residual ACBM debris. The inspection may involve:

- Scrutinizing every corner and crevice of the area within the containment barriers used to isolate the functional space for the response action
- Using a ladder to inspect hard-to-physically-reach areas
- Brushing or wiping surfaces to detect dust
- Using a flashlight beam to detect loose debris or airborne residue
- Using a damp cloth to detect dust
- Inspecting permanent fixtures in the area, such as ceiling tile grid bars, pipes, ducts, etc.
- Inspecting for asbestos-laden water, which may have leaked from the enclosure onto floor surfaces beneath the abatement area

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The Management Plan

- Examining surfaces for water and/or debris markings
- Checking crawl spaces on hands and knees; dirt floors may contain pulverized or impacted asbestos debris

The aim of the visual inspection is to ensure that:

- Seals on windows, doors, and vents remain in place during final air monitoring
- Isolation barriers separating the abatement area from non-abatement areas are in place
- No evidence of residue, debris, or dust is present in the abatement area

The presence of any visible residue on surfaces within the abatement area indicates a need for additional cleaning of the surfaces. If an area passes visual inspection but then fails to meet air sampling and analysis requirements after that inspection, the site must be recleaned and an additional visual inspection be conducted to detect any material that may have been uncovered or released during recleaning. Only after visual inspection clearance has been completed may final air sampling be done.

The results of the visual inspection should always be documented and signed by the person conducting the visual inspection.

Final Air Sampling and Analysis

Section 763.90 of the AHERA Rule requires that the LEA accomplish final air sampling and analysis of all removal, encapsulation, or enclosure projects by using the transmission electron microscopy (TEM) method, unless the project involves no more than 160 square feet or 260 linear feet of ACBM, in which case phase contrast microscopy (PCM) may be used. Note that no final air clearance is required for small-scale, short-duration O&M projects. (*See Appendix B of the AHERA Rule for information on the types of projects that qualify as small-scale, short-duration.*)

Sampling operations for airborne asbestos following an asbestos abatement action must be performed by qualified individuals completely independent of the abatement contractor to avoid possible conflict of interest. EPA recommends that the LEA obtain professional assistance to perform the sampling and analysis.

- The TEM Method

The TEM Method involves the collection of at 13 samples (five samples inside the functional space; five samples representative of air entering the abatement site; and three quality control "blank" samples). The air samples must be collected using "aggressive" methods or artificially disturbing the air in the functional space before and during sampling, as described in Appendix A, Section III(B)(7)(d) of the AHERA Rule. In most cases, only the 5 samples collected inside the functional space will be analyzed. If the average result of

the five samples collected inside the functional space is less than 70 structures per square millimeter (70 s/mm^2), the response action is considered complete.

If the Z-test calculation is used, all 13 samples will be needed. The response action may be considered complete when the average concentration of asbestos of the five air samples collected within the affected functional space and analyzed by the TEM method is not statistically significantly different from the average asbestos concentration of the five air samples collected outside the affected functional space and analyzed in the same manner, and the average asbestos concentration of the three quality control samples is below 70 s/mm^2 . If the average of the three quality control samples exceeds 70 s/mm^2 , the test is voided and resampling must be done. If the difference in average asbestos concentration between the indoor and outdoor samples is statistically significant, the contractor must reclean the functional space and resampling must be done -- usually at the contractor's expense.

- The PCM Method

The PCM method may only be used on functional spaces affecting ACBM up to 160 square feet or 260 linear feet or less. In all areas affecting larger amounts of ACBM, the TEM method must be used.

The PCM method involves collecting at least five samples inside the work area by aggressive methods as described in Appendix A, Section III (B)(7)(d) of the AHERA Rule and having them analyzed on a PCM microscope. Unlike the TEM method, the PCM method does not call for the samples to be averaged; each sample stands on its own. The clearance standard for PCM is 0.01 fibers per cubic centimeter of air (0.01 f/cc). If all five samples pass this standard, the response action is considered complete. If even one sample fails to pass the standard, the contractor must reclean the area and resampling must be done.

(See the Final Air Clearance Documentation Checklist at the end of this chapter; see Chapter 10 for a further discussion on documenting final air clearances.)

Implementation of the Management Plan

The LEA designated person is responsible for ensuring that the management plan is implemented and updated in a timely manner. Table 6-2 below identifies some of the activities and time requirements that must be met to achieve compliance with the AHERA Rule. If the designated person determines that an element has not been implemented as required, it must be implemented as soon as possible to limit exposure and possible enforcement actions against the school.

Table 6-2

Implementation Requirements for Operations Associated with the Management Plan	
Requests	Deadline
The Management Plan	The plan must be kept current with ongoing O & M, periodic surveillance, inspection, reinspection, and response action activities, including updating the locations of ACBM after response actions and O & M activities.
O&M Program	Must begin immediately upon the identification of any friable ACBM present or assumed to be present in the building.
O&M Training	In order to work in a building that may contain asbestos, custodial workers and maintenance staff members must have completed the 2-hour training class described in § 763.92(a)(1) within 60 days of employment. Workers must have completed the 14-hour training requirement described in § 763.92(a)(2) to conduct O&M activities which may disturb ACBM.
Periodic Surveillance	Under § 763.92(b)(1) of the AHERA Rule, periodic surveillance must be conducted at least once every 6 months after a management plan is in effect.
Warning Labels	Must be posted as soon as possible after identification of ACBM in any routine maintenance area.
(cont.)	

Implementation Requirements for Operations	
Associated with the Management Plan (cont.)	
Requests	Deadline
Management Plan Availability for Public Review	The plan must have been made available for public review in the administrative office of the LEA on the date on which it was submitted to the Governor for review. Notification of the plan availability must be made annually.
Isolate a Functional Space with Significantly Damaged Friable Surfacing ACBM	Must be isolated immediately and access restricted if such measures are needed to protect human health and the environment.
Repair and Maintain Damaged or Significantly Damaged TSI	Must begin as soon as a management planner and LEA determine that these conditions exist.

Common Management Plan Problems and Deficiencies

EPA has found two common problems in management plans:

- Although management plans were generally complete, in many instances the location of homogeneous materials was not described clearly, and the material classification (TSI, surfacing material, or miscellaneous) was often incorrect.
- Many management plans were not "user-friendly" and required specialized instruction to understand. Because the management plan is the basis for all asbestos work done in the school and is a guide for anyone who could disturb ACBM during maintenance or custodial work, EPA recommends that the LEA review the management plan for clarity and usability. In doing so, the LEA should ensure that the response actions described in the plan are specific to the site and to the ACBM involved, and that the implementation schedule is clear.

Management plans also often omit the description of final air sample clearance locations. The designated person should check the management plan to see that all clearance criteria were met and documented. Because of the complexity of the sampling requirements, it is recommended that a professional consultant/air monitoring firm be retained to assist in this activity.

FREQUENT PROBLEMS WITH MANAGEMENT PLANS

The Asbestos Management Plans (Plan) should be considered "living" document. *Some Plans are left exactly the same as they were when they were created, with no updates whatsoever.* This is particularly true with respect to required records of periodic surveillances, annual notifications, response actions or fiber releases, and for records of the two-hour and sixteen-hour training for school employees and maintenance workers. In fact, the *administrative staff at individual schools are sometimes unaware of the existence of management plans and/or do not know where the school's copy of the plan is kept.*

Copies of all pertinent certification credentials for AHERA inspectors, management planners, project designers, workers and supervisors who have participated in any response actions are required to be in the management plan, but *are not always included.* Also *proper documentation of air samplers' and laboratories' accreditations are sometimes missing* from Plans.

Homogeneous areas are often not clearly (and frequently are not properly) defined on the basis of color, texture, size. Plaster and sheetrock are probably the most often overlooked materials which are likely to comprise major areas of suspected asbestos-containing building materials (ACBM). *Sampling locations within the individual homogenous areas are often not described precisely* enough to provide for any relocation of individual original sampling sites with any degree of certainty.

Frequently *insufficient numbers of samples are collected from individual homogeneous areas* (the correct minimum number being dependent upon the type of building material and the homogeneous area size), and the sites for the sampling which was done may have been selected in a manner other than as is set forth in the management plan for how sampling locations were to have been determined. Also, where *warning signs* are required, they may be *missing*, or if present, they may not employ the prescribed text.

Sometimes *functional areas are not taken into consideration in the preparation of assessment and response actions recommendations.* Also recommended response actions may not have been carried out according to schedules shown in the management plans and explanations or changes in the schedules may be absent.

Portable buildings on school grounds are sometimes overlooked in management plans, or these units may have been moved onto or off of a school's grounds without the school's management plan having been updated.

Chapter 6 Summary
Key Points About the Management Plan

The management plan is a **site-specific guidance document** that the LEA designated person must follow in managing the ACBM present in a school building.

The management plan must be prepared by an **accredited management planner** and must be updated in a timely manner.

The management plan must include the documentation required under § 763.87 of the AHERA Rule for each laboratory performing a bulk sample analysis and the results of each analysis.

In the management plan, the management planner must recommend an **appropriate response action** (operations and maintenance, repair, encapsulation, enclosure, or removal) for all areas of TSI and friable ACBM (including ACBM which has the potential of becoming friable).

All of the initial response actions implemented to control friable asbestos require a **project design** specifying how to conduct the abatement project.

Final air clearance of a functional space after a response action to remove, encapsulate, or enclose ACBM involves a **visual inspection** and the collection and analysis of **air samples**.

Final air sampling must be done using the transmission electron microscopy (TEM) method, unless the project involves no more than 160 square feet or 260 linear feet, in which case phase contrast microscopy (PCM) may be used.

The LEA designated person is responsible for ensuring that the activities related to the management plan are implemented and that the management plan is updated in a timely manner.

CHAPTER 6

The Management Plan

Table 6-4: Management Plan Compliance Checklist

This checklist is designed to enable you to determine if a management plan contains each and every element required by law. This checklist is for management plans created for inspections completed on or after December 14, 1987. Unless otherwise noted, all statutory references are to the AHERA Rule.

GENERAL INFORMATION

- 1. List of the name and address of each school building
- 2. Whether the school building contains friable ACBM, nonfriable ACBM, and friable and nonfriable ACBM assumed to be ACBM

DESIGNATED PERSON INFORMATION

- 3. The name, address, and telephone number of the designated person
- 4. The course name, dates, and hours of training taken by the designated person to carry out his or her duties
- 5. Signed statement by the AHERA designated person that the LEA responsibilities under AHERA Rule has been or will be met

INSPECTOR INFORMATION

- 6. The date of inspection or reinspection
- 7. The name and signature of each accredited person making the inspection or reinspection
- 8. The State, accreditation number, and name of training provider for each accredited inspector making the inspection or reinspection (copy of certificate is ideal)

SAMPLING INFORMATION

- 9. A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACM
- 10. The exact location where each bulk sample was collected
- 11. The date of collection of each bulk sample
- 12. The homogeneous areas where friable suspected ACBM is assumed to be ACBM
- 13. The homogeneous areas where nonfriable suspected ACBM is assumed to be ACBM
- 14. A description of how sampling locations were determined
- 15. The name and signature of each accredited inspector who collected the samples
- 16. State, accreditation number and name of training provider of each accredited inspector who collected the samples (copy of accreditation certificate is ideal)

Management Plan Compliance Checklist (cont.)

ANALYSIS OF SAMPLES

- ___ 17. A copy of the analyses of any bulk samples collected and analyzed
- ___ 18. The name and address of any laboratory that analyzed bulk samples
- ___ 19. A statement that any laboratory used meets the accreditation requirements of § 763.87(a) (copy of the accreditation is ideal)
- ___ 20. The dates of any analyses performed
- ___ 21. The name and signature of the person performing each analysis

PHYSICAL ASSESSMENT INFORMATION

- ___ 22. A description of the assessments required by § 763.88 of all friable ACBM and suspected ACBM assumed to be ACBM.
- ___ 23. The name and signature of each accredited person making the assessments
- ___ 24. The State, accreditation number and name of training provider for each person making the assessments (copy of certificate is ideal).

RESPONSE ACTION INFORMATION

- ___ 25. Recommendations made to the LEA regarding response actions
- ___ 26. The name and signature of each person making the recommendations
- ___ 27. The State, accreditation number, and name of training provider for each person making the recommendations (copy of certificate is ideal).
- ___ 28. A detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM
- ___ 29. The locations where such measures and actions will be taken
- ___ 30. The reasons for selecting the response action or preventive measure
- ___ 31. A schedule for beginning and completing each preventive measure and response action

INFORMATION ON ACBM REMAINING AFTER RESPONSE ACTIONS

- ___ 32. A blueprint, diagram, or written description, updated as response actions are completed, of any ACBM or suspected ACBM assumed to be ACBM that remains in the school once response actions are completed

INFORMATION ON OTHER ACTIVITIES

- ___ 33. A plan for reinspection and copies of the reports required under § 763.85

Management Plan Compliance Checklist (cont.)

- 34. A plan for operations and maintenance (O&M) activities under § 763.91
- 35. A plan for periodic surveillance and copies of the reports (see § 763.92)
- 36. A description of the management planner recommendations regarding additional cleaning under § 763.91(c)(2) as part of an O&M program and documentation of cleaning
- 37. A description of steps taken to inform workers and building occupants about inspections, reinspections, response actions, and post-response actions, including periodic surveillance
- 38. An evaluation of the resources needed to complete response actions and carry out reinspection, O&M activities, periodic surveillance and training
- 39. The name of each consultant who contributed to the management plan
- 40. With respect to each consultant who contributed to the management plan, a copy of the accreditation certificate (or name of training provider, State and accreditation number)
- 41. The response of the LEA to any recommendation for additional cleaning

Checklist of Final Air Clearance Documentation
<p>This checklist will indicate whether each final clearance was properly documented.</p> <ul style="list-style-type: none"><input type="checkbox"/> 1. The name and signature of any person collecting any air sample required to be collected at the completion of a response action<input type="checkbox"/> 2. The locations where those samples were collected<input type="checkbox"/> 3. The name and address of the laboratory, analyzing the samples<input type="checkbox"/> 4. The date(s) of analysis<input type="checkbox"/> 5. The results of analysis<input type="checkbox"/> 6. The method of analysis<input type="checkbox"/> 7. The name and signature of the person performing the analysis<input type="checkbox"/> 8. Evidence that the laboratory is NVLAP accredited

7

REINSPECTIONS AND PERIODIC SURVEILLANCE

Introduction

Every three years after implementation of a management plan, an accredited inspector must conduct a reinspection of all friable and nonfriable known or assumed ACBM in every school building in order to determine if there has been any change in the condition of the ACBM. An accredited management planner must then review the reinspection report to identify any new hazard potential and revise the management plan to address newly identified hazards. Based on the updated data, new response actions to address these hazards must be selected, and these actions must be carried out in a timely manner.

The reinspection process presents an ideal time for an accredited inspector and management planner to address any problems found in the initial inspection report and management plan. EPA's document *A Guide to Performing Reinspections Under the Asbestos Hazard Emergency Response Act (AHERA)* (March 1992) is useful in planning and assessing the reinspection requirements.

Inspector Responsibilities

Under § 763.85(b) of the AHERA Rule, in conducting a reinspection, the inspector must:

- Visually reinspect and reassess the condition of all friable known or assumed ACBM.
- Visually inspect material that was previously considered nonfriable and touch the material to determine whether it has become friable since the last inspection or reinspection.
- Identify any homogeneous areas in which material has become friable since the last inspection or reinspection.
- Bulk samples may be collected and submitted for analysis for any homogeneous area of newly friable material that is already assumed to be ACBM.
- Perform a physical assessment, in accordance with § 763.88 of the AHERA Rule, of the condition of the newly friable material in areas where samples are collected and of newly friable materials in areas assumed to be ACBM.
- Reassess the condition of friable known or assumed ACBM previously identified.

CHAPTER 7

Reinspections and Periodic Surveillance

- Record and submit the following information for inclusion in the management plan to the LEA designated person within 30 days of the reinspection:
 - Date of the reinspection
 - Name and signature of the person conducting the reinspection
 - State, accreditation number, and training provider name for any person conducting the reinspection (copy of certificate is ideal)
 - Exact locations where samples were collected during the reinspection
 - Description of the manner used to determine sampling locations
 - Name and signature of each accredited inspector who collected the samples
 - State, accreditation number, and training provider name for each inspector who collected the samples (copy of certificate is ideal)
 - Any assessments or reassessments made of friable material
 - Name and signature of the accredited inspector making the assessments
 - State, accreditation number and training provider name for each inspector making the assessments (copy of certificate is ideal)

Management Planner Responsibilities

Once a reinspection is completed, the management planner must:

- Review the results of the reinspection. This includes reviewing the original inspection report, periodic surveillance records, and the completed reinspection forms and report. The management planner should conduct school visits and gather other information so that he or she can make effective response action recommendations.
- Make written response action and preventive measure recommendations for each area of friable surfacing and miscellaneous ACBM and each area of TSI ACBM. The management planner should determine whether additional cleaning is necessary and, if so, specify how, when, and where to perform cleaning. The management planner should also include an implementation schedule for the recommended activities and make an estimate regarding the resources (cost, personnel, equipment, etc.) needed to conduct the activities.
- Review the adequacy of the Operations & Maintenance Program.
- The recommendations should include a record of the name, signature, State, accreditation number and training provider name for the management planner (copy of certificate is ideal) and the date on which the management planner submitted the recommendations.

For further information on reinspection requirements, review *A Guide to Performing Reinspections Under the Asbestos Hazard Emergency Response Act (AHERA)* (March 1992).

Periodic Surveillance

At least once every six months after a management plan is in effect, the LEA must conduct periodic surveillance in each building that contains ACBM or is assumed to contain ACBM. The surveillance does not have to be conducted by an accredited person, but it should be conducted either by the LEA designated person (if he or she is trained) or by someone who is appropriately trained on asbestos (such as a maintenance person).

Periodic surveillance involves a visual inspection of all areas that are identified in the management plan as ACBM or assumed ACBM. In evaluating each homogeneous area, the person conducting the surveillance must visually inspect all areas identified in the management plan as ACBM or suspected ACBM and record whether there are any changes in the condition of the material (including if there are no changes). The date of the surveillance, the name of the person conducting the surveillance, and any change in condition of the ACBM or assumed ACBM must be documented and included in the management plan within a reasonable amount of time, such as 30 days from the periodic surveillance.

Chapter 7 Summary
Key Points About Reinspections and Periodic Surveillance

As long as any ACBM remains in a school building, the building must be **reinspected** at least once every three years.

The reinspection and assessments/reassessments must be conducted by an **accredited inspector**. The results of the inspection must be submitted to the Designated Person within 30 days to include into the management plan.

The **management planner** must: 1) review the results of the reinspection, 2) make written response action and preventive measure recommendations for each area of friable surfacing and miscellaneous ACBM and each area of TSI ACBM, 3) determine whether additional cleaning is necessary and, if so, specify how, when, and where to perform cleaning, 4) include an implementation schedule for the recommended activities and make an estimate regarding the resources needed to conduct the activities, and 5) review the adequacy of the Operations & Maintenance Program.

At least once every six months after a management plan is in effect, the LEA must conduct **periodic surveillance** in each building that contains ACBM or is assumed to contain ACBM.

8

THE OPERATIONS AND MAINTENANCE PROGRAM

Introduction

As discussed in Chapter 6, the management planner is responsible for recommending appropriate response actions for managing ACBM found in a school building. An operations and maintenance (O&M) program must be implemented whenever any asbestos-containing building materials are found in a the school building. The purpose of the O&M program is to prevent the release of asbestos fibers through careful management of asbestos-containing building materials.

Managing Asbestos in Place, A Building Owner's Guide to Operations and Maintenance Programs for ACM (the "Green Book") offers important information on how to implement an O&M program effectively.

Objectives of the O&M Program

An O&M program consists of a set of procedures and practices for operating and maintaining a building to keep it as free of asbestos contamination as possible. The program should be designed specifically to address the ACBM present in the building involved.

An O&M program has three main objectives:

- Clean up existing contamination.
- Minimize future fiber release by controlling access to ACBM and instituting proper work practices.
- Properly maintain the ACBM until it is removed.

Since National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (*See Chapter 11 for a discussion of NESHAP*) require that friable and nonfriable ACBM which is likely to become friable be removed from buildings before demolition, the O&M program is not a permanent solution. In addition, the asbestos NESHAP may regulate the removal of asbestos as part of a renovation. It is also not a means by which full-scale

asbestos abatement can be accomplished. The intentional disturbance of ACBM should be limited to the repair or removal of small areas of significantly damaged ACBM or to small areas where removal is necessary to make maintenance or minor renovation activities easier. Some small scale, short duration activities may be subject to asbestos NESHAP requirements if enough ACBM will be disturbed during a calendar year. Larger abatement projects that require extensive planning and technical expertise may not be part of the AHERA O&M program. Limited encapsulation and enclosure could be used to enhance an O&M program by reducing the likelihood of contact with the ACBM, however.

Required Elements of An O&M Program

Under § 763.91 of the AHERA Rule, the LEA must ensure that the O&M program involve the following elements:

- Cleaning
- Specialized work practices and procedures for O&M activities disturbing friable ACBM
- Training
- Emergency Response Procedures

Cleaning

All areas of a building where friable ACBM and suspected ACBM, or significantly damaged TSI ACBM is present must be cleaned at least once after the completion of the AHERA inspection. It must also be cleaned before the initiation of any response action (other than O&M activities or repair). The exception would be where the building had been cleaned using similar methods within the previous six months. The cleaning must include the following:

- HEPA-vacuuming or steam-cleaning all carpets
- HEPA-vacuuming or wet-cleaning all other floors and all other horizontal surfaces
- Disposing of all debris, filters, mopheads, and cloths in sealed, leak-tight containers

The management planner may also recommend that additional cleaning be performed. The methods and frequency of any additional recommended cleaning should be included in the management plan.

Specialized Work Practices and Procedures

The LEA must ensure that the following procedures are followed for any O&M activities disturbing friable ACBM:

- Restrict entry into the area by persons other than those necessary to perform the

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maintenance project.

- Post signs to prevent entry by unauthorized persons.
- Shut off or temporarily modify the air-handling system and restrict other sources of air movement.
- Use work practices or other controls, such as wet methods, protective clothing, HEPA vacuums, mini-enclosures, and glove bags, as necessary to inhibit the spread of any released fibers.
- Clean all fixtures or other components in the immediate work area.
- Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

Training

Within 60 days of hire, maintenance and custodial staff who may work in a building that contains ACMF must receive at least two hours of asbestos awareness training. Those members of the maintenance and custodial staff who conduct any activity that will disturb ACMF must receive an additional 14 hours of training. Other state and local training requirements may apply. (*See Chapter 9 for further information on training requirements.*)

Emergency Response Procedures

As long as ACMF remains in a building, there is a risk of a fiber release episode. Custodial and maintenance workers should be aware of this and should always report any of the following occurrences to the LEA designated person:

- Any debris found on the floor or other horizontal surface
- Any water or physical damage to the ACMF
- Any other evidence of possible fiber release

There are two types of fiber release episodes: minor episodes and major episodes. The specific procedures that must be followed depend on which type of episode occurs.

Minor Fiber Release Episode

A minor fiber release episode consists of the falling or dislodging of three square or linear feet or less of friable ACMF. Section 763.91(f)(1) of the AHERA Rule requires that when such an event occurs, the LEA must ensure that:

- The debris is thoroughly saturated using wet methods
- The area is cleaned
- The asbestos debris is placed in a sealed, leak-tight container

- The area of damaged ACBM is repaired with such materials as asbestos-free spackling, plaster, cement, or insulation; sealed with latex paint or an encapsulant; or an appropriate response action is implemented as required by § 763.90 of the AHERA Rule

When a minor fiber release episode occurs, AHERA allows the designated person to assign an appropriately trained O&M in-house team to clean up the debris and make repairs as soon as possible. (*See Chapter 9 on training requirements.*) Note, however, that local regulations may be more stringent than the AHERA requirements.

Major Fiber Release Episode

A major fiber release episode consists of the falling or dislodging of more than three square or linear feet of friable ACBM. Section 763.91(f)(2) of the AHERA Rule requires that when such an episode occurs, the LEA must ensure that:

- Entry into the area is restricted and signs posted to prevent entry into the area by persons other than those necessary to perform the response action.
- The air-handling system is shut off or temporarily modified to prevent the distribution of fibers to other areas in the building.
- The response action for any major fiber release episode is designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.

After a response action is implemented to manage a major fiber release episode, the final air clearance requirements of AHERA must be met before the response action is considered complete. (*See Chapter 6 on the final air clearance requirements.*)

Major and minor fiber-release episodes must be documented and included in the management plan regardless of whether the LEA uses in-house staff or an outside asbestos abatement contractor to implement an appropriate response action. If an outside contractor is used, be sure that the contractor's crew has been properly trained or certified before signing a contract.

(*See the Fiber Release Episode Report at the end of this chapter.*)

Other Elements of an O&M Program

In addition to the elements required by § 763.91 of the AHERA Rule, other elements are either recommended or required by the rule or related regulations. These include:

- Notification
- Labeling
- Employee Protection and Medical Surveillance
- Maintenance and Renovation Permit System
- Special Work Practices for Maintenance Activities

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The Operations & Maintenance Program

- Special Work Practices for Renovation/Remodeling

Notification

Once ACBM is identified or assumed to be present in a building, the LEA must provide an annual *written* notification to building occupants, employees, and parents on the locations of asbestos-containing building materials in the school buildings, the availability of the asbestos management plan, and recent and upcoming asbestos activities, such as abatement projects, reinspections, etc. Other types of information to include in the notification are: what asbestos is and how it is typically used; the health effects associated with asbestos exposure; the type(s) of ACBM present in the building; the location(s) of these materials; how individuals can avoid disturbing the ACBM; how damage is recognized and to whom it should be reported; how custodial and maintenance personnel are dealing with these materials to prevent fiber release; the asbestos-related training for custodial and maintenance personnel; the steps that will be taken to protect the health and safety of building occupants; and the name and telephone number of the LEA designated person responsible for asbestos-related activities in the building.

Such a notification alerts affected parties to a potential hazard in the building. Building occupants, employees, and others who are aware of the presence of ACBM are less likely to disturb the material and cause fiber release.

Notification of building occupants, employees, parents and others is best accomplished through distributing written notices, which may be tailored to specific parties. A common practice is to publish the notification in the school's newsletter, which is distributed to school employees and parents. The designated person must document the notification process and maintain records of all notifications made.

Labeling

Under § 763.95 of the AHERA Rule, the LEA must attach a warning label immediately adjacent to any friable and nonfriable ACBM and suspected ACBM that is located in routine maintenance areas (such as boiler rooms) at each school building. Such material includes friable ACBM that was responded to by a means other than removal (e.g., encapsulation) and ACBM for which no response action was carried out.

The labels must be prominently displayed in readily visible locations, must be in print that is readily visible due to its large size or bright color, and must remain posted until the ACBM that is labeled is removed. The warning label must read:

**CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB
WITHOUT PROPER TRAINING AND EQUIPMENT.**

Unlike notification, labeling is not intended as a way to disseminate general information. Instead, it is a last line of defense to prevent unprotected individuals from unknowingly

disturbing ACBM.

Employee Protection & Medical Surveillance Programs

The OSHA Asbestos Standard for the Construction Industry and the EPA Worker Protection Rule explain when employees are required to wear a negative-pressure respirator and must be involved in a medical surveillance program (see also OSHA Asbestos Standard for General Industry). The purpose of a medical surveillance program is to determine whether or not an employee is healthy enough to wear a respirator and to detect any health changes in an employee's body resulting from working in asbestos-contaminated areas. Changes in health may indicate the onset of an asbestos-related disease.

In addition, any employee who works in an environment where fiber levels are at the permissible exposure limit or higher or who wears a negative-pressure respirator as part of his or her job must participate in a respiratory protection program. The only way to determine whether these fiber levels exist is to collect air samples during projects that disturb ACBM. In an O&M program, the use of negative-pressure respirators will make it necessary for most custodial and maintenance workers to participate in both the medical surveillance program and the respiratory protection program. Even if fiber levels are below the permissible exposure limit described above, it is strongly suggested that an LEA establish these programs and require that employees wear respirators any time they are likely to disturb ACBM.

Maintenance & Renovation Permit System

One of the most difficult tasks that the LEA designated person faces is minimizing accidental disturbances of ACBM during maintenance and renovation operations. One way that a designated person can control such disturbances is by establishing a permit system where all work orders or requests are processed through the designated person.

In a permit system, all requests for maintenance or renovation activities are given to the designated person before a work order to proceed is issued. The designated person then checks the management plan for information about the presence of ACBM where work is to be performed and physically inspects the area in question to make sure that the records reflect actual conditions. If no asbestos is present, the designated person can sign and issue the work order. If ACBM is present, the designated person can sign the work order and then either ensure that trained maintenance or renovation workers are properly equipped to handle the ACBM or dispatch an "emergency response" team to remove the ACBM. In situations where there are large amounts of ACBM, maintenance or renovation work that does not have to be done immediately should be postponed until the ACBM in the area can be removed by an accredited contractor. The permit system should be in place for all facility maintenance work conducted by the LEA staff, outside contractors, and outside short-term workers.

When outside contractors or short-term workers are likely to come into contact with

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The Operations & Maintenance Program

ACBM in a school building, they must be notified of the locations of ACBM or suspected ACBM in the building. This notification should be documented. These workers should have documentation of appropriate training, should they disturb ACBM during their work. Note that State licensing requirements vary.

(See Example Form 5 at the end of this chapter for an example of a maintenance and renovation permit application.)

Special Work Practices for Maintenance Activities

In buildings where ACBM is present, routine maintenance activities, such as work on light fixtures, plumbing fixtures and pipes, air registers, HVAC ducts, and other accessible parts of a building's utility systems, can disturb ACBM and raise levels of airborne asbestos. As a result, maintenance workers should be instructed not to perform any maintenance work that could disturb ACBM unless they are appropriately trained and use specific work practices. These work practices should be tailored to reflect the likelihood that an activity will disturb the ACBM and cause fibers to be released. In determining which work practices should be followed, activities should be placed in one of four categories:

- **Contact with ACBM Unlikely** -- In some buildings with ACBM, many routine maintenance activities can be conducted without contacting the ACBM. Changing a light bulb in a fixture that has asbestos-containing acoustical plaster nearby can usually be performed without jarring the fixture, for example. *(Note that under the AHERA Rule, the top of the fixture should already have been wet-cleaned to remove settled fibers.)* In such situations where contact with ACBM is unlikely, the only precaution other than normal care generally necessary is to ensure that respirators and a HEPA vacuum are available if needed. These do not have to be taken to the site of the project; they should just be available at a known location in the building.

When maintenance is performed in parts of the building that are free of ACBM, no special precautions are usually necessary. An exception would be work in an area containing no ACBM that causes vibrations to be transferred to a location where ACBM is present.

- **Accidental Disturbance of ACBM Possible** -- Where routine maintenance and repair activities are conducted on fixtures or system parts that are located near friable ACBM, maintenance workers may unintentionally disturb the ACBM and release asbestos fibers. Maintenance work on ventilation ducts in an air-handling room where asbestos fireproofing is on the structural beams could accidentally disturb the fireproofing, for example.

For a discussion of the work practices needed where an accidental disturbance of ACBM is possible, see the Green Book.

- **Disturbance of ACBM Intended or Likely** -- Some maintenance and repair activities

will make ACBM disturbance almost unavoidable. Installing new sprinkler or piping systems will make it necessary to hang pipes from structural members or from the ceiling, and if the beams or ceilings are insulated with ACBM, the ACBM will be scraped away to install hangers. Similarly, pulling cables or wires through spaces with ACBM or ACBM debris is likely to dislodge pieces of the ACBM or disturb ACBM debris and dust. Any time ceiling tiles are moved to allow for entry into the space above a suspended ceiling, settled dust on top of the tiles will be recirculated into the air. If the beams or decking above the ceiling are covered with ACBM, the dust is likely to contain asbestos fibers.

A designated person should not allow such intentional disturbances of ACBM to proceed in an uncontrolled manner. The designated person should ensure that the elements required under § 763.91 of the AHERA Rule to be part of an O&M program are implemented effectively and that the regulatory requirements of the EPA Worker Protection Rule and the OSHA Asbestos Standard for the Construction Industry are followed.

- **A Large Amount of ACBM Will be Disturbed** -- If the maintenance work is part of general building renovation, federal regulations may require that ACBM be removed before the project begins. Even if smaller amounts of ACBM are to be disturbed, building owners should consider removing all ACBM from the area of the building where the maintenance work is planned. Typically, an outside abatement contractor would be hired for the removal project before the maintenance work begins. If the LEA decides to use its own staff to remove the ACBM, these workers must be fully trained and accredited in asbestos abatement. (*See Chapter 9 for information on the training and accreditation requirements for asbestos abatement.*)

Maintenance of Vinyl Asbestos Tile

(Revised from a "Guidelines for the Maintenance of Asbestos-Containing Floor Coverings" developed by Rhode Island Department of Health and the Environmental Protection Agency, New England)

Vinyl Asbestos Tile (VAT) is the most prevalent source of asbestos containing material in our schools and most likely will be for years to come. Although VAT is considered non-friable, the frictional forces exerted on these materials during routine floor-care maintenance operations can release asbestos fibers.

The principle types of floor covering maintenance performed routinely on resilient floor tiles include:

- 1) spray-buffing and dry burnishing; and
- 2) wet scrubbing and stripping followed by refinishing.

The following are guidelines on the maintenance of asbestos-containing floor coverings. When properly implemented, these guidelines should help you reduce the potential for the release of asbestos fibers into the air. You may want to keep a copy of these guidelines in the Operations and Maintenance section of your AHERA Management Plan.

CHAPTER 8

The Operations & Maintenance Program

Stripping of Vinyl Asbestos Floor Coverings

Training

Custodial and maintenance personnel who are responsible for the care and maintenance of asbestos containing floor coverings should be thoroughly trained to safely and properly operate the machines, pads and floor care chemicals used at the facility.

Frequency of Stripping

Stripping of vinyl asbestos floor coverings should be done as infrequently as possible (e.g., once per year maximum and preferably when the building is unoccupied). Excessive stripping of floors using aggressive techniques will result in increased levels of asbestos fibers in the air.

Prior to Stripping

Prior to machine operation, apply an emulsion of chemical stripper in water to the floor. Use a mop to soften the wax or finish coat.

Stripping Operations

When stripping floors becomes necessary, the machine used for stripping the finish should be equipped with the least abrasive pad as possible (black pads are usually the most abrasive and the white pad the least abrasive). Consult with your floor tile and floor finish product manufacturer for recommendations on which pad to use on a particular floor covering. Incorporate the manufacturer's recommendations into your floor maintenance work procedures.

The machine used to remove the wax or finish coat should be run at a low rate of speed (i.e., ranging between 175-300 rpm) during the stripping operation. There is a direct correlation between machine speeds and the release of asbestos fibers from asbestos containing floor coverings. The higher the machine speed the greater the probability of asbestos fiber release.

Never perform dry stripping. Always strip floors while wet. Do not operate a floor machine with an abrasive pad on unwaxed or unfinished floor containing-asbestos materials.

Consult with floor tile and floor finish product manufacturers concerning specific or unique problem(s) on the maintenance of your floors.

After Stripping

After stripping and before application of a high solids floor finish, the floor should be thoroughly cleaned, while wet, preferably with a Wet-Vac HEPA filtration vacuum system.

Finishing of Vinyl Asbestos Floor Coverings

Use of Sealer and Solids Finish

Prior to applying a finish coat to a vinyl asbestos floor covering, apply 2 to 3 coats of sealer. Continue to finish the floor with a high percentage solids finish.

It is an industry recommendation to apply several thin coats of a high percentage solid finish to obtain a good sealing of the floor's surface, thereby minimizing the release of asbestos fibers during finishing work.

Spray-Buffering Floors

When spray-buffering floors, always operate the floor machine at the lowest rates of speed possible and equip the floor machine with the least abrasive pad as possible. A recent EPA study indicated that spray-buffering with high-speed floor machines resulted in significantly higher airborne asbestos fiber concentrations than spray-buffering with low speed machines.

Burnishing Floors

When dry-burnishing floors, always operate the floor machine at the lowest rate of speed possible to accomplish the task (i.e., 1200-1750 rpms), and equip the floor machine with the least abrasive pad as possible.

Cleaning After Stripping & Sealing Floors

After stripping a floor and applying a new coat of sealer and finish, use a wet mop for routine cleaning whenever possible. When dry mopping, a petroleum-based mop treatment is not recommended for use.

Maintenance During Winter

During the winter months when sanding and/or salting of icy parking lots becomes necessary, it is an industry recommendation that matting be used at the entrance way to the school building and inside the doorway where feasible. This would significantly eliminate the scuffing of floors by abrasive sanding materials brought into the building on the shoes of building occupants. More frequent wet mopping and dry mopping of floors should be performed during the winter months to minimize damage to the floors.

The same recommendations holds true of schools located on coastal areas where building occupants could track sand into the schools.

Additional Precautions

Conditions of Glides

Check to see if chair and desk glides are in good condition and replace where indicated. Worn glides can gouge the floor coverings and possibly cause asbestos fiber release.

Parking Lot/Walkway Maintenance

During the winter months, have parking lots and walkways swept to avoid tracking salt and ice-melting compounds into the school by students. These materials can cause severe scuffing of floor coverings and lead to the release of asbestos fibers into the school

CHAPTER 8

The Operations & Maintenance Program

building(s).

Use of Mats

Where feasible, use mats at entrance ways to cafeterias, gymnasiums, libraries, etc., to protect against possible scuffing of floor covering(s), etc. from salt and ice-melting compounds and from ocean sand.

Special Work Practices for Renovation/Remodeling

Building renovation or building system replacement can cause major disturbances of ACBM that are beyond the scope of school O&M programs. Moving walls, adding wings, and replacing heating or air conditioning systems are likely to involve breaking, cutting, or otherwise disturbing ACBM that may be present. It is highly recommended that ACBM that may be disturbed be removed before any of these activities are begun. The LEA may be required to remove the ACBM if the amount of ACBM that is likely to be disturbed exceeds the threshold amounts of 160 square feet or 260 linear feet established by the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations. (*See Chapter 11 for further information on the Asbestos NESHAP regulations.*)

Although remodeling projects change the building structure less dramatically than renovation projects, disturbances of ACBM are still possible. When a remodeling project involves direct contact with ACBM (such as painting or wallpapering over ACBM), the O&M procedures described in § 763.91(d) of the AHERA Rule must be followed. If the work to be done will make the material friable, the work must either be limited to small-scale, short-duration or be treated as a response action.

Handling and Disposing of Asbestos Wastes

The amount and type of asbestos present both determine whether the LEA must notify EPA (or delegated states) and what procedures that the LEA must follow to control asbestos emissions. If the amount exceeds the regulatory threshold, then a written notification must be submitted ten working days prior to any asbestos stripping or removal operation or demolition operation. EPA regulations (along with state and local requirements) provide detailed instructions on the handling, transport, and disposal of asbestos materials. This includes emission control methods (such as wetting and leak proof wrapping), labels on the containers, recordkeeping and a trained representative on-site. Waste must be disposed of at a site meeting federal, state and local requirements. For a site in your area, contact the local public health department.

Chapter 8 Summary
Key Points About the Operations and Maintenance Program

An O&M program must be implemented whenever any **friable** ACBM is present or assumed to be present in a school building or whenever any nonfriable ACBM or assumed nonfriable ACBM is about to become friable as a result of activities performed in the school building.

Unless the building has been cleaned using similar methods in the previous 6 months, all areas of a building where friable ACBM, friable suspected ACBM assumed to be ACBM, or significantly damaged TSI ACBM is present must be **cleaned** using the methods described at § 763.91(c) of the AHERA Rule at least once after the completion of the AHERA inspection and before the initiation of any response action, other than O&M activities or repair.

Specialized work practices and procedures must be followed for any O&M activities disturbing **friable** ACBM.

When a fiber release episode occurs, the work practices that must be followed depend on whether the episode is minor or major in nature. A **minor fiber release episode** consists of the falling or dislodging of 3 square or linear feet or less of friable ACBM. A **major fiber release episode** consists of the falling or dislodging of more than 3 square or linear feet of friable ACBM.

Once ACBM is identified or assumed to be present, the LEA should start a **notification and warning program** to alert affected parties to a potential hazard in the building and to provide basic information on how to avoid the hazard.

The LEA is required to attach a **warning label** immediately adjacent to any friable and nonfriable ACBM and suspected ACBM that is assumed to be ACBM that is located in routine maintenance areas.

Where employees work in areas where fiber levels exceed permissible exposure limits or are required to wear pressure respirators, the LEA must establish **medical surveillance and respiratory protection programs**.

A designated person can minimize accidental disturbances of ACBM during maintenance and renovation activities by establishing a **permit system** that calls for all work orders and requests to be processed through the designated person.

The specific work practices that must be followed when routine maintenance activities are being conducted depend on the likelihood that the activities will disturb the ACBM and cause fibers to be released.

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The Operations & Maintenance Program

Fiber Release Episode Report	
1. Address, building, and room number(s) (or description of area) where episode occurred:	<hr/> <hr/> <hr/> <hr/>
2. The release episode was reported by _____ on _____ (date).	
3. Describe the episode: _____	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
4. The asbestos-containing material was ____/was not ____ cleaned up according to approved procedures.	Describe the clean up: <hr/> <hr/> <hr/> <hr/>
Signed _____ (Asbestos Program Manager)	Date: _____

Example Form 5

Work Permit Application	
1.	Address, building, and room number (or description) where work is to be performed: _____ _____
2.	Requested starting date:_____ Anticipated finish date:_____
3.	Description of work:_____ _____ _____ _____
4.	Description of any asbestos-containing material that might be affected, if known (include location and type): _____ _____ _____ _____ _____
5.	Name and telephone number of requestor:_____
6.	Name and telephone number of supervisor:_____
Submit this application to the asbestos program manager:	
NOTE: An application must be submitted for all maintenance work whether or not asbestos-containing material might be affected. this authorization must then be signed before any work can proceed.	
_____	Granted (Work Permit No.____)
_____	Denied (See Asbestos Program Manager)
_____	Denied (until further sampling is conducted)
Signed_____	Date:_____
Asbestos Program Manager	

9

TRAINING AND ACCREDITATION

Introduction

AHERA requires that LEAs employ accredited persons to perform most of the activities associated with asbestos management. Building inspectors, management planners, project designers, contractors/supervisors, and asbestos workers must all complete EPA- or State-approved courses that result in accreditation. The specific training requirements for each of these categories of workers are outlined in Appendix C to the AHERA Rule (the AHERA Model Accreditation Plan). The AHERA Rule also details specific training requirements for LEA designated persons and maintenance and custodial workers, although these individuals are not required to complete any EPA-approved courses or receive accreditation.

Designated Person Training

AHERA requires that the AHERA Designated Person be *adequately* trained to carry out his or her responsibilities. Due to the differing needs of school districts based on the size of the district and the amount and condition of the ACBM, AHERA does not list a specific training course or specific number of hours of training for the DP. Further, AHERA does not require the DP to be accredited. Specifically, the regulations note the training must include the following topics:

- health effects of asbestos;
- detection, identification and assessment of asbestos-containing building materials;
- options for controlling asbestos-containing building materials; and
- asbestos management programs.
- Relevant Federal and State regulations concerning asbestos, including AHERA and its implementing regulations and the regulations of the Occupational Safety and Health Administration, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency (*See Chapter 11 for further information on regulations related to AHERA.*)

The training completed by the designated person must be documented by course name, dates, and hours of training. This documentation must be kept as a permanent part of the management plan.

To determine whether reviewing this document would satisfy the training requirements for the DP, school personnel should consult with the regional asbestos coordinator in the EPA

Regional Office serving their state.

Maintenance and Custodial Workers

The LEA must ensure that all maintenance and custodial staff who work in a building that contains ACBM receive a minimum of two hours awareness training, whether or not they are required to work with ACBM. New custodial and maintenance employees must be trained within 60 days after the commencement of employment.

The awareness training must include, but is not limited to:

- Information regarding asbestos and its various uses and forms
- Information on the health effects associated with asbestos exposure
- Locations of ACBM identified throughout each school building in which they work
- Information on how to recognize damaged, deteriorated, and delaminated ACBM
- The name and telephone number of the LEA designated person
- Information on the availability and location of the management plan

Staff that disturb ACBM must receive an additional 14 hours of training. Once this additional training is completed, attendees will be adequately trained to conduct small-scale, short-duration activities and/or minor fiber release episode cleanup and repair procedures. The additional training must include, but is not limited to:

- Descriptions of the proper methods for handling ACBM
- Information on the use of respiratory protection as contained in the EPA/NIOSH *Guide to Respiratory Protection for the Asbestos Abatement Industry* (September 1986) and other personal protection measures
- The provisions of the AHERA Rule relating to O&M activities (§ 763.91) and training and periodic surveillance (§ 763.92) as well as Appendices A-E of the Rule, EPA regulations contained in 40 CFR Part 763, subpart G, and in 40 CFR Part 61, Subpart M, and OSHA regulations
- Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices

Maintenance and custodial worker training does not require EPA approval, although some States may have more stringent training requirements. It is recommended that the LEA check with its State on the training requirements for maintenance and custodial workers.

The completion of all training by maintenance and custodial workers must be documented. (See Chapter 10 under "Training Information" for a discussion of the training records that must be kept.)

Accredited Personnel

CHAPTER 9

Training and Accreditation

Under AHERA, LEAs may employ the following individuals only if they have completed EPA- or State-approved training courses, passed the exams, and received accreditation.

Building Inspectors -- Building inspectors must complete a minimum of three days (24 hours) of training. Training course information covers technical information needed to identify and describe ACBM and information needed to write an inspection report.

Management Planners -- Management planners must complete a two-day (16 hours) course after they have completed and passed the exam for the building inspector training described above. This course is an extension of the building inspector training and teaches how to develop a schedule (or plan) for implementation of response actions for hazards or potential hazards identified in the inspection report, how to develop an O&M plan, and how to prepare and update a management plan.

Project Designers -- Project designers must complete a three-day (24 hours) abatement project designer training course. The project designer course teaches how to design response actions and abatement projects. It also covers basic concepts of architectural design, engineering controls and proper work practices as required by the regulation.

Contractors/Supervisors -- Contractors/supervisors must complete a minimum of five days (40 hours) of training. The course teaches proper work practices and procedures and covers contractor issues such as legal liability, contract specifications, insurance and bonding, and air monitoring. The course fulfills the OSHA "competent person" training requirement and the NESHAP "trained representative" requirement.

Asbestos Workers -- An asbestos worker must complete a minimum of four days (32 hours) of training. The course covers work practices and procedures, personal protective equipment, health effects of asbestos exposure, and other information critical to individuals who work in an abatement area with hazardous materials.

Update Training

All project designers, contractors/supervisor, and asbestos workers must complete a one day annual refresher training course for reaccreditation. Building inspectors must complete a half-day refresher course. Management planners must attend the half-day building inspector refresher course as well as a half-day management planner refresher course. Documentation of any annual training should be kept in the management plan.

Although not specifically required by the AHERA Rule, annual refresher/update training for maintenance workers is recommended. OSHA requires annual training.

Table 9-1

LEA Employee Training Requirements			
Job Title	Subject Matter of Training	Amount of Training (Hours)	Annual Training Update (Hours)
Designated Person	Health effects of asbestos; detection, identification and assessment of ACBM; options for controlling ACBM; asbestos management program; related federal and state laws	Adequate	None
All Maintenance Workers	Asbestos and its uses and forms; health effects associated with asbestos exposure; locating ACBM identified throughout each school building in which they work; recognizing various conditions of ACBM; name and telephone number of LEA designated person; information pertaining to the availability and location of management plan	2	None
Maintenance Workers Who Disturb ACBM	Proper methods for handling ACBM; information on proper use of respiratory protection; hands-on training in the use of respiratory protection, other personal protection measures, and good work practices; information pertaining to various regulations; technical information	16 (asbestos awareness and 14 additional hours)	None

* These 14 hours of training are in addition to the 2 hours of asbestos awareness training that all maintenance workers receive

Note that state and local requirements may be more stringent.

Table 9-2

Accredited Personnel Training Requirements			
Job Title	Subject Matter of Training	Amount of Training (Days)	Annual Training Update (Days)
Building Inspectors	Technical information needed to identify and describe ACBM; information needed to write an inspection report	3	1/2
Management Planners	Extension of the building inspector training, plus how to develop a schedule (or plan) for implementation of response actions for hazards or potential hazards identified in the inspection report, how to develop an O&M plan, and how to prepare a management plan.	2 ^a	1 ^b
Project Designers	How to design response actions and abatement projects; basic concepts of architectural design, engineering controls and proper work practices	3	1
Contractors/ Supervisors	Proper work practices and procedures; contractor issues such as legal liability, contract specifications, insurance, and bonding; air monitoring	5	1
Asbestos Workers	Work practices and procedures, personal protective equipment, health effects of asbestos exposure, and other critical information	4	1

^a Management planners must first complete the building inspector training and pass the exam.

^b This includes the one-half day building inspector training update.

Chapter 9 Summary
Key Points About Training and Accreditation

AHERA does not require that **designated persons** complete EPA- or State-approved courses and become accredited, but § 763.84(g)(2) of the AHERA Rule requires that training for the designated persons provide basic knowledge of a number of asbestos-related subjects.

The LEA must ensure that all maintenance and custodial staff who may work in a building that contains ACBM receive a minimum of **two hours awareness training**, whether or not they are required to work with ACBM. All new maintenance and custodial staff must receive asbestos awareness training within 60 days of hire.

Staff that may disturb ACBM must receive an additional **14 hours** of training.

Building inspectors, management planners, project designers, contractors/supervisors, and asbestos workers must successfully complete EPA- or State-approved courses, pass an exam and **receive accreditation** before they can perform any asbestos-related activities.

Building inspectors, management planners, project designers, contractors/supervisors, and asbestos workers must complete annual EPA- or State-approved **refresher courses** to maintain their accreditation.

10

RECORD-KEEPING

Recordkeeping of Management Plans

Under § 763.93(g) of the AHERA Rule, each LEA is required to keep in its administrative office a copy of the management plans for each school. (*See Table 6-1 for a comprehensive list of the required contents of the management plan.*) The management plan must be available, without cost or restriction, for inspection by the public, including teachers, other school personnel and their representatives, and parents, as well as by representatives of EPA and the State.

In addition, each school is required to maintain in its administrative office a complete and updated copy of the management plan for that school. The school must make the plan available for inspection to those individuals listed above as well as to workers before work begins in any area of a school building.

It is the responsibility of the LEA designated person to ensure that complete and up-to-date records are maintained and included in the management plan. Section 763.94 of the AHERA Rule requires that the LEA maintain the following records (*Note that some of these requirements have been listed in other portions of this guide*).

Training Information

For each person required to be trained under §§ 763.92(a)(1) and (2) of the AHERA Rule (maintenance and custodial worker training), the LEA must provide:

- The person's name and job title
- The date that training was completed
- The location of the training
- The number of hours completed in the training

Periodic Surveillance Information

Each time that periodic surveillance is conducted under § 763.92(b) of the AHERA Rule, the LEA must record:

- The name of each person conducting the surveillance
- The date of the surveillance

- Any changes in the conditions of the materials being examined

Cleaning Information

Each time that cleaning, as required under § 763.91(c), is conducted, the LEA must record:

- The name of each person performing the cleaning
- The date of the cleaning
- The locations cleaned
- The methods used to perform the cleaning

Small-Scale, Short-Duration O&M Activity Information

Each time that O&M activities under § 763.91(d) of the AHERA Rule are performed, the LEA must provide:

- The name of each person performing the activity
- The start and completion date of the activity
- The locations where such activity occurred
- A description of the activity, including the preventive measures used
- If ACBM is removed, the name and disposal site of the ACBM

Information on O&M Activities Other Than Small-Scale, Short-Duration

Each time maintenance activities are performed that are not of small scale and short duration under § 763.91(e) of the AHERA Rule, the LEA must provide:

- The name and signature of each person performing the activity
- The State, accreditation number, and training provider name of each person performing the activity (a copy of a certificate is ideal)
- The start and completion dates of the activity
- A description of the activity, including preventive measures used
- If the ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Fiber Release Episodes

For each fiber release episode occurring as the result of O&M activities, the LEA must provide:

- The date and location of the episode
- The method of repair, preventive measures or response action taken
- The name of each person performing the work
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Response Actions and Preventive Measures

For each preventive measure and response action taken for friable and nonfriable ACBM and friable and nonfriable suspected ACBM assumed to be ACBM, the LEA must provide:

- A detailed written description of the measure or action, including the method used
- The location where the measure or action was taken
- Reasons for selecting the measure or action
- The start and completion dates of the work
- If applicable, the names and addresses of all contractors involved with the work
- If applicable, the State, accreditation number, and training provider name of all contractors involved with the work (a copy of the certificate)
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Air Sampling Information

In addition to the information required to be provided for each preventive measure and response action taken for friable and nonfriable ACBM and friable and nonfriable suspected ACBM assumed to be ACBM (*See above*), when air sampling is performed for final air clearance of response actions, the LEA must provide:

- The name and signature of any person collecting any air sample required to be collected at the completion of a response action
- The locations where samples were collected
- The date(s) of collection
- The name and address of the laboratory analyzing the samples
- The date(s) of analysis
- The results of the analysis
- The method of analysis
- The name and signature of the person performing the analysis
- A statement that the laboratory is NVLAP accredited or EPA approved

Chapter 10 Summary
Key Points About Recordkeeping

Each **LEA** must **maintain a copy of its management plan** in its administrative office, and the plan must be available to persons for inspection without cost or restriction.

Each **school** must **maintain a copy of the management plan** for that school in its administrative office, and the plan must be available to persons for inspection without cost or restriction.

The LEA must also maintain records of events that occur after submission of the management plan; these records include training information, periodic surveillance information, cleaning information, small-scale, short-duration O & M activity information, information on O & M activities other than small-scale, short-duration, information on fiber release episodes, information on response actions and preventive measures, and air sampling information. These records should be included in the management plans in a timely manner.

For each homogeneous area where all ACBM has been removed, the LEA must retain the records of events for **three years** after the next reinspection, or for an equivalent period.

It is the responsibility of the LEA designated person to ensure that complete and up-to-date records are maintained and included in the management plans.

11

RELATED REGULATIONS

Introduction

Although AHERA and its implementing regulations, the AHERA Rule, set out many of the responsibilities of the LEA, there are several other federal regulations that the LEA should be aware of when implementing an asbestos management program. These regulations include:

- National Emission Standards for Hazardous Air Pollutants (NESHAP)
- Occupational Safety and Health Administration (OSHA) Construction Industry Standard (29 CFR 1926.1101) and General Industry Standard (29 CFR 1910.1001)
- The EPA Worker Protection Rule (40 CFR § 763.121)
- Department of Transportation (DOT) regulations governing the transport and disposal of asbestos-containing materials (49 CFR Parts 171 and 172)

Each of these regulations is discussed in greater detail below. By following the requirements of these related regulations, the LEA can protect not only the people in its buildings from negative health effects but also may protect itself from legal liability. These regulations should be considered to establish minimum standards; going beyond these requirements may help keep buildings as safe as possible. For further information about these related regulations, call the Asbestos Ombudsman Clearinghouse Hotline at (800) 368-5888 between 8:00 a.m. and 4:30 p.m., Eastern.

National Emission Standards for Hazardous Air Pollutants

The LEA (school district) must comply with the National Emission Standards for Hazardous Air Pollutants for Asbestos (NESHAP) regulations when removing asbestos materials. These regulations specify control requirements for most asbestos emissions, and include work practices to be followed to minimize the release of asbestos fibers during the handling, removal and disposal of asbestos waste materials. NESHAP regulations are frequently enforced by the State or Local Agencies.

A significant term, which is used through NESHAP, is Regulated Asbestos-Containing

Materials (RACM). RACM is where the amount of friable asbestos-containing material equals or exceeds the threshold amount of 260 linear feet, 160 square feet, or 35 cubic feet.

Prior to the beginning work, an AHERA accredited inspector must inspect the facility for the presence of asbestos. The amount and type of asbestos present both determine whether the LEA must notify EPA (or delegated states) and what procedures that the LEA must follow to control asbestos emissions. If the amount exceeds the regulatory threshold, then a written notification must be submitted ten working days prior to any asbestos stripping or removal operation or demolition operation. The LEA must remove RACM from the facility that is to be demolished or renovated before any other activity begins that would break up, dislodge, or similarly disturb this material. The RACM must be handled in accordance with the asbestos NESHAP regulations, including properly labeling the waste. However, prior removal is not required if the RACM is in a condition that is excepted from prior removal, e.g., it is on a facility component that is encased in concrete or other similarly hard material and is adequately wet whenever exposed during demolition.

Of particular importance to the LEA are the standards for the demolition and renovation of facilities (40 CFR § 61.145) and for waste disposal for demolition and renovation operations (40 CFR § 61.150). The standard for asbestos waste disposal for demolition and renovation operations require that the LEA to: (1) discharge no visible emissions to the outside air during the collection processing, packaging, or transporting of any asbestos-containing waste material; (2) adequately wet the asbestos-containing waste material; (3) process the asbestos-containing waste material into nonfriable forms; or (4) use an alternative emission control and waste treatment method that has received prior approval by EPA or the delegated state.

As soon as possible, all asbestos-containing waste material must be taken to an asbestos waste disposal site or an EPA-approved site that converts regulated asbestos-containing material and asbestos-containing waste material into asbestos-free material as provided by law. If non-RACM will not be made friable during the disposal processes, it may be disposed of at a landfill that accepts normal building debris. Waste shipment records (WSRs), which are only required for RACM, must be maintained by the LEA and contain the information required by law. The WSRs must be retained for at least two years.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration's (OSHA) Construction Industry Standard (29 CFR § 1926.1101) and General Industry Standard (29 CFR § 1910.1001) establish minimum standards for the protection of workers involved in asbestos-related work or employees exposed to asbestos-contaminated workplaces. OSHA regulations exclude federal, state, or local government employees (including public school employees) from its worker protection rules (except in states with OSHA approved programs).

CHAPTER 11

Related Regulations

However, EPA has promulgated Worker Protection Rules to cover these employees (see below). These standards include required work practices, engineering controls, permissible exposure limits, written programs for respiratory protection and medical surveillance, methods for compliance, hazard communication, housekeeping, competent person training and responsibilities, and required recordkeeping. Also included are demolition, removal, alteration, repair, maintenance (such custodial workers who clean vinyl asbestos tile floors), installation, clean-up of spills, transportation, disposal and storage of asbestos.

OSHA revised its standards on August 10, 1994. Significant changes to the standards included the following:

- PEL decrease to 0.1 f/cc; action level deleted;
- Asbestos Containing Material defined as material containing more than 1% asbestos (now consistent with EPA);
- Building owners are now covered and have specific duties to identify building materials and notify/communicate with others;
- All asbestos work, regardless of exposure levels, requires at least basic controls and work practices, and exposure monitoring;
- Construction work is classified according to friability of the asbestos and hazardousness of the operation. Increasingly friable and hazardous operations require increasingly stringent engineering controls, work practices, protective equipment, training and monitoring; and
- Training requirements changed to correspond to EPA training.

Two programs are of particular importance to the LEA. OSHA requires establishment of a respiratory protection program (29 CFR § 1910.134) that is designed to protect persons, including the designated person and any employees, who do any work with ACBM. The program requires that such persons be equipped with a respirator that provides adequate protection against asbestos. Further, the program must include written standard operating procedures governing the selection and use of respirators, selection of respirators based on the hazards to which workers are exposed, an instruction and training program in the proper use of respirators and its limitations, and requirements for the cleaning, disinfecting, inspecting, and storing of respirators. The written program must be on the job site when asbestos work is being conducted. *(See Chapter 8 under the heading "Employee Protection & Medical Surveillance Programs" for a further discussion of this program.)*

(See the Model Respiratory Protection Program Checklist at the end of this chapter.)

The second program is the medical surveillance program, which requires that every person

who is assigned to work using a respirator must first have a medical examination to determine whether he or she is fit to work in a respirator. A written assurance to that effect signed by the examining physician is required and must be maintained with the employee's medical surveillance records. The employer must keep proof of a medical surveillance program on site where the asbestos work is being performed. (*See Chapter 8 under the heading "Employee Protection & Medical Surveillance Programs" for a further discussion of this program.*)

(See the Medical Examination Checklist at the end of this chapter.)

EPA Worker Protection Rule

The OSHA asbestos standards do not cover all state and local government employees. The EPA Worker Protection Rule (40 CFR § 763.121) extends the protection afforded by the OSHA standards to all state and local government employees who are engaged in asbestos abatement and who are not otherwise covered by OSHA or an OSHA-approved state plan. Thus, when conducting asbestos abatement activities, an employee of a school district is either covered by the OSHA asbestos standards or that employee is protected by EPA's Worker Protection Rule.

Department of Transportation Regulations

Department of Transportation (DOT) regulations (49 CFR Parts 171 and 172) require that asbestos-containing materials be labeled as Class 9 hazardous materials and establish requirements relating to the shipment of ACBM by air, rail or motor vehicles, including the type of packaging, labeling, shipping papers and placards required.

The designated person is responsible for having the ACBM properly transported from a site. The LEA is the generator of the waste product and maintains this responsibility during transportation and disposal. Disposal of asbestos waste also is subject to each state's solid waste regulations.

Chapter 11 Summary
Key Points About Related Regulations

An asbestos management program is subject not only to AHERA and the AHERA Rule, but also may be subject to **NESHAP, OSHA, and DOT** regulations, and the **EPA Worker Protection Rule**.

Relevant provisions of NESHAP establish **work practices for asbestos air emission control** when a facility is being demolished or renovated, and for the disposal of **asbestos-containing waste material**.

The OSHA established **minimum standards for the protection of workers involved in asbestos-related work or employees exposed to asbestos-contaminated workplaces**. These standards include required work practices, engineering controls, permissible exposure limits, written programs for respiratory protection and medical surveillance, methods for compliance, hazard communication, housekeeping, competent person training and responsibilities, and required recordkeeping. OSHA excludes federal, state, or local government employees from its worker protection rules (including public school employees).

The EPA Worker Protection Rule **extends the protection afforded by OSHA** to all employees in asbestos abatement who may have been excluded from protection by OSHA.

Relevant provisions of DOT regulations establish **labeling, packaging and shipping standards** for the transporting of asbestos-containing materials.

Model Respiratory Protection Program Checklist

Protecting workers from exposure is the responsibility of the employer. Employers are required by law to establish and maintain an effective respiratory protection program as outlined in American National Standards Institute (ANSI) Standard Z88.2-1969. (The more recent edition of ANSI Z88.2 (1980) contains more comprehensive requirements which are not yet incorporated in the OSHA regulation.) This checklist presents a model respiratory protection program for asbestos abatement operations which meets or exceeds the requirements of the present OSHA standard.

The recommendations of this guide not only satisfy the current respiratory protection requirements of existing Federal regulations, but also include recommendations based on current information on respiratory protection.

An effective respirator program should include:

- 1. A written statement of company policy, including assignment of individual responsibility, accountability, and authority for required activities of the respiratory protection program
- 2. A written standard operating procedures governing the selection and use of respirators
- 3. Respirator selection (from NOISH/MSHA approved and certified models) on the basis of hazards to which the worker is exposed
- 4. The medical examination of workers to determine whether or not they may be assigned an activity where respiratory protection is required
- 5. User training in the proper use and limitations of respirators (which also is a way to evaluate the skill and knowledge obtained by the worker through training)
- 6. Respirator fit testing
- 7. Regular cleaning and disinfecting of respirators
- 8. Routine inspection of respirators during cleaning, and at least once a month and after each use for those respirators designated for emergency use
- 9. Storage of respirators in convenient, clean, and sanitary locations

(cont.)

Model Respiratory Protection Program Checklist (cont.)

- 10. Surveillance of work area conditions and degree of employee exposure (e.g., through air monitoring)
- 11. Regular inspection and evaluation of the continued effectiveness of the program
- 12. Recognition and resolution of special problems as they affect respirator use (e.g., facial hair, eye glasses, etc.)
- 13. Proper respirator use (e.g., procedures for putting on and taking off respirators when entering and exiting the abatement area)

Medical Examination Checklist

A medical examination is the first step in a medical surveillance program. This checklist may be used to determine the thoroughness of the medical examination administered. Although the scope of a medical examination may vary among medical facilities, at a minimum it should include the following:

- 1. Medical History (completed by examinee)
- 2. Initial or Periodic Medical Questionnaire for Asbestos Exposure
- 3. Respiratory History
- 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
- 9. Chest X-ray (administered at the discretion of the physician)
- 10. Complete Physical Examination by Physician
- 11. Physician Evaluation for Respirator Use/Clearance
- 12. Report of Medical Evaluation

Glossary

Air erosion: the passage of air over friable ACBM which may result in the release of asbestos fibers.

Asbestos: the asbestiform varieties of Chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite/grunerite); anthophyllite; tremolite; and actinolite.

Asbestos-containing material (ACM): any material or product which contains more than 1 percent asbestos.

Asbestos-containing building material (ACBM): surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building.

Asbestos debris: pieces of ACBM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

Damaged friable miscellaneous ACM: friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

Damaged friable surfacing ACM: friable surfacing ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

Damaged or significantly damaged thermal system insulation ACM: thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; occasional water damage on the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.

Encapsulation: the treatment of ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of fibers, as the encapsulant creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components together (penetrating encapsulant).

Enclosure: an airtight, impermeable, permanent barrier around ACBM to prevent the release of

asbestos fibers into the air.

EPA Worker Protection Rule: extends the protection afforded by OSHA to all employees in asbestos abatement who may have been excluded from protection by OSHA.

Fiber release episode: any uncontrolled or unintentional disturbance of ACBM resulting in visible emission.

Friable: when referring to material in a school building means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such previously nonfriable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

Friable asbestos-containing material (ACM): any material containing more than one percent asbestos which has been applied on ceilings, walls, structural members, piping, duct work, or any other part of a building, which when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Includes non-friable asbestos-containing material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

Friable asbestos-containing building material (ACBM): any friable ACM that is in or on interior structural members or other parts of a school or public and commercial building.

Functional space: a room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling and the floor or roof deck above), such as classroom(s), a cafeteria, gymnasium, hallway(s), designated by a person accredited to prepare management plans, design abatement projects, or conduct response actions.

High-efficiency particulate air (HEPA): refers to a filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 μm in diameter or larger.

Homogeneous area: an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.

Inspection: an activity undertaken in a school building, or a public and commercial building, to determine the presence or location, or to assess the condition of, friable or non-friable asbestos-containing building material (ACBM) or suspected ACBM, whether by visual or physical examination, or by collecting samples of such material. This term includes reinspections of friable and non-friable known or assumed ACBM which has been previously identified. The term does not include the following:

- (1) Periodic surveillance of the type described in 40 CFR 763.92(b) solely for the purpose of recording or reporting a change in the condition of known or assumed ACBM;
- (2) Inspections performed by employees or agents of Federal, State, or local government solely for the purpose of determining compliance with applicable statutes or regulations; or
- (3) Visual inspections of the type described in 40 CFR 763.90(i) solely for the purpose of determining completion of response actions.

Local education agency:

- (1) Any local educational agency as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 3381).
- (2) The owner of any nonpublic, nonprofit elementary, or secondary school building.

- (3) The governing authority of any school operated under the defense dependents' education system provided for under the Defense Dependents' Education Act of 1978 (20 U.S.C. 921, et seq.).

Major fiber release episode: any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of more than 3 square or linear feet of friable ACBM.

Management Plan: a site-specific guidance document that the LEA designated person must follow in managing the ACBM present in a school building.

Minor fiber release episode: any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of 3 square or linear feet or less of friable ACBM.

Miscellaneous ACM: other, mostly nonfriable ACM, products and materials (found on structural components, structural members or fixtures) such as floor tile, ceiling tile, construction mastic for floor and ceiling materials, sheet flooring, fire doors, asbestos cement pipe and board, wallboard, acoustical wall tile, and vibration damping cloth.
miscellaneous material that is ACM in a school building.

Miscellaneous material: interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

Nonfriable: material in a school building which when dry may not be crumbled, pulverized, or reduced to powder by hand pressure.

Operations and maintenance program: a program of work practices to maintain friable ACBM in good condition, ensure clean up of asbestos fibers previously released, and prevent further release by minimizing and controlling friable ACBM disturbance or damage.

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 activities.
- (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.

Potential significant 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 activities.
- (2) There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.
- (3) The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion.

Preventive measures: actions taken to reduce disturbance of ACBM or otherwise eliminate the

reasonable likelihood of the material's becoming damaged or significantly damaged.

Public and commercial building: the interior space of any building which is not a school building, except that the term does not include any residential apartment building of fewer than 10 units or detached single-family homes. The term includes, but is not limited to: industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, preschools, stores, warehouses and factories. Interior space includes exterior hallways connecting buildings, porticos, and mechanical systems used to condition interior space.

Removal: the taking out or the stripping of substantially all ACM from a damaged area, a functional space, or a homogeneous area in a school building.

Repair: returning damaged ACM to an undamaged condition or to an intact state so as to prevent fiber release.

Response action: a method, including removal, encapsulation, enclosure, repair, operations and maintenance, that protects human health and the environment from friable ACM.

Routine maintenance area: an area, such as a boiler room or mechanical room, that is not normally frequented by students and in which maintenance employees or contract workers regularly conduct maintenance activities.

School: any elementary or secondary school as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2854).

School building:

- (1) Any structure suitable for use as a classroom, including a school facility such as a laboratory, library, school eating facility, or facility used for the preparation of food.
- (2) Any gymnasium or other facility which is specially designed for athletic or recreational activities for an academic course in physical education.
- (3) Any other facility used for the instruction or housing of students or for the administration of educational or research programs.
- (4) Any maintenance, storage, or utility facility, including any hallway, essential to the operation of any facility described in this definition of "school building" under paragraphs (1), (2), or (3).
- (5) Any portico or covered exterior hallway or walkway.
- (6) Any exterior portion of a mechanical system used to condition interior space.

Significantly damaged friable miscellaneous ACM: damaged friable miscellaneous ACM where the damage is extensive and severe.

Significantly damaged friable surfacing ACM: damaged friable surfacing ACM in a functional space where the damage is extensive and severe.

Small-scale, short-duration activities (SSSD): tasks such as, but not limited to:

- (1) Removal of asbestos-containing insulation on pipes.
- (2) Removal of small quantities of asbestos-containing insulation on beams or above ceilings.
- (3) Replacement of an asbestos-containing gasket on a valve.
- (4) Installation or removal of a small section of drywall.
- (5) Installation of electrical conduits through or proximate to asbestos-containing materials.

SSSD can be further defined by the following considerations:

- (1) Removal of small quantities of ACM only if required in the performance of another maintenance activity not intended as asbestos abatement.
- (2) Removal of asbestos-containing thermal system insulation not to exceed amounts greater than those which can be contained in a single glove bag.
- (3) Minor repairs to damaged thermal system insulation which do not require removal.
- (4) Repairs to a piece of asbestos-containing wallboard.
- (5) Repairs, involving encapsulation, enclosure, or removal, to small amounts of friable ACM only if required in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

Surfacing ACM: interior ACM that has been sprayed on, troweled on, or otherwise applied to surfaces (structural members, walls, ceilings, etc.) for acoustical, decorative, fireproofing, or other purposes. surfacing material that is ACM.

Surfacing material: material in a school building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

Thermal system insulation: material in a school building applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

Thermal system insulation ACM: insulation used to control heat transfer or prevent condensation on pipes and pipe fittings, boilers, breeching, tanks, ducts, and other parts of hot and cold water systems; heating, ventilation, and air-conditioning (HVAC) systems; or other mechanical systems that is ACM.

Vibration: the periodic motion of friable ACBM which may result in the release of asbestos fibers.

Acronyms

ACM: Asbestos-Containing Material

ACBM: Asbestos-Containing Building Material

AHERA: Asbestos Hazardous Emergency Response Act

ASHARA: Asbestos School Hazard Abatement Reauthorization Act

DOT: Department of Transportation

EPA: Environmental Protection Agency

HEPA: High Efficiency Particulate Air

HVAC: Heating, Ventilation and Air-Conditioning

LEA: Local Education Agency

MAP: Asbestos Model Accreditation Plan

NESHAP: National Emission Standard for Hazardous Air Pollutants

NIOSH: National Institute of Occupational Safety and Health

O&M: Operations and Maintenance

OSHA: Occupational Safety and Health Administration

PCM: Phase Contrast Microscopy

PLM: Polarized Light Microscopy

SSSD: Small Scale, Short Duration

TEM: Transmission Electron Microscopy

TSI: Thermal System Insulation

VAT: Vinyl Asbestos Tile

VOC: Volatile Organic Compounds

February 2022

Appendix M

RI Department of Health Asbestos Control Regulations (216-RICR-50-15-1)

<https://rules.sos.ri.gov/regulations/part/216-50-15-1>

Hard copy not attached – insert hard copy here if desired.

February 2022

Appendix N

AHERA Regulation 40 CFR 763 Subpart E—Asbestos-Containing Materials in Schools

https://www.epa.gov/sites/production/files/documents/2003pt763_0.pdf

Hard copy not attached – insert hard copy here if desired.

February 2022

Appendix O

Inspection forms with 6-month surveillance columns



Client: Block Island School
 15 High Street
 New Shoreham, RI 02807

Inspector: Danny Mullen
 MA License #: AI00963
 Date: 2/28/22

Designated Person: Mr. Tom Risom

Type of Inspection: AHERA 3-Year-Inspection

AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School														6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
														Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:	
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	
Room 301 30' x 26'	4" Vinyl Cove Base (VCB) (Gray)	112 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	12" x 12" Vinyl Floor Tile (VFT) (White with gray flecks; gray and blue also)	780 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	6,240 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	6,240 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	3' x 4' Interior Window Caulking (4 windows)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	2" x 4" Suspended Acoustical Ceiling Tile (SAT)	780 SF	F	MM	Assumed		<10%	1 stained	Yes	5	5	Ongoing						
Room 302 24' x 28'	12" x 12" (VFT) (White, gray and blue)	672 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	104 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	5,376 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	5,376 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	2" x 4" (SAT)	672 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	3' x 4' Interior Window Caulking (2 windows)	24 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 303 32' x 24'	12" x 12" VFT (White) (Gray and Red also)	768 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	112 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	6,144 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	6,144 SF	F	SM	Assumed	X			yes	5	5	Ongoing						
	2" x 4" (SAT)	768 SF	F	MM	Assumed		<10%	3 stained	Yes	5	5	Ongoing						
	3' x 4' Interior Window Caulking (4 windows)	48 SF	F	SM	Assumed	X			yes	5	5	Ongoing						
Room 303 A 3' x 2'	12" x 12" VFT (White)	6 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	10 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	48 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	2" x 4" (SAT)	6 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
Room 304	12" x 12" VFT (White) (Gray and Red also)	768 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						



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AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School													6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
													Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___
24' x 32'	4" VCB (Gray)	112 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	6,144 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	6,144 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4" (SAT)	768 SF	F	MM	Assumed	X			yes	5	5	Ongoing					
	3' x 4' Interior Window Caulking (4 windows)	48 SF	F	SM	Assumed	X			yes	5	5	Ongoing					
Room 304 D 3' x 2'	Carpet Glue	6 SF	NF	SM	Assumed	X			yes	5	5	Ongoing					
	4" VCB (Tan)	10 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	48 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4" (SAT)	6 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
Room 305 48' x 26'	12' x 12' VFT (White, Blue and Red also)	1248 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	148 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	9,984 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	9,984 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4" (SAT)	1248 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	3' x 4' Interior Window Caulking (4 windows)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	5' x 6' x 4 / 12' x 3 Lab Top	156 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Sink Anti-Condensate	8 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing						
Room 305 A 3' x 2'	12' x 12' VFT (White)	6 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	10 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	48 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4" (SAT)	6 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					



Client: Block Island School
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AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School													6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
Room 306 24' x 30'	12" x 12" VFT (White) (Blue and Red also)	720 SF	NF	MM	Assumed	X			Yes	5	55	Ongoing					
	4" VCB (Gray)	108 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	5,760 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5,760 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2' x 4' SAT	720 SF	F	MM	Assured	X			Yes	5	5	Ongoing					
	3' x 4' Interior Window Caulking (4 windows)	48 SF	F	SM	Assured	X			Yes	5	5	Ongoing					
Room 307 24' x 30'	12" x 12" VFT (White) (Blue and Red also)	720 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	108 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	5,760 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5,760 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	2' x 4' SAT	720 SF	F	MM	Assumed		<10%	2 stained	Yes	5	5	Ongoing					
	8' x 5' Interior Window Caulking	160 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 308 12' x 26'	Carpet Glue	312 SF	NF	SM	Assumed	X			No	5	5	Ongoing					
	2' x 4' SAT	312 SF	F	MM	Assumed	X			No	5	5	Ongoing					
	4" VCB (Tan)	76 LF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Gypsum Board	312 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Joint Compound	312 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	Interior Window Caulking (3 windows)	120 SF	F	SM	Assumed	X			No	5	5	Ongoing					
Room 308 A 12' x 18'	Carpet Glue	216 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Tan)	60 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	216 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	216 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	Interior Window Caulking (2 windows)	80 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 308 B	Carpet Glue	224 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					



Client: Block Island School
 15 High Street
 New Shoreham, RI 02807

Inspector: Danny Mullen
 MA License #: AI00963
 Date: 2/28/22

Designated Person: Mr. Tom Risom

Type of Inspection: AHERA 3-Year-Inspection

AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School														6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024	
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	
14' x 16'	4" VCB (Tan)	60 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	1,792 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	1,792 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 308 C 8' x 8'	2" x 2" Ceramic Floor Tile (CFT) (Tan)	64 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" x 4" Ceramic Wall Tile (CWT) (Tan)	256 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	256 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	512 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	64 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
Room 309 12' x 10'	2" x 2" CFT (Gray)	120 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" x 4' CWT (White)	480 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	480 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	120 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	960 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 310 12' x 10'	2" x 2" CFT (Gray)	120 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" x 4' CWT (White)	480 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	480 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	120 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	960 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 120 Gym	Tecktum Panels	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 120A 6' x 22'	12 "x 12" VFT (Beige)	132 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	132 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	68 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 121 10' x 16'	12" x 12" VFT (White w/ colored flecks)	160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2" x 2" CFT (Gray)	160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	4" x 4' CWT (White)	1,280 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	196 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	52 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 122 10' x 16'	12" x 12" VFT (White with colored flecks)	160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2" x 2" CFT (Gray)	160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" x 4' CWT (White)	1,280 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	196 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	52 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 123 8' x 10'	12" x 12" VFT (Beige)	80 SF	NF	MM	Assumed		<10%	6 stained	Yes	5	5	Ongoing					
	2' x 2' SAT	80 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	36 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room 124 36' x 4'	Gypsum	1,152 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1,152 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 118 8' x 6'	2" x 2" CFT (Gray)	48 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4' SAT (White)	48 SF	F	MM	Assumed		<10%	1 stained 1 cracked	Yes	5	5	Ongoing					
Room 119 8' x 6'	2" x 2" CFT (Gray)	48 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2" x 4' SAT (White)	48 SF	F	MM	Assumed		<10%	1 cracked	Yes	5	5	Ongoing					
Room 116	4" VCB (Gray)	180 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum	1000 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1000 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					



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AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

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														Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:	
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	
Room 116 A 10' x 10'	2" x 2' SAT	100 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	40 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 116 B 4' x 3'	2" x 2' SAT	12 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	14 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 117	4" VCB (Gray)	180 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 125 4' x 14'	Gypsum Board	448 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	448 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
1E 30' x 8'	12" x 12" VFT (Beige)	240 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	76 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2" x 4' SAT	240 SF	F	MM	Assumed		<10%	Scrapes	Yes	5	5	Ongoing						
Room 109 60" x 36'	12" x 12" VFT (White with gray and green flecks)	2160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	2160 SF	F	MM	Assumed		<10%	1 stained	Yes	5	5	Ongoing						
	4" VCB (Gray)	192 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	17280 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	17280 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	8' x 10' Interior Window Caulking (2 windows)	160 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 109 A 18' x 10'	12" x 12" VFT (White with gray flecks)	180 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	180 SF	F	MM	Assumed		<10%	1 stained	Yes	5	5	Ongoing						
	4" VCB (Gray)	56 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 114 A 8' x 14'	Exposed Mastic (Black)	112 SF	F	SM	Assumed		<10%	Exposed	Yes	5	5	Ongoing						
Room 114 52' x 26'	12' x 12' VFT	1352 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 2' SAT	1352 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Gray)	156 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	10816 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						



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AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School													6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	Joint Compound	10816 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	8' x 52' x 26 Tectum Panels	10816 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room 111 30' x 30'	12" x 12" VFT (Beige)	900 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT (White)	900 SF	F	MM	Assumed		<10%	4 stained 1 cracked	Yes	5	5	Ongoing					
	4" VCB (Light Brown)	120 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	12' x 8' Interior Window Caulking (2 windows)	192 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	Lab Top (Black)	84 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room B10	2' x 2' SAT	232 SF	F	MM	Assumed		<10%	1 stain 1cracked	Yes	5	5	Ongoing					
	4" VCB (Gray)	66 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Epoxy over 12' x 12' VFT	232 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 112 30' x 20'	2' x 2' SAT	600 SF	F	MM	Assumed		<10%	Scrapes	Yes	5	5	Ongoing					
	12" x 12" VFT (Gray)	600 SF	NF	MM	Assumed		<10%	1 Broken	Yes	5	5	Ongoing					
	4" VCB (Gray)	100 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	8' x 8' Interior Window Caulking (2 windows)	128 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 113 30' x 20'	2' x 2' SAT	600 SF	F	MM	Assumed		<10%	2 cracked	Yes	5	5	Ongoing					
	12" x 12" VFT (Teal)	600 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	100 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	16' x 8' Interior Window Caulking	128 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 115 28' x 32'	2' x 2' SAT	896 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	12' x 12' VFT (Green)	896 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green)	120 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board 8' x 8' x 8'	512 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound 8' x 8' x 8'	512 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	8' x 12' Interior Window Caulking (3 windows)	288 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 115 A 8' x 8'	Sink Anti-Condensate	8 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	12' x 12' VFT (Green)	64 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	64 SF	F	MM	Assumed		<10%	6 stained	Yes	5	5	Ongoing					
	4" VCB (Green)	32 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	512 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	512 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 205 22' x 32'	2' x 2' SAT	704 SF	F	MM	Assumed		<10%	2 stained	Yes	5	5	Ongoing					
	Gypsum Board	5632 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5632 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green)	108 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4' x 8' Interior Window Caulking (5 windows)	160 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 203 12' x 12'	2' x 2' SAT	144 SF	F	MM	Assumed		<10%	1 stained 1 broken	Yes	5	5	Ongoing					
	Carpet Glue	144 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green)	48 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1152 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1152 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 206 32' x 22'	2' x 2' SAT	704 SF	F	MM	Assumed			1 stained	Yes	5	5	Ongoing					
	Gypsum Board	5632 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5632 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green)	108 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4' x 8' Interior Window Caulking (5 windows)	160 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 206 A 2' x 2'	Gypsum Board	32 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	32 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					



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													Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___
Room 204 A 2' x 2'	Gypsum Board	32 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	32 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 204 30' x 22'	2' x 2' SAT	704 SF	F	MM	Assumed		<10%	1 stained scrapes	Yes	5	5	Ongoing					
	Gypsum Board	5632 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5632 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green)	108 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Interior Window Caulking (5 windows)	160 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 202 18' x 10'	2' x 2' SAT	180 SF	F	MM	Assumed		<10%	1 stained	Yes	5	5	Ongoing					
	Gypsum Board	1440 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1440 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Green and Gray)	56 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Carpet Glue	180 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	2' x 8' Interior Window Caulking (1 window)	16 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 201 30' x 22'	2' x 2' SAT	660 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Painted Blue)	104 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	5280 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5280 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	Interior Window Caulking (5 window)	80 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 201 A 8' x 10'	4" VCB (Green)	36 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	640 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 201 B 14' x 6'	2' x 2' SAT	84 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	672 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	672 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	4" VCB (Green)	40 LF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Carpet Glue	84 SF	NF	SM	Assumed	X			No	5	5	Ongoing					
Room 207 26' x 22'	2' x 2' SAT (White)	572 SF	F	MM	Assumed	X			No	5	5	Ongoing					
	4" VCB (Gray)	96 LF	LF	MM	Assumed	X			No	5	5	Ongoing					
	3' x 2' Interior Window Caulking (3 window)	18 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	Gypsum Board	4576 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Joint Compound	4576 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	Sink Condensate	4SF	NF	MM	Assumed	X			No	5	5	Ongoing					
Room 208 6' x 10'	2' x 2' SAT	60 SF	F	MM	Assumed	X			No	5	5	Ongoing					
	Carpet Glue	60 SF	NF	SM	Assumed	X			No	5	5	Ongoing					
	Gypsum Board	480 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Joint Compound	480 SF	F	SM	Assumed	X			No	5	5	Ongoing					
Room 209 6' x 8'	12' x 12' VFT	48 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	2' x 2' SAT	48 SF	F	MM	Assumed		<10%	2 stained	No	5	5	Ongoing					
	Gypsum Board	384 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Joint Compound	192 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	4' x 4' CWT	384 SF	NF	MM	Assumed	X			No	5	5	Ongoing					
	4" VCB (Gray)	48 LF	NF	MM	Assumed	X			NO	5	5	Ongoing					
Room 210 24' x 20'	Joint Compound	3840 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	4" VCB (Tan)	88 LF	NF	MM	Assumed	X			No	5	5	Ongoing					
	Carpet Glue	480 SF	NF	SM	Assumed	X			No	5	5	Ongoing					
	4' x 4' Interior Window Caulking (2 window)	32 SF	F	SM	Assumed	X			No	5	5	Ongoing					
	2' x 2' SAT	48 SF	F	MM	Assumed	X			No	5	5	Ongoing					
	Gypsum Board	3840 SF	NF	MM	Assumed	X			No	5	5	Ongoing					



Client: Block Island School
 15 High Street
 New Shoreham, RI 02807

Inspector: Danny Mullen
 MA License #: AI00963
 Date: 2/28/22

Designated Person: Mr. Tom Risom

Type of Inspection: AHERA 3-Year-Inspection

AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

Building: Block Island School														6-Month Surveillance Inspection - Notes ① = No Change; ② = Change (add description)				
														Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:	
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	
Room 108 60' x 40'	12' x 12' VFT (Beige with various colors)	2400 SF	NF	MM	Assumed	X	<10%	Cracks at threshold	No	5	5	Ongoing						
	2' x 4' SAT	2400 SF	F	MM	Assumed	X			No	5	5	Ongoing						
	Gypsum	19200 SF	NF	MM	Assumed	X			No	5	5	Ongoing						
	Joint Compound	19200 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Tan)	200 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 108 A 32' x 8'	4' x 4' CFT (RED)	256 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	256 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
Room 108 B 18' x 8'	4' x 4' CFT (RED)	144 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	144 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
Room 108 C 3' x 4'	4' x 4' CFT (RED)	12 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	2' x 4' SAT	12 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
Room 108 D 16' x 10'	2' x 4' SAT	160 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	12' x 12' VFT (Beige)	160 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Beige)	52 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
Room 108 E 10' x 8'	2' x 4' SAT	80 SF	F	MM	Assumed		<10%	3 stained	Yes	5	5	Ongoing						
	12' x 12' VFT (Beige)	80 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	6' x 8' Interior Window Caulking (2 window)	96 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 101 10' x 14'	Carpet Glue	140 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing						
	2' x 2' SAT	140 SF	F	MM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	1120 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	1120 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Beige)	48 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4' x 8' Interior Window Caulking (2 window)	64 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___
Room 101 A 12 x 18	Carpet Glue	216 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	216 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1728 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1728 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4' x 8' Interior Window Caulking (3 window)	96 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	60 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room 101 B	Carpet Glue	244 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	244 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1952 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1952 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4' x 8' Interior Window Caulking (2 window)	64 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	64 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room 101 C 12' x 14'	2' x 2' SAT	168 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	52 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Carpet Glue	168 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1344 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1344 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 101 D 8' x 10'	12' x 12' VFT (Beige)	80 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	36 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 2' SAT	80 SF	F	MM	Assumed		<10%	3 stained	Yes	5	5	Ongoing					
	Gypsum	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 105 8' x 8'	2' x 2' SAT	64 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	512 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	512 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	2' x 2" CFT (Beige)	64 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room 103 C 8' x 8'	12' x 12' VFT (Beige)	64 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 4' SAT	64 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	32 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	512 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	512 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 103 D 10' x 8'	2' x 4' SAT	80 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	12' x 12' VFT (Gray)	80 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	36 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 103 B 18' x 12'	12' x 12' VFT (White)	216 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	2' x 4' SAT	216 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Beige)	60 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4' x 6' Interior Window Caulking (1 window)	24 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1728 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Elevator 4' x 8'	Carpet Glue	280 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing					
Room 102 7' x 8'	12' x 12' VFT (Gray)	56 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	448 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	448 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room 103 A 16' x 12'	2' x 2' SAT	192 SF	F	MM	Assumed		<10%	Scrapes	No	5	5	Ongoing					
	Carpet Glue	192 SF	NF	SM	Assumed	X			No	5	5	Ongoing					
	4" VCB (Beige)	56 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	1536 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					



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AHERA Asbestos 3-Year Inspection Form with 6 Semi-Annual Inspection Records

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														Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Completed:	Completed:	Completed:	Completed:	Completed:	
						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	
	Joint Compound	1536 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 104 20' x 22'	2' x 4' SAT	440 SF	F	MM	Assumed		<10%	7 stained	Yes	5	5	Ongoing						
	Carpet Glue	440 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	3520 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	3520 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Beige)	84 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4' x 6' Interior Window Caulking (2 window)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room 103 36' x 40'	2' x 2' SAT	1440 SF	F	MM	Assumed		<10%	12 stained	Yes	5	5	Ongoing						
	Carpet Glue	1440 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing						
	Gypsum Board	11520 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	11520 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Beige)	152 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4' x 6' Interior Window Caulking (8 window)	192 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room B01 32' x 22'	2' x 4' SAT	704 SF	F	MM	Assumed		<10%	7 stained scrapes	Yes	5	5	Ongoing						
	Gypsum Board	704 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	704 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	Sink undercoating	4 SF	NF	SM	Assumed	X			Yes	5	5	Ongoing						
	4' x 4' Interior Window Caulking (3 window)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room B04 10' x 14'	2' x 2' SAT	140 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing						
	Gypsum Board	1120 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	Joint Compound	1120 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
	4" VCB (Painted)	48 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						
	4' x 6' Interior Window Caulking (1 window)	24 SF	F	SM	Assumed	X			Yes	5	5	Ongoing						
Room B06 34' x 22'	2' x 2' SAT	748 SF	F	MM	Assumed		<10%	2 stained	Yes	5	5	Ongoing						
	4" VCB (Green)	112 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing						



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Location	Material	Approx. Quantity	F/NF	MC	ACBM Asbestos Content	Damage		Damage Type	Accessible	AC	RA	RA Schedule	Due 8/2022	Due 2/2023	Due 8/2023	Due 2/2024	Due 8/2024
						NO	</> 10%						Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___	Completed: By: ___/___/___
	Gypsum Board	5984 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	5984 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room B06 A 6' x 6'	2' x 2' SAT	36 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	4" VCB (Green)	24 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	12' x 12' VFT (Green)	36 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	288 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	288 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room B01 A 6' x 8'	2' x 2' SAT	48 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	Gypsum Board	384 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	384 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room B02 10' x 8'	2' x 2' SAT	80 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	Gypsum Board	640 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	640 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room B03 12' x 6'	2' x 2' SAT	72 SF	F	MM	Assumed		<10%	scrapes	Yes	5	5	Ongoing					
	Gypsum Board	576 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	576 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Room B05 Boiler Room	Possible Materials -Interior of boiler, (packing and gasket materials). (Breaching Wrap)			TSI	Assumed	X			Yes	5	5	Ongoing					
Room B07 16' x 14'	12' x 12' VFT (Gray)	224 SF	NF	MM	Assumed		<10%	missing and broken (>3 SF)	Yes	5	5	Ongoing					
	2' x 2' SAT	224 SF	F	MM	Assumed			scrapes	Yes	5	5	Ongoing					
	Gypsum Board	1792 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	1792 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Gray)	60 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room B08 32' x 22'	2' x 2' SAT	704 SF	F	MM	Assumed		<10%	2 stained 1 scraped	Yes	5	5	Ongoing					
	Gypsum Board	5632 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					



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						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___
	Joint Compound	5632 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4' x 6' Interior Window Caulking (4 window)	96 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	12' x 12' VFT	80 SF	NF	MM	Assumed		<10%	Missing < 3 SF	Yes	5	5	Ongoing					
Room B09 14' x 20'	2' x 2' SAT	280 SF	F	MM	Assumed		<10%	4 stained scrapes	Yes	5	5	Ongoing					
	Gypsum Board	2240 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	2240 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4' x 6' Interior Window Caulking (1 window)	24 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Painted)	68 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room B10 16' x 16'	2' x 2' SAT	256 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Tan)	64 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4' x 6' Interior Window Caulking (2 window)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	2048 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	2048 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	12' x 12' VFT (Green)	80SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Room B11 60' x 30'	Gypsum Board	14400 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	14400 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4' x 4" CFT (Red)	1800 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	4' x 6' Interior Window Caulking (2 window)	48 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
Hallways and Stairwells	2 x 4 SAT	4800 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Gypsum Board	50560 SF	F	MM	Assumed	X			Yes	5	5	Ongoing					
	Joint Compound	50560 SF	F	SM	Assumed	X			Yes	5	5	Ongoing					
	4" VCB (Blue, Beige, Black)	3840 LF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
	12' x 12' VFT (White with blue flecks, Green, Blue, Red)	4800 SF	NF	MM	Assumed	X			Yes	5	5	Ongoing					
Exterior**	Black caulking material	400 SF	F	MM	1-3% Chrysotile	X			Yes	5	5	Ongoing					
	Expansion caulking material	300 SF	F	MM	1-3% Chrysotile	X			No	5	5	Ongoing					



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						NO	</> 10%						By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	By: ___/___/___	
	Black waterproofing mastic	400 LF	NF	SM	25-35% Chrysotile	X			No	5	5	Ongoing						

Footnotes: 🚫 These materials are not regulated under AHERA.

If = Linear Feet, sf = Square Feet

- AC = Assessment Category**
- 1 = Damaged or significantly damaged TSI ACBM
 - 2 = Damaged friable surfacing ACBM
 - 3 = Significantly damaged friable surfacing ACBM
 - 4 = Damaged or significantly damaged friable miscellaneous ACBM
 - 5 = ACBM with the potential for damage.
 - 6 = ACBM with the potential for significant damage.
 - 7 = Any remaining friable ACBM or friable suspected ACBM

- RA = Response Action**
- 1 - Removal
 - 2 = Repair
 - 3 = Enclosure
 - 4 = Encapsulation
 - 5 = Operations and Maintenance

- MC = Material Category**
- TSI = Thermal System Insulation
 - SM = Surfacing Material
 - MM = Miscellaneous Material

Inspector Name/ Cert. #: Danny Mullen/ AI00963 **Management Planner Name/Cert. #:** Kenneth Davis / AI+AMP00510

Inspector Signature: Danny R. Mullen **Management Planner Signature:** Kenneth Davis

February 2022

Appendix P

Records of Response Actions Completed

No Records Available

February 2022

Appendix Q

Copies of Prior Documents

Block Island School
Asbestos Hazard Emergency
Response Act (AHERA)
3-Year Reinspection

New Shoreham School Department
15 High Street
New Shoreham, RI 02807

Prepared by:
Rhode Island Analytical Laboratories, Inc.
Exposure and Assessment Division
41 Illinois Avenue
Warwick, RI 02888

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I. Introduction

A. Purpose

The purpose of this initial inspection is to assess the condition and friability of known or assumed ACBM within the school in accordance with the AHERA requirements. Our findings will be included in the management plan and provide recommendations based on condition of the material.

B. Warranty

RI Analytical Laboratories warrants that the findings contained herein have been prepared in accordance with accepted professional practices at the time of this report's preparation. The inspection results reported herein are detailed to the extent necessary to determine condition of the ACBM.

C. Disclaimer

As stated in 40 CFR Part 763, Final Rule and Notice, re-inspections and reports are based on the original Management Plans. The 2014 Block Island School Annual AHERA Plan utilizes information based on the AHERA inspection conducted on August 24, 2011.

D. Scope of Services

- * Review of existing paperwork and record-keeping
- * Assessment of suspect and assumed ACBM for friability and condition.
- * Identification of areas that have become friable or damaged.
- * Recommendations for areas of concern.
- * Submission of management plans.

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II. Statement of Compliance

A. Activity Plan

Inspection of the Block Island School will be performed by an AHERA certified, State Licensed asbestos inspector no later than July 2017.

Scott Nelson LEA Designated Person	Date
---------------------------------------	------

The following dates indicate the time the three (3) year AHERA re-inspection must be completed by:

July 2017	July 2026
July 2020	July 2029
July 2023	July 2032

These re-inspections and surveillance inspections shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island Rules and Regulations.

B. Responsible Parties

The primary inspector assigned to conduct the 3 year inspection survey was Lance Comeau of RI Analytical Laboratories. Mr. Comeau is an accredited inspector and Mr. Simas is an accredited AHERA management planner. Copies of those certifications are included.

Daniel J. Simas Management Planner RI Cert. #AAC-0567	Date
--	------

Lance Comeau Inspector RI Cert. # AAC-0908	Date
---	------

I hereby state that the general LEA responsibilities under 763.84 have been or shall be met.

Mr. Scott Nelson LEA Designated Person	Date
---	------

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C. Periodic Surveillance:

Periodic surveillance shall be performed by personnel who are competent persons at intervals of no more than six (6) months, unless conditions of asbestos-containing building material(s) change, and warrant additional surveillance monitoring.

The New Shoreham School Department shall initiate a six (6) month surveillance of the Block Island School. This surveillance shall include a thorough re-inspection of all previously identified and assessed asbestos-containing building materials. The inspector conducting this six month surveillance shall be adequately trained and have the appropriate EPA accredited training.

The following dates indicate the time the six month AHERA surveillance inspection must be completed by:

January 2015

July 2016

July 2015

January 2017

January 2016

July 2017

These re-inspections and surveillance inspections shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island rules and regulations.

LEA or Asbestos Coordinator

Date

July 2014**D. Surveillance Program:**

The Block Island School shall be inspected every six months to monitor the condition of the asbestos containing building materials as denoted within the management plan and asbestos hazard inspection forms. The individual conducting these 6-month surveillance inspections must be selected by the designated trained LEA and have the minimum 2 hour asbestos awareness training. In addition, we recommend these surveillance inspectors should have additional training as a "RI Asbestos Competent Person" (16 hr.) and/or be under the direction of the Asbestos Coordinator or designated LEA person.

The individual inspecting the Block Island School shall utilize the AHERA Inspection information concerning the asbestos containing building materials as well as suspect asbestos containing building materials. These materials should be inspected for the following:

- 1) deteriorated condition
- 2) the friable state of the material
- 3) new damage or increased damage to the ACBM
- 4) changes in the accessibility of the ACBM
- 5) water damage
- 6) vibration
- 7) air erosion
- 8) increases or decreases in the potential for damage
- 9) increase or decrease in the potential for significant damage

The above information shall be denoted within the current management plan at the individual school building as well as the LEA office. In addition to the 6 month surveillance data, any minor removal (spot repair/removal), or any abatement activities conducted within the Block Island School were denoted within each copy of the management plan.

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III. Local Education Agency (LEA) Responsibilities

The following list summarizes the LEA's responsibilities as denoted in the Rule. The complete text may be found at Section 763.84 of the Rule.

1. All aspects of the inspection and management plan are carried out in accordance with the Rule.
2. Custodial and maintenance staff receives proper training as required by all federal and state regulations.
3. Workers and building occupants or their legal guardians are informed at least once each school year about all asbestos-related activities that are planned or are in progress.
4. Short-term workers, including outside contractors, who may come in contact with asbestos are informed about the locations of ACM and assumed ACM.
5. Required warning labels are posted in routine maintenance areas according to Section 763.95 of the Rule.
6. Parent, teacher, and employee organizations are notified yearly of the availability of the Plan. The School maintains a copy of the Plan at the School for inspection per Section 763.93(g) of the Rule.
7. Per Section 763.84(g)(l) of the Rule, the LEA shall "Designate a person to ensure that requirements under this section are properly implemented and ensure that the designated person receives adequate training as described in Section 763.84 (g)(2)."
8. "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 this Subpart." (Section 763.84(h) of the Rule.)

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IV. Review of Existing Paperwork/Recordkeeping

Response Actions:

Section 763.94 (Record-keeping) of the AHERA Final Rule (40 CFR Part 763, Subpart E) requires that the following paperwork be obtained for all abatement activities: copies of all personnel accreditation's and licenses, copy of the company's (Abatement Contractor) license, copies of any required notifications, copies of disposal receipts, and records of the particulars of the job as to activity, location, and personnel used with their signatures, where applicable.

A summary of RI Analytical's record review indicated the following:

1. Response Actions Completed by In-House Staff:

No written documentation of activities were available.

2. Response Actions Completed by Independent Abatement Contractors:

No written documentation of major activities were available.

3. Six-Month Periodic Surveillance:

Limited records were available.

4. Annual Notifications:

AHERA inspection plan, template letter in plan available.

5. Contractor Notifications:

No record of contractor release forms from contractors notified of ACM within the building. Records of all outside contractors who conduct work within the school should sign the **Worker Acknowledgement** Form enclosed in **Appendix G** and the LEA should keep a record of contractors who sign the form.

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V. AHERA Reinspection Report

A. AHERA TERMS, ABBREVIATIONS, AND ACRONYMS

AHERA	Asbestos Hazard and Emergency Response Act
Rule	40 CFR Part 763 Subpart E - Asbestos-Containing Materials in Schools Rule, including Appendices A, B, C, and D
Section	Sections 763.80 - 763.99 in the Rule
LEA	The Schools' Local Education Agency (as defined in the Rule)
Plan	The AHERA Management Plan for the School
Section	Subsections of the Plan
EPA	Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
NESHAP	National Emission Standards for Hazardous Air Pollutants
ACBM	Asbestos-containing Building Material (as defined in the Rule)
ACM	Asbestos-containing Material
Non-ACM	Non-Asbestos-containing Material
S. No	Bulk Sample Number
F	Friable
NF	Non-friable
HA	Homogeneous Area
FS	Functional Space
O&M	Operation and Maintenance Program
MIS	Miscellaneous Building Material (as defined in the Rule)
CT	Ceiling Tile
FT	Floor Tile
FBGL	Fiberglass
TSI	Thermal Systems Insulation (as defined in the Rule)
SURF	Surfacing Materials
HVAC	Heating, Ventilation, Air Conditioning System
N/A	Not Applicable
RIDOH	Rhode Island Department of Health

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B. ASBESTOS INFORMATION

1. General

"Asbestos" is the term used to describe certain fibrous silicate minerals that were formerly widely used for insulating, construction, and other purposes. Asbestos fibers were used throughout the construction industry due to their properties of non-flammability, high tensile strength, and low heat conductance. In the northeast United States, the most commonly encountered types of asbestos are "chrysotile" and "amosite". Other types of asbestos are found in a wide variety of construction materials.

Asbestos poses a health hazard when very small asbestos fibers, approximately five micrometers in length, are released into the air and inhaled into the lungs. Once in the lungs these fibers can either be expelled or become trapped. If they become trapped the body cannot break the fibers down, and the lungs try to encase the foreign material with tissue. This process can cause scarring of the lung tissue that may ultimately result in impaired lung elasticity and subsequent chronic dysfunction. This disease is called asbestosis.

Asbestos diseases may manifest in other forms that are equally dangerous, such as mesothelioma, a form of lung cancer. The latency period of these diseases has been determined by medical professionals to be anywhere between ten and thirty years following exposure. For additional information regarding the health hazards of asbestos, consult Health Hazards of Asbestos, U.S. Department of Labor, Occupational Safety and Health Administration (OSHA 3040), and Guidance for Controlling Friable Asbestos-Containing Materials in Buildings, U.S. Environmental Protection Agency (EPA 560/5-83-002, March 1983). These documents are available from the regional office of the U.S. Environmental Protection Agency, Federal Office Building, 26 Federal Plaza, New York, New York 10007, 212-264-2525.

Asbestos-containing building materials (ACBM) can be categorized into two groups: (1) friable; and (2) non-friable. Friable asbestos-containing material is that which can be crumbled, pulverized, or reduced to dust or powder using hand pressure. The presence of friable ACBM creates the need for the most urgent attention, while the presence of non-friable ACBM should be documented and proper handling procedures established, in order to avoid allowing the material to deteriorate to a friable and hence potentially hazardous condition. Non-friable ACBM, as well as friable ACBM, must be assessed periodically to determine their potential for fiber release. An operation and maintenance program including preventive measures must be established to prevent disturbance of all asbestos-containing materials.

Note:

The AHERA Rule differentiates between ACBM and ACM. In the remainder of this report, with the exception of the summary tables, all asbestos-containing material, including ACBM, will be referred to by the acronym "ACM".

2. AHERA Classifications

AHERA classifies asbestos-containing materials as thermal system insulation, miscellaneous materials, or surfacing materials.

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a. **Thermal System Insulation (TSI)**

The most common asbestos-containing thermal system insulation (TSI) are the following: aircell, which is an asbestos-containing paper; calcite and magnesia, which are powdery fibrous silicas; and preformed asbestos lagging or blocks. These types of TSI were used for many years as insulation wrapped around pipes, boilers, ducts, and hot water tanks in order to reduce thermal heat loss and prevent condensation.

When asbestos-containing insulation and its outer wrapping are in good condition there is minimal chance that asbestos fibers will become airborne, provided the insulation is not disturbed. Insulation that is intact may remain in place as long as its location and condition are documented, and proper education is provided to individuals who may potentially disturb the insulation, thereby causing a fiber release episode.

If TSI is intact and in good condition, it must be maintained according to an Operations and Maintenance Program in order to monitor its condition, since the physical condition of the insulation may change, thereby increasing the potential for fiber release. If asbestos insulation is frayed, punctured, ripped, water damaged, or vandalized, a fiber release episode may occur. Whenever a fiber release occurs, the insulation should be repaired, encapsulated, enclosed, or removed in order to decrease the potential hazard to both human health and the environment.

b. **Miscellaneous Materials**

Floor and ceiling tiles are categorized as miscellaneous interior building materials. Of the two, ceiling tiles are the most common friable materials. Ceiling tiles may release asbestos fibers upon the slightest disturbance. Air currents from HVAC systems may also cause erosion of ceiling tiles and subsequent asbestos fiber release. Routine maintenance of pipes located above asbestos-containing ceiling tiles can possibly cause some quantity of fibers to be released due to disturbance of the tiles. Under normal conditions, non-friable miscellaneous ACM has virtually no potential for fiber release. However, if these materials are sanded drilled, broken, or otherwise structurally disturbed they can release fibers to the air and the environment.

c. **Surfacing Materials**

Acoustical troweled-on-plaster and sprayed-on fireproofing are categorized as surfacing ACM. Fireproofing insulation was applied as a fluffy coating in order to provide two to four-hour fire protection, so that structural beams would not warp and collapse during a fire. Insulation of this type has a high potential to release fibers into the air upon any physical contact or by the action of air currents. Asbestos-containing plaster was also used for fireproofing and for acoustical purposes. Non-friable surfacing ACM that has a low potential for disturbance also presents a low potential for fiber release.

3. Methods of Survey Classification and Response Action Determination

This school was inspected for ACM by a trained and certified asbestos inspector. The inspector assessed the building materials and categorized similar materials into a group called a homogeneous area (HA). The HA are listed by number, with a description of the material and a list of areas that

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contain the material, which are called functional spaces.

The inspector recorded the following for each AHEHA: activity in the area, risk factors, condition of the ACM, type of damage, if any, and the distribution of damage. These factors were considered when developing the recommended response actions presented in this plan.

These factors, future building uses, and planned renovations all should be taken into consideration when the LEA must choose among the alternative response actions recommended, or otherwise available, for reducing the hazard to human life and the environment posed by the presence of ACM.

4. Asbestos Treatment Methods

Three categories of alternative treatments are available to treat or control asbestos-containing materials. Conditions that must be taken into consideration when determining the appropriate method of treatment for ACM are location, quantity, physical condition, future uses, renovation or demolition plans, and any social, political, or economic constraints that may apply. The following are brief descriptions of the three categories of alternative treatments.

a. **Repair and Encapsulation**

Repair and encapsulation generally offer the least expensive form of treatment. Although this brings the material back to its original and/or non-friable condition, the activity must still be documented in an O&M Program to monitor the future condition of the material and its potential for hazard. This method, however, leaves the ACM in the building where it will continue to age and deteriorate.

b. **Enclosure**

Enclosure offers a more expensive but more secure solution for some ACM. Building an impermeable case around asbestos-containing pipes or plaster can prevent release of asbestos fibers due to deterioration and physical disturbance. However (as is also true for repair and encapsulation), the NESHAPS legislation requires that if future plans call for renovation, repair, or demolition, the ACM must first be removed. Enclosed ACM must also be included in an O&M Program.

c. **Removal**

Removal, although initially the most expensive option, is often the most permanent and cost-effective solution. Not only are future potential hazards associated with asbestos-containing materials eliminated, operations and maintenance, repairs, and periodic surveillance and reinspections (as required with the options described above) become unnecessary. Future problems or costs for asbestos control are thus completely eliminated.

5. Response Action Recommendation/Implementation

Regardless of the abatement method chosen, it is important to bear in mind that any disturbance of friable asbestos-containing material can cause fibers to be released, if proper procedures and precautions are not observed.

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Asbestos abatement workers licensed in Rhode Island must be employed to perform any large-scale operation (one involving greater than three square or three linear feet of asbestos). It is recommended that a Rhode Island DOH certified asbestos inspector be employed to ensure the safety of employees and building occupants and to ensure that proper work practices and procedures are followed during all phases of an abatement project. Collection of samples to determine ambient air fiber levels upon completion of a project is also required. It is also recommended that ambient air fiber levels be measured before and during a project. These added precautionary measures greatly increase a school's ability to document and record pertinent data and thereby reduce its own potential liability.

6. Risk Assessment and Asbestos Control

Actual risk due to asbestos exposure cannot be quantitatively defined, nor can the relationship between an exposure and its consequential effect be estimated. The only precise quantitative statement that can be made concerning asbestos is that zero exposure will give zero risk. It is generally agreed, however, that the greater the exposure, the greater the risk.

The above consideration, combined with the fact that over time, any building material will decay and eventually most systems will be replaced by newer, more advanced and efficient systems, is the basis for the recommendation that, whenever possible, all exposed friable asbestos be removed and that any remaining asbestos-containing materials be controlled with an asbestos O&M Program. Recommended control methods are outlined in the Operation and Maintenance Program in **Part VIII. Section C** of the Plan should be consulted regularly as a guide for specific work practices to use for jobs that require contact with asbestos in a school. Again, bear in mind that NESHAPS regulations currently in force require the proper removal of ACM before any major renovation, repair, or demolition occurs.

C. BULK SAMPLE ANALYSIS

During the inspection, RI Analytical confirmed previously identified suspect materials from the previous AHERA inspection.

D. RECOMMENDATION TO THE LEA

Overall the materials within the Block Island School are in excellent condition. The school appears to be well maintained. The school should continue periodic monitoring of areas where ACM exists within the building.

One area within the school is still documented to contain asbestos. The A/V Storage Room within the Music Room (formerly athletic Director's Office) contains exposed mastic from former floor tiles. The previous AHERA inspection (8/24/2011) indicated mastic was underneath the carpet. Carpet was not present during inspection. The asbestos containing mastic is a non-friable material and is intact; however the material should be addressed. At the time of inspection, band equipment was stored in the room. Since students have access to the room, an action response listed below should be conducted within the 2014-2015 school year. Until the response has been conducted, student access to the room access should be limited. The New Shoreham school department may choose an option from the two action responses listed below.

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Action Response Option 1: Seal or cover over the mastic to prevent possible fiber release. A sealant could be an epoxy sealant, carpet or other material that would not impact the existing mastic. The mastic must not be impacted (i.e. drilled, nailed, scraped) during flooring installation. In the event that the material will be impacted, a RI licensed abatement contractor should be utilized to conduct the activity.

Action Response Option 2: Remove the asbestos containing mastic utilizing a RI licensed abatement contractor. Removal will require an abatement plan to be written by a licensed Asbestos Project Designer and submitted along with the application fee to the RI Department of Health. Once the abatement plan is approved, a RI licensed abatement contractor can remove the material. A third-party consultant would then conduct a visual inspection to verify the removal of ACM as well as conduct final air clearance testing to verify that the area can be reoccupied. New flooring could then be applied.

If conducting Action Response Option 2, then during the next 3-year AHERA inspection, the New Shoreham School Department should provide the asbestos inspector the removal and air clearance letters/documentation. The inspector would then verify the removal of ACM and note in the AHERA report that the material has been properly removed from the school. This option would then exclude the school from future AHERA inspections. The school would maintain copies of the AHERA plan which would state that no ACM exists within accessible areas within the school, and no further AHERA inspections are required.

Asbestos removal has occurred in many areas within the school, asbestos abatement plans were evaluated to verify areas where asbestos removal occurred. In 2005, the school had building addition which included the construction of a Gymnasium, Library and additional classrooms. Enclosed is an affidavit for “no asbestos containing building materials were specified or used in the construction of the Gymnasium, Classroom and Library additions” See **Appendix M** for a copy of the affidavit letter issued by Saccoccio and Associates Architects. This affidavit letter applies to all new materials introduced during 2005 building renovations and additions, these materials are excluded from this and future AHERA inspections. RI Analytical conducted a visual assessment to confirm that new materials were used in the construction renovations and additions.

For future repairs, RI Analytical recommends maintaining records of Safety Data Sheets for all replacement products for future reference. No affidavits for “no asbestos-containing materials installed within the schools” or documentation of materials installed within the school were available during the inspection.

Since no school employees currently possess any formal asbestos training (Competent Person 16 hr. or greater), or asbestos abatement workers licensed in Rhode Island must be employed to perform any asbestos abatement or disturbance operation.

The asbestos inspection form (**Summary Table of the Block Island School - pg. 21**) should be reviewed in its entirety and areas where damage of the homogeneous area of known or assumed ACBM occurred should be investigated further and preventative measures should be taken to reduce disturbance. Refer to **Section VIII - The Operations and Maintenance Program** for guidance on how to handle ACM or PACM. Although AHERA regulations pertain to all interior friable and/or non-friable suspect ACM, the schools should continue to maintain all exterior asbestos materials identified in this Management Plan and continue with their O&M program for the remaining ACM.

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VI. Public Notification

A. OCCUPANT NOTIFICATION

In accordance with Section 763.84(c) of the Rule, the LEA will notify in writing, at least once yearly, all relevant occupants of the school of all asbestos-related activities that take place at the school. Relevant occupants include, but are not limited to: building occupants or their legal guardians; staff, including teaching, administrative, custodial, maintenance, and all other personnel; all parent, teacher, employee, and administrative organizations; and/or any similar organizations at the school which serve similar functions. A sample notification letter is included in **Appendix J**.

Asbestos activities include, but are not limited to: inspections; response actions, including removal, encapsulation, enclosure, repair, and operation and maintenance; and post-response action activities, including periodic surveillance and re-inspection. In addition, Section 763.93(g)(4) of the Rule requires the LEA to inform occupants at least once per year that the AHERA Management Plan exists and is available for review in the school's Administration Office.

In accordance with the aforementioned Sections and Section 763.93(b) of the Rule, the LEA must maintain a dated copy of all such notifications. The list of relevant groups to be notified will be added to and updated as necessary and should also be kept on file.

B. PLAN FOR NOTIFICATION

In accordance with Sections 763.84(c) and Sections 763.93(e)(1 0) and (g)(4) of the Rule, all school building occupants will be informed by written notification about all asbestos-related activities at least once every school year.

Building occupants to be notified include, but are not limited to, all students or their legal guardians, and all staff members and their committees, representatives, and organizations.

As of July 2014, building occupants at the school include the following:

- Students and their legal guardians
- Faculty and staff (including teaching, custodial, maintenance, administrative, and all other personnel)

The LEA may choose various methods of notification to building occupants. The method of notification, such as written notification via posted notices at the school, or through publications such as a legal notice in the local newspaper, must be documented and details of the new notification methods used must be included in the Management Plan. Copies of the annual public notice must be included in the Management Plan.

C. ACBM LOCATIONS

According to Section 763.84(d) of the Rule, the LEA must ensure that all short-term workers who may come in contact with asbestos in the school (e.g., telephone, plumbing, HVAC, electrical workers, etc.) are provided information regarding the locations of identified or assumed ACM. In addition, as required

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by Section 763.92(a)(i)(iii), all members of the school's maintenance and custodial staff must be informed of the locations of ACM identified throughout each school building in which they work.

To avoid the unintended disturbance of asbestos containing building material, available information regarding known locations of ACBM must be made available to all hired contractors or sub-contractors. New Shoreham School Department/Block Island School requires that all contractors and contractor's employees have been informed of potential ACBM, have received proper training for the level of activities for which they are engaging, have read and signed the Worker Acknowledgement Form (**Appendix G**), and are appropriately accredited or licensed if they are to come into contact with ACBM. All contracting trades must adhere and review all of the AHERA Plan supplied specifications and applicable federal and state regulations.

D. ASBESTOS ACTIVITIES

Prior to the start of asbestos abatement and/or associated or remediation projects, proper notifications must be made by the appropriate entities to all applicable federal, state, and local agencies and authorities. In addition, the Local Fire Department should be notified prior to asbestos abatement and/or associated or remediation projects. The local Health and Fire Departments are often good places to begin researching local regulations and notification requirements. Notifications may include but are not limited to the following.

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VII. Asbestos-containing Materials Response Actions

A. RESPONSE ACTION DETERMINATION SUMMARY

Response Action determinations were made by using the EPA recommended method to determine the risk to human health associated with exposure to asbestos within a given ACM category. Appropriate response actions that are consistent with applicable regulations and protect human health and the environment are then recommended in order to best respond to and/or control ACM.

B. RESPONSE ACTION DESCRIPTIONS

The following is a brief and general description of the Response Actions recommended in the Plan. The following response actions may only be undertaken in accordance with all applicable federal, state, and local regulations governing the handling and disposal of asbestos. Procedural requirements and work practices regarding small-scale, short-duration asbestos activities may be found in the O&M Section of this Plan. Refer to the Table at the end of Part VII for a complete list of ACMB and recommended response actions.

1. Removal

Removal means the complete removal and disposal of designated asbestos-containing material of any kind. If ACM debris is present, the area must be isolated and the debris cleaned up immediately.

2. Repair

Repair means to restore a damaged area to its original intact condition. This includes making the damaged area airtight to prevent the release of fibers into the air. If ACM debris is present, the area must be isolated and the debris cleaned up immediately. Place all repaired ACM in the O&M Program.

3. Encapsulation

Encapsulation means the application of a material with a bonding or sealing property to prevent the release of airborne fibers. If ACM debris is present, the area must be isolated and the debris cleaned up immediately. Place encapsulated ACM in the O&M Program.

4. Enclosure

Enclosure means creating an airtight structure around an affected area to prevent the release of airborne fibers and significantly reduce the possibility of future physical disturbance or damage to the ACM. Any damaged ACM must be repaired prior to enclosure. If ACM debris is present the area must be isolated and the debris cleaned up immediately. Place the enclosed area in the O&M Program.

5. Operation & Maintenance (O&M) Program

An O&M program describes a structured plan of action to maintain ACM in a condition that protects the health and safety of the occupants in a building and provides for remedial action in the event that ACM is disturbed.

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C. ASSESSMENT KEY FOR FUNCTIONAL SPACES AS FOUND IN THE SCHOOL REPORT

1. Damaged or significantly damaged TSI.
2. Damaged friable surfacing material.
3. Significantly damaged friable surfacing material.
4. Damaged or significantly damaged friable miscellaneous material.
5. ACM with potential for damage.
6. ACM with potential for significant damage.
7. Any remaining friable known or suspect ACM.

D. ASSESSMENT KEY FOR FUNCTIONAL SPACES

RESPONSE ACTION KEYS FOR THERMAL INSULATION

Response action for thermal insulation will be denoted by “T” and the appropriate response number.

1. Isolate area and restrict access. Remove as soon as possible.
2. Continue O&M. Repair or remove as soon as possible, or reduce potential for disturbance.
- 3-5. Repair, continue O&M. Number indicates priority if all cannot be done immediately.
- 6-7. Continue O&M. Take preventative measures to reduce disturbance. Number indicates priority for removal.
8. Continue O&M until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change.

RESPONSE ACTION KEYS FOR SURFACING MATERIALS AND MISCELLANEOUS MATERIALS

Response action for surfacing material will be denoted by “S” and miscellaneous materials will be denoted by “M” and the appropriate response number.

1. Isolate area and restrict access. Remove as soon as possible.
2. Continue O&M. Repair or remove as soon as possible, or reduce potential for disturbance.
3. Continue O&M. Schedule removal when practical and cost-effective, or reduce disturbance.
- 4-5. Continue O&M. Schedule removal when practical and cost-effective. Number indicates priority for removal.
- 6-7. Continue O&M. Take preventative measures to reduce disturbance. Number indicates priority for removal.
8. Continue O&M until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change.

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E. METHOD OF RESPONSE ACTION DETERMINATION FOR SURFACING AND MISCELLANEOUS ACM

1. Friable Surfacing or Miscellaneous ACM with Significant Damage

Response Action 1: Remove

Isolate the area and clean up debris immediately. Remove ACM as soon as possible.

2. Friable Surfacing or Miscellaneous ACM with Damage and High Potential for Disturbance

Response Action 1: Remove

Isolate area and clean up immediately. Remove ACM as soon as possible.

3. Friable Surfacing or Miscellaneous ACM with Damage and Moderate Potential for Disturbance

Response Action 4: Enclose

Institute preventive measures. Repair ACM to return to airtight, intact condition, and enclose with an impermeable encasement to prevent physical disturbance. Continue with O&M.

4. Friable Surfacing or Miscellaneous ACM with Damage and Low Potential for Disturbance

Response Action 3: Encapsulate

Institute preventive measures. Repair damaged material to return to intact condition and encapsulate to reduce the possibility of fiber release. Continue with O&M.

5. Friable Surfacing or Miscellaneous ACM with No Damage and High Potential for Damage

Response Action 4: Enclose

Institute preventive measures. Enclose material to reduce effects of future disturbance. Continue with O&M.

6. Friable Surfacing or Miscellaneous ACM with No Damage and Moderate Potential for Damage

Response Action 3: Encapsulate

Institute preventive measures. Encapsulate material to reduce the possibility of fiber release. Continue with O&M.

7. Friable Surfacing or Miscellaneous ACM with No Damage and Low or no Potential for Damage

Response Action 5: O&M Program

Continue with O&M until condition factors change, requiring additional response.

8. Non-Friable Surfacing or Miscellaneous ACM

Response Action 5: O&M Program

Continue with O&M until condition factors change, requiring additional response.

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F. METHOD OF RESPONSE ACTION DETERMINATION FOR THERMAL SYSTEM INSULATION (TSI) ACM

1. Significantly Damaged Thermal System Insulation (TSI)

Response Action 1: Remove - Isolate the area and restrict access. ACM debris should be removed and the area cleaned up immediately.

2. Damaged Thermal System Insulation with High Potential for Disturbance

Response Action 1: Remove - Institute preventive measures and remove material as soon as possible.

3. Damaged Thermal System Insulation with Moderate Potential for Disturbance

Response Action 4: Enclosure - Institute preventive measures. Repair insulation to airtight condition and enclose with an impermeable encasement to protect against further physical damage. Continue with O&M.

4. Damaged Thermal System Insulation with Low Potential for Disturbance

Response Action 2: Repair - Repair to airtight condition and take preventive measures necessary to eliminate any potential disturbance. Continue with O&M.

5. Undamaged Thermal System Insulation with High Potential for Disturbance

Response Action 1: Remove - Institute preventive measures. Remove to prevent the high possibility of disturbance to the ACM.

6. Undamaged Thermal System Insulation with Moderate Potential for Disturbance

Response Action 4: Enclose - Institute preventive measures. Enclose the ACM within an airtight barrier to prevent potential disturbance of ACM. Continue with O&M.

7. Undamaged Thermal System Insulation with Low or No Potential for Disturbance

Response Action 5: O&M - Continue with O&M.

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G. Summary Table of ACBM of Block Island School

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VIII. The Operations and Maintenance Program

A. Introduction

In compliance with the AHERA Rule, the LEA must establish and implement an operations and maintenance (O&M) program whenever any asbestos-containing building materials are found in a school building. The purpose of the O&M program is to prevent the release of asbestos fibers through careful management of asbestos-containing building materials.

Since National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations require that friable and non-friable ACM which is likely to become friable be removed from buildings before demolition, the O&M program is not a permanent solution. In addition, the asbestos NESHAP may regulate the removal of asbestos as part of a renovation. It is also not a means by which full-scale asbestos abatement can be accomplished. The intentional disturbance of ACM should be limited to the repair or removal of small areas of significantly damaged ACM or to small areas where removal is necessary to make maintenance or minor renovation activities easier. Some small scale, short duration activities may be subject to asbestos NESHAP requirements if enough ACM will be disturbed during a calendar year. Larger abatement projects that require extensive planning and technical expertise may not be part of the AHERA O&M program. Limited encapsulation and enclosure could be used to enhance an O&M program by reducing the likelihood of contact with the ACM, however.

B. Objectives of the O&M Program

The O&M program consists of a set of procedures and practices for operating and maintaining a building to keep it as free of asbestos contamination as possible. The O&M program has three main objectives:

1. Clean up existing contamination.
2. Minimize future fiber release by controlling access to ACM and instituting proper work practices.
3. Properly maintain the ACM until it is removed.

C. Specialized Work Practices and Procedures

The LEA must ensure that the following procedures are followed for any O&M activities disturbing friable ACM:

1. Restrict entry into the area by persons other than those necessary to perform the maintenance project.
2. Post signs to prevent entry by unauthorized persons.
3. Shut off or temporarily modify the air-handling system and restrict other sources of air movement.
4. Use work practices or other controls, such as wet methods, protective clothing, HEPA vacuums, mini-enclosures, and glove bags, as necessary to inhibit the spread of any released fibers.
5. Clean all fixtures or other components in the immediate work area.
6. Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

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D. Emergency Response Procedures

As long as ACBM remains in a building, there is a risk of a fiber release episode. Custodial and maintenance workers should be aware of this and should always report any of the following occurrences to the LEA designated person:

1. Any debris found on the floor or other horizontal surface
2. Any water or physical damage to the ACBM
3. Any other evidence of possible fiber release

There are two types of fiber release episodes: minor episodes and major episodes. The specific procedures that must be followed depend on which type of episode occurs.

i. Minor Fiber Release Episode

A minor fiber release episode consists of the falling or dislodging of three square or linear feet or less of friable ACBM. Section 763.91(f)(1) of the AHERA Rule requires that when such an event occurs, the LEA must ensure that:

1. The debris is thoroughly saturated using wet methods
2. The area is cleaned
3. The asbestos debris is placed in a sealed, leak-tight container
4. The area of damaged ACBM is repaired with such materials as asbestos-free spackling, plaster, cement, or insulation; sealed with latex paint or an encapsulant; or an appropriate response action is implemented as required by § 763.90 of the AHERA Rule.

The designated person will assign an appropriately trained O&M in-house team to clean up the debris and make repairs as soon as possible and if needed, will contact a licensed outside asbestos abatement contractor to clean up the remaining debris and make necessary repairs according to the Plan.

ii. Major Fiber Release Episode

A major fiber release episode consists of the falling or dislodging of more than three square or linear feet of friable ACBM. All response actions involving more than three linear feet or square feet of ACM will be designed by a Rhode Island accredited Project Designer and performed by Rhode Island licensed and accredited consultants and asbestos abatement contractors. The State of Rhode Island requires that proper notifications be made as necessary to the Department of Health (DOH) and the U.S. EPA.

Section 763.91(f)(2) of the AHERA Rule requires that when such an episode occurs, the LEA must ensure that:

1. Entry into the area is restricted and signs posted to prevent entry into the area by persons other than those necessary to perform the response action.
2. The air-handling system is shut off or temporarily modified to prevent the distribution of fibers to other areas in the building.
3. The response action for any major fiber release episode is designed by persons accredited to design response actions and conducted by persons accredited to conduct response actions.

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After a response action is implemented to manage a major fiber release episode, the final air clearance requirements of AHERA must be met before the response action is considered complete.

Major and minor fiber-release episodes must be documented and included in the management plan regardless of whether the LEA uses in-house staff or an outside asbestos abatement contractor to implement an appropriate response action. If an outside contractor is used, be sure that the contractor's crew has been properly trained or certified before signing a contract. *(See the Fiber Release Episode Report in the **Appendix E Forms.**)*

E. Labeling

Under § 763.95 of the AHERA Rule, the LEA must attach a warning label immediately adjacent to any friable and non-friable ACBM and suspected ACBM that is located in routine maintenance areas (such as boiler rooms) at each school building. Such material includes friable ACBM that was responded to by a means other than removal (e.g., encapsulation) and ACBM for which no response action was carried out. The labels must be prominently displayed in readily visible locations, must be in print that is readily visible due to its large size or bright color (normally black print on bright yellow background), and must remain posted until the ACBM that is labeled is removed. The warning label must read:

**CAUTION:
ASBESTOS. HAZARDOUS.
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT.**

Unlike notification, labeling is not intended as a way to disseminate general information. Instead, it is a last line of defense to prevent unprotected individuals from unknowingly disturbing ACBM.

F. Handling and Disposing of Asbestos Wastes

Waste generated from asbestos projects must be properly stored and disposed. A minimum of a half-face elastomeric negative pressure respirator and disposable clothing with a hood and booties, are required when handling asbestos-containing materials. The following procedures must be implemented when handling asbestos containing waste:

- a. All waste must be placed in either sealed barrels or two six-mil polyethylene disposal bags. All waste containers must have two labels as required by both OSHA and the U.S. Department of Transportation (DOT). The labels are worded as follows:

OSHA Label:

**Danger
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard**

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DOT Label:

**RQ Hazardous Substance
Solid, NOS
ORM-E, NA 9188
(Asbestos)**

- b. Waste must be adequately wet. Once the debris is in the barrel or disposable bag, sufficient water must be added so that there is a noticeable amount.
- c. Disposal bags must be sealed to reduce airspace and make them leak-tight. Twisting and sealing with duct tape is one method to prevent leaks at the opening of the bag. All waste must be double-bagged and sealed. In the case of a glovebag, the use of one labeled bag around the glovebag is considered double-bagging. If the second bag is used to dispose of other contaminated waste and water, a third labeled bag must then be properly sealed around both.
- d. Place the bags into a drum or other rigid container equipped with secure or locking ring lids and label with the same information described above.
- e. The drums or container must be secured in a temporary storage area previously identified at your facility. This should be an area with limited access and preferably with a locked entry door.
- f. Record the date and amount of waste placed in the temporary storage area. A log sheet should be established for this purpose.
- g. Keep the temporary storage clean by using good work practices. If any bags of waste break, clean the area using the "Asbestos Debris Cleanup Procedures" in part IX , and in compliance with all applicable regulations.
- h. Before the temporary storage area is full or the expiration of the maximum allowable storage date, make arrangements to have the asbestos waste picked up and delivered to an approved asbestos waste disposal site.
- i. Make advance arrangements with the waste disposal facility to ensure that your waste will be accepted.
- j. Arrange to have the asbestos waste delivered safely to the previously identified disposal facility.
- k. Receipts from both the transporter and the landfill for each shipment of waste must be kept on file. Record all dates, destinations, and responsible persons involved in transporting the waste from the temporary storage area to the disposal facility previously identified in the Plan. For further information concerning storage, transportation, and disposal of asbestos-containing waste, contact the Rhode Island DOH.

G. Preventative Measures

Preventative measures include any action or actions taken in order to eliminate or reduce the possibility of disturbing ACM. All preventative measures taken must be properly recorded according to section 763.94(b) of the Rule. Examples of precautions to take include the following:

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1. Do not cut, sand, drill, break, nail into, or otherwise disturb ACM or create dust.
2. Avoid contact damage to any ACM. Remove any adjacent items that may contact ACM.
3. Keep suspended ceiling tiles in place whenever any ACM exists above them. Do not remove or displace ceiling tiles without taking the proper precautionary measures outlined in "ACM Above Ceilings" in Part IX below.
4. Do not hang fixtures, wires, etc. from ACM.
5. Prevent water damage to ACM
6. Do not disturb asbestos-containing materials when replacing lights, etc.
7. Do not allow doors or dividers to rub against ACM.
8. Isolate, redirect, or eliminate direct airflow onto any friable or damaged ACM.
9. Always take proper precautions when working around ACM. Report any damaged ACM to the Designated Person Immediately.

H. Maintenance & Renovation Permit System

One of the most difficult tasks that the LEA designated person faces is minimizing accidental disturbances of ACBM during maintenance and renovation operations. One way that a designated person can control such disturbances is by establishing a permit system where all work orders or requests are processed through the designated person.

In a permit system, all requests for maintenance or renovation activities are given to the designated person before a work order to proceed is issued. The designated person then checks the management plan for information about the presence of ACBM where work is to be performed and physically inspects the area in question to make sure that the records reflect actual conditions. If no asbestos is present, the designated person can sign and issue the work order. If ACBM is present, the designated person can sign the work order and then either ensure that trained maintenance or renovation workers are properly equipped to handle the ACBM or dispatch an "emergency response" team to remove the ACBM. In situations where there are large amounts of ACBM, maintenance or renovation work that does not have to be done immediately should be postponed until the ACBM in the area can be removed by an accredited contractor. The permit system should be in place for all facility maintenance work conducted by the LEA staff, outside contractors, and outside short-term workers.

When outside contractors or short-term workers are likely to come into contact with ACBM in a school building, they must be notified of the locations of ACBM or suspected ACBM in the building. This notification should be documented. These workers should have documentation of appropriate training, should they disturb ACBM during their work. Note that State licensing requirements vary. (*See example Work Permit Application form in **Appendix F** and Worker Acknowledgement form in **Appendix G***)

I. Cleaning

All areas of a building where friable ACBM and suspected ACBM, or significantly damaged TSI ACBM is present must be cleaned at least once after the completion of the AHERA inspection. It must also be cleaned before the initiation of any response action (other than O&M activities or repair). The exception

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would be where the building had been cleaned using similar methods within the previous six months.

The cleaning must include the following:

1. HEPA-vacuuming or steam-cleaning all carpets
2. HEPA-vacuuming or wet-cleaning all other floors and all other horizontal surfaces
3. Disposing of all debris, filters, mop heads, and cloths in sealed, leak-tight containers

In addition to initial cleaning that is required after any fiber release episode, the LEA is required to perform additional cleaning according to Section 763.91 (c)(2) of the Rule. Additional cleaning recommendations include, but are not limited to, cleaning all proximate surfaces of the areas previously identified:

- Periodically in the boiler room because of the high concentrations of ACM and high air movement.
- Areas containing ACM where a suspect film or dust occurs
- Anytime friable or non-friable ACM becomes damaged or significantly damaged
- Anytime the LEA's Designated Person determines cleaning is necessary to protect the health and environment of the building occupants.

It is important that all cleaning be completed prior to the initiation of other response actions that may be necessary. The initial cleaning will prevent or greatly reduce the possibility of further contamination within an affected area as well as surrounding areas, and reduce the possibility of exposure to school workers and all other building occupants.

J. Special Work Practices for Maintenance Activities

In buildings where ACBM is present, routine maintenance activities, such as work on light fixtures, plumbing fixtures and pipes, air registers, HVAC ducts, and other accessible parts of a building's utility systems, can disturb ACBM and raise levels of airborne asbestos. As a result, maintenance workers should be instructed not to perform any maintenance work that could disturb ACBM unless they are appropriately trained and use specific work practices. These work practices should be tailored to reflect the likelihood that an activity will disturb the ACBM and cause fibers to be released. In determining which work practices should be followed, activities should be placed in one of four categories:

1. **Contact with ACBM Unlikely** -- In some buildings with ACBM, many routine maintenance activities can be conducted without contacting the ACBM. Changing a light bulb in a fixture that has asbestos-containing acoustical plaster nearby can usually be performed without jarring the fixture, for example. *(Note that under the AHERA Rule, the top of the fixture should already have been wet-cleaned to remove settled fibers.)* In such situations where contact with ACBM is unlikely, the only precaution other than normal care generally necessary is to ensure that respirators and a HEPA vacuum are available if needed. These do not have to be taken to the site of the project; they should just be available at a known location in the building. When maintenance is performed in parts of the building that are free of ACBM, no special precautions are usually necessary. An exception would be work in an area containing no ACBM that causes vibrations to be transferred to a location where ACBM is present.

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2. **Accidental Disturbance of ACBM Possible** -- Where routine maintenance and repair activities are conducted on fixtures or system parts that are located near friable ACBM, maintenance workers may unintentionally disturb the ACBM and release asbestos fibers. Maintenance work on ventilation ducts in an air-handling room where asbestos fireproofing is on the structural beams could accidentally disturb the fireproofing, for example.

3. **Disturbance of ACBM Intended or Likely** -- Some maintenance and repair activities will make ACBM disturbance almost unavoidable. Installing new sprinkler or piping systems will make it necessary to hang pipes from structural members or from the ceiling, and if the beams or ceilings are insulated with ACBM, the ACBM will be scraped away to install hangers. Similarly, pulling cables or wires through spaces with ACBM or ACBM debris is likely to dislodge pieces of the ACBM or disturb ACBM debris and dust. Any time ceiling tiles are moved to allow for entry into the space above a suspended ceiling, settled dust on top of the tiles will be recirculated into the air. If the beams or decking above the ceiling are covered with ACBM, the dust is likely to contain asbestos fibers. A designated person should not allow such intentional disturbances of ACBM to proceed in an uncontrolled manner. The designated person should ensure that the elements required under § 763.91 of the AHERA Rule to be part of an O&M program are implemented effectively and that the regulatory requirements of the EPA Worker Protection Rule and the OSHA Asbestos Standard for the Construction Industry are followed.

4. **A Large Amount of ACBM Will be Disturbed** -- If the maintenance work is part of general building renovation, federal regulations may require that ACBM be removed before the project begins. Even if smaller amounts of ACBM are to be disturbed, building owners should consider removing all ACBM from the area of the building where the maintenance work is planned. Typically, an outside abatement contractor would be hired for the removal project before the maintenance work begins. If the LEA decides to use its own staff to remove the ACBM, these workers must be fully trained and accredited in asbestos abatement.

Maintenance of Vinyl Asbestos Tile

(Revised from a "Guidelines for the Maintenance of Asbestos-Containing Floor Coverings" developed by Rhode Island Department of Health and the Environmental Protection Agency, New England)

Vinyl Asbestos Tile (VAT) is the most prevalent source of asbestos containing material in our schools and most likely will be for years to come. Although VAT is considered non-friable, the frictional forces exerted on these materials during routine floor-care maintenance operations can release asbestos fibers.

The principle types of floor covering maintenance performed routinely on resilient floor tiles include:

1. spray-buffing and dry burnishing; and
2. wet scrubbing and stripping followed by refinishing.

The following are guidelines on the maintenance of asbestos-containing floor coverings. When properly implemented, these guidelines should help you reduce the potential for the release of asbestos fibers into the air. You may want to keep a copy of these guidelines in the Operations and Maintenance section of your AHERA Management Plan.

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Stripping of Vinyl Asbestos Floor Coverings

Training

Custodial and maintenance personnel who are responsible for the care and maintenance of asbestos containing floor coverings should be thoroughly trained to safely and properly operate the machines, pads and floor care chemicals used at the facility.

Frequency of Stripping

Stripping of vinyl asbestos floor coverings should be done as infrequently as possible (e.g., once per year maximum and preferably when the building is unoccupied). Excessive stripping of floors using aggressive techniques will result in increased levels of asbestos fibers in the air.

Prior to Stripping

Prior to machine operation, apply an emulsion of chemical stripper in water to the floor. Use a mop to soften the wax or finish coat.

Stripping Operations

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When stripping floors becomes necessary, the machine used for stripping the finish should be equipped with the least abrasive pad as possible (black pads are usually the most abrasive and the white pad the least abrasive). Consult with your floor tile and floor finish product manufacturer for recommendations on which pad to use on a particular floor covering. Incorporate the manufacturer's recommendations into your floor maintenance work procedures. If any flooring damage occurs during stripping, stop work and notify DOH or the Asbestos Program Manager. Do not strip, scrape, sand, or grind resilient asbestos flooring to remove any blemishes or imperfections.

The machine used to remove the wax or finish coat should be run at a low rate of speed (i.e., ranging between 175-300 rpm) during the stripping operation. There is a direct correlation between machine speeds and the release of asbestos fibers from asbestos containing floor coverings. The higher the machine speed the greater the probability of asbestos fiber release.

Never perform dry stripping. Always strip floors while wet. Do not operate a floor machine with an abrasive pad on unwaxed or unfinished floor containing-asbestos materials. Consult with floor tile and floor finish product manufacturers concerning specific or unique problem(s) on the maintenance of your floors.

After Stripping

After stripping and before application of a high solids floor finish, the floor should be thoroughly cleaned, while wet, preferably with a Wet-Vac HEPA filtration vacuum system.

Finishing of Vinyl Asbestos Floor Coverings

Use of Sealer and Solids Finish

Prior to applying a finish coat to a vinyl asbestos floor covering, apply 2 to 3 coats of sealer. Continue to finish the floor with a high percentage solids finish. It is an industry recommendation to apply several thin coats of a high percentage solid finish to obtain a good sealing of the floor's surface, thereby minimizing the release of asbestos fibers during finishing work.

July 2014***Spray-Buffering Floors***

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When spray-buffering floors, always operate the floor machine at the lowest rates of speed possible and equip the floor machine with the least abrasive pad as possible. A recent EPA study indicated that spray-buffering with high-speed floor machines resulted in significantly higher airborne asbestos fiber concentrations than spray-buffering with low speed machines. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Burnishing Floors

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. When dry-burnishing floors, always operate the floor machine at the lowest rate of speed possible to accomplish the task (i.e., 1200-1750 rpms), and equip the floor machine with the least abrasive pad as possible. The flooring should have sufficient finish so that the pad cannot contact the asbestos flooring material. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Cleaning After Stripping & Sealing Floors

Do not strip damaged flooring. Any loose or damaged flooring should be repaired or replaced before stripping is started. After stripping a floor and applying a new coat of sealer and finish, use a wet mop for routine cleaning whenever possible. When dry mopping, a petroleum-based mop treatment is not recommended for use. Stop work if any damage occurs and notify DOH or the Asbestos Program Manager.

Maintenance During Winter

During the winter months when sanding and/or salting of icy parking lots becomes necessary, it is an industry recommendation that matting be used at the entrance way to the school building and inside the doorway where feasible. This would significantly eliminate the scuffing of floors by abrasive sanding materials brought into the building on the shoes of building occupants. More frequent wet mopping and dry mopping of floors should be performed during the winter months to minimize damage to the floors.

Additional Precautions***Conditions of Glides***

Check to see if chair and desk glides are in good condition and replace where indicated. Worn glides can gouge the floor coverings and possibly cause asbestos fiber release.

Parking Lot/Walkway Maintenance

During the winter months, have parking lots and walkways swept to avoid tracking salt and ice-melting compounds into the school by students. These materials can cause severe scuffing of floor coverings and lead to the release of asbestos fibers into the school building(s).

Use of Mats

Where feasible, use mats at entrance ways to cafeterias, gymnasiums, libraries, etc., to protect against possible scuffing of floor covering(s), etc. from salt and ice melting compounds and from ocean sand.

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K. Special Work Practices for Renovation/Remodeling

Building renovation or building system replacement can cause major disturbances of ACBM that are beyond the scope of school O&M programs. Moving walls, adding wings, and replacing heating or air conditioning systems are likely to involve breaking, cutting, or otherwise disturbing ACBM that may be present. It is highly recommended that ACBM that may be disturbed be removed before any of these activities are begun. The LEA may be required to remove the ACBM if the amount of ACBM that is likely to be disturbed exceeds the threshold amounts of 160 square feet or 260 linear feet established by the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations.

Although remodeling projects change the building structure less dramatically than renovation projects, disturbances of ACBM are still possible. When a remodeling project involves direct contact with ACBM (such as painting or wallpapering over ACBM), the O&M procedures described in § 763.91(d) of the AHERA Rule must be followed. If the work to be done will make the material friable, the work must either be limited to small-scale, short-duration or be treated as a response action.

L. Training

The LEA must ensure that within 60 days of hire, maintenance and custodial staff who may work in a building that contains ACBM must receive at least two hours of asbestos awareness training.

The awareness training must include, but is not limited to:

1. Information regarding asbestos and its various uses and forms
2. Information on the health effects associated with asbestos exposure
3. Locations of ACBM identified throughout each school building in which they work
4. Information on how to recognize damaged, deteriorated, and delaminated ACBM
5. The name and telephone number of the LEA designated person
6. Information on the availability and location of the management plan

Those members of the maintenance and custodial staff who conduct any activity that will disturb ACBM must receive 16 hours of training. Once this additional training is completed, attendees will be adequately trained to conduct small-scale, short-duration activities and/or minor fiber release episode cleanup and repair procedures. The additional training must include, but is not limited to:

1. Descriptions of the proper methods for handling ACBM
2. Information on the use of respiratory protection as contained in the EPA/NIOSH Guide to Respiratory Protection for the Asbestos Abatement Industry (September 1986) and other personal protection measures
3. The provisions of the AHERA Rule relating to O&M activities (§ 763.91) and training and periodic surveillance (§ 763.92) as well as Appendices A-E of the Rule, EPA regulations contained in 40 CFR Part 763, subpart G, and in 40 CFR Part 61, Subpart M, and OSHA regulations
4. Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices

Members of the building's maintenance or engineering staff or outside contractors (plumbers, electricians, installers, etc.) who may be required to handle or disturb ACM are required by the Rhode Island DOH to be trained by the Rhode Island DOH to be trained by a state-certified training provider

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regarding the proper handling techniques for asbestos.

All short-term workers (generally outside contractors) must also be provided with information regarding the locations of ACM and assumed ACM within the building prior to work within the facility. (*See the Worker Acknowledgement Notification form in the **Appendix G** Forms.*)

Update Training

All project designers, contractors/supervisor, and asbestos workers must complete a one day annual refresher training course for reaccreditation. Building inspectors must complete a half-day refresher course. Management planners must attend the half-day building inspector refresher course as well as a half-day management planner refresher course. Documentation of any annual training should be kept in the management plan. Maintenance and custodial staff who may work in a building that contains ACBM must receive at least two hours of annual asbestos awareness training.

M. Employee Protection & Medical Surveillance Programs

The OSHA Asbestos Standard for the Construction Industry and the EPA Worker Protection Rule explain when employees are required to wear a negative-pressure respirator and must be involved in a medical surveillance program (see also OSHA Asbestos Standard for General Industry). The purpose of a medical surveillance program is to determine whether or not an employee is healthy enough to wear a respirator and to detect any health changes in an employee's body resulting from working in asbestos-contaminated areas. Changes in health may indicate the onset of an asbestos-related disease.

In addition, any employee who works in an environment where fiber levels are at the permissible exposure limit or higher or who wears a negative-pressure respirator as part of his or her job must participate in a respiratory protection program. The only way to determine whether these fiber levels exist is to collect air samples during projects that disturb ACBM. In an O&M program, the use of negative-pressure respirators will make it necessary for most custodial and maintenance workers to participate in both the medical surveillance program and the respiratory protection program. Even if fiber levels are below the permissible exposure limit described above, it is strongly suggested that an LEA establish these programs and require that employees wear respirators any time they are likely to disturb ACBM.

N. Reinspections and Periodic Surveillance

Once the management plan has been approved by the Governor's Designee, the plan is considered to be "in effect". Every three years after implementation of a management plan, a Rhode Island accredited inspector must conduct a re-inspection of all friable and non-friable known or assumed ACBM in every school building in order to determine if there has been any change in the condition of the ACBM in accordance with section 763.85(b) of the rule. An accredited management planner must then review the re-inspection report to identify any new hazard potential and revise the management plan to address newly identified hazards. Based on the updated data, new response actions to address these hazards must be selected, and these actions must be carried out in a timely manner.

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The first periodic surveillance will have to occur before the expiration of six months from the “effective date”. At least once every six months after a management plan is in effect, the LEA must conduct periodic surveillance in each building that contains ACM or is assumed to contain ACM. The surveillance does not have to be conducted by an accredited person, but it should be conducted either by the LEA designated person (if he or she is trained) or by someone who is appropriately trained on asbestos (such as a maintenance person).

Periodic surveillance involves a visual inspection of all areas that are identified in the management plan as ACM or assumed ACM. In evaluating each homogeneous area, the person conducting the surveillance must visually inspect all areas identified in the management plan as ACM or suspected ACM and record whether there are any changes in the condition of the material (including if there are no changes). The date of the surveillance, the name of the person conducting the surveillance, and any change in condition of the ACM or assumed ACM must be documented and included in the management plan within a reasonable amount of time, such as 30 days from the periodic surveillance.

It is recommended that copies of the Field AHERA Survey Forms be made prior to periodic surveillances. These survey forms will serve as records of the periodic surveillance and will include the date of the surveillance, the name of the person conducting the surveillance, and any change in condition of the ACM or assumed ACM. Include the forms in the “periodic surveillance” section and post to serve as a frequent schedule reminder.

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IX. Safe Work Practices & Procedures

A. INTRODUCTION

The following safe work practices and procedures are minimum requirements and/or recommended guidelines for working with or around asbestos-containing materials. School personnel may perform work involving three linear or square feet or less of ACM and small-scale or short-duration projects provided that they have received the required sixteen-hour asbestos awareness training.

All school employees who perform small-scale or short-duration projects must be provided with appropriate personal protective equipment. This equipment includes, at a minimum, half-face negative-pressure respirators equipped with High Efficiency Particulate Air (HEPA) filters and full-body Tyvek® disposable coveralls or their equivalent. The following procedures are to be performed ONLY after FIRST donning this minimum personal protective equipment.

Activities which will disturb greater than three linear or three square feet of ACM must be designed and performed by persons or companies licensed in Rhode Island to perform such activities. All asbestos activities must be performed in compliance with all applicable federal, state, and local regulations. Notifications to appropriate agencies are necessary. Isolation of the affected area is usually required. All asbestos work must also be performed in such a manner as to minimize the release of asbestos fibers and protect the health and environment of all building occupants.

B. EQUIPMENT

In addition to protective equipment such as disposable clothing and respirators, the following equipment may be necessary to perform work involving asbestos.

1. Duct Tape
Heavy-gauge tape used to seal glove-bags and secure adjacent sheets of polyethylene.
2. Polyethylene or Plastic Sheeting
Plastic sheeting (6 - mil thick) used to seal off an area in which an asbestos project is taking place in order to prevent contamination of other areas. Also used to seal waste.
3. Surfactant
A chemical wetting agent added to water that improves the ability of water to penetrate asbestos-containing material.
4. Disposal Bags
Six-mil-thick bags used to dispose of asbestos-containing materials. All bags must be properly labeled according to OSHA and DOT regulations.
5. Retractable Utility Knife
Used to cut asbestos-containing materials or equipment during removal. Always use retractable utility knives so as not to risk puncturing glove-bags.

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6. Glove-bag
 A pre-manufactured polyethylene bag generally used as a containment around asbestos containing insulation on pipes or valves so that the insulation may be removed without releasing asbestos fibers into the ambient air. The glove-bag consists of a 6- to 12-mil-thick polyethylene bag fitted with long-sleeve gloves, a tool pouch and an opening for a HEPA vacuum hose and garden sprayer wand. The size, quality, style, and cost vary depending on the manufacturer.

7. Warning Signs
 Warning signs are posted at the entrance to the work area and at a sufficient distance so as to allow all building occupants adequate forewarning of the occurrence of an asbestos associated project. The purpose of warning signs is to keep unauthorized personnel away from the work area. The OSHA warning sign is worded as follows:

DANGER
 ASBESTOS
 CANCER AND LUNG DISEASE HAZARD
 AUTHORIZED PERSONNEL ONLY
 RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

8. HEPA Vacuum Cleaner
 A High Efficiency Particulate Air (HEPA) filtered vacuum cleaner capable of trapping and retaining 99.97% of all particles larger than 0.3 microns. The HEPA vacuum cleaner is equipped with an extensive filtering system consisting of primary, secondary, and HEPA filters which trap fine particles.

9. Re-wettable Fiberglass Cloth
 A canvas-like material impregnated with glue. The cloth is saturated with water and molded over asbestos-containing pipe and boiler insulation, and hardens as it dries. When completely dry, it is sealed with latex paint. Because the cloth contains fiberglass, it is best to wear gloves when handling this material.

10. Garden Sprayer
 A garden sprayer is filled with amended water and is used to wet asbestos-containing material or to lock down fibers remaining on substrate from which asbestos-containing material has been removed. When performing the glove-bag technique, a garden sprayer with a 2-3 gallon capacity is sufficient. It is best to have a hose at least six feet long. If the hose is not sufficiently long, it can be replaced or extended with flexible tubing.

11. Encapsulant
 A substance applied to asbestos-containing materials that controls the release of asbestos fibers. Encapsulant is applied over re-wettable fiberglass cloth, after the cloth has dried. Latex paint is suitable for this purpose. Be sure the encapsulant chosen has a fire rating appropriate to the area where it is used.

12. Spray Bottle
 A spray bottle filled with water is used to wet any suspect debris.

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- 13. Smoke Tubes and Aspirator Bulb
Used to test glove-bags for leaks and for respirator fit-testing.

If repairs to pipe insulation are completed using the glove-bag technique, the patching material (i.e., re-wettable fiberglass cloth) must remain free of asbestos contamination. Placing the material inside a storage bag will prevent contamination.
- 15. Rags, Nylon Bristle Scrub Brushes (or Scrub Pads)
These items are used to clean the surface of a pipe or valve once asbestos-containing insulation has been removed. The scrub brush or pad are particularly useful when removing debris from threading. These items cannot be decontaminated and must be discarded as asbestos waste.
- 16. Patching Compound (or Cement)
Used to fill in cracks or holes in pipe or boiler insulation.
- 17. Staple Gun and Staples
Used to temporarily secure polyethylene sheeting and glove-bags.
- 18. Bucket
Preferably plastic and washable. Do not use wooden buckets. Used to catch asbestos debris and to wash equipment following use.

C. BOILER AND PIPE INSULATION REPAIR

Boiler and pipe insulation often can be easily repaired using a patching compound and re-wettable fiberglass cloth. Follow all applicable regulations, including Rhode Island DOH (R23-24.5-ASB), and proceed as follows.

- 1. Isolate and seal off the work area, as required in DOH (R23-24.5-ASB). If the repair is to pipe insulation, a glove-bag may be used instead.
- 2. Seal a piece of six-mil polyethylene sheeting to the floor in the immediate work area, using duct tape. If floor debris is present, first vacuum all visible debris using a HEPA vacuum.
- 3. Thoroughly wet damaged area with a light mist of amended water, using a spray bottle.
- 4. Remove any loose debris on the damaged insulation using the HEP A vacuum.
- 5. Prepare patching compound according to the manufacturer's instructions. Patch the hole or crack.
- 6. Wet a piece of re-wettable fiberglass cloth thoroughly and place over damaged area. Cover all exposed insulation.
- 7. Properly clean and carefully peel the polyethylene sheeting off the floor, rolling the sheet so that the contaminated side is inward. Place the sheet into a six-mil polyethylene disposal bag.
- 8. Place all cleanable tools in a re-sealable storage bag and take the bag to a sink to clean the tools.
- 9. Remove disposable suit and place in asbestos disposal bag. Double-bag all waste and dispose according to all applicable regulations.

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10. Remove, clean, and store respirator.
11. When the re-wettable fiberglass cloth has dried, paint with latex (which has an appropriate fire rating), to ensure airtight seal.

D. CEILING TILE

Asbestos-containing ceiling tiles or non-asbestos-containing ceiling tiles that physically enclose other ACM require special treatment. Preventive measures must be taken to ensure that the underlying area does not become contaminated. Any movement of these tiles can result in the release of asbestos fibers. Any work that will result in disturbance of these tiles must be done after occupied school hours. Plastic sheeting must be placed on the floor to contain falling debris. See the following Section 'ACM Above Ceilings' for proper procedural techniques.

After ceiling tile activities are complete, the plastic sheeting must be HEPA-vacuumed and wet-wiped until all visible debris has been removed. Suits and other presumed contaminated equipment and debris must be cleaned, or properly sealed and disposed of according to all applicable regulations.

E. ACM ABOVE CEILINGS

The following procedures must be followed when working on or around ACM located above ceilings (usually in the form of thermal system insulation, such as pipe and fitting insulation) and in cases where the ceiling tile is asbestos-containing.

1. *When Working Above Suspended Ceilings Where ACM Pipe and Fitting Insulation is Present, Proceed as Follows:*

- a. Isolate and seal the work area as required in DOH (R23-24.5-ASB).
- b. Adhere six-mil polyethylene sheeting to the floor in the immediate work area using duct tape.
- c. Gently move or remove the suspended ceiling tile, taking care to keep the ceiling tile flat
- d. HEPA-vacuum any debris on top of the ceiling tile and adjacent tiles.

If applicable, continue with Step 'e' below.

2. *When Cutting Into Friable ACM, After Completing the First Four Steps Above, Continue as Follows:*

- e. Thoroughly wet both the area of material to be cut or disturbed and the material adjacent to the area to a distance of six inches, using a fine mist of amended water. Gradually soak the material, since directing a strong stream of water can dislodge and disperse fibers.
- f. Holding or placing a plastic bag or bucket under the area, gently cut into the material so that the debris falls into the bag or bucket. Clean entire removal area of all debris. Use a spray encapsulant in the cut area to seal any unseen asbestos fibers. Refer to manufacturer's instructions for details regarding encapsulant.
- g. Check the area for asbestos debris. Clean up any debris according to guidelines presented in 'Asbestos Debris Clean-up Procedures' below, and according to all applicable regulations.

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- h. Clean all tools and the bucket by rinsing them with the garden sprayer over a six-mil polyethylene disposal bag or seal them in a disposable bag and take to a sink to clean.
- i. Properly clean and carefully peel the polyethylene sheeting off the floor, rolling the sheet so that the contaminated side is inward. Place the sheet into a six-mil polyethylene disposal bag.
- J. Remove the disposable suit and place it in the disposal bag. Double-bag all waste and dispose of according to all applicable regulations.
- k. At a sink, re-clean bucket, thoroughly rinse sink, and remove, clean, and store respirator properly.
- l. Remove all barriers and posted warning signs.

F. NON-FRIABLE ACM

Asbestos-containing or assumed asbestos-containing materials such as transite board and transite pipe are non-friable in their undamaged state. However, routine maintenance and renovation activities can disturb non-friable ACM and cause it to become friable. When non-friable material is removed, friable asbestos-containing dust and fibers may be released. For this reason, any activities that may possibly break these non-friable materials must be undertaken with care, including the application of control methods and preventive measures.

Control methods to minimize the possibility of creating asbestos dust include using water mist to significantly reduce the release of dust and fibers, together with isolation of the area when disturbing non-friable ACM. Precautions must be taken so as not to allow non-friable materials to become broken and damaged, thereby causing fibers to be released. Cutting, sanding, abrading, or drilling will also promote fiber release from non-friable ACM. As a further safety measure, personal protective clothing should be worn when disturbing these materials.

Asbestos-containing, or assumed asbestos-containing floor tiles are also non-friable in their undamaged state. Small-scale (less than three square feet) repair of these floor tiles may be performed, but the control methods for transite board described above must be applied. At no time should any amount of floor tiles be sanded, drilled, broken, or otherwise damaged. Large-scale repair and/or removal of floor tiles will require plans to be designed by a Rhode Island licensed designer. In this event, a simplified containment system may be constructed for the ACM locations.

Note: Refer to 'Preventive Measures, in Part VII above, and Appendix B of the Rule for additional information regarding appropriate work practices.

G: GLOVE-BAG TECHNIQUE

The glove-bag technique is primarily used to remove or repair asbestos- insulated pipes or valves. This procedure requires two people. Follow all applicable regulations and proceed as follows.

- 1. MATERIALS NEEDED
 - a. Glove-bag
 - b. Two garden sprayers
 - c. Surfactant
 - d. Duct tape

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- e. Disposal bags
- f. Retractable utility knife
- g. Scrub brush or scrub pad, rags
- h. Re-wettable fiberglass cloth
- i. Re-sealable storage bags
- j. Heavy-duty hand stapler and staples
- k. Polyethylene sheeting
- l. Asbestos warning signs
- m. Smoke tubes
- n. Aspirator bulb
- o. HEPA vacuum cleaner
- p. Bucket of water
- q. Disposable clothing
- r. Half-face negative pressure respirator
- s. Bridging encapsulant
- t. Spray bottle

2. TECHNIQUE

Preparation Activities:

- a. All persons not immediately involved in glove-bag activities must be excluded from the work area. Sufficient physical barriers must be installed to limit access to the work area for the duration of the glove-bag operation.
- b. All employees who perform glove-bag operations must be provided with appropriate personal protective equipment, at a minimum, half-face negative pressure respirators equipped with HEPA filters and full-body disposable Tyvek suits or equivalent.
- c. All moveable objects must be removed from the work area. Any reusable items that may previously have been contaminated with asbestos must be HEPA-vacuumed and/or wet-wiped. Non-moveable objects may be sealed with six-mil polyethylene sheeting and duct tape.
- d. Check the integrity of the pipe insulation. If the insulation is loose, damaged, or if it is believed that cutting into the insulation will worsen its condition, do not proceed. Old, deteriorated pipe insulation may become loose during the repair or removal process, generating airborne asbestos fibers.
- e. Gather all necessary tools and supplies. Use the garden sprayers to mix the surfactant, water, and encapsulant separately according to the manufacturers' guidelines.
- f. Cut two pieces of re-wettable fiberglass cloth to cap the ends of the insulation. The inner diameter should be one-half inch smaller than the diameter of the pipe itself (not the insulation). The outer diameter of the cap should be about three inches longer than the diameter of the pipe insulation. Cut a slit through one side of the cap. Cut additional pieces of cloth in strips to be used as a patch if necessary. Place pieces in the re-sealable storage bag.
- g. Seal off the work area and post asbestos warning signs, as required by DOH (R23-24.5- ASB).
- h. Put on the negative pressure respirator and perform negative and positive pressure checks. Put on the disposable clothing.

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- l. Adhere six-mil polyethylene sheeting to the floor extending at least 10 feet in all directions in the immediate work area with duct tape.
- j. Place two layers of duct tape around the pipe at each end where the glove-bag will be attached. Determine the distance by holding the glove-bag up to the pipe to determine the length. The duct tape serves two purposes: (1) it provides a good surface on which to seal the ends of the glove-bag; and (2) it minimizes the possibility of releasing fibers when the tape is removed.
- k. With the retractable utility knife, cut from the top of the glove-bag down the side seams so as to create incisions approximately twelve inches long.
- l. Run duct tape horizontally along one of the top flaps for reinforcement.
- m. Place the utility knife, rags, nylon scrub brush or scrub pad, and re-wettable fiberglass cloth into a re-sealable storage bag and place them in the tool pouch of the glove-bag.
- n. Place the glove-bag around the section of pipe to be worked on and staple the top together with staples approximately one inch apart.
- o. Fold the stapled section over and tape it horizontally to the glove-bag with short pieces of duct tape.
- p. Lift up the glove-bag so that the bottoms of the side incisions are flush against the bottom of the pipe insulation. There should be adequate room at the top of the glove-bag to reach over the top of the pipe. If the glove-bag is not lifted up and taped, there may be insufficient room to cut the top of the pipe insulation. Seal all seams, holes, cracks, etc. securely with duct tape.
- q. Poke a hole at the top of the glove-bag large enough to allow the end of the smoke tube to be inserted.
- r. Pre-cut a few pieces of duct tape and set aside for sealing the holes and any leaks. If a hole is not already provided, tape a portion of the bag below the gloves and cut a cross slit. Insert HEPA vacuum hose and reseal bag around hose securely with duct tape.
- s. Holding the smoke tube into a wastebasket, carefully snip off both ends of the smoke tube using a pair of scissors. Eye protection should be worn to protect against stray pieces of glass. Place one end of the smoke tube into the aspirator bulb and insert the other end into the glove-bag.
- t. Squeeze the aspirator bulb until there is adequate smoke. Do not allow too much smoke to enter the bag.
- u. Take out the smoke tube, patch the hole and squeeze the bag. Seal any leaks with the duct tape. Place the smoke tube in a bucket of water for 5-10 minutes and discard.
- v. Insert the wand of the garden sprayer into the same hole used for the smoke tube. Tape the wand securely with duct tape.

Removal and/or Repair Activities

- w. If an aluminum jacket is present on the insulation, remove with tin snips and wire cutters. Fold the sharp edges inward to prevent cutting the waste disposal bag and place gently in the bottom of the bag. Be careful not to cut yourself on the sharp edges. The insulation should now be exposed.
- x. Wet the asbestos pipe insulation thoroughly and begin cutting with the retractable utility knife. Water should be sprayed on the cutting area and sides of the bag throughout the process to

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reduce dust levels in the glove-bag. Use HEPA vacuum to filter air, if necessary. As the material is cut off gently, place the insulation in the bottom of the bag. Wet the material on the bottom of the bag as well as any remaining debris on the pipe.

- y. Clean all debris off the pipe with water, scrub brush, and rags. Clean excess debris from the exposed ends remaining on the pipe.
- z. Wet the cloth end pieces made from the re-wettable fiberglass cloth and apply to exposed ends of asbestos. Enclose all visible insulation with patch strips as necessary. Any asbestos that has been exposed as a result of the glove-bag operation must be properly repaired, encapsulated, or enclosed prior to removal of the glove-bag.

H. MINI-ENCLOSURE OPERATIONS

- 1. Persons not immediately involved in asbestos-related activities are to be excluded from the work area. Use physical barriers where necessary to limit access to the work area for the duration of the work.
- 2. Construct airtight barriers to prevent the release of asbestos fibers. Where feasible, glove-bags are permitted in place of barriers to remove insulation on pipes and ducts.
- 3. Adequately wet the asbestos before disturbing it. Removed asbestos and asbestos-contaminated items are to be containerized in two six-mil polyethylene bags, or double-wrapped in six-mil polyethylene sheeting. If the material has sharp edges, double-wrap or bag it and then place the material in metal, fiber, or plastic drums that can be sealed.
- 4. Properly repair, enclose, or encapsulate friable asbestos that has been exposed during asbestos work.
- 5. HEPA-vacuum and wet-wipe until there is no visible debris or dust.
- 6. Asbestos-containing waste must be containerized, transported, and disposed of at an approved asbestos landfill in accordance with all applicable regulations.

I. ASBESTOS DEBRIS CLEAN-UP PROCEDURES

Any debris suspected of containing asbestos found on the floor, tops of ceiling tiles, or other building structures should be cleaned up immediately. Asbestos debris is extremely friable. Remember, any suspected debris that is equal to or greater than three linear or square feet must be cleaned up by an accredited and licensed asbestos abatement contractor according to a plan designed by an accredited and licensed project designer.

1. *When Asbestos-Containing Debris Is Dry or Damp and Small in Size*

- a. Isolate and seal the work area and post warning signs, as required by DOH (R23-24.5-ASB).
- b. Thoroughly wet-mop, using a bucket of water, rags and/or mops, all of the structures and items on which the debris has fallen. Be sure all visible debris is removed.
- c. Vacuum the floor using a HEPA vacuum. Again, be sure all visible debris is removed.
- d. When the area is dry, inspect for any visible asbestos debris. Sometimes wet asbestos debris becomes hidden during the clean-up. If any visible asbestos material is found,

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repeat the wet-mop or HEPA-vacuuming procedure until no visible asbestos debris is observed.

- e. Dispose of the protective clothing, mop heads, and rags into a six-mil polyethylene disposable bag. Pour the water from the bucket into the disposal bag also. Twist the top of the polyethylene bag and seal it with duct tape. Double-bag the waste material with another six-mil polyethylene bag. Dispose of the bagged asbestos waste according to all applicable regulations.
- f. Remove respirator, clean, and place in re-sealable storage bag.
- g. Clean the bucket in a sink, if available, and thoroughly rinse the sink used.
- h. Remove barriers and posted warning signs.

2. *When Asbestos Is Too Wet or Too Large to be Vacuumed*

- a. Isolate and seal the work area and post warning signs as required by DOH (R23-24.5-ASB).
- b. Thoroughly wet the asbestos material and the surrounding area to a distance of six inches with the garden sprayer. Use a light mist of water when wetting the area and the material, as a heavy stream of water could dislodge and disperse asbestos fibers.
- c. If the material is intact and too large to be easily handled with a shovel, pick up the wet material and place it in a six-mil polyethylene disposable bag.
- d. Scoop up smaller debris with a shovel, dust pan, or garden trowel and place in a six-mil polyethylene bag. Use another washable item, such as another garden trowel or ice scraper, to push the material into the shovel, dustpan, or trowel. Do NOT USE A BROOM OR BRUSH! A broom or brush cannot be decontaminated and also will increase the possibility of dispersing asbestos fibers into the air.
- e. Wet-mop the entire area and items that the asbestos material contacted, using a bucket of water, rags, and mops. If the floor is carpeted, vacuum the carpet with a HEPA-filtered vacuum cleaner. If the carpet is wet, or the debris is wet, the carpet must be steam-cleaned. A HEPA-filtered vacuum cleaner cannot be used to pick up water or wet material unless the vacuum is designed to do so.
- f. Wash the items used in the cleanup, including hands, shovel, ice scraper, etc., by holding items over the six-mil disposal bag and washing them thoroughly with the garden sprayer. Pour the bucket of contaminated water into the disposal bag.
- g. Place the protective clothing, mop heads, and rags in a six-mil polyethylene disposable bag and dispose of as contaminated waste. Twist the top of the polyethylene bag and seal it with duct tape. Double-bag the waste material with another six-mil polyethylene bag.
- h. Remove respirator, clean, and place in re-sealable storage bag.
- i. Clean the bucket in a sink, if available, and thoroughly rinse the sink used.
- j. Remove barriers and posted warning signs.

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J. ASBESTOS EMERGENCY PROCEDURES

An asbestos emergency situation is one in which there is an unexpected change in the condition of asbestos-containing material that results in the release of asbestos fibers. This is called an asbestos fiber release episode. Fiber release episodes have the potential to contaminate the area and expose the building occupants to asbestos fibers.

The following procedures should be followed in the event of an emergency:

1. Remove occupants from the immediate area and contact the appropriate building supervisor and the School's Designated Person.
2. Isolate the area as described in DOH (R23-24.5-ASB).
3. Trained personnel who will perform the work should wear the appropriate disposable clothing and respiratory protection.
4. Vents and ducts leading into or out of the emergency area should be shut down and sealed with six-mil polyethylene sheeting and duct tape according to DOH (R23-24.5-ASB).
5. If the asbestos debris or material is less than three linear or square feet, continue by following the "Asbestos Debris Clean-up Procedures" described above. If the asbestos material is greater than or equal to three square or linear feet, **DO NOT TOUCH OR REMOVE THE ASBESTOS.** Contact a Rhode Island licensed asbestos abatement contractor and a Rhode Island accredited project designer.

K. HEPA VACUUM

The HEPA vacuum cleaner is the **ONLY** vacuum cleaner designed to clean asbestos debris. Using a household or shop vacuum will not only contaminate the vacuum cleaner itself, but will expose the user and the area to high levels of airborne asbestos dust.

It is important that personnel read and follow manufacturer's directions for proper use and maintenance of the HEPA vacuum. Some HEPA vacuum cleaners cannot pick up wet materials. Consult the manufacturer's directions.

L. CLEANING AND MAINTENANCE

When the inside of the vacuum cleaner needs to be accessed, whether to change a filter, a bag, or a part, the following procedures must be followed.

1. Gather the necessary equipment required by this section, including:
 - a. Half-face negative pressure respirator
 - b. Re-sealable storage bag or similar substitute
 - c. Disposable clothing
 - d. Bucket of water
 - e. Sponges or rags
 - f. Disposal bags
 - g. Duct tape

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2. Take the HEPA vacuum cleaner to a location away from non-authorized personnel.
3. Put on the half-face negative pressure respirator and disposable clothing.
4. Perform the necessary maintenance or repair according to the manufacturer's instruction. Place any of the contaminated, used, or worn parts, bags, and filters in the six-mil polyethylene disposal bag.
5. With a damp rag or sponge, clean visible debris from the interior and exterior of the vacuum cleaner.
6. Pour the bucket of water into the disposal bag. Thoroughly rinse the bucket and pour the rinse water into disposal bag.
7. Place the sponge or rag in the six-mil polyethylene disposal bag, along with the disposable clothing and any other contaminated items.
8. Seal the six-mil bag securely with duct tape, making sure there are no leaks in the bag. Place the used and sealed disposal bag into a second labeled six-mil polyethylene disposal bag. Twist the top of the bag and seal with duct tape.
9. Remove, clean, and store respirator.
10. Store and dispose of the asbestos waste properly.

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X. Recordkeeping

A. SUMMARY

Under § 763.93(g) of the AHERA Rule, each LEA is required to keep in its administrative office a copy of the management plans for each school. The management plan must be available, without cost or restriction, for inspection by the public, including teachers, other school personnel and their representatives, and parents, as well as by representatives of EPA and the State.

In addition, each school is required to maintain in its administrative office a complete and updated copy of the management plan for that school. The school must make the plan available for inspection to those individuals listed above as well as to workers before work begins in any area of a school building.

It is the responsibility of the LEA designated person to ensure that complete and up to-date records are maintained and included in the management plan. Section 763.94 of the AHERA Rule requires that the LEA maintain the following records:

Training Information

For each person required to be trained under §§ 763.92(a)(1) and (2) of the AHERA Rule (maintenance and custodial worker training), the LEA must provide:

- The person's name and job title
- The date that training was completed
- The location of the training
- The number of hours completed in the training

Periodic Surveillance Information

Each time that periodic surveillance is conducted under § 763.92(b) of the AHERA Rule, the LEA must record:

- The name of each person conducting the surveillance
- The date of the surveillance
- Any changes in the conditions of the materials being examined

Cleaning Information

Each time that cleaning, as required under § 763.91(c), is conducted, the LEA must record:

- The name of each person performing the cleaning
- The date of the cleaning
- The locations cleaned
- The methods used to perform the cleaning

Small-Scale, Short-Duration O&M Activity Information

Each time that O&M activities under § 763.91(d) of the AHERA Rule are performed, the LEA must provide:

- The name of each person performing the activity
- The start and completion date of the activity
- The locations where such activity occurred
- A description of the activity, including the preventive measures used
- If ACBM is removed, the name and disposal site of the ACBM

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Information on O&M Activities Other Than Small-Scale, Short-Duration

Each time maintenance activities are performed that are not of small scale and short duration under § 763.91(e) of the AHERA Rule, the LEA must provide:

- The name and signature of each person performing the activity
- The State, accreditation number, and training provider name of each person performing the activity (a copy of a certificate is ideal)
- The start and completion dates of the activity
- A description of the activity, including preventive measures used
- If the ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Fiber Release Episodes

- For each fiber release episode occurring as the result of O&M activities, the LEA must provide:
- The date and location of the episode
- The method of repair, preventive measures or response action taken
- The name of each person performing the work
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Information on Response Actions and Preventive Measures

For each preventive measure and response action taken for friable and non-friable ACBM and friable and non-friable suspected ACBM assumed to be ACBM, the LEA must provide:

- A detailed written description of the measure or action, including the method used
- The location where the measure or action was taken
- Reasons for selecting the measure or action
- The start and completion dates of the work
- If applicable, the names and addresses of all contractors involved with the work
- If applicable, the State, accreditation number, and training provider name of all contractors involved with the work (a copy of the certificate)
- If ACBM is removed, the name and location of the ACBM storage or disposal site

Air Sampling Information

In addition to the information required to be provided for each preventive measure and response action taken for friable and non-friable ACBM and friable and non-friable suspected ACBM assumed to be ACBM (*See above*), when air sampling is performed for final air clearance of response actions, the LEA must provide:

- The name and signature of any person collecting any air sample required to be collected at the completion of a response action
- The locations where samples were collected
- The date(s) of collection
- The name and address of the laboratory analyzing the samples
- The date(s) of analysis
- The results of the analysis
- The method of analysis
- The name and signature of the person performing the analysis
- A statement that the laboratory is NVLAP accredited or EPA approved

July 2014**B. SAMPLE RECORD FORMS**

In order to maintain all proper records required, it is essential to establish an organized format for record keeping. The following record forms and recommended formats are provided as guidance for creating and maintaining adequate records. The information requested in the forms should only be viewed as minimum requirements as stated in the Rule. It is important to be sure that additional records be kept as necessary to fully comply with all applicable regulations.

Additional record-keeping forms, such as medical surveillance or respiratory protection forms, may similarly be recorded and continued as necessary. Keep a blank copy of the record forms used in the Record-keeping section and revise as necessary. Copy several blank forms and keep these blanks and completed forms in the **Appendix** section.

Project records may be compiled (copied as necessary in the case of repeat records, such as Worker Training) and grouped together, project by project, in order of occurrence.

July 2014

Appendix A – Certifications

July 2014

Appendix B - List of Suspect Asbestos-Containing Building Materials

Cement Pipes	Elevator Brake Shoes
Cement Wallboard	HVAC Duct Insulation
Cement Siding	Boiler Insulation
Asphalt Floor Tile	Breeching Insulation
Vinyl Sheet Flooring	Cooling Towers
Vinyl Floor Tile	Ductwork Flexible Connection
Flooring Backing	Pipe Insulation
Construction Mastics (Floor tile, carpet, etc.)	(air cell, corrugated, block, etc.)
Acoustical Plaster	Heating & Electrical Ducts
Decorative Plaster	Electrical Panel Partitions
Textured Paints/Coatings	Electrical Cloth
Ceiling Tile And Lay-in Panels	Electrical Wire Insulation
Spray-Applied Insulation	Chalkboards
Blown-in Insulation	Roofing Shingles
Fireproofing Materials	Roofing Felt
Thermal Taping Compounds	Base Flashing
Packing Material (for wall/floor penetrations)	Thermal Paper Products
High Temperature Products	Fire Doors
Laboratory Hoods/Table Tops	Sheet rock/Gypsum Board
Laboratory Gloves	Caulking/Putties
Fire Blankets	Adhesives
Fire Curtains	Wallboard
Elevator Equipment Panels	Joint Compounds
Cinder Block	Vinyl Wall Coverings
Mortar	Spackling Compounds
	Concrete Block
	Stick Pin Adhesive

Note: This list was copied from the Environmental Protection Agency’s “Green Book”, Managing asbestos in Place – A Building Owner’s Guide to Operations and Maintenance Programs for Asbestos-Containing Materials.

RI Analytical added suspect ACM commonly found during asbestos surveys. This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of material may contain asbestos.

July 2014

Appendix C - Asbestos Containing Material (ACM) Unit Costs

Unit prices include all costs for the removal and proper disposal of the identified Asbestos Containing Material (ACM), as well as but not limited to mobilization, labor, materials, administrative requirements, demobilization, overhead, profit, bond, insurance, and all other costs associated with the description of work for the following asbestos containing materials:

<u>Type of ACM to be removed</u>	<u>Price (\$)</u>
Asbestos-containing floor tile	4.0/sf
Asbestos-containing floor tile and underlying adhesive mastic	4.5/sf
Additional flooring layers above the intended ACM layer	1.0/sf/layer
Linoleum flooring with backing	4.5/sf
Pipe insulation, including straight runs and fittings	20.0/lf
Fitting insulation on fiberglass and other non-asbestos insulated pipes	25.0/each
Layed-in suspended ceiling tile	3.0/sf
Spline ceiling tiles	3.5/sf
Glue Dabs from ceiling tiles	3.5/sf
Panel Adhesive	2.5/sf
Fixed or textured ceiling plaster	15.0/sf
Spray-on Insulation	13.0/sf
Boiler Insulation	13.0/sf
Duct insulation/Breeching	13.0/sf
Tank Insulation	13.0/sf
Wall and/or Ceiling plaster and lath	15.0/sf
Transite panels	20.0/sf
Window caulking/glazing	80.0-150/window
Flue Packing	15.0/sf
Roofing flashing	15.0/sf
Roofing Field	5.0/sf
Asphalt Shingles w/ tarpaper	4.0/sf
Stainless Steel Anti-Condensate	10.0/lf
Electrical Wiring (if quantity is unknown use a lump sum price)	1.5/sf
Stair Tread and adhesive	2.0/sf
Asbestos Debris	15.0/sf
“Soft” Concrete	10.0/sf
 *Minimum fee regardless of scope of work	 \$1,500.00

Unit costs may increase or decrease due to variations such as, but not limited to time frame, schedule, accessibility, regulatory agencies, and initial mobilization costs.

July 2014

Appendix D – Rhode Island Licensed Asbestos Contractors (as of 6/27/2014)

July 2014

Appendix E – Fiber Release Episode Report

Fiber Release Episode Report	
1. Address, building, and room number(s) (or description of area) where episode occurred:	<hr/> <hr/> <hr/> <hr/>
2. The release episode was reported by _____ on _____ (date).	
3. Describe the episode: _____	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
4. The asbestos-containing material was ____/was not ____ cleaned up according to approved procedures. Describe the cleanup: _____	<hr/> <hr/> <hr/> <hr/>
Signed _____	Date: _____
Asbestos Coordinator	

July 2014

Appendix F – Work Permit Form

Work Permit Application	
1.	Address, building, and room number (or description) where work is to be performed: _____ _____
2.	Requested starting date: _____ Anticipated finish date: _____
3.	Description of work: _____ _____ _____
4.	Description of any asbestos-containing material that might be affected, if known (include location and type): _____ _____ _____ _____
5.	Name and telephone number of requestor: _____
6.	Name and telephone number of supervisor: _____
Submit this application to the asbestos program manager:	
NOTE: An application must be submitted for all maintenance work whether or not asbestos-containing material might be affected. this authorization must then be signed before any work can proceed.	
_____	Granted (Work Permit No. _____)
_____	Denied (See Asbestos Program Manager)
_____	Denied (until further sampling is conducted)
Signed _____	Date: _____
Asbestos Coordinator	

July 2014

Appendix G – Worker Acknowledgement Form

Worker Acknowledgment Form

FIRM: _____ **DATE:** _____

NAME: _____ **BUILDING:** _____

SUPERVISOR: _____ **LOCATION:** _____

Prior to performing work of any kind at the Block Island School, New Shoreham, RI, all contractors are responsible for contacting the building owner for types and locations of asbestos containing materials in the respective building where work is to be performed. The contractor shall not disturb, damage or otherwise handle any suspect asbestos containing material. If material that is suspected to be asbestos containing is disturbed and becomes airborne, the contractor shall immediately notify the Building Owner.

Any suspect asbestos containing material that is observed by the contractor to be crushed, ripped, broken or in any way damaged should be reported to the building owner immediately. Contractors must immediately convey to the building owner any information they discover pertaining to the presence, location, and quantity of asbestos containing or potentially asbestos containing materials.

By signing this document, I hereby acknowledge that I fully understand and am completely responsible for adhering to all policies set forth in this document. I hereby understand that working with asbestos can be dangerous. Inhaling asbestos fibers has been linked with various types of cancer. I also understand that if I smoke and inhale asbestos fibers my chances of developing lung cancer are greater than those of the non-smoking public.

Signature: _____ Date: _____

Printed Name: _____

July 2014

Appendix H - Employee Training Form



Course Location

Date

Course Title

Instructor

First Name (Print)	Last Name (Print)	Signature	Time In	Time Out	Time In	Time Out

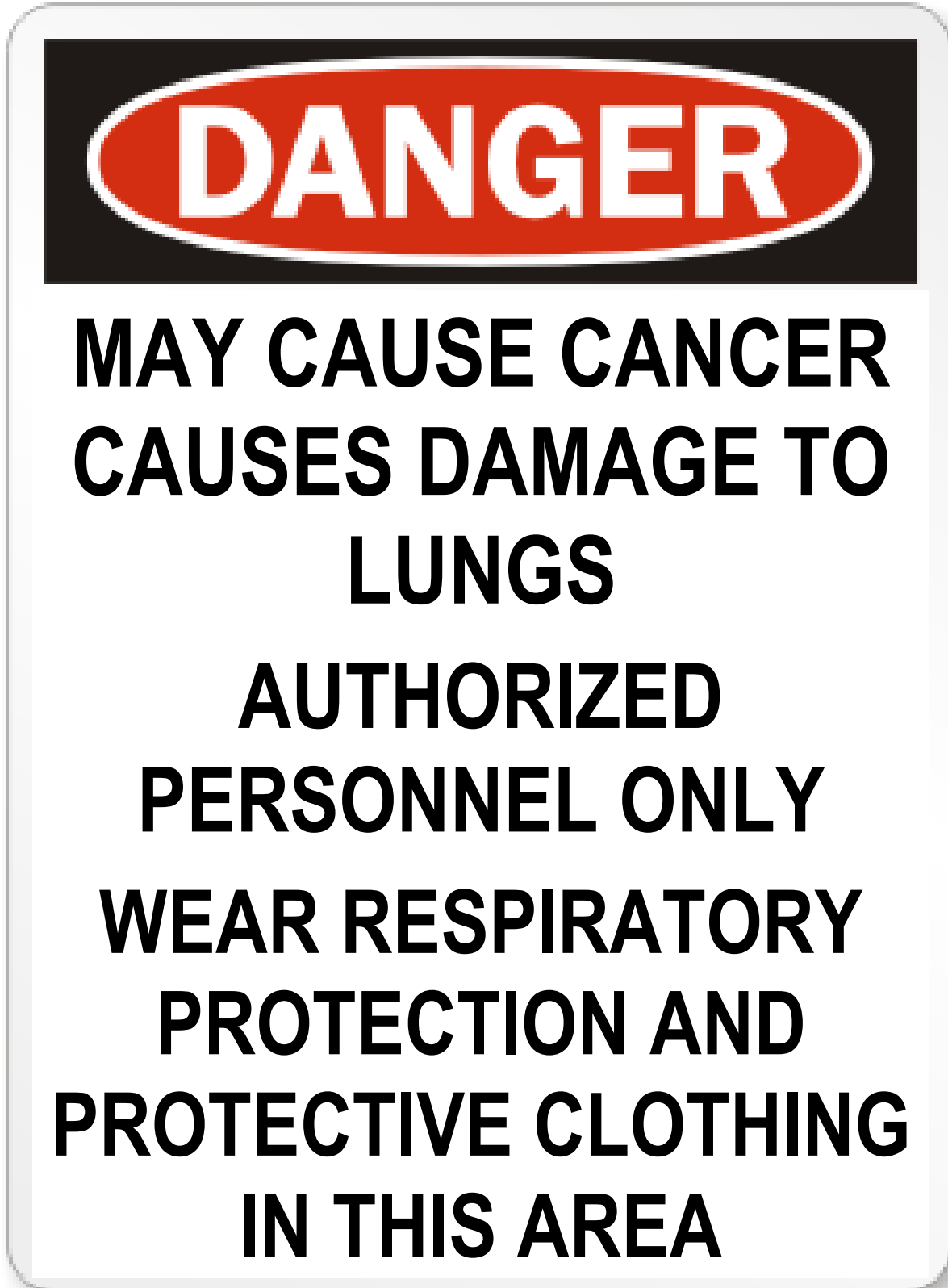
By signing this document you acknowledge that you were in attendance for the listed topics and times indicated and that this training was understood by you. You further acknowledge that you are responsible for adhering to any policies/procedures set forth in this training

July 2014

Appendix I – Asbestos Signage and Caution Labels



July 2014



July 2014

Appendix J – Sample Parent Notification Letter

**NOTICE TO PARENTS AND STAFF
REQUIRED AHERA NOTIFICATION PER 40CFR PART 763**

This notice is to provide you with a yearly notification and status report regarding asbestos materials contained in schools. This notice is required each year by the Asbestos Hazard Emergency Response Act (AHERA).

During the 2013-14 school year, either the required six-month surveillance or a three-year re-inspection of all of the facilities will be conducted at your school site, depending on your inspection schedule. The six-month surveillance is designed to provide a quick walk through the building to see that nothing has been disturbed and the condition of any asbestos containing material has not dramatically changed. The three-year re-inspection is an in-depth survey of every classroom building and portable classroom on your campus. The purpose of this re-inspection is to identify any changed conditions, new asbestos locations, if any, and ensures that the proper management of asbestos occurs throughout your school system. The inspections determined that the management plan and periodic inspections are complete and no significant changes or anomalies were noted.

Your current Asbestos Management Plan can be found at your school administrator’s office and is titled:

AHERA Asbestos Management Plan

Please contact your school administrator for additional details. Any technical questions or concerns should be directed to my office.

Maintenance Supervisor

School District

July 2014

Appendix L – Building Drawings (as of 7/16/2014)

July 2014

Appendix M - Affidavit for “No asbestos containing materials were utilized in 2005 building addition/renovations” (2014 letter)

July 2014



SACCOCCIO & ASSOCIATES
ARCHITECTS

July 08, 2014

Mr. Steve Nelson
Block Island School
15 High Street
New Shoreham, RI 02807

Re: Construction materials

Steve,
This letter is in response to your request for information from DCYF in regards to the construction materials used at your facility for the additions built in 2005.

No products that contain asbestos or lead were specified or used in the construction of the Gymnasium, Classroom and Library Additions, located at 15 High Street in the Town of New Shoreham, RI. If you need further information, feel free to contact this office.

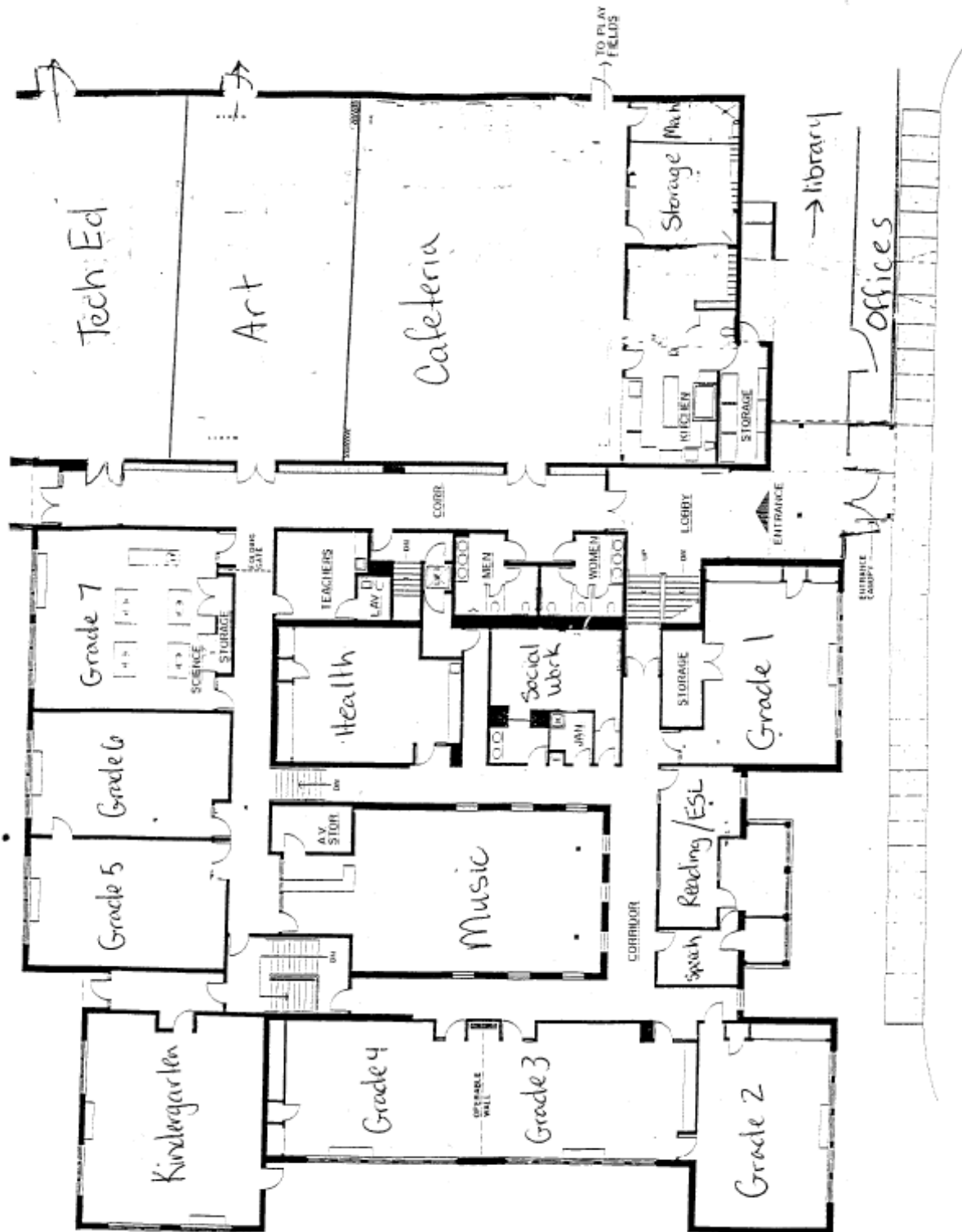
Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Saccoccio'.

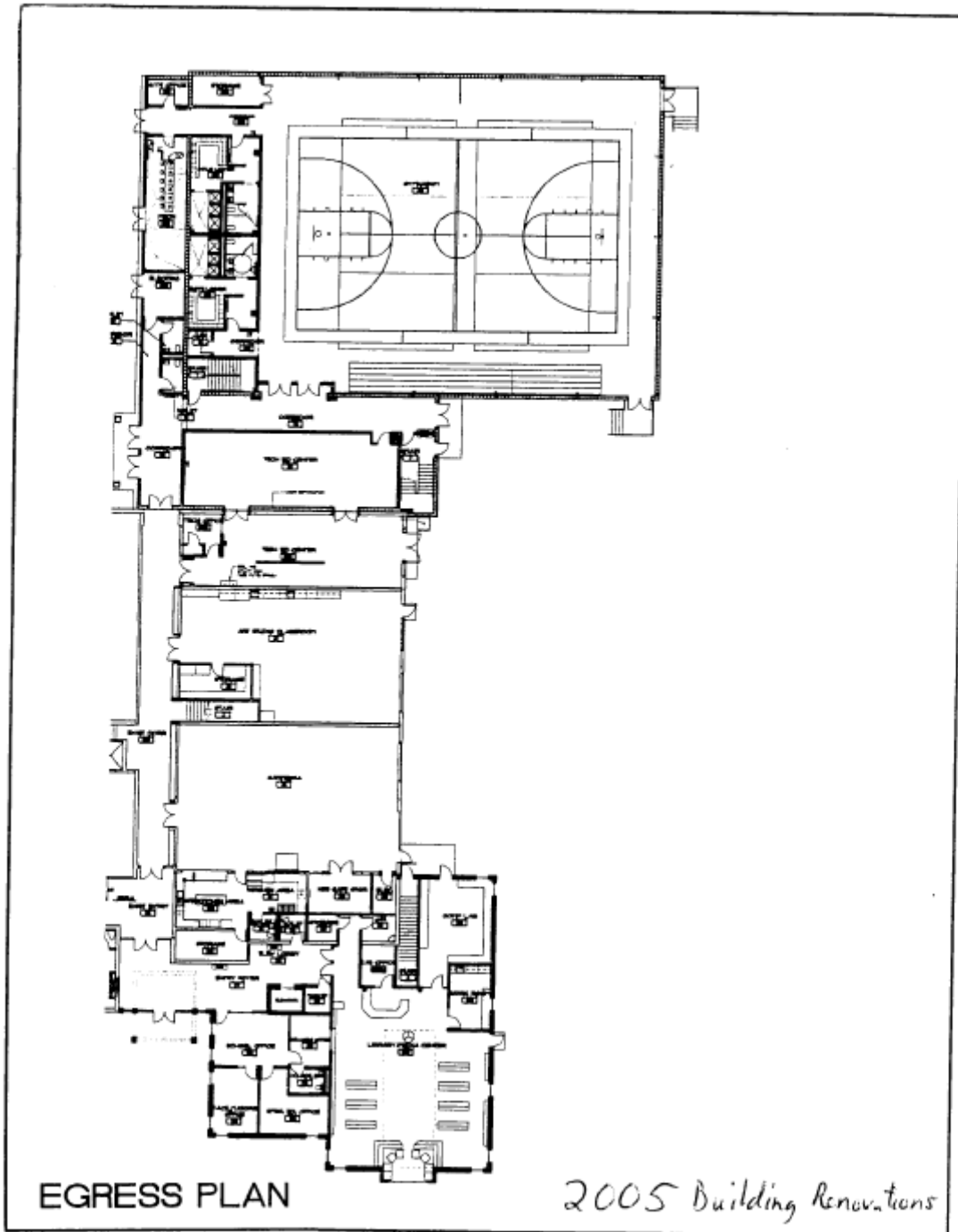
Mark Saccoccio AIA/NCARB
Principal

1085 Park Avenue, Cranston, RI 02910 • P 401.942.2970 • F 401.942.2975 • www.sjarchitects.com

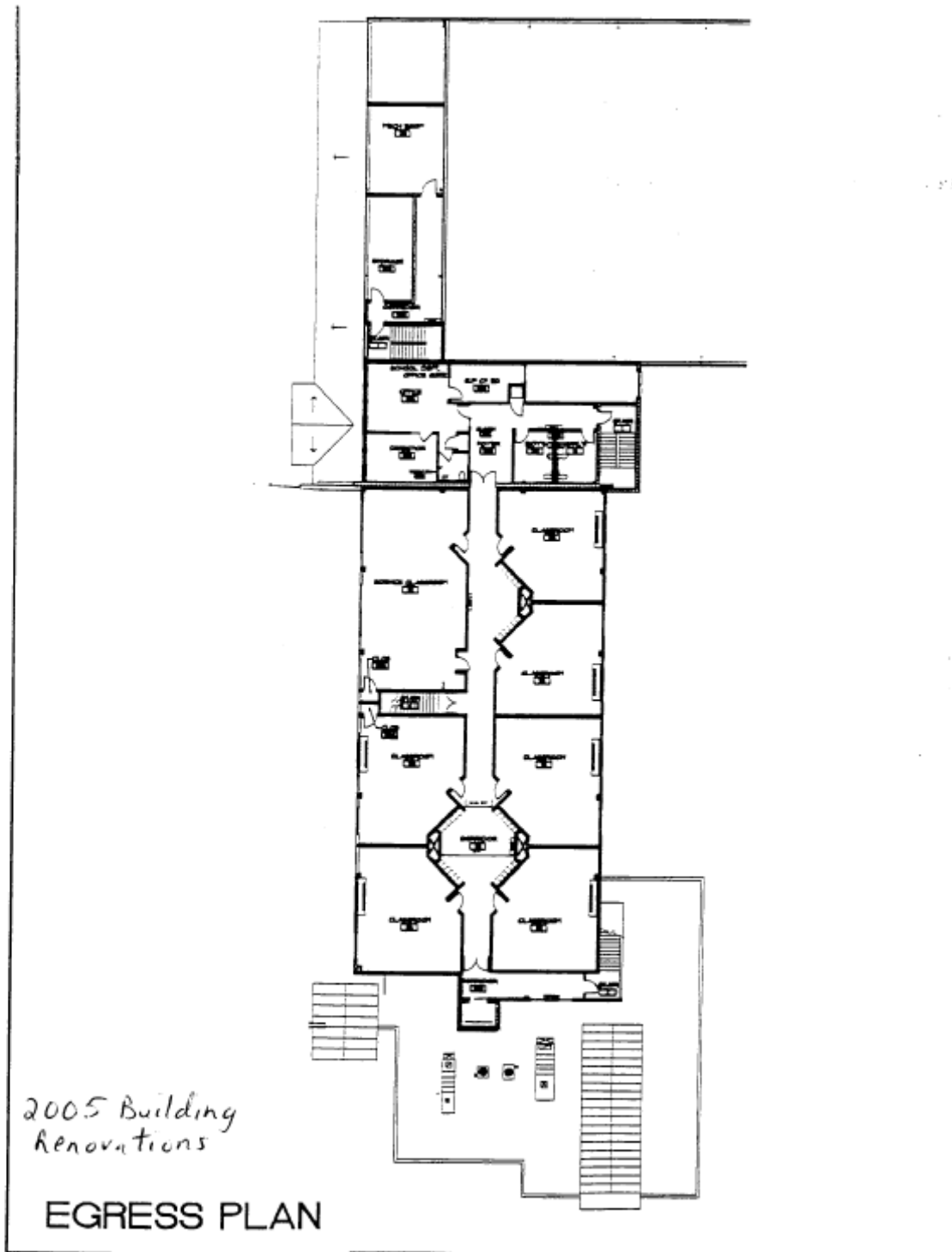
July 2014



July 2014



July 2014



**Asbestos Hazard Emergency Response Act (AHERA)
Initial Inspection Report**

**Conducted at
New Shoreham School**

PREPARED FOR:

Ms. Marsha L. Gutierrez
High Street, PO Box 1890
Block Island, RI 02807

PREPARED BY:

RI Analytical Laboratories, Inc.
Exposure and Assessment Division
41 Illinois Ave.
Warwick, RI 02888

July 2003

September 2, 2003

New Shoreham School
Attn: Ms. Marsha L. Gutierrez
High Street, PO Box 1890
Block Island, RI 02807

Re: Initial AHERA Asbestos Inspection

Dear Ms. Gutierrez:

This report is to inform you of the results of the initial AHERA inspection of the New Shoreham School located on Block Island, RI. The inspection was performed by State/AHERA licensed and accredited RI Analytical personnel on July 24, 2003. The school is required by law to maintain all asbestos-containing building materials or suspect asbestos-containing building materials in accordance with EPA Title 40 CFR Part 763, Asbestos-Containing Materials in Schools; Final Rule and Notice (AHERA; Asbestos Hazard Emergency Response Act, Oct. 17, 1987). As part of this compliance, every three (3) years a periodic surveillance of the ACBM and all suspect materials must be performed.

The initial surveillance was performed in order to establish the current condition of the school building materials. It will also ensure that the response actions chosen for all asbestos-containing building materials (ACBM) or suspect asbestos-containing building materials within the functional areas of the building are still appropriate.

This report is intended to be an addition to all information regarding asbestos-containing building materials within the school, asbestos abatement, associated asbestos activities, training, awareness sessions, or medical surveillance. This information should be maintained at the administration or LEA's office.

New Shoreham School
Page 2

The information gathered during the initial inspection is conveniently compiled in the following charts. The charts list location, material type, amount and condition of material.

If you have any question regarding this initial inspection report, please call me at (401) 737-8500 x105.

Sincerely,

RI Analytical Laboratories, Inc.
Exposure Assessment and Management Division

Gregory S. Washburn
EAM Senior Project Manager

**New Shoreham School Three-Year AHERA Report
July 2003**

Table of Contents

- I. Introduction
 - A. Purpose
 - B. Warranty
- II. Scope of Services
- III. Methodology
 - A. General References & Procedures
 - B. Inspection & Assessment
- IV. Operation & Maintenance
- V. Recommendations
- VI. Notifications
- VII. Activity Plans
- VIII. Responsible Parties
 - A. Greg Washburn
 - B. Joseph Lepore
 - C. Marsha L. Gutierrez

- Appendix A
 - Certifications

- Appendix B
 - Initial Surveillance Report

- Appendix C
 - EPA "Managing Asbestos in Place"

I. Introduction

A. Purpose

The purpose of this initial three-year inspection is to assess the condition and friability of known or assumed ACBM within the school in accordance with the AHERA requirements. Our findings will be included in the management plan and provide recommendations based on condition of the material.

B. Warranty

RI Analytical Laboratories warrants that the findings contained herein have been prepared in accordance with accepted professional practices at the time of this report's preparation. The inspection results reported herein are detailed to the extent necessary to determine condition of the ACBM.

II. Scope of Services

- * Initial site evaluation & inspection of the school.
- * A visual reinspection of all ACBM identified within those reports.
- * Assessment of ACBM, both known and assumed, for friability and condition.
- * Identification of areas which have become friable or damaged.
- * Recommendations for areas of concern.
- * Submission of management plans.

III. Methodology

A. General References & Procedures

Inspection and assessment procedures were performed in accordance with EPA in 40 CFR, part 763, subpart E, October 30, 1987, by accredited personnel.

B. Inspection & Assessment

Each homogeneous area was identified and though asbestos bulk sampling was not performed on all materials, suspect materials not sampled are classified as presumed asbestos containing materials (PACM). All components were inspected and hand tested for friability and condition.

The chart contains the description, condition of the materials, and the recommended corrective response.

IV. Operations and Maintenance (O&M)

Building workers and occupants should be informed about the location and physical condition of the ACM (asbestos containing material) that they might disturb, and stress the need to avoid disturbing the material. If and when asbestos incidents occur, it is important for the building owner to deal with occupants and contractors openly and honestly to correct the problem in the best manner. An O&M program should include a system to control all work that could disturb the ACM.

A visual inspection of all ACM should be conducted regularly as part of the O&M program. The reinspection is to ensure that any ACM damage or deterioration will be detected and corrected.

The O&M program focuses on work practices for the custodial, maintenance, and construction staff. The nature and scope of any work practices should be modified to the possibility that the ACM will be disturbed and that fibers will be released. There are four categories of O&M work practices:

1. Worker Protection Programs – These help ensure custodial and maintenance personnel are properly protected from asbestos exposure.
2. Basic O&M Procedures – Used to perform routine custodial and maintenance procedures that may involve ACM.
3. Special O&M Cleaning Techniques – Techniques used to clean up asbestos on a routine basis.
4. Procedures for Asbestos Fiber Release Episodes – If moderate to relatively large amounts of ACM are disturbed, the building owner should use these procedures to address the hazard.

All the building asbestos management documents should be stored in permanent files for future references. The EPA (Environmental Protection Agency) recommends that building owners make this information available to all employees and occupants.

Training of custodial and maintenance personnel is important to an O&M program. Improper training could result in higher levels of asbestos fibers in the air and increase the risk of a health hazard. There are three levels of maintenance worker training:

Level 1: Awareness Training – For custodians involved in cleaning and sample maintenance responsibilities where ACM may be accidentally disturbed.

Level 2: Special O&M Training – For maintenance personnel involved in general maintenance and asbestos material repair tasks.

Level 3: Abatement Worker Training – For workers who may conduct asbestos abatement

KEY

O&M = Operations and Maintenance Plan

Condition/Damage Categories

- 1) Damaged or significantly damaged thermal system insulation ACM
- 2) Damaged friable surfacing ACM
- 3) Significantly damaged friable surfacing ACM
- 4) Damaged or significantly damaged friable miscellaneous ACM
- 5) ACBM with potential for damage
- 6) ACBM with potential for significant damage
- 7) Any remaining friable ACBM or friable suspect ACBM

V. Recommendations:

This AHERA Inspection included sample collection of all accessible suspect asbestos containing materials and the only interior material that was detected to contain asbestos (<1%) was the 54 square feet of remnant mastic within the Study Room. Other materials determined to contain asbestos was the Black Caulking between the exterior windows and jamb, exterior Expansion Caulking between seams and Black Waterproofing on the base of the building foundation. The school is in excellent condition. Although AHERA Regulations pertain to all interior friable and/or non-friable suspect ACBM, the school should maintain all exterior asbestos materials identified in this Management Plan and continue with their O&M program for the remnant mastic in the Study Room.

Fiber Release Episodes:

A. Minor Release Episode

If a minor fiber release episode occurs (release of less than 10 linear feet or 25 square feet of material), trained maintenance staff may perform the cleaning. Access to the area shall be restricted during clean-up. All debris shall be thoroughly wetted using amended water and placed in labeled, double six-mil polyethylene bags. The area shall then be cleaned using HEPA filtered vacuums and/or wet cleaning methods. Damaged material must be cleaned and repaired with non-asbestos material. The area shall then be evaluated to decide if further action is necessary.

B. Major Release Episode

If a major fiber release episode occurs (falling or dislodging of more than 10 linear feet or 25 square feet of ACM), the cleaning must be carried out and directed by persons accredited to conduct and design response actions. After such an episode, the area shall be immediately restricted and entry to the area prevented. Warning signs shall be posted to caution people other than those qualified to deal with the problem. Air handling units in the area shall be shut down to prevent the spread of fibers beyond the problem area. A response action shall be designed and carried out by qualified personnel.

C. Training

Any employee who, because of their work, may disturb asbestos- containing material shall be trained and certified as a Competent Person as described by the R.I. Rules and Regulations for Asbestos Control.

The program coordinator shall ensure that the procedures described above to protect the building occupants shall be followed for any operations and maintenance activities.

RESPONSE ACTION KEYS FOR THERMAL INSULATION

1. **Isolate area and restrict access.** Remove as soon as possible.
2. **Continue O&M.** Repair or remove as soon as possible, or reduce potential for disturbance.
- 3-5. **Repair, continue O&M.** Number indicates priority if all cannot be done immediately.
- 6-7. **Continue O&M.** Take preventative measures to reduce disturbance. Number indicates priority for removal.
8. **Continue O&M** until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change.

RESPONSE ACTION KEYS FOR SURFACING MATERIALS

1. **Isolate area and restrict access.** Remove as soon as possible.
2. **Continue O&M.** Repair or remove as soon as possible, or reduce potential for disturbance.
3. **Continue O&M.** Schedule removal when practical and cost-effective, or reduce disturbance.
- 4-5. **Continue O&M.** Schedule removal when practical and cost-effective. Number indicates priority for removal.
- 6-7. **Continue O&M.** Take preventative measures to reduce disturbance. Number indicates priority for removal.
8. **Continue O&M** until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change.

RESPONSE ACTION KEYS FOR MISCELLANEOUS MATERIALS

1. **Isolate area and restrict access.** Remove as soon as possible.
2. **Continue O&M.** Repair or remove as soon as possible, or reduce potential for disturbance.
3. **Continue O&M.** Schedule removal when practical and cost-effective, or reduce disturbance.
- 4-5. **Continue O&M.** Schedule removal when practical and cost-effective. Number indicates priority for removal.
- 6-7. **Continue O&M.** Take preventative measures to reduce disturbance. Number indicates priority for removal.
8. **Continue O&M** until major renovation or demolition requires removal under NESHAPS, or until hazard assessment factors change.

VI. Notification

All Local Education Agencies (LEA) are required by, EPA (AHERA), US-OSHA, as well as Rhode Island DOH regulations to notify building occupants of the presence of asbestos-containing building materials within its school buildings. Notifications may be completed by posting signs at building entrances or other conspicuous places, through distribution of notices, and/or by the presentation of awareness seminars. Notifications will continue to be issued annually to maintenance personnel, teachers, students, and parents, informing them of the availability of the management plans. It is also the LEA's overall responsibility of ensuring that the activities required by the regulations are properly completed. LEA's must designate and ensure the proper training of a person charged with this task and ensure that all custodial and maintenance employees are trained as required.

An LEA is required to select and put into action an appropriate response action consistent with the assessment conducted. The response action must be adequate to protect human health and the environment. No asbestos abatement shall be performed in a school building while school is in session without the prior written approval of the Rhode Island DOH. Following a response action, a thorough visual inspection shall be performed and air samples shall be collected and analyzed to determine if a response action has been properly completed.

Each LEA is required to submit an asbestos management plan developed by an accredited management planner for each building used as a school. Any asbestos management plan developed under AHERA, before December 31, 1992, and submitted to the Rhode Island DOH to be reviewed, pursuant to the Act satisfies this requirement for any building covered by the plan. Execution of the plan must occur before the building is utilized as a school and be completed according to the schedule approved by the DOH. The management plan must be kept current with ongoing operations and maintenance, periodic observation, inspection, reinspection, and response actions. A copy of the management plan must be maintained by each LEA in its administrative office.

VII. Activity Plan

Reinspection of the New Shoreham School will be performed by an AHERA certified, State Licensed asbestos inspector no later than July 2006. Periodic surveillance shall be performed by personnel who are state certified competent persons at intervals of no more than six (6) months, unless conditions of asbestos-containing building material(s) change, and warrant additional surveillance monitoring.

Marsha L. Gutierrez
LEA Designated Person

Date

VIII. Responsible Parties

The primary inspector assigned to conduct the inspection survey was Joseph Lepore of RI Analytical Laboratories who is an accredited inspector. Gregory S. Washburn is an accredited AHERA management planner. Copies of those certifications are included.

Gregory S. Washburn
RI Cert. # 615-MP

Date

Joseph Lepore
RI Cert. # 661-IS

Date

I hereby state that the general LEA responsibilities under 763.84 have been or shall be met.

Marsha L. Gutierrez
LEA Designated Person

Date

The school department shall initiate a three (3) year reinspection of the New Shoreham School by July 2006. This reinspection shall include a thorough reinspection of all previously identified and assessed asbestos-containing building materials. The inspector conducting this three year AHERA reinspection shall be fully certified by the Rhode Island Department of Health and have the appropriate EPA accredited training.

The following dates indicate the time the Three-year AHERA reinspections must be completed by:

July 2006	July 2015
July 2009	July 2018
July 2012	July 2021

These reinspections and surveillance inspections shall be conducted in accordance with the AHERA regulations, 40 CFR Part 763 and the Rhode Island rules and regulations.

LEA or Asbestos Coordinator

Date

List of Suspect Asbestos-Containing Building Materials

Cement Pipes	Elevator Brake Shoes
Cement Wallboard	HVAC Duct Insulation
Cement Siding	Boiler Insulation
Asphalt Floor Tile	Breeching Insulation
Vinyl Sheet Flooring	Cooling Towers
Vinyl Floor Tile	Ductwork Flexible Connection
Flooring Backing	Pipe Insulation (air cell, corrugated, block, etc.)
Construction Mastics (floor tile, carpet, etc.)	Heating & Electrical Ducts
Decorative Plaster	Accoustical Plaster Electrical Panel Partitions
Textured Paints/Coatings	Electrical Cloth
Ceiling Tile And Lay-in Panels	Electrical Wire Insulation
Spray-Applied Insulation	Chalkboards
Blown-in Insulation	Roofing Shingles
Fireproofing Materials	Roofing Felt
Thermal Taping Compounds	Base Flashing
Packing Material (for wall/floor penetrations)	Thermal Paper Products
Caulking/Putties	Fire Doors
Adhesives	High Temperature Products
Wallboard	Laboratory Hoods/Table Tops
Joint Compounds	Laboratory Gloves
Vinyl Wall Coverings	Fire Blankets
Spackling Compounds	Fire Curtains
Concrete Block	Elevator Equipment Panels
Sheet rock/Gypsum Board	Cinder Block
	Mortar

Note: This list was copied from the Environmental Protection Agency's "Green Book", Managing asbestos in Place – A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials.

RI Analytical added suspect ACM commonly found during asbestos surveys. This list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of material may contain asbestos.

Appendix A

List of Suspect Asbestos-Containing Building Materials

Appendix B
Certification

Appendix C

EPA “Managing Asbestos in Place”

ASBESTOS HAZARD INSPECTION

**New Shoreham School
High Street, PO Box 1890
Block Island, Rhode Island 02807**

FOR

New Shoreham School Department
Attn: Marsha L. Gutierrez
High Street, PO Box 1890
Block Island, Rhode Island 02807

SUBMITTED BY

RI ANALYTICAL LABORATORIES, INC.
41 Illinois Avenue
Warwick, RI 02888

August 2003

August 5, 2003

New Shoreham School Department
Attn: Marsha L. Gutierrez
High Street, PO Box 1890
Block Island, Rhode Island 02807

Re: Asbestos AHERA sampling results for the New Shoreham School grades K-12.

Dear Mrs. Gutierrez;

On July 24, 2003 RIAL conducted an asbestos inspection of the New Shoreham School located on High Street in Block Island, Rhode Island. Inspection included old and new portions of the main school building, two trailers used for administration offices and classrooms and two storage sheds. Roofs of the main building and trailers were not sampled.

ASBESTOS REPORT:

Outlined on the following pages you will find a summary of suspect and confirmed asbestos-containing building materials observed by R.I. Analytical personnel during the limited asbestos survey conducted on the date mentioned above. The purpose of this survey was to evaluate, identify and sample all accessible asbestos-containing building materials (ACBM) that would be impacted during renovation of the New Shoreham School. The building was inspected for suspect asbestos-containing building materials (ACBM), identifying the locations of ACBM, touching all suspected ACBM to determine it's condition and friability, identifying all homogeneous ACBM, collecting bulk material samples of suspect ACBM within the building and outlining any remedial action.

One hundred nineteen (119) different asbestos-containing building materials were collected within the building. RI Analytical sampled all accessible materials that would be typically addressed in an AHERA inspection. This sampling was done to determine a general indication of asbestos content of the building materials. These building materials include surfacing, thermal systems insulation, and miscellaneous material. Once collected, bulk material samples were submitted to our certified, in-house laboratory for analysis. The samples were analyzed for the presence, content, and type of asbestos in accordance with the EPA 600/R-93/116 analytical method. Refer to **Appendix A** for laboratory results.

All descriptions of locations throughout the New Shoreham School are from provided site drawings obtained by RI Analytical personnel. The descriptions are general locations and quantities of asbestos and assumed asbestos containing materials. Refer to Appendix B for site drawings.

ACBM Chart:

Sample No.	Description	Location	Quantity	Asbestos
09	Remnant Mastic	Study Room	54 sf	Trace
029A-C	Black Caulking Material	Between Windows Exterior to Building	400 sf	1-3% Chrysotile Asbestos
030A-C	Expansion Caulking	Seams of Building Exterior	300sf	1-3% Chrysotile Asbestos
031A-C	Black Waterproofing	Base of Building on Foundation	400 lf	25-35% Chrysotile Asbestos

First floor (Study Room):

There is approximately fifty four feet (54) of remnant mastic, described as #09 in the laboratory sample results. This material contains trace amounts of Chrysotile asbestos. This is located under the carpeting in this area. The material is non-friable and in poor condition.

Exterior

Black Window caulking was found to contain 1-3% Chrysotile asbestos. There is approximately 400 lf of this material. Caulking is in fair condition and non-friable.

There is approximately 300 sf of white expansion caulking located at various seams outside of the building. This material contains 1-3% Chrysotile asbestos. White caulking is in fair condition and non-friable.

There is approximately 400 lf of Black Waterproofing on the foundation of the building. This material contains 25-35% Chrysotile asbestos and is in good condition and non-friable.

Recommendations for Asbestos Control:

The following recommendations are based upon a visual inspection of the sampled materials and/or those types of building materials most likely to contain asbestos. Therefore, the following information may not necessarily reflect all asbestos-containing materials within the building; every effort was made to conduct a thorough survey of the areas being renovated.

Sample #09 is of remnant mastic under carpeting collected from the first floor study room. This sample showed trace amounts of Chrysotile asbestos by Polarized Light Microscopy (PLM) analysis. RIAL recommends that this material be sent out for analysis by Transition Electron Microscopy (TEM) to confirm asbestos content.

All confirmed asbestos materials identified in this report are exterior to the building and non-friable. These materials are in good intact condition.

Should the New Shoreham School Department remove the materials noted in the tables above, an asbestos abatement plan would need to be designed. The plans need to be written by an accredited RI Asbestos Project designer and approved by the Rhode Island Department of Health (RIDOH).

Once approved, the RIDOH requires the RI Licensed asbestos contractor to notify with the appropriate information. Each approved RI Asbestos Abatement Plan is in effect for 1-year from the approval date. Any approved plan that the work has not started will be void after 6-months and needed to be re-submitted. Normal approval time for a RIDOH abatement plan is 2-3 weeks and an additional 10 business days for contractor notification. If the scope of work is an emergency, the state will require a letter requesting the expeditious review, a waiver of the contractor 10-day notification and a substantial reason for the immediate asbestos work. This letter must be written at the request of the owner.

Unit Costs:

Unit prices include all costs for the removal and proper disposal of the identified Asbestos Containing Material (ACM), as well as but not limited to mobilization, labor, materials, administrative requirements, demobilization, overhead, profit, bond, insurance, and all other costs associated with the description of work for the following asbestos containing materials:

Material	Location	Quantity	Unit Price	Cost
Remnant Mastic	Study Room	54 sf	2.5	135
Black Caulking Material	Exterior windows	400 sf	10/sf	4,000
Expansion Caulking	Exterior Building Seams	300 sf	10/sf	3,000
Waterproofing	Foundation	400 sf	10/sf	4,000
Total Estimated Cost				11,135

Unit costs may increase or decrease due to variations such as, but not limited to time frame, schedule, accessibility, regulatory agencies, and initial mobilization costs.

Limitations:

All efforts were made to identify all hidden and concealed suspect asbestos containing materials. RI Analytical cannot be held responsible for the identification of ACM and materials that may be enclosed behind inaccessible locations. RI Analytical only sampled accessible ACM from the New Shoreham School. Components such as leveling compound, paper under hardwood floors, electrical wiring, above mechanical systems, roofs, and etc. could not be determined at this time, but must be considered should they be impacted in future renovations.

This evaluation does not document compliance by present or past site owners with federal, state, or local laws and regulations, nor does it claim or imply that all asbestos containing materials past, present, potential, or otherwise, have been detected at the referenced site.

All observations documented in this report were made under the conditions existing at the time of this investigation. Should changes from existing conditions occur in the future warranting chemical analysis, they should be brought to the attention of RI Analytical for further investigation and documentation. Future discoveries after review by RI Analytical may merit modification of conclusions presented in this report.

This report was prepared under the request of the New Shoreham School Department. We further confirm that the New Shoreham School Department, its affiliates and subsidiaries and their successors, assigns and grantees may rely on the report within the limitations and recommendations contained within the report, as if it were prepared for the benefit of and addressed to them.

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If I may be of any further assistance or if you have any further questions please contact me at (401) 737-8500 ext 120.

Sincerely,
RI Analytical Laboratories, Inc.

Joseph M. Lepore
Environmental Consultant

Sample Identification Chart:

Sample No.	Description	Location
01A-I	2x2 ceiling tile	Throughout
02A-G	12x12 Green Floor Tile w/Brown Streaks	Through out First Floor
03A-G	Mastic to above	Under above sample
04A-E	Ceiling Skim	Throughout
05A-E	Ceiling Plaster	Throughout
06A-C	Green Cove-base	Throughout 1 st Floor
07A-E	2x2 Ceiling Tile	Bathrooms and Kitchen
08A-I	Sheetrock	Throughout
09	Remnant Mastic	Study Room
010A	Vermiculite	Classroom #1 Above Ceiling
011A-C	Chalkboard	Classrooms
012A-C	1x1 Spline Ceiling Tiles	Classrooms
013A-C	Glue Dabs	Classrooms
014A-C	Joint Compound	Throughout
015A-C	Stair Treads w/Adhesive	Stairwells
016A-C	12x12 Dark Green Floor Tile	Classroom 12
017A-C	12x12 Light Green Floor Tile	Classroom 10-11
018	Counter Top	Science
019	Firewall	Between Hall and Gym
020	Bathroom Stall Door	Men's and Women's Room
021	Duct Cloth	Gym
022	Stage Curtain	Gym
023A-E	12X12 Mint Green Floor Tile	Lower Level
024A-E	Mastic to 023	Under Above
025	Sink Anticondensate	Stainless Steel
026	Breeching to H2O Tanks	Mechanical Room
027	Boiler Breeching	Boiler Room
028A-C	Window Caulking	Exterior Windows
029A-C	Black Caulking	In Between Exterior Windows
030A-C	Expansion Caulking	Exterior to building
031A-C	Waterproofing	Foundation of Building

032A-C	12x12 Floor Tile w/mastic	Trailer Classroom
033A-C	2x4 Ceiling Tile	Trailer Classroom
034	Cove-base with adhesive	Trailer Classroom
035A-C	12x12 Floor Tile	Trailer Classroom
036A-C	Asphalt Shingles	Shed A
037A-C	Asphalt Shingles	Shed B

APPENDIX A - BULK RESULTS

APPENDIX B – DRAWINGS