City of Haverhill Massachusetts
Public School Department

AHERA Management Plan

for the

Greenleaf Elementary School
58 Chadwick Street
Haverhill, Massachusetts 01832

July 2000

Prepared By:

Hub Testing Laboratory, Inc.
Consulting and Testing Engineers
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HUB TESTING LABORATORY, INC.

Environmental Testing Service

95 Beaver Street – Waltham, MA 02453
(781) 893-8330 (781) 893-4414 (fax)

Report for: Haverhill Public Schools
4 Summer St.
Haverhill, MA 01830 – 5877

Attention: Mr. Ed Dufresne
Designated Person

Project: Greenleaf Elementary School
Haverhill, MA

Subject: AHERA Three-Year Re-inspection

Date: 1 March 2000

Asbestos Inspectors:

James G. Brimhall
AI# 60768

Asbestos Management Planners:

Susan Boyle
AP# 60771

Frederick T. Boyle
AP# 60271

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Subject: AHERA Three-Year Re-inspection

Date: 1 March 2000

As required by the US Environmental Protection Agency's AHERA regulations, Hub Testing Laboratory has completed a survey and reassessment of asbestos containing materials in the Greenleaf Elementary School. This report summarizes the locations and conditions of materials remaining in the schools and reviews the ongoing responsibilities of the Local Education Agency (LEA).

This latest survey report should be incorporated into the files that the LEA maintains, pertaining to response actions, operations & maintenance activities, six month re-inspection, training, air sampling and major asbestos activities.

SUMMARY OF RE – INSPECTION

During the re – inspection of Greenleaf Elementary School, homogeneous areas of suspect materials were identified as follows:

HOMOGENEOUS AREAS OF SUSPECT MATERIAL

MATERIAL	ASBESTOS YES/P/P_1/P_2/NO	SAMPLE #'s	LOCATION
12" x 12" Floor Tile, Tan with White Flecks	Yes	GRN 53	Rms. 002, 003A ≈ 1325 sf
12" x 12" Floor Tile (Tan)	P_2	N/A	Rms. 1, 1A, 3, 103, 104, 106 – BATH, 105C, E. Stair – Mid Landing ≈ 800 sf
12" x 12" Floor Tile (White)	P_2	N/A	2nd Floor W. Bathroom ≈ 78 sf
12" x 12" Floor Tile (Pink)	P_2	N/A	E. Stair Landing ≈ 36 sf
9" x 9" VAT (Brown)	Yes	GRN 30	Rms. 104, 105D ≈ 190 sf.
9" x 9" VAT (Green)	P_1	GRN 25	Rms. W. 105, 105, 106 ≈ 1450 sf
9" x 9" VAT (White)	P_1	GRN 28	Rms. 103, 107A, 205, 206, ≈ 2450 sf
9" x 9" VAT (Tan)	P_1	GRN 27	Rms. 105B, 107, C 230, 208 S. Stairwell ≈ 1800 sf
Linoleum	Yes	GRN 29	Rms. 104 A & B Baths ≈ 150 sf

GREENLEAF ELEMENTARY SCHOOL

RESPONSE ACTIONS FOR

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2 REFER TO KEY	RESPONSE ACTION	LOCATION
Sheet Vinyl (Tan Mosaic)	P_2	8	Room N. 106 ≈ 15 sf
Black Floor Mastic	P_2	6	Under All Floor Tile ≈ 6000 sf
Stair Treads (5' x 1' Brn)	P_2	6	≈ 90% of All Stairs ≈ 460 sf
2' x 4' Ceiling Tile	P_1	8	Rms. 4A, 103, 204 – See Report 3/02, 207, 210 Non Asbestos ≈ 6400 sf
Breeching	P	5	Boiler room 6 See Report 4/9/01 ≈ 90 sf Non Asbestos
Header Covering & Exhaust	P	5	Boiler room 6 ≈ 80 sf
Hard Fittings	P	5	Rms. 001 – 007 ≈ 17 lf
Pipe Insulation	P_2	4	Tunnel exiting 6, N. Ctr. Chase in rm. 5, All floor runs – Bsmt, 4E storage. ≈ 95 lf

There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is Aircell and friable debris in both coal storage areas adjacent to boiler room 6.

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HUB TESTING LABORATORY, INC.

Environmental Testing Service

95 Beaver Street - Waltham, MA 02453
(781) 893-8330 (781) 893-4414 (fax)

March 22, 2001

Report For: Mr. Ed Dufresne
LEA Designated person
Electrical Inspector's Office
City Hall
4 Summer Street
Haverhill, MA 01830-5877

Hub I.D.: 13246

Project: Greenleaf Elementary

Date Received: January 29, 2001

Scope: This office was requested to collect bulk samples of materials that were previously identified as being a suspect asbestos containing material under the AHERA regulation. Additional samples were collected by this office to bring the total number of samples collected per homogeneous material to a minimum of three. The samples were returned to the laboratory for analysis.

Analysis: Analysis for the presence of asbestos was performed using Polarized Light Microscopy EPA/600/R-93/116, July 1993.

Results: Homogeneous Material: 2x4' Ceiling Tile

Sample ID	Location	Composition
13246-4-1	Room 204	Cellulose 50% Fiberglass 40% Mineral Chip 10%
13246-4-2	Room 204	Cellulose 50% Fiberglass 40% Mineral Chip 10%

The samples were received in good condition.

Comment:

In most cases two samples were collected per homogeneous material since a single sample had been collected during the original AHERA inspection.

The samples collected were not asbestos containing materials. These homogeneous materials can be removed from the suspect materials list in the AHERA reports.

Susan Boyle
Vice President

HUB TESTING LABORATORY, INC.

Environmental Testing Service

95 Beaver Street - Waltham, MA 02453
(781) 893-8330 (781) 893-4414 (fax)

April 9, 2001

Report For: Mr. Ed Dufresne
LEA Designated Person
Haverhill Public Schools
4 Summer Street
Haverhill, MA 01830-5877

Hub Id: 13376

Project: Greenleaf School

Scope: Hub Testing Laboratory collected one sample at the Greenleaf School. It was requested that the sample be analyzed for the presence of asbestos.

Analysis: Analysis for the presence of asbestos was performed using Polarized Light Microscopy EPA/600/R-93/116, July 1993.

Results:

Sample ID	Material/Location	Composition	%
13376-1A	Insulation from boiler, layer 1 Color: white	Non fibrous	75
		Synthetic Fiber	25
13376-1B	Insulation from boiler, layer 2 Color: gray	Cellulose Fiber	2
		Mineral Wool	40
		Non fibrous	58

The sample was received in good condition.

Comment: The sample is not an asbestos containing material. This report shall not be reproduced except in full, without the written approval of the laboratory.

Susan Boyle
Vice President
MA Analytical
Lab #AA000013

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Results:

Sample ID	Material/Location	Composition	%
13376-1A	Insulation from boiler, layer 1 Color: white	Non fibrous	75
		Synthetic Fiber	25
13376-1B	Insulation from boiler, layer 2 Color: gray	Cellulose Fiber	2
		Mineral Wool	40
		Non fibrous	58

The sample was received in good condition.

Comment: The sample is not an asbestos containing material. This report shall not be reproduced except in full, without the written approval of the laboratory.

Susan Boyle
Vice President
MA Analytical
Lab #AA000013

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/P/P_1/P_2/NO	SAMPLE #'s	LOCATION
Pipe Insulation	P_2	N/A	Tunnel exiting 6, N. Ctr. Chase in rm. 5, All floor runs – Bsmt, 4E storage. ≈ 95 lf

There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is Aircell and friable debris in both coal storage areas adjacent to boiler room 6.

Insulation Debris	P_2	N/A	Telephone access in 4A on pipe in chase, N. chase – storage rm 5, N. E. girls bath and trap door, Ctr. Ceiling room 6. ≈ 30 sf
Bulletin Boards	No	GRN 08, 09, 10, 11	Rms. 105, 201, 204, 207 ≈ 200 sf
Chalk Boards (4' x 8')	P_2	N/A	In classrooms, under Stairs – rm. 7 ≈ 416 sf
Library Partition	P_1	GRN 01	Library ≈ 120 sf
Gray Blown In Attic Insul.	P_2	N/A	Attic ≈ 9000 sf
Gravel Over Tar Roof	P_2	N/A	Roof ≈ 9000 sf
Vibration Isolators	P_2	N/A	N. W. 9A, S. E. 4 Storage Area ≈ 20 sf

KEY TO HOMOGENEOUS AREAS OF SUSPECT MATERIAL ASBESTOS CLASSIFICATIONS

(Key: **YES** – Proven to Contain Asbestos, **P** – Presumed Asbestos Containing Material (PACM), $\mathbf{P_1}$ – Inadequate AHERA Sampling – Must be Assumed to be Asbestos Containing Material, $\mathbf{P_2}$ – Homogeneous Areas NOT Previously Identified as Suspect Material. Must be Assumed to be Asbestos Containing Material. **NO** – Proven by AHERA Sampling to be Asbestos Free).

CONDITION OF HOMOGENEOUS AREA SUSPECT MATERIAL HOMOGENEOUS MATERIAL

12' x 12' Floor Tile (Tan w/White Flecks). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (Tan). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (White). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (Pink). Miscellaneous Material.

Condition: Not Damaged.

9' x 9' VAT (Brown). Miscellaneous Material.

Condition: Damaged. There are ≈ 5 - 10% of tiles that are broken or missing.

9' x 9' VAT (Green). Miscellaneous Material.

Condition: Damaged. There are 5 - 10% of tiles that are broken or missing.

9' x 9' VAT (White). Miscellaneous Material.

Condition: Damaged. There are 5 - 10% of tiles that are broken or missing.

9' x 9' VAT (Tan). Miscellaneous Material.

Condition: Damaged. There are 5 - 10% of tiles that are broken or missing.

Linoleum. Miscellaneous Material.

Condition: Not Damaged

Sheet Vinyl (Tan Mosaic). Miscellaneous Material.

Condition: Not Damaged.

CONDITION OF HOMOGENEOIJS AREA SUSPECT MATERLAL cont.

HOMOGENEOUS MATERIAL

Black Floor Mastic. Miscellaneous Material.

Condition: Not Damaged.

Stair Treads (Brown). Miscellaneous Material.

Condition: Damaged. There is damage to the leading edges of the stair treads.

Stair Tread Mastic. Miscellaneous Material.

Condition: Damaged. The mastic is adhered to the stair treads, therefore it is damaged to the extent of the stair treads.

2' x 4' Ceiling Tiles. Miscellaneous Material.

Condition: Not Damaged.

Wall Board. Miscellaneous Material.

Condition: Not Damaged.

Breeching. Thermal System Insulation. (151)

Condition: Damaged. There is damage to the area surrounding joints.

Header Exhaust and Covering. TSL

Condition: Damaged. There is localized damage to this material next to boiler. There is debris present on top of boiler surface.

Hard Fittings. TSI.

Condition: Damaged. The fittings in the telephone access panel in room 4A are damaged with debris on the horizontal surfaces within the space. There is damage to the fitting in the storage room of room 5. There is debris on horizontal surface near fitting. The fittings within the floor runs of the basement are 30% damaged with debris present and minor seam separation.

CONDITION OF HOMOGENEOUS AREA SUSPECT MATERIAL cont.

HOMOGENEOUS MATERIAL

Pipe Insulation. (TSI).

Condition: Damaged. The pipe insulation within the floor runs of the basement is ≈ 15% damaged with debris present and minor seam separation. The boiler room Pipe insulation has been replaced with fiberglass and PVC fittings.

*There is possibly some TSI - Pipe in the metal overhead boxes over the cafeteria. Inspector could not access. There is air cell and friable debris in both coal storage areas adjacent to boiler room.

Bulletin Boards. Miscellaneous Material.

Condition: Not Damaged.

Chalk Boards. Miscellaneous Material.

Condition: Not Damaged.

Library Partition. Miscellaneous Material.

Condition: Not Damaged.

Blow - In Attic Insulation (Gray). Miscellaneous Material.

Condition: Not Damaged. This material is interspersed with fiberglass batting.

Gravel over tar roofing material. Surfacing Material.

Condition: Not Damaged.

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RESPONSE ACTIONS FOR

HOMOGENEOUS AREAS OF SUSPECT MATERIAL

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2 REFER TO KEY	RESPONSE ACTION	LOCATION
12" x 12" Floor Tile (Tan with White Flecks)	Yes	8	Rms. 002, 003A ≈ 1325 sf
12" x 12" Floor Tile (Tan)	P_2	8	Rms. 1, 1A, 3, 103, 104, 106 – Bath, 105C, East Stair – Mid Landing ≈ 800 sf
12" x 12" Floor Tile (White)	P_2	8	2nd Floor W. Bathroom ≈ 78 sf
12" x 12" Floor Tile (Pink)	P_2	8	E. Stair Landing ≈ 36 sf
9" x 9" VAT (Brown)	Yes	6	Rms. 104, 105D ≈ 190 sf.
9" x 9" VFT (Green) (Vinyl Floor Tile, VFT)	P_1	6	Rms. W. 105, 105, 106 ≈ 1450 sf
9" x 9" VFT (White)	P_1	6	Rms. 103, 107A, 205, 206, ≈ 2450 sf
9" x 9" VFT (Tan)	P_1	6	Rms. 105B, 107, C 230, 208 S. Stairwell ≈ 1800 sf
Linoleum	Yes	8	Rms. 104 A & B Baths ≈ 150 sf

GREENLEAF ELEMENTARY SCHOOL

RESPONSE ACTIONS FOR

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2 REFER TO KEY	RESPONSE ACTION	LOCATION
Sheet Vinyl (Tan Mosaic)	P_2	8	Room N. 106 ≈ 15 sf
Black Floor Mastic	P_2	6	Under All Floor Tile ≈ 6000 sf
Stair Treads (5' x 1' Brn)	P_2	6	≈ 90% of All Stairs ≈ 460 sf
2' x 4' Ceiling Tile	P_1	8	Rms. 4A, 103, 204 – 207, 210 ≈ 6400 sf
Breeching	P	5	Boiler room 6 ≈ 90 sf
Header Covering & Exhaust	P	5	Boiler room 6 ≈ 80 sf
Hard Fittings	P	5	Rms. 001 – 007 ≈ 17 lf
Pipe Insulation	P_2	4	Tunnel exiting 6, N. Ctr. Chase in rm. 5, All floor runs – Bsmt, 4E storage. ≈ 95 lf

There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is Aircell and friable debris in both coal storage areas adjacent to boiler room 6.

GREENLEAF ELEMENTARY SCHOOL

RESPONSE ACTIONS FOR

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2 REFER TO KEY	RESPONSE ACTION	LOCATION
Insulation Debris	P_2	2	Telephone access in 4A on pipe in chase,
		5	N. chase – storage rm 5,
		5	N. E. girls bath and trap door,
		6	Ctr. Ceiling room 6. ≈ 30 sf
Library Partition	P_1	8	Library ≈ 120 sf
Gray Blown In Attic Insul.	P_2	7	Attic ≈ 9000 sf
Vibration Isolators	P_2	7	N. W. 9A, S. E. 4 Storage Area ≈ 20 sf

ASBESTOS KEY.

(Key: **YES** – Proven to Contain Asbestos, **P** – Presumed Asbestos Containing Material (PACM), **P_1** – Inadequate AHERA Sampling – Must be Assumed to be Asbestos Containing Material, **P_2** – Homogeneous Areas NOT Previously Identified, Must be Assumed to be Asbestos Containing Material (ACM).

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Haverhill Public Schools
4 Summer Street
Haverhill, MA 01830-5877

RE: Greenleaf Elementary School

Recommendations to LEA

A. All Custodial and Maintenance Staff should be provided with a 2 Hr. Awareness Training Program in which asbestos uses and forms, information pertaining to health effects of asbestos, the location of asbestos in the schools, recognition of damage and the AHERA regulations is discussed.

B. The Designated Person should be provided with additional training to update their knowledge regarding health effect of asbestos exposure, detection, identification and assessment of ACM, options for controlling ACM, asbestos management programs and relevant federal and state regulations.

C. Warning labels should be attached immediately adjacent to friable ACM in routine maintenance spaces.

D. All documentation pertaining to response actions, training, surveillance, notification etc., as required by AHERA should be maintained in the Management Plan.

E. A program of periodic surveillance should be instituted where all known ACM is checked at least every 6 months.

F. All known friable asbestos containing material should be maintained in an intact condition until such time as the material is removed. This will require:
   1. The Thermal System Insulation (TSI) in the telephone access panel in room 4A should be HEPA vacuumed and the remaining TSI repaired with a re-wettable glass cloth and lag coat.
   2. The TSI debris observed in both coal storage rooms in the boiler area should be abated after a licensed Asbestos Abatement Designer designs an abatement project or both rooms should be sealed off from all access.

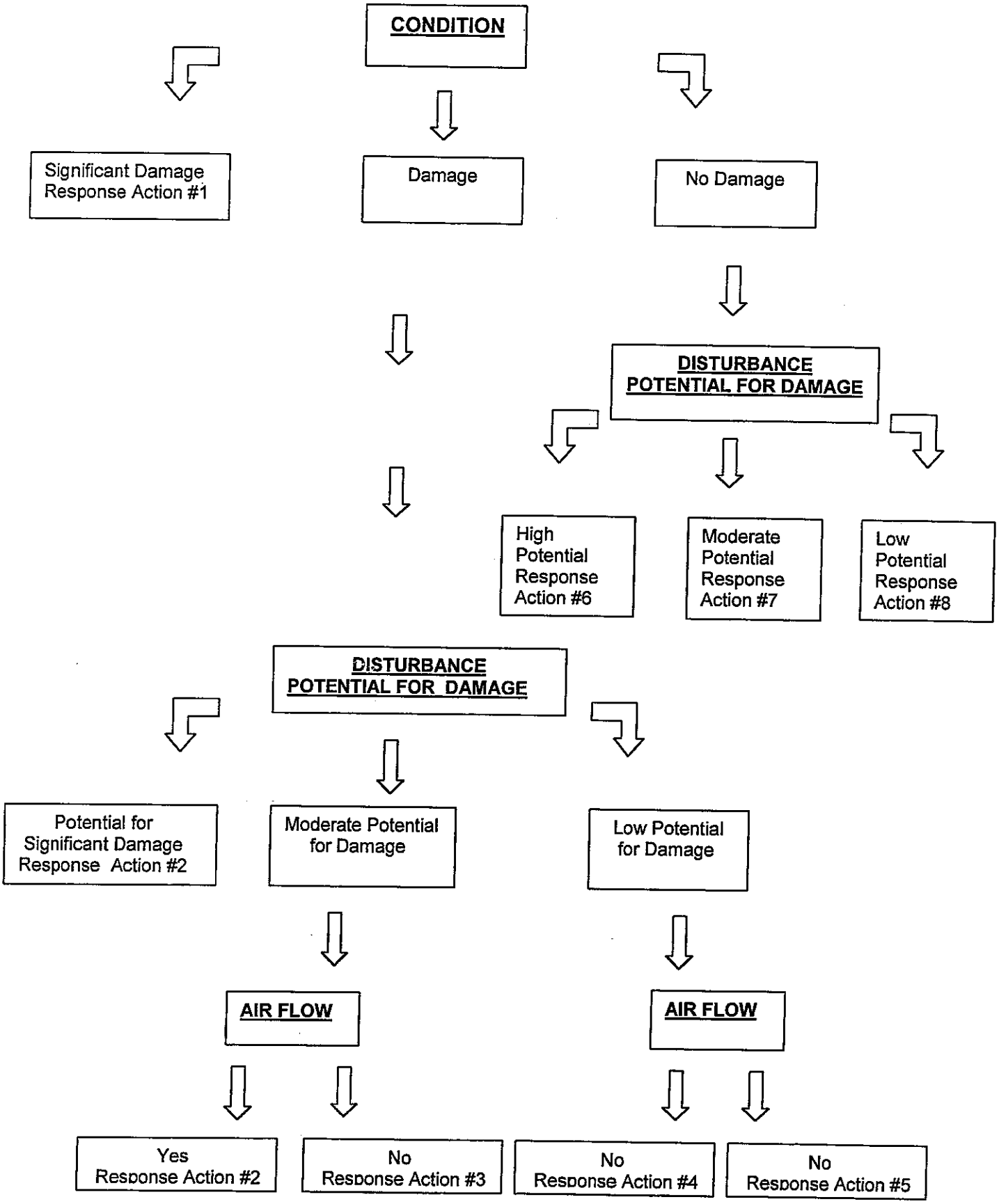
3. The Breeching and Exhaust TSI in the Boiler room is to be repaired with a re-wettable glass cloth and lag coat.
4. The TSI in the floor chases throughout the basement area is to be HEPA vacuumed then repaired with wettable glass cloth and lag coat. These chases should be covered with material to restrict access to occupants.
5. The Brown stair treads and 9" x 9" VAT should be kept well waxed. This will help to keep a seal coat on the materials and minimize breakage.

Costs associated with item F is as follows:

Abatement costs would be approximately $6500.00. However, this cost could vary dependent upon the total amount of material and time required to perform the abatement activities for the entire school system.

This cost may be reduced if the basement coal storage rooms are sealed off to access as opposed to total abatement. This decision depends on future usage plans for the storage spaces.

Decision Tree for Response Action



RESPONSE ACTION KEY

1. **Isolate area and restrict access. Remove or Repair 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 repairs cannot be done immediately.**

6 – 7. **Continue O & M. Take preventive 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.**

NON – BUILDING MATERIALS IN SCHOOLS THAT COULD POSSIBLY CONTAIN ASBESTOS THAT ARE NOT COVERED BY THE AHERA REGULATION

ROOFING MATERIALS:

1. Asphalt Saturated Felt
2. Asphaltic Roof Sealant
3. Reinforced Flashing Sheet
4. Base Felt
5. Finishing Felt
6. Flashing, (tar and felt)
7. Flashing, (cement for sheet metal work)
8. Shingles and Roof Panels
9. Roof Tiles

CLASSROOM/OFFICE MATERIALS:

1. Chalkboards, Blackboards and Bulletin Boards
2. Laboratory Chemical Fume Hoods
3. Laboratory Oven Gaskets.
4. Laboratory Bench Tops
5. Laboratory Chemical Resistant Sinks
6. Kiln Bricks
7. Kiln Gaskets
8. Kiln Gloves and Aprons

MISCELLANEOUS:

Portable HVAC Systems
Portable Water Heaters and Coolers
Refrigerators and Freezers
Electrical Insulation
Stage Curtains
Portable Acoustic Panels
Mobile Chalkboards/Bulletin Boards
Electrical Wire Insulation
Exterior Textured Paint

*** Although these items are not covered under the AHERA regulation, they should be considered when planning renovation and/or demolition to school buildings and would be covered under other Federal Regulations.**

** This list in no way indicates All the materials that could possibly contain asbestos. All suspect material should be sampled by an Accredited Person or it should be assumed to be Asbestos Containing Material (ACM).

Greenleaf Elementary

Homogeneous Areas Left to be Sampled and Number of Samples Required for Compliance

MATERIAL	DESCRIPTION	# OF SAMPLES PER AREA	
12" x 12" Tan FT	Rms. 1, 1A, 3, 103, 104, S. 106 – Bath, 105C, E. Stair Mid Landings	≈ 800 sf	3
Assoc. Mastic Above	" " " "	≈ 800 sf	3
12" x 12" White FT	2nd Flr. W. Bath	≈ 78 sf	3
Assoc. Mastic Above	2nd Flr. W. Bath	≈ 78 sf	3
12" x 12" Pink FT	E. Stair Landing	≈ 36 sf	3
9" x 9" Green FT	Rms. W. 105, 105, 106	≈ 1450 sf	2
9" x 9" White FT	Rms. 103, 107A, 205, 206	≈ 2450 sf	2
9" x 9" Tan FT	Rms. 105B, 107, C230, 208 S. Stairwell	≈ 1800 sf	2
Associated Mastic for Above	" " " "	≈ 5740 sf	3
Sheet Vinyl	Rm. N. 106	≈ 15 sf	3
Brown Stair Treads	90% of Stairs	≈ 460 sf	3
Assoc. Mastic	" " "	≈ 460 sf	3
2' x 4' CT	Rms. 4A, 103, 204 – 7, 210	≈ 6400 sf	2
Breeching	Boiler Room 6	≈ 90 sf	3
Header/Exhaust Covering	Boiler Room 6	≈ 80 sf	3
Hard Fittings	Rms. 001 – 007	≈ 17 lf	2
Pipe TSI	Tunnel Exiting 6, N. Ctr. Chase in rm. 5, All Floor Runs in Bsmt, 4E Storage	≈ 95 lf	3
Insulation Debris	Telephone Access in 4A on Chase, N. Chase – Storage rm. 5, N. E. Girls Bath and Trap Door, Center Ceiling – rm. 6	≈ 30 sf	3

Asbestos Operations and Maintenance Plan

Objectives and Policy

A. INTRODUCTION

The purpose of this Asbestos Operations and Maintenance Plan is to provide building occupants and maintenance personnel with general information covering occupational exposure to airborne asbestos fibers and to implement procedures and practices to keep known asbestos – containing materials (ACM) in good condition in order to minimize asbestos fiber release and exposure to building occupants. The plan also highlights the requirements of applicable state and federal regulations and is intended to assist the School/Owner's compliance efforts.

B. ASBESTOS HAZARD

The hazards of asbestos are well documented and universally recognized. Asbestos materials in building are generally of concern when they are friable (material which can be crumbled, pulverized, or reduced to powder by hand pressure) in nature and can be disturbed, or non-friable and miss-handled, thus producing airborne fibers. Asbestos has long been known to cause asbestosis and a variety of irreversible cancers. In recognition of the serious health hazards associated with asbestos, various federal, state, and local agencies have imposed strict regulations. These regulations are designed to protect employees exposed in the work place and to prevent exposure.

C. POLICY

The School will provide a safe and healthful work environment for all employees, students and building occupants. Such an environment requires that adequate precautions be taken to prevent employee exposure to airborne asbestos fibers. Effective control of asbestos containing building materials (ACBMs) not only protects occupants, but also reduces the risk of cancers associated with asbestos fiber release episodes, i. e., disruption to operations, employee and student medical surveillance, and civil fines.

ACBM MANAGEMENT

Facility specific operations and maintenance (O&M) programs must be established in accordance with EPA Publication 20T – 2003, "Managing Asbestos In Place" and 40 CFR SUBCHAPTER R TOXIC SUBSTANCES CONTROL ACT PART 763 ASBESTOS, 763.91. OPERATIONS AND MAINTENANCE. These programs and practices insure that:

1. ACBMs remain undisturbed and in good condition to prevent fiber release (primarily through employee training).
2. ACBMs are monitored frequently for changes in condition.
3. Damaged materials are promptly repaired and previously released fibers are cleaned up.

WORK PRACTICES

Employees must not work with ACBMs if the activity might reasonably be expected to release asbestos fibers. Routine cleaning and maintenance of nonfriable materials, i. e., vinyl asbestos floor tiles and sheet vinyl, are permissible following specific established guidelines. All maintenance, repairs and cleanup, alterations, renovations, or removals that may release or re – entrain asbestos fibers must be accomplished by qualified asbestos contractors. Accredited inspectors, however, may conduct bulk sampling of suspect ACBMs.

D. USES OF ASBESTOS – CONTAINING MATERIALS WITHIN THIS FACILITY

Refer to the SUMMARY OF RE-INSPECTION

II. NOTIFICATION & LABELING

A. EMPLOYEE/OCCUPANT NOTIFICATION

1. Part of the Asbestos Operations and Maintenance Plan includes notifying building occupants of the presence of asbestos inspection reports and management plans as well as asbestos related activities and the status of the management plan. Refer to section DOCUMENTATION for employee notification records. The following methods will be used:

   a. Conduct general awareness meetings for each work group in the building, such as custodians, maintenance personnel, Public Property personnel or any other groups desired

   b. Notify building occupants of the presence of asbestos inspection reports, management plans and the status of asbestos in the schools. This shall be in the form of a written annual notification in the beginning of the school year package, newspaper articles, web site, building permits and posted in each school.

B. OUTSIDE CONTRACTOR / SHORT TERM WORKER / PUBLIC PROPERTY WORKER NOTIFICATION

Contractors, subcontractors and Public Property personnel working at this facility shall be notified of the presence of ACM. At the main desk/sign in area, charts will be located in each school. A notice of ACBM and presumed ACBM, along with an outside contractor sign in form will be available. All outside contractors as well as Public Property workers will be required to review the document and indicate if their activity will potentially impact any ACBM or presumed ACBM. Refer to section **DOCUMENTATION** for outside contractor notification and recordkeeping procedures.

C. MATERIAL HANDLING

In a typical routine maintenance area, danger stickers or tags are placed adjacent to all equipment and systems, which are insulated with asbestos covering, such as boilers, tanks, ducts and pipes. These stickers provide an additional safeguard against accidental disturbance of asbestos material. Before any work is done on materials labeled with a danger sticker or tag, approval must be obtained from the Designated Person. Following is an example of a danger sticker.

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

D. CONTROLLED/UNCONTROLLED AREAS

The controlled area is determined by the presence of ACM and the activities, which will occur in this area. Examples of "Controlled Areas" are those areas generally accessed only by custodians, maintenance workers, or contractors, but not by the students or general public. The entrances to these areas are usually kept locked to prevent unauthorized personnel from entering. The notification stickers adjacent to ACBM and presumed ACBM help identify materials, which may not be impacted without proper training.

Other areas ("Uncontrolled") which are accessed by the students and general public such as offices and restrooms may be labeled with danger stickers if desired by the Designated Person.

The purpose of the controlled area designation is to inform workers before they enter an area to perform any work that their activities may disturb ACM. The maintenance staff, knowing that the area they are going to clean includes ACM, should use proper cleaning techniques as prescribed by the management plan to avoid disturbing the ACM. If a maintenance worker intends to work on equipment in a specific area, the sticker alerts the worker that work in the area may disturb ACM. If this work includes disturbing ACM, the Designated Person must be contacted prior to continuing any work on this material.

The warning stickers required in a controlled area shall bear the following information:

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

Controlled area stickers shall be placed adjacent to all ACBM and presumed ACBM in routinely accessed mechanical rooms, crawl spaces, attics, pipe chases, pipe tunnels, ceiling access spaces and other controlled areas known to contain friable and non friable ACM.

Contractors should reference this information as an aid in fulfilling the health and safety responsibilities to their employees. In case of an unusual event, the Designated Person will coordinate appropriate action to handle the situation.

Prior to removing asbestos containing materials, the U. S. EPA and the State of Massachusetts must be notified. This notification must also be given prior to demolition of a building containing asbestos containing materials. The contracted and licensed asbestos abatement contractor will notify the required agencies 10 business days prior to the project start date.

III. TRAINING

A. TRAINING PROGRAM

The key element in initiating and carrying out this Asbestos Operations and Maintenance Plan is the building custodial and maintenance staff. This group is responsible for daily awareness/inspection of ACM as they perform their tasks. The custodial and maintenance staff will report any indication of potential problems resulting from changes of, ACM condition, area use, or in maintenance practices. The custodial and maintenance staff will receive the 2-hour Awareness training. The following elements should be presented in the training programs:

Building Maintenance Staff Training

a. Introduction – General background on asbestos, common uses of asbestos in building materials, explanation of the Asbestos Operations and Maintenance Plan, abatement efforts to date, etc.

b. Medical/Mechanisms for Exposure – Condensed version of medical review from the 16 hour "Operations and Maintenance" training, along with similar mechanisms for exposure, with emphasis on fiber entrainment mechanisms.

c. Location of ACBM and Presumed ACBM

d. Recognition of damage, deterioration and delamination of ACBM.

e. Name and telephone number of the Designated Person.

B. EMPLOYEE TRAINING UPDATE

Training update sessions should be provided periodically. The updating sessions should include all items listed in paragraph A – Training Program, plus any new problems which may have arisen between sessions. All custodial and maintenance staff and the Custodial and Maintenance Supervisors shall attend the update in-service training annually. All training records should be kept with the Asbestos O&M Plan, at the end of this section.

C. NEW EMPLOYEE TRAINING

Each new employee will be trained in asbestos 2 hour General Awareness Training as part of his/her orientation program.

Each new employee will be given a tour of the areas ACM is located.

All training records should be kept with the Asbestos O & M Plan, at the end of this section.

D. APPROVED ASBESTOS TRAINING SOURCES

Providers Name	City/State	Contact person	Phone Number
Hub Testing Laboratory	**Waltham MA**	**Susan Boyle**	**781-893-8330**

E. SUGGESTED TRAINING COURSES FOR EMPLOYEES INVOLVED IN THE O & M PLAN

Custodial & Maintenance Personnel	General Awareness Training - 2 hours
Public Property Personnel	General Awareness Training - 2 hours
Designated Person	LEA Designated Person/Asbestos Coordinator Training

F. CLASSIFICATION OF ASBESTOS WORK PRACTICES BY OSHA AND ASSOCIATED TRAINING

Class I- Removal of ACM and PACM that is "high risk", (e.g., surfacing materials and thermal system insulation).

a. Requires an EPA- MAP, 4-day Worker course and a Massachusetts License
b. Participation in a Respiratory Protection Program
c. Participation in a medical Surveillance Program
d. Work must be supervised by a Competent Person, Which requires the EPA-MAP 5-day contractor Supervisor course and a Massachusetts license

- ALL Class I work will be contracted to an outside, Massachusetts licensed abatement contractor

Class II - Removal of ACM and PACM that is NOT "high risk", (e.g., wallboard, floor tile, roofing, and siding materials).

a. Requires an EPA-MAP, 4- day Worker course and a Massachusetts license
b. Participation in a Respiratory Protection Program
c. Participation in medical Surveillance Program
d. Work must be supervised by a Competent Person, which requires the EPA-MAP 5 day Contractor Supervisor course and a Massachusetts license

- ALL Class II work will be contracted to an outside, Massachusetts licensed abatement contractor

Class III- Repair and Maintenance activities where less than 3 sq. or 3 linear ft. of ACM or PACM is disturbed, does not include activities designed to remove ACM.

a. Requires an EPA 16 hour Associated Worker/Operation and Maintenance course, which is inclusive of the 2- hour General Awareness course.
b. May require participation in a Respiratory Protection Program
c. Requires participation in a Medical Surveillance Program

ALL Class III work will be contracted to an outside, Massachusetts licensed abatement contractor

Class 1V – Maintenance and Custodial work where employees contact, but do not disturb ACM and PACM, not including activities which require clean up of ACM and PACM waste and debris.

a. Requires 2 hour General Awareness training

IV. SPECIALIZED CLEANING PROCEDURES

These operations and maintenance (O & M) procedures are designed for specific types of asbestos-containing materials (ACM). The purpose of the program is to minimize the exposure potential of a specific type of ACM by addressing and organizing special procedures to 1.) clean-up and properly dispose of the asbestos fibers previously released, 2.) repair damaged ACM, 3) prevent further disturbance or damage of the ACM, and 4.) monitor its condition until it is removed.

Maintenance personnel should never touch, attempt to clean up, or repair damaged materials which have been found to contain asbestos. If debris from materials which are asbestos containing is found, the Designated Person should be notified immediately. If damaged ACM is in an area, is should be assumed that a potential for some level of exposure exist.

Wet methods and/or HEPA vacuuming methods can clean most areas with ACM. As different circumstances arise, modifications may be necessary. Regardless of the circumstances, prudent safety precautions should be used. Clean up of damaged ACM and/or individuals should never perform removal of ACM with less than 16-hour minimum training. Activities requiring the use of respiratory protection and medical surveillance should be performed by an outside, Massachusetts licensed abatement contractor specially trained in asbestos abatement and should never be initiated, under any circumstances, with out authorization from the Designated Person.

The following initial and routine cleaning procedures shall be performed in areas with nonfriable asbestos-containing materials within this facility.

A. CLEANING PROCEDURES TO BE PERFORMED BY AN OUTSIDE CONTRACTOR

1. INITIAL CLEANING FOR ASBESTOS-CONTAINING MATERIALS

The nonfriable materials found in the building are not likely to release asbestos fibers unless the ACM is drilled, sawed, sanded, broken or damaged. If damage occurs, then depending on the severity of the damage, initial cleaning must be performed in the same manner as outlined below. Otherwise initial cleaning may not be needed for these areas.

a. The contractor shall wear at a minimum a half-face air purifying respirator (APR) or a powered APR, and appropriate protective clothing such as disposable coveralls, goggles and gloves.

b. The contractor shall isolate and rope off the regulated area.

c. The contractor shall HEPA vacuum all sills, walls protrusions, signs, air vents, suspended light fixtures and other immovable fixtures. A HEPA vacuum should be able to filter out 99.97 % of all fibers greater than 0.3 micron in length.

d. The contractor shall lightly mist the air with water, starting high at the ceiling and ending low to the ground.

e. The contractor shall wet-wipe and mop all areas previously HEPA vacuumed. Use muslin or similar cloth type materials for wiping, moping or dusting. Do not spray directly on ACM.

f. The contractor shall HEPA vacuum carpets and drapes (if any).

g. The contractor shall dispose of all contaminated items such as cloth, cartridges, HEPA filters, and disposable clothing in 6-mil polyethylene bags, property labeled as asbestos waste. Each area or building will have a location where asbestos disposal bags are kept, and these areas should be inaccessible to occupants and non-custodial personnel. When the bag becomes full, twist-tie and place in another bag and again twist-tie. Place in a steel of fiberboard drum for transportation and disposal at an approved landfill.

h. The contractor shall inform the Designated Person of the completion of work.

B. ASBESTOS-CONTAINING MATERIAL WASTE DISPOSAL

Asbestos waste, scrap, debris, bags, containers, equipment and contaminated clothing consigned for disposal shall be collected by the contractor and disposed of in sealed, labeled, impermeable bags or other closed, labeled, impermeable containers in an approved landfill. Documentation of such disposal shall be provided to the Designated Person.

Copies of disposal records will be kept with other project documentation in DOCUMENTATION.

V. WORK PRACTICES

A. WORK PROCEDURES FOR MAINTENANCE AND COSTODIAL PERSONNEL (To be performed by staff who have received the 2-hour general awareness training)

1. Replacement of Filters in HAVC Units

When HAVC filters are replaced, precautions can be taken to greatly minimize exposure from the dirt and dust that has accumulated in the filter. The following procedures must be taken to minimize fiber release, during the replacement process. If an ACM fiber release episode has occurred and the HVAC filters are suspected of being contaminated, the system should be deactivated and then Designated Person must be contacted prior to changing the filters or reactivating the HVAC system.

Step 1. Turn off the HVAC Unit.

Step 2. Lightly mist the area around the HVAC unit with amended water prior to opening.

Step 3. Continue to mist as you open the filter holder.

Step 4. Spray the entire surface of the filter as it faces you and continue to spray the opposite side as the filter is removed.

Step 5. Carefully remove the filter and place into 6-mil polyethylene disposal bag or wrap with two 6-mil polyethylene sheets.

Step 6. Mist the filter housing/rack and wipe clean using a 10 % bleach solution to help control bacteria and fungi that may be in the dust. HEPA vacuum the area if necessary.

Step 7. Dispose of rags in an approved disposal bag and place, along with the wrapped or bagged filter into appropriate waste disposal.

Step 8. Wet wipe the immediate work area and the interior of the HVAC housing/rack with a muslin cloth and wipe the HEPA vacuum nozzle.

Step 9. Perform clean-up procedures as described earlier in this section.

Step 10. Install new filters and turn on HVAC Unit.

2. Flooring Materials

All vinyl and asphalt flooring material shall be maintained in accordance with this paragraph unless the building/facility owner demonstrates that the flooring does not contain asbestos:

- Sanding of flooring material is prohibited.
- Stripping of finishes shall be conducted using low abrasion pads at speeds lower than 150-175 rpm and all stripping will be performed with the floors wet.
- Burnishing or dry buffing may be performed only on flooring which has

sufficient finish so that the pad cannot contract the flooring material.

- Adequate wax covering will be kept on all floors as a seal coat.

3. Routine Cleaning

Routine cleaning methods performed by the maintenance and custodial staff, should employ work practices designed to reduce the re-entrainment of fibers and dust into the air. These practices should include the use of wet cleaning procedures and when available, a vacuum equipped with HEPA Filtration system. The operation and maintenance of a HEPA vacuum will require specific training to help protect against accidental exposure of building occupants and the operator to ACM. Custodial and maintenance workers in the course of normal/ routine work can also identify and should report areas which are in need of special cleaning or repair. Special cleaning techniques should supplement, not replace abatement actions for damaged, friable ACM. All repair and abatement of damaged friable ACM will be the responsibility of the Outside, Massachusetts licensed contractor. This work will be handled at the direction of the Designated Person, employing the services of a certified abatement designer, as necessary.

4. Equivalent Methods

An equivalent method is one which has sufficient written detail so that it can reproduced and has demonstrated that the exposures resulting from the equivalent method are equal to or less than the exposures which would result from the use of the of the methods described in this section. Guidelines for establishing equivalent methods may be referenced in OSAH regulations 1910.1001 (General Industry) & 1926.1101 (Construction), and must be approved by the Designated Person.

B. PROHIBITED WORK/MAINTENANCE ACTIVITIES

1. All employees are prohibited from the following activities

a. Holes must not be drilled into asbestos-containing materials except where previously described using proper procedures.

b. Plants or pictures must not be hung on structures covered with asbestos-containing materials

c. Do not saw, sand or drill asbestos-containing floor tile except where previously described using proper procedures.

d. Do not damage asbestos-containing materials while moving furniture or other objects.

e. Do not install curtains, drapes, or dividers in such a way that they damage asbestos containing materials.

f. Do not dust floors, ceilings, molding, or other surfaces in asbestos-contaminated environments with a dry brush or sweep with dry broom.

g. Do not use an ordinary vacuum to clean up asbestos-containing debris.

h. Do not remove asbestos-containing ceiling tiles.

i. Do not remove ventilation system filters while dry.

j. Do not shake ventilation system filters.

When nonfriable ACBM is likely to become friable as a result of activities performed in the building, the material must be treated as if it were friable.

V1. REQUEST FOR WORK PERMIT (MAINTENANCE/RENOVATION)

A. ORGANIZATIONAL CHART

The following is an administrative/organizational chart identifying personnel involved with the asbestos operations and maintenance program (O & M) at this facility:

Name	Title	Phone Number
Edward Dufresne	Designated Person	978-374-2341
Hub Testing Laboratory	Contracted Inspector, Management Planner, Project Designer	781-893-8330

1 Although these individuals will be responsible for the execution of the Operations and Maintenance Program for this facility, they will not perform any of the O & M functions themselves.

2 Any work which will require the use of respiratory protection will be completed by an outside contractor(s) under the direction of the Designated Person and certified Asbestos Abatement Project Designer. If unable to contact the above parties, coordinate with and notify the Executive Director of Business for Haverhill Public Schools, Roger Young.

3 The worker and Emergency Response Team responsibilities will be conducted by an outside contractor(s) under the direction of the Designated Person.

B. DESIGNATED PERSON'S RESPONSIBILITIES

The Designated Person's responsibilities include the following:

1. Become knowledgeable of the results of the asbestos inspection. within the facility.
2. Have a working knowledge and understanding of the Management Plan.
3. Ensure that all asbestos related activities are performed by appropriately trained individuals.
4. Employ the services of outside consulting and contract personnel to assist in the implementation of the Management Plan.
5. Comply with all federal, state and local regulations.

C. CUSTODIAL AND MAINTENANCE STAFF AND HAVERHILL PUBLIC PROPERTY WORKERS RESPONSIBILITIES

The custodial and maintenance staff and Public Property workers responsibilities include:

1. Know and understand where ACBM is located in the building.
2. Be able to recognize material, which has become damaged and requires a response.
3. Know who the Designated Person is.
4. Help to verify that the outside contractors do not damage an in-place ACBM.
5. Notify the Designated Person of any observed changes to an existing ACBM.

REQUEST FOR
WORK PERMIT FORM

Date:_____ **Building No.:**_____

Building Name: _____ **Room** _____

Worker's Name: _____

Company's Name: _____

Is Worker trained in Asbestos Abatement Procedures:_____

Type of Training _____

Description of work to be done:

_____

_____

_____

Scope of Work Approved By: _____ **Date**_____

_____

Work Started: _____

Work Finished: _____

Work Approved By: _____

Comments:

_____

_____

_____

Completed Action Approved By: _____ **Date** _____

V11. SPECIALIZED WORK PRACTICES FOR CONTRACTORS

Depending upon the area, type of materials and quantities to be removed, the following techniques may be used in emergency situations as well as other situations by the outside contractor.

A. ENCAPSULATION OF DAMAGED ACM

If asbestos material become water damaged due to roof, pipe, or other leaks, the material will become swollen and may lose its bonding capability. During this stage, the material may release fibers into the air when it dries out. If the material appears to be delaminating from the substrate removal should be considered. Significantly damaged areas should always be evaluated for removal. To retard fiber release, the material should be encapsulated. The basic procedure to encapsulate a small water damaged area is, at a minimum, the following:

a. Obtain a work permit order from the Designated Person or his /her assistant before starting the work.

b. Establish a regulated area and remove all occupants from the area of the building. Restrict access to the area until the work is complete. Remove mobile fixtures and seal all appropriate openings, including the HVAC system.

c. Build a polyethylene enclosure around the material to be encapsulated in compliance with Massachusetts regulations.

d. Wearing disposable coveralls and dual cartridge respirators, HEPA-vacuum the damaged area holding the nozzle one – half to one inch from the material. Do not brush the material with the nozzle.

e. Patch the area of the roof or make repairs to correct the cause of the leakage or source. Allow the damaged area to dry for at least 24 hours before proceeding with encapsulation.

f. Collect personal air samples on the workers performing the encapsulation work to document the exposure to airborne asbestos fibers if any.

g. Wet wipe all fixtures in the area of water damaged material.

h. With an airless sprayer, lightly coat the damaged area with a bridging encapsulant. Apply the encapsulant with the sprayer held eight to twelve inches from the material and apply in several directions over the material. If material is a TSI and has become saturated, then possibly, a new lag cloth or wettable glass cloth should be applied over the existing jacket.

i. Allow four to eight hours for fibers to settle. Clean and HEPA vacuum the surrounding area.

j. Dispose of all contaminated waste such as coveralls, cartridges, polyethylene and other disposable materials in properly labeled 6-mil polyethylene disposal gabs and transfer to an approved landfill.

j. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the Management Plan.

k. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project Monitor and laboratory

B. TEMPORARY REPAIR PROCEDURES

The following procedures describe interim repair and control techniques to be employed by the outside contractor when ACM is damaged or deteriorated. These repair techniques should generally be considered as temporary techniques rather than alternatives to removal. When repair practices are conducted, contract workers should, at a minimum:

a. The Designated Person will issue a work order to the contractor for the completion of the work. The contractor may not begin work until the work order has been issued.

b. Wear at a minimum disposable coveralls, gloves and half-face, dual cartridge NIOSH approved respirator equipped with HEPA filters.

c. Isolate the work area with barriers and warning signs.

d. Seal off all HVAC ducts (if necessary), windows and any other sources of air circulation through the work area.

e. Pre-clean the work area using the initial and routine cleaning techniques.

f. Removal all movable objects from the work area and cover all immovable objects with 6-mil polyethylene sheeting.

g. Build a polyethylene enclosure around the items to be repaired/replaced in compliance with Massachusetts regulations.

h. When performing the work, workers should the precautions to minimize disturbances of the asbestos-containing material.

i. After performing repair work, workers should clean the floor plastic with wet and/or HEPA vacuuming techniques and dispose of it as asbestos-containing material.

j. Clean the work area using the same cleaning techniques. Thoroughly damped with amended water all debris from the cleanup and repair work, remove all plastic sheeting and place in two 6-mil polyethylene bags.

k. Dispose of all contaminated waste such as cloth , cartridges, HEPA filters, polyethylene and disposable clothing in 6-mil polyethylene bags, properly labeled as asbestos waste, dampen the bag, twist-tie and place in another bag and again twist-tie. Place in a steel or fiberboard drum and dispose of at an approved landfill.

l. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the Management Plan.

m. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project Monitor and laboratory

C. REMOVAL USING MINI-ENCLOSURE TECHNIQUE

Mini- enclosures are used in areas where glove-bags are not practical, such as the removal of asbestos from a small tank or short length of duct, and in areas larger than small scale/short duration projects. Where negative air pressure should be established. The mini-enclosure may vary in construction. Shape or size depending upon the needs of the activity to be performed. The following procedures should, at a minimum, be followed when performing asbestos removal using the mini-enclosure removal techniques.

a. Obtain a work permit order from the Designated Person or his/her assistant before starting the work.

b. Establish a regulated area and remove from the area all personnel not directly involved in the removal procedures and isolate the area until the work is completed.

c. Post warning signs.

d. Removal all movable fixtures.

e. Construct the mini-enclosure

- Cover the mini-enclosure with 6-mil polyethylene sheeting supported by a pre-constructed framework of 2 x 4 studs or other framework such PVC around the work area.

- Minimize the size of the enclosure to allow entry only to a restricted number of workers, usually one or two.

- Cover the floor with two layers of 6-mil polyethylene sheeting extended one foot up all walls. Seal all edges with duct tape.

- Construct a decontamination facility contiguous to the enclosure. Entry to and exit from the decontamination facility, shall be through a triple layered, flapped, polyethylene entryway.

- Institute negative air pressure using a negative air machine equipped with HEPA filtration. The negative air machine should be on during the entire repair or removal procedure.

f. Use appropriate protection equipment, coveralls (double suit) and dual cartridge respirators, NIOSH rated for asbestos dust.

g. Where necessary, seal all HVAC systems and other sources of air circulation to the area.

h. Wet wipe all fixed fixtures and cover with polyethylene.

i. Mist with amended water the area to be removed.

j. After removal of all the asbestos containing material, clean the entire regulated area and spray the area with encapsulant and coat any exposed area of ACM with bridging encapsulant.

k. Place all debris and contaminated waste in properly labeled double 6-mil polyethylene disposal bags or wrap in two layers of 6-mil polyethylene. Bag before removal from the work area.

l. Spray the air in the mini-enclosure with water to settle any airborne asbestos fibers prior to dismantling the mini-enclosure.

m. Re-vacuum the area and wet clean all surfaces.

n. Remove all polyethylene sheeting and place in double, properly labeled, 6-mil polyethylene disposal bags, and dispose of at an approved landfill.

o. Proceed to the change room, HEPA vacuum coveralls and remove them prior to dismantling the enclosure. Remove respirators and dispose of the cartridges as asbestos containing waste.

p. Air monitoring shall be conducted throughout the abatement procedures.

q. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the Management Plan.

r. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project Monitor and laboratory

D. GLOVE-BAG REMOVAL TECHNIQUE:

The glove-bag technique shall be used for removal of asbestos-containing material during small-scale activities mainly involving pipes, valves, tees, fixtures, or other small components of mechanical systems.

Negative air glove-bags have been used in many projects and have proven to be successful. The manufactured glove-bags designed specifically for this type of removal have a fiber trap device (air filtration system) to provide the right amount of negative air. Two person teams shall be used for each glove bag operation. The following procedure shall be followed when using a negative air glove-hag technique:

a. Obtain a work permit order from the Designated Person or his/her assistant before starting the work.

b. Use appropriate personal protection equipment, at a minimum, half-face dual cartridge respirators and coveralls.

c. Isolate and rope off the work area until the repair or removal work is completed.

d. Post warning signs.

e. Where necessary, seal all HVAC systems, windows and other sources of air circulation to the area.

f. Pre-clean the work area in case a fiber release has occurred.

g. HEPA vacuum, wet wipe and if possible remove all objects from the work area.

h. Cover all fixed objects with 6-mu polyethylene sheeting.

i. After sealing off the work area with critical seals and donning respirator and coveralls. Insert the tools needed into the attached tool pocket of the glove-bag and place on the pipe to be worked on.

j. Attach the glove bag to the work area by folding the open edges together and sealing with staples and tape. (Remember this sealed area will be supporting the weight of the debris additional support may be necessary.)

k. Seal the edges of the glove-bag around the work area with tape or "Velcro" ties to form a tight seal. Insert the nozzle from the portable sprayer and thoroughly wet the area to be removed. The fiber trap pressure hose and vacuum hose (HEPA vacuum) may then be inserted into the side port and sealed with tape. Each glove-bag's seal shall he verified for leakage by introducing smoke into the bag and then squeezing the bag with hand pressure. If any leakage occurs, the bag shall be re-sealed and tested until no leakage occurs.

l. Insert arms into the armholes and gloves and proceed to remove the ACM from the valve, fitting or pipe. Once the area is clean, spray the pipe and any remaining insulation with encapsulant, and seal the exposed edges of ACM with covering materials.

m. As air is being removed from the glove-bag with the HEPA vacuum, squeeze the bag tightly (as close to the top as possible) and twist seal and tape closed to keep the asbestos material safely at the bottom of the bag. When the job has been completed, turn off the fiber trap device/HEPA vacuum, taking care to seal the side port with staples and tape.

n. The glove-bag may now be cut and removed from the work area, placed into another properly labeled 6-mil polyethylene bag, and disposed of properly.

o. Proceed to HEPA vacuum the work area for any residual materials.

p. Once all pipe insulation has been removed, decontaminated and disposed of according to these specifications, the entire work area should be wet-cleaned and/or HEPA vacuumed.

NOTE: The reference to the use of HEPA vacuum indicates that the vacuum used should have a filter efficiency of 99.97% at 0.3 microns or better.

r. Air monitoring shall be conducted throughout the abatement procedures.

s. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the Management Plan.

t. Have completion air monitoring performed by an appropriate certified and Massachusetts licensed Project Monitor and laboratory.

E. RESPONSE PROCEDURES IN DISASTROUS SITUATIONS

In disastrous situations such as tornadoes, fires, floods and earthquakes; asbestos containing materials may suffer significant damage and therefore release asbestos fibers and pose immediate hazards to human health and environment. The following procedures should be followed in these situations:

a. Protect yourself from immediate danger before following any asbestos response procedures.

b. As soon as the immediate emergency has passed, vacate the area.

c. Contact the Designated Person or his/her assistant and follow their instructions.

d. The Designated Person will be responsible for contacting the Response Team or an asbestos abatement contractor and must issue a work permit order before the start of any asbestos abatement procedures.

e. The Designated Person shall notify state and local authorities when required.

f. The contractor must immediately take all measures to vacate the area of unauthorized personnel, put up warning and danger signs, and rope-off or close off the area.

g. Depending upon the situation and severity of the damage, the contractor may use the abatement procedures listed in this section or AHERA guidelines.

h. The Designated Person and his/her agent (Project Monitor) shall oversee a post-work inspection to assure that all asbestos-containing materials have been properly removed or repaired and cleaned-up prior to re-occupancy.

F. TEMPORARY CONTROL TECHNIQUES

The following procedures describe interim repair and control techniques to be employed by the responding contractor when asbestos-containing materials are damaged or deteriorate. These repair techniques should generally be considered as temporary control techniques rather than alternatives to removal.

1. REMOVAL OF SMALL AMOUNT OF ASBESTOS CONTAINING SPRAY APPLIED CEILING MATERIALS

Several methods can be used to remove small amounts of asbestos-containing materials during Small scale, short duration renovation or maintenance tasks. The method chosen will depend upon the amount of material to be removed, the condition of the material and adjacent materials, the area in which the removal will occur and any other observed conditions. The decision as to the method of removal will be chosen and described for each situation by a certified and Massachusetts licensed Asbestos Abatement Project Designer.

2. DEBRIS

a. Obtain a work permit from the Designated Person or his/her Assistant before starting the work.

h. Wear at a minimum, disposable coveralls, gloves and a half-face, dual cartridge NIOSH approved respirator equipped with HEPA filters.

c. Seal all doors and grills or construct a mini-enclosure if necessary. Institute negative air pressure required and post warning signs.

d. Remove movable objects in the work area. Cover fixed objects with polyethylene.

e. Turn off the HVAC system if feasible.

f. Place a HEPA vacuum in the work area. Turn it on throughout the removal operation.

d. Mist the entire work area with amended water.

h. HEPA vacuum all the debris and place immediately in double, properly labeled 6-mil polyethylene disposal bags.

i. Dispose of all contaminated waste such as cloth, cartridges, HEPA filters, polyethylene and disposable clothing in properly labeled, 6-mil polyethylene disposal bags, dampen the bag, duck wrap and place in another bag and again duck wrap. Place in a steel or fiberboard drum and dispose of at an approved landfill.

j. Notify the Designated Person of the completion of work.

k. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the management plan.

l. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project Monitor and laboratory.

3. ROOFING MATERIALS

Roofing tar shingles and flashing are usually inaccessible to occupants. This material is the same as any other non-friable material. It does not pose a hazard unless drilled, sawed or otherwise disturbed. If repair of the material is to take place, the following procedures should be addressed.

a. As roofing materials are exterior to school building they are not covered by AHERA regulation and may not have been sampled and identified as ACBM.

b. Employ the services of a certified Massachusetts licensed Inspector to collect an appropriate number of samples to determine if the material is ACBM.

c. If the material is ACBM contract with an outside asbestos abatement contractor or roofer with adequate asbestos abatement training to remove the necessary material.

4. DRYWALL

a. Obtain a work permit from the Designated Person/Designated Person or his/her Assistant before starting the work.

b. Wear at a minimum, disposable coveralls, gloves and a half-face, dual cartridge NIOSH approved respirator equipped with HEPA filters.

c. Isolate the work area with barriers and place warning signs.

d. Seal off all HVAC ducts (if necessary), windows and any other sources of air circulation throughout the work area.

e. Pre-clean the work area using proper techniques.

f. Remove all movable objects from the work area and cover all immovable objects with 6-mil polyethylene sheeting.

g. Determine the appropriate containment control techniques for the size amount. Location or material to be impacted and build the containment or institute the engineering control

h. Mist the entire work area with amended water.

i. Repair the area with asbestos-free patching compound and smooth the material evenly to form a smooth surface. Allow to dry.

j. If replacement of a broken piece is necessary, wet the material and try to remove it in one piece. The wallboard should never be broken to fit into a disposal bag, wrap large pieces with double, properly labeled and sealed, 6-mil polyethylene layer of sheeting.

k. Clean the work area. Thoroughly dampen with amended water all debris from the repair and cleanup work. Remove all polyethylene sheeting and place in double, properly labeled. 6-mil polyethylene disposal bags.

l. Place all other contaminated waste such as disposable clothing, HEPA filters and cloth in double, properly labeled. 6-mil polyethylene disposal bags.

m. Dispose of all contaminated waste at an approved landfill.

n. Inform the Designated Person of the completion of work.

o. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the management plan

p. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project Monitor and laboratory

5. VINYL ASBESTOS TILE FLOORING

When removing floor tile for small scale, short duration activities, the objective is to remove the tile and dispose of them as a single, unbroken unit.

Determine the appropriate containment and engineering controls and institute controls over the work area.

a. Start the removal by carefully wedging a wall scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and away from the floor. A heat gun may be used to facilitate removal. Do not break off pieces of the tile, but continue to force the balance of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action on the blade to promote release of the tile from the adhesive and the floor.

b. When the first tile is removed, place it, without breaking it into smaller pieces, into a heavy-duty impermeable trash bag or closed impermeable container which will be used for disposal.

c. With the removal of the first tile, accessibility to the other tiles is improved. Force the wall scraper under the exposed edge of another tile and continue to exert a prying, twisting force to the scraper as it is moved under the tile until the tile releases from the floor. Again, dispose of the tile and succeeding tiles by placing in the heavy-duty bag or closed container without additional breaking.

Some tiles will release quite easily, while others require varying degrees of force. Where the adhesive is spread heavily or is quite hard, it may prove easier to force the scraper through the tightly adhered areas by striking the scraper handle with a hammer using blows of moderate force while maintaining the scraper at a 25 to 30 degree angle to the floor.
Caution: Use safety goggles or glasses when striking the scraper.

d. If some areas are encountered where the technique detailed above proves inadequate, the removal procedure can be simplified by heating the floor tile with a hot air blower until the heat penetrates through the tile and softens the adhesive.

e. When a small area of sub-floor is cleared of tile, the adhesive remaining on the floor must be scraped up with a hand scraper until only a thin, smooth film remains. In those areas where deposits are heavy or difficult to scrape, the removal can be expedited by heating with the hot air blower prior to scraping. Deposit scrapings in a heavy-duty impermeable trash bag or closed impermeable container.

f. As indicated in previous paragraphs, tiles should be placed immediately in a heavy-duty impermeable trash bag or closed impermeable container. Do not attempt to break the tiles after they are in the bag, this can rupture the bag.

g. When the tiles have been removed from the specified small area of floor and placed in heavy-duty polyethylene bags at least 6 mils thick, seal the bags securely for disposal and mark them with: "DANGER-- Contains Asbestos--Dispose in an approved land fill only.

h. Have completion air monitoring performed by appropriate certified and Massachusetts licensed Project monitor and laboratory.

i. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the management plan.

6. VINYL ASBESTOS SHEET FLOORING

a. Never sand or dry scrape residual felts or backing

b. As sheet flooring may have been glued to the sub floor and the process up pulling up sheet flooring will tear separate and expose friable asbestos in the paper like backing and removal of sheet flooring will be conducted under pull containment.

VIII. EMERGENCY RESPONSE ACTIONS

A. EMERGENCY RESPONSE CONTRACTOR/ABATEMENT TECHNIQUES

In order to safely and efficiently perform work on or around asbestos containing materials, the school will contract with one or more certified and Massachusetts licensed Asbestos Abatement Contractors as necessary. Examples of this kind of work are removal of pipe insulation for maintenance purposes, removal of water damaged vinyl floor tile removal of damaged ceiling tiles. Thus, Asbestos Abatement Contractor will perform emergency as well as non-emergency abatements. After the completion of all work including cleanup, the Designated Person or their representative will conduct a post-work inspection to assure that all asbestos-containing materials have been properly cleaned up.

The designated person will ensure that thorough and all necessary documentation pertaining to the response action has been secured and will incorporate it into the Management Plan under the DOCUNTATION/RECORD KEEPING section.

B. EMERGENCY RESPONSE PROCEDURES

Asbestos emergency situations may occur at any time due to water damage, physical damage, or any other damage which might cause the release of asbestos fibers in the air and pose a hazard to human health and the environment. Any damage to asbestos materials requires special attention, and certain emergency procedures must be followed at such time. The following are lists of procedures to be followed by the employees, the Designated Person, the Emergency Response Team and Maintenance Supervisor/Installation Head in an asbestos emergency event.

1. **Employee Response Procedures:**

   a. Vacate the immediate area.

   b. Set up barriers around the area to prevent anyone from entering the area. This may include closing and locking doors.

   c. Contact the Designated Person or if he/she is unavailable contact Mr. Roger Young the Business Manager

   d. Follow instructions immediately.

   e. Allow immediate access to the responding Massachusetts licensed Asbestos Abatement Contractor.

   f. Cooperate with the contractor so they can carry out this task in the fastest and safest way possible.

2. **Designated Person Response Procedures:**

a. Notify Hub Testing Laboratories/ the certified and Massachusetts license Asbestos Abatement Project Designer.

b. Issue a work order to the Emergency Response Contractor before starting the work.

c. Verify the contractor has notify state and local authorities before beginning abatement work. Allow adequate time
for compliance with notification requirements.

d. Conduct a post-work inspection to assure that all asbestos-containing materials have been properly cleaned up.

e. Document the incident refer to DOCUMENTATION and notify the person in charge of the result.

3. **Emergency Response Contractor Procedures**

a. Follow the Designated Persons instructions immediately.

b. Obtain a work order from the Designated Person/Designated Person before starting the work.

c. Isolate the area immediately.

d. Set up barriers around the area to prevent any unauthorized personnel from entering.

e. Set up warning signs indicating the asbestos removal or repair work.

f. Employ all safety measures as outlined in the response action required for this situation (personal protective equipment, cleaning procedures, spot removal or repair, or glove bag procedures).

g. Determine the size of the fiber release episode and contact the Designated Person.

h. Perform the repair or the removal of the damaged areas as required.

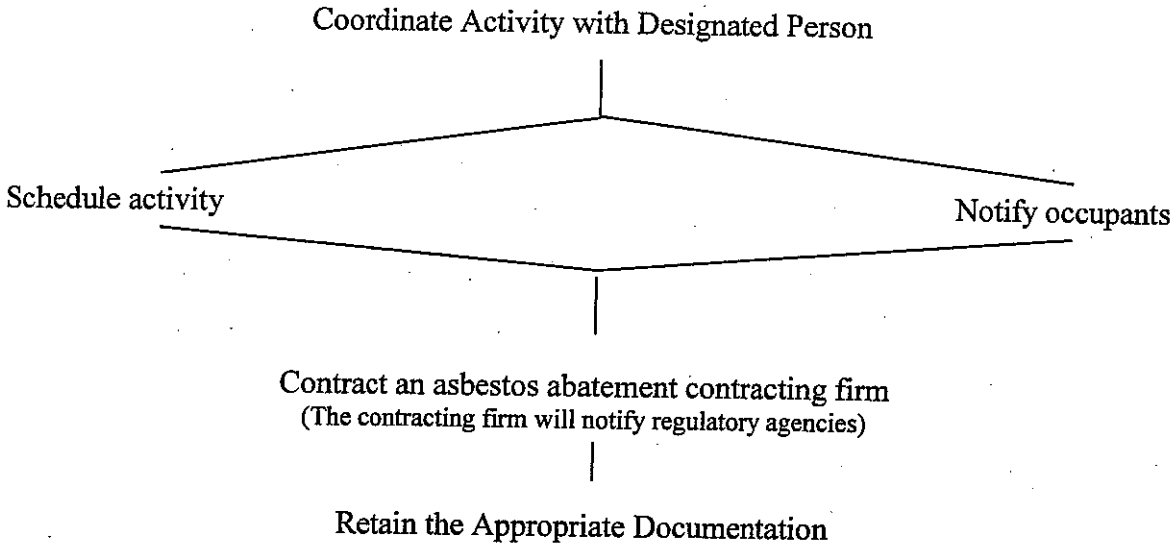
i. The Designated Person will notify the appropriate personnel when the space is safe for re-occupancy.

j. Have completion air monitoring performed by appropriate Certified and Massachusetts Project Monitor.

k. Secure the complete and proper documentation for the activity and incorporate it into the record keeping of the management plan.

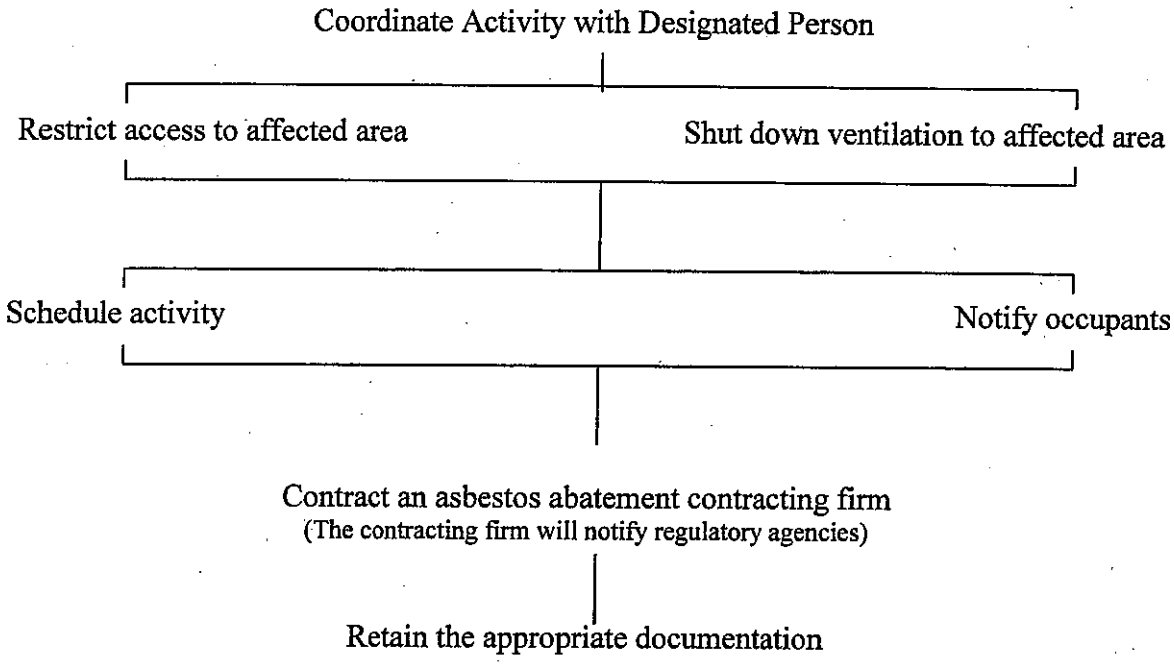
The following flow charts depict the proper emergency response procedures for friable and non-friable materials at this facility.

ACTIVITY: PRE-PLANNED ABATEMENT ACTIVITY

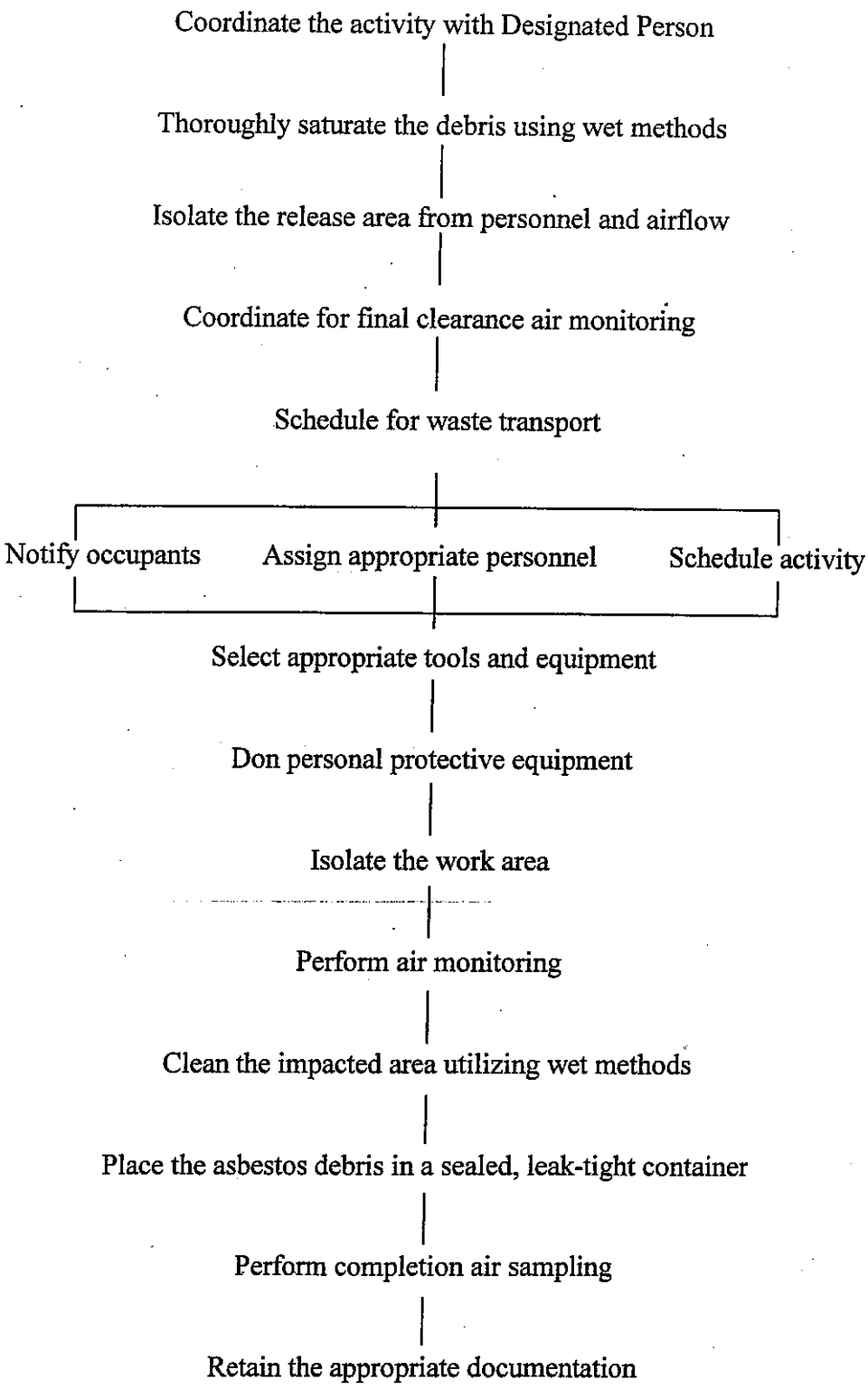


ACTIVITY: MAJOR FIBER RELEASE EPISODE

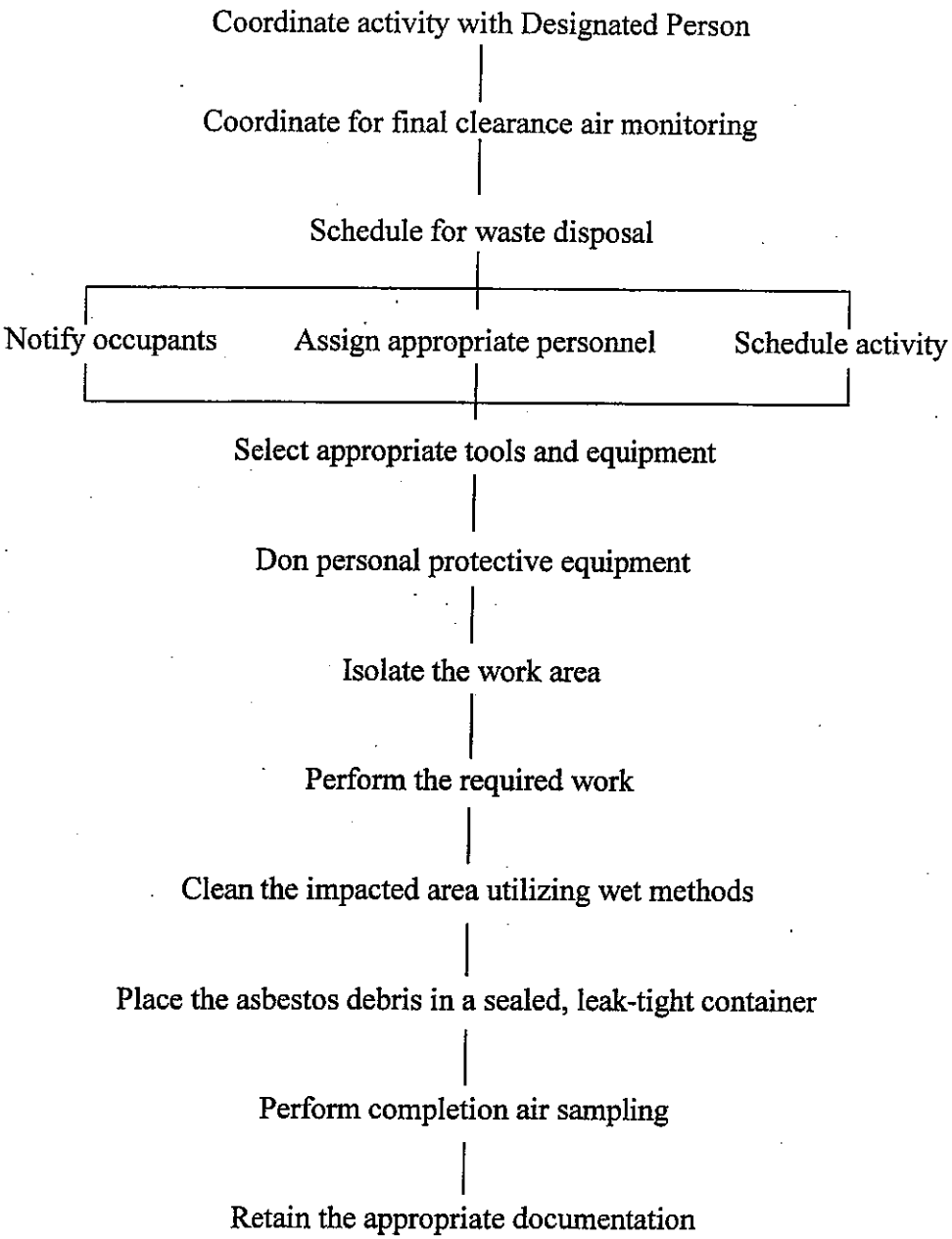
(THE FALLING OR DISLODGING OF MORE THAN 3 SQUARE OR LINEAR FEET OF FRIABLE ACBM)



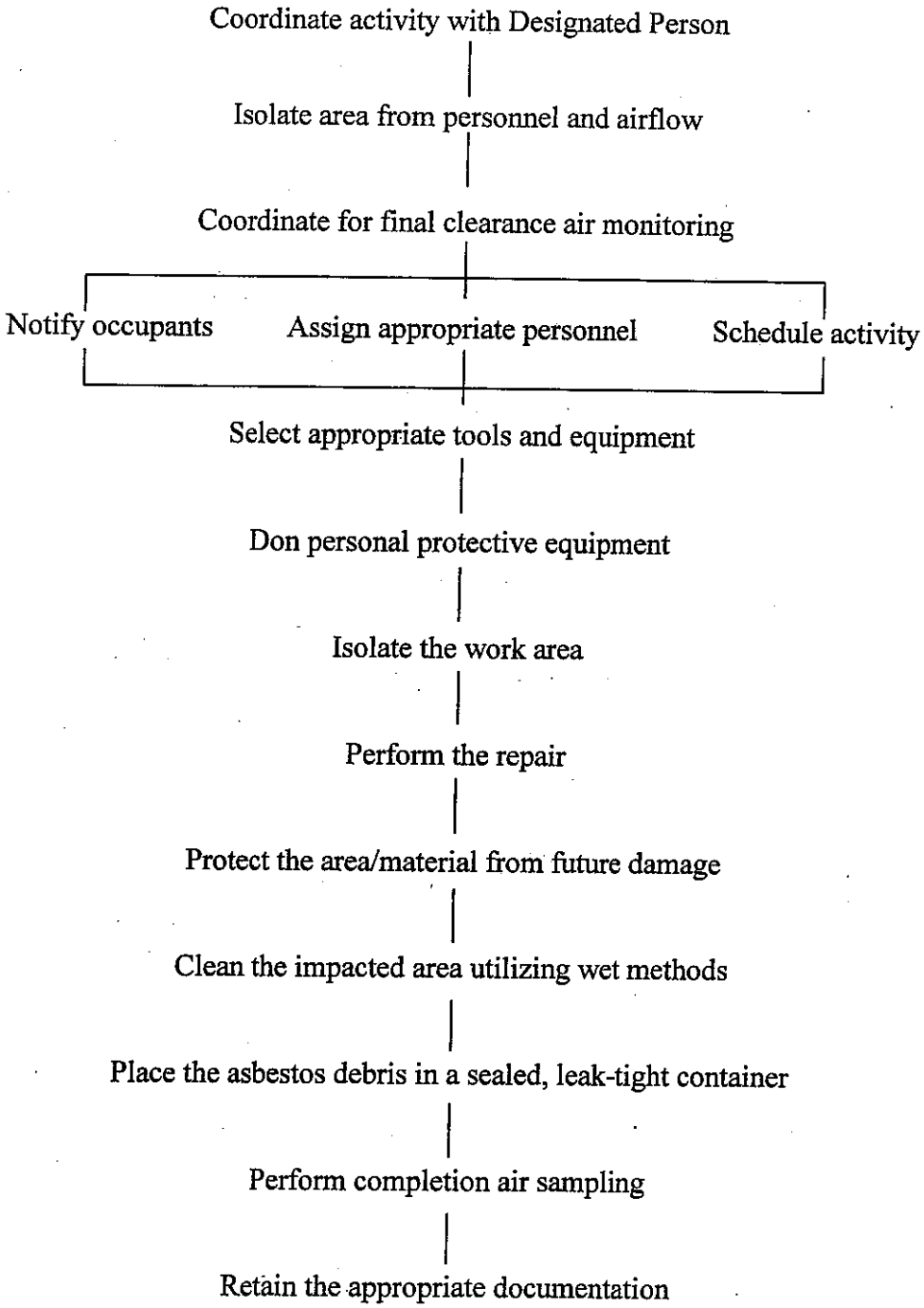
ACTIVITY: MINOR FIBER RELEASE EPISODE



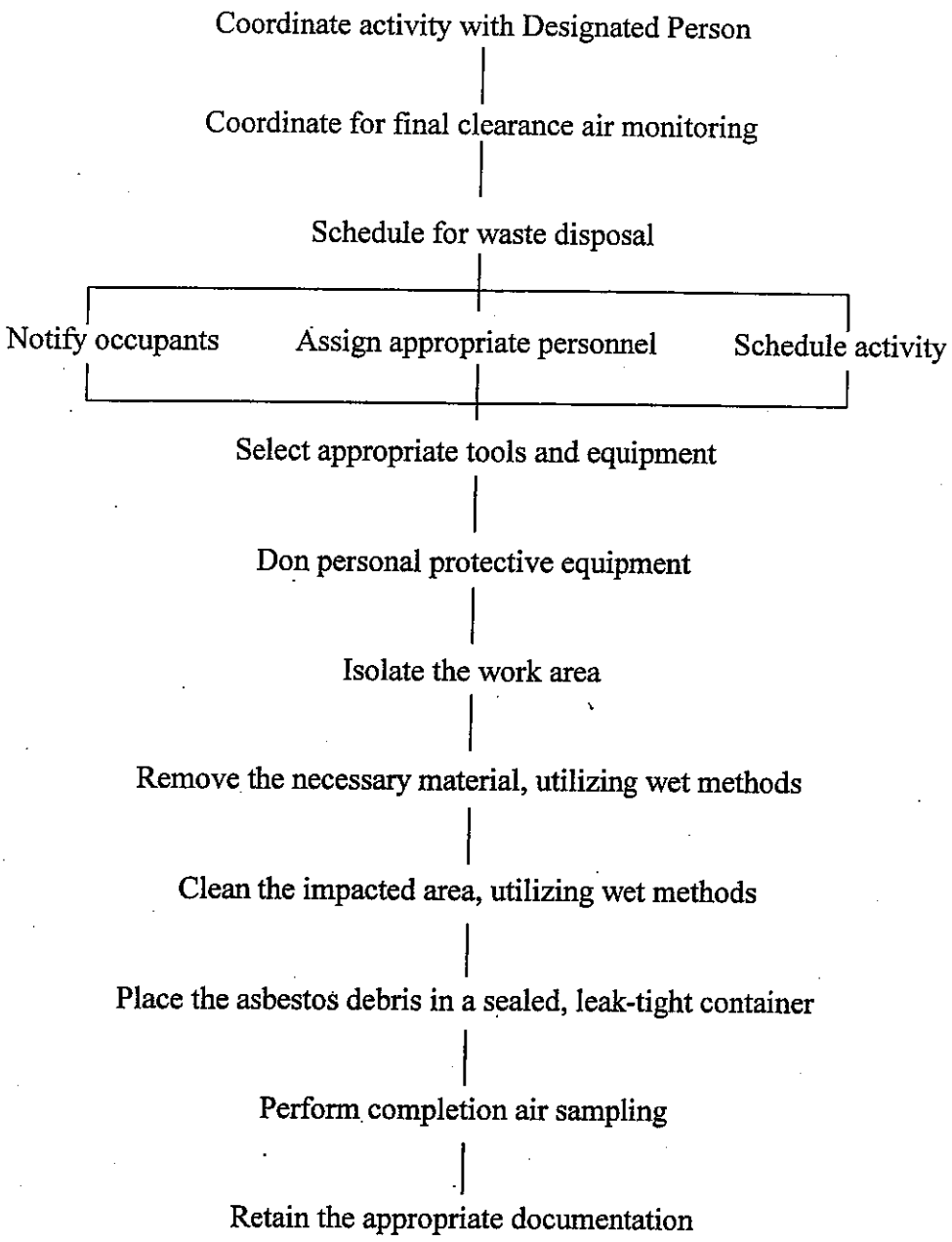
ACTIVITY: OPERATIONS AND MAINTENANCE CLEANING



ACTIVITY: REPAIR OF < 3 SQUARE OR LINEAL FEET OF TSI

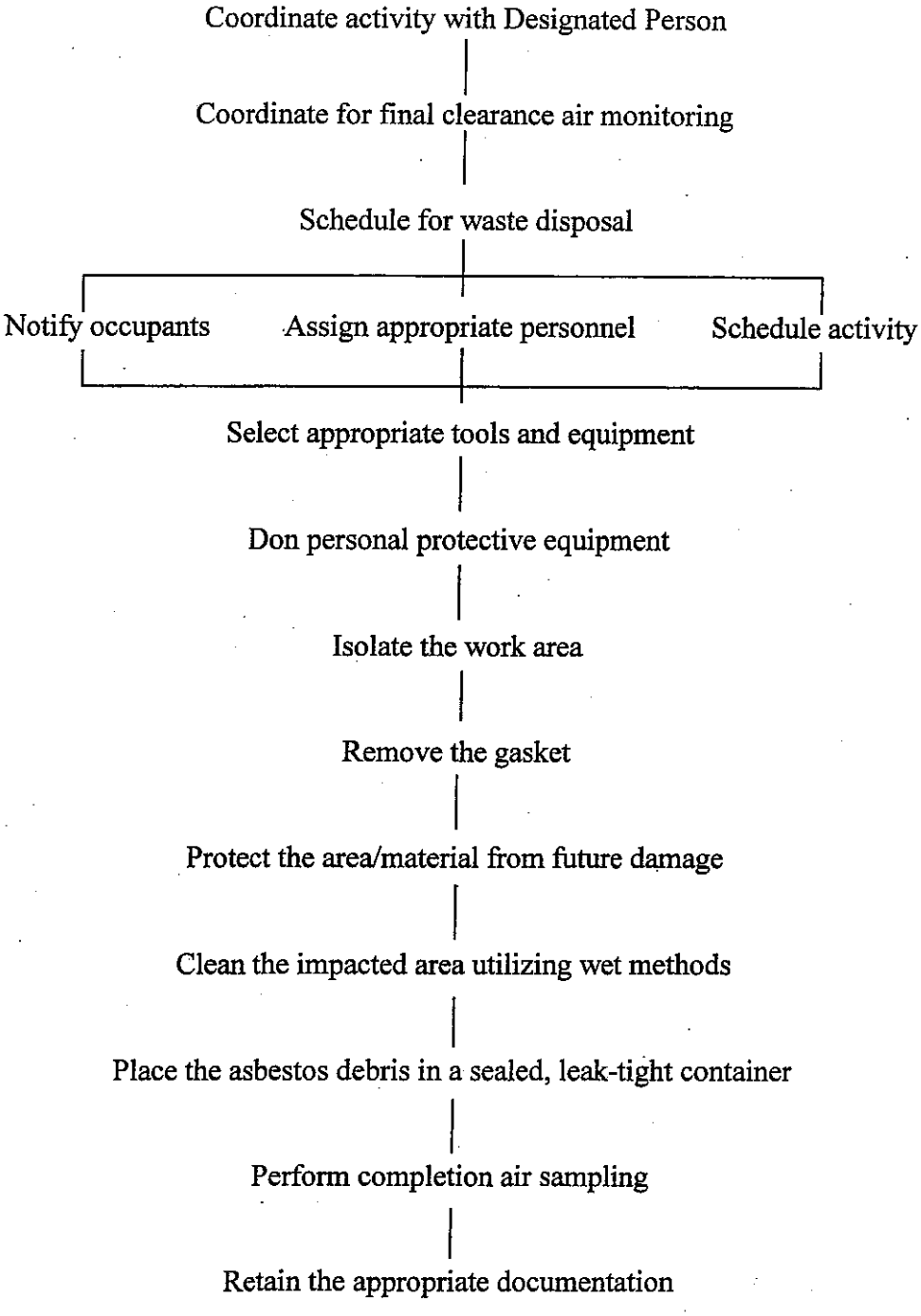


ACTIVITY: **REMOVAL OF < 3 SQUARE OR LINEAL FEET OF TSI, WHEN THE PRIMARY PURPOSE OF THE REMOVAL IS FOR A REASON OTHER THAN THE REMOVAL ITSELF**

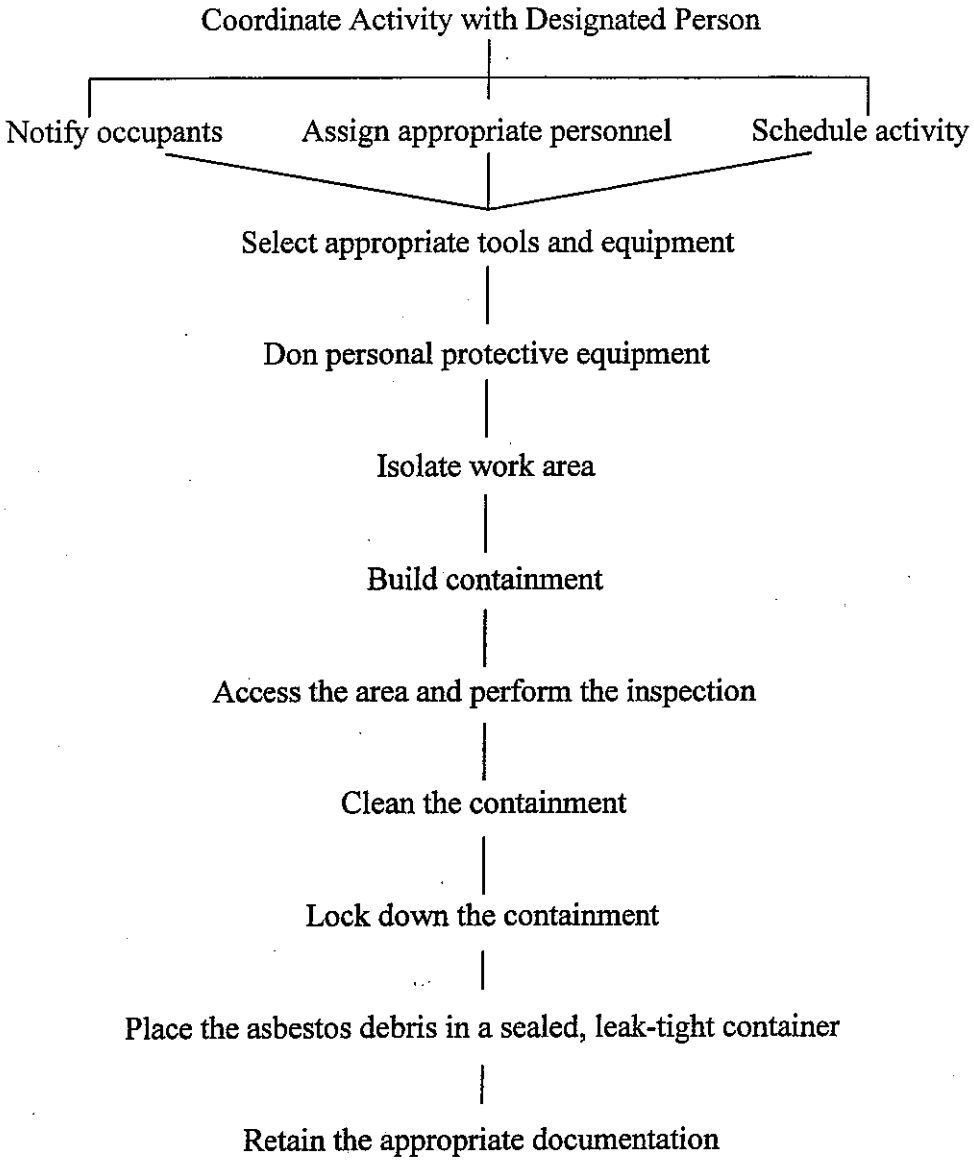


ACTIVITY: REMOVAL AND REPLACEMENT OF ACBM GASKET MATERIAL

Note: THIS MATERIAL MUST NOT BE GREATER THAN 3 SQUARE OR LINEAL FEET IN DIMENSION



ACTIVITY: RE-INSPECTION OF FIREPROOFING ABOVE A SUSPENDED CEILING



IX. PERIODIC INSPECTION/ FORMS

A. MAINTENANCE AND SEMIANNUAL INSPECTION

Three types of inspections must be conducted as part of this Asbestos Operations and Maintenance Plan to assure proper monitoring of material condition.

Daily and Routine Inspection: workers/custodial personnel should be alert for signs of contact and development of damage and delamination. Any new development in material condition should be noted, the Designated Person.

6 Month Periodic Surveillance

Every six month the Periodic Surveillance Forms will be completed by either the Designated Person or Hub Testing Laboratories. This surveillance consists of a visual review of the condition of every friable or non friable ACBM.

3 Year Re-Inspection

Every three years each school Inspection report will be reviewed and the material re-inspected by a certified and Massachusetts Asbestos Abatement Inspector. In conjunction with this re-inspection the Management Plan will be reviewed and revised by a certified and Massachusetts licensed Asbestos Abatement Management Planner.

B. ASBESTOS WASTE DISPOSAL

The Designated Person will be responsible for arranging for the appropriate disposal of asbestos waste drums and/or bags in accordance with applicable EPA and state regulations. Refer to Section VII Regulatory Compliance for NESHAP Applicability.

Asbestos waste will be disposed of through an asbestos abatement contract. Record of such disposal will supplied by the contractor and incorporated into the Record Keeping Program.

C. CORRECTIVE ACTION ALTERNATIVES

If damaged or non-friable asbestos is found to be present, corrective action should he undertaken. There are four basic approaches to the problem. Any corrective action chosen will be chosen and design by a certified and Massachusetts licensed Asbestos Abatement Project Designer in conjunction with discussion with the Designated person

Removal: The asbestos-containing material is removed from the building by qualified professional and, if applicable, state certified and trained personnel and disposed of by burial in a site specifically approved for asbestos.

Encapsulation: The asbestos-containing material is coated with a penetrating or bridging sealant to prevent release of asbestos fibers into the air.

Enclosure: The asbestos-containing material is physically separated from the building environment by means of erecting permanent barriers.

Deferred Action/O&M Program: In conjunction with a well-defined operations and maintenance program, the actual removal, encapsulation, or enclosure is postponed to a later date. It should be noted that under this alternative the exposure potential remains and the potential liability of the building owner should be considered.

Each of the four alternatives has advantages as well as disadvantages. The following should serve as a guide in deciding upon which course of action to take.

Removal

Advantages:
- Eliminates the source of the asbestos
- Ends the exposure and precludes the development of future problems

Disadvantages:
- Costly, complicated, and time-consuming method
- Replacement of the removed material with a substitute material is usually necessary
- Greater potential for exposure of workers to asbestos hazards

When appropriate:
- When there is a high exposure potential
- When the material is deteriorating, highly accessible, or subject to severe water damage
- When exposed material surfaces exist

When inappropriate:
- Removal may not be feasible because of the location of the material and the kind of surface to which the material has been applied, or because of lack of funds.

Encapsulation

Advantages:
- Controls fiber release
- Rapid and reasonably economical method

Disadvantages:
- Source of the asbestos exposure remains in the building
- If the material is damaged or deteriorating, the additional weight of the sealant may cause layers of the material to break away from the underlying surfaces.
- A management system is required. Precautions are necessary to prevent damage during maintenance or renovation activities.

Continuing inspection and maintenance for damage or deterioration to the encapsulated surface is required, i.e., future potential for fiber release is possible. Most encapsulants deteriorate over time, regardless of their manufacturers' claims.

Encapsulated material is very difficult to remove if asbestos removal becomes necessary in the future (for instance. when the building is eventually remodeled or demolished).

When appropriate:

When removal is not feasible

When the material is of low friability

If the material will still retain bonding integrity after encapsulation

When damage to the material is not probable

When accessibility to the material is limited

If the surface in question is complex (e.g.. pipes, lines and ducts), making removal difficult

When there are economic or time constraints

When used as a temporary measure until funding for removal is made available; however. encapsulation may make future removal more expensive.

When inappropriate:

When removal is feasible

When the material is highly friable

When the material does not adhere well to the substrate. The weight of the sealant may cause further damage or failure.

If the material is deteriorating or damaged

When damage to the material is probable

When water damage or the potential for water damage exists

When there is high accessibility

When continuing inspection and maintenance of encapsulated material is not planned

Enclosure

Advantages:

Controls fiber release

Rapid, economical, and uncomplicated method

Disadvantages:

The source of the asbestos remains in the building

Fiber fallout continues behind the enclosure

Costly if enclosure disturbs functions of other systems (e.g., enclosure may require lighting changes, mechanical changes, etc.)

A management system for maintenance or renovation is required

Continuing inspection and maintenance of damage to enclosure system is required

Construction of the enclosure will normally result in disturbance of the asbestos-containing material

When appropriate:

When removal is not feasible

When disturbance or entry into the enclosed area is not likely

When inappropriate:

If removal is feasible

When damaged or deteriorated material causes a high level of fiber fallout

If water damage to the enclosure is likely

When entry into the enclosure is likely for repairs and maintenance

Deferred Action/O & M Program

Advantages:

Utilizes a specific plan for action

Monitors material condition over time

Controls exposure potentials

Economical

Disadvantages:

Source of the asbestos remains in the building

The exposure potential remains

When appropriate:

When removal is not feasible

When disturbance of material is likely

When a well-defined program is followed

When the propensity for fiber release is low

When inappropriate:

When removal is feasible

If material is heavily damaged

D. AIR MONITORING

Air monitoring should be done during all maintenance, repair and removal activities involving asbestos-containing material. Monitoring will be performed by a contracted , certified and Mass license Project Monitor and laboratories.

Types of measurements:

Baseline samples- these samples are collected in the area where work is proposed and are collected before work occurs. These samples are used to identify baseline concentrations prior to the start of work

Work samples - these samples are collected in the work area to determine the level of contamination in the air.

Outside samples- these samples are collected outside the controlled area adjacent to the containment. These samples help determine the presence of contamination outside the containment and are interpreted in conjunction with work samples.

Personal samples - these samples are collected from the breathing zone of the worker (12" radius of the nose) to determine level of exposure to airborne asbestos fibers during the work. These samples are collected by the asbestos abatement contractor.

X. DOCUMENTATION

To document the progress of this asbestos program, as well as to provide evidence that this Asbestos O & M Plan was in fact administered a thorough and well-organized record keeping system is absolutely necessary. All documents and records pertaining to this Management Plan should be kept in an organized filing system in the office of the Designated Person. Although there are many possible records that can be maintained in this system, there should be, at minimum, those listed. All records need to be available for review by OSHA, EPA, employees, etc. Failure to comply could result in fines.

INDEX OF FILES

A. LICENSING

It is the requirement of AHERA that all persons associated with asbestos work in school buildings be licensed to do so in the state of Massachusetts. See file for details of scope of position.

B. TRAINING

It is the requirement of AHERA that all custodial and maintenance staff, associated workers and Designated Persons be trained in asbestos related issues.

B.1 AWARENESS

Awareness training requires 2 hours upon employment; it is the policy of Haverhill Public Schools to perform awareness training annually for all custodial and maintenance staff and Public Property personnel.

B.2 ASSOCIATED WORKER

Associated workers are required to have completed 16 hours total in asbestos related issues. See file for specific topics. Asbestos Associated Workers are allowed to perform small-scale short duration projects of less then 3 feet when the main purpose is other then the abatement of asbestos.

B.3 DESIGNATED PERSON

Designated person is required to have adequate training in asbestos related issues to perform duties of the position. See file for details of training.

C. NOTIFICATIONS

Notify workers, building occupants, and/or student occupants or their legal guardians each school year about inspections, response actions, post response action activities, such as periodic surveillance and other activities that are planned or in progress.

Also send notification to parents, teachers, and employee organizations as to the availability of the Management Plan and its location each school year

D. REQUIREMENT FOR VISITORS, SHORT TERM WORKERS AND PUBLIC PROPERTY WORKERS

Copy of notice to all visitors and workers (telephone repair personnel, utility workers) who may come in contact with ACBM

E. WARNING LABELS

A copy of a label which is affixed to all ACBM in routine maintenance areas.

E. WARNING LABELS

A copy of a label which is affixed to all ACBM in routine maintenance areas.

F. DESIGNATED PERSON

Name, responsibilities and contact points for the Haverhill Public Schools Designated Person.

G. RESPONSE ACTION, INFORMATIONAL ONLY

Information sheet based on AHERA regulations, including flow chart for response.

H. RECORD KEEPING FORMS

H.1 MAJOR ASBESTOS ACTIVITY

This checklist is to be completed for every planned asbestos activity. Due to the amount of data required and the complexity of an asbestos abatement activity this checklist should be completed with the guidance of the asbestos consultant, preferably the licensed Asbestos Abatement Project Designer.

H.2 PERIODIC SURVEILLANCE

This checklist is to be completed each time periodic surveillance is performed (every 6 months). This checklist should be completed by the person performing the periodic surveillance; this person must, at a minimum, have received the equivalent of an Associated Asbestos Workers training.

H.3 O & M ACTIVITIES/PERIODIC CLEANING

This checklist is to be completed each time O & M activities are performed. O & M activities are those activities that are pre-planned to maintain asbestos in its undamaged condition. This checklist should be completed by the asbestos consultant because of the requirement of special training for asbestos work and special training for asbestos design projects.

H.4 PREVENTATIVE MEASURES AND RESPONSE ACTION

This form is to be completed each time a preventative measure or response action is required due to a change in condition or a fiber release episode. If it is due to a fiber release episode then the form for fiber release episode must also be completed. This checklist should be completed by the licensed Asbestos Abatement Project Designer.

H.5 FIBER RELEASE EPISODE

This checklist is to be completed for each fiber release episode. A fiber release episode is an uncontrolled or unintentional disturbance of ACBM resulting in visible emission. This checklist should be completed by the person who noted the fiber release episode with the guidance of the Project Designer who designed the response. This checklist will probably be completed in conjunction with the Preventative Measure and Response Action checklist.

H.6 CLEARANCE AIR SAMPLES

This checklist is to be completed for each time clearance air sampling is required to complete a response action. This checklist can be completed by the Designated Person.

LICENSING REQUIREMENTS
INFORMATION SHEET

Worker:	Anyone performing asbestos related work, HEPA vacuuming, cleaning, building containment, performing abatement, performing wet wrap, encapsulation, etc.
Supervisor/ Forperson:	This position requires an additional day of training beyond the worker training. Massachusetts requirement also calls for an SF to be present on any crew performing asbestos related activities at all times.
Inspector:	Anyone performing asbestos inspections for AHERA purposes. This may be to collect data after a fiber release episode or to perform the AHERA inspections that are required every three years.
Management Planner:	This position requires an additional two days of training beyond an inspector training. This person would design the management Plan required every three years.
Project Monitor:	The license is required to perform final clearance air sampling and to go into containment as a monitor during abatement activities.
Project Designer:	This person is the only person licensed to design asbestos related activities; either pre-planned activities such as abatement or activities required as a response action.

LICENSING

Date: _____

Name: _____

License # (prefixed by either W Worker, SF Supervisor Forman, I Inspector, MP Management Planner, PM Project Monitor, PD Project Designer)

_____

Expiration Date: _____

Work Being Performed: _____

_____

_____

_____

_____

_____

_____

_____

_____

Affix Copy of License to Form

Training

Copies of Training Certificates

HUB TESTING LABORATORY, INC.

Environmental Testing Service

95 Beaver Street – Waltham, MA 02453
(781) 893-8330 (781) 893-4414 (fax)

HAVERHILL
2 Hr. Awareness Training
July 7, 2000

Name (Please print clearly):

IEE

INSTITUTE FOR ENVIRONMENTAL EDUCATION, INC.
52B Cummings Park, Suite 315, Woburn, MA 01801
(617) 935-7370

Edward H. Dufrense

has attended the 8 hour course

Asbestos Coordinator / LEA Designated Person

January 25, 1993

Course Date (s)

93-713-107-105

Certificate Number

027-28-3105

Social Security Number

President / Director of Training

Notification As To The Availability Of The Inspection Reports And Management Plans.

Policy:

The Haverhill Public School System will notify parents, guardians, employees and occupants as to the availability of the Inspection Reports and Management Plans on an annual basis. This will be conducted through a small article published in the local newspaper, on the Haverhill Public Schools web site, the School Building Permit, the School Information Packet and posted at each school before the start of the school year indicating the availability and locations of the reports to all involved parties. A copy of the newspaper article, the web site notice, the information packet and the posted information must be filed in DOCUMENTATION each time it is performed.

A copy of an example notification is attached.

Notification As To The Status Of The Asbestos Containing Materials And Associated Activities

Policy:

The Haverhill Public School System will notify parents, guardians, employees and occupants as to the status of asbestos related activities and asbestos containing materials in the school on an annual basis. This notification will be in the form of a small article in the local newspaper, on the Haverhill Public Schools web site and the School Information Packet to all involved parties. A copy of the newspaper article, web site notice and school information packet must be filed in DOCUMENTATION each time it is performed.

A copy of an example notification is attached.

Notification Examples

Availability of Inspection Reports and Management Plans:

Newspaper article:

Haverhill in compliance with 40 CFR Part 763 Asbestos Hazard Emergency Response Act has performed Asbestos Inspections and developed Management Plans. These documents are available for review in the Designated Person's office during normal business hours.

Status of asbestos in the schools:

Newspaper article:

> In compliance with 40 CFR Part 763 Asbestos Hazard Emergency Response act the Haverhill Public schools has employed the services of a certified and Massachusetts licensed firm to perform asbestos re-inspections and develop a Management Plan. These activities were conducted over the spring and summer. In addition asbestos containing materials in the Silver Hill and Bartlett schools will be repaired and removed in a few locations. All activities will be conducted in compliance with federal and state regulations and complete and required documentation will be secured and filed. Haverhill will begin conducting a surveillance program of the asbestos containing materials and has instituted a program of review to minimize the potential for damage to existing ACBM, which is in good condition. Haverhill will also be conducting training sessions for their entire custodial and maintenance staff.

Memo:

To: Parents, Legal Guardians, employees and occupants of the Haverhill Public Schools
Date: August 2000
RE: Asbestos Inspections and Management Plans

In compliance with 40 CFR part 763, Asbestos Hazard Emergency Response Act the Haverhill Public Schools has employed the services of Hub Testing Laboratory to perform Asbestos Inspections and develop Management Plans. These documents are available for review in the Designated Person's office during normal business hours.

In compliance with 40 CFR Part 763 Asbestos Hazard Emergency Response act the Haverhill Public schools has employed the services of a certified and Massachusetts licensed firm to perform asbestos re-inspections and develop a Management Plan. These activities were conducted over the spring and summer. In addition asbestos containing materials in the Silver Hill and Bartlett schools will be repaired and removed in a few locations. All activities will be conducted in compliance with federal and state regulations and complete and required documentation will be secured and filed. Haverhill will begin conducting a surveillance program of the asbestos containing materials and has instituted a program of review to minimize the potential for damage to existing ACBM, which is in good condition. Haverhill will also be conducting training sessions for their entire custodial and maintenance staff.

Outside Contractor/Short Term Worker /Haverhill Public Property Worker Notification of Asbestos Containing Materials In School Buildings

Policy:

All Outside contractors and Short Term Workers which includes Haverhill Public Property Workers, who come into the school buildings will be notified of the asbestos containing and presumed asbestos containing materials in the school. A sign in sheet will be located at the main office. The sheet will have a copy of the ACBM and Presumed ACBM materials as well as a sign in sheet and the telephone number of the Designated Person. As each Outside Contractor, Short Term Worker or Haverhill Public Property Worker enters the building and signs in as a visitor they will be required to review the list of ACBM and Presumed ACBM and sign off as to whether their activities in the school will potentially impact these materials. If so they will not perform their pre assigned activity and the Designated Person will be notified. The Designated Person will contact Hub Testing Laboratory certified and Massachusetts licensed Asbestos Abatement Project Designer and the activity will be reviewed and a decision made as how to proceed.

Labeling

Policy:

In compliance with 40 CFR Part 763.95 Warning Labels, the local education agency will attach warning labels immediately adjacent to any friable, non friable and presumed asbestos containing materials in routine maintenance areas.

The warning label shall read in a print that is radily visible and of large size or bright color:

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

Statement of Designated Person

Mr. Ed Dufresne
Designated Person
Inspector of Wires
City of Haverhill
4 Summer Street
Haverhill, MA 01830-5882

As Designated Person for the Haverhill Public Schools, I will hereby:

- Ensure that activities of any persons that perform inspections, re-inspection, and periodic surveillance, develop and up date Management Plans, and implement response actions, including operations and maintenance activities, are carried out in accordance with 40 CFR Part 763 Subpart E.
- Ensure that all custodial and maintenance employees are properly trained as required by 40 CRF Part 763 Subpart E and other applicable federal and/or state regulations (e.g., the OSHA standards for construction, EPA worker Protection Rule, and/or applicable state regulations).
- Ensure that workers and building occupants or their legal guardians are informed at least once each year about inspections, response actions, and post response action activities including periodic re-inspection and surveillance activities that are planned or in progress.
- Ensure that short term workers (e.g., telephone repair workers, utility workers, computer wiring technicians, exterminators, etc.) who may come into contact with asbestos in a school are provided information regarding the location of ACBM and suspect ACBM assumed to be ACM.
- Ensure that warning labels are posted in accordance with 40 CFR Part 763.95.
- Ensure that Management Plans are available for inspection and notification of their availability has been provided as specified in the Management Plan and under 40 CFR Part 763.93 (g).
- Furthermore, I hereby state that I am/will be trained with a basic knowledge of:
    - Health effects of asbestos
    - Detection, identification and assessment of ACM
    - Options for controlling ACBM
    - Asbestos management programs
    - Relevant federal and state regulations concerning asbestos, including those in 40 CFR Part 763 Subpart E and those of the Occupational safety and Health Administration, US Department of Labor, the US Department of Transportation and the US Environmental Protection Agency.

Mr. Edward H. Dufresne
Designated Person
Inspector of Wires
City of Haverhill

Assurance of Accreditation

Mr. Edward H. Dufresne
Designated Person
Inspector of Wires
City of Haverhill
4 Summer Street
Haverhill, MA 01830-5882

As Designated Person of the Haverhill Public Schools, I hereby assure that all persons who have or will:

- Inspect for ACBM in school buildings,
- Prepare Management Plans for such buildings,
- Design response actions and/or abatement activities and/or
- Conduct response actions with respect to friable and non friable ACBM in such schools

shall be accredited as required by federal and state regulations.

Mr. Edward H. Dufresne
Designated Person
Inspector of Wires
City of Haverhill

RESPONSE ACTION
INFORMATION SHEET

Based on 40 CFR Part 763.

ALL ASBESTOS WORK IS TO BE PERFROMED BY LICENSED ASBESTOS WORKERS AND LICENSED SUPERVISOR/FOREPERSONS.

A) If damaged or significantly damaged TSI is present in the school building then at a minimum:

repair the damage; if this can not be done then remove the TSI. All TSI must be maintained in an intact and undamaged condition.

B) If damaged friable surfacing or damaged friable misc. ACBM is present in the school building then at a minimum:

repair the damaged ACBM,
remove the damaged ACBM,
encapsulate the damaged ACBM or
enclose the damaged ACBM

C) If significantly damaged friable surfacing or significantly damaged friable misc. ACBM is present in the school building then at a minimum:

immediately isolate the area and restrict access, unless isolation is not necessary to protect human health or the environment; then, remove the material or if desired enclose or encapsulate if this will be sufficient to protect human health and the environment

D) If any friable ACBM is present in the school building and has the potential for damage then at a minimum:

implement an O & M Plan

E) If any friable ACBM has potential for significant damage then at a minimum:

implement O & M Plan., or employ preventative measures to minimize the potential for damage. If preventative measures can not be successfully employed then remove the ACBM.

MAJOR ASBESTOS ACTIVITY
INFORMATION SHEET

This checklist is to be completed for every planned asbestos activity. Due to the amount of data required and the complexity of an asbestos abatement activity this checklist should be completed with the guidance of the asbestos consultant; preferably the licensed Asbestos Abatement Project Designer.

MAJOR ASBESTOS ACTIVITY

The following information must be retained and incorporated into the AHERA files

Name and signature of each person performing activity (this can be retained from the abatement contractor=s daily logs)

State of accreditation and accreditation #'s (make copies of certifications and licenses)

Start and completion date of activity

Location where activity occurred

Description of activity including representative measures used

Name and location of disposal site for waste ACBM, and copy of waste manifest

If air samples are collected then the form for the air samples should also be completed

PERIODIC SURVEILLANCE
INFORMATION SHEET

This checklist is to be completed each time periodic surveillance is performed (every 6 months). This checklist should be completed by the person performing the periodic surveillance; this person must, at a minimum, have received the equivalent of an Associated Asbestos Workers training.

O & M ACTIVITIES / PERIODIC CLEANING
INFORMATION SHEET

A checklist is to be completed each time O & M activities are performed. O & M activities are those activities which are preplanned in order to maintain asbestos in it's undamaged condition. Periodic cleaning falls into the category of O & M activities, therefore when periodic cleaning occurs an additional checklist must be addressed. These checklists should be completed by the asbestos consultant because of his expertise in asbestos design projects, which requires special training in asbestos work.

O & M ACTIVITIES

The following information must be retained and incorporated into the AHERA files

Record of the name of each person performing the activity

The start and completion dates of the activity

The locations where such activity occurred

A description of the activity including preventative measures used

If ACBM is removed, the name and location of storage or disposal site of the ACM

If air samples are collected then the form for the air samples should also be completed

PERIODIC CLEANING

The following information must be retained and incorporated into the AHERA files

A record of the name of each person performing the cleaning

The date of such cleaning

The locations cleaned

The methods used to perform such cleaning

If air samples are collected then the form for the air samples should also be completed

PREVENTATIVE MEASURES AND RESPONSE ACTION INFORMATION SHEET

This form is to be completed each time a preventative measure or response action is required due to a change in condition or a fiber release episode. If it is due to a fiber release episode then the form for fiber release episode must also be completed. This checklist should be completed by the licenced Asbestos Abatement Project Designer.

PREVENTATIVE MEASURES AND RESPONSE ACTION

The following information must be retained and incorporated into the AHERA files

Type of methods used

Location where the action or measure took place

Reasons for selecting the measure or action taken

Start and completion dates of the work

Names and addresses of all contractors involved

Contractors state accreditation and accreditation numbers

If ACBM is removed, the name and location of storage or disposal site of the ACM

If air samples are collected then the form for air samples should also be completed

FIBER RELEASE EPISODE
INFORMATION SHEET

This checklist is to be completed for each fiber release episode. A fiber release episode is an uncontrolled or unintentional disturbance of ACBM resulting in visible emission. This checklist should be completed by the person who noted the fiber release episode with the guidance of the Project Designer who designed the response. This checklist will probably be completed in conjunction with the Preventative Measure and Response Action checklist.

FIBER RELEASE EPISODE

The following information must be retained and incorporated into the AHERA files

The date and location of the episode

The method of repair

The preventative measures or response action taken

The name of each person performing the work

If ACBM is removed, the name and location of storage or disposal site of the ACM

If air samples are collected then the form for the air samples should also be completed

CLEARANCE AIR SAMPLES
INFORMATION SHEET

This checklist is to be completed for each time clearance air sampling is required to complete a response action. This checklist can be completed by the Designated Person.

CLEARANCE AIR SAMPLES

The following information must be retained and incorporated into the AHERA files

The locations where the samples were collected (this information may be found on the project monitor's or the laboratory sampling data sheets)

The dates of collection

The name and addresses of the laboratory analyzing the samples

The dates 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 meets the applicable requirements of 763.90(I)(2)(ii)

XI. GLOSSARY OF TERMS

ABATEMENT -- Procedures to control fiber release from asbestos-containing building materials. Includes encapsulation, enclosure, and removal.

ACM -- *Asbestos Containing Material* means any material containing more than one-percent asbestos.

AGGRESSIVE METHOD -- Removal or disturbance of building material by sanding, abrading, grinding or other method that breaks, crumbles, or disintegrates intact ACM.

AIR MONITORING -- The process of measuring the fiber content of a specific volume of air in a stated period of time.

AMBIENT EXPOSURE -- Exposure to environmental fiber concentrations, (i.e. the normal concentration of fibers in an area prior to the disturbance of asbestos-containing materials).

AMENDED WATER -- Water to which a surfactant has been added to increase the ability of the liquid to penetrate ACM.

AMOSITE --A type of asbestos belonging to the amphibole group which is characterized by straight, finely divided, brittle fibers which are known for high resistance to heat. They are used in making various types of insulation such as pipe coverings.

ASBESTOS -- A group of naturally occurring minerals that separate into fibers. There are six asbestos minerals used commercially: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite.

BUILDING/FACILITY OWNER -- The legal entity, including a lessee. which exercises control over management and record keeping functions relating to a building and/or facility.

CEMENTITIOUS -- Asbestos cement wallboard and pipe.

CERTIFIED INDUSTRIAL HYGIENIST (CIH) -- One certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

CROCIDOLITE -- A type of asbestos belonging to the amphibole group which is characterized by straight, finely divided, brittle fibers which are known for high resistance to heat. Longer fibers are woven into heat insulating fabric, e.g., boiler blankets. Shorter fibers are used in certain cement products.

CRYSOTILE -- A type of asbestos belonging to the serpentine group which is characterized by long, flexible and sticky fibers known to be strong and resistant to heat. They are used to make fireproof cloth, brake linings, and to strengthen products such as cement pipe.

CLASS I ASBESTOS WORK -- Activities involving the removal of TSI (Thermal System Insulation) and surfacing ACM and PACM.

CLASS II ASBESTOS WORK -- Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos- containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

CLASS III ASBESTOS WORK -- Repair and maintenance operations, where ACM, including thermal system insulation and surfacing materials, is likely to be disturbed.

CLASS IV ASBESTOS WORK -- Means maintenance and custodial activities during which employees contact ACM and PACM and activities to clean up waste and debris containing ACM and PACM.

CONTAINMENT -- Isolation of the work area from the rest of the building to prevent escape of asbestos fibers.

CRITICAL BARRIER -- One or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

DECONTAMINATION ENCLOSURES SYSTEM -- A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or material and equipment. A decontamination enclosure system always contains at least one air lock.

DELAMINATION -- The separation of individual layers of multi-layered building materials, such as the delamination of the layers in a sheet of plywood.

DEMOLITION -- The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

DISTURBANCE -- Contact which releases fibers from ACM or PACM or debris containing ACM or PACM. This term includes activities that disrupt the matrix of ACM or PACM, render ACM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

ENCAPSULATE -- To enclose in or surround by a gelatinous substance.

EXPOSURE (HUMAN) -- The presence of people in an area where levels of an airborne contaminant are elevated. A more technical definition sometimes found in scientific literature is:
The total amount of airborne contaminant inhaled by a person, typically approximated by the product of concentration and duration.

DRAFT

Report for: Haverhill Public Schools
4 Summer St.
Haverhill, MA 01830-5877

Attention: Mr. Ed Dufresne
Designated Person

Project: Greenleaf Elementary School
Haverhill, MA

Subject: AHERA Three Year Re-inspection

Date: 1 March 2000

As required by the US Environmental Protection Agency's AHERA regulations, Hub Testing Laboratory has completed a survey and reassessment of asbestos containing materials in the Greenleaf Elementary School. This report summarizes the locations and conditions of materials remaining in the schools and reviews the ongoing responsibilities of the Local Education Agency (LEA).

This latest survey report should be incorporated into the files that the LEA maintains, pertaining to response actions, operations & maintenance activities, six month re-inspection, training, air sampling and major asbestos activities.

SUMMARY OF RE-INSPECTION

During the re-inspection of Greenleaf Elementary School, homogeneous areas of suspect materials were identified as follows:

HOMOGENEOUS AREAS OF SUSPECT MATERIAL

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2/ NO	SAMPLE #s	LOCATION
12" x 12" Floor Tile (Tan) w/White Flecks	Yes	GRN 53	Rms. 002, 003A ≈ 1325 SF
12" x 12" Floor Tile (Tan)	P_2	N/A	Rms. 1, 1A, 3, 103, 104, S. 106 - Bath, 105C, E. Stair – Mid Landing ≈ 800 SF
12" x 12" Floor Tile (White)	P_2	N/A	2nd Floor W. Bathroom ≈ 78 SF
12" x 12" Floor Tile (Pink)	P_2	N/A	E. Stair Landing ≈ 36 SF
9" x 9" VAT (Brown)	Yes	GRN 30	Rms. 104, 105D ≈ 190 SF
9" x 9" VAT (Green)	P_1	GRN 25	Rms. W. 105, 105, 106, ≈ 1450 SF
9" x 9" VAT (White)	P_1	GRN 28	Rms. 103, 107A, 205, 206 ≈ 2450 SF
9" x 9" VAT (Tan)	Yes	GRN 27	Rms. 105B, 107, C 230, 208 and S. Stairwell ≈ 1800 SF
Linoleum	Yes	GRN 29	Rms. 104 A and B Bathrooms ≈ 150 SF
Sheet Vinyl (Tan Mosaic)	P_2	N/A	Room N. 106 ≈ 15 SF

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2/ NO	SAMPLE #s	LOCATION
Black Floor Mastic	P_2	N/A	Under All Floor Tile
Stair Treads (5' x 1 Brown)	P_2	N/A	≈ 90% of All Stairs. ≈ 460 SF
Stair Tread Mastic	P_2	N/A	≈ 90% of All Stairs ≈ 460 SF
2' x 4' Ceiling Tile	P_1	GRN 25	Rms. 4A, 103, 204 – 207, 210 ≈ 6400 SF
Plaster Ceiling	No	GRN 40, 41, 43, 44, 48, 49	Rms. 1 – 7 ≈ 10,900 SF
Plaster Walls and Ceilings	No	GRN 21, 22, 24, 42, 50, 51, 52	Rms. 1, 2, 3, 100 – 107, 200 - 210 (for walls), 105 – 107, 200 – 203 (for ceilings) ≈ 42,600 SF
Wall Board	P_1	GRN 05, 06, 07	Rms. 105A – C ≈ 1750 SF
Breeching	P *	N/A	Boiler room 6 ≈ 90 SF

* Previous Inspection, 1989, indicates that this material has been abated in 9/87. There is no documentation to support this claim.

Header and Exhaust Covering	P*	N/A	Boiler room 6 ≈ 80 SF

* Previous Inspection, 1989, indicates that this material has been abated in 9/87. There is no documentation to support this claim.

Hard Fittings	P_1*	GRN 46	Rms. 001 – 007 ≈ 17 LF

* Previous Inspection, 1989, indicates that this material has been abated in 9/87. There is no documentation to support this claim.

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/ P/ P_1/ P_2/ NO	SAMPLE #s	LOCATION
Pipe Insulation	P_2	N/A	Tunnel exiting 6, N. ctr. Chase in room 5, all floor runs – basement, 4E storage. ≈ 95 SF
There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is air cell and friable debris in both coal storage areas adjacent to boiler room.			
Insulation Debris	P_2	N/A	Telephone access in 4A on pipe in chase, N. chase – storage room 5, N. E. girls bath and trap door, center ceiling – room 6. ≈ 30 SF
Bulletin Boards	No	GRN 08, 09, 10, 11	Rooms 105, 201, 204, 207 . ≈ 200 SF
Chalk Boards (4' x 8')	P_2	N/A	In Classrooms, under stairs – rm. 7 ≈ 416 SF
Library Partition	P_1	GRN 01	Library ≈ 120 SF
Gray Blown – In Attic Insulation	P_2	N/A	Attic ≈ 9000 SF
Gravel Over Tar Roofing Material	P_2	N/A	Roof ≈ 9000 SF
Vibration Isolators	P_2	N/A	N. W. 9A, S. E. 4 storage. ≈ 20 SF

(Key: **YES** – Proven to Contain Asbestos, **P** – Presumed Asbestos Containing Material (PACM), **P_1** – Inadequate AHERA Sampling – Must be Assumed to be Asbestos Containing Material, **P_2** – Homogeneous Areas NOT Previously Identified, Must be Assumed to be Asbestos Containing Material (ACM), **NO** – Proven by AHERA Sampling to be Asbestos Free).

CONDITION OF HOMOGENEOUS AREA SUSPECT MATERIAL

HOMOGENEOUS MATERIAL

12' x 12' Floor Tile (Tan w/White Flecks). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (Tan). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (White). Miscellaneous Material.

Condition: Not Damaged.

12' x 12' Floor Tile (Pink). Miscellaneous Material.

Condition: Not Damaged.

9' x 9' VAT (Brown). Miscellaneous Material. Pick up

Condition: Damaged. There are ≈ 5 – 10% of tiles that are broken or missing.

9' x 9' VAT (Green). Miscellaneous Material.

Pick up

Condition: Damaged. There are ≈ 5 – 10% of tiles that are broken or missing.

9' x 9' VAT (White). Miscellaneous Material. 11

Condition: Damaged. There are ≈ 5 – 10% of tiles that are broken or missing.

9' x 9' VAT (Tan). Miscellaneous Material. 11

Condition: Damaged. There are ≈ 5 – 10% of tiles that are broken or missing.

Linoleum. Miscellaneous Material.

Condition: Not Damaged

Sheet Vinyl (Tan Mosaic). Miscellaneous Material.

Condition: Not Damaged.

CONDITION OF HOMOGENEOUS AREA SUSPECT MATERIAL cont.

HOMOGENEOUS MATERIAL

Black Floor Mastic. Miscellaneous Material.

Condition: Not Damaged.

Stair Treads (Brown). Miscellaneous Material.

Condition: Damaged. There is damage to the leading edges of the stair treads.

Stair Tread Mastic. Miscellaneous Material.

Condition: Damaged. The mastic is adhered to the stair treads, therefore it is damaged to the extent of the stair treads.

2' x 4' Ceiling Tiles. Miscellaneous Material.

Condition: Not Damaged.

Wall Board. Miscellaneous Material.

Condition: Not Damaged.

Breeching. Thermal System Insulation. (TSI)

Condition: Damaged. There is damage to the area surrounding joints.

Header Exhaust and Covering. TSI

Condition: Damaged. There is localized damage to this material next to boiler. There is debris present on top of boiler surface.

Hard Fittings. TSI.

Condition: Damaged. The fittings in the telephone access panel in room 4A are damaged with debris on the horizontal surfaces within the space. There is damage to the fitting in the storage room of room 5. There is debris on horizontal surface near fitting. The fittings within the floor runs of the basement are ≈ 30% damaged with debris present and minor seam separation.

CONDITION OF HOMOGENEOUS AREA SUSPECT MATERIAL cont.

HOMOGENEOUS MATERIAL

Pipe Insulation. (TSI).

MAINTENANCE & TRADES

Condition: Damaged – The pipe insulation within the floor runs of the basement is ≈ 15% damaged with debris present and minor seam separation. The boiler room Pipe insulation has been replaced with fiberglass and PVC fittings.

* There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is air cell and friable debris in both coal storage areas adjacent to boiler room.

Bulletin Boards. Miscellaneous Material.

Condition: Not Damaged.

Chalk Boards. Miscellaneous Material.

Condition: Not Damaged.

Library Partition. Miscellaneous Material.

Condition: Not Damaged.

Blown – In Attic Insulation (Gray). Miscellaneous Material.

Condition: Not Damaged. This material is interspersed with fiberglass batting.

Gravel over tar roofing material. Surfacing Material.

Condition: Not Damaged.

RECOMMENDED INTERIM GUIDELINES FOR STRIPPING ASBESTOS-CONTAINING FLOORS

The Environmental Protection Agency (EPA) recommends that school officials, building owners, and custodial/maintenance staff consider the following basic guidelines when stripping wax or finnish coat from asbestos-containing floor coverings.

1. AVOID STRIPPING FLOORS Stripping of floors should be done as infrequently as possible -- perhaps once or twice or less per year depending on circumstances. The frequency should be carefully considered as floor maintenance schedules or contracts are written or renewed.

2. PROPERLY TRAIN STAFF Custodial or maintenance staff who strip floors should be trained to operate properly and safely the machines, pads, and floor care chemicals used at the facility.

3. FOLLOW APPROPRIATE WORK PRACTICES Custodial or maintenance staff who strip floors should follow appropriate work practices, such as those recommended here, under informed supervision. Directions from floor tile and floor wax product manufacturers on proper maintenance procedures should be consulted.

4. STRIP FLOORS WHILE WET The floor should be kept adequately wet during the stripping operation. Do Not perform dry stripping. Prior to machine operation, an emulsion of chemical stripper in water is commonly applied to the floor with a mop to soften the wax or finish coat. After stripping and before application of the new wax, the floor should be thoroughly cleaned, while wet.

5. RUN MACHINE AT SLOW SPEED If the machine used to remove the wax or finish coat has variable speeds, it should be run at slow speed (175-190 rpm) during the stripping operation.

6. SELECT THE LEAST ABRASIVE PAD POSSIBLE EPA recommends that the machine be equipped with the least abrasive pad possible to strip wax or finish coat from asbestos-containing floors.

7. DO NOT OVERSTRIP FLOORS Stop stripping when the old surface coat is removed. Overstripping can damage the floor and may cause the release of asbestos fibers. Do NOT operate a floor machine with an abrasive pad on unwaxed or unfinished floors.

REMEMBER: Improperly removing asbestos-containing floor covering could result in the release of high levels of asbestos. EPA recommends that you leave asbestos-containing floor covering in place, provided the material is in good condition. However, proper maintenance procedures, such as those outlined above, should always be followed.

PROHIBITED ACTIVITIES

DO NOT DRILL HOLES IN ASBESTOS CONTAINING MATERIALS

DO NOT HANG PLANTS OR PICTURES ON STRUCTURES COVERED WITH ASBESTOS CONTAINING MATERIALS

DO NOT SAND ASBESTOS CONTAINING FLOOR TILES

DO NOT DAMAGE ASBESTOS CONTAINING MATERIALS WHILE MOVING FURNITURE OR OTHER OBJECTS

DO NOT INSTALL CURTAINS, DRAPES, OR DIVIDERS IN SUCH A WAY THAT THEY DAMAGE ASBESTOS CONTAINING MATERIALS

DO NOT DUST FLOORS, CEILINGS, MOLDINGS OR OTHER SURFACES IN ASBESTOS CONTAMINATED ENVIRONMENTS WITH A DRY BRUSH OR SWEEP WITH A DRY BROOM

DO NOT USE AN ORDINARY VACUUM TO CLEAN UP ASBESTOS CONTAINING DEBRIS

DO NOT REMOVE CEILING TILES BELOW ASBESTOS CONTAINING MATERIALS WITHOUT WEARING THE PROPER RESPIRATORY PROTECTION, CLEARING THE AREA OF OTHER PEOPLE, AND OBSERVING ASBESTOS REMOVAL WASTE DISPOSAL PROCEDURES

DO NOT REMOVE VENTILATION SYSTEM FILTERS DRY AND DO NOT SHAKE VENTILATION SYSTEM FILTERS

SHORT TERM WORKER

(Telephone repair personnel, plumbers, heating contractors, etc.)

Name/Company	Date	Reason for Work	Impact on ACBM Y/N

*If your work in the building has the potential of impacting asbestos materials contact Ed Dufresne (Designated Person) at (978) 374-2341 who will contact the Asbestos Consultant, Hub Testing Laboratories, Inc and their Certified and Massachusetts Licensed Asbestos Abatement Project Designer.

SEP 2 8 2000

Haverhill Public Schools

Roger L. Young
Executive Director of Business
ryoung@haverhill-ma.com

Memorandum

To: **Pamela Mason, Principal Greenleaf School**

From: **Roger L. Young, Executive Director of Business**

Date: **September 27, 2000**

Re: **AHERA Management Plans**

The enclosed AHERA Management Plan and related materials for your school are enclosed for your information and use.

The important items for your attention are listed below.

1. The AHERA Notification (blue sheet) needs to be posted in a visible location near the Main Office. This notice is required by regulation. It says that a management plan exists and is available for review.
2. The Management Plan needs to be housed in the Main Office. A second copy is located in Edward Dufresne's Office in City Hall.
3. Please read the document and become familiar with the asbestos containing materials and the locations in which they are present. The Management Plan also comments on the condition of the materials and recommends actions to take.
4. On the inside of the front cover is a Short Term Worker Information Sheet. Everyone who does any repair activities at your school is required to know where the presence of asbestos is known to be. They are required to sign the form acknowledging the work and impact on asbestos containing building materials (ACBM)
5. This information should be shared with the custodians of the building
6. Awareness training for custodians will be scheduled for the end of October

Please call me or Ed Dufresne for additional information.

NON – BUILDING MATERIALS IN SCHOOLS THAT COULD POSSIBLY CONTAIN ASBESTOS THAT ARE NOT COVERED BY THE AHERA REGULATION

ROOFING MATERIALS:

1. Asphalt Saturated Felt
2. Asphaltic Roof Sealant
3. Reinforced Flashing Sheet
4. Base Felt
5. Finishing Felt
6. Flashing, (tar and felt)
7. Flashing, (cement for sheet metal work)
8. Shingles and Roof Panels
9. Roof Tiles

CLASSROOM/OFFICE MATERIALS:

1. Chalkboards, Blackboards and Bulletin Boards
2. Laboratory Chemical Fume Hoods
3. Laboratory Oven Gaskets.
4. Laboratory Bench Tops
5. Laboratory Chemical Resistant Sinks
6. Kiln Bricks
7. Kiln Gaskets
8. Kiln Gloves and Aprons

MISCELLANEOUS:

Portable HVAC Systems
Portable Water Heaters and Coolers
Refrigerators and Freezers
Electrical Insulation
Stage Curtains
Portable Acoustic Panels
Mobile Chalkboards/Bulletin Boards
Electrical Wire Insulation
Exterior Textured Paint

*** Although these items are not covered under the AHERA regulation, they should be considered when planning renovation and/or demolition to school buildings and would be covered under other Federal Regulations.**

** This list in no way indicates All the materials that could possibly contain asbestos. All suspect material should be sampled by an Accredited Person or it should be assumed to be Asbestos Containing Material (ACM).

GREENLEAF ELEMENTARY SCHOOL

SHORT TERM WORKER INFORMATION SHEET

All contractors, short term workers and Public Property workers who may come in contact with asbestos should be made aware of the presence of asbestos in the Haverhill Public Schools and adjust their work accordingly. If they feel their work may impact upon asbestos in the school buildings they should be I direct contact with the Designated Person to verify the possibility. If this is the situation, the Designated Person will contact the asbestos consultant, Hub Testing Laboratories, Inc. and their Certified and Massachusetts Licensed Asbestos Abatement Project Designer. Hub Testing Laboratories, Inc should be called to confer or redirect activity so as not to disturb ACBM.

SHORT TERM WORKER

(Public Property personnel, telephone repair personnel, plumbers, heating contractors, etc.)

Name/Company	Date	Reason for Work	Impact on ACBM Y/N

*If your work in the building has the potential of impacting asbestos materials contact Ed Dufresne (Designated Person) at (978) 374-2341 who will contact the Asbestos Consultant, Hub Testing Laboratories, Inc and their Certified and Massachusetts Licensed Asbestos Abatement Project Designer.

HOMOGENEOUS AREAS OF SUSPECT MATERIAL

MATERIAL	ASBESTOS YES/P/P_1/P_2/NO	SAMPLE #'s	LOCATION
12" x 12" Floor Tile, Tan with White Flecks	Yes	GRN 53	Rms. 002, 003A ≈ 1325 sf
12" x 12" Floor Tile (Tan)	P_2	N/A	Rms. 1, 1A, 3, 103, 104, 106 – BATH, 105C, E. Stair – Mid Landing ≈ 800 sf
12" x 12" Floor Tile (White)	P_2	N/A	2nd Floor W. Bathroom ≈ 78 sf
12" x 12" Floor Tile (Pink)	P_2	N/A	E. Stair Landing ≈ 36 sf
9" x 9" VAT (Brown)	Yes	GRN 30	Rms. 104, 105D ≈ 190 sf.
9" x 9" VAT (Green)	P_1	GRN 25	Rms. W. 105, 105, 106 ≈ 1450 sf
9" x 9" VAT (White)	P_1	GRN 28	Rms. 103, 107A, 205, 206, ≈ 2450 sf
9" x 9" VAT (Tan)	P_1	GRN 27	Rms. 105B, 107, C 230, 208 S. Stairwell ≈ 1800 sf
Linoleum	Yes	GRN 29	Rms. 104 A & B Baths ≈ 150 sf

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/P/P_1/P_2/NO	SAMPLE #'s	LOCATION
Sheet Vinyl (Tan Mosaic)	P_2	N/A	Room N. 106 ≈ 15 sf
Black Floor Mastic	P_2	N/A	Under All Floor Tile ≈ 6000 sf
Stair Treads (5' x 1' Brn)	P_2	N/A	≈ 90% of All Stairs ≈ 460 sf
2' x 4' Ceiling Tile	P_1	GRN 25	Rms. 4A, 103, 204 – 207, 210 ≈ 6400 sf
Plaster Ceiling	No	GRN 40, 41, 43, 44, 48, 49	Rms. 1 – 7 ≈ 10,900 sf
Plaster Ceiling & Walls	No	GRN 21, 22, 24, 42, 50 51, 52	Rms. 1, 2, 3, 100 – 107, 200 – 210, for walls, 105 to 107, 200 – 203 for ceilings ≈ 42,600 sf
Wallboard	No	GRN 05, 06, 07	Rms. 105A – C ≈ 1750 sf
Breeching	P*	N/A	Boiler room 6 ≈ 90 sf
Header Covering & Exhaust	P*	N/A	Boiler room 6 ≈ 80 sf
Hard Fittings	P*	GRN 46	Rms. 001 – 007 ≈ 17 lf

* Previous inspection, 1989, indicates that this material has been abated in 9/87. There is no documentation to support this information.

HOMOGENEOUS AREAS OF SUSPECT MATERIAL cont.

MATERIAL	ASBESTOS YES/P/P_1/P_2/NO	SAMPLE #'s	LOCATION
Pipe Insulation	P_2	N/A	Tunnel exiting 6, N. Ctr. Chase in rm. 5, All floor runs – Bsmt, 4E storage. ≈ 95 lf

There is possibly some TSI – Pipe, in the metal overhead boxes over the cafeteria. Inspector could not access. There is Aircell and friable debris in both coal storage areas adjacent to boiler room 6.

Insulation Debris	P_2	N/A	Telephone access in 4A on pipe in chase, N. chase – storage rm 5, N. E. girls bath and trap door, Ctr. Ceiling room 6. ≈ 30 sf
Bulletin Boards	No	GRN 08, 09, 10, 11	Rms. 105, 201, 204, 207 ≈ 200 sf
Chalk Boards (4' x 8')	P_2	N/A	In classrooms, under Stairs – rm. 7 ≈ 416 sf
Library Partition	P_1	GRN 01	Library ≈ 120 sf
Gray Blown In Attic Insul.	P_2	N/A	Attic ≈ 9000 sf
Gravel Over Tar Roof	P_2	N/A	Roof ≈ 9000 sf
Vibration Isolators	P_2	N/A	N. W. 9A, S. E. 4 Storage Area ≈ 20 sf

KEY TO HOMOGENEOUS AREAS OF SUSPECT MATERIAL ASBESTOS CLASSIFICATIONS

(Key: **YES** – Proven to Contain Asbestos, **P** – Presumed Asbestos Containing Material (PACM), $\mathbf{P_1}$ – Inadequate AHERA Sampling – Must be Assumed to be Asbestos Containing Material, $\mathbf{P_2}$ – Homogeneous Areas NOT Previously Identified as Suspect Material. Must be Assumed to be Asbestos Containing Material. **NO** – Proven by AHERA Sampling to be Asbestos Free).

SHORT TERM WORKER

(Telephone repair personnel, plumbers, heating contractors, etc.)

Name/Company	Date	Reason for Work	Impact on ACBM Y/N

*If your work in the building has the potential of impacting asbestos materials contact Ed Dufresne (Designated Person) at (978) 374-2341 who will contact the Asbestos Consultant, Hub Testing Laboratories, Inc and their Certified and Massachusetts Licensed Asbestos Abatement Project Designer.

SHORT TERM WORKER

(Telephone repair personnel, plumbers, heating contractors, etc.)

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