Asbestos Hazard Emergency Response Act Three-Year Asbestos Re-Inspection and Management Plan Update

Otis Memorial Elementary School
5500 Curtis Boulevard
Bourne, MA 02542

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

Bourne Public Schools

Bourne, Massachusetts

September 26, 2014

Fuss & O'Neill EnviroScience, LLC
50 Redfield Street, Suite 100
Boston, Massachusetts 02122

Project Number 20121141.A9E

FUSS & O'NEILL
EnviroScience, LLC

September 26, 2014

Mr. Edward Donoghue
Director of Business Services
Bourne Public Schools
36 Sandwich Road
Bourne, MA 02532

RE: 2014 Three Year AHERA Management Plan Update
Otis Memorial Elementary School
Fuss & O'Neill EnviroScience, LLC No. 20121141.A9E

Dear Mr. Donoghue:

Fuss & O'Neill EnviroScience, LLC (EnviroScience) is pleased to submit the enclosed three-year Asbestos Hazard Emergency Act (AHERA) asbestos re-inspection and management plan update performed at the Otis Memorial Elementary School located at 5500 Curtis Boulevard in Bourne, Massachusetts. This report is an important document that must be kept on file at the school, as well as at a central location where all the Asbestos Management Plans are stored.

If you should have any questions regarding this report, please contact me at 617-282-4675 extension 4703. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Dustin A. Diedricksen
Project Manager

Timothy M. Downey
Senior Project Manager

DD/ftc

Enclosure

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1 Introduction

1.1 Background

The Clean Air Act of 1977 required the United States Environmental Protection Agency (EPA) to develop standards to address the potential health aspects associated with adverse effects of asbestos exposure as an indoor contaminant. In October 1986 the EPA promulgated the Asbestos Hazard Emergency Response Act (AHERA).

The AHERA regulations required that the local education agencies (LEAs) conduct inspections of each school building that they lease, own, or otherwise use as a school building to identify locations of friable and non-friable asbestos-containing building materials (ACBM). The original inspections were required to have been completed prior to October 12, 1988.

In accordance with the AHERA regulations, a building leased or acquired on or after October 12, 1988 that is to be used as a school building must be inspected for friable and non-friable ACBM, prior to use as a school building. In the event of an emergency use of a building that has not been inspected for ACBM, the building must be inspected within 30 days after commencement of such use.

The regulatory requirements are still in full force and effect for any private or public school system, a church affiliated school of any denomination, a school dedicated to the education of children with special needs, or a charter school. In the Commonwealth of Massachusetts, the Department of Labor Standards (MADLS) Asbestos and Lead Program is responsible for AHERA regulation enforcement.

1.2 Local Education Agency (LEA) Responsibilities

A. The LEA is responsible for compliance with AHERA regulation Title 40 CFR, Part 763, Subpart E. The following responsibilities must be followed. (Refer to above-mentioned regulation for full LEA requirements and responsibilities):

1. The LEA must designate a person to ensure that all of the AHERA requirements are properly implemented. The Designated Person must receive adequate training to perform their duties.

2. The LEA must ensure that management plans are maintained in a central location, as well as at each facility, and such plans and records are available for inspection or review at all times.

3. The LEA must inform all workers, building occupants or their legal representative(s) in writing at least once each school year about asbestos-related activities, and the availability of the AHERA management plans for the school buildings.

4. The LEA must ensure proper accreditation for all persons who perform asbestos inspections, asbestos re-inspections, develop/update management plans, develop response

actions, and perform required response actions, including operations and maintenance activities that may disturb ACBM.

5. The LEA must provide training for all custodial and maintenance staff who regularly perform building maintenance where ACBM are present. The training must be provided upon initial hire, as well as updated annually.

6. The LEA must provide information (disclosure) to any workers who may perform short-term work and come in contact with asbestos in school buildings where ACBM or presumed ACBM are present.

7. The LEA must ensure that warning labels are placed to identify known ACBM or presumed ACBM in routine maintenance areas.

8. The LEA must ensure that periodic surveillance is performed at least once every six months after a management plan is in effect in all school buildings that it leases owns or otherwise uses that contains ACBM or presumed ACBM.

9. The LEA must ensure that once every three years after a management plan is in effect, a re-inspection is performed in all school buildings that it leases, owns, or otherwise uses that contains ACBM or presumed ACBM.

Refer to abovementioned regulation for full requirements and responsibilities.

1.3 Key Personnel

The following are key personnel responsible in part for this Asbestos Management Plan:

A. Local Education Agency (LEA)

LEA:	Bourne Public Schools
Address:	36 Sandwich Road
	Bourne, Massachusetts 02532
Phone:	(508)-759-0660
Fax:	(508)-759-1107

B.

Designated Person:	Mr. Edward Donahue
	Director of Business Services
Address:	36 Sandwich Road
	Bourne, Massachusetts 02122
Phone:	(617)-282-4675
Fax:	(617)-282-8253

C. Asbestos Consultant

Firm:	Fuss & O'Neill EnviroScience, LLC
Address:	50 Redfield Street, Suite 100
	Boston, MA 02122
Phone:	(617)-282-4675
Fax:	(617)-282-8253

D. Asbestos Inspector

Inspector:	Jonathan Hand
MADLS Certification Number:	AI041945
Expiration Date:	03/14/2015

E. Asbestos Management Planner:

Planner:	Dustin Diedricksen
MADLS Certification Number:	AP900425
Expiration Date:	04/28/2015

2 Building and Mechanical System Description

Otis Memorial Elementary School is a one-level concrete and masonry structure reportedly constructed in 1962. The building includes two wings of classrooms, offices, a gymnasium, a kitchen, a multi-purpose room, and a boiler room with associated crawlspaces. The total area of this facility is approximately 35,160 square feet of space.

Two hot water boilers provide perimeter radiant heating utilizing fin-tube radiators.

Reportedly, no renovation or construction activities have been performed since the last re-inspection.

3 Three Year Re-Inspection

3.1 Re-inspection Procedures

This three-year asbestos re-inspection was conducted in accordance with EPA AHERA regulations, Title 40 CFR, Part 763, Section 763.85 (b).

On August 22, 2014, Mr. Jonathan Hand of Fuss & O'Neill EnviroScience, LLC (EnviroScience) performed the re-inspection.

A. During the re-inspection, the following required tasks were performed:

1. A visual re-inspection and reassessment of all known friable or assumed ACBM.

2. A visual re-inspection of ACBM that was previously considered non-friable to determine if the present condition of the material has become friable.

3. Identification and assessment of any homogeneous area that contained newly friable ACBM since the last inspection or re-inspection

4 Re-Inspection Report

4.1 Review of Existing Records

An important part of this AHERA re-inspection involved researching prior documentation that is required to be present at the school, as well as at the central recordkeeping location where the asbestos management plans are stored.

Please see *Appendix A* for the existing records checklist.

4.2 Re-inspection Summary

The on-site portion of the re-inspection was documented on forms modeled after examples provided by the EPA and reviewed with the MADLS. The first form, **Re-inspection Form 1A**, identifies previous inspection data gathered during the initial AHERA inspection and subsequent re-inspection (see *Appendix B*). This form is useful to reference response actions (if any), which have been performed since the last inspection, as well as identifies the last known conditions of ACBM in the building. It additionally provides the inspector a "quick glance" reference when performing the re-inspection.

The second EPA form, **Re-inspection Form 2**, is used to provide information and justification regarding re-assessment of the ACBM (see *Appendix C*). This form also provides response action recommendations, including a tentative schedule for completing removal or repair response action recommendations.

No bulk samples were collected as part of this re-inspection.

Using EPA protocol and criteria, the following ACBMs were identified in the building at the time of this three-year re-inspection. Please refer to the above-mentioned Re-inspection Forms for specific locations of the materials.

Table 1
Asbestos-Containing Building Materials

Homogeneous Material	Location(s)	Reference	Asbestos Content
Boiler Breeching Insulation	Boiler Room	EnviroScience Sample Report August 2009	80% Chrysotile

Homogeneous Material	Location(s)	Reference	Asbestos Content
Interior Boiler Components	Boiler Room (Concealed)	Presumed ACBM	Presumed ACBM
White Boiler Insulation	Boiler Room	Presumed ACBM	Presumed ACBM
White Hot Water Tank Insulation	Boiler Room	Presumed ACBM	Presumed ACBM
Gray Mudded Pipe Fitting Insulation	Boiler Room, Nurse's Office (Behind Sink, Kitchen (Unit Ventilators), Supply Room Between Classrooms 5 and 11, Supply Room Near Custodial Office, Concealed Above Fixed Ceilings, Within Pipe Chases, & Within Crawlspace	EnviroScience Sample Report August 2009	10% Chrysotile 10% Amosite
Black Sink Undercoating*	Classrooms	EnviroScience Sample Report August 2009	5% Chrysotile
9" x 9" Floor Tile	Classrooms & Hallways	Presumed ACBM	Presumed ACBM
Gray Fiber-Reinforced Cement Board Soffit (Transite)*	Exterior Soffit	Presumed ACBM	Presumed ACBM
Fire Door Core Insulation (Metal Doors)	Boiler Room & Emergency Generator Room	Presumed ACBM	Presumed ACBM

*AHERA does not consider this material to be an ACBM, but the material contains asbestos and must be managed accordingly before disturbance.

Using the EPA protocol, samples of the following suspect materials were collected and analyzed. The analytical results indicated that these materials are **non-ACBM**:

Table 2
Non-Asbestos-Containing Building Materials (Previous Re-Inspections)

Homogeneous Material	Location	Reference
HVAC Cloth Duct Vibration Isolator	Generator Room	EnviroScience Sample Report August 2009
4" Black Vinyl Baseboard	Classrooms, Hallways, Offices, & Storage Closets	EnviroScience Sample Report August 2009
Black Mastic Associated with Black Cove Base	Classrooms, Hallways, Offices, & Storage Closets	EnviroScience Sample Report August 2009
Black Mastic Associated with 9" x 9" Floor Tile	Classrooms, Hallways, Offices, & Storage Closets	EnviroScience Sample Report August 2009

Homogeneous Material	Location	Reference
Wall Plaster Skim Coat	Throughout School	EnviroScience Sample Report August 2009
Wall Plaster Rough Coat	Throughout School	EnviroScience Sample Report August 2009
Ceiling Plaster Skim Coat	Bathrooms & Custodial Closets	EnviroScience Sample Report August 2009
Ceiling Plaster Rough Coat	Bathrooms & Custodial Closets	EnviroScience Sample Report August 2009

Mr. Dustin Diedricksen reviewed the information obtained during this re-inspection. Mr. Diedricksen is an EPA-accredited and MADLS-certified Asbestos Management Planner.

4.3 Newly Identified or Re-sampled ACBMs

No newly-identified ACBMs or suspect ACBMs were identified during this re-inspection.

AHERA regulations pertain to interior identified or presumed ACBM and limited exterior ACBM. AHERA regulations do include ACBM located on exterior porticos, covered walkways, and mechanical equipment used to condition interior building air. In accordance with EPA National Emission Standards for Hazardous Air Pollutants (NESHAP), prior to disturbance, sample collection and analysis of these and other exterior suspect ACM must be conducted prior to disturbance.

4.4 Physical Assessment of ACBMs

During the inspection, suspect ACBM were separated into three EPA categories. These categories are thermal system insulation (TSI), surfacing ACBM, and miscellaneous ACBM. TSI includes materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe and fitting insulations, boiler insulation, tank insulations, and duct insulation. Surfacing ACBM is commonly used for spray or trowel-applied fireproofing, decorative plasters, and acoustical applications. Miscellaneous materials include all ACBM not listed in TSI or surfacing, such as linoleum, vinyl asbestos flooring, ceiling tiles, and construction mastics/adhesives.

Finally, all ACBM were quantified in linear and/or square feet, depending on the nature of the material.

The ACBM identified during the inspection and still remaining in the school were re-assessed using the MADLS and AHERA guidelines for assessment of ACBM. The following assessment categories are listed:

1 Damaged or significantly damaged TSI ACBM
2 Damaged friable surfacing ACBM
3 Significantly damaged friable surfacing ACBM
4 Damaged or significantly damaged friable miscellaneous ACBM

5 ACBM with potential for damage
6 ACBM with potential for significant damage
7 Any remaining friable ACBM or friable suspected ACBM

Material locations, assessments, and recommended response actions are listed in the re-inspection forms.

5 Management Plan Update

5.1 Recommended Response Actions

Based on the inspection report, physical walk-through inspection and existing condition of the ACBM, following response actions are recommended:

1. Removal: Not Applicable

2. Repair:

   Pipe and Pipe Fitting Insulations:

   - Supply Room Between Classrooms 5 & 11: 4 EA and 50 SF of debris; and
   - Pipe Tunnels – 6 EA damaged.

3. Enclosure: Not Applicable

4. Encapsulation: Not Applicable

5. Operations and Maintenance (O & M): All remaining ACBM

It should be noted that only locations with assessments of 1 or 2 are recommended for removal or repair. All remaining ACBM in the school shall be placed in an O & M Program. The condition of such materials will be monitored until all the ACBM have been removed from the building. A successful O & M Program shall include the following elements:

1. Cleaning: All areas of the school where friable ACBM or friable suspected ACBM assumed to be ACBM are present shall be cleaned at least once after the completion of the initial inspection. Additional cleaning may be necessary if the Management Planner makes a written recommendation indicating methods and frequency of such cleaning.

2. O & M Activities: The LEA shall ensure that the procedures described below are followed to protect building occupants for any O & M activities that may disturb known or assumed ACBM:

   a) Restrict entry into the area either by physically isolating, or by scheduling.
   b) Post asbestos warning signs to prevent entry by unauthorized persons.
   c) Deactivate or temporarily modify the air-handling system.

d) Use proper work practices and engineering controls such as wet methods, protective clothing, HEPA-vacuums, mini enclosures/ glove bags etc. to inhibit spread of fibers.
e) Place asbestos debris and other contaminated materials in a sealed, leak-tight container for proper disposal.

3. Minor Fiber Release Episodes: The LEA shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., disturbance of 3 linear/square feet or less of friable ACBM):

a) Saturate the debris using wet method.
b) Place the debris in a sealed, leak-tight container and wet clean the area.
c) Repair the area of damaged ACBM with materials, such as asbestos-free spackling, plaster or insulation or seal with an encapsulant.

4. Major Fiber Release Episode: The LEA shall ensure that the procedures described below are followed in the event of a major fiber release episode (i.e., disturbance of more than 3 linear/square feet of friable ACBM):

a) Restrict entry into the area and post asbestos warning signs at all approaches to area.
b) Deactivate or temporarily modify the air handling system to prevent the spread of fibers to other areas of the school.
c) **The response for any major fiber release episode must be designed by persons accredited to design asbestos response actions in a school, and conducted by persons accredited to conduct asbestos response actions in a school**.
d) The LEA shall notify the MADLS of any major fiber release episode within twenty-four hours of its occurrence and, if necessary, provide written notification as required by applicable federal and/or state regulations.

5.2 Periodic Surveillance

At least once every six months after a management plan is in place, the LEA shall conduct periodic surveillance in the school that contains ACBM or assumed to contain ACBM. The person conducting periodic surveillance shall visually inspect the identified ACBM in the school referenced in the AMP, record the date of surveillance, their name, and any changes in the condition of the materials and submit the record to the LEA Designated Person for inclusion in the AMP.

Please see *Appendix D* for a sample Periodic Surveillance Form used for conducting a periodic surveillance.

5.3 Preventive Measures

The LEA shall institute appropriate preventive measures to eliminate the reasonable likelihood that the ACBM will become damaged, deteriorated or delaminated.

Please see *Appendix E* for preventive measures designed for various types of ACBM that may exist in the school.

6 EPA Accreditation Requirements

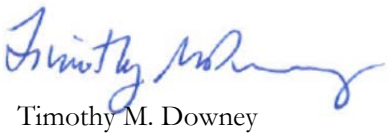
The MADLS certifications and EPA accreditations for the individuals (Jonathan Hand and Dustin Diedricksen) involved in performing this re-inspection and updating the management plan are provided in *Appendix F*.

Report prepared by Environmental Analyst, Jonathan Hand

Reviewed by:



Dustin A. Diedricksen
Project Manager



Timothy M. Downey
Senior Project Manager

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EnviroScience, LLC

Appendix A

Checklist for Existing Records

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Checklist for Existing Records

Local Education Agency (LEA): Bourne Public Schools
36 Sandwich Road, Bourne, MA

School Building: Otis Memorial Elementary School

The following documentation is required to be present in both the LEA's Office as well as in a centralized location in the administrative office of the school. The information included in this checklist shall be verified to be present and complete as part of three-year re-inspection.

	DOCUMENTATION	LOCATION	
		LEA Office	School
1.	Original AHERA Inspection/Management Plan	1988	**No**
2.	Three year Re-inspections (List Dates)	2001, 2004, 2011	**No**
3.	Notifications to Parents/Guardians and Teachers (yearly since last re-inspection)	Yes (In Student Handbook)	Yes (In Student Handbook)
4.	Designated Person Identified and Proper Training (person must be named and have appropriate training)	**No**	**No**
5.	Designated Person Periodic Surveillance (every six months since last re-inspection)	Yes	**No**
6.	Record of Awareness Training for Maintenance Staff	Yes	**No**
7.	Outside Vendor Awareness Notification	Yes	**No**
8.	Warning Signs and Labels (required posting in Boiler room and mechanical spaces only)	Yes	Yes
9.	Record of Response Actions (includes any abatement done since last re-inspection)	Yes	Yes

Comments: .Items marked "**No**" indicate not present at the time of this inspection.

Inspector (LEA Office): Jonathan Hand Date: August 22, 2014

Inspector (School): Jonathan Hand Date: August 22, 2014

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Appendix B

Re-Inspection Form 1A

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Re-inspection Form 1 (A) – List of Previously Identified ACBM

School: Otis Memorial Elementary School

Address: 5500 Curtis Boulevard, Bourne, MA

Date(s) of Original Inspection: 1988

Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/ Other Comments
Sample Number	Asbestos Content	Material Description					
717DD-02A	80% Chrysotile	White Boiler Breeching Insulation	TSI	F	7	Boiler Room	Repaired February 2013; Abatement Activities Documented
Presumed ACBM	Presumed ACBM	Interior Boiler Components	TSI	F	7	Boiler Room (Concealed)	Inaccessible; Located with Operational Mechanical Equipment
Presumed ACBM	Presumed ACBM	White Boiler Insulation	TSI	F	7	Boiler Room	Repaired February 2013; Abatement Activities Documented
Presumed ACBM	Presumed ACBM	White Hot Water Tank Insulation	TSI	F	7	Boiler Room	Repaired February 2013; Abatement Activities Documented
717DD-01A	10% Chrysotile 10% Amosite	Gray Mudded Pipe Fitting Insulation	TSI	F	7	Boiler Room, Nurse's Office (Behind Sink, Supply Room Near Custodial Office, Concealed Above Fixed Ceilings, Within Pipe Chases, & Within Crawlspaces	
717DD-01A	10% Chrysotile 10% Amosite	Gray Mudded Pipe Fitting Insulation	TSI	F	7	Kitchen (Unit Ventilators)	ACBM Associated With One Unit Ventilator Abated in February 2013; Abatement Activities Documented
717DD-01A	10% Chrysotile 10% Amosite	Gray Mudded Pipe Fitting Insulation	TSI	F	1	Supply Room Between Classrooms 5 & 11	2 EA Damaged with 50 SF of Debris
717DD-01A	10% Chrysotile 10% Amosite	Gray Mudded Pipe Fitting Insulation	TSI	F	1	Crawlspaces	6 EA Damaged

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/ Other Comments
Sample Number	Asbestos Content	Material Description					
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Classroom 1	4 SF Damaged
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Classrooms 2, 5, 9 – 11, Teacher's Room & Supply Room	
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	At Double Doors in Hallway Outside Clinic, Classroom 3, 4, 6, 12 13, 15 & 16, 17, 18, 19 & 20, Principal's Office, Main Office, Nurse's Office, & Hallway at Gym Wing	Material Repaired Summer 2013
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Classroom 7	Material Repaired Summer 2013 4 SF Damaged
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Classroom 8	Material Repaired Summer 2013 1 SF Damaged 1 SF Missing
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Classroom 14 (Library)	Only 25 SF of Damaged Material Identified and Repaired Summer 2013 5 SF Damaged
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Hallway from Classroom 15 to Doors Outside of Restrooms	Material Repaired Summer 2013
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Hallway Outside of Classrooms 10-11 from Fire Doors to Exit	Material Repaired Summer 2013
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Custodian's Office	2 SF Damaged at Exterior Door

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/ Other Comments
Sample Number	Asbestos Content	Material Description					
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Foyer and Hallway Outside of Teacher's Room	Abated Summer 2013
Presumed ACBM	Presumed ACBM	9" x 9" Floor Tile	M	NF	5	Cafeteria/Gym	Covered
717DD-04A	5% Chrysotile	Black Sink Undercoating*	M	NF	5	Classrooms	AHERA Does Not Consider Material To Be ACBM. e Material Contains Asbestos & Must Be Managed as ACBM Prior to Disturbance
717DD-03 A-B	ND	HVAC Cloth Duct Vibration Isolator	M	NF	N/A	Generator Room & Boiler Room	Determined Non-ACM From EnviroScience Report September 2009 Will Be Removed from AMP
717DD-08 A-G 717DD-09 A-G 717DD-10 A-G 717DD-11 A-G	ND	Wall and Ceiling Plaster	S	NF	N/A	Bathrooms and Custodian Closets	Determined Non-ACM From EnviroScience Report September 2009 Will Be Removed from AMP
Presumed ACBM	Presumed ACBM	Fire Door Core Insulation (Metal Doors)	M	NF	5	Boiler Room & Emergency Generator Room	

School: Otis Memorial Elementary School
Address: 5500 Curtis Boulevard, Bourne, MA

Date(s) of Original Inspection: 1988
Date(s) of Subsequent Re-Inspections: 1994, 1998, 2001, 2004, 2007, 2011

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/ Other Comments
Sample Number	Asbestos Content	Material Description					
Presumed ACBM	Presumed ACBM	Gray Fiber-Reinforced Cement Board (Transite)	M	NF	5	Exterior Soffit	

EA = Each; LF -= Linear Feet; N/A = Not Applicable; SF = Square Feet

*AHERA does not consider this material to be an ACBM, but the material contains asbestos and must be managed accordingly before disturbance.

Information abstracted by: Jonathan Hand Date: September 19, 2014

Material Category: TSI = Thermal System Insulation, S = Surfacing, M = Miscellaneous

Friability: F = Friable, NF = Non-friable

AHERA Assessment Categories:

1 = Damaged or significantly damaged TSI ACBM; 2 = Damaged friable surfacing ACBM; 3 = Significantly damaged friable surfacing ACBM; 4 = Damaged or significantly damaged friable miscellaneous ACBM; 5 = ACBM with potential for damage; 6 = ACBM with potential for significant damage; 7 = Any remaining friable ACBM or friable suspected ACBM

Appendix C

Re-Inspection Form 2

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Re-inspection Form 2. Re-inspection of ACBM: Findings and Management Planner Recommendations

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: White Boiler Breeching Insulation Sample ID Number: 717DD-02A

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room	7	F	365 SF	White Insulative Material to Prevent Heat Transfer. Concealed.	Continue O&M	Ongoing

Were additional samples of this ACBM collected? No

Date of Management Planner Review: 9/24/14

Inspector's Name: Jonathan Hand

Inspector Signature: Jonathan Hand

Certification #/State: AI041945/MA

Expiration Date: 03/14/15

Management Planner Name: Dustin Diedricksen

Management Planner Signature: Dustin Diedricksen

Certification #/State: AP900425/ MA

Expiration Date: 04/28/2015

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: Interior Boiler Components Sample ID Number: Presumed ACBM

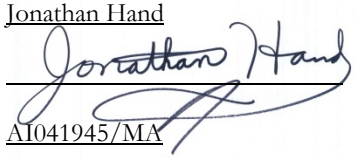
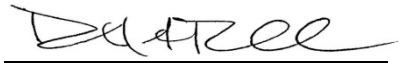
Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room (Concealed)	5	F	2 EA	Gasketing and Insulating Materials Located Inside the Boiler. Concealed.	Continue O&M	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature: Jonathan Hand Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature: Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: White Boiler Insulation Sample ID Number: Presumed ACBM

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room	7	F	200 SF	Thermal System Insulation on Boilers to Prevent Heat Transfer. This Material is in Good Condition.	Continue O&M	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature:  Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature:  Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: _____						

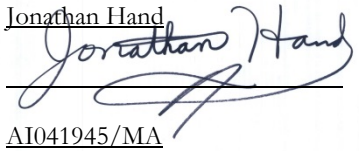
School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: White Hot Water Tank Insulation Sample ID Number: Presumed ACBM

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room	7	F	100 SF	Thermal System Insulation on Boilers to Prevent Heat Transfer. This Material is in Good Condition.	Continue O&M	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature: Jonathan Hand Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature: Dustin Diedricksen Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: _____						

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: Gray Mudded Pipe Fitting Insulation Sample ID Number: 717DD-01A

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room, Nurse's Office (Behind Sink, Kitchen (Unit Ventilators), Supply Room Near Custodial Office, Concealed Above Fixed Ceilings, Within Pipe Chases, & Within Pipe Tunnels	7	F	350 EA Accessible	Thermal System Insulation on Pipe Fittings to Prevent Heat Transfer. This Material is in Good Condition.	Continue O&M	Ongoing
Supply Room Between Classrooms 5 and 11 & Pipe Tunnels	1	F	Included Above	Damaged Thermal System Insulation on Piping to Prevent Heat Transfer.	Repair Continue O&M	Fall 2014
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature:  Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature:  Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: 9" x 9" Floor Tile Sample ID Number: Presumed ACBM

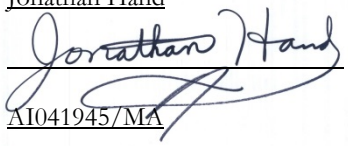
Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Throughout Hallways, Classrooms, and Offices	5	NF	23,505 SF	Resilient Floor Covering. This Material is in Good Condition.	Continue O&M	Ongoing
Classroom 1, Classroom 7, Classroom 8, Classroom 14 (Former Library), and Custodial Office	5	NF	Included Above	Damaged Resilient Floor Covering.	Repair Continue O&M	Summer 2015
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature: Jonathan Hand Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature: Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	

I, the LEA's Designated Person, have read and understood the recommendations made above: _____

Date: _____

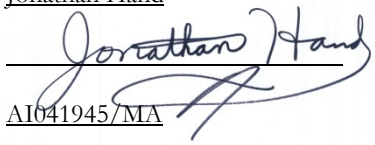
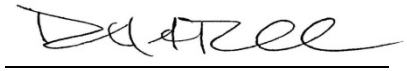
School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: Fire Doors Core Insulation (Metal Encased) Sample ID Number: Presumed ACBM

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Boiler Room and Emergency Generator Room	5	NF	2 EA	Fire Resistant Door Used to Help Slow a Fires Progress. This Material is in Good Condition.	Continue O&M	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature:  Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature:  Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: _____						

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: Black Sink Undercoating Sample ID Number: 720JH-04B

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Classrooms	5	NF	25 EA	Dampproofing Material Used to Help Prevent Condensation on Sinks. This Material is in Good Condition.	Continue O&M AHERA does not consider this material to be an ACBM, but the material contains asbestos and must be managed accordingly before disturbance.	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature:  Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature:  Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: _____						

School: Otis Memorial Elementary School Address: 5500 Curtis Boulevard, Bourne, MA Date(s) of Re-inspection: 8/22/14

Homogeneous Material: Gray Fiber-Reinforced Cement Board (Transite) Sample ID Number: Presumed ACBM

Re-Inspection Findings for ACBM					Management Planner Recommendations	
Location(s) of ACBM by Assessment Category	**Assessment Category**	**Friability**	**Estimated Quantity**	**Physical Description**	**Risk Assessment and Recommended Response Action(s)**	**Date Action Required**
Exterior Soffit	5	NF	1,975 SF	Resilient Panel Used to mount and Insulate Electrical Equipment. This Material is in Good Condition.	Continue O&M	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: 9/24/14	
Inspector's Name: Jonathan Hand Inspector Signature: Jonathan Hand Certification #/State: AI041945/MA Expiration Date: 03/14/15					Management Planner Name: Dustin Diedricksen Management Planner Signature: Certification #/State: AP900425/ MA Expiration Date: 04/28/2015	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: _____						

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Appendix D

Sample 6-Month Periodic Inspection Form

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EnviroScience, LLC

Sample 6-Month Periodic Surveillance Form

Local Education Agency (LEA): Bourne Public Schools

Facility Address: Otis Memorial Elementary School, 5500 Curtis Blvd, Bourne, MA

Date of Surveillance: _____

ACBM Damage Report

Asbestos-Containing Building Material	Location	Previous Condition	Present Condition	Change in Condition (Yes/No)	Estimated Damaged Quantity	Comments

Conditions: G = Good; D = Damaged; IA = Inaccessible; N/A = Not Applicable; SD = Significant Damage

Surveillance conducted by: _____ Date: _____

I, the LEA's Designated Person, have read and understood the findings noted above: _____ Date: _____

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Appendix E

Preventive Measures

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Preventive Measures
for Various Asbestos-Containing Materials

A. Surfacing Materials

"Surfacing Materials" means materials in a school building that are sprayed-on, troweled-on, or otherwise applied to surfaces. These include sprayed-on fireproofing materials on structural members, ceiling and wall plasters, or other materials applied to surfaces for acoustical, fireproofing, or other purposes.

Surfacing Materials are generally considered friable and can release asbestos fibers if damaged by impact, air erosion, vibration, and/or water intrusion. The following procedures, when properly implemented, will reduce the potential for fiber release:

1. Sprayed-on fire-proofing

   a) Identify the materials and post warning signs on the laid-in or glued-in ceiling tile. If the decking is not covered, place the sign on the wall.
   b) Maintain the materials in intact state and undamaged condition. During winter, pigeons, squirrels and other rodents tend to roost in boiler/machine rooms and dislodge sprayed-on fireproofing on the decking. Prevent such possibilities.
   c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, enclosure is a temporary solution. Encapsulation of damaged sprayed-on fireproofing material is not recommended.
   d) Train the custodial people who are responsible for care and maintenance of surfacing materials. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Ceiling and wall plaster

   a) Identify the materials and post warning signs.
   b) Maintain the materials in intact state and undamaged condition. Avoid storing/stacking on/near the materials to reduce contact damage.
   c) Prevent water leakage. If the material is significantly damaged, removal is the best option. For minor damage, repair or enclosure is a temporary solution.
   d) Train the custodial people who are responsible for care and maintenance of surfacing materials.

B. Thermal System Insulation (TSI)

"Thermal System Insulation (TSI)" means insulating materials applied to pipes, pipe fittings, boilers, breechings, tanks, ducts, or other components to prevent process heat loss or gain, water condensation, or for other purposes (e.g., fire door insulation core).

TSI are generally considered friable asbestos-containing materials. This means they can be easily damaged, increasing the potential for fiber release. The following procedures, when properly implemented, will reduce the potential for fiber release:

1. Boiler and breeching insulation

   a) Identify the locations and label the boiler. Warning signs should be posted outside the boiler room.
   b) Reduce the likelihood of fiber release by ensuring that the insulation is not damaged. Avoid storing/stacking on/near the boiler to reduce contact damage.
   c) Maintain the insulation in intact state and undamaged condition. Repair damaged areas as soon as possible to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material.
   d) Train the custodial people who are responsible for care and maintenance of TSI. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Pipe, pipe-fittings, tank and duct insulation

   a) Identify the locations and label the materials. Warning signs should be posted outside of rooms that have TSI materials.
   b) Reduce the likelihood of fiber release by ensuring that the materials are not damaged. Avoid storing/stacking near the materials to reduce contact damage.
   c) Maintain all TSI materials in intact state and undamaged condition. Inspect the protective jackets for damage. Repair damaged areas as soon as possible to prevent further deterioration. If repair is not feasible due to extensive damage/deterioration, remove the material.
   d) Train the custodial people who are responsible for care and maintenance of TSI. Please note that the repair/removal can only be performed by a licensed abatement contractor.

3. Fire door

   a) Identify the locations and label the materials.
   b) Since there may be a number of different types of fire doors throughout a building, fire door cores must be considered to have asbestos-containing interior insulation unless sample result prove otherwise. Prior to performing any maintenance on any door (lock change, drilling, etc.), the door should be surveyed by qualified personnel to rule out the existence of an asbestos core.
   c) Train the custodial people who are responsible for care and maintenance of TSI. Please note that the repair/removal can only be performed by a licensed abatement contractor.

C. Miscellaneous Materials

"Miscellaneous Materials" are all other asbestos-containing materials in a school building that do not fall under the categories of Surfacing Materials or TSI. These include floor tiles, floor tile and carpet mastic, gypsum wallboard and joint compound, ceiling tiles, glue daubs, transite panels, laboratory counter tops, wall base and associated glue, window caulking and glazing compounds etc. The following maintenance procedures are recommended for these materials:

1. Vinyl Asbestos Floor Tiles (VAT)

Vinyl Asbestos Floor Tiles (VAT) are considered non-friable, however routine maintenance procedures such as spray-buffing, burnishing, wet scrubbing, and stripping can generate asbestos fibers. Following procedures, when properly implemented, will reduce the potential of fiber release:

a) Do not sand, grind or abrade the tiles. Stripping of VAT should be done as infrequently as possible. When stripping becomes necessary, follow the appropriate work practices. Never perform dry stripping.
b) During spray-buffing or burnishing the floor, operate the machine at the lowest workable speed and use the least abrasive pad. Use a wet mop for routine cleaning whenever possible.
c) Routinely check whether chair and desk glides are in good condition and replace when necessary. Worn glides can gouge the floor and cause fiber release.
d) Place carpets/floor mats in all entrances to reduce abrasion of floor tiles by sand and pebbles. During winter, have parking lots and walkways swept to the extent possible to avoid the tracking of salt and ice-melting compounds into the school by the students.
e) Train the custodial people who are responsible for care and maintenance of VAT. Please note that the repair/removal can only be performed by a licensed abatement contractor.

2. Gypsum wallboard and joint compound assembly

a) Since there may exist a number of different homogeneous assemblies in a building, all sheetrock/joint compound must be assumed to be ACBM unless sample result prove otherwise. If any specific areas are going to be disturbed, the material in that area should be sampled.
b) Reduce the likelihood of fiber release by avoiding cutting or drilling holes through the sheetrock panels.

3. Ceiling Tile and Glue Daubs

a) Reduce the likelihood of fiber release by limiting access to the area above the ceiling tiles. Maintain the ceiling tiles in undamaged condition. Replace any damaged or water-stained tile.

b) If the ceiling tiles are negative for asbestos, sample and analyze the glue daubs to ascertain whether these are asbestos-containing before the tiles are replaced.

4. Transite Panels, Laboratory Counter Tops, Window Caulking and Glazing Compounds

a) Reduce the likelihood of fiber release.
b) Maintain transite panels, lab tabletops and window caulking and glazing compounds in undamaged condition.

5. Carpet Glue, Blackboard/ Tack Board Glue, Sink Undercoating, Floor Tile Mastic, Baseboard and Mastic

a) Reduce the likelihood of fiber release by leaving base cove and carpets in place.
b) Maintain carpets and base cove in good condition. Sample and analyze the glue and the mastic to ascertain whether these are asbestos-containing if the renovation activities are going to impact the carpet and the baseboard.

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Appendix F

EnviroScience Asbestos State Certifications and EPA Accreditations

Commonwealth of Massachusetts

Department of Labor Standards

Heather E. Rowe, Director

Asbestos Management Planner

DUSTIN A. DIEDRICKSEN

Eff. Date 04/28/14

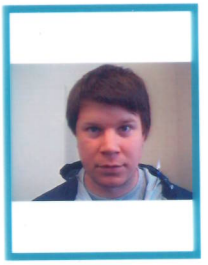
Exp. Date 04/28/15

AP900425

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

BOSR

15



This is to certify that

Dustin A Diedricksen

has completed the requisite training, and has passed an examination for reaccreditation

Asbestos Management Planner Refresher

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

Course Location

Institute for Environmental Education, Inc.
16 Upton Drive Wilmington, MA 01887

January 24, 2014
Course Dates

14-8967-136-208040
Certificate Number

January 24, 2014
Examination Date

January 24, 2015
Expiration Date

Training Director

Commonwealth of Massachusetts

Department of Labor Standards

Heather E. Rowe, Director

Asbestos Inspector

JONATHAN L. HAND

Eff. Date 03/14/14

Exp. Date 03/14/15

15

AI041945

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

WBR WB-RENEW



Fuss & O'Neill EnviroScience, LLC

146 Hartford Road, Manchester, CT 06040 – (860) 646-2469

This is to certify that

Jonathan Hand

xxx-xx-8836

has successfully completed the

4 Hr. Asbestos Inspector Refresher

Asbestos Accreditation under TSCA Title II

40 CFR Part 763

John Rowinski, Principal Instructor

Robert L. May, Jr., Training Manager

January 6, 2014
Date of Course

AI-R-01/14-1
Certificate Number

January 6, 2014
Examination Date

January 6, 2015
Expiration Date