

**Three-Year Asbestos Hazard Emergency
Response Act Re-Inspection and
Management Plan Update**
for
Administration and Facilities Offices

For Compliance with
Commonwealth of Massachusetts Department of Labor Standards (MADLS)
Asbestos Containing Materials in Schools Regulation (453 CMR 6.00)
and
EPA Asbestos Hazard Emergency Response Act
(Title 40 CFR, Part 763, Subpart E)

Sandwich Public School District
Sandwich, Massachusetts

February 2017



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



FUSS & O'NEILL
EnviroScience, LLC

February 28, 2017

Mr. Jonathan Nelson
Facilities and Grounds
Sandwich Public School District
33 Water Street
Sandwich, MA 02563

**RE: Three-Year AHERA Re-Inspection and Management Plan Update
Administration & Facilities Offices
33 Water Street, Sandwich, MA**
Fuss & O'Neill EnviroScience Project No. 20160762.A1E

Dear Mr. Nelson

Enclosed is Three-Year AHERA Re-Inspection and Management Plan update report prepared by Fuss & O'Neill EnviroScience, LLC for the Administration and Facilities Offices located at 33 Water Street in Sandwich, Massachusetts (the "Site"). AHERA services were performed for Sandwich Public School District (the "Client").

This report is an important document that must be kept on file at the school as well as at a central location where the Management Plans are maintained.

If you should have any questions regarding this report, please do not hesitate to contact me. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Dustin A. Diedricksen
Senior Project Manager

DD/so

Enclosure

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1 Introduction

1.1 Background

The Clean Air Act required the United States Environmental Protection Agency (EPA) to develop standards to address the potential health risks associated with adverse effects of asbestos exposure as an indoor contaminant. In October 1986, the EPA promulgated the Asbestos Hazard Emergency Response Act (AHERA) located at Title 40 CFR, Part 763, Subpart E.

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

AHERA also requires that any building leased or acquired on or after October 12, 1988, which is to be used as a school building, shall 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 shall be inspected within 30 days after commencement of such use.

The regulatory requirements remain in effect for a 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) is responsible for AHERA regulation enforcement.

1.2 Local Education Agency (LEA) Responsibilities

- A. The LEA is responsible for compliance with the AHERA regulation. The following responsibilities must be followed:
1. The LEA must designate a person to ensure that all AHERA requirements are properly implemented. The LEA's Designated Person must receive adequate training to perform their duties.
 2. The LEA must ensure that the Asbestos Management Plans (AMP) are maintained in a central location as well as at each facility; these AMP and pertinent documentation shall be available for inspection or review at all times.
 3. The LEA must inform all workers, building occupants, and legal representatives (as appropriate) in writing at least once per school year about asbestos-related activities and the availability of the AMP for each school building.

4. The LEA must ensure proper accreditation for all persons who perform asbestos inspections, asbestos re-inspections, AMP development/updates, Asbestos Work Plan (AWP) development, and response actions that may disturb asbestos; this includes operations and maintenance (O&M) activities.
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, and refresher training must be completed annually.
6. The LEA must provide information (disclosure) to any workers who may perform work and may come into contact with asbestos in school buildings where ACBM or presumed ACBM are present.
7. The LEA must ensure that known ACBM or presumed ACBM are provided with warning labels in routine maintenance areas.
8. The LEA must ensure that periodic surveillance is performed at least once every six months, after AMP implementation, 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 an AMP is implemented, a re-inspection is performed at each school building that it leases owns or otherwise uses that contains ACBM or presumed ACBM.

Refer to above-mentioned regulation for full requirements and responsibilities.

1.3 Key Personnel

A. Local Education Agency (LEA):

LEA: Sandwich Public School District
Address: 33 Water Street
Sandwich, Massachusetts 02563
Phone: (508) 888-1054

B. Designated Person:

Designated Person: Mr. Jonathan Nelson
Head of Facilities and Grounds
Address: 33 Water Street
Sandwich, Massachusetts 02563
Phone: (508) 888-3312

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: Robert Mallett
MADLS Certification Number: AI900557
Expiration Date: 06/01/2017

E. Asbestos Management Planner:

Planner: Dustin Diedricksen
MADLS Certification Number: AP900425
Expiration Date: 04/05/2017

2 Building and Mechanical System Description

The Administration and Facilities Offices are located within the former Henry T. Wing School. The original H.T. Wing School is a two-story structure with a full basement reportedly constructed in 1927. A major addition was added at some point prior to 1988 and has been referenced as the "Sandwich Elementary School". A major interior renovation project was performed in 1989 throughout the entire building. Two sets of portable classrooms are identified in the 1989 Initial Management Plan; these were reportedly constructed in 1974 and 1987. At the time of this re-inspection, only the 1987 portable classrooms were observed.

Two Weil-McLean gas-fired, hot-water boilers provide heat to the building via pipe chases positioned within crawlspaces and ceiling plenums.

3 Three Year Re-Inspection

3.1 Re-Inspection Procedures

This Three-Year AHERA Re-Inspection was conducted in accordance with EPA requirements of the AHERA regulation, Title 40 CFR, Part 763, Section 763.85 (b).

On December 28, 2016 Fuss & O'Neill EnviroScience, LLC (EnviroScience) representative Mr. Robert Mallett performed the re-inspection.

During the re-inspection, EnviroScience conducted the following required tasks:

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 newly-identified homogeneous area that contains 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 AMP are stored.

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

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 1**, 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 third EPA form, **Re-Inspection Form 2**, was 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 response actions that recommend removal or repair.

Fifty-two bulk samples were collected during this re-inspection. Identified ACBM can be found in Table 1 and identified non-ACBM can be found in Table 2. Refer to *Appendix D* for a copy of the asbestos laboratory analytical report and chain-of-custody form.

Bulk samples were last collected during the initial AMP inspection and the 2012 re-inspection. Previous bulk sampling results can be found in Table 1 and Table 2. Refer to *Appendix E* for a copy of the relevant initial AMP and 2012 re-inspection asbestos laboratory results.

Using EPA protocol and criteria, the following materials existing in the Administration and Facilities Offices at the time of this three-year re-inspection have been determined and/or assumed to be **ACBM**. Please refer to the above-mentioned re-inspection forms for specific locations of ACBM.

**Table 1
Asbestos-Containing Building Materials (ACBM)**

Material	Location	Reference	Asbestos Content
1927 Building			
Pre-Formed Block-Type Pipe Insulation	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & within Wall Chases	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-01, 02, 06, 08, & 18)	40% - 55% Mix (Chrysotile & Amosite)
Mudded Pipe-Fitting Insulation	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & within Wall Chases	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-07)	45% Mix (Chrysotile & Amosite)
Corrugated Paper-Type Pipe Insulation	Pipe Tunnels, & Concealed above Fixed Ceilings & within Wall Chases	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-04)	30% Chrysotile
9" x 9" Black Floor Tile	Beneath Built-Up Floor in Classrooms 1 – 3 & 6	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-22)	3% Chrysotile
Cloth Vibration Isolator	Boiler Room & Gymnasium	Assumed ACBM	Assumed ACBM
Sandwich Elementary School Addition			
Breeching Insulation	New Boiler Room	Assumed ACBM	Assumed ACBM

Material	Location	Reference	Asbestos Content
Mudded Pipe-Fitting Insulation Associated with Fiberglass Pipe Insulation	A, B, C, & D Wing Ceiling Plenums/Pipe Chases & Locker Room Pipe Closets	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-35, 36, & 37)	30%-45% Mix (Chrysotile & Amosite)
Pre-Formed Block-Type Pipe Insulation	New Boiler Room	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-10)	45% Amosite
Pink Sink Coating	C106, C107, & D125	AMP July 2012 Prepared by Cardno ATC (Sample ID 06A)	10% Chrysotile
Fiber-Reinforced Cement Panels Associated with Fume Hood	C208	Assumed ACBM	Assumed ACBM
Fiber-Reinforced Cement Panel	Partition Walls in Administrative Offices, Boys & Girls Locker Rooms, & C-Wing Stairs above Windows	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-37)	30% Chrysotile
9" x 9" Tan with Brown & White Streaks Floor Tile	Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-39)	2% Chrysotile
12" x 12" Tan with Streak Floor Tile	Maintenance Break Room & Computer Room	Assumed ACBM	Assumed ACBM

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)

Material	Location	Reference
1927 Building		
Joint Compound	Classrooms, Hallways, Offices, & Bathrooms	AMP July 2012 Prepared by Cardno ATC (Sample IDs 01A-01C)
Gray Ceiling Plaster Rough Coat	Basement	AMP July 2012 Prepared by Cardno ATC (Sample IDs 02A – 02C) & AMP February 2017 Prepared by EnviroScience (Sample IDs 01A & 01B-RCM-1228)
White Ceiling Plaster Skim Coat	Basement	AMP July 2012 Prepared by Cardno ATC (Sample IDs 03A – 03C) & AMP February 2017 Prepared by EnviroScience (Sample IDs 02A & 02B-RCM-1228)
Gray Wall Plaster Rough Coat	Basement	AMP July 2012 Prepared by Cardno ATC (Sample IDs 04A – 04C) & AMP February 2017 Prepared by EnviroScience (Sample IDs 03A & 03B-RCM-1228)

Material	Location	Reference
White Wall Plaster Skim Coat	Classroom 1	AMP July 2012 Prepared by Cardno ATC (Sample IDs 05A – 05C) & AMP February 2017 Prepared by EnviroScience (Sample IDs 20A & 20B-RCM-1228)
Black Mastic Associated with 9” x 9” Floor Tile beneath Built-Up Floor	Classrooms 1 - 3	AMP July 2012 Prepared by Cardno ATC (Sample IDs 12A & 12B)
2’ x 4’ White Perforated Suspended Ceiling Tile	1 st & 2 nd Floor Classrooms	AMP February 2017 Prepared by EnviroScience (Sample IDs 04A & 04B-RCM-1228)
Gray Floor Leveling Compound	Classrooms 11, 13, & 15	AMP February 2017 Prepared by EnviroScience (Sample IDs 05A & 05B-RCM-1228)
2’ x 4’ Gray Cementitious Suspended Ceiling Tile	Gymnasium	AMP February 2017 Prepared by EnviroScience (Sample IDs 06A & 06B-RCM-1228)
4” Black Vinyl Baseboard	Classrooms & Hallways	AMP February 2017 Prepared by EnviroScience (Sample IDs 07A & 07B-RCM-1228)
Brown Mastic Associated with 4” Black Vinyl Baseboard	Classrooms & Hallways	AMP February 2017 Prepared by EnviroScience (Sample IDs 08A & 08B-RCM-1228)
White Plaster Skim Coat Associated with Masonry Walls	Basement	AMP February 2017 Prepared by EnviroScience (Sample IDs 21A – 21E-RCM-1228)

Material	Location	Reference
Sandwich Elementary School Addition		
Black Sink Coating	C205	AMP July 2012 Prepared by Cardno ATC (Sample IDs 07A & 07B)
Lab Countertops	C206, C208, & C209	AMP July 2012 Prepared by Cardno ATC (Sample IDs 08A & 08B)
4" Brown Vinyl Baseboard	A, B, C, & D-Wing Classrooms, Hallways, & Offices	AMP July 2012 Prepared by Cardno ATC (Sample IDs 10A & 10B)
Brown Mastic Associated with 4" Brown Vinyl Baseboard	A, B, C, & D-Wing Classrooms, Hallways, & Offices	AMP July 2012 Prepared by Cardno ATC (Sample IDs 11A & 11B)
Brown Glue Daub Associated with Blackboards & Corkboards	A, B, C, & D-Wing Classrooms	AMP February 2017 Prepared by EnviroScience (Sample IDs 09A & 09B-RCM-1228)
2' x 2' White Fissure & Dot Suspended Ceiling Tile	A, B, C, & D-Wing Classrooms (Except C107 & C108)	AMP February 2017 Prepared by EnviroScience (Sample IDs 10A & 10B-RCM-1228)
Black Mastic Associated with 12" x 12" Floor Tile	A, B, C, & D-Wing Classrooms & Hallways (Except Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell)	AMP February 2017 Prepared by EnviroScience (Sample IDs 11A & 11B-RCM-1228)
12" x 12" Purple Mottled Floor Tile	A, B, C, & D-Wing Classrooms & Hallways (Except Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell)	AMP February 2017 Prepared by EnviroScience (Sample IDs 12A & 12B-RCM-1228)

Material	Location	Reference
12" x 12" Black Mottled Floor Tile	A, B, C, & D-Wing Classrooms & Hallways (Except Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell)	AMP February 2017 Prepared by EnviroScience (Sample IDs 13A & 13B-RCM-1228)
12" x 12" White Mottled Floor Tile	A, B, C, & D-Wing Classrooms & Hallways (Except Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell)	AMP February 2017 Prepared by EnviroScience (Sample IDs 14A & 14B-RCM-1228)
Yellow Carpet Adhesive	Library & Administrative Offices (i.e., D-Wing)	AMP February 2017 Prepared by EnviroScience (Sample IDs 15A & 15B-RCM-1228)
Black Mastic Associated with 9" x 9" Floor Tile	Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	AMP February 2017 Prepared by EnviroScience (Sample IDs 16A & 16B-RCM-1228)
1' x 1' White Fissure & Dot Glue-Set Ceiling Tile	Classroom C107	AMP February 2017 Prepared by EnviroScience (Sample IDs 17A & 17B-RCM-1228)
Brown Glue Daub Associated with 1' x 1' Ceiling Tile	Classroom C107	AMP February 2017 Prepared by EnviroScience (Sample IDs 18A & 18B-RCM-1228)
2' x 4' White Fissure & Dot Suspended Ceiling Tile	Classroom C108	AMP February 2017 Prepared by EnviroScience (Sample IDs 19A & 19B-RCM-1228)

Material	Location	Reference
Gray Spray-Applied Fireproofing	New Boiler Room, Mechanical Spaces, & Ceiling Plenum	Initial AMP 1989 Prepared by Universal Engineering Corporation (Sample ID 44-02-17 & 43) & AMP February 2017 Prepared by EnviroScience (Sample IDs 23A – 23E-RCM-1228)
Portable Classrooms (School for Early Learning)		
2' x 2' White Fissure & Dot Ceiling Tile	Classrooms & Hallways	AMP February 2017 Prepared by EnviroScience (Sample IDs 22A & 22B-RCM-1228)

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 ACM Materials

The following newly identified suspect ACM have been identified in the building:

- 12” x 12” Floor Tile;
- 12” x 12” Floor Tile Mastic;
- 9” x 9” Floor Tile Mastic;
- 2’ x 4’ Suspended Ceiling Tile;
- 2’ x 2’ Suspended Ceiling Tile;
- 1’ x 1’ Glue-Set Ceiling Tile;
- Glue Daub Associated with 1’ x 1’ Ceiling Tile;
- Carpet Adhesive;
- Glue Daub Associated with Blackboards/Corkboards;
- 4’ Vinyl Baseboard; and
- Mastic Associated with 4’ Vinyl Baseboard;

Laboratory analysis has determined these materials to be non-ACBM, and results have been added to Table 2.

AHERA regulations pertain to interior identified or assumed 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.

4.4 Physical Assessment of ACBM

During inspection, suspect ACBM were separated into three EPA categories: Thermal System Insulation (TSI), Surfacing ACBM, and Miscellaneous ACBM. TSI includes all materials used to prevent heat loss/ gain or water condensation on mechanical systems. Examples of TSI are pipe and fitting insulations, boiler insulation, and duct insulation. Surfacing ACBM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous ACBM include all ACBM not listed in TSI or surfacing, such as sheet flooring, vinyl asbestos flooring, ceiling tiles, and construction mastics/adhesives.

Finally, 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 ACM
- 2 Damaged friable surfacing ACM
- 3 Significantly damaged friable surfacing ACM
- 4 Damaged or significantly damaged friable miscellaneous ACM
- 5 ACBM with potential for damage
- 6 ACBM with potential for significant damage
- 7 Any remaining friable ACBM or friable 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 ACBM conditions, the following response actions are recommended:

1. Removal – pipe insulation & fitting insulation in the 1927 building pipe tunnel; floor tile from chair storage (Sandwich Elementary School Addition)
2. Repair - Not Applicable
3. Enclosure – Not Applicable
4. Encapsulation – Not Applicable

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

A successful O & M Program includes the following elements:

- A. Cleaning: All areas of the school where friable ACBM or assumed friable ACBM are present should be cleaned at least once after completion of the initial inspection. Additional cleaning may be necessary if the Asbestos Management Planner makes a written recommendation indicating the methods and frequency of such cleaning.
- B. O & M Activities: The LEA shall ensure that the procedures described below are followed to protect building occupants from O & M activities that may disturb known or assumed ACBM:
1. Restrict entry into the area either by physically isolating or by scheduling.
 2. Post asbestos warning signs to prevent entry by unauthorized persons.
 3. Deactivate or temporarily shut off or divert the air-handling system to the area.
 4. Use proper work practices and engineering controls, such as wet methods, protective clothing, High Efficiency Particulate Air (HEPA) vacuums, mini-enclosures/glove bags, etc. to inhibit fiber migration.
 5. Place asbestos debris and other contaminated materials into a sealed, leak-tight container for disposal.
- C. Minor Fiber Release Episode: The LEA shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., disturbance of less than or equal to 3 linear/square feet of friable ACBM):
1. Saturate the debris using wet method.
 2. Place the debris in a sealed, leak-tight container and clean the area.
 3. Repair the area of damaged ACBM with materials such as asbestos-free spackling, plaster or insulation or seal with an encapsulant.
- D. 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 greater than 3 linear/square feet of friable ACBM):
1. Restrict entry into the area and post asbestos warning signs.
 2. Deactivate or temporarily shut off or divert the air handling system from the area to prevent fiber migration.
 3. The response action for any major fiber release episode must be prepared by EPA-accredited Asbestos Project Designers and conducted by EPA-accredited personnel.
 4. 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 an AMP is implemented, the LEA will conduct periodic surveillance in the school that contains ACBM or assumed ACBM. The person conducting periodic surveillance will visually inspect all areas in the school where ACBM have been identified in the AMP, and record the date of surveillance, their name, and any changes in the ACBM condition; this information shall then be submitted to the LEA's Designated Person for inclusion in the AMP.

Please see *Appendix G* for the sample Periodic Surveillance Form that may be used for conducting periodic surveillance.

5.3 Preventive Measures

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

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

5.4 Abatement (Removal) Cost Estimates

Costs for abatement (removal) of all ACBM in the building are as follows:

Table 3
Abatement Cost Estimates

Material	Location	Quantity	Estimated Contractor Cost
1927 Building			
Pre-Formed Block-Type Pipe Insulation	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & within Wall Chases	675 LF	\$16,875.00
Mudded Pipe-Fitting Insulation	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & within Wall Chases	45 EA	\$1,350.00
Corrugated Paper-Type Pipe Insulation	Pipe Tunnels & Concealed above Fixed Ceilings & within Wall Chases	300 LF	\$7,500.00
9" x 9" Black Floor Tile	Beneath Built-Up Floor in Classrooms 1 – 3 & 6	1,500 SF	\$6,000.00
Cloth Vibration Isolator	Boiler Room & Gymnasium	3 EA	\$225.00
Sandwich Elementary School Addition			
Breeching Insulation	New Boiler Room	100 LF	\$2,500.00

Material	Location	Quantity	Estimated Contractor Cost
Mudded Pipe-Fitting Insulation Associated with Fiberglass Pipe Insulation	A, B, C, & D Wing Ceiling Plenums/Pipe Chases & Locker Room Pipe Closets	310 EA	\$9,300.00
Pre-Formed Block-Type Pipe Insulation	New Boiler Room	400 LF	\$10,000.00
Pink Sink Coating	C106, C107, & D125	3 EA	\$525.00
Fiber-Reinforced Cement Panels Associated with Fume Hood	C208	1 EA	\$500.00
Fiber-Reinforced Cement Panel	Partition Walls in Administrative Offices, Boys & Girls Locker Rooms, & C-Wing Stairs above Windows	2,300 SF	\$23,000.00
9" x 9" Tan with Brown & White Streaks Floor Tile	Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	9,500 SF	\$38,000.00
12" x 12" Tan with Streak Floor Tile	Maintenance Break Room & Computer Room	1,200 SF	\$4,800.00

6 EPA Accreditation Requirements

The EPA accreditations and the MADLS Asbestos Inspector and Management Planner certifications for Mr. Robert Mallett and Mr. Dustin Diedricksen are provided in *Appendix I*.

Report prepared by Environmental Technician, Robert Mallett

Reviewed by:



Dustin A. Diedricksen
Senior Project Manager

Appendix A

Existing Records Checklist

Existing Records Checklist

Local Education Agency (LEA): Sandwich Public School District
33 Water Street
Sandwich, MA 02563

School Building: Administration and Facilities Offices

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

DOCUMENTATION		LOCATION	
		School	LEA Office
1	Original AHERA Operations and Maintenance Plan/Inspection Report	Yes	Yes
2	Three Year Re-Inspection (First and All Subsequent Inspections)	2009, 2012, 2015	2009, 2012, 2015
3	Parents and Teachers Notifications (Annually Since Last Re-Inspection)	No	No
4	Designated Person Identification and Proper Training (Person Must Be Named and Have Appropriate Training)	Yes	Yes
5	Designated Person Periodic Surveillance (Once Every Six Months)	No	No
6	Maintenance Staff Awareness Training Records	No	No
7	Outside Vendor Awareness Notification	No	No
8	Asbestos Warning Signs and Labels (Required Posting in Boiler Rooms and Mechanical Spaces Only)	No	No
9	Response Action Records (Includes Any Abatement Conducted Since Last 3-Year Re-Inspection)	No	No

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

Inspector (LEA Office): Robert Mallett

Date: December 28, 2016

Inspector (School): Robert Mallett

Date: December 28, 2016

Appendix B

Re-Inspection Form 1

Re-Inspection Form 1 – List of Identified ACBM

School: Administration and Facilities Offices
 Address 33 Water Street, Sandwich, MA

Date(s) of Original Inspection: 1989
 Date(s) of Subsequent Re-Inspections: 2009, 2012, & 2015

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/Other Comments
Sample Number	Asbestos Content	Material Description					
1927 Building							
44-02-01, 02, 06, 08, & 18	40% - 55% Mix (Chrysotile & Amosite)	Pre-Formed Block-Type Pipe Insulation	TSI	F	1	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & Wall Chases	
44-02-07	45% Mix (Chrysotile & Amosite)	Mudded Pipe-Fitting Insulation	TSI	F	1	Pipe Tunnels, Classrooms 1 – 3, & Concealed above Fixed Ceilings & Wall Chases	
44-02-04	30% Chrysotile	Corrugated Paper-Type Pipe Insulation	TSI	F	1	Pipe Tunnels, & Concealed above Fixed Ceilings & within Wall Chases	
44-02-22	3% Chrysotile	9” x 9” Black Floor Tile	Misc.	NF	5	Beneath Built-Up Floor in Classrooms 1 – 3 & 6	
Assumed ACBM	Assumed ACBM	Cloth Vibration Isolator	Misc.	NF	6	Boiler Room & Gymnasium	
Sandwich Elementary School Addition							
Assumed ACBM	Assumed ACBM	Breeching Insulation	TSI	F	5	New Boiler Room	

School: Administration and Facilities Offices
 Address 33 Water Street, Sandwich, MA

Date(s) of Original Inspection: 1989
 Date(s) of Subsequent Re-Inspections: 2009, 2012, & 2015

Homogeneous Material			Material Category	Friability	Assessment Category (1-7)	Recorded Locations	Response Actions Taken/Renovations/Other Comments
Sample Number	Asbestos Content	Material Description					
44-02-35, 36, & 37	30%-45% Mix (Chrysotile & Amosite)	Mudded Pipe-Fitting Insulation Associated with Fiberglass Pipe Insulation	TSI	F	5	A, B, C, & D Wing Ceiling Plenums/Pipe Chases & Locker Room Pipe Closets	Additional sample collection is recommended to determine which systems have ACM fittings. Initial AMP indicates multiple non-ACM fittings identified throughout the Sandwich Elementary School Addition.
44-02-10	45% Amosite	Pre-Formed Block-Type Pipe Insulation	TSI	F	5	New Boiler Room	
06A	10% Chrysotile	Pink Sink Coating	Misc.	NF	5	C106, C107, & D125	
Assumed ACBM	Assumed ACBM	Fiber-Reinforced Cement Panels Associated with Fume Hood	Misc.	NF	5	C208	Area of Building is Not In Use
44-02-37	30% Chrysotile	Fiber-Reinforced Cement Panel	Misc.	NF	6	Partition Walls in Administrative Offices, Boys & Girls Locker Rooms, & C-Wing Stairs above Windows	
44-02-39	2% Chrysotile	9" x 9" Tan with Brown & White Streaks Floor Tile	Misc.	NF	5	Chair Storage, Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	Area of Building is Not In Use
Assumed ACBM	Assumed ACBM	12" x 12" Tan with Streak Floor Tile	Misc.	NF	5	Maintenance Break Room & Computer Room	

Re-Inspection Form 1 – List of Identified ACBM

School: Administration and Facilities Offices

Date(s) of Original Inspection: 1989

Address 33 Water Street, Sandwich, MA

Date(s) of Subsequent Re-Inspections: 2009, 2012, & 2015

Information abstracted by: Robert Mallett Date: January 12, 2017

Material Category: TSI = Thermal System Insulation, Surf. = Surfacing, Misc. = Miscellaneous

Friability: F = Friable, NF = Non-Friable

AHERA Assessment Categories:

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

Appendix C

Re-Inspection Form 2

School: Administrative & Facilities Offices (1927 Building)

 Date of Re-Inspection: December 28, 2016

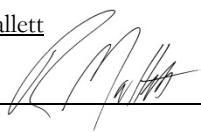
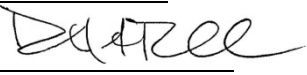
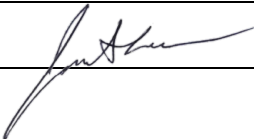
 Homogeneous Material: Pre-Formed Block-Type Pipe Insulation

 Sample ID Number: 44-02-01, 02, 06, 08, & 18

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Pipe Tunnels	F	400 LF	1	Damaged or Significantly Damaged TSI ACM	Restrict access to pipe tunnels A licensed Asbestos Abatement Contractor shall abate damaged pipe insulation and debris; this shall constitute initial cleaning of pipe tunnels Routine cleaning is not recommended within pipe tunnels; re-inspection and surveillance (subsequent to recommended abatement response action) shall determine if abatement activities are required to address damaged ACBM and associated debris (if applicable) Maintain remaining ACBM under O&M Program	Spring/ Summer 2018
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

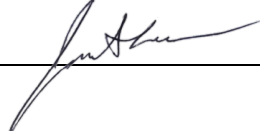
<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (1927 Building)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: Pre-Formed Block-Type Pipe Insulation

 Sample ID Number: 44-02-01, 02, 06, 08, 18

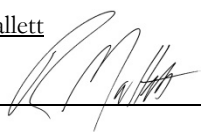
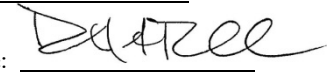
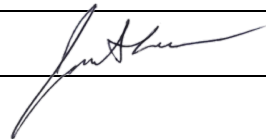
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Classrooms 1 - 3	F	70 LF	7	Any Remaining Friable ACBM or Friable Suspected ACBM	No visible suspect dust or debris observed at unoccupied classrooms; ACBM is in good condition Initial & routine cleaning is not recommended at this time; maintain under O&M Program Assessment category will change if classrooms become occupied	Ongoing
Were additional samples of this ACBM collected? (Yes or No)					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: Pre-Formed Block-Type Pipe Insulation

 Sample ID Number: 44-02-01, 02, 06, 08, 18

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Above Fixed Ceilings & within Wall Chases	F	Unknown	5	ACBM with Potential for Damage	Limited access through ceiling hatches shall be restricted Routine cleaning at concealed locations is not recommended Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____  Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____  Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____  Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

 Date of Re-Inspection: December 28, 2016

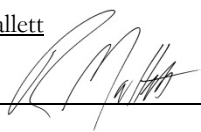
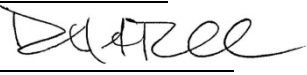
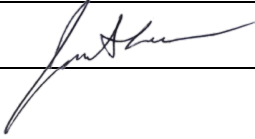
 Homogeneous Material: Mudded Pipe-Fitting Insulation

 Sample ID Number: 44-02-07

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Pipe Tunnels	F	20 EA	1	Damaged or Significantly Damaged TSI ACM	Restrict access to pipe tunnels A licensed Asbestos Abatement Contractor shall abate damaged pipe-fitting insulation and debris; this shall constitute initial cleaning of pipe tunnels Routine cleaning is not recommended within pipe tunnels; re-inspection and surveillance (subsequent to recommended abatement response action) shall determine if abatement activities are required to address damaged ACBM and associated debris (if applicable) Maintain remaining ACBM under O&M Program	Spring/ Summer 2018
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: Mudded Pipe-Fitting Insulation

Sample ID Number: 44-02-07

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Classrooms 1 - 3	F	5 EA	7	Any Remaining Friable ACBM or Friable Suspected ACBM	<p>No visible suspect dust or debris observed at unoccupied classrooms; ACBM is in good condition</p> <p>Initial & routine cleaning is not recommended at this time; maintain under O&M Program</p> <p>Assessment category will change if classrooms become occupied</p>	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: Mudded Pipe-Fitting Insulation

Sample ID Number: 44-02-07

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Above Fixed Ceilings & within Wall Chases	F	Unknown	5	ACBM with Potential for Damage	Limited access through ceiling hatches shall be restricted Routine cleaning at concealed locations is not recommended Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

 Date of Re-Inspection: December 28, 2016

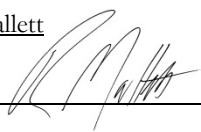
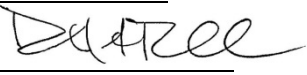
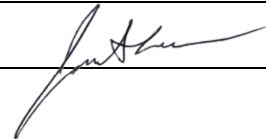
 Homogeneous Material: Corrugated Paper-Type Pipe Insulation

 Sample ID Number: 44-02-04

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Pipe Tunnels	F	300 LF	1	Damaged or Significantly Damaged TSI ACM	Restrict access to pipe tunnels A licensed Asbestos Abatement Contractor shall abate damaged pipe insulation and debris; this shall constitute initial cleaning of pipe tunnels Routine cleaning is not recommended within pipe tunnels; re-inspection and surveillance (subsequent to recommended abatement response action) shall determine if abatement activities are required to address damaged ACBM and associated debris (if applicable) Maintain remaining ACBM under O&M Program	Spring/ Summer 2018
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: _____ </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: _____ </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: _____ </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: Corrugated Paper-Type Pipe Insulation

Sample ID Number: 44-02-04

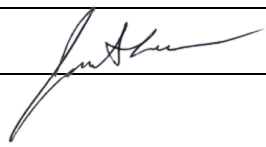
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Above Fixed Ceilings & within Wall Chases	F	Unknown	5	ACBM with Potential for Damage	Limited access through ceiling hatches shall be restricted Routine cleaning at concealed locations is not recommended Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: 9" x 9" Black Floor Tile

Sample ID Number: 44-02-22



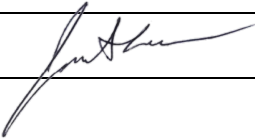
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Beneath Built-Up Floor in Classrooms 1 – 3 & 6	NF	1,500 SF	5	ACBM with Potential for Damage	Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (1927 Building)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: Cloth Vibration Isolator

Sample ID Number: Assumed ACBM

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Boiler Room & Gymnasium	NF	3 EA	6	ACBM with Potential for Significant Damage	Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____  Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____  Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____  Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

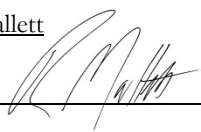
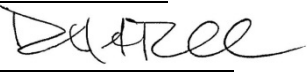
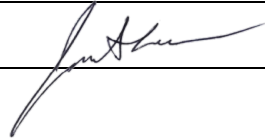
 Homogeneous Material: Breeching Insulation

 Sample ID Number: Assumed ACBM

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
New Boiler Room	F	100 LF	6	ACBM with Potential for Significant Damage	<p>No damaged, friable TSI or suspect debris was observed at the time of inspection. It is recommended that periodic cleaning shall be performed at least semiannually in the New Boiler Room. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuming and wet-cleaning methods are required.</p> <p>Maintain under O&M Program</p>	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

Date of Re-Inspection: December 28, 2016



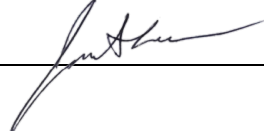
<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

Date of Re-Inspection: December 28, 2016

Homogeneous Material: Mudded Pipe-Fitting Insulation Associated with
Fiberglass Pipe Insulation

Sample ID Number: 44-02-35, 36, & 37

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
A, B, C, & D Wing Ceiling Plenums/Pipe Chases & Locker Room Pipe Closets (except pipe chases at C104 & C202)	F	300 EA	5	ACBM with Potential for Damage	No visible suspect dust or debris observed at visible/accessible locations Initial & routine cleaning is not recommended at concealed locations, above suspended-ceiling systems, and/or unoccupied locations Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature:  Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature:  Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above:  Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

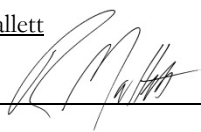
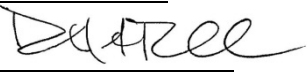
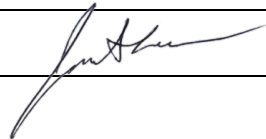
 Homogeneous Material: Mudded Pipe-Fitting Insulation Associated with
Fiberglass Pipe Insulation

 Sample ID Number: 44-02-35, 36, & 37

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
C104 & C202 Pipe Chases	F	10 EA	1	Damaged or Significantly Damaged TSI ACM	<p>A licensed Asbestos Abatement Contractor shall abate damaged pipe-fitting insulation and debris; this shall constitute initial cleaning of pipe chases</p> <p>It is recommended that periodic cleaning shall be performed at least semiannually in the accessible pipe chases. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuming and wet-cleaning methods are required.</p> <p>Maintain remaining ACBM under O&M Program</p>	Spring/ Summer 2018
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

Date of Re-Inspection: December 28, 2016

<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016


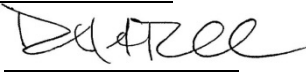
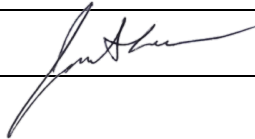
 Homogeneous Material: Pre-Formed Block-Type Pipe Insulation

 Sample ID Number: 44-02-10

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
New Boiler Room	F	400 LF	6	ACBM with Potential for Significant Damage	<p>No damaged, friable TSI or suspect debris was observed at the time of inspection. It is recommended that periodic cleaning shall be performed at least semiannually in the New Boiler Room. All cleaning must be performed by a person who is at least qualified as an asbestos associated project worker, and HEPA-vacuuuming and wet-cleaning methods are required.</p> <p>Maintain under O&M Program</p>	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

Date of Re-Inspection: December 28, 2016

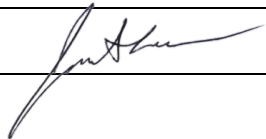
<p>Inspector's Name: <u>Robert Mallett</u></p> <p>Inspector Signature: </p> <p>Accreditation #/State: <u>AI900557/MA</u></p> <p>Expiration Date: <u>06/01/2017</u></p>	<p>Management Planner Name: <u>Dustin Diedricksen</u></p> <p>Management Planner Signature: </p> <p>Accreditation #/State: <u>AP900425/MA</u></p> <p>Expiration Date: <u>04/05/2017</u></p>
<p>I, the LEA's Designated Person, have read and understood the recommendations made above: </p> <p>Date: <u>6/30/2017</u></p>	

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

Date of Re-Inspection: December 28, 2016

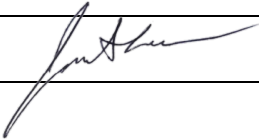
Homogeneous Material: Pink Sink Coating

Sample ID Number: 06A

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
C106, C107, & D125	NF	3 EA	5	ACBM with Potential for Damage	Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition) Date of Re-Inspection: December 28, 2016

Homogeneous Material: Fiber-Reinforced Cement Panels Associated with Fume Hood Sample ID Number: Assumed ACBM

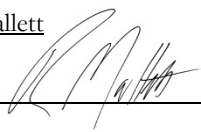
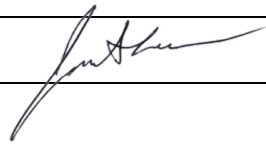
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
C208	NF	1 EA	5	ACBM with Potential for Damage	Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: Fiber-Reinforced Cement Panel

 Sample ID Number: 44-02-37

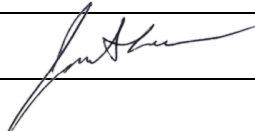
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Partition Walls in Administrative Offices, Boys & Girls Locker Rooms, & C-Wing Stairs above Windows	NF	2,300 SF	5	ACBM with Potential for Damage	Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature:  Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature:  Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above:  Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: 9" x 9" Tan with Brown & White Streaks Floor Tile

 Sample ID Number: 44-02-39

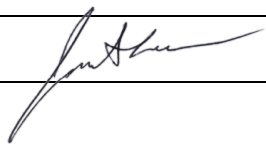
ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	NF	9,500 SF	5	ACBM with Potential for Damage	All floor tile observed in good condition Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: 9" x 9" Tan with Brown & White Streaks Floor Tile

 Sample ID Number: 44-02-39

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Chair Storage	NF	200 SF	5	ACBM with Potential for Damage	All floor tile in this room shall be abated by a licensed Asbestos Abatement Contractor	Spring/ Summer 2018
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>						

School: Administrative & Facilities Offices (Sandwich Elementary School Addition)

 Date of Re-Inspection: December 28, 2016

 Homogeneous Material: 12" x 12" Tan with Streak Floor Tile

 Sample ID Number: Assumed ACBM

ACBM RE-INSPECTION FINDINGS					MANAGEMENT PLANNER RECOMMENDATIONS	
ACBM Location(s) by Assessment Category	Friability	Estimated Quantity	Assessment Category	Physical Description	Recommended Response Action(s)	Date Action Completed
Maintenance Break Room & Computer Room	NF	350 SF	5	ACBM with Potential for Damage	All floor tile observed in good condition Maintain under O&M Program	Ongoing
Were additional samples of this ACBM collected? No					Date of Management Planner Review: <u>February 28, 2017</u>	
Inspector's Name: <u>Robert Mallett</u> Inspector Signature: _____ Accreditation #/State: <u>AI900557/MA</u> Expiration Date: <u>06/01/2017</u>					Management Planner Name: <u>Dustin Diedricksen</u> Management Planner Signature: _____ Accreditation #/State: <u>AP900425/MA</u> Expiration Date: <u>04/05/2017</u>	
I, the LEA's Designated Person, have read and understood the recommendations made above: _____ Date: <u>6/30/2017</u>					_____	

Appendix D

Asbestos Laboratory Analytical Report and Chain-of-Custody Form



EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

<http://www.EMSL.com> / bostonlab@emsl.com

EMSL Order: 131700082

Customer ID: ENVI54

Customer PO: 20160762.A1E-15

Project ID:

Attention: Dustin Diedricksen
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Phone: (617) 778-3750

Fax: (888) 838-1160

Received Date: 12/30/2016 9:17 AM

Analysis Date: 01/09/2017

Collected Date: 12/28/2016

Project: 20160762.A1E Task 15 / Sandwich Public Schools, 3-Yr AHERA Re-Inspections / Administration & Facilities
Offices (Former Wing School) - 33 Water Street, Sandwich, MA

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
01A-RCM-1228 <small>131700082-0001</small>	1927 Building Basement, Classroom 1 - Gray Ceiling Plaster Rough Coat	Gray Non-Fibrous Homogeneous	<1% Hair	100% Non-fibrous (Other)	None Detected
01B-RCM-1228 <small>131700082-0002</small>	1927 Building Basement, Classroom 2 - Gray Ceiling Plaster Rough Coat	Gray Non-Fibrous Homogeneous	<1% Hair	100% Non-fibrous (Other)	None Detected
02A-RCM-1228 <small>131700082-0003</small>	1927 Building Basement, Classroom 1 - White Ceiling Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
02B-RCM-1228 <small>131700082-0004</small>	1927 Building Basement, Classroom 2 - White Ceiling Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03A-RCM-1228 <small>131700082-0005</small>	1927 Building Basement, Classroom 1 - Gray Wall Plaster Rough Coat	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
03B-RCM-1228 <small>131700082-0006</small>	1927 Building Basement, Classroom 1 - Gray Wall Plaster Rough Coat	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
04A-RCM-1228 <small>131700082-0007</small>	1927 Building 1st Floor, Classroom 12 - 2'x4' White Perforated Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	25% Cellulose 35% Min. Wool	40% Non-fibrous (Other)	None Detected
04B-RCM-1228 <small>131700082-0008</small>	1927 Building 1st Floor, Classroom 14 - 2'x4' White Perforated Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	25% Cellulose 35% Min. Wool	40% Non-fibrous (Other)	None Detected
05A-RCM-1228 <small>131700082-0009</small>	1927 Building 1st Floor, Classroom 13 - Gray Floor Leveling Compound	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
05B-RCM-1228 <small>131700082-0010</small>	1927 Building 1st Floor, Classroom 15 - Gray Floor Leveling Compound	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
06A-RCM-1228 <small>131700082-0011</small>	1927 Building, Gymnasium - 2'x4' Gray Cementitious Suspended Ceiling Tile	Gray Fibrous Homogeneous	20% Cellulose 20% Min. Wool	60% Non-fibrous (Other)	None Detected

Initial report from: 01/09/2017 13:25:44



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EMSL Order: 131700082

Customer ID: ENVI54

Customer PO: 20160762.A1E-15

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
06B-RCM-1228 <i>131700082-0012</i>	1927 Building, Gymnasium - 2'x4' Gray Cementitious Suspended Ceiling Tile	Gray Fibrous Homogeneous	20% Cellulose 20% Min. Wool	60% Non-fibrous (Other)	None Detected
07A-RCM-1228 <i>131700082-0013</i>	1927 Building, 1st Floor Corridor - 4" Black Vinyl Baseboard	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
07B-RCM-1228 <i>131700082-0014</i>	1927 Building, 2nd Floor Corridor - 4" Black Vinyl Baseboard	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08A-RCM-1228 <i>131700082-0015</i>	1927 Building, 1st Floor Corridor - Brown Mastic Associated with 4" Black Vinyl Baseboard	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
08B-RCM-1228 <i>131700082-0016</i>	1927 Building, 2nd Floor Corridor - Brown Mastic Associated with 4" Black Vinyl Baseboard	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09A-RCM-1228 <i>131700082-0017</i>	Former Sandwich ES, A-Section - Brown Blackboard Adhesive	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09B-RCM-1228 <i>131700082-0018</i>	Former Sandwich ES, A-Section - Brown Blackboard Adhesive	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
10A-RCM-1228 <i>131700082-0019</i>	Former Sandwich ES, A-Section Hallway Outside A110 - 2'x2' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
10B-RCM-1228 <i>131700082-0020</i>	Former Sandwich ES, Library - 2'x2' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
11A-RCM-1228 <i>131700082-0021</i>	Former Sandwich ES, A-Section - Black Mastic Associated with 12"x12" Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11B-RCM-1228 <i>131700082-0022</i>	Former Sandwich ES, B-Section - Black Mastic Associated with 12"x12" Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12A-RCM-1228 <i>131700082-0023</i>	Former Sandwich ES, A110 - 12"x12" Purple Mottled Floor Tile	Purple Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12B-RCM-1228 <i>131700082-0024</i>	Former Sandwich ES, Outside Library - 12"x12" Purple Mottled Floor Tile	Purple Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13A-RCM-1228 <i>131700082-0025</i>	Former Sandwich ES, A110 - 12"x12" Black Mottled Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 131700082

Customer ID: ENVI54

Customer PO: 20160762.A1E-15

Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
13B-RCM-1228 <small>131700082-0026</small>	Former Sandwich ES, Outside Library - 12"x12" Black Mottled Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14A-RCM-1228 <small>131700082-0027</small>	Former Sandwich ES, A110 - 12"x12" White Mottled Floor Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14B-RCM-1228 <small>131700082-0028</small>	Former Sandwich ES, Outside Library - 12"x12" White Mottled Floor Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15A-RCM-1228 <small>131700082-0029</small>	Former Sandwich ES, Library - Yellow Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15B-RCM-1228 <small>131700082-0030</small>	Former Sandwich ES, Classroom A110 - Yellow Carpet Adhesive	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16A-RCM-1228 <small>131700082-0031</small>	Former Sandwich ES, C208 - Black Mastic Associated with 9"x9" Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
16B-RCM-1228 <small>131700082-0032</small>	Former Sandwich ES, C107 - Black Mastic Associated with 9"x9" Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
17A-RCM-1228 <small>131700082-0033</small>	Former Sandwich ES, C107 - 1'x1' White Fissure & Dot Glued Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
17B-RCM-1228 <small>131700082-0034</small>	Former Sandwich ES, C107 - 1'x1' White Fissure & Dot Glued Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
18A-RCM-1228 <small>131700082-0035</small>	Former Sandwich ES, C107 - Brown Glue Daub Associated with 1'x1' Ceiling Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
18B-RCM-1228 <small>131700082-0036</small>	Former Sandwich ES, C107 - Brown Glue Daub Associated with 1'x1' Ceiling Tile	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19A-RCM-1228 <small>131700082-0037</small>	Former Sandwich ES, C108 - 2'x4' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	40% Cellulose 20% Min. Wool	40% Non-fibrous (Other)	None Detected
19B-RCM-1228 <small>131700082-0038</small>	Former Sandwich ES, C108 - 2'x4' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	40% Cellulose 20% Min. Wool	40% Non-fibrous (Other)	None Detected
20A-RCM-1228 <small>131700082-0039</small>	1927 Building Basement, Classroom 1 - White Wall Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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EMSL Order: 131700082
Customer ID: ENVI54
Customer PO: 20160762.A1E-15
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
20B-RCM-1228 <small>131700082-0040</small>	1927 Building Basement, Classroom 1 - White Wall Plaster Skim Coat	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21A-RCM-1228 <small>131700082-0041</small>	1927 Building Basement, Classroom 1 - White Plaster Skim Coat (Associated with Masonry Walls)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21B-RCM-1228 <small>131700082-0042</small>	1927 Building Basement, Classroom 2 - White Plaster Skim Coat (Associated with Masonry Walls)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21C-RCM-1228 <small>131700082-0043</small>	1927 Building Basement, Classroom 3 - White Plaster Skim Coat (Associated with Masonry Walls)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21D-RCM-1228 <small>131700082-0044</small>	1927 Building Basement, Classroom 6 - White Plaster Skim Coat (Associated with Masonry Walls)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21E-RCM-1228 <small>131700082-0045</small>	1927 Building Basement, Classroom 6 - White Plaster Skim Coat (Associated with Masonry Walls)	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
22A-RCM-1228 <small>131700082-0046</small>	Portable Classrooms - 2'x2' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
22B-RCM-1228 <small>131700082-0047</small>	Portable Classrooms - 2'x2' White Fissure & Dot Suspended Ceiling Tile	Gray/White Fibrous Homogeneous	35% Cellulose 35% Min. Wool	30% Non-fibrous (Other)	None Detected
23A-RCM-1228 <small>131700082-0048</small>	Former Sandwich ES, New Boiler Room - Gray Spray-Applied Fireproofing	Gray Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
23B-RCM-1228 <small>131700082-0049</small>	Former Sandwich ES, New Boiler Room - Gray Spray-Applied Fireproofing	Gray Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
23C-RCM-1228 <small>131700082-0050</small>	Former Sandwich ES, New Boiler Room - Gray Spray-Applied Fireproofing	Gray Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
23D-RCM-1228 <small>131700082-0051</small>	Former Sandwich ES, C-Section Mechanical Space - Gray Spray-Applied Fireproofing	Gray Fibrous Homogeneous	85% Min. Wool	15% Non-fibrous (Other)	None Detected

Initial report from: 01/09/2017 13:25:44



EMSL Analytical, Inc.

5 Constitution Way, Unit A Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

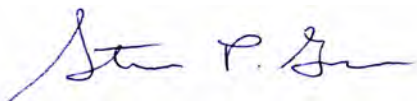
<http://www.EMSL.com> / bostonlab@emsl.com

EMSL Order: 131700082
Customer ID: ENVI54
Customer PO: 20160762.A1E-15
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
23E-RCM-1228	Former Sandwich ES, C-Section Mechanical	Gray Fibrous	85% Min. Wool	15% Non-fibrous (Other)	None Detected
131700082-0052	Space - Gray Spray-Applied Fireproofing	Homogeneous			

Analyst(s) _____
 Steve Grise (52)



 Steve Grise, Laboratory Manager
 or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%
 Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3, VT AL998919, Maine Bulk Asbestos BA039

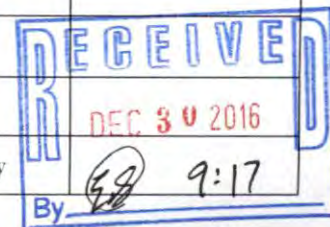
Initial report from: 01/09/2017 13:25:44



Asbestos Bulk Sample Chain-of-Custody

Sheet 1 of 1
Project Name: Sandwich Public Schools, 3-Yr AHERA Re-Inspections **Project No.:** 20160762.A1E **Task:** 15
Building Name/Number: Administration & Facilities Offices (Former Wing School) **Project Manager:** D Diedricksen
Site Address: 33 Water Street, Sandwich, MA **Total # of Samples:** 52

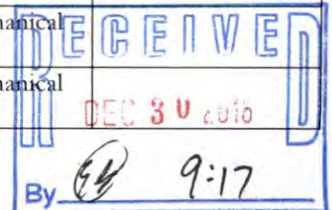
Sample ID (#-Initials-Date)	Material Type (Size, Color, Description, Material)	Sample Location	Comments/ Quantities
01A-RCM-1228	Gray Ceiling Plaster Rough Coat	1927 Building Basement, Classroom 1	
01B-RCM-1228	Gray Ceiling Plaster Rough Coat	1927 Building Basement, Classroom 2	
02A-RCM-1228	White Ceiling Plaster Skim Coat	1927 Building Basement, Classroom 1	
02B-RCM-1228	White Ceiling Plaster Skim Coat	1927 Building Basement, Classroom 2	
03A-RCM-1228	Gray Wall Plaster Rough Coat	1927 Building Basement, Classroom 1	
03B-RCM-1228	Gray Wall Plaster Rough Coat	1927 Building Basement, Classroom 1	
04A-RCM-1228	2' x 4' White Perforated Suspended Ceiling Tile	1927 Building 1 st Floor, Classroom 12	
04B-RCM-1228	2' x 4' White Perforated Suspended Ceiling Tile	1927 Building 1 st Floor, Classroom 14	
05A-RCM-1228	Gray Floor Leveling Compound	1927 Building 1 st Floor, Classroom 13	
05B-RCM-1228	Gray Floor Leveling Compound	1927 Building 1 st Floor, Classroom 15	
06A-RCM-1228	2' x 4' Gray Cementitious Suspended Ceiling Tile	1927 Building, Gymnasium	
06B-RCM-1228	2' x 4' Gray Cementitious Suspended Ceiling Tile	1927 Building, Gymnasium	
07A-RCM-1228	4" Black Vinyl Baseboard	1927 Building, 1 st Floor Corridor	
07B-RCM-1228	4" Black Vinyl Baseboard	1927 Building, 2 nd Floor Corridor	
08A-RCM-1228	Brown Mastic Associated with 4" Black Vinyl Baseboard	1927 Building, 1 st Floor Corridor	
08B-RCM-1228	Brown Mastic Associated with 4" Black Vinyl Baseboard	1927 Building, 2 nd Floor Corridor	
09A-RCM-1228	Brown Blackboard Adhesive	Former Sandwich ES, A-Section	
09B-RCM-1228	Brown Blackboard Adhesive	Former Sandwich ES, A-Section	
10A-RCM-1228	2' x 2' White Fissure & Dot Suspended Ceiling Tile	Former Sandwich ES, A-Section Hallway outside A110	
10B-RCM-1228	2' x 2' White Fissure & Dot Suspended Ceiling Tile	Former Sandwich ES, Library	
11A-RCM-1228	Black Mastic Associated with 12" x 12" Floor Tile	Former Sandwich ES, A-Section	
11B-RCM-1228	Black Mastic Associated with 12" x 12" Floor Tile	Former Sandwich ES, B Section	
12A-RCM-1228	12" x 12" Purple Mottled Floor Tile	Former Sandwich ES, A110	
12B-RCM-1228	12" x 12" Purple Mottled Floor Tile	Former Sandwich ES, outside Library	



7952 1926 1520



13A-RCM-1228	12" x 12" Black Mottled Floor Tile	Former Sandwich ES, A110	
13B-RCM-1228	12" x 12" Black Mottled Floor Tile	Former Sandwich ES, outside Library	
14A-RCM-1228	12" x 12" White Mottled Floor Tile	Former Sandwich ES, A110	
14B-RCM-1228	12" x 12" White Mottled Floor Tile	Former Sandwich ES, outside Library	
15A-RCM-1228	Yellow Carpet Adhesive	Former Sandwich ES, Library	
15B-RCM-1228	Yellow Carpet Adhesive	Former Sandwich ES, Classroom A110	
16A-RCM-1228	Black Mastic Associated with 9" x 9" Floor Tile	Former Sandwich ES, C208	
16B-RCM-1228	Black Mastic Associated with 9" x 9" Floor Tile	Former Sandwich ES, C107	
17A-RCM-1228	1' x 1' White Fissure & Dot Glued Ceiling Tile	Former Sandwich ES, C107	
17B-RCM-1228	1' x 1' White Fissure & Dot Glued Ceiling Tile	Former Sandwich ES, C107	
18A-RCM-1228	Brown Glue Daub Associated with 1' x 1' Ceiling Tile	Former Sandwich ES, C107	
18B-RCM-1228	Brown Glue Daub Associated with 1' x 1' Ceiling Tile	Former Sandwich ES, C107	
19A-RCM-1228	2' x 4' White Fissure & Dot Suspended Ceiling Tile	Former Sandwich ES, C108	
19B-RCM-1228	2' x 4' White Fissure & Dot Suspended Ceiling Tile	Former Sandwich ES, C108	
20A-RCM-1228	White Wall Plaster Skim Coat	1927 Building Basement, Classroom 1	
20B-RCM-1228	White Wall Plaster Skim Coat	1927 Building Basement, Classroom 1	
21A-RCM-1228	White Plaster Skim Coat (associated with masonry walls)	1927 Building Basement, Classroom 1	
21B-RCM-1228	White Plaster Skim Coat (associated with masonry walls)	1927 Building Basement, Classroom 2	
21C-RCM-1228	White Plaster Skim Coat (associated with masonry walls)	1927 Building Basement, Classroom 3	
21D-RCM-1228	White Plaster Skim Coat (associated with masonry walls)	1927 Building Basement, Classroom 6	
21E-RCM-1228	White Plaster Skim Coat (associated with masonry walls)	1927 Building Basement, Classroom 6	
22A-RCM-1228	2' x 2' White Fissure & Dot Suspended Ceiling Tile	Portable Classrooms	
22B-RCM-1228	2' x 2' White Fissure & Dot Suspended Ceiling Tile	Portable Classrooms	
23A-RCM-1228	Gray Spray-Applied Fireproofing	Former Sandwich ES, New Boiler Room	
23B-RCM-1228	Gray Spray-Applied Fireproofing	Former Sandwich ES, New Boiler Room	
23C-RCM-1228	Gray Spray-Applied Fireproofing	Former Sandwich ES, New Boiler Room	
23D-RCM-1228	Gray Spray-Applied Fireproofing	Former Sandwich ES, C-Section Mechanical Space	
23E-RCM-1228	Gray Spray-Applied Fireproofing	Former Sandwich ES, C-Section Mechanical Space	





FUSS & O'NEILL
EnviroScience, LLC

EMSL Customer No. ENVI54

www.fando.com

50 Redfield Street, Suite 100, Boston, MA 02122

Phone (617) 282-4675 Fax (617) 282-8253

Analysis Method: PLM TEM Other _____ Turnaround Time: 1-week

Please call EnviroScience at (617) 282-4675 if analyses will not be completed for requested turnaround time listed above.

Email Results to: ddiedricksen & rmallett@fando.com **Do Not Mail Hard Copy Report** **FAX Results to:** 888-838-1160.

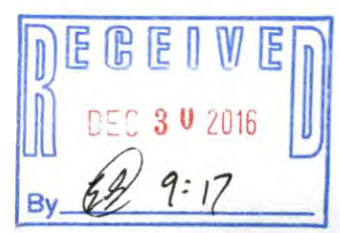
Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do not point count. ~~IF NOB group samples are ALL negative by PLM, analyze the sample denoted with a star (★) by TEM NOB on a [] turnaround time. Analyze a MAXIMUM of [] samples by TEM in noted order.~~

Samples Collected by: [Signature] **Date:** 12/28/16

Samples Sent by: [Signature] **Date:** 12/29/16 **Time:** PM

Shipped To: EMSL Other _____

Method of Shipment: Fed Ex Lab Drop Off Other _____



Appendix E

Relevant Initial AMP and 2012 Re-Inspection Asbestos Laboratory Results

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-02-01

Laboratory sample #: 6615317

Sample Date: 08/10/88

Description: PIPE INSULATION

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	55
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	55

Other Components	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	45

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 07/23/88

Laboratory Certification No.: 4768

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-02-02

Laboratory sample #: 8815318

Sample Date: 08/10/88

Description: FIFE INSULATION

Asbestos Type(s) Present: 1

Asbestos materials	Estimated Percentage
1. Chrysotile :	55
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	55

Other Components	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	45

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Clients sample #: 44-02-04

Laboratory sample #: E818329

Sample Date: 08/10/88

Description: AIR CELL INSULATION

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	30
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	30

Other Components	Estimated Percentage
1. Cellulose Fibers :	40
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	30
7. Other :	0
Other Total:	70

Comments -- The Method used was PLM/DS.
:

Sampled by: ANDREW BIGNAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Clients sample #: 44-02-05

Laboratory sample #: 8915321

Sample Date: 05/10/88

Description: HARD JOINT

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	45
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	45

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Ferriite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	55

Comments -- The Method used was PLM/D5.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-06 Laboratory sample #: 8615022
Sample Date: 08/10/89
Description: PIPE INSULATION

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	45
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	45

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	55

Comments -- The Method used was FLM/DS.
:

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - *Robin Smith*
Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.09
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Client's sample #: 44-02-07

Laboratory sample #: 8915323

Sample Date: 08/10/88

Description: HARD JOINT

Asbestos Type(s) Present: 1,2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	20
2. Amphibole :	25
3. Crocidolite :	0
4. Anthrochvilite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	45

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Rice :	0
6. Binder :	45
7. Other :	0
Other Total:	55

Comments -- The Method used was PLM/D5.

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-08 Laboratory sample #: 8615724
Sample Date: 08/10/88
Description: PIPE INSULATION

Asbestos Type(s) Present: 2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	40
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	40

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Lignin :	0
6. Binder :	50
7. Other :	0
Other Total:	60

Comments -- The Method used was PLM/D8.
:

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.29

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-09

Laboratory sample #: 8618335

Sample Date: 08/10/88

Description: HARD JOINT

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	30
4. Perlite :	0
5. Mica :	0
6. Binder :	25
7. Other :	10
Other Total:	100

Comments -- The method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature -

Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-10

Laboratory sample #: 8815026

Sample Date: 08/10/88

Description: PIPE INSULATION

Asbestos Type(s) Present: 2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	45
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	45

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	55

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4785

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WINS
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-02-11
Sample Date: 08/10/88
Description: HARD JOINT

Laboratory sample #: 6E13327

Asbestos Type(s) Present:

Asbestos Materials

1. Chrysotile :
2. Amosite :
3. Crocidolite :
4. Anthrophenillite:
5. Tremolite :
6. Actinolite :

Estimated Percentage

0
0
0
0
0
0

Asbestos Total: 0

Other Components

1. Cellulose Fibers :
2. Glass Fibers :
3. Mineral Wool Fibers:
4. Perlite :
5. Wax :
6. Binder :
7. Other :

Estimated Percentage

10
0
40
0
0
40
10

Other Total: 100

Comments — The method used was FLM/DS.

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Clients sample #: 44-02-12

Laboratory sample #: 8615326

Sample Date: 08/10/88

Description: PIPE INSULATION

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0

Asbestos Total: 0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	10
4. Perlite :	0
5. Mica :	0
6. Binder :	55
7. Other :	0

Other Total: 100

Comments -- The method used was PLM/DS.

Sampled by: ANDREW BUGNAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 8533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-CZ-13
Sample Date: 08/10/88
Description: HARD JOINT

Laboratory sample #: 6615325

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophenillite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	25
2. Glass Fibers :	0
3. Mineral wool Fibers:	30
4. Perlite :	0
5. Mica :	0
6. Binder :	45
7. Other :	0
Other Total:	100

Comments -- The Method used was FLM/DS.

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 08/23/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-02-15
Sample Date: 08/10/88
Description: EXPANSION PIPE

Laboratory sample #: 881533J

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	40
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	40

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	10
4. Perlite :	0
5. Mica :	0
6. Binder :	40
7. Other :	0
Other Total:	60

Comments -- The Method used was PLM/DS.
:

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-16 Laboratory sample #: E61501C
Sample Date: 08/10/82
Description: BOILER EXHAUST INSULATION

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	10
4. Perlite :	0
5. Kice :	0
6. Binder :	55
7. Other :	0
Other Total:	100

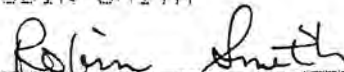
Comments -- The Method used was PLM/DS.

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Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature -



Date: 09/23/82

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 4530.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Client's sample #: 44-02-17

Laboratory sample #: 6815000

Sample Date: 08/10/88

Description: SPRAYED ON MATERIAL

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophenillite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	70
4. Perlite :	0
5. Mica :	0
6. Binder :	20
7. Other :	0
Other Total:	100

Comments -- The method used was PLM/D5.
:

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Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-15 Laboratory sample #: 6615334
Sample Date: 08/10/88
Description: PIPE INSULATION

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	35
2. Amosite :	0
3. Erucidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	35

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	55
7. Other :	0
Other Total:	65

Comments -- The Method Used was PLM/DS.
:

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 07/23/88

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-19
Sample Date: 05/10/88
Description: HARD JOINT

Laboratory sample #: 9815335

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	40
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	40

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral wool Fibers:	0
4. Perlite :	0
5. Nica :	0
6. Binder :	50
7. Other :	0
Other Total:	60

Comments -- The Method used was PLM/DS.
:

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 5533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-20
Sample Date: 08/10/88
Description: CEILING TILE

Laboratory sample #: 5515336

Asbestos Type(s) Present:

Asbestos Materials

1. Chrysotile :
2. Amosite :
3. Crocidolite :
4. Anthrochvillite:
5. Tremolite :
6. Actinolite :

Estimated Percentage

0
0
0
0
0
0
0

Asbestos Total: 0

Other Components

1. Cellulose Fibers :
2. Glass Fibers :
3. Mineral Wool Fibers:
4. Perlite :
5. Mica :
6. Binder :
7. Other :

Estimated Percentage

10
0
0
0
5
65
20

Other Total: 100

Comments -- The Method used was PLM/DS.

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA
Client's sample #: 44-02-21
Sample Date: 08/10/88
Description: WALL PLASTER

Laboratory sample #: 6815337

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	5
6. Binder :	70
7. Other :	15
Other Total:	100

Comments -- The Method used was PLM/DS.
:

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Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.23
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-22
Sample Date: 08/10/88
Description: VINYL TILE

Laboratory sample #: 8615378

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	3
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	3

Other Components	Estimated Percentage
1. Cellulose Fibers :	2
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	10
6. Binder :	70
7. Other :	15
Other Total:	97

Comments -- The Method used was PLM/DS.
 : THERE WAS NO MASTIC PRESENT.

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Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA
Client's sample #: 44-02-23 Laboratory sample #: 6615339
Sample Date: 08/10/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	30
4. Perlite :	5
5. Rice :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was FLM/DS.

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Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 8533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-24 Laboratory sample #: 8615340
Sample Date: 08/10/88
Description: BLOWN IN INSULATION

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral Wool Fibers:	95
4. Perlite :	0
5. Mica :	0
6. Binder :	5
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.
:

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Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.26

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-25

Laboratory sample #: 6615341

Sample Date: 08/10/88

Description: INSULATION

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral Wool Fibers:	95
4. Perlite :	0
5. Mica :	0
6. Binder :	5
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.
:

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-26 Laboratory sample #: 8815342
Sample Date: 08/10/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	30
4. Perlite :	5
5. Nics :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was PLM/D5.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Client's sample #: 44-02-27

Laboratory sample #: 6815343

Sample Date: 08/10/88

Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthroponyllite:	0
5. Tremolite :	0
6. Actinolite :	0

Asbestos Total: 0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral Wool Fibers:	90
4. Perlite :	0
5. Mica :	0
6. Binder :	10
7. Other :	0

Other Total: 100

Comments -- The Method used was PLM/DS.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-28

Laboratory sample #: 8815044

Sample Date: 08/10/88

Description: HARD JOINT

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	15
2. Glass Fibers :	0
3. Mineral Wool Fibers:	35
4. Perlite :	0
5. Silica :	5
6. Binder :	45
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 2533.26

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-29

Laboratory sample #: 8510348

Sample Date: 08/10/88

Description: VINYL TILE

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	5
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Ferrite :	0
5. Mica :	10
6. Binder :	70
7. Other :	15
Other Total:	100

Comments -- The Method used was PLM/D5.
: THERE WAS NO MASTIC PRESENT.

Sampled by: ANDREW BUONAIUTO

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.26
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Laboratory sample #: 651534e

Clients sample #: 44-02-30

Sample Date: 08/10/88

Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	30
2. Glass Fibers :	0
3. Mineral Wool Fibers:	35
4. Perlite :	5
5. Mica :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was FLM/DS.
:

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Analyzed by: ROBIN SMITH

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 4533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Clients sample #: 44-02-31 Laboratory sample #: 8615347
Sample Date: 08/10/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	30
2. Glass Fibers :	0
3. Mineral Wool Fibers:	35
4. Perlite :	5
5. Mica :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was PLM/DS.
:

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-32 Laboratory sample #: 8815348
Sample Date: 08/10/88
Description: SPRAYED ON MATERIAL

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	70
4. Perlite :	0
5. Mica :	0
6. Binder :	20
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.29
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-33

Laboratory sample #: 6615349

Sample Date: 08/10/88

Description: SUSPENDED ACoustICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	30
2. Glass Fibers :	0
3. Mineral Wool Fibers:	35
4. Ferlite :	5
5. Hicc :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was PLM/DS.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA

Clients sample #: 44-02-34

Laboratory sample #: 6615350

Sample Date: 08/10/88
Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral Wool Fibers:	50
4. Perlite :	0
5. Mica :	0
6. Binder :	10
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: ANDREW BUDMAIDT
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

CONSULTING ENGINEERS

POST OFFICE DRAWER 428

GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Clients sample #: 44-02-35 Laboratory sample #: 6615351
Sample Date: 06/10/86
Description: HARD JOINT

Asbestos Type(s) Present: 2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	30
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	30

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	60
7. Other :	0
Other Total:	70

Comments -- The Method used was PLM/D5.
:

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/86

Laboratory Certification No.: 4788

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GREENWOOD, SOUTH CAROLINA 29648

803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.2B

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-38

Laboratory sample #: 8616382

Sample Date: 09/10/88

Description: HARD JOINT

Asbestos Type(s) Present: 1,2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	15
2. Amosite :	30
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	45

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Einder :	45
7. Other :	0
Other Total:	55

Comments -- The Method used was FLM/DB.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4758

Davis & Floyd, Inc.

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-37

Laboratory sample #: 8815053

Sample Date: 08/10/88

Description: TRANSITE WALL

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	30
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	30

Other Components	Estimated Percentage
1. Cellulose Fibers :	20
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	50
7. Other :	0
Other Total:	70

Comments -- The Method used was PLM/DS.

:

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature -

Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.2B
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Client's sample #: 44-02-38
Sample Date: 08/10/88
Description: CEILING PLASTER

Laboratory sample #: 8815354

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	30
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	30

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	5
6. Binder :	55
7. Other :	0
Other Total:	70

Comments -- The Method used was P/LM/DS.
:

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
 : BEALE AVE.
 : SANDWICH, MA
Client's sample #: 44-02-39 Laboratory sample #: 6615355
Sample Date: 08/10/88
Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	2
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	2

Other Components	Estimated Percentage
1. Cellulose Fibers :	3
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Ferlite :	0
5. Mica :	10
6. Binder :	70
7. Other :	15
Other Total:	98

Comments -- The Method used was PLM/D5.
 : THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: ANDREW BUONAIUTO
Affiliation: UNIVERSAL
Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Client's sample #: 44-02-40

Laboratory sample #: 6815356

Sample Date: 08/10/88

Description: VINYL TILE

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	2
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	2

Other Components	Estimated Percentage
1. Cellulose Fibers :	3
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	10
6. Binder :	70
7. Other :	15
Other Total:	98

Comments -- The Method used was PLM/DS.
: THE MASTIC CONTAINED NO ASBESTOS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-Q2-41

Laboratory sample #: 6615357

Sample Date: 08/10/88

Description: SUSPENDED ACOUSTICAL TILE

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	35
2. Glass Fibers :	0
3. Mineral Wool Fibers:	30
4. Perlite :	5
5. Mica :	0
6. Binder :	25
7. Other :	5
Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: ANDREW BUGNAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

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803-229-5211

ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-42

Laboratory sample #: 8615358

Sample Date: 08/10/88

Description: FIREDOOR INSULATION

Asbestos Type(s) Present: 2

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	35
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	35

Other Components	Estimated Percentage
1. Cellulose Fibers :	0
2. Glass Fibers :	0
3. Mineral wool Fibers:	0
4. Perlite :	0
5. Mica :	0
6. Binder :	65
7. Other :	0
Other Total:	65

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-43

Laboratory sample #: 8815355

Sample Date: 08/10/88

Description: SPRAYED ON INSULATION

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral wool Fibers:	70
4. Perlite :	0
5. Mica :	0
6. Binder :	20
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.
:

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature - Robin Smith
Date: 09/23/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28
Client : UNIVERSAL ENGINEERING CORPORATION
Location : H. T. WING
: BEALE AVE.
: SANDWICH, MA

Clients sample #: 44-02-44

Laboratory sample #: 8815360

Sample Date: 08/10/88

Description: WALL PLASTER

Asbestos Type(s) Present:

Asbestos Materials	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	0
4. Perlite :	0
5. Mica :	5
6. Binder :	60
7. Other :	25
Other Total:	100

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature -

Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.28

Client : UNIVERSAL ENGINEERING CORPORATION

Location : H. T. WING

: BEALE AVE.

: SANDWICH, MA

Clients sample #: 44-02-45

Laboratory sample #: 8615361

Sample Date: 08/10/88

Description: HARD JOINT

Asbestos Type(s) Present:

Asbestos Materials

	Estimated Percentage
1. Chrysotile :	0
2. Amosite :	0
3. Crocidolite :	0
4. Anthrophyllite:	0
5. Tremolite :	0
6. Actinolite :	0
Asbestos Total:	0

Other Components

	Estimated Percentage
1. Cellulose Fibers :	20
2. Glass Fibers :	0
3. Mineral Wool Fibers:	25
4. Perlite :	0
5. Mica :	0
6. Binder :	55
7. Other :	0
Other Total:	100

Comments -- The Method used was PLM/DS.

Sampled by: ANDREW BUONAIUTO

Affiliation: UNIVERSAL

Analyzed by: ROBIN SMITH

Signature -

Robin Smith

Date: 09/23/88

Laboratory Certification No.: 4788

Davis & Floyd, Inc.

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ASBESTOS BULK SAMPLE ANALYSIS REPORT

Job # : 6533.20
Client : UNIVERSAL ENGINEERING CORPORATION-CAPE COD
Location : CAPE COD SCHOOLS
 : H.T. WING-SANDWICH
 : -----

Clients sample #: 8844-02-101 Laboratory sample #: 8901236
Sample Date: 01/05/89
Description: DUCT INSULATION-BROWN, FIBROUS, HOMOGENEOUS

Asbestos Type(s) Present: 1

Asbestos Materials	Estimated Percentage
1. Chrysotile :	10
2. Amosite :	0
3. Crocidolite :	0
4. Anthophyllite :	0
5. Tremolite :	0
6. Actinolite :	0

Asbestos Total: 10

Other Components	Estimated Percentage
1. Cellulose Fibers :	10
2. Glass Fibers :	0
3. Mineral Wool Fibers:	20
4. Perlite :	0
5. Mica :	0
6. Binder :	40
7. Other :	20

Other Total: 50

Comments -- The Method used was PLM/DS.

Sampled by: Steve Shea
Affiliation: UNIVERSAL ENGINEERING CORP.

Analyzed by: Elizabeth I. Culbertson

Signature - Elizabeth I. Culbertson

Date: 01/19/89

Laboratory EPA No.: 4788
Laboratory NVLAP No.: 1410

NOTICE: This test report must not be used to claim product endorsement by LAP or any agency of the U.S. Government and relates only to the sample tested and identified above.

ProScience Analytical Services, Inc.

Client Name: ATC Associates, Inc., Woburn
 PO #: N/A
 Client Project #: N/A
 Client Reference: Sandwich Wing School
 Method: EPA/600/R-93/116

Batch: B82544
 Date Sampled: N/A
 Date Received: 8/1/2012
 Date Analyzed: 8/2/2012
 Date of Report: 8/3/2012

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01A	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint compound														
Location: B-wing hall														
Comments:		Is asbestos present? No.											Analyzed: Yes	

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01B	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint compound														
Location: A107														
Comments:		Is asbestos present? No.											Analyzed: Yes	

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
01C	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Joint compound														
Location: 2nd Floor, E22														
Comments:		Is asbestos present? No.											Analyzed: Yes	

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02A	Gray	0	0	0	0	0	0	0	0	TR	TR	0	0	100
Description: Ceiling plaster														
Location: E wing														
Comments:		Is asbestos present? No.											Analyzed: Yes	

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02B	Gray	0	0	0	0	0	0	0	0	0	TR	0	0	100
Description: Ceiling plaster														
Location: E wing														
Comments:		Is asbestos present? No.											Analyzed: Yes	

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
02C	Gray	0	0	0	0	0	0	0	0	TR	TR	0	0	100
Description: Ceiling plaster														
Location: E wing														
Comments:		Is asbestos present? No.											Analyzed: Yes	

ProScience Analytical Services, Inc.

Client Name: ATC Associates, Inc., Woburn
 PO #: N/A
 Client Project #: N/A
 Client Reference: Sandwich Wing School
 Method: EPA/600/R-93/116

Batch: B82544
 Date Sampled: N/A
 Date Received: 8/1/2012
 Date Analyzed: 8/2/2012
 Date of Report: 8/3/2012

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03A	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Ceiling skim coat Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03B	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Ceiling skim coat Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
03C	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Ceiling skim coat Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04A	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall plaster Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04B	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall plaster Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
04C	Gray	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall plaster Location: E wing, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

ProScience Analytical Services, Inc.

Client Name: ATC Associates, Inc., Woburn
 PO #: N/A
 Client Project #: N/A
 Client Reference: Sandwich Wing School
 Method: EPA/600/R-93/116

Batch: B82544
 Date Sampled: N/A
 Date Received: 8/1/2012
 Date Analyzed: 8/2/2012
 Date of Report: 8/3/2012

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05A	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall skim coat Location: E wing, room 1 Comments:														Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05B	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall skim coat Location: E wing, room 1 Comments:														Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
05C	White	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Wall skim coat Location: E wing, room 1 Comments:														Is asbestos present? No. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06A	Pink	10	0	0	0	0	0	0	0	0	0	0	0	90
Description: Pink sink coat Location: C106 Comments:														Is asbestos present? Yes. Analyzed: Yes

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06B		0	0	0	0	0	0	0	0	0	0	0	0	0
Description: Pink sink coat Location: C107 Comments:														Analyzed: No

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
06C		0	0	0	0	0	0	0	0	0	0	0	0	0
Description: Pink sink coat Location: D125 Comments:														Analyzed: No

ProScience Analytical Services, Inc.

Client Name: ATC Associates, Inc., Woburn
 PO #: N/A
 Client Project #: N/A
 Client Reference: Sandwich Wing School
 Method: EPA/600/R-93/116

Batch: B82544
 Date Sampled: N/A
 Date Received: 8/1/2012
 Date Analyzed: 8/2/2012
 Date of Report: 8/3/2012

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
07A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Black sink coat Location: C205 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
07B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Black sink coat Location: C205 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
08A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Table top Location: C209 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
08B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Table top Location: C208 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
09A	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Table top Location: C206 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
09B	Black	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Table top Location: C206 Comments: Is asbestos present? No. Analyzed: Yes														

ProScience Analytical Services, Inc.

Client Name: ATC Associates, Inc., Woburn
 PO #: N/A
 Client Project #: N/A
 Client Reference: Sandwich Wing School
 Method: EPA/600/R-93/116

Batch: B82544
 Date Sampled: N/A
 Date Received: 8/1/2012
 Date Analyzed: 8/2/2012
 Date of Report: 8/3/2012

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
10A	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Brown cove base Location: C wing Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
10B	Brown	0	0	0	0	0	0	0	0	0	0	0	0	100
Description: Brown cove base Location: C106 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
11A	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Brown mastic assoc. w/brown cove base Location: C wing Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
11B	Brown	0	0	0	0	0	0	0	0	5	0	0	0	95
Description: Brown mastic assoc. w/brown cove base Location: C106 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
12A	Dk. Brown	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Residual black mastic Location: E. basement, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Sample ID	Color	Asbestos %						Non-Asbestos %						
		CHR	AMO	CRO	ACT	TRE	ANT	FBG	MNW	CEL	HAR	SYN	OTH	NON
12B	Dk. Brown	0	0	0	0	0	0	0	0	10	0	0	0	90
Description: Residual black mastic Location: E. basement, room 1 Comments: Is asbestos present? No. Analyzed: Yes														

Asbestos Codes: CHR = Chrysotile AMO = Amosite CRO = Crocidolite ACT = Actinolite TRE = Tremolite ANT = Anthophyllite
 Non-Asbestos Codes: FBG = Fiberglass MNW = Mineral Wool CEL = Cellulose HAR = Hair SYN = Synthetic OTH = Other NON = Non-Fibrous Minerals

Note: To create a unique lab sample ID, use the Batch # and the Sample ID (example: [Batch #] - [Sample ID]). * All results are in percentage.

Analyst: Dan Pine

Appendix F

Newly-Installed Materials Safety Data Sheets

To be Provided by LEA

Appendix G

Sample 6-Month Periodic Surveillance Form

Sample 6- Month Periodic Surveillance Form

Local Education Agency (LEA): Sandwich Public School District

Facility Address: 33 Water Street, Sandwich, 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
1927 Building						
Pre-Formed Block-Type Pipe Insulation	Pipe Tunnels	D			>10%	
Pre-Formed Block-Type Pipe Insulation	Classrooms 1 - 3	G				
Pre-Formed Block-Type Pipe Insulation	Above Fixed Ceilings & within Wall Chases	IA				
Mudded Pipe-Fitting Insulation	Pipe Tunnels	D			>10%	
Mudded Pipe-Fitting Insulation	Classrooms 1 - 3	G				
Mudded Pipe-Fitting Insulation	Above Fixed Ceilings & within Wall Chases	IA				
Corrugated Paper-Type Pipe Insulation	Pipe Tunnels	D			>10%	
Corrugated Paper-Type Pipe Insulation	Above Fixed Ceilings & within Wall Chases	IA				
9" x 9" Black Floor Tile	Beneath Built-Up Floor in Classrooms 1 – 3 & 6	IA				
Cloth Vibration Isolator	Boiler Room & Gymnasium	G				
Sandwich Elementary School Addition						
Breeching Insulation	New Boiler Room	G				
Mudded Pipe-Fitting Insulation Associated with Fiberglass Pipe Insulation	A, B, C, & D Wing Ceiling Plenums/Pipe Chases & Locker Room Pipe Closets	G				

Asbestos-Containing Building Material	Location	Previous Condition	Present Condition	Change in Condition (Yes/No)	Estimated Damaged Quantity	Comments
Mudded Pipe-Fitting Insulation Associated with Fiberglass Pipe Insulation	C104 & C202 Pipe Chases	D			5 EA	
Pre-Formed Block-Type Pipe Insulation	New Boiler Room	G				
Pink Sink Coating	C106, C107, & D125	G				
Fiber-Reinforced Cement Panels Associated with Fume Hood	C208	G				
Fiber-Reinforced Cement Panel	Partition Walls in Administrative Offices, Boys & Girls Locker Rooms, & C-Wing Stairs above Windows	G				
9" x 9" Tan with Brown & White Streaks Floor Tile	Classrooms C106 – C108, Room next to C107, C202, C207 – C209, C206 Workroom, C208 Storage, C209 Storage, & C-Wing Stairwell	G				
9" x 9" Tan with Brown & White Streaks Floor Tile	Chair Storage	D			200 SF	
12" x 12" Tan with Streak Floor Tile	Maintenance Break Room & Computer Room	G				

Conditions: D = Damaged; F = Fair; G = Good; IA = Inaccessible; N/A = Not Applicable; SD = Significant Damage; SF = Square Feet

Surveillance conducted by: _____
 (print name) (signature)

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

Date: _____

Appendix H

Preventive Measures

Preventive Measures for Various Asbestos-Containing Building Materials

A. Surfacing Materials

“Surfacing Materials” means materials in a school building that are applied by spray, trowel, or otherwise applied to surfaces. These include sprayed-applied 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. When properly implemented, the following procedures will reduce the potential for fiber release:

1. Sprayed-Applied Fireproofing
 - 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-applied 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 Plasters
 - a) Identify the materials and post asbestos 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 ACBM. This means they can be easily damaged, increasing the potential for fiber release. When properly implemented, the following procedures 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 Fitting, Tank, Duct & Breeching Insulations
 - 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.

C. Miscellaneous Materials

“Miscellaneous Materials” are the other ACBM in a school building that are not categorized as Surfacing Materials or TSI. These include floor tiles, floor tile and carpet mastics, gypsum wallboard and joint compound, ceiling tiles, glue daubs, asbestos cement panels, cove base and associated glue, window/door 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. Wallboard and Joint Compound Assembly

- a) Since a number of different homogeneous assemblies may exist in a building, sheetrock/joint compound must be assumed to be ACM unless sample results prove otherwise. If any specific areas are going to be disturbed, samples of the material in that area should be collected and analyzed.
- 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 space above the ceiling tiles. Maintain the ceiling tiles in undamaged condition. Replace any damaged or water-stained tile.
- b) If the ceiling tiles are non-asbestos, collect samples and analyze the glue daubs to identify asbestos-content before disturbing the tiles.

4. Asbestos Cement Panels, Window/Door Caulking and Glazing Compounds

- a) Maintain asbestos cement panels and window/door caulking and glazing compounds in undamaged condition.

5. Carpet Glue, Blackboard/Tack Board Glue, Floor Tile Mastic, Cove Base, and Mastic

- a) Reduce the likelihood of fiber release by leaving materials in place.
- b) Maintain materials in good condition. Collect samples and analyze to identify asbestos-content before disturbing.

Appendix I

Asbestos Inspector and Management Planner State Certifications and EPA Accreditations

Commonwealth of Massachusetts
Department of Labor Standards

William D. McKinney, Director

Asbestos Inspector



ROBERT C. MALLETT

Eff. Date 05/10/16

Exp. Date 06/01/17

AI900557

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

BOSR BOS-RENEW

17





This is to certify that

Robert C Mallett



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

Asbestos Inspector Refresher

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

Course Location

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

January 7, 2016

Course Dates

16-0243-106-400644

Certificate Number

January 07, 2016

Examination Date

January 07, 2017

Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887

Telephone 978.658.5272

www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION

Commonwealth of Massachusetts
Department of Labor Standards
William D. McKinney, Director
Asbestos Management Planner



DUSTIN A. DIEDRICKSEN

Eff. Date 04/05/16

Exp. Date 04/05/17

AP900425

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

BOSR BOS-RENEW

17





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 21, 2016

Course Dates

16-0267-136-208040

Certificate Number

January 21, 2016

Examination Date

January 21, 2017

Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887

Telephone 978.658.5272

www.ieetrains.com

INSTITUTE FOR ENVIRONMENTAL EDUCATION