Asbestos Abatement Project Monitoring Closeout Report

Bourne High School, James F. Peebles Elementary School and Otis Memorial Elementary School

July 14 – August 25, 2015

Bourne Public Schools
Bourne, Massachusetts

October 2015

Fuss & O’Neill EnviroScience, LLC
50 Redfield Street, Suite 100
Boston, MA 02122
October 2, 2015

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

RE: Asbestos Abatement Project Monitoring  
Bourne High School, James F. Peebles Elementary School and  
Otis Memorial Elementary School  
Bourne, Massachusetts  
Fuss & O'Neill EnviroScience Project No. 20121141.B4E

Dear Mr. Donoghue:

Enclosed please find the asbestos abatement project monitoring closeout report for the project completed at the Bourne High School, the James F. Peebles Elementary School and the Otis Memorial Elementary School located in Bourne, Massachusetts. Abatement occurred from July 14, 2015 to August 25, 2014. The building owner should obtain the Waste Shipment Records (WSR) from the Asbestos Abatement Contractor in post-abatement closeout documents when available, but no later than 45 calendar days from when the waste was removed from the project site.

Additionally, this report is important documentation that must be placed with the Asbestos Hazard Emergency Response Act (AHERA) Management Plan that was generated for the Bourne High School, James F. Peebles Elementary, and Otis Memorial Elementary School. A copy should be placed at each school, as well as the central location where the Asbestos Management Plans are stored.

If you should have any questions regarding the enclosed report, please do not hesitate to contact me at (617)282-4675 extension 4703. Thank you for this opportunity to have served your environmental needs.

Sincerely,

[Signature]

Dustin A. Diedricksen  
Project Manager

DD/amf

Enclosure
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Bourne High School, James F. Peebles Elementary
and Otis Memorial Elementary School
Bourne Public Schools

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1 Introduction

Fuss & O’Neill EnviroScience, LLC (EnviroScience) was retained to provide asbestos abatement project monitoring services at the Bourne High School, the James F. Peebles Elementary School, and the Otis Memorial Elementary School (the “Site”). The scope of services were performed in accordance with our written agreement dated May 6, 2015 and is subject to the general terms and conditions of the agreement and the limitations included in Appendix A. Asbestos abatement was necessary due to ongoing renovations and improvements at each Site building. Asbestos abatement work occurred from July 14 through July 22, 2015 at Bourne High School, through August 24, 2015 at Otis Memorial Elementary School, and through August 25, 2015 at James F. Peebles Elementary School. Please refer to Appendix B for the EnviroScience staff Commonwealth of Massachusetts Department of Labor Standards (MADLS) asbestos certifications and United States Environmental Protection (EPA) accreditations.

Mr. Dustin Diedricksen of EnviroScience prepared two Asbestos Abatement Work Plans (AWP) for the work. Mr. Diedricksen is a MADLS-certified Project Designer. Please refer to Appendix B for a copy of the project designer state certification and EPA accreditation and Appendix C for copies of the Asbestos Abatement Work Plans. The Asbestos Abatement Contractor who performed the work at all three schools was Allstate Asbestos Abatement of Lowell, Massachusetts (Allstate).

2 Scope of Work

The abatement scope of work included the removal and disposal of the following ACM:

<table>
<thead>
<tr>
<th>Type of Material</th>
<th>Estimated Quantity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bourne High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9” x 9” Floor Tile</td>
<td>8,390 SF</td>
<td>1st &amp; 2nd Floors C-Wing &amp; 1st Floor Boy’s &amp; Girl’s Bathrooms</td>
</tr>
<tr>
<td>Otis Memorial Elementary School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9” x 9” Floor Tile</td>
<td>70 SF</td>
<td>Rooms 6, 7, 10, 12, 15, &amp; Main Office</td>
</tr>
<tr>
<td>Peebles Elementary School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window Glazing Compound</td>
<td>6 Window Panes</td>
<td>Cafeteria Kitchen, Cafeteria Kitchen Bathroom, &amp; Room 5</td>
</tr>
</tbody>
</table>

SF = Square Feet
3 Discussion

The asbestos abatement projects were conducted at Bourne High School, Otis Memorial Elementary School, and Peebles Elementary School on the following dates:

- Bourne High School began on July 14, 2015 and was completed on July 22, 2015;
- Otis Memorial Elementary School was performed on August 24, 2015; and
- Peebles Elementary was performed on August 25, 2015.

EnviroScience was on-site throughout the abatement projects to document work practices, to conduct visual inspections, and to collect and analyze air samples. Negative pressure enclosures (NPEs) were established in accordance with procedures detailed in the project design, and included erection of protective barriers to isolate the work areas from the rest of the building. Negative pressure was established inside the work areas relative to the outside spaces.

Prior to the beginning of abatement activities, EnviroScience conducted a pre-commencement inspection in each work area. This was to document that work area preparations were performed in accordance with the AWP, as well as federal, state, and local regulations.

Upon commencement of abatement activities, area air samples were collected for analysis utilizing Phase Contrast Microscopy (PCM) and National Institute of Occupational Safety and Health Method 7400. These air samples were collected at various locations, such as the entrance to the worker decontamination facility, outside NPE barriers, and at the negative air pressure filtration unit exhaust. These air samples were collected and analyzed to monitor the air quality outside the NPE during asbestos abatement. This was performed to assess the air quality at the Site during the abatement project. Please refer to Appendix D for copies of the PCM Area Air Monitoring Worksheets.

EnviroScience analyzed PCM air samples on-site by an Asbestos Project Monitor who is currently listed on the Asbestos Analysts Registry (AAR) that is maintained by the American Industrial Hygiene Association (AIHA).

During removal activities, progress inspections were conducted inside the work areas to assess work progress and work practices and procedures utilized by Allstate. Work was completed by MADLS-certified Asbestos Workers using wet-removal methods. Allstate recorded a daily log of the Asbestos Workers and Supervisors who conducted asbestos abatement on the project.

Following the completion of abatement, EnviroScience performed a final visual inspection in each work area to comply with federal and state asbestos regulations. Final visual inspections were conducted to verify that the work areas met the “no visible suspect debris” criteria prior to conducting final clearance air sampling. Refer to Appendix E for copies of the Final Visual Inspection Forms.
Following the completion of final cleaning and work area encapsulation, aggressive final clearance air sampling was performed inside the work areas to comply with state and federal regulatory requirements. In compliance with AHERA and MADLS regulations, air samples were analyzed by PCM or Transmission Electron Microscopy (TEM), based on quantity of asbestos-containing materials (ACM) that were abated. Refer to Appendix D for copies of the PCM Area Air Monitoring Worksheets and Appendix F for copies of the TEM Air Samples Laboratory Report.

4 Conclusion

All work areas successfully passed pre-sealant visual inspections prior to work area encapsulation by the Abatement Contractor. Following encapsulation, aggressive final clearance air sampling was conducted in accordance with the MADLS and MassDEP requirements. All work areas successfully passed final clearance air sampling. Air clearance samples collected utilizing PCM indicated airborne fiber concentrations were below the AHERA and MADLS re-occupancy standard of 0.010 fibers per cubic centimeter of air (f/cc). Air clearance samples collected utilizing TEM were reported to be below the AHERA and MADLS re-occupancy standard of 70 structures per square millimeter (s/mm²).

PCM air samples were analyzed on-site by a trained EnviroScience Asbestos Project Monitor listed on the AAR maintained by the AIHA.

TEM analysis was performed by EMSL Analytical, Inc. of Woburn, Massachusetts, a Massachusetts-certified asbestos laboratory.

Report prepared by Environmental Technician, Robert Mallett.

Reviewed by:

Dustin A. Diedrickson
Project Manager

Timothy M. Downey
Senior Project Manager
Appendix A

Limitations
APPENDIX A

Bourne Public Schools
Bourne, Massachusetts

1. This environmental report has been prepared for the exclusive use of the Bourne Public
Schools and is subject to, and is issued in connection with the general terms and
conditions of the original Agreement and all of its provisions. Any use or reliance upon
information provided in this report, without the specific written authorization of the
Client and Fuss & O’Neill EnviroScience, LLC, (EnviroScience) shall be at the User’s
individual risk.

2. EnviroScience has obtained and relied upon information from multiple sources to form
certain conclusions regarding likely environmental issues at and in the vicinity of the
subject property in conducting this inspection. Except as otherwise noted, no attempt has
been made to verify the accuracy or completeness of such information or verify
compliance by any party with federal, state or local laws or regulations.

3. EnviroScience has obtained and relied upon laboratory analytical results in conducting the
scope of work. This information was used to compare sample results to existing federal and
state regulations for re-occupancy levels following asbestos abatement. EnviroScience has
not performed an independent review of the reliability of this laboratory data.

4. The observations and conclusions presented in this report are limited by the scope of services
outlined in our original Agreement May 6, 2015, which reflects schedule and budgetary
constraints imposed by the Client. Furthermore, the scope of services has been conducted in
accordance with generally accepted environmental practices. No other warranty, expressed or
implied, is made.

5. The conclusions presented in this report are based solely upon information gathered by
EnviroScience to date. Should further environmental or other relevant information be
discovered at a later date, the Client should immediately bring the information to
EnviroScience’s attention. Based upon an evaluation and assessment of relevant information,
EnviroScience may modify the report and its conclusions.
Appendix B

Fuss & O’Neill EnviroScience State Asbestos Certifications and EPA Accreditations
This is to certify that
Dustin A. Diedricksen
has completed the requisite training, and has passed an examination for reaccreditation
Asbestos Designer 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

July 17, 2015
Course Dates
15-0299-128-208040
Certificate Number

July 17, 2015
Examination Date

July 17, 2016
Expiration Date

Training Director

16 Upton Drive, Wilmington, MA 01887  Telephone 978.658.5272  www.ieetrains.com
Commonwealth of Massachusetts
Department of Labor Standards
Heather E. Rowe, Director
Asbestos Project Monitor

MICHAEL COFFEY
Eff. Date 03/04/15
Exp. Date 03/03/16
AM900533
Member of C.O.N.E.S.
HV  HV - NEW

16
Michael Coffey
This certifies that

has successfully completed the 8-Hour Asbestos Project Monitor Refresher Training Course

conducted by

0(413) 781-0070
West Springfield, MA 01089
73 William Franks Drive
Camacho VT

Michael Money

Certificate of Achievement
Appendix C

Asbestos Abatement Work Plans
May 18, 2015

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

Re: Asbestos Abatement Work Plan  
Bourne High School & Otis Memorial Elementary School  
Bourne, Massachusetts  
Fuss & O'Neill EnviroScience, LLC. No. 20121141.B4E

Dear Mr. Donoghue:

Attached please find the Asbestos Abatement Work Plan for conducting summer asbestos abatement at the Bourne High School and the Otis Memorial Elementary School located in Bourne, Massachusetts.

The Asbestos Abatement Contractor is required to complete and submit an asbestos notification form. The form must be submitted to the Commonwealth of Massachusetts Department of Environmental Protection (MassDEP) and to the Commonwealth of Massachusetts Department of Labor Standards (MADLS).

Should you have any questions regarding this procedure, please do not hesitate to call me at (617) 282-4675, extension 4703.

Sincerely,

Dustin A. Diedricksen  
Project Manager  
DAD/amf

Attachments
WORK PLAN
FOR REMOVAL AND DISPOSAL
OF ASBESTOS-CONTAINING MATERIALS
BOURNE HIGH SCHOOL AND OTIS MEMORIAL ELEMENTARY SCHOOL
BOURNE, MASSACHUSETTS

BACKGROUND

A. Asbestos abatement activities shall include repair and/or removal of floor tile and associated mastics/adhesives at the Bourne High School located at 75 Waterhouse Road in Bourne Massachusetts and the Otis Elementary School located at 5500 Curtis Boulevard, Bourne, Massachusetts.

B. Abatement activities are anticipated to occur in July 2015. A Massachusetts-licensed Asbestos Abatement Contractor (the “Contractor”) will conduct the asbestos abatement work.

C. Abatement activities will occur while the school is not operational (i.e., during summer vacation).

DESCRIPTION OF WORK

A. The scope of abatement work shall include removal of asbestos-containing vinyl floor tile at the aforementioned schools. Note that the associated mastics/adhesives are non-asbestos; however, selective removal of mastics/adhesives as asbestos-containing waste material (ACWM) may be required to prepare the floor surface for floor tile replacement.

B. Asbestos abatement activities are being performed in accordance with the United States Environmental Protection Agency (EPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), Commonwealth of Massachusetts Department of Labor Standards (MADLS), and EPA Asbestos Hazard Emergency Response Act (AHERA) requirements prior to renovation or demolition work that would otherwise disturb or impact asbestos-containing material(s) (ACM).

C. Work shall be performed by a Commonwealth of Massachusetts Department of Labor Standards (MADLS)-licensed Contractor with certified Asbestos Workers and Supervisor(s). Training shall be in accordance with MADLS Regulation 453 CMR 6.00.

D. The Town of Bourne (the “Owner”) shall retain the services of Fuss & O’Neill EnviroScience, LLC (EnviroScience), or other consulting firm at their discretion, who shall be responsible for providing project monitoring, final visual inspection, and final clearance air sampling services. Final clearance air samples shall be conducted using phase contrast microscopy (PCM) or transmission electron microscopy (TEM) as required.
E. Interior asbestos abatement shall be performed (as appropriate) within negative pressure enclosures (NPEs) as established herein.

F. The following table summarizes the locations of work at each school and includes estimated ACM quantities to be repaired/removed.

**Scope of Work**

<table>
<thead>
<tr>
<th>Asbestos-Containing Material</th>
<th>Location</th>
<th>Estimated Quantity</th>
<th>Recommended Repair/Removal Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bourne High School</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 11C</td>
<td>924 SF</td>
<td>The Contractor shall remove and dispose ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 13C</td>
<td>864 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 15C</td>
<td>783 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>1st Floor C- Wing Storage Room</td>
<td>168 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 20C</td>
<td>756 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 21C</td>
<td>783 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 22C</td>
<td>1,107 SF</td>
<td>The Contractor shall remove and dispose ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 23C</td>
<td>864 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 24C</td>
<td>1,188 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 25C</td>
<td>783 SF</td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>2nd Floor C- Wing Storage Room</td>
<td>75 SF</td>
<td></td>
</tr>
<tr>
<td><strong>Otis Memorial Elementary School</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 6</td>
<td>3 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 7</td>
<td>8 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 10</td>
<td>10 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 12</td>
<td>5 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
<tr>
<td>Asbestos-Containing Material</td>
<td>Location</td>
<td>Estimated Quantity</td>
<td>Recommended Repair/Removal Method</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Classroom 15</td>
<td>25 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
<tr>
<td>9” x 9” Vinyl Floor Tile</td>
<td>Foyer and Hallway Outside of Teacher’s Room</td>
<td>20 SF</td>
<td>The Contractor shall remove and dispose damaged ACM within a NPE.</td>
</tr>
</tbody>
</table>

SF = Square Feet

WORK PROCEDURES

A. The Contractor shall file a notification to the Commonwealth of Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Prevention (BWP) on standard form BWP AQ 06 “Notification Prior to Construction or Demolition” and submit form ANF-001 to MassDEP and MADLS for asbestos abatement work notification.

B. Workers work will utilize disposable clothing and varied personal protective equipment (PPE) as required to the work task including respiratory protection as required by selection chart established in Occupational Safety and Health Administration (OSHA) Title 29 CFR, Part 1926.1101 and MADLS Regulation 453 CMR, Part 6.00.

C. The Contractor shall perform personal exposure monitoring of workers as required by OSHA Title 29 CFR, Part 1926.1101. Personal air exposure monitoring, at a minimum, shall include monitoring for twenty-five percent (25%) of the on-site work personnel, or a minimum of two (2) workers per work shift.

D. Ensure no electrical equipment is energized during decontamination work and electrical power shall be obtained from external power source from the Work Areas or with proper Ground Fault Circuit Interrupter (GFCI) protection. The Contractor shall be responsible for the electrical work; this work must be performed by a Massachusetts-licensed electrician. Observe all OSHA lock out tag out procedures.

WORK AREA PREPARATIONS

A. Deactivate and/or isolate heating, ventilating, and air conditioning (HVAC) systems or zones to prevent contamination and fiber dispersal to other areas of the school. During the work, vents within the Work Area shall be “sealed” with duct tape and 2 layers of six (6)-mil thickness polyethylene (poly) sheeting.

B. The Contractor shall be responsible for removing moveable objects remaining within the Work Area. The Contractor shall pre-clean moveable objects within the proposed Work Areas using high-efficiency particulate air (HEPA)-filtered vacuum equipment and/or wet-cleaning methods as appropriate, and remove such objects from Work Area to a temporary storage location.
C. After HEPA-vacuum cleaning, cover fixed walls with 2 layers of four (4)-mil minimum thickness poly sheeting. Where fixed walls are not used, two layers of 6-mil poly sheeting shall be applied to a rigid framework of wood, metal, or PVC. Where floor tile/mastic is not being abated, cover the floor with 2 layers of 6-mil poly sheeting. Where ceiling materials are not being abated, cover ceilings with 4-mil poly sheeting in accordance with revised MassDEP regulations (310 CMR, Part 7.15(7)(c)(6)). All overlaps shall be sealed with tape and spray adhesive.

D. Pursuant to MassDEP Regulation 310 CMR, Part 7.15(7)(c)(4), large openings such as open doorways, elevator doors, and passageways shall be first sealed with solid construction materials, such as plywood over studding, which shall constitute the outermost boundary of the asbestos work area. All cracks, seams and openings in such solid construction materials shall be caulked or otherwise sealed, so as to prevent the movement of asbestos fibers out of the work area.

E. Asbestos-cement laboratory fume hood ductwork is present with cabinetry. Care should be exercised if cabinetry will be disturbed. Ductwork shall be covered with 2 layers of 6-mil poly sheeting if exposed.

F. Create pressure differential to obtain a minimum of four air changes per hour within the Work Areas by use of acceptable HEPA-filtered Work Area ventilation units (HWAVUs) rated for at least 1,000 cubic feet per minute (CFM). At least one 1,000 CFM HWAVU shall be used in each NPE.

G. Pre-clean fixed objects within the Work Areas, using HEPA-filtered vacuum equipment and/or wet-cleaning methods as appropriate, and enclose with 6-mil poly sheeting sealed with duct tape.

H. Clean the proposed Work Areas using HEPA-filtered vacuum equipment or wet cleaning methods as appropriate. Do not use methods that raise dust, such as dry sweeping or vacuuming with equipment that is not equipped with HEPA filters.

I. Post asbestos warning signs in accordance with OSHA Title 29 CFR, Part 1926.1101 at all approaches to the Work Area. Signs shall be conspicuously posted to permit a person to read signs and take precautionary measures to avoid exposure to airborne asbestos fiber concentrations.

J. Occupied areas and/or building space not within the Work Areas shall be separated from asbestos abatement Work Areas by means of airtight barriers.

K. The Contractor and the Asbestos Project Monitor shall visually inspect barriers several times daily to assure effective seal; defects shall be repaired immediately.

DECONTAMINATION SYSTEM

A. The Contractor shall establish a three-chambered decontamination facility (decon) contiguous to the negative pressure enclosure. The decon shall consist of an equipment room, a shower room, and a clean room, in series. The only access between contaminated and uncontaminated areas shall be through the decon. If it is not feasible to construct the decon contiguous to the NPE, the Contractor shall establish a remote decon in close proximity. A single change-out unit may be utilized (with a remote decon) for
each mini-enclosure containment that will be established at the Otis Memorial Elementary School to
abate lifting/damaged asbestos-containing floor tile.

B. Access between the decon chambers shall be through double-flap curtain openings.

C. Occupied areas and/or building space not within the abatement Work Areas shall be separated from
asbestos abatement Work Areas by means of airtight barriers.

D. Construct the decontamination system with wood or metal framing, 3/8-inch sheathing and cover both
sides with 2 layers of 6-mil poly sheeting, sealed with spray glue and taped at the joints. Caulk joints
watertight at floor, walls, and ceiling.

E. The Contractor shall visually inspect work area barriers several times daily to assure effective seal. The
Contractor shall immediately repair defects.

ASBESTOS REMOVAL PROCEDURE - INTERIOR

A. The Contractor shall have a competent and qualified designated person on the project at all times during
the project to ensure establishing a proper enclosure system, and proper work practices are followed,
throughout the project.

B. Clean all movable objects within the proposed Work Areas using HEPA-filtered vacuum equipment
and/or wet cleaning methods as appropriate, and remove such objects from Work Areas to a temporary
location (if necessary).

C. Clean all fixed objects within the Work Areas; using HEPA-filtered vacuum equipment and/or wet-
cleaning methods as appropriate, and enclose with a minimum of 6-mil poly sheeting sealed with tape.
(Examples include electronic equipment).

D. Spray asbestos materials with amended water using airless spray equipment or apply approved removal
encapsulant to reduce the release of fibers during abatement activities. Fill disposal containers as
removal proceeds. Seal filled containers and clean containers before removal to wash area. Wet clean
each container thoroughly, double bag, and apply proper labels before moving to a holding area. Ensure
that workers do not enter from uncontaminated areas into the washroom or the Work Area.

E. After completion of removal work, all surfaces from which asbestos has been removed shall be cleaned
using HEPA-filtered vacuum equipment and wet-wiped, or cleaned by an equivalent method, to remove
visible material (wire brushes are not permitted). During this work, the surfaces being cleaned shall be
kept wet.

F. If at any time during asbestos abatement, should the Owner's on-site Asbestos Project Monitor suspect
areas outside the Work Area are contaminated, they shall stop all abatement work until the Contractor
takes steps to decontaminate these areas and eliminate causes of such contamination. Unprotected
individuals shall be prohibited from entering contaminated areas until air sampling and visual inspections
certify decontamination.
G. Remove and containerize all visible accumulations of ACM and/or asbestos-containing waste material(s) (ACWM).

H. Sealed disposal containers, and all equipment used in the Work Area, shall be included in the cleanup and shall be removed from Work Areas. Asbestos waste shall be placed in 6-mil poly disposal bags, outside of bags shall be cleaned and they shall be placed in a second disposal bag (double-bagged) before removal from the Work Area. Clean all surfaces with HEPA-filtered vacuum equipment before wet cleaning all surfaces within Work Area.

I. The Owner's on-site Project Monitor shall conduct a post-abatement visual inspection with the critical barriers and door and window coverings in place. If visible accumulations or any suspect asbestos-containing dust or debris are identified in the Work Area, the Contractor shall repeat the cleaning until the area is in compliance. This shall be conducted solely at the Contractor's expense. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate cleanup of the Work Area. In addition, the on-site Project Monitor shall conduct a post-abatement visual inspection after the Contractor dismantles the work area barriers to confirm that no visible, suspect debris became trapped behind critical barriers (e.g., behind radiators, etc.) during abatement.

ASBESTOS REMOVAL PROCEDURE - FLOORING AND MASTICS

A. Prior to beginning the removal of any resilient floor covering, remove all movable objects from the Work Area. The Contractor shall remove all layers of floor tile and associated underlayments.

B. Before using wet methods to remove resilient flooring, seal openings and penetrations in the floor to prevent water leakage.

C. Debris and Waste
   1. Whole floor tiles shall be removed and stacked in boxes or wrapped in felt and then placed in labeled disposal bags. At the Contractor's option, floor tiles may be placed directly into durable leak-tight containers and/or fiber drums.
   2. Shovel broken floor tiles and debris into nylon-reinforced bags; these bags shall be placed in a disposal bag or placed directly into leak-tight drums.
   3. Place bagged waste in a second disposal bag during decontamination and dispose as asbestos waste.

D. After completion of floor tile removal, the Contractor shall remove non-ACM mastics/adhesives as necessary for proper floor tile replacement. Mastics/adhesives shall be disposed as ACWM.

E. After completion of all resilient flooring removal work, the Contractor shall conduct final cleaning.

DISPOSAL OF WASTE

A. The disposal of ACM and/or ACWM, supplies, rags, disposable clothing, respirator cartridges, etc., shall be completed in accordance with MassDEP and EPA regulations.
B. Disposal approvals shall be obtained prior to start of asbestos removal activities.

C. A copy of approved disposal authorization shall be provided to the Owner and Owner’s Authorized Representative prior to ACM and/or ACWM leaving the Site.

D. Copies of all Waste Shipment Records (WSRs) shall be provided to the Owner no later than 35 calendar days from when the waste was removed from the Site. WSRs shall be signed by the landfill operator upon receipt, and the quantity of asbestos debris leaving the work site and arriving at the landfill shall be acknowledged.

E. All wash water and shower water shall be collected and filtered through a five-micron filter before discharge.

F. All asbestos debris shall be transported in covered/sealed vans, boxes, or dumpsters that are physically isolated from the driver by an airtight barrier. All vehicles must be properly licensed to meet Commonwealth of Massachusetts DOT requirements.

END OF PLAN

Work Plan Prepared by:

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

Asbestos Designer Certification No. AD000037

Project Designer: Dustin A. Diedricksen
July 27, 2015  
Revised September 4, 2015

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

Re: Asbestos Abatement Work Plan  
James F. Peebles Elementary School  
Bourne, Massachusetts  
Fuss & O’Neill EnviroScience, LLC No. 20121141.B4E

Dear Mr. Donoghue:

Attached please find the Asbestos Abatement Work Plan for conducting summer asbestos abatement at the James F. Peebles Elementary School located at 70 Trowbridge Road in Bourne, Massachusetts.

The Asbestos Abatement Contractor is required to complete and submit an asbestos notification form. The form must be submitted to the Commonwealth of Massachusetts Department of Environmental Protection (MassDEP) and to the Commonwealth of Massachusetts Department of Labor Standards (MADLS).

If you should have any questions regarding this procedure or this work plan, please do not hesitate to call me at (617) 282-4675, extension 4703.

Sincerely,

Dustin A. Diedricksen  
Project Manager  
DD/amf
WORK PLAN
FOR REMOVAL AND DISPOSAL
OF ASBESTOS-CONTAINING MATERIALS
JAMES F. PEEBLES ELEMENTARY SCHOOL
BOURNE, MASSACHUSETTS

BACKGROUND

A. Asbestos abatement activities shall include window glazing removal associated with broken window-pane replacement to occur at the James F. Peebles Elementary School located at 70 Trowbridge Road in Bourne Massachusetts (the “Site”).

B. Abatement activities are anticipated to occur in August 2015. A Massachusetts-licensed Asbestos Abatement Contractor (the “Contractor”) will conduct the asbestos abatement work.

C. Abatement activities will occur while the school is not operational (i.e., during summer vacation).

DESCRIPTION OF WORK

A. The scope of abatement work shall include removal of asbestos-containing window glazing at the Site.

B. Asbestos abatement activities will be performed in accordance with the United States Environmental Protection Agency (EPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), Commonwealth of Massachusetts Department of Labor Standards (MADLS), and EPA Asbestos Hazard Emergency Response Act (AHERA) requirements prior to renovation or demolition work that would otherwise disturb or impact asbestos-containing material(s) (ACM).

C. Work shall be performed by a Commonwealth of Massachusetts Department of Labor Standards (MADLS)-licensed Contractor with certified Asbestos Workers and Supervisor(s). Training shall be in accordance with MADLS Regulation 453 CMR 6.00.

D. Bourne Public Schools (the “Owner”) shall retain the services of Fuss & O’Neill EnviroScience, LLC (EnviroScience) who shall be responsible for providing project monitoring, final visual inspection, and final clearance air sampling services (if applicable). Final clearance air samples shall be conducted using phase contrast microscopy (PCM) or transmission electron microscopy (TEM) as required.

E. Exterior asbestos abatement shall be performed (as appropriate) as established herein.

F. The following table summarizes the ACM removal locations and estimated quantities:
Scope of Work

<table>
<thead>
<tr>
<th>Asbestos-Containing Material</th>
<th>Location</th>
<th>Estimated Quantity</th>
<th>Recommended Repair/Removal Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Window Glazing</td>
<td>Rooms 1, 3, 4, 7, 8, &amp; Kitchen Bathroom (at Broken Panes)</td>
<td>125 LF (10 Windows)</td>
<td>Contractor Shall Remove &amp; Dispose ACM from Exterior to Facilitate Window Repairs. Exterior Protections &amp; Interior Critical Barriers Shall be Established.</td>
</tr>
</tbody>
</table>

LF = Linear Feet

WORK PROCEDURES

A. The Contractor shall file an asbestos notification to the Commonwealth of Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Prevention (BWP) on standard form BWP AQ 06 “Notification Prior to Construction or Demolition” and submit form BWP-AQ-04 - ANF-001 to MassDEP and MADLS for asbestos abatement work notification.

B. Workers work will utilize disposable clothing and varied personal protective equipment (PPE) as required to the work task including respiratory protection as required by selection chart established in Occupational Safety and Health Administration (OSHA) Title 29 CFR, Part 1926.1101 and MADLS Regulation 453 CMR, Part 6.00.

C. The Contractor shall perform personal exposure monitoring of workers as required by OSHA Title 29 CFR, Part 1926.1101. Personal air exposure monitoring, at a minimum, shall include monitoring for twenty-five percent (25%) of the on-site work personnel, or a minimum of two (2) workers per work shift.

D. Ensure no electrical equipment is energized during decontamination work and electrical power shall be obtained from external power source from the work areas or with proper Ground Fault Circuit Interrupter (GFCI) protection. The Contractor shall be responsible for the electrical work; this work must be performed by a Commonwealth of Massachusetts-licensed electrician. Observe all OSHA lock out - tag out procedures.
WORK AREA PREPARATIONS

A. Seal off all openings (e.g., windows, doors, ventilation openings, drains, grilles, diffuser grates, etc.) with two layers of polyethylene (poly) sheeting (minimum 6-mil thickness) sealed securely with tape. Doorways and openings that will not be used for passage during work must be sealed with critical barriers as required for separation of work area and occupied areas.

B. Heating, ventilating, and air conditioning (HVAC) systems shall remain deactivated during removal activities. During the work, vents within the work area shall be sealed with duct tape and two layers of 6-mil poly sheeting.

C. Post asbestos warning signs in accordance with OSHA Title 29 CFR, Part 1926.1101 at all approaches to the work area. Warning signs shall be conspicuously posted to permit a person to read signs and take precautionary measures to avoid asbestos exposure.

D. Maintain emergency and fire exits from the work area, or establish alternative exits satisfactory to fire officials.

E. Pre-clean floors and all horizontal surfaces (e.g., window sills, etc.) within work areas. Windows shall be sealed as critical barriers with two layers of 6-mil poly sheeting after appropriate pre-cleaning (as determined by Asbestos Project Monitor).

DECONTAMINATION SYSTEM

A. The Contractor shall establish a three-chambered remote decontamination facility (decon). The decon shall consist of an equipment room, a shower room, and a clean room, in-series.

B. Access between the decon chambers shall be through double-flap curtain openings.

C. Occupied areas and/or building space outside the abatement work areas shall be separated from asbestos abatement work areas by means of rigid and airtight barriers.

D. Construct the decontamination system with wood or metal framing, 3/8-inch sheathing and cover both sides with a two layers of 6-mil poly sheeting, completely sealed with spray adhesive or taped at the joints. Caulk joints watertight at floor, walls, and ceiling.

E. The Contractor shall visually inspect work area barriers several times daily to assure effective seal. The Contractor shall immediately repair defects.

ASBESTOS REMOVAL PROCEDURE

A. The Contractor shall have a competent and qualified designated person on the project at all times during the project to ensure establishing a proper enclosure system, and proper work practices are followed, throughout the project.

B. Spray asbestos materials with amended water to reduce the fiber release during abatement activities. Fill disposal bags as removal proceeds; then double-bag, and apply proper labels for disposal.
C. After completion of removal work, all surfaces from which asbestos has been removed shall be cleaned using HEPA-filtered vacuum equipment and wet-wiped, or cleaned by an equivalent method, to remove visible material (wire brushes are not permitted). During this work, the surfaces being cleaned shall be kept wet.

D. Should the Owner's on-site Asbestos Project Monitor suspect areas outside the Work Area are contaminated during asbestos abatement, they shall stop all abatement work until the Contractor takes steps to decontaminate these areas, and eliminate causes of such contamination. Unprotected individuals shall be prohibited from entering contaminated areas until air sampling and visual inspections certify decontamination.

E. Remove and containerize all visible ACM accumulations and/or asbestos-containing waste material(s) (ACWM).

F. Sealed disposal containers/bags, and all equipment used in the work area, shall be included in the cleanup, and shall be removed from the work areas. Asbestos waste shall be placed in 6-mil poly disposal bags, outside of bags shall be cleaned, and they shall be placed in a second disposal bag (double-bagged) before removal from the work area. Clean all surfaces with HEPA-filtered vacuum equipment before wet-cleaning all surfaces within the work area.

G. The Owner's on-site Project Monitor shall conduct a post-abatement visual inspection with the critical barriers and window coverings in-place. If visible accumulations or any suspect asbestos-containing dust or debris are identified in the work area, the Contractor shall repeat the cleaning until the area is in compliance. This shall be conducted solely at the Contractor's expense. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate cleanup of each work area. In addition, the on-site Project Monitor shall conduct a post-abatement visual inspection after the Contractor dismantles the work area barriers to confirm that no visible, suspect debris became trapped behind critical barriers during abatement.

**DISPOSAL OF WASTE**

A. The disposal of ACM and/or ACWM, supplies, rags, disposable clothing, used PPE, unfiltered water used in removal or decontamination, etc., shall be completed in accordance with MassDEP and EPA regulations.

B. Disposal approvals shall be obtained prior to start of asbestos removal activities.

C. A copy of approved disposal authorization shall be provided to the Owner and Owner's Authorized Representative prior to ACM and/or ACWM leaving the Site.

D. Copies of all Waste Shipment Records (WSRs) shall be provided to the Owner no later than 35 calendar days from when the waste was removed from the Site. WSRs shall be signed by the landfill operator upon receipt, and the quantity of asbestos debris leaving the work site and arriving at the landfill shall be acknowledged.
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END OF PLAN

Work Plan Prepared by:
Fuss & O’Neill EnviroScience, LLC.
50 Redfield Street, Suite 100
Boston, MA 02122

Project Designer: Dustin A. Diedricksen
Asbestos Designer Certification No. AD000037
Appendix D

PCM Area Air Monitoring Worksheets
### For Asbestos Field Analysis

**Area Air Monitoring Worksheet**

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
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**Samples to Be Collected**

- **Project Number:** 201211/RF
- **Sample Description:** Asbestos
- **Sample Date:** 9/7/07
- **Sample Code:** 9903

**Microscope Number:** 100002
**Room:** 2/30/13

**Room:** 101/15
**Building:** Project Manager

**Building Name:** Environ Etcs.
**Location:** Sample Time

**Sample Name:** Project Name

**Work Area:** Home/Office
**Site Address:** Building Name/Number

**Building:** Home/Laboratory
**Location:** Home/Laboratory

**Sample Code:** Project Number

---

**Lot, Driveway, Roadway, Etc.:** Coast to Coast

**Project Number:** 201211/RF
**Sample Description:** Asbestos

**Microscope Number:** 100002
**Room:** 2/30/13

**Room:** 101/15
**Building:** Project Manager

**Building Name:** Environ Etcs.
**Location:** Sample Time

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**Work Area:** Home/Office
**Site Address:** Building Name/Number

**Building:** Home/Laboratory
**Location:** Home/Laboratory

**Sample Code:** Project Number
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**For Abseisics Field Analysis**

Area Air Monitoring Worksheet

**Environ science Inc.**

**Fuss & O'Neill**

20 Richard St. Suite 100 Boston, MA 02122 (617) 228-4675
<table>
<thead>
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**For Asbestos Field Analysis**

Area Air Monitoring Worksheet

Environscience, Inc.

Russ & O'Neill
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**Summary**: At least 2 blocks of 10% of the number of samples are contained in each of the following areas:

- Area 1
- Area 2
- Area 3
- Area 4

**Location**: 

- Sample 1
- Sample 2
- Sample 3
- Sample 4

**Notes**: 

- Document Code: 000000
- Location: 000000
- Score: 000000
- IC: 000000

---

**For Asbestos Field Analysis**

Area Air Monitoring Worksheet

Envirosync, Inc.

Fuss & O'Neill

50 Revere Street, Suite 100, Boston, MA 0222 (617) 222-675
### Table: Data Summary

<table>
<thead>
<tr>
<th>Sample Date</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
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<td>456</td>
<td>789</td>
<td>123</td>
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### Footnotes:
- Sample Date: Date of sample collection
- Value 1, Value 2, Value 3, Value 4: Measured values for different parameters

---

### Additional Information:

- **Project Name:** Field Monitoring Workshop
- **Enforcement:** Fuss & O'Neill

---

### Address:
- **Building Name:** Field Monitoring Workshop
- **Building Address:** 100 Building Address, Site Address,
- **City:** City, State, Zip

---

### Contact:
- **Phone:** 123-456-7890
- **Email:** info@fussandeo.com
## Concentration

\[
\text{Concentration (ppm)} = \frac{\text{Sample Volume (mL)}}{\text{Sample Weight (g)}} \times \text{Sample Time (min)}
\]

### Project Details

**Project Name:** Area Air Monitoring Worksheet
**Sample Date:** 1/15/17
**Sample Location:** Classroom
**Sample Code:** 201211FDE
**Sample Time:** 00:00

### Field Measurement

<table>
<thead>
<tr>
<th>Date</th>
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<th>Location</th>
<th>Measurement</th>
<th>Result</th>
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</tr>
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</table>

### Field Notes

- Temperature: 70°F
- Humidity: 50%
- Wind Speed: 5 MPH
- Wind Direction: East

### Field Analysis

- PM2.5: 10 ppm
- PM10: 20 ppm

---

**Abbreviations:**
- ppm: parts per million
- mL: milliliters
- g: grams
- min: minutes

---

**References:**
- Environmental Protection Agency
- Center for Disease Control and Prevention

---

**Signature:**
[Signature]

---

**Date:** 1/15/17

---

**Envirosence, LLC**

---

**Russ O'Neil**

---

**Address:**
50 Redfield Street Suite 100 New York, NY 10226 (617) 382-6575
For Asbestos Field Analysis

Area Air Monitoring Worksheet

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<tr>
<th>Date of Inspection</th>
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<td>1200</td>
<td>15.0</td>
<td>Room B</td>
<td>Test area</td>
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<td>1200</td>
<td>18.0</td>
<td>Room C</td>
<td>Test area</td>
</tr>
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Sample Date: 07/06/00
Sample Code: 1200
Concentration (ppm): 12.0
Location: Room A
Notes: Test area

Sample Date: 07/07/00
Sample Code: 1200
Concentration (ppm): 15.0
Location: Room B
Notes: Test area

Sample Date: 07/08/00
Sample Code: 1200
Concentration (ppm): 18.0
Location: Room C
Notes: Test area

---

**Notes:**
- All samples were collected in accordance with OSHA regulations.
- Analysis was performed by a certified asbestos analyst.
- Results are subject to further review and confirmation.

---

**Support:** Envirosco Inc.
50 Federal Street Suite 100 Boston MA 02122 (617) 223-4765

---

**For Enquiries:**
- Phone: 50 Federal Street Suite 100 Boston MA 02122 (617) 223-4765
- Email: info@envirosco.com
- Website: www.envirosco.com
### Area Air Monitoring Worksheet

**For Asbestos Field Analysis**

**Environscience, Inc.**

**Russ & O'Neill**

---

**Project Number:** 2021.011.005

**Sample Date:** 12/09/2021

**Sample Name:** Sample Code: 2021.011.005

**Building Name:** Building Name

**Address:** 100 Boston Ave, MA 02126 (777) 284-4675

---

### Table: Area Air Monitoring

<table>
<thead>
<tr>
<th>Code</th>
<th>Project Activity Code</th>
<th>Project #</th>
<th>Description</th>
<th>Concentration</th>
<th>Date/Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0.03</td>
<td>Test 01</td>
<td>12.3</td>
<td>12/09/21</td>
<td>Room 15</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>0.02</td>
<td>Test 02</td>
<td>1.5</td>
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<td>Room 16</td>
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**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

**Sample Name:** Project Code

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

---

**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

---

**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

---

**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Work Area:**

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**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Received By:**

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**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

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**Sample Date:** 12/09/2021

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

**Sample Date:** 12/09/2021

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**Received By:**

**Work Area:**

**Site Address:**

**Building Name/Number:**

**Project Name:**

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**Sample Time:** Sample Time

**Sample Date:** Sample Date

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**Project Number:** 2021.011.005

**Sample Code:** 2021.011.005

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<th>Flow Rate (LPM)</th>
<th>Flow Rate (LPM)</th>
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<td>954</td>
<td>15</td>
<td>6/0</td>
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<td>12:34</td>
<td>01/001</td>
<td>954</td>
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Appendix E

Final Visual Inspection Forms
Final Visual Inspection Form

Asbestos Abatement

Date: 7/20/15

☐ Removal ☐ Encapsulation ☐ Enclosure ☐ Repair ☐ Cleanup

PROJECT NAME: Bourne High School & Otis Memorial Elementary School

BUILDING: Bourne High School

PROJECT No.: 20121411.B4E

SITE ADDRESS: Bourne, Ma

WORK AREA: 2nd Floor B-Wing

☐ Pass ☐ Fail

☐ Neg. Pressure Enclosure ☐ Mini-Enclosure ☐ Glovebag ☐ Other (Describe Below) ☐ None

CONTRACTOR: Allstate Asbestos Abatement

MATERIALS ABATED IN THIS SPECIFIC WORK AREA

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY:</th>
<th>QTY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 x 9 Floor Tile</td>
<td>555</td>
<td>555</td>
</tr>
</tbody>
</table>

SUSPECT ACM REMAINING IN THIS WORK AREA NOT SPECIFIED FOR REMOVAL

<table>
<thead>
<tr>
<th>Description</th>
<th>QTY:</th>
<th>QTY:</th>
</tr>
</thead>
</table>

SURFACES INSPECTED

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

☐ Floor ☐ Horizontal Surfaces ☐ Pipes ☐ Mechanical Equipment

☐ Duct Work ☐ Vertical Surfaces ☐ Decon Unit ☐ Contractor's Equipment

☐ Fixtures ☐ Enclosed Items ☐ Waste Load Out ☐ Other:

FIELD OBSERVATIONS

1. Negative Pressure Enclosure

Rooms 201C, 211C, 221C, 231C, 241C, 251C, 2 2nd Floor B-Wing Storage RM

AIR CLEARANCE: ☐ PCM (# of Samples= ) ☐ TEM ☐ Visual Only

ACKNOWLEDGEMENT

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector: [Signature]

I have read and understand these results.

Contractor's Supervisor: [Signature]
**Final Visual Inspection Form**

**Asbestos Abatement**

**Date:** 7/22/15  □ Removal  □ Encapsulation  □ Enclosure  □ Repair  □ Cleanup

**PROJECT NAME:** Bourne High School & Otis Memorial Elementary School

**BUILDING:** Bourne High School  **Project No.:** 20121411.B4E

**SITE ADDRESS:** Bourne, Ma

**WORK AREA:** 1st Floor C-Wing

**CONTRACTOR:** Allstate Asbestos Abatement

☐ Neg. Pressure Enclosure  □ Mini-Enclosure  □ Glovebag  □ Other (Describe Below)  □ None

### Materials Abated in This Specific Work Area

<table>
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<th>Material</th>
<th>QTY:</th>
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</thead>
<tbody>
<tr>
<td>9 x 9 Floor Tile</td>
<td>2743sf</td>
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### Suspect ACM Remaining in This Work Area Not Specified for Removal

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<thead>
<tr>
<th>QTY:</th>
</tr>
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</table>

### Surfaces Inspected

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

- ☑ Floor
- ☑ Horizontal Surfaces
- ☑ Pipes
- ☑ Mechanical Equipment
- ☑ Duct Work
- ☑ Vertical Surfaces
- ☑ Decon Unit
- ☑ Contractor's Equipment
- ☑ Fixtures
- ☑ Enclosed Items
- ☑ Waste Load Out
- ☑ Other:

### Field Observations

1 Negative Air Pressure Enclosure

- Rooms 11C, 13C, 15C, 1st Floor C-Wing Stairway

### Air Clearance:

- □ PCM (# of Samples= )
- □ TEM
- ✓ Visual Only

### Acknowledgement

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector: **Mike Caffrey**

I have read and understand these results.

Contractor's Supervisor: **Zak Senlong**
**Final Visual Inspection Form**

**Asbestos Abatement**

**Date:** 7/24/15  □ Removal  □ Encapsulation  □ Enclosure  □ Repair  □ Cleanup

**PROJECT NAME:**  
Worcester Public Schools

**BUILDING:**  
Bourne High School  Project No.: 2013141.048

**SITE ADDRESS:**  
Bourne, Ma

**WORK AREA:**  
Boys' 2nd Floor Bathroom (1st Floor Site Entrance)  □ Pass  □ Fail

**CONTRACTOR:**  
Allstate Asbestos Abatement

□ Neg. Pressure Enclosure  □ Mini-Enclosure  □ Glovebag  □ Other (Describe Below)  □ None

**MATERIALS ABATED IN THIS SPECIFIC WORK AREA**

<table>
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<th>Qty:</th>
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<td>9'' x 9'' floor tile</td>
<td>91 sf</td>
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<td>QTY:</td>
<td>Qty:</td>
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</tr>
<tr>
<td>QTY:</td>
<td>Qty:</td>
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<td>QTY:</td>
<td>Qty:</td>
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**SURFACE ACM REMAINING IN THIS WORK AREA NOT SPECIFIED FOR REMOVAL**

<table>
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<tr>
<th>QTY:</th>
<th>Qty:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
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**SURFACES INSPECTED**

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

- □ Floor
- □ Horizontal Surfaces
- □ Pipes
- □ Mechanical Equipment
- □ Duct Work
- □ Vertical Surfaces
- □ Decon Unit
- □ Contractor's Equipment
- □ Fixtures
- □ Enclosed Items
- □ Waste Load Out
- □ Other:

**FIELD OBSERVATIONS**

Two negative pressure enclosures in each bathroom

**AIR CLEARANCE:**  
□ PCM (# of Samples= )  □ TEM  □ Visual Only

**ACKNOWLEDGEMENT**

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector:  
[Signature]

I have read and understand these results.

Contractor's Supervisor:  
[Signature]
Final Visual Inspection Form
Asbestos Abatement

Date: 8/24/15  ☑ Removal  □ Encapsulation  □ Enclosure  □ Repair  □ Cleanup

PROJECT NAME: Bourne High School & Otis Memorial Elementary  
BUILDING: Otis Memorial Elementary  Project No.: 2012141.04E
SITE ADDRESS:  
WORK AREA: Room 12115 / Outside Main Office  ☑ Pass  □ Fail
CONTRACTOR: All State Abatement  

☐ Neg. Pressure Enclosure  □ Mini-Enclosure  □ Glovebag  □ Other (Describe Below)  □ None

MATERIALS ABATED IN THIS SPECIFIC WORK AREA

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<thead>
<tr>
<th>Material</th>
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<th>QTY</th>
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<table>
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Suspect ACM Remaining in This Work Area Not Specified for Removal

<table>
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<th>QTY</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</table>

Surfaces Inspected

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

☑ Floor  ☑ Horizontal Surfaces  ☑ Vertical Surfaces  ☑ Decon Unit  ☑ Contractor's Equipment  
☒ Duct Work  ☑ Enclosed Items  ☑ Waste Load Out  ☑ Mechanical Equipment  
☒ Fixtures  ☑  

Field Observations

Standard Containment with negative air pressure

Air Clearance:  
☐ PCM (# of Samples= )  ☑ TEM  ☐ Visual Only

Acknowledgement

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector: Mike O'Leary  
Contractor's Supervisor: Zak Soulor

I have read and understand these results.

PRINTED  SIGNATURE

PRINTED  SIGNATURE
Final Visual Inspection Form
Asbestos Abatement

Date: 8/29/15  □ Removal  □ Encapsulation  □ Enclosure  □ Repair  □ Cleanup

Project Name: Barre High School  JOTIS Memorial Elementary  October Elementary

Site Address:

Work Area: Exterior

Contractor: All State Abatement

Neg. Pressure Enclosure  □ Mini-Enclosure  □ Glovebag  □ Other (Describe Below)  □ None

Materials Abated in this Specific Work Area

<table>
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<tr>
<th>Material</th>
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<tbody>
<tr>
<td>Window Glazing</td>
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Suspect ACM Remaining in This Work Area Not Specified for Removal

<table>
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<tr>
<th>QTY</th>
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Surfaces Inspected

Instructions: Check surfaces that pass, Circle surfaces that fail. Strike through N/A.

- □ Floor
- □ Horizontal Surfaces
- □ Vertical Surfaces
- □ Pipes
- □ Decon Unit
- □ Mechanical Equipment
- □ Enclosed Items
- □ Contractor's Equipment
- □ Waste Load Out
- □ Critical Barriers in Place Poly on Gravel (Interior & Exterior)
- □ Other:

Field Observations

- Standard Containment with Negative Air pressure
- Critical Barriers in Place Poly on Gran (Interior & Exterior)

Air Clearance:

- □ PCM (# of Samples= )
- □ TEM
- □ Visual Only

Acknowledgement

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector: [Signature]

Contractor's Supervisor: [Signature]

I have read and understand these results.
Final Visual Inspection Form
Asbestos Abatement

Date: 8/24/15

☐ Removal  ☐ Encapsulation  ☐ Enclosure  ☐ Repair  ☐ Cleanup

PROJECT NAME: Bourne High School & Otis Memorial Elementary School

BUILDING: Otis Elementary School  Project No.: 20121141.B4E

SITE ADDRESS: Bourne, Ma

WORK AREA: Classroom 6

CONTRACTOR: Allstate Asbestos Abatement

☐ Neg. Pressure Enclosure  ☐ Mini-Enclosure  ☐ Glovebag  ☐ Other (Describe Below)  ☐ None

☐ Pass  ☐ Fail

MATERIALS ASBESTOS IN THIS SPECIFIC WORK AREA

9" x 9" Floor Tile
QTY: 3 SF  QTY:

QTY:

QTY:

QTY:

QTY:

SUSPECT ACM REMAINING IN THIS WORK AREA, NOT SPECIFIED FOR REMOVAL

QTY:

QTY:

SURFACES INSPECTED

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

☐ Floor  ☐ Horizontal Surfaces  ☐ Pipes  ☐ Mechanical Equipment

☐ Duct Work  ☐ Vertical Surfaces  ☐ Decon Unit  ☐ Contractor's Equipment

☐ Fixtures  ☐ Enclosed Items  ☐ Waste Load Out  ☐ Other:

FIELD OBSERVATIONS

1. Mini-enclosure with negative air pressure.

Floor tile was heater with a torch and removed as a whole.

Equipement without any breakage of the tile.

AIR CLEARANCE: ☐ PCM (# of Samples= )  ☐ TEM  ☐ Visual Only

ACKNOWLEDGEMENT

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector: MIKE COFFEE

I have read and understand these results.

Contractor's Supervisor:  [

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Final Visual Inspection Form

Date: 8/24/15

☐ Removal  ☐ Encapsulation  ☐ Enclosure  ☐ Repair  ☐ Cleanup

PROJECT NAME: Bourne High School & Otis Memorial Elementary School
BUILDING: Otis Elementary School  Project No.: 20121141.B4E
SITE ADDRESS: Bourne, Ma

WORK AREA: Classroom 7
CONTRACTOR: Allstate Asbestos Abatement
☐ Pass  ☐ Fail
☐ Neg. Pressure Enclosure  ☐ Mini-Enclosure  ☐ Glovebag  ☐ Other (Describe Below)  ☐ None

MATERIAL TABBED IN THIS SPECIFIC WORK AREA:

<table>
<thead>
<tr>
<th>Material</th>
<th>QTY:</th>
<th>QTY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>9&quot; x 9&quot; Floor Tile</td>
<td>8 SF</td>
<td></td>
</tr>
</tbody>
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Suspect ACM Remaining in this Work Area Not Specified for Removal:

<table>
<thead>
<tr>
<th>QTY:</th>
<th>QTY:</th>
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</thead>
</table>

Surfaces Inspected:

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

☐ Floor  ☐ Horizontal Surfaces  ☐ Pipes  ☐ Mechanical Equipment
☐ Duct Work  ☐ Vertical Surfaces  ☐ Decon Unit  ☐ Contractor's Equipment
☐ Fixtures  ☐ Enclosed Items  ☐ Waste Load Out  ☐ Other:

Field Observations:

3 separate mini-enclosures around 3 different areas in Classroom 7. Each area containing less than 3 SF of tile.
Floor tile was heated with torch and removed with cutting tool.
Equipment without any deterioration in the process of removal.

Air Clearance:

☐ PCM (# of Samples= )  ☐ TEM  ☐ Visual Only

Acknowledgement:

I acknowledge that I inspected this work area on this day.
EnviroScience Inspector: __________________________

I have read and understand these results.
Contractor's Supervisor: ________________________
Date: 8/24/15  ☐ Removal  ☐ Encapsulation  ☐ Enclosure  ☐ Repair  ☐ Cleanup

PROJECT NAME:  Bourne High School & Otis Memorial Elementary School
BUILDING:  Otis Elementary School  Project No.:  20121141.B4E
SITE ADDRESS:  Bourne, Ma
WORK AREA:  Classroom 10  ☐ Pass  ☐ Fail

CONTRACTOR:  Allstate Asbestos Abatement
☐ Neg. Pressure Enclosure  ☐ Mini-Enclosure  ☐ Glovebag  ☐ Other (Describe Below)  ☐ None

MATERIAL FALLEN IN THIS SPECIFIC WORK AREA:

<table>
<thead>
<tr>
<th>Material</th>
<th>QTY.</th>
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<tbody>
<tr>
<td>9&quot; x 9&quot; Floor Tile</td>
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_SUSPECT ACM REMAINING IN THIS WORK AREA NOT SPECIFIED FOR REMOVAL:

<table>
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<th>QTY.</th>
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</table>

SURFACES INSPECTED

Instructions: Check surfaces that pass. Circle surfaces that fail. Strike through N/A.

☐ Floor  ☐ Horizontal Surfaces  ☐ Pipes  ☐ Mechanical Equipment
☐ Duct Work  ☐ Vertical Surfaces  ☐ Decon Unit  ☐ Contractor’s Equipment
☐ Fixtures  ☐ Enclosed Items  ☐ Waste Load Out  ☐ Other:

FIELD OBSERVATIONS

4 separate mini-enclosures with negative air exhaust. There were 4 separate cracks throughout classroom 10 with less than 3 sq ft of damaged tile.

All floor tiles were removed by breaking it out, removing it as a whole component without any damage to the floor.

AIR CLEARANCE:  ☐ PCM (# of Samples= )  ☐ TEM  ☐ Visual Only

ACKNOWLEDGEMENT

I acknowledge that I inspected this work area on this day.

EnviroScience Inspector:  Mike Coffey  
I have read and understand these results.

Contractor’s Supervisor:  Zak Scullay
Appendix F

TEM Air Sample Laboratory Reports and Chain-of-Custody Forms

**Performed by EPA 40 CFR Part 763 Appendix A to Subpart E**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Volume (Liters)</th>
<th>Area Analyzed (mm²)</th>
<th>Non Asb</th>
<th>Asbestos Type(s)</th>
<th># Structures</th>
<th>Analytical Sensitivity (S/cc)</th>
<th>Asbestos Concentration (S/mm²)</th>
<th>Asbestos Concentration (S/cc)</th>
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<td>01-MC-0720-TEM</td>
<td>Room 25 C - Clearance</td>
<td>1440.00</td>
<td>0.0650</td>
<td>0</td>
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<td>≥ 0.5µ &lt; 5µ</td>
<td>0.0041</td>
<td>&lt;15.00</td>
<td>&lt;0.0041</td>
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<tr>
<td>02-MC-0720-TEM</td>
<td>Room 23 C - Clearance</td>
<td>1503.00</td>
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<td>&lt;19.00</td>
<td>0.0049</td>
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<td>03-MC-0720-TEM</td>
<td>Room 20 C - Clearance</td>
<td>1546.00</td>
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<td>04-MC-0720-TEM</td>
<td>Room 22 C - Clearance</td>
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</tr>
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<tr>
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</tbody>
</table>

**Analyst(s)**

Alexander Maxinoski (5)

Steve Grise, Laboratory Manager or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL998919

Initial report from 07/22/2015 07:35:25
### Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM)

**Performed by EPA 40 CFR Part 763 Appendix A to Subpart E**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Location</th>
<th>Volume (Liters)</th>
<th>Area Analyzed (mm²)</th>
<th>Non Asb</th>
<th>Asbestos Type(s)</th>
<th>≥ 0.5µ &lt; 5µ</th>
<th>≥ 5µ</th>
<th>Analytical Sensitivity (S/cc)</th>
<th>Asbestos Concentration (S/mm²)</th>
<th>Asbestos Concentration (S/cc)</th>
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**Analyst(s)**

Alexander Maxinoski (5)

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<th>&lt; 5µ</th>
<th>≥ 5µ</th>
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Alexander Maxinoski (5)

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Initial report from 07/24/2015 08:16:14


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<th># Structures</th>
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Not Analyzed

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