Asbestos Abatement Project Monitoring Report

July 29, 2019 through August 7, 2019
Locker Replacement Project
Roger Sherman Elementary School
250 Fern Street
Fairfield, CT

Town of Fairfield

Fairfield, CT

August 2019

FUSS & O'NEILL

56 Quarry Road
Trumbull, CT 06611

Project No. 20180955.A30

FUSS & O'NEILL

August 12, 2019

Mr. Gerald Foley
Purchasing Director
Sullivan Independence Hall, First Floor
725 Old Post Road
Fairfield, CT 06824
gfoley@fairfieldct.org

RE: Asbestos Abatement Project
July 29, 2019 through August 7, 2019
Roger Sherman Elementary School – Locker Replacement Project
250 Fern Street, Fairfield, CT
Fuss & O'Neill Project No. 20180955.A30

Dear Mr. Foley:

Enclosed please find the report for the asbestos abatement project completed at the Roger Sherman Elementary School located at 250 Fern Street in Fairfield, Connecticut.

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 Roger Sherman Elementary School. A copy should be placed at the School, as well as the central location where the Management Plans are stored.

If you have any questions regarding the enclosed report, please do not hesitate to contact me at (203) 374-3748, extension 5574. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Eduardo Miguel Marques
Senior Environmental Analyst

EMM/nw

Enclosure

56 Quarry Road
Trumbull, CT
06611
t 203.374.3748
800.286.2469
f 203.374.4391

www.fando.com

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Appendices **End of Report**

1 Introduction

Fuss & O'Neill, Inc. (Fuss & O'Neill) was retained to provide asbestos abatement project monitoring services at the Roger Sherman Elementary School located at 250 Fern Street in Fairfield, Connecticut (the "Site"). Asbestos abatement was necessary due to a locker replacement project. Asbestos abatement work occurred from July 29, 2019 through August 7, 2019. Please refer to *Appendix A* for the Fuss & O'Neill Licenses and Certifications.

Project specifications were prepared by EnviroMed Services of Meriden, Connecticut. Please refer to *Appendix B* for the Project Design. The Asbestos Abatement Contractor was AAIS, Corporation of West Haven, Connecticut (the "Contractor"). Please refer to *Appendix C* for the Contractor's License and Contractor's Workers' Certifications.

Prior to the commencement of abatement activities, pre-abatement air samples were collected by Fuss & O'Neill. Pre-abatement samples establish the ambient, or existing airborne fiber concentrations prior to the start of any abatement actions. The Contractor filed an Asbestos Abatement Notification with the State of Connecticut Department of Public Health (CTDPH) prior to the commencement of abatement activities; this can be found in *Appendix D*.

All abatement work was conducted during no children/student occupancy. See *Appendix E* for a copy of the CTDPH No Student/Children Occupancy Letter provided by the School.

Upon commencement of abatement activities, background air samples were collected for analysis using Phase Contrast Microscopy (PCM). These background samples were collected at various locations such as the entrance to the worker decontamination facility and outside critical barriers. These samples were collected and analyzed in order to monitor the air quality outside the containment during the abatement process. Comparisons were then made between pre-abatement samples and background samples. This was done in order to assess the air quality at the work site during the abatement project. PCM air samples were analyzed on-site by a trained Asbestos Project Monitor listed on the Asbestos Analyst's Registry (AAR) maintained by the American Industrial Hygiene Association (AIHA). Please refer to *Appendix F* for the Area Air Monitoring Worksheets.

Following the completion of final cleaning and encapsulation of the work areas, aggressive final air clearance sampling was performed inside the work areas to comply with state and federal regulatory requirements. Samples were analyzed Transmission Electron Microscopy (TEM) as required. TEM analyses were performed by EMSL Analytical, Inc. of Wallingford, Connecticut, a Connecticut-certified laboratory. Laboratory results are attached. Please refer to *Appendix G* for the Final Air Clearance Reports.

In addition to air sampling, Fuss & O'Neill's Environmental Technician, Michael Fazio, performed job Site inspections. Prior to the beginning of removal activities, pre-abatement inspections were conducted. This was to document that work area preparations were performed in accordance with the Project Design. During removal activities, progress inspections were conducted inside the work areas to assess work progress and work procedures for adherence to the Project Design. Pre-sealant inspections were also conducted to verify that the work areas met the no visible dust criteria prior to conducting

final air clearance. Please refer to *Appendix H* for the Fuss & O'Neill Site Logs and *Appendix I* for the Fuss & O'Neill Sign-in Sheets. In addition, Fuss & O'Neill was provided copies of the Contractor's Sign-In Logs (*Appendix J*), Daily Logs (*Appendix K*), and Personal Air Sample Results (*Appendix L*).

2 Scope of Work

The scope of the abatement work included the removal and disposal of the ACM listed for each of the following locations:

Location	Material Removed	Quantity
Front Hallway (under lockers)	Floor tile and associated mastic	75 SF
Rear Hallway (under lockers)	Floor tile and associated mastic	55 SF
Rear Hallway (under lockers)	Floor tile and associated mastic	50 SF
Room 10 (under lockers)	Floor tile and associated mastic	35 SF

3 Discussion

Summary of Asbestos Work Areas and Inspection Duties

Abatement Location	Material Type	Quantity Abated	Pre-Abatement Visual Inspection Date	Final Visual Inspection Date	PCM Final Air Clearance Date
Front Hallway (under lockers)	Floor tile and associated mastic	75 SF	7/30/19	7/31/19	7/31/19
Rear Hallway (under lockers)	Floor tile and associated mastic	55 SF	8/1/19	8/2/19	8/2/19
Rear Hallway (under lockers)	Floor tile and associated mastic	50 SF	8/6/19	8/6/19	8/6/19
Room 10 (under lockers)	Floor tile and associated mastic	35 SF	8/7/19	8/7/19	8/7/19

4 Conclusion

All work areas passed pre-sealant visual inspections prior to work area encapsulation by the contractor. Following encapsulation, aggressive final air clearance sampling (TEM) was conducted in accordance with the requirements of the CTDPH Standards for Asbestos Abatement (19a-332a-1 through 19a-332a-16) and the United States Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) Regulation (40 CFR Part 763 Final Rule and Notice). All work areas passed final air clearance. Please refer to *Appendix M* for a copy of the Final Visual Inspection Forms.

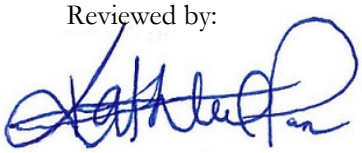
All work was performed within the allotted time frame. There were no delays caused by, or incurred by, the Contractor.

A copy of the Waste Shipment Record was provided by the Contractor and can be found in *Appendix N*.

Prepared by:

Eduardo Miguel Marques
Senior Environmental Analyst

Reviewed by:



Kathleen C. Pane
Associate

Appendix A

Fuss & O'Neill License and Certification

1000768 01 AB 0.409 **AUTO T3 0 1164 06040-599246 -C01-P00770-I

MICHAEL R FAZIO
FUSS & O'NEILL INC
146 HARTFORD RD
MANCHESTER CT 06040-5992

Dear MICHAEL R FAZIO,

Attached you will find your validated certificate for the coming year. Should you have any questions about your certificate renewal, please do not hesitate to write or call:

Department of Public Health
P.O. Box 340308
M.S.#12MQA
Hartford, CT 06134-0308

(860) 509-7603
oplc.dph@ct.gov
www.ct.gov/dph/license

Sincerely,

RENÉE D. COLEMAN-MITCHELL, MPH, COMMISSIONER
DEPARTMENT OF PUBLIC HEALTH

1000768-0000773-0000001 of 0000001-C01-a1d00101-1164-00770

EMPLOYER'S COPY

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
MICHAEL R FAZIO

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-761625	000861	12/31/19

PROFESSION
ASBESTOS CONSULTANT-PROJECT MONITOR

SIGNATURE COMMISSIONER

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED
BY THIS DEPARTMENT AS A
ASBESTOS CONSULTANT-PROJECT MONITOR

MICHAEL R FAZIO

CERTIFICATE NO.
000861

CURRENT THROUGH
12/31/19

VALIDATION NO.
03-761625

SIGNATURE COMMISSIONER

INSTRUCTIONS:

1. Detach and sign each of the cards on this form
2. Display the large card in a prominent place in your office or place of business.
3. The wallet card is for you to carry on your person. If you do not wish to carry the wallet card, place it in a secure place.
4. The employer's copy is for persons who must demonstrate current licensure/certification in order to retain employment or privileges. The employer's card is to be presented to the employer and kept by them as a part of your personnel file. Only one copy of this card can be supplied to you.

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
MICHAEL R FAZIO

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-761625	000861	12/31/19

PROFESSION
ASBESTOS CONSULTANT-PROJECT MONITOR

SIGNATURE COMMISSIONER

Certificate of Training

Awarded to

This program was presented at Fuss & O'Neill Incorporated in Manchester, CT with the prior approval of the CT DPH.

MIKE FAZIO

For successful completion of a 40 (forty) hour

Asbestos Project Monitor Initial Course

JANUARY 11-17, 2019

This training was approved and given in accordance with Regulations for Connecticut State Agencies RCSA 20-440 - 1-9 and meets the requirements for the EPA Revised MAP Under TSCA Title II of 4/4/94

Presented by

Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, CT 06340 (800) 247-7746

Certificate Number: APM27246 **Exam Grade:** 97 **Exam Date:** 01/17/2019 **Expiration Date:** 01/17/2020

Christopher J. Eident, CIH, CSP, RS

George Williamson, Training Director

Richard Haffey, Training Director

Appendix B

Project Design

COMMITMENT & INTEGRITY
DRIVE RESULTS

40 Shattuck Road
Suite 110
Andover, Massachusetts 01810
www.woodardcurran.com

T 866.702.6371
T 978.557.8150
F 978.557.7948

Via Electronic Mail

May 30, 2019

Mark A. Schweitzer, P.E.
Project Manager
Colliers International
135 New Road
Madison, CT 06443

Re: **Asbestos Abatement Specification**
Locker Replacement Project – Roger Sherman Elementary School
Fairfield, Connecticut

Dear Mr. Schweitzer:

Please find attached an Asbestos Abatement Specification for the abatement of asbestos containing floor tiles and associated adhesives that will be removed as part of the upcoming locker replacement project at the Roger Sherman Elementary School located at 250 Fern Street in Fairfield, Connecticut. As presented in the May 1, 2019 Hazardous Building Materials Survey Report, asbestos containing floor tiles and associated adhesives were identified beneath the lockers.

In accordance with our authorized scope of work, Woodard & Curran subcontracted the development of the required asbestos abatement specification to EnviroMed Services of Meriden, Connecticut. EnviroMed's CT DPH certified Asbestos Abatement Project Designer prepared the technical specification for abatement of the floor tile in accordance with the applicable state and federal regulations.

In addition to the technical specification, we have also attached a hazardous materials abatement drawing (HM100) developed for inclusion in the project design documents. This drawing was developed by EnviroMed Services based on the existing drawings provided by the project team. EnviroMed modified the drawing to include both general and abatement key notes as well as anticipated work areas and filtration unit locations.

Following your review of the specification, please let us know if you have any questions or require additional information. Woodard & Curran appreciates the opportunity to assist the Town of Fairfield and the Roger Sherman design team on this project. If you have any questions or require further information, please feel free to email me at gfranklin@woodardcurran.com or call me at (978) 482-7867.

Sincerely,

WOODARD & CURRAN INC.

George J. Franklin, CHMM
Technical Manager

cc: Gerald Foley, Town of Fairfield
Sal Morabito, Fairfield Public Schools

Enclosures: Attachment A – Asbestos Abatement Specification
Attachment B – HM100 Locker Abatement Plan

ATTACHMENT A: ASBESTOS ABATEMENT SPECIFICATION

SECTION 02 82 16 - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 SCOPE

A. The work specified herein shall be the abatement of asbestos-containing materials by persons who are knowledgeable, qualified, and trained in the removal, treatment, handling, and disposal of asbestos-containing material, and the subsequent cleaning of the affected environment. The Contractor shall have a Competent Person in control on the job site at all times during asbestos abatement work. This person must comply with applicable Federal, State and Local regulations which mandate work practices, and be capable of performing the work of this contract.

B. The Contractor shall be licensed by the State of Connecticut in accordance with State of Connecticut Regulations, Sections 20-440-1 through 9 & 20-441. The asbestos supervisor and workers shall be licensed by the State of Connecticut in accordance with State of Connecticut Regulations, Sections 20-437 and 20-438. Should any portion of the work be subcontracted, the subcontractor must also be licensed in accordance with these regulations. The licensing requirements are available from the Environmental Health Services Division, Department of Public Health, 410 Capitol Avenue, MS#51AIR, P.O. Box 340308, Hartford, CT 06134.

C. The Town of Fairfield (Owner) will retain the services of a Project Monitor for protection of its interests and those using the building. Pre-abatement, during abatement and post-abatement sampling will be conducted as deemed necessary.

D. Deviations from this Specification require the written approval of the Town of Fairfield.

E. The Contractor is responsible for restoring all work areas and auxiliary areas utilized during abatement to conditions equal to or better than original. Any damage caused during the performance of abatement activities shall be repaired by the Contractor (e.g., paint peeled off by barrier tape, nail holes, water damage, removal of ceiling tiles or concrete blocks, broken glass, etc.) at no additional expense to the Owner. The Contractor is responsible for protecting all objects in work areas that are permanent fixtures or too large to remove.

F. The Contractor shall be responsible for the following general requirements:

1. Obtain all approvals and permits, and submit all notifications required.

2. Provide, erect, and maintain all planking, bracing, shoring, barricades, and warning signs.

3. Unless otherwise specified, all equipment, fixtures, piping and debris resulting from demolition shall become the property of the Contractor and shall be removed from the premises.

4. Materials to be reused shall be removed with the utmost care to prevent damage of any kind. All material to be reused shall be stored as directed. The Contractor shall coordinate with the Owner as to the storage location.

5. Materials not scheduled for reuse shall be removed from the site and disposed of in accordance with all applicable Federal, State and Local requirements.

G. It shall be the responsibility of the Contractor to protect and preserve in operating condition, all utilities traversing the building and site. Damage to any utility due to work under this Contract shall be repaired to the satisfaction of the Owner at no cost to the Owner.

1.2 DESCRIPTION OF WORK

A. The Contractor shall supply all labor, materials, equipment, services, insurance (with specific coverage for work on asbestos), and incidentals which are necessary or required to perform the work in accordance with applicable governmental regulations and these specifications.

B. The asbestos abatement work shall include the removal of asbestos-containing vinyl floor tile under the lockers in Roger Sherman School as shown on Drawing HM100 and specified herein. The work also includes cleaning the concrete floor under the lockers free of dust, dirt, debris, and flooring mastic during abatement. Dispose of removed dust, dirt, debris, and flooring mastic as asbestos-contaminated waste.

1.3 DEFINITIONS

Adequately Wet - Sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

AHERA - Asbestos Hazard Emergency Response Act - U. S. EPA regulation 40 CFR Part 763 under Section 203 of Title II of the Toxic Substances Control Act (TSCA), 15 U.S.C. 2643. This rule mandates inspections, accreditations of persons involved with asbestos, and final air clearances following abatement in public and private schools.

Alternative Work Practice (AWP) - Deviation from Asbestos Standards (Sections 19a-332a-1 to 19a-332a-16 inclusive). Deviation requires a written approval letter from the State of Connecticut Department of Public Health and the Owner.

Asbestos - The term asbestos includes chrysotile, amosite, crocidolite, asbestiform tremolite, anthophyllite asbestos, actinolite asbestos and any of these minerals that has been chemically treated and/or altered.

Asbestos Abatement - The removal, encapsulation, enclosure, renovation, repair, demolition or other disturbance of asbestos-containing materials except activities which are related to the removal or repair of asbestos cement pipe and are performed as defined in Section 25-32a of the Connecticut General Statutes.

Asbestos-Containing Material (ACM) - Any material containing more than one percent asbestos.

Asbestos-Containing Waste Materials - Mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this subpart. This term includes filters from control devices, friable asbestos waste material, and bags or other similar packaging contaminated with commercial asbestos. As applied to demolition and renovations operations, this term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

Asbestos Control Area - An area where asbestos abatement operations are performed which is isolated by physical boundaries which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris. Two examples of an Asbestos Control Area are a "full containment" and a "glove-bag."

Asbestos Fiber - A particulate form of asbestos, tremolite, anthophyllite, actinolite, or a combination of these minerals having a length of five micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

Authorized Asbestos Disposal Facility - A location approved by the Connecticut Department of Energy and Environmental Protection for handling and disposing of asbestos waste or by an equivalent regulatory agency if the material is disposed of outside the State of Connecticut.

Category I Non-Friable Asbestos-Containing Material (ACM) -Asbestos-containing packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1 percent asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy.

Category II Non-Friable ACM - Any material, excluding Category I non-friable ACM, containing more than 1 percent asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Competent Person - Individual capable of identifying existing asbestos, tremolite, anthophyllite, or actinolite hazards and corrective measures to eliminate them, as specified in 29 CFR 1926.32. The duties of the Competent Person include at least the following: establishing the pressure differential, ensuring its integrity, and controlling entry to and exit from the enclosure; supervising any employee exposure monitoring required by the standard; ensuring that all employees working within such an enclosure wear the appropriate personal protective equipment, are trained in the use of appropriate methods of exposure control, and use the hygiene facilities and decontamination procedures specified; and ensuring that engineering controls in use are in proper operating condition and are functioning properly.

Concealed Space - Space which is out of sight. Examples of a concealed space include area above ceilings; below floors; between double walls; furred-in areas; pipe and duct shafts; and similar spaces.

Critical Barrier - A minimum of two layers of six (6) mil polyethylene sheeting taped securely over windows, doorways, diffusers, grilles and any other openings between the Work Area and uncontaminated areas outside of the Work Area, including the outside of the building. Three layers of 6 mil poly sheeting shall be used on free-standing walls and ceilings exceeding 15 SF in area.

Decontamination Enclosure System - A series of rooms separated from the Work Area and from each other by air locks, for the decontamination of workers and equipment.

Demolition - The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

DEEP - The Connecticut Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106.

DPH - The Connecticut Department of Public Health, 410 Capitol Avenue, MS#51AIR, P.O. Box 340308, Hartford, CT 06134.

Differential Pressure - A difference in the static air pressure between the Work Area and occupied areas, and is developed by the use of HEPA filtered exhaust fans. This differential is generally in the range of 0.02 to 0.04 inches of water column.

Encapsulant - Specific materials in various forms used to chemically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulant as follows:

a) Removal Encapsulant (can be used as a wetting agent).

b) Bridging Encapsulant (used to provide a tough durable surface coating to asbestos-containing material).

c) Penetrating Encapsulant (used to penetrate the asbestos containing material down to substrate, encapsulating all asbestos fibers).

d) Lock-down Encapsulant (used to seal off "lock-down" minute asbestos fibers left on surfaces from which asbestos containing materials have been removed).

Encapsulation - The application of an encapsulant to asbestos-containing building materials to control the possible release of asbestos fibers into the air.

Engineering Controls - Controls to include, but not be limited to, pressure differential equipment, decontamination enclosures, critical barriers and related procedures.

Equipment Decontamination Enclosure System - The portion of a Decontamination Enclosure System designed for controlled transfer of materials and equipment into or out of the Work Area, typically consisting of a Washroom and a Holding Area.

Exposed - Open to view.

Finished Space - Space used for habitation or occupancy where rough surfaces are plastered, paneled or otherwise treated to provide a pleasing appearance.

Fixed Critical Barrier - Barrier constructed of 2" x 4" metal framing 16" O.C., with 1/2" wallboard on the occupied side and ½" wallboard and two layers of six (6) mil polyethylene sheeting on the Work Area side to prevent unauthorized access or air flow.

Fixed Object - A piece of equipment or furniture in the Work Area which cannot be removed from the Work Area, as determined by the Owner.

Friable Asbestos Material - Material containing more than 1 percent asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR part 763, Section 1, Polarized Light Microscopy, that when dry can be crumbled, pulverized or reduced to powder by hand pressure. If the asbestos content is less then 10 percent as determined by a method other than point counting by polarized light microscopy (PLM), verify the asbestos content by point counting using PLM.

Glove-Bag - A sealed compartment with attached inner gloves used for the handling of asbestos-containing materials. Properly installed and used glove bags provide a small Work Area enclosure typically used for small scale asbestos stripping operations. Information on glove-bag installation, equipment and supplies, and work practices is contained in the Occupational Safety and Health Administration's (OSHA's) final rule on occupational exposure to asbestos (29 CFR 1926.1101).

Glove-Bag Technique - A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces in a non-contaminated work area. The glove-bag assembly is a manufactured or fabricated device consisting of a glove-bag (typically constructed of six (6) mil polyethylene or polyvinyl chloride plastic), two inward projecting long sleeves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glove-bag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process.

High-efficiency particulate air (HEPA) A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles 0.3 microns in diameter.

Lock-down - The procedure of spraying polyethylene sheeting and building materials with an encapsulant type sealant to seal in non-visible asbestos-containing residue.

Movable Object - A piece of equipment or furniture in the Work Area which can be removed from the Work Area, as determined by the Owner.

Non-Friable Asbestos-containing Material - Material containing more than 1 percent asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy, that when dry cannot be crumbled, pulverized or reduced to powder by hand pressure.

Permissible Exposure Limit (PEL) - An airborne concentration of asbestos, tremolite, anthophyllite, actinolite or a combination of these minerals of 0.1 fibers per cubic centimeter (f/cc) of air calculated as an eight (8) hour time-weighted average, as determined by Phase Contrast Microscopy.

Personal Monitoring - Air sampling within the breathing zone of an employee.

Pre-Clean - The process of cleaning an area before asbestos abatement activities begin to ensure all dust and debris in the area considered to be asbestos-containing are properly contained and disposed of. This increases the likelihood the area will pass aggressive air sampling clearance requirements after asbestos-containing materials have been removed.

Regulated Area - Area established by the employer to demarcate areas where airborne concentrations of asbestos, tremolite, anthophyllite, actinolite or a combination of these minerals exceed, or can reasonably be expected to exceed, the Permissible Exposure Limit.

Regulated Asbestos-Containing Material (RACM) - (a) Friable asbestos material, (b) Category I non-friable ACM that has become friable, (c) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading, or (d) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Renovation - Altering a facility or one or more facility components in any way, including the stripping or removal of RACM from a facility component. Operations in which load-supporting members are wrecked or taken out are demolitions.

Repair - Overhauling, rebuilding, reconstructing or reconditioning of structures or substrates where asbestos, tremolite, anthophyllite or actinolite is present.

Unfinished Space - Space used for storage, utilities or work area where appearance is not a factor. Examples of an unfinished space include crawlspace; pipe tunnel and similar spaces.

Visible Emissions - Any emissions, which are visually detectable without the aid of instruments, coming from RACM or asbestos-containing waste material or from any asbestos milling, manufacturing, or fabricating operation. This does not include condensed, uncombined water vapor.

Visible Residue - Any debris or dust on surfaces in areas within the Work Area where asbestos abatement has taken place and which is visible to the unaided eye. All visible residue is assumed to contain asbestos.

Waste Generator - Any owner or operator of a source whose act or process produces asbestos-containing waste material.

Waste Shipment Record - The shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

Wet Cleaning - The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and afterwards thoroughly decontaminated or disposed of as asbestos-contaminated waste.

Work Area - Specific area or location where the actual work is being performed or such other area of a facility which the Commissioner determines may be hazardous to public health as a result of such asbestos abatement.

Worker Decontamination Enclosure System - The portion of a Decontamination Enclosure System designed for controlled passage of workers and authorized visitors, typically consisting of a Clean Room, a Shower Room and an Equipment Room.

1.4 REFERENCES

A. The current issue of each document shall govern. Where conflict among requirements or with these specifications exists, the more stringent requirements shall apply.

1. Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1001 - Asbestos, Tremolite, Anthophyllite, and Actinolite.

29 CFR 1910.134 - Respiratory Protection.

29 CFR 1926.21 - Safety Training and Education

29 CFR 1926.32 - Definitions

29 CFR 1926.51 - Sanitation

29 CFR 1910.134 - Gases, Vapors, Fumes, Dusts, and Mists

29 CFR 1926.59 - Hazard Communication.

29 CFR 1926.200 - Accident Prevention Signs and Tags.

29 CFR 1926.417 - Lockout and Tagging of Circuits.

29 CFR 1926.1101 - Asbestos

2. Environmental Protection Agency (EPA)

40 CFR 61, Subpart M - National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule.

40 CFR 763, Subpart E - Asbestos Hazard Emergency Response Act (AHERA).

40 CFR 763, Subpart G - Worker Protection Rule.

3. State of Connecticut, Department of Public Health Regulations (DPH)

Section 19a-332a-1 through 19a-332a-16 - Standards for Asbestos Abatement.

Section 20-440-1 through 20-440-9 and 20-441 Licensure and Training.

4. American National Standards Institute (ANSI)

ANSI Z9.2 - Fundamentals Governing the Design and Operation of Local Exhaust Systems.

ANSI Z88.2 - Respiratory Protection.

5. American Society of Testing and Materials (ASTM)

ASTM E 84 - Surface Burning Characteristics of Building Materials.

ASTM E 96 - Water Vapor Transmission of Materials.

ASTM E 119 - Fire Tests of Building and Construction Materials.

ASTM E 736 - Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members.

ASTM E 1368 - Visual Inspection of Asbestos Abatement Projects.

ASTM E 1494 - Encapsulants for Spray- or Trowel-Applied Friable Asbestos-Containing Building Materials.

6. Underwriters Laboratories, Inc. (UL)

UL 586 - High-Efficiency, Particulate, Air Filter Units.

1.5 DOCUMENTATION

A. Submit two copies of the following documentation to ensure compliance with the applicable regulations. An up to date copy shall be retained at the job site at all times.

B. Manufacturer's Catalog Data:

SDS for All Materials Delivered to the Site

C. Statements:

Connecticut Notification
EPA Notification
Worker Medical Certification
Worker Training Certification
Worker Respirator Fit Testing
Worker Asbestos Licenses
OSHA Laboratory Certification for personal sample analysis
Landfill Approval
Safety Plan
Respirator Protection Plan
Initial Exposure Assessment

1. Submit notification to the following agencies at least ten (10) working days before work commences on the project:

   a. Department of Public Health
   Environmental Health Section
   450 Capitol Avenue, MS#51AIR
   P.O. Box 340308
   Hartford, CT 06134-0308

   b. Asbestos Demo/Reno Notifications
   US EPA Region 1
   5 Post Office Square, Mail Code OES05-4
   Boston, MA 02109-3912

2. Copies of all required notifications, approvals and permits for the removal, disposal and transport asbestos-containing or contaminated materials.

3. Documentation from a physician certifying that all employees who may be exposed to airborne asbestos in excess of the background level have been provided medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health affects. In addition, document that personnel have received medical monitoring required in 29 CFR 1926.1101. They shall also be informed of the specific types of respirators the employee shall be required to wear and the work he/she will be required to perform as well as special work place conditions such as high temperature, high humidity and chemical contaminants to which he/she may be exposed.

4. Documentation certifying that all employees have received training in the proper handling of materials that contain asbestos; understand the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis.

5. Documentation of respiratory fit testing for all employees who must enter the Work Area. This fit testing shall be in accordance with qualitative procedures as detailed in 29 CFR 1926.1101.

6. Qualifications of the person proposed for air sampling to assure workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.1101. Include the name and address of the testing laboratory proposed to perform air sample analysis on behalf of the Contractor, along with their NIOSH PAT Program I.D. number.

7. Establish and supervise in accordance with 29 CFR 1926.21, a program for the education and training of workers in the recognition, avoidance and prevention of unsafe conditions and the regulations applicable to the work environment to control or eliminate any hazards or other exposure to illness or injury. Include any site specific information to address health and safety procedures unique to this project.

8. Establish a written Respiratory Protection Plan in accordance with 29 CFR 1910.134. This plan shall establish procedures governing the selection and use of respirators and shall include such information as training in the proper use of respirators; medical examination of workers to determine whether or not they may be assigned an activity where respiratory protection is required; training in proper use and limitations of respirators; respirator fit testing; regular inspection and evaluation of the continued effectiveness of the program; and other elements included in the standard.

9. Demonstrate that employees exposure will be below the PEL's. For Class I asbestos work until the employer conducts exposure monitoring and documents that employees on that job will not be exposed in excess of the PEL's, or otherwise makes a negative exposure assessment, the employer shall presume that employees are exposed in excess of the TWA and excursion limit.

D. Records:

Sign-in/out Logs
Personal Air Sampling Results
Waste Shipment Records
Pressure Differential Recording Data

1.6 PERSONNEL PROTECTION

A. Instruct workers in all aspects of personnel protection, work procedures, emergency evacuation procedures and use of equipment including procedures unique to this project.

B. Ensure workers are fully protected with respirators and protective clothing during work in the Asbestos Control Area.

C. Respiratory protection shall meet the requirements of OSHA as required in 29 CFR 1910.134 and 29 CFR 1926.1101. Provide appropriate respiratory protection for each worker and ensure usage during potential asbestos exposure.

D. Select respirators from among those jointly approved as being acceptable for protection by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11. Provide an adequate supply of filter elements for respirators in use.

E. Minimum respiratory protection shall be as follows:

Airborne concentration of asbestos, tremolite, anthophyllite, actinolite or a combination of these minerals.	Required Respirator
Not in excess of 10 f/cc (100 x PEL)	1. Any powered air purifying respirator equipped with high efficiency filters. 2. Any supplied-air respirator operated in continuous flow mode.
Not in excess of 100 f/cc (1000 x PEL)	1. Full facepiece supplied supplied air respirator operated in pressure demand mode.
Greater than 100 f/cc (>1000 x PEL) or unknown concentration	1. Full facepiece supplied air respirator operated in pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus.

Note: 1. Respirators assigned for higher airborne fiber concentrations may be used at lower concentrations.

2. A high-efficiency filter means a filter that is at least 99.97 percent efficient against mono-dispersed particles of 0.3 micrometers in diameter or larger.

F. Provide and require all workers to wear protective clothing in Asbestos Work Areas. Protective clothing shall include impervious coveralls with elastic wrists and ankles, head covering, gloves and foot coverings.

G. Provide all authorized persons entering contaminated areas with proper respirators and protective clothing.

H. Ensure that all workers and authorized persons enter and leave the Asbestos Control Area through the Worker Decontamination Enclosure System.

I. Ensure all contaminated protective clothing remains in the Equipment Room for reuse or disposal of as contaminated waste.

J. Ensure workers do not eat, drink, smoke or chew gum or tobacco while in the Asbestos Control Area.

1.7 EQUIPMENT REMOVAL PROCEDURE

A. Clean surfaces of contaminated containers and equipment thoroughly by vacuuming with HEPA filtered equipment and wet wiping before moving such items into the Equipment Decontamination Enclosure System for final cleaning and removal to uncontaminated areas. Ensure that personnel do not leave the Asbestos Control Area through the Equipment Decontamination Enclosure System.

1.8 SEQUENCE OF WORK

A. Proceed in accordance with the sequence of work as mutually agreed upon with the Construction Manager. Work shall be divided into convenient Work Areas, each of which is to be completed as a separate unit.

B. The following sequence of work shall be used for the asbestos abatement work:

1. A visual inspection of the Work Area to determine pre-existing damage to facility components.

2. Release of floor area (Phase) to the Contractor.

3. All temporary utilities required for the project shall be on site and operational prior to the initiation of asbestos work.

4. Abatement of all asbestos-containing materials by the Contractor.

5. Air sampling by the Project Monitor for reoccupancy.

6. Containment tear-down and clean-up.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name and product technical description. Do not use damaged or deteriorating materials. Material that becomes contaminated with asbestos shall be decontaminated or disposed of as asbestos waste.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fire retardant polyethylene sheet in roll size to minimize the frequency of joints, shall be delivered to job site with factory label indicating four (4) or six (6) mil.

B. Polyethylene disposable bags shall be six (6) mil with pre-printed label. Disposable bags shall be opaque.

C. Tape shall be capable of sealing joints in adjacent polyethylene sheets and for attachment of polyethylene sheet to finished or unfinished surfaces. Tape must be capable of adhering under both dry and wet conditions.

D. Surfactant (wetting agent) shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, or equivalent, and shall be mixed with water to provide a concentration one (1) ounce surfactant to five (5) gallons of water or as directed by the manufacturer.

E. Containers must be impermeable and shall be both air and watertight. Containers shall be labeled in accordance with OSHA Standard 29 CFR 1926.1101 and EPA 40 CFR Part 61.152 as appropriate.

F. Labels and signs shall conform to OSHA Standard 29 CFR 1926.1101.

G. Encapsulant shall be bridging or penetrating type which has been approved by the Design Consultant. Usage shall be in accordance with manufacturer's printed technical data. Encapsulant must be compatible with new materials being installed. Encapsulant shall dry clear.

2.2 TOOLS AND EQUIPMENT

A. Tools and equipment shall be suitable for asbestos removal.

B. Protective clothing, respirators, filter cartridges, air filters and sample filter cassettes shall be provided in sufficient quantities for the project.

C. Electrical equipment, protective devices and power cables shall conform to all applicable codes.

D. Shower stalls and plumbing shall include sufficient hose length and drain system or an acceptable alternate. Showers shall be equipped with hot and cold or warm running water. One shower stall shall be provided for each eight workers.

E. Exhaust air filtration units shall be equipped with HEPA filters capable of providing sufficient air exhaust to create a minimum pressure differential of 0.02 inches of water column, and to allow a sufficient flow of air through the area. An automatic warning system shall be incorporated into the equipment to indicate pressure drop or unit failure. No air movement system or air filtering equipment shall discharge unfiltered air outside the Asbestos Control Area.

F. Pressure differential monitoring equipment shall be provided to ensure exhaust air filtration devices provide the minimum pressure differential required between the Work Area and occupied areas of the facility.

G. Spray equipment shall be capable of mixing wetting agent with water and capable of generating sufficient pressure and volume. Hose length shall be sufficient to reach all of the Asbestos Control Area.

H. Vacuum units, of suitable size and capabilities for the project, shall have HEPA filters capable of trapping and retaining at least 99.97 percent of all monodispersed particles of 0.3 microns in diameter or larger.

I. Ladders and/or scaffolds shall be of adequate length, strength and sufficient quantity to support the work schedule.

J. Other materials such as lumber, nails and hardware necessary to construct and dismantle the decontamination enclosures and the barriers that isolate the Work Area shall be provided as appropriate for the work.

PART 3 - EXECUTION

3.1 PREPARATION OF WORK AREA ENCLOSURE SYSTEM

A. Prior to beginning work, the Owner, Design Consultant, and Contractor shall conduct a pre-abatement meeting, perform a visual survey of each Work Area and list all pre-existing damage to building components. The Contractor shall submit to the Owner a list which shall include all damaged areas not scheduled to be repaired under this Contract and include photographs, video tapes as applicable.

B. Post warning signs meeting the specifications of OSHA 29 CFR 1910 and 29 CFR 1926.1101 at each Regulated Area. In addition, signs shall be posted at all approaches to Regulated Areas so that an employee may read the sign and take the necessary protective steps before entering the area. Additional signs may require posting following construction of work place enclosure barriers.

C. Utilize engineering controls and personnel protective equipment while installing enclosures and supports when asbestos-containing materials may be disturbed.

D. When feasible, shut down and lock out electrical power, including all receptacles and light fixtures. Protect receptacles and light fixtures remaining in the Work Area with six (6) mil polyethylene and seal with tape. Coordinate all power isolation with the Owner.

E. Provide temporary power and lighting and ensure safe installation, including ground fault protection, of temporary power sources and equipment in compliance with applicable electrical code and OSHA requirements. The Contractor is responsible for proper connection and installation of electrical wiring.

F. Shut down and isolate heating, cooling, and ventilating air systems to prevent contamination and fiber dispersal to other areas of the building. Seal all vents.

G. Pre-clean 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.

H. Pre-clean fixed objects within the proposed Work Areas, using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclose with two layers of six (6) mil polyethylene sheeting sealed with tape.

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

J. Seal off all windows, doorways, skylights, ducts, grilles, diffusers, and any other openings between the Work Area and the uncontaminated areas outside of the Work Area with critical barriers. Doorways and corridors which will not be used for passage during work must be sealed with fixed critical barriers.

K. Cover floor and wall surfaces with polyethylene sheeting sealed with tape. Polyethylene shall be applied alternately to floors and walls. Cover floors first, with a layer of six (6) mil polyethylene sheeting, so that polyethylene extends at least twelve (12) inches up on walls. Cover walls with a layer of four (4) mil polyethylene sheeting to twelve (12) inches beyond the wall floor intersection, thus overlapping the floor material by a minimum of twenty-four (24) inches. Repeat the process for the second layer of polyethylene. There shall be no seams in the plastic sheet at wall-to-floor joints.

L. Conspicuously label and maintain emergency and fire exits from the Asbestos Control Area satisfactory to fire officials.

M. No asbestos abatement (including prep work and containment tear-down) may occur with children under age 18 in the school building.

3.2 WORKER DECONTAMINATION ENCLOSURE SYSTEM

A. Establish contiguous to the Work Area, a Worker Decontamination Enclosure System consisting of Equipment Room, Shower Room and Clean Room in series. Access to the Work Area shall only be through this enclosure.

B. Access between rooms in the Worker Decontamination Enclosure System shall be through double flap curtained openings (air locks). Other effective designs are permissible. The Clean Room, Shower Room and Equipment Room located within the Worker Decontamination Enclosure, shall be completely sealed ensuring sole source of air flow into the Asbestos Control Area originates from the outside uncontaminated areas.

C. The Clean Room shall be adequately sized to accommodate workers and shall be equipped with a suitable number of hooks, lockers, shelves, etc., for workers to store personal articles and clothing. Changing areas of the Clean Room shall be suitably screened from areas occupied by the public.

D. The Shower Room shall be of sufficient capacity to accommodate the number of workers. Supply warm water to showers. Provide one shower for each eight workers. No worker or other person shall leave an Asbestos Control Area without showering. Shower water shall be collected and filtered using best available technology and dumped down an approved drain.

E. No personnel or equipment shall be permitted to leave the Asbestos Control Area unless just decontaminated by showering, wet cleaning or HEPA vacuuming to remove all asbestos debris. No asbestos-contaminated materials or persons shall enter the Clean Room.

3.3 EQUIPMENT DECONTAMINATION ENCLOSURE SYSTEM

A. Establish contiguous to the Work Area an Equipment Decontamination Enclosure System consisting of two (2) totally enclosed chambers divided by a double flap curtained opening. Other effective designs are permissible. This enclosure must be constructed so as to ensure that no personnel enter or exit through this unit.

3.4 SEPARATION OF WORK AREAS FROM OCCUPIED AREAS

A. Occupied areas and/or building space not within the Asbestos Control Area shall be separated from asbestos abatement Work Areas by means of airtight barriers. Barriers at openings with dimensions exceeding two (2) feet in both directions shall be blocked with fixed critical barriers.

B. Do not impair required building exits from any occupied building area. Where normal exits have been blocked by the asbestos work, provide temporary exit signs directing building occupants to the nearest available exit location.

C. Visually inspect and smoke test NPE barriers to assure an effective seal. Repair defects immediately.

D. Create a pressure differential in the range of 0.02 to 0.04 inches of water column between the Work Area and occupied areas by the use of acceptable pressure differential equipment. Provide a sufficient quantity of units to exhaust the volume of air within the Asbestos Control Area a minimum of four times per hour. Continuously monitor the pressure differential between the Work Area and occupied areas utilizing recording type equipment to ensure exhaust air filtration equipment maintains a minimum pressure differential of 0.02 inches of water column.

3.5 ASBESTOS REMOVAL – INTERIOR ABATEMENT

A. A Competent Person shall be on the job at all times to ensure the establishment and maintenance of the NPE and proper work practices throughout the project. Before beginning work within the

NPE and at the beginning of each shift, the NPE shall be inspected for breaches and smoke tested for leaks, and any leaks sealed. Results of NPE inspections shall be logged.

B. Do not begin abatement work until authorized by the Project Monitor.

C. Spray asbestos materials with amended water, using airless spray equipment capable of providing a "mist" application to reduce the release of fibers during the removal operation.

D. In order to maintain indoor asbestos concentrations at a minimum, remove the wet asbestos in manageable sections. Materials shall not be allowed to dry out. Material drop shall not exceed 8 feet. For heights up to 15 feet provide inclined chutes or scaffolding to intercept drop. For heights exceeding 15 feet provide enclosed dust-proof chutes.

E. Fill disposal containers (six (6) mil polyethylene bags or fiber drums) as removal proceeds, seal filled containers, apply caution labels and clean containers before removal to wash area. Bags shall be securely sealed to prevent accidental opening and leakage by taping in gooseneck fashion. Bags may be placed in drums for staging and transportation to the disposal site. Bags shall be decontaminated by wet cleaning and HEPA vacuuming before being placed in clean drums and sealed with locking ring tops. Vinyl asbestos floor tile removed shall be placed in polypropylene burlap bags and then double poly bagged. Small components and asbestos containing waste with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting) which could tear polyethylene bags and sheeting shall be placed in polypropylene burlap bags and then double poly bagged. Wet clean each container thoroughly before moving to Holding Area. Ensure that workers do not enter from uncontaminated areas into the Washroom or the Work Area. Ensure that contaminated workers do not exit the Work Area through the Equipment Decontamination Enclosure.

F. After completion of stripping work, all surfaces from which asbestos has been removed shall be wet brushed, using a nylon brush, wet wiped and sponged or cleaned by an equivalent method to remove all visible material (wire brushes are not permitted). During this work the surfaces being cleaned shall be kept wet.

G. If at any time during asbestos removal, should the Project Monitor suspect contamination of areas outside the Work Area, the Contractor shall stop all abatement work and take 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 determine decontamination.

H. Containerize asbestos-containing waste material removed daily. Do not allow ACM to remain on the floor overnight, allowing it to dry out.

3.6 ASBESTOS REMOVAL – EXTERIOR ABATEMENT – Not Used

3.7 ALTERNATIVE WORK PRACTICE (AWP) PROCEDURES

A. The procedures described in this specification are to be utilized as the basis for bidding this project.

B. Alternative procedures require written letters of approval from the following parties:

1. Department of Public Health – Asbestos Program

The Contractor may not conduct asbestos removal utilizing the Alternative Work Practice until the written Alternative Work Practice approval letter from the Department of Public Health is on the job site. Alternative Work Practice approvals shall be secured prior to implementation.

C. Allow 21 calendar days for the processing of written requests for Alternate Work Practices by the Owner and associated review parties. Alternate Work Practices may not be utilized without Owner approval.

D. Written requests for Alternate Work Practices must be accompanied by a written itemized credit proposal to the Owner detailing the labor and material costs that will be credited to the Contract if the Alternate Work Practice is approved. Written requests for Alternate Work Practices must be accompanied by a written assessment of the schedule impact of utilizing the proposed Alternate Work Practice.

E. The Town of Fairfield reserves the right to reject any proposed Alternative Work Practice without cause.

F. The Contractor shall be responsible for all fees associated with filing Alternative Work Practice (AWP) applications. Submission of AWP applications requires a Connecticut DPH Asbestos Project Designer license. The Contractor is responsible for retaining a licensed Asbestos Project Designer to prepare the Alternate Work Practice. The licensed Asbestos Project Designer that prepares the Alternate Work Practice may not be an employee of the Contractor or an employee of a Subcontractor under contract with the Contractor.

G. Submit written requests for Alternate Work Practices to the Owner.

3.8 CLEAN-UP PROCEDURE

A. Remove and containerize all visible accumulations of asbestos-containing and/or asbestos-contaminated debris which may have splattered or collected on the polyethylene wall covering.

B. Remove contamination from the exteriors of the negative air machines, scaffolding, ladders, extension cords, hoses and other equipment inside the Work Area. Cleaning may be accomplished by brushing, HEPA vacuuming and/or wet cleaning.

C. The Project Monitor shall conduct a thorough visual inspection utilizing a high-intensity flashlight, with the containment barriers in place, to detect visible accumulations of dust or bulk asbestos-containing materials remaining in the Work Area. Should dust, debris or residue be detected, the Contractor shall repeat the cleaning, at the Contractor's expense, until the area is in compliance. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate clean-up of the work site.

D. Once the area has been recleaned, any equipment, tools or materials not required for completion of the work, shall be removed from the Work Area. Negative air filtration devices shall remain in place and operating for the remainder of the clean-up operation.

E. Apply a lock-down encapsulant to all surfaces within the Work Area from which asbestos has been removed and the cleaned inner layer of polyethylene.

F. Air sampling for reoccupancy clearance shall be undertaken using aggressive sampling techniques. Analysis of clearance samples shall follow State of Connecticut Regulations, Section 19a-332a-12. Areas which do not comply shall continue to be cleaned by and at the Contractors expense, until the specified Standard of Cleaning is achieved as evidenced by results of air testing. When the Work Area passes the reoccupancy clearance, controls established by this specification may be removed.

G. Remove all remaining polyethylene, including critical barriers, and Decontamination Enclosure Systems leaving negative air filtration devices in operation. Dispose of poly sheeting as asbestos-contaminated waste. HEPA vacuum and/or wet wipe any visible residue which is uncovered during this process.

3.9 REINSTALLATION OF DISPLACED EQUIPMENT

A. After reoccupancy is granted, resecure mounted items removed during the course of the work to their former positions.

3.10 DISPOSAL OF ASBESTOS

A. Disposal of asbestos-containing and/or asbestos contaminated material shall occur at an authorized site and must be in compliance with the requirements of, and authorized by the Office of Solid Waste Management, Department of Energy and Environmental Protection, State of Connecticut, or other designated agency having jurisdiction over solid waste disposal.

B. Disposal approval shall be obtained prior to commencement of asbestos removal.

C. Warning signs must be attached to vehicles used to transport asbestos-containing waste. Warning signs shall be posted during loading and unloading of disposal containers. The signs must be posted so that they are plainly visible.

D. Waste removal dumpsters and cargo areas of transport vehicles shall be lined with a layer of six (6) mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first, and shall be extended up sidewalls 12-inches. Wall sheeting shall overlap floor sheeting 24-inches and shall be taped into place. Keep dumpsters locked when not in use.

E. Contractor is responsible for signing the asbestos waste shipment record as generator prior to each asbestos waste dumpster leaving site and giving a copy of the signed waste shipment record to the Owner. The completed waste shipment record with landfill sign-offs shall be forwarded to the Owner within 35 days of the shipment leaving the site.

3.11 CONTRACTOR RESPONSIBILITY

A. Conduct air sampling, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1926.1101. Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours of receipt of results, and shall be available for review until the job is complete.

3.12 AIR SAMPLING SCHEDULE

A. At a minimum, air sampling by the Project Monitor will be conducted in accordance with the following schedule:

Abatement Activity	Pre-Abatement	During Abatement	Post-Abatement
Greater than 160 l.f. or 260 s.f.	PCM	PCM	TEM
Equal to or less than 160 l.f. or 260 s.f.	PCM	PCM	PCM

B. Frequency and duration of the air sampling during abatement will be representative of the actual conditions during the abatement. The size of the asbestos project will be a factor in the number of samples required to monitor the abatement activities. In addition to OSHA compliance monitoring (personal sampling accomplished by the Contractor) the following minimum schedule of samples will be required:

1. Background Samples:

   a) Outside of building - 2.

   b) Adjacent Area(s) inside building - 2.

   c) Work Area - 3 or if areas are separated (such as rooms) at least one (1) sample per area equalling a minimum of three (3).

2. During Abatement:

   a) Outside of building at the exhaust of air filtering device - 2 per shift.

   b) Work Area - 2 per shift.

   c) Adjacent area inside building - 2 per shift.

   d) Outside of the Equipment Decontamination Enclosure System - 1 during removal of ACM waste.

3. Post-Abatement:

   a) Work Area - At least five (5) per homogenous work site or one (1) per room, whichever is greater.

C. Post-abatement clearance air monitoring requirements are as follows:

1. Air sampling will not begin until at least 12 hours after wet cleaning has been completed and no visible water or condensation remain.

2. Sampling equipment will be placed at random around the Work Area.

3. The following aggressive air sampling procedures will be used within the Work Area during all air clearance monitoring:

   a) Before starting the sampling pumps, direct the exhaust from forced air equipment (such as a 1 horsepower leaf blower) against all walls, ceilings, floors, ledges and other surfaces in the Work Area. This should take at least 5 minutes per 1000 SF of floor area.

   b) Place a 20-inch fan in the center of the room. (Use one fan per 10,000 cubic feet of room space.) Place the fan on slow speed and point it toward the ceiling.

   c) Start the sampling pumps and sample for the required time.

   d) Turn off the pump and then the fan(s) when sampling is complete.

4. Air volumes taken for clearance sampling shall be sufficient to accurately determine (to a 95 percent probability) fiber concentrations to 0.010 f/cc of air.

5. The clearance criteria for work areas cleared by PCM (Phase Contrast Microscopy) is that all 5 clearance samples must register less than or equal to 0.010 f/cc of air.

6. Each homogeneous Work Area which does not meet the clearance criteria shall be thoroughly recleaned using HEPA vacuuming and/or wet cleaning, with the negative pressure ventilation system in operation. New samples shall be collected in the Work

Area as described above. The process shall be repeated until the Work Area passes the test, with the cost of repeat sampling being borne entirely by the Contractor.

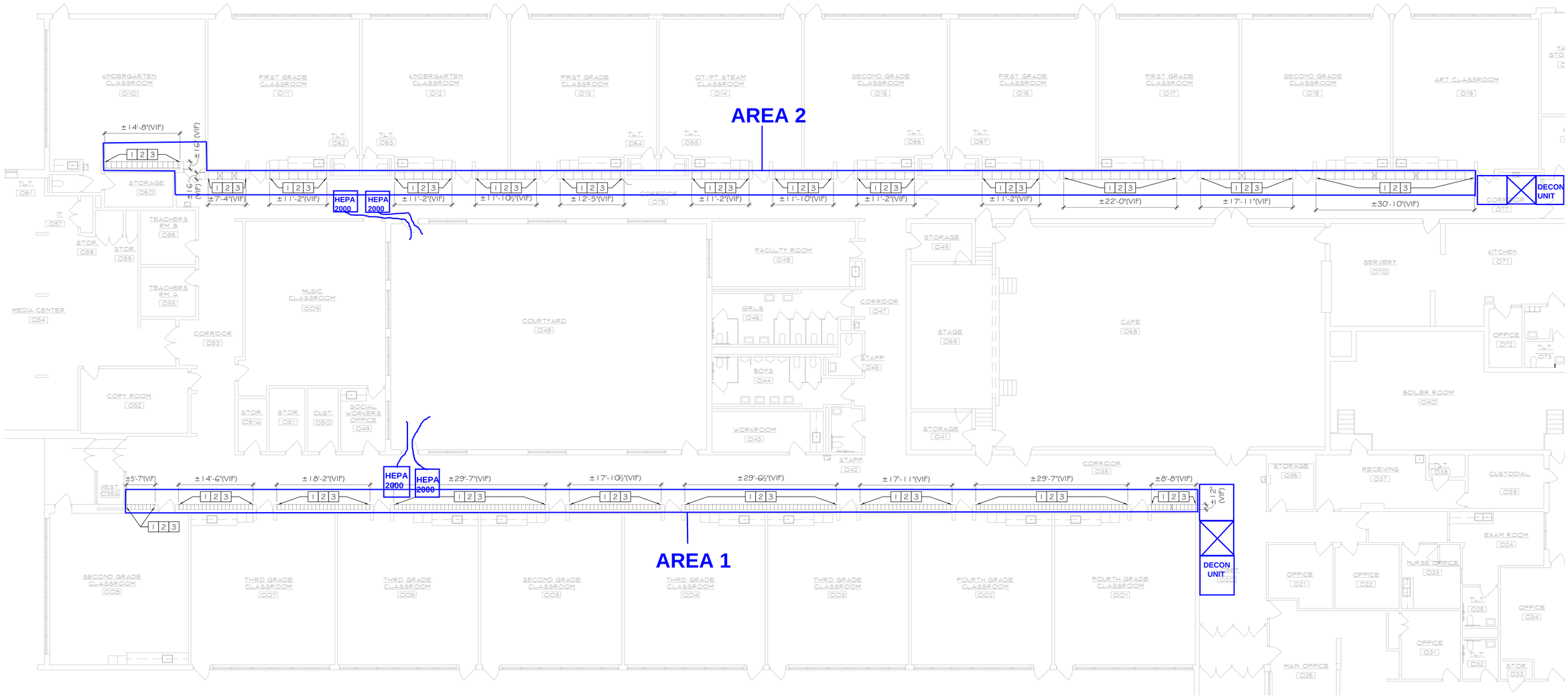
7. For an asbestos abatement project with more than one homogeneous Work Area, the release criterion shall be applied independently to each Work Area.

3.13 ACTION CRITERIA

A. If air samples collected outside of the Work Area during abatement activities indicate airborne fiber concentrations greater than original background levels or greater than 0.010 f/cc, as determined by Phase Contrast Microscopy, whichever is larger, an examination of the Work Area perimeter shall be conducted and the integrity of barriers shall be restored. Cleanup of surfaces outside the Work Area using HEPA vacuum equipment or wet cleaning techniques shall be done prior to resuming abatement activities.

END OF SECTION 02 82 16

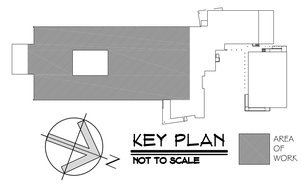
ATTACHMENT B: HM100 LOCKER ABATEMENT PLAN



LOCKER ABATEMENT PLAN

1 HM100

SCALE: 1/8" = 1'-0"



GENERAL NOTES

1. CONDUCT ASBESTOS ABATEMENT IN SCHOOL ONLY WHEN THERE ARE NO CHILDREN UNDER AGE 18 IN THE BUILDING.
2. COORDINATE ASBESTOS ABATEMENT WORK WITH LOCKER REMOVAL CONTRACTOR.
3. FREE-STANDING POLY CONTAINMENT WALLS AND CEILINGS SHALL CONSIST OF 1 LAYER OF 6 MIL POLY AS THE CRITICAL BARRIER AND 2 LAYERS OF 6 MIL POLY AS THE WALLS, FOR A TOTAL OF 3 LAYERS OF 6 MIL POLY.

ABATEMENT KEY NOTES

1. EXISTING METAL LOCKERS, WOOD SHELF ABOVE, AND VINYL BASE BELOW TO BE REMOVED BY SEPARATE CONTRACTOR PRIOR TO ABATEMENT.
2. REMOVE AND DISPOSE OF APPROXIMATELY 4" WIDE STRIP OF VINYL ASBESTOS FLOOR TILE UNDER LOCKERS UNDER CONTAINMENT.
3. CLEAN ALL DUST, DIRT, AND DEBRIS FROM CONCRETE FLOOR UNDER LOCKERS UNDER CONTAINMENT. SOLVENT CLEAN THE APPROXIMATELY 4" WIDE STRIP OF FLOORING MASTIC FROM THE CONCRETE FLOOR. DISPOSE OF THE DUST, DIRT, DEBRIS, AND MASTIC AS ASBESTOS-CONTAMINATED WASTE.

Project Title:
Fairfield Public Schools - Roger Sherman Elementary School
Storage Locker Replacement
250 Fern Street
Fairfield, Connecticut 06824

EnviroMed
Cleaner environment. Safer workplaces.
DESIGNED BY: JOHN LUBY
CT ASBESTOS PROJECT DESIGNER LICENSE #19
CT LEAD PLANNER/PROJECT DESIGNER LICENSE #986

Revision:	Description:	Date:	Revised By:

Drawing Title:
Locker
Abatement Plan

Date: MAY 24, 2019
Scale: AS NOTED
Drawn By: JL
Project Number: IH-19-175

Drawing Number: HM100

FUSS & O'NEILL

Appendix C

Contractor's License and Workers' Certifications

FUSS & O'NEILL

Appendix D

EPA Notification of Demolition and Renovation and CTDPH Asbestos Abatement Notification Forms

State Stamp

STATE OF CONNECTICUT DEPARMENT OF PUBLIC HEALTH

ASBESTOS ABATEMENT NOTIFICATION FORM

State Use Only

Post Mark
Check No
Check Amt
Trans
Rec #

This form is to be completed and postmarked or hand delivered to the Connecticut Department of Public Health at least ten (10) days prior to the start of asbestos abatement, as required by the Regulations of Connecticut State Agencies, Section 19a-332a-3. In case of an emergency, this form is to be completed and postmarked within one (1) working day following the start of asbestos abatement. Faxed originals are not acceptable. Revisions may be faxed unless an additional fee payment is due. Fee is $100 for abatement <160 Square Feet (SF). Additional 1% total cost is due for abatements of 160 SF or more. Checks payable to "Treasurer, State of Connecticut".

1. TYPE OF NOTIFICATION

	A. NEW	C. CANCELATION	X	D. REVISED	E. EMERGENCY	F. POSTPONED
	B. BLANKET	REVISION #	2	ITEMS REVISED	5B	

Describe Emergency

2. ABATEMENT CONTRACTOR AAIS — LICENSE # 000017

C_ADDRESS	P.O. Box 26066				
C_CITY	WEST HAVEN			C_CONTACT	Keith Godreau
C_STATE	CT	C_ZIPCODE	06516	C_PHONE	(203) 932-2992

3. FACILITY OWNER/OPERATOR'S NAME Town of Fairfield CT.

O_ADDRESS	725 Old Post Rd				
O_CITY	Fairfield			O_CONTACT	Gerald Foley
O_STATE	CT	O_ZIPCODE	6824	O_PHONE	203.256.3079

4. ABATEMENT PROJECT ADDRESS Sherman School Floor Tile Locker Reno

ADDRESS 2	**250 Fern St**				
PCITY	**Fairfeild**				
PSTATE	CT	P_ZIPCODE	06824	P_Contact (if different)	Miguel Marques

5A. ABATEMENT START DATE 7/29/19 — **5B. ABATEMENT END DATE** 8/9/19

Revised Start — **Revised End**

6. ONLY FOR PROJECTS OF 160 SQUARE FEET OR GREATER — **TOTAL COST** 8480

6A. 1% of TOTAL COST $84.80 — plus $100 — $185 (Notification Fee Due)

6B. FOR REVISIONS, ADDITIONAL COST — ADDITIONAL 1% FEE OWED $0.00

7. USE OF FACILITY

X	A. SCHOOL	D. OFFICE	G. RELIGIOUS
	B. PUBLIC	E. COLLEGE	H. RESIDENTIAL, # UNITS
	C. MANUFACTURING	F. COMMERCIAL	I. OTHER, SPECIFY

8. BUILDING DATA

SQ FT 54941 — AGE 56 — NUMBER OF FLOORS 1

9. ABATEMENT CLASSIFICATIC — X RENOVATION — DEMOLITION — ORDERED DEMOLITION

(ATTACH ORDER OF DEMOLITION)

10. ABATEMENT TECHNIQUE

X	A. FULL CONTAINMENT WITH NEG AIR	B. ALTERNATIVE WORK PRACTICE
	C. EXTERIOR ABATEMENT	D. SPOT REPAIR (>25 SF)

11. ABATEMENT METHOD

X	A. REMOVAL
	B. ENCAPSULATION
	C. ENCLOSURE

12. TYPE OF DECONTAMINATION SYSTEM

X	A. CONTIGUOUS
	B. REMOTE
	C. BOTH

HAS CONTRACTOR PROVIDED US EPA with A TEN WORKING DAY NOTIFICATION? YES — X NO

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

Phone (860) 509-7367 / Fax (860) 509-7378
410 Capitol Avenue- MS #12AIR PO Box 340308
Hartford CT 06134-0308

Accredited Health Department
PHAB
Public Health Accreditation Board

Job#: 197166

ADDRESS	250 Fern St	CITY/TOWN	Fairfeild

13. TYPE AND AMOUNT OF ASBESTOS CONTAINING MATERIAL TO BE ABATED

FRIABLE MATERIAL (report in square footage)

A. Sprayed/Troweled on		E. Duct Insul	
B. Boiler Insulation		F. Ceiling Tiles	
C. Tank Insulation		G. Other (Specify)	
D. Breeching Insulation		Other Friable, Specify	
Other Friable		Other Friable, Specify	
SPECIFY			

PIPE INSULATION: Measure outside diameter (OD) of pipe, multiply the length of pipe (linear feet) * times the CF to report total pipe insulation in square feet (add all SF quantities below)

Conversion Factor (*CF)

OD	QTY LF	x CF	SQ FT	OD	QTY LF	x CF	SQ FT
1"		0.26	0	0	0	0.00	0
2"	0	0.52	0	0	0	0.00	0
3"	0	0.79	0	0	0	0.00	0
	Total Column		0	Total Column			0

H. Pipe Insulation SF
0

NONFRIABLE CATEGORY 1

I. Floor Coverings/Tiles	120	L. Transite board	
J. Roofing, Specify		M. Other Nonfriable	
K. Packings, Gaskets		N. Other NF, Specify	
Other NF		Other NF, Specify	

NONFRIABLE CATEGORY 2

14. WASTE HAULER (list up to 3)

H1Name	TRANSWASTE, Inc.	H2Name	R.E.D. Technologies, LLC
H1Address	3 Barker Drive	H2Address	10 Northwood Drive
H1City	Wallingford	H2City	Bloomfield
H1State,Zip	CT 06492	H2State,Zip	CT 06002
H1Contact	Cindy Devaglia	H2Contact	Lindsay S Kelly

H3Name	
H3Address	
H3City	
H3State,Zip	
H3Contact	

15. LANDFILL (list up to 3)

L1Name	Modern Landfill	L2Name	Hakes Landfill
L1Address	4400 Mount Pisgah Road	L2Address	4376 Manning Ridge Road
L1City	York	L2City	Painted Post
L1State,Zip	PA 17406	L2State,Zip	NY 14870
L1Contact	Jim Kuhn	L2Contact	Eddie Lopez

L3Name	Minerva Enterprises, LLC
L3Address	8955 Minerva Road
L3City	Waynesburg
L3State,Zip	OH 44688
L3Contact	Bruce Sullivan

Form Prepared by (printed)

Keith Godreau

Signature

Appendix E

CTDPH No Children/Student Occupancy Letter

FAIRFIELD
PUBLIC SCHOOLS

July 23, 2019

Mr. Stephen Dahlem
Environmental Analyst 3
State of Connecticut
Department of Public Health – Asbestos Program
410 Capital Avenue, MS#51 AIR
P.O. Box 340308
Hartford, CT 06134-0308

RE: Courtesy Notification – No Students/Children Occupancy during
Asbestos Abatement Activities at Roger Sherman Elementary School
250 Fern Street, Fairfield, Connecticut 06825

Dear Mr. Dahlem:

As the Manager of Construction, Security and Safety of the Town of Fairfield Public Schools, I am writing to inform the Connecticut Department of Public Health (CTDPH) that asbestos abatement will be conducted at the above referenced facility when no students/children will be occupying the building. Asbestos abatement activities will begin at 7:00AM on Monday, July 29, 2019 and will be completed by Friday, August 9, 2019 at 5:00PM.

Should you have any questions regarding this project, please contact at (203) 255-7363.

Sincerely,

Salvatore Morabito

Salvatore Morabito
Manager of Construction, Security and Safety

Appendix F

Area Air Monitoring Worksheets

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Mike Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Mike Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Jul 29, 2019	Analysis Date:	Jul 29, 2019
	Fairfield, CT 06824	HSE/NPL checked?	Yes				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
07292019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
07292019MF-02	Field Blank	1 - Background	0	0	00	0	0	0.000	0.000	inf	0	<7.01	<inf
07292019MF-03	Begining of first hallway containment	1 - Background	0832	1134	182	6.9	6.7	6.800	1237.600	0.002	0	<7.01	<0.002
07292019MF-04	End of First Hallway Containment	1 - Background	0834	1137	183	6.9	6.9	6.900	1262.700	0.002	2	<7.01	<0.002
07292019MF-05	Beginning of First Hallway	1 - Background	1135	1437	182	6.9	6.9	6.900	1255.800	0.002	2	<7.01	<0.002
07292019MF-06	End of First Hallway	1 - Background	1138	1441	183	6.9	6.9	6.900	1262.700	0.002	1	<7.01	<0.002
07292019MF-05D	Duplicate Count	1 - Background	1135	1437	182	6.9	6.9	6.900	1255.800	0.002	3	<7.01	<0.002

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Michael Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Michael Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Jul 30, 2019	Analysis Date:	Jul 30, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
07302019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
07302019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
07302019MF-03	Beginning of 1st Hallway Containment	1 - Background	0734	1134	240	5.2	5.2	5.200	1248.000	0.002	2	<7.01	<0.002
07302019MF-04	End of 1st Hallway Containment	1 - Background	0736	1136	240	5.2	5.2	5.200	1248.000	0.002	5	<7.01	<0.002
07302019MF-05	Beginning of 1st Hallway Containment	1 - Background	1137	1439	182	6.9	6.9	6.900	1255.800	0.002	5	<7.01	<0.002
07302019MF-06	End of 1st Hallway Containmemt	1 - Background	1139	1441	182	6.9	6.9	6.900	1255.800	0.002	7	8.91720	0.00273
07302019MF-06D	Duplicate Count	1 - Background	1139	1441	182	6.9	6.9	6.900	1255.800	0.002	10	12.73885	0.00391

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Michael Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Michael Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Jul 31, 2019	Analysis Date:	Jul 31, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
07312019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
07312019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
07312019MF-03	Beginning of First Hallway	1 - Background	0732	1136	244	5.2	5.3	5.250	1281.000	0.002	8	10.19108	0.00306
07312019MF-04	Ending of First Hallway	1 - Background	0733	1137	244	5.3	5.2	5.250	1281.000	0.002	6	7.64331	0.00230
07312019MF-05	Beginning of First Hallway	1 - Background	1139	1443	184	6.8	6.9	6.850	1260.400	0.002	5	<7.01	<0.002
07312019MF-06	Ending of First Hallway	1 - Background	1141	1445	184	6.8	6.3	6.550	1205.200	0.002	4	<7.01	<0.002
07312019MF-03D	Duplicate Count	1 - Background	0732	1136	244	5.2	5.3	5.250	1281.000	0.002	10	12.73885	0.00383

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101861	Sampler Name:	Michael Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Michael Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 1, 2019	Analysis Date:	Aug 1, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08012019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-03	Outside decon of first area containment	1 - Background	0717	1121	244	5.2	5.3	5.250	1281.000	0.002	4	<7.01	<0.002
08012019MF-04	Outside of the end of the 1st area containment	1 - Background	0722	1128	246	5.2	5.0	5.100	1254.600	0.002	7	8.91720	0.00274
08012019MF-05	1st area Hallway Containment	3 - Clearance	0812	1023	131	9.4	9.4	9.400	1231.400	0.002	4	<7.01	<0.002
08012019MF-06	1st area Hallway Containment	3 - Clearance	0816	1027	131	9.4	9.4	9.400	1231.400	0.002	7	8.91720	0.00279
08012019MF-07	1st area Hallway Containment	3 - Clearance	0820	1031	131	9.4	9.4	9.400	1231.400	0.002	2	<7.01	<0.002
08012019MF-08	1st area Hallway Containment	3 - Clearance	0823	1035	132	9.4	9.7	9.550	1260.600	0.002	5	<7.01	<0.002
08012019MF-09	1st area Hallway Containment	3 - Clearance	0828	1042	134	9.4	9.5	9.450	1266.300	0.002	3	<7.01	<0.002
08012019MF-10	Outside decon of 1st area containment	1 - Background	1144	1452	188	6.9	6.7	6.800	1278.400	0.002	2	<7.01	<0.002
08012019MF-11	Outside end of 1st area containment	1 - Background	1147	1454	183	6.7	6.9	6.800	1244.400	0.002	5	<7.01	<0.002
08012019MF-12	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-13	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-04D	Duplicate Count	1 - Background	0722	1128	246	5.2	5.0	5.100	1254.600	0.002	8	10.19108	0.00313
08012019MF-06D	Duplicate Count	3 - Clearance	0816	1027	131	9.4	9.4	9.400	1231.400	0.002	6	7.64331	0.00239

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Mike Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Mike Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 2, 2019	Analysis Date:	Aug 2, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08022019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08022019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08022019MF-03	Outside Decon of Back Hall South East Containment	1 - Background	0733	1125	238	5.2	5.3	5.250	1249.500	0.002	3	<7.01	<0.002
08022019MF-04	Outside NAM by Window	1 - Background	0735	1127	232	5.2	5.3	5.250	1218.000	0.002	4	<7.01	<0.002
08022019MF-05	Outside Decon of Back Hall SouthEast Containment	1 - Background	1132	1435	183	6.9	6.7	6.800	1244.400	0.002	6	7.64331	0.00236
08022019MF-06	Outside NAM by Window	1 - Background	1135	1439	184	6.7	6.8	6.750	1242.000	0.002	4	<7.01	<0.002
08022019MF-05D	Duplicate Count	1 - Background	1132	1435	183	6.9	6.7	6.800	1244.400	0.002	5	<7.01	<0.002

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

Appendix G

Final Air Clearance Reports

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101861	Sampler Name:	Michael Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Michael Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 1, 2019	Analysis Date:	Aug 1, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08012019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-03	Outside decon of first area containment	1 - Background	0717	1121	244	5.2	5.3	5.250	1281.000	0.002	4	<7.01	<0.002
08012019MF-04	Outside of the end of the 1st area containment	1 - Background	0722	1128	246	5.2	5.0	5.100	1254.600	0.002	7	8.91720	0.00274
08012019MF-05	1st area Hallway Containment	3 - Clearance	0812	1023	131	9.4	9.4	9.400	1231.400	0.002	4	<7.01	<0.002
08012019MF-06	1st area Hallway Containment	3 - Clearance	0816	1027	131	9.4	9.4	9.400	1231.400	0.002	7	8.91720	0.00279
08012019MF-07	1st area Hallway Containment	3 - Clearance	0820	1031	131	9.4	9.4	9.400	1231.400	0.002	2	<7.01	<0.002
08012019MF-08	1st area Hallway Containment	3 - Clearance	0823	1035	132	9.4	9.7	9.550	1260.600	0.002	5	<7.01	<0.002
08012019MF-09	1st area Hallway Containment	3 - Clearance	0828	1042	134	9.4	9.5	9.450	1266.300	0.002	3	<7.01	<0.002
08012019MF-10	Outside decon of 1st area containment	1 - Background	1144	1452	188	6.9	6.7	6.800	1278.400	0.002	2	<7.01	<0.002
08012019MF-11	Outside end of 1st area containment	1 - Background	1147	1454	183	6.7	6.9	6.800	1244.400	0.002	5	<7.01	<0.002
08012019MF-12	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-13	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08012019MF-04D	Duplicate Count	1 - Background	0722	1128	246	5.2	5.0	5.100	1254.600	0.002	8	10.19108	0.00313
08012019MF-06D	Duplicate Count	3 - Clearance	0816	1027	131	9.4	9.4	9.400	1231.400	0.002	6	7.64331	0.00239

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

Form 7400-05
Edition October 2015
Supercedes previous editions

56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Mike Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Mike Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 5, 2019	Analysis Date:	Aug 5, 2019
	Fairfield, CT 06824	HSE/NPL checked?	Yes				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08052019MF-01	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	0.00000	nan
08052019MF-02	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08052019MF-03	Inside Back Hallway SouthEast Containment	3 - Clearance	0807	1017	130	9.4	9.4	9.400	1222.000	0.002	3	<7.01	<0.002
08052019MF-04	Inside Back Hallway SouthEast Containment	3 - Clearance	0813	1025	132	9.4	9.4	9.400	1240.800	0.002	4	<7.01	<0.002
08052019MF-05	Inside Back Hallway SouthEast Containment	3 - Clearance	0819	1032	133	9.4	9.4	9.400	1250.200	0.002	6	7.64331	0.00235
08052019MF-06	Inside Back Hallway SouthEast Containment	3 - Clearance	0825	1039	134	9.4	9.4	9.400	1259.600	0.002	5	<7.01	<0.002
08052019MF-07	Inside Back Hallway SouthEast Containment	3 - Clearance	0833	1044	131	9.4	9.4	9.400	1231.400	0.002	3	<7.01	<0.002
08052019MF-05D	Duplicate Count	3 - Clearance	0819	1032	133	9.4	9.4	9.400	1250.200	0.002	7	8.91720	0.00275

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

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Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Mike Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Mike Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 6, 2019	Analysis Date:	Aug 6, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08062019MF-01	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08062019MF-02	Field Blank	1 - Background	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08062019MF-03	Outside Backhall Northside Containment Decon	1 - Background	0723	1128	245	5.1	5.3	5.200	1274.000	0.002	0	<7.01	<0.002
08062019MF-04	Classroom next too Northside Backhall Containment	1 - Background	0731	1132	241	5.2	5.3	5.250	1265.250	0.002	0	<7.01	<0.002
08062019MF-05	Back Hall Northside Containment	3 - Clearance	1117	1328	131	9.4	9.4	9.400	1231.400	0.002	3	<7.01	<0.002
08062019MF-06	Back Hall Northside Containment	3 - Clearance	1119	1332	133	9.4	9.4	9.400	1250.200	0.002	6	7.64331	0.00235
08062019MF-07	Back Hall Northside Containment	3 - Clearance	1124	1135	131	9.4	9.4	9.400	1231.400	0.002	9	11.46497	0.00358
08062019MF-08	Back Hall Northside Containment	3 - Clearance	1127	1339	132	9.4	9.4	9.400	1240.800	0.002	7	8.91720	0.00277
08062019MF-09	Back Hall Northside Containment	3 - Clearance	1132	1343	131	9.4	9.4	9.400	1231.400	0.002	5	<7.01	<0.002
08062019MF-10	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08062019MF-11	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08062019MF-07D	Duplicate Count	3 - Clearance	1124	1335	131	9.4	9.4	9.400	1231.400	0.002	7	8.91720	0.00279

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

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$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

FUSS & O'NEILL

Area Air Monitoring Worksheet For Asbestos Field Analysis

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56 Quarry Road, Trumbull, CT 06611 (203) 374-3748

Project Name:	Roger Sherman School	Rotometer Number:	101831	Sampler Name:	Mike Fazio		
Project Number:	20180955.A30	Rotometer Cal Date:	Jun 13, 2019	Analyst Name:	Mike Fazio	AAR#	269202
Project Manager:	Miguel	Microscope Number:	101206	Analyst Signature:			
Project Location:	20180955.A30: Roger Sherman School, Fairfield, CT	Phase Ring aligned?	Yes	Sample Date:	Aug 7, 2019	Analysis Date:	Aug 7, 2019
	Fairfield, CT 06824	HSE/NPL checked?	No				

Sample ID Number	Sample Location	Activity Code/ Comment	Sample Time		Sample Durantion Minutes	Flow Rate (LPM)			Total Volume Liters	Limit of Detect. Fib/cc	Fiber Count Fib/Flds	Fiber Density (Fibers/mm2)	Fiber Conc. (Fib/cc)
			On	Off		Pre	Post	Avg.					
08072019MF-01	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08072019MF-02	Field Blank	3 - Clearance	0	0	0	0	0	0.000	0.000	inf	0	<7.01	<inf
08072019MF-03	Inside Room 10 Containment	3 - Clearance	1025	1237	132	9.4	9.3	9.350	1234.200	0.002	5	<7.01	<0.002
08072019MF-04	Inside Room 10 Containment	3 - Clearance	1027	1238	131	9.4	9.4	9.400	1231.400	0.002	7	8.91720	0.00279
08072019MF-05	Inside Room 10 Containment	3 - Clearance	1029	1240	131	9.3	9.4	9.350	1224.850	0.002	7	8.91720	0.00280
08072019MF-06	Inside Room 10 Containment	3 - Clearance	1032	1244	132	9.4	9.2	9.300	1227.600	0.002	4	<7.01	<0.002
08072019MF-07	Inside Room 10 Containment	3 - Clearance	1035	1246	131	9.4	9.4	9.400	1231.400	0.002	3	<7.01	<0.002
08072019MF-05D	Duplicate Count	3 - Clearance	1029	1240	131	9.4	9.4	9.400	1231.400	0.002	6	7.64331	0.00239

Reference Method: NIOSH 7400 Issue 2, 8/15/94
Limit of Detection: 0.055 fibers/field
Sample Type: 25 mm 3 piece 0.8µ mixed cellulose ester PCM Air Monitor

$$\text{CONCENTRATION (Fibers/mm2)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field)}}{\text{(0.00785mm2/field)}}$$

$$\text{CONCENTRATION (fibers/cc)} = \frac{\text{(SAMPLE fibers/field) - (BLANK fibers/field) x (385) mm2/filter}}{\text{(0.00785mm/field) x liters x 1000 cc/liter}}$$

IC	Inside Containment
OCB	Outside Containment Barrier
Decon	Decontamination Facility

Range	Intra Lab Sr	Intra Lab Sr
1 (5-20 fibers/100 fields)	0.46	0.51
2 (>20-50 fibers/100 fields)	0.36	0.34
3 (>50 fibers/100 fields)	0.35	0.39

Project Activity

Code	Type
1	Background
2	During
3	Clearance
4	Environmental
5	Personal
6	Other

Appendix H

Fuss & O'Neill Site Logs

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Mike Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: Hallway Under neath lockers

Date/Time	Comments	Initials
2019-07-29 12:03:06 +0000	Arrived on-site met with Miguel, went of scope of work	Mf
2019-07-29 12:33:41 +0000	Met with Abatement supervisor (Chris) set up two background samples.	Mf
2019-07-29 13:46:33 +0000	Collected worker paper work and documents, recorded all training and licenses.	Mf
2019-07-29 14:37:06 +0000	Hallway containment being set up by contractor, using proper techniques and tools to meet standards of scope.	Mf
2019-07-29 15:35:06 +0000	Pulled first round of background samples and set up 2nd set for afternoon.	Mf
2019-07-29 16:13:36 +0000	Work stopped for lunch	Mf
2019-07-29 16:38:26 +0000	Returned from lunch, continued set up of containment in first hallway.	Mf
2019-07-29 17:39:06 +0000	Hallway containment almost complete, beginning to bring in negative air machines as well as setting up decon/bagout	Mf
2019-07-29 18:33:48 +0000	Pulled second round of background samples, began analysis.	Mf
2019-07-29 19:26:41 +0000	Contractor packed up equipment and left site, containment almost ready for prep check, will continue work in the morning.	Mf

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Michael Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: First Hallway under lockers

Date/Time	Comments	Initials
2019-07-30 11:06:59 +0000	Arrived onsite, supervisor adding 3rd layer of poly to containment due to AWP not being confirmed.	Mf
2019-07-30 11:30:14 +0000	Started 1st round of background samples for the day.	Mf
2019-07-30 12:47:43 +0000	Spoke with Miguel about splitting up second hallway into two containments, unapproved must still be ran as TEM clearance.	Mf
2019-07-30 13:43:42 +0000	Containment almost complete, attaching decon then will need pre abatement visual to start removal	Mf
2019-07-30 14:34:25 +0000	Pre abatement visual given, all procedures followed, needed asbestos warning labels on outside of containment. Removal began.	Mf
2019-07-30 15:26:39 +0000	Second set of background samples set up.	Mf
2019-07-30 15:49:58 +0000	Work stopped, took lunch.	Mf
2019-07-30 16:26:54 +0000	Returned from lunch work resumed.	Mf
2019-07-30 17:37:27 +0000	Checked on background pumps for flow rate fluctuation, still running properly at set flow rate.	Mf
2019-07-30 19:12:28 +0000	AAIS began packing up equipment and stopped grinding for the day, leaving site shortly, second round of background samples pulled and analyzed, left site.	Mf

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Mike Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: 1st Hallway Under Lockers

Date/Time	Comments	Initials
2019-07-31 11:10:08 +0000	Arrived onsite, wanted to be let into building, AASI at site continued removal of first hallway.	Mf
2019-07-31 11:26:49 +0000	Set up first round of background samples, AASI began setting up containment for the second hallway in rear of building.	Mf
2019-07-31 12:33:35 +0000	ASSI was let know that second hallway will still be run as TEM clearance even if split into two sections.	Mf
2019-07-31 13:32:49 +0000	Removal of first hallway almost complete, backgrounds flow rate adjusted.	Mf
2019-07-31 14:36:05 +0000	Removal and grinding complete, gave final visual.	Mf
2019-07-31 15:35:23 +0000	FAC will be given after lunch, 2 area containment being set up.	Mf
2019-07-31 16:05:57 +0000	Took lunch, will begin set up of TEM clearance when returned.	Mf
2019-07-31 16:40:29 +0000	Decided to run clearance the next morning with a 6 hour turn around time. Continued to work on 2 area containment set up.	Mf
2019-07-31 17:43:28 +0000	Analyzed first round of background samples, came back low fiber count.	Mf
2019-07-31 18:34:16 +0000	Pulled second round of background samples, prepped and analyzed, contractor beginning to load up equipment.	Mf
2019-07-31 18:57:24 +0000	Packed up materials and left site following contractor.	Mf

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Michael Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: 1st Area Hallway

Date/Time	Comments	Initials
2019-08-01 11:07:35 +0000	Arrived onsite, started background samples, and took measurements of abated areas in first hallway.	Mf
2019-08-01 11:33:06 +0000	Determined that both areas will be a PCM clearance, quantity of abated material less than 160 LF.	Mf
2019-08-01 12:13:37 +0000	Began to set up FAC in first containment, running at 9.4 fr for 130 minutes each.	Mf
2019-08-01 13:14:21 +0000	First half of 2nd area containment complete, Checked on background samples.	Mf
2019-08-01 14:44:49 +0000	Pulled samples for FAC, began preparing to be analyzed.	Mf
2019-08-01 15:24:59 +0000	Pulled 1st round of background samples to be ready and analyzed.	Mf
2019-08-01 15:51:53 +0000	Set up second round of background samples.	Mf
2019-08-01 16:00:17 +0000	Took lunch, all work stopped.	Mf
2019-08-01 16:31:37 +0000	Returned from lunch continued set up for 2 area containment.	Mf
2019-08-01 16:54:09 +0000	Finished analyzing FAC for first area containment, passed beginning to tear down.	Mf
2019-08-01 18:07:39 +0000	Background samples flow rate adjusted to originally set number, contractor bagging up first containment materials.	Mf
2019-08-01 18:52:02 +0000	Packing up materials, pulled final background samples, analyzed left site shortly after contractor.	Mf

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Mike Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: 2nd Area Hallway

Date/Time	Comments	Initials
2019-08-05 11:08:48 +0000	Arrived onsite, met with supervisor, extra guy to abate today, will continue to set up last containment.	Mf
2019-08-05 12:09:52 +0000	Began setting up FAC, ran 5 pumps at 9.4 flow rate, will be taken off around 10:40am	Mf
2019-08-05 13:10:42 +0000	Reading blanks for FAC	Mf
2019-08-05 14:30:21 +0000	Went into containment to begin pulling off FAC samples.	Mf
2019-08-05 14:54:45 +0000	Set up for final containment finished, waiting for results of FAC to attach decon to last containment.	Mf
2019-08-05 15:31:30 +0000	Finished prepping slides for FAC, ready to be analyzed.	Mf
2019-08-05 16:00:53 +0000	Contractor took lunch, will commence tear down of containment when returned.	Mf
2019-08-05 16:32:27 +0000	Returned from lunch, tear down of second to last containment begins, FAC passed through pcm analyzation.	Mf
2019-08-05 17:29:47 +0000	Began transferring decon unit onto the final containment, will likely finish set up by afternoon, and start removal in the morning.	Mf
2019-08-05 18:30:40 +0000	Gave prep check of last containment, removal will begin in the morning	Mf
2019-08-05 18:54:44 +0000	AASI loaded up materials and equipment and left site, Mf followed.	Mf

FUSS & O'NEILL

Daily Site Log

Project Number: 20180955.A30
Technician: Mike Fazio
Building: 20180955.A30: Roger Sherman School, Fairfield, CT Fairfield, CT 06824
Specific Work Area: BackHall North Side Containment

Date/Time	Comments	Initials
2019-08-06 11:04:13 +0000	Arrive onsite, AASI began the removal of the backhall north side containment.	Mf
2019-08-06 11:38:56 +0000	Started background samples.	Mf
2019-08-06 12:47:50 +0000	Removal going smoothly, Checked pumps for flow rate change.	Mf
2019-08-06 14:19:20 +0000	Grinding begins for 3rd containment.	Mf
2019-08-06 15:49:01 +0000	Background samples pulled. Grinding finished started FAC for 3rd containment.	Mf
2019-08-06 16:02:16 +0000	All work stopped, took lunch.	Mf
2019-08-06 16:32:42 +0000	Returned from lunch, FAC running for about another hour, began prepping blank slides and reading background sample scrim morning.	Mf
2019-08-06 17:40:31 +0000	Pulled FAC samples from back hall north side containment to be prepped and analyzed.	Mf
2019-08-06 18:01:00 +0000	Missed one set of lockers that were within room 10 at the end of the back hall, began setting up containment for removal, will start removal by morning.	Mf
2019-08-06 18:54:42 +0000	Gave prep check for room 10 lockers, contractor packed up equipment and left site, Mf followe.d.	Mf

Appendix I

Fuss & O'Neill Sign-In Sheets

FUSS & O'NEILL

www.fando.com
56 Quarry Road, Trumbull, CT 06611 Phone (203) 374-3748; Fax (203) 374-4391

WORKER SIGN-IN LOG

Project Name/Address: Roger Sherman School Date: 7-30-19

Project No. 20180955.A30 Work Area: 1st Area Hallway

Worker's Name (Print Neatly) (Nombre del Trabajador - Escriba claramente)	Signature (Firma)	License # (Licencia #)	Type of Work
1. Chris CLAFLIN			
2. Byron Cabrera			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

FUSS & O'NEILL

56 Quarry Road, Trumbull, CT 06611

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Phone (203) 374-3748; Fax (203) 374-4391

WORKER SIGN-IN LOG

Project Name/Address: Roger Sherman School Date: 7-31-19

Project No. 20180955.A30 Work Area: 1st Area Hallway

Worker's Name (Print Neatly) (Nombre del Trabajador - Escriba claramente)	Signature (Firma)	License # (Licencia #)	Type of Work
1. Chris CLAFLIN			
2. Byron CABRERA			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
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WORKER SIGN-IN LOG

Project Name/Address: Roger Sherman School Date: 8-7-19

Project No. 20180955.A30 Work Area: 2nd Area Hallway

Worker's Name (Print Neatly) (Nombre del Trabajador - Escriba claramente)	Signature (Firma)	License # (Licencia #)	Type of Work
1. Chris CLAFLIN			
2. Eduardo Garcia			
3. Byron Cabrera			
4.			
5.			
6.			
7.			
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19.			
20.			

FUSS & O'NEILL

56 Quarry Road, Trumbull, CT 06611

www.fando.com
Phone (203) 374-3748; Fax (203) 374-4391

WORKER SIGN-IN LOG

Project Name/Address: Roger Sherman School/350 Fern St Fairfield CT Date: 8-6-19

Project No. 20180955.A30 Work Area: Back Hall North Side

Worker's Name (Print Neatly) (Nombre del Trabajador - Escriba claramente)	Signature (Firma)	License # (Licencia #)	Type of Work
1. Chris Caflin			
2. Byron Cabrera			
3. Eduardo Sonio			
4.			
5.			
6.			
7.			
8.			
9.			
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56 Quarry Road, Trumbull, CT 06611 Phone (203) 374-3748; Fax (203) 374-4391

WORKER SIGN-IN LOG

Project Name/Address: Roger Sherman School Date: 8-7-19

Project No. 20180955.A30 Work Area: Room 10

Worker's Name (Print Neatly) (Nombre del Trabajador - Escriba claramente)	Signature (Firma)	License # (Licencia #)	Type of Work
1. Chris CLAFLIN			
2. Byron Cabrera			
3.			
4.			
5.			
6.			
7.			
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Appendix J

Contractor Sign-In Logs

Appendix K

Contractor Daily Logs

Appendix L

Contractor Personal Air Sample Results

FUSS & O'NEILL

Appendix M

Final Visual Inspection Forms

FUSS & O'NEILL

Final Visual Inspection Form

Asbestos Abatement

Date: 7-31-19 ☑ Removal ☐ Encapsulation ☐ Enclosure ☐ Repair ☐ Cleanup

PROJECT NAME:	Roger Sherman School	PROJECT NO.:	20180155 A30
SITE LOCATION:	250 Fern St. Fairfield CT	BUILDING:	
WORK AREA:	1st Hallway Under lockers		☑ PASS ☐ FAIL
CONTRACTOR:	AAIS		

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

MATERIALS ABATED IN THIS SPECIFIC WORK AREA:

1. Floor Tile + Mastic	QTY:	75 SF	2.	QTY:	
3.	QTY:		4.	QTY:	
5.	QTY:		6.	QTY:	
7.	QTY:		8.	QTY:	
9.	QTY:		10.	QTY:	

SUSPECT ACM REMAINING IN CONTAINMENT NOT SPECIFIED FOR REMOVAL

1.	QTY:		2.	QTY:	
3.	QTY:		4.	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

No visual dust or debris left behind

WORK AREA CLEARANCE: ☑ PCM ☐ TEM ☐ Visual Only ☐ None Performed

ACKNOWLEDGEMENT

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

Fuss & O'Neill Inspector: Michael Fazio (PRINTED) _____ (SIGNATURE)

I have read and understand the inspection results.

Contractor's Supervisor: Chris CLAFLIN (PRINTED) _____ (SIGNATURE)

FUSS & O'NEILL

Final Visual Inspection Form

Asbestos Abatement

Date: 8-2-19 ☒ Removal ☐ Encapsulation ☐ Enclosure ☐ Repair ☐ Cleanup

PROJECT NAME:	Roger Sherman School		PROJECT NO.:	20180955.A30
SITE LOCATION:	250 Fern St, Fairfield CT	BUILDING:		☒ PASS ☐ FAIL
WORK AREA:	2nd Area Hallway			
CONTRACTOR:	AAIS			

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

MATERIALS ABATED IN THIS SPECIFIC WORK AREA:

1. Floor Tile / Mastic	QTY:	55 SF	2.	QTY:	
3.	QTY:		4.	QTY:	
5.	QTY:		6.	QTY:	
7.	QTY:		8.	QTY:	
9.	QTY:		10.	QTY:	

SUSPECT ACM REMAINING IN CONTAINMENT NOT SPECIFIED FOR REMOVAL

1.	QTY:		2.	QTY:	
3.	QTY:		4.	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

No Visual Dust or Debris

WORK AREA CLEARANCE: ☒ PCM ☐ TEM ☐ Visual Only ☐ None Performed

ACKNOWLEDGEMENT

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

Fuss & O'Neill Inspector: Michael Fazio (PRINTED) _____ (SIGNATURE)

I have read and understand the inspection results.

Contractor's Supervisor: CHRIS CAFLIN (PRINTED) _____ (SIGNATURE)

FUSS & O'NEILL

Final Visual Inspection Form

Asbestos Abatement

Date: 8-6-19 ☒ Removal ☐ Encapsulation ☐ Enclosure ☐ Repair ☐ Cleanup

PROJECT NAME:	Roger Sherman School		PROJECT NO.:	20180955.A30
SITE LOCATION:	250 Fern St, Fairfield CT	BUILDING:		☒ PASS ☐ FAIL
WORK AREA:	North-side Backhall - 3rd Area			
CONTRACTOR:	AHS			

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

MATERIALS ABATED IN THIS SPECIFIC WORK AREA:

1. Floor Tile/Mastic	QTY:	50 SF	2.	QTY:	
3.	QTY:		4.	QTY:	
5.	QTY:		6.	QTY:	
7.	QTY:		8.	QTY:	
9.	QTY:		10.	QTY:	

SUSPECT ACM REMAINING IN CONTAINMENT NOT SPECIFIED FOR REMOVAL

1.	QTY:		2.	QTY:	
3.	QTY:		4.	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

No visual dust or debris

WORK AREA CLEARANCE: ☒ PCM ☐ TEM ☐ Visual Only ☐ None Performed

ACKNOWLEDGEMENT

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

Fuss & O'Neill Inspector: Michael Fazio (PRINTED) _____ (SIGNATURE)

I have read and understand the inspection results.

Contractor's Supervisor: Chris CLAFLIN (PRINTED) _____ (SIGNATURE)

FUSS & O'NEILL

Final Visual Inspection Form

Asbestos Abatement

Date: 8-7-19 ☒ Removal ☐ Encapsulation ☐ Enclosure ☐ Repair ☐ Cleanup

PROJECT NAME:	Roger Sherman School		PROJECT NO.:	20180955.A3C
SITE LOCATION:	250 Fern St, Fairfield CT	BUILDING:		☒ PASS ☐ FAIL
WORK AREA:	Room 10 Under lockers			
CONTRACTOR:	AALS			

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

MATERIALS ABATED IN THIS SPECIFIC WORK AREA:

1. Floor Tile / Mastic	QTY:	35 SF	2.	QTY:	
3.	QTY:		4.	QTY:	
5.	QTY:		6.	QTY:	
7.	QTY:		8.	QTY:	
9.	QTY:		10.	QTY:	

SUSPECT ACM REMAINING IN CONTAINMENT NOT SPECIFIED FOR REMOVAL

1.	QTY:		2.	QTY:	
3.	QTY:		4.	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

No Visual dust or debris

WORK AREA CLEARANCE:	☒ PCM	☐ TEM	☐ Visual Only	☐ None Performed

ACKNOWLEDGEMENT

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

Fuss & O'Neill Inspector: Michael Fazio (PRINTED) Michael Fazio (SIGNATURE)

I have read and understand the inspection results.

Contractor's Supervisor: Chris CLAFLIN (PRINTED) (SIGNATURE)

Appendix N

Waste Shipment Record