

HVAC IMPROVEMENTS & RELATED WORK
at the
STONINGTON TOWN HALL
152 ELM STREET
STONINGTON, CONNECTICUT

March 4, 2021

CHANGES TO SPECIFICATIONS

TABLE OF CONTENTS

ADD the following under Contract Conditions and Forms:

Limited & Directed Asbestos Survey and Lead-in-Paint Screening (1/3/20)

CONTRACT CONDITIONS AND FORMS

ADD the following:

Limited & Directed Asbestos Survey and Lead-in-Paint Screening (1/3/20), (12 pages) for lead and asbestos testing results within Third Level Stairwells and Lobby.

SECTION 02 08 05 – LEAD AND ASBESTOS REMOVAL

ADD the attached Section 02 08 05 in its entirety

ATTACHMENTS

Limited & Directed Asbestos Survey and Lead-in-Paint Screening (1/3/20)	(12 pages)
Section 02 08 05 – Lead and Asbestos Removal	(10 pages)

END OF ADDENDUM NO. 1

STONINGTON.TOWNHALL.HVACIMPROVEMENTS.ADDENDUM.#01



Mystic Air Quality Consultants, Inc.

1204 North Road, Groton, Connecticut 06340

www.mysticair.com

maq2@aol.com

800 247-7746

January 8, 2020

Tom Curioso
Department of Public Works
143 Elm Street
Stonington, CT 06378

Re: **Limited & Directed Asbestos Survey and Lead-in-Paint Screening (1/3/20)**
152 Elm Street; Stonington, CT

Dear Mr. Curioso:

As requested, Mystic Air Quality Consultants, Inc. conducted a limited and directed asbestos survey of accessible materials at the location noted above on December 20th, 2019. This survey was conducted by Christopher Muller, a Connecticut State licensed asbestos inspector (license #000215), to determine the presence of asbestos-containing materials. The samples were analyzed by polarized light microscopy at Environmental Hazards Services (NVLAP # 101882-0) in Virginia.

In addition to the asbestos survey, a limited and directed lead in paint screening of painted surfaces using a calibrated Niton XRF Spectrum Analyzer at the location noted above. The testing involved placing a calibrated X-ray fluorescence analyzer against representative painted surfaces to measure the concentration of lead in the paint at that location. The analyzer measures a square centimeter of surface area. Should there be more than 1 milligram of lead (0.9 mg/cm² to allow for equipment variation) detected in that location, the surface is considered by State law to be lead painted. Lead-painted surfaces are considered toxic to children under the age of six and to women who are pregnant.

Summary of the Asbestos Findings-

Upon testing by polarized light microscopy, the sheetrock walls and ceiling samples collected and analyzed from the location above were found to be non-asbestos containing.

Non-asbestos containing material

The roster of suspect materials (Enclosure 3), lists the materials tested. Those materials can be categorized as non-asbestos containing materials.

Implications of the findings

As required by state and federal regulations prior to renovation or demolition, any asbestos-containing materials listed above that could be disturbed by a renovation, will need to be removed by a licensed asbestos abatement contractor employing trained and certified personnel who follow all pertinent asbestos abatement regulations.



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Limitations of the Asbestos survey

This survey and report only deal with accessible areas of the building. Additionally, there may be other non-accessible materials above ceilings, behind walls, and below floors that become evident during your renovation activity. Should the requisite EPA/OSHA competent person working for the contractor discover such materials they will need to be tested for asbestos content so determinations of their abatement and disposal (if required) can be made.

Summary of Lead-In-Paint Screening-

The results of the testing have determined that several painted surfaces were found to be above the State of Connecticut toxic level of lead in paint. Please See Enclosure (5) for a Summary of Lead Positive Surfaces.

OSHA and lead in construction

In addition, there are requirements concerning employee exposure to lead in the workplace that apply to this property (OSHA lead standard 1926.62). Essentially these are federal OSHA standards that contractors you might hire to do renovations, repairs, remodeling/demolition are required to follow.

Regardless of the test results, please note that OSHA does not consider lead-in-construction pre-testing of paint in place as indicative of exposure potential because certain types of work procedures can release harmful levels of lead by separating it from the paint and making it airborne as dust. Activities such as dry scraping, sanding or abrading painted surfaces are typical workplace procedures that can create this situation.

Sincerely,

Christopher J. Eident CIH, CSP, RS
CEO

- Enclosure 1- Asbestos Lab Results
- Enclosure 2- Chain of Custody
- Enclosure 3- Roster of Suspect Materials
- Enclosure 4- Inspector's Lead Screening Results
- Enclosure 5- Diagram of Inspected Areas



Environmental Hazards Services, L.L.C.
7469 Whitepine Rd
Richmond, VA 23237
Telephone: 800.347.4010

Asbestos Bulk Analysis Report

Client: Mystic Air Quality Consultants
1204 North Road Rt.117
Groton, CT 06340

Report Number: 20-01-00402

Received Date: 01/06/2020

Analyzed Date: 01/07/2020

Reported Date: 01/08/2020

Project/Test Address: 152 Elm Street; Stonington, CT

Client Number:

07-2564

Fax Number:

860-449-8860

Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
20-01-00402-001	1		White Powdery; Granular; Brown Fibrous; Inhomogeneous	NAD	32% Cellulose 68% Non-Fibrous
20-01-00402-002	2		White Powdery; Granular; Brown Fibrous; Inhomogeneous	NAD	32% Cellulose 68% Non-Fibrous
20-01-00402-003	3		White Granular; Homogeneous	NAD	100% Non-Fibrous
No drywall present.					
20-01-00402-004	4		White Powdery; Granular; Brown Fibrous; Inhomogeneous	NAD	32% Cellulose 2% Fibrous Glass 66% Non-Fibrous
20-01-00402-005	5		White Powdery; Granular; Brown Fibrous; Inhomogeneous	NAD	12% Cellulose 2% Fibrous Glass 86% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 07-2564
Project/Test Address: 152 Elm Street; Stonington, CT

Report Number: 20-01-00402

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
20-01-00402-006	6		White Powdery; Granular; Brown Fibrous; Inhomogeneous	NAD	32% Cellulose 2% Fibrous Glass 66% Non-Fibrous

QC Sample: 36-M12011-3

QC Blank: SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020

Analyst: Sami Hosn

Reviewed By Authorized Signatory:

Melissa Kanode

Missy Kanode
QA/QC Clerk

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected



Asbestos Chain-of-Custody

20-01-00402

Due Date:
01/09/2020
(Thursday)
AE

6 pm

Environmental Hazards Services, LLC

www.leadlab.com 7469 Whitepine Rd
(800)347-4010 Richmond, VA
(804)275-4907 (fax) 23237

Company Name: Mystic Air Quality Consultants Address: 1204 North Rd., Groton, CT 06340Phone: 860 449 8903Fax: 860 449 8903E-mail: maq2@aol.comCity/state/zip: Groton, Ct. 06340Acct. Number: 07-2564Project Name and Address: 152 ELM STREETCity/State(required) STONINGTON CTCollected by: C. Mura Signature: CMystic Air Client: STONINGTONTurn around time: Standard ☒ One day (will call ahead)

No.	Client's Sample No.	Date Collected	PLM Analysis	Other Analysis Specify	Material Description	Sample Location	Comments
1	1-3	1-3-20	X	POSITIVE SEP	SHEETROCK WALLS	STAIRWELLS + LOBBIES	
2	4-6	1-3-20	X	POSITIVE SEP	SHEETROCK CEILING	STAIRWELLS + LOBBIES	
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Released by: C. MuraSignature: Cdate: 1-3-20Received by: T. L. L.Signature: T. L. L.date: 1/6/20 11:25

ENCLOSURE 2 PAGE 1 OF 1

SUSPECT ASBESTOS CONTAINING MATERIALS ROSTER

SITE: 152 Elm Street

STONINGTON, CT 06378

DATE: 01-03-26

Demo Pre-Reno ☒ Limited&Directed

[illegible]

COMMENTS:

Inspector: C. Munoz Page 1 of 1

Mystic Air Quality is an AIHA Accredited Lab FAX: 860 449 8860



ENCLOSURE 3 PAGE 1 OF 1



Mystic Air Quality Consultants, Inc.

1204 North Road (Rt. 117) Groton, Connecticut 06340

Client:
STONINGTON

Site Address:
152 ELM STREET
STONINGTON, CT 06378

Date:
01-03-20

XRF SCREENING

ROOM	SURFACE TESTED	Reading mg/cm2	Lead yes/no	Paint Condition
3 RD LEVEL STARWELLS AND LOBBY ↓	PLASTER WALL	9.6	YES	Damaged
	SHEETROCK WALL	0.8	NO	
	PLASTER CEILING	1.6	YES	
	SHEETROCK CEILING	0.3	NO	
2 ND LEVEL STARWELLS AND LOBBY ↓	Box-out for FIRE SPRINKLERS	0.2	NO	
	PLASTER WALL	7.2	YES	
	PLASTER CEILING	1.7	YES	
	SHEETROCK CEILING	0.3	NO	
1 ST LEVEL STARWELLS (NO LOBBY) ↓	ABOVE STAIRS (FLAT + ANGLED) PLASTER CEILING	6.8	YES	
	SHEETROCK WALLS	0.3	NO	
	SHEETROCK CEILINGS	0.6	NO	

Communications (24 hours):

Office: (860) 449-8903

Website: www.mysticair.com

Inspector: C. Fiddler

FAX: (860) 449-8360

e-mail: mago2@aol.com

Toll Free: 1 (800) 247-7746

ENCLOSURE 4 PAGE 1 OF 3

1204 North Road (Rt. 117) Groton, Connecticut 06340

Site Address:
152 ELM STREET
STONINGTON, CT 06378

Date: 1-3-20

[illegible]

Inspector: *[Signature]*

FAX: (360) 449-8360

Toll Free: 1 (800) 247-7746

e-mail: mario2@aol.com

ENCLOSURE 4 PAGE 2 OF 3



Mystic Air Quality Consultants, Inc.

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800 247-7746

Summary of Lead Positive Surfaces 152 Elm Street; Stonington, CT

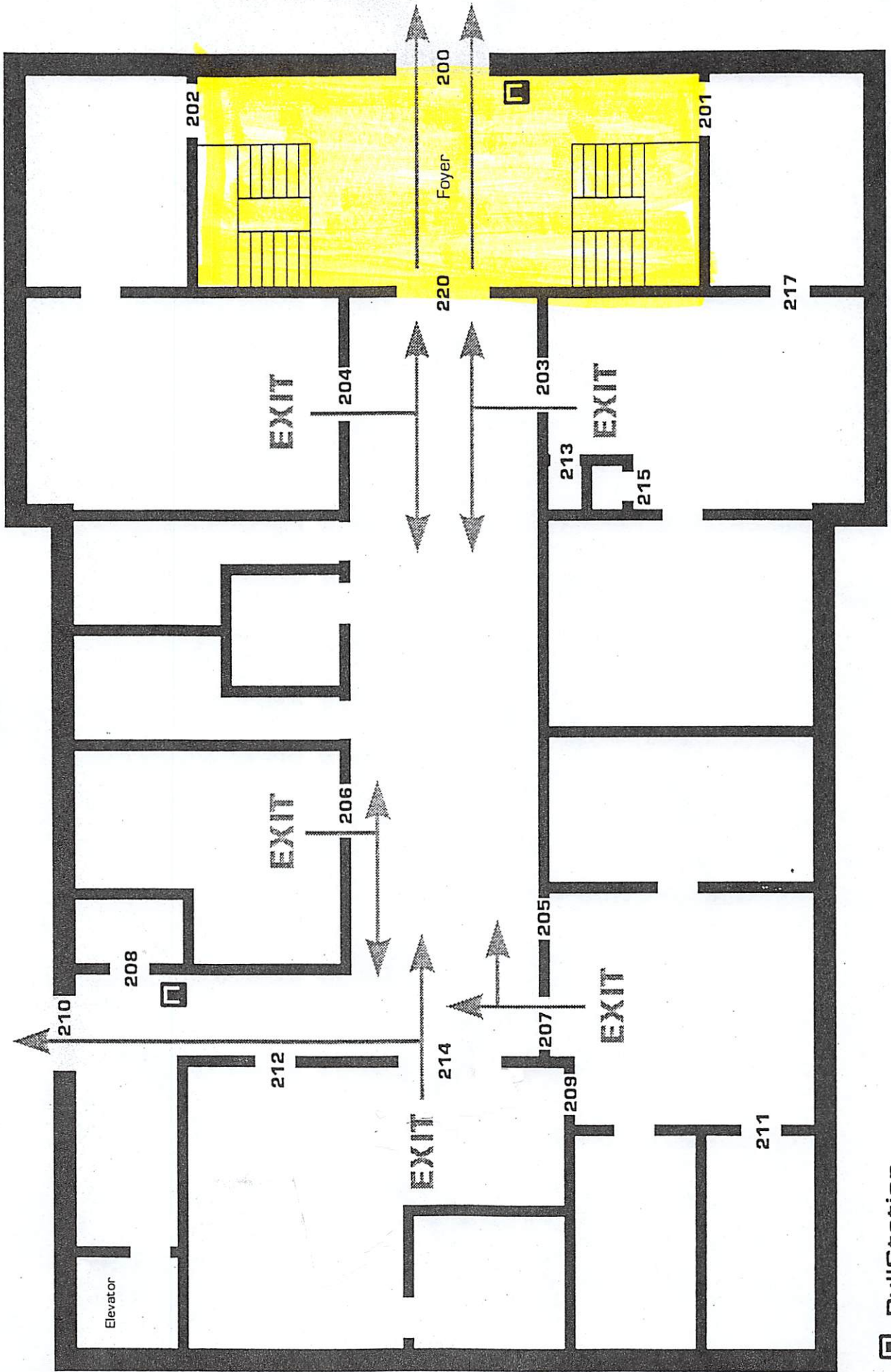
The following painted surfaces are above the State of CT standard for lead in paint of 1.0 mg/cm² or are above Mystic Air Quality's designation of 0.9 mg/cm² recommended for equipment variation.

Location	Surface	Reading mg/cm ²	Paint Condition
Third Level Stairwells & Lobby	Plaster Wall	9.6	Defective
Third Level Stairwells & Lobby	Plaster Ceiling	1.6	Defective
Second Level Stairwells & Lobby	Plaster Wall	7.2	Defective
Second Level Stairwells & Lobby	Plaster Ceiling	1.7	Defective
Second Level Stairwells & Lobby	Plaster Ceiling above Stairs (flat)	6.8	Defective
First Level Stairwells	Plaster Walls	7.9	Defective
First Level Stairwells	Plaster Walls	7.6	Defective

Stonington Town Hall

Fire Exit

- AREA INSPECTED

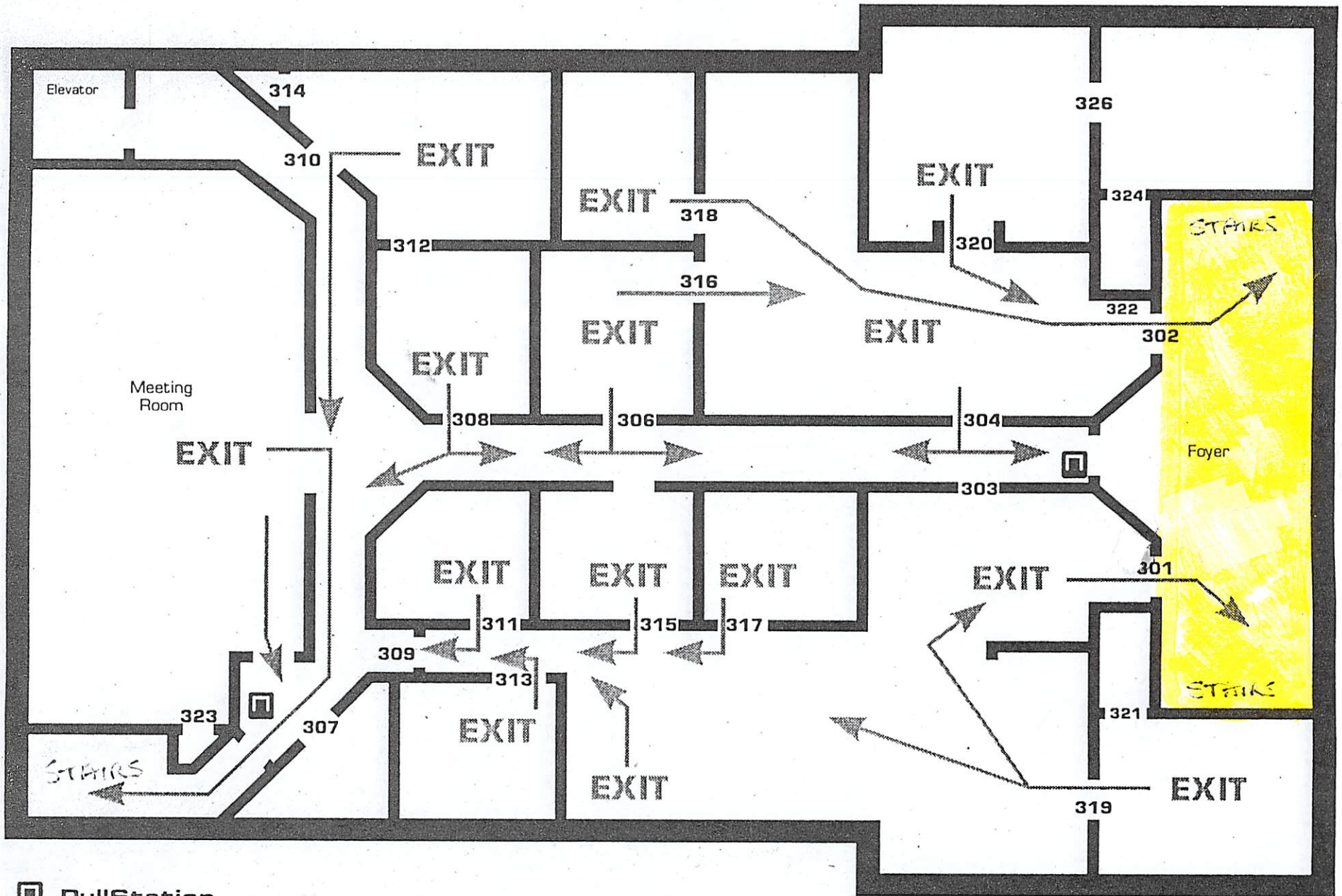


Second Floor

Stonington Town Hall

Fire Exit

- Area Suspected

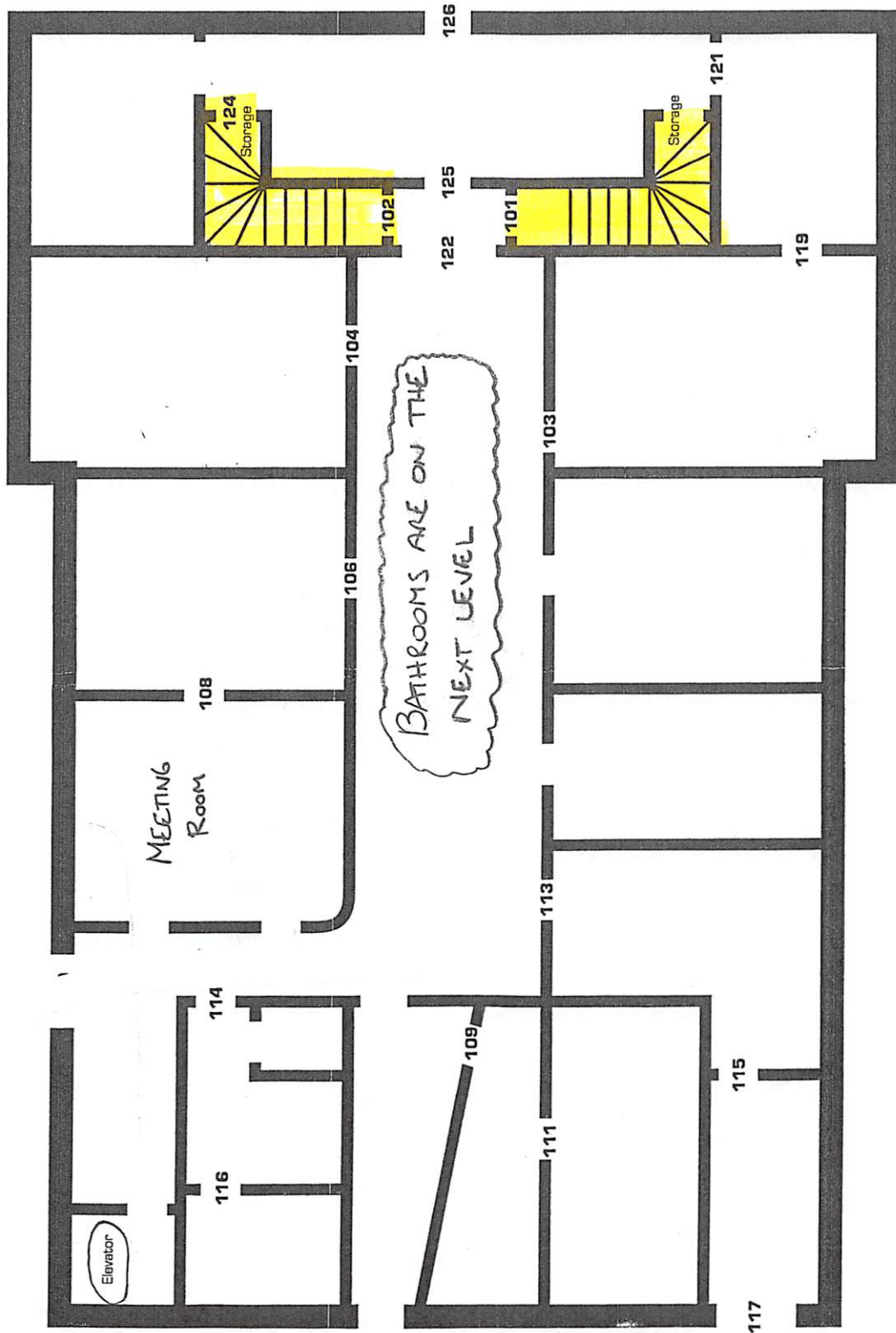


 Pull Station

Third Floor

Stonington Town Hall

- AREA INSPECTED



First Floor

SECTION 02 08 05 - LEAD AND ASBESTOS REMOVAL

Project Design for this section by:

Christopher J. Eident, CIH (#1259), CSP, MPH
Licensed Asbestos Project Designer # 00015
Licensed Lead Project Designer # PP001614B
Mystic Air Quality Consultants, Inc.
1204 North Road, Groton, Connecticut 06340
(860) 449-8903

This specification covers the removal of lead painted and potentially asbestos containing building materials (ceilings and walls) prior to installation of the new HVAC systems.

PART 1 - ASBESTOS REMOVAL SPECIFICATIONS

1.1 Scope - This specification covers the abatement of exposure to lead and asbestos from the building materials that have previously been determined to contain asbestos.

1.1.1 Asbestos has been classified by the Federal Government as a carcinogenic (cancer producing) material. To comply with governmental requirements and minimize employee exposure, controls are necessary wherever there is a potential for exposure to airborne fibers.

1.1.2 All work and work areas shall be in conformance with the requirements of EPA regulations (40 CFR Part 763), NESHAPS regulations (40 CFR 61 Subpart M) OSHA regulations (29 CFR 1910.1001 and 1926.1101), and Regulations for Connecticut State Agencies Section 19a-332a-1 to Section 19a-332a-13 and OSHA 1926.62 (lead).

1.1.3 Deviations from these specifications require the written approval of the Building Owner.

1.1.4 The Contractor performing the asbestos removal must be a licensed Asbestos Removal Contractor in the State of Connecticut.

1.1.5 Bidding Contractors must notify the Building Owner of any discrepancies or errors that might have been discovered in the specifications for the purpose of making such corrections or adjustments as may be necessary. If it should appear that the work called for is not in accordance with State, local, or Federal laws or ordinances, the Contractor shall immediately notify the Owner before rendering his bid. No work shall be performed if uncertainties exist.

1.1.6 The Contractor performing the asbestos removal must carry Asbestos Liability Insurance in accordance with the Owner's contract requirements. A copy of a current Insurance Certificate must be provided to the Owner prior to the start of work.

1.1.7 This work may be monitored for the Building Owner by a licensed Asbestos Project Monitor from a State of Connecticut licensed Asbestos Laboratory.

1.2 DESCRIPTION OF WORK

1.2.1 PROJECT

The specification covers the removal and or drilling into ceiling and possibly some wall surfaces that are known to contain lead paint in locations where penetrations will be made to install new ducting. **The HVAC contractor will clearly mark (paint) each area where the ceiling and or wall surface must be removed.** All areas will be less than 3 ft² and the removals will be conducted using the OSHA Glove Bag method which is attachment #1. **Please note that no asbestos was found during the pre-renovation asbestos survey in the areas to be removed, but other historical data from the Town Hall indicates some ceilings did contain asbestos.**

The work area will be isolated using barrier tape and signs. The floor will be covered with 6 mil poly taped securely to the floor beneath each work area. The materials will be disposed of as lead waste after passing a visual inspection by the asbestos inspector. The poly will be cleaned and folded in on itself and disposed of as asbestos waste. The ground under the poly must also be cleaned until it passes a visual inspection that it is free of suspect debris.

The ceiling removal work must be conducted by State of Connecticut licensed Asbestos Workers since they are proficient in the use of glove bags.

Workers shall use at least half face negative pressure respirators with high efficiency filters and full body "Tyvek" coveralls. The project air monitor must approve the contractor's worker documentation record and notifications prior to starting the removals.

1.2.1.1 The work specified herein shall be the removal of lead painted materials by persons who are knowledgeable, qualified, and trained in the removal, treatment, handling, and disposal of lead and asbestos-containing material, and the subsequent cleaning of the affected environment. These persons must comply with Federal and State regulations which mandate work practices, and be capable of performing the work of this contract.

1.2.1.2 The Contractor shall supply all labor, materials, equipment, services, insurance and incidentals which are necessary or required to perform the work in accordance with the applicable governmental regulations and these specifications.

1.3 SUBMITTALS AND NOTICES

1.3.1 Prior to Commencement of Work:

1.3.1.1 No State or Federal Notification are required, but the contractor must notify the occupants and other contractors at least 5 days in advance prior to conducted the glove bag removals.

1.3.1.2 Submit proof satisfactory to the Owner that all required permits, site locations, arrangements for transport and disposal of lead -containing or contaminated materials, supplies, and the like have been obtained.

1.3.1.3 The Contractor must submit a written statement regarding whether he/she has ever been found out-of-compliance with pertinent Federal and State asbestos removal regulations. If previously found out-of-compliance, details must be submitted regarding each item of the alleged or proven non-compliance.

1.3.1.4 Submit documentation to the owner indicating that each employee has instruction on the hazards of asbestos exposure, on use and fitting of respirators, on protective dress, on use of showers, on entry and exit from work areas, and on all aspects of work procedures and protective measures and understands this instruction. Also submit verification that all employees have received medical examinations as required by OSHA regulations.

1.3.1.5 Post signs in and around the Work Area to comply with OSHA standard 29 CFR 1926.62 (lead Paint Hazard Warning signs).

1.3.1.6 The Owner and Contractor must agree in writing on building and fixture condition prior to commencement of work. A photographic or videotaped record is required, unless waived by the Owner.

1.3.1.7 Submit manufacturer's certification that vacuum conform to ANSI Z9.2-1979.

1.3.1.8 When rental equipment is to be used in removal areas or to transport waste materials, a copy of the written notification provided to the rental company informing them of the nature of use of the rented equipment shall be submitted to the Owner.

1.4 PERSONAL PROTECTION

1.4.1 Prior to commencement of work, the workers shall be instructed and shall be knowledgeable, in the areas described. On-site training in the use of equipment and facilities unique to this job site shall be performed. Emergency evacuation procedures to be followed in the event of compressor failure shall be included in worker training prior to commencement of work.

1.4.2 Respiratory protection shall meet the requirements of OSHA as presented in 29 CFR 1910.134 titled "Respiratory Protection" and CFR 1910.1001, 1915.1001 and 1926.1101 titled "Asbestos".

1.4.2.1 The employer shall select and provide at no cost to the employee respirators which will provide adequate protection to the employee as specified by section 1910.1001(g) Table D-1 and Section 1926.1101(h) Table D-4.

1.4.2.2 Any feasible combination of engineering controls, work practices, and personal protective equipment and devices, may be used to reduce personnel exposure to asbestos.

1.4.2.3 Proof that the average airborne concentration of asbestos fibers an employee will confront will not exceed the allowable limits shown above for the various types of respiratory devices must be determined by an air sampling professional retained by the Contractor by applying sound scientific and/or engineering principles. An acceptable method would be through measuring

exposures under all the various conditions that will be encountered by collecting personal samples of airborne asbestos within the affected employees' breathing zones. Results of such studies shall be maintained at the work site.

1.4.3 All individuals entering the Work Area shall wear prescribed protective clothing and respirators until the asbestos removal areas have passed clearance tests.

1.4.4 Respiratory protection shall be worn by all persons potentially exposed to asbestos from the initiation of the asbestos abatement project until all areas have been given clearance. Clearance shall be obtained by visual inspection and air monitoring conducted by the Air Sampling Professional.

1.4.5 Protective Clothing - Special clothing such as coveralls or whole body clothing, head coverings, gloves, and foot coverings shall be provided and worn by personnel in work areas where concentrations of asbestos fibers in the air exceed the permissible ceiling concentration established by OSHA. The protective clothing and footwear shall be left in the Contaminated Equipment Room until the end of the asbestos abatement work, at which time all such items shall be thoroughly cleaned of all asbestos-containing material. Disposable type protective clothing, when used, shall be disposed of as contaminated waste. Protective clothing required for other types of construction or industrial hazards are required as appropriate for the particular job.

1.4.6 Provide all authorized visitors with respirators, new filters, protective clothing, headgear, eye protection, footwear, and hard hats as in the procedures described herein and afford them the use of all facilities to hold them free of contamination of asbestos fibers.

1.5.0 WORKER PROTECTION PROCEDURES

1.5.1 Workers shall not eat, drink, smoke, or chew gum or tobacco while in the Work Area.

1.5.2 Workers shall be fully protected with respirators and protective clothing immediately prior to the first disturbance of asbestos contaminated materials and until final clean-up is completed.

2.1 MATERIALS

2.1.1 Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.

2.1.1.1 Delivery and storage of materials and equipment shall be under the direct control of the Contractor in areas to be approved by the General Contractor and the Owner. These shall be stacked, stored, disposed of or otherwise handled on the premises by the Contractor. The Contractor shall post all necessary signs and provide all temporary enclosures and guards as required for the full protection of workmen and the building.

2.1.1.2 Damaged or deteriorating materials shall not be used and shall be removed from the premises. Material that becomes contaminated with asbestos shall be decontaminated or disposed of as asbestos waste.

2.1.2 Use plastic sheet of four (4) mil thickness unless otherwise specified, in sizes to minimize the frequency of joints. Use single layer of six (6) mil polyethylene to create critical barriers where appropriate for size, configuration, and space to critical. A double layer of four (4) mil polyethylene shall be used on the walls. Use at least two layers of six (6) mil polyethylene to construct the de-contamination entry system of multiple chambers as described elsewhere of a minimum of three (3), and up to five (5) or six (6), sections and/or airlocks. A double layer of six (6) mil polyethylene shall be used on floors.

2.1.2.1 Polyethylene bags shall be six (6) mil and of sufficient size for the application.

2.1.3 Tape will be used that is capable of sealing joints in adjacent plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

2.1.4 Surfactant (wetting agent) - shall consist of fifty (50) percent polyoxyethylene ether and fifty (50) percent polyoxyethylene ester, concentration of one (1) ounce surfactant to five (5) gallons of water or as directed by manufacturer.

2.1.4.1 The Contractor shall have available spray equipment on site capable of mixing wetting agent with water and capable of generating sufficient pressure and volume and having sufficient hose length to reach all areas with asbestos.

2.1.5 Impermeable containers are to be used to receive and retain any asbestos-containing or contaminated materials until disposal at an acceptable disposal site. (The containers shall be labeled in accordance with OSHA standards 29 CFR 1910.1001 and 1926.1101). Containers must be both air and watertight.

2.1.6 Labels and signs required by OSHA standards 29 CFR 1926.62 and 1926.1101 will be used.

2.2 TOOLS AND EQUIPMENT

2.2.1 Provide suitable tools for glove bag removals.

2.2.1.1 The Contractor shall have available on site air monitoring equipment of type and quantity to monitor operations and conduct personnel exposure surveillance per OSHA requirements.

2.2.1.2 The Contractor shall have available on site sufficient inventory or dated purchase orders for materials necessary for the job including protective clothing, respirators, filter cartridges, plastic sheeting of proper size and thickness, duct tape, air filters and sample filter cassettes.

2.2.1.3 Ladders and/or scaffolds are to be of adequate length and sufficient quantity to support work schedule.

2.2.1.4 Air filtering equipment shall meet HEPA requirement and be of sufficient capacity to cause four (4) air changes per hour within the work area exhausting the filtered air so as to maintain a negative inside (work area) pressure and of sufficient flow through the decontamination chambers so as to prevent escape of airborne fibers.

3.1 REPARATION

3.1.1 WORK AREAS

3.1.1.1 The Contractor shall provide for, furnish and maintain temporary connections to existing water supply and electrical utilities for the use of water and power for lighting, heating or services required for the full performance of the work, and be responsible for the same. In accordance with the following paragraphs, no charges will be assessed for the use of reasonable amounts of water or electricity. Any subcontractors shall also be allowed the full use of these utilities.

- a. Water - Water may be obtained free of charge, with the Contractor providing all temporary connections for its distribution and removal of the same after the completion of the project.
- b. Electricity - Electricity shall be provided at no charge from existing power sources. Contractor shall check on the adequacy of power supply prior to making connections.

3.1.1.2 Where necessary provide temporary power and lighting and ensure safe installation of temporary power sources and equipment per applicable code requirements and provide 24V safety lighting and ground fault interrupter circuits or GFI equipped power cords as power source for electrical equipment.

3.1.1.2 Shut down and isolate heating, cooling, and ventilating air systems to prevent contamination and fiber dispersal to other areas of the structure if possible. During the work, vents within the Work Area shall be sealed with tape and plastic sheeting.

3.2 ASBESTOS REMOVAL

3.2.1 REPAIR SITE

3.2.2 Use the attached OSHA Glove Bag Method for removals

3.2.3 If at any time during asbestos removal, should the air sampling professional suspect contamination of areas outside the work area, he/she shall stop all abatement work until the Contractor takes steps to decontaminate these areas and eliminate causes of such contamination. Unprotected individuals shall be prohibited from entering contaminated areas until air sampling and visual inspections certify decontamination.

3.3 CLEAN-UP AND FINAL VISUALS

3.3.1 Remove visible accumulations of debris from beneath the glove bag removal areas. Wet clean or HEPA vacuum all surfaces within the Work Area.

3.3.2 If the building owner or his representative finds visible accumulations of dust or bulk asbestos containing materials in the Work Area, the Contractor shall repeat the cleaning until the work area is in compliance, at the Contractor's expense. The visual inspection will detect incomplete work, damage caused by the abatement activity, and inadequate clean-up of the worksite.

3.3.3 Areas which do not comply with the Standard for Cleaning for Initial Clearance shall continue to be cleaned by and at the Contractor's expense until the specified Standard of Cleaning is achieved.

3.4 DISPOSAL OF LEAD-CONTAINING MATERIALS CONTAMINATED WASTE

3.4.1 Waste disposal - Disposal of lead waste must be in compliance with local, state, and federal regulations.

Waste will be segregated during the abatement by type. After the project, dispose all paint chips, dust and debris as lead contaminated waste unless TCLP testing indicates otherwise.

3.4.2 The contractor will be responsible for preparation of any manifest required by Federal or State regulations to track the movement of hazardous waste. The contractor will use the Building owner's EPA Identification Number for all manifests. Lead contaminated debris will be tested in accordance with 40 CFR 261 for TCLP lead (unless assumed to be lead waste).

3.5 GENERATOR AND/OR HAULER REQUIREMENTS

1. The lead waste materials will be packaged in impermeable dust tight containers (i.e. heavy duty six (6) mil plastic bags or sealed fiber pack drums):

2. All containers will be labeled with appropriate hazard warnings.

3. The landfill accepting the wastes will be notified before shipping for scheduling to insure that adequate personnel and apparatus are available at the time of disposal; and

4. The lead materials will be delivered in separate shipments. It will not be transported with any other materials.

3.6 AIR MONITORING AND ANALYSIS

3.6.1 The following schedule shall be utilized for air sampling during the project by the building owner's representative (in addition to OSHA compliance monitoring by the Contractor):

Daily personal air sampling by the Contractor, and daily visuals and area sampling by the Project Air Monitor.

3.6.2 Air samples will be analyzed with the appropriate microscopy. In buildings other than Owners, per the State of Connecticut regulations, transmission electron microscopy will be used to analyze final air samples for containments in which more than 1500 square feet or 500 linear feet of asbestos-containing materials were abated. In buildings other than schools, per the State of Connecticut regulations, phase contrast microscopy will be used to analyze final air samples for containments in which less than 1500 square feet or 500 linear feet of asbestos-containing materials were abated.

3.7 CONTRACTOR RESPONSIBILITY

3.7.1 Air sampling shall be conducted by the Contractor, as necessary, to assure that workers are using appropriate respiratory protection in accordance with OSHA Standard 1910.1001 and 1926.1101.

3.7.2 Documentation of air sampling results must be recorded at the work site within twenty-four (24) hours and be available for review until the job is complete. Upon completion of the job, these are to be forwarded to the owner for inclusion with project records.

3.7.3 Documentation of sample analysis must include as a minimum; sample identification; total sample duration; sample flow rate; total air volume; total fibers counted (with work sheets); total fields counted; blank filter analysis; reticule field area; and concentration of fibers per cubic centimeter. Analytical results must include calculation of detection limits as given in Appendix G of Environmental Protection Agency Publication EPA 560/5-85-024, June 1985 Guidance for Controlling Friable Asbestos-Containing Materials in Building; of any typical environmental conditions.

3.7.3.1 Air sampling analysis must be performed by individuals trained in the National Institute for Occupational Safety and Health (NIOSH) 582 course on Asbestos Air Sampling and Analysis, associated with a laboratory approved and certified by the American Industrial Hygiene Association (AIHA). Documentation of individual air sample analysis qualifications must be provided to the owner or their designated agent.

Attachment 1: OSHA Glove Bag Method

GLOVE BAG PROCEDURES

1. Preparation of the Asbestos Work Area

- Before asbestos work begins, the area within 10 feet of the glove bag operation must be cleaned using HEPA-equipped vacuuming and wet wiping techniques. A single layer of six-mil plastic sheeting must be placed directly below the area where the glove bag operation shall take place.
- The glove bag must be attached so that material adjacent to the glove bag is not disturbed during the preparation phase.
- Smoke test the glove bag in order to check for any leaks. The following steps are required when performing a smoke test:
 - A. Using a smoke tube and bulb, release smoke inside the glove bag and reseal the glove bag;
 - B. Apply pressure to the outside of the glove bag; and
 - C. Visually inspect the glove bag for smoke leaking out. Repair any leaks using duct tape or comparable material.

2. Asbestos removal, encapsulation or enclosure procedures

- Glove bags cannot be used more than once.
- ACM must be kept adequately wet at all times by using an airless or hudson-type sprayer.
- Surfaces where ACM has been removed must be cleaned until no visible debris or residue remains.
- ACM exposed within the glove bag must be sealed with encapsulant before removing the glove bag.
- A visual inspection of the abated surface must be performed prior to the removal of the glove bag.

3. Completion of the Glove Bag Operation

- Post abatement activities include: the cleaning of the interior surfaces of the glove bag; removal of tools used during the glove bag operation; collapsing and disposal of the glove bag; and cleanup of the asbestos work area.
- The interior surfaces of the glove bag must be cleaned using an airless or hudson-type sprayer until no debris or residue is observed on the top or vertical sides of the glove bag.
- The tools used during the glove bag operation must be removed from the glove bag using the following steps:
 - A. With hands in the gloves, tools must be grabbed and the gloves turned inside out.
 - B. The air in the glove bag must be evacuated using a HEPA-filter equipped vacuum.
 - C. The glove portion which contains the tools must be twisted and sealed with tape.
 - D. Remove the glove portion by cutting across the middle of the tape.

- E. If transported off the site, the glove containing the tools must be placed into a leak-tight container and labeled as ACM.
- F. The glove portion containing the tools to may only be opened inside of another glove bag, decontamination unit, containment, or while submerged under water.
- G. The portion of the sprayer that was inside the glove bag must be wet wiped and pulled from the glove bag.
- o The area below the glove bag operation must then be inspected for dust and debris. Any dust and debris must be cleaned using HEPA-equipped vacuuming or wet wiping methods. The plastic sheeting must be disposed of as ACM.

END OF SECTION 02 08 05