HAZARDOUS MATERIALS SURVEY
COMMERCIAL BUILDING
26 SOUTH BROADWAY
SALEM, NEW HAMPSHIRE

January 2020

Project 19039

GREEN
ENVIRONMENTAL

HAZARDOUS MATERIALS SURVEY

Commercial Property
26 South Broadway
Salem, New Hampshire

January 9, 2020

Project 19039

Prepared for:

Vanasse Hangen Brustlin
101 Walnut Street
Watertown, MA 02472
ATTN: Katherine Kudzma

Prepared by:

Green Environmental, Inc.
296 Weymouth Street, Unit C
Rockland, MA 02370
Phone: (617) 479-0550
Fax: (617) 479-5150
www.greenenvironmental.com

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APPENDICES

1.0 INTRODUCTION

Green Environmental, Inc. (GREEN) was retained by Vanasse Hangen Brustlin (VHB) to conduct a hazardous materials survey of the commercial building located at 26 South Broadway in Salem, New Hampshire. GREEN understands the surrounding area is scheduled to be redeveloped and that the existing structure will be demolished. GREEN completed this Hazardous Materials Survey to support the planned redevelopment.

1.1 Building Description

According to the Town of Salem Assessor field card and GREEN's site inspection, the building located at 26 South Broadway is an approximately 1,319 square-foot, single-story, commercial building constructed in 1947.

The building has a concrete foundation, with a wood frame construction and an asphalt shingle roof. Representative site photographs for the building are included in **Appendix A**.

1.2 Scope of Work

GREEN was retained to conduct a Hazardous Materials Survey to document the presence of oil or hazardous materials at the subject building that may require abatement and/or special handling and disposal prior to building demolition. The Survey included assessment for the presence of asbestos and lead-based paint, and the cataloging of oils and/or hazardous materials located within the building. Bulk samples of suspect building materials were collected using destructive measures, and submitted for laboratory analysis as appropriate. The presence of lead-based paint was evaluated using an X-Ray fluorescence (XRF) field instrument.

2.0 ASBESTOS SURVEY

2.1 Regulatory Background

Regulations for asbestos exposure and/or asbestos release have been promulgated by the United States Environmental Protection Agency (EPA), U.S. Occupational Safety and Health Administration (OSHA), and New Hampshire Department of Environmental Services (NHDES).

OSHA regulates asbestos in the workplace through the Asbestos for General Industry Standard (29 Code of Federal Regulations [CFR] 1910.1001) and the removal of regulated asbestos-containing material (RACM) though the Asbestos Standard for Construction (29 CFR 1926.1101). OSHA regulations are created for the protection of the health of workers who may be occupationally exposed to asbestos. These occupations include asbestos abatement, construction activities, building maintenance, and others. OSHA requires that asbestos ACM be removed or appropriately abated prior to any work which will disturb the material, including demolition and renovation. Additionally, OSHA stipulates that thermal system insulation (TSI), surfacing materials and floor tile installed before 1980 must be presumed to be ACM unless appropriate sampling and analysis prove otherwise.

EPA and NHDES regulate ACM associated with building demolition, renovation, and abatement projects. The regulations are promulgated via the National Emission Standards for Hazardous Air Pollutants (NESHAP 40 CFR part 61) and the New Hampshire Cod of Administrative Rules (Env-A 1800). The regulations are developed to protect public health and the environment and require that buildings be inspected for asbestos prior to any demolition or renovation. Further, the regulations require that all affected friable and non-friable ACM which is damaged or will be damaged as a result of the demolition or renovation activities be properly removed or abated prior to disturbance by the work.

NESHAP defines three types of ACM:

- Friable ACM: ACM that can be reduced to power by hand pressure requiring removal prior to renovation or demolition (e.g., thermal system insulation (TSI), plaster, joint compound, ceiling tiles).
- Category I non-friable ACM: ACM that is not friable and does not require removal prior to demolition, unless these materials have become friable, will become friable if disturbed, or are in poor condition; must be removed prior to renovation (e.g., resilient floor covering, packings, gaskets, asphalt roofing).
- Category II non-friable ACM: ACM that is not friable and does not require removal prior to demolition, unless these materials have become friable, will become friable if disturbed, or are in poor condition; must be removed prior to renovation (all other non-friable ACM).

RACM is friable ACM and non-friable ACM that may become friable during demolition or renovation activities. Practically speaking, both Category I non-friable ACM and Category II non- friable ACM will become friable in a typical commercial demolition or renovation scenario and must be abated prior to the work.

2.2 Sample Collection and Analysis

Bulk samples were collected based on type and quantity of each suspect material following the sampling guidelines set forth in the Asbestos Hazard Emergency Response Act (AHERA 40 CFR 763.86). Green inspected for materials among those defined as suspect ACM by EPA's AHERA regulation which include:

- Thermal system insulation (TSI) (e.g., pipe/boiler lagging, duct insulation);
- Surfacing materials (e.g., spray-on insulation, texturing materials, plaster), and;
- Miscellaneous materials (e.g., ceiling tiles, transite panels, flooring, vibration joints, drywall).

Fiberglass, foam glass, rubber, wood products, plastic products, glass and steel were not sampled since they are not considered suspect ACM.

The asbestos survey was conducted by Mr. Luke Krzyzewski, New Hampshire Accredited Asbestos Inspector AI100882. A copy of personnel accreditation is included as **Appendix B**. A total of 32 bulk samples were collected from the 26 South Broadway building on December 12, 2019. The samples were collected using hand tools, and sampling equipment was cleaned between the collection of each sample. Each sample location was wet with water prior to sampling to avoid creating dust during sampling. Bulk samples were placed in individual air tight plastic bags and transferred to Asbestos Identification Laboratory of Woburn, Massachusetts for analysis via EPA 600/R-93/116 and/or EPA Interim Method 600/M4-82-020 methods using Polarized Light Microscopy (PLM). Asbestos Identification Laboratory is licensed by the National Voluntary Laboratory Accreditation Program (NVLAP) (#200919-00) for bulk asbestos analysis. The field survey, chain of custody documentation and laboratory certificates of analysis are included in **Appendix C**. In accordance with NESHAP and NHDES regulations, materials are considered asbestos-containing if they contain greater than 1% asbestos as determined by PLM.

The following is a list of materials that were determined to be **non-asbestos-containing**:

Interior:

- Residual Yellow Mastic
- White Sheet Floor and Adhesive
- Drywall
- Textured Ceiling
- 12” Brown Floor Tile and Mastic
- Gray Floor Leveler
- Joint Compound
- White Duct Mastic

Exterior:

- Siding Paper
- Asphalt Shingle
- Roof Paper

The following is a list of materials that were determined to be **asbestos-containing**:

- Interior Window Glaze (gray)

Based on the review of analytical data associated with the above bulk sample collection, asbestos was **positively** identified at the 26 South Broadway building. Please refer to **Appendix E** which summarizes the materials, locations, and estimated quantities that tested positive for asbestos at the 14 South Broadway building. Site photographs are included in **Appendix A**.

3.0 LEAD BASED PAINT SURVEY

3.1 Regulatory Background

The Occupational Safety and Health Administration (OSHA) worker protection rule has established a permissible exposure limit (PEL) of 0.050 milligrams per cubic meter for airborne lead. OSHA worker protection rules are applicable for any amount of lead. The Resource Conservation and Recovery Act (RCRA) regulates wastes containing lead as hazardous wastes if the leachable lead in the waste exceeds 5 parts per million (ppm) by Toxicity Characteristic Leachate Procedure (TCLP).

The United States Department of Housing and Urban Development (HUD) has established a threshold for in- lace paint of 1 mg/cm^2 lead as measured by X-ray fluorescence (XRF), above which paint is considered lead-containing. Although HUD guidelines are only directly applicable to residential buildings, the threshold is useful as a guideline for identifying exposure and waste disposal issues in non-residential buildings.

3.2 Sample Analysis

A Lead Based Paint (LBP) Survey was conducted on December 12 and 13, 2020, by Mr. David Pesce, New Hampshire Lead Inspector and Risk Assessor No. RA-00059, utilizing an XRF. This is a non-destructive analytical technique used to determine the elemental composition of materials. XRF analyzers determine the chemistry of a sample by measuring the fluorescent (or secondary) X-ray emitted from a sample when it is excited by a primary X-ray source. This release of energy is then registered by the detector in the XRF instrument, which in turn categorizes the energies by element.

The investigation included a survey of painted surfaces for the presence of lead-based paint (LBP) throughout the building. No elevated levels of lead were identified during the survey. Please refer to the field inspection log sheets, included as **Appendix F,** which identifies the locations of elevated lead painted surfaces.

The purpose of the LBP survey was to assist the owner and/or contractor in OSHA compliance for worker protection during the planned renovation of the subject building. Survey results may also assist with characterization of construction debris/waste prior to disposal.

4.0 OTHER HAZARDOUS MATERIALS

4.1 Oil, Paints & Cleaners

No cleaning, maintenance supplies, or paints were noted within the property building.

4.2 Mercury Containing Devices

No mercury containing thermostats were identified within the building.

4.3 Fluorescent Lights & Ballasts

Fluorescent light fixtures were noted throughout the building. Fluorescent lighting tubes can contain both mercury and lead, and have special handling and disposal requirements. Under federal regulations used fluorescent lamp becomes a waste on the day that it is discarded. The disposal of fluorescent lighting tubes is regulated under the Resource Conservation and Recovery Act (RCRA).

Additionally, fluorescent light ballasts manufactured prior to 1979 may contain polychlorinated biphenyls (PCBs). PCB-based oils were used as insulating oil in many types of ballast to provide cooling and electrical isolation. PCBs are regulated by the EPA and also have special handling and disposal requirements, depending on the concentration.

Each light fixture should be inspected for "No PCBs" labeling, prior to removal. Lighting ballasts which contain PCBs should be segregated from non-PCB containing ballasts and properly disposed. Ballasts with no labeling should be considered PCB. The fluorescent tubes should be transported off-site for recycling. Please refer to **Appendix G,** for approximate quantities and locations of fluorescent lights and ballasts.

4.4 Refrigerants

No refrigerants were noted within the building.

4.5 Emergency Equipment

Emergency lights were observed within the subject building. Batteries associated with these units are an alkaline, NiMH and NiCAD source. The batteries should be either recycled or properly disposed, prior to being disturbed. Please refer to **Appendix G,** for approximate quantities and locations of emergency equipment.

5.0 RESULTS AND RECOMMENDATIONS

GREEN has completed a Hazardous Materials Survey of the building located at 26 South Broadway in Salem, New Hampshire. The property building consists of an approximately 1,319 square-foot, single-story, commercial building. GREEN understands the existing structure will be demolished. GREEN completed this Hazardous Materials Survey to support the planned redevelopment. The Survey included assessment for the presence of asbestos via bulk sample collection and laboratory analysis, a lead-based paint XRF survey, and the cataloging of oils and/or hazardous materials located within the building.

Asbestos was positively identified at the 26 South Broadway building, as summarized in **Section 2** and **Appendix E**. In accordance with NESHAP and NHDES regulations, all friable ACM, or materials made friable by demolition or renovation activities, must be removed from the building by a licensed asbestos abatement contractor, prior to demolition or renovation. Removal of ACM is regulated by NHDES. GREEN recommends the identified ACMs be removed from the buildings in accordance with applicable asbestos abatement regulations prior to the start of planned demolition activities. Asbestos abatement must be done by a New Hampshire licensed Asbestos Abatement Contractor and be properly disposed of offsite at an appropriate receiving facility in compliance with all applicable state and federal regulations. The New Hampshire asbestos regulations require visual inspection and clearance air monitoring at the completion of an asbestos abatement project. Additionally, full-time monitoring of asbestos abatement procedures in compliance with design specifications and regulations is recommended during major asbestos abatement projects.

NHDES regulations require notification to the Department and local government officials using the Asbestos Demolitions/Renovation Notification Form, 201-05-31 at least 10 working days prior to conducting of an asbestos response action of more than 10 linear-feet or 25 square feet of ACM.

Based on the results of the lead-based paint survey, surfaces analyzed as part of the survey were found to contain relatively low levels of lead in paint. OSHA worker protection rules apply for any amount of lead in paint, GREEN recommends that the owner provide the results of the LBP survey provided in this report to its demolition contractor. The contractor should consider this information in planning for worker protection during the demolition waste disposal. Removal of the paint prior to demolition is not required. However, the contractor may choose to monitor ambient air for lead during demolition, or demonstrate through air monitoring data collected from previous similar projects that the concentrations of lead identified will not result in an exceedance of the OSHA PEL during the demolition. The demolition contractor should also consider whether TCLP characterization of the demolition debris in accordance with RCRA is appropriate. Demolition work must be conducted in accordance with applicable federal, state, and local regulations. The XRF field inspection sheets are included in **Appendix F**.

Other oil and hazardous materials were identified within the building and should be properly segregated, disposed/or recycled as appropriate as summarized in **Section 4 and Appendix G** of this Survey report.

6.0 LIMITATIONS

The opinions expressed by GREEN are based solely on the observations, sampling and analysis, and information cited in this report. Observations were made at the subject site under the conditions stated. The purpose of this study was to determine the nature and approximate quantities of hazardous materials prior to demolition activities. This report does not constitute a complete determination of whether past or current owners, operators or occupants of the site have been in compliance with all applicable state, federal or local environmental regulations. This report does not constitute an AHERA survey. GREEN makes no representation regarding material located in inaccessible areas.

Semi-destructive measures were implemented to obtain bulk samples for asbestos analysis. GREEN makes no representation regarding inaccessible materials which may be located within walls, ceilings, ducts, roofs, below grade or other inaccessible areas. Additional field measurements and/or bulk sampling may be required following the exposure/removal of walls, flooring, etc. Should additional material be identified during demolition activities that are not listed in this report the work should be stopped and samples be collected to determine if hazardous classification is warranted.

Our conclusions are based solely on the information described herein and are believed to be representative of conditions at the time of the building survey. If additional information concerning the environmental conditions of the subject site becomes available, GREEN should be notified and presented with that information. Based on the new information, we will reevaluate the conclusions stated in this report to determine whether modifications are warranted.

This report is not a project specification and should not be used as a bidding document, including an asbestos abatement or building demolition specification.

We appreciate the opportunity to provide you with these environmental services. Please contact the undersigned with any questions at 617-479-0550.

Sincerely,
GREEN ENVIRONMENTAL, INC.

Luke Krzyzewski
Project Manager
Environmental Consulting Services

Kristen Awed-Ladas
Senior Project Manager
Environmental Consulting Services

Plans and Figures

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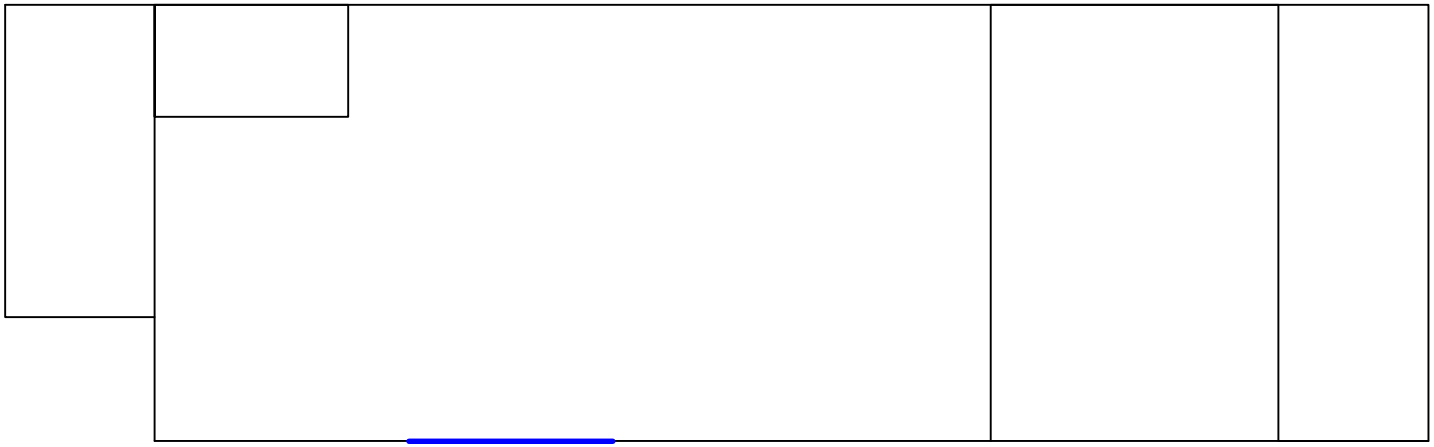
NORTH



APPROXIMATE LOCATION OF
ASBESTOS CONTAINING EXTERIOR
WINDOW GLAZE

SITE PLAN 26 SOUTH BROADWAY SALEM, NH	VHB 101 WALNUT STREET WATERTOWN, MA	GREEN ENVIRONMENTAL FIGURE: 1 PROJECT NO.: 19039 DATE: JANUARY 2020 APPROVED BY: KA CHECKED BY: KA DRAWN BY: LK

Appendix A

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A view of the east side of the building facing northwest

A view of the southwest side of the building, facing northeast

A view of the interior portion of the 26 South Broadway building

A view of the interior portion of the 26 South Broadway building

Appendix B

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26 S BROADWAY

Location	26 S BROADWAY	**Mblu**	89/ / 1089/ /
Acct#		**Owner**	590 ESSEX STREET LLC
Assessment	$237,800	**Appraisal**	$237,800
PID	6360	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$70,300	$167,500	$237,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$70,300	$167,500	$237,800

Owner of Record

Owner	590 ESSEX STREET LLC	**Sale Price**	$202,000
Co-Owner		**Certificate**	
Address	29 S CANAL ST LAWRENCE, MA 01843-1403.	**Book & Page**	5767/0002
		Sale Date	10/27/2016

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
590 ESSEX STREET LLC	$202,000		5767/0002	10/27/2016
SETAB GROUP LLC	$217,000		5643/0088	08/04/2015
NAGRI DORIS M TRUSTEE	$0		5609/1664	02/22/2015
NAGRI DORIS M	$0		5596/1273	02/12/2015
NAGRI DORIS M TRUSTEE	$0		4659/1205	05/23/2006

Building Information

Building 1 : Section 1

Year Built:	1947
Living Area:	1,319
Replacement Cost:	$128,429
Replacement Cost Less Depreciation:	$66,800

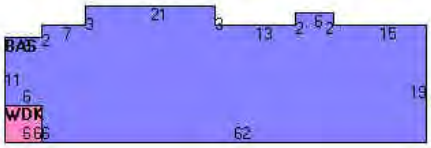
Building Attributes	
Field	**Description**

Building Photo

STYLE	Store
MODEL	Comm/Ind
Stories:	1
Occupancy	1
Exterior Wall 1	Wood Shingle
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	Central
Bldg Use	OFFICE BLD MDL-94
Total Rooms	
Total Bedrms	
Total Baths	
1st Floor Use:	
Heat/AC	HEAT/AC PKGS
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	

(http://images.vgsi.com/photos/SalemNHPhotos//\00\00\00/92.jpg)

Building Layout



(http://images.vgsi.com/photos/SalemNHPhotos//Sketches/6360

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,319	1,319
WDK	Deck, Wood	36	0
		1,355	1,319

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	3400
Description	OFFICE BLD MDL-94
Zone	CIC
Neighborhood	600
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.08
Frontage	0
Depth	0
Assessed Value	$167,500
Appraised Value	$167,500

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Assessed Value	Bldg #
PAV1	PAVING-ASPHALT			2000 S.F.	$1,800	1
SGN3	W/INT LIGHTS			44 S.F.&HGT	$1,700	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	$70,300	$167,500	$237,800
2016	$70,300	$167,500	$237,800
2015	$82,400	$155,400	$237,800

Assessment			
Valuation Year	Improvements	Land	Total
2017	$70,300	$167,500	$237,800
2016	$70,300	$167,500	$237,800
2015	$82,400	$155,400	$237,800

Appendix C

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GREEN ENVIRONMENTAL, INC.

Personnel Accreditation

Accredited Inspector

Name: Luke Krzyzewski

Accreditation Number: AI100882

Signature: _____

Licensure:


STATE OF NEW HAMPSHIRE
Department of Environmental Services
Asbestos Management & Control Program
ASBESTOS INSPECTOR
LUKE E KRZYZEWSKI
DOB: 05/20/89
Eff. Date: 01/17/20
Exp. Date: 01/16/21
R
AI100882
Craig A. Wright, Director
Air Resources Division

Appendix D

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Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 49408

NVLAP®
Lab Code: 200919-0

December 26, 2019

Luke Krzyzewski
Green Environmental Inc.
296 C Weymouth St.
Rockland, MA 02370

Project Name: *26 South Broadway, Salem, NH*
Project Number: #19039
Date Sampled: 2019-12-26
Work Received: 2019-12-26
Work Analyzed: 2019-12-26

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Luke Krzyzewski,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project. The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.
Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Luke Krzyzewski for your business.

Michael Manning
Owner/Director

December 26, 2019

Luke Krzyzewski
Green Environmental Inc.
296 C Weymouth St.
Rockland, MA 02370

Project Name: *26 South Broadway, Salem, NH*
Project Number: #19039
Date Sampled: 2019-12-26
Work Received: 2019-12-26
Work Analyzed: 2019-12-26

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1A / 547162	Residual Yellow Mastic	1st Fl. Bath 1	yellow	Cellulose 5 Non-Fibrous 95	None Detected
1B / 547163	Residual Yellow Mastic	1st Fl. Bath 2	yellow	Cellulose 5 Non-Fibrous 95	None Detected
2A / 547164	12" Brown Floor Tile	1st Fl. Bath 1	multi	Non-Fibrous 100	None Detected
2B / 547165	12" Brown Floor Tile	1st Fl. Bath 2	multi	Non-Fibrous 100	None Detected
3A / 547166	12" Brown Floor Tile Adhesive	1st Fl. Bath 1	clear	Non-Fibrous 100	None Detected
3B / 547167	12" Brown Floor Tile Adhesive	1st Fl. Bath 2	clear	Non-Fibrous 100	None Detected
4A / 547168	White Sheet Floor	1st Fl Bath 1	multi	Cellulose 30 Non-Fibrous 70	None Detected
4B / 547169	White Sheet Floor	1st Fl. Bath 2	multi	Cellulose 30 Non-Fibrous 70	None Detected
5A / 547170	White Sheet Floor Adhesive	1st Fl. Bath 1	yellow	Non-Fibrous 100	None Detected
5B / 547171	White Sheet Floor Adhesive	1st Fl. Bath 2	yellow	Non-Fibrous 100	None Detected
6A / 547172	Gray Floor Leveler	1st Fl. Main Area	gray	Cellulose 10 Non-Fibrous 90	None Detected
6B / 547173	Gray Floor Leveler	1st Fl. Main Area	gray	Cellulose 10 Non-Fibrous 90	None Detected
7A / 547174	Dry wall	1st Fl. Main Area	gray	Cellulose 25 Non-Fibrous 75	None Detected
7B / 547175	Drywall	1st Fl. Main Area	gray	Cellulose 20 Non-Fibrous 80	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
8A / 547176	Joint Compound	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
8B / 547177	Joint Compound	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
8C / 547178	Joint Compound	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
8D / 547179	Joint Compound	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
8E / 547180	Joint Compound	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
9A / 547181	Textured Ceiling	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
9B / 547182	Textured Ceiling	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
9C / 547183	Textured Ceiling	1st Fl. Main Area	white	Non-Fibrous 100	None Detected
10A / 547184	White Duct Mastic	1st Fl. Closet	white	Non-Fibrous 100	None Detected
10B / 547185	White Duct Mastic	1st Fl. Closet	white	Non-Fibrous 100	None Detected
11A / 547186	Window Glaze	1st Fl. Main Area	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
11B / 547187	Window Glaze	1st Fl. Main Area			Not Analyzed
12A / 547188	Siding Paper	Exterior North Side	black	Cellulose 70 Non-Fibrous 30	None Detected
12B / 547189	Siding Paper	Exterior West Side	black	Cellulose 75 Non-Fibrous 25	None Detected
13A / 547190	Roof Paper	Exterior Roof	black	Cellulose 70 Non-Fibrous 30	None Detected
13B / 547191	Roof Paper	Exterior Roof	black	Cellulose 70 Non-Fibrous 30	None Detected
14A / 547192	Asphalt Shingle	Exterior Roof	black	Fiberglass 30 Non-Fibrous 70	None Detected
14B / 547193	Asphalt Shingle	Exterior Roof	black	Fiberglass 25 Non-Fibrous 75	None Detected

Thursday 26

Analyzed by: Michael Manning

End of Report

Batch: 49408

Due 12-27-19

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab
165 New Boston St.
Suite 227
Woburn, MA 01801
(781)932-9600
www.asbestosidentificationlab.com

Client: Green Environmental
Address:
Project Site & #: 26 South Broadway
Phone / email address:
Contact:
Relinquish by/date:
Received by/date: 12-23-19
# of Samples Received: 32

Date Sampled:

BATCH# 49408 Rev 06/16

Page 1 of 7

Turnaround Time		Sample Method	
☐	Less 3 Hrs	☒	Bulk
☐	Same Day	☐	Soil
☐	Next Day	☐	Wipe
☒	~~Two~~ 3 Day	☐	Point Count

Stop on 1st Positive? Yes/No
Notify Method: Mail/E-Mail/Verbal
Analyzed By:
Date: 12/24/19

Temp in Celsius = 22

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
54762	1A	Material						Chrysotile															
								Amosite															
								Crocidolite											R				
		Location	0	Y	N	amW		Tremolite															
								Anthophyllite											5				95
								Actinolite															
63	1B	Material						Chrysotile															
								Amosite															
								Crocidolite											R				
		Location	0	Y	N	amW		Tremolite															
								Anthophyllite											5				95
								Actinolite															
64	2A	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	ML	N	amW		Tremolite															
								Anthophyllite															
								Actinolite															10

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
65	2B	Material	0	ML	N	aw	N	Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															100
66	3A	Material	0	CL	N	aw	N	Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															100
67	3B	Material	0	CL	N	aw	N	Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															100
68	4A	Material	0	ML	N	aw/F	N	Chrysotile															
								Amosite															
								Crocidolite											R				
		Location						Tremolite															
								Anthophyllite															
								Actinolite											30				70
69	4B	Material	0	ML	N	aw/F	N	Chrysotile															
								Amosite															
								Crocidolite											R				
		Location						Tremolite															
								Anthophyllite															
								Actinolite											30				70

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: II	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
70	5A	Material						Chrysotile															
		Location	0	Y	N	av	w	Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															100
								Actinolite															
71	5B	Material						Chrysotile															
		Location	0	Y	N	av	w	Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite															100
								Actinolite															
72	6A	Material						Chrysotile															
		Location	0	GY	N	av	N	Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite												10			90
								Actinolite															
73	6B	Material						Chrysotile															
		Location	0	GY	N	av	N	Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite												10			90
								Actinolite															
74	7A	Material						Chrysotile															
		Location	0	GY	N	av	FY	Amosite															
								Crocidolite															
								Tremolite															
								Anthophyllite												25			75
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: ∥	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
75	7B	Material						Chrysotile															
								Amosite															
								Crocidolite											R				
		Location	0	GY	N	AV/FY		Tremolite															
								Anthophyllite											20				80
								Actinolite															
76	8A	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	any		Tremolite															
								Anthophyllite															100
								Actinolite															
77	8B	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	any		Tremolite															
								Anthophyllite															100
								Actinolite															
78	8C	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	any		Tremolite															
								Anthophyllite															100
								Actinolite															
79	8D	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	any		Tremolite															
								Anthophyllite															100
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
80	8E	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	w	N	any		Tremolite															100
								Anthophyllite															
								Actinolite															
81	9A	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	w	N	any		Tremolite															100
								Anthophyllite															
								Actinolite															
82	9B	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	w	N	any		Tremolite															100
								Anthophyllite															
								Actinolite															
83	9C	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	w	N	any		Tremolite															100
								Anthophyllite															
								Actinolite															
84	10A	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	SN	N	Tremolite															100
								Anthophyllite															
								Actinolite															

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope					Asbestos Minerals	Optical Properties						RI		Non-Asbestos Percentage (%)						
			% of Asbestos	Color	Homogeneity	Texture	Friable		Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	=	⊥	Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
85	10B	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	W	N	av	N	Tremolite															100
								Anthophyllite															
								Actinolite															
86	11A	Material						Chrysotile	2	W	0	+	L	N	1556	1553							
								Amosite															
								Crocidolite															
		Location	0	6%	N	av	N	Tremolite															95
								Anthophyllite															
								Actinolite															
87	11B	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															
88	12A	Material						Chrysotile															
								Amosite															
								Crocidolite											R				
		Location	0	3%	N	av		Tremolite															
							FN	Anthophyllite											70				30
								Actinolite															
89	12B	Material						Chrysotile															
								Amosite															
								Crocidolite											R				
		Location	0	3%	N	av		Tremolite															
							FN	Anthophyllite											75				25
								Actinolite															

DNA

Lab ID# (Lab Use Only)	Field ID/ (Client Reference)	Temp in Celcius = ____ / Material / Location	Stereo Scope: % of Asbestos	Color	Homogeneity	Texture	Friable	Asbestos Minerals	Optical Properties: Asbestos %	Morphology	Extinction	Sign of Elongation	Birefringence	Pleochroism	RI: =	RI: ⊥	Non-Asbestos Percentage (%): Fiberglass	Mineral Wool	Cellulose	Hair	Synthetic	Other	Non-Fibrous
90	13A	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	3%	N	CN/F	N	Tremolite											R				
								Anthophyllite											70				30
								Actinolite															
91	13B	Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location	0	3%	N	CN/F	N	Tremolite											R				
								Anthophyllite											70				30
								Actinolite															
92	14A	Material						Chrysotile															
								Amosite															
								Crocidolite									I						
		Location	0	3%	N	CN/F	N	Tremolite															
								Anthophyllite									30						70
								Actinolite															
5/17/93	14B	Material						Chrysotile															
								Amosite															
								Crocidolite									I						
		Location	0	3%	N	CN/F	N	Tremolite															
								Anthophyllite									25						75
								Actinolite															
		Material						Chrysotile															
								Amosite															
								Crocidolite															
		Location						Tremolite															
								Anthophyllite															
								Actinolite															

DUE Friday

GREEN ENVIRONMENTAL

Bulk Sampling Chain-of-Custody

Client: VHB Date: 12/13/19 Page: 1 of 3

Project Address: 26 South Broadway Salem, NH Project #: 19039 Inspector: Luke Krzyzewski

Contact: Luke K Analysis: PLM - Positive Stop TAT: 3 days

Email: lkrzyzewski@greenenvironmental.com 32

Building	Floor	Room	Description	Field #	Comments	Fri / Non-Fri
26 South Broadway	1st	Main Area	Residual Yellow Mastic	1A		–
↓	↓	↓	↓	1B		–
		Bath 1	12" Brown Floor Tile	2A		–
		Bath 2	↓	2B		–
		Bath 1	12" Brown Floor Tile Adhesive	3A		–
		Bath 2	↓	3B		–
		Bath 1	White Sheet Floor	4A		–
		Bath 2	↓	4B		–
		Bath 1	White Sheet Floor Adhesive	5A		–
		Bath 2	↓	5B		–
		Main Area	Gray Floor Leveler	6A		–
↓	↓	↓	↓	6B		–

Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
[signature]	12/16/19	32	[signature]	12/23/19		

296 Weymouth Street, Rockland MA 02370 - P: (617)479-0550 - F: (617) 479-5150

GREEN ENVIRONMENTAL

Bulk Sampling Chain-of-Custody

Client: VHB Date: 12/13/19 Page: 2 of 3

Project Address: 26 S. Broadway Salem NH Project #: 19039 Inspector: Luke Krzyzewski

Contact: Luke K Analysis: PLM - Positive Stop TAT: 3 days

Email: lkrzyzewski@greenenvironmental.com

Building	Floor	Room	Description	Field #	Comments	Fri / Non-Fri
26 South Broadway	1st	main Area	Drywall	7A		
			↓	7B		
			Joint Compound	8A		
				8B		
				8C		
				8D		
			↓	8E		
			Textured Ceiling	9A		
			↓	9B		
		↓	↓	9C		
		Closet	White Duct Mastic	10A		
↓	↓	↓	↓	10B		

Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
	12/16/19	32				

GREEN ENVIRONMENTAL

Bulk Sampling Chain-of-Custody

Client: VHB Date: 12/13/19 Page: 3 of 3

Project Address: 26 South Broadway Salem Project #: 19039 Inspector: Luke Krzyzewski

Contact: Luke K Analysis: PLM - Positive Stop TAT: 3 days

Email: lkrzyzewski@greenenvironmental.com

Building	Floor	Room	Description	Field #	Comments	Fri / Non-Fri
26 South Broadway	1st	Main Area	Window Glaze	11A	Interior	-
↓	↓	↓	↓	11B	↓	-
↓	Exterior	North Side	Siding Paper	12A	↓	-
↓	↓	West Side	↓	12B	↓	-
↓	↓	Roof	Roof Paper	13A	↓	-
↓	↓	↓	↓	13B	↓	-
↓	↓	↓	Asphalt Shingle	14A	↓	-
↓	↓	↓	↓	14B	↓	-

Relinquish By	Date	#Samples	Received By	Date	Time	# Samples
	12/16/19	32				

Appendix E

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Appendix E Locations of the Identified Asbestos-Containing Materials 26 South Broadway Salem, NH		
Location	**Material Description**	**Estimated Quantity**
1st Floor		
Main Area	Interior Window Glaze (gray)	1 Unit
Notes: 1. Unit = Each		

Appendix F

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Titan Lead Testing, LLC

Titan Lead Testing, LLC
PO Box 760709
Melrose, MA 02176

Tel: 781-799-8763
Fax: 781-662-3300

December 31, 2019
Luke Krzyzewski
Green Environmental
296 Weymouth St., Unit C
Rockland, MA 02370

RE: Lead Paint Testing Results
22 South Broadway
Salem, New Hampshire

Dear Mr. Krzyzewski:

This report presents the results of testing for the presence of lead paint on interior painted at 22 South Broadway, Salem, New Hampshire. Representative of Titan Lead Testing (Titan), Mr. David Pesce performed the testing on December 12, 2019 and December 13, 2019. Mr. Pesce is manufacturer's-trained in the proper use and interpretation of results of the XRF Spectrum Analyzer. Mr. Pesce is also a New Hampshire Department of Health and Human Services licensed Lead Inspector and Risk Assessor (Lic # RA-00059).

Scope of Work

The purpose of the lead testing was to determine the lead content of various painted building substrates prior to renovation and demolition activities. Selected relevant accessible painted surfaces were tested by Titan. Concentrations of lead in paint were measured on site by portable XRF analysis.

Sampling Protocol

The lead content of painted surfaces was determined using a portable X-ray Fluorescence (XRF) Spectrum Analyzer (HEURESIS Pb200i; Serial # 1645). The XRF Spectrum Analyzer uses a radioactive source to excite the electrons of lead atoms (if present) in paints. As the lead atom electrons return to their normal state, they emit X-rays, which are counted by the XRF Spectrum Analyzer. This data is processed and the results are converted to milligrams of lead per square centimeter (mg/cm^2) of sampled surface area.

Results

The XRF testing results indicate that levels of lead on surfaces tested range from less than 0.1 mg/cm^2 (lower limit of quantification of the XRF) to 0.3 mg/cm^2. Renovation and demolition activities that impact surfaces where lead may be present require specific work practices and disposal requirements. A summary of the lead testing results is attached.

Recommendations

The employer of workers who disturb or remove lead paint must comply with OSHA Standard 29 CFR 1926.62 - Lead. This applies to all construction work, alteration, or repair, including painting, where an employee may be occupationally exposed to lead. This standard does not establish a minimum threshold for the lead content, below which an initial exposure assessment is not required. An initial exposure assessment is required for each renovation or demolition activity that will disturb lead. This standard also contains additional requirements concerning the disturbance or removal of lead.

Limitations

Lead paint testing was performed on representative building substrates in selected building areas. Additional lead-containing building substrates and components may be present in other building areas or hidden by floor, wall and ceiling finishes or otherwise may be inaccessible.

Lead paint testing was performed to determine the lead content of painted building components that may be impacted by renovation activities and should **not** be used to determine compliance with the New Hampshire Lead Paint Poisoning Prevention and Control Act (RSA 130-A)

Please call if you have any questions or require additional information.

Sincerely,

David Pesce

Attachment

ATTACHMENT

LEAD TESTING RESULTS BY XRF

Lead Paint Testing Results by XRF
22 South Broadway
Salem, New Hampshire
December 12-13, 2019

Room/Area	Location/Component	Color	Substrate	Results (mg/cm^2)
Main Room	Wall	Beige	Gypsum	< 0.1
Main Room	Ceiling	White	Gypsum	< 0.1
Main Room	Window Sill	White	Wood	< 0.1
Main Room	Window Casing	White	Wood	< 0.1
Main Room	Door	White	Wood	< 0.1
Main Room	Door casing	White	Wood	< 0.1
Main Room	Sliding Door	Brown	Wood	< 0.1
Main Room	Door	Gray	Metal	< 0.1
Main Room	Door Frame	Gray	Metal	< 0.1
Main Room	Closet Wall	White	Gypsum	< 0.1
Main Room	Shelf	White	Metal	< 0.1
Main Room	Window Sash	White	Wood	< 0.1
North Room	Wall	Beige	Gypsum	< 0.1
North Room	Ceiling	White	Gypsum	< 0.1
North Room	Floor	Brown	Wood	< 0.1
North Room	Window Sill	White	Wood	< 0.1
North Room	Window casing	White	Wood	< 0.1
North Room	Window Sash	White	Wood	< 0.1
North Room	Baseboard	White	Wood	< 0.1
North Room	Sliding Door	Brown	Wood	0.3
North Room	Sliding Door Casing	Brown	Wood	< 0.1
North Room	Door	White	Wood	< 0.1
North Room	Door Casing	White	Wood	< 0.1
North Bathroom	Wall	Beige	Gypsum	< 0.1
North Bathroom	Ceiling	White	Gypsum	0.2
North Bathroom	baseboard	White	Wood	< 0.1
North Bathroom	Cabinet	Brown	Wood	< 0.1
North Bathroom	Door	White	Wood	< 0.1
North Bathroom	Door Casing	White	Wood	< 0.1
North Bathroom	Floor	Brown	Wood	< 0.1
South Bathroom	Wall	Beige	Gypsum	< 0.1
South Bathroom	Door	White	Gypsum	< 0.1
South Bathroom	Door casing	White	Wood	< 0.1
South Bathroom	Door Jamb	White	Wood	< 0.1
South Bathroom	Baseboard	White	Wood	< 0.1
South Bathroom	Ceiling	White	Wood	< 0.1
South Bathroom	Cabinet	Brown	Wood	< 0.1

Lead Paint Testing Results by XRF
22 South Broadway
Salem, New Hampshire
December 12-13, 2019

Room/Area	Location/Component	Color	Substrate	Results (mg/cm^2)
South Bathroom	Floor	Brown	Wood	0.2
South Room	Wall	Beige	Gypsum	< 0.1
South Room	Ceiling	White	Gypsum	< 0.1
South Room	Floor	Brown	Wood	< 0.1
South Room	Baseboard	White	Wood	< 0.1
South Room	Door	White	Wood	< 0.1
South Room	Door Casing	White	Wood	< 0.1
South Room	Entry Door	White	Wood	< 0.1
South Room	Entry Door Casing	White	Wood	< 0.1
South Room	Window Sill	White	Wood	< 0.1
South Room	Window Casing	White	Wood	< 0.1
Exterior	Siding	Red	Wood	< 0.1
Exterior	Sign Post	Brown	Metal	< 0.1
Exterior	Upper Trim	White	White	< 0.1
Exterior	Door	Gray	Metal	< 0.1
Exterior	Door Frame	Gray	Metal	< 0.1
Exterior	Door Casing	White	White	< 0.1
Exterior	Railing	White	Vinyl	0.2
Exterior	Window Sill	White	Wood	< 0.1
Exterior	Window Sash	White	Wood	< 0.1
Exterior	Floor	Brown	Wood	< 0.1
Exterior	Steps	Brown	Wood	< 0.1
Exterior	Door	White	Wood	< 0.1
Exterior	Door Casing	White	Wood	< 0.1
Exterior	Storm Door	White	Metal	< 0.1
Exterior	Lattice	White	Vinyl	< 0.1

- <0.1 = less than the limit of quantification of the XRF.
- mg/cm^2 = milligrams of lead per square centimeter of sampled surface area.

Appendix G

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Appendix G Locations of the Regulated Materials 26 South Broadway Salem, NH		
Location	**Material Description**	**Quantity**
1st Floor		
Throughout	4’ Fluorescent Tubes	24
	PCB/Non-PCB Containing Ballasts	12
	Emergency Light Battery	1