Version 2.1203

Bristol City Hall - Building Upgrades
Existing City Hall Building & Memorial Boulevard School
Conceptual Cost Estimate Evaluation

Project Name:	**City Hall Conceptual Estimates**
Prepared For:	**City of Bristol**
Estimate #:	**CE-01**
Date:	**November 14th, 2016**

Version 2.1203

Bristol City Hall - Building Upgrades
Existing City Hall Building & Memorial Boulevard School
Conceptual Cost Estimate Evaluation

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Date: November 14th, 2016

City Hall Project - Conceptual Estimates

Estimate #: CE-01

November 14th, 2016

Executive Summary

Gilbane Building Company was engaged by the City of Bristol to provide cost estimating services for the City Hall Project. Gilbane worked with the City of Bristol to evaluate two proposed options for the City Hall Projects; Renovation of the Existing City Hall Building at 111 North Main Street and Relocating City Hall to a portion of the Existing Memorial Boulevard School at 70 Memorial Boulevard.

To assemble these estimates Gilbane attended a series of meetings and walkthroughs with the City of Bristol and its consultants. Gilbane reviewed reports, as builts information, and the existing conditions on site to assemble the estimates. A summary of the basis of information for this estimate is included in Appendix C.

To help define the scope of renovation work at this conceptual level, the team defined areas of renovations as 'Life Safety', 'Light', 'Medium', and 'Heavy'. 'Heavy' renovations include a full reconfiguration of the existing architectural floor plan, as well as replacement of above ceiling utilities within the space. These levels of renovation are defined on the City of Bristol Drawings included in Appendix C.

Upgrades to the existing City Hall Building located at 111 North Main Street are estimated to cost $20,039,170. The estimate includes 43,900 SF of 'Medium' and 15,603 SF of 'Heavy' Renovation. There are several factors that are driving the cost of this renovation including; Phased Renovations to an Occupied Building, Requirement for Swing Space and Replacement of Exterior Windows.

Upgrades to the existing portion of the Memorial Boulevard Building located at 70 Memorial Boulevard are estimated to cost $24,121,924. The estimate includes 13,362 SF of 'Medium' and 46,311 SF of 'Heavy' Renovation. 15,780 SF of Life Safety Renovations are also required to the Sub-Basement by Code, however the area will not be occupied by City Hall Program Functions. There are several factors that are driving the cost of this renovation including; Higher Proportion of Heavy Renovation, Abatement, Site Work, and Relocation of the MIS Systems. Costs associated with the Theatre space are being addressed by a different committee and are not included herein.

City Hall Project - Conceptual Estimates

Estimate #: CE-01

November 14th, 2016

Executive Summary - Significant Differences Between Sites

Bid Package Estimate	City Hall Renovation of Existing Building	City Hall Relocation - Renovation at Memorial Boulevard
Type of Renovation	↓	Higher Cost - Larger Proportion of Heavy Renovation ↑
Phasing	↑ Higher Cost - Phased Renovation	↓
Moving and Temporary Offices	↑ Higher Cost - Temporary Relocation	↓
Furniture	↓	Higher Cost - Includes 30% New Furniture ↑
Abatement	↓	Higher Cost - Wall Abatement ↑
Sitework	↓	Higher Cost - Re-Grading of Site ↑
Metal & Glass	↑ Higher Cost - Window Replacement	↓
Heating Ventilating & Air Conditioning	↓	Higher Cost - Larger Building, Additional Equipment ↑
Life Safety Renovations	↓	Higher Cost - Includes Life Safety Renovation ↑
Technology Infrastructure	↓	Higher Cost - Relocate Data Center ↑

City Hall Project - Conceptual Estimates

Estimate #: CE-01

November 14th, 2016

Executive Summary - Significant Differences Between Sites		
Bid Package Estimate	**City Hall Renovation of Existing Building**	**City Hall Relocation - Renovation at Memorial Boulevard**
Type of Renovation	15,603 Square Feet of 'Heavy Renovation'	46,311 Square Feet of 'Heavy Renovation'
Phasing	Floor by Floor Renovation	No Phasing
Moving and Temporary Offices	$990,000	$125,000
Furniture	$0	$240,000
Abatement	$403,406	$2,060,465
Sitework	$312,500	$1,123,046
Metal & Glass	$1,117,466	$257,191
Heating Ventilating & Air Conditioning	$2,684,775	$3,512,876
Life Safety Renovations	No additional renovation required beyond the City Hall Program.	15,780 Square Feet of 'Life Safety Renovations'
Technology Infrastructure	$105,915	$318,526

City Hall Renovation of Existing Building

Estimate #: CE-01

November 14th, 2016

"Medium Renovation" SF	**43,900**
"Heavy Renovation" SF	**15,603**
Gross Square Footage City Hall Program	**59,503**

Bristol City Hall - Building Upgrades	**Trade Costs**
Bid Package Estimate	**Subtotal**
Site Services	$269,218
Demolition	$344,324
Abatement (Estimate by Eagle Environmental)	$403,406
Sitework	$312,500
Concrete	$44,627
Masonry	$173,154
Steel & Miscellaneous Iron	$150,212
EPDM Roofing	$51,173
Metal & Glass	$1,117,466
Doors, Frames & Hardware	$144,592
Gypsum Wall Board Assemblies	$583,063
Interior Finishes	$1,053,203
Elevator Upgrade	$181,000
Plumbing	$1,024,642
Fire Suppression	$403,430
Heating Ventilating & Air Conditioning	$2,684,775
Electrical	$2,440,813
Technology Infrastructure	$105,915
Building Permit Allowance	$82,649
Escalation to Mid Year 2018 (5% Per Annum)	$578,508
Design Phase Contingency (5%)	$944,500
Construction Management	
CM General Conditions, Fee, Insurance	$2,380,200
Construction Contingency (5%)	$1,110,800
Total Construction Cost	**$16,584,171**
City of Bristol Soft Costs	
Architect / MEP Consultant	**$1,642,347**
General Conditions and Other Consultants	**$372,000**
Moving and Temporary Offices	**$990,000**
Owner's Contingency (15%)	**$450,652**
Total Project Cost	**$20,039,170**

City Hall Relocation - Renovation at Memorial Boulevard

Estimate #: CE-01

November 14th, 2016

"Medium Renovation" SF	**13,362**
"Heavy Renovation" SF	**46,311**
Gross Square Footage City Hall Program	**59,673**
"Life Safety Renovation of Sub-Basement" SF	**15,780**

Bristol City Hall - Building Upgrades	**Trade Costs**
Bid Package Estimate	**Subtotal**
Site Services	$256,890
Demolition	$90,835
Abatement (Estimate by Eagle Environmental)	$2,060,465
Sitework	$1,123,046
Concrete	$42,368
Masonry	$148,586
Steel & Miscellaneous Iron	$220,720
EPDM Roofing	$42,965
Metal & Glass	$257,191
Doors, Frames & Hardware	$145,005
Gypsum Wall Board Assemblies	$741,528
Interior Finishes	$1,090,226
Elevator Upgrade	$226,250
Plumbing	$1,159,810
Fire Suppression	$383,101
Heating Ventilating & Air Conditioning	$3,512,876
Electrical	$2,671,357
Technology Infrastructure	$318,526
Building Permit Allowance	$102,614
Escalation to Mid Year 2018 (5% Per Annum)	$729,718
Design Phase Contingency (5%)	$1,239,400
Construction Management	
CM General Conditions, Fee, Insurance	$2,863,100
Construction Contingency (5%)	$1,444,600
Total Construction Cost	**$20,871,175**
City of Bristol Soft Costs	
Architect / MEP Consultant	**$2,089,738**
General Conditions and Other Consultants	**$612,000**
Moving and Temporary Offices	**$125,000**
Owner's Contingency (15%)	**$424,011**
Total Project Cost	**$24,121,924**

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Bristol City Hall - Building Upgrades
Existing City Hall Building & Memorial Boulevard School
Conceptual Cost Estimate Evaluation

Appendix A

Project Name:	**City Hall Conceptual Estimates**
Inclusions:	**1. Executive Summary Scope of Work at Each Site**
Date:	**November 14th, 2016**

City Hall Project - Conceptual Estimates - Executive Summary

Estimate #: CE-01

November 4th, 2016

Executive Summary - Scope of Work at Each Site

Scopes of Work with Significant Differences at Each Site

Bid Package Estimate	City Hall Renovation of Existing Building	City Hall Relocation - Renovation at Memorial Boulevard
Square Footage of Renovation	Includes 43,900 SF of 'Medium' Renovation and 15,603 SF of 'Heavy' Renovation.	Includes 15,780 SF of Life Safety Renovations at the Sub-Basement, 11,560 SF of 'Medium' Renovation and 46,311 SF of 'Heavy' Renovation.
Phasing	Includes phased renovation; One floor at a time; All floors done consecutively	No Phasing; Assumes all work done at one time with building unoccupied
Moving and Temporary Offices	Includes Moving Expenses for Temp Relocations; Rent for Swing Space	Includes Moving Expenses for Move to New Space.
Moving and Temporary Offices	Includes no new furniture.	Includes 30% new furniture.
Abatement	Allowance from Eagle Environmental Report Dated October 27th, 2017	Allowance from Eagle Environmental Report Dated October 27th, 2017
Sitework	Includes trenching for generator and minor site upgrades only.	Includes re-grading at SE Entry for ADA. Parking changes per SEM Option C Dated July 12th 2016 with 184 Spaces. Reconfiguration of Site
Metal & Glass	Includes new exterior windows and doors. Includes misc. interior glass.	Includes misc. interior glass only.
Heating Ventilating & Air Conditioning	Includes new HVAC System per Loureiro Report dated 10/28/16	Includes new HVAC system similar to Loureiro Report dated 10/28/16
Low Voltage Systems	Includes replacement T/D Wiring; A/V Allowance. Datacenter to remain.	Includes T/D Wiring; Allowances to Relocate Fiber & Data Center.

City Hall Project - Conceptual Estimates - Executive Summary

Estimate #: CE-01

November 4th, 2016

Executive Summary - Scope of Work at Each Site

Similar Scopes of Work at Each Site

Bid Package Estimate	City Hall Renovation of Existing Building	City Hall Relocation - Renovation at Memorial Boulevard
Site Services	Includes interim and final cleaning; temporary structures & protection	Includes final cleaning; temporary structures & protection
Demolition	Includes interior demolition not included in Abatement.	Includes interior demolition not included in Abatement.
Concrete	Includes minor interior concrete for slab on grade trenches only.	Includes minor interior concrete for slab on grade trenches only.
Masonry	Includes minor repair; wash down of masonry; and select re-pointing	Includes minor repair; wash down of masonry; and select re-pointing
Steel & Miscellaneous Iron	Includes steel for mechanical eqpt. and misc. slab penetrations only.	Includes steel for mechanical eqpt. and misc. slab penetrations only.
EPDM Roofing	Includes patch/repair of Roof due to mechanical work only.	Includes patch/repair of Roof due to mechanical work only.
Doors, Frames & Hardware	Includes new hollow metal doors, frames, and hardware.	Includes new hollow metal doors, frames, and hardware.
Gypsum Wall Board Assemblies	Includes new walls at Heavy Renovation only.	Includes new walls at Heavy Renovation only.
Interior Finishes	Includes new vinyl tile and carpet floors throughout.	Includes new acoustical ceilings throughout. Includes finishes as outlined in Memorandum Dated September 28th, 2016

City Hall Project - Conceptual Estimates - Executive Summary

Estimate #: CE-01

November 4th, 2016

Executive Summary - Scope of Work at Each Site

Similar Scopes of Work at Each Site (Continued)

Bid Package Estimate	City Hall Renovation of Existing Building	City Hall Relocation - Renovation at Memorial Boulevard
Elevator Upgrades	Includes upgrade to existing 4 stop elevator.	Includes upgrade to existing 5 stop elevator.
Plumbing	Includes new plumbing per Loureiro Report dated 10/28/16	Includes new plumbing from Point of Entry. Includes new fixtures.
Fire Suppression	Includes new fire protection per Loureiro Report dated 10/28/16	Includes new fire protection system and connection to Main in Street.
Electrical	Includes new Electrical system per Loureiro Report dated 10/28/16	Includes new Electrical system similar to Loureiro Report dated 10/28/16
Building Permit Allowance	Includes permit estimate based on stated SF's.	Includes permit estimate based on stated SF's.

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Bristol City Hall - Building Upgrades
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Conceptual Cost Estimate Evaluation

Appendix B

Project Name:	**City Hall Conceptual Estimates**
Inclusions:	**1. Basis of Estimate: City Hall Renovation of Existing Building** **2. Basis of Estimate: City Hall Relocation - Renovation at Memorial Boulevard**
Date:	**November 14th, 2016**

November 14th, 2016

Version 2.1203

Basis of Estimate

City Hall Renovation of Existing Building

Estimate Clarifications:

1. This estimate is based upon the as-built drawings provided to Gilbane from the City of Bristol on October 29th and October 31st.
2. The following information was provided to Gilbane for the use in assembling this estimate. This information was referenced, but not wholly included herein;

   1) City of Bristol - September 28th, 2016 - Memorandum - City Hall Upgrade / City Hall Relocation to Memorial Blvd School
   2) CDM - February 22nd, 2011 - Comprehensive Energy Audits for City Owned Buildings & Facilities
   3) Ameresco - August 7th, 2016 - Preliminary Investment Grade Energy Audit
   4) Gilbane - October 17th, 2016 - Description of Light, Medium, & Heavy Renovation
   5) DRA - May 1st, 2012 - Space Needs Analysis - Bristol City Hall
   6) City of Bristol - August 31st, 2016 - Sketches Ground, First, Second, and Third Floor
   7) Loureiro - October 28th, 2016 - MEP Systems Review - City Hall Renovation
   8) Eagle Environmental - November 1st, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; City Hall

3. This estimate assumes existing bearing walls will remain in place.
4. This estimate assumes a standard work schedule based upon 40-hours per week during normal working hours. It includes costs for off-shift work for; MEFP Shutdowns; work at occupied corridor spaces, and demolition.
5. This estimate includes escalation assuming a Construction Start of Q4 2017. If the project is started after Q4 2017, escalation should be reviewed based on current market conditions. It is currently being carried at a rate of 3-5% per annum.
6. In order to assist the Owner in coordinating required Owner activities that are not provided by the Contractor, a list of items not included in this estimate is provided below:

   * Removal, treatment, handling or carting of hazardous or contaminated materials, beyond that included in the Eagle Environmental Estimate.
   * HVAC Equipment noted as existing to remain in Loureiro's Report.

   *Network Equipment and modifications to the City's Fiber Infrastructure (Considered existing to remain under this scenario).

November 14th, 2016

Version 2.1203

Basis of Estimate

City Hall Relocation - Renovation at Memorial Boulevard

Estimate Clarifications:

1. This estimate is based upon the as-built drawings provided to Gilbane from the City of Bristol on October 29th and October 31st.
2. The following information was provided to Gilbane for the use in assembling this estimate. This information was referenced, but not wholly included herein;

   1) City of Bristol - September 28th, 2016 - Memorandum - City Hall Upgrade / City Hall Relocation to Memorial Blvd School
   2) CDM - February 22nd, 2011 - Comprehensive Energy Audits for City Owned Buildings & Facilities
   3) Ameresco - August 7th, 2016 - Preliminary Investment Grade Energy Audit
   4) Gilbane - October 17th, 2016 - Description of Light, Medium, & Heavy Renovation
   5) DRA - May 1st, 2012 - Space Needs Analysis - Memorial Boulevard School.
   6) City of Bristol - October 31st, 2016 - Sketches MB0, MB1, MB2, and MB3.
   7) Smith Edwards & McCoy Architects - July 12th, 2016 - Site Plan Option C - 184 Spaces
   8) Eagle Environmental - November 1st, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; Former Memorial Boulevard School - City Hall Conversion
3. This estimate assumes existing bearing walls will remain in place.
4. This estimate assumes a standard work schedule based upon 40-hours per week during normal working hours.
5. This estimate includes escalation assuming a Construction Start of Q4 2017. If the project is started after Q4 2017, escalation should be reviewed based on current market conditions. It is currently being carried at a rate of 3-5% per annum.
6. This estimate includes an allowance of $125,000 for new Network Equipment and an allowance of $75,000 for modifications to the City's Fiber infrastructure for the relocation of the City's Data Center.
7. In order to assist the Owner in coordinating required Owner activities that are not provided by the Contractor, a list of items not included in this estimate is provided below:

   * Removal, treatment, handling or carting of hazardous or contaminated materials, beyond that included in the Eagle Environmental Estimate. Of specific concern should be Soils, at a minimum, a Phase I study of the site should be reviewed for potential risks.

   * Costs associated with the Theatre or associated interior areas. Costs associated with the Theatre are reflected in the Memorial Boulevard Cultural Center Estimate (Not included herein).

   * Costs associated with ground water management or repair of the existing foundation damp proofing.

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Bristol City Hall - Building Upgrades
Existing City Hall Building & Memorial Boulevard School
Conceptual Cost Estimate Evaluation

Appendix C

Project Name:	**City Hall Conceptual Estimates**
Inclusions:	**Reference Information** **1) City of Bristol - November 4th, 2016 - Memorandum - City Hall Upgrade / City Hall Relocation to Memorial Blvd School** **2) City of Bristol - City Hall Department Breakdown - November 9th, 2016 - Sketches** **3) Loureiro - October 28th, 2016 - MEP Systems Review - City Hall Renovation** **4) Eagle Environmental - October 31st, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; City Hall** **5) City of Bristol - Memorial Boulevard School Department Breakdown - November 9th, 2016 - Sketches.** **6) Smith Edwards & McCoy Architects - July 12th, 2016 - Site Plan Option C - 184 Spaces** **7) Eagle Environmental - October 27th, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; Former Memorial Boulevard School - City Hall Conversion** **8) City Hall / Memorial Boulevard Building Area Summary**
Date:	**November 14th, 2016**

1) City of Bristol - November 4th, 2016 - Memorandum - City Hall Upgrade / City Hall Relocation to Memorial Blvd School

City of Bristol
Department Of Public Works
Bristol, Connecticut 06010

MEMORANDUM

Date: September 28, 2016 **(Updated 11/4/16)**

To: W. E. Veselka, P.E. Director of Public Works
From: Raymond A Rogozinski, P.E.
Assistant City Engineer
Re: City Hall Upgrade / City Hall Relocation to Memorial Blvd School

The Engineering Division of Public Works is proceeding with the evaluation of the City Hall Building to quantify required building upgrades. In addition, the Engineering Division is evaluating the feasibility of relocating City Hall to the Memorial Blvd School. Cost estimates associated with the proposed work at both City Hall and Memorial Blvd School are being performed by Gilbane Construction. The cost estimates associated with required environmental abatement for each building are being provided by Eagle Environmental.

The basis of evaluating the space needs of City Hall functions is the Space Needs Analysis prepared by DRA Architects in **2012**. Department space needs were modified to reflect current reduced staffing since preparation of the **2012** study.

Upgrades to Bristol City Hall Building located at 111 North Main Street consist of the following:

i. Removal / abandonment of a portion of the existing duct work within the building and upgrades to the existing heating and cooling systems. Since construction upgrades within an occupied office space will impede City Hall building functions, project phasing and possible utilization of off-site office space for a portion or the entire City Hall functions may be required. The engineering firm of Loureiro is providing project phasing, building impact and HVAC system preliminary design services.

ii. Relocation of some City Departments to increase office efficiencies. Proposed office relocations consist of the following:

   a. Fire Marshal's Fire Inspection Division and the Department of Public Works Land Use, Engineering and Administrative staff will be relocated to the

second floor adjacent to Bristol Development Authority and the Building Department.

b. Personnel / **Claims** Department and Purchasing Department will be relocated to the third floor.

c. Park Department will be relocated temporarily in the ground floor with a long term goal of relocating off-site to Rockwell Park.

d. DPW Building Maintenance Division will be located on the ground floor.

e. Treasurer Office will be relocated to the third floor

f. Potential construction of employee gym on ground floor not included in estimate.

iii. Replacement of building windows and exterior doors.

iv. Construction of angled parking along North Main Street and reconstruction of walkways into northern building entrance. Funding is in place and the project is currently being implemented.

v. Reconfiguration of one way access lane located on western side of building. Existing southbound one way travel behind City Hall will be reversed to northbound. Existing angled parking will remain as reverse angled parking with appropriate signage. Funding is in place and the project is currently being implemented.

vi. Installation of emergency generator to service the entire City Hall.

vii. ADA bathroom modifications **(ADA Modifications will require a reduction of existing bathroom fixtures)**

viii. Replacement to building interior water supply piping.

ix. Installation of building management system to monitor, control and optimize building heating / cooling, security, and energy functions.

x. Replacement of existing ceiling tiles and carpeting in building areas not otherwise affected by building upgrades. Work will also include painting of interior spaces.

xi. Upgrades to City Council Chambers audio visual systems to provide additional presentation display viewing screens.

xii. Installation/replacement of existing lighting systems with LED light fixtures.

xiii. Replacement of building main electrical switchgear.

xiv. Upgrades to fire and emergency lighting systems.

xv. Environmental abatement of affected spaces.

A preliminary assessment of the available Memorial Blvd School building space has been completed. The building consists of a sub-basement, ground floor, primary first floor, second and third floor. The northern portion of the building occupied by a theater is currently in the planning stages of re-conditioning and **is not** proposed for City Hall functions. In addition to the existing theater space, the current theater proposal includes utilizing a portion of the primary first floor for theater functions and is therefore also not included in the building use for City Hall functions.

The theater renovation project includes upgrades to the entire primary first floor of the Memorial Blvd School building. This work is characterized as light renovations and has been included in

the theater project cost estimate by Gilbane Construction. Gilbane Construction is also performing the cost estimates for City Hall upgrades and Memorial Blvd modifications evaluations. The cost estimate of the theater project is separate from the potential City Hall upgrades and Memorial Blvd projects. The total renovation cost of Memorial Blvd will be the sum of Memorial Blvd modification to support City Hall and Memorial Blvd theater renovations.

Based on the preliminary assessment of Memorial Blvd School space, sufficient space is available to support City Hall functions. However, it appears that insufficient space is available within the Memorial Blvd School building to combine / relocate additional City functions currently not located in City Hall to Memorial Blvd.

Based on the preliminary assessment, modifications to Memorial Blvd School will consist of the following:

i. Heavy renovation of the ground floor, primary first floor, second and third floor. The inner corridor walls will remain, **but will require some (medium) renovations. Renovations in the sub-basement area will be classified as light construction and will consist of life, safety and code compliant upgrades.**
ii. Replacement of elevator located on south side of building.
iii. Existing windows to remain, doors with access security system to be installed.
iv. City Council Chambers space to be provided along with two public meeting rooms.
v. Parking modifications consisting of reconfiguration of the existing parking areas and extensive regrading adjacent to building. Proposed parking will include new pavement markings on Willis Street. Parking modifications will create approximately **164** spaces, 20 spaces will be dedicated for City vehicle use and will not be available to the public or theater. The use of existing sport field located to the east of the building is not required.
vi. Construction of site improvements associated with parking modifications will require excavation adjacent to building, as a result it appears an at grade ADA access to the southwest corner of the building can be provided.
vii. Heating and cooling system installation.
viii. Installation of new HVAC equipment and building mechanical systems may require **repairs to** roof installed in 2008.
ix. Employee break/lunch rooms on each floor in lieu of individual department break rooms currently provided in some City Hall Departments.
x. Minimal exterior building facade improvements. Work will include painting / minor modifications to existing fencing.
xi. Installation of building generator.
xii. Building connection to City wide network system.
xiii. Replacement / acquisition of some office furniture (approximately 30% of existing)
xiv. Construction of MIS support infrastructure
xv. Environmental abatement of affected spaces.

xvi. Fire safety upgrades
xvii. Construction of ADA compliant bathrooms.

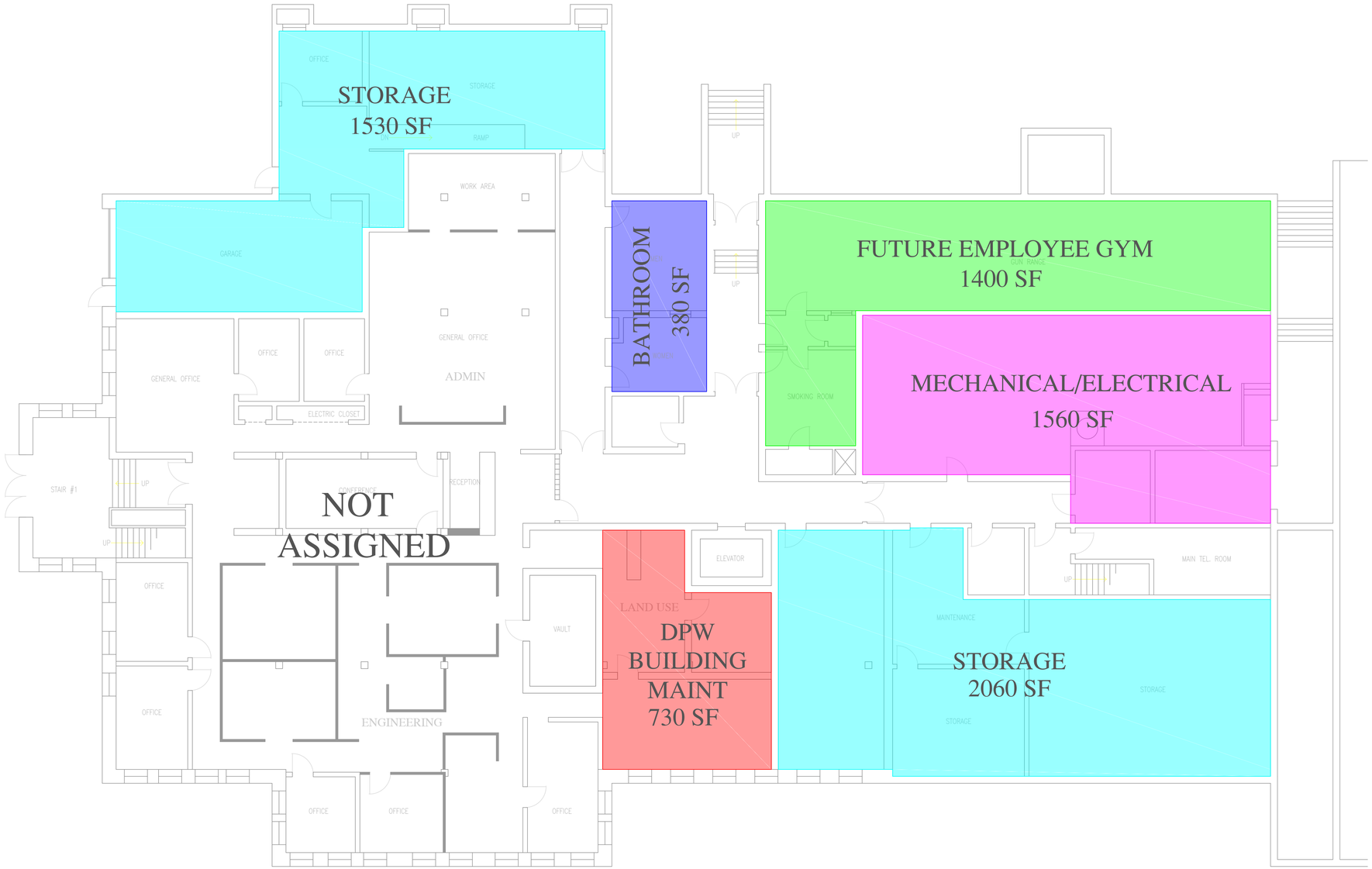
A City Hall program analysis has been completed and a conceptual layout of City Hall functions at Memorial Blvd School is being finalized. Building layout and plans are complete for proposed City Hall office relocations.

The services of Eagle Environmental (to assess required environmental abatement cost) and Loureiro Engineering (to provide HVAC design / construction services for City Hall upgrades) will be completed in 3 weeks. The work of both Eagle Environmental and Loureiro Engineering is currently being coordinated with Gilbane Construction and it is anticipated that project cost estimates will be complete by November 4, 2016. The Engineering Division has scheduled weekly meeting with consultants to monitor / maintain schedule.

Note: Updated items indicated in bold print

PRESENTATION DRAFT

2) City of Bristol - City Hall Department Breakdown - November 9th, 2016 - Sketches



GROUND FLOOR

1/8" = 1'-0"

(24" x 36")

NOTES:

1) DPW & LAND USE RELOCATED TO 2ND FLOOR
2) DPW EXISTING SPACE NOT ASSIGNED
3) DPW BUILDING MAINTENANCE OFFICE RELOCATED GROUND FLOOR
4) FUTURE EMPLOYEE GYM NOT INLCUDED IN COST ESTIMATE

Bristol CONNECTICUT Public Works

PREPARED BY:

City of Bristol
Department of Public Works

111 North Main Street
Bristol, Connecticut 06010

Tel: 860-584-6125
Fax: 860-584-3838
ci.bristol.ct.us

No.	DATE	COMMENTS:

DESIGN BY:
DRAFTED BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

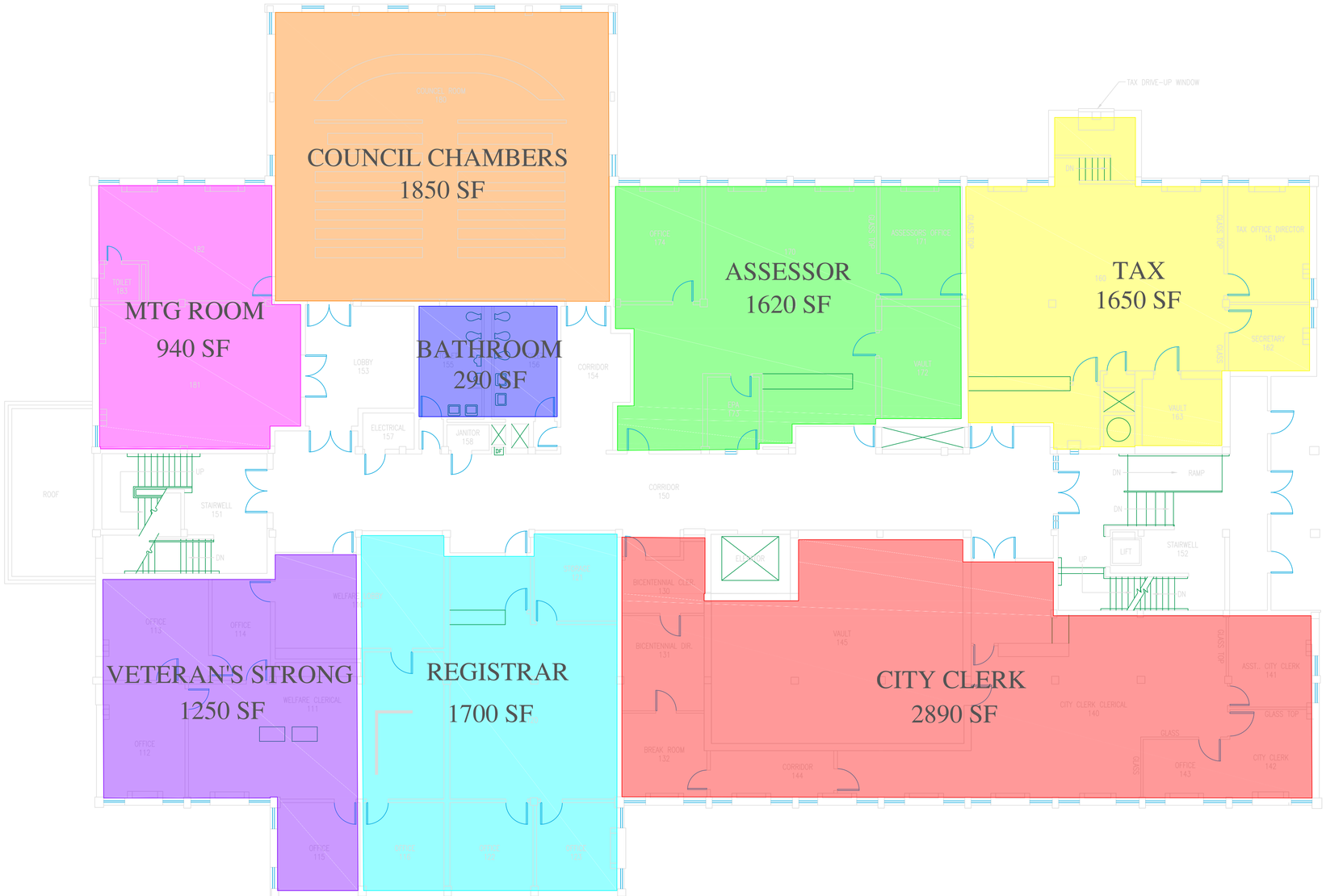
Department Breakdown
at City Hall
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

1

PRESENTATION DRAFT



1ST FLOOR

1/8" = 1'-0"

(24" x 36")

NOTES:

1) EXISTING FLOOR LAYOUT TO REMAIN AS IS

PREPARED BY:

City of Bristol
Department of Public Works

111 North Main Street
Bristol, Connecticut 06010

Tel. 860-584-6125
Fax 860-584-3838
ci.bristol.ct.us

No.	DATE	COMMENTS:

DESIGN BY:
DRAFTED BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

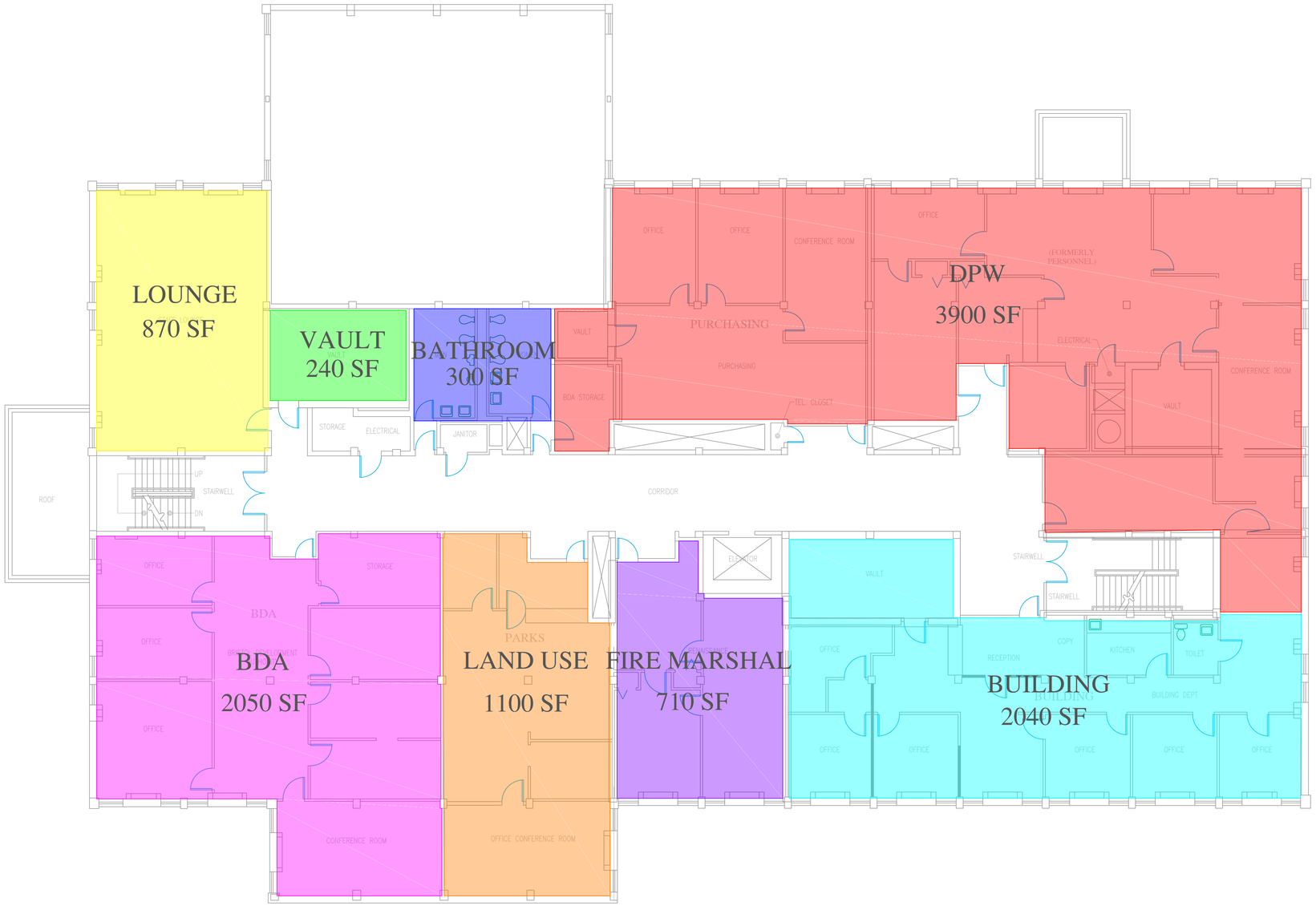
Department Breakdown
at City Hall
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

2

PRESENTATION DRAFT



2ND FLOOR

1/8" = 1'-0"

(24" x 36")

NOTES:

1) PERSONNEL & PURCHASING RELOCATED TO 3RD FLOOR
2) DPW & LAND USE RELOCATED TO 2ND FLOOR
3) FIRE MARSHAL RELOCATED FROM FIRE DEPT TO 2ND FLOOR

PREPARED BY:
City of Bristol
Department of Public Works
111 North Main Street
Bristol, Connecticut 06010
Tel. 860-584-6125
Fax 860-584-3038
c.bristol.ct.us

No.	DATE	COMMENTS:

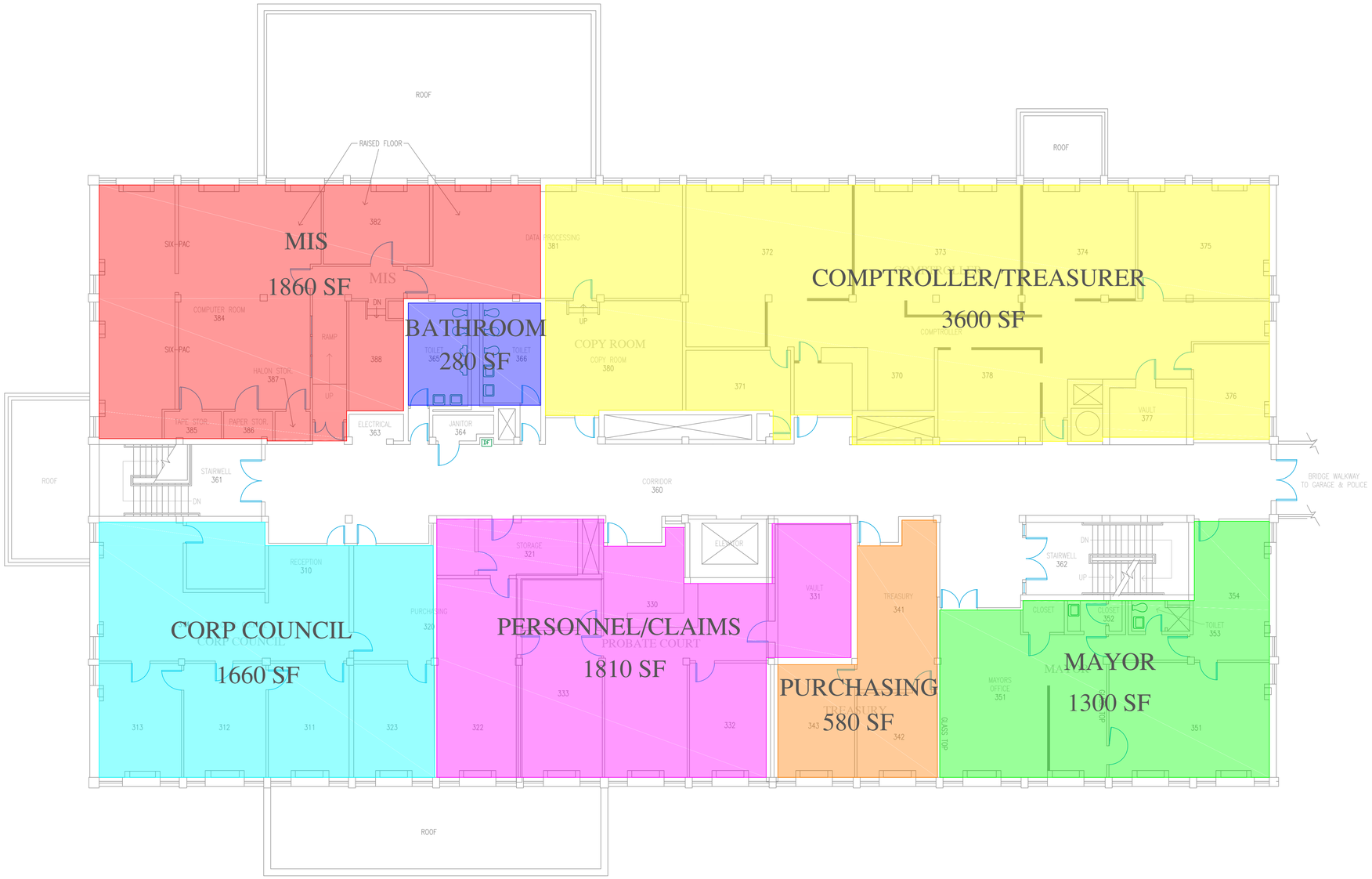
DESIGN BY:
DRAFTED BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

Department Breakdown
at City Hall
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:
3

PRESENTATION DRAFT



3RD FLOOR

1/8" = 1'-0"

(24" x 36")

NOTES:

1) PURCHASING & PERSONNEL RELOCATED TO 3RD FLOOR
2) TREASURY RELOCATED 3RD FLOOR

PREPARED BY:

City of Bristol
Department of Public Works

111 North Main Street
Bristol, Connecticut 06010

Tel. 860-584-6125
Fax 860-584-3838
ci.bristol.ct.us

No.	DATE	COMMENTS:

DESIGN BY:
DRAFTED BY:
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SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

Department Breakdown
at City Hall
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

4

3) Loureiro - October 28th, 2016 - MEP Systems Review - City Hall Renovation

Loureiro
Engineering • Construction • EH&S • Energy
Waste • Facility Services • Laboratory

VIA E-Mail

October 28, 2016

City of Bristol
Department of Public Works
111 North Main Street
Bristol, CT 06010

Attn: Mr. Raymond A. Rogozinski, P. E.

RE: MEP Systems Review
City Hall Renovations
Project No. 11CB6.06

Dear Raymond:

The City of Bristol is studying how best to perform a major renovation of the existing City Hall building including modifications to the layout of rooms on each of the floors. The last major upgrade to the building occurred back in 1985. Upgrades to numerous building Mechanical, Electrical and Plumbing (MEP) systems are to be included as part of the proposed upgrades.

Loureiro reviewed the various building MEP systems to be upgraded as part of the proposed renovations. Our recommendations are being used by Gilbane Construction Co. to establish probable costs of construction for the proposed upgrades. A summary of our findings and recommendations are discussed by topic below.

<u>Phasing</u>
The most cost effective and efficient way to renovate the building and upgrade the systems would be to shut down the entire building and upgrade the building systems all at one time. However, this method of renovation results in the most disruption to the operations within the building and would require relocating all of the City Hall functions to an off-site swing space location for an extended period of time. This is an impractical option at this time.

It's our opinion that the next best option for completing the proposed renovations and system upgrades to the building would be using a phased approach where individual floors of the building are renovated one at a time. While phasing the renovations in this way will result in a longer renovation schedule, this method allows for the flexibility to completely upgrade all of the systems on each floor while still allowing most of the building operations to continue on-site. Only the operations occurring on the individual floors being renovated would need to be moved to an off-site swing space.

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However, careful attention will have to be made to the upgrades to the building systems as part of this phasing effort. The existing building systems will need to remain in operation to serve floors that haven't been renovated while new systems are put in place to serve floors that have been renovated.

Fire Protection Systems

Included within the proposed upgrades to the building systems is installing fire protection sprinklers in all areas of the building. Currently, there is a 6" diameter fire service serving the building fed from a water main under North Main Street on the east side of the ground floor. The existing fire service reduces down to a 4" diameter main and feeds fire hose cabinets within the stairwells on each floor of the building via two common risers. The feeds within the various hose cabinets have been capped.

The existing fire hose cabinets should be removed and the fire service should be modified to serve a new automatic fire sprinkler system installed within the ceilings on all floors of the building. The new sprinkler system should be designed for a light hazard occupancy with each sprinkler serving approximately 225 square feet (assuming non-combustible construction). The system should be hydraulically designed to confirm that the existing fire service size is adequate. However, for the purpose of this cost estimate, it should be presumed that the existing 6" service is adequate.

Plumbing Systems

Included within the proposed upgrades to the building plumbing systems is replacing all of the existing sanitary drainage piping within the building. Also, included with the proposed plumbing system upgrades is replacing the existing natural gas service within the building.

The existing sanitary drainage system serving the building is a 6" main exiting to the parking lot out the west side of the building. A common 4" sanitary waste riser picks up the drains from the floors above. Much of the existing sanitary drainage is comprised of galvanized piping which is in poor condition and has had frequent failures. All of the sanitary drainage piping serving the building is proposed to be replaced in kind as part of the proposed upgrades.

There is an existing 2" diameter natural gas service entering in from North Main St. on the east side of the ground floor. The gas service does not have sufficient capacity to fire the dual-fired burners on the boilers. However, according to previous conversations with the local natural gas utility, the existing gas main in North Main St. does not have the additional capacity necessary to serve the building. So the intent is to replace the existing service with a new 6" low pressure natural gas service coming in from Laurel St. on the west side of the building. The new service would be re-connected to the existing equipment and the boiler burners.

The existing domestic cold water service to the building is 4" diameter entering in from North Main St. on the east side of the ground floor. 2" diameter domestic hot water and an associated 1-1/4" domestic hot water recirc mains are connected to an existing 40 gallon, electric hot water heater located on the ground floor. Hot and cold domestic water piping is distributed around the

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ground floor to risers routed up to stacked toilet rooms on the floors above. The domestic water piping systems are expected to remain. The electric hot water heater is less than five years old and will also remain.

The proposed renovations include revised layouts and upgrades to all eight existing common toilet rooms within the building most specifically to add additional accessible fixtures. There are an additional three single stall satellite toilet rooms located around the building that will be removed as part of the planned upgrades. Only the Mayor's office will be left with a single stall satellite toilet room. For budgeting purposes, assume all existing plumbing fixtures will be replaced within the common toilet rooms, including a total of five water closets, one urinal, five lavatories and one mop sink on each floor of the building.

HVAC Systems

Most of the HVAC systems serving the building are either original to the 1963 construction of the building or to the last major renovation back in 1985. As such the systems are past their useful lives. The intent is to upgrade most of the HVAC systems as part of these proposed renovations.

The central heating plant consists of steam boilers located on the ground floor. The central chilled water plant consists of a centrifugal chiller located on the ground floor coupled with a cooling tower located on the roof adjacent to the penthouse. The existing steam boilers and the cooling tower are less than five years old and will remain. However, the existing chiller and all central plant pumps are beyond their useful lives. The chiller along with the associated chilled water pump and distribution piping will be removed and not be replaced as part of the proposed HVAC system upgrade. However, new heating hot water and tower condenser water pumps would be installed as part of the proposed upgrades. For budgeting purposes, the replacement condenser water pump should provide 600 gpm at 50 ft. TDH using a 15 HP motor.

A dual temperature pipe distribution system serves the existing perimeter air induction units and duct mounted coils equipment within the building. Chilled water for the dual temperature system is fed from the existing chilled water plant. Hot water for the dual temperature is generated at an existing steam-to-heating hot water exchanger located on the west side of the ground floor. The existing steam-to-heating hot water system is original to the building and is proposed to be replaced as part of the upgrades to the building. For budgeting purposes, the replacement steam to hot water system shall produce 286 gpm of heating hot water using 2 psig steam and the replacement hot water pump should provide 286 gpm at 65 ft. THD using a 7-1/2 HP

The existing building is served by six constant volume air handling units, four located in the penthouse and two located at the ground floor. All units are supplied with steam for heating and chilled water for cooling from the central plants. Air handling unit AHU-1 currently serves the core areas of the first through third floors of the building. Air handling unit AHU-2 serves the perimeter air induction units on all floors. Air handling unit AHU-3 serves the Registrar's Office (former East Court Room) on the first floor. Air handling unit AHU-4 serves the Council

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Chambers (former West Court Room) on the first floor. Air handling unit AHU-5 serves the core of the Public Works areas on the ground floor. Air handling unit AHU-8 serves the vault and maintenance areas on the ground floor. It is proposed to remove all of the existing air handling units as part of the HVAC upgrades along with the associated supports, piping and power.

Duct distribution systems are routed down from the penthouse mounted units to serve the floors below. Dual temperature coils are located within the duct distribution system on each floor to provide local temperature regulation for each department. Duct distribution systems from the ground floor mounted units are routed around the floor. It is proposed to remove all of the existing duct distribution systems and associated coils as part of the upgrades.

AHU-2 is proposed to be removed along with all of the associated perimeter air induction units. Branch duct and dual temperature piping drops to each air induction unit will be capped just outside of the chases to each unit. All associated duct and piping will be removed back to their source. Painted decorative sheetmetal enclosures will be installed in place of each air induction unit.

Based upon a compromise of first cost, performance, system efficiency and system maintenance, we recommend that the HVAC system serving the City Hall be upgraded to a water source heat pump system. With this HVAC system, a dedicated outside air system (DOAS) with integrated energy recovery would be needed to provide outside air to the building while environmental condition of the local spaces would be provided by the heat pumps.

New water source heat pumps are proposed to be installed throughout all floors of the building to provide local conditioning. The intent for the new HVAC system is to provide simultaneous cooling and heating within the building and individual temperature control in all offices. Separate heat pumps with space temperature sensors would be installed to serve each private and open office. A new two pipe water distribution system would be installed to provide heating and cooling to each heat pump. A new water circulating pump would be needed to serve the heat pump loop. For budgeting purposes, the pump should be designed to provide 300 gpm at 65 ft. TDH using a 10 HP motor.

A new DOAS is proposed to be installed on the west side of the roof adjacent to the cooling tower. The DOAS would be natural gas-fired with dx based cooling. For budgeting purposes, the DOAS capacity should be approximately 6000 cfm with 35 tons of cooling. The unit would distribute conditioned outside air via a new duct distribution system to all of the new heat pumps located around the interior on all floors of the building via a common shaft riser. A companion central return air duct distribution system would duct air back to a Building Code required energy recovery device integrated within the DOAS.

As noted above, all existing HVAC systems will need to be kept in operation until all phases of the upgrades to the building are complete. In order for the new heat pump system to operate in conjunction with the existing boiler and cooling tower, intermediate heat exchangers would need

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to be installed between the tower, boiler and heat pump water piping distribution systems. The heat exchangers should be high efficiency, plate & frame type designed for the full tower and boiler water flow on one side of the exchanger and the full heat pump flow on the other side of the exchanger.

Electrical Systems

The building is currently served by a 1600 amp, 208V, 3 Phase electrical service located in an electrical room on the east side of the ground floor. The service is proposed to be upgraded in-kind. Unfortunately, because of the current layout of equipment within the electrical room, the replacement equipment cannot be installed in the same location as the existing. It would be necessary to take advantage of an abandoned adjacent electrical vault to install the new service by opening up the wall between the two spaces to allow for proper positioning and clearances around the equipment. Existing primary and secondary electrical conductors that are routed through the adjacent vault would need to be modified to suit the new equipment.

Currently, portions of the building are served by an existing 200 amp, 208V, 3-Phase generator located in the adjacent Carpenter's Shop across the west parking lot at 100 Laurel St. The intent is to upgrade the generator to one that has sufficient capacity to serve the entire building. There is insufficient space to install a larger generator within the Carpenter's Shop. We recommend removing the existing generator and installing a new self-contained 500 KW, 208V, 3-Phase model on grade in the parking area adjacent to the Carpenter's Shop. Due to the proximity to an adjacent residential neighbor, the generator would need to be provided with a Class 2 sound enclosure and a hospital grade muffler. The generator would be provided with a diesel belly tank capable of providing a minimum of 120 hours of continuous service. The discharge of the generator would connect to the existing power feed into the ground floor of the building. A new automatic transfer switch would need to be installed within the building as well.

It is proposed to upgrade all of the existing lighting within the building to LED based fixtures. New Building Code requirements include lower lighting power density values than were originally used when the building was last renovated along with automatic shutoff control of the lights. Since it is also proposed to upgrade all of the existing acoustical tile ceilings, a revised lighting layout should be included as part of the project. For estimating purposes, it should be presumed that all existing lighting would be removed and new fixtures would be installed at a rate of one lighting fixture for every 75 sf of floor area.

Building Management System

City Hall is currently served by an existing building management system (BMS) largely used to control the various building HVAC systems. The proposed upgrades include replacing the existing system and installing a new more robust Invensys based building management system that will control not only the new HVAC systems but also the building lighting systems. For pricing purposes, it should be presumed that the BMS would be installed in phases as the floors are renovated. The existing BMS would remain in operation until all the floors are renovated.

Please let me know if there are any questions on the above information.

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Sincerely,

LOUREIRO ENGINEERING ASSOCIATES, INC.

Robert J. Sherman CGD, CEA
Project Manager

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EAGLE Environmental, Inc

4) Eagle Environmental - October 31st, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; City Hall

October 31, 2016

Mr. Raymond A. Rogozinski, P.E.
Assistant City Engineer
City of Bristol (DPW)
Department of Public Works
111 North Main Street, 2nd Floor
Bristol, Connecticut 06010

COPY
Double Sided

RE: Asbestos Containing Materials Inspection and Lead-Based Paint Screen
Bristol City Hall
111 North Main Street
Bristol, Connecticut
Eagle Project No. 16-010.12T2

Dear Mr. Rogozinski:

Please find the report for the asbestos containing materials inspection and lead-based paint screen conducted at the Bristol City Hall located at 111 North Main Street in Bristol Connecticut. This inspection supplements the asbestos inspection conducted by Loureiro Engineering Associates, Inc. and the associated *Hazardous Building Materials Report*, dated June 21, 2016. This inspection was performed to support the proposed renovation to the building.

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,
Eagle Environmental, Inc.

Report Prepared By:
Chris Liberti
Senior Project Manager

Report Reviewed By:
Ashis Roychowdhury
Executive Vice President

CC: Eric Cushman, PM - Gilbane Building Company

\\Eaglesvr\public\2016 Files\2016 Reports\Bristol, City of\City Hall\111 North Main St - ACM.doc

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ATTACHMENT

Attachment 1 Loureiro Inspection Report

1. INTRODUCTION

On October 19, 20, 25, 28 and 31, 2016, Eagle Environmental, Inc. conducted an asbestos-containing material inspection and lead-based paint screening of the Bristol City Hall located at 111 North Main Street in Bristol, Connecticut. This inspection supplements a previous asbestos inspection of the building conducted by Loureiro Engineering Associates, Inc. Eagle Environmental, Inc. reviewed the existing report prior to this inspection to avoid duplication of sampling. The results of the Loureiro Engineering, Inc. report have been incorporated into this report to present a more accurate representation of the asbestos containing materials located within the building. A copy of Loureiro's report is enclosed as Attachment 1. This inspection focused on interior suspect materials and the window systems that will be impacted by the proposed renovations. The exteriors and roofing materials were not included in this scope of work.

2. SCOPE OF INSPECTION

2.1 Asbestos-Containing Materials (ACM)

The asbestos inspection was intended to satisfy the United States Environmental Protection Agency (USEPA) National Emission Standard for Hazardous Air Pollutants Act (NESHAP) as amended November 20, 1990. The USEPA NESHAP final rule requires the identification and removal of all regulated ACM in an area of renovation prior to renovating the area if the renovation work will impact the ACM. However, the inspection was limited in nature and did not fully satisfy the NESHAP requirements of a comprehensive inspection including the interstitial spaces.

The intended purpose of this inspection was to identify the building materials on a broad scale. It was not intended to serve as a comprehensive asbestos-containing building material inspection or survey, but rather reduce the uncertainty regarding the potential for asbestos in major building materials within the identified areas of renovation. Additional inspection services will be required to complete a comprehensive pre-renovation inspection of the area. This inspection is recommended to be performed once the renovation scope of work has been finalized.

The asbestos inspection was performed by Raymond Folino; a State of Connecticut licensed Asbestos Inspector (license #000137).

2.2 Lead-based Paint

2.2.1 X-Ray Fluorescence Screen

The lead-based paint (LBP) screen was performed in accordance with the requirements of the State of Connecticut, Department of Energy and Environmental Protection (DEEP), Guidance for the Management and Disposal of Lead Contaminated Materials Generated in the Lead Abatement, Renovation and Demolition Industries. The DEEP regulates the disposal of hazardous lead waste in the State of Connecticut. Lead-contaminated debris, not contaminated with other hazardous materials, is classified either as hazardous lead waste or as non-hazardous solid waste.

Additionally the U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulates lead dust exposure to workers in the construction industry under 29 CFR 1926.62 Lead in Construction.

The lead-based paint screen was performed by Ryan Murphy and Emma Andrukat; State of Connecticut licensed Lead Inspectors (license #'s 002227 and 002226, respectively).

3. INSPECTION PROTOCOLS

3.1 Asbestos Containing Materials

3.1.1 Inspection

The limited asbestos-containing materials (ACM) inspection included the accessible interior portions of the building and the exterior doors and windows; the exteriors and roofs were not included with this scope of work. Semi-destructive testing techniques were utilized during the inspection process.

During the inspection, suspect materials are located, sampled, quantified and the friability of the material is determined. Friable materials are those materials that hand pressure can crumble, pulverize or reduce to powder when dry. An estimated quantity of identified ACM is provided for positive materials only. The materials are quantified in linear or square feet, depending on the nature of the material.

3.1.2 Bulk Sampling

During the sampling process, suspect ACM is separated into three (3) USEPA categories. These categories are: Thermal System Insulation (TSI), Surfacing Materials (SURF), and Miscellaneous materials (MISC). TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe covering, boiler insulation, duct wrap, and mudpack fitting cement. Surfacing ACM includes all ACM that is sprayed, toweled or otherwise applied to an existing surface. These applications are most commonly used in fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed in thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tile.

Bulk sampling was performed in a random method. Bulk sampling methods and number of samples collected meets or exceeds the USEPA requirements.

3.1.3 Bulk Sample Analysis

The samples of the suspect asbestos containing materials were sent to a State of Connecticut Department of Public Health (DPH) approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrixes. Samples are collected individually or in sets. When sets of samples are collected, each set is systematically analyzed until one sample is determined to contain asbestos. Upon the determination of the presence of asbestos in one sample in the set, analysis of the remaining samples in the set is discontinued. If no asbestos is observed during analysis of the set of samples, the suspect material is determined to be negative for asbestos content.

Sample analysis results are reported in percentage of asbestos and non-asbestos components. The USEPA defines any material that contains greater than one

percent asbestos, utilizing PLM, as being an asbestos-containing material (ACM). Suspect materials containing greater than one percent (1%) asbestos utilizing the PLM Point Count Method and the NOB TEM method are also considered to be asbestos-containing. Materials determined to contain greater than one percent (1%) asbestos is regulated by the USEPA, the State of Connecticut Department of Public Health and Department of Energy and Environmental Protection and the United States Department of Labor. Sample results indicating "no asbestos detected" (NAD) are specified as non-asbestos containing materials. Samples results indicating "Did Not Analyze" (DNA) are not analyzed due to the stop on first positive request to the laboratory.

3.1.3.1 Friable ACM Analysis

Certain samples of friable materials shown to contain less than 10% asbestos are analyzed further by the "Point Count Method". This procedure is recommended by the United States Environmental Protection Agency to confirm friable bulk samples shown to have less than 10% asbestos by PLM to be definitively negative or positive for asbestos. This method is accepted as providing statistically reliable results when analyzing bulk samples with very low asbestos concentrations. Friable materials containing "Trace" or "less than one percent (1%)" asbestos must be analyzed by the PLM Point Count Method. No samples were further analyzed by the PLM Point Count Method for the Bristol Hall.

3.1.3.2 Non Friable ACM Analysis

Certain samples of organically bound non-friable materials shown to contain "less than 1% asbestos", "TRACE" or "NAD" are recommended for analyses by the "NOB TEM ELAP 198.4 Method". This procedure is recommended by the United States Environmental Protection Agency to further evaluate non-friable organically bound materials for asbestos. Suspect materials confirmed by NOB TEM to be "less than 1% asbestos", "TRACE" or "NAD" are considered non-asbestos containing. No samples were further analyzed by the NOB TEM Method for the Bristol City Hall.

3.2 Lead-based Paint

3.2.1 X-Ray Fluorescence Screen

The lead-based paint screen was performed utilizing an X-Ray Fluorescence (XRF) Radiation Monitoring Device (RMD) Lead Paint Analyzer (LPA 1), serial number 02753 within the limits of the inspection area(s). The screen includes only accessible areas within the inspection area(s) and accessible building materials.

The lead-based paint screen includes testing limited components and or surfaces throughout the structure. It is not the intent to test all painted components, but to identify on a broad scale the impact of lead paint as it relates to the disposal of lead paint contaminated debris and potential worker exposure issues. Generally, wall and ceiling surfaces, painted floors, window and door systems are tested. Other components such as baseboards, cabinets, columns, trim, etc. are tested on a limited basis. Component and surface locations are identified by side designations represented by the letters "A", "B", "C", and "D". The "A" side is considered the

front of the building with the "B", "C", and "D" sides following in a clockwise order.

The data is presented on computer generated Lead Inspection Reports contained in Appendix 3. The Summary Report provides an inventory of each surface coating that contains lead at or above 1.0 mg/cm². The Detailed Report is an inventory of each tested surface on a room-by-room basis.

For the purpose of this report, the XRF results are separated into two (2) categories; high levels of lead (≥1.0 mg/cm²) and low levels of lead (<1.0 mg/cm²). Building materials containing high levels of lead have a greater probability of creating worker exposures during construction than do building materials with low levels of lead. Additionally, lead waste characterization sampling is required for building materials containing high levels of lead (≥1.0 mg/cm²) and will become a waste product as a result of demolition or renovation activities.

The U.S. Department of Labor Occupation Safety and Health Administration (OSHA) regulates lead dust exposure to workers in the construction industry under 29 CRF 1926.62 Lead Exposure in Construction; Interim Final Rule. Currently, OSHA does not define a threshold level of lead in paint that may cause worker exposure. Any detectable level of lead in paint (>0.0 mg/cm² +/- 0.3 mg/cm² by XRF or ≥0.01 % by AAS) requires task specific exposure monitoring.

4. INSPECTION RESULTS

4.1 Asbestos Containing Materials

During the course of the inspection one hundred ten (110) bulk samples of suspect ACM were collected and one hundred one (101) samples were analyzed by PLM based on the "stop on first positive" request to the laboratory.

From the one hundred one (101) samples analyzed, the following materials were confirmed to contain ACM:

Confirmed ACM by Eagle Environmental:
- 9" x 9" White floor tile
- Black mastic associated with 12" x 12" brown with white floor tile
- Black mastic associated with 12" x 12" white floor tile
- Window glazing compound
- Window frame caulk

Previously Identified ACM by Loureiro Engineering:
- Pipe elbow insulation – 2", 3", 6" and 12"
- Pipe wrap insulation
- Grey window frame caulking
- 9" x 9" Brown floor tile
- Air handler #3 insulation
- 9" x 9" Brown with white specks floor tile
- Tan air handler wall penetration caulk
- Pipe valve insulation – 24"
- Canvas wrap on duct
- 9" x 9" Tan floor tile

The following materials were assumed to be asbestos-containing:

- Boiler interior refractory
- Wood wall panel adhesive
- Fire door core insulation
- 12" x 12" floor tiles

During the interior inspection of the windows, interior caulk and glazing compounds were determined to be ACM. The cost estimate for the removal of the existing window sashes and frame system was developed utilizing practices current with industries standards for this type of window system removal process and the alternative procedures that the State of Connecticut Department of Public Health (DPH) recognizes as acceptable in occupied buildings. To utilize these alternative procedures, an Alternative Work Practice (AWP) will be required to be submitted to the DPH for approval prior to the removal of the window systems by a licensed Asbestos Abatement Contractor.

The process for removing the windows includes establishing polyethylene barriers interior to the structure at the window removal location and removal of the windows to the exterior of the structure. Work exterior to the structure will be performed on hydraulic lifts in areas where additional polyethylene sheeting will be used to protect the ground and areas adjacent to the work. The work of the Asbestos Abatement Contractor will require strict coordination with the window replacement work and the building Owner. At the completion of the abatement work, all interior and exterior caulk and glazing compound will have been removed as well as the window sash and architectural panels and associated framing.

The remaining suspect materials that were sampled during this inspection were confirmed to be non-ACM. The summaries of asbestos and non-asbestos materials are presented in Tables I and II respectively. The asbestos analysis laboratory reports for the samples collected by Eagle Environmental, Inc. are provided in Appendix 2.

Any suspect material discovered during removal that has not been specifically identified in this report as non-ACM should be assumed to contain asbestos unless sample results prove otherwise.

All regulated friable and regulated non-friable ACM must be removed prior to renovation activities. A State of Connecticut Licensed Asbestos Abatement Contractor must be retained to perform the removal work. Visual inspections and air clearances must be performed within each abatement area at the completion of the abatement work. The visual inspections and air clearances must be performed by a State of Connecticut licensed Asbestos Project Monitor. The abatement areas must meet final visual and air clearance inspection criteria prior to building re-occupancy.

The Asbestos Abatement Contractor must submit a notice of asbestos abatement to the State of Connecticut Department of Public Health post marked or hand delivered ten (10) days prior to the commencement of any asbestos abatement activities involving the abatement of greater than ten (10) linear feet or twenty-five (25) square feet of asbestos-containing materials.

4.2 Lead-based Paint

4.2.1 X-Ray Fluorescence Screen

A total of one hundred fifteen (115) XRF readings were collected during the lead-based paint screen of the building. From the one hundred fifteen (115) readings, only the ceramic tiles in the bathrooms were found to contain high levels of lead, >1.0 mg/cm^2.

A complete inventory of tested building materials is presented in Detailed Reports contained Appendix 3.

Although no surfaces coated with lead based paint were identified during the inspection of the shooting range, additional lead testing is recommended within the former shooting range and surrounding rooms. Wipe samples to determine if lead in dust is present within the duct work and on horizontal and vertical surfaces within the shooting range is recommended prior to renovations to determine if lead remediation will be required prior to reusing these rooms.

5. COST ESTIMATES

This is a budgetary opinion of cost that is expected to be within -15 to + 30 percent of the actual cost. Although the identification of universal waste materials and lead based paint were not included with this inspection, the removal of an estimated quantity universal wastes and an allowance for the demolition, cleaning and disposal of materials potentially coated with lead based paint were included in the estimate. Eagle Environmental, Inc. has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor or Contractors' methods of determining prices, or over competitive bidding or market conditions. Eagle Environmental, Inc.'s opinion of probable cost of abatement are made on the basis of Eagle Environmental, Inc.'s experience and qualifications and represent Eagle Environmental, Inc.'s judgment as an experienced and qualified consultant familiar with the abatement industry; but Eagle Environmental, Inc. cannot and does not guarantee that proposals, bids or actual Total Project or Abatement Cost will not vary from opinions of probable cost prepared by Eagle Environmental, Inc. If, prior to the bidding or negotiating phase, the Owner wishes greater assurance as to Total Project or Abatement Cost, the Owner shall employ an independent cost estimator.

The cost estimates are provided in Appendix 4.

TABLE I

ASBESTOS CONTAINING MATERIALS SUMMARY TABLE

KEY FOR TABLES I AND II

*** Please utilize the following key for abbreviations used in Tables I and II**

KEY		ANALYTICAL METHODS
DNA = DID NOT ANALYZE	SF = SQUARE FEET	PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT
NAD = NO ASBESTOS DETECTED	LF = LINEAR FEET	TEM NOB = NEW YORK ELAP 198.4 METHOD
F = FRIABLE	Chrys = Chrysotile	PLM = EPA 600/R-93/116
NF = NON-FRIABLE	Amos = Amosite	PS = Previously Sampled
TSI = THERMAL SYSTEMS INSULATION	Anth = Anthophylite	EA = Each
SURF = SURFACING MATERIAL	Trem = Tremolite	
MISC = MISCELLANEOUS MATERIAL	Croc = Crocidolite	
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION		

TABLE I
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
PREVIOUSLY SAMPLED BY LOUREIRO									
Penthouse	12" Pipe wrap insulation	1 a, b and c	TSI	20% Amos			YES	320 LF +	F
Penthouse	6" Pipe wrap insulation	2 a, b and c	TSI	15% Amos			YES	220 LF +	F
Penthouse	3" Pipe wrap insulation	3 a, b and c	TSI	15% Amos			YES	160 LF +	F
Penthouse	2" Pipe elbow insulation	5 a, b and c	TSI	45% Chrys			YES	6 LF +	F
Penthouse	3" Pipe elbow insulation	6 a, b and c	TSI	60% Chrys			YES	30 LF +	F
Penthouse	6" Pipe elbow insulation	7 a, b and c	TSI	60% Chrys			YES	60 LF +	F
Penthouse	12" Pipe elbow insulation	8 a, b and c	TSI	65% Chrys			YES	20 LF +	F
Penthouse	Air handler #3 insulation	37 a, b and c	TSI	40% Chrys			YES	160 SF	F
Maintenance	Tan air handler wall penetration caulk	43 a and b	MISC	2% Chrys			YES	25 LF	F
Maintenance, Rooms 004, 005, 006, 007, 008, 009, 010, 011, 013, 015, 016, 017, 018 and 019	<6" Pipe elbow insulation	44 a, b and c	TSI	60-65% Chrys			YES	113 EA	F
	>6" Pipe elbow insulation						YES	53 EA	F
Boiler Room	24" Pipe valve insulation	48 a, b and c	TSI	60% Chrys			YES	40 LF +	F
Air Handler 2	Canvas wrap on duct	Historical 2 a and b	MISC	35% Chrys			YES	700 SF	F
Air Handler 3	Canvas wrap on duct	Historical 3 a and b	MISC	40% Chrys			YES	300 SF	F
Town Clerks Office, Interior Throughout	9" x 9" Tan floor tile	Historical VT - 1 a and b	MISC	5% Chrys			YES	900 SF	F
Rooms 012, 013 and 21	Pipe elbow insulation assumed above ceilings and in wall chases	3 a, b and c	TSI	15% Amos			YES	30 EA	F

TABLE I
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
EAGLE ENVIRONMENTAL, INC.									
Room 004	Floor tile mastic - black	10-19-RF-08	MISC	NAD			YES	50 SF	NF
		10-19-RF-09		NAD					
	9" x 9" Floor tile - white	10-19-RF-10	MISC	3% Chrys					
		10-19-RF-11		DNA					
Rooms 010, 011, 015, 018, 019, 027, 030, 031, 035, 036, 037, 039, 040, 050, 052, 053, 054, 055, 056, 057, 058, 059, 063, 064, 065 and 066	Floor tile mastic - black	10-19-RF-26	MISC	2% Chrys			YES	9,250 SF	NF
		10-19-RF-27		DNA					
	12" x 12" Floor tile - brown with white	10-19-RF-28	MISC	DNA					
		10-19-RF-29		DNA					
Room 021	Floor tile mastic - black	10-19-RF-36	MISC	2% Chrys			YES	40 SF	NF
		10-19-RF-37		DNA					
	12" x 12" Floor tile - white	10-19-RF-38	MISC	DNA					
		10-19-RF-39		DNA					
Room 002	9" x 9" White floor tile and black mastic	Assume	MISC	Assume			Assume	100 SF	NF
Rooms 005, 006, 076 and 099	9" x 9" Brown floor tile and black mastic	Assume	MISC	Assume			Assume	1400 SF	NF
Rooms 009 and 020	Floor tile mastic	Assume	MISC	Assume			Assume	350 SF	NF
Room 020	9" x 9" Floor tile - tan with brown	Assume	MISC	Assume			Assume	170 SF	NF
Rooms 045, 046 and 085	9" x 9" Floor tile - tan	Assume	MISC	Assume			Assume	400 SF	NF
Rooms 045, 046 and 085	Floor tile mastic - black	Assume	MISC	Assume			Assume		NF
Room 104	9" x 9" Floor tile (inaccessible vault)	Assume	MISC	Assume			Assume	220 SF	NF
Room 114	9" x 9" Floor tile	Assume	MISC	Assume			Assume	220 SF	NF
Room 117	9" x 9" Beige floor tile	Assume	MISC	Assume			Assume	30 SF	NF

TABLE I
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
EAGLE ENVIRONMENTAL, INC.									
Rooms 041, 042, 043, 044, 046, 047, **050,** 052, 055, 056, 057, 058, 065, 067, 068, 068A, 069, 070, 072, 073, 074, 078 081, 082, 083 and 091	Window glazing compound at upper window sash - tan	10-20-RF-79	MISC	3% Chrys			YES	See Window Sash and Architecual Panel Schedule Table I-A	NF
		10-20-RF-80		DNA					
Rooms 041, 042, 043, 044, 046, 047, **050,** 052, 055, 056, 057, 058, 065, 067, 068, 068A, 069, 070, 072, 073, 074, 078 081, 082, 083, 091, 092, 093, 094, 096, 097, 098, 103, 110, 111, 112, 113, 115 and 116	Window frame caulk	10-20-RF-81	MISC	3% Chrys			YES	2660 LF	NF
		10-20-RF-82		DNA					
Room 001	Interior refractory	Assume	MISC	Assume			Assume	2 Boilers @ 4 yds	F
Rooms 012, 013 and 021	Mudded pack fitting cement	Assume	MISC	Assume			Assume	28 EA	F
Room 049	Wood wall panel adhesive	Assume	MISC	Assume			Assume	2500 SF	NF
Rooms 060, 089 and 109	Fire door core insulation	Assume	MISC	Assume			Assume	3 Doors	F

TABLE I-A
WINDOW SASH AND ARCHITECTUAL PANEL SCHEDULE
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
Façade A	Window glazing compound in architectural panel	10-20-RF-79	MISC	3% Chrys				29 panels @ 3' x 2' 60 panels @ 3' x 6'	NF
	Window glazing compound in window sashes	10-20-RF-79	MISC	3% Chrys				19 sashes @ 3' x 5' 69 sashes @ 3' x 8'	NF
Façade B	Window glazing compound in architectural panel	10-20-RF-79	MISC	3% Chrys				8 panels @ 3' x 2' 24 panels @ 3' x 6'	NF
	Window glazing compound in window sashes	10-20-RF-79	MISC	3% Chrys				4 sashes @ 3' x 5' 22 sashes @ 3' x 8'	NF
Façade C	Window glazing compound in architectural panel	10-20-RF-79	MISC	3% Chrys				26 panels @ 3' x 2' 57 panels @ 3' x 6'	NF
	Window glazing compound in window sashes	10-20-RF-79	MISC	3% Chrys				2 sashes @ 3' x 5' 67 sashes @ 3' x 8'	NF
Façade D	Window glazing compound in architectural panel	10-20-RF-79	MISC	3% Chrys				8 panels @ 3' x 2' 20 panels @ 3' x 6'	NF
	Window glazing compound in window sashes	10-20-RF-79	MISC	3% Chrys				4 sashes @ 3' x 5' 24 sashes @ 3' x 8'	NF

TABLE II

NON-ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
PREVIOUSLY SAMPLED BY LOUREIRO							
Penthouse	2" Pipe wrap insulation	4 a, b and c	MISC	NAD			NO
Penthouse	Air handler #2 wrap insulation	9 a, b and c	MISC	NAD			NO
Penthouse	Black woven flex connector	10 a, b and c	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	Grey caulk on air handler	11 a and b	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	12" x 12" Beige with brown specks floor tile	12 a and b	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	Black mastic for 12" x 12" beige, grey and black floor tile	13 a and b	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	12" x 12" Grey floor tile	14 a and b	MISC	NAD			NO
3rd Floor Hallway	12" x 12" Black floor tile	15 a and b	MISC	NAD			NO
3rd Floor Hallway, Renaissance Office, Ground Floor, Interior Throughout	Sheetrock/joint compound	16 a, b, c, d and e	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	2' x 2' Stucco suspended ceiling tiles	17 a and b	MISC	NAD			NO
3rd Floor Bathroom, Interior Throughout	2' x 2' White with fissures and pinholes ceiling tile	18 a and b	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	4" Brown cove base	19 a and b	MISC	NAD			NO
3rd Floor Hallway, Interior Throughout	Brown mastic for 4" brown cove base	20 a and b	MISC	NAD			NO

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
PREVIOUSLY SAMPLED BY LOUREIRO (continued)							
3rd Floor Stairway, Interior Throughout	4" Grey cove base	21 a and b	MISC	NAD			NO
Corporate Counsel, Interior Throughout	Brown carpet glue	25 a and b	MISC	NAD			NO
3rd Floor Hallway, Ground Floor, Interior Throughout	Sheetrock	27 a and b	MISC	NAD			NO
2nd Floor Hallway, Interior Throughout	12" x 12" Grey with brown specs floor tile	29 a and b	MISC	NAD			NO
Building Department Kitchen	Linoleum	30 a and b	MISC	NAD			NO
Building Department Kitchen	Tan mastic for linoleum	31 a and b	MISC	NAD			NO
Renaissance Office, Ground Floor, Interior Throughout	Sheetrock tape	32 a and b	MISC	NAD			NO
2nd Floor Bathroom	1' x 1' White with pinholes and fissures suspended ceiling tile	33 a and b	MISC	NAD			NO
1st Floor Hallway	12" x 12" Brown floor tile	34 a and b	MISC	<1% Chrys			NO
Deputy Assessor	4" Black cove base	35 a and b	MISC	NAD			NO
Deputy Assessor	White mastic for 4" black cove base	36 a and b	MISC	NAD			NO
Maintenance	Air handler insulation	39 a, b and c	MISC	NAD			NO
Maintenance	4" Pipe insulation	40 a, b and c	MISC	NAD			NO
Maintenance	2" Pipe insulation	41 a, b and c	MISC	NAD			NO
Maintenance	10" Pipe insulation	42 a, b and c	MISC	NAD			NO
Boiler Room	Air duct insulation	47 a, b and c	MISC	NAD			NO
Boiler Room	Boiler door gasket	49 a, b and c	MISC	NAD			NO

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
PREVIOUSLY SAMPLED BY LOUREIRO (continued)							
Boiler Room	CP II (white mastic) on fiberglass	50 a and b	MISC	NAD			NO
Gun Range Bathroom	1' x 1' Suspended ceiling tile	51 a and b	MISC	NAD			NO
Gun Range	2' x 4' White with fissures suspended ceiling tile	52 a and b	MISC	NAD			NO
Gun Range	2' x 2' White suspended ceiling tile	53 a and b	MISC	NAD			NO
Gun Range	12" x 12" Blue floor tile	54 a and b	MISC	NAD			NO
Gun Range	Brown mastic for 12" x 12" blue floor tile	55 a and b	MISC	NAD			NO
Gun Range	1' x 1' White suspended ceiling tile with fissures	56 a and b	MISC	NAD			NO
Gun Range	9" x 9" Floor tile	57 a and b	MISC	NAD			NO
Gun Range	Brown mastic for 9" x 9" floor tile	58 a and b	MISC	NAD			NO
Gun Range	Dark brown glue daubs	Historical 1 a and b	MISC	NAD			NO
Gun Range	Light brown glue daubs	Historical 2 a and b	MISC	NAD			NO
Air Handler 1	Canvsas wrap on ducts	Historical 1 a and b	MISC	NAD			NO
EAGLE ENVIRONMENTAL, INC.							
Room 001	Plaster ceiling - grey	10-19-RF-01	SURF	NAD			NO
		10-19-RF-02		NAD			
		10-19-RF-03		NAD			
Room 001	Canvas cloth on hot air duct with mastic - tan	10-19-RF-04	MISC	NAD			NO
		10-19-RF-05		NAD			
Room 001	Tar like material under cloth - black	10-19-RF-06	MISC	NAD			NO
		10-19-RF-07		NAD			
Room 005	Canvas covering on forced air pipe - tan	10-19-RF-12	MISC	NAD			NO
		10-19-RF-13		NAD			
Room 006	Vinyl cove base adhesive - brown	10-19-RF-14	MISC	NAD			NO
		10-19-RF-15		NAD			

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
EAGLE ENVIRONMENTAL, INC. (continued)							
Room 007	Canvas covering on hot air duct without mastic	10-19-RF-16	MISC	NAD			NO
		10-19-RF-17		NAD			
Room 007	Gasket on water main flange - red	10-19-RF-18	MISC	NAD			NO
		10-19-RF-19		NAD			
Room 008	Ceramic tile thinset - grey	10-19-RF-20	MISC	NAD			NO
		10-19-RF-21		NAD			
Room 008	Textured wall paint - yellow	10-19-RF-22	SURF	NAD			NO
		10-19-RF-23		NAD			
Room 009	Fibrous ceiling tile	10-19-RF-24	MISC	NAD			NO
		10-19-RF-25		NAD			
Room 012	1' x 1' Spline ceiling tile - white	10-19-RF-30	MISC	NAD			NO
		10-19-RF-31		NAD			
Room 013	2' x 2' Acoustical ceiling tile	10-19-RF-32	MISC	NAD			NO
		10-19-RF-33		NAD			
Room 018	4' x 2' Acoustical ceiling tile, round hole - white	10-19-RF-34	MISC	NAD			NO
		10-19-RF-35		NAD			
Room 022	Floor tile mastic - yellow	10-19-RF-40	MISC	NAD			NO
		10-19-RF-41		NAD			
	12" x 12" Floor tile - light blue	10-19-RF-42	MISC	NAD			NO
		10-19-RF-43		NAD			
Room 022	Vinyl cove base - blue	10-19-RF-44	MISC	NAD			NO
		10-19-RF-45		NAD			
Room 022	4' x 2' Acoustical ceiling tile fissure - white	10-19-RF-46	MISC	NAD			NO
		10-19-RF-47		NAD			
Room 024	Glue daub on ceiling - brown	10-19-RF-48	MISC	NAD			NO
		10-19-RF-49		NAD			
	1' x 1' Acoustical ceiling tile	10-19-RF-50	MISC	NAD			NO
		10-19-RF-51		NAD			
Room 025	Floor tile mastic - black	10-19-RF-52	MISC	NAD			NO
		10-19-RF-53		NAD			
	12" x 12" Floor tile - salmon	10-19-RF-54	MISC	NAD			NO
		10-19-RF-55		NAD			

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
EAGLE ENVIRONMENTAL, INC. (continued)							
Room 025	2' x 2' Fissured acoustical ceiling tile - white	10-19-RF-56	MISC	NAD			NO
		10-19-RF-57		NAD			
Room 032	Floor tile mastic - black	10-19-RF-58	MISC	NAD			NO
		10-19-RF-59		NAD			
Room 038	2' x 2' Acoustical ceiling tile	10-19-RF-60	MISC	NAD			NO
		10-19-RF-61		NAD			
Room 041	2' x 2' Acoustical ceiling tile textured - beige	10-19-RF-62	MISC	NAD			NO
		10-19-RF-63		NAD			
Room 042	Carpet adhesive continuous with black mastic	10-19-RF-64	MISC	NAD			NO
		10-19-RF-65		NAD			
Room 043	Vinyl cove base adhesive - brown	10-19-RF-66	MISC	NAD			NO
		10-19-RF-67		NAD			
Room 041	Vinyl cove base adhesive - beige	10-19-RF-70	MISC	NAD			NO
		10-19-RF-71		NAD			
	Vinyl cove base - black	10-19-RF-68	MISC	NAD			NO
		10-19-RF-69		NAD			
Room 044	Floor tile mastic - black	10-19-RF-72	MISC	NAD			NO
		10-19-RF-73		NAD			
Room 049	Floot tile mastic - black continuous with carpet adhesive - yellow	10-19-RF-74	MISC	NAD			NO
Room 049	Wall felt adhesive - yellow	10-20-RF-75	MISC	NAD			NO
		10-20-RF-76		NAD			
Room 050	Carpet adhesive - yellow	10-20-RF-77	MISC	NAD			NO
		10-20-RF-78		NAD			
Room 052	1' x 1' Acoustical ceiling tile - white	10-20-RF-83	MISC	NAD			NO
		10-20-RF-84		NAD			
Room 052	Joint compound	10-20-RF-85	MISC	NAD			NO
Room 053	2' x 2' Acoustical ceiling tile plain - white	10-20-RF-86	MISC	NAD			NO
		10-20-RF-87		NAD			
Room 053	Joint compound	10-20-RF-88	MISC	NAD			NO
Room 053	Sheetrock	10-20-RF-89	MISC	NAD			NO

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
111 NORTH MAIN STREET
CITY, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
EAGLE ENVIRONMENTAL, INC. (continued)							
Room 054	Steel door frame caulk - white	10-20-RF-90	MISC	NAD			NO
		10-20-RF-91		NAD			
Room 061/063	Ceramic wall tile thinset	10-20-RF-92	MISC	NAD			NO
		10-20-RF-93		NAD			
Room 071	Floor tile mastic - black	10-20-RF-94	MISC	NAD			NO
		10-20-RF-95		NAD			
	12" x 12" Floor tile - grey/white	10-20-RF-96	MISC	NAD			NO
		10-20-RF-97		NAD			
Room 072	Floor tile mastic - black	10-20-RF-98	MISC	NAD			NO
		10-20-RF-99		NAD			
Room 073	Floor tile mastic - black with carpet adhesive - gold	10-20-RF-100	MISC	NAD			NO
Room 073	2' x 2' Acoustical ceiling tile fissure - white	10-20-RF-101	MISC	NAD			NO
		10-20-RF-102		NAD			
Room 100	Vinyl sheet flooring mastic - beige	10-24-RF-103	MISC	NAD			NO
		10-24-RF-104		NAD			
Room 100	Vinyl sheet flooring - beige	10-24-RF-105	MISC	NAD			NO
		10-24-RF-106		NAD			
Room 102	Wall paint at column - white	10-24-RF-107	MISC	NAD			NO
		10-24-RF-108		NAD			
Room 110	Floor tile mastic - black	10-24-RF-109	MISC	NAD			NO
		10-24-RF-110		NAD			

APPENDIX 1

FLOOR PLANS WITH SAMPLE LOCATION DIAGRAMS

CITY OF BRISTOL

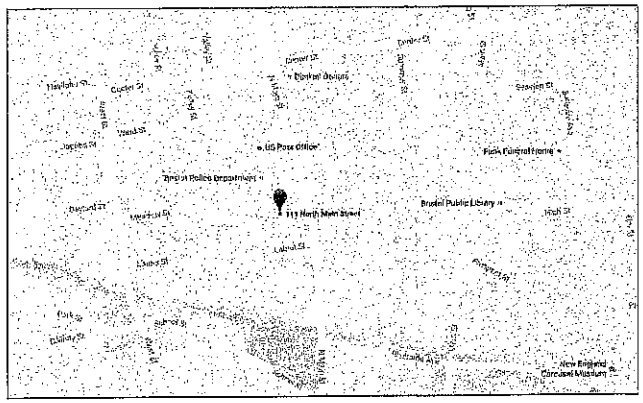
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

EAGLE PROJECT NUMBER: 16-010.12T2

INDEX OF DRAWINGS

SL-1 GROUND FLOOR SAMPLE LOCATION DIAGRAM
SL-2 FIRST FLOOR SAMPLE LOCATION DIAGRAM
SL-3 SECOND FLOOR SAMPLE LOCATION DIAGRAM
SL-4 THIRD FLOOR SAMPLE LOCATION DIAGRAM

LOCATION MAP



DATE: OCTOBER 25, 2016

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

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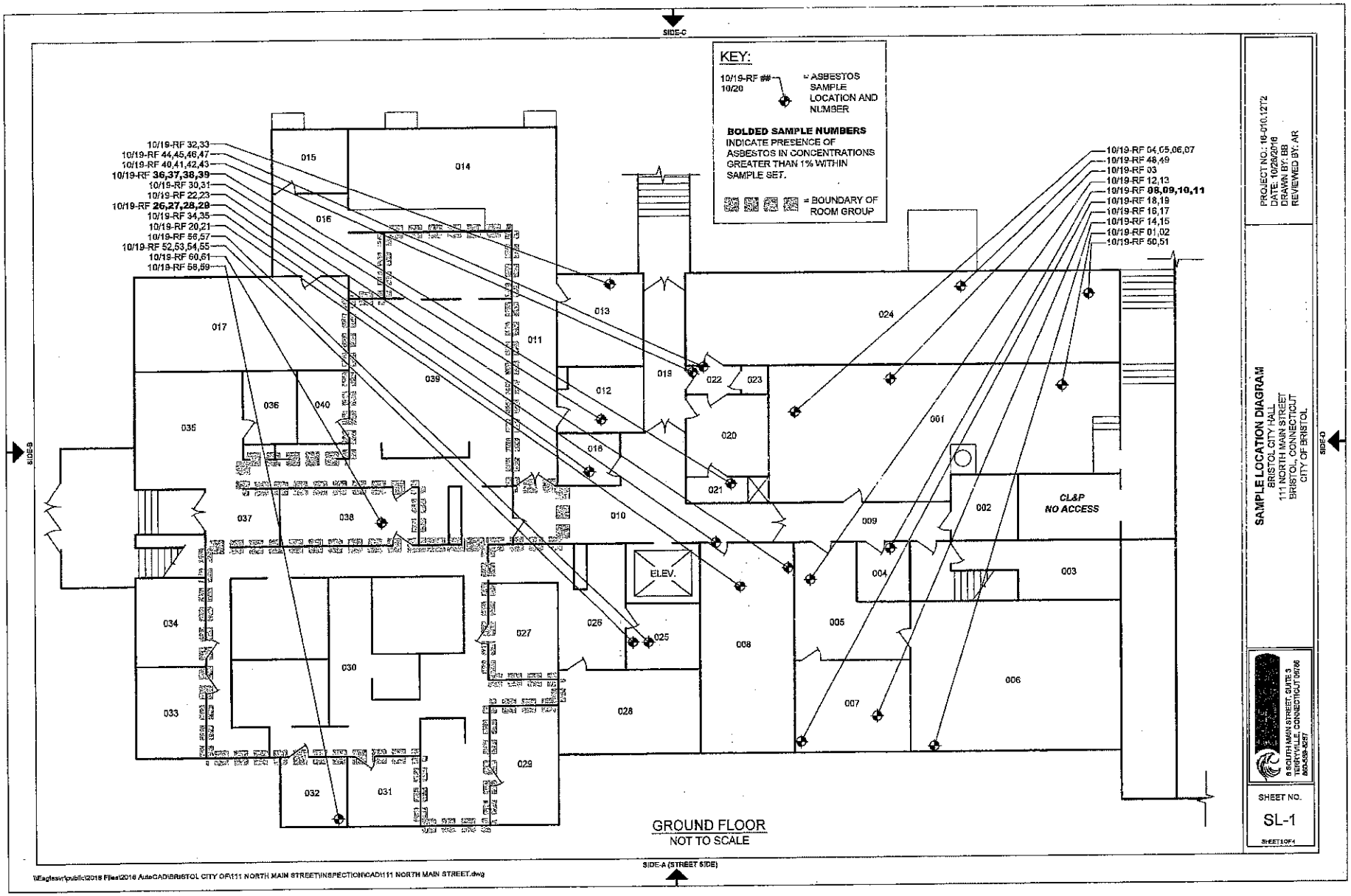
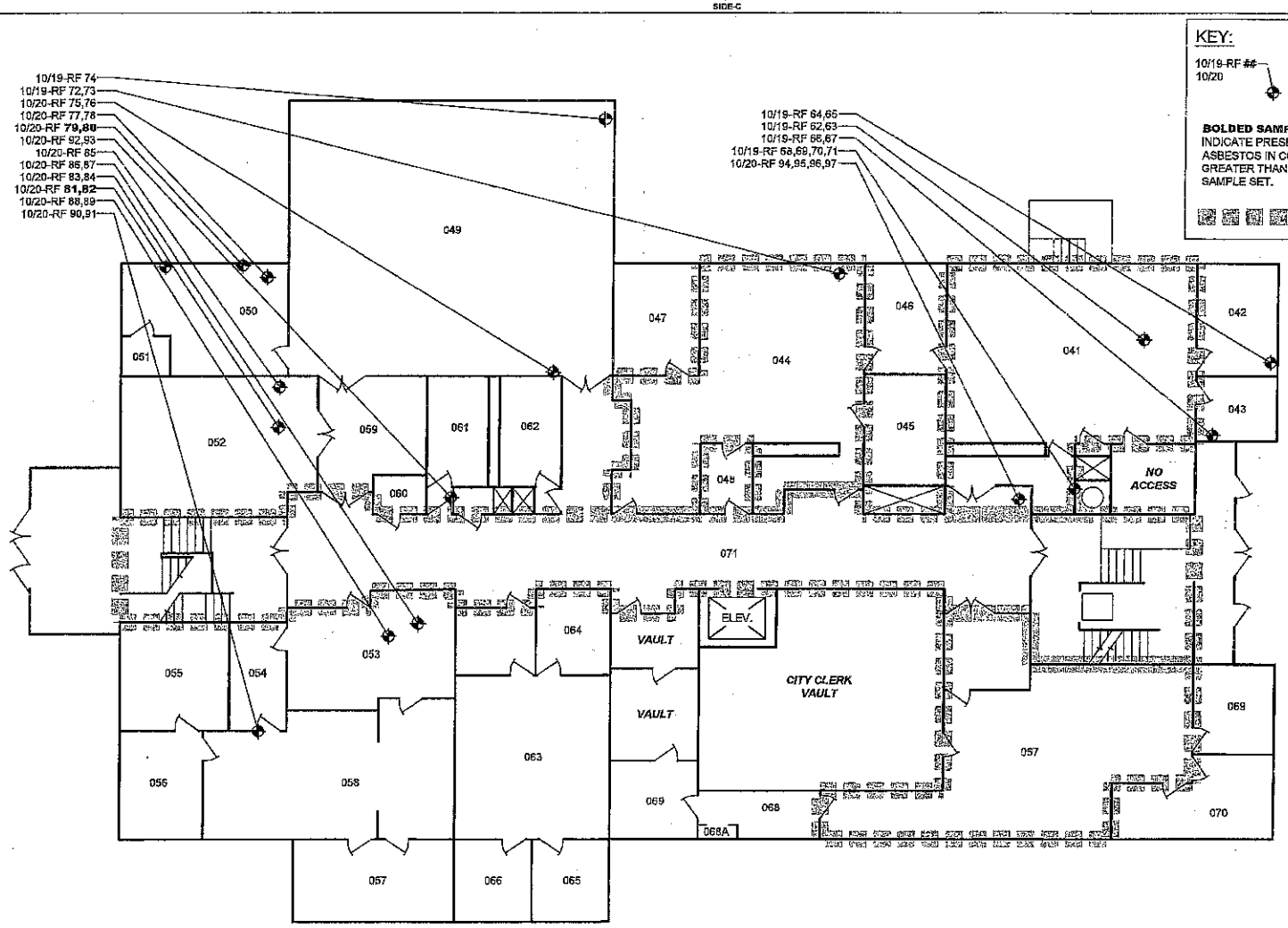

SIDE-C
SIDE-B
SIDE-D
SIDE-A (STREET SIDE)
KEY:
10/19-RF ## 10/20 = ASBESTOS SAMPLE LOCATION AND NUMBER
BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.
= BOUNDARY OF ROOM GROUP
10/19-RF 32,33
10/19-RF 44,45,46,47
10/19-RF 40,41,42,43
10/19-RF 36,37,38,39
10/19-RF 30,31
10/19-RF 22,23
10/19-RF 26,27,28,29
10/19-RF 34,35
10/19-RF 20,21
10/19-RF 56,57
10/19-RF 52,53,54,55
10/19-RF 60,61
10/19-RF 58,59
10/19-RF 04,05,06,07
10/19-RF 48,49
10/19-RF 03
10/19-RF 12,13
10/19-RF 08,09,10,11
10/19-RF 18,19
10/19-RF 16,17
10/19-RF 14,15
10/19-RF 01,02
10/19-RF 50,51
015
014
016
017
013
011
039
012
019
022
023
024
001
036
040
035
020
018
021
037
038
010
009
002
CL&P NO ACCESS
ELEV.
004
003
034
027
026
025
008
005
030
033
028
007
006
029
032
031
GROUND FLOOR
NOT TO SCALE
PROJECT NO.: 16-010.12T2
DATE: 10/26/2016
DRAWN BY: BB
REVIEWED BY: AR
SAMPLE LOCATION DIAGRAM
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT
CITY OF BRISTOL
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8287
SHEET NO.
SL-1
SHEET 1 OF 4
\\Eaglesvr\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\111 NORTH MAIN STREET\INSPECTION\CAD\111 NORTH MAIN STREET.dwg



KEY:

10/19-RF ## / 10/20 = ASBESTOS SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

= BOUNDARY OF ROOM GROUP

FIRST FLOOR
NOT TO SCALE

PROJECT NO.: 16-016.1212
DATE: 10/26/2016
DRAWN BY: BB
REVIEWED BY: AR

SAMPLE LOCATION DIAGRAM
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT
CITY OF BRISTOL

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-584-0257

SHEET NO.
SL-2
SHEET 2OF 4

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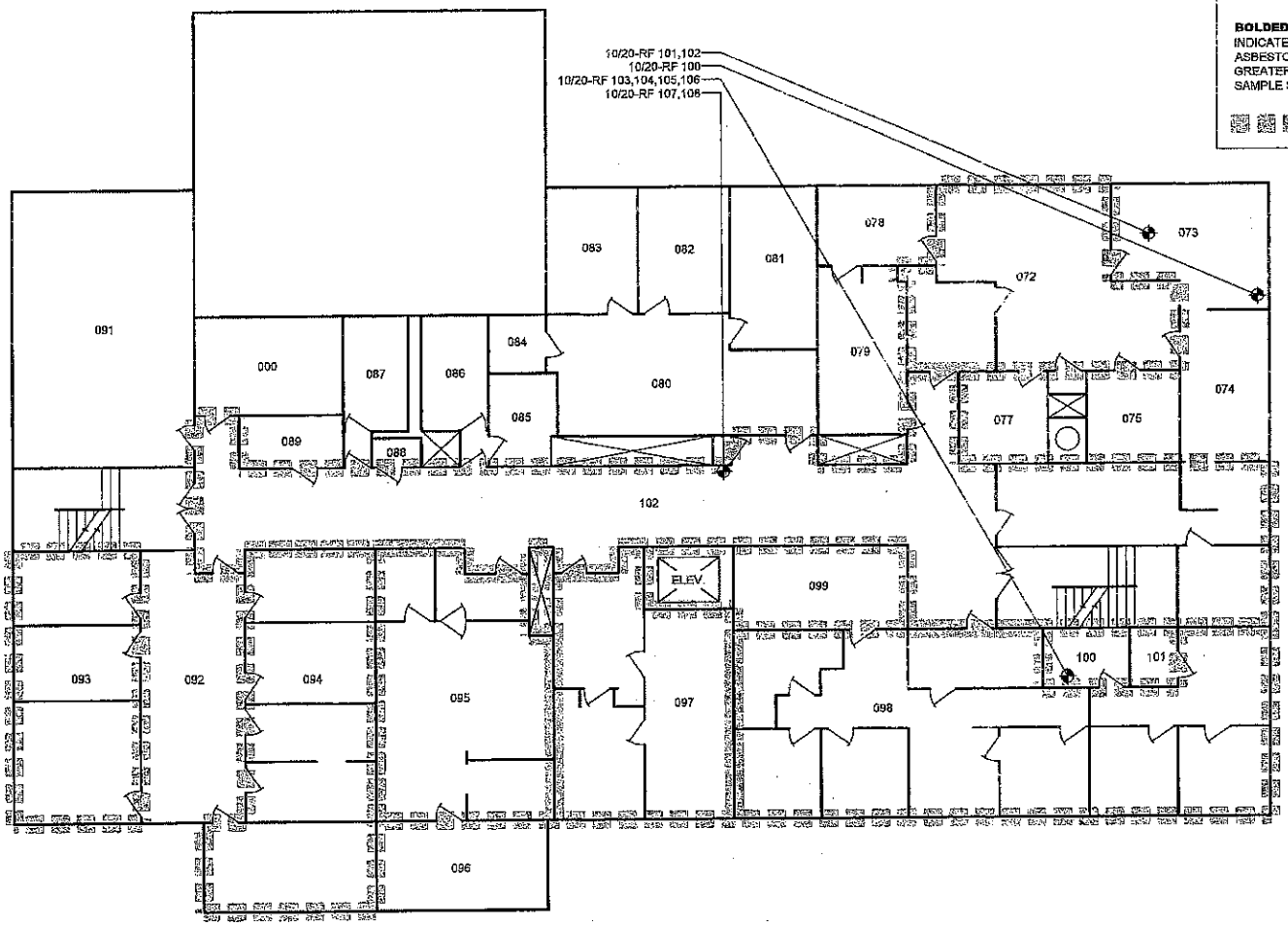


KEY:

10/19-RF ## 10/20 = ASBESTOS SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

= BOUNDARY OF ROOM GROUP

SECOND FLOOR
NOT TO SCALE

PROJECT NO.: #5-010.1212
DATE: 10/28/2016
DRAWN BY: BB
REVIEWED BY: AR

SAMPLE LOCATION DIAGRAM
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT
CITY OF BRISTOL

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-2257

SHEET NO.
SL-3
SHEET 3 OF 4

\\Eagleswi\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\111 NORTH MAIN STREET\INSPECTION\CAD\111 NORTH MAIN STREET.dwg

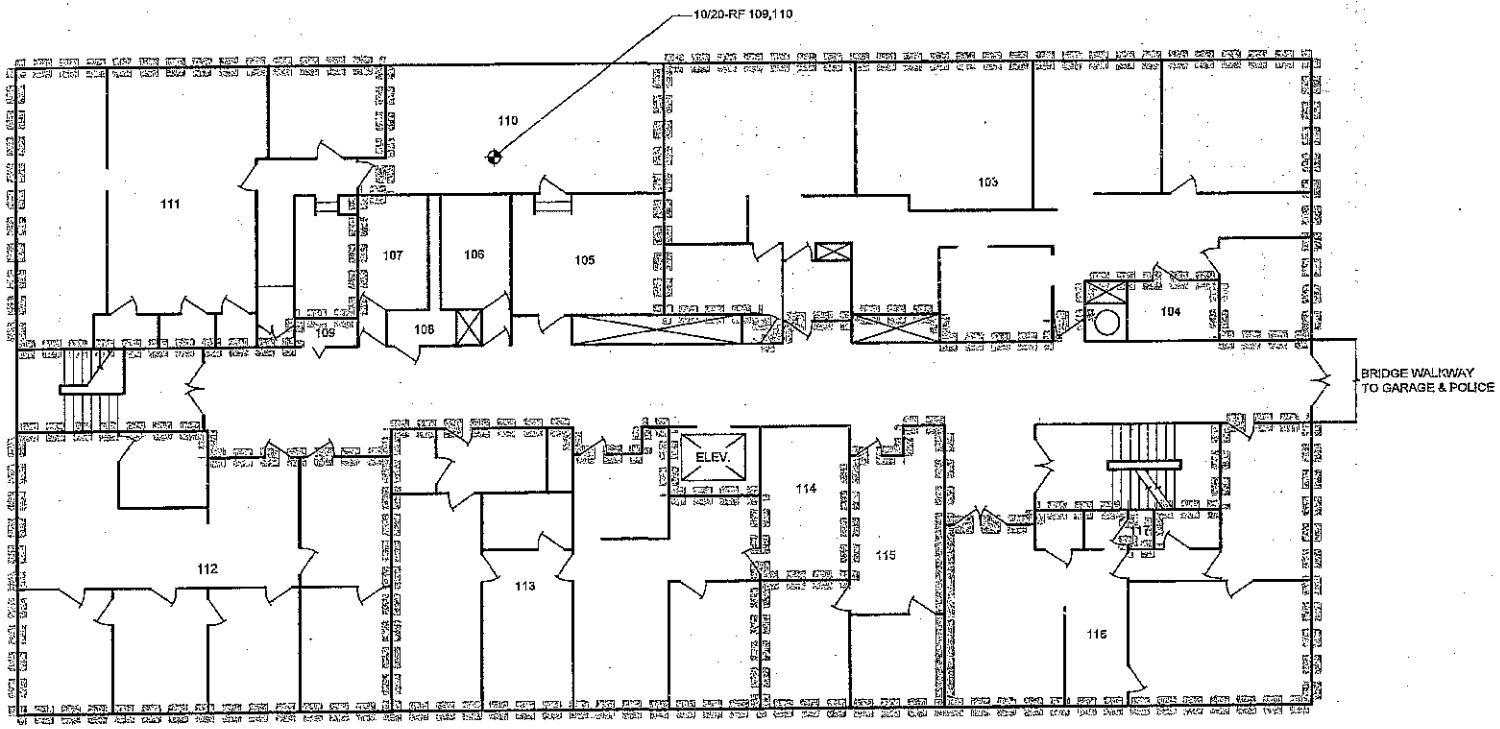
SIDE-C

KEY:

10/19-RF ##
10/20 = ASBESTOS SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

= BOUNDARY OF ROOM GROUP



THIRD FLOOR
NOT TO SCALE

SIDE-A (STREET SIDE)

SIDE-B

SIDE-D

PROJECT NO.: 16-010.12T2
DATE: 10/26/2018
DRAWN BY: BB
REVIEWED BY: AR

SAMPLE LOCATION DIAGRAM
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT
CITY OF BRISTOL

8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-583-0257

SHEET NO.
SL-4
SHEET 10 OF 4

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APPENDIX 2

ASBESTOS BULK SAMPLE LABORATORY REPORTS

OrderID: 031631901

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	031631901
Additional Analysis Request EMSL Order Number	

☐ EMSL CT — 29 N. Plains Hwy, # 4, Wallingford, CT 06492, Phone: 203-284-5948

☒ EMSL NYC — 307 West 38th Street, New York, NY 10018, Phone: 212-290-0051

☐ EMSL Corporate — 200 Route 130 North, Cinnaminson, NJ 08077, Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.12T2
8 South Main Street, Suite 3, Terryville. CT 06786	Project:City of Bristol - City Hall, 111 North Main St, Bristol (1 of 2)
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected:CT CT Samples: ☐ Commercial/Taxable ☐Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com	Samples Collected by (Name):Ray Foline
☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Signature: Date(s) Collected: 10-19-16
Additional Contacts to Receive Email Results:	
☐Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-19-RF-01		Plaster ceiling - grey	Room 001	NAD	
10-19-RF-02		Plaster ceiling - grey	Room 001		
10-19-RF-03		Plaster ceiling - grey	Room 001		
10-19-RF-04		Canvas cloth on hot air duct w/ mastic-tan	Room 001		
10-19-RF-05		Canvas cloth on hot air duct w/ mastic-tan	Room 001		
10-19-RF-06		Tar like material under cloth - black	Room 001		
10-19-RF-07		Tar like material under cloth - black	Room 001		
10-19-RF-08		Floor tile mastic - black	Room 004		
10-19-RF-09		Floor tile mastic - black	Room 004		
10-19-RF-10		9" x 9" Floor tile - white	Room 004	3% Chrys	
10-19-RF-11		9" x 9" Floor tile - white	Room 004	DNA	
10-19-RF-12		Canvas covering on forced air pipe - tan	Room 005	NAD	
10-19-RF-13		Canvas covering on forced air pipe - tan	Room 005		
10-19-RF-14		Vinyl cove base adhesive - brown	Room 006		
10-19-RF-15		Vinyl cove base adhesive - brown	Room 006		
				10/23/16	11A

Client Sample #'s	10-19-RF-01 - 10-19-RF-74	Total # of Samples: 74	
Relinquished (Client):		Date: 10-21-16	Time: AM
Received (Lab):		Date: 10/22/16	Time: 11:34 AM
Relinquished:		Date:	Time:
Received:		Date: 10/24/16	Time: AM

OrderID: 031631901

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only): 031631901

Additional Analysis Request EMSL Order Number

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-19-RF-16		Canvas cover on hot air duct w/o mastic	Room 007	NAD	
10-19-RF-17		Canvas cover on hot air duct w/o mastic	Room 007		
10-19-RF-18		Gasket on water main flange - red	Room 007		
10-19-RF-19		Gasket on water main flange - red	Room 007		
10-19-RF-20		Ceramic tile thinset - grey	Room 008		
10-19-RF-21		Ceramic tile thinset - grey	Room 008		
10-19-RF-22		Textured wall paint - yellow	Room 008		
10-19-RF-23		Textured wall paint - yellow	Room 008		
10-19-RF-24		Fibrous ceiling tile	Room 009		
10-19-RF-25		Fibrous ceiling tile	Room 009		
10-19-RF-26		Floor tile mastic - black	Room 010	2% Chrys	
10-19-RF-27		Floor tile mastic - black	Room 010	DNA	
10-19-RF-28		12" x 12" Floor tile - brown with white	Room 010		
10-19-RF-29		12" x 12" Floor tile - brown with white	Room 010		
10-19-RF-30		1' x 1' Spline ceiling tile - white	Room 012	NAD	
10-19-RF-31		1' x 1' Spline ceiling tile - white	Room 012		
10-19-RF-32		2' x 2' Acoustical ceiling tile	Room 013		
10-19-RF-33		2' x 2' Acoustical ceiling tile	Room 013		
10-19-RF-34		4' x 2' Acoustical CT, round hole - white	Room 018		
10-19-RF-35		4' x 2' Acoustical CT, round hole - white	Room 018		
10-19-RF-36		Floor tile mastic - black	Room 021	2% Chrys	
10-19-RF-37		Floor tile mastic - black	Room 021	DNA	
10-19-RF-38		12" x 12" Floor tile - white	Room 021		
10-19-RF-39		12" x 12" Floor tile - white	Room 021		
10-19-RF-40		Floor tile mastic - yellow	Room 022	NAD	
10-19-RF-41		Floor tile mastic - yellow	Room 022		
10-19-RF-42		12" x 12" Floor tile - light blue	Room 022		
10-19-RF-43		12" x 12" Floor tile - light blue	Room 022		
10-19-RF-44		Vinyl cove base - blue	Room 022		
10-19-RF-45		Vinyl cove base - blue	Room 022		
10-19-RF-46		4' x 2' Acoustical CT fissure - white	Room 022		
10-19-RF-47		4' x 2' Acoustical CT fissure - white	Room 022		
10-19-RF-48		Glue daub on ceiling - brown	Room 024		
10-19-RF-49		Glue daub on ceiling - brown	Room 024		
10-19-RF-50		1' x 1' Acoustical ceiling tile	Room 024		
10-19-RF-51		1' x 1' Acoustical ceiling tile	Room 024		
				10/23/16	

10/22/16 11:35AM

10/23/16 10:00AM

OrderID: 031631901

Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number (Lab Use Only): 031631901

Additional Analysis Request EMSL Order Number

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307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-19-RF-52		Floor tile mastic - black	Room 025	NAD	
10-19-RF-53		Floor tile mastic - black	Room 025		
10-19-RF-54		12" x 12" Floor tile - salmon	Room 025		
10-19-RF-55		12" x 12" Floor tile - salmon	Room 025		
10-19-RF-56		2' x 2' Fissured ACT - white	Room 025		
10-19-RF-57		2' x 2' Fissured ACT - white	Room 025		
10-19-RF-58		Floor tile mastic - black	Room 032		
10-19-RF-59		Floor tile mastic - black	Room 032		
10-19-RF-60		2' x 2' Acoustical ceiling tile	Room 038		
10-19-RF-61		2' x 2' Acoustical ceiling tile	Room 038		
10-19-RF-62		2' x 2' ACT textured - beige	Room 041		
10-19-RF-63		2' x 2' ACT textured - beige	Room 041		
10-19-RF-64		Carpet adhesive cont w/ black mastic	Room 042		
10-19-RF-65		Carpet adhesive cont w/ black mastic	Room 042		
10-19-RF-66		Vinyl cove base adhesive - brown	Room 043		
10-19-RF-67		Vinyl cove base adhesive - brown	Room 043		
10-19-RF-70		Vinyl cove base adhesive - beige	Room 041		
10-19-RF-71		Vinyl cove base adhesive - beige	Room 041		
10-19-RF-68		Vinyl cove base - black	Room 041		
10-19-RF-69		Vinyl cove base - black	Room 041		
10-19-RF-72		Floor tile mastic - black	Room 044		
10-19-RF-73		Floor tile mastic - black	Room 044		
10-19-RF-74		FT mastic-black cont w/ carpet adh-yellw	Room 049		

10/23/16

10/23/16 6:07AM

10/22/16 11:35AM

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631901
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:34 AM
Analysis Date: 10/23/2016
Collected Date: 10/19/2016

Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-01 *031631901-0001*	ROOM 001 - PLASTER CEILING - GREY	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 15% Vermiculite 65% Non-fibrous (Other)	**None Detected**
10-19-RF-02 *031631901-0002*	ROOM 001 - PLASTER CEILING - GREY	Gray Non-Fibrous Homogeneous		25% Ca Carbonate 20% Vermiculite 55% Non-fibrous (Other)	**None Detected**
10-19-RF-03 *031631901-0003*	ROOM 001 - PLASTER CEILING - GREY	Brown Non-Fibrous Homogeneous	2% Cellulose	55% Vermiculite 20% Gypsum 23% Non-fibrous (Other)	**None Detected**
10-19-RF-04 *031631901-0004*	ROOM 001 - CANVAS CLOTH ON HOT AIR DUCT W/ MASTIC - TAN	Tan Non-Fibrous Homogeneous	65% Cellulose Inseparable paint / coating layer included in analysis	35% Non-fibrous (Other)	**None Detected**
10-19-RF-05 *031631901-0005*	ROOM 001 - CANVAS CLOTH ON HOT AIR DUCT W/ MASTIC - TAN	Tan/White Fibrous Heterogeneous	70% Cellulose Inseparable paint / coating layer included in analysis	30% Non-fibrous (Other)	**None Detected**
10-19-RF-06 *031631901-0006*	ROOM 001 - TAR LIKE MATERIAL UNDER CLOTH - BLACK	Black Non-Fibrous Homogeneous	5% Cellulose 10% Glass	85% Non-fibrous (Other)	**None Detected**
10-19-RF-07 *031631901-0007*	ROOM 001 - TAR LIKE MATERIAL UNDER CLOTH - BLACK	Black Non-Fibrous Homogeneous	10% Cellulose 2% Glass	88% Non-fibrous (Other)	**None Detected**
10-19-RF-08 *031631901-0008*	ROOM 004 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	**None Detected**
10-19-RF-09 *031631901-0009*	ROOM 004 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	**None Detected**

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

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 13:07:55

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631901
Customer ID: EEVM50
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Attention: Brandy LeBlanc
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Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:34 AM
Analysis Date: 10/23/2016
Collected Date: 10/19/2016

Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-10 *031631901-0010*	ROOM 004 - 9"X9" FLOOR TILE - WHITE	White Non-Fibrous Homogeneous		22% Ca Carbonate 75% Non-fibrous (Other)	**3% Chrysotile**
10-19-RF-11 *031631901-0011*	ROOM 004 - 9"X9" FLOOR TILE - WHITE				**Positive Stop (Not Analyzed)**
10-19-RF-12 *031631901-0012*	ROOM 005 - CANVAS COVERING ON FORCED AIR PIPE - TAN	Tan Fibrous Homogeneous	65% Cellulose 10% MinWool	25% Non-fibrous (Other)	**None Detected**
10-19-RF-13 *031631901-0013*	ROOM 005 - CANVAS COVERING ON FORCED AIR PIPE - TAN	Tan/Yellow Fibrous Heterogeneous	80% Cellulose 12% MinWool	8% Non-fibrous (Other)	**None Detected**
10-19-RF-14 *031631901-0014*	ROOM 006 - VINYL COVE BASE ADHESIVE - BROWN	Brown Non-Fibrous Homogeneous		75% Non-fibrous (Other)	**None Detected**
10-19-RF-15 *031631901-0015*	ROOM 006 - VINYL COVE BASE ADHESIVE - BROWN	Brown Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	**None Detected**
10-19-RF-16 *031631901-0016*	ROOM 007 - CANVAS COVER ON HOT AIR DUCT W/O MASTIC	Tan Fibrous Homogeneous	88% Cellulose	12% Non-fibrous (Other)	**None Detected**
10-19-RF-17 *031631901-0017*	ROOM 007 - CANVAS COVER ON HOT AIR DUCT W/O MASTIC	Tan Fibrous Homogeneous	96% Cellulose	4% Non-fibrous (Other)	**None Detected**
10-19-RF-18 *031631901-0018*	ROOM 007 - GASKET ON WATER MAIN FLANGE - RED	Red Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**None Detected**
10-19-RF-19 *031631901-0019*	ROOM 007 - GASKET ON WATER MAIN FLANGE - RED	Red Non-Fibrous Homogeneous		60% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 13:07:55

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
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Attention: Brandy LeBlanc
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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-20 *031631901-0020*	ROOM 008 - CERAMIC TILE THINSET - GREY	Gray Non-Fibrous Homogeneous		35% Quartz 65% Non-fibrous (Other)	**None Detected**
10-19-RF-21 *031631901-0021*	ROOM 008 - CERAMIC TILE THINSET - GREY	Tan Non-Fibrous Homogeneous	2% Cellulose	35% Quartz 30% Ca Carbonate 33% Non-fibrous (Other)	**None Detected**
10-19-RF-22 *031631901-0022*	ROOM 008 - TEXTURED WALL PAINT - YELLOW	White/Yellow Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	**None Detected**
10-19-RF-23 *031631901-0023*	ROOM 008 - TEXTURED WALL PAINT - YELLOW	Gray/Tan Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	**None Detected**
10-19-RF-24 *031631901-0024*	ROOM 009 - FIBROUS CEILING TILE	Tan Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	**None Detected**
10-19-RF-25 *031631901-0025*	ROOM 009 - FIBROUS CEILING TILE	Tan/White Fibrous Homogeneous	80% Cellulose	10% Ca Carbonate 10% Non-fibrous (Other)	**None Detected**
10-19-RF-26 *031631901-0026*	ROOM 010 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous		15% Quartz 83% Non-fibrous (Other)	**2% Chrysotile**
10-19-RF-27 *031631901-0027*	ROOM 010 - FLOOR TILE MASTIC - BLACK				**Positive Stop (Not Analyzed)**
10-19-RF-28 *031631901-0028*	ROOM 010 - 12"X12" FLOOR TILE - BROWN WITH WHITE				**Positive Stop (Not Analyzed)**
10-19-RF-29 *031631901-0029*	ROOM 010 - 12"X12" FLOOR TILE - BROWN WITH WHITE				**Positive Stop (Not Analyzed)**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102561, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 13:07:55

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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-30 *031631901-0030*	ROOM 012 - 1'X1' SPLINE CEILING TILE - WHITE	Brown/White Fibrous Homogeneous	30% Cellulose 20% MinWool	15% Perlite 35% Non-fibrous (Other)	**None Detected**
10-19-RF-31 *031631901-0031*	ROOM 012 - 1'X1' SPLINE CEILING TILE - WHITE	Tan/White Fibrous Homogeneous	55% Cellulose 12% MinWool	20% Perlite 13% Non-fibrous (Other)	**None Detected**
10-19-RF-32 *031631901-0032*	ROOM 013 - 2'X2' ACOUSTICAL CEILING TILE	Gray Non-Fibrous Homogeneous	40% Cellulose 15% MinWool	22% Perlite 23% Non-fibrous (Other)	**None Detected**
10-19-RF-33 *031631901-0033*	ROOM 013 - 2'X2' ACOUSTICAL CEILING TILE	Tan/White Fibrous Homogeneous	50% Cellulose 12% MinWool	20% Perlite 18% Non-fibrous (Other)	**None Detected**
10-19-RF-34 *031631901-0034*	ROOM 018 - 4'X2' ACOUSTICAL CT, ROUND HOLE-WHITE	Gray/White Fibrous Homogeneous	45% Cellulose 20% MinWool	10% Perlite 25% Non-fibrous (Other)	**None Detected**
10-19-RF-35 *031631901-0035*	ROOM 018 - 4'X2' ACOUSTICAL CT, ROUND HOLE-WHITE	Gray/Tan Fibrous Homogeneous	40% Cellulose 22% MinWool	20% Perlite 18% Non-fibrous (Other)	**None Detected**
10-19-RF-36 *031631901-0036*	ROOM 021 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	5% Cellulose	65% Non-fibrous (Other)	**2% Chrysotile**
10-19-RF-37 *031631901-0037*	ROOM 021 - FLOOR TILE MASTIC - BLACK				**Positive Stop (Not Analyzed)**
10-19-RF-38 *031631901-0038*	ROOM 021 - 12"X12" FLOOR TILE - WHITE				**Positive Stop (Not Analyzed)**
10-19-RF-39 *031631901-0039*	ROOM 021 - 12"X12" FLOOR TILE - WHITE				**Positive Stop (Not Analyzed)**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 13:07:55

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
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http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631901
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:34 AM
Analysis Date: 10/23/2016
Collected Date: 10/19/2016

Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-40 *031631901-0040*	ROOM 022 - FLOOR TILE MASTIC - YELLOW	Yellow Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	**None Detected**
10-19-RF-41 *031631901-0041*	ROOM 022 - FLOOR TILE MASTIC - YELLOW	Yellow Non-Fibrous Homogeneous	2% Cellulose	5% Quartz 93% Non-fibrous (Other)	**None Detected**
10-19-RF-42 *031631901-0042*	ROOM 022 - 12"X12" FLOOR TILE - LIGHT BLUE	Blue Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	**None Detected**
10-19-RF-43 *031631901-0043*	ROOM 022 - 12"X12" FLOOR TILE - LIGHT BLUE	Gray/Blue Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**None Detected**
10-19-RF-44 *031631901-0044*	ROOM 022 - VINYL COVE BASE - BLUE	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	**None Detected**
10-19-RF-45 *031631901-0045*	ROOM 022 - VINYL COVE BASE - BLUE	Blue Non-Fibrous Homogeneous		80% Non-fibrous (Other)	**None Detected**
10-19-RF-46 *031631901-0046*	ROOM 022 - 4'X2' ACOUSTICAL CT FISSURE - WHITE	Gray/White Fibrous Homogeneous	38% Cellulose 22% MinWool	20% Perlite 20% Non-fibrous (Other)	**None Detected**
10-19-RF-47 *031631901-0047*	ROOM 022 - 4'X2' ACOUSTICAL CT FISSURE - WHITE	Tan/White Fibrous Homogeneous	48% Cellulose 15% MinWool	20% Perlite 17% Non-fibrous (Other)	**None Detected**
10-19-RF-48 *031631901-0048*	ROOM 024 - GLUE DAUB ON CEILING - BROWN	Brown Non-Fibrous Homogeneous	3% Glass	97% Non-fibrous (Other)	**None Detected**
10-19-RF-49 *031631901-0049*	ROOM 024 - GLUE DAUB ON CEILING - BROWN	Brown Non-Fibrous Homogeneous	3% Cellulose 10% MinWool	87% Non-fibrous (Other)	**None Detected**

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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-50 *031631901-0050*	ROOM 024 - 1'X1' ACOUSTICAL CEILING TILE	Gray/White Fibrous Homogeneous	35% Cellulose 30% MinWool	15% Perlite 20% Non-fibrous (Other)	**None Detected**
10-19-RF-51 *031631901-0051*	ROOM 024 - 1'X1' ACOUSTICAL CEILING TILE	Tan/White Fibrous Homogeneous	35% Cellulose 40% MinWool	8% Perlite 17% Non-fibrous (Other)	**None Detected**
10-19-RF-52 *031631901-0052*	ROOM 025 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	5% Cellulose	5% Quartz 90% Non-fibrous (Other)	**None Detected**
10-19-RF-53 *031631901-0053*	ROOM 025 - FLOOR TILE MASTIC - BLACK	Brown/Black Non-Fibrous Homogeneous	3% Cellulose	5% Quartz 92% Non-fibrous (Other)	**None Detected**
10-19-RF-54 *031631901-0054*	ROOM 025 - 12"X12" FLOOR TILE - SALMON	Pink Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	**None Detected**
10-19-RF-55 *031631901-0055*	ROOM 025 - 12"X12" FLOOR TILE - SALMON	Tan Non-Fibrous Homogeneous		12% Ca Carbonate 88% Non-fibrous (Other)	**None Detected**
10-19-RF-56 *031631901-0056*	ROOM 025 - 2'X2' FISSURED ACT - WHITE	Gray/White Fibrous Homogeneous	35% Cellulose 25% MinWool	15% Perlite 25% Non-fibrous (Other)	**None Detected**
10-19-RF-57 *031631901-0057*	ROOM 025 - 2'X2' FISSURED ACT - WHITE	Tan Fibrous Homogeneous	45% Cellulose 20% MinWool	10% Perlite 25% Non-fibrous (Other)	**None Detected**
10-19-RF-58 *031631901-0058*	ROOM 032 - FLOOR TILE MASTIC- BLACK	Black Non-Fibrous Homogeneous		75% Non-fibrous (Other)	**None Detected**
10-19-RF-59 *031631901-0059*	ROOM 032 - FLOOR TILE MASTIC- BLACK	Brown/Black Non-Fibrous Homogeneous	4% Cellulose	96% Non-fibrous (Other)	**None Detected**

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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-60 *031631901-0060*	ROOM 038 - 2'X2' ACOUSTICAL CEILING TILE	Gray/White Fibrous Homogeneous	30% Cellulose 28% MinWool	12% Perlite 30% Non-fibrous (Other)	**None Detected**
10-19-RF-61 *031631901-0061*	ROOM 038 - 2'X2' ACOUSTICAL CEILING TILE	Tan Fibrous Homogeneous	40% Cellulose 22% MinWool	15% Perlite 23% Non-fibrous (Other)	**None Detected**
10-19-RF-62 *031631901-0062*	ROOM 041 - 2'X2' ACT TEXTURED - BEIGE	Brown/Gray Fibrous Homogeneous	2% Cellulose 75% MinWool	23% Non-fibrous (Other)	**None Detected**
10-19-RF-63 *031631901-0063*	ROOM 041 - 2'X2' ACT TEXTURED - BEIGE	Tan/White Fibrous Heterogeneous	78% MinWool	22% Non-fibrous (Other)	**None Detected**
10-19-RF-64 *031631901-0064*	ROOM 042 - CARPET ADHESIVE CONT W/ BLACK MASTIC	Black/Yellow Non-Fibrous Homogeneous	5% Synthetic	20% Ca Carbonate 60% Non-fibrous (Other)	**None Detected**
10-19-RF-65 *031631901-0065*	ROOM 042 - CARPET ADHESIVE CONT W/ BLACK MASTIC	Brown/Black Non-Fibrous Heterogeneous	4% Cellulose 10% Synthetic	86% Non-fibrous (Other)	**None Detected**
10-19-RF-66 *031631901-0066*	ROOM 043 - VINYL COVE BASE ADHESIVE - BROWN	Brown Non-Fibrous Homogeneous		80% Non-fibrous (Other)	**None Detected**
10-19-RF-67 *031631901-0067*	ROOM 043 - VINYL COVE BASE ADHESIVE - BROWN	Gray/Tan Non-Fibrous Heterogeneous	5% Cellulose	15% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-19-RF-70 *031631901-0068*	ROOM 041 - VINYL COVE BASE ADHESIVE - BEIGE	Beige Non-Fibrous Homogeneous		80% Non-fibrous (Other)	**None Detected**
10-19-RF-71 *031631901-0069*	ROOM 041 - VINYL COVE BASE ADHESIVE - BEIGE	Gray/Black Non-Fibrous Homogeneous		60% Non-fibrous (Other)	**None Detected**

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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-19-RF-68 *031631901-0070*	ROOM 041 - VINYL COVE BASE - BLACK	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-19-RF-69 *031631901-0071*	ROOM 041 - VINYL COVE BASE - BLACK	Black Non-Fibrous Homogeneous		80% Non-fibrous (Other)	**None Detected**
10-19-RF-72 *031631901-0072*	ROOM 044 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	5% Cellulose	70% Non-fibrous (Other)	**None Detected**
10-19-RF-73 *031631901-0073*	ROOM 044 - FLOOR TILE MASTIC - BLACK	Black Non-Fibrous Homogeneous	3% Cellulose 2% Synthetic	95% Non-fibrous (Other)	**None Detected**
10-19-RF-74 *031631901-0074*	ROOM 049 - FT MASTIC - BLACK CONT W/ CARPET ADH-YELLW	Black/Yellow Non-Fibrous Homogeneous	3% Synthetic	97% Non-fibrous (Other)	**None Detected**

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Project: 16-010.12T2/ CITY OF BRISTOL- CITY HALL, 111 NORTH MAIN ST, BRISTOL (1 OF 2)

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/22/2016	Sample Receipt Time:	11:34 AM
Analysis Completed Date:	10/23/2016	Analysis Completed Time:	12:04 AM

Analyst(s):

Jon Williams PLM (31)

Tiquasha Thompson PLM (36)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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OrderID: 031631871

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	031631871
Additional Analysis Request EMSL Order Number	

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.12T2
8 South Main Street, Suite 3, Terryville. CT 06786	Project:City of Bristol - City Hall, 111 North Main St, Bristol (2 of 2)
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected:CT CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com	Samples Collected by (Name):Ray Folino
☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Signature: Date(s) Collected: 10-20-16
Additional Contacts to Receive Email Results:	
☐ Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples:
☒ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-20-RF-75		Wall felt adhesive - yellow	Room 049	NAD	
10-20-RF-76		Wall felt adhesive - yellow	Room 049		
10-20-RF-77		Carpet adhesive - yellow	Room 050		
10-20-RF-78		Carpet adhesive - yellow	Room 050		
10-20-RF-79		WGC at upper window sash - tan	Room 050	3% Chrys	
10-20-RF-80		WGC at upper window sash - tan	Room 050	DNA	
10-20-RF-81		Window frame caulk	Room 050	3% Chrys	
10-20-RF-82		Window frame caulk	Room 050	DNA	
10-20-RF-83		1' x 1' Acoustical ceiling tile - white	Room 052	NAD	
10-20-RF-84		1' x 1' Acoustical ceiling tile - white	Room 052		
10-20-RF-85		Joint compound	Room 052		
10-20-RF-86		2' x 2' Acoustical ceiling tile plain - white	Room 053		
10-20-RF-87		2' x 2' Acoustical ceiling tile plain - white	Room 053		
10-20-RF-88		Joint compound	Room 053		
10-20-RF-89		Sheetrock	Room 053		

10/23/16 1030A

Client Sample #'s	10-20-RF-75 - 10-20-RF-102	Total # of Samples: 28	
Relinquished (Client):		Date: 10-20-16	Time: 1PM
Received (Lab):		Date: 10/22/16	Time: 11:33AM
Relinquished:		Date:	Time:
Received:		Date: 10/24/16	Time: 7AM

EKM 10/23/16

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Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-20-RF-90		Steel door frame caulk - white	Room 054	NAD	
10-20-RF-91		Steel door frame caulk - white	Room 054		
10-20-RF-92		Ceramic wall tile thinset	Room 061/063		
10-20-RF-93		Ceramic wall tile thinset	Room 061/063		
10-20-RF-94		Floor tile mastic - black	Room 071		
10-20-RF-95		Floor tile mastic - black	Room 071		
10-20-RF-96		12" x 12" Floor tile - grey/white	Room 071		
10-20-RF-97		12" x 12" Floor tile - grey/white	Room 071		
10-20-RF-98		Floor tile mastic - black	Room 072		
10-20-RF-99		Floor tile mastic - black	Room 072		
10-20-RF-100		FT mastic - black w/ carpet adh - gold	Room 073		
10-20-RF-101		2' x 2' ACT fissure - white	Room 073		
10-20-RF-102		2' x 2' ACT fissure - white	Room 073		

10/22/16 1030A

10/22/16 11:33AM

EKM 10/23/16 8:16AM

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631871
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.12T2/ CITY OF BRISTOL-CITY HALL 111 NORTH MAIN ST. BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-20-RF-75 *031631871-0001*	ROOM 049 - WALL FELT ADHESIVE-YELLOW	Tan/Yellow Non-Fibrous Homogeneous	1% Hair	45% Ca Carbonate 14% Non-fibrous (Other)	**None Detected**
10-20-RF-76 *031631871-0002*	ROOM 049 - WALL FELT ADHESIVE-YELLOW	Tan Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	**None Detected**
10-20-RF-77 *031631871-0003*	ROOM 050 - CARPET ADHESIVE-YELLOW	Yellow Non-Fibrous Homogeneous		20% Ca Carbonate 15% Non-fibrous (Other)	**None Detected**
10-20-RF-78 *031631871-0004*	ROOM 050 - CARPET ADHESIVE-YELLOW	Yellow Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	**None Detected**
10-20-RF-79 *031631871-0005*	ROOM 050 - WGC AT UPPER WINDOW SASH-TAN	Gray Non-Fibrous Homogeneous	10% Glass	45% Ca Carbonate 42% Non-fibrous (Other)	**3% Chrysotile**
10-20-RF-80 *031631871-0006*	ROOM 050 - WGC AT UPPER WINDOW SASH-TAN				**Positive Stop (Not Analyzed)**
10-20-RF-81 *031631871-0007*	ROOM 050 - WINDOW FRAME CAULK	Gray/White Non-Fibrous Homogeneous		97% Non-fibrous (Other)	**3% Chrysotile**
10-20-RF-82 *031631871-0008*	ROOM 050 - WINDOW FRAME CAULK				**Positive Stop (Not Analyzed)**
10-20-RF-83 *031631871-0009*	ROOM 052 - 1'x1' ACOSUTICAL CEILING TILE-WHITE	Tan/White Fibrous Homogeneous	65% Cellulose 22% MinWool	13% Non-fibrous (Other)	**None Detected**
10-20-RF-84 *031631871-0010*	ROOM 052 - 1'x1' ACOSUTICAL CEILING TILE-WHITE	Tan/White Fibrous Homogeneous	55% Cellulose 15% MinWool	20% Perlite 10% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 10:59:26

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631871
Customer ID: EEVM50
Customer PO:
Project ID:

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Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.12T2/ CITY OF BRISTOL-CITY HALL 111 NORTH MAIN ST. BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-20-RF-85 *031631871-0011*	ROOM 052 - JOINT COMPOUND	White Non-Fibrous Homogeneous		82% Ca Carbonate 18% Non-fibrous (Other)	**None Detected**
10-20-RF-86 *031631871-0012*	ROOM 053 - 2'x2' ACOUSTICAL CEILING TILE PLAIN-WHITE	Gray/White Fibrous Homogeneous	30% Cellulose 68% MinWool	2% Non-fibrous (Other)	**None Detected**
10-20-RF-87 *031631871-0013*	ROOM 053 - 2'x2' ACOUSTICAL CEILING TILE PLAIN-WHITE	Tan/White Fibrous Homogeneous	48% Cellulose 20% MinWool	15% Perlite 17% Non-fibrous (Other)	**None Detected**
10-20-RF-88 *031631871-0014*	ROOM 053 - JOINT COMPOUND	White Non-Fibrous Homogeneous		80% Ca Carbonate 20% Non-fibrous (Other)	**None Detected**
10-20-RF-89 *031631871-0015*	ROOM 053 - SHEETROCK	Gray Non-Fibrous Homogeneous	13% Cellulose	73% Gypsum 14% Non-fibrous (Other)	**None Detected**
10-20-RF-90 *031631871-0016*	ROOM 054 - STEEL DOOR FRAME CAULK-WHITE	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**None Detected**
10-20-RF-91 *031631871-0017*	ROOM 054 - STEEL DOOR FRAME CAULK-WHITE	Gray/White Non-Fibrous Homogeneous	2% Cellulose	57% Non-fibrous (Other)	**None Detected**
10-20-RF-92 *031631871-0018*	ROOM 061/063 - CERAMIC WALL TILE THINSET	White Non-Fibrous Homogeneous		60% Quartz 33% Ca Carbonate 7% Non-fibrous (Other)	**None Detected**
10-20-RF-93 *031631871-0019*	ROOM 061/063 - CERAMIC WALL TILE THINSET	White Non-Fibrous Homogeneous		45% Quartz 20% Ca Carbonate 35% Non-fibrous (Other)	**None Detected**
10-20-RF-94 *031631871-0020*	ROOM 071 - FLOOR TILE MASTIC-BLACK	Black Non-Fibrous Homogeneous	2% Cellulose	3% Quartz 7% Ca Carbonate 88% Non-fibrous (Other)	**None Detected**

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Initial report from: 10/23/2016 10:59:26

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Project: 16-010.12T2/ CITY OF BRISTOL-CITY HALL 111 NORTH MAIN ST. BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-20-RF-95 *031631871-0021*	ROOM 071 - FLOOR TILE MASTIC-BLACK	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	**None Detected**
10-20-RF-96 *031631871-0022*	ROOM 071 - 12"x12" FLOOR TILE-GREY/WHITE	Gray Non-Fibrous Homogeneous		55% Ca Carbonate 45% Non-fibrous (Other)	**None Detected**
10-20-RF-97 *031631871-0023*	ROOM 071 - 12"x12" FLOOR TILE-GREY/WHITE	Gray Non-Fibrous Homogeneous		21% Ca Carbonate 79% Non-fibrous (Other)	**None Detected**
10-20-RF-98 *031631871-0024*	ROOM 072 - FLOOR TILE MASTIC-BLACK	Black Non-Fibrous Homogeneous	7% Cellulose	93% Non-fibrous (Other)	**None Detected**
10-20-RF-99 *031631871-0025*	ROOM 072 - FLOOR TILE MASTIC-BLACK	Black Non-Fibrous Homogeneous	2% Cellulose	5% Ca Carbonate 93% Non-fibrous (Other)	**None Detected**
10-20-RF-100 *031631871-0026*	ROOM 073 - FT MASTIC-BLACK W/CARPET ADH-GOLD	Brown/Black Non-Fibrous Heterogeneous	5% Cellulose 1% Glass	7% Ca Carbonate 87% Non-fibrous (Other)	**None Detected**
10-20-RF-101 *031631871-0027*	ROOM 073 - 2'x2' ACT FISSURE-WHITE	Tan Fibrous Homogeneous	30% Cellulose 60% MinWool	10% Non-fibrous (Other)	**None Detected**
10-20-RF-102 *031631871-0028*	ROOM 073 - 2'x2' ACT FISSURE-WHITE	Tan/White Fibrous Homogeneous	35% Cellulose 45% MinWool	20% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 10:59:26

EMSL Analytical, Inc.
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http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631871
Customer ID: EEVM50
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Attention: Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.12T2/ CITY OF BRISTOL-CITY HALL 111 NORTH MAIN ST. BRISTOL, CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/22/2016	Sample Receipt Time:	11:33 AM
Analysis Completed Date:	10/23/2016	Analysis Completed Time:	6:38 AM

Analyst(s):

Emmanuel Moise

Emmanuel Moise PLM (16)

Jon Williams PLM (10)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 10:59:26

OrderID: 031632286

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	031632285
Additional Analysis Request EMSL Order Number	

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager: AR Proj #: 16-010.12T2
8 South Main Street, Suite 3, Terryville, CT 06786	Project: City of Bristol - 111 N Main St - City Hall - part 3
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected: CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com ☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Samples Collected by: ~~[illegible]~~ Signature: Date(s) Collected: 10/24/16
Additional Contacts to Receive Email Results:	
☐ Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-24-RF-103		Vinyl sheet flooring mastic - beige	Room 100	NAD	
10-24-RF-104		Vinyl sheet flooring mastic - beige	Room 100		
10-24-RF-105 (set)		Vinyl sheet flooring - beige	Room 100		
10-24-RF-106		Vinyl sheet flooring - beige	Room 100		
10-24-RF-107 (set)		Wall paint at column - white	Room 102		
10-24-RF-108		Wall paint at column - white	Room 102		
10-24-RF-109 (set)		Floor tile mastic - black	Room 110		
10-24-RF-110		Floor tile mastic - black	Room 110		
			10/27/16 6pm		

Client Sample #'s	~~10-24-RF-103 - 110~~	Total # of Samples: 8	
Relinquished (Client):		Date:	Time:
Received (Lab):	KOZLINSKI	Date: 10/27/16	Time: 10:52AM
Relinquished:		Date: 10/26/16	Time: PM
Received:		Date:	Time:

EMSL F/X 7775 4300 7929

Uncontrolled Document-Eagle Common Test EMSL COC NY CT NJ

10/28/16 12:45AM

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031632286
Customer ID: EEVM50
Customer PO: 16-010.12T2
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/27/2016 10:52 AM
Analysis Date: 10/27/2016 - 10/28/2016
Collected Date: 10/27/2016

Project: 16-010.12T2/ CITY OF BRISTOL-111 N MAIN ST-CITY HALL-PART 3/ CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-24-RF-103 *031632286-0001*	ROOM 100 - VINYL SHEET FLOORING MASTIC-BEIGE	Black/Yellow Non-Fibrous Heterogeneous	3% Cellulose	5% Quartz 92% Non-fibrous (Other)	**None Detected**
10-24-RF-104 *031632286-0002*	ROOM 100 - VINYL SHEET FLOORING MASTIC-BEIGE	Tan/Black Non-Fibrous Homogeneous	2% Cellulose	8% Quartz 40% Non-fibrous (Other)	**None Detected**
10-24-RF-105 *031632286-0003*	ROOM 100 - VINYL SHEET FLOORING-BEIGE	Tan Non-Fibrous Homogeneous	15% Cellulose	25% Ca Carbonate 60% Non-fibrous (Other)	**None Detected**
10-24-RF-106 *031632286-0004*	ROOM 100 - VINYL SHEET FLOORING-BEIGE	Beige Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	**None Detected**
10-24-RF-107 *031632286-0005*	ROOM 102 - WALL PAINT AT COLUMN-WHITE	Tan/White Non-Fibrous Heterogeneous		30% Quartz 25% Ca Carbonate 45% Non-fibrous (Other)	**None Detected**
			Inseparable paint / coating layer included in analysis		
10-24-RF-108 *031632286-0006*	ROOM 102 - WALL PAINT AT COLUMN-WHITE	White Non-Fibrous Homogeneous		22% Quartz 25% Ca Carbonate 53% Non-fibrous (Other)	**None Detected**
10-24-RF-109 *031632286-0007*	ROOM 110 - FLOOR TILE MASTIC-BLACK	Brown/Black/Yellow Fibrous Heterogeneous	4% Cellulose	10% Ca Carbonate 86% Non-fibrous (Other)	**None Detected**
10-24-RF-110 *031632286-0008*	ROOM 110 - FLOOR TILE MASTIC-BLACK	Black/Yellow Non-Fibrous Homogeneous	3% Cellulose	42% Non-fibrous (Other)	**None Detected**

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Initial report from: 10/28/2016 00:49:20

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
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EMSL Order: 031632286
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Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/27/2016 10:52 AM
Analysis Date: 10/27/2016 - 10/28/2016
Collected Date: 10/27/2016

Project: 16-010.12T2/ CITY OF BRISTOL-111 N MAIN ST-CITY HALL-PART 3/ CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/27/2016	Sample Receipt Time:	10:52 AM
Analysis Completed Date:	10/28/2016	Analysis Completed Time:	12:44 AM

Analyst(s):

Jon Williams PLM (4)

Shahrakur Mahmud PLM (4)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Initial report from: 10/28/2016 00:49:20

APPENDIX 3

XRF LEAD BASED PAINT INSPECTION REPORTS

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#02753 - 10/28/16 14:27

INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.
City of Bristol Dept. of Public Works
111 North Main Street, 2nd Floor
Bristol, CT 06010

PERFORMED AT: Bristol City Hall
111 North Main Street
Bristol, CT 06010

INSPECTION DATE: 10/28/16

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 02753

ACTION LEVEL: 1.0 mg/cm²

OPERATOR LICENSE: 002227

Pre-renovation lead-based paint screen

SIGNED: _____ Date: 10/28/16

Ryan M. Murphy
Lead Inspector
Eagle Environmental, Inc.
8 South Main Street, Suite 3
Terryville, CT 06786

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Inspection Date:	10/28/16	Bristol City Hall
Report Date:	10/28/2016	111 North Main Street
Abatement Level:	1.0	Bristol, CT 06010
Report No.	S#02753 - 10/28/16 14:27	
Total Readings:	98 Actionable: 0	
Job Started:	10/28/16 14:27	
Job Finished:	10/28/16 17:16	

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Calibration Readings									

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Inspection Date:	10/28/16	Bristol City Hall
Report Date:	10/28/2016	111 North Main Street
Abatement Level:	1.0	Bristol, CT 06010
Report No:	S#02753 - 10/28/16 14:27	
Total Readings:	98	
Job Started:	10/28/16 14:27	
Job Finished:	10/28/16 17:16	

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Exterior Room 001 Facade A									
093	-	Column	Ctr		P	Concrete	cream	-0.1	QM
Exterior Room 002 Facade B									
083	-	Door	Lft		P	Steel	brown	-0.3	QM
084	-	Door	Lft	Header	P	Wood	pink	-0.3	QM
082	-	Door	Lft	Rgt casing	P	Steel	brown	-0.5	QM
095	-	Door	Ctr		P	Metal	N/A	-0.8	QM
094	-	Door	Ctr	Rgt casing	P	Metal	N/A	-1.5	QM
081	-	Column	Lft		P	Concrete	cream	-0.4	QM
Exterior Room 003 Facade C									
089	-	Wall	L Lft		P	Concrete	cream	0.0	QM
087	-	Window	Rgt	Paneling	P	Metal	N/A	-0.7	QM
085	-	Window	Rgt	Rgt casing	P	Metal	N/A	-0.9	QM
086	-	Window	Rgt	Sash	P	Metal	N/A	-0.8	QM
088	-	Railing	Rgt	Railing	P	Steel	brown	-0.2	QM
Exterior Room 004 Facade D									
092	-	Window	Ctr	Lft casing	P	Metal	N/A	-1.5	QM
090	-	Door	Ctr		P	Metal	N/A	-1.3	QM
091	-	Door	Ctr	Rgt casing	P	Metal	N/A	-1.1	QM
Interior Room 009 Number Only									
076	A	Wall	L Rgt		P	Dry wall	white	-0.1	QM
078	C	Door	Rgt		P	Steel	brown	-0.5	QM
077	C	Door	Rgt	Rgt casing	P	Steel	brown	-0.3	QM
Interior Room 010 Number Only									
075	A	Door	Ctr		P	Steel	brown	-0.3	QM
074	A	Door	Ctr	Rgt casing	P	Steel	tan	0.0	QM
079	C	Wall	L Ctr		P	Block	white	-0.2	QM
080	C	Wall	L Ctr		P	Concrete	white	-0.1	QM
Interior Room 019 Number Only									
073	B	Wall	L Ctr		P	Block	yellow	-0.1	QM
072	C	Stairs	Ctr		P	Concrete	dk gray	-0.4	QM
Interior Room 024 Number Only									
005	-	Floor	-		D	Concrete	N/A	-0.5	QM
006	A	Wall	L Ctr		D	Block	white	-0.4	QM
008	A	Door	Lft	Lft casing	D	Steel	brown	-0.1	QM

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
007	C	Wall	L Ctr		D	Concrete	white	-0.4	QM
004	D	Wall	L Ctr	Paneling	D	Metal	N/A	-0.6	QM
Interior Room 038 Number Only									
070	A	Wall	L Ctr		P	Dry wall	green	-0.4	QM
071	A	Wall	L Ctr		P	Concrete	green	0.3	QM
068	A	Door	Lft	Rgt casing	P	Steel	gray	-0.3	QM
069	A	Door	Lft	Rgt casing	P	Steel	brown	-0.3	QM
Interior Room 049 Number Only									
017	B	Window	Lft	Sill	P	Wood	varnish	-0.4	QM
018	B	Window	Ctr	Rgt casing	P	Metal	N/A	-0.6	QM
019	B	Window	Ctr	Sash	P	Metal	N/A	-0.7	QM
020	B	Door	Lft	Header	P	Steel	maroon	-0.3	QM
Interior Room 050 Number Only									
013	D	Door	Rgt		P	Metal	wood	-0.4	QM
016	D	Door	Rgt	Stop	P	Steel	maroon	-0.2	QM
015	D	Door	Rgt	Rgt jamb	P	Steel	brown	0.0	QM
014	D	Door	Rgt	Rgt casing	P	Steel	maroon	0.0	QM
Interior Room 052 Number Only									
012	-	Ceiling	Lft		P	Metal	white	-0.3	QM
011	A	Wall	L Lft		P	Concrete	white	-0.3	QM
010	A	Wall	L Ctr		P	Block	white	-0.2	QM
009	A	Wall	L Rgt		P	Dry wall	white	-0.4	QM
Interior Room 059 Number Only									
022	A	Door	Lft	Rgt jamb	P	Steel	gray	-0.3	QM
021	C	Door	Lft	Rgt casing	D	Steel	brown	-0.2	QM
Interior Room 071 Number Only									
029	-	Railing	-	Support	P	Concrete	brown	0.3	QM
030	-	Railing	-	Railing	P	Steel	white	-0.3	QM
028	A	Wall	L Rgt		P	Brick	brown	-0.6	QM
031	A	Stairs	Rgt	Wall	P	Wood	gray	-0.3	QM
032	B	Window	Rgt	Header	P	Steel	gray	-0.4	QM
033	B	Door	Rgt		P	Steel	brown	-0.3	QM
023	C	Wall	L Ctr		P	Dry wall	white	-0.2	QM
024	C	Wall	L Ctr		P	Concrete	white	-0.2	QM
025	C	Ceiling	Ctr		P	Metal	white	-0.5	QM
026	C	Door	Ctr	Lft casing	P	Metal	gray	-0.2	QM
027	D	Door	Rgt	Lft casing	P	Block	white	-0.4	QM
Interior Room 097 Number Only									
042	A	Radiator	Rgt		P	Metal	maroon	-0.1	QM
035	A	Wall	L Lft		P	Concrete	white	-0.3	QM
034	A	Wall	L Ctr		P	Block	white	-0.2	QM
041	A	Window	Rgt	Trim	P	Metal	N/A	0.0	QM

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
039	A	Window	Rgt	Rgt casing	P	Metal	N/A	-0.8	QM
040	A	Window	Rgt	Sash	P	Metal	N/A	-1.2	QM
038	B	Door	Lft		P	Steel	wood	-0.3	QM
037	B	Door	Lft	Header	P	Steel	white	-0.5	QM
036	C	Wall	L Lft		P	Dry wall	white	-0.5	QM
Interior Room 102 Number Only									
049	-	Floor	Ctr	Htch Door	P	Steel	beige	-0.6	QM
050	A	Wall	L Ctr		P	Dry wall	white	-0.4	QM
048	A	Door	Ctr		P	Steel	brown	-0.4	QM
047	A	Door	Ctr	Rgt casing	P	Steel	brown	-0.2	QM
051	B	Stairs	Ctr	Door Csg	P	Steel	brown	-0.4	QM
052	B	Stairs	Ctr	Door Edge	P	Steel	brown	-0.4	QM
043	C	Wall	L Ctr		P	Block	white	-0.3	QM
044	C	Wall	L Ctr		P	Concrete	white	0.0	QM
046	C	Door	Ctr		P	Steel	brown	-0.4	QM
045	C	Door	Ctr	Rgt casing	P	Steel	brown	-0.3	QM
Interior Room 113 Number Only									
059	A	Radiator	Ctr		P	Metal	maroon	-0.5	QM
055	A	Wall	L Ctr		P	Concrete	cream	-0.4	QM
056	A	Window	Ctr	Rgt casing	P	Metal	N/A	-1.1	QM
057	A	Window	Ctr	Sash	P	Metal	N/A	-1.2	QM
058	A	Window	Ctr	Sill	P	Metal	brown	-0.8	QM
060	B	Wall	L Ctr	Paneling	P	Metal	cream	-0.4	QM
063	B	Door	Ctr	Rgt casing	P	Steel	brown	-0.1	QM
053	C	Wall	L Ctr		P	Dry wall	cream	-0.8	QM
054	D	Wall	L Ctr		P	Block	cream	-0.5	QM
061	D	Door	Ctr		P	Steel	brown	-0.5	QM
062	D	Door	Ctr	Rgt casing	P	Steel	brown	-0.4	QM
Interior Room 117 Hallway									
064	A	Wall	L Ctr		P	Block	cream	-0.4	QM
065	A	Wall	L Ctr		P	Concrete	cream	-0.2	QM
066	A	Wall	L Ctr		P	Fiberboard	cream	0.1	QM
067	A	Wall	L Ctr		P	Wood	cream	-0.3	QM
Calibration Readings									
001								1.1	TC
002								1.2	TC
003								1.0	TC
096								0.7	TC
097								0.7	TC
098								0.7	TC

---- End of Readings ----

LEAD PAINT INSPECTION REPORT

REPORT NUMBER: S#01509 - 10/31/16 14:23

INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.
Assistant City Engineer, City of Bristo
(DPW), 111 North Main Street, 2nd Flr
Bristol, CT 06010

PERFORMED AT: Bristol City Hall
(Ground, 1st, 2nd & 3rd Flr Bathroom)
111 North Main Street, 2nd Floor
Bristol, CT 06010

INSPECTION DATE: 10/31/16

INSTRUMENT TYPE: R M D
MODEL LPA-1
XRF TYPE ANALYZER
Serial Number: 01509

ACTION LEVEL: 1.0 mg/cm²

OPERATOR LICENSE: 002226

A Comprehensive Lead-Based Paint Inspection. (Ground, 1st, 2nd, & 3rd Floor Bathrooms)

SIGNED: Date: 11/01/16

Emma Andrukat
Lead Inspector
Eagle Environmental, Inc.
8 South Main Street, Suite 3
Terryville, CT 06786

SUMMARY REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Inspection Date:	10/31/16	Bristol City Hall
Report Date:	11/1/2016	(Ground, 1st, 2nd & 3rd Flr Bathroom)
Abatement Level:	1.0	111 North Main Street, 2nd Floor
Report No.	S#01509 - 10/31/16 14:23	Bristol, CT 06010
Total Readings:	15 Actionable: 5	
Job Started:	10/31/16 14:23	
Job Finished:	10/31/16 15:38	

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Interior Room 001 ground flr									
001								1.1	TC
002								1.1	TC
003								1.1	TC
Interior Room 004 3rd flr bth									
014								1.0	TC
	gray								
015								1.0	TC

---- End of Readings ----

DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Mr. Raymond A. Rogozinski, P.E.

Inspection Date:	10/31/16	Bristol City Hall
Report Date:	11/1/2016	(Ground, 1st, 2nd & 3rd Flr Bathroom)
Abatement Level:	1.0	111 North Main Street, 2nd Floor
Report No.	S#01509 - 10/31/16 14:23	Bristol, CT 06010
Total Readings:	15	
Job Started:	10/31/16 14:23	
Job Finished:	10/31/16 15:38	

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm²)	Mode
Interior Room 001 ground flr									
001								1.1	TC
002								1.1	TC
003								1.1	TC
004	-	bathroom	Lft	flr tile	I	ceramic	N/A	0.0	QM
	tan/brown								
Interior Room 002 1st flr bth									
005	A	bathroom	Lft	Wall	I	ceramic	N/A	0.0	QM
	gray								
008	C	bathroom	Lft	Wall	I	ceramic	N/A	-0.2	QM
	gray								
006	D	bathroom	Lft	Wall	I	ceramic	N/A	0.0	QM
	drk gray								
007	D	bathroom	Lft	flooring	I	ceramic	N/A	-0.1	QM
	gray								
Interior Room 003 2ndflr bath									
013								0.9	TC
009	C	bathroom	Lft	Wall	I	ceramic	N/A	0.0	QM
	gray								
010	C	bathroom	Lft	floor	I	ceramic	N/A	-0.1	QM
	gray								
Interior Room 004 3rd flr bth									
014								1.0	TC
	gray								
015								1.0	TC
011	A	Wall	Ctr	tile	I	ceramic	N/A	0.0	QM
	gray								
012	A	Floor	Ctr	tile	I	ceramic	N/A	-0.1	QM
	gray								

---- End of Readings ----

APPENDIX 4

ABATEMENT AND CONSULTING COST ESTIMATES

HAZARDOUS MATERIALS ABATEMENT COST ESTIMATES
BRISTOL CITY HALL
111 NORTH MAIN STREET
BRISTOL, CONNECTICUT

ASBESTOS ABATEMENT COST ESTIMATE

MATERIALS	QUANTITY	UNIT COST			TOTAL COST
WINDOW SASH, ARCH. PANELS AND CAULK REMOVAL	1	$ 158,500.00	SUM	$	158,500.00
PIPE AND ELBOW INSULATION ≥ 6" (PENTHOUSE)	620	$ 20.00	EACH	$	12,400.00
PIPE AND ELBOW INSULATION < 6" (PENTHOUSE)	196	$ 20.00	EACH	$	3,920.00
AIR HANDLER 3 INSULATION (PENTHOUSE)	160	$ 30.00	SF	$	4,800.00
WALL PENETRATION CAULK (PENTHOUSE)	25	$ 8.00	SF	$	200.00
AIR HANDLER 3 CANVAS WRAP ON DUCT	300	$ 30.00	SF	$	9,000.00
PIPE VALVE INSULATION ≥ 6" BOILER ROOM)	40	$ 75.00	LF	$	3,000.00
ELBOW INSULATION (BASEMENT)	166	$ 100.00	EACH	$	16,600.00
FLOOR TILE AND MASTIC	11,830	$ 5.50	SF	$	65,065.00
WALL PANEL ADHESIVE	*2,500*	*$ 4.00*	*SF*	*$*	*10,000.00*
FIRE DOOR INSULATION	*3*	*$ 75.00*	*DOOR*	*$*	*225.00*
DEMOLITION OF BOILERS	*2*	*$ 3,500.00*	*EA*	*$*	*7,000.00*
SUBTOTAL				$	290,710.00
ASBESTOS ABATEMENT CONTINGENCY				$	29,071.00
ASBESTOS TOTAL				**$**	**319,781.00**

ITALICS=MATERIALS ASSUMED TO BE ASBESTOS CONTAINING

LEAD BASED PAINT COST ESTIMATE

ADDITIONAL TESTING FOR LEAD IN DUST RECOMMENDED FOR SHOOTING RANGE AND SURROUNDING ROOMS. CONTINGENCY FOR CLEANING SHOOTING RANGE AND SURROUNDING AREAS OF LEAD DUST INCLUDED FOR BUDGETARY CONSIDERATIONS.

MATERIALS	QUANTITY	UNIT COST		TOTAL COST
LEAD DECONTAMINATION CONTINGENCY	1	SUM	$	10,000.00

UNIVERSAL WASTE ABATEMENT COST ESTIMATE

UNIVERSAL WASTE EVALUATION NOT PERFORMED AT THIS TIME. CONTINGENCY ESTABLISHED FOR BUDGETARY CONSIDERATIONS

MATERIALS	QUANTITY	UNIT COST		TOTAL COST
UNIVERSAL WASTE ABATEMENT CONTINGENCY	1	SUM	$	20,000.00
HAZARDOUS MATERIALS ABATEMENT SUBTOTAL			**$**	**349,781.00**

HAZARDOUS MATERIALS CONSULTING COST ESTIMATE

CONSULTING COST	QUANTITY	UNIT COST			TOTAL COST
ADDITIONAL INSPECTION SERVICES, SAMPLE ANALYSIS AND REPORTS	1	$3,000.00	SUM	$	3,000.00
ASBESTOS ABATEMENT SPECIFICATIONS	1	$3,000.00	EACH	$	3,000.00
ABATEMENT CONTRACT DRAWINGS	1	$1,500.00	EACH	$	1,500.00
ALTERNATE WORK PRACTICE DEVELOPMENT	1	$750.00	EACH	$	750.00
PRECONSTRUCTION CONFERENCE	1	$350.00	EACH	$	350.00
DAILY MONITORING/CLEARANCES*	60	$525.00	DAY	$	31,500.00
PCM AIR SAMPLES	300	$8.00	EACH	$	2,400.00
TEM AIR SAMPLES	30	$90.00	EACH	$	2,700.00
LEAD WIPE SAMPLE ANALYSIS	40	$15.00	EACH	$	600.00
PROJECT MANAGEMENT	20	$110.00	HOUR	$	2,200.00
DOCUMENTATION REPORT	1	$750.00	EACH	$	750.00
SUBTOTAL				$	48,750.00
CONSULTING CONTINGENCY				$	4,875.00
CONSULTING TOTAL				**$**	**53,625.00**

*ASSUMES FULL TIME MONITORING OF ABATEMENT ACTIVITIES

GRAND TOTAL	**$**	**403,406.00**

APPENDIX 5

EAGLE ENVIRONMENTAL INC. LICENSES AND LABORATORY CERTIFICATES

CERTIFICATE OF ACHIEVEMENT

This certifies that

Raymond R. Folino

has successfully completed the

4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services, LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch
Principal Instructor: Gregory Morsch

May 19, 2016
Date of Course

May 19, 2017
Expiration Date

Gregory Morsch
Regional Training Manager: Gregory Morsch

SIAR-5458
Certificate Number

May 19, 2016
Examination Date

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-INSPECTOR

RAYMOND R FOLINO

CERTIFICATE NO.
000137

CURRENT THROUGH
10/31/16

VALIDATION NO.
03-388324

SIGNATURE

ACTING COMMISSIONER

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT,

THE INDIVIDUAL NAMED BELOW IS LICENSED BY THIS DEPARTMENT AS A:

LEAD CONSULTANT CONTRACTOR

EAGLE ENVIRONMENTAL INC.

LICENSE NO.
001723

CURRENT THROUGH
04/30/17

VALIDATION NO.
03-467569

SIGNATURE

COMMISSIONER

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

EMSL ANALYTICAL, INC. – MANHATTAN, NY

LOCATED AT 307 West 38th Street IN New York, NY 10018

AND REGISTERED IN THE NAME OF Peter Frasca, Ph.D.
James Hall - Director
Jose Arriaga - Co-Director

THIS CERTIFICATE IS ISSUED IN THE NAME OF WHO HAS BEEN DESIGNATED BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

DRINKING WATER

Examination For:
Asbestos (TEM)

BUILDING MATERIALS

Examination For:
Asbestos Fibers (PCM, TEM)
Bulk Identification (PLM, TEM)

ENVIRONMENTAL HEALTH & HOUSING

Examination For:
Lead in Paint
Lead Paint in Soil
Lead in Dust Wipes

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES September 30, 2018 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS 29th DAY OF September 2016

Registration No.

PH-0170

SUZANNE BLANCAFLOR, MS, MPH
CHIEF, ENVIRONMENTAL HEALTH SECTION

ATTACHMENT 1

LOUREIRO INSPECTION REPORT

HAZARDOUS BUILDING MATERIALS REPORT

Bristol City Hall

111 North Main Street
Bristol, Connecticut

June 21, 2016

Prepared for

City of Bristol
Department of Public Works
c/o Dave Oakes
111 North Main Street
Bristol, Connecticut

Prepared by

LOUREIRO ENGINEERING ASSOCIATES, INC.
100 Northwest Drive
Plainville, Connecticut 06062

An Employee Owned Company

Comm. No. 11CB6.04

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2.1.1	Survey Results	2-1
3.	**RECOMMENDATIONS**	**3-1**

Appendices

Appendix A: Asbestos Sample Summary Table
Appendix B: PLM Laboratory Analysis Data (Bulk Sample Data Form)
Appendix C: Sample Location Sketch
Appendix D: Licenses and Accreditations

Loureiro

1. INTRODUCTION

1.1 Scope of Work

Loureiro Engineering Associates, Inc. (Loureiro) was retained by City of Bristol Department of Public Works to perform an comprehensive asbestos survey for the existing three story commercial building located at 111 North Main Street, Bristol, Connecticut known as the City Hall Building. The comprehensive survey included building materials that may be accessed routinely by in-house employees for maintenance purposes as well as subcontracted vendors.

In addition, Loureiro was requested to provide a limited Hazardous Building Materials (HBM) survey in April 2016 prior to the renovations of the accessible interior materials of the Gun Range. The gun range survey is included in this asbestos survey report. Loureiro also collected insulation samples on the air handlers and ducts in the Penthouse mechanical room.

1.2 Exceptions

This report is intended for the sole use of the Client, and may not be used or relied upon by others without the written consent of the Client. The scope of work conducted in performing this service for the Client may not be appropriate to satisfy the needs of other Parties, and the use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

Destructive testing was not performed during this baseline survey. This report does not satisfy all the requirements of NESHAPs.

The criteria used to evaluate the survey and observations includes, but is not limited to, guidelines recommended by the:

- American Conference of Governmental Industrial Hygienists (ACGIH);
- Asbestos Hazard Emergency Response Act (AHERA)
- National Emissions Standards for Hazardous Air Pollutants (NESHAPs)
- The U.S. Environmental Protection Agency (EPA);

Any comments and/or questions in regards this report should be directed to Loureiro Engineering.

2. BUILDING ASBESTOS MATERIALS

2.1 Investigative Survey

The pre-renovation survey was conducted on June 3, 2016 by Mr. Pavel Zayenchik. A total of 57 homogeneous building materials were sampled and the laboratory analyzed 107 samples. Detailed information relative to ACM descriptions and locations are presented in the appendices to this report.

As required by the U.S. Occupational Safety & Health Administration (OSHA), the U.S. Environmental Protection Agency (EPA), and the State of Connecticut Department of Public Health (DPH), the inspection was performed by an EPA AHERA-accredited and DPH-certified asbestos inspector (see Attachment D). The material sampling criteria follows the protocols established by the Asbestos Hazard Emergency Response Act (AHERA) 40 CFR Part 763 developed initially for schools in 1987.

Sampling was done in a manner to prevent airborne fiber release. Samples were placed in appropriately labeled containers that were sealed and submitted to the laboratory for analysis. The samples were submitted for petrographic analysis using the EPA-endorsed Polarized Light Microscopy with Dispersion Staining (PLM/DS) method. The percentage of asbestos present in each sample was determined by the visual area estimation technique.

2.1.1 Survey Results

Table 1 in Appendix A, presents a summary of the results of the sampling. Please refer to Attachment B. (Asbestos Bulk Sample Data Forms) for laboratory analysis results.

Appendix B. further illustrates each type of suspect asbestos-containing material identified, their location(s), and whether the materials are classified as ACM or not ACM based upon the analytical results.

As of the date of this survey the condition of all materials are noted as Good.

3. RECOMMENDATIONS

In accordance with the Asbestos Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926.1101 and 1910.1001), all potential contractors bidding on work must first be informed of the results of this survey.

In the State of Connecticut, a licensed asbestos abatement contractor must perform all asbestos-related activities, including the renovation/demolition portion of the work that includes asbestos. Disturbance of asbestos-containing material can only be done by trained and licensed individuals.

In accordance with EPA National Emissions Standards for Hazardous Air Pollutants (NESHAPS) regulations (40 CFR Part 61), building owners must remove all ACM from a facility (or area of a facility) before any activity begins that would break up, dislodge, or similarly disturb the ACM.

Loureiro did not inspect above ceilings and pipe systems are assumed to be insulated with asbestos.

Building materials such as floor tiles that have tested with "trace" or <1% asbestos and are likely to generate contamination and airborne fibers during renovation. Trace or <1% asbestos quantities are less than the EPA regulated threshold of 1.0% asbestos. During any renovation process it can be argued that all dust emissions are not controlled and that asbestos contamination may result throughout.

Loureiro Engineering recommends that the floor tile materials that are reported as "trace" or <1% asbestos concentration that may disturbed or rendered friable during a renovation or demolition process should only be disturbed by a licensed and trained asbestos contractor under full containment conditions.

Appendix A

Asbestos Sample Summary Table

Table 1 –Asbestos Results Summary

Sample No.	Material Description	Location(s)	Quantity	Analytical Result
1a,b,c	**12" pipe wrap insulation**	**Penthouse**	**320 LF +**	**20% Amosite**
2a,b,c	**6" pipe wrap insulation**	**Penthouse**	**220 LF +**	**15% Amosite**
3a,b,c	**3" pipe wrap insulation**	**Penthouse**	**160 LF +**	**15% Amosite**
4a,b,c	2" pipe wrap insulation	Penthouse		None Detected
5a,b,c	**2" pipe elbow insulation**	**Penthouse**	**6 LF +**	**45% Chrysotile**
6a,b,c	**3" pipe elbow insulation**	**Penthouse**	**30 LF +**	**60% Chrysotile**
7a,b,c	**6" pipe elbow insulation**	**Penthouse**	**60 LF +**	**60% Chrysotile**
8a,b,c	**12" pipe elbow insulation**	**Penthouse**	**20 LF +**	**65% Chrysotile**
9a,b,c	Air handler #2 wrap insulation	Penthouse		None Detected
10a,b,c	Black woven flex connector	Penthouse		None Detected
11a,b	Grey caulk on air handler	Penthouse		None Detected
12a,b	12x12 beige w/brown specs floor tile	3rd Floor Hallway, Interior Throughout		None Detected
13a,b	Black Mastic for 12x12 beige, grey, black floor tile	3rd Floor Hallway, Interior Throughout		None Detected
14a,b	12x12 grey floor tile	3rd Floor Hallway, Interior Throughout		None Detected
15a,b	12x12 black floor tile	3rd Floor Hallway		None Detected
16a,b,c, d,e	Sheetrock joint compound	3rd Floor Hallway, Renaissance Office, Ground Floor, Interior Throughout		None Detected
17a,b	2'x2' stucco suspended ceiling tiles	3rd Floor Hallway, Interior Throughout		None Detected
18a,b	2'x2' white with fissures + pinholes SCT	3rd Floor Bathroom, Interior Throughout		None Detected
19a,b	4" brown cove base	3rd Floor Hallway, Interior Throughout		None Detected
20a,b	Brown mastic for 4" brown cove base	3rd Floor Hallway, Interior Throughout		None Detected
21a,b	4" grey cove base	3rd Floor Stairway, Interior Throughout		None Detected
25a,b	Brown carpet glue	Corporate Counsel, Interior Throughout		None Detected
26a,b	**Grey Window Frame Caulking**	**Corporate Counsel, Interior Throughout**	**2,600 LF**	**3% Chrysotile**
27a,b	Sheetrock	3rd Floor Hallway, Ground Floor, Interior Throughout		None Detected

Sample No.	Material Description	Location(s)	Quantity	Analytical Result
28a,b	**9x9 brown floor tile**	**Personnel and Building Vaults, Interior Throughout**	**2,600 SF**	**4% Chrysotile**
29a,b	12x12 grey w/brown specs floor tile	2nd Floor Hallway, Interior Throughout		None Detected
30a,b	Linoleum	Building Department Kitchen		None Detected
31a,b	Tan Mastic for Linoleum	Building Department Kitchen		None Detected
32a,b	Sheetrock Tape	Renaissance Office, Ground Floor, Interior Throughout		None Detected
33a,b	1'x1' white with pinholes + fissures SCT	2nd Floor Bathroom		None Detected
34a,b	**12x12 brown floor tile**	**1st Floor Hallway**	**7,500 SF**	**<1% Chrysotile**
35a,b	4" black cove base	Deputy assessor		None Detected
36a,b	White mastic for 4" black cove base	Deputy assessor		None Detected
37a,b,c	**Air handler #3 insulation**	**Penthouse**	**160 SF**	**40% Chrysotile**
38a,b	**9x9 brown w/white specs floor tile**	**Ground Floor Hallway**	**700 SF**	**5% Chrysotile**
39a,b,c	Air handler insulation	Maintenance		None Detected
40a,b,c	4" pipe insulation	Maintenance		None Detected
41a,b,c	2" pipe insulation	Maintenance		None Detected
42a,b,c	10" pipe insulation	Maintenance		None Detected
43a,b	**Air handler wall penetration caulk, tan**	**Maintenance**	**25 LF**	**2% Chrysotile**
44a,b,c	**2" pipe elbow insulation**	**Maintenance**	**14 LF +**	**65% Chrysotile**
45a,b,c	**4" pipe elbow insulation**	**Maintenance**	**10 LF +**	**60% Chrysotile**
46a,b,c	**10" pipe elbow insulation**	**Maintenance**	**2 LF +**	**45% Chrysotile**
47a,b,c	air duct insulation	Boiler Room		None Detected
48a,b,c	**24" pipe valve insulation**	**Boiler Room**	**40 LF +**	**60% Chrysotile**
49a,b,c	Boiler door gasket	Boiler Room		None Detected
50a,b	CP II (white Mastic) on Fiberglass	Boiler Room		None Detected
51a,b	1x1 white SCT	Gun Range Bathroom		None Detected
52a,b	2'x4' white with fissures SCT	Gun Range		None Detected
53a,b	2x2 white SCT	Gun Range		None Detected
54a,b	12x12 blue floor tile	Gun Range		None Detected
55a,b	Brown mastic for 12x12 blue floor tile	Gun Range		None Detected

Sample No.	Material Description	Location(s)	Quantity	Analytical Result
56a,b	1x1 white SCT w/fissures	Gun Range		None Detected
57a,b	9x9 floor tile	Gun Range		None Detected
58a,b	Brown mastic for 9x9 floor tile	Gun Range		None Detected
Historical 1a,b	Dark Brown Glue Daubs	Gun Range		None Detected
Historical 2a,b	Light Brown Glue Daubs	Gun Range		None Detected
Historical 1a,b	Canvas Wrap on Duct	Air Handler 1		None Detected
Historical 2a,b	**Canvas Wrap on Duct**	**Air Handler 2**	**700 SF**	**35% Chrysotile**
Historical 3a,b	**Canvas Wrap on Duct**	**Air Handler 3**	**300 SF**	**40% Chrysotile**
Historical VT-1a,b	**9x9 Tan floor tile**	**Town Clerks Office, Interior Throughout**	**900 SF**	**5% Chrysotile**

Appendix B

PLM Laboratory Analysis Data (Bulk Sample Data Form)

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 041608634
Customer ID: LOUR62
Customer PO:
Project ID:

Attention: Jamie Roche
Loureiro Engineering Associates, Inc.
100 Northwest Drive
Plainville, CT 06062

Phone: (860) 747-6181
Fax: (860) 747-8822
Received Date: 04/06/2016 9:50 AM
Analysis Date: 04/06/2016
Collected Date: 04/05/2016

Project: Bristol City Hall 11CB6.02

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1A *041608634-0001*	Shooting range - 1x1 ceiling tile	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected
1B *041608634-0002*	Shooting range - 1x1 ceiling tile	Gray/White Fibrous Homogeneous	50% Cellulose 30% Min. Wool	20% Non-fibrous (Other)	None Detected

Analyst(s)
Kelly Mulholland (2)

Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

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

Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial Report From: 04/06/2016 11:14:38

OrderID: 041608634

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 041608634

EMSL ANALYTICAL, INC.
4 FAIRFIELD BLVD
WALLINGFORD, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Company : Loureiro Engineering Associates, Inc	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**. *Third Party Billing requires written authorization from third party*
Street: 100 Northwest Dr	
City: Plainville State/Province: CT	Zip/Postal Code: 06062 Country: US
Report To (Name): Jamie Roche	Telephone #: 860-410-2945
Email Address: jaroche@Loureiro.com	Fax #: 860-747-8822 Purchase Order:
Project Name/Number: Bristol City Hall 11CB6.02	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: CT	CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)	TEM – Bulk
☒ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☐ Check For Positive Stop – Clearly Identify Homogenous Group | Date Sampled:

Samplers Name: P. Zayenchik | Samplers Signature: P. Zayenchik

Sample #	HA #	Sample Location	Material Description
1A		Shooting range	1x1 ceiling tile
1B		↓	↓

RECEIVED EMSL CHARLINSON, NJ 16 APR -6 AM 9:57

Client Sample # (s): 1A - 1B Total # of Samples: 2

Relinquished (Client): P. Zayenchik Date: 4-5-16 Time: 17:00

Received (Lab): VC-RC Date: 4-6-16 Time: 9:50

Comments/Special Instructions:

Controlled Document – Asbestos COC – R5 – 11/29/2012

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 241601694
Customer ID: LOUR62
Customer PO:
Project ID:

Attention: Jamie Roche
Loureiro Engineering Associates, Inc.
100 Northwest Drive
Plainville, CT 06062

Phone: (860) 747-6181
Fax: (860) 747-8822
Received Date: 04/29/2016 10:50 AM
Analysis Date: 04/29/2016
Collected Date: 04/28/2016

Project: CITY OF BRISTOL-GUN RANGE 11CB6.04

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

			Non-Asbestos		Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1A *241601694-0001*	DARK BROWN DECK GLUE DABS	Brown Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
1B *241601694-0002*	DARK BROWN DECK GLUE DABS	Brown Non-Fibrous Homogeneous	<1% Cellulose <1% Glass	100% Non-fibrous (Other)	None Detected
2A *241601694-0003*	LIGHT BROWN DECK GLUE DABS	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
2B *241601694-0004*	LIGHT BROWN DECK GLUE DABS	Brown Non-Fibrous Homogeneous	<1% Cellulose <1% Glass	100% Non-fibrous (Other)	None Detected

Analyst(s)
Kristin Lopez (2)
Lauren Brennan (2)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial Report From: 04/29/2016 15:57:25

OrderID: 241601694

EMSL ANALYTICAL, INC.
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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only): 24160169A

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (856) 858-4800
FAX: (856) 858-4960

Company: Loureiro Engineering Associates #: LOUR62	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 100 Northwest Drive	
City: Plainville State/Province: CT	Zip/Postal Code: 06062 Country: USA
Report To (Name): Jamie Roche	Fax #: 860-747-8822
Telephone #: 860-747-6181	Email Address: jaroche@loureiro.com
Project Name/Number: City of Bristol-Gun Range 11CB6.04	
Please Provide Results: ☐ Fax ☒ Email Purchase Order:	U.S. State Samples Taken: CT

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hours ☒ 6 Hours ☐ 24 Hrs ☐ 48 Hrs ☐ 3 Days ☐ 4 Days ☐ 5 Days ☐ 10 Days

*For TEM Air 3 hours/6 hours, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM - Air
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☒ Check For Positive Stop – Clearly Identify Homogenous Group

Samplers Name: P. Zayenchik Samplers Signature: P. Zayenchik

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1A	Dark Brown deck glue dabs	Bulk	4-28-16
1B	↓	↓	↓
2A	light brown deck glue dabs	↓	↓
2B	↓	↓	↓

Client Sample # (s): 1A 2B Total # of Samples: 4

Relinquished (Client): P. Zayenchik Date: 4-28-16 Time: 17:00

Received (Lab): Date: Time:

Comments/Special Instructions:

RECEIVED
APR 29 2016
By [illegible] 10:50am
Ap 7762 15876838

Controlled Document - Asbestos COC - R1 - 3/15/2006

Page 1 of 1 pages

EMSL Analytical, Inc.
200 Route 130 North Cinnaminson, NJ 08077
Tel/Fax: (800) 220-3675 / (856) 786-5974
http://www.EMSL.com / cinnasblab@EMSL.com

EMSL Order: 041611402
Customer ID: LOUR62
Customer PO:
Project ID:

Attention: Jamie Roche
Loureiro Engineering Associates, Inc.
100 Northwest Drive
Plainville, CT 06062

Project: Bristol, 11CB602

Phone: (860) 747-6181
Fax: (860) 747-8822
Received Date: 05/03/2016 9:40 AM
Analysis Date: 05/03/2016
Collected Date: 05/02/2016

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
VT-1A-Vinyl Floor Tile *041611402-0001*	Town Clerk Office - Tan 9x9 Vinyl Floor Tile	Tan Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
VT-1A-Mastic *041611402-0001A*	Town Clerk Office - Tan 9x9 Vinyl Floor Tile	Brown/Yellow Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
VT-1B-Vinyl Floor Tile *041611402-0002*	Town Clerk Office - Tan 9x9 Vinyl Floor Tile				Positive Stop (Not Analyzed)
VT-1B-Mastic *041611402-0002A*	Town Clerk Office - Tan 9x9 Vinyl Floor Tile				Positive Stop (Not Analyzed)

Analyst(s)
Daniel Fricker (2)

Benjamin Ellis, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial Report From: 05/03/2016 11:50:50

OrderID: 041611402

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 041611402

EMSL ANALYTICAL, INC.
29 NORTH PLAINS DR, #4
WALLINGFORD, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Company : Loureiro Engineering	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 100 Northwest Dr	
City: Plainville / State/Province: ct	Zip/Postal Code: 06062 / Country:
Report To (Name): Jamie Roche	Telephone #: 860-747-6181
Email Address: jaroche@loureiro.com	Fax #: 860-747-8822 / Purchase Order:
Project Name/Number: Bristol, 11CB602	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: CT	Connecticut Samples: ☒ Commercial ☐ Residential

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ TEM Qual. via Filtration Technique
- ☐ TEM Qual. via Drop-Mount Technique

Other:
- ☐

☒ Check For Positive Stop – Clearly Identify Homogenous Group

Filter Pore Size (Air Samples): ☐ 0.8µm ☐ 0.45µm

Samplers Name: ~~JRoche~~ GMishler

Samplers Signature: [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
VT-1A	TAN 9x9 Vinyl Floor Tile (~~[illegible]~~ Town Clerk Office)		5/2/16
VT-1B	TAN 9x9 Vinyl Floor Tile (Town Clerk Office)		5/2/16

RECEIVED EMSL CINNAMINSON NJ 16 MAY -3 AM 10: 16

Client Sample # (s): Total # of Samples:

Relinquished (Client): ~~JRoche~~ [signature] Date: 5/2/16 Time: 3.12pm

Received (Lab): BBeatty Date: 5/3/16 Time: 940

Comments/Special Instructions:

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5048 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 241601846
Customer ID: LOUR62
Customer PO:
Project ID:

Attention: Jamie Roche
Loureiro Engineering Associates, Inc.
100 Northwest Drive
Plainville, CT 06062

Phone: (860) 747-6181
Fax: (860) 747-8822
Received Date: 05/10/2016 10:25 AM
Analysis Date: 05/10/2016
Collected Date:

Project: 11CB604 1 BRISTOL HALL

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1a *241601846-0001*	AHU-1 - canvas coating on FG duct ins.	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
1b *241601846-0002*	AHU-1 - canvas coating on FG duct ins.	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
1c *241601846-0003*	AHU-1R - canvas coating on FG duct ins.	Black/Yellow Fibrous Homogeneous	10% Min. Wool	90% Non-fibrous (Other)	None Detected
2a *241601846-0004*	AHU2 - canvas coating on FG duct ins.	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
2b *241601846-0005* *The sample group is not homogeneous.*	AHU2 - canvas coating on FG duct ins.	Gray/White Fibrous Homogeneous	60% Cellulose	5% Non-fibrous (Other)	35% Chrysotile
3a *241601846-0006*	AHU3 - canvas coating on FG duct ins.	Gray Fibrous Homogeneous		60% Non-fibrous (Other)	40% Chrysotile
3b *241601846-0007*	AHU3 - canvas coating on FG duct ins.				Positive Stop (Not Analyzed)

Analyst(s)
Jeremy Patino (4)
Kristin Lopez (2)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

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

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0.

Initial Report From: 05/10/2016 16:06:09

OrderID: 241601846

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 241601846

EMSL ANALYTICAL, INC.
29 NORTH PLAINS DR, #4
WALLINGFORD, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Company : Loureiro Engineering	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 100 Northwest Dr	*Third Party Billing requires written authorization from third party*
City: Plainville / State/Province: ct	Zip/Postal Code: 06062 / Country:
Report To (Name): Jamie Roche	Telephone #: 860-747-6181
Email Address: jaroche@loureiro.com	Fax #: 860-747-8822 / Purchase Order:
Project Name/Number: 11CB604 / Bristol Hall	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: CT	Connecticut Samples: ☒ Commercial ☐ Residential

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☒ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ TEM Qual. via Filtration Technique
- ☐ TEM Qual. via Drop-Mount Technique

Other:
- ☐

☒ Check For Positive Stop – Clearly Identify Homogenous Group | Filter Pore Size (Air Samples): ☐ 0.8µm ☐ 0.45µm

Samplers Name: JRoche | Samplers Signature: JRoche

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1a	Canvas Coating on FG Duct Ins.	AHU-1	
1b	↓	AHU-1	
1c	↓	AHU-1R	
2a	Canvas Coating on FG Ducts Ins	AHU 2	
2b	" " "	"	
3a	Canvas Coating on FG Duct Ins	AHU 3	
3b	" " "	"	

Client Sample # (s): | Total # of Samples: 7

Relinquished (Client): JRoche JRoche Date: 5/9/16 Time:

Received (Lab): Date: Time:

Comments/Special Instructions: No Tax

RECEIVED MAY 10 2016 By 10:25am

7762
9642
8010

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 241602283
Customer ID: LOUR62
Customer PO:
Project ID:

Attention: Jamie Roche
Loureiro Engineering Associates, Inc.
100 Northwest Drive
Plainville, CT 06062

Phone: (860) 747-6181
Fax: (860) 747-8822
Received Date: 06/07/2016 10:25 AM
Analysis Date: 06/09/2016
Collected Date: 06/03/2016

Project: CITY OF BRISTOL, 11CB6.04

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1a 241602283-0001	Penthouse - 12" pipe wrap insulation	Gray Fibrous Homogeneous		80% Non-fibrous (Other)	20% Amosite
1b 241602283-0002	Penthouse - 12" pipe wrap insulation				Positive Stop (Not Analyzed)
1c 241602283-0003	Penthouse - 12" pipe wrap insulation				Positive Stop (Not Analyzed)
2a 241602283-0004	Penthouse - 6" pipe wrap insulation	Gray Non-Fibrous Homogeneous		85% Non-fibrous (Other)	15% Amosite
2b 241602283-0005	Penthouse - 6" pipe wrap insulation				Positive Stop (Not Analyzed)
2c 241602283-0006	Penthouse - 6" pipe wrap insulation				Positive Stop (Not Analyzed)
3a 241602283-0007	Penthouse - 3" pipe wrap insulation	Gray Fibrous Homogeneous		85% Non-fibrous (Other)	15% Amosite
3b 241602283-0008	Penthouse - 3" pipe wrap insulation				Positive Stop (Not Analyzed)
3c 241602283-0009	Penthouse - 3" pipe wrap insulation				Positive Stop (Not Analyzed)
4a 241602283-0010	Penthouse - 2" pipe wrap insulation	Tan Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
4b 241602283-0011	Penthouse - 2" pipe wrap insulation	Tan Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
4c 241602283-0012	Penthouse - 2" pipe wrap insulation	Tan Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
5a 241602283-0013	Penthouse - 2" pipe elbow insulation	Gray Non-Fibrous Homogeneous		55% Non-fibrous (Other)	45% Chrysotile
5b 241602283-0014	Penthouse - 2" pipe elbow insulation				Positive Stop (Not Analyzed)
5c 241602283-0015	Penthouse - 2" pipe elbow insulation				Positive Stop (Not Analyzed)
6a 241602283-0016	Penthouse - 3" pipe elbow insulation	Gray Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile

Initial Report From: 06/09/2016 18:28:27

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EMSL Order: 241602283
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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
6b 241602283-0017	Penthouse - 3" pipe elbow insulation				Positive Stop (Not Analyzed)
6c 241602283-0018	Penthouse - 3" pipe elbow insulation				Positive Stop (Not Analyzed)
7a 241602283-0019	Penthouse - 6" pipe elbow insulation	Gray Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile
7b 241602283-0020	Penthouse - 6" pipe elbow insulation				Positive Stop (Not Analyzed)
7c 241602283-0021	Penthouse - 6" pipe elbow insulation				Positive Stop (Not Analyzed)
8a 241602283-0022	Penthouse - 12" pipe elbow insulation	Gray Fibrous Homogeneous		35% Non-fibrous (Other)	65% Chrysotile
8b 241602283-0023	Penthouse - 12" pipe elbow insulation				Positive Stop (Not Analyzed)
8c 241602283-0024	Penthouse - 12" pipe elbow insulation				Positive Stop (Not Analyzed)
9a 241602283-0025	Penthouse - air handler 2 wrap insulation	Black Fibrous Homogeneous	10% Cellulose 4% Glass	86% Non-fibrous (Other)	None Detected
9b 241602283-0026	Penthouse - air handler 2 wrap insulation	Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
9c 241602283-0027	Penthouse - air handler 2 wrap insulation	Black Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
10a 241602283-0028	Penthouse - black woven flex connector	Gray Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
10b 241602283-0029	Penthouse - black woven flex connector	Black Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
11a 241602283-0030	Penthouse - grey caulk on air handler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
11b 241602283-0031	Penthouse - grey caulk on air handler	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12a 241602283-0032	3rd floor - 12x12 beige w/brown specs floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
12b 241602283-0033	2nd floor - 12x12 beige w/brown specs floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
13a 241602283-0034	3rd floor - black mastic for #12a	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
13b 241602283-0035	2nd floor - black mastic for #12b	Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected

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EMSL Order: 241602283
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
14a 241602283-0036	3rd floor - 12x12 grey floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
14b 241602283-0037	2nd floor - 12x12 grey floor tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
15a 241602283-0038	3rd floor - 12x12 black floor tile	Black Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
15b 241602283-0039	3rd floor - 12x12 black floor tile	Black Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
16a 241602283-0040	Sheetrock joint compound	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
16b 241602283-0041	Sheetrock joint compound	White Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
16c 241602283-0042	Sheetrock joint compound	White Non-Fibrous Homogeneous		45% Ca Carbonate 55% Non-fibrous (Other)	None Detected
16d 241602283-0043	Sheetrock joint compound	White Non-Fibrous Homogeneous		40% Ca Carbonate 60% Non-fibrous (Other)	None Detected
16e 241602283-0044	Sheetrock joint compound	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
17a 241602283-0045	2'x2' stucco suspended ceiling tiles	White Non-Fibrous Homogeneous	65% Min. Wool	35% Non-fibrous (Other)	None Detected
17b 241602283-0046	2'x2' stucco suspended ceiling tiles	Gray Non-Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
18a 241602283-0047	2'x2' white with fissures + pinholes SCT	Gray/White Fibrous Homogeneous	50% Cellulose 35% Min. Wool	15% Non-fibrous (Other)	None Detected
18b 241602283-0048	2'x2' white with fissures + pinholes SCT	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
19a 241602283-0049	4" brown cove base	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
19b 241602283-0050	4" brown cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
20a 241602283-0051	Brown mastic for #19	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
20b 241602283-0052	Brown mastic for #19	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21a 241602283-0053	4" grey cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
21b 241602283-0054	4" grey cove base	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
22a 241602283-0055	Tan mastic for #21				Insufficient Material
22b 241602283-0056	Tan mastic for #21				Insufficient Material
25a 241602283-0057	Brown carpet glue	Tan Non-Fibrous Homogeneous	<1% Synthetic	100% Non-fibrous (Other)	None Detected
25b 241602283-0058	Brown carpet glue	Tan Non-Fibrous Homogeneous	<1% Synthetic	100% Non-fibrous (Other)	None Detected
26a 241602283-0059	Grey WFC	Gray Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
26b 241602283-0060	Grey WFC				Positive Stop (Not Analyzed)
27a 241602283-0061	Sheetrock	White Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
27b 241602283-0062	Sheetrock	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (Other)	None Detected
28a 241602283-0063	9x9 brown floor tile	Brown Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
28b 241602283-0064	9x9 brown floor tile				Positive Stop (Not Analyzed)
29a 241602283-0065	12x12 grey w/brown specs floor tile	Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
29b 241602283-0066	12x12 grey w/brown specs floor tile	Pink Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30a 241602283-0067	Building dept, kitchen, floor linoleum	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
30b 241602283-0068	Building dept, kitchen, floor linoleum	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
31a 241602283-0069	Tan mastic for #30	Tan/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
31b 241602283-0070	Tan mastic for #30	Tan/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
32a 241602283-0071	Sheetrock tape	White Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
32b 241602283-0072	Sheetrock tape	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
33a 241602283-0073	1'x1' white with pinholes + fissures SCT	Gray Fibrous Homogeneous	40% Cellulose 20% Min. Wool	40% Non-fibrous (Other)	None Detected

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
33b 241602283-0074	1'x1' white with pinholes + fissures SCT	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
34a 241602283-0075	12x12 brown floor tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
34b 241602283-0076	12x12 brown floor tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	<1% Chrysotile
35a 241602283-0077	Deputy assessor, 4" black cove base	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
35b 241602283-0078	Deputy assessor, 4" black cove base	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36a 241602283-0079	White mastic for #35	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
36b 241602283-0080	White mastic for #35	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
37a 241602283-0081	Penthouse - air handler 3 insulation	Gray Fibrous Homogeneous		60% Non-fibrous (Other)	40% Chrysotile
37b 241602283-0082	Penthouse - air handler 3 insulation				Positive Stop (Not Analyzed)
37c 241602283-0083	Penthouse - air handler 4 insulation				Positive Stop (Not Analyzed)
38a 241602283-0084	9x9 brown w/white specs floor tile	Red Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
38b 241602283-0085	9x9 brown w/white specs floor tile				Positive Stop (Not Analyzed)
39a 241602283-0086	Maintenance - air handler insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
39b 241602283-0087	Maintenance - air handler insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
39c 241602283-0088	Maintenance - air handler insulation	White Fibrous Homogeneous	99% Glass	1% Non-fibrous (Other)	None Detected
40a 241602283-0089	Maintenance - 4" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
40b 241602283-0090	Maintenance - 4" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
40c 241602283-0091	Maintenance - 4" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
41a 241602283-0092	Maintenance - 2" pipe insulation	Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected

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

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
41b 241602283-0093	Maintenance - 2" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
41c 241602283-0094	Maintenance - 2" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
42a 241602283-0095	Maintenance - 10" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
42b 241602283-0096	Maintenance - 10" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
42c 241602283-0097	Maintenance - 10" pipe insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
43a 241602283-0098	Maintenance - air handler wall penetration caulk, tan	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
43b 241602283-0099	Maintenance - air handler wall penetration caulk, tan				Positive Stop (Not Analyzed)
44a 241602283-0100	Maintenance - 2" pipe elbow insulation	Gray Fibrous Homogeneous		35% Non-fibrous (Other)	65% Chrysotile
44b 241602283-0101	Maintenance - 2" pipe elbow insulation				Positive Stop (Not Analyzed)
44c 241602283-0102	Maintenance - 2" pipe elbow insulation				Positive Stop (Not Analyzed)
45a 241602283-0103	Maintenance - 4" pipe elbow insulation	Gray Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile
45b 241602283-0104	Maintenance - 4" pipe elbow insulation				Positive Stop (Not Analyzed)
45c 241602283-0105	Maintenance - 4" pipe elbow insulation				Positive Stop (Not Analyzed)
46a 241602283-0106	Maintenance - 10" pipe elbow insulation	Gray Fibrous Homogeneous	40% Min. Wool	15% Non-fibrous (Other)	45% Chrysotile
46b 241602283-0107	Maintenance - 10" pipe elbow insulation				Positive Stop (Not Analyzed)
46c 241602283-0108	Maintenance - 10" pipe elbow insulation				Positive Stop (Not Analyzed)
47a 241602283-0109	Boiler room - air duct insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
47b 241602283-0110	Boiler room - air duct insulation	Tan Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
47c 241602283-0111	Boiler room - air duct insulation	Tan/Black Fibrous Homogeneous	75% Cellulose 5% Glass	20% Non-fibrous (Other)	None Detected

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
48a 241602283-0112	Boiler room - 24" pipe elbow insulation	Gray Non-Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
48b 241602283-0113	Boiler room - 24" pipe elbow insulation	Gray Non-Fibrous Homogeneous	80% Min. Wool	20% Non-fibrous (Other)	None Detected
48c 241602283-0114	Boiler room - 24" pipe elbow insulation	Gray Fibrous Homogeneous		40% Non-fibrous (Other)	60% Chrysotile
49a 241602283-0115	Boiler room - boiler door gasket	White Fibrous Homogeneous	99% Glass	1% Non-fibrous (Other)	None Detected
49b 241602283-0116	Boiler room - boiler door gasket	White Fibrous Homogeneous	99% Glass	1% Non-fibrous (Other)	None Detected
49c 241602283-0117	Boiler room - boiler door gasket	White Non-Fibrous Homogeneous	99% Glass	1% Non-fibrous (Other)	None Detected
50a 241602283-0118	Boiler room - CP II	White Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
50b 241602283-0119	Boiler room - CP II	White Non-Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
51a 241602283-0120	Gun range, bathroom - 1x1 white SCT	Brown Fibrous Homogeneous	99% Glass	1% Non-fibrous (Other)	None Detected
51b 241602283-0121	Gun range, bathroom - 1x1 white SCT	Tan Non-Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
52a 241602283-0122	Gun range - 2'x4' white with fissures SCT	Gray/White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
52b 241602283-0123	Gun range - 2'x4' white with fissures SCT	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
53a 241602283-0124	Gun range - 2x2 white SCT	Gray/White Non-Fibrous Homogeneous	35% Cellulose 45% Min. Wool	20% Non-fibrous (Other)	None Detected
53b 241602283-0125	Gun range - 2x2 white SCT	Gray Fibrous Homogeneous	40% Cellulose 20% Min. Wool	40% Non-fibrous (Other)	None Detected
54a 241602283-0126	Gun range - 12x12 blue floor tile	Blue Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
54b 241602283-0127	Gun range - 12x12 blue floor tile	Blue Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
55a 241602283-0128	Gun range - brown mastic for #54	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
55b 241602283-0129	Gun range - brown mastic for #54	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
56a 241602283-0130	Gun range - 1x1 white SCT w/fissures	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected

Initial Report From: 06/09/2016 18:28:27

EMSL Analytical, Inc.
29 North Plains Highway, Unit # 4 Wallingford, CT 06492
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / wallingfordlab@emsl.com

EMSL Order: 241602283
Customer ID: LOUR62
Customer PO:
Project ID:

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
56b *241602283-0131*	Gun range - 1x1 white SCT w/fissures	Gray Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (Other)	None Detected
57a *241602283-0132*	Gun range - 9x9 floor tile	Black Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
57b *241602283-0133*	Gun range - 9x9 floor tile	Black Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
58a *241602283-0134*	Gun range - brown mastic for #57	Tan Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
58b *241602283-0135*	Gun range - brown mastic for #57	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Jeremy Patino (42)
Kristin Lopez (26)
Lauren Brennan (15)
William Shedrawy (24)

Lauren Brennan, Asbestos Lab Manager
or Other Approved Signatory

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

Samples analyzed by EMSL Analytical, Inc. Wallingford, CT NVLAP Lab Code 200700-0,

Initial Report From: 06/09/2016 18:28:27

OrderID: 241602283

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number *(Lab Use Only)*: 241602283

EMSL ANALYTICAL, INC.
4 FAIRFIELD BLVD
WALLINGFORD, CT 06492
PHONE: (203) 284-5948
FAX: (203) 284-5978

Company : Loureiro Engineering Associates, Inc	EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note Instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 100 Northwest Dr	
City: Plainville / State/Province: CT	Zip/Postal Code: 06062 / Country: US
Report To (Name): Jamie Roche	Telephone #: 860-410-2945
Email Address: jaroche@Loureiro.com	Fax #: 860-747-8822 / Purchase Order:
Project Name/Number: City of Bristol, HCB 6.04	Please Provide Results: ☐ Fax ☒ Email
U.S. State Samples Taken: CT	CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour | ☐ 6 Hour | ☐ 24 Hour | ☒ 48 Hour | ☐ 72 Hour | ☐ 96 Hour | ☐ 1 Week | ☐ 2 Week

**For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PLM - Bulk (reporting limit)	TEM – Bulk
☒ PLM EPA 600/R-93/116 (<1%)	☐ TEM EPA NOB – EPA 600/R-93/116 Section 2.5.5.1
☐ PLM EPA NOB (<1%)	☐ NY ELAP Method 198.4 (TEM)
Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%)	☐ TEM % by Mass – EPA 600/R-93/116 Section 2.5.5.2
☐ NIOSH 9002 (<1%)	☐ TEM Qualitative via Filtration Prep Technique
☐ NY ELAP Method 198.1 (friable in NY)	☐ TEM Qualitative via Drop Mount Prep Technique
☐ NY ELAP Method 198.6 NOB (non-friable-NY)	**Other**
☐ OSHA ID-191 Modified	☐
☐ Standard Addition Method	

☒ Check For Positive Stop – Clearly Identify Homogenous Group | Date Sampled: 6-3-16

Samplers Name: P. Zayenchik | Samplers Signature: P. Zayenchik

Sample #	HA #	Sample Location	Material Description
1a	Bulk	Penthouse	12" pipe wrap insulation
1B	↓	↓	↓
1C	↓	↓	↓
2a	↓	↓	6" pipe wrap insulation
2b	↓	↓	↓
2c	↓	↓	↓
3a	↓	↓	3" pipe wrap insulation
3b	↓	↓	↓
3c	↓	↓	↓
4a	↓	↓	2" pipe wrap insulation

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Fax 7764476132 82

Client Sample # (s): 1a - 586 | Total # of Samples: 135

Relinquished (Client): P. Zayenchik | Date: 6-6-16 | Time: 17:00

Received (Lab): | Date: | Time:

Comments/Special Instructions:

Void samples 23a,b,24a,b. Analyze mastic only when specified

Controlled Document – Asbestos COC – R6 – 11/29/2012

EMSL ANALYTICAL, INC.

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*:

241602283

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
4a	penthouse, 2" pipe wrap insulation	Bulk	6-3-16
4c	↓ ↓	↓	↓
5a	2" pipe elbow insulation		
5b	↓ ↓		
5c	↓ ↓		
6a	3" pipe		
6b	↓ ↓		
6c	↓ ↓		
7a	6" pipe		
7b	↓ ↓		
7c	↓ ↓		
8a	12" pipe		
8b	↓ ↓		
8c	↓ ↓ ↓ ↓		
9a	air handler 2 wrap insulation		
9b	↓ ↓		
9c	↓ ↓		
10a	Black woven flex connector		
10b	↓		
11a	gray caulk on air handler		
11b	↓ ↓		
12a	3rd floor, 12×12 beige w/brown specs floor tile		
12b	2nd floor, ↓		
13a	Black mastic for #12a	↓	↓

*Comments/Special Instructions:

Page 2 of 7 pages

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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

241602283

EMSL ANALYTICAL, INC
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
13a	Black mastic for # 12 a	Bulk	6-3-16
14a	3rd floor, 12x12 grey floor tile		
14b	2nd floor, ↓		
15a	3rd floor, 12x12 black floor tile		
15b	↓		
16a	Sheetrock Joint compound		
16b			
16c			
16d			
16e	↓		
17a	2'x2' Stucco suspended ceiling tiles		
17b	↓		
18a	2'x2' white with fissures + pinholes SCT		
18b	↓		
19a	4" Brown cove base		
19b	↓		
20a	Brown mastic for #19		
20b	↓		
21a	4" grey cove base		
21b	↓		
22a	tan mastic for # 21		
22b	↓		
23a	9x9 beige w/brown specs floor tile		
23b	↓	↓	↓

composite

composite

void

void

*Comments/Special Instructions:

Page 3 of 7 pages

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Asbestos Chain of Custody

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EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

	Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
void	24a	black mastic for #23	Bulk	6-3-16
void	24b	↓	↓	↓
	25a	Brown carpet glue	↓	↓
	25b	↓	↓	↓
	26a	Grey WFC	↓	↓
	26b	↓	↓	↓
	27a	Sheetrock	↓	↓
	27b	↓	↓	↓
	28a	9x9 brown floor tile	↓	↓
	28b	↓	↓	↓
	29a	12x12 grey w/brown specs floor tile	↓	↓
	29b	↓	↓	↓
comp	30a	Building dept, kitchen floor linoleum	↓	↓
	30b	↓	↓	↓
	31a	tan mastic for #30	↓	↓
	31b	↓	↓	↓
	32a	Sheetrock Tape	↓	↓
	32b	↓	↓	↓
	33a	1'x1' white with pinholes + fissures SCT	↓	↓
	33b	↓	↓	↓
	34a	12x12 brown floor tile	↓	↓
	34b	↓	↓	↓
composite w/#36	35a	Deputy assessor, 4" black cove base	↓	↓
	35b	↓	↓	↓

*Comments/Special Instructions:

Page 4 of 7 pages

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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

241602283

EMSL ANALYTICAL, INC
200 ROUTE 130 NORTH
CINNAMINSON NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
36a	white mastic for #35	Bulk	6-3-16
36b	↓	↓	↓
37a	penthouse, air handler 3 insulation	↓	↓
37b	↓ ↓ ↓ 3	↓	↓
37c	↓ ↓ 4 ↓	↓	↓
38a	9x9 brown w/white specs floor tile	↓	↓
38b	↓	↓	↓
39a	maintenance, air handler insulation	↓	↓
39b	↓ ↓	↓	↓
39c	↓ ↓	↓	↓
40a	4" pipe insulation	↓	↓
40b	↓ ↓	↓	↓
40c	↓ ↓	↓	↓
41a	2" pipe insulation	↓	↓
41b	↓ ↓	↓	↓
41c	↓ ↓	↓	↓
42a	10" pipe insulation	↓	↓
42b	↓ ↓	↓	↓
42c	↓ ↓	↓	↓
43a	air handler wall penetration caulk fan	↓	↓
43b	↓ ↓	↓	↓
44a	2" pipe elbow insulation	↓	↓
44b	↓ ↓	↓	↓
44c	↓ ↓ ↓	↓	↓

Composite w/ #35

*Comments/Special Instructions:

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Asbestos Chain of Custody

EMSL Order Number (Lab Use Only): 241602283

EMSL ANALYTICAL, INC.
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
45a	maintenance, 4" pipe elbow insulation	Bulk	6-3-16
45b			
45c			
46a	10" pipe elbow insulation		
46b			
46c			
47a	boiler room, airduct insulation		
47b			
47c			
48a	24" ~~pb~~ pipe elbow insulation		
48b			
48c			
49a	boiler door gasket		
49b			
49c			
50a	CP11		
50b			
51a	Gun Range, bathroom, 1x1 white SCT		
51b			
52a	2'x4', white with fissures SCT		
52b			
53a	2x2 white SCT		
53b			
54a	12x12 blue floor tile		

*Comments/Special Instructions:

Composite with 55

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Page 6 of 7 pages

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OrderID: 241602283

EMSL ANALYTICAL, INC.

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only): 241602283

EMSL ANALYTICAL, INC
200 ROUTE 130 NORTH
CINNAMINSON, NJ 08077
PHONE: (800) 220-3675
FAX: (856) 786-5974

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
546	Gun Range, 12x12 blue floor tile	Bulk	6-3-16
559	Brown mastic for # 54		
556	Brown mastic for #54		
569	Gun range, 1x1 white sct w/ fissures		
566			
579	9x9 floor tile		
576			
589	Brown mastic for #57		
586			

composite

composite

*Comments/Special Instructions:

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Page 7 of 7 pages

Controlled Document - Asbestos COC - R5 - 1/11/2012

Appendix C

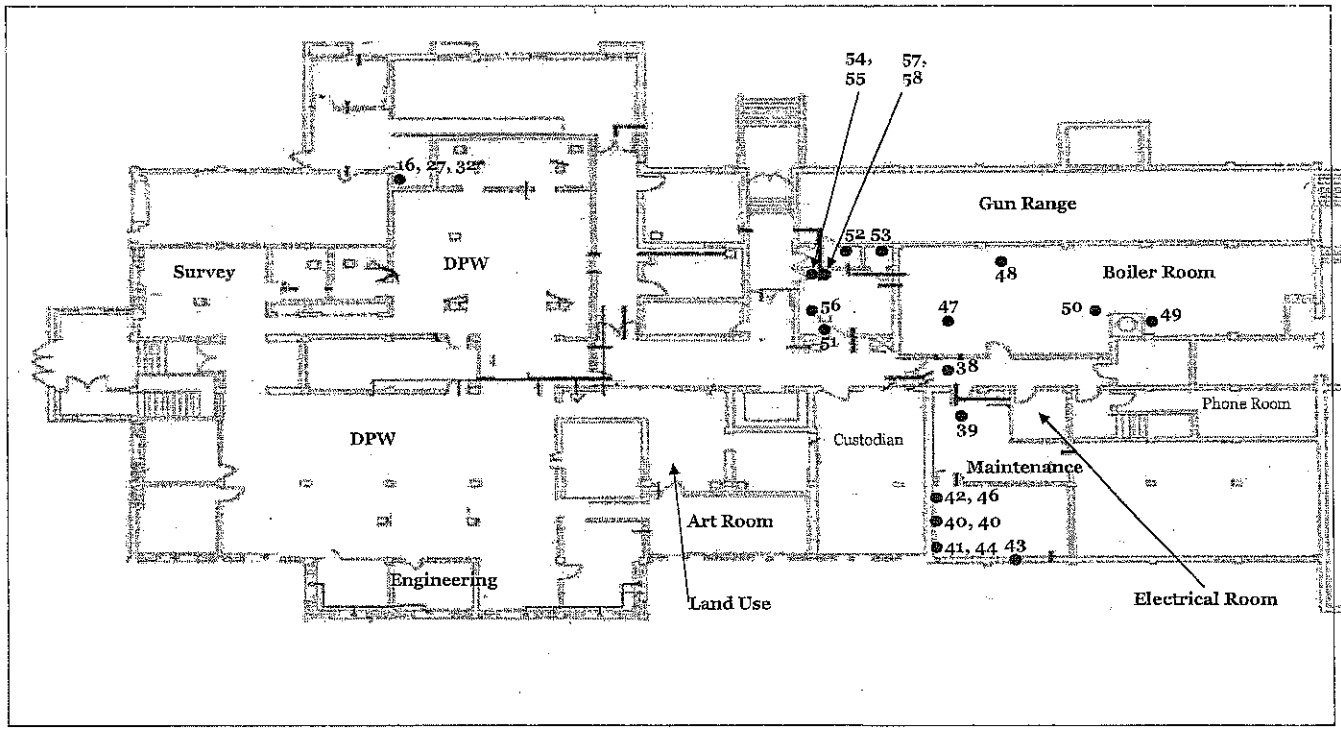
Sample Location Sketch

Loureiro

Engineering • Construction • EH&S • Energy • Waste

Project Name: City of Bristol	**LEA Comm. No** 11CB6.04
Project Location: 111 North Main Street, Bristol, CT	
Sampling Date: June 3, 2016	

Sampling Locations: Ground Floor



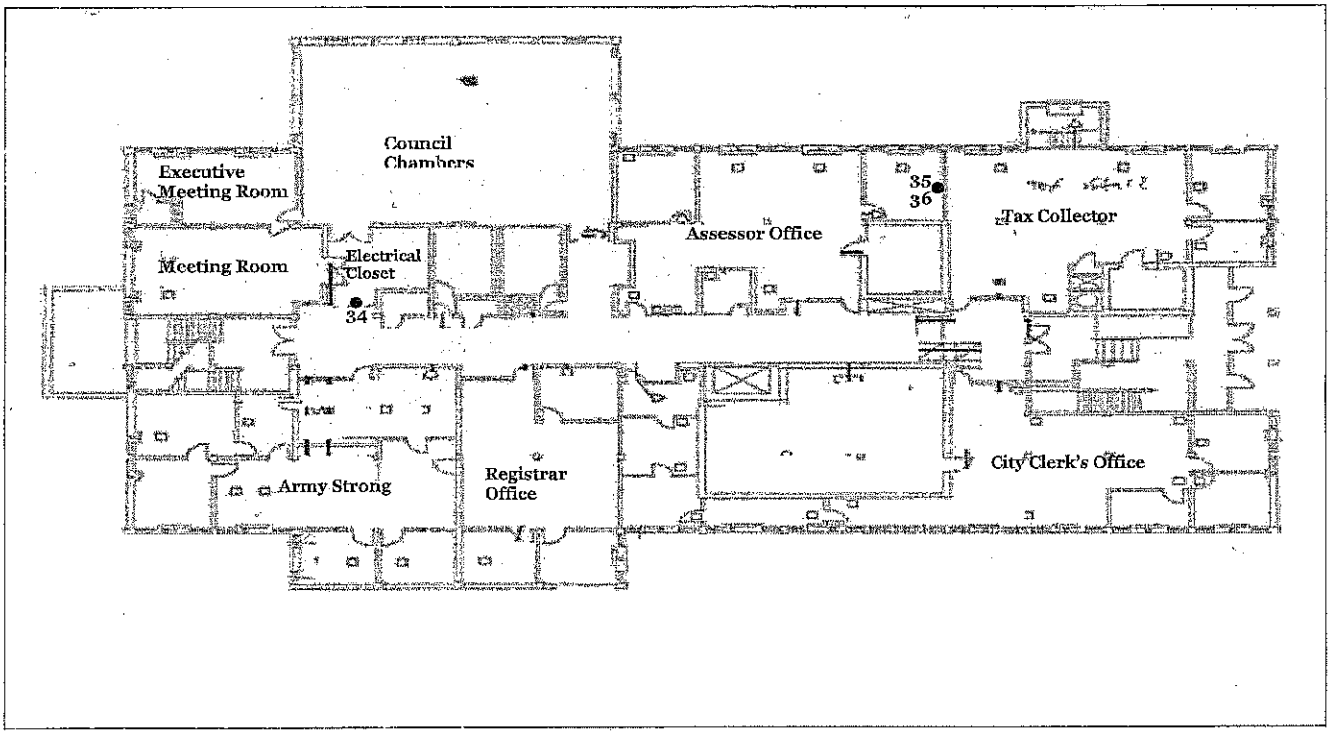
Asbestos Inspector: Pavel Zayenchik (Signature) P. Zayenchik

Loureiro

Engineering • Construction • EH&S • Energy • Waste

Project Name: City of Bristol	**LEA Comm. No** 11CB6.04
Project Location: 111 North Main Street, Bristol, CT	
Sampling Date: June 3, 2016	

Sampling Locations: First Floor



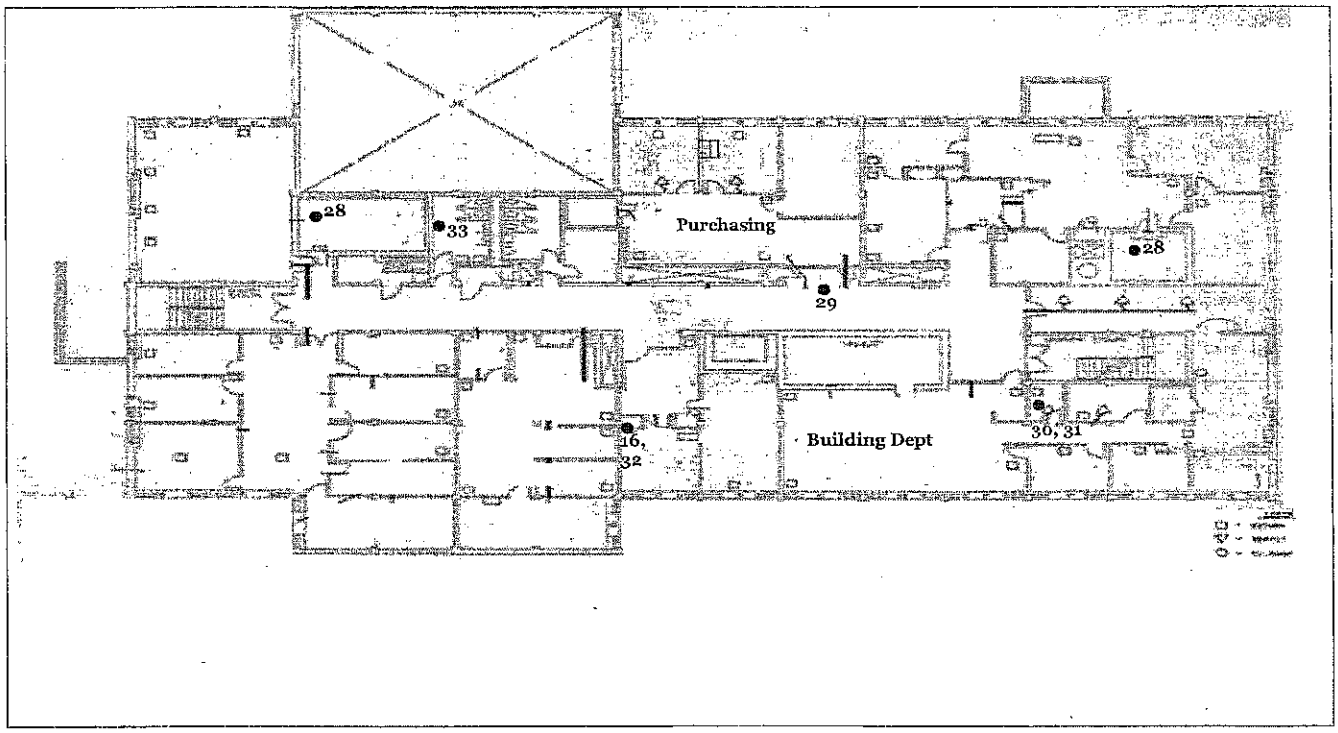
Asbestos Inspector: Pavel Zavenchik (Signature) P. Zavenchik

Loureiro

Engineering • Construction • EH&S • Energy • Waste

Project Name: City of Bristol	**LEA Comm. No** 11CB6.04
Project Location: 111 North Main Street, Bristol, CT	
Sampling Date: June 3, 2016	

Sampling Locations: Second Floor



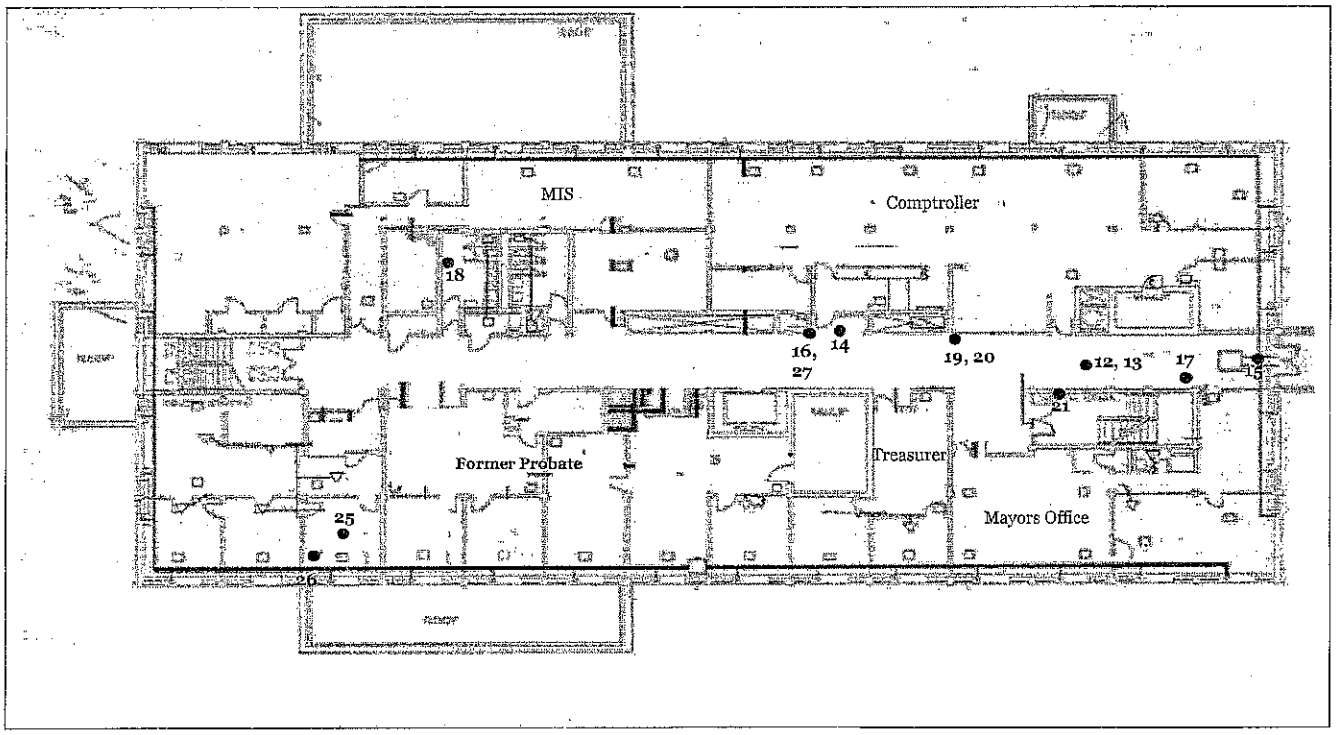
Asbestos Inspector: Pavel Zayenchik (Signature) P. Zayenchik

Loureiro

Engineering • Construction • EH&S • Energy • Waste

Project Name: City of Bristol	**LEA Comm. No** 11CB6.04
Project Location: 111 North Main Street, Bristol, CT	
Sampling Date: June 3, 2016	

Sampling Locations: Third Floor



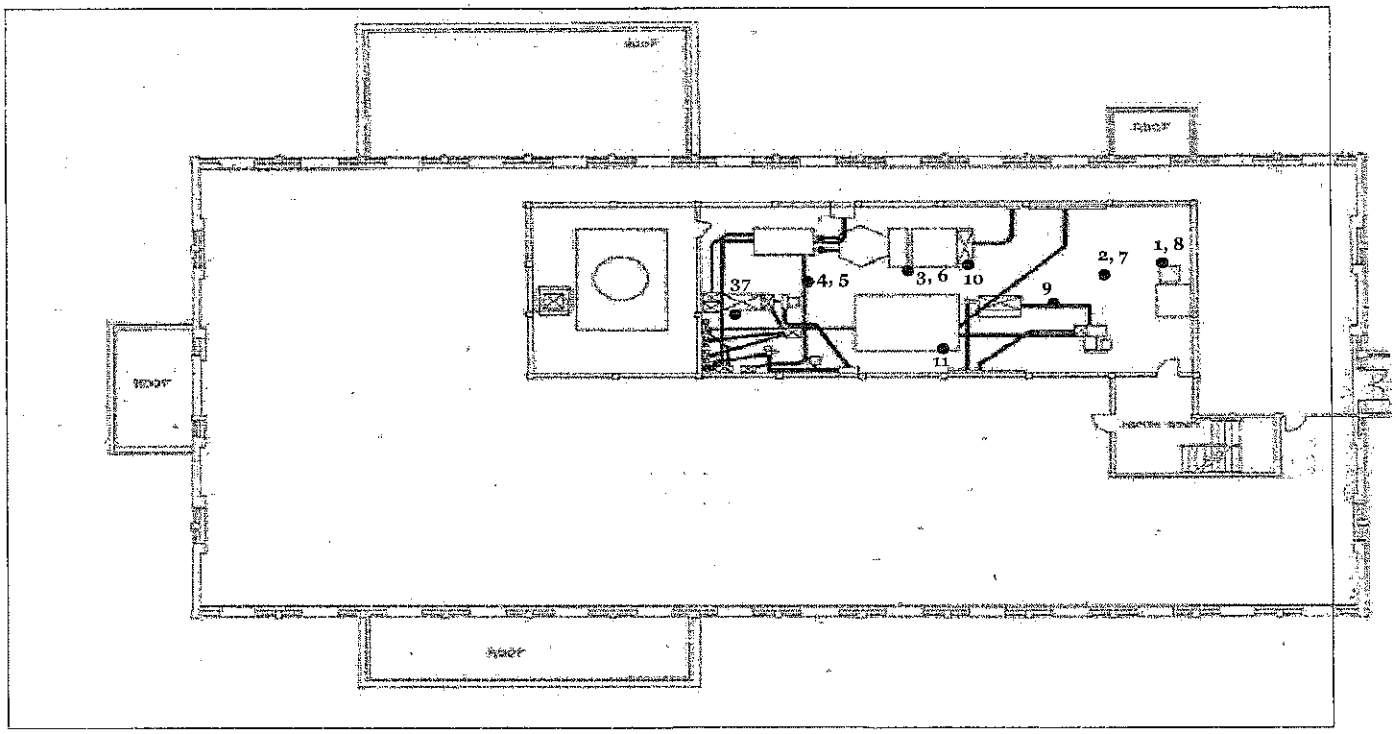
Asbestos Inspector: Pavel Zayenchik (Signature) P. Zayenchik

Loureiro

Engineering • Construction • EH&S • Energy • Waste

Project Name: City of Bristol	**LEA Comm. No** 11CB6.04
Project Location: 111 North Main Street, Bristol, CT	
Sampling Date: June 3, 2016	

Sampling Locations: Penthouse



Asbestos Inspector: Pavel Zayenchik (Signature) P. Zayenchik

Appendix D

Licenses and Accreditations

State of Connecticut

Lookup Detail View

Name

Name
PAVEL ZAYENCHIK

License Information

lookup

License Type	License Number	Expiration Date	Granted Date	License Name	License Status	Licensure Actions or Pending Charges
Asbestos Consultant-Inspector	869	10/31/2016	02/03/2014	PAVEL ZAYENCHIK	ACTIVE	None

Generated on: 1/5/2016 5:10:14 PM

WALLET CARD

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

NAME
GERALD J MISHLER

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-420215	000767	02/28/17

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

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-INSPECTOR

JAMIE A. ROCHE

CERTIFICATE NO.
000181

CURRENT THROUGH
03/31/17

VALIDATION NO.
03-436515

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
JAMIE A. ROCHE

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-436515	000181	03/31/17

PROFESSION
ASBESTOS CONSULTANT-INSPECTOR

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

JAMIE A. ROCHE

CERTIFICATE NO.
000233

CURRENT THROUGH
03/31/17

VALIDATION NO.
03-437369

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
JAMIE A. ROCHE

VALIDATION NO.	CERTIFICATE NO.	CURRENT THROUGH
03-437369	000233	03/31/17

PROFESSION
ASBESTOS CONSULTANT-PROJECT MONITOR

SIGNATURE

COMMISSIONER

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

EMSL ANALYTICAL, INC. - CT

LOCATED AT **29 North Plains Highway, Unit #4** IN **Wallingford, CT 06492**

AND REGISTERED IN THE NAME OF **Gloria Oriol**

THIS CERTIFICATE IS ISSUED IN THE NAME OF **Gloria Oriol** WHO HAS BEEN DESIGNATED

BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

DRINKING WATER, NON-POTABLE WATER/WASTEWATER
Examination for:
Bacteria
Asbestos - TEM

BUILDING MATERIALS
Examination for:
Asbestos Fibers - PCM, TEM
Bulk Identification - PLM, TEM

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES **September 30, 2017** AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS **10th** DAY OF **September 2015**

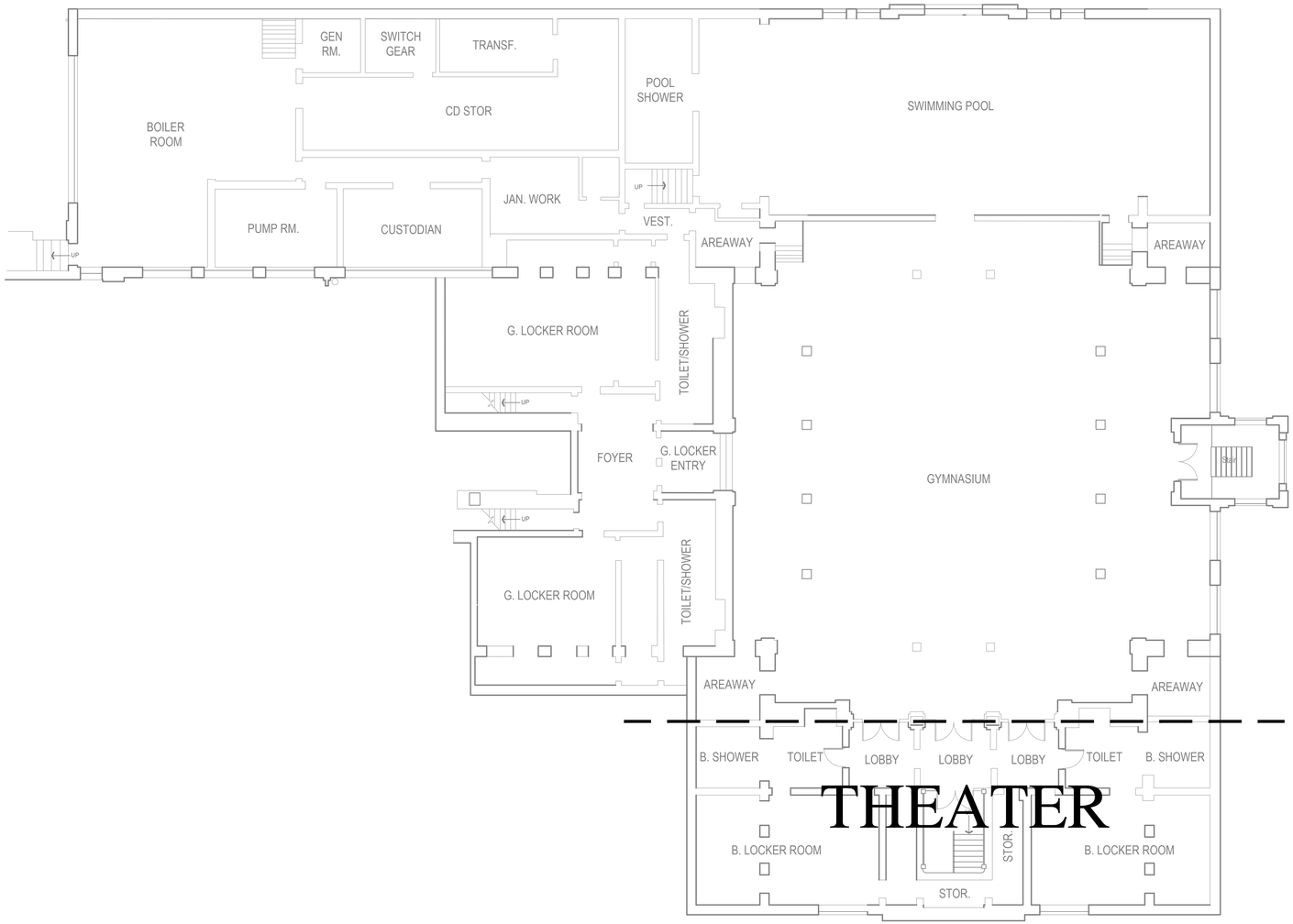
Registration #

PH - 0322

SUZANNE BLANCAFLOR, MS, MPH
CHIEF, ENVIRONMENTAL HEALTH SECTION

PRESENTATION DRAFT

5) City of Bristol - Memorial Boulevard School Department Breakdown - November 9th, 2016 - Sketches.



SUB-BASEMENT

3/32" = 1'-0"

(24" x 36")

PREPARED BY:

City of Bristol
Department of Public Works

111 North Main Street
Bristol, Connecticut 06010

Tel. 860-584-6125
Fax 860-584-3838
ci.bristol.ct.us

No.	DATE	COMMENTS:

DESIGN BY:
DRAFTED BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

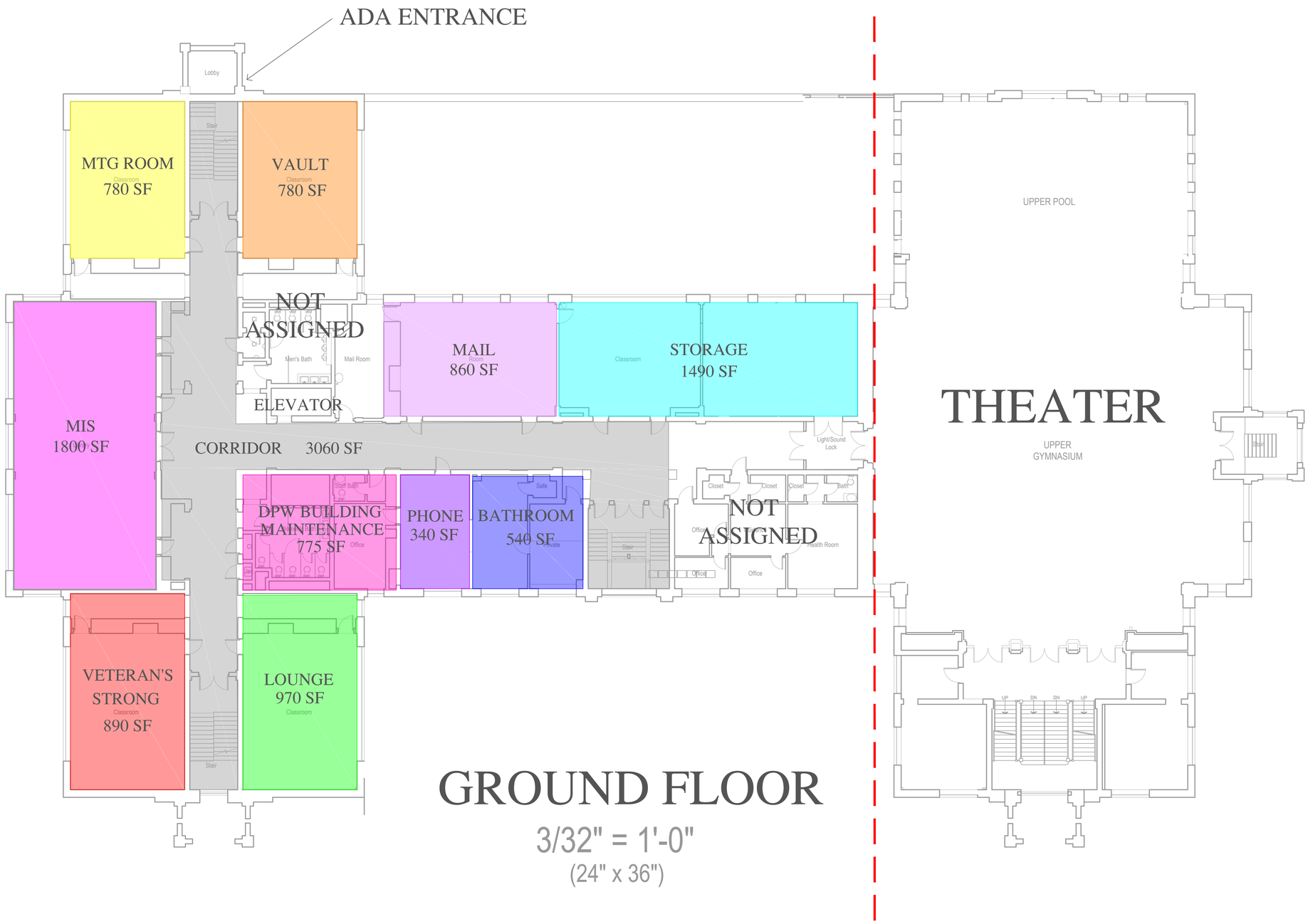
Department Breakdown
at Memorial Boulevard School
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

1

PRESENTATION DRAFT



GROUND FLOOR

3/32" = 1'-0"

(24" x 36")

PREPARED BY:

City of Bristol
Department of Public Works

111 North Main Street
Bristol, Connecticut 06010

Tel. 860-584-6125
Fax 860-584-3838
ci.bristol.ct.us

No.	DATE	COMMENTS:

DESIGN BY:
DRAFTED BY:
CHECKED BY:
SCALE: AS NOTED
DATE: 11/09/16
PROJECT No.:

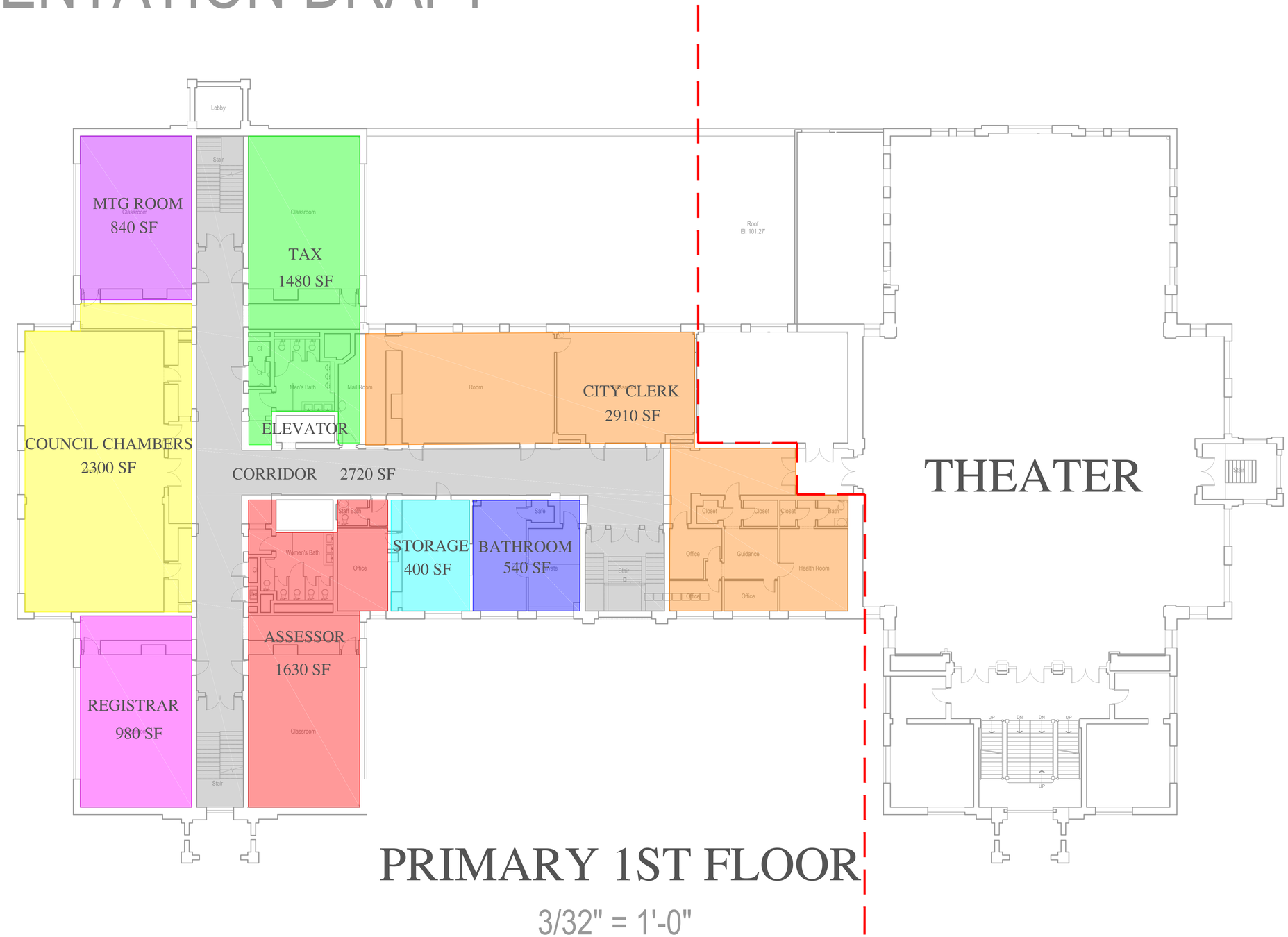
Department Breakdown
at Memorial Boulevard School
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

2

PRESENTATION DRAFT



PRIMARY 1ST FLOOR

3/32" = 1'-0"
(24" x 36")

PREPARED BY:

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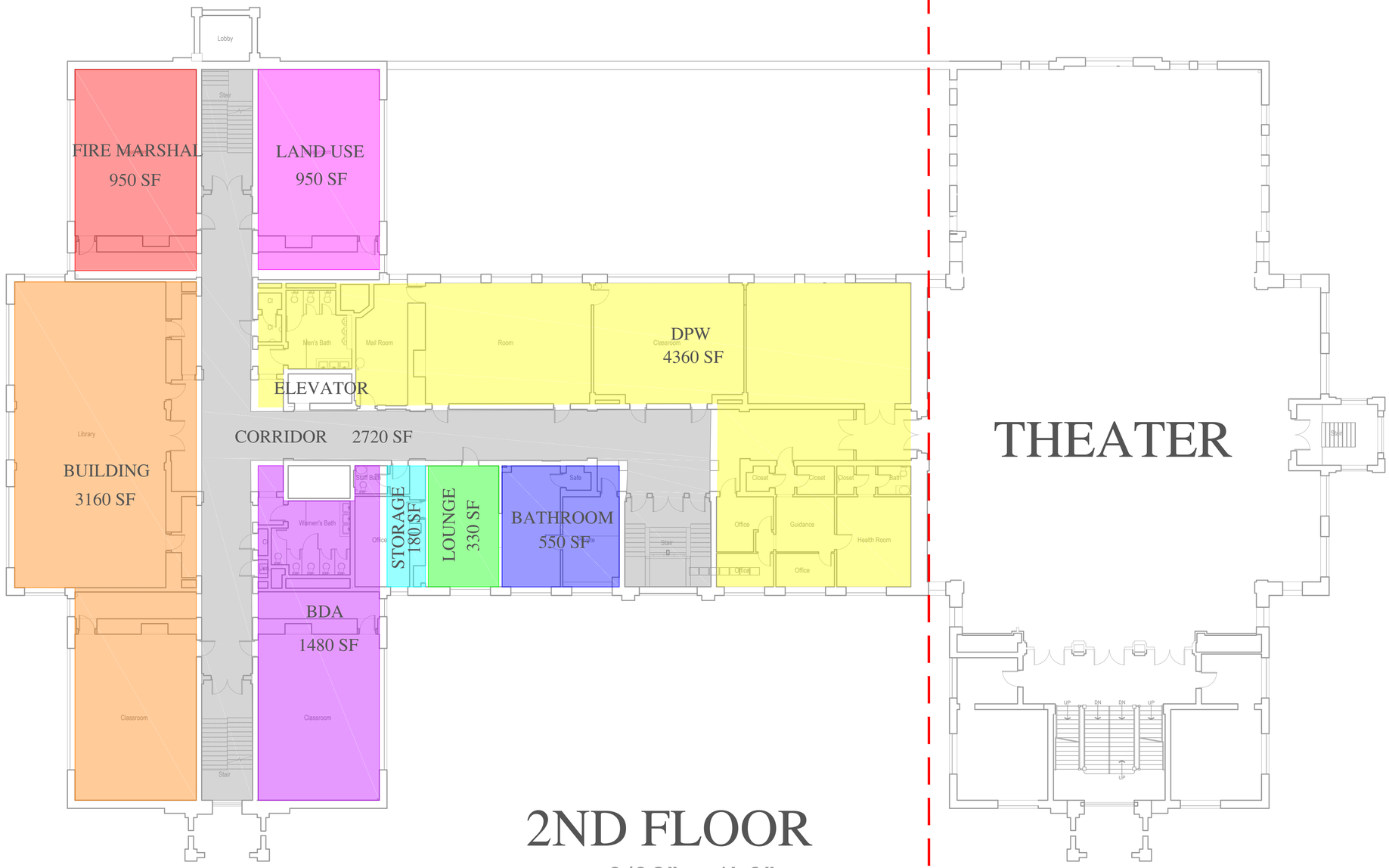
3

PRESENTATION DRAFT



2ND FLOOR

3/32" = 1'-0"

(24" x 36")

PREPARED BY:

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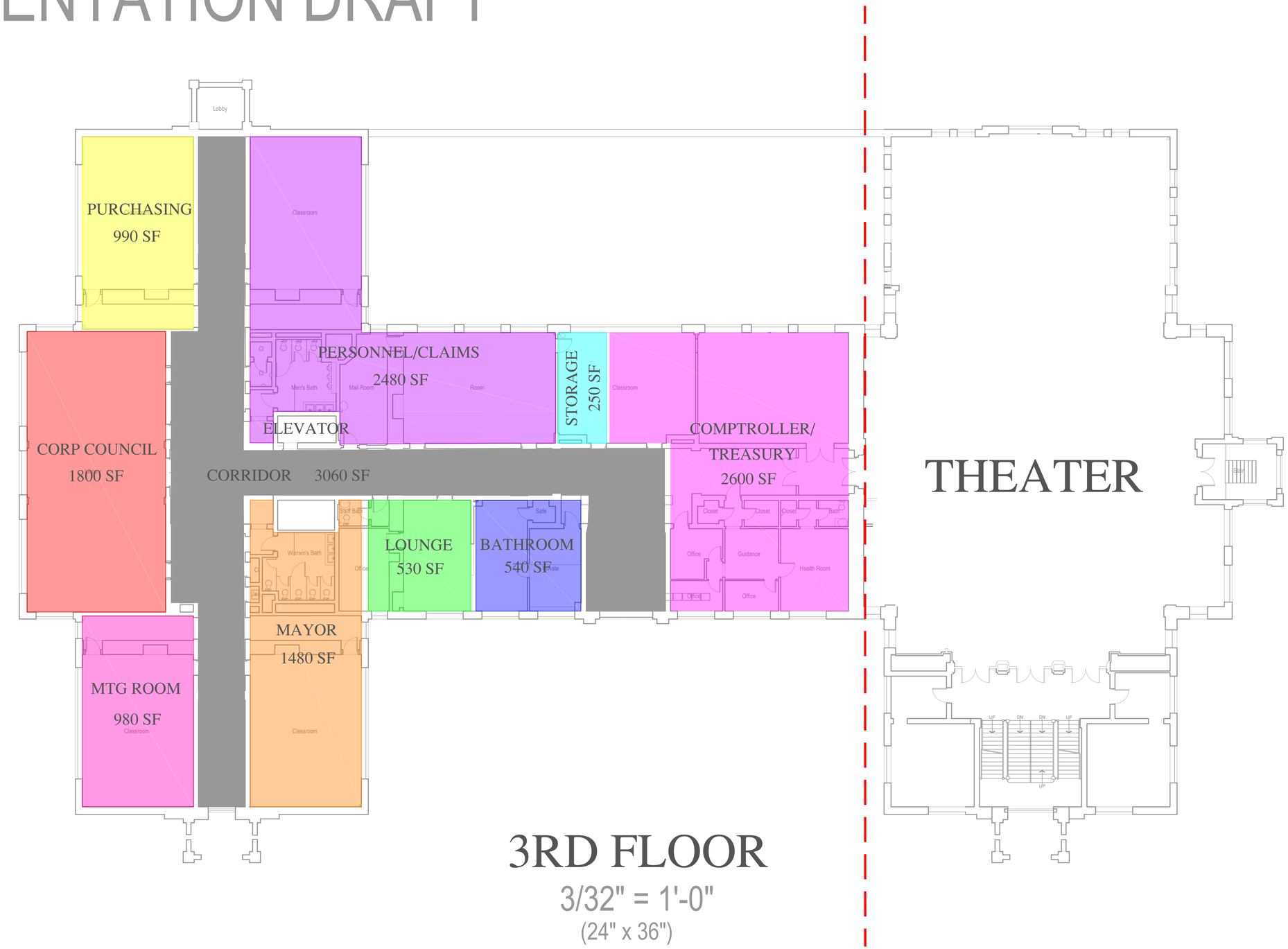
4

PRESENTATION DRAFT



3RD FLOOR

3/32" = 1'-0"

(24" x 36")

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DATE: 11/09/16
PROJECT No.:

Department Breakdown
at Memorial Boulevard School
Bristol, Connecticut

PLAN VIEW

DRAWING NUMBER:

5

6) Smith Edwards & McCoy Architects - July 12th, 2016 - Site Plan Option C - 184 Spaces

PARKING SPACES

141	SPACES
23	SPACES ON WILLIS STREET
20	SPACES AT ROAD
184	SPACES TOTAL

SMITHEDWARDSMCCOY ARCHITECTS
100 ALLYN STREET, 4th FLOOR, HARTFORD, CT 06103
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SCHEMATIC DESIGN

JULY 12, 2016

BRISTOL COMMUNITY CULTURAL CENTER

70 Memorial Boulevard, Bristol, Connecticut

PHASE II PACKAGE

PROJECT NO. TO6154

Site Plan - Option C

date: August 23, 2016

L-1.0

G:\1Drawing Files\6154 - Bristol Memorial\Dwg\6154-SitePlan.dwg 8/26/2016 11:55:41 AM mfisher

EAGLE Environmen

7) Eagle Environmental - October 27th, 2016 - Limited Pre-Renovation Asbestos-Containing Materials Inspection Report; Former Memorial Boulevard School - City Hall Conversion

October 27, 2016

Mr. Raymond A. Rogozinski, PE
Assistant City Engineer
City of Bristol
Department of Public Works
111 North Main Street, 2nd Floor
Bristol, Connecticut 06010

COPY

RE: Limited Pre-Renovation Asbestos-Containing Materials Inspection Report
Former Memorial Boulevard School-City Hall Conversion
70 Memorial Boulevard
Bristol, Connecticut
Eagle Project No. 16-010.11T3

Dear Mr. Rogozinski:

Attached is the report for the limited asbestos-containing materials inspection conducted at the former Memorial Boulevard School located at 70 Memorial Boulevard in Bristol, Connecticut. The inspection was performed to support the proposed renovations within a portion of the building being considered for use as the City of Bristol City Hall.

The limited inspection was performed within targeted areas of the building as defined by the City and focused on the targeted areas of the building that would undergo renovations and did not include a comprehensive survey of the entire building. The exteriors and roofing systems were not included with this inspection.

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,
Eagle Environmental, Inc.

Report Prepared By:
Chris Liberti
Senior Project Manager

Report Reviewed By:
Ashis Roychowdhury
Executive Vice President

\\Eaglesvr\public\2016 Files\2016 Reports\Bristol, City of\Memorial Boulevard School\Limited ACM Rept\70 Memorial Boulevard - Limited ACM Insp Rept.doc

8 SOUTH MAIN STREET, SUITE 3 • TERRYVILLE, CT 06786
PHONE (860) 589-8257 • FAX (860) 585-7034

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1. INTRODUCTION

On October 11, 14 and 20, 2016, Eagle Environmental, Inc. conducted a limited asbestos-containing material inspection within targeted areas of the former Memorial Boulevard School located at 70 Memorial Boulevard in Bristol, Connecticut. The inspection was performed to support the proposed renovation of targeted areas of the building to support using a section of the building as the Bristol City Hall.

The inspection was limited in nature and did not include all areas of the building and included only targeted sampling of suspect asbestos-containing materials. The limited inspection is intended to supplement Eagle Environmental, Inc.'s *Limited Hazardous Building Materials Inspection Report* dated March 4, 2016 which focused on the gymnasium, auditorium and a portion of the first floor within the former school building. This inspection focused on the interior of the remaining building encompassing the boiler room, classrooms, kitchen and cafeteria. The intent of this inspection is to assist the City in developing a budgetary cost estimate for the project.

Supplemental inspection and testing will be required prior to renovation or demolition of the building to fulfill USEPA and NESHAP inspection requirements.

1.1 Building Description

The subject building is a former school located at 70 Memorial Boulevard in Bristol, Connecticut. The building is a four story structure of block and brick construction. The basement level contains the gymnasium, pool, locker rooms and mechanical rooms. The mechanical equipment consists of a steam fired radiant heat system with cast iron radiators. The mechanical system distribution system is insulated. Within the inspection areas, the mechanical system piping is mostly exposed with some risers contained within plaster wall chases and above the ceilings. Two (2) HB Smith boilers are located in the basement of the structure but were inaccessible during this inspection. The interior walls and ceilings are of two coat plaster construction and brick. The window frames and sashes are of metal and vinyl construction. The door frames are wood and metal with wood and metal doors. The floors are finished with various resilient flooring finishes. The exterior facades are clad with stone.

2. SCOPE OF INSPECTION

The limited inspection is intended to provide a broad overview of the asbestos-containing materials within the targeted areas of the structure. The asbestos inspection does not meet the criteria of a comprehensive pre-renovation asbestos inspection and supplemental inspection work will be required prior to building renovation or demolition. The inspection focused on limited accessible suspect materials within the designated areas of renovations.

2.1 Asbestos Containing Materials

The asbestos inspection was conducted in order to satisfy the United States Environmental Protection Agency (USEPA) National Emission Standard for Hazardous Air Pollutants Act (NESHAP) as amended November 20, 1990. The USEPA NESHAP final rule requires the identification and removal of all regulated ACM in an area of renovation prior to renovating the area if the renovation work will impact the ACM.

The intended purpose of this inspection is to identify the building materials on a broad scale. It is not intended to serve as a comprehensive asbestos-containing building material inspection or survey, but rather reduce the uncertainty regarding the potential for asbestos in major building materials within the identified areas of renovation. Additional inspection services will be required to complete a comprehensive pre-renovation inspection of the area. This inspection is recommended to be performed once the renovation scope of work has been finalized.

The asbestos inspection was performed by Raymond R. Folino; a State of Connecticut licensed Asbestos Inspector (license #000137).

3. INSPECTION PROTOCOLS

3.1 Asbestos Containing Materials

3.1.1 Inspection

The limited asbestos-containing materials (ACM) inspection included the accessible interior portions of the building; the exteriors were not included with this scope of work. Semi-destructive testing techniques were utilized during the inspection process. Where feasible, Eagle cored through suspect materials to identify different layering compositions for sampling. Suspect building materials that were inaccessible for inspection and sampling have been assumed to be ACM for the purpose of this report. These suspect materials are generally located in operational equipment, behind rigid walls and ceilings, or otherwise concealed areas of the building, including below grade materials.

Due to the nature and the intent of the limited inspection, suspect building materials that are inaccessible for inspection and sampling are assumed to be ACM for the purpose of this report. These suspect materials may pertain to materials that are not constituted as major building materials or materials that were generally located in operational equipment, behind rigid walls and ceilings, flooring underlayment or otherwise concealed areas of the building, including below grade materials, which were outside the scope of service.

During the limited inspection, suspect materials are located, sampled, quantified and the friability of the material is determined. Friable materials are those materials that hand pressure can crumble, pulverize or reduce to powder when dry. An estimated quantity of identified ACM is provided for positive materials only. The materials are quantified in linear or square feet, depending on the nature of the material.

3.1.2 Bulk Sampling

During the sampling process, suspect ACM is separated into three (3) USEPA categories. These categories are: Thermal System Insulation (TSI), Surfacing Materials (SURF), and Miscellaneous materials (MISC). TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe covering, boiler insulation, duct wrap, and mudpack fitting cement. Surfacing ACM includes all ACM that is sprayed, toweled or otherwise applied to an existing surface. These applications are most commonly used in fireproofing, decorative, and acoustical applications.

Miscellaneous materials include all ACM not listed in thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tile.

Bulk sampling was performed in a random method. Bulk sampling methods and number of samples collected meets or exceeds the USEPA requirements.

3.1.3 Bulk Sample Analysis

The samples of the suspect asbestos containing materials were sent to a State of Connecticut Department of Public Health (DPH) approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrixes. Samples are collected individually or in sets. When sets of samples are collected, each set is systematically analyzed until one sample is determined to contain asbestos. Upon the determination of the presence of asbestos in one sample in the set, analysis of the remaining samples in the set is discontinued. If no asbestos is observed during analysis of the set of samples, the suspect material is determined to be negative for asbestos content.

Sample analysis results are reported in percentage of asbestos and non-asbestos components. The USEPA defines any material that contains greater than one percent asbestos, utilizing PLM, as being an asbestos-containing material (ACM). Sample results indicating "no asbestos detected" (NAD) are specified as non-asbestos containing materials. Samples results indicating "Did Not Analyze" (DNA) are not analyzed due to the stop on first positive request to the laboratory.

3.1.3.1 Friable ACM Analysis

Certain samples of friable materials shown to contain less than 10% asbestos are analyzed further by the "Point Count Method". This procedure is recommended by the United States Environmental Protection Agency to confirm friable bulk samples shown to have less than 10% asbestos by PLM to be definitively negative or positive for asbestos. This method is accepted as providing statistically reliable results when analyzing bulk samples with very low asbestos concentrations. Friable materials containing "Trace" or "less than one percent (1%)" asbestos must be analyzed by the PLM Point Count Method. None of the samples were further analyzed by the PLM Point Count Method for this project.

3.1.3.2 Non Friable ACM Analysis

Certain samples of organically bound non-friable materials shown to contain "less than 1% asbestos", "TRACE" or "NAD" are recommended for analyses by the "NOB TEM ELAP 198.4 Method". This procedure is recommended by the United States Environmental Protection Agency to further evaluate non-friable organically bound materials for asbestos. Suspect materials confirmed by NOB TEM to be "less than 1% asbestos", "TRACE" or "NAD" are considered non-asbestos containing. Two (2) of the samples were further analyzed by the NOB TEM Method for this project.

4. INSPECTION RESULTS

4.1 Asbestos Containing Materials

During the course of the building inspection sixty-eight (68) bulk samples of suspect ACM were collected and sixty (60) samples were analyzed by PLM analysis. In addition, two (2) samples were further analyzed by NOB TEM.

From the sixty (60) samples analyzed, the following materials were found to be ACM:

Confirmed Miscellaneous ACM:

- Light weight concrete under flooring and hardwood floor
- Felt and mastic associated with thick black vinyl cove base
- Vinyl sheet flooring mastic
- Dark brown vinyl sheet flooring
- Black floor tile mastic on particle board
- 9" x 9" Green floor tile
- 9" x 9" Tan with black streak floor tile
- 9" x 9" Green floor tile
- 9" x 9" Grey floor tile
- 12" x 12" White floor tile

Previously identified asbestos-containing materials:

- Plaster on walls and ceilings
- Glue daubs on plaster ceilings
- Thermal system insulation

Assumed asbestos-containing materials:

- Boiler breeching insulation
- Boiler interior components

The light weight concrete was identified throughout most of the inspection area and predominantly within the former classrooms. The light weight concrete was identified under hard wood flooring as well as vinyl flooring. The concrete layer was observed to be over six (6) inches thick. Approximately forty two thousand (42,000) square feet of the light weight concrete was identified within the area of renovation. It is not known what is under the light weight concrete or if this concrete contributes to the structural integrity of the building. The removal of any materials in contact with the light weight concrete such as the hard wood flooring or sheet floor may disturb the concrete and must be performed as an asbestos abatement project.

The plaster and the glue daubs identified throughout the area of renovation appeared homogeneous to the plaster and glue daubs previously sampled and confirmed to be asbestos containing.

Previously identified asbestos containing pipe insulation was observed within the boiler room (Room 022A) and has been assumed to be present within plumbing walls. Additional quantities of insulation may be present within walls and above ceilings within all areas of the inspection.

The asbestos containing floor tile and associated mastic were predominantly applied to a particle board underlayment on top of the hardwood flooring. The removal of the asbestos flooring materials and associated particle board can be performed without

disturbing the underlying lightweight concrete as long as the hardwood flooring is intact and will remain.

The NOB TEM analyses confirmed the 12" x 12" white floor tile and black floor tile mastic on particle board to be ACM's.

The remaining suspect materials that were sampled during this inspection were confirmed to be non-ACM. The summaries of asbestos and non-asbestos materials are presented in Tables I and II respectively. The asbestos analysis laboratory reports are provided in Appendix 2.

Any suspect material not specifically identified in this report as non-ACM should be assumed to contain asbestos unless sample results prove otherwise.

All regulated friable and regulated non-friable ACM must be removed prior to renovation activities. A State of Connecticut Licensed Asbestos Abatement Contractor must be retained to perform the removal work. Visual inspections and air clearances must be performed within each abatement area at the completion of the abatement work. The visual inspections and air clearances must be performed by a State of Connecticut licensed Asbestos Project Monitor. The abatement areas must meet final visual and air clearance inspection criteria prior to building re-occupancy.

The Asbestos Abatement Contractor must submit a notice of asbestos abatement to the State of Connecticut Department of Public Health post marked or hand delivered ten (10) days prior to the commencement of any asbestos abatement activities involving the abatement of greater than ten (10) linear feet or twenty-five (25) square feet of asbestos-containing materials.

5. COST ESTIMATES

To develop the cost estimate, several assumptions were made based on the proposed future use of the building. Within areas of renovation, all identified and assumed hazardous building materials were included for removal but only 20% of the light weight concrete. Although the identification of universal waste materials and lead based paint were not included with this inspection, the removal of an estimated quantity universal wastes and an allowance for the demolition, cleaning and disposal of materials potentially coated with lead based paint were included in the estimate.

This is a budgetary opinion of cost that is expected to be within -15 to + 30 percent of the actual cost for the complete removal of all identified materials. This estimate assumes the building will be occupied during the abatement so multiple containments will be required during off hours. Eagle Environmental, Inc. has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor or Contractors' methods of determining prices, or over competitive bidding or market conditions. Eagle Environmental, Inc.'s opinion of probable cost of abatement are made on the basis of Eagle Environmental, Inc.'s experience and qualifications and represent

Eagle Environmental, Inc.'s judgment as an experienced and qualified consultant familiar with the abatement industry; but Eagle Environmental, Inc. cannot and does not guarantee that proposals, bids or actual Total Project or Abatement Cost will not vary from opinions of probable cost prepared by Eagle Environmental, Inc. If, prior to the bidding or negotiating phase, the Owner wishes greater assurance as to Total Project or Abatement Cost, the Owner shall employ an independent cost estimator.

The cost estimates are provided in Appendix 3.

TABLE I

ASBESTOS CONTAINING MATERIALS SUMMARY TABLE

KEY FOR TABLES I AND II

*** Please utilize the following key for abbreviations used in Tables I and II**

KEY		ANALYTICAL METHODS
DNA = DID NOT ANALYZE	SF = SQUARE FEET	PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT
NAD = NO ASBESTOS DETECTED	LF = LINEAR FEET	TEM NOB = NEW YORK ELAP 198.4 METHOD
F = FRIABLE	Chrys = Chrysotile	PLM = EPA 600/R-93/116
NF = NON-FRIABLE	Amos = Amosite	PS = Previously Sampled
TSI = THERMAL SYSTEMS INSULATION	Anth = Anthophylite	EA = Each
SURF = SURFACING MATERIAL	Trem = Tremolite	
MISC = MISCELLANEOUS MATERIAL	Croc = Crocidolite	
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION		

TA I
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
Ground level: Rooms 001A, 002A, 003A, 004A, 005A, 006A, 007A, 008A, 009A, 010A, 012A, 013A, 014A, 015A, 016A, 017A, 018A, 019A, 020A, 021A, 023A, 024A, 025A, 026A, 027A, 028A, 029A; *First floor*: Rooms 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 109; *Second floor*: Rooms 031A, 032A, 033A, 034A, 035A, 036A, 037A, 038A, 039A, 040A, 041A, 042A, 043A, 044A, Custodian Closet; *Third floor*: Rooms 045A, 046A, 047A, 048A, 049A, 050A, 051A, 052A, 053A, 054A, 055A, 056A, 057A, 058A, 059A, 060A, 061A, Custodian Closet	Plaster rough coat on ceilings and walls	02-24-CL-13	SURF	2% Chrys	1.75% Chrys		YES	122,000 SF	NF
		02-24-CL-14		DNA					
		02-24-CL-15		DNA					
		02-24-CL-16		DNA					
		02-24-CL-17		DNA					
		02-24-CL-18		DNA					
		02-24-CL-19		DNA					
	Brown glue daubs associated with 1' x 1' acoustical ceiling tile (select rooms on plaster)	02-24-CL-90	MISC	2% Antho			YES		NF
		02-24-CL-91		DNA					

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ASBESTOS CONTAINING MATERIALS
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70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
Ground level: Rooms 001A, 002A, 029, 030, 004A, **005A**, 006A, 007A, 008A, 009A, 010A, 011A, 012A, 013A, **014A**, 016A, 017A, 018A, 019A, 020A, 021A, 022A, 023A, 024A, 025A, 026A, 027A, 028A; *First Floor*: Rooms 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, **062**, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083 *Second Floor*: Rooms 031A, 032A, 033A, **034A**, 035A, 036A, 037A, 038A, 039A, 040A, 041A, 042A, 043A, 044A; *Third Floor*: Rooms 046A, 047A, 048A, 049A, 050A, 051A, 052A, 053A, 054A, 055A, 056A, 057A, 058A, 059A, 060A, 061A	Light weight concrete	10-11-RF-07	MISC	4% Chrys			YES	42,120 SF	NF
	Concrete flooring under hardwood floor	10-11-RF-18		5% Chrys					
		10-11-RF-19		DNA					
		10-11-RF-20		DNA					
	Concrete floor	10-20-RF-09		4% Chrys					
		10-20-RF-18		4% Chrys					
		10-20-RF-23		2% Chrys					

TA I

ASBESTOS CONTAINING MATERIALS
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70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

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				PLM	PLM PC	TEM NOB	ACM		
Room 001A, 004A, 005A, 011A	Felt and mastic associated with thick black vinyl cove base	10-11-RF-08	MISC	2% Chrys			YES	310 LF	NF
		10-11-RF-09		DNA					
Room 006A	Vinyl sheet flooring mastic - black	10-11-RF-14	MISC	6% Chrys			YES	576 SF	NF
		10-11-RF-15		DNA					
	Vinyl sheet flooring - dark brown	10-11-RF-12	MISC	DNA			YES		NF
		10-11-RF-13		DNA					
Rooms 032A, **052, 053,** 054, 055, 059, 061, 064	Floor tile mastic on particle board - black	10-11-RF-25	MISC	6% Chrys			YES	7476 SF	NF
		10-11-RF-26		DNA					
Room 055	9" x 9" Floor tile - green (under blue)	10-11-RF-31	MISC	3% Chrys			YES	816 SF	NF
		10-11-RF-32		DNA					
Room 064	9" x 9" Floor tile - tan/black streak	10-11-RF-36	MISC	3% Chrys			YES	816 SF	NF
Rooms 010A, 011A, **034A,** 035A, 038A, **039A,** 040A, 041A, 042A, 043A, 048A, 051A, 052A, 053A, 054A, 056A, 060A, 061A	9" x 9" Floor tile - grey	10-11-RF-42	MISC	2% Chrys			YES	14,040 SF	NF
	9" x 9" Floor tile - green	10-14-RF-02		5% Chrys					
Room 054A	Floor tile mastic on particle board - black	10-14-RF-07	MISC	<1% Chrys		1.2% Chrys	YES	864 SF	NF
Room 054A	12" x 12" Floor tile - white	10-14-RF-08	MISC	<1% Chrys		1.8% Chrys	YES		NF

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LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
Rooms 008A, 009A, 024A, 057, 067, 037A, 044A	Thermal system insulation in plumbing walls	PS	TSI	Assume			Assume	1600 LF	F
Room 022A	Thermal system insulation	PS	TSI	Assume			Assume	200 LF	F
Room 022A	Boiler breeching insulation	Assume	TSI	Assume			Assume	900 SF	F
Room 022A	Boiler interior firebrick, cements and gaskets	Assume	MISC	Assume			Assume	2 Boilers	NF

TABLE II

NON ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

KEY FOR TABLES I AND II

* Please utilize the following key for abbreviations used in Tables I and II

KEY		ANALYTICAL METHODS
DNA = DID NOT ANALYZE	SF = SQUARE FEET	PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT
NAD = NO ASBESTOS DETECTED	LF = LINEAR FEET	TEM NOB = NEW YORK ELAP 198.4 METHOD
F = FRIABLE	Chrys = Chrysotile	PLM = EPA 600/R-93/116
NF = NON-FRIABLE	Amos = Amosite	PS = Previously Sampled
TSI = THERMAL SYSTEMS INSULATION	Anth = Anthophylite	EA = Each
SURF = SURFACING MATERIAL	Trem = Tremolite	
MISC = MISCELLANEOUS MATERIAL	Croc = Crocidolite	
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION		

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
Room 001A	Vinyl sheet flooring adhesive - gold	10-11-RF-03	MISC	NAD			NO
		10-11-RF-04		NAD			
Room 001A	Vinyl sheet flooring - tan marble pattern	10-11-RF-01	MISC	NAD			NO
		10-11-RF-02		NAD			
Rooms 001A, 004A	Light weight concrete	10-11-RF-05	MISC	NAD			NO
		10-11-RF-06		NAD			
Room 001A	Thick vinyl cove base - black	10-11-RF-10	MISC	NAD			NO
		10-11-RF-11		NAD			
Room 007A	Composite base	10-11-RF-16	MISC	NAD			NO
		10-11-RF-17		NAD			
Room 022A	Breeching block insulation	10-11-RF-21	TSI	NAD			NO
	Breeching skim coat insulation	10-11-RF-22		NAD			
Room 029A	Skim coat on floor	10-11-RF-23	SURF	NAD			NO
		10-11-RF-24		NAD			
Room 054	Floor tile mastic - black	10-11-RF-29	MISC	NAD			NO
		10-11-RF-30		NAD			
Room 055	12" x 12" Floor tile - grey	10-11-RF-27	MISC	NAD			NO
		10-11-RF-28		NAD			
Room 056	Vinyl sheet flooring - black	10-11-RF-33	MISC	NAD			NO
		10-11-RF-34		NAD			
Room 064	Floor tile mastic - black	10-11-RF-35	MISC	NAD			NO
Room 071	Adhesive associated with vinyl sheet flooring - brown	10-11-RF-38	MISC	NAD			NO
Room 084	Vinyl sheet flooring thick - brown	10-11-RF-37	MISC	NAD			NO
Room 031A	3' x 2' Thick floor tile - brown	10-11-RF-39	MISC	NAD			NO
Room 032A	Floor tile mastic between concrete and floor tile - yellow	10-11-RF-40	MISC	NAD			NO
Rooms 034A, 039A	Floor tile mastic - black	10-11-RF-41	MISC	NAD			NO
		10-14-RF-01		NAD			
Room 045A	Vinyl sheet flooring mastic between concrete - green	10-14-RF-04	MISC	NAD			NO
	Vinyl sheet flooring - thick - tan	10-14-RF-03		NAD			
Room 044	Thinset behind ceramic wall tile	10-14-RF-05	MISC	NAD			NO
		10-14-RF-06		NAD			

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
Rooms, 015, 032, 084	Concrete floor	10-20-RF-10A	MISC	NAD			NO
		10-20-RF-10B		NAD			
		10-20-RF-11		NAD			
Room 015	Concrete in steel stair pan	10-20-RF-12	MISC	NAD			NO
		10-20-RF-13		NAD			
Rooms 003A, 004, 007, 017, 022A, 045A, 031A-5	Concrete floor	10-20-RF-14	MISC	NAD			NO
		10-20-RF-15		NAD			
		10-20-RF-16		NAD			
		10-20-RF-17		NAD			
		10-20-RF-19		NAD			
		10-20-RF-20		NAD			
		10-20-RF-21		NAD			
		10-20-RF-22		NAD			
Room 031A-3	Cove base	10-20-RF-24	MISC	NAD			NO
		10-20-RF-25		NAD			

APPENDIX 2

ASBESTOS BULK SAMPLE LABORATORY REPORTS

OrderID: 031631176

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	031631176
Additional Analysis Request EMSL Order Number	

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.11T3
8 South Main Street, Suite 3, Terryville. CT 06786	Project:Former Memorial Blvd School, 70 Memorial Blvd, Bristol
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected:CT CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com	Samples Collected by (Name):Kay Folino
☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Signature: Date(s) Collected: 10-11-16
Additional Contacts to Receive Email Results:	
☐ Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-11-RF-03		VSF adhesive - gold	Room 001A	NAD	
10-11-RF-04		VSF adhesive - gold	Room 001A		
10-11-RF-01		VSF - tan marble pattern	Room 001A		
10-11-RF-02		VSF - tan marble pattern	Room 001A		
10-11-RF-05		Light weight concrete	Room 001A		
10-11-RF-06		Light weight concrete	Room 004A		
10-11-RF-07		Light weight concrete	Room 005A	4% Chrys	
10-11-RF-08		Felt and mastic assoc. w/ thick black VCB	Room 001A	2% Chrys	
10-11-RF-09		Felt and mastic assoc. w/ thick black VCB	Room 001A	DNA	
10-11-RF-10		Thick VCB - black	Room 001A	NAD	
10-11-RF-11		Thick VCB - black	Room 001A		
10-11-RF-14		Mastic - black	Room 006A	1% Chrys	
10-11-RF-15		Mastic - black	Room 006A	DNA	
10-11-RF-12		Vinyl sheet flooring - dark brown	Room 006A		
10-11-RF-13		Vinyl sheet flooring - dark brown	Room 006A		

Client Sample #'s	~~10-11-RF-01 – 10-11-RF-42~~	Total # of Samples: 42	
Relinquished (Client):		Date:	Time:
Received (Lab):		Date: 10/15/16	Time: 10:39 AM
Relinquished:		Date: 10/14/16	Time: PM
Received:		Date:	Time:

10-12-16

YC 10/16/16 11:12 AM

OrderID: 031631176

Chain of Custody

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EMSL Order Number (Lab Use Only):	031631176
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☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-11-RF-16 set		Composite base	Room 007A	NAD	
10-11-RF-17		Composite base	Room 007A	NAD	
10-11-RF-18		Concrete flooring under HWF	Room 014A	5% Chrys	
10-11-RF-19 set		Concrete flooring under HWF	Room 014A	DNA	
10-11-RF-20		Concrete flooring under HWF	Room 014A	DNA	
10-11-RF-21 set		Breeching block insulation	Room 022A	NAD	
10-11-RF-22		Breeching skim coat insulation	Room 022A		
10-11-RF-23 set		Skim coat on floor	Room 029A		
10-11-RF-24		Skim coat on floor	Room 029A		
10-11-RF-25 set		FT mastic on particle board - black	Room 052	6% Chrys	
10-11-RF-26		FT mastic on particle board - black	Room 053	DNA	
10-11-RF-29		Floor tile mastic - black	Room 054	NAD	
10-11-RF-30		Floor tile mastic - black	Room 054		
10-11-RF-27 set		12" x 12" Floor tile - grey	Room 055		
10-11-RF-28		12" x 12" Floor tile - grey	Room 055		
10-11-RF-31		9" x 9" Floor tile - green (under blue)	Room 055	3% Chry	
10-11-RF-32		9" x 9" Floor tile - green (under blue)	Room 055	DNA	
10-11-RF-33 set		Vinyl sheet flooring - black	Room 056	NAD	
10-11-RF-34		Vinyl sheet flooring - black	Room 056		
10-11-RF-35 set		Floor tile mastic - black	Room 064		
10-11-RF-36		9" x 9" Floor tile - tan/black streak	Room 064	3% Chrys	
10-11-RF-38 set		Adhesive assoc. w/ VSF - brown	Room 071	NAD	
10-11-RF-37		Vinyl sheet flooring thick - brown	Room 084		
10-11-RF-39		3' x 2' Thick floor tile - brown	Room 031A		
10-11-RF-40		FT mastic btwn concrete and FT - yellow	Room 032A		
10-11-RF-41 set		Floor tile mastic - black	Room 034A		
10-11-RF-42		9" x 9" Floor tile - grey	Room 034A	2% Chrysotile	

10/15/16 10:39AM YC 10/16/16 11:12 AM

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EMSL Order: 031631176
Customer ID: EEVM50
Customer PO: 16-010.11T3
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/15/2016 10:39 AM
Analysis Date: 10/16/2016
Collected Date: 10/11/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-11-RF-03 *031631176-0001*	ROOM 001A - VSF ADHESIVE- GOLD	Gold Non-Fibrous Homogeneous	5% Cellulose	15% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-11-RF-04 *031631176-0002*	ROOM 001A - VSF ADHESIVE- GOLD	Gold Non-Fibrous Homogeneous	3% Cellulose	10% Ca Carbonate 87% Non-fibrous (Other)	**None Detected**
10-11-RF-01 *031631176-0003*	ROOM 001A - VSF TAN MARBLE PATTERN	Tan Non-Fibrous Homogeneous	30% Cellulose	15% Ca Carbonate 55% Non-fibrous (Other)	**None Detected**
10-11-RF-02 *031631176-0004*	ROOM 001A - VSF TAN MARBLE PATTERN	Brown Non-Fibrous Homogeneous	10% Cellulose	20% Ca Carbonate 20% Non-fibrous (Other)	**None Detected**
10-11-RF-05 *031631176-0005*	ROOM 001A - LIGHT WEIGHT CONCRETE	Gray Non-Fibrous Homogeneous	5% Fibrous_Other	5% Quartz 10% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-11-RF-06 *031631176-0006*	ROOM 004A - LIGHT WEIGHT CONCRETE	Gray Non-Fibrous Homogeneous	7% Fibrous_Other	10% Quartz 10% Ca Carbonate 73% Non-fibrous (Other)	**None Detected**
10-11-RF-07 *031631176-0007*	ROOM 005A - LIGHT WEIGHT CONCRETE	Gray/White Non-Fibrous Homogeneous		45% Quartz 10% Ca Carbonate 41% Non-fibrous (Other)	**4% Chrysotile**
10-11-RF-08 *031631176-0008*	ROOM 001A - FELT AND MASTIC ASSOC. W/ THICK BLACK VCB	Tan/Black Non-Fibrous Homogeneous	15% Cellulose	15% Ca Carbonate 68% Non-fibrous (Other)	**2% Chrysotile**
10-11-RF-09 *031631176-0009*	ROOM 001A - FELT AND MASTIC ASSOC. W/ THICK BLACK VCB				**Positive Stop (Not Analyzed)**
10-11-RF-10 *031631176-0010*	ROOM 001A - THICK VCB- BLACK	Gray Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report amended: 10/17/2016 10:07:00 Replaces initial report from: 10/16/2016 11:14:44 Reason Code: Data Entry-Change to Appearance

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EMSL Order: 031631176
Customer ID: EEVM50
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Project ID:

Attention: Brandy LeBlanc
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8 South Main Street
Suite 3
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Fax: (860) 585-7034
Received Date: 10/15/2016 10:39 AM
Analysis Date: 10/16/2016
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Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-11-RF-11 *031631176-0011*	ROOM 001A - THICK VCB- BLACK	Black Non-Fibrous Homogeneous	5% Cellulose	15% Ca Carbonate 20% Non-fibrous (Other)	**None Detected**
10-11-RF-14 *031631176-0012*	ROOM 006A - MASTIC- BLACK	Black Non-Fibrous Homogeneous	8% Cellulose 5% Hair	10% Ca Carbonate 71% Non-fibrous (Other)	**6% Chrysotile**
10-11-RF-15 *031631176-0013*	ROOM 006A - MASTIC- BLACK				**Positive Stop (Not Analyzed)**
10-11-RF-12 *031631176-0014*	ROOM 006A - VINYL SHEET FLOORING- DARK BROWN				**Positive Stop (Not Analyzed)**
10-11-RF-13 *031631176-0015*	ROOM 006A - VINYL SHEET FLOORING- DARK BROWN				**Positive Stop (Not Analyzed)**
10-11-RF-16 *031631176-0016*	ROOM 007A - COMPOSITE BASE	Gray Non-Fibrous Homogeneous		35% Ca Carbonate 10% Mica 55% Non-fibrous (Other)	**None Detected**
10-11-RF-17 *031631176-0017*	ROOM 007A - COMPOSITE BASE	Gray Non-Fibrous Homogeneous		55% Quartz 2% Mica 43% Non-fibrous (Other)	**None Detected**
10-11-RF-18 *031631176-0018*	ROOM 014A - CONCRETE FLOORING UNDER HWF	Gray Fibrous Homogeneous	20% Cellulose	10% Ca Carbonate 30% Gypsum 5% Mica 30% Non-fibrous (Other)	**5% Chrysotile**
10-11-RF-19 *031631176-0019*	ROOM 014A - CONCRETE FLOORING UNDER HWF				**Positive Stop (Not Analyzed)**
10-11-RF-20 *031631176-0020*	ROOM 014A - CONCRETE FLOORING UNDER HWF				**Positive Stop (Not Analyzed)**

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-11-RF-21 *031631176-0021*	ROOM 022A - BREECHING BLOCK INSULATION	White Non-Fibrous Homogeneous	12% Cellulose	10% Ca Carbonate 78% Non-fibrous (Other)	**None Detected**
10-11-RF-22 *031631176-0022*	ROOM 022A - BREECHING SKIN COAT INSULATION	Gray Fibrous Homogeneous	45% MinWool	50% Gypsum 5% Non-fibrous (Other)	**None Detected**
10-11-RF-23 *031631176-0023*	ROOM 029A - SKIN COAT ON FLOOR	Brown Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	**None Detected**
10-11-RF-24 *031631176-0024*	ROOM 029A - SKIN COAT ON FLOOR	Brown Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	**None Detected**
10-11-RF-25 *031631176-0025*	ROOM 052 - FT MASTIC ON PARTICLE BOARD-BLACK	Black Non-Fibrous Homogeneous		94% Non-fibrous (Other)	**6% Chrysotile**
10-11-RF-26 *031631176-0026*	ROOM 053 - FT MASTIC ON PARTICLE BOARD-BLACK				**Positive Stop (Not Analyzed)**
10-11-RF-29 *031631176-0027*	ROOM 054 - FLOOR TILE MASTIC- BLACK	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	**None Detected**
10-11-RF-30 *031631176-0028*	ROOM 054 - FLOOR TILE MASTIC- BLACK	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	**None Detected**
10-11-RF-27 *031631176-0029*	ROOM 055 - 12"X12" FLOOR TILE- GREY	Gray Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**None Detected**
10-11-RF-28 *031631176-0030*	ROOM 055 - 12"X12" FLOOR TILE- GREY	Gray Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	**None Detected**

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-11-RF-31 *031631176-0031*	ROOM 055 - 9"X9" FLOOR TILE- GREEN (UNDER BLUE)	Green Non-Fibrous Homogeneous		50% Ca Carbonate 17% Non-fibrous (Other)	**3% Chrysotile**
10-11-RF-32 *031631176-0032*	ROOM 055 - 9"X9" FLOOR TILE- GREEN (UNDER BLUE)				**Positive Stop (Not Analyzed)**
10-11-RF-33 *031631176-0033*	ROOM 056 - VINYL SHEET FLOORING- BLACK	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-11-RF-34 *031631176-0034*	ROOM 056 - VINYL SHEET FLOORING- BLACK	Brown/Black Non-Fibrous Homogeneous	10% Cellulose	10% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-11-RF-35 *031631176-0035*	ROOM 064 - FLOOR TILE MASTIC- BLACK	Black Fibrous Homogeneous	30% Cellulose	15% Ca Carbonate 55% Non-fibrous (Other)	**None Detected**
10-11-RF-36 *031631176-0036*	ROOM 064 - 9"X9" FLOOR TILE- TAN/BLACK STREAK	Brown Non-Fibrous Homogeneous		50% Ca Carbonate 2% Non-fibrous (Other)	**3% Chrysotile**
10-11-RF-38 *031631176-0037*	ROOM 071 - ADHESIVE ASSOC. W/ VSF- BROWN	Brown Non-Fibrous Homogeneous	30% Cellulose	70% Non-fibrous (Other)	**None Detected**
10-11-RF-37 *031631176-0038*	ROOM 084 - VINYL SHEET FLOORING THICK- BROWN	Brown Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**None Detected**
10-11-RF-39 *031631176-0039*	ROOM 031A - 3'X2' THICK FLOOR TILE- BROWN	Brown Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	**None Detected**
10-11-RF-40 *031631176-0040*	ROOM 032A - FT MASTIC BTWN CONCRETE AND FT- YELLOW	Yellow Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report amended: 10/17/2016 10:07:00 Replaces initial report from: 10/16/2016 11:14:44 Reason Code: Data Entry-Change to Appearance

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631176
Customer ID: EEVM50
Customer PO: 16-010.11T3
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/15/2016 10:39 AM
Analysis Date: 10/16/2016
Collected Date: 10/11/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-11-RF-41 *031631176-0041*	ROOM 034A - FLOOR TILE MASTIC- BLACK	Black Non-Fibrous Homogeneous	9% Cellulose	10% Ca Carbonate 81% Non-fibrous (Other)	**None Detected**
10-11-RF-42 *031631176-0042*	ROOM 034A - 9"X9" FLOOR TILE- GREY	Tan Non-Fibrous Homogeneous		40% Ca Carbonate 33% Non-fibrous (Other)	**2% Chrysotile**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report amended: 10/17/2016 10:07:00 Replaces initial report from: 10/16/2016 11:14:44 Reason Code: Data Entry-Change to Appearance

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631176
Customer ID: EEVM50
Customer PO: 16-010.11T3
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/15/2016 10:39 AM
Analysis Date: 10/16/2016
Collected Date: 10/11/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/15/2016	Sample Receipt Time:	10:39 AM
Analysis Completed Date:	10/16/2016	Analysis Completed Time:	2:36 AM

Analyst(s):

Ghaly Hemaya PLM (23)

Yolanda Chow PLM (11)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Report amended: 10/17/2016 10:07:00 Replaces initial report from: 10/16/2016 11:14:44 Reason Code: Data Entry-Change to Appearance

OrderID: 031631185

Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number (Lab Use Only):	031631185
Additional Analysis Request EMSL Order Number	

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.11T3
8 South Main Street, Suite 3, Terryville. CT 06786	Project:Former Memorial Blvd School, 70 Memorial Blvd, Bristol
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected:CT ~~CT Samples:~~ ☐ Commercial/Taxable ☐Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com ☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Samples Collected by (Name): ~~Ray Polino~~ Signature: Date(s) Collected: 10-14-16
Additional Contacts to Receive Email Results:	
☐Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

ample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-14-RF-01 JSCK		Floor tile mastic - black	Room 039A	NAD	
10-14-RF-02 JSCK		9" x 9" Floor tile - green	Room 039A	5% Chrys	
10-14-RF-04 JSCK		VSF mastic btwn concrete - green	Room 045A	NAD	
10-14-RF-03 JSCK		Vinyl sheet flooring - thick - tan	Room 045A		
10-14-RF-05 JSCK		Thinset behind ceramic wall tile	Room 044A		
10-14-RF-06 JSCK		Thinset behind ceramic wall tile	Room 044A		
10-14-RF-07 JSCK		Floor tile mastic on particle board - black	Room 054A	<1% Chrys	
10-14-RF-08 JSCK		12" x 12" Floor tile - white	Room 054A	<1% Chrys	
			10/15/16		
			620pm		
				8	

Client Sample #'s	~~10-14-RF-01 - 10-14-RF-08~~	Total # of Samples: 8	
Relinquished (Client):		Date:	Time:
Received (Lab):		Date: 10/15/16	Time: 10:37 AM
Relinquished:		Date: 10/14/16	Time: PM
Received:		Date:	Time:

10-16-16

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631185
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/15/2016 10:37 AM
Analysis Date: 10/15/2016 - 10/16/2016
Collected Date: 10/14/2016

Project: 16-010.11T3/ MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-14-RF-01 *031631185-0001*	ROOM 039A - FLOOR TILE MASTIC- BLACK	Brown/Black Fibrous Heterogeneous	22% Cellulose	78% Non-fibrous (Other)	**None Detected**
			Result includes a small amount of inseparable attached material		
10-14-RF-02 *031631185-0002*	ROOM 039A - 9"X9" FLOOR TILE- GREEN	Green Non-Fibrous Homogeneous		20% Ca Carbonate 75% Non-fibrous (Other)	**5% Chrysotile**
10-14-RF-04 *031631185-0003*	ROOM 045A - VSF MASTIC BTWN CONCRETE- GREEN	Tan/Yellow Non-Fibrous Heterogeneous	10% Cellulose	25% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	**None Detected**
10-14-RF-03 *031631185-0004*	ROOM 045A - VINYL SHEET FLOORING- THICK- TAN	Brown/Tan Fibrous Heterogeneous	20% Cellulose	80% Non-fibrous (Other)	**None Detected**
10-14-RF-05 *031631185-0005*	ROOM 044 - THINSET BEHIND CERAMIC WALL TILE	Tan Non-Fibrous Homogeneous		70% Quartz 3% Mica 27% Non-fibrous (Other)	**None Detected**
10-14-RF-06 *031631185-0006*	ROOM 044 - THINSET BEHIND CERAMIC WALL TILE	Gray Non-Fibrous Homogeneous		60% Quartz 15% Ca Carbonate 25% Non-fibrous (Other)	**None Detected**
10-14-RF-07 *031631185-0007*	ROOM 054A - FLOOR TILE MASTIC ON PARTICLE BOARD- BLACK	Black Fibrous Homogeneous	14% Cellulose	15% Quartz 10% Ca Carbonate 61% Non-fibrous (Other)	**<1% Chrysotile**
10-14-RF-08 *031631185-0008*	ROOM 054A - 12"X12" FLOOR TILE- WHITE	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	**<1% Chrysotile**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/16/2016 05:56:15

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631185
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Brandy LeBlanc
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/15/2016 10:37 AM
Analysis Date: 10/15/2016 - 10/16/2016
Collected Date: 10/14/2016

Project: 16-010.11T3/ MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/15/2016	Sample Receipt Time:	10:37 AM
Analysis Completed Date:	10/16/2016	Analysis Completed Time:	1:04 AM

Analyst(s):

Ghaly Hemaya PLM (2)

Jon Williams PLM (6)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/16/2016 05:56:15

OrderID: 031631185

Additional analysis

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	
Additional Analysis Request EMSL Order Number	031631185

☐ EMSL CT 29 N. Plains Hwy, # 4 Wallingford, CT 06492 Phone: 203-284-5948

☒ EMSL NYC 307 West 38th Street New York, NY 10018 Phone: 212-290-0051

☐ EMSL Corporate 200 Route 130 North Cinnaminson, NJ 08077 Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.11T3
8 South Main Street, Suite 3, Terryville, CT 06786	Project:Former Memorial Blvd School - 70 Memorial Blvd - Bristol
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected: CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt
Email All Results to: ☒ blebianc@eagleenviro.com ☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Samples Collected by (Name):Ray Foung Signature: Date(s) Collected: 10/14/16
Additional Contacts to Receive Email Results:	
☐ Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability. Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)*

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☐ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☒ TEM EPA NOB SS 10/18/16	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-14-RF-07		Floor tile mastic on particle board - black	Room 054A	1.2% Chips	
10-14-RF-08		12" x 12" Floor tile - white	Room 054A	1.8% Chips	

Client Sample #'s	10-14-RF-07 – 08	Total # of Samples: 2	
Relinquished (Client):		Date:	Time:
Received (Lab):		Date: 10/17/16	Time: 10:05AM
Relinquished:		Date: 10/17/16	Time: 10:00A
Received:		Date:	Time:

Uncontrolled Document-Eagle Common Test EMSL COC NY CT NJ

10/18/2016 05:20 Page 1 of

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031631185
CustomerID:	EEVM50
CustomerPO:	
ProjectID:	

Attn: **Brandy LeBlanc**
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone:	(860) 589-8257
Fax:	(860) 585-7034
Received:	10/15/16 10:37 AM
Analysis Date:	10/18/2016
Collected:	10/14/2016

Project: **16-010.11T3/ MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT**

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
10-14-RF-07 *031631185-0007*	ROOM 054A - FLOOR TILE MASTIC ON PARTICLE BOARD- BLACK	Black Non-Fibrous Heterogeneous	98.8	None	1.2% Chrysotile
10-14-RF-08 *031631185-0008*	ROOM 054A - 12"X12" FLOOR TILE- WHITE	White Non-Fibrous Heterogeneous	98.2	None	1.8% Chrysotile

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial report from 10/18/2016 07:49:28

EMSL Analytical, Inc.
307 West 38th Street, New York, NY 10018
Phone/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com manhattanlab@emsl.com

EMSL Order:	031631185
CustomerID:	EEVM50
CustomerPO:	
ProjectID:	

Attn: **Brandy LeBlanc**
Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone:	(860) 589-8257
Fax:	(860) 585-7034
Received:	10/15/16 10:37 AM
Analysis Date:	10/18/2016
Collected:	10/14/2016

Project: **16-010.11T3/ MEMORIAL BLVD SCHOOL, 70 MEMORIAL BLVD, BRISTOL, CT**

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date::	10/15/2016	Sample Receipt Time:	10:37 AM
Analysis Completed Date:	10/18/2016	Analysis Completed Time:	5:20 AM

Analyst(s):

Sean Scales TEM EPA NOB (2)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.
Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506

Initial report from 10/18/2016 07:49:28

OrderID: 031631882

EMSL ANALYTICAL, INC.

Chain of Custody

EMSL Order Number (Lab Use Only):	031631882
Additional Analysis Request EMSL Order Number	

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Eagle Environmental, Inc. EMSL Acct # EEVM50	Project Manager:AR Proj #:16-010.11T3
8 South Main Street, Suite 3, Terryville, CT 06786	Project:Former Memorial Blvd School - 70 Memorial Blvd, Bristol
Report To: Brandy LeBlanc Phone: 860-589-8257	US State Collected:CT CT Samples: ☐ Commercial/Taxable ☐Residential/Tax Exempt
Email All Results to: ☒ bleblanc@eagleenviro.com ☒ rsioch@eagleenviro.com ☒ dwynne@eagleenviro.com	Samples Collected by (Name): Ray Follino Signature: Date(s) Collected: 10-20-16
Additional Contacts to Receive Email Results:	
☐Verbal Results: Contact Name and Phone #:	

Turnaround Time (TAT) Options - Please Check Box Below *<24 HR TAT's Call Ahead to Confirm Lab Availability.*
Not all TAT options are valid for every test (7402, PLM NOB & 400 PC w/Gravimetric Reduction, TEM NOB, Culturable Fungi)

☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour	☐ 72 Hour	☐ 96 Hour	☐ 1 Week	☐ 2 Week

Based on the turnaround time selected above, it is our belief that results are due on or before this Date & Time:

Asbestos	Lead (Pb) Flame Atomic Absorption	Microbiology
TEM: Air ☐ 4 - 4.5 Hour Turnaround Time (AHERA ONLY)	☐ Air: NIOSH 7082 RL: 4µg/filter	Air Samples
☐ AHERA 40 CFR, Part 763, Sub E ☐ NIOSH 7402 ☐ EPA Level II	☐ Soil: SW846-7000B RL: 40 mg/kg (ppm)	☐ Fungi (Spore Trap) Allergenco-D Test: M032
PLM: Bulk ☒ 600/R-93/116 ☐ PLM NOB w/Gravimetric Reduction	Chips: SW846-7000B RL: 0.01%	☐ Fungi Culturable Genus Level ID Test: M005
☐ 400 Point Count ☐ 400 Point Count w/Gravimetric Reduction	☐ % by weight ☐ mg/cm² ☐ ppm	Swab, Tape Lift, Bulk Samples
TEM: Bulk ☐ TEM EPA NOB	Wipe: SW846-7000B RL: 10 µg/wipe	☐ Mold & Fungi Direct Exam Test: M041
TEM: Dust ☐ ASTM Microvac ☐ ASTM Wipe ☐ Qualitative	☐ ASTM ☐ non ASTM Assumed non ASTM if no box is checked	☐ Fungi Culturable Test: M007 (No Tape Lifts)
Other:	Other:	Other:

Eagle Lab Instructions/Comments:
Asbestos: Air - *Do Not Analyze Outsides or Blanks Unless Authorized by Eagle* Bulk - *Please Stop on First Positive Within Sets*
Lead:
Microbiology:

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-20-RF-09		Concrete floor	Room 062		4% Chips
10-20-RF-10A		Concrete floor	Room 084		NAD
10-20-RF-10B		Concrete floor	Room 032		
10-20-RF-11		Concrete floor	Room 015		
10-20-RF-12		Concrete in steel stair pan	Room 015		
10-20-RF-13		Concrete in steel stair pan	Room 015		
10-20-RF-14		Concrete floor	Room 017		
10-20-RF-15		Concrete floor	Room 007		
10-20-RF-16		Concrete floor	Room 004		
10-20-RF-17		Concrete floor	Room 022A		
10-20-RF-18		Concrete floor	Room 014A		4% Chips
10-20-RF-19		Concrete floor	Room 003A		NAD
10-20-RF-20		Concrete floor	Room 045A		
10-20-RF-21		Concrete floor	Room 031A-5	10/23/16 5pm	
10-20-RF-22		Concrete floor	Room 031A-5		
10-20-RF-23		Concrete floor	Room 034A		5% Chips

Client Sample #'s	10-20-RF-09 - 10-20-RF-25	Total # of Samples: 18	
Relinquished (Client):		Date: 10-20-16	Time: AM
Received (Lab):		Date: 10/22/16	Time: 11:33AM
Relinquished:		Date: 10/21/16	Time: PM
Received:		Date: 10/23/16	Time: 1:40pm

OrderID: 031631882

Chain of Custody

EMSL ANALYTICAL, INC.

EMSL Order Number (Lab Use Only): 031631882

Additional Analysis Request EMSL Order Number

☐ EMSL CT
29 N. Plains Hwy, # 4
Wallingford, CT 06492
Phone: 203-284-5948

☒ EMSL NYC
307 West 38th Street
New York, NY 10018
Phone: 212-290-0051

☐ EMSL Corporate
200 Route 130 North
Cinnaminson, NJ 08077
Phone: 800-220-3675

Sample #	I/O HA#	Sample Description	Sample Location	Volume (L) Area Sampled	Date/Time Sampled
10-20-RF-24		Cove base	Room 031A-3		NAD
10-20-RF-25		Cove base	Room 031A-3		NAD

10/23/14

10/23/14 5pm

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631882
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL/ 70 MEMORIAL BLVD BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-20-RF-09 *031631882-0001*	ROOM 062 - CONCRETE FLOOR	Tan Non-Fibrous Homogeneous		30% Quartz 25% Ca Carbonate 41% Non-fibrous (Other)	**4% Chrysotile**
10-20-RF-10A *031631882-0002*	ROOM 084 - CONCRETE FLOOR	Gray Non-Fibrous Homogeneous		40% Quartz 10% Ca Carbonate 4% Mica 46% Non-fibrous (Other)	**None Detected**
10-20-RF-10B *031631882-0003*	ROOM 032 - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous		38% Quartz 20% Ca Carbonate 2% Mica 40% Non-fibrous (Other)	**None Detected**
10-20-RF-11 *031631882-0004*	ROOM 015 - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous		40% Quartz 60% Non-fibrous (Other)	**None Detected**
10-20-RF-12 *031631882-0005*	ROOM 015 - CONCRETE IN STEEL STAIR PAN	Brown Non-Fibrous Homogeneous	2% Cellulose	20% Quartz 20% Ca Carbonate 58% Non-fibrous (Other)	**None Detected**
10-20-RF-13 *031631882-0006*	ROOM 015 - CONCRETE IN STEEL STAIR PAN	Brown/Red Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (Other)	**None Detected**
10-20-RF-14 *031631882-0007*	ROOM 017 - CONCRETE FLOOR	Brown/Gray Non-Fibrous Homogeneous		38% Quartz 30% Ca Carbonate 32% Non-fibrous (Other)	**None Detected**
10-20-RF-15 *031631882-0008*	ROOM 007 - CONCRETE FLOOR	Gray Non-Fibrous Homogeneous	2% Cellulose	29% Quartz 25% Ca Carbonate 1% Mica 43% Non-fibrous (Other)	**None Detected**
10-20-RF-16 *031631882-0009*	ROOM 004 - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous	2% Cellulose	40% Quartz 12% Ca Carbonate 46% Non-fibrous (Other)	**None Detected**
10-20-RF-17 *031631882-0010*	ROOM 022A - CONCRETE FLOOR	Gray Non-Fibrous Homogeneous	2% Cellulose	30% Quartz 10% Ca Carbonate 25% Gypsum 2% Mica 31% Non-fibrous (Other)	**None Detected**

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

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 17:48:46

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
http://www.EMSL.com / manhattanlab@emsl.com

EMSL Order: 031631882
Customer ID: EEVM50
Customer PO:
Project ID:

Attention: Eagle Environmental, Inc. - CT
8 South Main Street
Suite 3
Terryville, CT 06786

Phone: (860) 589-8257
Fax: (860) 585-7034
Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL/ 70 MEMORIAL BLVD BRISTOL, CT

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
10-20-RF-18 *031631882-0011*	ROOM 014A - CONCRETE FLOOR	Gray Non-Fibrous Homogeneous		25% Quartz 25% Ca Carbonate 46% Non-fibrous (Other)	**4% Chrysotile**
10-20-RF-19 *031631882-0012*	ROOM 003A - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous	2% Cellulose	23% Quartz 20% Ca Carbonate 20% Gypsum 35% Non-fibrous (Other)	**None Detected**
10-20-RF-20 *031631882-0013*	ROOM 045A - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous	1% Cellulose	45% Quartz 10% Ca Carbonate 44% Non-fibrous (Other)	**None Detected**
10-20-RF-21 *031631882-0014*	ROOM 031A-5 - CONCRETE FLOOR	Tan/Black Non-Fibrous Homogeneous	3% Cellulose	25% Quartz 4% Mica 68% Non-fibrous (Other)	**None Detected**
10-20-RF-22 *031631882-0015*	ROOM 031A-5 - CONCRETE FLOOR	Brown/Tan Non-Fibrous Homogeneous	5% Cellulose	30% Quartz 4% Mica 61% Non-fibrous (Other)	**None Detected**
10-20-RF-23 *031631882-0016*	ROOM 034A - CONCRETE FLOOR	Brown Non-Fibrous Homogeneous		40% Quartz 5% Ca Carbonate 53% Non-fibrous (Other)	**2% Chrysotile**
10-20-RF-24 *031631882-0017*	ROOM 031A-3 - COVE BASE	Tan/Black Non-Fibrous Homogeneous	15% Cellulose	45% Non-fibrous (Other)	**None Detected**
10-20-RF-25 *031631882-0018*	ROOM 031A-3 - COVE BASE	Black Non-Fibrous Homogeneous	5% Cellulose	50% Non-fibrous (Other)	**None Detected**

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC–IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 17:48:46

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Tel/Fax: (212) 290-0051 / (212) 290-0058
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Fax: (860) 585-7034
Received Date: 10/22/2016 11:33 AM
Analysis Date: 10/23/2016
Collected Date: 10/20/2016

Project: 16-010.11T3/ FORMER MEMORIAL BLVD SCHOOL/ 70 MEMORIAL BLVD BRISTOL, CT

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk materials via EPA/600 (0513) Method using Polarized Light Microscopy. The reference number for these samples is the EMSL Order ID above. Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date:	10/22/2016	Sample Receipt Time:	11:33 AM
Analysis Completed Date:	10/23/2016	Analysis Completed Time:	1:37 PM

Analyst(s):

Daena Charles PLM (4)

Jon Williams PLM (14)

Samples Reviewed and approved by:

James Hall, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--IHLAP Accredited #102581, NVLAP Lab Code 101048-9, NYS ELAP 11506, NJ NY022, CT PH-0170, MA AA000170

Initial report from: 10/23/2016 17:48:46

APPENDIX 3

ABATEMENT AND CONSULTING COSTS ESTIMATE

HAZARDOUS MATERIALS ABATEMENT COST ESTIMATES
FORMER MEMORIAL BOULEVARD SCHOOL
TARGETED AREAS FOR CITY HALL CONVERSION
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

ASBESTOS ABATEMENT COST ESTIMATE

MATERIALS	QUANTITY		UNIT COST			TOTAL COST
WALL AND CEILING PLASTER (including glue daubs on ceilings)	122,000	$	10.00	SF	$	1,220,000.00
LIGHT WEIGHT CONCRETE FLOORING - LWC (20% OF TOTAL)	8,425	$	10.00	SF	$	84,250.00
ASBESTOS CONTAINING FLOORING REMOVAL ON WOOD	22,092	$	5.00	SF	$	110,460.00
NON-ASBESTOS FLOORING REMOVAL ON ASBESTOS LWC	22,000	$	5.00	SF	$	110,000.00
ENCAPSULATION OF LWC AFTER NON-ACM FLOORING REMOVED	22,000	$	4.00	SF	$	88,000.00
VINYL COVE BASE FELTS AND MASTIC	310	$	10.00	LF	$	3,100.00
PIPE INSULATION IN WALLS	1,600	$	50.00	LF	$	80,000.00
EXPOSED PIPE INSULATION-BOILER ROOM	200	$	30.00	LF	$	6,000.00
DEMOLITION OF HB SMITH BOILERS AND BREECHING	*2*	*$*	*6,500.00*	*EA*	*$*	*13,000.00*
SUBTOTAL					$	1,714,810.00
ASBESTOS ABATEMENT CONTINGENCY					$	171,481.00
KNOWN ASBESTOS TOTAL					**$**	**1,886,291.00**

ITALICS=ASUMED ASBESTOS CONTAINING MATERIALS

LEAD BASED PAINT COST ESTIMATE

MATERIAL: REMOVAL OF WOOD WINDOW AND DOOR COMPONENTS, BASEBOARDS, VINYL FLOORING, METAL COMPONENTS; PAINT STABILIZATION OF PAINTED SURFACES; COMPONENT REMOVAL; AND PAINT CHIP DISPOSAL

MATERIALS	QUANTITY		UNIT COST			TOTAL COST
COMPONENT REMOVAL	1	$	1,500.00	SUM	$	1,500.00
COMPONENT DISPOSAL	40	$	300.00	CY	$	12,000.00
PAINT STABILIZATION AND ENCAPSULATION	1	$	50,000.00	SUM	$	50,000.00
SUBTOTAL					$	63,500.00
LEAD DEMOLITION CONTINGENCY					$	12,700.00
LEAD DEMOLITION TOTAL					**$**	**76,200.00**

UNIVERSAL WASTE ABATEMENT COST ESTIMATE

ASSUMES COMPLETE REMOVAL OF ALL UNIVERSAL WASTE MATERIALS (ASSUMED QUANTITIES)

MATERIAL	QUANTITY		UNIT COST			TOTAL COST
BALLASTS DISPOSAL	500	$	1.50	EA	$	750.00
LIGHT TUBES DISPOSAL	5000	$	1.00	LF	$	5,000.00
U-SHAPED LIGHT TUBES DISPOSAL	50	$	1.00	EA	$	50.00
HIGH PRESSURE SUDIUM LAMP DISPOSAL	60	$	2.50	EA	$	150.00
MERCURY THERMOSTATS	50	$	10.00	EA	$	500.00
LEAD ACID BATTERIES	125	$	2.50	EA	$	312.50
CAPACITORS	10	$	5.00	EA	$	50.00
USED ELECTRONICS DISPOSAL	15	$	25.00	EA	$	375.00
LABOR	20	$	500.00	DAY	$	10,000.00
SUBTOTAL					$	17,187.50
UNIVERSAL WASTE ABATEMENT CONTINGENCY					$	4,296.88
UNIVERSAL WASTE TOTAL					**$**	**21,484.38**

CHLOROFLUOROCARBONS ABATEMENT COST ESTIMATE

MATERIAL	QUANTITY	UNIT COST		TOTAL COST
AC UNITS	5	$ 100.00	EACH	$ 500.00
LABOR	1	$ 500.00	EACH	$ 500.00
SUBTOTAL				$ 1,000.00
CHLOROFLUOROCARBONS ABATEMENT CONTINGENCY				$ 250.00
CHLOROFLUOROCARBONS TOTAL				**$ 1,250.00**

HAZARDOUS MATERIALS ABATEMENT SUBTOTAL **$ 1,985,225.38**

HAZARDOUS MATERIALS CONSULTING COST ESTIMATE

CONSULTING COST	QUANTITY	UNIT COST		TOTAL COST
ADDITIONAL INSPECTION SERVICES, SAMPLE ANALYSIS AND REPORTS	1	$2,500.00	SUM	$ 2,500.00
ASBESTOS ABATEMENT SPECIFICATIONS	1	$3,000.00	EACH	$ 3,000.00
LEAD ABATEMENT SPECIFICATIONS	1	$1,500.00	EACH	$ 1,500.00
UNIVERSAL WASTE ABATEMENT SPEC.	1	$800.00	EACH	$ 800.00
ABATEMENT CONTRACT DRAWINGS	1	$1,500.00	EACH	$ 1,500.00
ALTERNATE WORK PRACTICE DEVELOPMENT	1	$750.00	EACH	$ 750.00
PRECONSTRUCTION CONFERENCE	1	$350.00	EACH	$ 350.00
DAILY MONITORING/CLEARANCES*	90	$525.00	DAY	$ 47,250.00
PCM AIR SAMPLES	500	$8.00	EACH	$ 4,000.00
TEM AIR SAMPLES	30	$90.00	EACH	$ 2,700.00
PROJECT MANAGEMENT	30	$110.00	HOUR	$ 3,300.00
DOCUMENTATION REPORT	1	$750.00	EACH	$ 750.00
SUBTOTAL				$ 68,400.00
CONSULTING CONTINGENCY				$ 6,840.00
CONSULTING TOTAL				**$ 75,240.00**

*ASSUMES FULL TIME MONITORING OF ABATEMENT ACTIVITIES

GRAND TOTAL **$ 2,060,465.38**

APPENDIX 4

EAGLE ENVIRONMENTAL INC. LICENSES AND LABORATORY CERTIFICATES

CERTIFICATE OF ACHIEVEMENT

This certifies that

Raymond R. Folino

has successfully completed the

4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763

conducted by

ATC Group Services, LLC
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory Morsch
Principal Instructor: Gregory Morsch

May 19, 2016
Date of Course

May 19, 2017
Expiration Date

Gregory Morsch
Regional Training Manager: Gregory Morsch

SIAR-5458
Certificate Number

May 19, 2016
Examination Date

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-INSPECTOR

RAYMOND R FOLINO

CERTIFICATE NO.
000137

CURRENT THROUGH
10/31/16

VALIDATION NO.
03-388324

SIGNATURE

ACTING COMMISSIONER

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

EMSL ANALYTICAL, INC. – MANHATTAN, NY

LOCATED AT 307 West 38th Street IN New York, NY 10018

AND REGISTERED IN THE NAME OF Peter Frasca, Ph.D.
James Hall - Director
Jose Arriaga - Co-Director

THIS CERTIFICATE IS ISSUED IN THE NAME OF WHO HAS BEEN DESIGNATED BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF APPROVAL AS FOLLOWS:

DRINKING WATER

Examination For:
Asbestos (TEM)

BUILDING MATERIALS

Examination For:
Asbestos Fibers (PCM, TEM)
Bulk Identification (PLM, TEM)

ENVIRONMENTAL HEALTH & HOUSING

Examination For:
Lead in Paint
Lead Paint in Soil
Lead in Dust Wipes

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

THIS CERTIFICATE EXPIRES September 30, 2018 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS 29th DAY OF September 2016

Registration No.

PH-0170

SUZANNE BLANCAFLOR, MS, MPH
CHIEF, ENVIRONMENTAL HEALTH SECTION

CITY OF BRISTOL

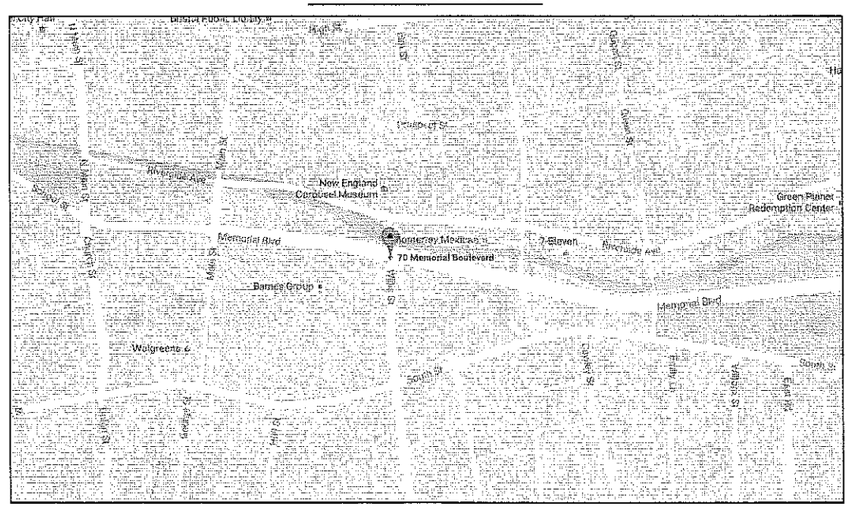
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT

EAGLE PROJECT NUMBER: 16-010.11T3

INDEX OF DRAWINGS

SL-1 BASEMENT SAMPLE LOCATION DIAGRAM
SL-2 GROUND FLOOR SAMPLE LOCATION DIAGRAM
SL-3 FIRST FLOOR SAMPLE LOCATION DIAGRAM
SL-4 SECOND FLOOR SAMPLE LOCATION DIAGRAM
SL-5 THIRD FLOOR SAMPLE LOCATION DIAGRAM

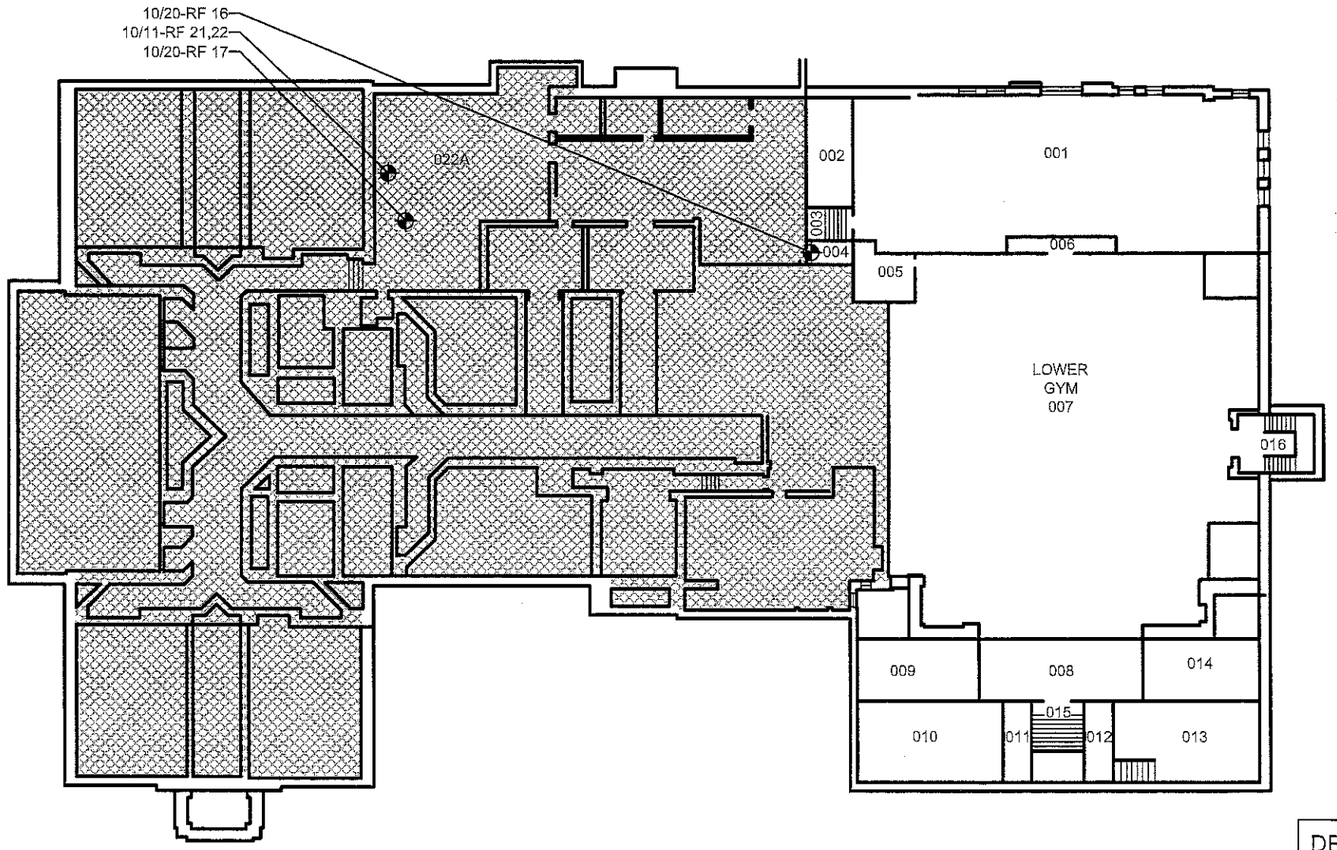
LOCATION MAP



DATE: OCTOBER 25, 2016

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

\\Eaglesvr\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\70 MEMORIAL BOULEVARD-Memorial Boulevard School\INSPECTION\SAMPLE LOCATION DIAGRAM\CAD\70 MEMORIAL BOULEVARD_1.dwg



BASEMENT PLAN
NOT TO SCALE

DRAWING KEY:

TARGETED AREA

SAMPLE KEY:

10/20-RF ##
10/11
10/14
= SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

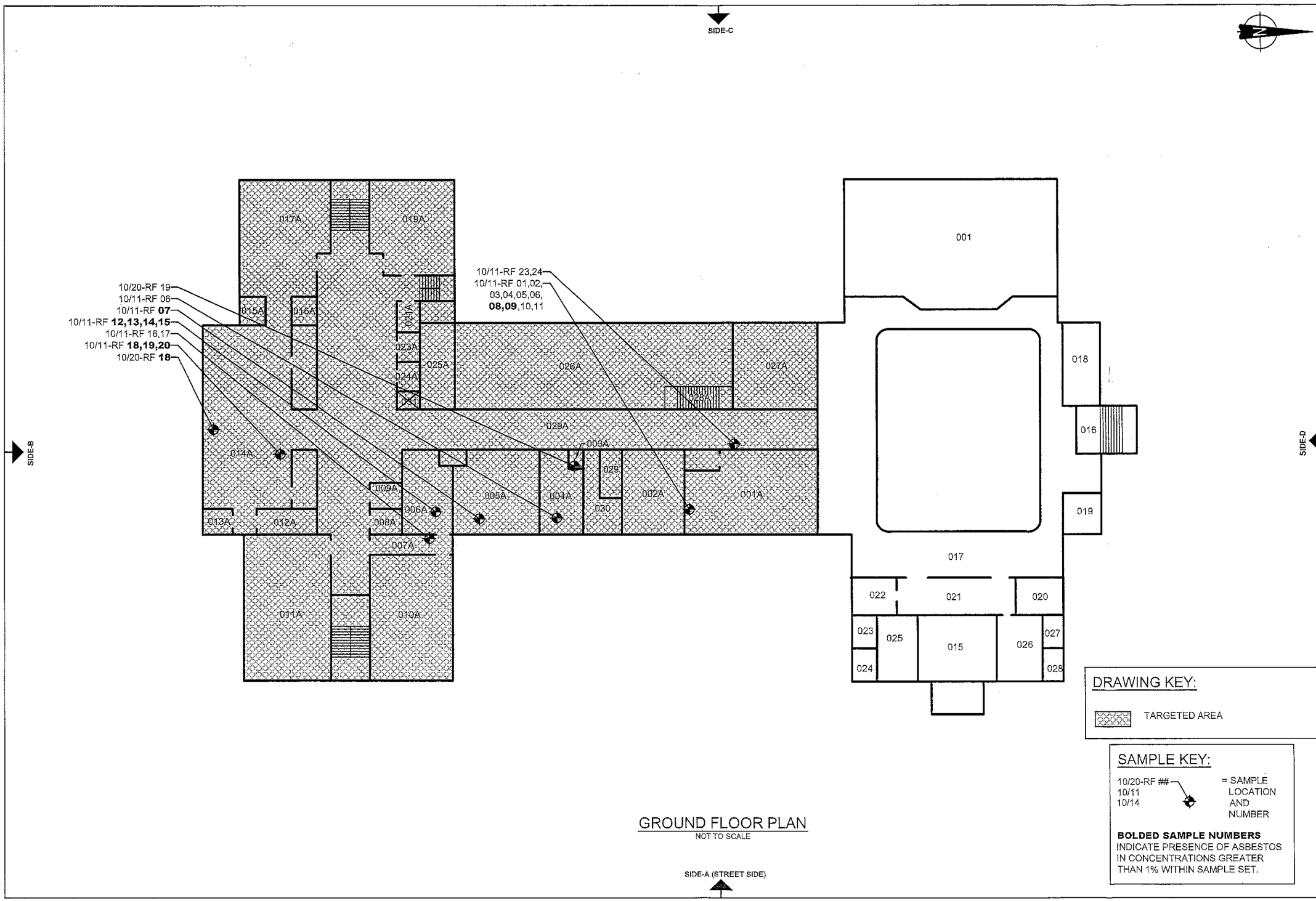
DATE: 10-25-2016
PROJECT NO.: 16-010.11T3
DRAWN BY: VB / BB
REVIEWED BY: RF

SAMPLE LOCATION DIAGRAM
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT
BASEMENT PLAN

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.
SL-1
SHEET 1 OF 5

\\Eaglesvr\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\70 MEMORIAL BOULEVARD-Memorial Boulevard School\INSPECTION\SAMPLE LOCATION DIAGRAM\CAD\70 MEMORIAL BOULEVARD_1.dwg



GROUND FLOOR PLAN

NOT TO SCALE

DRAWING KEY:

TARGETED AREA

SAMPLE KEY:

10/20-RF ##
10/11
10/14
= SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

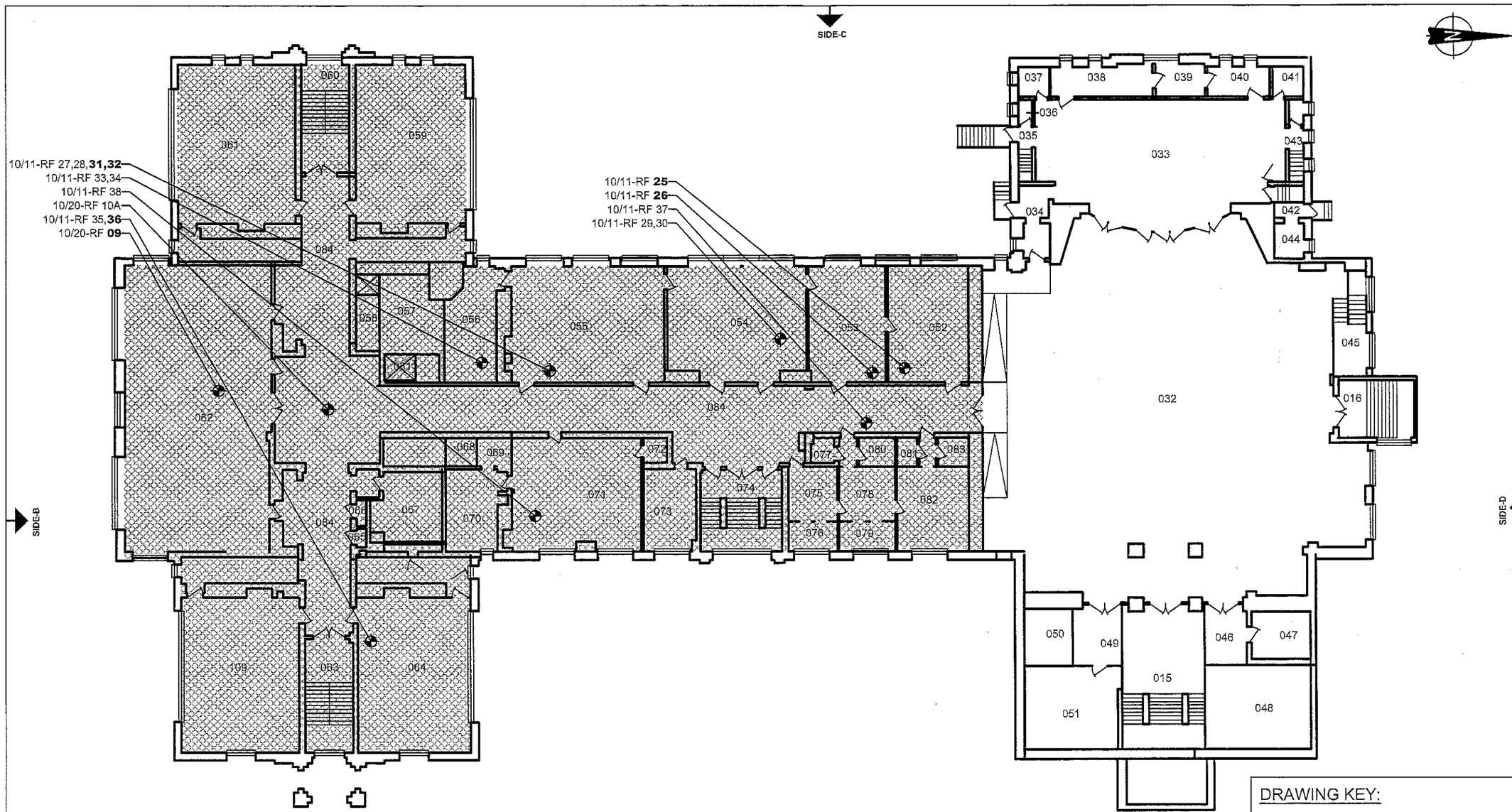
DATE: 10-25-2016
PROJECT NO.: 16-010.11T3
DRAWN BY: VB / BB
REVIEWED BY: RF

SAMPLE LOCATION DIAGRAM
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT
GROUND FLOOR SCHEMATIC PLAN

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.
SL-2
SHEET 2 OF 5

\\Eaglesvr\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\70 MEMORIAL BOULEVARD-Memorial Boulevard School\INSPECTION\SAMPLE LOCATION DIAGRAM\CAD\70 MEMORIAL BOULEVARD_1.dwg



FIRST FLOOR PLAN

NOT TO SCALE

SIDE-A (STREET SIDE)

DRAWING KEY:

TARGETED AREA

SAMPLE KEY:

10/20-RF ##
10/11
10/14

= SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

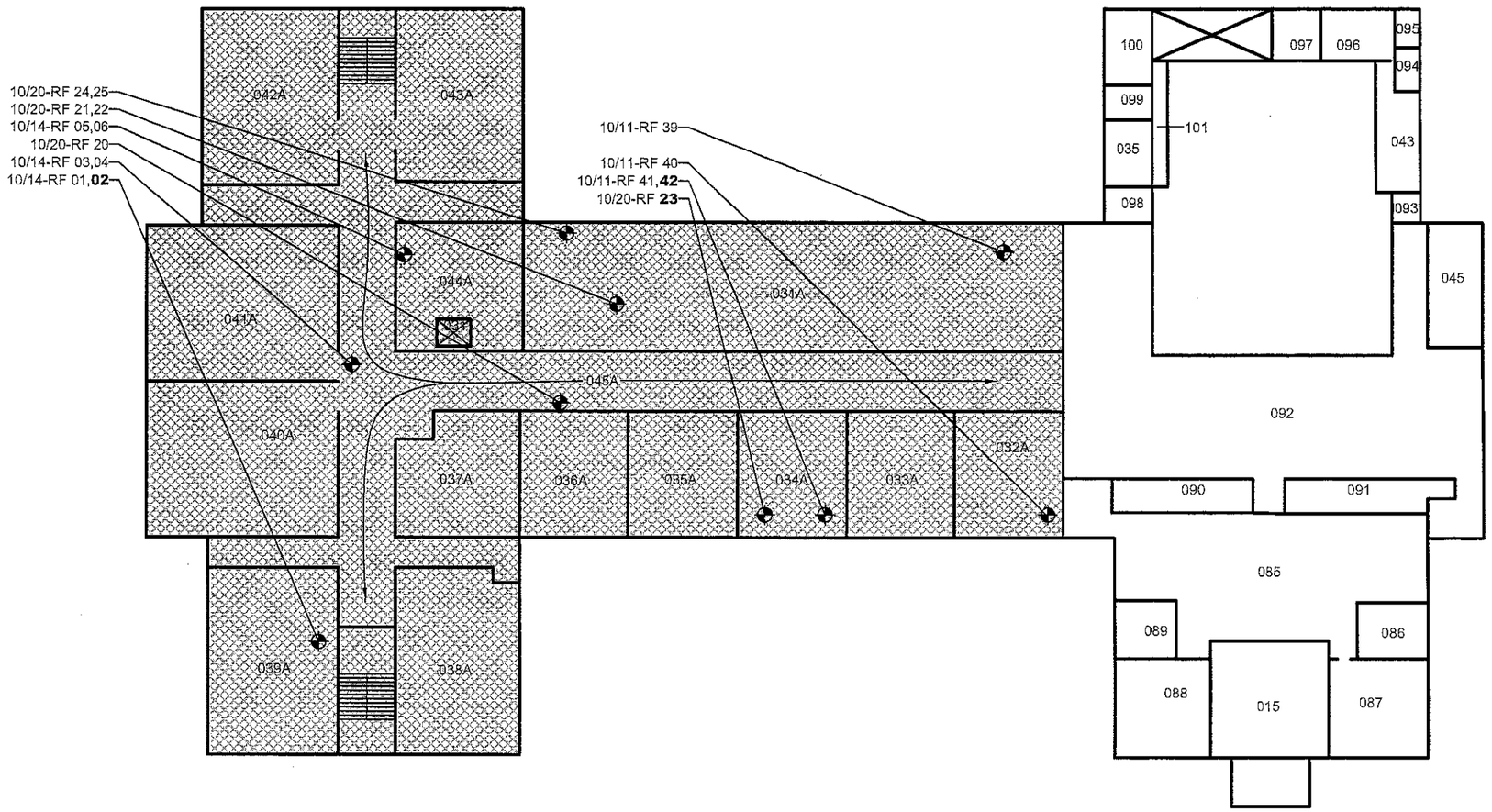
DATE: 10-25-2016
PROJECT NO.: 16-010.11T3
DRAWN BY: VB / BB
REVIEWED BY: RF

SAMPLE LOCATION DIAGRAM
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT
FIRST FLOOR PLAN

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-9257

SHEET NO.
SL-3
SHEET 3 OF 5

\\Eaglesvr\public\2016 Files\2016 AutoCAD\BRISTOL CITY OF\70 MEMORIAL BOULEVARD-Memorial Boulevard School\INSPECTION\SAMPLE LOCATION DIAGRAM\CAD\70 MEMORIAL BOULEVARD_1.dwg



SECOND FLOOR PLAN

NOT TO SCALE

DRAWING KEY:

TARGETED AREA

SAMPLE KEY:

10/20-RF ##
10/11
10/14

= SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

DATE: 10-25-2016
PROJECT NO.: 16-010.11T3
DRAWN BY: VB / BB
REVIEWED BY: RF

SAMPLE LOCATION DIAGRAM
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT
SECOND FLOOR SCHEMATIC PLAN

EAGLE Environmental, Inc.
8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

SHEET NO.
SL-4
SHEET 4 OF 5

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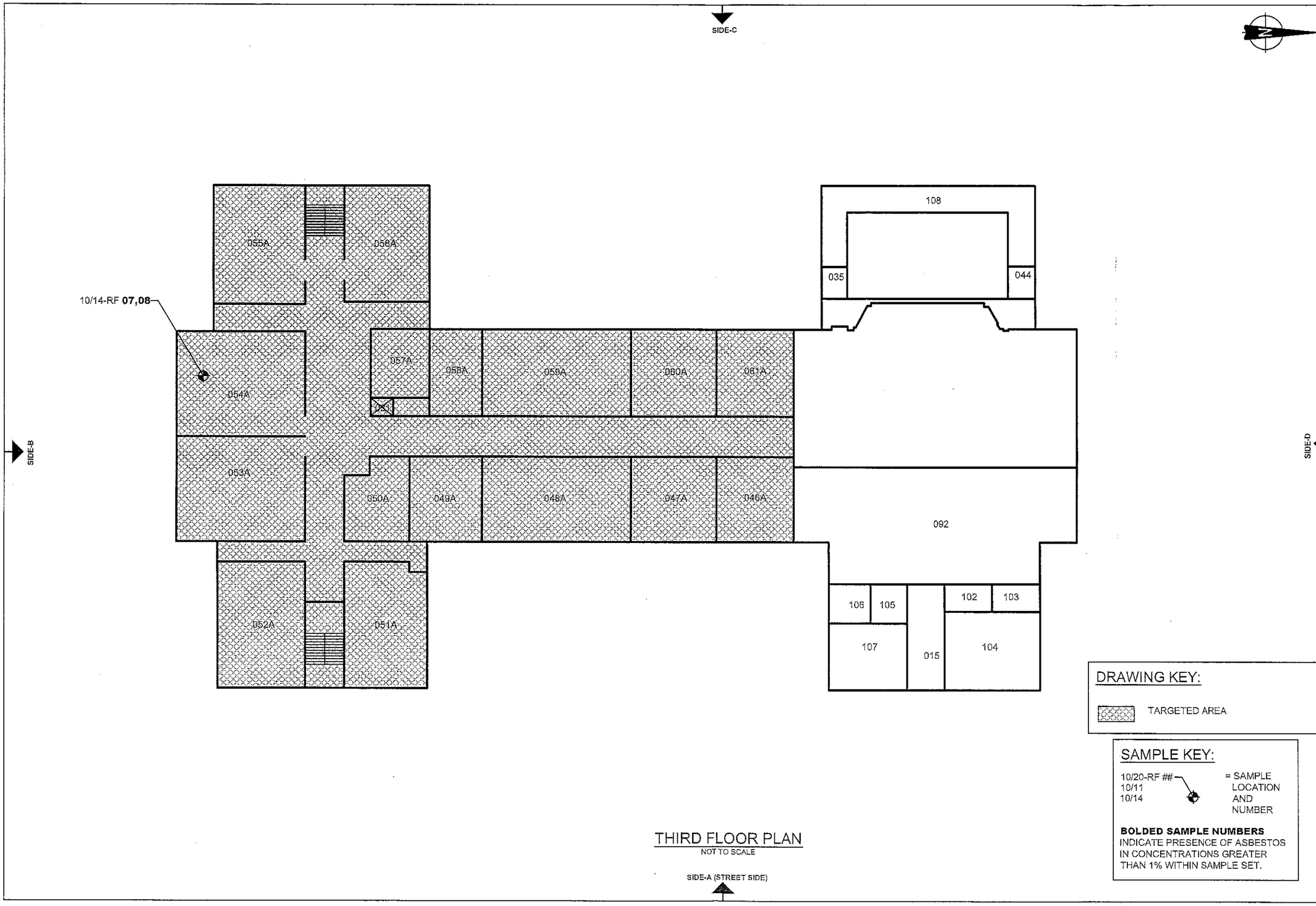

THIRD FLOOR PLAN
NOT TO SCALE

DRAWING KEY:

TARGETED AREA

SAMPLE KEY:

10/20-RF ##
10/11
10/14
= SAMPLE LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS INDICATE PRESENCE OF ASBESTOS IN CONCENTRATIONS GREATER THAN 1% WITHIN SAMPLE SET.

DATE: 10-25-2016
PROJECT NO.: 16-010.11T3
DRAWN BY: VB / BB
REVIEWED BY: RF

SAMPLE LOCATION DIAGRAM
FORMER MEMORIAL BOULEVARD SCHOOL
70 MEMORIAL BOULEVARD
BRISTOL, CONNECTICUT
THIRD FLOOR SCHEMATIC PLAN

EAGLE Environmental Inc
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SHEET NO.
SL-5
SHEET 5 OF 5

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8) City of Bristol - 12/1/16

CITY HALL/MEMORIAL BOULEVARD BUILDING AREA SUMMARY

PROPOSED AREAS	Existing City Hall (Existing) (SF)	Existing City Hall (Proposed) (SF)	Memorial Boulevard (SF)
Total Available Office Space (Assigned & Unassigned)[1]	37,400	37,400	33,100
Office Space (Assigned Only)[1]	34,600	30,900	30,800
Office Space (Unassigned Only)[2]	3,800	7,500	2,500
Corridors/Stairways	9,600	9,600	11,500
Proposed Mechanical & Electrical Rooms[3]	1,700	1,700	2,040
Bathroom	1,500	1,500	2,100
Storage[4]	4,000	4,000	3,100
Meeting Rooms	1,200	1,200	2,600
Council Chambers	1,900	1,900	2,300
Employee Lounge	900	900	1,800
Mail / Copy Room	300	300	860
Total Program Area[5]	59,500	59,500	59,600

Notes:

1. Office space includes department vaults where applicable.
2. Unassigned office space includes the existing gun range area located in the ground floor of the
3. Mechanical / Electrical rooms proposed at Mem Blvd consist of 1700 SF proposed in the sub
4. Storage areas do not include Memorial Boulevard sub-basement.

5. Total City Hall floor area = 59,500 SF. Total Mem Blvd floor area (not including theater area)= 75,400 SF. Mem Blvd sub-basement (not including proposed mechanical area) = 14,100 SF

6. Mem Blvd sub-basement (15,800 SF) consists of existing gymnasium, swimming pool, locker rooms, and mechanical rooms. Due to lack of / limited windows and accessibility, space not proposed for office use. Proposed work within area limited to life safety/code compliance requirements.