



August 15, 2017

George E. Katinger, R.A.
Associate
Kenneth Boroson Architects, LLC
315 Peck Street
New Haven, CT 06513

Re: **Hazardous Building Materials Survey Report Amendment**
Holland Hill Elementary School, Fairfield, Connecticut

Dear Mr. Katinger:

This letter has been prepared to document the results of the hazardous building material survey conducted on August 7, 2017 to evaluate the presence/absence of hazardous building materials from three areas of the Holland Hill Elementary School that were not included in the scope of the renovation at the time of the original survey. These areas include:

- Inspection of materials under the gymnasium wood flooring;
- Inspection of crawl spaces/utility tunnels below the school to determine if the reported abatement of these materials was completed as indicated in the AHERA documents; and
- Inspection of all vinyl floor tile throughout the school to support abatement of remaining asbestos tile, as needed.

The asbestos field survey and sampling activities were subcontracted to Reliance Environmental, LLC of Woodbridge, Connecticut a state certified asbestos inspector with support from Frank Capasso and Sons, Inc. for access to materials below the gymnasium floor and the subsequent repair activities.

Results of the survey of the three areas described above are provided below.

Gymnasium Wood Flooring

Materials below the wood flooring were inspected at three locations spatially distributed around the gymnasium. Materials observed included multiple layers of plywood sheeting and spacer materials between the lower layer of plywood and the underlying concrete slab (see photo to the right).

Two samples of the spacer materials were submitted for asbestos analysis and determined to be non-asbestos containing materials. The complete analytical laboratory report is provided in Attachment A.

No other suspect ACM were observed beneath the wood flooring during the survey.



Typical Wood Flooring and Underlying Materials

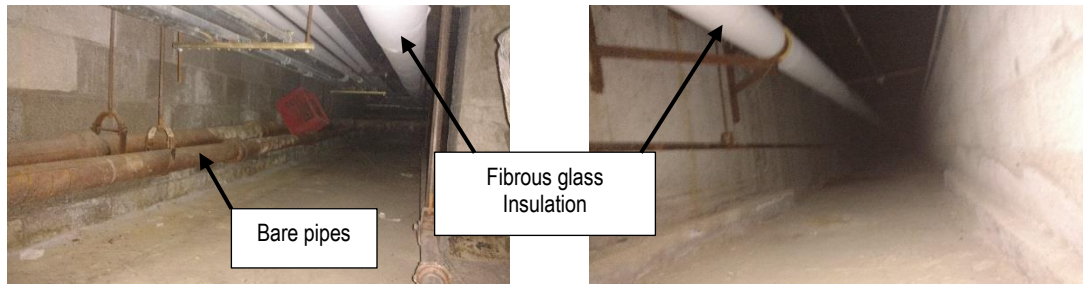
Crawl Spaces/Utility Tunnels

As requested, Woodard & Curran inspected accessible portions of the utility tunnels to confirm the information presented in the various historic documents provided to Woodard & Curran which state that asbestos pipe insulation from the utility tunnels was previously abated. The following documents were reviewed:



- AMC Environmental, LLC's Project Summaries provided in a document dated February 10, 2017 – these summaries state that approximately 40 l.f. of thermal system pipe insulation was abated from the tunnels in November of 1996 and that 5,775 l.f. of thermal system insulation was abated from the tunnels in July of 2001.
- 2011 AHERA 3 Year Re-Inspection Report by AMC Environmental, LLC – Indication that the pipe insulation has been abated was presented in Section II which does not list asbestos pipe insulation in the tunnels as part of the remaining ACBMs at the school.
- 6 Month Periodic Surveillance of Asbestos-Containing Materials Reports (AMC Environmental, LLC) – Reports provided were dated from August of 1992 through December of 2016 and do not list asbestos pipe insulation within the tunnels as being part of the inspection activities after April 2001 (the final inspection prior to the July 2001 abatement described above).

Access to the utility tunnels was available at two locations, within the boiler room and from the access panel at the east end of the school (near the gymnasium). At both locations, visual observations indicated that the pipes were either bare (no insulation) or were covered with fibrous glass insulation. Due to confined space safety concerns, the inspection did not include the entire tunnels but was limited to areas that could be observed from the two access points using flashlights (see photos below).



The observations appear to confirm the information within the AHERA reports and other historic documents which state that ACM from within the tunnels was previously abated.

Floor Tile

As requested, Woodard & Curran conducted an inventory of floor tile throughout the school, including those areas not identified as within a defined scope of work. Results of the inventory were then compared to the analytical data obtained during the February survey and information found in the AHERA reports and other historic documents provided by the project team. In addition, representative samples of select flooring materials (those not previously characterized) were collected and submitted for asbestos analysis.

Results of the survey identified three asbestos-related categories of flooring within the Holland Hill Elementary School. These included asbestos floor tile, non-asbestos floor tile with associated underlying asbestos adhesives, and asbestos vapor barriers on concrete floor slabs beneath hard wood floor finishes (limited to within the All Purpose Room). Remaining areas of existing finish flooring were either identified as non-ACM through analytical testing and cross referencing with the historic documentation provided, or were determined to be not suspect for asbestos by the field inspectors who conducted the surveys (the complete analytical laboratory report is provided in Attachment A). The locations of the asbestos flooring, along with the square footages of each, are depicted on Attachment B.

Next Steps

As described in Woodard & Curran's Hazardous Materials Survey Report (March 2017), ACM to be disturbed during the upcoming renovations should be abated in accordance with federal, state, and local regulations prior to the start of the renovations. It is our understanding that design documents are currently being developed and that specifications are scheduled to be complete in September 2017.

Woodard & Curran appreciates the opportunity to continue to support the project team on this project. If you have any questions or require further information, please feel free to email me at gfranklin@woodardcurran.com or call at (978) 482-7867.



Sincerely,

WOODARD & CURRAN INC.

A handwritten signature in blue ink, appearing to read "George J. Franklin".

George J. Franklin, CHMM
Technical Manager

Enclosures: Attachment A – Analytical Laboratory Report
Attachment B – Locations of Identified Asbestos Flooring



Asbestos Identification Laboratory

165 New Boston St., Ste 227

Woburn, MA 01801

781-932-9600

Web: www.asbestosidentificationlab.com

Email: mikemanning@asbestosidentificationlab.com

Batch:

25067



Lab Code: 200919-0

August 14, 2017

Vidya N. Trivedi
Reliance Environmental, LLC
11 Old Farm Road
Woodbridge, CT 06525

Project Number:

Project Name: Holland Hill Elementary School, Fairfield
CT

Date Sampled: 2017-08-07

Work Received: 2017-08-10

Work Analyzed: 2017-08-11

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

Dear Vidya N. Trivedi,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

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

Thank you Vidya N. Trivedi for your business.

Michael Manning
Owner/Director

August 14, 2017

Vidya N. Trivedi
Reliance Environmental, LLC
11 Old Farm Road
Woodbridge, CT 06525

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Project Name: Holland Hill Elementary School, Fairfield
CT

Date Sampled: 2017-08-07

Work Received: 2017-08-10

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

| FieldID | Material | Location | Color | Non-Asbestos % | Asbestos % |
|---------|-------------------------------------|----------|--------|-----------------|---------------|
| LabID | | | | | |
| 1 | 1' X 1' Floor Tiles (Light Blue) | Room K-1 | blue | Non-Fibrous 100 | None Detected |
| 281603 | | | | | |
| 2 | Glue under Sample # 1 | Room K-1 | yellow | Non-Fibrous 100 | None Detected |
| 281604 | | | | | |
| 3 | 1' X 1' Floor Tiles (Light Blue) | Room K-2 | blue | Non-Fibrous 100 | None Detected |
| 281605 | | | | | |
| 4 | Glue under Sample # 3 | Room K-2 | yellow | Non-Fibrous 100 | None Detected |
| 281606 | | | | | |
| 5 | 1' X 1' Floor Tiles (Light Vanilla) | Room 3 | white | Non-Fibrous 100 | None Detected |
| 281607 | | | | | |
| 6 | Glue under Sample # 5 | Room 3 | yellow | Non-Fibrous 100 | None Detected |
| 281608 | | | | | |
| 7 | 1' X 1' Floor Tiles (Light Vanilla) | Room 16 | white | Non-Fibrous 100 | None Detected |
| 281609 | | | | | |
| 8 | Glue under Sample # 7 | Room 16 | yellow | Non-Fibrous 100 | None Detected |
| 281610 | | | | | |
| 9 | Spacer under Hardwood Floor | Gym | brown | Non-Fibrous 100 | None Detected |
| 281611 | | | | | |
| 10 | Spacer under Hardwood Floor | Gym | brown | Non-Fibrous 100 | None Detected |
| 281612 | | | | | |

Monday 14 August

Analyzed by:

Stefania Biliot

End of Report

Batch: 25067

Page 1 of 1

CHAIN OF CUSTODY

EPA/600/R-93/116

Asbestos Identification Lab

165-U New Boston St.
Suite 271
Woburn, MA 01801
(781) 932-9600
www.asbestosidentificationlab.com



Turnaround Time Sample Method

| | |
|---------------------------------------------|------------------------------------------|
| <input type="checkbox"/> Rush | <input checked="" type="checkbox"/> Bulk |
| <input type="checkbox"/> Same Day | <input type="checkbox"/> Soil |
| <input type="checkbox"/> Next Day | <input type="checkbox"/> Wipe |
| <input checked="" type="checkbox"/> Two Day | <input type="checkbox"/> Point Count |

Stop on 1st Positive? Yes/No

Notify Method: Mail/E-Mail/Verbal

Analyzed By: William J. Delaney

Date: 8-7-17

Client: RELIANCE ENVIRONMENTAL

Address: 1 OLD FARM RD WOODBRIDGE, CT

Project Site & #: Holland Hill Elementary School, Fairfield, CT

Phone/FAX#: 203-553-9070/203-553-9069

Contact: VIDYA TRIVEDI

Relinquish by/date: 11/8-8-17

Received by/date: William J. Delaney 8/10/17

of Samples Received: 10

Temp in Celsius = 28

Stereo Scope

Optical Properties

RI Non-Asbestos Percentage (%)

Lab ID# (Lab Use Only)

Field ID/Sample Date (Client Reference)

Material/Location

% of Asbestos
Color
Homogeneity
Texture
Friable

Asbestos Minerals

Asbestos %
Morphology
Extinction
Sign of Elongation
Birefringence
Pleochroism

Fiberglass
Mineral Wool
Cellulose
Hair
Synthetic
Other
Non-Fibrous

Material

% of Asbestos

Color

Homogeneity

Texture

Friable

Asbestos Minerals

Asbestos %

Morphology

Extinction

Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

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Location

% of Asbestos

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Asbestos Minerals

Asbestos %

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Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

Hair

Synthetic

Other

Non-Fibrous

Material

% of Asbestos

Color

Homogeneity

Texture

Friable

Asbestos Minerals

Asbestos %

Morphology

Extinction

Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

Hair

Synthetic

Other

Non-Fibrous

Location

% of Asbestos

Color

Homogeneity

Texture

Friable

Asbestos Minerals

Asbestos %

Morphology

Extinction

Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

Hair

Synthetic

Other

Non-Fibrous

Material

% of Asbestos

Color

Homogeneity

Texture

Friable

Asbestos Minerals

Asbestos %

Morphology

Extinction

Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

Hair

Synthetic

Other

Non-Fibrous

Location

% of Asbestos

Color

Homogeneity

Texture

Friable

Asbestos Minerals

Asbestos %

Morphology

Extinction

Sign of Elongation

Birefringence

Pleochroism

Fiberglass

Mineral Wool

Cellulose

Hair

Synthetic

Other

Non-Fibrous

ATTACHED

1 of 3

[illegible]

| Lab ID# (Lab Use Only) | | Field ID/ (Client Reference) | | Temp in Celcius = _____ | Stereo Scope | | | | | Optical Properties | | | | | | | Non-Asbestos Percentage (%) | | | | | | | | | |
|---------------------------|---|---------------------------------|--|-------------------------|--------------|-------------|---------|---------|-------------------|--------------------|------------|------------|------------|--------------------|---------------|-------------|-----------------------------|---|------------|--------------|-----------|------|-----------|-------|-------------|--|
| Material / Location | | | | % of Asbestos | Color | Homogeneity | Texture | Friable | Asbestos Minerals | | Asbestos % | Morphology | Extinction | Sign of Elongation | Birefringence | Pleochroism | = | + | Fiberglass | Mineral Wool | Cellulose | Hair | Synthetic | Other | Non-Fibrous | |
| 11 | 9 | Material | | | | | | | Chrysotile | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Amosite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Crocidolite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Tremolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Anthophyllite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Actinolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Chrysotile | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Amosite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Crocidolite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Tremolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Anthophyllite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Actinolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Chrysotile | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Amosite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Crocidolite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Tremolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Anthophyllite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Actinolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Chrysotile | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Amosite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Crocidolite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Tremolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Anthophyllite | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Actinolite | | | | | | | | | | | | | | | | | |
| | | Material | | | | | | | Chrysotile | | | | | | | | | | | | | | | | | |
| | | Location | | | | | | | Amosite | | | | | | | | | | | | | | | | | |



Reliance Environmental, LLC

Asbestos, Lead, Mold, Phase 1, 2 & 3 Site Assessments & Remediation, LEP Verifications
PE Certifications, Industrial Hygiene, OSHA Safety, Indoor Air, Safety Training &
Environmental Engineering - Over 20 years experience

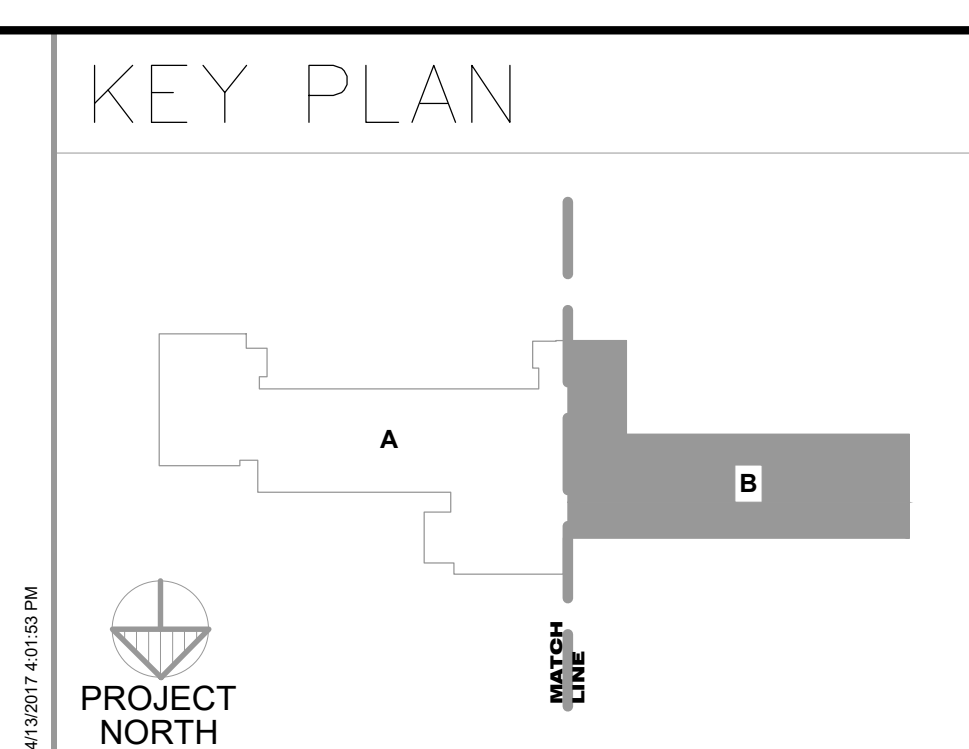
| SAMPLE NUMBER | SAMPLE DESCRIPTION/ | Location |
|---------------|-----------------------------------|----------|
| 1 | 1'x1' Floor Tiles (Light Blue) | Room K-1 |
| 2 | Glue under sample # 1 | Room K-1 |
| 3 | 1'x1' Floor Tiles (Light Blue) | Room K-2 |
| 4 | Glue under sample # 3 | Room K-2 |
| 5 | 1'x1' Floor Tiles (Light Vanilla) | Room 3 |
| 6 | Glue under sample # 5 | Room 3 |
| 7 | 1'x1' Floor Tiles (Light Vanilla) | Room 16 |
| 8 | Glue under sample # 7 | Room 16 |
| 9-10 | spacer under hardwood floor | Gym |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |



NOTE: EXISTING CONDITIONS DRAWING PROVIDED FOR REFERENCE ONLY – CONTRACTOR TO VERIFY ALL PERTINENT EXISTING CONDITIONS PRIOR TO COMMENCING ANY WORK OR ORDERING ANY MATERIALS

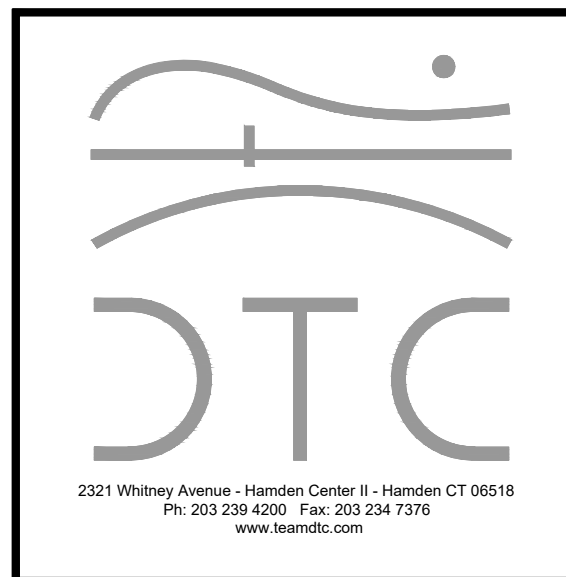
UNDERLYING VAPOR BARRIER IDENTIFIED AS ACM. TOTAL SQUARE FOOTAGE 2596'.

Figure 1 is a map of the study area. It shows a large body of water (the Gulf of Mexico) to the west and south. To the east, there is a landmass with two study sites marked: 'A' is a small rectangular area on the northern coast, and 'B' is a larger rectangular area further east. A dashed line labeled 'MATCH LINE' runs vertically between the two sites. A north arrow is located in the bottom left corner, and a scale bar is located in the bottom right corner.



**KENNETH
BOROSON**
ARCHITECTS

315 Peck Street • New Haven, CT
p. 203.624.0662 • f. 203.562.1732
WWW.KBARCH.COM



P & Z **PERRONE & ZAJDA**
ENGINEERS LLC
SOUTHWAY EXECUTIVE PARK, UNIT #511
35 GOLD SPRINGS ROAD, ROCKY HILL CT 06067
PHONE (860) 513-1195 FAX (860) 436-3362

PROFESSIONAL SEAL

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| | | |
|----------------|------|----------|
| NO. | DATE | REVISION |
| ISSUE/REVISION | | |

PROJECT NAME
PROPOSED ADDITIONS &
ALTERATIONS TO HOLLAND HILL
SCHOOL
DESIGN DEVELOPMENT

| | |
|-------------------------|--------------------------------------------------------------------|
| BUILDING NAME & ADDRESS | HOLLAND HILL SCHOOL 105 MEADOWCROFT ROAD FAIRFIELD, CT 06424 |
|-------------------------|--------------------------------------------------------------------|

| | |
|----------------|------------|
| PROJECT NUMBER | SDE NUMBER |
| 2016.007 | PENDING |

DRAWING TITLE
EXISTING FIRST FLOOR PLAN

| | |
|--------------|----------------|
| SCALE | DRAWN BY |
| As indicated | BMS |
| FILENAME | DATE |
| DD MODEL | APRIL 28, 2016 |

AX2.01