

March 4, 2021

Mr. Mark Carpenter, P.E.
District 12 Environmental Engineer
5500 Transportation Blvd
Garfield Hts., Ohio 44125

Re: **CUY-BH-FY2023 Misc (PID 105909) Asbestos Survey**
CUY-271-15.410, Highland Road over I-271
SFN 1811851

Dear Mr. Carpenter,

EnviroScience, Inc. was contracted by the Ohio Department of Transportation to provide an asbestos survey of the CUY-271-15.410 bridge structure over Interstate 271. The bridge location coordinates are 41.55250, -81.44833.

The 387-foot long six-span continuous steel beam bridge with reinforced concrete deck and substructure will be replaced. Bridge inventory report information indicates the structure to have been originally built in 1963 with a major reconstruction in 2001. A site location map is included in Appendix A.

Asbestos Regulations and Definitions

Prior to the demolition or renovation of a structure (including bridge structures), an asbestos inspection must be conducted by a licensed asbestos hazard evaluation specialist in accordance with National Emissions Standard for Hazardous Air Pollutants (NESHAP) Guidelines, EPA Regulation 40 CFR, Subpart M, Part 61 and OEPA asbestos regulations (OAC 3745-20). Further, the Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) regulates all renovation and demolition work involving building materials which contain any amount of asbestos.

NESHAP, OEPA, and OSHA asbestos regulations define asbestos-containing material (ACM) as any material containing greater than one (1) percent asbestos as determined by polarized light microscopy. NESHAP regulations require that all materials suspected of containing asbestos be sampled to determine asbestos content or be assumed to be an ACM and, therefore, treated as such. Materials that are determined or assumed to be ACMs shall be quantified and assessed by a licensed inspector. The materials then shall be characterized and assigned one of the following designations: Friable, Category I Non-friable, and Category II Non-friable.

Friable ACM is defined by the Asbestos NESHAP regulations as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dried, can be crumbled, pulverized, or reduced to powder by hand pressure.

Non-friable ACM is any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM), that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM can remain on the structure during renovation/demolition if it will not be sanded, grinded, cut, abraded, or made friable by any means. The two categories of non-friable ACM are described as follows:



5070 Stow Road
Stow, OH 44224

- Category I Non-friable ACM - asbestos-containing packing, gaskets, resilient floor covering, and asphalt roofing products.
- Category II Non-friable ACM - any asbestos-containing material excluding Category I Non-friable ACM.

Regulated ACM (RACM) is defined as:

- Friable asbestos material.
- Category I Non-friable ACM that has become friable.
- Category I Non-friable ACM that has been or will be involved in sanding, grinding, cutting, or abrading.
- Category II Non-friable ACM that has a high probability of becoming crumbled, pulverized, or reduced to powder by forces expected to act on the material during renovation or demolition.

Asbestos Survey Summary

Bridge Plan Review- EnviroScience performed a limited review of available bridge construction plans that were compiled by the department and placed on ODOTs FTP site. Original construction plans and deck replacement plans from 2000 were reviewed. The rehab plans illustrated the presence of a 4" gas line (unidentified material) to remain on the structure. The abutment detail called out 1" preformed expansion joint material in the joint between the top of the abutment and the bottom of the abutment diaphragm; and caulk was called out beneath the vandal fence mounting flanges. In summary, asbestos is sometimes found in various caulks and joint materials, but no conclusive evidence of suspect asbestos containing materials was noted.

Asbestos Survey- An asbestos survey of the subject bridge structure was conducted on 01/13/21 by C.E. Kessler, Certified Asbestos Hazard Evaluation Specialist #ES34704 and Amy Wakefield, Certified Asbestos Hazard Evaluation Specialist #ES543881.

All accessible portions of the CUY-271-15.410 bridge were field investigated for the presence of suspected ACMs. A visual inspection of the top and bottom sides of the structure including the deck, parapets, vandal fence, beams, and abutments was conducted. One 4" PVC utility line was confirmed to be affixed to the north beam line for the length of the structure. No other utilities were observed beneath the structure. Samples were taken of the preformed expansion joint material and caulk mentioned above.

The following table summarizes the samples that were collected:

Table 1 – Sample Summary – CUY-271-15.410 Bridge SFN 1811851				
Sample	Homogeneous Area	Category	Location of Sample	Positive for Asbestos?
High-1	Mastic Side Sealant	Misc	East Abutment North End	No
High-2	Mastic Side Sealant	Misc	East Abutment North End	No
High-3	Mastic Side Sealant	Misc	East Abutment South End	No
High-4	Paint	Misc	Beam Line – south	No
High-5	Paint	Misc	Beam Line – south	No

Table 1 – Sample Summary – CUY-271-15.410 Bridge SFN 1811851				
Sample	Homogeneous Area	Category	Location of Sample	Positive for Asbestos?
High-6	Paint	Misc	Beam Line - north	No
High-7	Internal Mastic Packing	Misc.	PVC Conduit Casing	No
High-8	External Pipe Wrap	Misc	PVC Conduit	No
High-9	External PipeWrap	Misc.	PVC Conduit	No
High-10	Expansion Joint	Misc	East Back Wall	No
High-11	Expansion Joint	Misc.	East Back Wall	No
High-12	Expansion Joint	Misc.	East Back Wall	No
High-13	Caulk Compound	Misc.	Vandal Fence Mounting Flange	No
High-14	Caulk Compound	Misc.	Vandal Fence Mounting Flange	No
High-15	Caulk Compound	Misc.	Vandal Fence Mounting Flange	No
High-16	Joint Caulking	Misc.	Parapet Railing, Deck	No
High-17	Joint Caulking	Misc.	Parapet Railing, Deck	No
High-18	Joint Caulking	Misc.	Parapet Railing, Deck	No
High-19	Expansion Joint	Misc.	Parapet End Piece	No
High-20	Expansion Joint	Misc.	Parapet End Piece	No
High-21	Expansion Joint	Misc.	Parapet End Piece	No

All bulk samples collected were submitted to IATL International Asbestos Testing Laboratories of Mount Laurel, New Jersey, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Appendix B includes an IATL laboratory Chain of Custody, sampling log, and laboratory analysis report. A bridge diagram indicating sample locations and a photo log is provided in Appendix C.

Conclusion and Recommendations

Lab analysis of bulk samples taken from the CUY-271-15.410 bridge structure indicate that no asbestos containing material was identified.

If suspect ACMs are revealed during demolition or renovation activities that were not identified during this survey it is recommended that work activities cease until a Certified Asbestos Hazard Evaluation Specialist can evaluate the new material(s). Any removal and subsequent disposal of the asbestos containing material during demolition operations must comply with the Ohio Administrative code, the occupational Safety and Health Administration (OSHA) regulations and the National Emission Standard for Hazardous Air pollutants (NESHAP). Reference the Ohio Environmental Protection Agency adopted chapters 3745-20-03 & 3745-20-04 of the Ohio Administrative Code. This implements the NESHAP standards for asbestos and its removal.

Notification

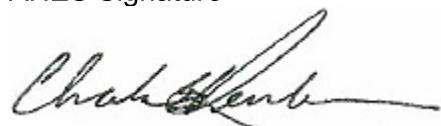
An OEPA Notification of Demolition and Renovation form must be submitted ten (10) working days prior to work activities. Appendix D contains the OEPA form of which Section 1 - General Information 1, 2, 3, 4, and 5; and Section 2 - Project Address Specific Information A, B, C, and D have been completed.

Once the Contractor has been selected for the project, the remaining sections of the form shall be completed (as applicable) and the notification form submitted with the proper remittance to the following address at least 10 working days prior to starting work:

Ohio EPA, DAPC Asbestos
P.O. Box 1049
Columbus, Ohio 43216-1049

The form may also be completed/submitted via on-line at <https://epa.ohio.gov/dapc/atu/asbestos>

AHES Signature



Charles E. Kessler, AICP, CAHES, CEP
Asbestos Hazard Evaluation Specialist #ES34704

Attachments

Appendix A

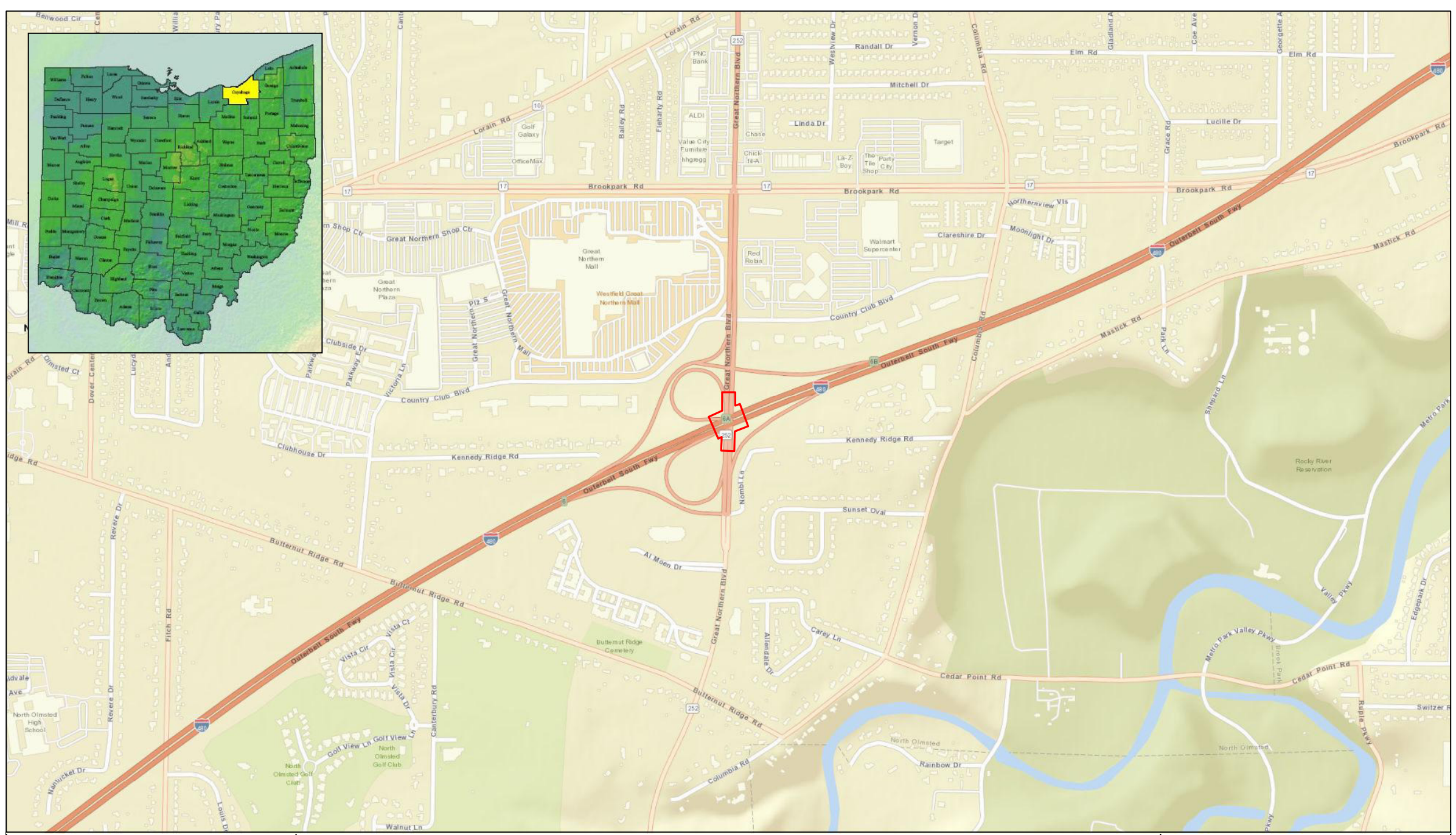
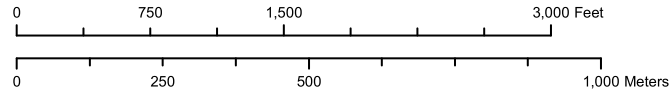


Figure 1. Location of Site on Highway Map of Cuyahoga County, Ohio. CUY-252-4.370.

 Project Area



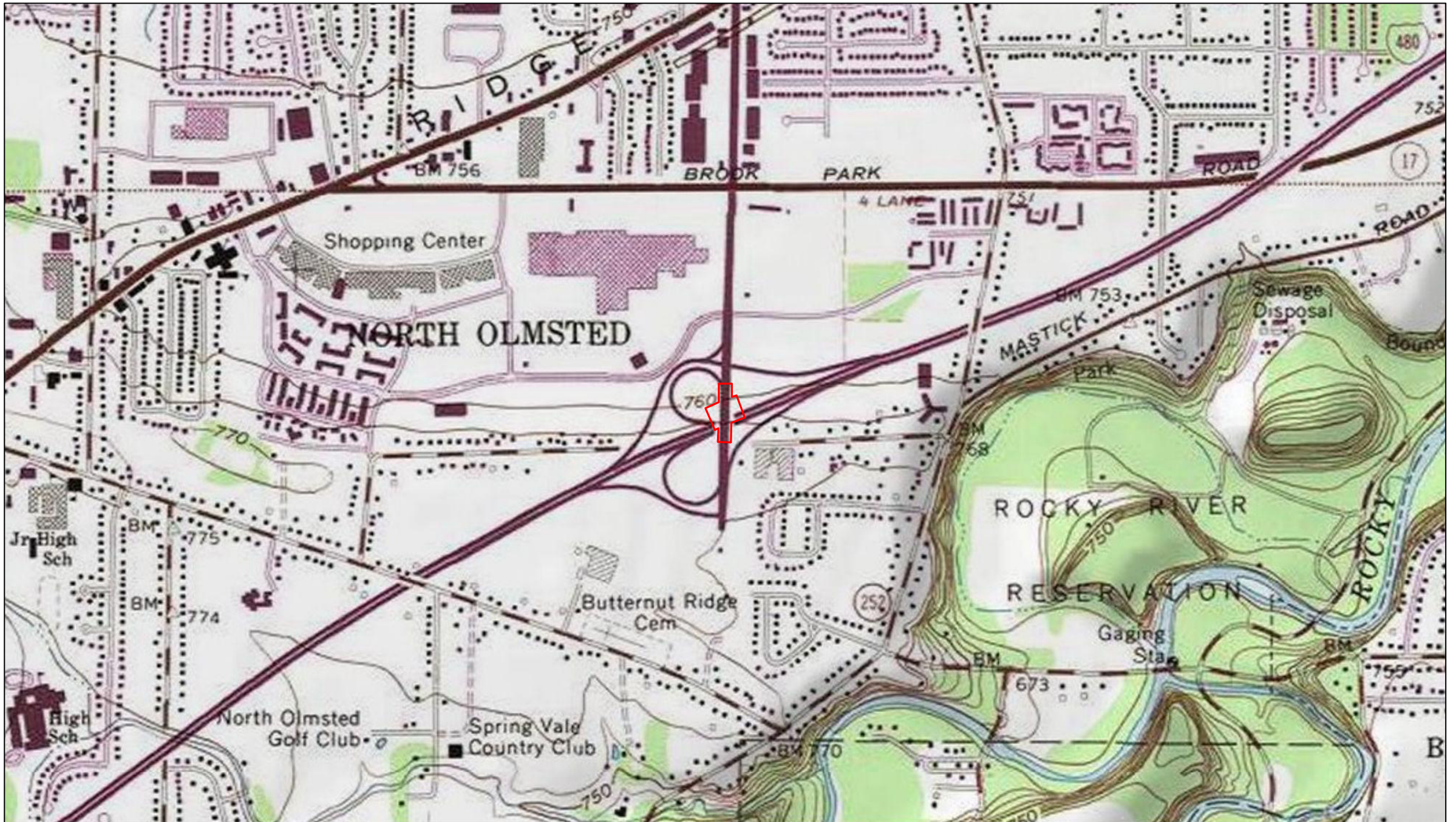
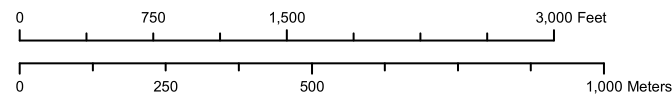


Figure 2. USGS 7.5-minute Topographic Map of North Olmsted Quadrangle. CUY-252-4.370.

 Project Area



Appendix B



9000 Commerce Parkway Suite B
 Mt. Laurel, New Jersey 08054
 Telephone: 856-231-9449
 Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: EnviroScience, Inc.
 5070 Stow Road
 Stow OH 44224

Report Date: 1/22/2021
 Report No.: 626740 - PLM
 Project: ODOT District 12 Bridges-CUY
 Project No.: 33582

Client: ENV507

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7129137 **Analyst Observation:** Black Sealant **Location:** East Abutment North End
Client No.: High-1 **Client Description:** Mastic Side Sealant At Gap **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 5 Cellulose 95

Lab No.: 7129138 **Analyst Observation:** Black Sealant **Location:** East Abutment North End
Client No.: High-2 **Client Description:** Mastic Side Sealant At Gap **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 5 Cellulose 95

Lab No.: 7129139 **Analyst Observation:** Black Sealant **Location:** East Abutment South End
Client No.: High-3 **Client Description:** Mastic Side Sealant At Gap **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected 5 Cellulose 95

Lab No.: 7129140 **Analyst Observation:** Grey Paint **Location:** Beam South Line
Client No.: High-4 **Client Description:** Paint **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129141 **Analyst Observation:** Grey Paint **Location:** Beam South Line
Client No.: High-5 **Client Description:** Paint **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129142 **Analyst Observation:** Grey Paint **Location:** Beam North Line
Client No.: High-6 **Client Description:** Paint **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 1/18/2021
 Date Analyzed: 01/22/2021
 Signature: David Hayes
 Analyst: David Hayes

Approved By: Frank E. Ehrenfeld, III
 Frank E. Ehrenfeld, III
 Laboratory Director



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 5070 Stow Road
 Stow OH 44224

Report Date: 1/22/2021
 Report No.: 626740 - PLM
 Project: ODOT District 12 Bridges-CUY
 Project No.: 33582

Client: ENV507

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7129143
 Client No.: High-7

Analyst Observation: Black/Off-White Insulation
 Client Description: PVC Conduit Casing Internal Mastic Packing

Location:
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 15 Synthetic
 3 Cellulose

Percent Non-Fibrous Material:
 82

Lab No.: 7129144
 Client No.: High-8

Analyst Observation: Off-White/Black Wrap
 Client Description: PVC Conduit 4" External Wrap

Location:
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 25 Synthetic

Percent Non-Fibrous Material:
 75

Lab No.: 7129145
 Client No.: High-9

Analyst Observation: Off-White/Black Wrap
 Client Description: PVC Conduit 4" External Wrap

Location:
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 25 Synthetic

Percent Non-Fibrous Material:
 75

Lab No.: 7129146
 Client No.: High-10

Analyst Observation: Black Expansion Joint
 Client Description: Expansion Joint

Location: East Back Wall
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 70 Cellulose

Percent Non-Fibrous Material:
 30

Lab No.: 7129147
 Client No.: High-11

Analyst Observation: Black Expansion Joint
 Client Description: Expansion Joint

Location: East Back Wall
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 70 Cellulose

Percent Non-Fibrous Material:
 30

Lab No.: 7129148
 Client No.: High-12

Analyst Observation: Black Expansion Joint
 Client Description: Expansion Joint

Location: East Back Wall
 Facility:

Percent Asbestos:
 None Detected

Percent Non-Asbestos Fibrous Material:
 70 Cellulose

Percent Non-Fibrous Material:
 30

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 1/18/2021
 Date Analyzed: 01/22/2021
 Signature: David Hayes
 Analyst: David Hayes

Approved By: Frank E. Ehrenfeld, III
 Frank E. Ehrenfeld, III
 Laboratory Director



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 Stow OH 44224

Report Date: 1/22/2021
 Report No.: 626740 - PLM
 Project: ODOT District 12 Bridges-CUY
 Project No.: 33582

Client: ENV507

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7129149 **Analyst Observation:** Grey Caulk **Location:** Vandal Fence Mounting Flange
Client No.: High-13 **Client Description:** Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129150 **Analyst Observation:** Grey Caulk **Location:** Vandal Fence Mounting Flange
Client No.: High-14 **Client Description:** Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129151 **Analyst Observation:** Grey Caulk **Location:** Vandal Fence Mounting Flange
Client No.: High-15 **Client Description:** Joint Compound **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129152 **Analyst Observation:** Grey Caulk **Location:** Parapet Railing Deck
Client No.: High-16 **Client Description:** Joint Caulking **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129153 **Analyst Observation:** Grey Caulk **Location:** Parapet Rail Deck
Client No.: High-17 **Client Description:** Joint Caulking **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Lab No.: 7129154 **Analyst Observation:** Grey Caulk **Location:** Parapet Rail Deck
Client No.: High-18 **Client Description:** Joint Caulking **Facility:**
Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:
None Detected None Detected 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 1/18/2021
 Date Analyzed: 01/22/2021
 Signature: David Hayes
 Analyst: David Hayes

Approved By: Frank E. Ehrenfeld, III
 Frank E. Ehrenfeld, III
 Laboratory Director



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Client: EnviroScience, Inc.
5070 Stow Road
Stow OH 44224

Report Date: 1/22/2021
Report No.: 626740 - PLM
Project: ODOT District 12 Bridges-CUY
Project No.: 33582

Client: ENV507

PLM BULK SAMPLE ANALYSIS SUMMARY

Lab No.: 7129155
Client No.: High-19

Analyst Observation: Black Expansion Joint
Client Description: Expansion Joint

Location: Parapet End Piece
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
70 Cellulose

Percent Non-Fibrous Material:
30

Lab No.: 7129156
Client No.: High-20

Analyst Observation: Black Expansion Joint
Client Description: Expansion Joint

Location: Parapet End Piece
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
70 Cellulose

Percent Non-Fibrous Material:
30

Lab No.: 7129157
Client No.: High-21

Analyst Observation: Black Expansion Joint
Client Description: Expansion Joint

Location: Parapet End Piece
Facility:

Percent Asbestos:
None Detected

Percent Non-Asbestos Fibrous Material:
70 Cellulose

Percent Non-Fibrous Material:
30

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 1/18/2021
Date Analyzed: 01/22/2021
Signature: *David Hayes*
Analyst: David Hayes

Approved By: *Frank E. Ehrenfeld, III*
Frank E. Ehrenfeld, III
Laboratory Director



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Report No.: 626740 - PLM
Project: ODOT District 12 Bridges-CUY
Project No.: 33582

Client: ENV507

Appendix to Analytical Report

Customer Contact: Chuck Kessler

Method: 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, and USEPA 600, R93-116 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com

iATL Office Manager: wchampion@iatl.com

iATL Account Representative: House Account

Sample Login Notes: See Batch Sheet Attached

Sample Matrix: Bulk Building Materials

Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)



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Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) www.atsdr.cdc.gov, United States Geological Survey (USGS) www.minerals.usgs.gov/minerals/, US EPA www.epa.gov/asbestos. The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite (https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf)

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116
Requirements/Comments: Minimum of 0.1 g of sample. ~0.25% for most samples.



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2) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

3) **Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Floats" only.

4) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Sinks" only.

5) **Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004
Requirements/Comments: Minimum 50g** of dry sample. Analysis of "Suspension" only.
*With advance notice and confirmation by the laboratory.

**Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).



9000 Commerce Parkway, Suite B • Mount Laurel, NJ 08054
 Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

Chain of Custody

–Bulk Asbestos–

Contact Information	
Client Company: <u>EnviroScience Inc</u>	Project Number: <u>33582</u>
Office Address: <u>5070 Stow Road</u>	Project Name: <u>ODOT District 12 Bridges- CUY</u>
City, State, Zip: <u>Stow, Ohio 44224</u>	Primary Contact: <u>Chuck Kessler</u>
Fax Number: _____	Office Phone: <u>330-688-0111</u>
Email Address: <u>ckessler@enviroscienceinc.com</u>	Cell Phone: <u>330-592-9619</u>

PLM Instructions:	
<input checked="" type="checkbox"/> PLM: Bulk Asbestos Building Materials EPA 600 R-93/116, 1993	
<input type="checkbox"/> PLM: Bulk Asbestos Building Materials EPA 600 M-4/82-020, 1982	
<input type="checkbox"/> PLM: Bulk Asbestos Building Materials NIOSH 9002, 1985	
<input type="checkbox"/> PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.1, 2002	
<input type="checkbox"/> PLM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.6, 2010	
<input type="checkbox"/> TEM: Bulk Asbestos Building Materials NYSDOH-ELAP 198.4, 2009	
<input type="checkbox"/> PLM: Point Counting	<input type="checkbox"/> PLM: Analyze Until Positive (Positive Stop)
<input type="checkbox"/> PC: via ELAP 198.1	<input type="checkbox"/> AUP: by Homogenous Area as Noted
<input type="checkbox"/> PC: 400 Points	<input type="checkbox"/> AUP: by Material Type as Noted
<input type="checkbox"/> PC: 800 Points *	<input type="checkbox"/> PLM: NOB via 198.6
<input type="checkbox"/> PC: 1600 Points *	<input type="checkbox"/> PLM: Friable via EPA 600 2.3
<input type="checkbox"/> PLM: Instructions for Multi-Layered Samples	<input type="checkbox"/> If <1% by PLM, to TEM via 198.4 *
<input type="checkbox"/> Analyze and Report All Separable Layers per EPA 600	<input type="checkbox"/> If <1% by PLM, Hold for Instructions
<input type="checkbox"/> Report Composite for Drywall Systems per NESHAP	<input type="checkbox"/> PLM: Non-Building Material ^{***} (Dust, Wipe, Tape)
<input type="checkbox"/> Report All Layers and Composite Where Applicable	<input type="checkbox"/> Soil or Vermiculite Analysis *
<input type="checkbox"/> Only Analyze and Report Specifically Noted Layer	<input type="checkbox"/> CARB 435
Special Instructions: _____	
<small>* Additional charge and turnaround may be required ** Alternative Method (ex: EPA 600/R-04/004) may be recommended by Laboratory</small>	

Turnaround Time	
Preliminary Results Requested Date: <u>January 22, 2021</u>	<input type="checkbox"/> Verbal <input checked="" type="checkbox"/> Email <input type="checkbox"/> Fax
<input type="checkbox"/> 10 Day <input type="checkbox"/> 5 Day <input checked="" type="checkbox"/> 3 Day <input type="checkbox"/> 2 Day <input type="checkbox"/> 1 Day* <input type="checkbox"/> 12 Hour** <input type="checkbox"/> 6 Hour** <input type="checkbox"/> RUSH**	
<small>* End of next business day unless otherwise specified. ** Matrix Dependent. ***Please notify the lab before shipping***</small>	

Chain of Custody		
Relinquished (Name/Organization): <u>C. Kessler/EnviroScience Inc</u>	Date: <u>1/14/21</u>	Time: <u>13:00</u>
Received (Name / iATL): _____	Date: _____	Time: _____
Sample Login (Name / iATL): _____	Date: _____	Time: _____
Analysis(Name(s) / iATL): _____	Date: _____	Time: _____
QA/QC Review (Name / iATL): _____	Date: _____	Time: _____
Archived / Released: _____	QA/QC InterLAB Use: _____	Date: _____
		Time: _____



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 Phone: 877-428-4285/856-231-9449 • Fax: 856-231-9818

Sample Log

–Bulk Asbestos –

Client: ODOT District 12 Project: CUY-271-15.410

Sampling Date/Time: 01/13/21 09:40

Bulk Asbestos Sample Log			
Client Sample #	iATL #	Location/Description	Notes
High-1		East Abutment North End	Mastic Side Sealant at Gap
High-2		East Abutment North End	Mastic Side Sealant at Gap
High-3		East Abutment South End	Mastic Side Sealant at Gap
High-4		Beam- South Line	Paint
High-5		Beam- South Line	Paint
High-6		Beam- North Line	Paint
High-7		PVC- Conduit Casing	Internal Mastic Packing
High-8		PVC Conduit 4"	External Wrap
High-9		PVC Conduit 4"	External Wrap
High-10		East Back Wall	Expansion Joint
High-11		East Back Wall	Expansion Joint
High-12		East Back Wall	Expansion Joint
High-13		Vandal Fence Mounting Flange	Joint Compound
High-14		Vandal Fence Mounting Flange	Joint Compound
High-15		Vandal Fence Mounting Flange	Joint Compound
High-16		Parapet Railing Deck	Joint Caulking



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Sample Log

–Bulk Asbestos –

Client: ODOT District 12 Project: CUY-271-15.410 Highland Road over I-271

Sampling Date/Time: 1/13/21 09:40

Bulk Asbestos Sample Log			
Client Sample #	iATL #	Location/Description	Notes
High-17	7129137	Parapet Rail Deck	Joint Caulking
High-18	7129138	Parapet Rail Deck	Joint Caulking
High-19	7129139	Parapet End Piece	Expansion Joint
High-20	7129140	Parapet End Piece	Expansion Joint
High-21	7129141	Parapet End Piece	Expansion Joint
High-6	7129142	Beam- North Line	Paint
High-7	7129143	PVC- Conduit Casing	Internal Mastic Packing
High-8	7129144	PVC Conduit 4"	External Wrap
High-9	7129145	PVC Conduit 4"	External Wrap
High-10	7129146	East Back Wall	Expansion Joint
High-11	7129147	East Back Wall	Expansion Joint
High-12	7129148	East Back Wall	Expansion Joint
High-13	7129149	Vandal Fence Mounting Flange	Joint Compound
High-14	7129150	Vandal Fence Mounting Flange	Joint Compound
High-15	7129151	Vandal Fence Mounting Flange	Joint Compound
High-16	7129152	Parapet Railing Deck	Joint Caulking

* Assumed High-1 → -5

IATL

Appendix C

CUY-271-15.410

Highland Rd over I-271

Legend

41.55250, -81.44833



41.55250, -81.44833

High 19, 20, 21
Parapet End Piece
Expansion Joint

High 16, 17, 18
Parapet Railing Deck
Caulking

High 13, 14, 15
Vandal Fence
Mounting Flange joint
compound

High 6 Paint
north line
beam

High 8,9 External
PVC Wrap

High 1 and High 2
Mastic Sealant

High 4 and 5 Paint

High 7 internal mastic
packing

High 10, 11, 12
Expansion Joint

High 3 Mastic Sealant





PHOTO 1
Looking west at CUY-271-
15.410 bridge



PHOTO 2
Looking at the north end east
abutment 4"x4" mastic sealant.
Sample collected here.



PHOTO 3
Underside of bridge. Paint
samples collected.



PHOTO 4
Internal mastic packing in
coupler. Sample taken here.



PHOTO 5
External pipe wrap around 4"
PVC conduit at north beam.
Sample taken here.



PHOTO 6
Expansion joint on east back
wall. Sample taken here.



PHOTO 7
Vandal fence mounting flange.
Caulking samples taken here.



PHOTO 8
Parapet railing on the deck.
Sample taken of joint compound.



PHOTO 9
Parapet railing on the deck.
Sample taken of expansion joint.

Appendix D



Notification of Demolition and Renovation/Abatement

Section 1: General Information

Division of Air Pollution Control

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at epa.ohio.gov/asbestos. This form can be completed, and payment made, at ebiz.epa.ohio.gov. Questions? asbestos@epa.ohio.gov or (614) 466-0061.

Ohio EPA Use Only	Notification #:	Postmarked: / /	Received: / /	<input type="checkbox"/> Hand-Delivered
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1) Notification Information (Check all that apply)

<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Revision # (count):	<input type="checkbox"/> Installation	<input type="checkbox"/> Emergency	<input type="checkbox"/> Annual	<input type="checkbox"/> Cancellation	Project County: Cuyahoga
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2) Owner, Asbestos Abatement Contractor, Billing and Fire Department Information Revised?

Owner			
Name: Ohio Department of Transportation			Is this a company? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Address: 5500 Transportation Blvd		Contact Person: Mark Carpenter	
City: Garfield Heights	State: OH	Zip: 44125 -	
Email: Mark.Carpenter@dot.state.oh.us	Phone: (216) 584 - 2089	Fax: () -	
Asbestos Abatement Contractor (if applicable)			
Name:	License #: AC	Expiration Date: / /	
Address:		Contact Person:	
City:	State:	Zip: -	
Email:	Phone: () -	Fax: () -	
Billing Contact			
Is this contact associated with the <input type="checkbox"/> Owner, <input type="checkbox"/> Asbestos Abatement Contractor, or <input type="checkbox"/> Demolition Contractor (if not installation)?			
Address:		Contact Person:	
City:	State:	Zip: -	
Email:	Phone: () -	Fax: () -	
Fire Department (if applicable)			
Name:			
Address:		Contact Person:	
City:	State:	Zip: -	
Email:	Phone: () -	Fax: () -	

3) Ohio Asbestos Hazard Evaluation Specialist and Evaluation Procedure Revised?

Evaluation Specialist: Charles Kessler	Certification #: ES 34704	Expiration Date: 10 / 7 / 2021
Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of regulated asbestos-containing material (RACM) and Category I and Category II non-friable asbestos-containing material: <input checked="" type="checkbox"/> PLM <input type="checkbox"/> Point Count <input type="checkbox"/> TEM <input type="checkbox"/> Other Method (Explain Below):		
Bulk Sampling w/point count of samples that are less than 10% asbestos containing		

4) Procedures to be followed should unexpected RACM be discovered (check all that apply) Revised?

<input checked="" type="checkbox"/> Stop work and keep wet	<input type="checkbox"/> Evacuate area	<input type="checkbox"/> Demarcate area	<input type="checkbox"/> Contact licensed abatement contractor
<input type="checkbox"/> Contact district office/local air authority			
<input checked="" type="checkbox"/> Other (Explain): Notify ODOT Project Engineer and Project Superintendent			

5) Planned Demolition (check all that apply) Revised?

Describe demolition work to be performed and method(s) to be employed, including demolition techniques to be used:	
<input type="checkbox"/> Implosion	<input type="checkbox"/> Fire Training
<input type="checkbox"/> Wet Methods	<input checked="" type="checkbox"/> Manual Demolition
<input checked="" type="checkbox"/> Mechanical Demolition	<input type="checkbox"/> Other (Explain):
Existing structure components will be removed by industry standard means and methods	

Notification of Demolition and Renovation/Abatement

Section 1: General Information

Continued

Mail completed form and payment to:
Ohio EPA, DAPC – Asbestos
P.O. Box 1049, Columbus, OH 43216-1049

Description of affected facility components (include attachment if necessary):

(Revised 02/18)

Page 1 of 3

6) Asbestos Description and Engineering Controls (if asbestos is being abated) Revised?

For the material listed in each project, describe the type(s) of ACM to be abated, engineering controls and work practices to be used to minimize emissions and ensure proper waste handling:

Type of ACM to be abated:	<input type="checkbox"/> Surfacing	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Other
Engineering Controls:	<input type="checkbox"/> Wet Methods	<input type="checkbox"/> Glove Bag	<input type="checkbox"/> NPE <input type="checkbox"/> AFD <input type="checkbox"/> Other:
Work Practices:	<input type="checkbox"/> Intact Removal	<input type="checkbox"/> Manual	<input type="checkbox"/> Mechanical <input type="checkbox"/> Other:

7) Asbestos Waste Transporter (if applicable) Revised?

Transporter #1 Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -
Transporter #2 Name (if applicable):		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

8) Asbestos Waste Disposal Site (if applicable) Revised?

Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

9) Emergency Demolition (complete if you checked "Emergency" above and "Demolition" for any project) Revised?

A copy of the issued order, including the following information, **must be attached** to this notification.

Government Official Issuing Order:	Title:
Agency:	Authority of Order (Citation of Code):
Date of Order: / /	Demolition Date: / /

10) Emergency Renovation/Abatement (complete if you checked "Emergency" above and "Renovation/Abatement" for any project) Revised?

Date of Emergency: / /	Time of Emergency: : <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
Description of Sudden, Unexpected Event:	
Explanation of how the event caused unsafe conditions or equipment damage:	

11) Attestation Revised?

In accordance with Ohio Administrative Code rule 3745-20-03(A)(4)(p), I certify that at least one person trained as required by paragraph (B) of rule 3745-20-04 of the Administrative Code will supervise the stripping and removal described by this notification. I acknowledge that the submission of false or misleading statements is prohibited by law and I certify that facts contained in this notification are true, accurate, and complete.

Signature:	Date: / /
Name: Mark Carpenter	Title: District 12 Environmental Engineer
Organization: Ohio Department of Transportation	



Notification of Demolition and Renovation/Abatement

Section 2: Project Address Specific Information

Division of Air Pollution Control

Please complete Section 2 for the address included with this notification. If the project is an "Installation" per OAC 3745-20, complete a separate Section 2 page for each address associated with this notification.

Ohio EPA Use Only Project ID #:

A. Facility Description Revised?

Building Name (if applicable): CUY-271-15.410		Site Location (specific): Highland Rd over I-271 SFN 1811851	
Address: Highland Rd over I-271, Coordinates: 41.55250, -81.44833			
City: Highland Heights		State: OH	Zip: 44143 -
Building Size (square feet):	No. of Floors:	Age: 58	
Present Use: Highway Bridge		Prior Use: Highway Bridge	

B. Type of Operation (check all that apply) Revised?

Demolition Renovation/Abatement – Type: Removal Repair Encapsulation Enclosure

C. Asbestos Present (check one) Revised?

Yes No No, previously abated Year Abated: _____

D. Approximate Amount of Asbestos-Containing Materials (complete table below and Section 1 #6 if asbestos is present) Revised?

	Material to be Removed				Material NOT to be Removed	
	RACM	Non-friable Asbestos-Containing Material		Non-friable Asbestos-Containing Material		
		Category I	Category II	Category I	Category II	
Pipes (linear feet)						
Surface area on other facility components (ft ²)						
Volume if length or area cannot be measured (ft ³)						

E. Asbestos Abatement Schedule and Abatement Specialist (original notification is required 10 working days prior to the start of work) Revised?

Setup Date: / /		Abatement Date: / /			Complete Date: / /		
(Shift 1) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:		Certification #: AS			Expiration Date: / /		
(Shift 1) Time start/end on site	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Abatement Specialist Name:		Certification #: AS			Expiration Date: / /		

F. Demolition Contractor (if applicable) Revised?

Name:		
Address:		Contact Person:
City:	State:	Zip: -
Email:	Phone: () -	Fax: () -

G. Demolition Schedule (original notification is required 10 working days prior to the start of work) Revised?

Start Date: / /	Complete Date: / /
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H. Project Hold Revised?

Hold Begin Date: / /	Work Resume Date: / /
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