FRA-270-9.3
BRIDGE REHABILITATION
ODOT DISTRICT 6
PID 105498
COLUMBUS, OHIO

ASBESTOS SURVEY

Prepared for:
Ohio Department of Transportation
District 6
400 East William Street
Delaware, OH 43015

Prepared By:
Resource International, Inc.
6350 Presidential Gateway
Columbus, Ohio 43231

Rii Project #W-20-145

January 2021

RESOURCE INTERNATIONAL, INC.
6350 Presidential Gateway
Columbus, Ohio 43231
Ph: 614.823.4949
Fx: 614.823.4990

January 6, 2021

Mr. Holly Grimes, PE
Consultant Contract Manager
Ohio Department of Transportation
District 6 Planning & Engineering
400 East William Street
Delaware, OH 43015
(740) 833-8248

Re: Asbestos Survey
FRA-270-9.3 Bridge Rehabilitation
ODOT District 6, PID 105498
Columbus, Ohio
Rii Project No. W-20-145

Dear Ms. Grimes,

Resource International, Inc. (Rii) is submitting this Asbestos Survey conducted for the FRA-270-9.3 Bridge Rehabilitation Project, located at Trabue Road over I-270, in Columbus, Ohio.

The entire report should be read to obtain a more complete understanding of the information provided, and to aid in any decisions made or actions taken based on our findings and conclusions.

If you have any questions concerning this report, please do not hesitate to call.

Sincerely,
RESOURCE INTERNATIONAL, INC.

Michelle L Eckels

Michelle L. Eckels, CPG
Vice President – Environmental Services
Certified Asbestos Hazard Evaluation Specialist – No. ES33141
Certified Asbestos Hazard Abatement Project Designer – No. PD60600

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EXECUTIVE SUMMARY

Resource International, Inc. (Rii) was retained by the Ohio Department of Transportation (ODOT) to complete an asbestos survey as part of the FRA-270-9.3 Bridge Repair Project, located at Trabue Road over I-270, in Columbus, Ohio. The asbestos survey included the assessment for the presence of asbestos-containing materials (ACM) identified during the sampling and evaluation that potentially will be disturbed as part of bridge repair.

When using the PLM method of analysis, **one (1) building material sampled within the project limits was identified as having detectable asbestos fibers**. Copies of the analytical results can be found in Appendix C.

Location	ACM	ACM Cat**	Approximate Quantity*
Guardrails on bridge	Caulk between guardrail and concrete	Cat. II	75 sf

*sf – square feet; lf – linear feet; cf – cubic feet
**Category – Category I Nonfriable ACM (Cat. I), Category II Nonfriable ACM (Cat. II), Regulated ACM (RACM)

Please refer to Section 4.0 for conclusions and recommendations. The entire report should be read to obtain a full understanding in order to make an informed business decision about the site.

1.0 INTRODUCTION

1.1 GENERAL

Resource International, Inc. (Rii) was retained by the Ohio Department of Transportation (ODOT) District 6 to complete an asbestos survey as part of the FRA-270-9.3 Bridge Repair Project (PID 105498) located at Trabue Road over Interstate I-270, in Columbus, Ohio. Refer to the Site Location and Aerial Location Maps in Appendix A.

The asbestos survey included the assessment for the presence of asbestos-containing materials (ACM) identified during the sampling and evaluation that potentially will be disturbed as part of bridge repair and renovation.

1.2 SITE SUMMARY

The project includes the repair/replacement of the main decking and/or other deficient features of the Trabue Road Bridge over I-270. The structure is a 2-lane, multi-span bridge constructed in 1969, and is approximately 274 feet in length.

Bridge Location maps are provided as Figures 1 and 2 in Appendix A. Site photographs are provided in Appendix B.

2.0 ASBESTOS SURVEY

The asbestos building survey was conducted to determine if ACM is present within the structure and to comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR 61 Subpart M) and the Ohio Environmental Protection Agency (Ohio EPA) Ohio Asbestos Emission Control Rules (Ohio Administrative Code [OAC] 3745-20). The NESHAP requires an asbestos survey prior to demolition or renovation, and classification of suspect materials into *Category I nonfriable ACM*, *Category II nonfriable ACM*, or *Regulated ACM (RACM)*.

During the design phase of a project, ODOT requires any structure to be renovated or demolished must be evaluated for the presence of ACM to comply with the NESHAP requirements. The ODOT Office of Environmental Services has developed an Asbestos Guidance Document, dated April 1, 2018, for employees, consultants, and contractors working on ODOT projects. Rii conducted the asbestos survey in compliance with the ODOT guidance document.

2.1 METHODOLOGY

On December 29, 2020, two (2) Ohio EPA-certified Asbestos Hazard Evaluation Specialists (AHES) visually inspected the suspect materials identified to determine the presence of ACM. The AHES inspectors included Kristy Shepard (Certification #ES34846) and Zachary Hamilton (Certification #ES34150).

Building materials suspect to be asbestos-containing were inspected and grouped as homogeneous if uniform in texture, color, date of application, and appears identical in other respects. A total of four (4) homogeneous ACMs were visually inspected and sampled during the field inspection. The following table is a list of homogeneous building materials initially suspect to be ACM. Site photographs are provided in Appendix B.

TABLE 1 – HOMOGENEOUS MATERIALS DESCRIPTION SUMMARY

Material Code	Homogeneous Material Description
YP	Yellow striping paint
WP	White striping paint
CL	Caulk between guardrail and concrete
CD	Concrete deck

Materials identified as suspect ACM were bulk sampled for laboratory analysis to determine asbestos content, in accordance with 40 CFR 763.86. A total of eight (8) bulk samples were obtained from the bridge structure and analyzed. Each suspect ACM was touched to determine whether it was friable or nonfriable, and the condition of each

suspect ACM was documented. Whenever possible, reasonably ascertainable quantities of suspect ACM were visually observed and recorded. The bulk samples were placed in plastic bags, sealed and labeled with a unique sample identification number and a description of material.

2.2 ANALYTICAL RESULTS

The bulk samples were submitted to EMSL Analytical, Inc. (EMSL) in Cinnaminson, New Jersey for analysis using polarized light microscopy (PLM). EMSL Analytical laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for conducting asbestos analysis using PLM. The PLM analysis was performed in accordance with the Environmental Protection Agency (EPA) Method 600/R-93/116, as outlined in 40 CFR 763.109 Appendix A. A chain-of-custody was prepared to accompany bulk samples to the laboratory. The complete laboratory analytical report and chain of custody are provided in Appendix C.

The Ohio EPA requires notification when buildings are demolished and when renovation activities disturb specific quantities of ACM. For regulatory purposes, a material is considered ACM by EPA if it contains more than 1% asbestos, and a material is considered as asbestos-containing by OSHA if it contains any percent of asbestos, including less than 1% asbestos.

When a bulk sample has tested positive for the presence of asbestos, and the percentage is 10% or lower, the point count method can be performed on the sample. Point counting provides a determination of the area percentage of asbestos in a sample, with a detection limit of 0.25% asbestos.

A summary of the samples taken and materials which were identified as ACM are listed in Table 2 – Asbestos Sample Summary below.

TABLE 2 – ASBESTOS SAMPLE SUMMARY

Sample #	Location	Sample Material	HA Code	% Asbestos*
001	Roadway on bridge	Yellow striping paint	YP	NAD
002	Roadway on bridge	Yellow striping paint	YP	NAD
003	Roadway on bridge	White striping paint	WP	NAD
004	Roadway on bridge	White striping paint	WP	NAD
005	**Guardrails on bridge**	**Caulk between guardrail and concrete**	**CL**	**1.5% Chrysotile****
006	**Guardrails on bridge**	**Caulk between guardrail and concrete**	**CL**	**2.5% Chrysotile****
007	Under bridge	Concrete deck	CD	NAD

Sample #	Location	Sample Material	HA Code	% Asbestos*
008	Under bridge	Concrete deck	CD	NAD

*NAD – No Asbestos Detected
** - Point Count Analyses

2.3 ASBESTOS CLASSIFICATIONS

ACMs are classified as either Category I nonfriable, Category II nonfriable, or Regulated Asbestos-containing Material (RACM) in accordance with the Ohio Administrative Code (OAC) 3745-20-01 and 40 CFR Part 61.141, Subpart M. Refer to below for a definition of each classification:

- **Category I Nonfriable ACM** – Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than 1 percent asbestos as determined using Polarized Light Microscopy, as specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1.

- **Category II Nonfriable ACM** – Any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using Polarized Light Microscopy, as specified in Appendix E, Subpart E, 40 CFR Part 763, Section 1, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

- **Regulated ACM (RACM)** –
    a) Friable asbestos material;
    b) Category I nonfriable ACM that has become friable;
    c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or
    d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by 40 CFR Part 61.

2.4 LIMITATIONS

The scope of this inspection is limited to building components that were visible to the inspector/risk assessor at the time of the inspection. The project scope does not include components that may have been concealed from sight by irregular construction practices, roofing material, or hidden by temporary procedures used to secure the unit or other circumstances that would prevent visual inspection of the component.

3.0 QUALITY ASSURANCE/QUALITY CONTROL

Rii utilizes several procedures to ensure a high standard of care throughout the project. Such procedures include:

- All asbestos inspectors are Ohio EPA certified Asbestos Hazard Evaluation Specialists.
- Disposable nitrile gloves and new, sealable, plastic bags are used to minimize cross-contamination of samples.
- Sampling equipment is cleaned between continuous uses with wet methods.
- Chain-of-custodies are completed after each survey, prior to transporting the samples to a laboratory for analysis.
- The laboratory used for analysis of asbestos samples is accredited by the National Institute of Standards and Technology under the National Voluntary Laboratory Accreditation Program (NVLAP).
- The laboratory staff checks the sample numbers with the chain-of-custody.
- A written report is developed by the inspectors, and peer-reviewed by the project manager.

4.0 CONCLUSIONS AND RECOMMENDATIONS

An asbestos survey was conducted in order to comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR 61 Subpart M) and the Ohio EPA Ohio Asbestos Emission Control Rules (Ohio Administrative Code [OAC] 3745-20). Per NESHAP and Ohio EPA regulations, bulk samples were obtained from the structure and categorized into four (4) homogeneous materials.

When using the PLM method of analysis, **one (1) building material sampled within the project limits was identified as having detectable asbestos fibers of greater than 1% asbestos and therefore is regulated by both the Ohio EPA and OSHA**. Copies of the analytical results can be found in Appendix C.

TABLE 3 – ACM RESULTS

Location	ACM	ACM Cat**	Approximate Quantity*
Guardrails on bridge	Caulk between guardrail and concrete	Cat. II	75 sf

*sf – square feet; lf – linear feet; cf – cubic feet
**Category – Category I Nonfriable ACM (Cat. I), Category II Nonfriable ACM (Cat. II), Regulated ACM (RACM)

The caulk between the guardrail and concrete was deteriorated and has a high chance of becoming friable during demolition. As the identified ACM is to be disturbed, proper asbestos abatement procedures should be implemented prior to the commencement of all renovation/demolition work. All materials identified as RACM, or may become RACM during renovation/demolition activities, and will be disturbed must be abated by a State of Ohio licensed abatement contractor, transported, and disposed of at an EPA licensed asbestos landfill.

4.1 REGULATORY NOTIFICATION OF RENOVATION/DEMOLITION

Per Ohio EPA regulations, A *Notification of Demolition and Renovation Form* must be completed and submitted at least ten (10) working days prior to the following activities:

- every **demolition** of a facility requires notification, regardless of whether asbestos is involved.
- every **renovation** of a facility must be submitted when the amount of regulated asbestos-containing material (RACM) stripped, removed, dislodged, cut, drilled, or similarly disturbed exceeds 260 linear feet on pipes or 160 square feet on other facility components or 35 cubic feet off facility components.

- every **abatement**, when the activity involves the removal, renovation, enclosure, repair or encapsulation of friable asbestos-containing material in an amount greater than 50 linear feet on pipes or 50 square feet on other facility components.

Thus, if the identified ACM will be disturbed by this project, the owner must follow the Ohio EPA standards for notification of demolition and renovation work. A copy of the *Ohio EPA Notification of Demolition and Renovation Form* is provided in Appendix E.

5.0 RELIABILITY OF REPORT - DISCLAIMER

This report has been prepared to document findings of this asbestos survey only, not for abatement design. Abatement design should be performed by appropriately experienced and credentialed personnel. Additional reconnaissance work, which may include minor demolition to access hidden areas and further sampling/analyses, should be expected as part of abatement design.

Our inspection excluded areas that require significant demolition of building surfaces and structures for access; therefore, should suspect asbestos-containing materials (e.g., pipe insulation, vermiculite, etc.) be discovered below the roof material or within wall systems and inaccessible pipe chases, these materials should be properly sampled and removed by an abatement contractor if necessary.

The opinions, conclusions, and recommendations presented in this report are put forth for a specific and proposed purpose and for the specific site discussed. Rii is not responsible for any other application, whether of purpose or location, of our opinions, conclusions, or recommendations, other than as specifically indicated in this report.

Conclusions reached in this report are based upon the objective data available to Rii at the time of forming the opinions as presented in this report. The accuracy of this report depends upon the accuracy of the data. The conclusions reached herein represent our opinions. Rii is not responsible for actual conditions proven to be materially at variance with the data that was available to them and upon which they relied, as presented in this report.

6.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

The Ohio Environmental Protection Agency licenses of the personnel involved in this survey are provided in Appendix D. The environmental professionals responsible for the limited asbestos survey are as follows:

Zachary B. Hamilton, CPG, PG, LPG
Environmental Geologist
Certified Asbestos Hazard Evaluation Specialist – No. ES34150
Certified Asbestos Hazard Abatement Project Designer – No. PD60880

Kristy Engel-Shepard
Environmental Project Manager
Certified Asbestos Hazard Evaluation Specialist – No. ES34846
Certified Asbestos Hazard Abatement Project Designer – No. PD60776
Certified Lead Risk Assessor – No. LA9350

Michelle L. Eckels, CPG
Vice President – Environmental Services
Certified Asbestos Hazard Evaluation Specialist – No. ES33141
Certified Asbestos Hazard Abatement Project Designer – No. PD60600

DEFINITION OF TERMS

Abatement – Procedures to control fiber release from Asbestos-Containing Materials (ACM). Includes removal, encapsulation, and enclosure.

Asbestos – A generic name given to a number of naturally occurring hydrated mineral silicates that possess a unique crystalline structure, are incombustible in air, and separate into fibers. Asbestos includes the asbestiform varieties of chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite-grunerite); anthophyllite; tremolite, and actinolite, in any combination.

ACM - Asbestos-Containing Material – Any material containing more than 1% by weight of asbestos of any type or mixture of types (AHERA, OSHA definition).

Asbestos Fiber – A particle of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1 (OSHA definition).

Ballasts – Both magnetic and electronic ballasts used to regulate the current and power to a fluorescent and HID lamps. Magnetic ballasts may or may not include capacitors containing PCBs. Prior to 1978, ballasts were commonly manufactured with PCBs in the capacitor oil and in a tar-like substance that surrounds ballast components called “potting compound”. Ballasts with no PCBs, will have an identifying sticker “No PCB”.

Category I nonfriable ACM – Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than 1 percent asbestos as determined using Polarized Light Microscopy, as specified in Appendix E, subpart E, 40 CFR part 763, section 1.

Category II nonfriable ACM – Any material, excluding Category I nonfriable ACM, containing more than 1 percent asbestos as determined using Polarized Light Microscopy, as specified in Appendix E, subpart E, 40 CFR part 763, section 1, that when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

EPA – Environmental Protection Agency.

Fluorescent Lamps – Low intensity discharge lamps that contain mercury and are commonly used in commercial and industrial lighting. Fluorescent lamps include tubes, circular and compact fluorescent lighting products, whether they use separate or integral ballast.

Friable Asbestos-Containing Material – Material that contains more than 1% asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure (Ohio EPA definition).

Hazardous Substance - a substance defined as a hazardous substance pursuant to CERCLA 42 USC part 9601(14), as interpreted by EPA regulations and the courts: (A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element, compound, mixture, solution, or substance designated pursuant to 42 USC part 9602, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 USC part 6921), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 USC part 7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under the items listed above. The term also does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and synthetic gas).

Hazardous Waste - any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Solid Waste Disposal Act (42 USC 6921)(but not including any waste the regulation of which under the Solid Waste Disposal Act (42 USC 6901 et seq.) has been suspended by Act of Congress).

High Intensity Discharge or HID Lamps – Includes mercury, metal halide and high-pressure sodium lamps that contain mercury.

NESHAP - National Emission Standards for Hazardous Air Pollutants.

NIOSH – National Institute for Occupational Safety and Health.

OSHA – Occupational Safety and Health Administration.

PCM – Phase Contrast Microscopy – An optical microscopic technique used for the counting of fibers in air samples, but which does not distinguish fiber types.

PLM – Polarized Light Microscopy – Bulk sample analysis of suspect asbestos sample using microscope equipped with dual polarizing filters to observe optical properties of the sample.

PPE – Personal Protective Equipment – Equipment worn to minimize exposure to a variety of hazards. Example of PPE includes such items as gloves, foot and eye protection, protective hearing devices, hard hats, respirators and full body suits.

RCRA - Resource Conservation and Recovery Act.

Regulated ACM (RACM) –

a) Friable asbestos material;

b) Category I nonfriable ACM that has become friable;

c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or

d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by 40 CFR Part 61.

TCLP - Toxic Characteristic Leachate Procedure.

XRF - X-ray Fluorescence

APPENDIX A

FIGURES

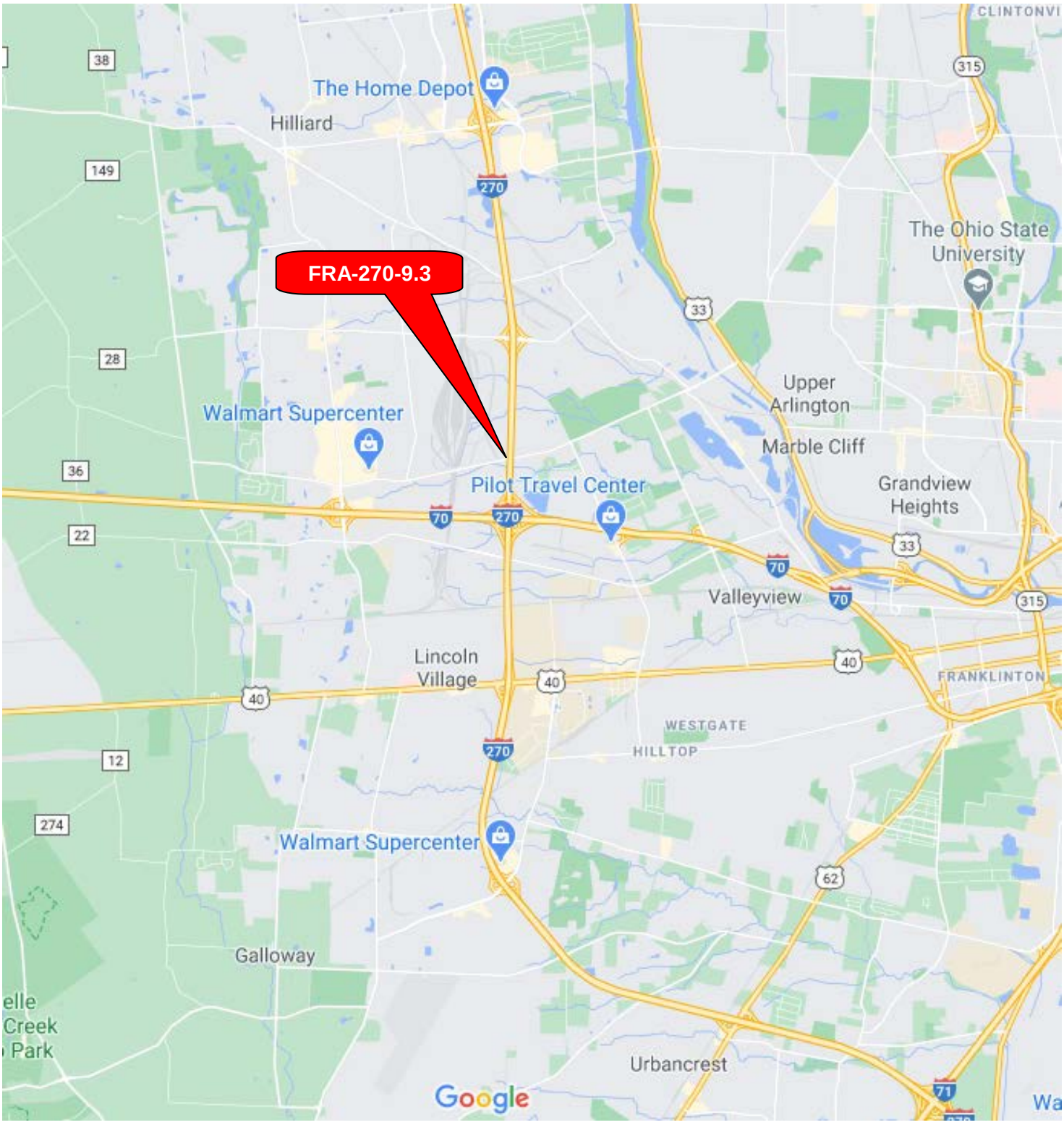


FIGURE 1 - SITE LOCATION MAP

Ohio Department of Transportation
FRA-270-9.3 Bridge Rehabilitation
Trabue Road over I-270
Columbus, OH

N

Rii Project
W-20-145

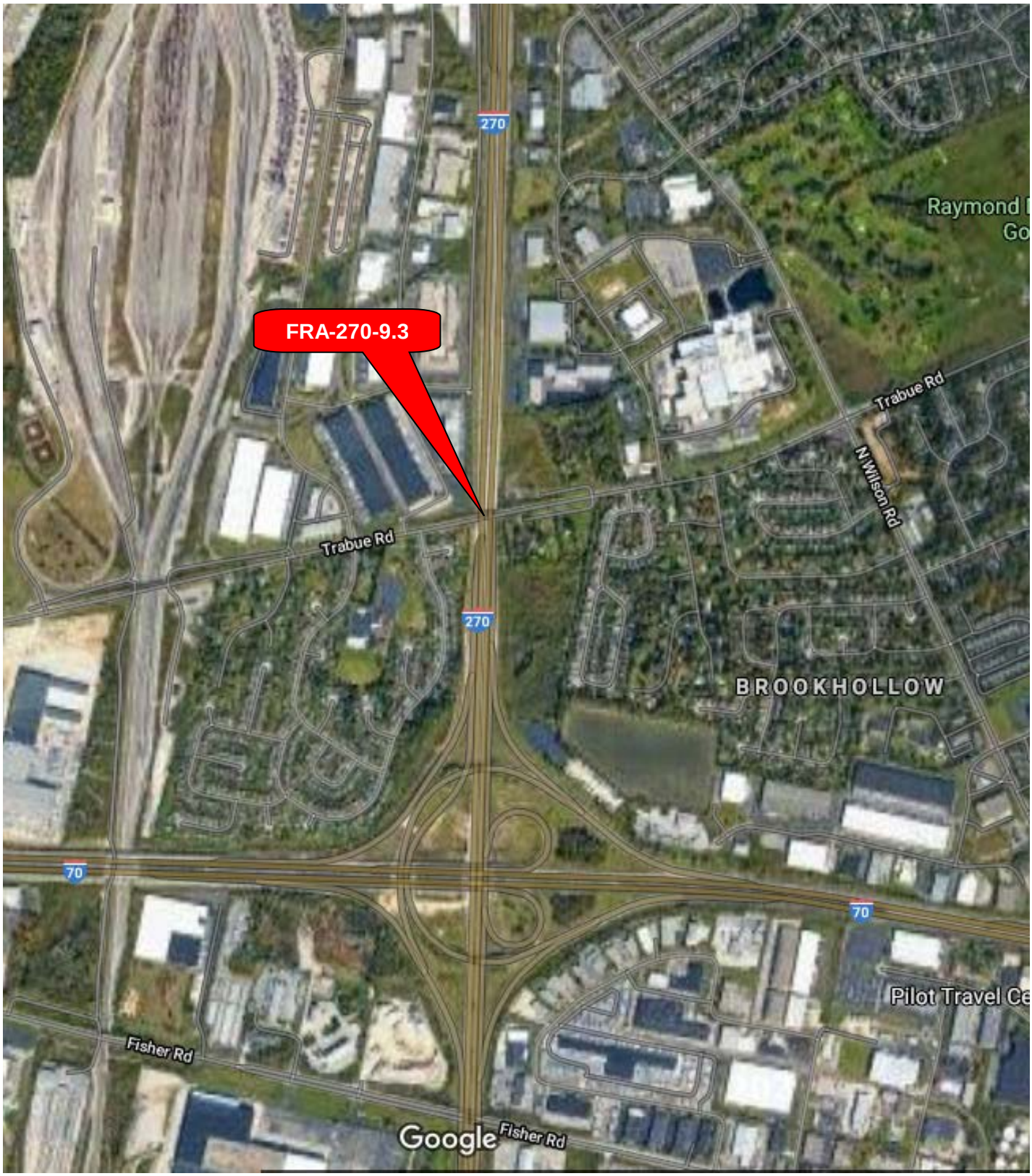


FIGURE 2 - AERIAL LOCATION MAP

Ohio Department of Transportation
FRA-270-9.3 Bridge Rehabilitation
Trabue Road over I-270
Columbus, OH

N

Rii Project
W-20-145

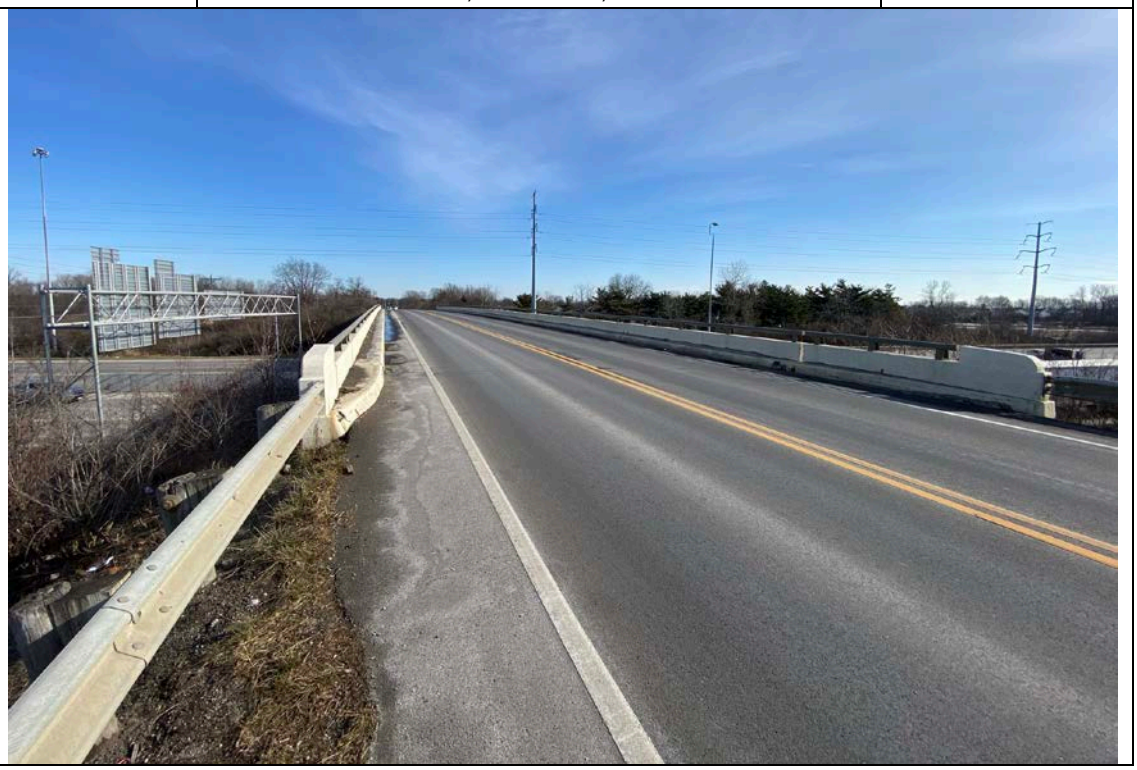
APPENDIX B

SITE PHOTOGRAPHS

PHOTOGRAPHIC LOG

Project Name:	Location:	Project No.
FRA-270-9.3 Bridge Rehabilitation	Trabue Road at I-270, Columbus, Ohio	W-20-145

Photo No.	Date:
1	12/29/2020



Description:

View to the east from the west end of the bridge. No asbestos was detected in the white and yellow striping paint.

PHOTOGRAPHIC LOG

Project Name:	Location:	Project No.
FRA-270-9.3 Bridge Rehabilitation	Trabue Road at I-270, Columbus, Ohio	W-20-145

Photo No.	Date:
2	12/29/2020

Description:

The caulk between the guardrail and concrete was identified to be asbestos-containing material.

PHOTOGRAPHIC LOG

Project Name:	Location:	Project No.
FRA-270-9.3 Bridge Rehabilitation	Trabue Road at I-270, Columbus, Ohio	W-20-145

Photo No. 3 | **Date:** 12/29/2020

Description:

View of the underside of the bridge. The conduits were fiberglass.

PHOTOGRAPHIC LOG

Project Name:	Location:	Project No.
FRA-270-9.3 Bridge Rehabilitation	Trabue Road at I-270, Columbus, Ohio	W-20-145

Photo No. 4 | **Date:** 12/29/2020

Description:

No asbestos was detected in the concrete deck.

APPENDIX C

ANALYTICAL RESULTS & CHAIN-OF-CUSTODIES

EMSL Analytical, Inc.

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

EMSL Order ID:	042031322
Customer ID:	RESI25
Customer PO:	W-20-145
Project ID:	

Attn: Michelle Eckels
Resource International
6350 Presidential Gateway
Columbus, OH 43231

Proj: Bridge / Trabue Rd

Phone:	(614) 390-5988
Fax:	(614) 823-4990
Collected:	
Received:	12/30/2020
Analyzed:	1/05/2021

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 001 ***Lab Sample ID:*** **042031322-0001**
Sample Description: Top/Yellow Striping Paint

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/02/2021	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 002 ***Lab Sample ID:*** **042031322-0002**
Sample Description: Top/Yellow Striping Paint

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/03/2021	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 003 ***Lab Sample ID:*** **042031322-0003**
Sample Description: Top/White Striping Paint

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/02/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 004-Paint ***Lab Sample ID:*** **042031322-0004**
Sample Description: Top/White Striping Paint

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/03/2021	White	0.0%	100.0%	None Detected	

Client Sample ID: 004-Tar ***Lab Sample ID:*** **042031322-0004A**
Sample Description: Top/Tar

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/03/2021	Gray/Black	0.0%	100.0%	None Detected	Result includes inseparable attached cement.

Client Sample ID: 005 ***Lab Sample ID:*** **042031322-0005**
Sample Description: Top/Caulk - On Guardrail Bolts

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/02/2021	Gray	0.0%	97.0%	**3% Chrysotile**	
400 PLM Pt Ct	01/05/2021	Gray	0.0%	98.5%	**1.50% Chrysotile**	Point Count performed on NOB material without gravimetric reduction at client request. Asbestos results may be under-reported.

EMSL Analytical, Inc.

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

EMSL Order ID:	042031322
Customer ID:	RESI25
Customer PO:	W-20-145
Project ID:	

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method

Client Sample ID: 006 ***Lab Sample ID:*** **042031322-0006**

Sample Description: Top/Caulk - On Guardrail Bolts

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/04/2021	Gray	0.0%	97.0%	**3% Chrysotile**	
400 PLM Pt Ct	01/05/2021	Gray	0.0%	97.5%	**2.50% Chrysotile**	Point Count performed on NOB material without gravimetric reduction at client request. Asbestos results may be under-reported.

Client Sample ID: 007 ***Lab Sample ID:*** **042031322-0007**

Sample Description: Under/Conc. Under Bridge

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/02/2021	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 008 ***Lab Sample ID:*** **042031322-0008**

Sample Description: Under/Conc. Under Bridge

TEST	Analyzed Date	Color	Non-Asbestos Fibrous	Non-Asbestos Non-Fibrous	Asbestos	Comment
PLM	01/03/2021	Gray/White	0.0%	100.0%	None Detected	

EMSL Analytical, Inc.

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

EMSL Order ID:	042031322
Customer ID:	RESI25
Customer PO:	W-20-145
Project ID:	

Attn: Michelle Eckels
Resource International
6350 Presidential Gateway
Columbus, OH 43231

Phone: (614) 390-5988
Fax: (614) 823-4990
Collected:
Received: 12/30/2020
Analyzed: 1/05/2021

Proj: Bridge / Trabue Rd

The samples in this report were submitted for asbestos bulk analysis. The reference number for these samples is the Order ID above. Please use this reference number when calling about these samples.

Sample Receipt Date: 12/30/2020
Sample Receipt Time: 9:40 am
Analysis Completed Date: 01/05/2021
Analysis Completed Time: 11:26 am

Analyst(s):

Andrew Borsos PLM (4)

Andrew Burke 400 PLM Pt Ct (1)

Christina Maiorana 400 PLM Pt Ct (1)

Juli Patel PLM (1)

Olufunke Akintunde PLM (4)

Reviewed and approved by:

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. This test report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. EMSL bears no responsibility for sample collection activities or analytical method limitations. The laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples. PLM alone is not consistently reliable in detecting asbestos in floor coverings and similar NOBs

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, LA #04127

Report amended: 01/05/202112:59:46 Replaces initial report from: 01/04/202110:37:11 Reason Code: Client-Additional Analysis

CHAIN-OF-CUSTODY

PLM

042031322

OrderID: 042031322

RESOURCE INTERNATIONAL, INC.

6350 Presidential Gateway
Columbus, Ohio 43231
Phone: 614.823.4949
Fax: 614.823.4990

Rii P.O. Number: W20145 Project Name: Bridge

Site Location: Trabue Rd

HA No.	Bulk Sample I.D. Number	Suspect Material Type	Bulk Sample Locations	Other Homogeneous Locations	Comments and Observation: Condition	Comments and Observation: Friability*
	001 002	Yellow Striping paint	top			
					Qty:	
	003 004	White Striping paint				
					Qty:	
	005 006	Caulk - on guardrail bolts				
					Qty:	
	007 008	Conc. under bridge	under "			
					Qty:	
					Qty:	

F = Friable NF = Non-friable

Relinquished by:	Date:	Received by:	Date:	Turnaround:	Send laboratory results to:
Kristy Shepard	12-29-20	AM	12-30-20	3 day	Resource International, Inc. 6350 Presidential Gateway Columbus, OH 43231
Relinquished by:	Date:	Received by:	Date:		Email results to: michellee@resourceinternational.com Hard copy: Michelle Eckels

Comments: Analyze each distinct layer.

RECEIVED
EMSL
CINCINNATI, OH
2020 DEC 30 AM 10:47

8 9

Page 1 Of 1

APPENDIX D

CERTIFICATIONS AND LABORATORY ACCREDITATIONS

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

7/27/2020

Katherine Shepard
Resource International, Inc
6350 Presidential Gateway
Columbus, OH 43231

RE: Evaluation Specialist
Certification Number: ES34846
Expiration Date: 6/13/2021

Dear Katherine Shepard:

This letter and enclosed certification card approves your request to be certified as an asbestos Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of the Ohio Environmental Protection Agency (EPA) for violation of any of the requirements of 3745-22 or 3745-20 of the Ohio Administrative Code.

If you have any questions, please contact the Asbestos Program at 614-644-0226 or by email at asbestoslicensing@epa.ohio.gov.

Sincerely,

Joshua S. Koch
Manager, Business Operations Support Section
Ohio EPA - Division of Air Pollution Control

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

10/5/2020

Zachary Hamilton
Resource International, Inc.
6350 Presidential Gateway
Columbus, OH 43231

RE: Evaluation Specialist
Certification Number: ES34150
Expiration Date: 10/9/2021

Dear Zachary Hamilton:

This letter and enclosed certification card approves your request to be certified as an asbestos Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of the Ohio Environmental Protection Agency (EPA) for violation of any of the requirements of 3745-22 or 3745-20 of the Ohio Administrative Code.

If you have any questions, please contact the Asbestos Program at 614-644-0226 or by email at asbestoslicensing@epa.ohio.gov.

Sincerely,

Joshua S. Koch
Manager, Business Operations Support Section
Ohio EPA - Division of Air Pollution Control

Ohio Environmental Protection Agency

Mike DeWine, Governor
Jon Husted, Lt. Governor
Laurie A. Stevenson, Director

1/24/2020

Michelle Eckels
Resource International, Inc.
6350 Presidential Gateway
Columbus, OH 43231

RE: Evaluation Specialist
Certification Number: ES33141
Expiration Date: 1/18/2021

Dear Michelle Eckels:

This letter and enclosed certification card approves your request to be certified as an asbestos Evaluation Specialist. You must present your card upon request at any project site while performing duties. Copies of cards are not acceptable as proof of certification.

This certification may be revoked by the Director of the Ohio Environmental Protection Agency (EPA) for violation of any of the requirements of 3745-22 or 3745-20 of the Ohio Administrative Code.

If you have any questions, please contact the Asbestos Program at 614-644-0226 or by email at asbestoslicensing@epa.ohio.gov.

Sincerely,

Joshua S. Koch
Manager, Business Operations Support Section
Ohio EPA - Division of Air Pollution Control

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101048-0

EMSL Analytical, Inc.

Cinnaminson, NJ

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-07-01 through 2021-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
Samantha Rundstrom
Phone: 856-303-2577
Email: srundstrom@emsl.com
http://www.emsl.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 101048-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

Effective 2020-07-01 through 2021-06-30

APPENDIX E

NOTIFICATION FORMS

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: / /	☐ Hand-Delivered

1) Notification Information (Check all that apply)

☐ Original	☐ Revision # (count):	☐ Installation	☐ Emergency	☐ Annual	☐ Cancellation	County:

2) Owner, Asbestos Abatement Contractor, Billing and Fire Department Information **Revised?** ☐

Owner		
Name:		Is this a company? ☐ Yes ☐ No
Address:	Contact Person:	
City:	State:	Zip: -
Email:	Phone: ( ) -	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 ☐ Owner, ☐ Asbestos Abatement Contractor, or ☐ 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:	Certification #: ES	Expiration Date: / /

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: ☐ PLM ☐ Point Count ☐ TEM ☐ Other Method (Explain Below):

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

☐ Stop work and keep wet	☐ Evacuate area	☐ Demarcate area	☐ Contact licensed abatement contractor
☐ Contact district office/local air authority			
☐ Other (Explain):			

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:
☐ Implosion ☐ Fire Training ☐ Wet Methods ☐ Manual Demolition ☐ Mechanical Demolition ☐ Other (Explain):

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

Mail completed form and payment to:
Ohio EPA, DAPC – Asbestos
50 W. Town St., 7th Floor or P.O. Box 1049
Columbus, OH 43216-1049

Notification of Demolition and Renovation/Abatement

Section 1: General Information

Continued

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:	☐ Surfacing	☐ Mechanical	☐ Other		
Engineering Controls:	☐ Wet Methods	☐ Glove Bag	☐ NPE	☐ AFD	☐ Other:
Work Practices:	☐ Intact Removal	☐ Manual	☐ Mechanical	☐ 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: : ☐ a.m. ☐ 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:	Title:
Organization:	

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):	Site Location (specific):	
Address:		County:
City:	State: OH	Zip: -
Building Size (square feet):	No. of Floors:	Age:
Present Use:	Prior Use:	

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	
		Non-friable Asbestos-Containing Material		Non-friable Asbestos-Containing Material	
	RACM	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: / /

H. Project Hold **Revised?** ☐

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