

Asbestos Survey and Paint Sampling Report

Highland Park Avenue Bridge Replacement
Highland Park Avenue and UPRR Overpass
Fort Dodge, IA

October 15, 2021

Terracon Project No. 08215031



Prepared for:

Stanley Consultants, Inc.
Des Moines, Iowa

Prepared by:

Terracon Consultants, Inc.
Des Moines, Iowa

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials



October 15, 2021

Stanley Consultants, Inc.
100 Court Avenue, Suite 300
Des Moines, IA 50309

Attn: Mr. Anthony Bower
E: BowerTony@stanelygroup.com
P: 515.447.4418

Re: Asbestos and Paint Sampling Report
Highland Park Avenue Bridge Replacement
Highland Park Avenue Bridge and UPRR Overpass
Fort Dodge, Iowa
Terracon Project No. 08215031

Dear Mr. Bower:

Terracon Consultants, Inc. (Terracon) is pleased to submit the attached report for the above referenced site to Stanley Consultants Inc. The purpose of this report is to present the findings of an asbestos survey and paint sampling conducted on September 13, 2021. We understand the services were requested due to planned replacement of the bridge.

Asbestos was not identified in any of the samples collected as part of the survey. Additionally, there were not any painted surfaces identified to inspect and sample for lead or chromium. Please review the report in its entirety for information regarding these materials.

Terracon appreciates the opportunity to provide this service to Stanley Consultants Inc. If you have questions regarding this report, please contact the undersigned.

Sincerely,

Terracon Consultants, Inc.

Phillip Thomas, OHST, CHMM
Environmental Group Manager

Steve Hudson, MS, CIH, CIEC
Department Manager II



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ASBESTOS SURVEY AND PAINT SAMPLING REPORT

Highland Park Avenue Bridge Replacement Highland Park Avenue and UPRR Overpass Fort Dodge, IA

**October 15, 2021
Terracon Project No. 08215031**

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) was retained by Stanley Consultants Inc. to conduct an Asbestos Survey and Paint Sampling Report on the Highland Park Avenue Bridge located at Highland Park Avenue and the UPRR Overpass in Fort Dodge, Iowa. Terracon understands the bridge will be replaced. The scope of Terracon's services for the survey included destructive sampling for suspect asbestos-containing materials (ACM), a lead/chromium-based paint (LBP) survey, and the completion of this report. The survey was conducted on September 13, 2021. The survey was conducted by Terracon representative Mr. Kemp Johnson. The bridge was active at the time of the survey.

1.1 Project Objective

Terracon understands the survey was requested due to planned demolition that will require management and documentation of various building materials, wastes, and/or chemicals present within the structure. The purpose of the inspection was to identify and collect samples from suspect ACM and to identify chromium and lead containing paints on painted components so that proper worker protection, environmental protection, and disposal can be completed.

Note: There were not any painted components identified during Terracon's survey and therefore, samples were not collected for the identification of lead and chromium.

The project objectives are to satisfy the following regulatory requirements:

- The United States Environmental Protection Agency (USEPA) regulation 40 Code of Federal Regulations (CFR) 61-National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart M-Asbestos, prohibits the release of asbestos fibers to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated ACM (RACM) be identified, classified, and quantified prior to planned disturbances or demolition activities.

- Iowa Department of Transportation (IDOT) standard specifications require the proper handling and disposal of paint and painted components that contain lead and/or chromium and are removed as part of bridge projects.
- The Occupational Safety and Health Administration (OSHA) regulates asbestos exposure in construction under 29 CFR 1926.1101-Asbestos. The standard regulates asbestos exposure during renovation/demolition activities and requires building and facility owners to determine the presence, location and quantity of ACM and/or presumed ACM (PACM) prior to renovation/demolition activities.
- OSHA 29 CFR 1926.62-Lead applies to renovation/demolition operations where an employee may be occupationally exposed to lead. The employer must evaluate employee exposures and communicate information concerning lead hazards and appropriate protective measures to employees.

1.2 Reliance

This report is for the exclusive use of Stanley Consultants Inc. for the project being discussed. Reliance by any other party on this report is prohibited without written authorization of Terracon or Stanley Consultants Inc. Reliance on this report by Stanley Consultants Inc., and authorized parties will be subject to the terms, conditions, and limitations stated in the proposal, this report and Terracon's Agreement for Services. The limitations of liability defined in Terracon's Agreement for Services are the aggregate limit of Terracon's liability to Stanley Consultants Inc.

2.0 BRIDGE DESCRIPTION

The bridge is a one-lane, approximately 110-foot bridge passing over a Union Pacific Railroad rail line. The bridge is comprised of a wood structure with approximately 40 feet of steel supports in the center with asphalt poured over wood the length of the bridge. There is a walk way on one side with guard rails on both sides.

3.0 FIELD ACTIVITIES

3.1 Asbestos Survey

The survey was conducted by a State of Iowa licensed asbestos inspector. A copy of the inspector's license is provided in Appendix C. The asbestos survey was conducted in accordance with the sample collection protocols established in USEPA regulation 40 CFR Part 61, Subpart M. A summary of the asbestos survey activities is provided below.

3.1.1 Asbestos Visual Assessment

Asbestos survey activities began with visual assessment of the bridge to identify homogeneous areas of suspect ACM. A homogeneous area consists of building materials that appear similar throughout in terms of color and texture, with consideration given to the date of application. Bridge materials identified as glass, wood, metal, or rubber are not considered suspect ACM and therefore, were not sampled.

3.1.2 Asbestos Physical Assessment

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the USEPA as a material that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect ACM.

3.1.3 Asbestos Sample Collection

Based on results of the visual assessments, bulk samples of suspect ACM were collected in accordance with USEPA protocols. Random samples of suspect ACM were collected in each homogeneous area. Bulk samples were collected using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker.

Terracon collected six bulk samples from two homogeneous areas of suspect ACM. A summary of the samples collected and analytical report is provided in Appendix A.

Please note that suspect ACM might be present in inaccessible areas that may be discovered during demolition activities. Prior to disturbance, these materials should be sampled to determine if they contain asbestos or they can be assumed to be asbestos-containing and abated by a licensed asbestos abatement firm.

3.1.4 Asbestos Sample Analysis

Bulk samples were submitted under chain of custody (COC) to Eurofins EMLab P&K (Eurofins) of Marlton, New Jersey for analysis by polarized light microscopy with dispersion staining techniques per USEPA *Method for the Determination of Asbestos in Bulk Building Materials* (600/R-93/116). The percentage of asbestos, if present, was determined by microscopic visual estimation. Eurofins is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP Accreditation No. 2736333).

3.2 Painted Surface Coating Assessment

Painted surfaces were not identified during the inspection therefore, paint samples were not collected as part of the assessment.

4.0 REGULATORY OVERVIEW

4.1 Asbestos

In Iowa, asbestos activities are regulated by the Iowa Department of Natural Resources (IDNR) and the Division of Labor, Iowa Workforce Development (IWD). IDNR regulates asbestos fiber emissions under Iowa Administrative Code 567 Chapter 23 (IAC 567–23) and asbestos-containing waste disposal under IAC 567–109. IWD regulates occupational exposure to asbestos under IAC 875–10 and asbestos removal and encapsulation activities under IAC 875–155.

IAC 567–23.1(3) adopts USEPA asbestos NESHAP regulation (40 CFR Part 61, Subpart M) by reference. Subpart M regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activities. Under NESHAP, ACM are classified as friable, Category I nonfriable, or Category II nonfriable. Friable materials are those that, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. Category I nonfriable ACM includes packing, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos. Category II nonfriable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Regulated ACM (RACM) must be removed before renovation or demolition activities that will disturb the materials. RACM includes:

- Friable ACM;
- Category I nonfriable ACM that has become friable or will be subjected to drilling, sanding, grinding, cutting, or abrading; and
- Category II nonfriable ACM that could be crumbled, pulverized, or reduced to powder during renovation or demolition activities.

The owner or operator must provide the IDNR and IWD with written notification of planned removal activities at least 10 working days prior to the commencement of asbestos abatement activities. Removal of RACM must be conducted by an Iowa-permitted asbestos abatement contractor.

IAC 875–155 Asbestos Removal and Encapsulation requires that any asbestos-related activity conducted in a public building must be performed by personnel licensed by the IWD. Inspections for ACM must be conducted by IWD-licensed inspectors. Asbestos abatement must be conducted

by IWD-licensed asbestos abatement contractors. Management plans developed for the in-place management of ACMs must be developed by an IWD-licensed management planner. If an abatement project design is prepared, it must be prepared by an IWD-licensed project designer.

IAC 875–10 adopts the OSHA asbestos standard for construction (29 CFR 1926.1101) by reference. The OSHA standard establishes permissible exposure limits (PELs) of 0.1 asbestos fiber per cubic centimeter of air (0.1 f/cc) as an 8-hour time-weighted average (TWA) and 1.0 f/cc as a 30-minute excursion limit (EL). The OSHA standard classifies construction and maintenance activities that could disturb ACM and specifies work practices and precautions that employers must follow when engaging in each class of regulated work. The standard also imposes requirements of disturbing and handling materials with asbestos concentrations less than or equal to 1%.

4.2 Surface Coatings

Lead is regulated by the USEPA and OSHA. USEPA regulates lead use, removal, and disposal, and OSHA regulates worker exposure to lead. USEPA defines LBP as paint, varnish, stain or other applied coatings that contain lead equal to or greater than 1.0 mg/cm², 5,000 milligrams per kilogram (mg/kg) or 0.5% by dry weight as determined by laboratory analysis. For the purpose of the OSHA lead standard, lead includes metallic lead, all inorganic lead compounds, and organic lead soaps. The federal OSHA standard does not define the amount of lead in paint that constitutes lead-based paint.

USEPA regulates disposal of hazardous materials. USEPA has stated that components removed with intact LBP that is not delaminating from the substrate may be disposed as general demolition debris. If the LBP is stripped from components, or if it is delaminating from the substrate, the waste may be subject to hazardous waste rules [i.e., Toxicity Characteristic Leaching Procedure (TCLP)]. Other materials containing lead (e.g., batteries, flashings, etc.) must be properly disposed.

The OSHA lead standard for construction (29 CFR 1926.62) applies to all construction work where an employee may be occupationally exposed to lead. Work related to construction, alteration or repair (including painting and decorating) is included. The lead standard applies to any detectable concentration of lead in paint, as even small concentrations of lead can result in unacceptable employee exposures depending on the method of removal and other workplace conditions. As per this standard, construction includes, but is not limited to, the following:

- Demolition or salvage of structures where lead or materials containing lead are present.
- Removal or encapsulation of materials containing lead.
- New construction, alteration, repair, or renovation of structures, substrates, or portions containing lead, or materials containing lead.
- Installation of products containing lead.

- Lead contamination/emergency clean up.
- Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are conducted.
- Maintenance operations associated with construction activities described above.

Employees may not be exposed to lead at concentrations greater than the PEL of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) averaged over an 8-hour period without adequate protection. The OSHA standard also establishes an action level of 30 $\mu\text{g}/\text{m}^3$, which if exceeded, triggers certain requirements, including periodic exposure monitoring and medical monitoring.

IDOT's Construction Manual, Chapter 10 Environment, Section 10.50 Bridge Painting (CM 10.50) requires testing for lead and chromium for any proposed painting and/or demolition work on bridges. Other requirements for paint removal, containment, disposal, and contingencies are covered in CM 10.51 – 10.55.

5.0 FINDINGS AND RECOMMENDATIONS

5.1 Asbestos Survey

Laboratory analysis of the bulk samples did not identify the presence of asbestos in samples collected from the bridge. The laboratory analytical report is provided in Appendix B.

It should be reemphasized that although reasonable efforts were made to survey accessible suspect materials, additional suspect but unsampled materials could be located under existing materials, in isolated areas, or in other concealed areas of the bridge. Therefore, if suspicious materials are encountered during demolition that do not appear to have been characterized as ACM or non-ACM, samples should be collected and analyzed prior to disturbing these materials or the materials can be assumed to contain asbestos and abated.

5.2 Lead/Chromium-Based Paint Screening

Painted surfaces were not identified during the inspection therefore, paint samples were not collected as part of the assessment.

6.0 LIMITATIONS / GENERAL COMMENTS

The asbestos survey and paint sampling were conducted using limited destructive sampling techniques. Although efforts were made to determine if multiple layers of materials were present, sample collection was limited to the extent of allowable access points via the use of hand tools so as not to affect security, fire and life safety; create slip, trip and/or fall hazards; or prevent unacceptable aesthetic or functional damage to bridge surfaces and materials, as per the

Asbestos Survey and Paint Sampling Report

Highland Park Avenue Bridge Replacement ■ Fort Dodge, IA

October 15, 2021 ■ Terracon Project 08215031



judgment of the inspector at the time of the survey. Therefore, suspect ACM might be present in concealed spaces or cavities of the bridge. Additional inspection by an accredited asbestos inspector is required by the IDNR prior to demolition activities that would impact such materials not identified in the survey or the materials can be assumed to contain asbestos and abated by an Iowa permitted asbestos abatement firm.

This survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed during our survey of the bridge. The information contained in this report is relevant to the dates the survey was conducted and should not be relied upon to represent conditions at a later date. This report has been prepared on behalf of and exclusively for use by Stanley Consultants Inc. for specific application to their project as discussed. This report is not a bidding document. Contractors or consultants reviewing this report must draw their own conclusions regarding further investigation or remediation deemed necessary. Terracon does not warrant the work of regulatory agencies, laboratories, or other third parties supplying information that may have been used in the preparation of this report. No warranty, express or implied is made.

APPENDIX A

Report for:

Kemp Johnson, Anita Maher-Lewis
Terracon Inc. - Des Moines
600 SW 7th St., Suite M
Des Moines, IA 50309

Regarding: Project: Highland Park Ave Over UPRR Replacement
EML ID: 2736333

Approved by:



Approved Signatory
Balu Krishnan

Dates of Analysis:
Asbestos PLM: 09-21-2021

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 200844-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EMLab P&K3000 Lincoln Drive East, Suite A, Marlton, NJ 08053
(866) 871-1984 Fax (856) 334-1040 www.emlab.comClient: Terracon Inc. - Des Moines
C/O: Kemp Johnson, Anita Maher-Lewis
Re: Highland Park Ave Over UPRR ReplacementDate of Sampling: 09-15-2021
Date of Receipt: 09-16-2021
Date of Report: 09-21-2021**ASBESTOS PLM REPORT****Total Samples Submitted:** 6**Total Samples Analyzed:** 6**Total Samples with Layer Asbestos Content > 1%:** 0**Location: Asphalt-01, Asphalt From South Side of Road**

Lab ID-Version‡: 13091573-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity: Good	

Location: Asphalt-02, Asphalt From South Side of Road

Lab ID-Version‡: 13091574-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity: Good	

Location: Asphalt-03, Asphalt From South Side of Road

Lab ID-Version‡: 13091575-1

Sample Layers	Asbestos Content
Black Asphalt	ND
Sample Composite Homogeneity: Good	

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. Eurofins EMLab P&K reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: Terracon Inc. - Des Moines
 C/O: Kemp Johnson, Anita Maher-Lewis
 Re: Highland Park Ave Over UPRR Replacement

Date of Sampling: 09-15-2021
 Date of Receipt: 09-16-2021
 Date of Report: 09-21-2021

ASBESTOS PLM REPORT**Location: Caulking-04, North Side Bridge Deck**

Lab ID-Version‡: 13091576-1

Sample Layers	Asbestos Content
Black Caulk	ND
Sample Composite Homogeneity:	Good

Location: Caulking-05, North Side Bridge Deck

Lab ID-Version‡: 13091577-1

Sample Layers	Asbestos Content
Black Caulk	ND
Sample Composite Homogeneity:	Good

Location: Caulking-06, North Side Bridge Deck

Lab ID-Version‡: 13091578-1

Sample Layers	Asbestos Content
Black Caulk	ND
Sample Composite Homogeneity:	Good

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www.EMLabPK.com



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S.F., CA: 6000 Shoshone Court, Suite 205, South San Francisco, CA 94083 • (650) 886-6653

Weather	Fog	Rain	Snow	Wind	Clear
None	☐	☐	☐	☐	☐
Light	☐	☐	☐	☐	
Moderate	☐	☐	☐	☐	
Heavy	☐	☐	☐	☐	

CONTACT INFORMATION

[illegible]

By submitting this Chain of Custody, you agree to be bound by the terms and conditions set forth at <http://www.enthel.com/s/main/service/terms.html>

APPENDIX B

Photo Log

Highland Park Avenue Bridge Replacement ■ Fort Dodge, Iowa

Date Photos Taken: September 13, 2021 ■ Terracon Project No. 08215031



Photo #1 Sample 1-3 – Non-asbestos containing asphalt.



Photo #2 Samples 4-6 – Non-asbestos containing caulking

APPENDIX C

KEMP JOHNSON

DOB: 11-18-1965

Issued: 06-30-2021



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License Type	Number	Expires
INSPECTOR	21-6548	03-23-2022



Asbestos

Rod A. Roberts

Rod A. Roberts
Labor Commissioner