Asbestos Inspection Report

I-20 Road Widening & Bridge Replacement Project
I-20 Bridges over Norfolk Southern Railroad
& Meat Plant Road
Lexington County, South Carolina

Prepared For: ICA Engineering Columbia, South Carolina

May 26, 2015



717 Lady Street, Suite E Columbia, SC 29201 (803) 376-6034

Yes, Asbestos was found

X No, Asbestos was not found



May 26, 2015

Mr. Greg M. Schuch Senior Project Engineer ICA Engineering 501 Huger Street Columbia, SC 29201

RE: Asbestos Inspection Report

> I-20 EB over NSRR - Structure No. 3210002020300 I-20 WB over NSRR - Structure No. 3210002040300 Lexington County, South Carolina

Dear Mr. Schuch:

We are pleased to submit the enclosed Asbestos Inspection report for the above-referenced site. The inspection was conducted in conformance with the South Carolina Department of Health and Environmental Control's (SCDHEC), Standards of Performance for Asbestos Projects, Regulation 61-86.1.

The inspection was performed on May 19, 2015 by a Fuss & O'Neill licensed inspector and included visual and physical inspection of accessible areas of the bridges and roadway.

The information summarized in this document is for the suspect asbestos-containing materials only. It does not include information on other hazardous materials that may exist in the property (such as lead-based paint, underground storage tanks, PCB-containing ballasts and possible mercury hazards).

If you have any questions regarding the contents of this report, please do not hesitate to contact us at (803) 376-6034. Thank you for this opportunity to have served your environmental needs.

717 Lady Street, Suite E Columbia, SC 29201 1803.376.6034 800.850.2348

f 803.376.6035 www.fando.com

Connecticut

Massachusetts Rhode Island South Carolina

Sincerely,

Ext. 6109

Environmental Scientist

Pleyman Beet

Reginald Butler

Ohstry a. Cygn Christine A. Cafagna

Project Manager Ext. 6105

F:\P2014\0615 SCDOT S-124-14 On-Call Hazmat\A10 I-20 Bridges Over NSRR\Deliverables\Report\Asbestos Inspection I-20 EB And WB Bridge Crossing.Docx



Table of Contents

Asbestos Inspection Report I-20 Road Widening & Bridge Replacement Project Lexington County, South Carolina

1	Intro	oduction	1		
2	Asbestos Inspection				
	2.1	Sampling			
	2.2	Analytical Protocol			
	2.3	Results			
	2.4	Conclusion	3		
3	Rep	ort Certification	4		
App	endice	s	End of Report		
Арре	ndix A	Figures			
Appe	ndix B	Laboratory Analytical Package			
Appe	ndix C	Asbestos Inspector's License			
Appe	ndix D	Site Photographs			



1 Introduction

Fuss & O'Neill was retained by ICA Engineering Inc., to perform an asbestos inspection of the bridges of interstate highway I-20, which spans the Norfolk Southern Railroad (NSRR) tracks and Meat Plant Road, in Lexington County, South Carolina. These structures are denoted as structure numbers 3210002020300 (eastbound or EB) and 3210002040300 (westbound or WB). Fuss & O'Neill's Reginald M. Butler, a State of South Carolina Licensed Asbestos Inspector, inspected the structure on May 19, 2015.

This inspection was performed in response to the South Carolina Department of Transportation's (SCDOT) planned road widening of I-20 and the replacement of two (2) existing bridges in Lexington County, South Carolina. The inspection consisted of a survey for asbestos-containing materials (ACM). Figures showing the bridge layout are included in *Appendix A*.

The structure consists of abutments, piers, bridge deck, beams, and all other components of the bridge. The east and westbound I-20 bridges are a section of interstate I-20 in Lexington, South Carolina, located just south of Exit 58 in Lexington County. The east and westbound bridges each consists of four (4) spans and are approximately 230' in total length. The existing east and west bound bridges were constructed in 1965. No records were available documenting the building materials used in construction of the structures.

2 Asbestos Inspection

During inspections, suspect ACM is separated into three United States Environmental Protection Agency (USEPA) categories. These categories are: Thermal System Insulation (TSI), Surfacing ACM, and Miscellaneous ACM. TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded insulation on pipe fittings. Surfacing ACM includes all ACM that is sprayed, troweled, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed as TSI or surfacing ACM, such as linoleum, vinyl asbestos flooring, and ceiling tiles The USEPA defines any material that contains more than one percent (1%) asbestos, utilizing Polarized Light Microscopy (PLM), as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

The exterior surface areas of the bridges and roadway were examined which included the piers, bridge deck, beams guardrails, and end bents. These bridge structures measure approximately 230' in total length. The bridge deck consists of concrete approximately twelve-inches thick. The guardrails are constructed of concrete and metal. The bridge deck rests on concrete pier caps and abutments. The piers on which the bridge rests are constructed of concrete, which are secured in the subsurface soil.

All areas were visually inspected to assess the locations of suspect ACM. Suspect visible and accessible ACM was sampled and submitted for laboratory analysis by EMSL Analytical, Inc.





ACM were quantified in linear or square footage, depending on the nature of the material. The quantities, locations, ACM type, and asbestos content of ACM identified by lab analysis are listed in *Table 1* of *Section 2.3*.

2.1 Sampling

During the inspection of the I-20 eastbound and westbound bridges, samples of suspect ACM that were accessible were collected for laboratory analysis. The samples were collected and categorized according to the homogeneous building material being evaluated. The designation of a homogeneous material was made by the Fuss & O'Neill inspector and the location of the suspect ACM is displayed on the figures in *Appendix A*. Once suspect homogeneous materials were identified, samples were collected in conformance with the USEPA and SCDHEC protocols.

Destructive sampling techniques (i.e., suspect material removal) were used to collect samples from the structure during this inspection. Sampling techniques generally involve collecting one full thickness sample of materials such as pipe insulation or expansion joint material collected by core boring or breaking off an end piece of the material.

Samples were given a unique sample number and placed in sample containers for transportation to EMSL Analytical, Inc. for laboratory analysis. The location of each sample is listed in *Table 1 in Section 2.3*.

2.2 Analytical Protocol

Samples collected during this facility asbestos survey were transported to EMSL Analytical, Inc. laboratory. EMSL Analytical, Inc., is accredited by the National Institute for Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis as required under USEPA and SCDHEC regulations. After being logged in by the laboratory and prepared for analysis, samples were analyzed following the USEPA-recommended method of bulk sample analysis by PLM using the "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116).

Sample results were reported either as ND (not detected) if no asbestos was found or by type and percent composition if any form of asbestos was observed. The USEPA recognizes a level of greater than one percent (1%) asbestos by weight content as the minimum level for requiring a material to be treated as asbestos-containing.



2.3 Results

Utilizing the USEPA and SCDHEC protocol and criteria, the following materials were determined to be *suspect ACM*, but not found to be ACM by laboratory analysis:

Table 1

Material Type	Sample ID	Location	% Asbestos	Approximate Quantity	ACM Type		
Exterior							
Expansion Joint Material / Black	EB-1	Between bridge spans	ND	250 SF	М		
Expansion Joint Material / Black	EB-2	Between bridge spans	ND	250 SF	М		
Expansion Joint Material / Black	EB-3	Between bridge spans	ND	250 SF	М		
Expansion Joint Material / Black	WB-1	Between bridge spans	ND	250 SF	М		
Expansion Joint Material / Black	WB-2	Between bridge spans	ND	250 SF	М		
Expansion Joint Material / Black	WB-3	Between bridge spans	ND	250 SF	М		

SF = Square feet

ACM Type: M= Miscellaneous Note: See *Figure 1* for locations

Homogeneous material was determined by similarity of size, color, and age; if determinable.

Asbestos was not detected by PLM analysis in samples EB-1, EB-2, EB-3, WB-1, WB-2, and WB-3. In accordance with ASTM E2356, and any subsequent amendments and editions, and SCDHEC's Standards of Performance for Asbestos Projects, Regulation 61-86.1, negative results for non-friable organically bound materials such as samples EB-1, EB-2, EB-3, WB-1, WB-2, and WB-3 shall be verified with at least one (1) transmission electron microscopy (TEM) analysis per homogeneous area. TEM verification analysis was conducted on samples EB-1 and WB-1. TEM verification analysis results also returned a not detected or "ND" result. Each of the sampled material is associated with the expansion joint material found between the concrete deck spans.

Laboratory results and chain of custody are presented in *Appendix B*. Site photographs are included in *Appendix D*.

2.4 Conclusion

Bridge Crossing.docx

An asbestos inspection was performed for two (2) I-20 bridges spanning the NSRR and Meat Plant located in Lexington County, South Carolina. The results of the asbestos survey indicated that no ACM was found to be present in the structure. If the structure is to be demolished, a copy of this report and a





notification of demolition or renovation forms must be submitted to South Carolina Department of Health and Environmental Control at least ten (10) working days prior to these activities taking place.

During the course of the inspection, samples of suspect ACM were collected. No friable ACM was identified during the survey. Friability defines the condition of ACM and its potential to release asbestos fibers into the air. Friable ACM can be crumbled under moderate hand pressure and has the potential to release fibers into the air. Conversely, non-friable ACM cannot be crumbled under moderate hand pressure and, hence, does not release fibers into the air.

It is possible that renovation or demolition activities will uncover suspect ACM that were not accessible to the inspector during this inspection. Any suspect material encountered during renovation/demolition that is not identified in this report as being non-ACM should be assumed to be ACM unless sample results prove otherwise.

3 Report Certification

Fuss & O'Neill is pleased to provide environmental consulting services for the SCDOT, ICA Engineering, Inc., and its agents. Please contact this office at 803-376-6034 with any questions or comments regarding the findings submitted in this report.

This document, entitled Asbestos Inspection Report, was prepared for ICA Engineering, Inc., the SCDOT, and its agents, and the SCDHEC with sound practices and procedures and in accordance with USEPA, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and Title II of the Toxic Substance Control Act (TSCA), SCDHEC Regulation 61-86.1, 40 CFR 61, and 40 CFR 763 for ACM guidance. The results obtained by the work documented in this report fulfill the requirements of federal, state, and local regulations regarding Asbestos Containing Materials.

Reginald Butler Date

SCDHEC AHERA Asbestos Building Inspector BI 01065 Expiration Date: May 3, 2016

Reviewed by:

Christine A. Cafagna

Project Manager



Appendix A Figures



I-20 East & West Bound

Hazardous Material Survey

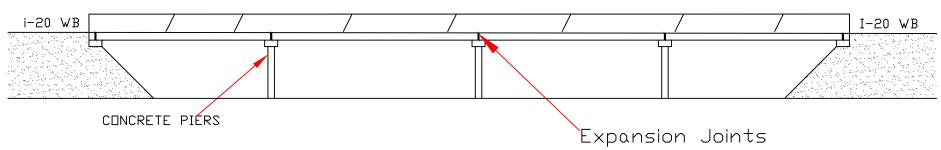
Lexington County, SC

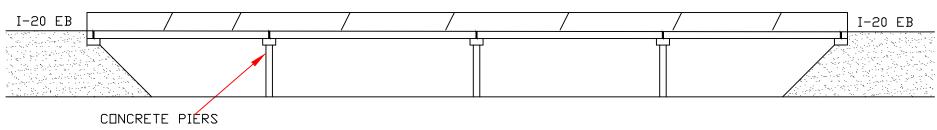
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GRAPHIC SCALE

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I-20 East & West Bound







GRAPHIC SCALE

Hazardous Material Survey

Figure 2

Lexington County, SC

PROJ. No.: 20140615.A10

DATE: May 2015



Appendix B
Laboratory Analytical Package





Project: 20140615.A10

EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273 (704) 525-2205 / (704) 525-2382 Phone/Fax:

http://www.EMSL.com charlottelab@emsl.com EMSL Order: 411503299 CustomerID:

CustomerPO:

FUSS85

ProjectID:

(803) 622-5346

Attn: Reginald Butler Fuss & O'Neill, Inc. 717 Lady Street Suite E

Columbia, SC 29201

Fax: (803) 376-6035 Received: 05/20/15 9:15 AM Analysis Date: 5/20/2015 Collected:

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

Phone:

			Non-Asbestos		<u>Asbestos</u>	
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type	
EB-1 411503299-0001	Bridge Expansion Joints East Bound - Black Expansion Joint Material	Gray/Black Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (other)	None Detected	
EB-2 411503299-0002	Bridge Expansion Joints East Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (other)	None Detected	
EB-3 411503299-0003	Bridge Expansion Joints East Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (other)	None Detected	
WB-1 411503299-0004	Bridge Expansion Joints West Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (other)	None Detected	
WB-2 411503299-0005	Bridge Expansion Joints West Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (other)	None Detected	
WB-3 411503299-0006	Bridge Expansion Joints West Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (other)	None Detected	

Analyst(s)

Aaron Hartley (2) Eric Loomis (4)

Lee Plumley, Laboratory Manager or other approved signatory

Evan L Plumber

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1% Samples analyzed by EMSL Analytical, Inc. Charlotte, NC NVLAP Lab Code 200841-0, VA 3333 00312

Initial report from 05/21/2015 08:08:55



EMSL Analytical, Inc.

376 Crompton Street, Charlotte, NC 28273 Phone/Fax: (704) 525-2205 / (704) 525-2382

charlottelab@emsl.com http://www.EMSL.com

EMSL Order: 411503299 FUSS85 CustomerID:

CustomerPO: ProjectID:

Reginald Butler Fuss & O'Neill, Inc. 717 Lady Street Suite E

Columbia, SC 29201

Received: Analysis Date: Collected:

Phone:

Fax:

5/21/2015

(803) 622-5346

(803) 376-6035

05/21/15 8:30 AM

Project: 20140615.A10

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

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
EB-1 411503299-0007	Bridge Expansion Joints East Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous	100	<0.1 Fibrous (other)	No Asbestos Detected
WB-1 411503299-0008	Bridge Expansion Joints West Bound - Black Expansion Joint Material	Black Non-Fibrous Homogeneous	100	<0.1 Fibrous (other)	No Asbestos Detected

Analyst(s)	
Charles Harris (2)	

Lee Plumley, Laboratory Manager or other approved signatory

Evan L Plumber

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

Samples analyzed by EMSL Analytical, Inc. Charlotte, NC

Initial report from 05/22/2015 07:19:50

OrderID: 411503299



Asbestos Bulk Building Material STO COUNTY AND THE ANALYTICAL, INC. STO COUNTY AND THE ANALYTICAL, INC. STO COUNTY AND THE ANALYTICAL, INC. STO COUNTY AND THE ANALYTICAL, INC.

EMSL Order Number (Lab Use Only):

411503299

Chustotte, MC CHNAMINSON, NJ 08077 2873

PHONE: (800) 220-3675 FAX: (856) 786-5974

Company	Fus	s + O'Neill	EMSL-Bill to:		
	-			Billing requires written authorization from third party	
Street: 717 Lady Street, Syite E City: Columbia State/Province: 5C			Zip/Postal Code: 2920 Country: 45		
A VOICE LANGE CONTRACTOR AND ADDRESS OF THE PARTY OF THE		Reginald Butter	Telephone #: %		
Email Add	ress:	byther & funda.com	Fax #: 40337		
Project Na	me/Num	ber: 20140615, A10	Please Provide F	Results: 🗌 Fax 🖾 Email	
U.S. State	Samples	V		Commercial/Taxable Residential/Tax Exempt	
3 Hour		6 Hour 24 Hour 48 Hou	「AT) Options* – Plea r □ 72 Hour	se Check	
*For TEM Ai	r 3 hr throu	gh 6 hr, please call ahead to schedule.*There is a p	premium charge for 3 Hour	TEM AHERA or EPA Level II TAT. You will be asked to sign	
an a		Bulk (reporting limit)	dance with EMSL's Terms	s and Conditions located in the Analytical Price Guide. TEM – Bulk	
PLM EP		93/116 (<1%)	☐ TEM EPA NOB -	- EPA 600/R-93/116 Section 2.5.5.1	
☐ PLM EP	A NOB (< <mark>1</mark> %)	☐ NY ELAP Method		
		(<0.25%) 1000 (<0.1%)	☐ Chatfield Protoco	ol (semi-quantitative)	
Point Coun	t w/Gravi	metric 400 (<0.25%) 1000 (<0.1%)	☐ TEM % by Mass	- EPA 600/R-93/116 Section 2.5.5.2	
☐ NIOSH			☐ TEM Qualitative	via Filtration Prep Technique	
		d 198.1 (friable in NY)	☐ TEM Qualitative	via Drop Mount Prep Technique	
☐ NY ELA		d 198.6 NOB (non-friable-NY)		<u>Other</u>	
☐ Standa					
		ive Stop – Clearly Identify Homogenous	Group Data Same		
_ Oncer i	OI I OSIL	ave otop – clearly identity from ogenous	Group Date Samp	Sied.	
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Sample #	HA#	Sample Location		Material Description	
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WB-1	2	Bridge expansion joints	west Bound	t I	
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		TEM unalogis De	a homo cener	ous roul.	
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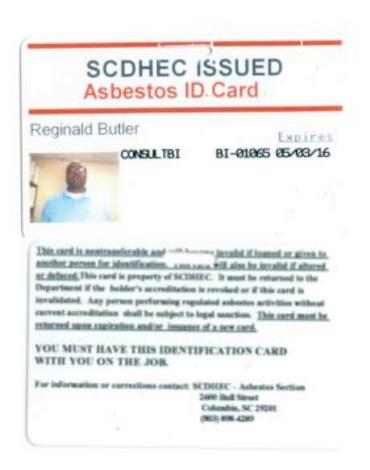


Appendix C

Asbestos Inspector's License









Appendix D

Site Photographs



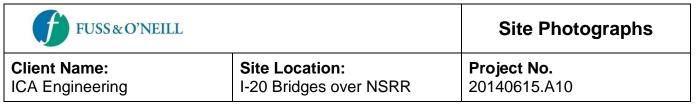


Photo No. 1 Direction of Photo:

West

Description:

I-20 Bridges over NSRR



Photo No. 2 Direction of Photo:

North

Description:

Underneath I-20 Bridges over NSRR



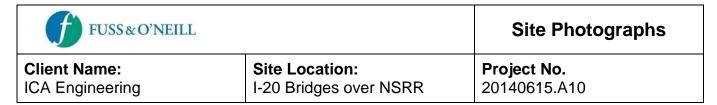


Photo No. 3 Direction of Photo:

North

Description:

I-20 Bridges over NSRR



Photo No. 4 Direction of Photo:

North

Description:

Bridge Deck



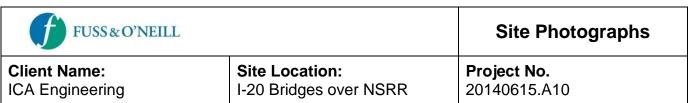


Photo No. 5 Direction of Photo: East Description: Expansion Joint

Photo No. 6 Direction of Photo: West Description: Expansion Joint



May 26, 2015

Mr. Greg M. Schuch Senior Project Engineer ICA Engineering 501 Huger Street Columbia, SC 29201

RE: Lead Based Paint Inspection Report

I-20 EB over NSRR - Structure No. 3210002020300 I-20 WB over NSRR - Structure No. 3210002040300

Lexington County, South Carolina

Dear Mr. Schuch:

On May 19, 2015, Fuss & O'Neill, Inc. performed a Lead Based Paint Inspection on the interstate highway I-20 east and westbound bridges that span the Norfolk Southern Railroad (NSRR) tracks in Lexington County, South Carolina, identified as Structure No. 3210002020300 and Structure No. 3210002040300, respectively.

The bridges serve a busy section of I-20 just south of Exit 58 in Lexington County. The east and westbound bridges each consists of four (4) spans and are approximately 230' in total length. The existing bridges were constructed in 1965 over Norfolk Southern Railroad tracks and Meat Plant Road, in Lexington County, South Carolina.

The purpose of the site inspection was to examine the bridge structures for the presence of Lead Based Paint (LBP). No construction records were available to determine the building materials used in construction of the bridges. The exterior surface areas were examined which included the piers, beams, bridge deck, end bents, and other visible components of the bridges.

No suspect Lead Based Paint was observed during the inspection, and therefore, no suspect LBP samples were collected for laboratory analysis.

Yes, Lead Based Paint was found X No, Lead Based Paint was not found

Figures 1 and 2 depicting an aerial and profile view of the bridge structures are included along with this letter for your use. As always, please call if you have any questions or require additional information.

Christine A. Cafagn

Project Manager

Ext. 6105

717 Lady Street, Suite E

Columbia, SC

29201

1803.376.6034 800.850.2348

f 803.376.6035

www.fando.com

Sincerely,

Connecticut

Massachusetts

Rhode Island South Carolina Reginald Butler

Environmental Scientist

Lynill Both

Ext. 6109

Enclosure: Figures 1 and 2

F:\P2014\0615 SCDOT S-124-14 On-Call HazMat\A10 I-20 Bridges over NSRR\Deliverables\Report\Lead Inspection I-20 EB and WB Bridge Crossing.doc

I-20 East & West Bound

Hazardous Material Survey

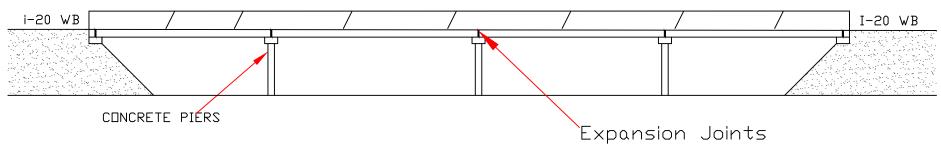
Lexington County, SC

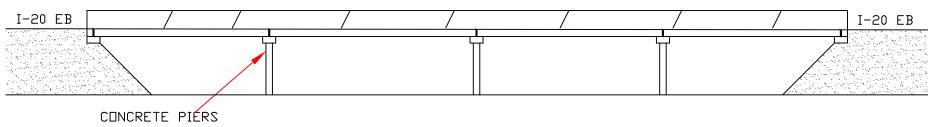
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GRAPHIC SCALE

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I-20 East & West Bound







GRAPHIC SCALE

Lexington County, SC

Figure 2

DATE: May 2015

PROJ. No.: 20140615.A10