

# ASBESTOS CONTAINING MATERIAL INVESTIGATION REPORT

US 21 (FRAMPTON RD.) RBO CSX RAILROAD HAMPTON AND BEAUFORT COUNTIES, SOUTH CAROLINA

#### PREPARED FOR:



C/O Mr. Trapp Harris, PE SCDOT 955 Park Street Columbia, SC 29201

#### PREPARED BY:

F&ME Consultants, Inc. 211 Business Park Blvd. Columbia, South Carolina 29203

### November 15, 2023

\_\_\_\_\_ACM was found.
\_\_\_\_\_ACM was not found.

F&ME Project No.: G6400.200

#### TABLE OF CONTENTS

1.	Executive Summary	. 1
	Introduction	
	Existing Building Structure	
	Field Assessment	
	Assessment Results	
	Recommendations	
APPEN	DICES	.6

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain of Custody Form

Appendix F – Personnel Certifications

Appendix G – Site Photographs

### 1. EXECUTIVE SUMMARY

This executive summary is intended as an overview for the convenience of the reader. This report should be reviewed in its entirety prior to making any decisions regarding this project.

F&ME Consultants, Inc. (FME) has completed an Asbestos Containing Material (ACM) Investigation of the US 21 (Frampton Rd.) Bridge over CSX Railroad (Bridge) located at the border Hampton and Beaufort Counties, South Carolina at the request of the South Carolina Department of Transportation (SCDOT) (Client). The field investigation was performed on November 8, 2023, in anticipation of an on-alignment replacement of the existing Bridge. This investigation was also conducted pursuant to South Carolina Department of Health and Environmental Control (SCDHEC), United States Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Occupational Safety and Health Administration (OSHA) regulations requiring an ACM investigation prior to any demolition activities.

Per an agreed upon scope of work, FME performed this investigation to identify any ACM that might be encountered during the demolition activities associated with the existing Bridge, and to provide recommendations regarding proper handling and disposal of any ACM found. The investigation of the Bridge identified two (2) suspect materials: bearing pads and expansion joint material. During the field investigation, FME personnel collected samples of each of these materials and assessed their physical conditions. Laboratory results indicated that the suspect materials sampled during this investigation contained no asbestos. Therefore, at this time, no special handling or disposal requirements are required regarding ACM. However, during the course of demolition activities, previously concealed ACM might be discovered. If suspect ACM is found, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

It should be noted that TEM analysis of sample 2-3, expansion joint material returned analytical result of <0.1% asbestos content. The SCDHEC considers any suspect material <1.0% asbestos to be negative. However, OSHA considers a suspect material positive if any asbestos is found in the sample. Therefore, for the purpose of this report, this material is considered to be a non-ACM material. During the demolition activities, the Contractor will be required to follow OSHA guidelines for worker protection when interacting with this material.

We sincerely appreciate the opportunity to assist you with this project. Should you have any questions or require additional information concerning this Investigation, please do not hesitate to contact our office at (803) 254-4540.

Sincerely,

**F&ME CONSULTANTS** 

Mile Mucy

Michael S. Mincey

Environmental Professional Asbestos Consultant/Inspector SCDHEC License No: MP-00161 Expiration Date 01/23/2024 Glynn M. Ellen

Environmental Department Manager Asbestos Consultant/Management Planner

SCDHEC License No: ASB-22641 Expiration Date 01/23/2024

### 2. INTRODUCTION

FME has completed an ACM investigation of the US 21 (Frampton Rd.) RBO CSX Railroad, located at the border Hampton and Beaufort Counties, South Carolina. The investigation was performed on November 8, 2023. This investigation was conducted pursuant to SCDHEC, USEPA, NESHAP, and OSHA regulations which require an ACM investigation prior to any demolition activities. Refer to Appendix A, Site Vicinity Map for the location of the Bridge.

It is our understanding that the proposed project will include the complete demolition and removal of the existing Bridge, and replacement with a new bridge along the existing alignment. The purpose of this investigation was to determine if asbestos was present on the existing Bridge by identifying and sampling suspect ACM, obtaining analytical results, quantifying any confirmed ACM, and assessing the physical condition of the ACM, where possible.

This report has been prepared exclusively for the Client and shall not be disseminated in whole or part to other parties without prior consent from Client or FME. No other environmental issues were addressed as part of this report.

#### 3. EXISTING BRIDGE STRUCTURE

The existing Bridge (~123.9'L x 26.0'W, inside curb to inside curb), is located on US 21 (Frampton Rd.) and crosses over CSX Railroad in Hampton and Beaufort Counties, South Carolina. The date of construction of the Bridge is unknown. The structure is a two (2) lane, three (3) span Bridge with concrete decking, and curbing and gutters, with an asphalt overlay. The concrete decking is constructed with pour-in-place (PIP) concrete, supported by six (6) horizontal steel girders. There are six (6) structural steel girders per span that are supported by PIP bent caps with two (2) steel bearing



Photo 1: US 21 (Frampton Rd.) RBO CSX Railroad in Hampton and Beaufort Counties, South Carolina.

plates between the caps and girders. Each bent cap is supported by concrete piers. No drainage scuppers were noted along the sides of the Bridge. Galvanized metal guardrails are attached to the concrete curbing on either side of the Bridge. Each side of the Bridge has one (1) utility conduit attached to the underside of the concrete guardrail system. Each conduit runs the entire length of the Bridge. Refer to Appendix A, Site Vicinity Map, for the location of the Bridge. Appendix B, Sample Location Plan, for the location of samples taken from the Bridge.

### 4. FIELD ASSESSMENT

During the investigation, all accessible bridge components (i.e., bent caps, timber piles, scuppers, expansion joints, etc.) were visually inspected for suspect ACM. Examples of possible suspect materials include bearing pads, expansion joint material, and drainage scuppers. The concrete bridge deck rested directly on six (6) structural steel girders. Each steel girder was supported by two (2) steel bearing plates with a fabric bearing pad in between the bottom steel plate and the tops of each concrete bent cap. Each bent cap is supported by concrete piers. Two (2) suspect materials were observed/visible on the Bridge. The suspect materials noted on the Bridge were a fabric bearing pad and expansion joint material. Samples of these materials were taken from random locations on the Bridge. Appendix B, Sample Location Plan, for detailed sample locations. Also, see Appendix G, Site Photographs, for more details.

#### 5. ASSESSMENT RESULTS

During the investigation, the fabric bearing pads and the expansion joint material were the only suspect materials identified associated with the Bridge. A total of three (3) samples were taken of each of these suspect materials for laboratory analysis, and physical characteristics were recorded. The remaining structural materials (i.e., concrete, steel, etc.) were not considered suspect and were not sampled.

Random samples of these suspect materials were collected for laboratory analysis, and their physical characteristics were recorded. Bulk samples of suspect materials were analyzed by Polarized Light Microscopy (PLM) in accordance with EPA 600/R-93/116. Confirmation Transmission Electron Microscopy (TEM) was also performed on any non-friable organically bound materials that tested negative for asbestos content as per SCDHEC regulations effective May 27, 2011. A "first positive stop" protocol was implemented for sample testing. This protocol establishes that if the first sample of a material tested positive for asbestos content, subsequent samples were not to be analyzed, and would be considered positive as well. A total of five (5) samples were analyzed by PLM and one (1) sample was TEM-confirmed. The results of the analysis indicated that none of the suspect materials sampled during this investigation contained asbestos. Results of laboratory analysis are summarized in Appendix C, Summary of Sample Results.

It should be noted that TEM analysis of sample 2-3, expansion joint material returned analytical result of <0.1% asbestos content. The SCDHEC considers any suspect material <1.0% asbestos to be negative. However, OSHA considers a suspect material positive if any asbestos is found in the sample. Therefore, for the purpose of this report, this material is considered to be a non-ACM material. During the demolition activities, the Contractor will be required to follow OSHA guidelines for worker protection when interacting with this material.

Appropriate sampling and chain-of-custody protocols were followed to ensure proper handling and delivery of samples to the analytical laboratory. Appendix D, Laboratory Analysis Reports and Appendix E, Chain of Custody Form were provided to show laboratory documentation of the analytical results. Appendix F, Personnel Certification, provides the qualifications for the FME Asbestos Inspector.

### 6. RECOMMENDATIONS

The results, conclusions, and recommendations of this Investigation are representative of the conditions observed at the site on the date of the field investigation. FME does not assume responsibility for any changes in conditions or circumstances that may have occurred after this investigation.

It is our understanding that the subject Bridge is to be demolished in anticipation of an onalignment replacement of the existing Bridge. The results of the analysis indicated that the fabric bearing pad and expansion joint material sampled during this investigation contained no asbestos. Therefore, there are no foreseen special handling or disposal requirements, regarding asbestos, that will be required for the demolition of this Bridge.

It should be noted that TEM analysis of sample 2-3, expansion joint material returned analytical result of <0.1% asbestos content. The SCDHEC considers any suspect material <1.0% asbestos to be negative. However, OSHA considers a suspect material positive if any asbestos is found in the sample. Therefore, for the purpose of this report, this material is considered to be a non-ACM material. During the demolition activities, the Contractor will be required to follow OSHA guidelines for worker protection when interacting with this material.

If any concealed and/or inaccessible suspect ACM (i.e., bond break bearing materials) are encountered during the demolition activities, the affected contractor(s) must stop work, take appropriate actions, and notify the Owner/asbestos Consultant for an appropriate response action. The SCDHEC must be notified if any suspect ACM is discovered.

This report has been prepared exclusively for the Client and FME and shall not be disseminated in whole or in part to other parties without prior consent from the Client and FME. Use of this document for bidding purposes is not recommended without prior consultation with FME.

We sincerely appreciate the opportunity to be of service to SCDOT in this matter. If you have any questions regarding the information presented herein, please contact our office at (803) 254-4540.

### **APPENDICES**

Appendix A – Site Vicinity Map

Appendix B – Sample Location Plan

Appendix C – Summary of Samples

Appendix D – Laboratory Analysis Reports

Appendix E – Chain of Custody Form

Appendix F – Personnel Certifications

Appendix G – Site Photographs

### Appendix A

Site Vicinity Map





FIGURE NUMBER:

1

PROJECT NUMBER:

G6400.200

ASBESTOS CONTAINING MATERIALS INVESTIGATION US 21 RBO CSX Railroad Hampton/Beaufort Counties, SC Site Vicinity Map
Prepared for: SCDOT
955 Park Street

Columbia, SC 29201



211 BUSINESS PARK BLVD. COLUMBIA, SC 29203

ORIGINAL:	DRWN. BY: MSM
November 13, 2023	CHKD. BY: MSM
REVISIONS:	APPR. BY: GME
1	
2	NOTES:
3	
SCALE:	
AS SHOWN	

### Appendix B

Sample Location Plan



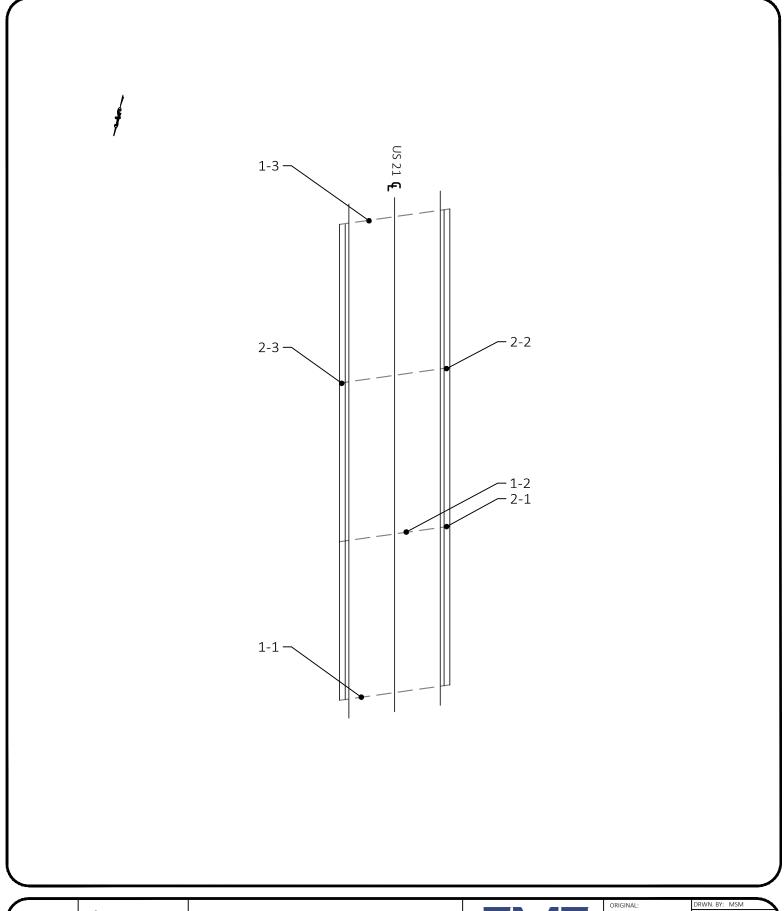


FIGURE NUMBER: F&ME CONSULTANTS PROJECT NUMBER:

G6400.200

ASBESTOS CONTAINING MATERIALS INVESTIGATION
US 21 RBO CSX Railroad
Hampton/Beaufort Counties, SC
Sample Location Plan
Prepared for: SCDOT
955 Park Street

Columbia, SC 29201



211 BUSINESS PARK BLVD. COLUMBIA, SC 29203

ORIGINAL:	DRWN. BY: MSM
November 13, 2023	CHKD. BY: MSM
REVISIONS:	APPR. BY: GME
1	
2	NOTES:
3	
SCALE:	
N.T.S.	

### Appendix C

**Summary of Samples** 



### Appendix C: Summary of Samples

Sample ID	Description				
1-1	Fabric Bearing Pad				
1-2	Fabric Bearing Pad				
1-3	Fabric Bearing Pad				
2-1	Expansion Joint Material				
2-2	Expansion Joint Material				
2-3	Expansion Joint Material				



### Appendix D

**Laboratory Analysis Reports** 





F & ME Consultants

Columbia, SC 29203

211 Business Park Blvd

EMSL Order: 022307783
Customer ID: FMEC62
Customer PO: G6400.200

Project ID:

**Phone:** (803) 254-4540

**Fax:** (803) 254-4542

Received Date: 11/09/2023 9:30 AM

**Analysis Date:** 11/09/2023

Collected Date:

Project: US 21 over CSX Railroad

Attention: Glynn M. Ellen

### Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			<u>Asbestos</u>		
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1-1	Bearing Pad	Brown/Gray/Tan Fibrous	80% Cellulose	20% Non-fibrous (Other)	None Detected
022307783-0001		Homogeneous			
1-2	Bearing Pad	Tan Fibrous	80% Cellulose	20% Non-fibrous (Other)	None Detected
022307783-0002		Homogeneous			
1-3	Bearing Pad	Tan Fibrous	97% Cellulose	3% Non-fibrous (Other)	None Detected
022307783-0003		Homogeneous			
2-1	Black Expansion Joint Material	Black Non-Fibrous	10% Cellulose 1% Synthetic	89% Non-fibrous (Other)	None Detected
022307783-0004		Homogeneous			
2-2	Black Expansion Joint	Black	1% Cellulose	99% Non-fibrous (Other)	None Detected
022307783-0005	Material	Fibrous Homogeneous	<1% Synthetic		

Analyst(s)

Nicole MacDowell (3) Scott Combs (2) Stephen Bennett, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. 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. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 11/11/2023 14:26:42



F & ME Consultants

211 Business Park Blvd

Columbia, SC 29203

 EMSL Order:
 022307783

 Customer ID:
 FMEC62

 Customer PO:
 G6400.200

Project ID:

Phone: (803) 254-4540

**Fax:** (803) 254-4542

Received Date: 11/09/2023 9:30 AM

Analysis Date: 11/10/2023

**Collected Date:** 

Project: US 21 over CSX Railroad

Attention: Glynn M. Ellen

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

% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
100.0 Other	None	<0.1% Chrysotile
		100.0 Other None

Analyst(s)

Stephen Bennett (1)

Stephen Bennett, Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, 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. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or <1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Initial report from: 11/14/2023 13:32:04

### Appendix E

Chain of Custody Form



OrderID: 022307783



# Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

000307783

EMSL ANALYTICAL, INC. 706 GRALIN ST KERNERSVILLE, NC 27284

PHONE: (336) 992-1025 FAX: (336) 992-4175

Company Name : F&ME Consultants			EMSL Customer ID: FMEC62						
Street: 211 Business Park Blvd. Columbia, SC			City: Columbia			State/Provin	nce: SC		
Zip/Postal Code: 29203 Country: USA			Telephone #: 803-254-4540				254-4542		
Report To (Name): Glyn	n Ellen, Jim	Timmons		Pleas	e Provi	ide Results:	☐ Fax		
Email Address: gellen@ mmincey@fmeconsultar		nts.com,		Purch	nase Or	rder: G6400.	200		
Project Name/Number:	US 21 over	CSX Railroad		EMSL	. Projec	ct ID (Interna	l Use Onl		
U.S. State Samples Take		m . <b>57</b> o							dential/Tax Exempt
	FW2F-R	ill to: ⊠ Same [ Third Party Billin	_} Different • na reauires writ	if Bill to is Iten auth	s Different <i>orization</i>	t note instruction of from third pai	is in Commei ntv	nts**	
			Time (TAT)						
	Hour [	24 Hour	48 Hour		72 Ho		6 Hour	☐ 1 Week	
*For TEM Air 3 hr through 6 h authorization form		ead to schedule *The <u>Analysis completed</u>	ere is a premiui Lin accordance	n charge with EMS	tor 3 Hou SL's Tern	ur TEM AHERA ns and Conditio	n or EPA Le	vel II TAT. You i in the Analytical i	will be asked to sign an Price Guide
PCM - Air ☐ Check if sai from NY	mples are	TEM_Air []4				TEM- Dust			
☐ NIOSH 7400		☐ AHERA 40	CFR, Part 76	3		☐ Microva	ic - ASTM	D 5755	ĺ
☐ w/ OSHA 8hr. TWA		☐ NIOSH 740.	2			☐ Wipe - A	ASTM D64	180	}
PLM - Bulk (reporting lin	nit)	☐ EPA Level !	I			☐ Carpet	Sonication	(EPA 600/J-	93/167)
☑ PLM EPA 600/R-93/11	6 (<1%)	☐ ISO 10312				Soil/Rock/	Vermiculi	<u>te</u>	
PLM EPA NOB (<1%)		TEM - Bulk			'	☐ PLM EPA 600/R-93/116 with milling prep (<1%)			* ' ' ' '
Point Count		☑ TEM EPA N				☐ PLM EPA 600/R-93/116 with milling prep (<0.25%)			
☐ 400 (<0.25%) ☐ 1000  Point Count w/Gravimetric	•	☐ NYS NOB 19	•	able-NY	.   _			• • • • •	
☐ 400 (<0.25%) ☐ 1000		☐ TEM Mass A		☐ TEM Qualitative via Filtration Prep 600 sec. 2.5 ☐ TEM Qualitative via Drop Mount Prep					
☐ NYS 198.1 (friable in I		TEM - Water:		Cincinnati Method EPA 600/R-04/004 – PLM/TEM (BC only)					
NYS 198.6 NOB (non-	friable-NY)	Fibers >10µm	☐ Waste						
☐ NYS 198.8 SOF-V ☐ NIOSH 9002 (<1%)	·	All Fiber Sizes  Waste Drinking							
						L			
	top – Clearly	Identify Homog	enous Grou	P	Filter	Pore Size (A	Air Sampl		
Samplers Name: Mike M	incey	<u> </u>		Sai	mplers	Signature:		/S/	nay
Sample #		Samp	ole Descript	ion				/Area (Air) # (Bulk)	Date/Time Sampled
1-1 thru 1-2	Bearing Pa	.d							j
1-1 111111 1-2	Dearing Fa	<u>u</u>		-		<del></del> -		<del></del>	<del></del>
*2-1 thru 2-2	*2-1 thru 2-2 Black Expansion Joint Material								
						!		[	
	<del> </del>	· <del></del>				<del></del>	<del></del>		
	<u> </u>			<u> </u>		<u> </u>			
							Í	Í	!
Client Sample # (s): 1-1 - 2-3 Total # of Samples: 6									
Relinquished (Client):	Mik	Mana	Date		1	1/8/2023		Time:	
Received (Lab):	<u> </u>		Date	. 11.0	7 3	2		Time.	9:20
Comments/Special Instru	<u>ر</u> uctions: SC	Guidelines. TEN			10	<u> </u>		Time:	1.00

Page 1 of \_\_\_\_\_\_ pages

### Appendix F

**Personnel Certifications** 



### SCDHEC ISSUED

Asbestos ID Card

### Glynn M Ellen



		Expiration Date
<b>AIRSAMPLER</b>	AS-00079	01/22/24
CONSULTMP	ASB-22641	01/23/24
CONSULTPD	PD-00098	07/11/24
SUPERAHERA	SA-00455	01/22/24

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact: SCDHEC - Asbestos Section 2600 Bull Street
Columbia, SC 29201
(803) 898-4289

# SCDHEC ISSUED

## Asbestos ID Card

## **Michael Mincey**



AIRSAMPLER CONSULTMP SUPERAHERA AS-00272 MP-00161 SA-01424 Expiration Date: 01/22/24 01/23/24 01/22/24

This card is nontransferable and considered invalid if loaned or given to another person for identification. This card will also be invalid if altered or defaced. This card is property of SCDHEC. It must be returned to the department if the holder's accreditation is revoked or if this card is invalidated. Any person performing regulated asbestos activities without current accreditation shall be subject to legal sanction. This card must be returned upon expiration and/or issuance of a new card.

YOU MUST HAVE THIS IDENTIFICATION CARD WITH YOU ON THE JOB.

For information of corrections contact: SCDHEC - Asbestos Section 2600 Bull Street
Columbia, SC 29201
(803) 898-4289

Appendix G

Site Photographs





**Photo 1.** Top View of Bridge Deck.



**Photo 2.** Underside View of Bridge.



**Photo 3.** Southeast Side View of Bridge.



**Photo 4.** Southwest Side View of Bridge.



**Photo 5.** End Bent Underside View.



**Photo 6.** SCDOT Bridge Asset Placard Attached to the Concrete Guardrail.

