

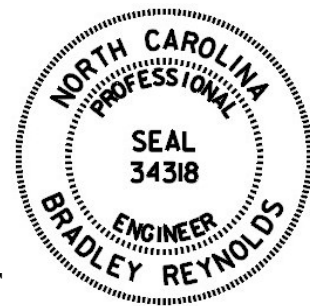
Bridge Approach Speed Investigation

Bridge # 850310 over Stoney Creek on SR 1774 (Reeves Mill Rd)
Surry County
Project Number 17BP.11.R.128



Document Prepared By:

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Principal Investigator

DocuSigned by:

Sheena Green

1/5/2017

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Sheena Green
Traffic Engineer

Project Manager

DocuSigned by:

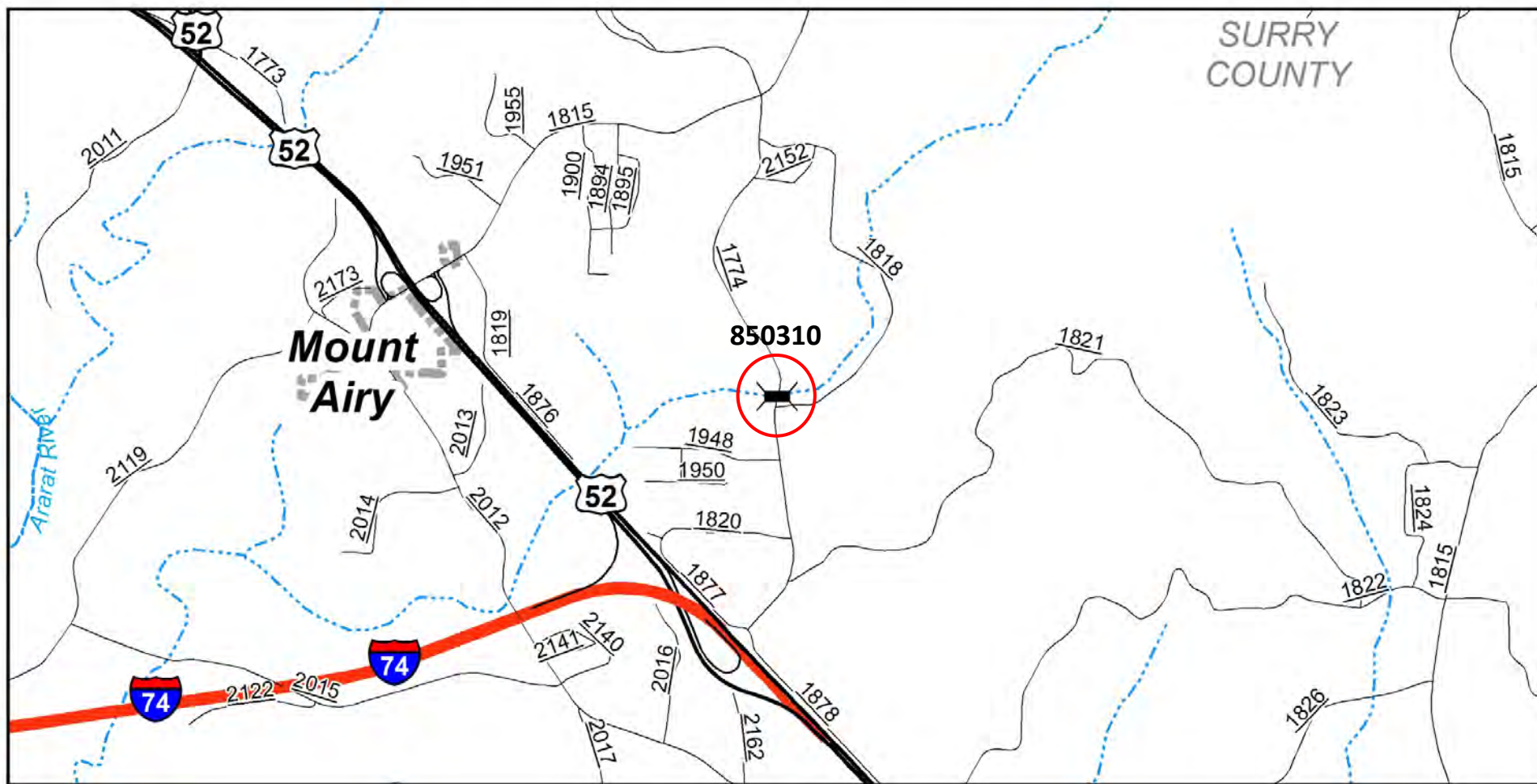
Bradley Reynolds

1/5/2017

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Bradley Reynolds, PE
Project Manager

Division 11 - Surry County Design Build Year 6/7 Bridge Program



Structure Number	Division	County	Structure Description	Latitude	Longitude
850310	11	Surry	Bridge #850310 over Stoney Creek	36.45569	-80.54135

HNTB

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1 in = 2,500 ft
SCALE



Bridge and Approach Investigation Checklist

Project 17BP.11.R.128

Description Bridge #850310 over Stoney Creek

Route SR 1774 (Reeves Mill Rd)

Division 11

County Surry

Existing Speed Limit 55 ☐ Posted ☒ Statutory

Reasonable & Comfortable Passenger Car Speed 35 mph

Speed Data Nineteen (19) speed data points were collected: 28, 46, 43, 38, 40, 35, 48, 41, 33, 31, 31, 41, 37, 41, 42, 43, 38, 40 and 42 mph

Ball Bank Speed Study Curve on NB approach ball banks: 10 @ 35 mph
Curve on SB approach ball banks: 10 @ 35 mph

Warning Signs at Bridge Object Markers (OM-3L & OM-3R) on each bridge approach
Weight Limit Signs - 1 x each approach

Roadside Development Rural/Residential/Agricultural

ADT History 1900 vpd from Crash Analysis
1900 vpd from 2014 AADT Map, Surry County

Pedestrian/Bicycle Traffic N/A

Bridge and Approach Digital Photos Attached

Approach Lane Width 18' overall pavement width with +/-9' lanes

Approach Shoulder Width: Varies from 3-4'
Shoulder Type Grass

Lane Width (existing bridge) 24' overall pavement width with 9' lanes

Shoulder width (existing bridge) 3'

Strategic Corridor / Thoroughfare Designation and Recommended Cross Section Local, Rural

Crash History and Safety Considerations Two (2) crashes have been reported in the vicinity of the bridge from 11/1/2011 to 10/31/2016 (5 years).
Neither incident involved the actual bridge.

Comments Sharp Curve North and South of Bridge
Curves appear straighter than they actually are when driving through them
No advisory for Curve Ahead or Curvy Road Ahead
Driveway located approximately 150' South of bridge
Intersection with Mills Rd approximately 150' South of bridge

Reasonable Bridge Speed 45 mph

Investigated by: Sheena Green, 12/05/2016 Reviewed by: Bradley Reynolds, PE

SR 1774 (Reeves Mill Rd) Northbound $\pm$ 250' from Bridge #310



SR 1774 (Reeves Mill Rd) Northbound $\pm$ 50' from Bridge #310



SR 1774 (Reeves Mill Rd) Southbound $\pm$ 100' from Bridge #310



SR 1774 (Reeves Mill Rd) Southbound $\pm$ 50' from Bridge #310



View of Bridge #310 Looking Northwest



View of Bridge #310 Looking Northeast



North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Study Criteria Summary

County: SURRY City: All and Rural
Date: 11/01/2011 to 10/31/2016 Study: SURRYBRIDGE310
Location: SR 1774 (Reeves Mill Rd) from 500 feet north of Bridge 310 to 500 feet south of the bridge

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	104596230	3.423	12/23/2015 17:10	ANIMAL	\$ 2800	0	0	0	0	2	2	3		0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:		17			
2	103701320	3.540	03/13/2013 06:00	ANIMAL	\$ 800	0	0	0	0	1	5	1	3	0	13	1
Unit	1 : 2	Alchl/Drgs:	0	Speed:	45 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:		17			

Legend for
Report Details:

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

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Traffic Engineering Accident Analysis System
Strip Analysis Report**

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	2	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	2	100.00
Night Crashes	1	50.00
Wet Crashes	1	50.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	2	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	2	100.00

Vehicle Exposure Statistics

Annual ADT = 1900

Total Length = 0.197 (Miles)

0.317 (Kilometers)

Total Vehicle Exposure = 0.68 (MVMT)

1.1 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	292.46	181.73
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	0.00	0.00
Night Crash Rate	146.23	90.86
Wet Crash Rate	146.23	90.86
EPDO Rate	292.46	181.73

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	2.00
Estimated Property Damage Total = \$	3600.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANIMAL	2	100.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	1	50.00
Apr	0	0.00
May	0	0.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	0	0.00
Oct	0	0.00
Nov	0	0.00
Dec	1	50.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	0	0.00
Wed	2	100.00
Thu	0	0.00
Fri	0	0.00
Sat	0	0.00
Sun	0	0.00

12/21/2016

All data presented in this report comes explicitly from the Traffic Engineering Accident Analysis System based upon various criteria provided by the report's creator. The onus is strictly upon the user of this report to exercise due diligence in interpreting and further representing this data.

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**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	1	50.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	0	0.00
1500-1559	0	0.00
1600-1659	0	0.00
1700-1759	1	50.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	0	0	0	0
Dark	1	0	0	1
Other	0	1	0	1
Total	1	1	0	2

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	2	100.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	1	50.00
PICKUP	1	50.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2011	0	0	0	0
2012	0	0	0	0
2013	1	0	0	1
2014	0	0	0	0
2015	1	0	0	1
2016	0	0	0	0
Total	2	0	0	2

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2011	0	0
2012	0	0
2013	0	0
2014	0	0
2015	0	0
2016	0	0
Total	0	0

Miscellaneous Totals

Year	Property Damage	EPDO Index
2011	\$ 0	0.00
2012	\$ 0	0.00
2013	\$ 800	1.00
2014	\$ 0	0.00
2015	\$ 2800	1.00
2016	\$ 0	0.00
Total	\$ 3600	2.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0

**North Carolina Department of Transportation
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Strip Analysis Report**

Run Off Road &							
Year	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2013	0	0	0	0	0	0	1
2014	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	1
2016	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	2

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Strip Diagram

Features	Milepost	Crash IDs
Structure:850310	3.35	
	3.36	
	3.37	
	3.38	
	3.39	
	3.40	
	3.41	
	3.42	104596230
	3.43	
	3.44	
SR 1818	3.45	
	3.46	
	3.47	
	3.48	
	3.49	
	3.50	
	3.51	
	3.52	
	3.53	
	3.54	103701320
	3.55	

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
SURRYBRIDGE310				76.8	8.4	1900	40001774

Request Date	Courier Service	Phone No.	Ext.	Fax No.
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County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
SURRY	86	11	All and Rural		0	11/01/2011	10/31/2016	5.00

Location Text	Requestor
SR 1774 (Reeves Mill Rd) from 500 feet north of Bridge 310 to 500 feet south of the bridge	

Included Accidents	Old MP	New MP	Type
104596230		3.423	I

Fiche Roads	
Name	Code
SR 1774	40001774
REEVES MILL	50025612
SR 1776	40001776

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1774	40001774	3.352	3.549	0.197	0.317