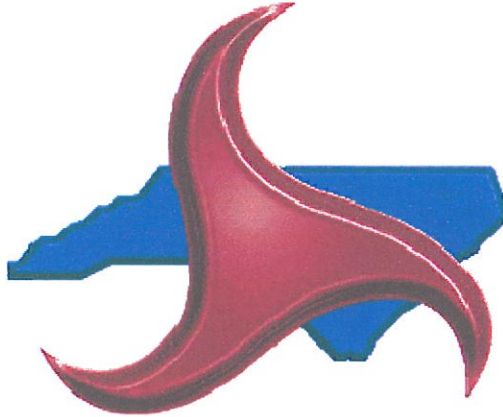


17BP.9.R.62 Bridge Design Speed Study

Bridge #290073 on SR 1324 (Ollie Harkey Rd) north of Mocksville

Davie County

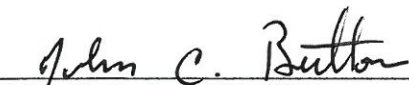


Document Prepared By:

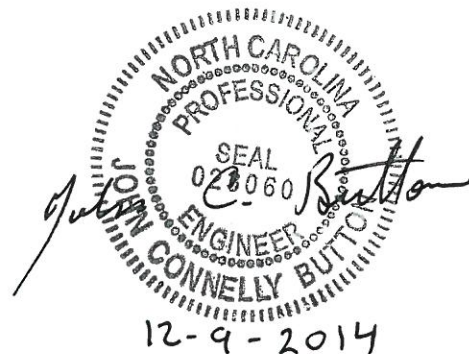
Regional Traffic Office – Triad Region
Traffic Safety Unit
Transportation Mobility and Safety Division
North Carolina Department of Transportation

December 9, 2014

Principal Investigator:



John C. Button, PE, PLS
Triad Regional Traffic Safety Engineer



Bridge and Approach Investigation Checklist

Project 17BP.9.R.62
Description Bridge #290073 over Dutchmans Creek
Route SR 1324 (Ollie Harkey Road)
Division 9
County Davie

Existing Speed Limit 55 ☐ Posted ☒ Statutory

Reasonable & Comfortable
Passenger Car Speed 45 to 50 mph

Speed Data No speed data collected because of sparseness of traffic.

Ball Bank Speed Study 12 degrees at 45 mph for curve located north of bridge.
12 degrees at 40 mph for curve located south of bridge.

Warning Signs at Bridge (4) W10-23 signs delineating bridge ends
40 SV/ TTST signs located on each approach to the bridge.

Roadside Development Rural

ADT History 2013 AADT = 230 vpd per NCDOT Traffic Map.
2003 AADT = 280 vpd per NCDOT Traffic Map.

Pedestrian/Bicycle Traffic Bike and pedestrian not expected.
SR 1324 is not listed as a bicycle route or pedestrian route on the
Davie County Comprehensive Plan Maps.

Bridge and Approach
Digital Photos See attached photos.

Approach Lane Width 19'-1" overall pavement width; 8'-5"/8'-1" lane widths.

Approach Shoulder Width: 8'-6" to 11'-6" +/-
Shoulder Type Grass

Lane Width (existing bridge) 24'-3" overall pavement width; 8'-7"/8'-0" lane widths.

Shoulder width (existing bridge) 36"/41"

Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section According to NCDOT Functional Class Map, SR 1324 is a local road.
Recommend the 3R Guideline of 10' lane widths and 3' shoulder widths
(6' shoulder widths where guardrail is installed) as a minimum cross section.

Crash History and
Safety Considerations One run off road type crash reported in the vicinity of the bridge
from 10/01/2004 to 9/30/2014.

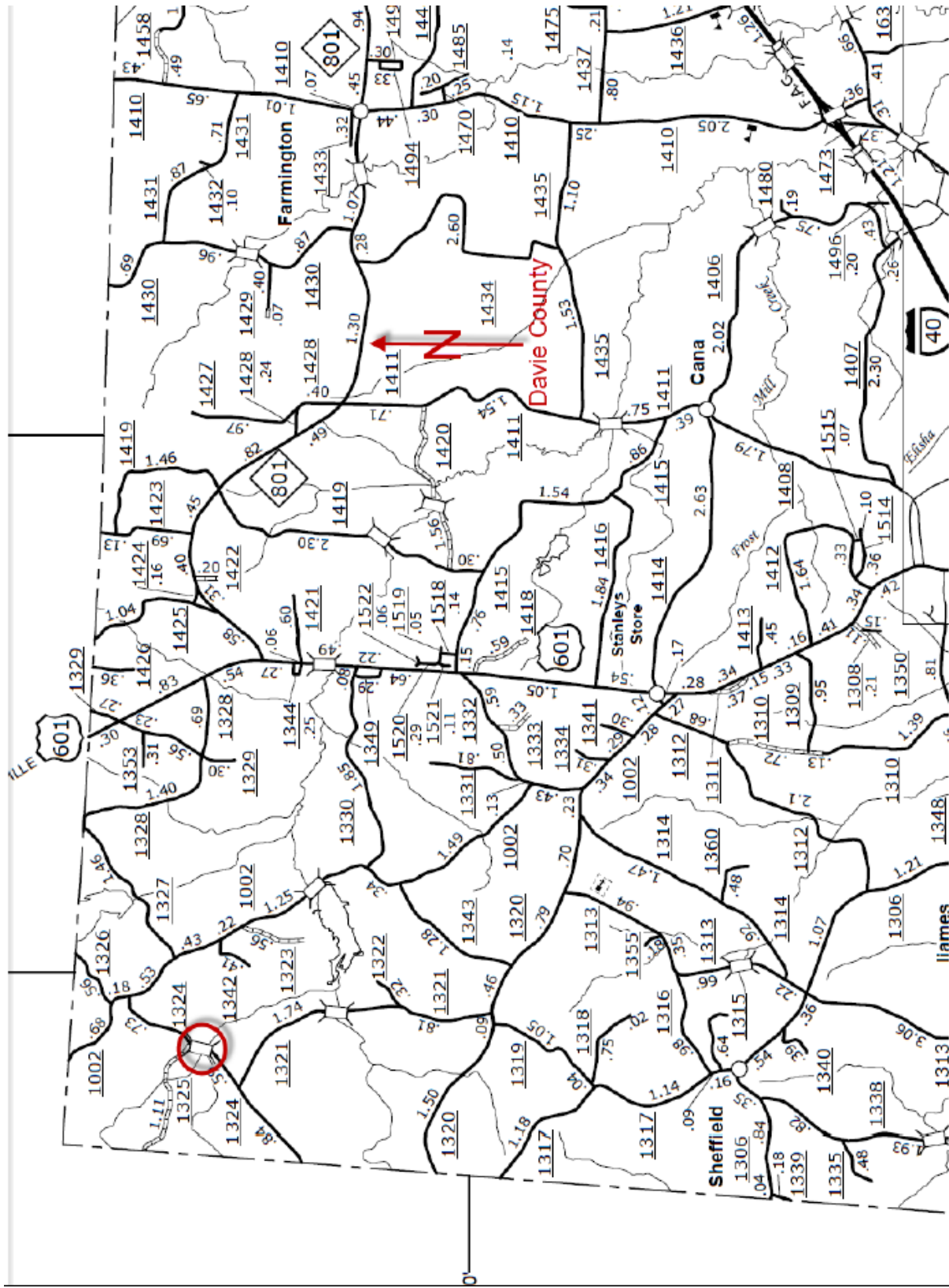
Comments _____

Reasonable Bridge Speed 55 mph

Investigated by: John Button 11/25/2014

Reviewed by: _____

Bridge #290073 Location Map















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

Summary Statistics

High Level Crash Summary

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

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	1	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	1	100.00
Class C Crashes	0	0.00
Property Damage Only Crashes	0	0.00

Vehicle Exposure Statistics

Annual ADT = 200

Total Length = 0.196 (Miles) 0.315 (Kilometers)

Total Vehicle Exposure = 0.14 (MVMT) 0.23 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	698.53	434.04
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	698.53	434.04
Night Crash Rate	698.53	434.04
Wet Crash Rate	0.00	0.00
EPDO Rate	5867.63	3645.97

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

Miscellaneous Statistics

Severity Index =	8.40
EPDO Crash Index =	8.40
Estimated Property Damage Total = \$	2000.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
OVERTURN/ROLLOVER	1	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	2	100.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	2	100.00
Total Injuries	2	100.00

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	0	0.00
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	100.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	0	0.00
Wed	0	0.00
Thu	0	0.00
Fri	0	0.00
Sat	1	100.00
Sun	0	0.00

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	0	0.00
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	0	0.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	1	100.00
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	0	0	0
Total	1	0	0	1

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PICKUP	1	100.00

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
2004	0	0	0	0
2005	0	0	0	0
2006	0	0	0	0
2007	1	0	1	0
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0
Total	1	0	1	0

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2004	0	0
2005	0	0
2006	0	0
2007	0	2
2008	0	0
2009	0	0
2010	0	0
2011	0	0
2012	0	0
2013	0	0
2014	0	0
Total	0	2

Miscellaneous Totals

Year	Property Damage	EPDO Index
2004	\$ 0	0.00
2005	\$ 0	0.00
2006	\$ 0	0.00

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

Year	Property Damage	EPDO Index
2007	\$ 2000	8.40
2008	\$ 0	0.00
2009	\$ 0	0.00
2010	\$ 0	0.00
2011	\$ 0	0.00
2012	\$ 0	0.00
2013	\$ 0	0.00
2014	\$ 0	0.00
Total	\$ 2000	8.40

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2004	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	1
2008	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1

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

Strip Diagram

Features	Milepost	Crash IDs
Structure:290073	1.21	
	1.22	
	1.23	
	1.24	
	1.25	102205700
	1.26	
	1.27	
	1.28	
	1.29	
	1.30	
	1.31	
	1.32	
	1.33	
	1.34	
	1.35	
	1.36	
	1.37	
	1.38	
	1.39	
	1.40	
	1.41	

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
41000032350	41000032350			76.8	8.4	200	40001324

Request Date	Courier Service	Phone No.	Ext.	Fax No.
--------------	-----------------	-----------	------	---------

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
DAVIE	29	9	All and Rural		0	10/1/2004	9/30/2014	10.00

Location Text	Requestor
500 feet on Both Sides of Bridge Number 73 on Secondary Route 1324 (Ollie Harkey Road) over Dutchmans Creek	Brian C. Thomas, PE Triad Region

Fiche Roads	
Name	Code
SR 1324	40001324
HARKEY	50013170

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1324	40001324	1.213	1.409	0.196	0.315