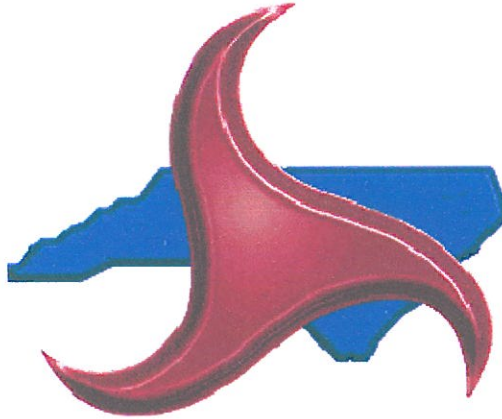


17BP.9.R.62 Bridge Design Speed Study

Bridge #840129 on SR 1484 (Dan George Rd) northwest of Danbury

Stokes County

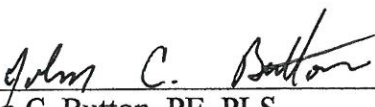


Document Prepared By:

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 #840129 over South Double Creek
Route SR 1484 (Dan George Road)
Division 9
County Stokes

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 Curve located north of bridge ball banked at 12 degrees at 50 mph.

Warning Signs at Bridge (4) W10-23 signs delineating bridge ends
26 Ton SV/ 36 Ton TTST signs on each approach.
W1-5 (Winding Road) Warning Sign with 20 mph advisory plaque
located on south side of bridge.

Roadside Development Rural

ADT History 2013 AADT = 870 vpd per NCDOT Traffic Map.
2003 AADT = 880 vpd per NCDOT Traffic Map.

Pedestrian/Bicycle Traffic SR 1484 is not listed as a bicycle route or pedestrian
route on the Stokes County Comprehensive Plan Maps.

Bridge and Approach
Digital Photos See attached photos.

Approach Lane Width 19'-0" overall pavement width; 8'-2"/8'-1" lane widths.

Approach Shoulder Width: Varies 6'-6" to 12' +/-
Shoulder Type Grass

Lane Width (existing bridge) 24'-3" overall pavement width; 8'-2"/8'-8" lane widths.

Shoulder width (existing bridge) 29"/36"

Strategic Corridor / Thoroughfare
Designation and Recommended
Cross Section According to NCDOT Functional Class Map, SR 1484 is a local route.
Recommend the 3R Guideline of 10' lane widths and 3' shoulder widths
(6' shoulder widths where guardrail is installed) as a minimum cross section.

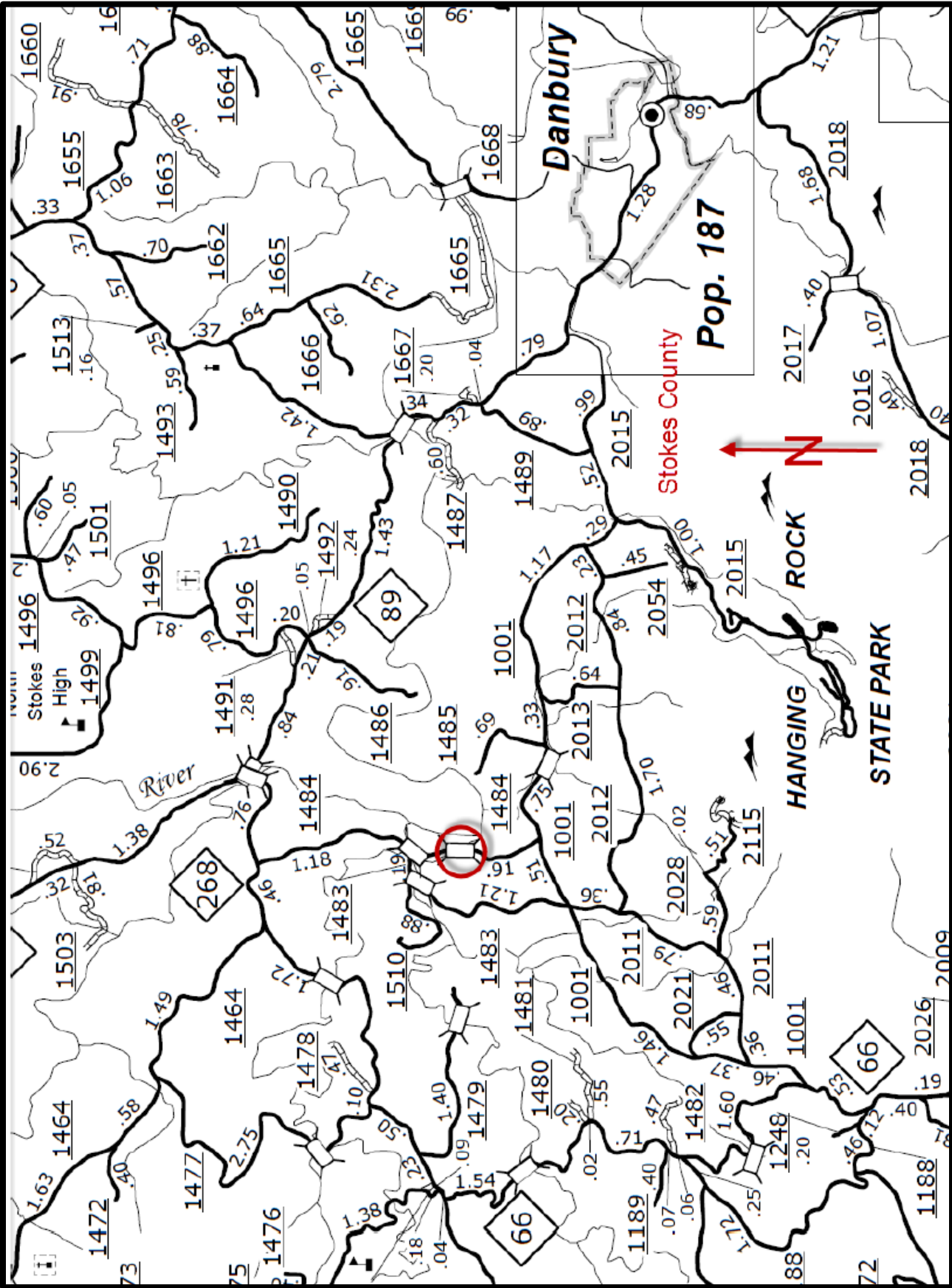
Crash History and
Safety Considerations One crash (deer crash) reported in the vicinity of the bridge from 10/01/2004 to 9/31/2013.
Crash was not related to the bridge or bridge approaches.

Comments _____

Reasonable Bridge Speed 55 mph

Investigated by: John Button 12/08/2014 Reviewed by: _____

Bridge #840129 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	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	1	100.00
Night Crashes	1	100.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	0	0.00

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	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	1	100.00

Vehicle Exposure Statistics

Annual ADT = 890

Total Length = 0.212 (Miles) 0.341 (Kilometers)

Total Vehicle Exposure = 0.69 (MVMT) 1.11 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	145.13	90.18
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	0.00	0.00
Night Crash Rate	145.13	90.18
Wet Crash Rate	0.00	0.00
EPDO Rate	145.13	90.18

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Traffic Engineering Accident Analysis System
Strip Analysis Report**

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	1.00
Estimated Property Damage Total = \$	1800.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANIMAL	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	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

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Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	1	100.00
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	0	0.00

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	0	0.00
Sun	1	100.00

North Carolina Department of Transportation
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Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	1	100.00
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	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

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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

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	100.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	1	100.00

North Carolina Department of Transportation
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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	0	0	0	0
2008	0	0	0	0
2009	1	0	0	1
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	0	1

Injury Totals

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

Miscellaneous Totals

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

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Traffic Engineering Accident Analysis System
Strip Analysis Report**

Year	Property Damage	EPDO Index
2007	\$ 0	0.00
2008	\$ 0	0.00
2009	\$ 1800	1.00
2010	\$ 0	0.00
2011	\$ 0	0.00
2012	\$ 0	0.00
2013	\$ 0	0.00
2014	\$ 0	0.00
Total	\$ 1800	1.00

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	0
2008	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	1
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:840129	1.37	
	1.38	102558697
	1.39	
	1.40	
	1.41	
	1.42	
	1.43	
	1.44	
	1.45	
	1.46	
	1.47	
	1.48	
	1.49	
	1.50	
	1.51	
	1.52	
	1.53	
	1.54	
	1.55	
	1.56	
	1.57	
	1.58	

North Carolina Department of Transportation
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Strip Analysis Report

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
41000032354	41000032354			76.8	8.4	890	40001484

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
STOKES	84	9	All and Rural		0	10/1/2004	9/30/2014	10.00

Location Text	Requestor
500 feet on Both Sides of Bridge Number 129 on Secondary Route 1484 (Dan George Road) over South Double Creek	Brian C. Thomas, PE Triad Region

Fiche Roads	
Name	Code
SR 1484	40001484

Strip Road					
Name	Code	Begin MP	End MP	Miles	Kilometers
SR 1484	40001484	1.368	1.580	0.212	0.341