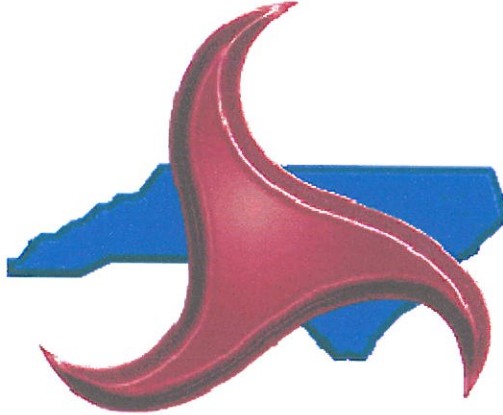


17BP.7.R.86 Bridge Design Speed Study

Bridge #400189 on SR 2719 (High Rock Road)

Guilford County

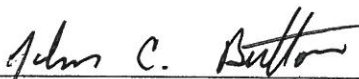


Document Prepared By:

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

September 30, 2014

Principal Investigator:



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



Bridge and Approach Investigation Checklist

Project 17BP.7.R.86
Description Bridge # 400189 over Unnamed Tributary of Reedy Fork Creek
Route SR 2719 (High Rock Road)
Division 7
County Guilford

Existing Speed Limit 45 mph ☒ Posted ☐ Statutory

Reasonable & Comfortable Passenger Car Speed 55 mph

Speed Data 9 Speed Data Points Obtained.
Range from 45 mph to 58 mph.
Mean = 52 mph.
85th percentile = 57 mph
Mode = 52 mph

Ball Bank Speed Study 8 degrees at 55 mph for curve located north of bridge.

Warning Signs at Bridge W23-10 object markers, one at each corner of bridge.
Regulatory 20 ton/28 ton weight limit sign on each approach.
Curve Warning Sign located on each approach to the bridge.

Roadside Development Rural

ADT History 2003 AADT = 1500 vpd per NCDOT Traffic Map.
2013 AADT = 1100 vpd per NCDOT Traffic Map.

Pedestrian/Bicycle Traffic No bike or pedestrian traffic observed during site visit.
Little bike or ped traffic expected. The Greensboro Urban Area
Comprehensive Transportation Plan Bicycle Map shows SR 2719
as a bicycle route that needs improvement.

Bridge and Approach Digital Photos See attached photos.

Approach Lane Width 20'-10" overall pavement width with 9'-0"/9'-3" lane widths.

Approach Shoulder Width: Varies from 4' to 9'.
Shoulder Type Grass

Lane Width (existing bridge) 24'-7" overall pavement width with 8'-6"/9'-6" lane widths.

Shoulder width (existing bridge) 24"/26"

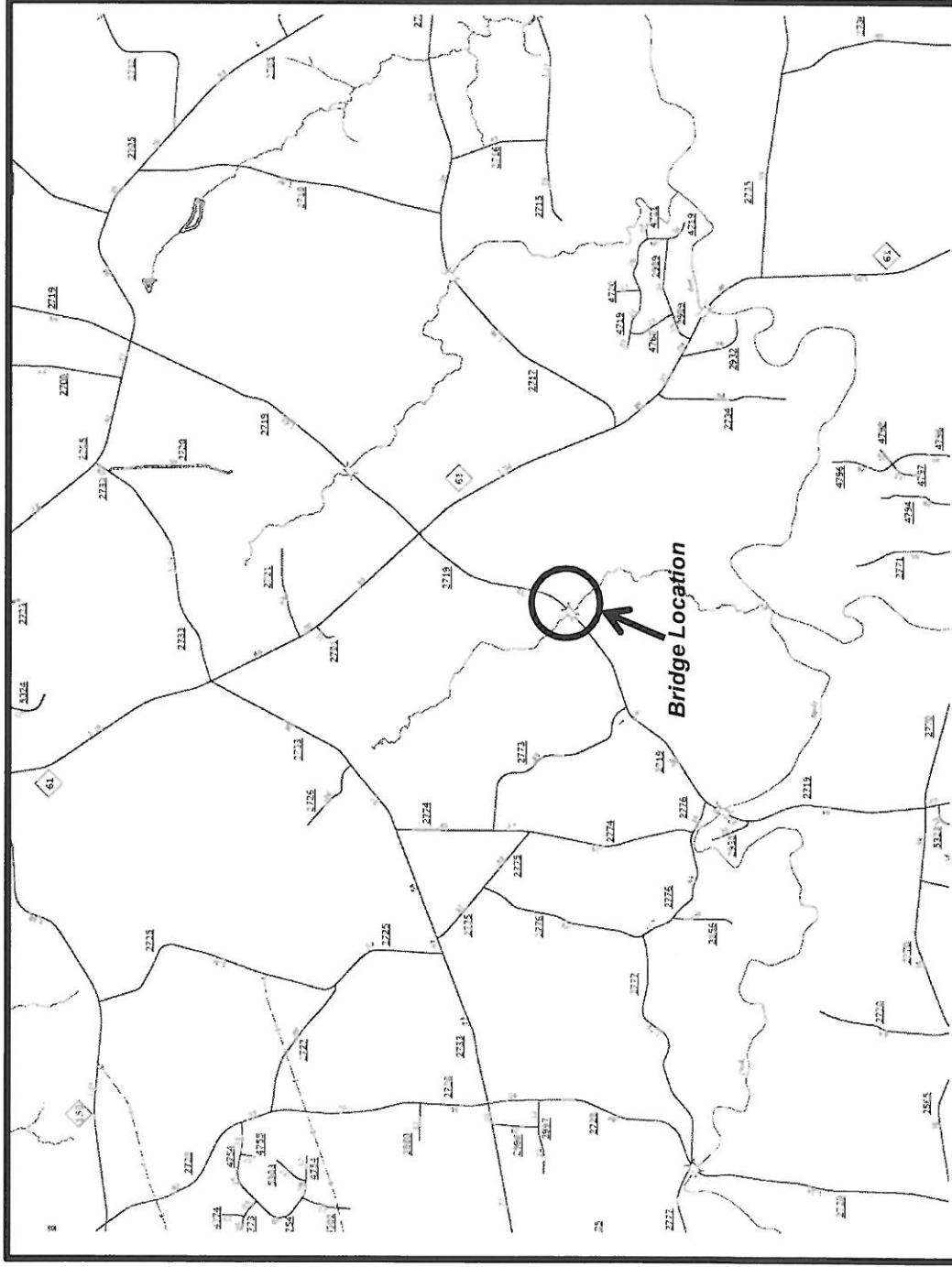
Strategic Corridor / Thoroughfare Designation and Recommended Cross Section This section of SR 2719 is designated as a local route
on the NCDOT Functional Classification Route Map.
The NCDOT "R-R-R Guide" recommends a minimum of 11 foot lane
widths and 3 foot shoulder widths (6 foot shoulder widths where
guardrail is to be installed) on local routes.

Crash History and Safety Considerations 1 crash occurred in vicinity of bridge from 07/01/2004 to 06/30/2014.

Comments _____

Reasonable Bridge Speed 60 mph

Bridge # 400189 on SR 2719 (High Rock Road) in Guilford County



Guilford County



SR 2719 (High Rock Road) southbound $\pm$ 0 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) southbound $\pm$ 50 feet north of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) $\pm$ 100 feet north of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 150 feet north of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 200 feet north of Bridge # 400189

Guilford County



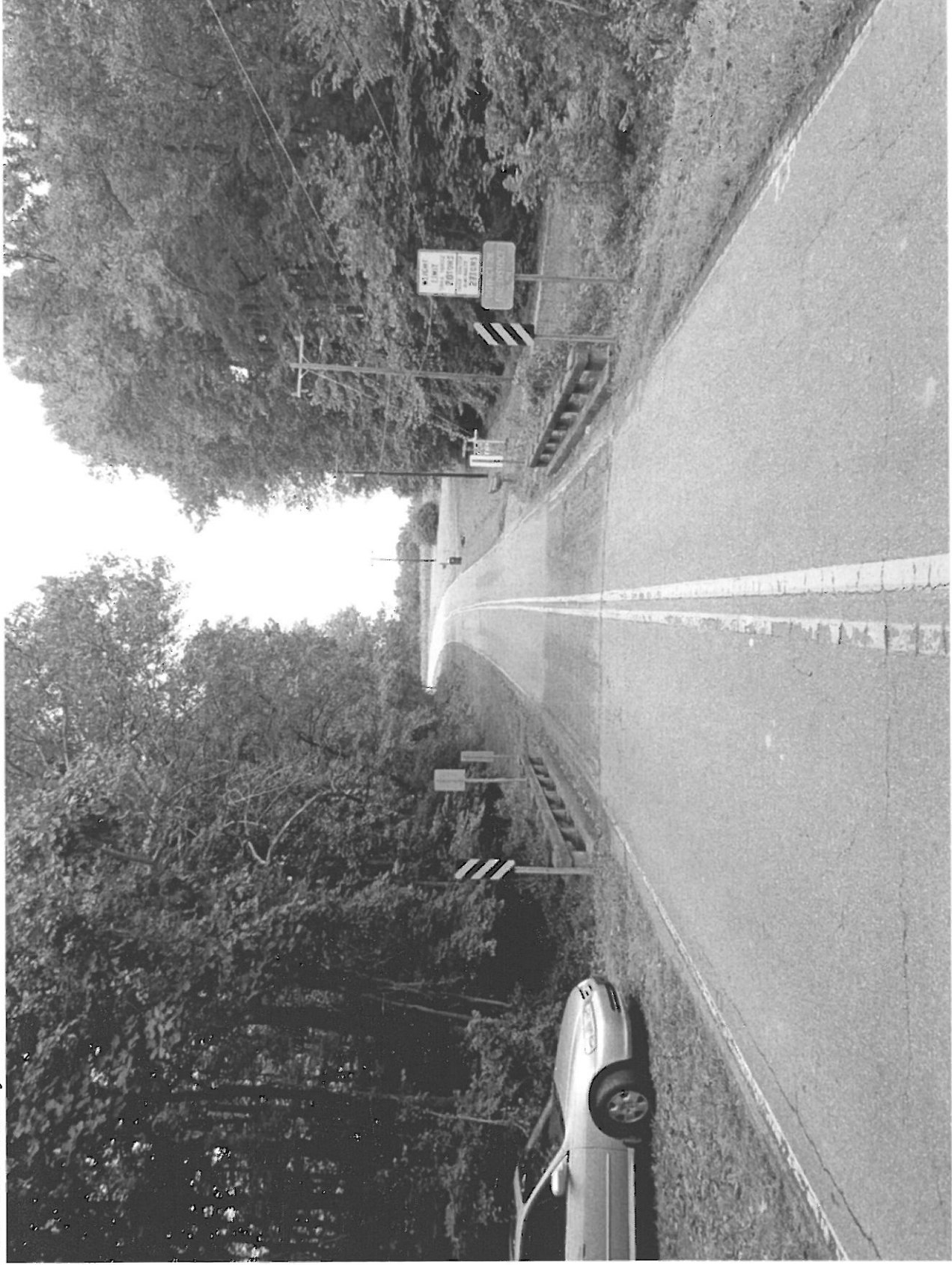
SR 2719 (High Rock Road) $\pm$ 250 feet north of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) $\pm$ 0 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 50 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 100 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 150 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 200 feet south of Bridge # 400189

Guilford County



SR 2719 (High Rock Road) ± 250 feet south of Bridge # 400189

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

Study Criteria Summary

County: GUILFORD City: All and Rural
Date: 07/01/2004 to 06/30/2014 Study: GUILFORDBRIDGE400189
Location: 500 feet on either side of bridge 400189 on SR 2719 (High Rock Rd)

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	103043388	4.145	12/16/2010 06:49	RAN OFF ROAD - LEFT	\$ 1000	0	0	0	0	4	1	4	3	0	0	
Unit 1 : 1 Alchl/Drgs: 0 Speed: 15 MPH Dir: SW Veh Mnvr/Ped Actn: 4 Obj Strk: 34																

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

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	0	0.00
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 = 1000

Total Length = 0.196 (Miles) 0.315 (Kilometers)

Total Vehicle Exposure = 0.72 (MVMT) 1.15 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	139.71	86.81
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	0.00	0.00
Night Crash Rate	0.00	0.00
Wet Crash Rate	0.00	0.00
EPDO Rate	139.71	86.81

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

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	1.00
Estimated Property Damage Total = \$	1000.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
RAN OFF ROAD - LEFT	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

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	1	100.00
Fri	0	0.00
Sat	0	0.00
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	1	100.00
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

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	1	1
Dark	0	0	0	0
Other	0	0	0	0
Total	0	0	1	1

Object Struck Summary

Object Type	Times Struck	Percent of Total
UTILITY POLE	1	100.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	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	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	1	0	0	1
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

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

Year	Property Damage	EPDO Index
2006	\$ 0	0.00
2007	\$ 0	0.00
2008	\$ 0	0.00
2009	\$ 0	0.00
2010	\$ 1000	1.00
2011	\$ 0	0.00
2012	\$ 0	0.00
2013	\$ 0	0.00
2014	\$ 0	0.00
Total	\$ 1000	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	0
2010	0	0	0	1	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	1	0	0	0

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

Strip Diagram
