

Project Number 45624.1.1
TIP Number B-5669
Let Date _____

PREDESIGN-PRESURVEY REPORT

County Nash

Bridge Number 630143
Road Number SR 1302 (Vick Rd)
Stream Stoney Creek ✓

Type Of Request: POC Force Account TIP
Date 1/28/16 Name EAKpucogu Assigned To _____
Checked By _____

Prior Survey Date 4/58 (attach copy of prior survey)

Panel = 2880

Study By Scour Section _____

Flood Zone AE Detail Study Limited Date 6/18/2013 (attach copy of flood map)

B.M. Info _____

Quad Map Spring hope Drainage Area 50.2 From stream stat
Q25 2630 Q50 3240 Q100 3890 Method USGS-Rural Regression eqn
(USGS SI Report 2009-5158)

EXISTING BRIDGE INFORMATION

Location 1.0 mi W Jct NC58

Average Daily Traffic 350 (2011)

Length 121 Bed-To Crown 16 Water Depth 2

Type Structure Prestressed Conc Channel BMD-13 and 13-1

Type Spans 1 @ 30'6", 2 @ 30', 1 @ 30'6"

Upstream Structure (SR 1300) Brg # 194

Location 1.2 mi S Jct NC58

Bed-To Crown 17 Prior Survey _____

Downstream Structure (NC58) Brg # 144, C117 (US64)

Location 0.3 mi S Jct US64 BYP, 0.6 mi W Jct NC58

Bed-To Crown 14 Prior Survey No

SCS Watershed _____

ENVIRONMENTAL

Trout Stream No Anadromous Fish No Primary Nursery Area _____

High Quality Waters No Nutrient Sensitive Waters NSW

Near Water Supply Intake No CAMA County No

Stream Classification NSW

DENR River Basin Info. Tar pam

Office estimated min brg length = 170'

Ref. 15A NCAC



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION PRIORITY MAINTENANCE
TEMPORARY REPAIRS

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection - Contract

COUNTY NASH

BRIDGE NUMBER 630143

INSPECTION CYCLE 0 YRS

ROUTE SR1302

ACROSS STONEY CREEK

M.P. 0

1.0 MI. S. JCT. NC58

LOCATION 1.0 MI. W. JCT. NC58

SUPERSTRUCTURE PRESTRESSED CONCRETE CHANNEL, BMD-13 & 13-1

SUBSTRUCTURE E.BTS&INT.BTS:PPG CAPS/TIMBER PILES @ 6'CENTERS

SPANS 1@30'6";2@30';1@30'6"

LONGITUDE 78° 0' 46.04"

LATITUDE 35° 59' 11.35"

INSPECTION DATE 04/01/2014

PRESENT CONDITION FAIR

PRESENT POSTING SV 21 TTST 24

SV 21 TTST 24

PROPOSED POSTING

OTHER SIGNS PRESENT FOUR (4) DELINEATORS



LOOKING NORTH

Fracture Critical	No
Temporary Shoring	No
Scour Critical	No
Scour POA	Yes

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
No WEIGHT LIMIT	
No DELINEATORS	
No NARROW BRIDGE	
No ONE LANE BRIDGE	
No LOW CLEARANCE	

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 05/22/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
NASH	4	2	630143	121 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1302	STONEY CREEK

LOCATED :	BRIDGE NAME :	CITY :
1.0 MI W. JCT NC58		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	350 2011	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1959	BMU			H 15

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
			TAN	90	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 11 11 0 11 16 11 2 FT		

SUPERSTRUCTURE : PRESTRESSED CONCRETE CHANNEL BMD-13 & 13-1

SUBSTRUCTURE : E.BTS&INT.BTS:PPC CAPS/TIMBER PILES @ 6'CENTERS

SPANS : 1@30'6;2@30';1@30'6

BEAMS OR GIRDERS : 10 PRESTRESSED CONCRETE CHANNEL SECTIONS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
PPC.CH/3AWS		25.75 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
24.25 FT	25.25 FT	LT .5 FT RT 5 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-1	HS-1	Timber Pile	SV 21	24	06/07/2010

SYSTEM :	GREEN LINE ROUTE :
Secondary S.R. Route	N

UNDER ROUTES AND CLEARANCES

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 10/03/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
NASH	4	2	630144	85 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
NC58	STONE CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.3 MI S JCT . US64BYP		NASHVILLE

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
16	FA	NFA	3200 2008	LT 579 RT 579

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1940	SHC	8.11624		HS 20

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
1962			TAN.	90	ON 4 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT	14 FT	1 FT

SUPERSTRUCTURE :	REINFORCED CONCRETE DECK GIRDERS,WIDENED W/I-BEAMS
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SUBSTRUCTURE :	ABUT:CONC;INT.BT:SNP&WEB PIERS ON ROCK
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SPANS :	2 @ 42'3
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BEAMS OR GIRDERS :	RC DECK GIRDERS,WIDEN.W/2 LNS.W27X84 I-BEAMS-5'6 CTS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
RC/3.5 AWS		56 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
44 FT	54 FT	LT 5 FT RT 5 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-20	HS-26	Int I-Bm	SV		

SYSTEM :	GREEN LINE ROUTE :
Primary N.C. Route	Y

UNDER ROUTES AND CLEARANCES

Down stream structure

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 05/20/2014

COUNTY : DIVISION : DISTRICT : STRUCTURE NUMBER : LENGTH :
NASH 4 2 630194 154 FEET

ROUTE CARRIED : SR1300 FEATURE INTERSECTED : STONEY CREEK

LOCATED : 1.2 MI S.JCT NC58 BRIDGE NAME : CITY :

FUNC. CLASS : SYST.ON : SYST.UNDER : ADT & YR : RAIL TYPE :
09 NFA NFA 400 2003 LT 241 RT 241

BUILT : BY : PROJ : FED.AID PROJ : DESIGN LOAD :
1956 SHPWC 8037 Unknown

REHAB : BY : PROJ : ALIGNMENT : SKEW : LANES :
TAN 85 ON 2 UNDER 0

NAVIGATION : HT. CRN. TO BED : WATER DEPTH :
VC 0 FT HC 0 FT 17 FT 1 FT

SUPERSTRUCTURE : REINFORCED CONCRETE FLOOR ON TIMBER JOISTS

SUBSTRUCTURE : E.BT1:RC ABUT;E.BT2&BTS:TIM.CAP/TIM.POST&SILLS

SPANS : 1@17'6;7@17';1@17'9

BEAMS OR GIRDERS : 19 LINES 6X12 TIMBER JOISTS @ VARIOUS CENTERS

FLOOR : ENCROACHMENT : DECK (OUT TO OUT) :
5RC/.25 AWS 25.3 FT

CLEAR ROADWAY : BETWEEN RAILS : SIDEWALK OR CURB :
24 FT 26.5 FT LT .8 FT RT .8 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. : OPE.RTG. : CONTR.MEMBER : POSTED : TTST : DATE :
HS-11 HS-17 Ext Joist SV 19 27 05/11/2012

SYSTEM : GREEN LINE ROUTE :
Secondary S.R. Route N

UNDER ROUTES AND CLEARANCES

Upstream Structure

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 05/07/2014

COUNTY : NASH DIVISION : 4 DISTRICT : 2 STRUCTURE NUMBER : 630117 LENGTH : 34 FEET

ROUTE CARRIED : US64BYP FEATURE INTERSECTED : STONEY CREEK OVER

LOCATED : 0.6 MI W JCT NC58 BRIDGE NAME : CITY :

FUNC. CLASS : 02 SYST.ON : FA SYST.UNDER : NFA ADT & YR : 26000 2011 RAIL TYPE : LT 0 RT 0

BUILT : 1960 BY : DOH PROJ : 8.1158706 FED.AID PROJ : RF-36-1(17) DESIGN LOAD : HS 20 + MOD

REHAB : 1977 BY : PROJ : ALIGNMENT : TAN SKEW : 90 LANES : ON 4 UNDER 0

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 14 FT WATER DEPTH : 3 FT

SUPERSTRUCTURE : TRIPLE 11'X8' RCBC,186'6" ALONG CENTERLINE CULVERT

SUBSTRUCTURE :

SPANS :

BEAMS OR GIRDERS :

FLOOR : ENCROACHMENT : DECK (OUT TO OUT) : 0 FT

CLEAR ROADWAY : 0 FT BETWEEN RAILS : 0 FT SIDEWALK OR CURB : LT 0 FT RT 0 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. : HS-28 OPE.RTG. : HS-37 CONTR.MEMBER : RCBC POSTED : SV TTST DATE

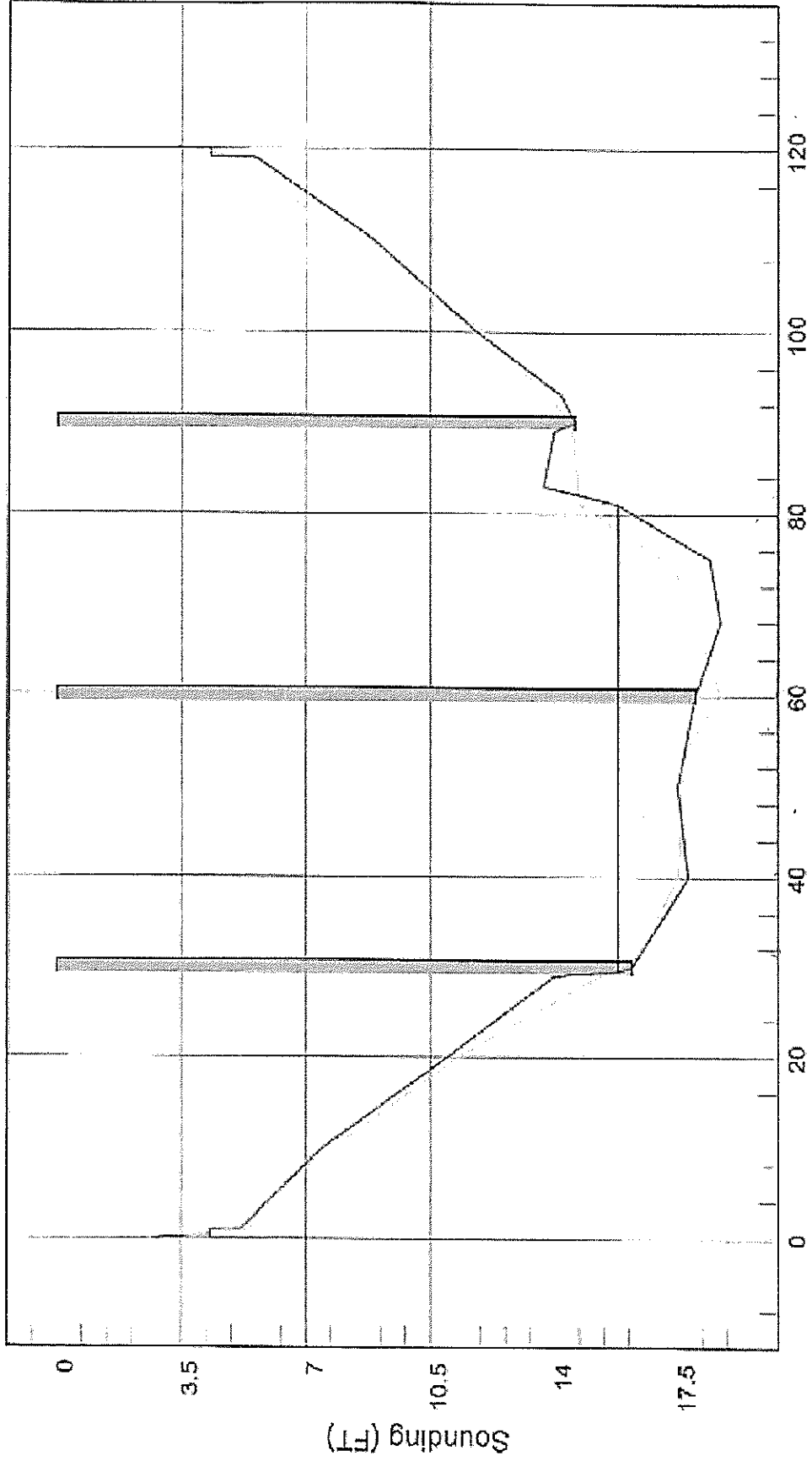
SYSTEM : Primary U.S. Route GREEN LINE ROUTE : N

UNDER ROUTES AND CLEARANCES

DownStream structure.

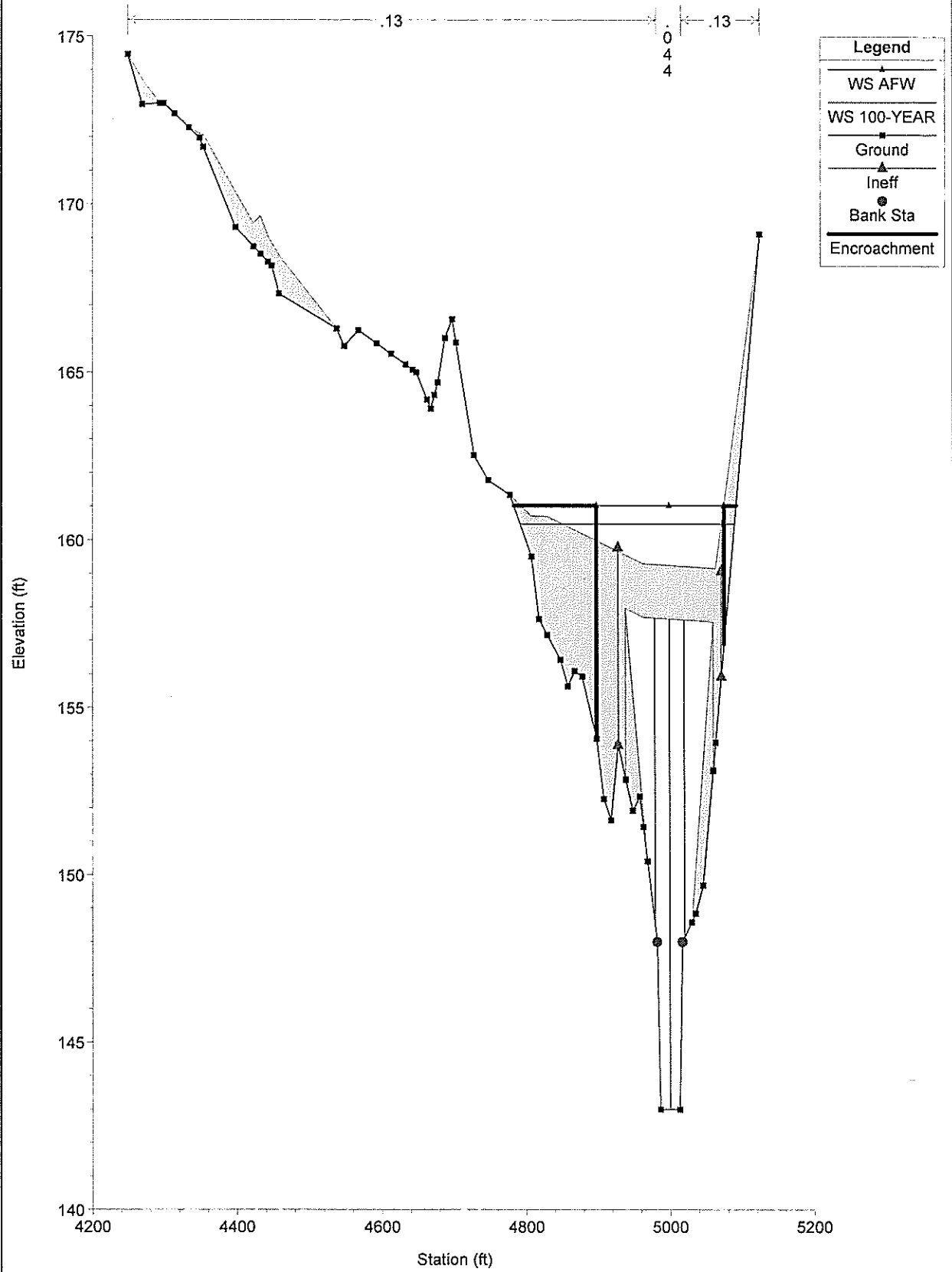
REMARKS :

Top of Rail = 0 FT (Sounding)



$$16 \times 1.5 = 24 \times 2 = 48 + 44 \times 20 = 112 + 120 = 168$$

STONY_CREEK_LDS_Rev Plan: Floodway 1/29/2016
Vick Rd-TOR



HEC-RAS Plan: Floodway River: Main Stem Reach: Reach - 1

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach - 1	103569.3	8943.00	143.00	160.47	155.72	161.46	0.002305	9.80	2256.04	297.51	0.42
Reach - 1	103569.3	8943.00	143.00	161.03	155.72	162.02	0.002164	9.70	1953.45	177.00	0.41
Reach - 1	103548.3	8943.00	142.75	159.96	155.47	161.01	0.002477	10.05	2179.70	292.20	0.43
Reach - 1	103523.3	8943.00	142.75	160.65	155.47	161.67	0.002232	9.81	1930.52	177.00	0.42
Reach - 1	103179.6	8943.00	142.54	159.54		160.18	0.001414	7.08	2538.48	468.75	0.31
Reach - 1	103179.6	8943.00	142.54	160.18		160.92	0.001433	7.31	1866.46	193.69	0.31
Reach - 1	102000.0	8943.00	141.35	158.42		158.86	0.000834	5.81	2966.61	477.80	0.26
Reach - 1	102000.0	8943.00	141.35	159.07		159.57	0.000844	6.01	2116.95	197.37	0.26
Reach - 1	101000.0	8943.00	140.15	157.89		158.08	0.000602	4.48	5433.61	966.85	0.20
Reach - 1	101000.0	8943.00	140.15	158.55		158.78	0.000608	4.64	4447.77	591.83	0.21
Reach - 1	99519.7	8943.00	139.88	156.53		156.95	0.000950	5.74	2951.13	485.86	0.27
Reach - 1	99519.7	8943.00	139.88	157.13		157.63	0.000975	5.98	2154.68	229.88	0.27
Reach - 1	98752.2	8943.00	139.74	155.75		156.22	0.000960	5.81	2511.16	387.94	0.28
Reach - 1	98752.2	8943.00	139.74	156.32		156.87	0.000992	6.07	1745.42	160.57	0.28
Reach - 1	97422.4	8943.00	139.50	154.42		154.89	0.001042	5.75	2459.14	402.46	0.29
Reach - 1	97422.4	8943.00	139.50	154.92		155.48	0.001101	6.06	1628.76	149.58	0.30
Reach - 1	96000.0	8943.00	138.46	153.48		153.66	0.000635	4.41	5916.38	1151.32	0.22
Reach - 1	96000.0	8943.00	138.46	153.92		154.15	0.000697	4.73	4374.79	613.62	0.23
Reach - 1	94580.4	8943.00	137.20	153.02		153.07	0.000262	3.08	9917.91	1402.49	0.14
Reach - 1	94580.4	8943.00	137.20	153.42		153.49	0.000290	3.29	8516.00	1056.79	0.15
Reach - 1	93396.6	8943.00	136.16	152.77		152.81	0.000184	2.78	13641.25	2380.87	0.12
Reach - 1	93396.6	8943.00	136.16	153.15		153.20	0.000206	2.98	10251.91	1261.39	0.13
Reach - 1	91828.9	8943.00	135.58	152.54		152.57	0.000125	2.28	15237.48	2448.79	0.10
Reach - 1	91828.9	8943.00	135.58	152.89		152.93	0.000140	2.44	11578.17	1304.67	0.11
Reach - 1	89481.5	8943.00	133.71	152.32	145.28	152.33	0.000081	1.82	19927.58	2781.05	0.08
Reach - 1	89481.5	8943.00	133.71	152.64	145.57	152.66	0.000094	1.99	16666.17	2015.03	0.09



Who Am I - Advanced Effective

Flood Information

Risk Information

Financial Vulnerability

FIS Reports

Flood Risk Management Plan

Engineering Models

Click a stream to view models

Stream: Steep Creek

Model: Steep Creek Model

Study: Limited Detailed Study

Start: Approximately 230 feet upstream of U.S. Highway 61

End: Approximately 40 feet upstream of Vike Road (SR 190)

Download Model

Map Export

Data Export

Section 5.0 – Engineering Methods

Table 9—Summary of Discharges

Flooding Source	Location	Drainage Area (square miles)	Discharges (cfs)			
			10% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Stony Creek	Approximately 0.4 mile downstream of Red Oak Road (SR 1003)	60.3	5,041	8,134	9,661	13,859
	Approximately 474 feet downstream of First Street Extended (SR 1670)	57.1	4,858	7,850	9,330	13,398
	Approximately 0.3 mile downstream of US Highway 64	53.3	4,645	7,519	8,943	12,860
	Approximately 400 feet downstream of Vick Road	50.27	*	*	8,620	*
	Approximately 1.2 miles downstream of Boddie Mill Pond Road	48.48	*	*	8,430	*
Stony Creek Tributary	Approximately 1,400 feet downstream of Hunter Hill Road	1.94	*	*	680	*
	Crosses I-95 between Hunter Hill Road and Highway 43	1.71	*	*	634	*
	Crosses I-95 between Hunter Hill Road and Highway 43	1.53	*	*	595	*
	Approximately 3,370 feet downstream of Coppedge Road	1.18	*	*	513	*
	Approximately 2,050 feet downstream of Coppedge Road	1.04	*	*	479	*
	Approximately 452 feet downstream of Coppedge Road	0.46	*	*	302	*

StreamStats

Delineation Results

Be sure to thoroughly check the delineated basin for accuracy before using the tools below.

StreamStats Basin Characteristics Report - Google ...

streamstatsags.cr.usgs.gov/v3_beta/BCreport.htm?rcc

StreamStats Version 3.0

Basin Characteristics Ungaged Site Report

Date: Fri Jan 29, 2016 8:53:54 AM GMT-5
Study Area: North Carolina
NAD 1983 Latitude: 35.9866 (35 59 12)
NAD 1983 Longitude: -78.0127 (-78 00 46)

Label	Value	Units	Definition
DRNAREA	50.2	square miles	Area that drains to a point on a stream
LC11IMP	0.68	percent	Percentage of impervious area determined from NLCD 2011 impervious dataset

35.98649, -78.01279

Drainage Area 58 Sq. Mi. Obtained from Soil Map
Character of Drainage Area Rolling 1/2 Cult 1/2 Wooded
Waterway Required by Formula 1270 Sq. Ft. Formula Used TC1 C=0.35
Maximum Stream Discharge _____ Sec. ft. Date _____
Discharge Data Obtained From _____
Period Covered by Discharge Records _____
Discharge Used for Design of Waterway _____ Sec. Ft.
Waterway Area Considered Necessary _____ Sq. Ft.
Waterway Area Provided by Recommended Structure 1000 Sq. Ft.
Data on Existing Structure Overall length 888' Spans 1 @ 16' 10 @ 40' 2 @ 16' 44' span on I Beams - Past & Still Const - Timber deck
Bridge Provides 830' Waterway
Data on other Structures Up or Down Stream 2.5 Miles down stream on N 50
P @ 46 1/2' R.C.D.G. Waterway = 1000'
Method Used in Determining Foundation Material Driving 1/2" Reds
Is Additional Foundation Investigation Considered Advisable _____
Other Information Present bridge has handled water in the past.

BRIDGE DEPARTMENT
N. C. STATE HIGHWAY & PUBLIC WORKS COMMISSION
RALEIGH, N. C.

BRIDGE SURVEY REPORT

PROJECT NO. 6322002 N.B.H. COUNTY STAN 3+05
CROSS OVER Stony Creek Known as Cr # 143
Road No. 33 Between US 64 and St 59
Recommended Width of Roadway 24' Skew 105° 11' 90°
Recommended Structure 7 @ 40' I Beam Spans 4 @ 30' Prestressed Spans
P.F.B. Bents H.S.
Rip Rap 15 req'd up to E.L. 90.0
Temporary Crossing Not Req'd
Present Structure To Be Removed
New Location is 60' Up Down Stream from Crossing on Present Road
Nearest Shipping Point Nashville On Atlantic Coast Line R. R.
Distance from Shipping Point to Bridge Site is 5 miles.
Elevations From B. M. # 1 Nail in base 14" Pine Ass. Elev 102.00
60' Lt. Sta 8+72

USE THIS SPACE FOR PHOTOGRAPH
OF PROPOSED SITE, SHOWING CENTER LINE, DIRECTION OF FLOW AND OTHER IMPORTANT POINTS ON PHOTOGRAPH

Surveyed by R. P. Weathers Assisted by L. I. B. M. R. H. J. S. E. Date April 1960
157-25

