

PREDESIGN-PRESURVEY REPORT

Office Estimated Bridge Length: _____

County: Rowan

Bridge No.: 61

TIP No.: _____

Road No.: NC 801

Let Date: _____

Stream: Fourth Creek

WBS No.: _____

Type of Request: _____

Date: _____

Name: Tatiana Cooper

Assigned To: _____

Checked By: _____

Prior Survey Date: (Attach Copy of Prior Survey) _____

Study by Scour: _____

Code: _____

Flood

Zone: Yes

Study Type: Limited

Date: 6/16/2009

Panel No.: 5734

BM Info: _____

Quad Map: Coolee

Drainage Area: 190 sq. mi.

From: StreamStats

Q25: -

Q50: 15100

Q100: 19315 FEMA

Method: 2009-5158 Rural

EXISTING BRIDGE INFORMATION

Location: .7 MI. S. JCT. SR1984

High Water Information: _____

Average Daily Traffic: 4000 in 2012

Does 100 Yr. WSEL Overtop Roadway: No

Length: 209 ft.

Bed-To-Crown: 31 ft.

Water Depth: 3 ft.

Type Structure: RC Deck Girders on RC interior bents

Type Spans: 1@52'0, 2@52'6, 1@52'0

Upstream Structure: Bridge No. 76 1@35' 1@70' 1@35' (NEW)

Location: _____

Bed-To-Crown: _____

Prior Survey: _____

Downstream Structure: Yadkin River

Location: _____

Bed-To-Crown: _____

Prior Survey: _____

ENVIRONMENTAL

Trout Stream: No

Anadromous Fish: No

Primary Nursery Area: No

High Quality Waters: No

Nutrient Sensitive Waters: No

Near Water Supply Intake: No

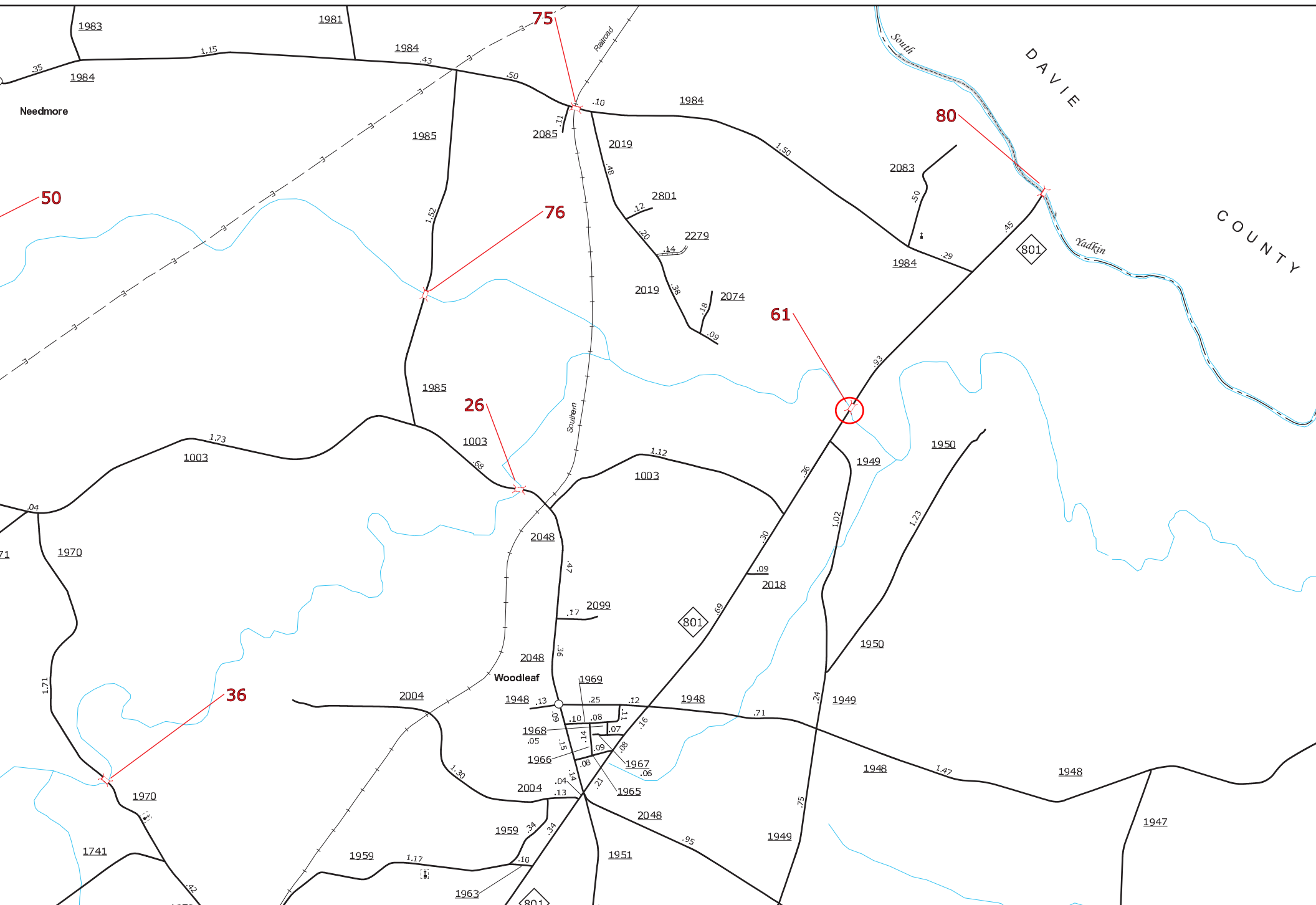
CAMA County: No

Stream Classification: C

Secondary: _____

DENR River Basin Info: Yadkin/Pee-Dee

Notes: 100 yr. does not overtop; stream classification no. (12-108-20)





NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCE
CORRECTION TO AWS THICKNESS.

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROWAN BRIDGE NUMBER 790061 INSPECTION CYCLE 2 YRS
ROUTE NC801 ACROSS FOURTH CREEK M.P. 0

LOCATION 0.7 MI. S. JCT. SR1984

SUPERSTRUCTURE REINFORCED CONCRETE DECK GIRDERS

SUBSTRUCTURE ABUTMENTS: RC SPILL THROUGH, INTERIOR BENTS: RC POST & BEAM

SPANS 1@52'0, 2@52'6, 1@52'0

LONGITUDE 80° 34' 15.69"

LATITUDE 35° 47' 26.53"

INSPECTION DATE 10/07/2013

PRESENT CONDITION POOR

PRESENT POSTING N NOT POSTED

PROPOSED POSTING _____

OTHER SIGNS PRESENT NONE



LOOKING NORTH

Fracture Critical	<u>No</u>
Temporary Shoring	<u>No</u>
Scour Critical	<u>No</u>
Scour POA	<u>No</u>

SIGN NOTICE ISSUED FOR	NUMBERED REQUIRED
<u>No</u> WEIGHT LIMIT	_____
<u>No</u> DELINEATORS	_____
<u>No</u> NARROW BRIDGE	_____
<u>No</u> ONE LANE BRIDGE	_____
<u>No</u> LOW CLEARANCE	_____

NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL

Run Date: 10/30/2013

IDENTIFICATION				CLASSIFICATION			
(1) STATE NAME -NORTH CAROLINA	BRIDGE	790061		SUFFICIENCY RATING =		43.5	
(8) STRUCTURE NUMBER(FEDERAL)	000000001590061			STATUS =	Structurally Deficient		
(5) INVENTORY ROUTE (ON/UNDER) - ON	31008010						
(2) STATE HIGHWAY DEPARTMENT DISTRICT	1						
(3) COUNTY CODE	159	(4) PLACE CODE	0	(112)NBIS BRIDGE SYSTEM -		YES	
(6) FEATURE INTERSECTED -	FOURTH CREEK			(104)HIGHWAY SYSTEM	Is not on NHS	0	
(7) FACILITY CARRIED	NC801			(26) FUNCTIONAL CLASS -	Major Collector	07	
(9) LOCATION	0.7 MI. S. JCT. SR1984			(100)STRAHNET HIGHWAY -	Not a STRAHNET Route	0	
(11)MILEPOINT	0			(101)PARALLEL STRUCTURE -	No Parallel Structure	N	
(16)LAT	35° 47' 26.53"	(17)LONG	80° 34' 15.69"	(102)DIRECTION OF TRAFFIC -	2-way Traffic	2	
(98)BORDER BRIDGE STATE CODE	PCT SHARE			(103)TEMPORARY STRUCTURE -			
(99)BORDER BRIDGE STRUCTURE NO				(110)DESIGNATED NATIONAL NETWORK -	Not on the National Network	0	
				(20) TOLL	On Free Road	3	
				(31) MAINTAIN -	State Highway Agency	01	
				(22) OWNER -	State Highway Agency	01	
				(37) HISTORICAL SIGNIFICANCE -	Not Eligible	5	
STRUCTURE TYPE AND MATERIAL				CONDITION			
(43) STRUCTURE TYPE MAIN:	Concrete						
TYPE -	Tee Beam	CODE	104				
(44) STRUCTURE TYPE APPR :							
TYPE -		CODE	000				
(45) NUMBER OF SPANS IN MAIN UNIT	4			(58) DECK		5	
(46) NUMBER OF APPROACH SPANS				(59) SUPERSTRUCTURE		4	
(107)DECK STRUCTURE TYPE -	1	CODE		(60) SUBSTRUCTURE		4	
(108)WEARING SURFACE / PROTECTIVE SYSTEM :				(61) CHANNEL & CHANNEL PROTECTION		5	
(A) TYPE OF WEARING SURFACE -		CODE		(62) CULVERTS		N	
(B) TYPE OF MEMBRANE -		CODE					
(C) TYPE OF DECK PROTECTION -		CODE		LOAD RATING AND POSTING			
				(31) DESIGN LOAD	H 15	2	
				(63) OPERATING RATING METHOD -	Load Factor	1	
				(64) OPERATING RATING -	HS-26	47	
				(65) INVENTORY RATING METHOD -	Load Factor	1	
				(66) INVENTORY RATING -	HS-16	28	
				(70) BRIDGE POSTING -	No Posting Required	5	
				(41) STRUCTURE OPEN, POSTED, OR CLOSED		A	
				DESCRIPTION -	Open, No Restriction		
AGE AND SERVICE				APPRAISAL			
(27) YEAR BUILT	1940			(67) STRUCTURAL EVALUATION		4	
(106)YEAR RECONSTRUCTED				(68) DECK GEOMETRY		2	
(42) TYPE OF SERVICE : ON -	Highway			(69) UNDERCLEARANCES,VERTI & HORIZ		N	
UNDER -	Waterway	CODE	15	(71) WATERWAY ADEQUACY		7	
(28) LANES: ON STRUCTURE	2	UNDER STRUCTURE	0	(72) APPROACH ROADWAY ALIGNMENT		8	
(29) AVERAGE DAILY TRAFFIC	4000			(36) TRAFFIC SAFETY FEATURES		0111	
(30) YEAR OF ADT	2012	(109) TRUCK ADT PCT	7%	(113)SCOUR CRITICAL BRIDGES		8	
(19) BYPASS OR DETOUR LENGTH	4 MI						
GEOMETRIC DATA				PROPOSED IMPROVEMENTS			
(48) LENGTH OF MAXIMUM SPAN	51 FT			(75) TYPE OF WORK -		CODE	
(49) STRUCTURE LENGTH	209 FT			(76) LENGTH OF STRUCTURE IMPROVEMENT			
(50)CURB OR SIDEWALK: LEFT	2.167 FT	RIGHT	2.167 FT	(94) BRIDGE IMPROVEMENT COST			
(51) BRIDGE ROADWAY WIDTH CURB TO CURB	25.833 FT			(95) ROADWAY IMPROVEMENT COST			
(52) DECK WIDTH OUT TO OUT	32.333 FT			(96) TOTAL PROJECT COST			
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS)	20 FT			(97) YEAR OF IMPROVEMENT COST ESTIMATE			
(33) BRIDGE MEDIAN -	No Median	CODE	0	(114)FUTURE ADT	8000	(115) YEAR FUTURE ADT	2025
(34) SKEW	20°	(35) STRUCTURE FLARED	0				
(10) INVENTORY ROUTE MIN VERT CLEAR	999.9 FT			INSPECTIONS			
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR	25.833 FT			(90) INSPECTION DATE		10/07/2013	
(53) MIN VERT CLEAR OVER BRIDGE RDWY	999.9 FT			(92) CRITICAL FEATURE INSPECTION :		(93) CFI DATE	
(54) MIN VERT UNDERCLEAR REF	Not a Highway or Railroad	0 FT		A) FRACTURE CRIT DETAIL -	NO	A)	
(55) MIN LAT UNDERCLEAR RT REF	Not a Highway or Railroad	000 FT		B) UNDERWATER INSP -	YES 48Mo	B)	10/01/2009
(56) MIN LAT UNDERCLEAR LT REF -	000 FT			C) OTHER SPECIAL INSP	NO	C)	
				SCOUR			
NAVIGATION DATA							
(38) NAVIGATION CONTROL -	No Navigational Control	CODE	0				
(111)PIER PROTECTION -		CODE					
(39) NAVIGATION VERTICAL CLEARANCE		0					
(116)VERT - LIFT BRIDGE NAV MIN VERT CLEAR		FT					
(40) NAVIGATION HORIZONTAL CLEARANCE		0 FT					

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 10/30/2013

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ROWAN	9	1	790061	209	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
NC801	FOURTH CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.7 MI. S. JCT. SR1984		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
07	FA	NFA	4000 2012	LT 311 RT 311

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1940	SHPWC	6704		H 15

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :		
			TAN	110	ON 2	UNDER	0

NAVIGATION :			HT. CRN. TO BED :		WATER DEPTH :		
VC 0 FT	HC 0 FT		31 FT		2		FT

SUPERSTRUCTURE :	REINFORCED CONCRETE DECK GIRDERS
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SUBSTRUCTURE :	ABUTMENTS: RC SPILL THROUGH, INTERIOR BENTS: RC POST & BEAM
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SPANS :	1@52'0", 2@52'6", 1@52'0"
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BEAMS OR GIRDERS :	4 LINES OF 18" X 41" RC DECK GIRDERS @ 7'8" CENTERS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
7" RC SLAB, 5.5" AWS		32.333 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
25.833 FT	30.167 FT	LT 2.167 FT RT 2.167 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :		DATE
HS-16	HS-26	I. RCDG-SpB	SV	TTST	

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

UNDER ROUTES AND CLEARANCES

REMARKS :



SOUTH SLOPE BENEATH BAY 1 AT ABUT 1 WASHING



GIRDER 4 SPAN 1 15 FT. FROM ABUT 1 EAST FACE AND UNDERSIDE HAVE CRACKS AND DELAMINATION



DRIFT AT PIER 2

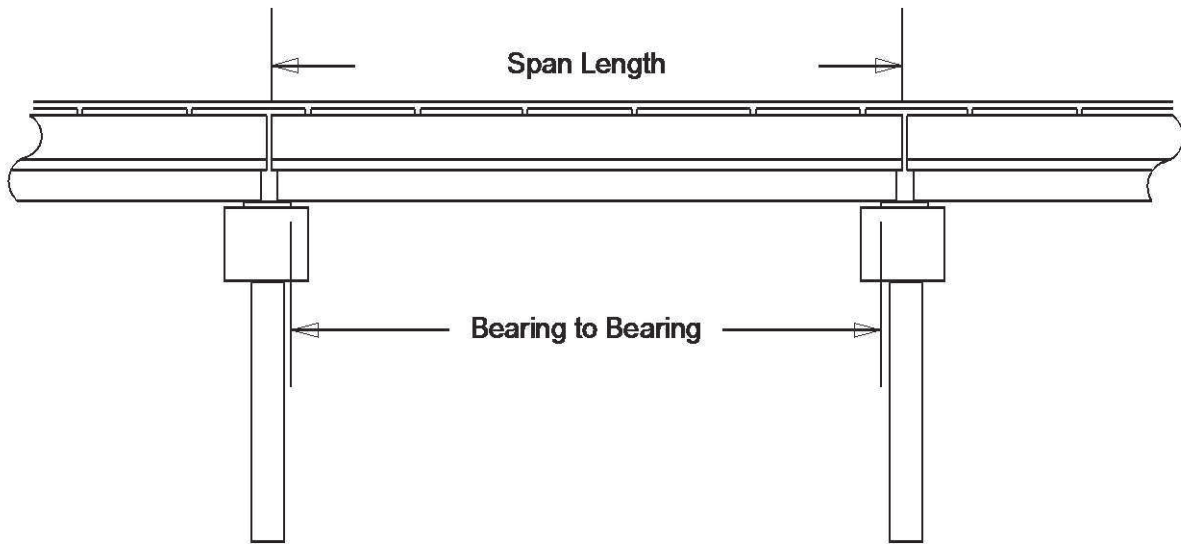


COLUMN 2 OF PIER 2 BOTH CORNERS ON EAST SIDE SPALLED WITH EXPOSED REBAR WITH UP TO 1/4 IN. SECTION LOSS PRIORITY MAINTENANCE

Structure Data Worksheet

Spans

County: ROWAN Structure No: 790061 Date: 10/07/2013 Inspected By: BTH



Span No	Span Length	Bearing to Bearing	Comments
1	52.0	49.75	NBIS BL: 203.833 FT
2	52.5	51.0	
3	52.5	51.0	
4	52.0	49.75	

Stream Bed Soundings

(See next sheet for profile sketch)

Bridge No: 790061 County: ROWAN Date: 10/07/2013 By: BTH

Record sounding from top of rail. Other location if needed: _____

Distance from Highwater Mark to top of rail: _____ Location of Highwater Mark: _____

DOWNSTREAM			UPSTREAM		
Distance (Station) (ft)	Sounding (ft)	Description	Distance (Station) (ft)	Sounding (ft)	Description
0	0	ABUT 1	0	0.0	ABUT 1
0.1	8.167	TOC			
1	8.167				
1.1	9.7		1.1	9.5	
10	10.6				
19	15.4				
27	19.5				
34	21.6				
52	20.9	PIER 1	52	23.9	PIER 1
58	22.6				
64	28.7				
70	31.7	WS WE			
82	33				
91	32.5				
105	32.5	PIER 2	105	34	PIER 2
115	34.6				
125	34.5				
133	33.5				
138	33.5				
142	32.4	WS WE			
157.5	25.6	PIER 3	157.5	24.1	PIER 3
163	23.9				
174	23.5				
178	18				
191	14.9				

DOWNSTREAM			UPSTREAM		
Distance (Station) (ft)	Sounding (ft)	Description	Distance (Station) (ft)	Sounding (ft)	Description
198	11.8				
206.5	9.3		206.5	8.7	
206.51	8.167				
207.5	8.167	TOC			
207.51	0	ABUT 2	207.51	0.0	ABUT 2

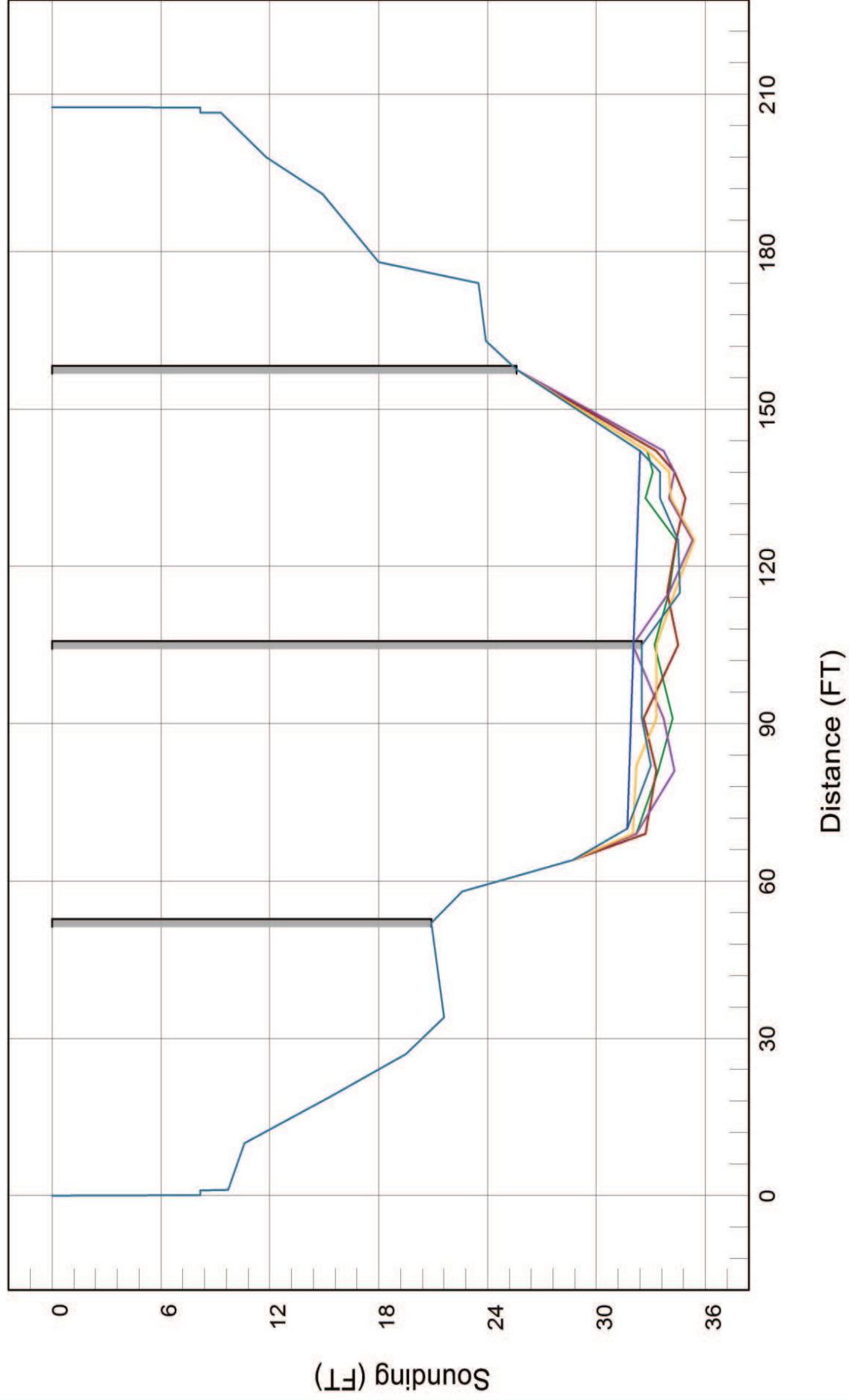
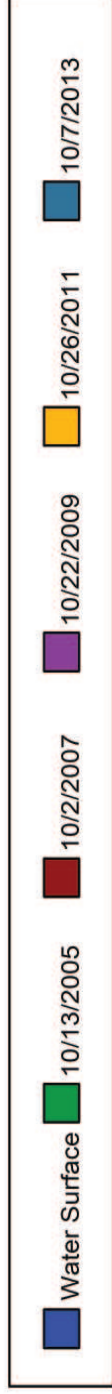
Bridge: 790061

County ROWAN

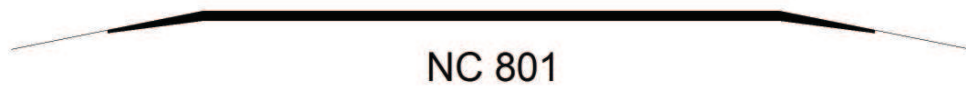
Date: 10/07/2013

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Bridge Inspection Field Sketch



Roadway	20ft Wide	2 Paved Lanes	Looking North
Left Shoulder	6ft Wide		6ft Unpaved
Right Shoulder	6ft Wide		6ft Unpaved
Left Guardrail			
Right Guardrail			

MEASUREMENTS VERIFIED 10-7-13 JER
MEASUREMENTS VERIFIED 10-26-11 BTH
MEASUREMENTS VERIFIED 10-22-09 BTH

Title

APPROACH ROADWAY

Description

SHEET 1

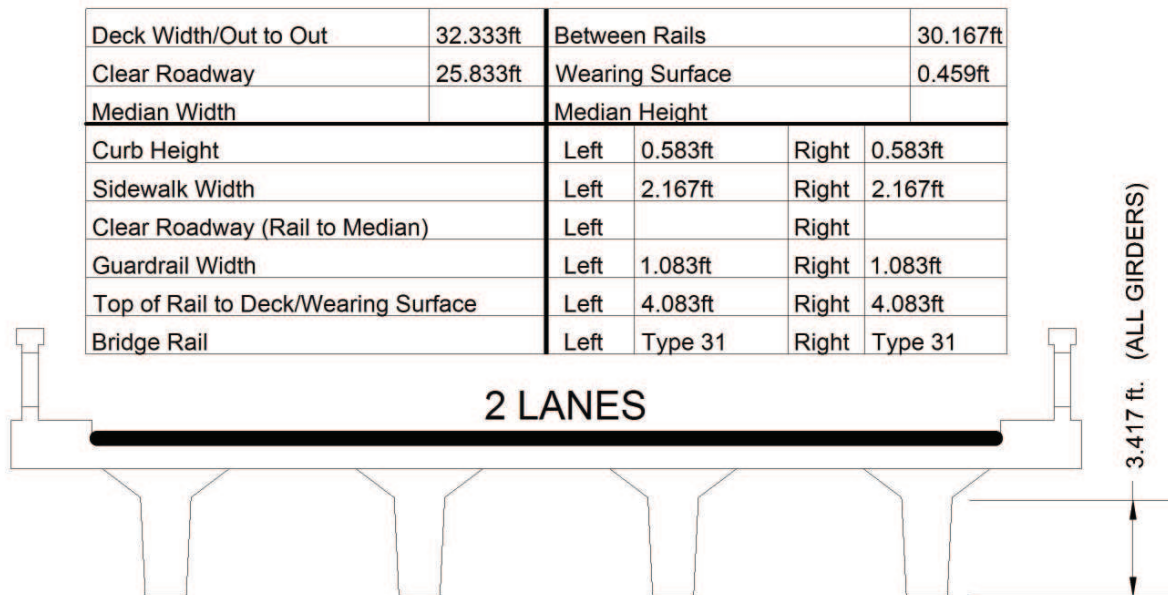
Bridge No: 790061

Drawn By: BTH

Date: 10-01-07

File Name: S0090000537

Bridge Inspection Field Sketch



Measurements for Span #	1	Spans 2-4 Similar	
Deck Thickness	0.583	Left Overhang	4.667
Top of Rail to Bottom of Beam	8.167	Right Overhang	4.667

Beam Number	Beam Type	Spacing	Comments
1	RC Deck Girder	7.667ft	
2	RC Deck Girder	7.667ft	
3	RC Deck Girder	7.667ft	
4	RC Deck Girder	ft	

ABUTS: RC. PIERS: 2 COLUMN RCP&B w/ STRUTS.
GIRDERS: 1.5 ft. x 3.417 ft.

MEASUREMENTS VERIFIED 10-7-13 JER
MEASUREMENTS VERIFIED 10-26-11 BTH
MEASUREMENTS VERIFIED 10-22-09 BTH

Title

SUPERSTRUCTURE

Description

SHEET 2

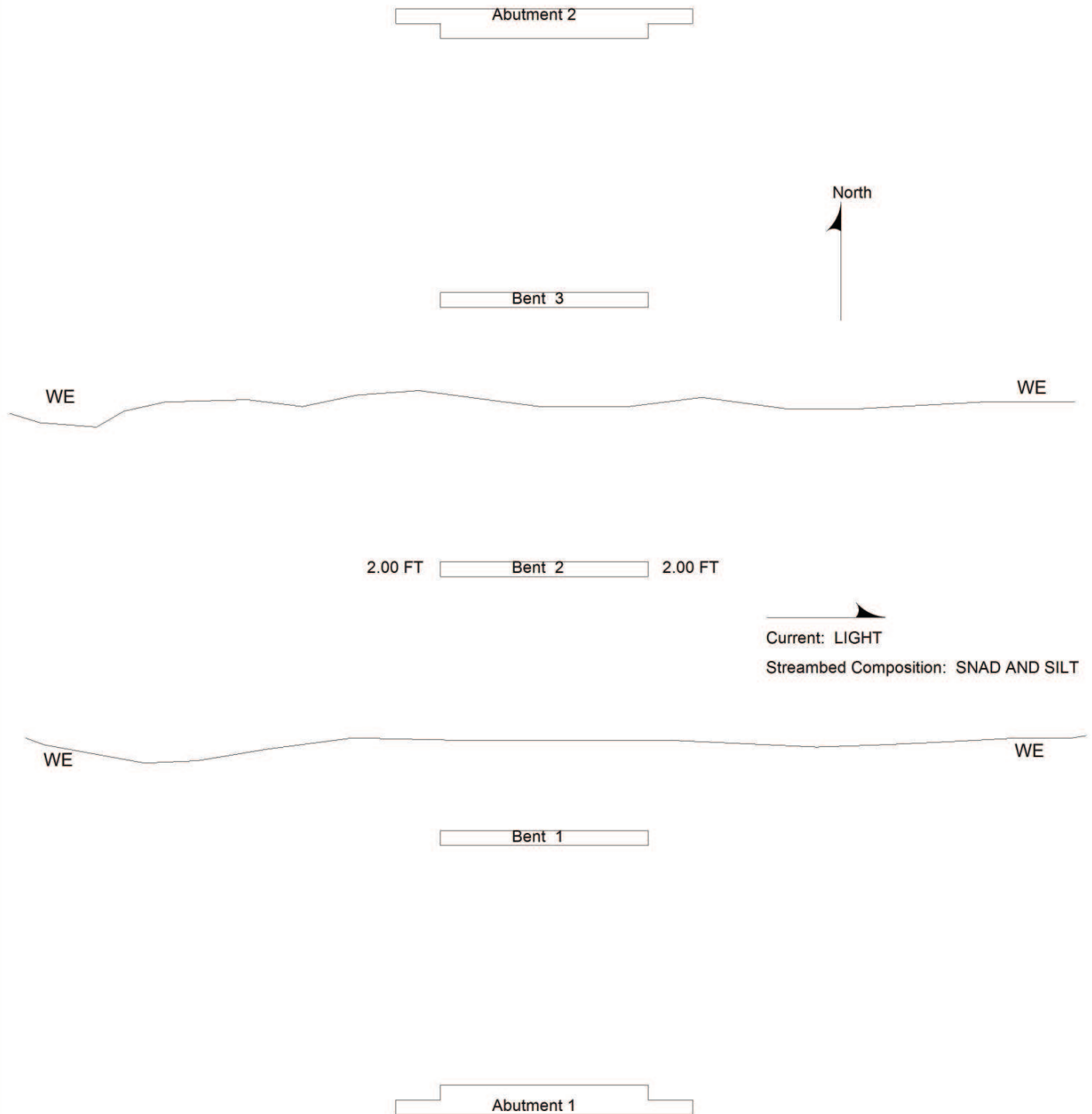
Bridge No: 790061

Drawn By: BTH

Date: 10-01-07

File Name: S0090000538

Bridge Inspection Field Sketch



Title

PLAN VIEW

Description

PLAN VIEW

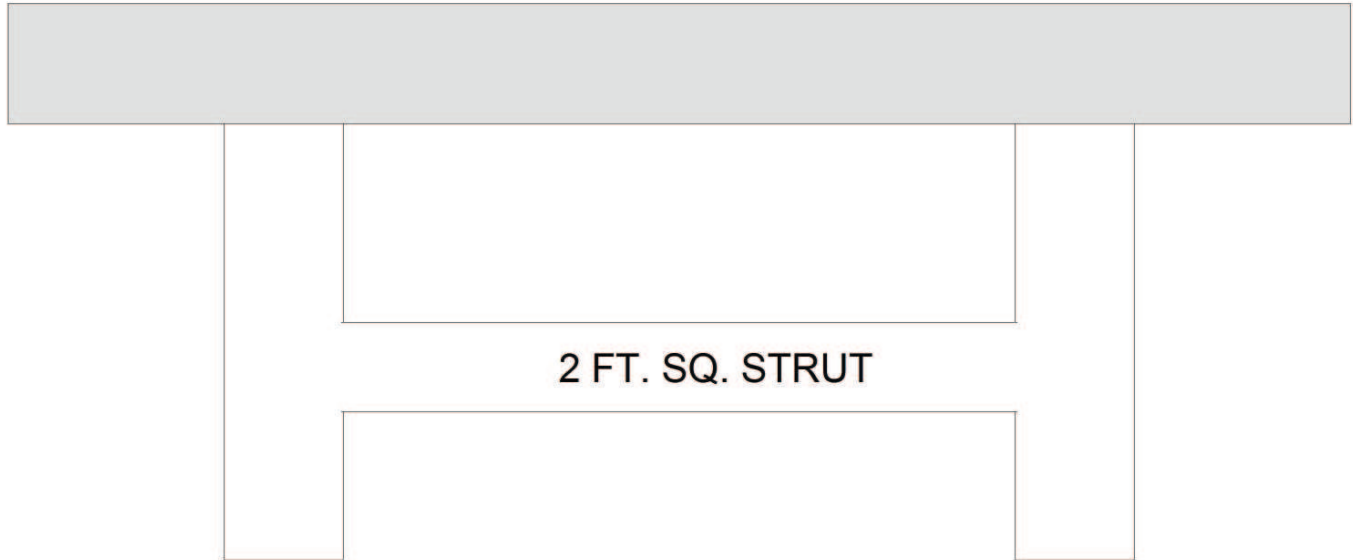
Bridge No: 790061

Drawn By: JOHN HOUSTON

Date: 10/01/2009

File Name: S0150000096

Bridge Inspection Field Sketch



Cap Information			Material Cast-in-Place Concrete							
Length	Width	Height	Left Overhang	Right Overhang	Left Beam to End of Cap.	Right Beam to End of Cap.				
28.000 ft.	2.500 ft.	2.500 ft.	5.750 ft.	5.750 ft.	1.167 ft.	1.167 ft.				
Subcap Information			Material							
Length	Width	Height	Left Overhang	Right Overhang	Left Pile to Splice.					
Sill Information			Material							
Length	Width	Height								
Pile #	Material	Spacing	Width/Dia.	Height	Length	Orientation	Driven?	Replacement?	Removed?	Collar?
1	Concrete	16.5 ft.	2.5 ft.	1.833 ft.		Vertical	No	No	No	No
2	Concrete		2.5 ft.	1.833 ft.		Vertical	No	No	No	No
COLUMNS TAPERED TO 3.667 AT BOTTOM MEASUREMENTS VERIFIED 10-7-13 JER MEASUREMENTS VERIFIED 10-26-11 BTH MEASUREMENTS VERIFIED 10-22-09 BTH										
Bent/Abutment #: 1			Similar Bents: PIERS 2 AND 3							

Title
PIERS

Description
SHEET 4

Bridge No: 790061

Drawn By: BTH

Date: 7/16/2009

File Name: S0090003194



LOOKING EAST



LOOKING SOUTH



NORTH APPROACH



UPSTREAM



DOWNSTREAM



SOUTH APPROACH



GUARDRAIL CONNECTION AT S E CORNER



POST SPACING AT BRIDGE S E CORNER



LOOKING NORTH



LOOKING WEST



ABUT 1



PIER 2



UPSTREAM



SUPERSTRUCTURE SPAN 3



DOWNSTREAM

Section 5.0 – Engineering Methods

Table 8—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
Flat Creek	Approximately 1.0 mile upstream of River Road (SR 2152)	5.4	*	*	2,129	*
Flat Rock Branch	At the confluence with Grants Creek	2.2	*	*	1,216	*
	Approximately 264 feet upstream of the confluence with Grants Creek	2.1	*	*	1,188	*
	Approximately 0.4 mile upstream of the confluence with Grants Creek	1.8	*	*	1,058	*
	Approximately 0.6 mile upstream of the confluence with Grants Creek	1.5	*	*	968	*
	Approximately 0.8 mile upstream of the confluence with Grants Creek	1.4	*	*	931	*
Fourth Creek	At the confluence with South Yadkin River	190.0	*	*	19,315	*
	At the confluence of Third Creek	83.3	*	*	12,763	*
	Approximately 0.2 mile downstream of the confluence of Unnamed Stream 1	78.6	*	*	12,591	*
	At the confluence of Unnamed Stream 1	74.6	*	*	12,433	*
	At the confluence of Fourth Creek Tributary 4	72.7	*	*	12,351	*
	At the confluence of Fourth Creek Tributary 5	69.2	*	*	12,202	*
	Approximately 1.0 mile downstream of the confluence of Unnamed Stream 2	65.7	*	*	12,030	*
	At the confluence of Unnamed Stream 2	61.2	*	*	11,826	*
	Approximately 0.8 mile downstream of the confluence of Fourth Creek Tributary 6	58.6	*	*	11,691	*
Fourth Creek Tributary 4	At the confluence with Fourth Creek	0.6	*	*	524	*

NC 801 (4thCk) torStructure ID: LDS_TC_02Approximate Survey St

