

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 770434

Date: 04/25/2017

County: Robeson Stream: BACK SWAMP

Road #: SR1003 Road Name: Chicken Rd

Division: 6 Location: 0.4 MI.N. OF JCT.SR1160

Latitude: 34.62032 Longitude: 79.19258 Decimal degrees, a min of 5 decimal points

Assigned to:

Prepared By: HM

Hydro Mgr: Hydro Reviewer:

Project Type:

Existing Structure

Structure Type: Bridge Yr Built: 1970

Span Arrangement: 1@25'5;1@25';1@25'5 OAL (ft): 76.0 Skew: 90 Abutment Type: Vertical -Timber

Number of Barrels: @ Span (ft): x Rise (ft):

Bed to Crown (ft): 10.0 Clear Roadway (ft): 29.0 Water Depth (ft): 3.0 Superstructure Depth: 1.5

ADT: 2000 Year ADT: 2013 Scour Code (item113): 8 Prior Survey Completed: Survey Date:

Drainage Area: 15.4 Sq. Mi. Drainage Area Source: USGS Stream Stats Roadway Overtops at Q100:

Discharge Method: USGS Regression Equations USGS Region: 4- Coastal Stream Gage Number(if applicable):

Q10 (cfs): 900 Q25 (cfs): 1,300 Q50 (cfs): 1,600 Q100 (cfs): 1,900 QBFE (cfs): 2,400

☒ Structure in Flood Hazard Zone Panel #: 9340 Panel Date: 01/19/2005 Type of FIS: REDELINEATED Date of FIS: 07/07/2014

Enviromental

Quad Map: ROWLAND, NC River Basin: Lumbar Buffer Rule: NA

Primary Stream Classification

☐ Class B ☒ Class C ☐ SA ☐ SB

☐ SC ☐ SWL ☐ WL ☐ WS I

☐ WS II ☐ WS III ☐ WS IV ☐ WS V

Supplemental Stream Classification

☐ FWS ☐ HQW ☐ NSW ☐ ORW

☒ Sw ☐ Tr ☐ UWL ☐ w/in 0.5mi. of CA

Other Stream Classification

☐ Anadromous Fish ☐ Area of Environmental Concern

☐ CAMA County ☐ Federal Wild & Scenic Rivers

☐ HSB Required ☐ NC Natural & Scenic Rivers

☐ Impaired [303d] ☐ Primary Nursery Area

☐ TVA ☐ Designated Shellfish Harvesting Area

☐ Designated Public Mountain Trout Waters

Up/Down Stream Features

Upstream Feature: Bridge

Location: .3 MI. S. OF JCT. SR1159

Structure #: 770433 Route: SR1160

Latitude: 34.61343 Longitude: 79.16618

Prior Survey Completed: Survey Date: Bed to Crown (ft): 12.0 Year Built: 1970

Downstream Feature: Bridge

Location: 0.5 MI. NE. JCT. SR1154

Structure #: 770432 Route: SR1157

Latitude: 34.62498 Longitude: 79.21447

Prior Survey Completed: Survey Date: Bed to Crown (ft): 10.0 Year Built: 1970

Structure Type: Bridge

Span Arrangement: 1@17'10;1@17'1;1@16'11;1@18' OAL (ft): 70.0

Number of Barrels: @ Span (ft): x Rise (ft):

Structure Type: Bridge

Span Arrangement: 1@17'9;1@16'8;1@16'6;1@17'9 OAL (ft): 69.00

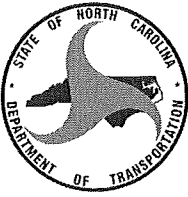
Number of Barrels: @ Span (ft): x Rise (ft):

Preliminary Structure Estimate [Office Estimate]

Structure Type: Skew:

Dimensions/Spans:

Notes



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: CHANGE IN AWS THICKNESS, CHANGE TO
STRUCTURE DATA, TEMPORARY REPAIRS,
PRIORITY MAINTENANCE

Structure Safety Report

Routine Element Inspection - Contract

COUNTY: ROBESON STRUCTURE NUMBER: 770434 FREQUENCY: 24 MONTHS
FACILITY CARRIED: SR1003 MILE POST: _____
LOCATION: 0.4 MI.N. OF JCT.SR1160
FEATURE INTERSECTED: BACK SWAMP
LATITUDE: 34° 37' 13.15" LONGITUDE: 79° 11' 33.29"
SUPERSTRUCTURE: PRESTR.CONC.CHANNELS,STD.BMD-13
SUBSTRUCTURE: E.BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@5'8CTS.
SPANS: 1@25'5;1@25';1@25'5
☐ FRACTURE CRITICAL ☐ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION
PRESENT CONDITION: Poor INSPECTION DATE: 04/14/2016
POSTED SV: 24 POSTED TTST: 32
OTHER SIGNS PRESENT: (4) DELINEATORS



Sign noticed issued for		Number Required
<u>NO</u>	WEIGHT LIMIT	<u>0</u>
<u>NO</u>	DELINEATORS	<u>0</u>
<u>NO</u>	NARROW BRIDGE	<u>0</u>
<u>NO</u>	ONE LANE BRIDGE	<u>0</u>
<u>NO</u>	LOW CLEARANCE	<u>0</u>

LOOKING NORTH

INSPECTED BY JASON ROLFSMEYER	SIGNATURE 	ASSISTED BY GEORGE TEAGUE
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NATIONAL BRIDGE INVENTORY----- STRUCTURE INVENTORY AND APPRAISAL

Run Date: 09/29/2016

IDENTIFICATION

(1) STATE NAME -NORTH CAROLINA BRIDGE 770434
 (8) STRUCTURE NUMBER(FEDERAL) 000000001550434
 (5) INVENTORY ROUTE (ON/UNDER) - ON 31010030
 (2) STATE HIGHWAY DEPARTMENT DISTRICT 1
 (3) COUNTY CODE 155 (4) PLACE CODE 0
 (6) FEATURE INTERSECTED - BACK SWAMP
 (7) FACILITY CARRIED SR1003
 (9) LOCATION 0.4 MI.N. OF JCT.SR1160
 (11) MILEPOINT 0
 (16) LAT 34° 37' 13.15" (17) LONG 79° 11' 33.29"
 (98) BORDER BRIDGE STATE CODE PCT SHARE
 (99) BORDER BRIDGE STRUCTURE NO

SUFFICIENCY RATING = 27.67
 STATUS = Structurally Deficient

CLASSIFICATION CODE

(112) NBIS BRIDGE SYSTEM - YES
 (104) HIGHWAY SYSTEM Is not on NHS 0
 (26) FUNCTIONAL CLASS - Minor Collector 08
 (100) STRAHNET HIGHWAY - Not a STRAHNET Route 0
 (101) PARALLEL STRUCTURE - No Parallel Structure N
 (102) DIRECTION OF TRAFFIC - 2-way Traffic 2
 (103) TEMPORARY STRUCTURE - Temporary Structure/Conditions T
 (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

(43) STRUCTURE TYPE MAIN: Prestressed Concrete
 TYPE - Channel Beam CODE 522
 (44) STRUCTURE TYPE APPR :
 TYPE - CODE 000
 (45) NUMBER OF SPANS IN MAIN UNIT 3
 (46) NUMBER OF APPROACH SPANS
 (107) DECK STRUCTURE TYPE - 1 CODE
 (108) WEARING SURFACE / PROTECTIVE SYSTEM :
 (A) TYPE OF WEARING SURFACE - CODE
 (B) TYPE OF MEMBRANE - CODE
 (C) TYPE OF DECK PROTECTION - CODE

CONDITION CODE

(58) DECK 4
 (59) SUPERSTRUCTURE 3
 (60) SUBSTRUCTURE 7
 (61) CHANNEL & CHANNEL PROTECTION 7
 (62) CULVERTS N

LOAD RATING AND POSTING CODE

(31) DESIGN LOAD H 15 2
 (63) OPERATING RATING METHOD - Load Factor 1
 (64) OPERATING RATING - HS-1 1
 (65) INVENTORY RATING METHOD - Load Factor 1
 (66) INVENTORY RATING - HS-1 1
 (70) BRIDGE POSTING - Posting Required 3
 (41) STRUCTURE OPEN, POSTED, OR CLOSED P
 DESCRIPTION - Posted for Load

AGE AND SERVICE

(27) YEAR BUILT 1970
 (106) YEAR RECONSTRUCTED
 (42) TYPE OF SERVICE : ON - Highway
 UNDER - Waterway CODE 15
 (28) LANES: ON STRUCTURE 2 UNDER STRUCTURE 0
 (29) AVERAGE DAILY TRAFFIC 2000
 (30) YEAR OF ADT 2013 (109) TRUCK ADT PCT 6%
 (19) BYPASS OR DETOUR LENGTH 5 MI

APPRAISAL CODE

(67) STRUCTURAL EVALUATION 3
 (68) DECK GEOMETRY 5
 (69) UNDERCLEARANCES, VERTI & HORIZ N
 (71) WATERWAY ADEQUACY 7
 (72) APPROACH ROADWAY ALIGNMENT 8
 (36) TRAFFIC SAFETY FEATURES 0000
 (113) SCOUR CRITICAL BRIDGES 8

GEOMETRIC DATA

(48) LENGTH OF MAXIMUM SPAN 24 FT
 (49) STRUCTURE LENGTH 76 FT
 (50) CURB OR SIDEWALK: LEFT .4585 FT RIGHT .4585 FT
 (51) BRIDGE ROADWAY WIDTH CURB TO CURB 29.083 FT
 (52) DECK WIDTH OUT TO OUT 30.504 FT
 (32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 26 FT
 (33) BRIDGE MEDIAN - No Median CODE 0
 (34) SKEW 0° (35) STRUCTURE FLARED 0
 (10) INVENTORY ROUTE MIN VERT CLEAR 999.9 FT
 (47) INVENTORY ROUTE TOTAL HORIZ CLEAR 29.083 FT
 (53) MIN VERT CLEAR OVER BRIDGE RDWY 999.9 FT
 (54) MIN VERT UNDERCLEAR REF Not a Highway or Railroad 0 FT
 (55) MIN LAT UNDERCLEAR RT REF Not a Highway or Railroad 000 FT
 (56) MIN LAT UNDERCLEAR LT REF - 000 FT

PROPOSED IMPROVEMENTS

(75) TYPE OF WORK - CODE
 (76) LENGTH OF STRUCTURE IMPROVEMENT
 (94) BRIDGE IMPROVEMENT COST
 (95) ROADWAY IMPROVEMENT COST
 (96) TOTAL PROJECT COST
 (97) YEAR OF IMPROVEMENT COST ESTIMATE
 (114) FUTURE ADT 4000 (115) YEAR FUTURE ADT 2025

INSPECTIONS

(90) INSPECTION DATE 04/14/2016

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

(92) CRITICAL FEATURE INSPECTION : (93) CFI DATE
 A) FRACTURE CRIT DETAIL - NO A)
 B) UNDERWATER INSP - NO B)
 C) OTHER SPECIAL INSP NO C)
 SCOUR

BRIDGE MANAGEMENT UNIT

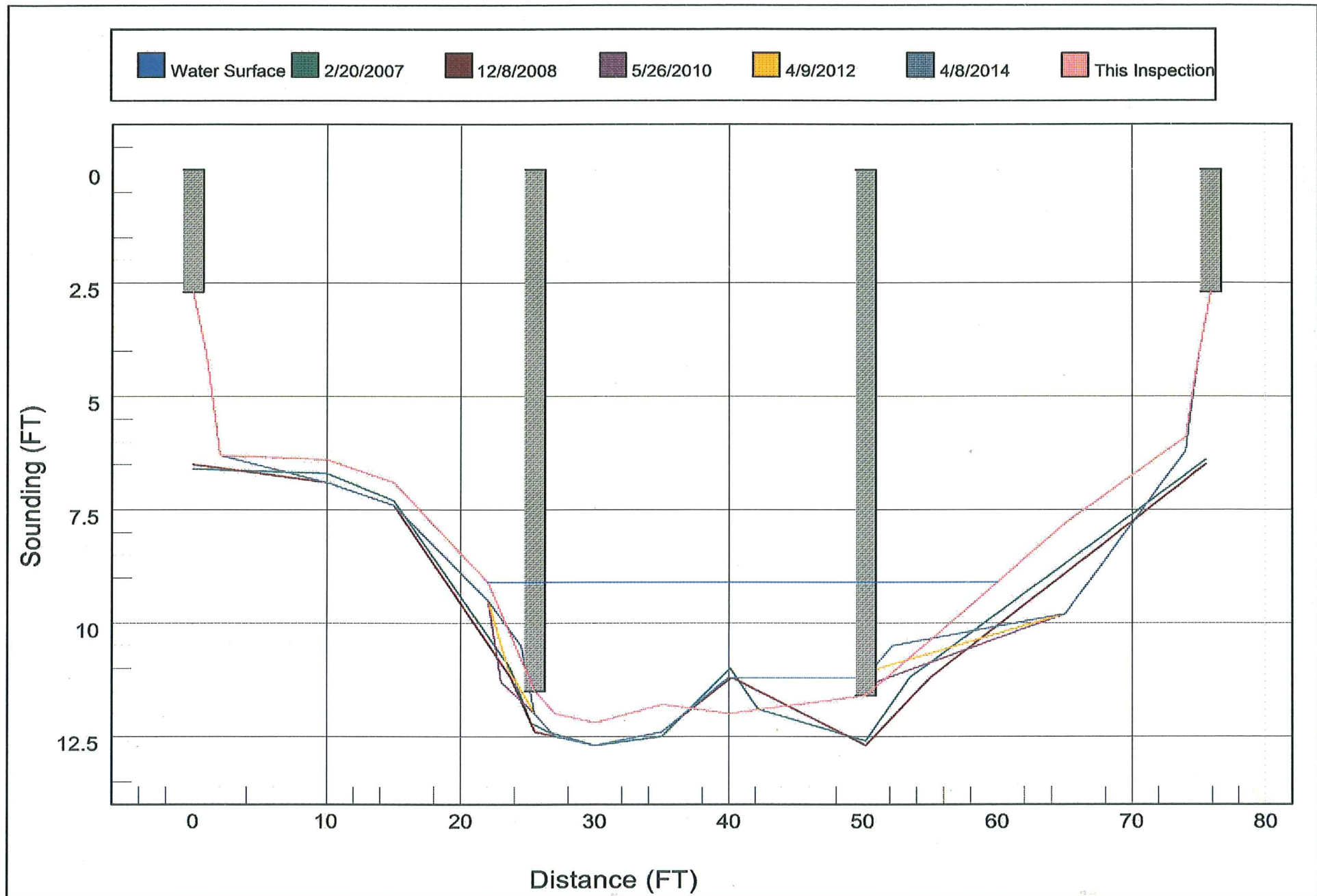
DATA ON EXISTING STRUCTURE

Run Date: 09/29/2016

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
ROBESON	6	1	770434	76	FEET
ROUTE CARRIED :		FEATURE INTERSECTED :			
SR1003		BACK SWAMP			
LOCATED :		BRIDGE NAME :		CITY :	
0.4 MI.N. OF JCT.SR1160					
FUNC. CLASS :		SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
08		NFA	NFA	2000 2013	LT 233 RT 233
BUILT :		BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1970		SHC	9363		H 15
REHAB :		BY :	PROJ :	ALIGNMENT :	SKEW :
		DBM		TAN.	90
LANES :					
ON 2 UNDER 0					
NAVIGATION :		HT. CRN. TO BED :		WATER DEPTH :	
VC 0 FT HC 0 FT		10 FT		3 FT	
SUPERSTRUCTURE : PRESTR. CONC. CHANNELS, STD.BMD-13					
SUBSTRUCTURE : E.BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@5'8CTS.					
SPANS : 1@25'5", 1@25', 1@25'5"					
BEAMS OR GIRDERS : 12 LNS 31" PRESTRESSED CONCRETE CHANNEL SECTIONS					
FLOOR :		ENCROACHMENT :		DECK (OUT TO OUT) :	
PPC.CH./2" AWS				30.504 FT	
CLEAR ROADWAY :		BETWEEN RAILS :		SIDEWALK OR CURB :	
29.083 FT		30 FT		LT .4585 FT RT .4585 FT	
VERT.CL.OVER : 999.9 FT					
INV.RTG. :		OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST 32 DATE 06/28/2012
HS-1		HS-1	BMD 13-30A	SV 24	
SYSTEM : Secondary S.R. Route				GREEN LINE ROUTE : N	
UNDER ROUTES AND CLEARANCES					
REMARKS :					

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Upstream structure

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 09/29/2016

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :		
ROBESON	6	1	770433	70	FEET	

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1160	BACK SWAMP

LOCATED :	BRIDGE NAME :	CITY :
.3 MI. SW. OF JCT. SR1159		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	760 2005	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1970	BMU			Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
	DBM		TAN	121	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT 12 FT 3 FT		

SUPERSTRUCTURE : REINFORCED CONCRETE DECK ON TIMBER JOISTS; BMD-10 MR

SUBSTRUCTURE : E.BTS&INT.BTS:TIMBER CAP/5 TIMBER PILES@VAR.CTS.

SPANS : 1@17'10", 1@17'1", 1@16'11", 1@18'

BEAMS OR GIRDERS : 22 LINES 6X12 TIMBER JOISTS @ VAR.CENTERS

FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
5RC/NO AWS		29.25 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
27.833 FT	28.667 FT	LT .417 FT RT .417 FT

VERT.CL.OVER : 999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-1	HS-1	Joist	SV 20	29	06/23/2010

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

UNDER ROUTES AND CLEARANCES

REMARKS :

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 09/14/2016

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :
ROBESON	6	1	770432	69 FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR1157	BACK SWAMP CANAL

LOCATED :	BRIDGE NAME :	CITY :
0.5 MI. NE. JCT. SR1154		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
09	NFA	NFA	620 2004	LT 241 RT 241

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1970	BMU	6.801827		Unknown

REHAB :	BY :	PROJ :	ALIGNMENT :	SKEW :	LANES :
	DBM		LT.	75	ON 2 UNDER 0

NAVIGATION :	HT. CRN. TO BED :	WATER DEPTH :
VC 0 FT HC 0 FT 10 FT 2 FT		

SUPERSTRUCTURE :	RC DECK ON TIMBER JOISTS, STD.BMD-10
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SUBSTRUCTURE :	E.BTS&INT.BTS:TIMBER CAPS ON TIMBER PILES
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SPANS :	1@17'9,1@16'8,1@16'6,1@17'9
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BEAMS OR GIRDERS :	22 LINES 6X12 TIMBER JOISTS @ VAR. CENTERS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
5" RC/NO AWS		31 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :
28 FT	29.417 FT	LT .7085 FT RT .7085 FT

VERT.CL.OVER :
999.9 FT

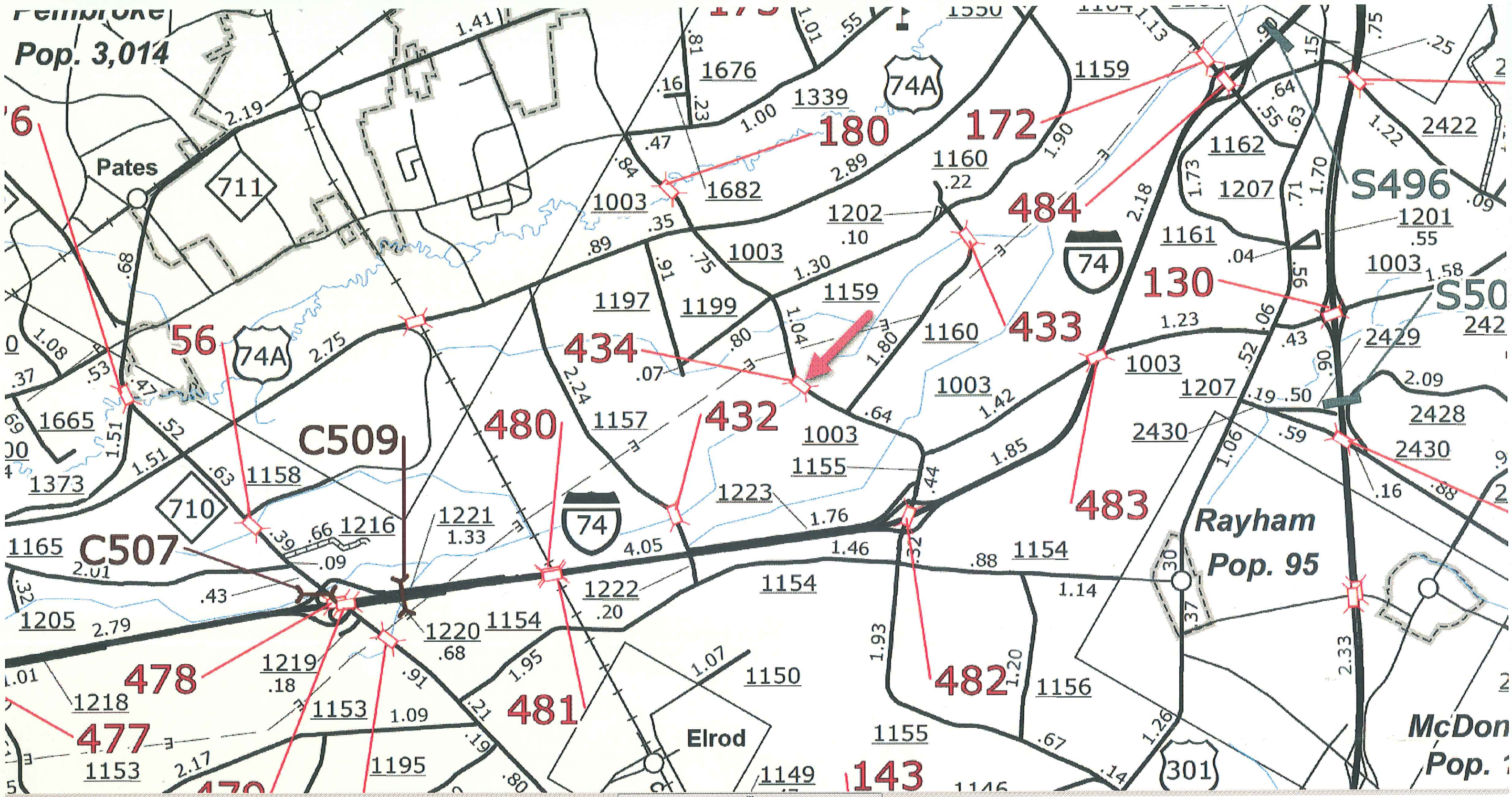
INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :	TTST	DATE
HS-1	HS-1	int jst	SV 19	27	05/20/2014

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

UNDER ROUTES AND CLEARANCES

REMARKS :

PERDUE
Pop. 3,014



s Version 3.0
s Ungaged Site Report

2:22:05 PM GMT-4
ina
4.6204 (34 37 13)
9.1924 (-79 11 33)

Units	Definition
quare iles	Area that drains to a point on a stream

ABP 100%

