

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 770108

Date: 06/27/2018

County: Robeson Stream: Indian Swamp

Road #: SR 2269 Road Name: Bloomingdale Rd.

Division: 6 Location: 100' E JCT SR 2264

Latitude: 34.43709 Longitude: -79.03835 Decimal degrees, a min of 5 decimal points

Assigned to:

Prepared By: ECA/wsh

Hydro Mgr: WGC Hydro Reviewer: JLM

Project Type:

Existing Structure

Structure Type: Cored Slab Yr Built: 1967

Span Arrangement: 1@ 30'7", 1@ 30'9" OAL (ft): 61.0 Skew: Abutment Type: Vertical -Timber

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

Bed to Crown (ft): 11.0 Clear Roadway (ft): 29.0 Water Depth (ft): 5.0 Superstructure Depth:

ADT: 50 Year ADT: 1991 Scour Code (item113): Prior Survey Completed: Survey Date:

Drainage Area: 11.8 Sq. Mi. Drainage Area Source: Sel.-Sites Roadway Overtops at Q100:

Discharge Method: USGS Regression Equations USGS Region: 4- Coastal Stream Gage Number(if applicable): 213460950

Q10 (cfs): Q25 (cfs): 1,100 Q50 (cfs): 1,400 Q100 (cfs): 1,600 QBFE (cfs): 800

Structure in Flood Hazard Zone Panel #: 9284 Panel Date: 01/19/2005 Type of FIS: LIMITED Date of FIS:

Enviromental

Quad Map: FAIRMONT, NC River Basin: LittleTennessee Buffer Rule:

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: Culvert

Location: 0.3 M S JCT NC 130

Structure #: 770463 Route: Byrd Road

Latitude: 35.45874 Longitude: -79.04044

Prior Survey Completed: Survey Date: Bed to Crown (ft): 10.0 Year Built: 1994

Structure Type: CSPA

Span Arrangement: OAL (ft):

Number of Barrels: 2 @ Span (ft): 112.0 x Rise (ft): 6.3

Downstream Feature: Bridge

Location: 0.5 M N JCT SR 2225

Structure #: 770115 Route: SR 2272

Latitude: 34.41639 Longitude: -79.04737

Prior Survey Completed: Survey Date: Bed to Crown (ft): 9.0 Year Built: 1988

Structure Type: Cored Slab

Span Arrangement: 1@ 31.25', 1@ 35.1', 1@ 31' OAL (ft):

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

Preliminary Structure Estimate [Office Estimate]

Structure Type: Skew:

Dimensions/Spans:

Notes

Stream #:14-30-8

Min brg = 95'

PREDESIGN-PRESURVEY REPORT

Project# _____
TIP# _____
Let Date _____
WBS# _____

D1

County Robeson (DIV. 6)

Bridge# 770 108
Road# SR 2269 (Bloomington Rd) ✓
Stream Indian Swamp ✓

Type Of Request: POC Force Account TIP NCMA

Date _____ Name E AKpuogu

Assigned To ECA

Checked By Wsh 6-27-18

PDRYES BSR: NONE

Prior Survey Date _____ (attach copy of prior survey)

FIS Q100 = 797 cfs

Study By Scour Section _____ CODE: U

BBK: _____ CO. FILE: _____

Flood Zone AE Detail Study Limited Date Jan 19, 2005 Panel# 9284

B.M. Info N/A STREAM STATS DA = 10.7 SQ MILES

Quad Map Fairmont Drainage Area 11.8 sq mi From DASS STA: 213460950

Q25 1100 Q50 1360 Q100 1646 Method USGS, Rural Coastal plain
Region 4.

LAT: 34.437087

FIS Q100 = 797

LONG: -79.03835

EXISTING BRIDGE INFORMATION

Location 100 Ft E Jct SR 2264

BUILT: 1967

Average Daily Traffic 50 (1991)

CLEAR RD WAY: 29'

Length 61' ✓

Bed- To Crown 11'

Water Depth 5'

Type Structure Prestressed Conc Channels

Type Spans (1 @ 30'7, 1 @ 30'9) ✓

Upstream Structure P-463 (770463) ✓

2 LINES LONG: -79.040435

Location BYRD RD, 0.3 m S JCT NC130

112x75 LAT: 35.458744

Bed- To Crown 10' (1' DEEP)

Prior Survey N/A

(CMPA) BUILT: 1994

Downstream Structure 770 115 Brg # 115 (SR 2272)

LONG: -79.047374

Location 0.5 mi N Jct SR 2225

LAT: 34.416393

Bed- To Crown 9' (5' deep)

Prior Survey N/A

BUILT: 1988

(1e31 1/4', 1e35.1', 1e31') (PRESTRESSED CORED SLAB / H PILES)

ENVIRONMENTAL

TVA: No ✓

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

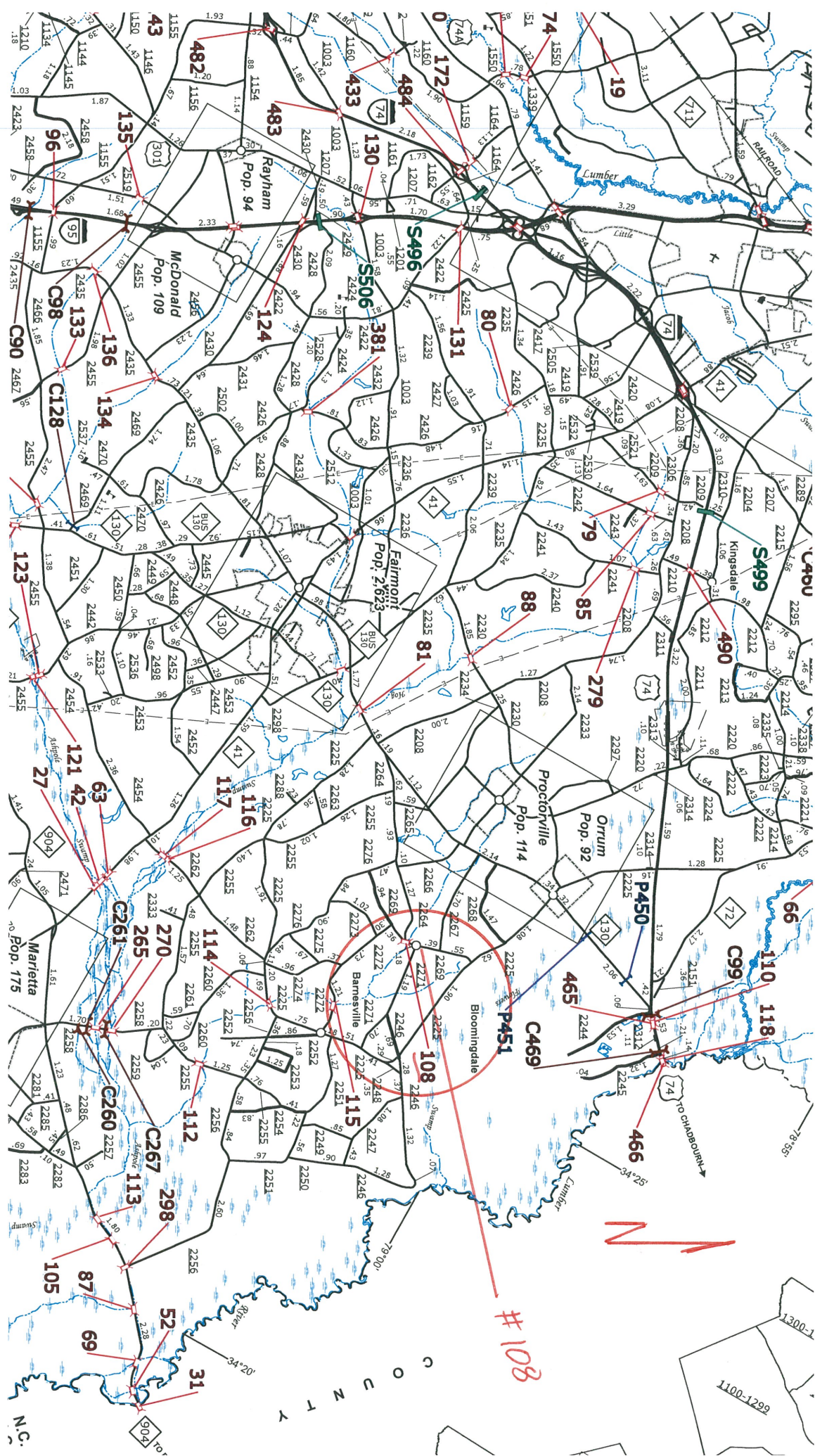
Stream Classification G, SW ✓

STREAM #: 14-30-8 ✓

DENR River Basin Info. Lumber ✓

(1, 28, up 16)
D/S 29

770 108

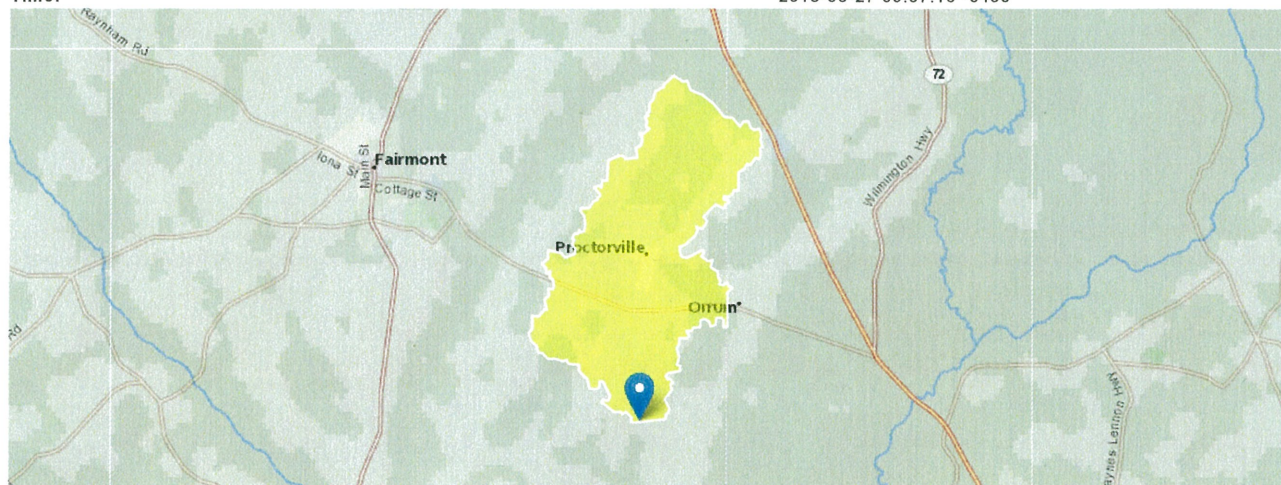


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StreamStats Report

Region ID:
Workspace ID:
Clicked Point (Latitude, Longitude):
Time:

NC
NC20180627130659292000
34.43709, -79.03826
2018-06-27 09:07:16 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	10.7	square miles
LC06IMP	Percentage of impervious area determined from NLCD 2006 impervious dataset	0.5	percent
I24H50Y	Maximum 24-hour precipitation that occurs on average once in 50 years	8.04	inches

Urban Peak-Flow Statistics Parameters [Region 4 Urban 2014 5030]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	10.7	square miles	0.1	53.5
LC06IMP	Percent Impervious NLCD2006	0.5	percent	0.02	34.8
I24H50Y	24 Hour 50 Year Precipitation	8.04	inches	6.51	10.9

Urban Peak-Flow Statistics Flow Report [Region 4 Urban 2014 5030]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SEp
Urban 2 Year Peak Flood	282	ft ³ /s	131	611	40.8
Urban 5 Year Peak Flood	536	ft ³ /s	265	1080	36.9
Urban 10 Year Peak Flood	746	ft ³ /s	375	1490	36.7
Urban 25 Year Peak Flood	1060	ft ³ /s	515	2170	38.2
Urban 50 Year Peak Flood	1320	ft ³ /s	621	2790	40.2
Urban 100 Year Peak Flood	1600	ft ³ /s	726	3540	42.7
Urban 200 Year Peak Flood	1920	ft ³ /s	826	4470	45.4
Urban 500 Year Peak Flood	2370	ft ³ /s	945	5930	49.9

Urban Peak-Flow Statistics Citations

Feaster, T.D., Gotvald, A.J., and Weaver, J.C., 2014, Methods for estimating the magnitude and frequency of floods for urban and small, rural streams in Georgia, South Carolina, and North Carolina, 2011 (ver. 1.1, March 2014): U.S. Geological Survey Scientific Investigations Report 2014-5030, 104 p. (<http://pubs.usgs.gov/sir/2014/5030/>)



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY ROBESON

BRIDGE NUMBER 770108

INSPECTION CYCLE 2 YRS

ROUTE SR2269

ACROSS INDIAN SWAMP

M.P. 0

LOCATION 100 FT.E.JCT.SR2264

SUPERSTRUCTURE PRESTRESSED CONCRETE CHANNELS

SUBSTRUCTURE END BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@VAR.CTS.

SPANS 1@30'7,1@30'9

LONGITUDE 79° 2' 17.8"

LATITUDE 34° 26' 13.5"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 06/10/2010

OPERATING RATING

PRESENT POSTING SV 24 TTST 27

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT 4 DELINEATORS



LOOKING EAST

SIGN NOTICE
ISSUED FOR

NUMBERED
REQUIRED

No

WEIGHT LIMIT

No

DELINEATORS

No

NARROW BRIDGE

No

ONE LANE BRIDGE

No

LOW CLEARANCE

770108

Structure: 770108

County: ROBESON

Date: 04/11/2016

Structure Photos



LOOKING WEST



LOOKING NORTH

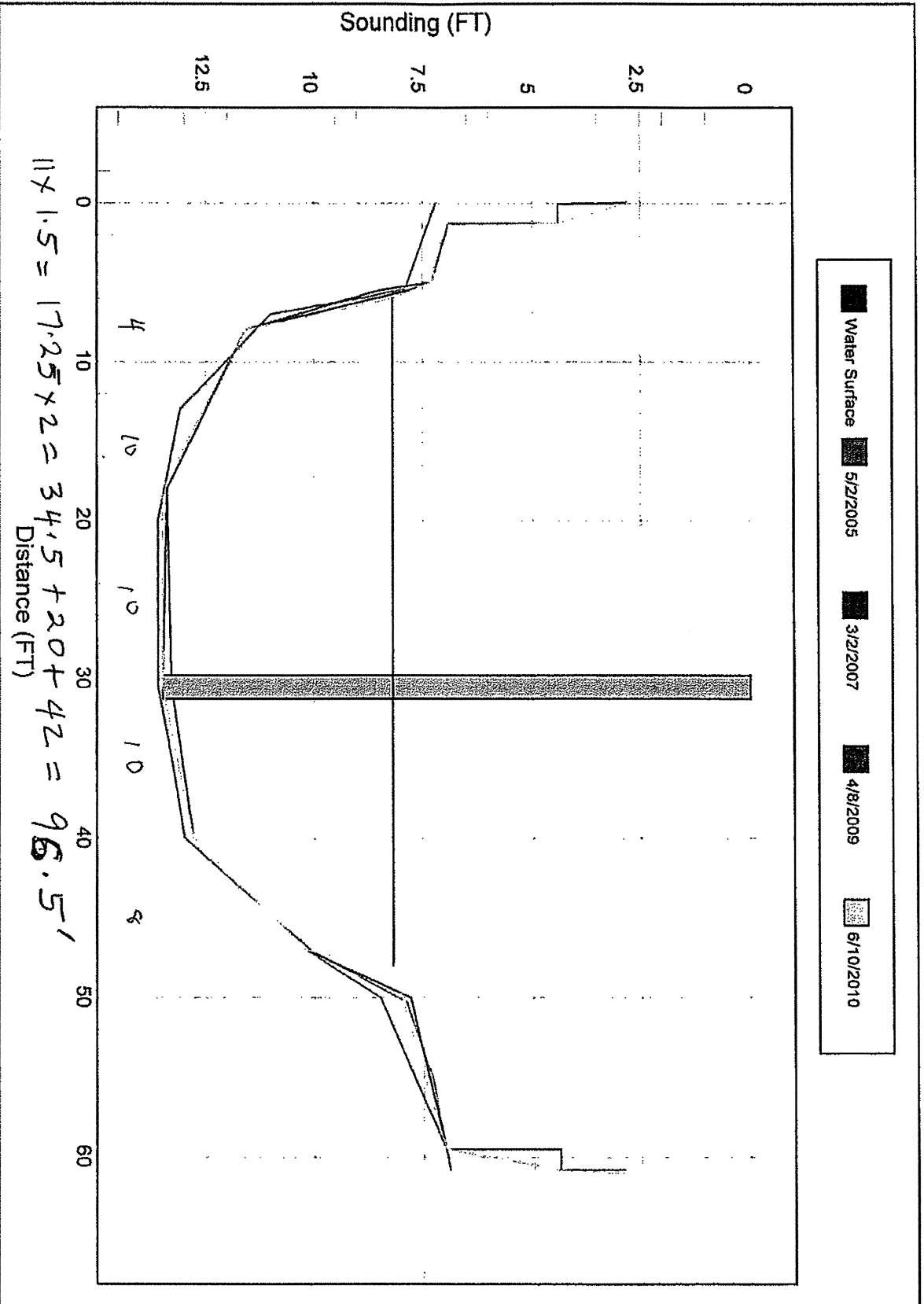
Bridge: 770108

County ROBESON

Date: 06/10/2010

Top of Rail = 0 FT (Sounding)

STREAMBED PROFILE (Downstream)



BRIDGE MANAGEMENT UNIT
DATA ON EXISTING STRUCTURE

Run Date: 07/27/2010

COUNTY : ROBESON		DIV : 6		DIST : 1		STRUCTURE NUMBER : 770108		LENGTH : 61 FEET	
ROUTE CARRIED : SR2269				FEATURE INTERSECTED : INDIAN SWAMP					
LOCATED : 100 FT.E.JCT.SR2264				BRIDGE NAME :			CITY :		
FUNC. CLASS : 09		SYST.ON : NFA		SYST.UNDER : NFA		ADT & YR : 50 1991		RAIL TYPE : LT 233 RT 233	
BUILT : 1967		BY : BMU		PROJ :		FED.AID PROJ :		DESIGN LOAD : H 15	
REHAB :		BY :		PROJ :		ALIGNMENT : TAN 90		LANES : ON 2 UNDER	
NAVIGATION : VC 0.0 FT HC 0.0 FT				HT. CRN. TO BED : 11 FT				WATER DEPTH : 5 FT	
SUPERSTRUCTURE : PRESTRESSED CONCRETE CHANNELS									
SUBSTRUCTURE : END BTS&INT.BTS:PRESTR.CONC.CAPS/TIMBER PILES@VAR.CTS.									
SPANS : 1@30'7,1@30'9									
BEAMS OR GIRDERS : 12 LINES PRESTR.CONC.CHANNELS@2'6.5 CENTERS									
FLOOR : PPC.CH/2.5 AWS		ENCROACHMENT :				DECK (OUT TO OUT) : 30.5 FT			
CLEAR ROADWAY : 29.0 FT		BETWEEN RAILS : 30.0 FT				SIDEWALK OR CURB : LT 0.5 FT RT 0.5 FT			
VERT.CL.OVER : 99 FT 99 IN		VERT.CL.UNDER : 00 FT 00 IN		HOR.CL.UNDER : 0.0 FT					
INV.RTG. : HS-6		OPE.RTG. : HS-16		CONTR.MEMBER : PILE, TIM.		POSTED : SV 24 TTST 27		DATE 08/25/2006	
SYSTEM : Secondary S.R. Route						GREEN LINE ROUTE : N			
2ND OPENING :		3RD OPENING :		4TH OPENING :		5TH OPENING :			
REMARKS :									

Structure: 770463

County: ROBESON

Date: 02/22/2016

Structure Photos

U/S STR

770108



EAST PROFILE (OUTLET END)



WEST PROFILE (INLET END)

D/S STR

770108

Structure: 770115

County: ROBESON

Date: 02/17/2016

Structure Photos



EAST PROFILE



EAST END OF BENT 1 CAP



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

June 24, 2010

MEMORANDUM TO: Mr. Don Idol
Assistant Bridge Inspection Engineer

FROM: Jerry Beard, P.E.
Scour Engineer
Hydraulic Design Unit

SUBJECT: Transmittal of Bridge Scour Assessments

The scour committee recommends, based on the Geotechnical Units low risk screening using NCHRP 24-25 "Guidelines for Risk-Based Management of Bridges with Unknown Foundations", that the following bridges that are coded U in Item 113 have a code Z added in the Plan of Action (POA) field. Have the POA displayed for future inspection guidance:

	County Name	Bridge #	Code
✓	ROBESON	770026	Z
✓	ROBESON	770030	Z
✓	ROBESON	770035	Z
✓	ROBESON	770073	Z
✓	ROBESON	770079	Z
✓	ROBESON	770080	Z
✓	ROBESON	770085	Z
✓	ROBESON	770088	Z
✓	ROBESON	770108	Z
✓	ROBESON	770114	Z
✓	ROBESON	770115	Z
✓	ROBESON	770116	Z
✓	ROBESON	770117	Z
✓	ROBESON	770123	Z
✓	ROBESON	770128	Z
✓	ROBESON	770136	Z
✓	ROBESON	770143	Z
✓	ROBESON	770149	Z
✓	ROBESON	770161	Z
✓	ROBESON	770172	Z
✓	ROBESON	770200	Z
✓	ROBESON	770213	Z
✓	ROBESON	770228	Z
✓	ROBESON	770231	Z

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT
1590 MAIL SERVICE CENTER
RALEIGH NC 27699-1590

TELEPHONE: 919-250-4100
FAX: 919-250-4108

WEBSITE:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/)

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC

33
770108
6/24/10



770108

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

	County Name	Bridge #	Code
✓	ROBESON	770275	Z
✓	ROBESON	770380	Z
✓	ROBESON	770381	Z
✓	ROBESON	770413	Z
✓	ROBESON	770414	Z
✓	ROBESON	770422	Z
✓	ROBESON	770431	Z
✓	ROBESON	770432	Z
✓	ROBESON	770433	Z
✓	ROBESON	770435	Z
✓	ROBESON	770445	Z

Code Z:

Bridge with "Unknown Foundation" that has not been evaluated for scour. Average Daily Traffic (ADT) is less than 1500. Bridge is considered low risk using NCHRP 24-25 "Guidelines for Risk-Based Management of Bridges with Unknown Foundations". A Plan of Action (POA) has been implemented.

POA

Monitor bridge foundation during biennial inspection cycle for case 1 or 2.

- 1) If mud line at any end bent or interior bent scours more than 4 feet from the established baseline contact the Hydraulics Unit. Establish a baseline using the 2008-2009 inspection soundings.
- 2) If footings have greater than 10% of the bearing undermined, contact the Hydraulics Unit.

If you have any questions or comments concerning the above please feel free to contact me at 250-4100.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
HYDRAULICS UNIT
1590 MAIL SERVICE CENTER
RALEIGH NC 27699-1590

TELEPHONE: 919-250-4100
FAX: 919-250-4108

WEBSITE:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/HYDRO/)

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC

Section 5.0 – Engineering Methods

Table 7—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
Humphrey Branch	At the confluence with Raft Swamp	2.28	*	*	259	*
Indian Swamp	At mouth	29.3	*	*	1,501	*
	At the confluence of Little Indian Swamp	9.52	*	*	693	*
	At the confluence of Bay Branch	6.13	*	*	512	*
Ivey Branch	At Railroad	3.5	1,620	2,180	2,430	3,630
Jackson Swamp	At the confluence with Big Swamp	12.92	*	*	855	*
	Approximately 2,500 feet upstream of Mercer Mill Road	6.23	*	*	518	*
Jacob Diversion	At the confluence with Little Jacob Swamp	2.8	274	466	551	763
	At Contempora Drive	2.3	243	415	490	680
	Approximately 2,800 feet downstream of US Hwy 74	1.8	200	345	409	568
	At US Hwy 74	1.3	142	253	304	427
	At Emery Road	1.0	101	189	230	328
Jacob Swamp	At the confluence with Lumber River	18.4	1,036	1,646	1,919	2,598
	At the confluence of Jacob Branch	17.3	1,011	1,604	1,867	2,525
	At the confluence of Panther Branch	16.1	979	1,548	1,801	2,432
	At SR 2305	15.5	965	1,524	1,772	2,393
	At Alamac Road	15.2	948	1,500	1,744	2,357
	At the confluence of Collection Canal	9.9	576	968	1,146	1,556
	At the confluence of Little Jacob Swamp	9.1	553	927	1,097	1,516
	At Lowett Road	8.5	536	899	1,062	1,467
	At NC 41	6.9	474	795	940	1,299
	Approximately 3,000 feet downstream of Kenny Biggs Road	0.7	106	188	224	314

Section 5.0 – Engineering Methods

Table 10—Limited Detailed Flood Hazard Data

Cross Section ¹	Stream Station ²	Flood Discharge (cfs)	1% Annual Chance Water-Surface Elevation (feet NAVD 88)	Non-Encroachment Width ³ (feet)
INDIAN SWAMP (continued)				
396	39,609	886	81.6	5
404	40,406	797	82.5	5
407	40,732	797	82.9	5
414	41,352	797	83.8	5
420	41,996	797	84.5	5
425	42,476	797	84.7	5
426	42,621	797	84.8	5
437	43,656	797	85.4	5
445	44,518	797	86.5	5
455	45,498	797	87.0	5
461	46,096	797	87.2	5
468	46,829	797	87.4	5
474	47,369	797	87.7	5
477	47,660	797	88.0	5
487	48,685	797	88.5	5
493	49,327	797	88.7	5
498	49,823	797	89.1	5
505	50,467	797	89.6	5
509	50,891	693	89.8	5
516	51,582	693	90.7	5
519	51,905	597	90.9	5
520	51,989	597	90.6	5
521	52,137	597	93.0	5
528	52,776	597	93.5	5
533	53,276	597	93.6	5
537	53,692	512	93.6	5
542	54,219	512	93.7	5
548	54,751	512	93.9	5
552	55,198	415	94.0	12 / 12
553	55,338	415	94.7	7 / 6
563	56,303	415	95.6	16 / 79
569	56,947	415	96.0	47 / 47
575	57,468	415	96.1	31 / 31
581	58,085	415	96.5	56 / 11
586	58,648	415	98.3	36 / 52
594	59,425	415	99.1	24 / 24
603	60,325	312	100.2	44 / 8
607	60,740	312	101.1	9 / 60
610	60,958	312	101.2	23 / 23
610	61,025	312	101.3	21 / 18
615	61,470	312	101.4	10 / 10
628	62,768	312	103.2	29 / 26
633	63,333	312	103.7	25 / 25

770108



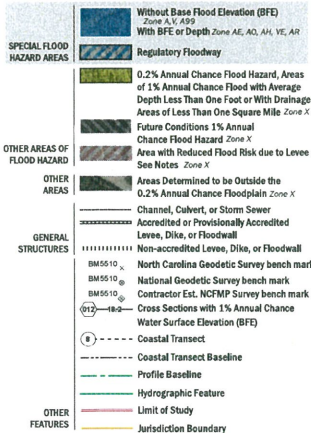
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This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long-term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map flood hazard areas of the flood level. As a part of this effort, the State of North Carolina has joined in a Cooperative National State agreement with FEMA to produce and maintain the digital FIRM.

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING
DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT
[HTTP://FIRIS.NC.GOV/FIRIS](http://FIRIS.NC.GOV/FIRIS)



NOTES TO USERS

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please visit the FEMA Map Information eXchange at <http://www.fema.gov> or call the FEMA Map Service Center at 1-877-FEMA-8000. An accompanying Flood Insurance Study report, Letter of Map Review (LOR), or Letter of Map Amendment (LOMA) may be available for this panel, and digital versions of this FIRM may be available. Visit the North Carolina Floodplain Mapping Program website at <http://www.ncfloodplain.org> or contact the FEMA Map Service Center.

Communities adjoining land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM index. These may be ordered directly from the Map Service Center at the number listed above.

For accuracy and consistency, maps may refer to the Flood Insurance Study report for this jurisdiction. To determine if flood insurance is available in the community, contact your insurance agent or call the National Flood Insurance Program at 1-800-438-6620.

Base map information shown on this FIRM was provided in digital format by the North Carolina Floodplain Mapping Program (NCFMP). The source of this information can be determined from the metadata available in the digital FIRM database and in the Technical Support Data Network (TSDN).

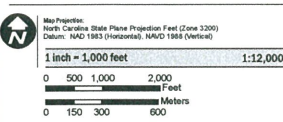
ACCREDITED LEVEE NOTES TO USERS: If an accredited levee note appears on this panel, check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent annual chance level) and Emergency Action Plan, on the levee system chosen as providing protection. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicates the levee system does not comply with Section 65.10 requirements, FEMA will remove the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in unaccredited areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <http://www.fema.gov/floodinsurance/index.cfm>.

LIMIT OF MODERATE WAVE ACTION NOTES TO USERS: For some coastal flooding zones the AE Zone category has been divided by a Limit of Moderate Wave Action (LIMWA). The LIMWA represents the approximate landward limit of the 1.5-foot flooding zone. The effects of storm hazards between the VE Zone and the LIMWA (or between the LIMWA and the VE Zone for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

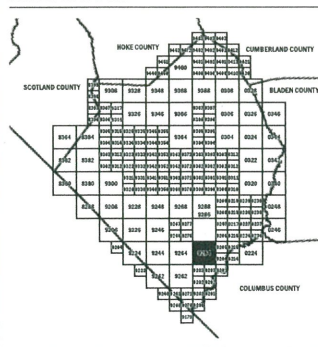
COASTAL BARRIER RESOURCES SYSTEM (CBRS) NOTE
This map may include approximate boundaries of the CBRS for informational purposes only. Flood insurance is not available within CBRS areas that are designated as "otherwise protected areas" and are not identified on the map. For more information see http://www.fema.gov/floodinsurance/coastal_barrier.html, the FIS Report, or call the U.S. Fish and Wildlife Service Customer Service Center at 1-800-344-6852.

Legend:
CBRS Area
Otherwise Protected Area

SCALE



PANEL LOCATOR



National Flood Insurance Program

NORTH CAROLINA FLOODPLAIN MAPPING PROGRAM

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

NORTH CAROLINA

PANEL 9284

Panel Contains:
COMMUNITY
ORRUM TOWN OF
ROBINSON COUNTY

CID PANEL SUFFIX
370349 9284 J
370202 9284 J

MAP NUMBER
3710928400J
MAP REVISED
01/19/05

770108



770108

