

Project Number 45666.111
TIP Number B-5712
Let Date _____

PREDESIGN-PRESURVEY REPORT

County Cumberland

Bridge Number 250042
Road Number SR 2030
Stream Gum Swamp

Type Of Request: POC Force Account TIP
Date _____ Name _____ Assigned To _____
Checked By _____

Prior Survey Date 7-54 (attach copy of prior survey)

Study By Scour Section _____

Flood Zone Yes Detail Study Limited Date 1/8/16 (attach copy of flood map) Panel 6440

B.M. Info _____

Quad Map Newport Drainage Area 9.0 Smi From stream stat.
Q25 930 Q50 1160 Q100 1400 Method USGS-Rural-regression
e/n. Region 4
USGS-SI Report 2009-5158

EXISTING BRIDGE INFORMATION

Location 0.3 MI N Jct NC 210

Average Daily Traffic 500 (2012)

Length 91 Bed- To Crown 13 Water Depth 7

Type Structure Pre stressed Conc. Channel Sections

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

Upstream Structure (SR2028) P 33

Location 0.7 MI S Jct SR 2027

Bed- To Crown 7 Prior Survey 10-86

Downstream Structure Confluence with South river.

Location _____

Bed- To Crown - Prior Survey ✓

SCS Watershed _____

ENVIRONMENTAL

Trout Stream No Anadromous Fish No Primary Nursery Area No

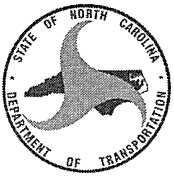
High Quality Waters No Nutrient Sensitive Waters Yes

Near Water Supply Intake No CAMA County No

Stream Classification SC, SW, NSW

DENR River Basin Info. Nenase

office estimated min bry length = 105'



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection

COUNTY CUMBERLAND BRIDGE NUMBER 250042 INSPECTION CYCLE 2 YRS
ROUTE SR2030 ACROSS CREEK M.P. 0

LOCATION 0.3 MI.N.JCT.NC210

SUPERSTRUCTURE PRESTRESSED CONCRETE CHANNELS(STD BMD-13)

SUBSTRUCTURE EBTS&IBTS:PRESTR.CONC.CAPS/TIM.PILES

1@30.5',1@30.0',1@30.5'

SPANS 1@30'6',1@30',1@30'6'

LONGITUDE 78° 38' 50.21"

LATITUDE 34° 57' 54.78"

INSPECTION DATE 02/18/2014

PRESENT CONDITION FAIR

PRESENT POSTING Y

SV 25; TTST 28

PROPOSED POSTING

OTHER SIGNS PRESENT 2 DELINEATORS



LOOKING NORTH (HOLLOW BRIDGE ROAD)

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

SIGN NOTICE ISSUED FOR	WEIGHT LIMIT	NUMBERED REQUIRED
No		
Yes	DELINEATORS	2
No	NARROW BRIDGE	
No	ONE LANE BRIDGE	
No	LOW CLEARANCE	

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 03/13/2014

COUNTY :	DIVISION :	DISTRICT :	STRUCTURE NUMBER :	LENGTH :	
CUMBERLAND	6	2	250042	91	FEET

ROUTE CARRIED :	FEATURE INTERSECTED :
SR2030	CREEK

LOCATED :	BRIDGE NAME :	CITY :
0.3 MI.N.JCT.NC210		

FUNC. CLASS :	SYST.ON :	SYST.UNDER :	ADT & YR :	RAIL TYPE :
08	NFA	NFA	500 2012	LT 233 RT 233

BUILT :	BY :	PROJ :	FED.AID PROJ :	DESIGN LOAD :
1969	BMU			H 10

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

NAVIGATION :			HT. CRN. TO BED :		WATER DEPTH :	
VC 0 FT	HC 0 FT		13 FT		7	FT

SUPERSTRUCTURE :	PRESTRESSED CONCRETE CHANNELS(STD BMD-13)
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SUBSTRUCTURE :	EBTS&IBTS:PRESTR.CONC.CAPS/TIM.PILES
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SPANS :	1@30'6,1@30',1@30'6
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BEAMS OR GIRDERS :	12 PRESTRESSED CONCRETE CHANNEL SECTIONS
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FLOOR :	ENCROACHMENT :	DECK (OUT TO OUT) :
PPCCH/2.5 AWS		30.75 FT

CLEAR ROADWAY :	BETWEEN RAILS :	SIDEWALK OR CURB :	
29.4167 FT	30.4167 FT	LT .5 FT	RT .5 FT

VERT.CL.OVER :
999.9 FT

INV.RTG. :	OPE.RTG. :	CONTR.MEMBER :	POSTED :			
HS-6	HS-17	Pile	SV 25	TTST 28	DATE	03/09/2012

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

UNDER ROUTES AND CLEARANCES

REMARKS :

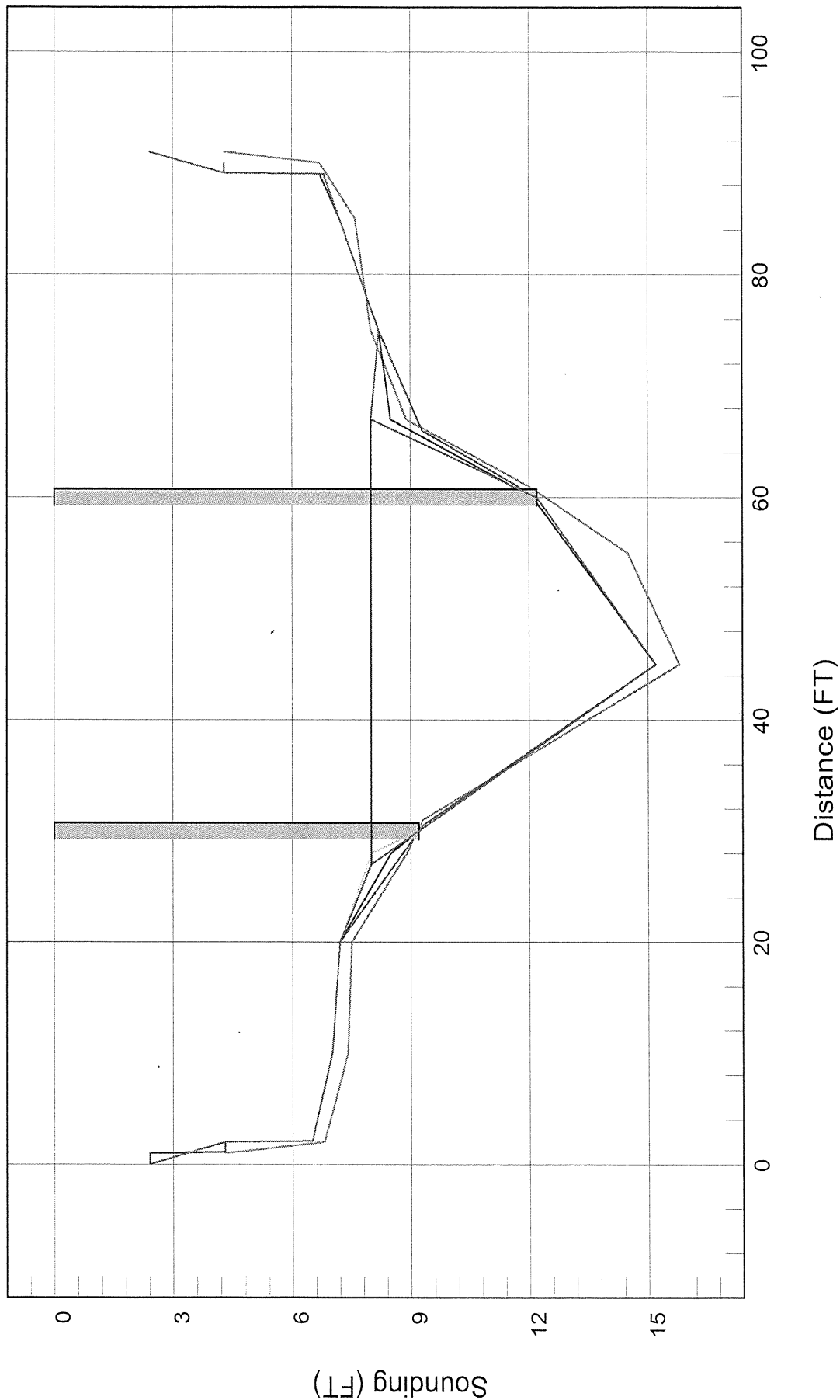
Bridge: 250042

County CUMBERLAND

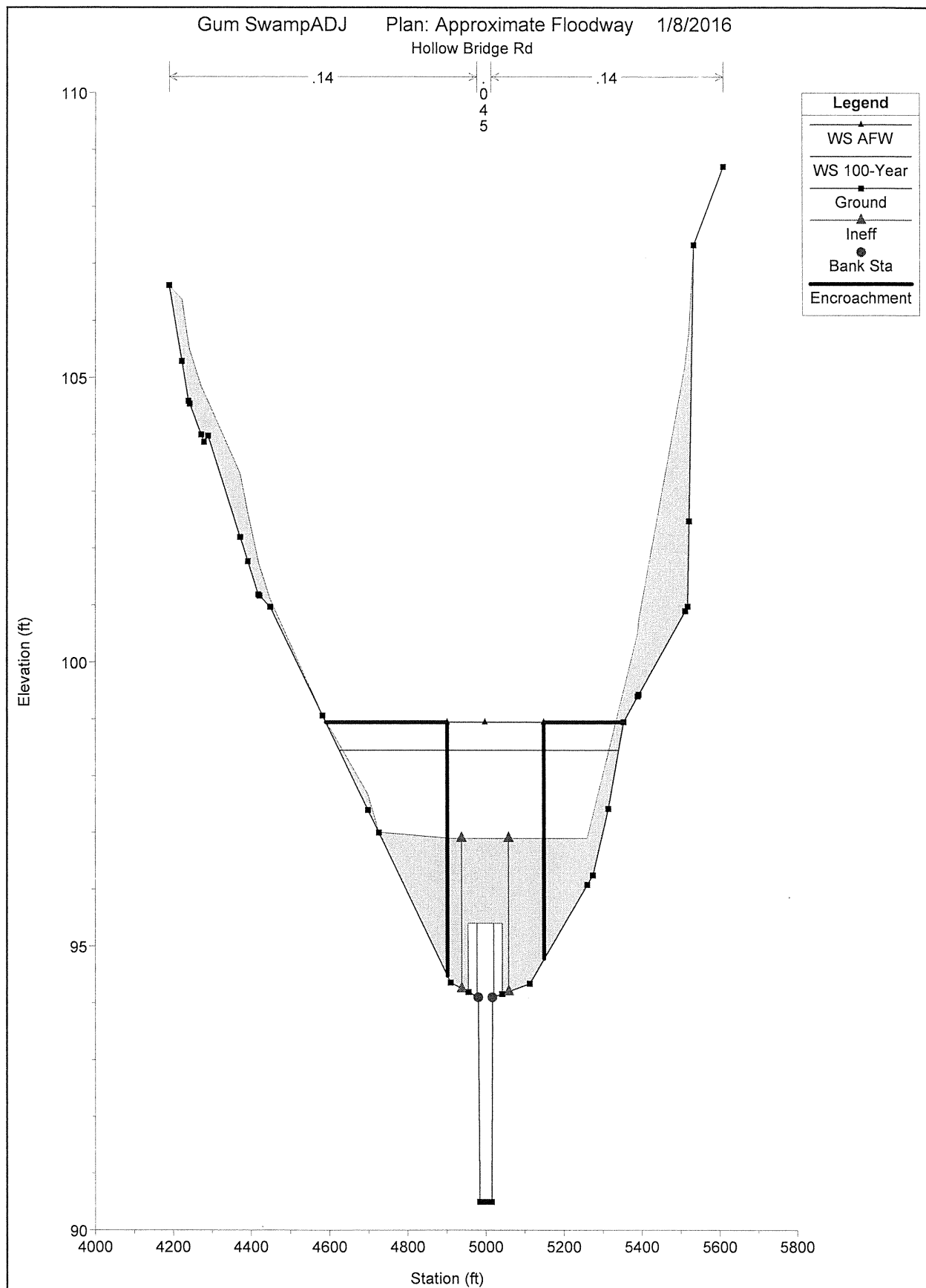
Date: 02/18/2014

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



$$13 \times 1.5 = 19.5 \times 2 = 39 + 20 + 45 = 104$$



Summary of Discharges

- x

Flooding Source

Location Drainage Area (square miles) 10% Annual Chance 20% Annual Chance 100 Annual Chance 0.2% Annual Chance

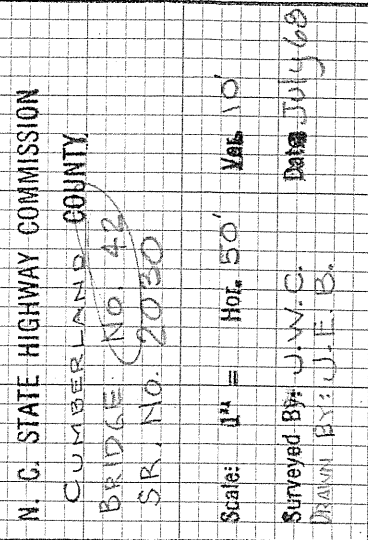
- Gum Swamp

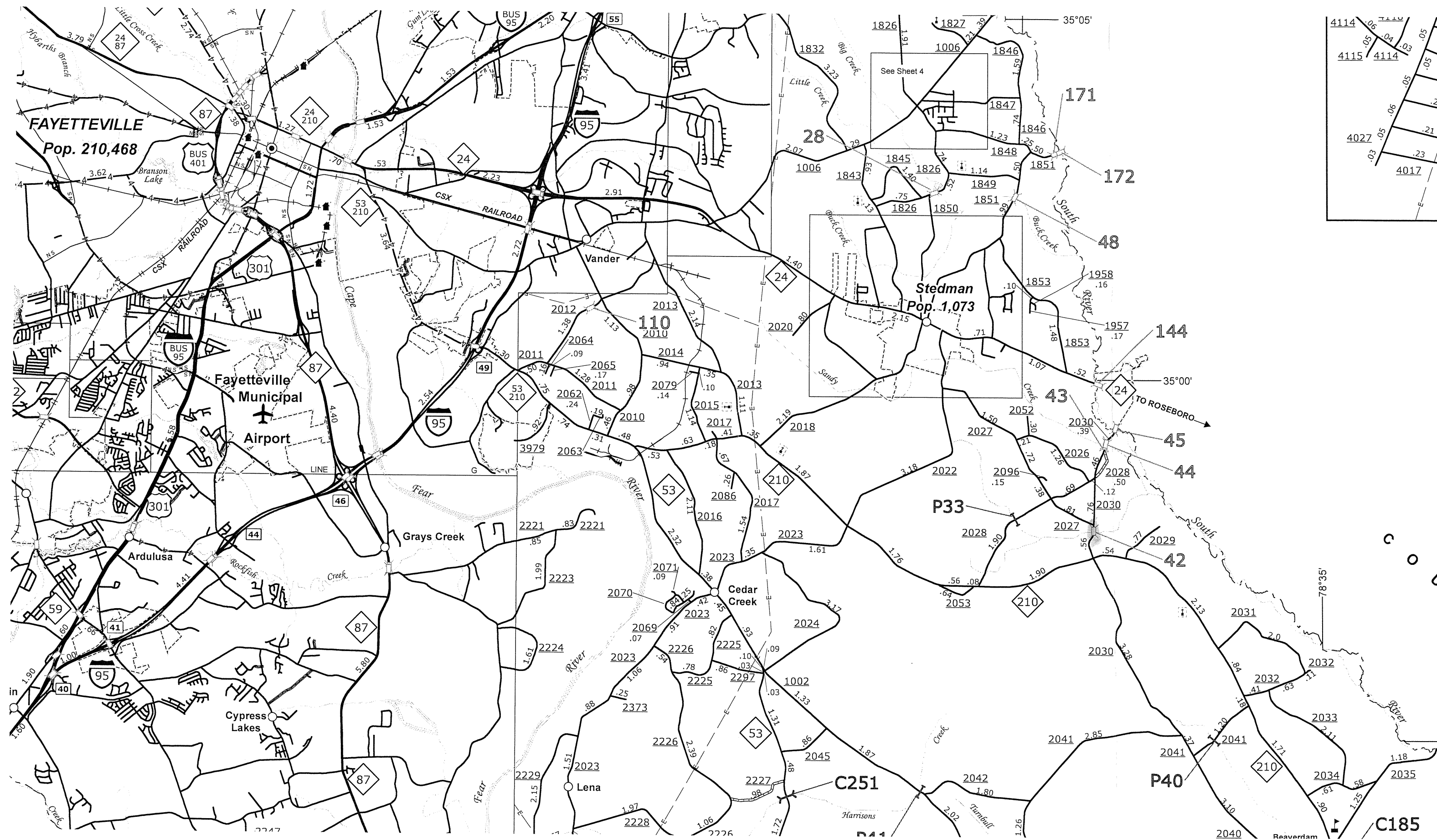
At mouth	10.10	*	*	1736	*
Approximately 0.9 mile upstream of mouth	9.60	*	*	1684	*
Approximately 490 feet downstream of Hollow Bridge Road	8.60	*	*	1584	*
Approximately 0.9 mile upstream of Hollow Bridge Road	8.00	*	*	1519	*

- South River

Approximately 1,550 feet upstream of the confluence of Gum Swamp	260.80	*	*	7007	*
Approximately 1.4 miles downstream of North Gray Street	232.00	2846	4353	5078	6857

Print





StreamStats

Delineation Results

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

StreamStats Basin Characteristics Report - G...

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

StreamStats Version 3.0

Basin Characteristics Ungaged Site Report

Date: Wed Jan 6, 2016 4:24:52 PM GMT-5

Study Area: North Carolina

NAD 1983 Latitude: 34.9653 (34 57 55)

NAD 1983 Longitude: -78.6473 (-78 38 51)

Label	Value	Units	Definition
DRNAREA	9.03	square miles	Area that drains to a point on a stream
LC06IMP	0.35	percent	Percentage of impervious area determined from NLCD 2006 impervious dataset



WATER WAY AREA OF EXISTING BRIDGE 98 FT²
THIS SITE IS NOT IN A 100 YR FLOOD ZONE
D.A. = 4.5 MI.²
Q₅₀ - 475 CFS
Q₂₅ - 361 CFS (DESIGN)
Q₁₀₀ - 575 CFS

BM: NAIL IN BASE 30" OAK
34' LEFT STA. 8+43
ELEV. 100.00 (ASSUMED)

CL STA. 10+22.15
3 @ 81x59 C.S. PIPE ARCH
90° SKEW
BED ELEV. 92.3
ON 0.0% GRADE

NATURAL GROUND LT.

WATER SURFACE ELEV. 95.7 10-13-86

5' PUSH

20 BPF @ 10'

50 BPF @ 15'

84 BPF @ 20'

250 BPF @ 25'

UPstream Structure

No Permit Req'd

Less than 200 C.Y. Below O.H.W.

75' LT.

75' RT.

N.G.

Q₂₅

BED

BED ELEV. 92.3
ON 0.0% GRADE

N.C.D.O.T.
DIVISION OF HIGHWAYS
CUMBERLAND CO.

BR. NO. 33 ON SR-2028
OVER
GALL BERRY SWAMP
SURVEY BY: P.M. ROSS, P.M.R., L.C.M.

SCALE: 1" = 50' HORIZ.
1" = 10' VERT.

OCTOBER 1986

COMPUTATIONS BY J.E.L.22

✓DRH

WOODS

TO
← NC 210

SR-2028
18' BST

N 69° E

TO
NC 24

$$H = \left[14.7 + \left(\frac{29(.035)(60)}{(1.47)^{1.35}} \right) \right] \left(\frac{4.3795}{64.4} \right)$$

$$H = \left[1 + 7 + \left(\frac{1.566}{1.669} \right) \right] \times .2978$$

$$H = (1 + .7 + .9382) \times .2978$$

$$H = .78$$

COMPUTATIONS

[illegible]

☁️%☁️%☁️%☁️%☁️%☁️

~~☁ / ☁ / ☁ / ☁~~

WOODS

WOODS

SWANK

ALL COPY