

OFFICE ESTIMATE

1@ 40, 1@ 50, 1@ 40' Bridge

Project# _____

TIP# _____

Let Date _____

PREDESIGN-PRESURVEY REPORT

WBS# 17 BP. II. R. 77

County WILKES (DIV II)

Bridge# 960405

Road# SR 1163 (KENDELL TOWN RD.)

Stream ELK CRK.

Type Of Request: POC Force Account TIP NCMA

Date 7/16/13 Name MJY

Assigned To RCH

Checked By M. W. S. 7/23/13

Prior Survey Date _____ (attach copy of prior survey) BRN BK: NO CD. FILE NO

Study By Scour Section NO

Flood Zone AE Detail Study LIMITED Date 7/07/09 Panel# 2885

B.M. Info _____

Quad Map GRANDIN Drainage Area 47.9 sq. MI. From USGS STREAM STATS
Q25 6500 cfs Q50 7700 cfs Q100 9100 cfs Method REG. EQNS / REG. 2

EXISTING BRIDGE INFORMATION

Location 150' W. JCT. SR 1162

Average Daily Traffic 90 0% TRK (2000)

Length 111' Bed-To Crown 20' Water Depth 2'

Type Structure TIM. FLOOR ON STEEL GIRDER FLOORBEAM SYSTEM; TIM CAPS, POSS. SILLS, & CONC. SILLS

Type Spans 1@ 35'-3"; 1@ 40'; 1@ 35'-3"

Upstream Structure 960702 1@ 45'-3, 1@ 42'-4" 1@ 25'-3

Location 0.03 MI. S. JCT. SR 1162

Bed-To Crown 13' (D=2') Prior Survey _____

Downstream Structure 960022 1@ 40'-3, 3@ 40' 1@ 40'-3

Location 200' W. JCT. SR 1162

Bed-To Crown 34' (D=2') Prior Survey _____

SCS Watershed _____

ENVIRONMENTAL TVA NO

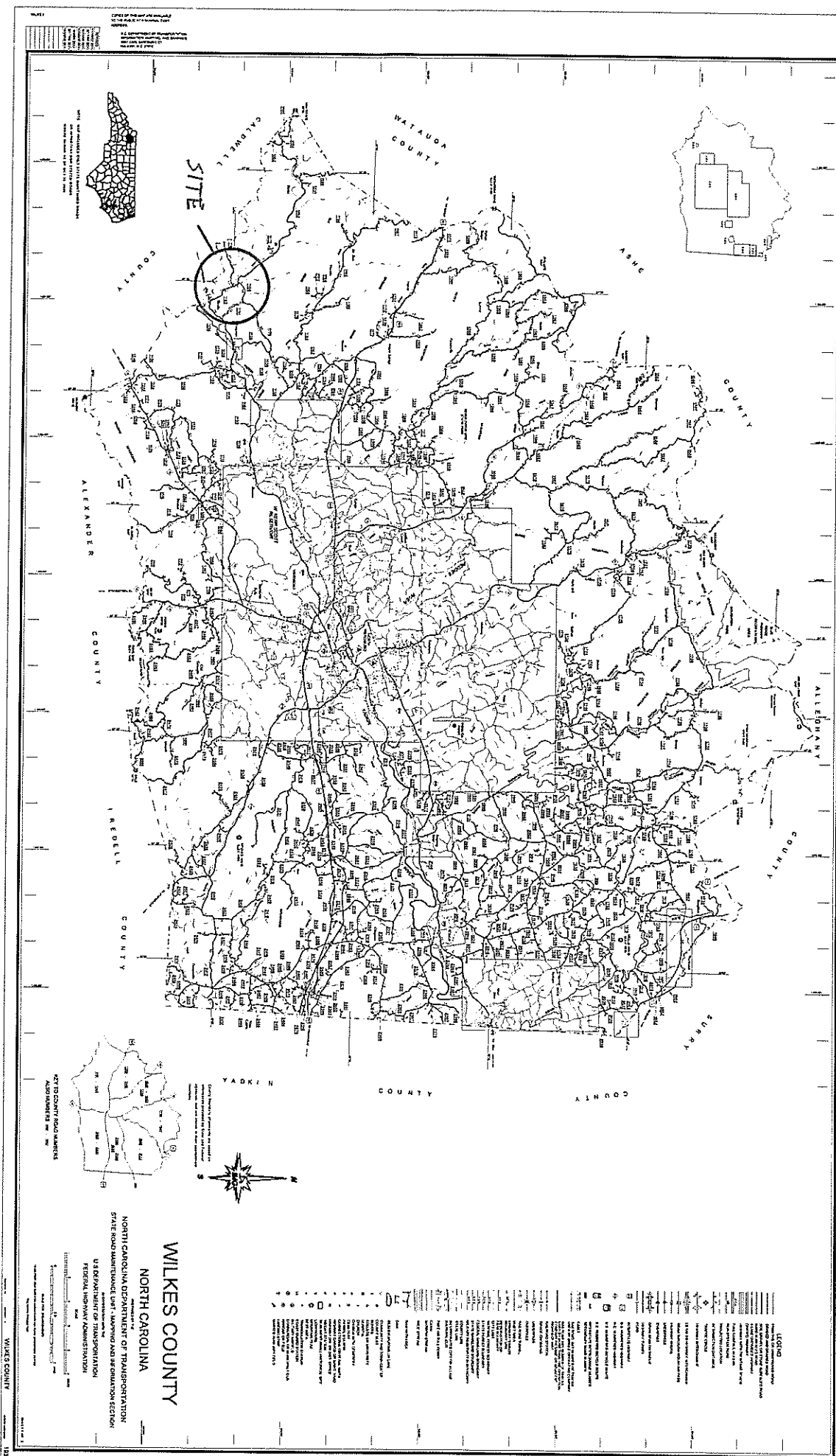
Trout Stream NO Anadromous Fish NO Primary Nursery Area NO

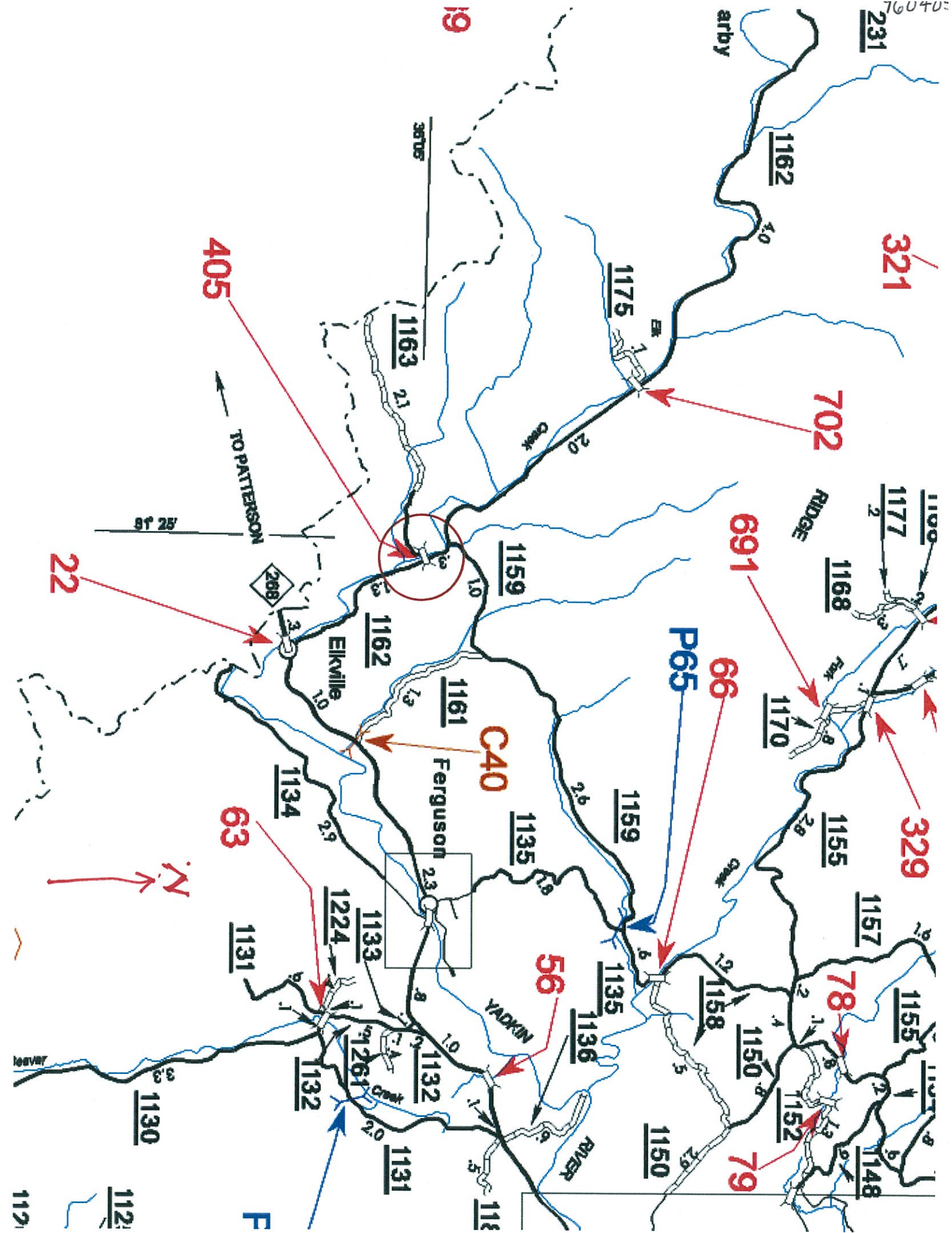
High Quality Waters YES Nutrient Sensitive Waters NO

Near Water Supply Intake NO CAMA County NO

Stream Classification B; DRW 12-24-(10)

DENR River Basin Info. YADKIN

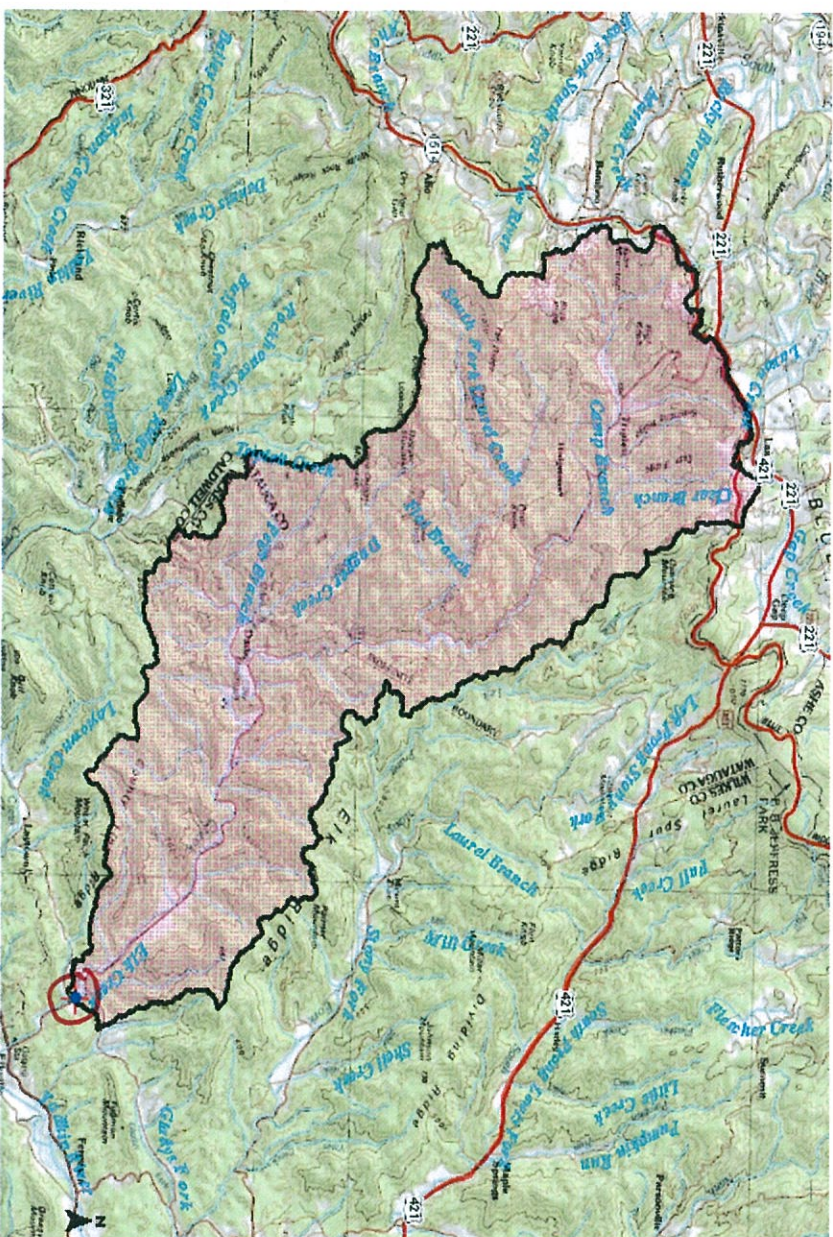




960405



StreamStats Print Page



- Explanation**
- ★ Global Watershed Point
 - SLP100SPoint
 - NCDOT Point
 - ▲ Local's ages
 - ▲ Gauging Station, Continuous Record
 - ▲ Low Flow, Partial Record
 - ▲ Peak Flow, Partial Record
 - ▲ Peak and Low Flow, Partial Record
 - ▲ Stage Only
 - ▲ Low Flow, Partial Record, Stage
 - ▲ Miscellaneous Record
 - ▲ Unknown
 - LocaINHD2
 - Longest ImpathSD
 - Stream Old
 - Global Watershed
 - Pilot Study Area
 - Inupoly

7/16/2013 9:17:19 AM



North Carolina StreamStats

Streamstats Ungaged Site Report

Date: Tue Jul 16 2013 09:20:24 Mountain Daylight Time

Site Location: North Carolina

NAD27 Latitude: 36.0839 (36 05 02)

NAD27 Longitude: -81.4149 (-81 24 54)

NAD83 Latitude: 36.0841 (36 05 03)

NAD83 Longitude: -81.4147 (-81 24 53)

Drainage Area: 47.9 mi²

Percent Urban: 2.8 %

Percent Impervious: 0.1 %

Peak Flows Region Grid Basin Characteristics			
100% Peak Southeast US 2009 5158 (47.9 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	47.9	1	9000
Percent Area in Region 1 (percent)	1.499	0	100
Percent Area in Region 2 (percent)	98.501	0	100
Percent Area in Region 3 (percent)	0.000	0	100
Percent Area in Region 4 (percent)	0.000	0	100
Percent Area in Region 5 (percent)	0.000	0	100

Urban Flows Region Grid Basin Characteristics			
100% Peak urban Blue Ridge-Piedmont FS007-00 (47.9 mi ²)			
Parameter	Value	Regression Equation Valid Range	
		Min	Max
Drainage Area (square miles)	47.9 (above max value 41)	0.04	41
Area of Impervious Surfaces (percent)	0.14 (below min value 2)	2	54.6

Warning: Some parameters are outside the suggested range. Estimates will be extrapolations with unknown errors.

Peak Flows Region Grid Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Prediction Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2	2230	35		1280	3870
PK5	3780	34		2190	6530
PK10	4960	35		2830	8710
PK25	6540	38		3590	11900
PK50	7680	40		4090	14400
PK100	9060	42		4660	17600
PK200	10200	44		5080	20600
PK500	12100	48		5710	25500

Urban Flows Region Grid Streamflow Statistics					
Statistic	Flow (ft ³ /s)	Standard Error (percent)	Equivalent years of record	90-Percent Prediction Interval	
				Minimum	Maximum
PK2U	151				
PK5U	357				
PK10U	559				
PK25U	1030				
PK50U	1400				
PK100U	1830				

960405



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BRIDGE MANAGEMENT UNIT

ATTENTION

PRIORITY MAINTENANCE
TEMPORARY REPAIRS

BRIDGE INSPECTION REPORT

INSPECTION TYPE: Routine Inspection - Contract

COUNTY WILKES BRIDGE NUMBER 960405 INSPECTION CYCLE 0 YRS
ROUTE SR1163 ACROSS ELK CREEK M.P. 0

LOCATION 150 FT.W.JCT.SR1162

SUPERSTRUCTURE TIMBER FLOOR ON STEEL GIRDER FLOORBEAM SYSTEM(BMD-3)

SUBSTRUCTURE E.BTS:TIM.CAPS/TIM.P&S;INT.BTS:TIM.CAP/TIM.P&CONC.SILL

SPANS 1 @ 35'-3; 1 @ 40'; 1 @ 35'-3

LONGITUDE 81° 24' 52.34"

LATITUDE 36° 5' 24.25"

PRESENT CONDITION FAIR

INVENTORY RATING

INSPECTION DATE 10/17/2012

OPERATING RATING

PRESENT POSTING SV 11 TTST 14 SV 11 TTST 14

PROPOSED POSTING

COMPUTER UPDATE

ANALYSIS DATE

POSTING LETTER DATE

SUFFICIENCY RATING

OTHER SIGNS PRESENT (4) DELINEATORS, (2) ONE LANE BRIDGE



WEST APPROACH LOOKING EAST

SIGN NOTICE
ISSUED FOR

NUMBERED
REQUIRED

<u>No</u>	WEIGHT LIMIT	<u></u>
<u>No</u>	DELINEATORS	<u></u>
<u>No</u>	NARROW BRIDGE	<u></u>
<u>No</u>	ONE LANE BRIDGE	<u></u>
<u>No</u>	LOW CLEARANCE	<u></u>

BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 11/19/2012

COUNTY : WILKES	DIVISION : 11	DISTRICT : 3	STRUCTURE NUMBER : 960405	LENGTH : 111 FEET
ROUTE CARRIED : SR1163		FEATURE INTERSECTED : ELK CREEK		
LOCATED : 150 FT.W.JCT.SR1162		BRIDGE NAME :		CITY :
FUNC. CLASS : 09	SYST.ON : NFA	SYST.UNDER : NFA	ADT & YR : 90 2000	RAIL TYPE : LT 227 RT 227
BUILT : 1964	BY : BMU	PROJ :	FED.AID PROJ :	DESIGN LOAD : Unknown
REHAB :	BY :	PROJ :	ALIGNMENT : TAN	SKEW : 90
			LANES : ON 1 UNDER 0	
NAVIGATION : VC 0 FT	HC 0 FT	HT. CRN. TO BED : 20 FT	WATER DEPTH : 2 FT	
SUPERSTRUCTURE : TIMBER FLOOR ON STEEL GIRDER FLOORBEAM SYSTEM(BMD-3)				
SUBSTRUCTURE : E.BTS:TIM.CAPS/TIM.P&S;INT.BTS:TIM.CAP/TIM.P&CONC.SILL				
SPANS : 1 @ 35'-3; 1 @ 40'; 1 @ 35'-3				
BEAMS OR GIRDERS : 3 LINES 21 GIRDERS;6 LINES 7 & 8 I-BEAMS/10 FLOORBEAMS				
FLOOR : 4X8 TIM/1 AWS	ENCROACHMENT :		DECK (OUT TO OUT) : 18.083 FT	
CLEAR ROADWAY : 15.833 FT	BETWEEN RAILS : 16.833 FT		SIDEWALK OR CURB : LT .5 FT RT .5 FT	
VERT.CL.OVER : 999.9 FT				
INV.RTG. : HS-1	OPE.RTG. : HS-1	CONTR.MEMBER : IntGirder	POSTED : SV 11	TTST 14 DATE 09/05/2006
SYSTEM : Secondary S.R. Route			GREEN LINE ROUTE : N	
UNDER ROUTES AND CLEARANCES				

REMARKS :

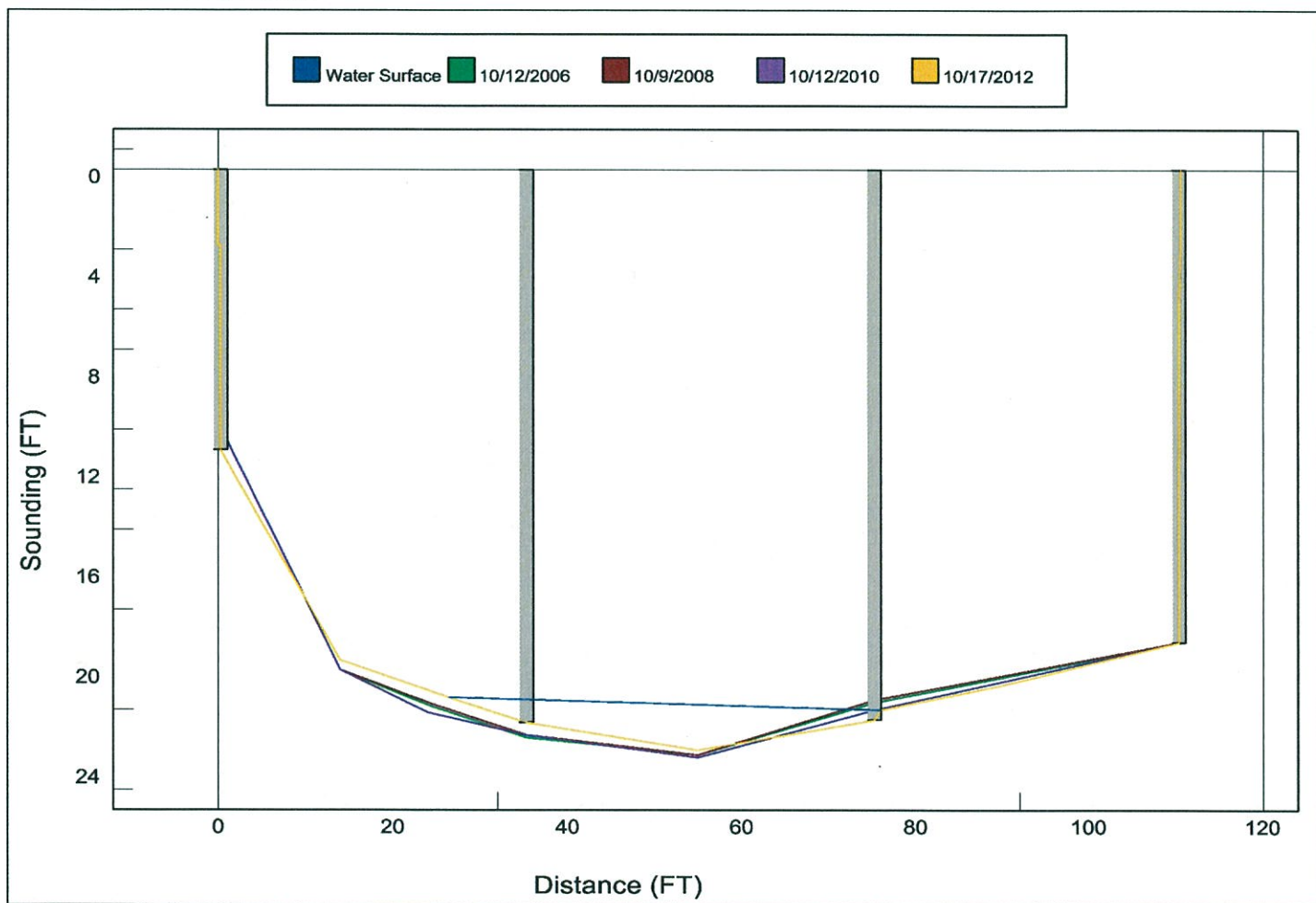
Bridge: 960405

County: WILKES

Date: 10/17/2012

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



Structure 960405

County WILKES

Date: 10/17/2012

Structure Photos



NORTH ELEVATION



SOUTH ELEVATION

760040
ZONE AE

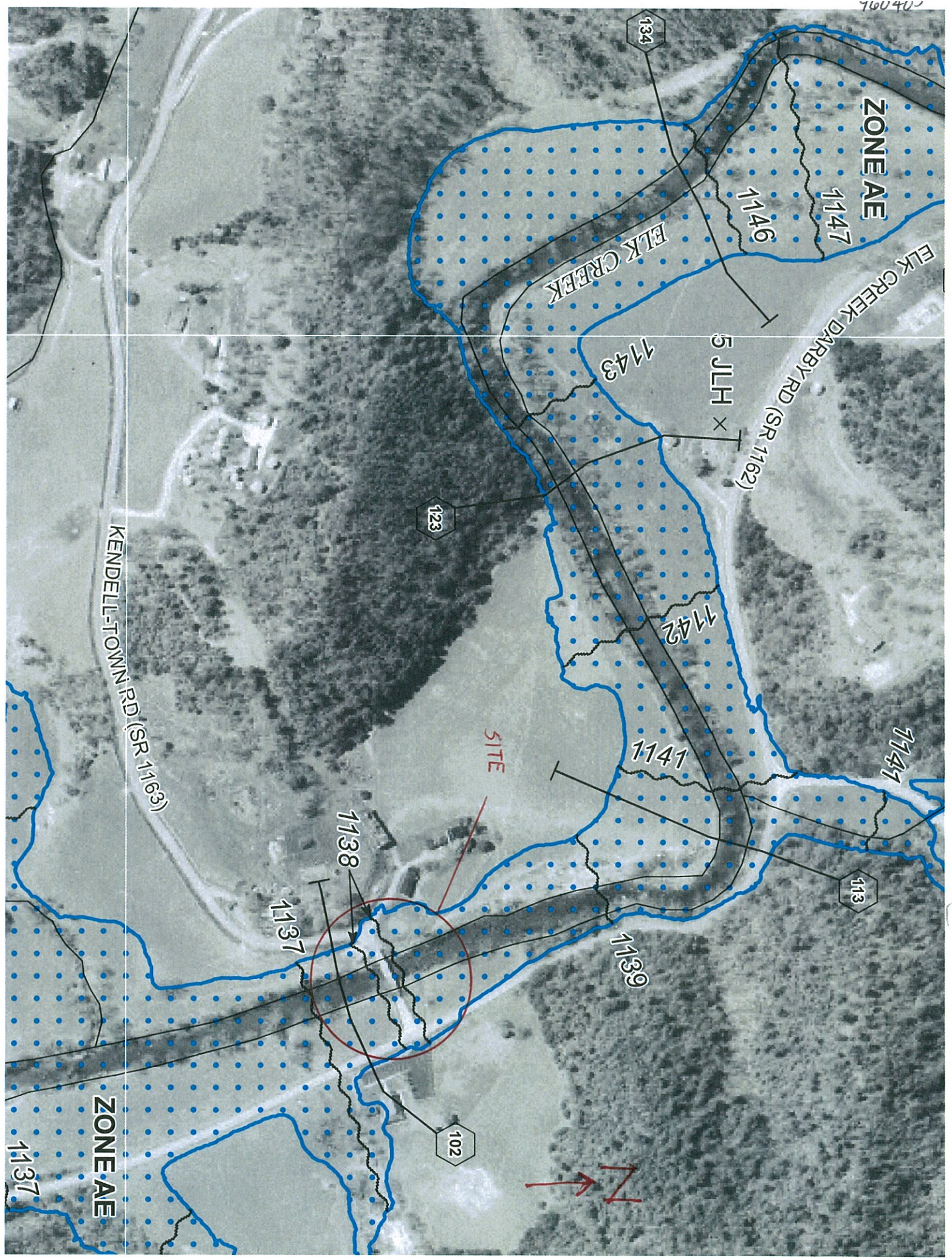
ELK CREEK

ELK CREEK DARBY RD (SR 1162)

KENDELL-TOWN RD (SR 1163)

ZONE AE

SITE



Section 5.0 – Engineering Methods

Table 11—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)
ELK CREEK				
054	5,373	28,902	1,115.9	65 / 96
059	5,900	28,557	1,123.0	161 / 69
063	6,279	28,557	1,124.0	103 / 75
069	6,879	28,557	1,126.3	156 / 78
074	7,431	28,557	1,128.8	71 / 44
077	7,740	28,557	1,129.1	69 / 51
081	8,058	28,557	1,130.8	54 / 61
085	8,464	28,557	1,131.8	41 / 43
088	8,810	28,557	1,132.3	50 / 60
091	9,133	28,557	1,136.6	250 / 70
097	9,740	27,091	1,137.0	200 / 130
102	10,154	27,091	1,137.3	175 / 65
109	10,855	27,091	1,139.1	54 / 82
113	11,253	27,091	1,140.7	48 / 157
117	11,677	26,037	1,141.6	130 / 80
119	11,949	26,037	1,142.3	142 / 64
123	12,272	26,037	1,142.5	107 / 44
126	12,610	26,037	1,143.4	146 / 40
131	13,070	26,037	1,145.2	128 / 177
134	13,387	26,037	1,145.7	161 / 56
138	13,796	26,037	1,147.1	333 / 16
143	14,310	26,037	1,147.4	141 / 37
146	14,571	26,037	1,147.5	90 / 35
148	14,845	26,037	1,147.9	50 / 170
152	15,152	26,037	1,151.9	31 / 306
158	15,768	26,037	1,152.8	68 / 216
163	16,324	25,103	1,154.2	95 / 105
167	16,716	25,103	1,154.6	49 / 105
169	16,948	25,103	1,154.9	34 / 115
172	17,210	25,103	1,156.2	60 / 106
174	17,446	25,103	1,156.9	90 / 70
178	17,783	25,103	1,160.7	205 / 130
179	17,905	25,103	1,160.7	205 / 144
186	18,607	24,790	1,161.8	101 / 147
192	19,158	24,790	1,164.1	242 / 84
196	19,644	24,790	1,164.7	373 / 55
201	20,080	24,790	1,165.2	373 / 43
204	20,394	24,790	1,165.6	377 / 36
207	20,715	24,790	1,166.0	350 / 33
211	21,073	24,790	1,166.6	425 / 33
216	21,590	24,424	1,167.9	190 / 352
224	22,404	24,424	1,169.4	197 / 390
236	23,586	23,507	1,173.4	414 / 600
240	24,002	23,507	1,174.5	229 / 314
243	24,290	23,055	1,175.2	123 / 102
252	25,161	23,055	1,181.5	67 / 129
255	25,507	23,055	1,185.6	269 / 142
261	26,123	22,114	1,187.8	101 / 54

TR. STA
0,278 BR.U.
✓

760405

RIVER STA.: 10278 BR. U. ✓

Elk Creek Limited Detail Study Plan: Floodway Run 10/17/2007
Kendell-Town Rd (ElkCk) for Structure ID: LDS_EC_03 Approximate

