

Hydraulics Unit Pre-Design Report (Pre-Scoping) for Structure #: 080197

Date: _____

County: Bladen Stream: KELLY CANAL
Road #: SR 1534 Road Name: OVER LYON RD
Division: 6 Location: 0.5 MI. N. JCT. SR 1533
Latitude: 34.49541 Longitude: -78.34345 Decimal degrees, a min of 5 decimal points

Assigned to: _____
Prepared By: E AKPUOGU
Hydro Reviewer: _____
Project Type: _____

Existing Structure

Structure Type: PRESTRESSED CONC. CHANNI Yr Built: 1967
Span Arrangement: 2@30'6 OAL (ft): 61.0 Skew: 90 Abutment Type: _____
Number of Barrels: @ Span (ft): x Rise (ft):
Bed to Crown (ft): 10.0 Clear Roadway (ft): 24.1 Water Depth (ft): 2.0 Superstructure Depth: _____
ADT: 170 Year ADT: 2012 Scour Code (item113): _____ Prior Survey Completed: No Survey Date: _____
Drainage Area: 3.0 Sq. Mi. Drainage Area Source: INDETERMINATE, BES1 Roadway Overtops at Q100: _____
Discharge Method: USGS Regression Equations USGS Region: 4- Coastal Stream Gage Number(if applicable): _____
Q10 (cfs): 345.0 Q25 (cfs): 480.0 Q50 (cfs): 600.0 Q100 (cfs): 750.0 QBFE (cfs): _____
Structure in Flood Hazard Zone: Yes Panel #: 1286 Panel Date: 01/05/2007 Type of FIS: NO STUDY Date of FIS: _____

Enviromental

DA = Indeterminate / Best Estimate

Quad Map: KELLY, NC River Basin: Cape Fear Buffer Rule: N/A

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: Nothing
Location: _____
Structure #: _____ Route: _____
Latitude: _____ Longitude: _____
Prior Survey Completed: _____ Survey Date: _____

Structure Type: _____
Span Arrangement: _____ OAL (ft): _____
Number of Barrels: _____ @ Span (ft): _____ x Rise (ft): _____
Bed to Crown (ft): _____ Year Built: _____

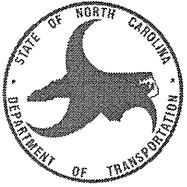
Downstream Feature: Bridge
Location: 1.0 MI. N. JCT. NC 53
Structure #: 080198 Route: SR 1536
Latitude: 34.48577 Longitude: -78.32128
Prior Survey Completed: No Survey Date: _____

Structure Type: RC Deck/ Timber Joists
Span Arrangement: 1@17'8, 1@17'1, 1@16'8 OAL (ft): 51.00
Number of Barrels: _____ @ Span (ft): _____ x Rise (ft): _____
Bed to Crown (ft): 10.0 Year Built: 1966

Preliminary Structure Estimate [Office Estimate]

Structure Type: _____ Skew: _____
Dimensions/Spans: OFFICE ESTIMATED MIN. BRG.=80'

Notes



NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURE MANAGEMENT UNIT

ATTENTION: PRIORITY MAINTENANCE, SUPERSTRUCTURE AND
SUBSTRUCTURE SKETCHES REVISED, TEMPORARY
SHORING DUE TO CONCRETE JACKET ON END
BENT 2 PILE 5

Structure Safety Report

Routine Element Inspection - Contract

COUNTY: BLADEN STRUCTURE NUMBER: 080197 FREQUENCY: 24 MONTHS

FACILITY CARRIED: SR1534 over Lyon Rd MILE POST: _____

LOCATION: 0.5 MI. N. OF JCT. SR1533

FEATURE INTERSECTED: KELLY CANAL

LATITUDE: 34° 29' 43.49" LONGITUDE: 78° 20' 36.43"
34.49541389 -78.34345278

SUPERSTRUCTURE: PRESTRESSED CONCRETE CHANNELS

SUBSTRUCTURE: E.BTS&INT.BTS:PPC CAPS/TIMBER PILES @ 5'8 CTS.

SPANS: 2 @ 30'6"

☐ FRACTURE CRITICAL ☒ TEMPORARY SHORING ☐ SCOUR CRITICAL ☐ SCOUR PLAN OF ACTION

PRESENT CONDITION: Poor INSPECTION DATE: 06/20/2016

POSTED SV: 24 POSTED TTST: 32

OTHER SIGNS PRESENT: 4 DELINEATORS



SOUTH APPROACH LOOKING NORTH

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>

INSPECTED BY H.W. HICKS, JR.	SIGNATURE 	ASSISTED BY T.L. GOINS
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BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 12/13/2016

COUNTY :
BLADENDIVISION :
6DISTRICT :
3STRUCTURE NUMBER :
080197LENGTH :
61 FEETROUTE CARRIED :
SR1534FEATURE INTERSECTED :
KELLY CANALLOCATED :
0.5 MI.N. OF JCT.SR1533

BRIDGE NAME :

CITY :

FUNC. CLASS :
09SYST.ON :
NFASYST.UNDER :
NFAADT & YR :
170 2012RAIL TYPE :
LT 233 RT 233BUILT :
1967BY :
BMUPROJ :
5.4251

FED.AID PROJ :

DESIGN LOAD :
H 10

REHAB :

BY :
DBM

PROJ :

ALIGNMENT :
TAN.SKEW :
90LANES :
ON 2 UNDER 0NAVIGATION :
VC 0 FT

HC 0 FT

HT. CRN. TO BED :
10 FTWATER DEPTH :
2 FT

SUPERSTRUCTURE : PRESTRESSED CONCRETE CHANNELS

SUBSTRUCTURE : E.BTS&INT.BTS:PPC CAPS/TIMBER PILES @ 5'8 CTS.

SPANS : 2 @ 30'6

BEAMS OR GIRDERS : 10 LINES PRESTRESSED CONCRETE CHANNEL SECTIONS

FLOOR :
PPCCH/2 AWS

ENCROACHMENT :

DECK (OUT TO OUT) :
25.583 FTCLEAR ROADWAY :
24.083 FTBETWEEN RAILS :
25.042 FTSIDEWALK OR CURB :
LT .4795 FT RT .4795 FTVERT.CL.OVER :
999.9 FTINV.RTG. :
HS-1OPE.RTG. :
HS-1CONTR.MEMBER :
Timber PilePOSTED :
SV 24

TTST 32 DATE 09/02/2008

SYSTEM :
Secondary S.R. RouteGREEN LINE ROUTE :
N

UNDER ROUTES AND CLEARANCES

REMARKS :

C, SW
Cape Fear

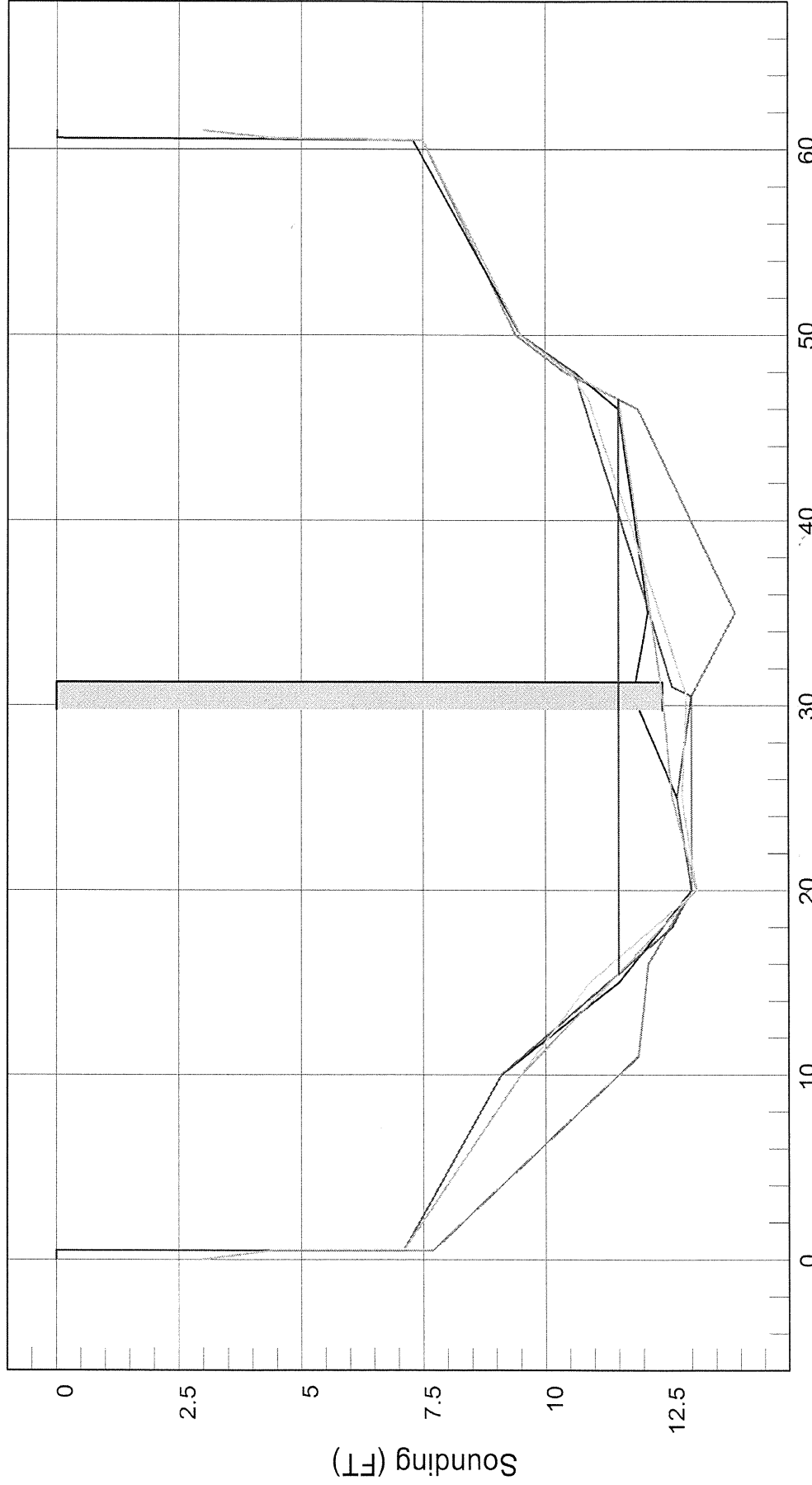
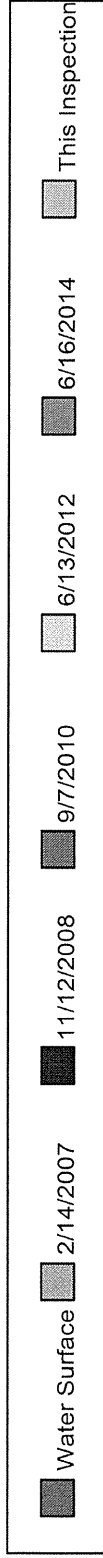
Bridge: 080197

County BLADEN

Date:

STREAMBED PROFILE (Downstream)

Top of Rail = 0 FT (Sounding)



$$10 \times 1.5 = 15 \times 2 = 30 + 20 + 30 = 80$$

Distance (FT)

StreamStats Report

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

NC
NC20180613173212552000
34.49558, -78.34374
2018-06-13 13:32:27 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.37	square miles
I24H50Y	Maximum 24-hour precipitation that occurs on average once in 50 years	8.91	inches
LC11IMP	Average percentage of impervious area determined from NLCD 2011 impervious dataset	0.27	percent

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BRIDGE MANAGEMENT UNIT

DATA ON EXISTING STRUCTURE

Run Date: 11/01/2016

COUNTY : BLADEN DIVISION : 6 DISTRICT : 3 STRUCTURE NUMBER : 080198 LENGTH : 51 FEET

ROUTE CARRIED : SR1536 FEATURE INTERSECTED : KELLY CREEK

LOCATED : 1.0 MI N. JCT NC53 BRIDGE NAME : CITY :

FUNC. CLASS : 09 SYST.ON : NFA SYST.UNDER : NFA ADT & YR : 40 2000 RAIL TYPE : LT 227 RT 227

BUILT : 1966 BY : BMU PROJ : FED.AID PROJ : DESIGN LOAD : Unknown

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

NAVIGATION : VC 0 FT HC 0 FT HT. CRN. TO BED : 10 FT WATER DEPTH : 1 FT

SUPERSTRUCTURE : TIMBER FLOOR ON TIMBER JOISTS

SUBSTRUCTURE : EBTS&IBTS:TIMBER CAP/TIMBER PILES @ VAR.CTS.

SPANS : 1@17'8,1@17'1;1@16'8

BEAMS OR GIRDERS : 18 LINES 6X12 TIMBER JOISTS@1'5 CENTERS

FLOOR : 4X8 TIM/1.5" AWS ENCROACHMENT : DECK (OUT TO OUT) : 25.417 FT

CLEAR ROADWAY : 24 FT BETWEEN RAILS : 25 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 : Timber Joist POSTED : SV 15 TTST 22 DATE 09/02/2008

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

UNDER ROUTES AND CLEARANCES

Downstream Structure

REMARKS :

