



North Carolina Department of Transportation

Highway Stormwater Program  
STORMWATER MANAGEMENT PLAN  
FOR NCDOT PROJECTS



(Version 2.07; Released October 2016)

WBS Element: SF-530072      TIP No.: 17.BP.2.R.72      County(ies): Lenoir      Page 1 of 2

General Project Information

WBS Element:	SF-530072	TIP Number:	17.BP.2.R.72	Project Type:	Bridge Replacement	Date:	11/10/2017
NCDOT Contact:	Hon Yeung		Contractor / Designer:		Richard A. Moore, PE, McKim & Creed		
Address:	1020 Birch Ridge Drive Raleigh, NC 27610		Address:	243 North Front Street Wilmington, NC 28401			
	Phone:	252-439-2800		Phone:	910-343-1048		
	Email:	hfyung@ncdot.gov		Email:	ramoore@mckimcreed.com		
City/Town:	La Grange, NC		County(ies):	Lenoir			
River Basin(s):	Neuse		CAMA County?	No			
Wetlands within Project Limits?	No						

Project Description

Project Length (lin. miles or feet):	650 feet	Surrounding Land Use:	Residential, Agricultural, Undeveloped				
	Proposed Project		Existing Site				
Project Built-Up Area (ac.)	0.4	ac.	0.4	ac.			
Typical Cross Section Description:	The bridge replacement is proposed to be a two (2) span 21" cored slab bridge: 1 @ 50' and 1 @ 25'. The replacement will be along the current existing roadway alignment in the same location. 30'-0" bridge width with 27'-10" clear roadway. 2-10' lanes 0.5% slope with 3'-11" shoulder.			The existing bridge has an asphalt wearing surface on a reinforced concrete deck with three (3) spans: 1 @ 18'-7", 1 @ 18'-3" and 1 @ 18'-7". The bridge deck is supported by I-beams on end bents and interior bents made of reinforced concrete caps on timber piles.			
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	N/A	Year:	Existing:	Year:		
General Project Narrative: (Description of Minimization of Water Quality Impacts)	This bridge replacement project is located northwest of La Grange, NC and is in the Neuse River Basin. The total project length is 650 feet along the existing SR1502 roadway alignment. The project is located within a 16.2 square mile Bear Creek drainage area which has a classification of C;Sw,NSW. The project's drainage system consists of four (4) proposed catch basins that direct runoff to the creek through a pipe network to an outfall. A rip rap pad is proposed at the pipe outlet to provide diffuse flow before runoff enters Buffer Zone 2. The outfall and rip rap pad are located on the upstream side of the bridge and outside of the buffer zones.						

Waterbody Information

Surface Water Body (1):	Bear Creek		NCDWR Stream Index No.:	27-72-(0.1)a				
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C					
	Supplemental Classification:		Swamp Waters (Sw) (NSW)					
Other Stream Classification:	None							
Impairments:	None							
Aquatic T&E Species?	No	Comments:						
NRTR Stream ID:	N/A		Buffer Rules in Effect:		Neuse			
Project Includes Bridge Spanning Water Body?	Yes	Deck Drains Discharge Over Buffer?	No	Dissipator Pads Provided in Buffer?				No
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)				
(If yes, provide justification in the General Project Narrative)								

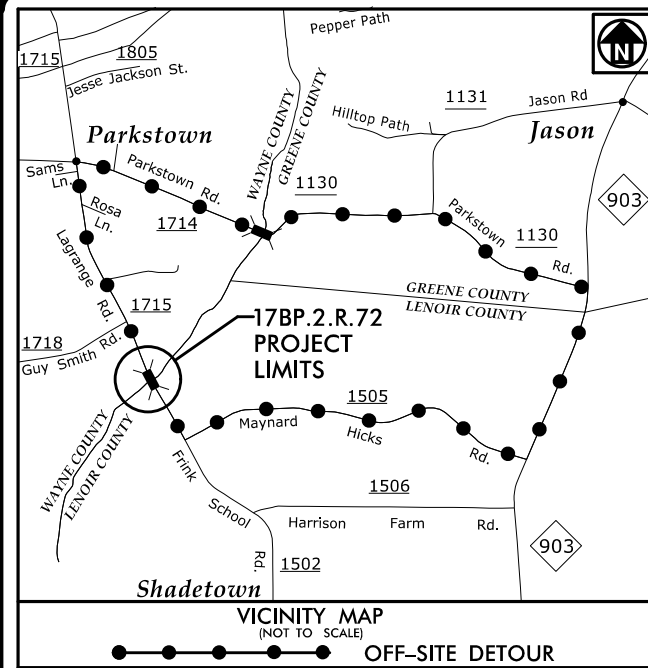






**CONTRACT: TIP PROJECT: 17BP.2.R.72**

**CONTRACT:**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**LENOIR-WAYNE COUNTIES**

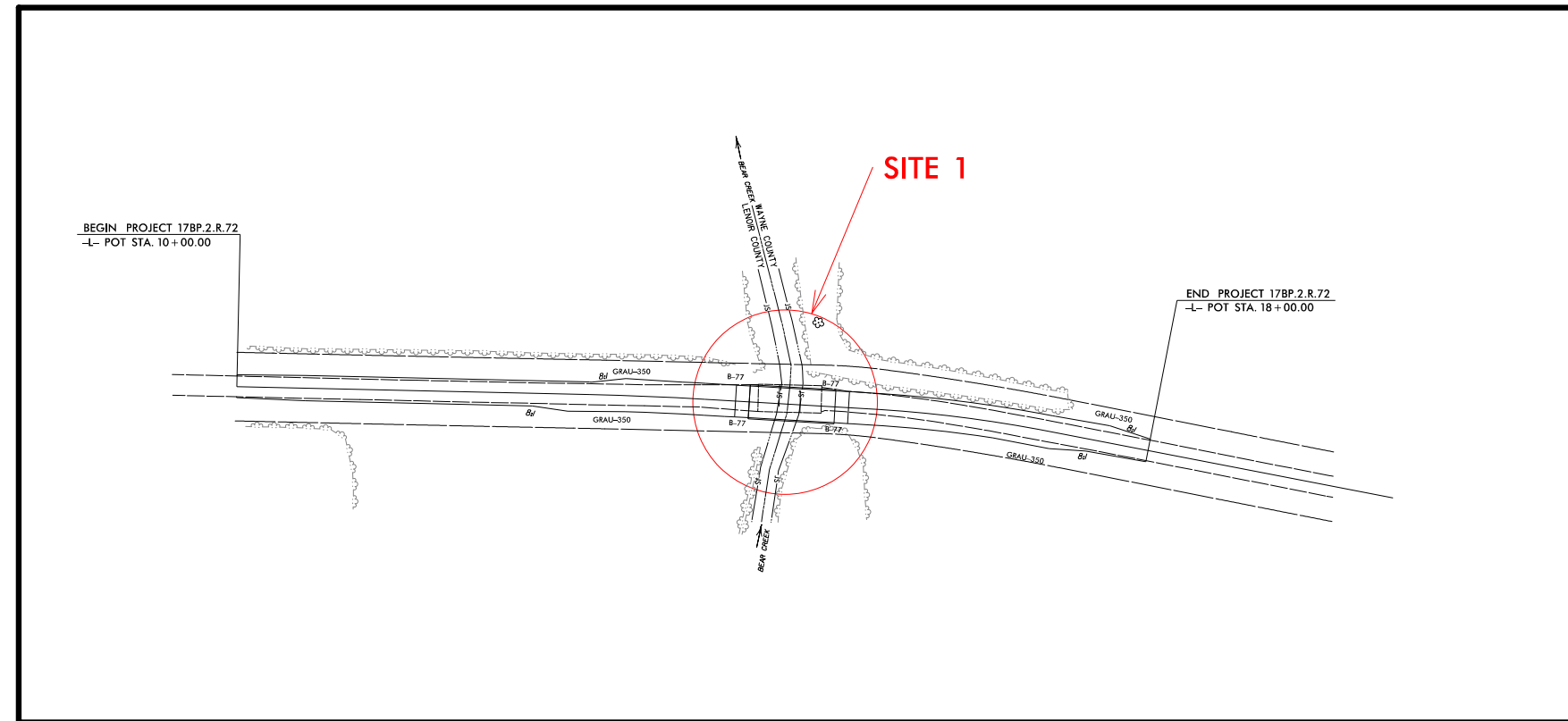
LOCATION: BRIDGE NO. 72 OVER BEAR CREEK ON SR 1502 (FRINK SCHOOL ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

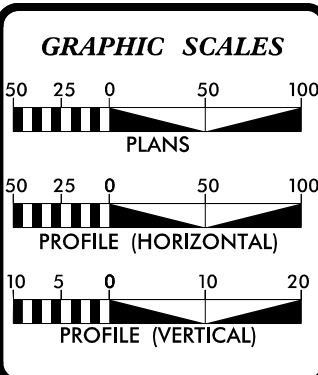
**BUFFER IMPACTS PERMIT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.R.72	1	
STATE PROJECT NO.	P.A. PROJ. NO.	DESCRIPTION	
17BP.2.R.72		P.E.	

**PERMIT DRAWING  
SHEET 1 OF 7**



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



**DESIGN DATA**

ADT 2011 = 390  
ADT 2025 = ?  
T = 6%  
V = 55 MPH

FUNCTIONAL CLASS. =  
LOCAL  
SUB REGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT = 0.138 MILES

LENGTH STRUCTURE TIP PROJECT = 0.014 MILES

TOTAL LENGTH TIP PROJECT = 0.152 MILES

Prepared In the Office of Mott MacDonald for  
**DIVISION 2**  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2012 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
AUGUST 23, 2017

**LETTING DATE:**  
DECEMBER 20, 2017

**DAVID C. WALLER, PE**  
PROJECT ENGINEER

**RICHARD MOORE, PE**  
HYDRAULIC ENGINEER

**HON YEUNG, PE**  
NCDOT BRIDGE PROGRAM MANAGER

**ROADWAY DESIGN ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**HYDRAULICS ENGINEER**

SIGNATURE: \_\_\_\_\_ P.E.

**PLANS PREPARED BY:**

**M M**  
MOTT  
MACDONALD

PO Box 700  
Fuquay-Varina, NC 27526  
(919) 552-2253  
(919) 552-2254 (Fax)  
www.mottmac.com/americas

LICENSE NO. F-0669

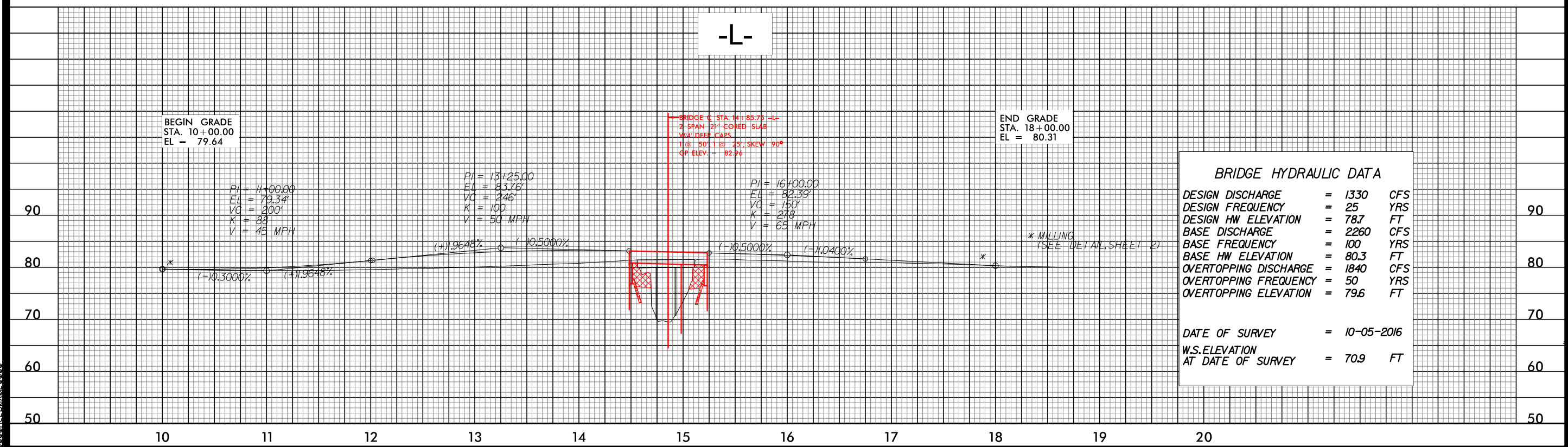
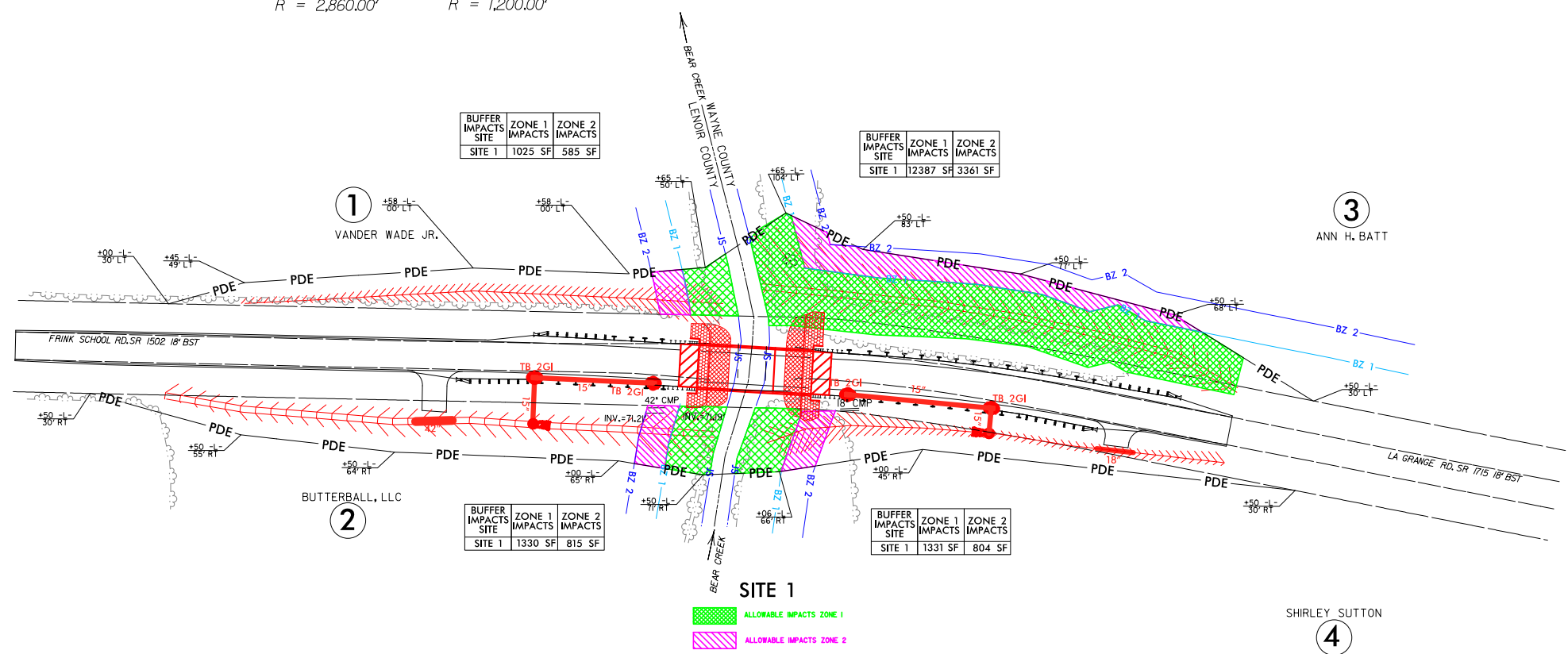
**MCKIM & CREED**  
NC LICENSE #F-1222  
243 NORTH FRONT STREET  
WILMINGTON, NORTH CAROLINA 28401  
TEL: (910) 343-1048 FAX: (910) 790-6262

DATE: 8/18/2017 2:42:37 PM  
SYSTEM: DGN  
USER: MOTT

**PERMIT DRAWING  
SHEET 2 OF 7**

PROJECT REFERENCE 17BP.2.R.72 - LENOIR 72	SHEET NO. 2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION</b>	
MOTT MACDONALD I & E, LLC LICENSE NO. F-0669	
<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
Prepared in the Office of:	<b>M</b> PO Box 700 Furqay-Vasno, NC 27526 MOTT MACDONALD www.mottmac.com/merkos
<b>MCKIM &amp; CREED</b> INCORPORATED 243 NORTH FRONT STREET WILMINGTON, NORTH CAROLINA 28401 TEL: (910) 343-1048 FAX: (910) 796-8282	
VERTICAL SCALE 5' 0 5 10'	HORIZONTAL SCALE 25' 0 25 50'

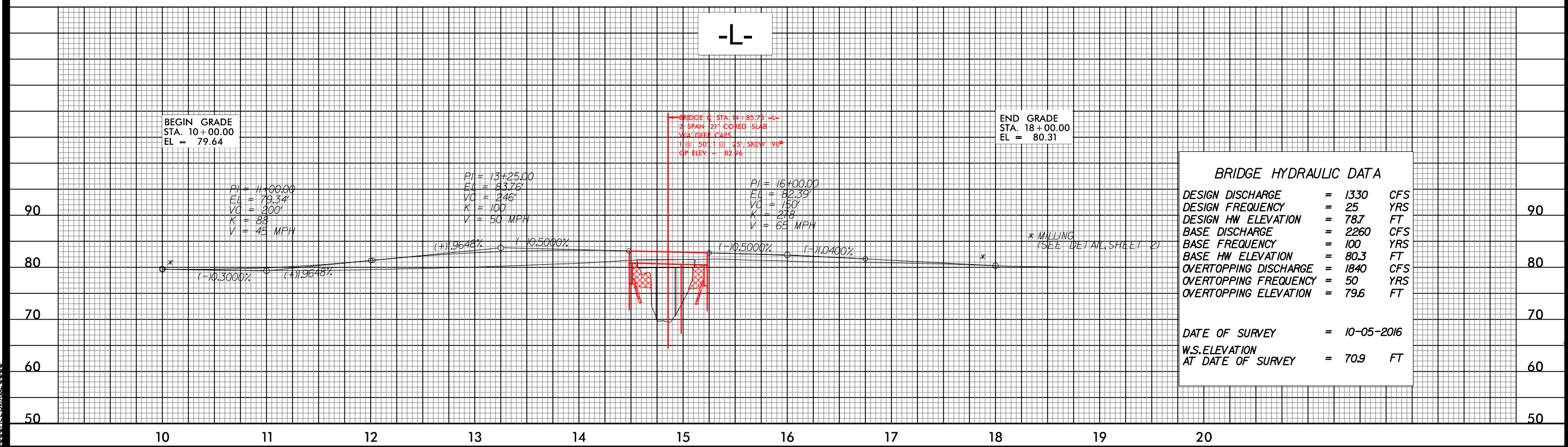
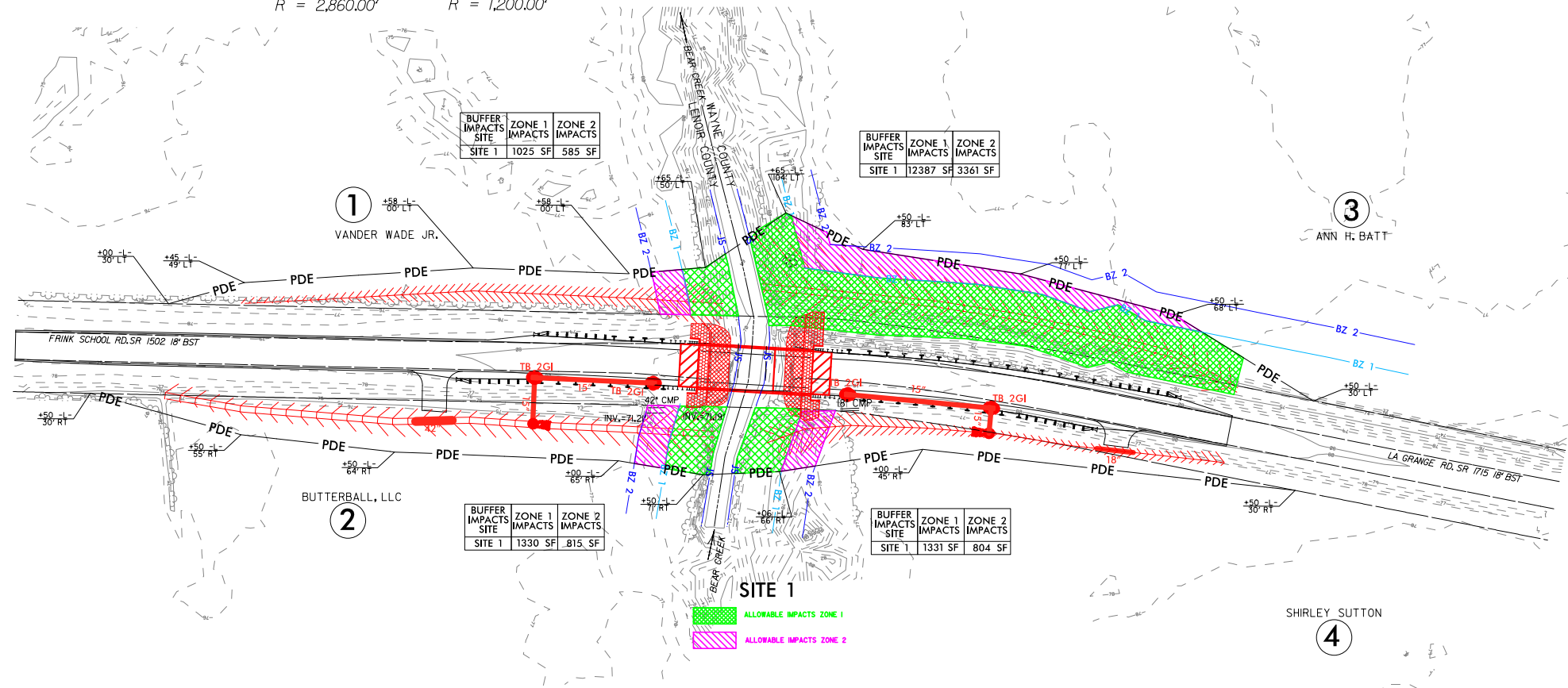
-L-  
PI Sta 13+58.75    PI Sta 16+32.39  
Δ = 2° 01' 35.6" (RT)    Δ = 7° 37' 46.2" (RT)  
D = 2° 00' 12.1"    D = 4° 46' 28.7"  
L = 101.16'    L = 159.79'  
T = 50.58'    T = 80.01'  
R = 2,860.00'    R = 1,200.00'



**PERMIT DRAWING  
SHEET 3 OF 7**

PROJECT REFERENCE 17BP.2.R.72 - LENOIR 72	SHEET NO. 2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>INCOMPLETE PLANS</b> DO NOT USE FOR R/W ACQUISITION	
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<b>MCKIM &amp; CREED</b> INCORPORATED 243 NORTH FRONT STREET WILMINGTON, NORTH CAROLINA 28401 TEL: (910) 343-1048 FAX: (910) 796-8282	
VERTICAL SCALE 1" = 5'	HORIZONTAL SCALE 1" = 25'

-L-  
 PI Sta 13+58.75    PI Sta 16+32.39  
 $\Delta = 2^\circ 01' 35.6" (RT)$      $\Delta = 7^\circ 37' 46.2" (RT)$   
 $D = 2^\circ 00' 12.1"$      $D = 4^\circ 46' 28.7"$   
 $L = 101.16'$      $L = 159.79'$   
 $T = 50.58'$      $T = 80.01'$   
 $R = 2,860.00'$      $R = 1,200.00'$



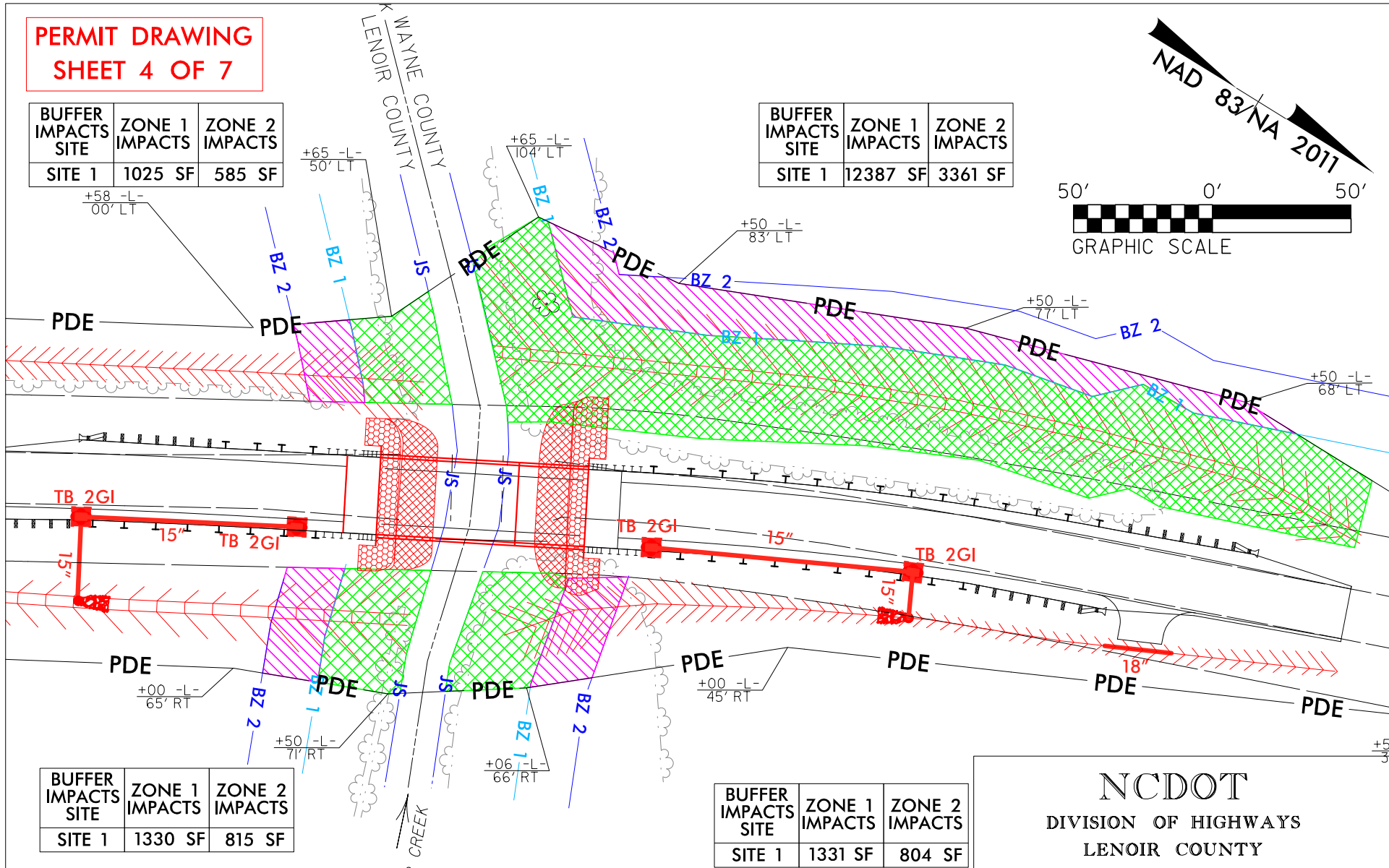
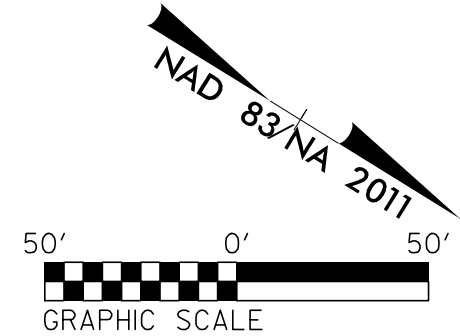
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 SYSTEM: 17BP.2.R.72 - LENOIR 72  
 DRAWING: 17BP.2.R.72 - LENOIR 72 - SHEET 3 OF 7



**PERMIT DRAWING  
SHEET 4 OF 7**

BUFFER IMPACTS SITE	ZONE 1 IMPACTS	ZONE 2 IMPACTS
SITE 1	1025 SF	585 SF

BUFFER IMPACTS SITE	ZONE 1 IMPACTS	ZONE 2 IMPACTS
SITE 1	12387 SF	3361 SF



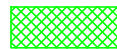
BUFFER IMPACTS SITE	ZONE 1 IMPACTS	ZONE 2 IMPACTS
SITE 1	1330 SF	815 SF

BUFFER IMPACTS SITE	ZONE 1 IMPACTS	ZONE 2 IMPACTS
SITE 1	1331 SF	804 SF

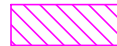
**PLAN VIEW**

**SITE 1**

THE HISTORIC HIGH WATER MARK COULD NOT BE DETERMINED BY PHYSICAL OR PAROLE EVIDENCE



ALLOWABLE IMPACTS ZONE 1



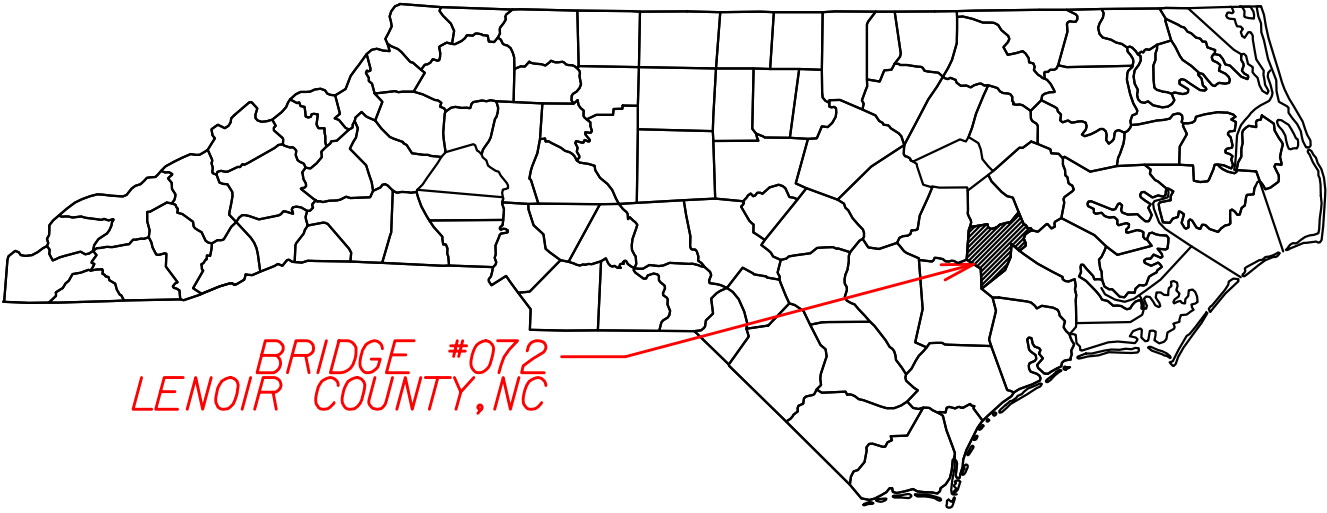
ALLOWABLE IMPACTS ZONE 2

**NCDOT**  
 DIVISION OF HIGHWAYS  
 LENOIR COUNTY  
 PROJECT: 17BP.2.R.72 (SF-530072)  
 REPLACE BRIDGE #072  
 ON SR 1502 OVER  
 BEAR CREEK

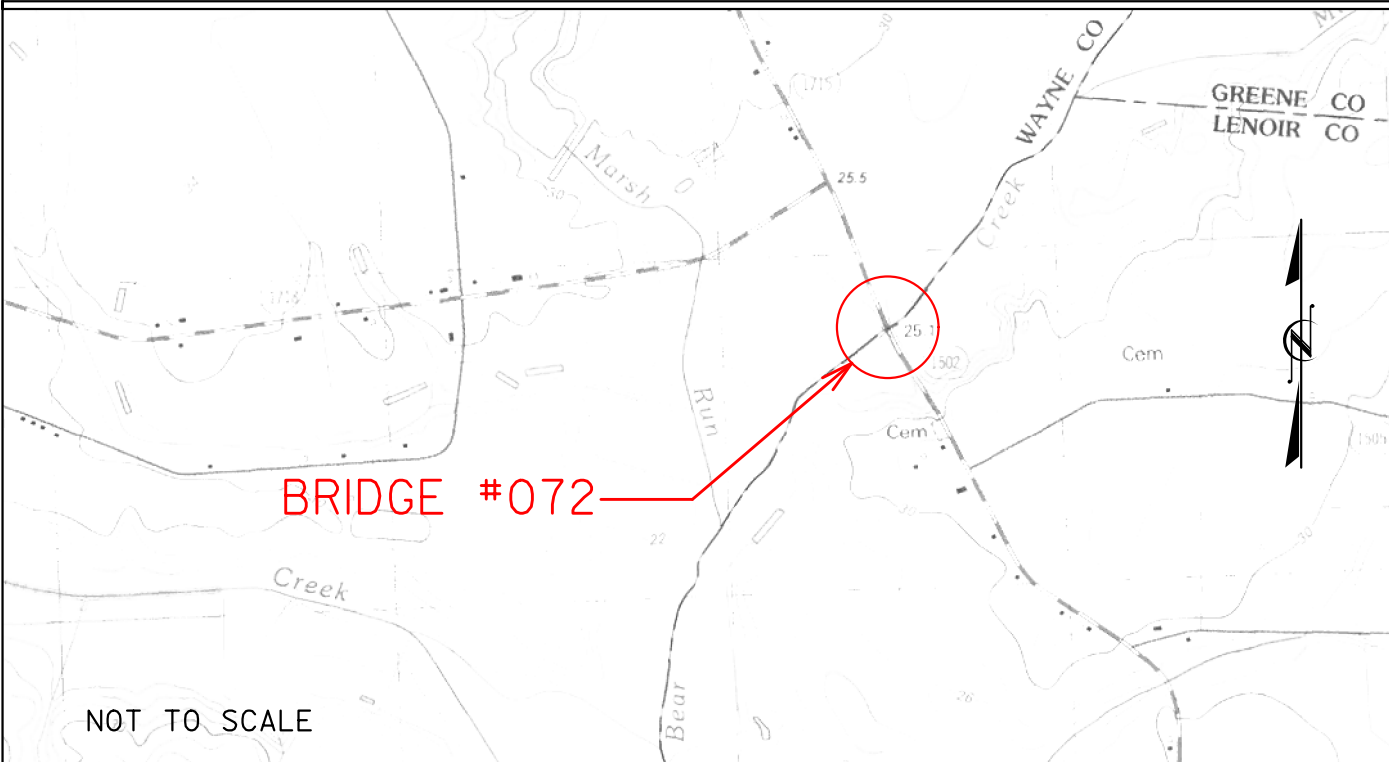
8 / 18 / 17



# NORTH CAROLINA



BRIDGE #072  
LENOIR COUNTY, NC



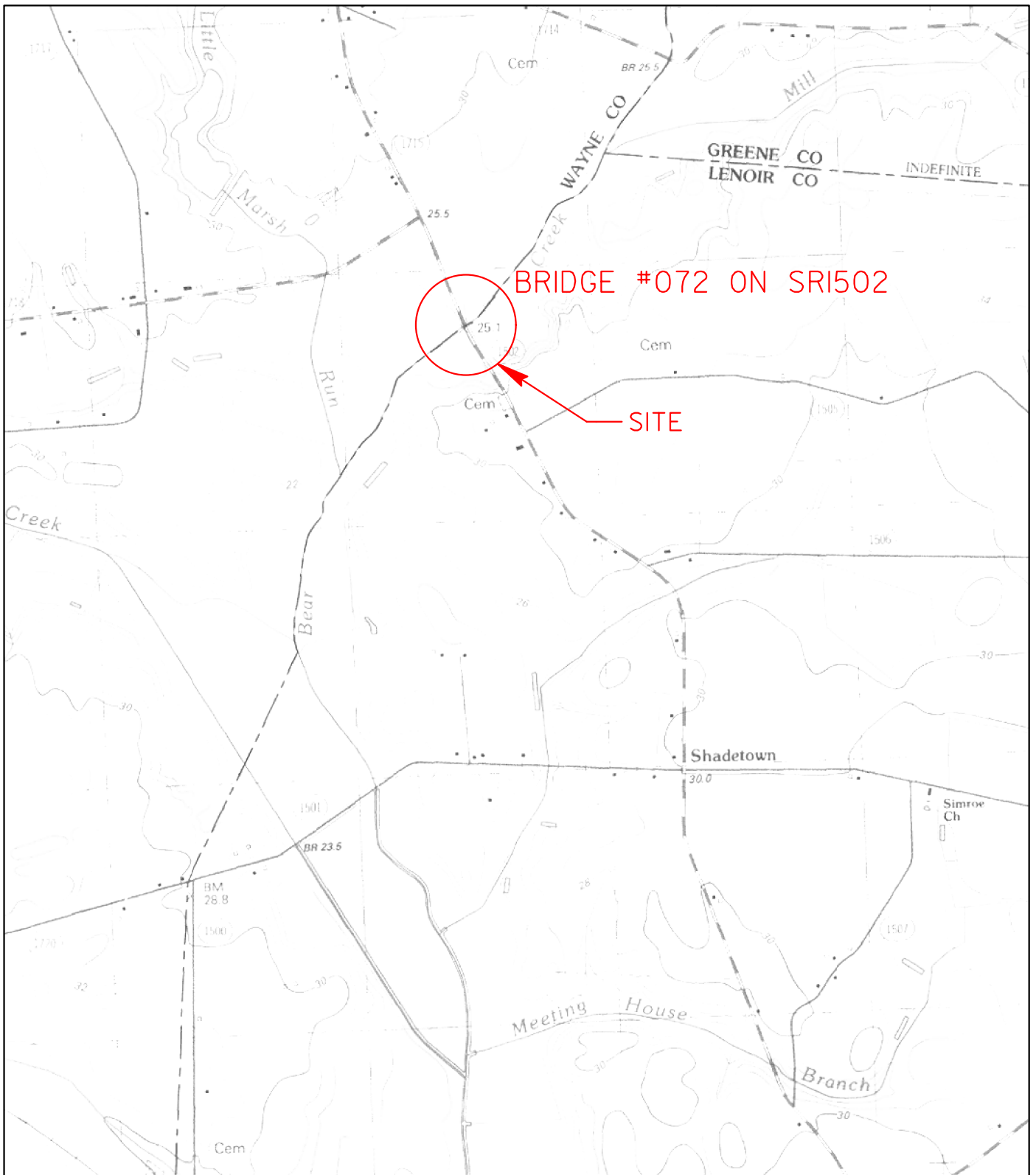
BRIDGE #072

NOT TO SCALE

VICINITY  
MAP  
NOT TO SCALE

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**LENOIR COUNTY**  
**PROJECT: 17BP.2.R.72 (SF-530072)**  
**REPLACE BRIDGE #072**  
**ON SR 1502 OVER**  
**BEAR CREEK**

8/18/17



**PERMIT DRAWING  
SHEET 6 OF 7**

**USGS  
MAP**

NOT TO SCALE

**N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
LENOIR COUNTY**

**PROJECT: 17BP.2.R.72 (SF-530072)**

**REPLACE BRIDGE #072  
ON SR 1502 OVER  
BEAR CREEK**

**PROPERTY OWNERS**  
**NAMES AND ADDRESSES**

<b>PARCEL NO.</b>	<b>NAMES</b>	<b>ADDRESSES</b>
1	VANDER WADE JR.	5326 FRINK SCHOOL RD LAGRANGE, NC 28551
2	BUTTERBALL, LLC	ONE BUTTERBALL LANE GARNER, NC 27529
3	ANN H. BATT	128 BOWEN ST ATLANTIC BEACH, NC 28512
4	SHIRLEY SUTTON	424 LA GRANGE ROAD LA GRANGE, NC 28551

**PERMIT DRAWING**  
**SHEET 7 OF 7**

**NCDOT**  
**DIVISION OF HIGHWAYS**  
**LENOIR COUNTY**  
**PROJECT: 17BP.2.R.72 (SF-530072)**  
**REPLACE BRIDGE #072**  
**ON SR 1502 OVER**  
**BEAR CREEK**

8/18/17