

### STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT SECRETARY

October 12, 2006

U. S. Army Corps of Engineers Regulatory Field Office Post Office Box 1000 Washington, NC 27889-1000

Attention:

Mr. William Wescott

**NCDOT** Coordinator

Dear Sir:

Subject:

Nationwide 12 & 23 Permit Application and Neuse River Buffer Authorization for the Replacement of Bridge No. 128 on SR 1515 over Mosely Creek in Lenoir County. Federal Project No. BRZ- 1515[3], State Project No.

8.2200401, TIP No. B-4174.

Please find enclosed the Pre-Construction Notification form (PCN), permit drawings, utility plans, Categorical Exclusion (CE), Natural Resource Technical Report (NRTR), and half-size plan sheets for the above referenced project. The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 128 on SR 1151 over the Mosely Creek (DWQ Index # 27-77-2) in Lenoir County. The project involves replacement of the existing structure with an 85-foot bridge at approximately the same location and a slightly higher roadway elevation, using top-down construction. The approach roadway will consist of two 12-foot travel lanes with shoulder widths of at least 8 feet. Permanent impacts will consist of <0.001 acre to surface waters, 0.23 acre of to wetlands adjacent to Mosely Creek, and 6,910 ft<sup>2</sup> of riparian buffer. Traffic will be detoured off-site, along surrounding roads, during construction. The project schedule calls for a March 20, 2007 Let date with a review date of January 30, 2007.

### **Impacts To Waters of the United States**

General Description: The project is located in the Neuse River Basin (HUC 03020202). A best usage classification of "C Sw NSW" has been assigned to Mosely Creek. Neither High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), listed Section 303(d) impairments, nor Outstanding Resource Waters (ORW) occur within 1.0 mile (1.6 km) of project study area. Mosely Creek is not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River.

TELEPHONE: 919-733-3141 FAX: 919-733-9794

WEBSITE: WWW.NCDOT.ORG

<u>Permanent Impacts</u>: Mosely Creek and adjacent wetlands will be impacted by the proposed project. Construction of the proposed project will result in a permanent impact of 0.23 acre from roadway fill and mechanized clearing in wetlands (see permit drawings). In addition, a total less than 0.001 acre (9.5 ft<sup>2</sup>.) of surface water will be impacted from placement of bents in the channel.

<u>Temporary Impacts</u>: In addition to permanent impacts, 0.18 acre of temporary impacts to wetlands will occur, as a result of hand clearing (see permit drawings). Also, to facilitate the protection of water resources, a Special Sediment Control Fence will be used during construction (see attached information pertaining to the Special Sediment Control Fence).

<u>Utility Impacts</u>: Permanent impacts to <0.01 acre (375.03 ft<sup>2</sup>) from mechanized clearing will occur in wetlands from the relocation of power lines (see attached Utility Drawings). In addition, 0.20 acre will be hand-cleared. Cable Television, telephone lines, and a water line will be relocated via directional bore. Temporary work mats will be used when applicable. Two existing utility poles located within wetlands on the south side of the project area will be removed.

### **Neuse River Basin Buffer Rules**

This project is located in the Neuse River Basin; therefore, the regulations pertaining to the buffer rules apply. There will be a total of 6,910 ft² of impacts to riparian buffers. This includes 1,718 ft² (691 ft² in Zone 1 and 1,027 ft² in Zone 2) due to the bridge crossing. According to the buffer rules, bridges are allowable. Uses designated as allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule. Additionally, 5,192 ft² (3,060 ft² in Zone 1 and 2,132 ft² in Zone 2) of impacts will occur from approach fill and mechanized clearing activities. According to the buffer rules, road crossings are allowable with mitigation. However, mitigation thresholds have not been met for this project, therefore buffer mitigation will not be required. Uses designated as allowable with mitigation may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule and an appropriate mitigation strategy has been approved pursuant to Item (10) of this Rule. All practicable measures to minimize impacts within buffer zones were followed. These uses require written authorization from the Division of Water Quality.

### **Bridge Demolition**

The existing bridge consists of timber piles with concrete caps and a concrete superstructure with an asphalt-wearing surface. The bridge can be removed without dropping components into Waters of the United States during construction. Best Management Practices for Bridge Demolition and Removal will be followed to avoid any temporary fill from entering Waters of the United States. According to the attached email from the North Carolina Wildlife Resources Commission (NCWRC), dated July 19, 2006, no in-stream moratoria are proposed for this project. The North Carolina Division of Marine Fisheries (NCDMF) did recommend a moratorium for anadromous fish, and NCDOT included it as a commitment in the CE, however, pursuant to G.S. §113-132; §113-134; §143B-289.52 Mosely Creek is not designated as a coastal water and therefore jurisdiction lies with NCWRC. Consequently, NCDOT will not adhere to the in-stream work moratorium or Stream Crossing Guidelines for Anadromous Fish Crossings.

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### **Avoidance and Minimization**

Avoidance examines all appropriate and practicable possibilities of averting impacts to "Waters of the United States". Due to the presence of surface waters and wetlands within the project study area, avoidance of all impacts is not possible. The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts. Minimization measures were incorporated as part of the project design these included:

- Use of an off-site detour during construction.
- Construction of a 25-foot longer bridge
- Best Management Practices for the Protection of Surface Water will be utilized during demolition of the existing bridge and construction of the new bridge.
- Use of 3:1 fill slopes in jurisdictional areas.
- Implementation of High Quality Waters Sedimentation and Erosion Control Measures.

### Mitigation

The North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP) will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the unavoidable impacts to 0.23 acre of wetlands. A copy of the EEP Acceptance Letter will be forwarded upon receipt.

### **Federal Protected Species**

As of April 27, 2006 the US Fish and Wildlife Service (USFWS) lists three federally protected species for Lenoir County (see Table 1). The USFWS concurred with these Biological Conclusions in a letter dated, November 8, 2005.

Table 1. Federally protected species of Lenoir County.

Scientific Name		Common Name	Federal Status	Biological Conclusion
Picoides borealis	Rec	-cockaded woodpecker	Е	No Effect
Haliaeetus leucoceph	alus	Bald Eagle	T(PFD)	Not Likely to Adversely Affect
Aeschynomene virgir	ica	Sensitive joint-vetch	T	No Effect

Endangered (E) – is defined as a taxon that is threatened with extinction throughout all or a significant portion of its range.

Threatened (T) – A taxon "likely to become endangered within the foreseeable future throughout all or a significant portion of it's range."

T(PFD) - A taxon "Proposed for Delisting".

### Regulatory Approvals

Section 404 Permit: NCDOT requests that the relocation of power lines is authorized by a Nationwide Permit 12. All other aspects of this project are being processed by the Federal Highway Administration as a "Categorical Exclusion" in accordance with 23 CFR 771.115(b). The NCDOT requests that these activities be authorized by a Nationwide Permit 23 (FR number 10, pages 2020-2095, January 15, 2002).

<u>Section 401 Permit</u>: We anticipate 401 General Certification numbers 3403 and 3374 will apply to this project. All general conditions of the Water Quality Certifications will be met. Therefore, in accordance with 15A NCAC 2H, Section .0500(a) and 15A NCAC 2B.0200 we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their review.

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<u>Neuse River Basin Buffer Authorization</u>: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse River Riparian Buffer Authorization.

A copy of this permit will be posted on the NCDOT web site http://www.doh.dot.state.nc.us/preconstruct/pe/neu/permit.html

Thank you for your time and assistance with this project. Please contact Tyler Stanton at tstanton@dot.state.nc.us or (919) 715-1439 if you have any questions or need any additional information.

Sincerely,

for Gregory J. Thorpe, Ph.D.

Environmental Management Director, PDEA

Cc:

W/attachment:

Mr. John Hennessy, NCDWQ (5 Copies)

Mr. Travis Wilson, NCWRC

Mr. Gary Jordan, USFWS

Mr. Ron Sechler, NMFS

Mr. Michael Street, NCDMF

Dr. David Chang, P.E., Hydraulics

Mr. Greg Perfetti, P.E., Structure Design

Mr. Mark Staley, Roadside Environmental

Mr. C. E. Lassiter, P.E., Division 2 Engineer

Mr. Jay Johnson, Division 2 Environmental Officer

### W/o attachment

Mr. Scott McLendon, USACE, Wilmington

Mr. Jay Bennett, P.E., Roadway Design

Mr. Majed Alghandour, P. E., Programming and TIP

Mr. Art McMillan, P.E., Highway Design

Ms. Beth Harmon, EEP

Mr. Todd Jones, NCDOT External Audit Branch

Mr. John Williams, P.E., PDEA

Offic	e Us	e Only:			For	m Version March 05
USA	CE A	action ID No.		DW	'Q No	
	10.31	(If any particular item is not	applicable to this pro	oject, ple	Q Noease enter "Not Applicable" or	"N/A".)
I.	Pr	ocessing				
	1.	Check all of the approva			oject: Riparian or Watershed B Isolated Wetland Permit Express 401 Water Quali	from DWQ
	<u>2.</u>	Nationwide, Regional or	General Permit N	Number	r(s) Requested: NW 12	& 23
	3.	If this notification is sole is not required, check he		y becat	use written approval for t	he 401 Certification
	4.	If payment into the Nort for mitigation of impact and check here:	th Carolina Ecosys, attach the acce	vstem E eptance	Enhancement Program (Ne letter from NCEEP, con	NCEEP) is proposed mplete section VIII,
	5.	If your project is located 4), and the project is v Environmental Concern	vithin a North Ca	arolina	ina's twenty coastal cour Division of Coastal M r further details), check h	lanagement Area of
II.	Aj	oplicant Information				
	1.	Owner/Applicant Inform Name: Mailing Address:	Gregory J. Thor		.D., Environmental Mananter	agement Director
					Fax Number: (919) 733	
	2.	Agent/Consultant Informust be attached if the A	Agent has signator	y autho	ority for the owner/applic	Authorization letter cant.)
		1 0				
		Telephone Number:			Fax Number:	

### **III.** Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1.	Name of project:
2.	T.I.P. Project Number or State Project Number (NCDOT Only): B-4174
3.	Property Identification Number (Tax PIN): N/A
4.	Location County: Lenoir Nearest Town: La Grange Subdivision name (include phase/lot number): N/A Directions to site (include road numbers/names, landmarks, etc.):
5.	Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)  Decimal Degrees (6 digits minimum):77.7707oN35.3107oW
6.	Property size (acres): N/A
7.	Name of nearest receiving body of water: Mosely Creek
8.	River Basin: Neuse  (Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <a href="http://h2o.enr.state.nc.us/admin/maps/">http://h2o.enr.state.nc.us/admin/maps/</a> .)
9.	Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Rural with forested areas and scattered residential and farms.

<u>I</u>	Describe the overall project in detail, including the type of equipment to be used:  Replacement of the existing bridge structure with a 85-foot bridge at approximately the same ocation and roadway elevation of the existing structure using top-down construction.
	Explain the purpose of the proposed work: The bridge is considered to be structurally deficient and functionally obsolete and the replacement will result in safer traffic operations.
Prio	r Project History
projethe I certicerti buffe	risdictional determinations and/or permits have been requested and/or obtained for this ect (including all prior phases of the same subdivision) in the past, please explain. Include USACE Action ID Number, DWQ Project Number, application date, and date permits and fications were issued or withdrawn. Provide photocopies of previously issued permits fications or other useful information. Describe previously approved wetland, stream and er impacts, along with associated mitigation (where applicable). If this is a NCDOT project and describe permits issued for prior segments of the same T.I.P. project, along with truction schedules. N/A
 Futu	ire Project Plans
	any future permit requests anticipated for this project? If so, describe the anticipated work provide justification for the exclusion of this work from the current application.

### VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

- 1. Provide a written description of the proposed impacts: <u>approach fill, hand clearing, mechanized clearing</u>
- 2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
13+00 to 15+75(LT)	Permanent Fill	Marsh/Riverine	Yes	See plans	0.09
13+00 to 15+75(LT)	Hand Clearing	Marsh/Riverine	Yes	See plans	0.17
14+80 to 15+75 (LT)	Permanent Fill	Marsh/Riverine	Yes	See plans	0.01
14+80 to 15+75 (LT)	Hand Clearing	Marsh/Riverine	Yes	See plans	0.05
16+50 to 18+00 (LT)	Permanent Fill	Marsh/Riverine	Yes	See plans	0.05
16+50 to 18+00 (LT)	Hand Clearing	Marsh/Riverine	Yes	See plans	0.03
16+50 to 18+00 (LT)	Mechanized Clearing	Forested/Riverine	Yes	See plans	0.01
16+50 to 18+40 (LT)	Permanent Fill	Marsh/Riverine	Yes	See plans	0.03
16+50 to 18+40 (LT)	Hand Clearing	Marsh/Riverine	Yes	See plans	0.03
16+50 to 18+40 (LT)	Mechanized Clearing	Forested/Riverine	Yes	See plans	0.03
13+00 to 13+73	Utility Mechanized Clearing	Marsh/Riverine	Yes	See plans	0.01
13+73 to 18+78	Utility Hand Clearing	Forested/Riverine	Yes	See plans	0.20
			Total Wetland	Impact (acres)	0.71

3. List the total acreage (estimated) of all existing wetlands on the property: N/A

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact	Impact Length (linear feet)	Area of Impact (acres)
N/A						
	Total Stream In	npact (by length and a	creage)		0	0

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
16+05-L-	Mosely Creek	Bent	Creek	< 0.001
	Total Ope	n Water Impact (acres)		< 0.001

6. List the cumulative impact to all Waters of the U.S. resulting from the project:

T	<u> </u>
Stream Impact (acres):	0.0
Wetland Impact (acres):	0.71
Open Water Impact (acres):	0.001
Total Impact to Waters of the U.S. (acres)	0.71
Total Stream Impact (linear feet):	0

7.	Isolated Waters
	Do any isolated waters exist on the property?  Yes No
	Describe all impacts to isolated waters, and include the type of water (wetland or stream) and
	the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.
	N/A
8.	Pond Creation
	If construction of a pond is proposed, associated wetland and stream impacts should be
	included above in the wetland and stream impact sections. Also, the proposed pond should
	be described here and illustrated on any maps included with this application.
	Pond to be created in (check all that apply):  uplands  stream wetlands
	Describe the method of construction (e.g., dam/embankment, excavation, installation of
	draw-down valve or spillway, etc.): N/A
	Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond
	local stormwater requirement, etc.):
	Current land use in the vicinity of the pond:
	Size of watershed draining to pond: Expected pond surface area:

### VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact

site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. <u>Use of an off-site detour during construction, construction of a 25-foot longer bridge, Best Management Practices will also be utilized during demolition of the existing bridge and construction of the new bridge.</u>

### VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <a href="http://h2o.enr.state.nc.us/ncwetlands/strmgide.html">http://h2o.enr.state.nc.us/ncwetlands/strmgide.html</a>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

The NCEEP will provide compensatory mitigation for impacts from this project

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP

			eck the appropriate Amount of stream Amount of buffer Amount of Ripari Amount of Non-ri	enr.state.nc.us/wrp. box on page five a mitigation request mitigation request an wetland mitigat parian wetland mitigated	and provide the followed (linear feet): 0 ced (square feet): 0 ced ion requested (acrestigation requested (	owing information of the control of	s proposed, please on:
IX.	Er	viro	onmental Docume	ntation (required	by DWQ)		
	1.		es the project involute (federal/state)	-	re of public (feder Yes  No		ands or the use of
	2.	req No	uirements of the Nate: If you are no	National or North t sure whether a	Carolina Environn NEPA/SEPA docı	nental Policy Acument is require	ent pursuant to the ct (NEPA/SEPA)? ed, call the SEPA tal documentation.
	3.			nent review been EPA or SEPA fina			use? If so, please lo
Χ.	Pr	opos	sed Impacts on Ri	parian and Water	rshed Buffers (req	quired by DWQ	))
	jus and ma Re	uire tific d mu p, v gion	d state and local ation for these impast be clearly ident whether or not im	buffers associated acts in Section VII ifiable on the accopacts are proposed	with the project. I above. All propompanying site pland to the buffers.	The applicant osed impacts mun. All buffers man. Correspondence	map all impacts to must also provide ast be listed herein, must be shown on a be from the DWQ be included at the
	1.	(Ne 2B	euse), 15A NCAC	2B .0259 (Tar-Pan	nlico), 15A NCAC er Supply Buffer	02B .0243 (Cat	NCAC 2B .0233 (awba) 15A NCAC , or other (please
	2.	<u>If</u> b		•			ne riparian buffers. on by applying the
			Zone*	Impact (square feet)	Multiplier	Required Mitigation	
			1	3,751	3 (2 for Catawba)	0	
			2	3,159	1.5	0	

0

6,910

Total

<sup>\*</sup> Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

	3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260.  N/A
XI.	Stormwater (required by DWQ)
	Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. See Stormwater Management Plan
XII.	Sewage Disposal (required by DWQ)
	Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.  N/A
XIII.	Violations (required by DWQ)
	Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules? Yes No
	Is this an after-the-fact permit application? Yes \( \square \) No \( \square \)
XIV.	Cumulative Impacts (required by DWQ)
	Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes \( \subseteq \text{No} \text{ No} \( \subseteq \subseteq If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <a href="http://h2o.enr.state.nc.us/ncwetlands">http://h2o.enr.state.nc.us/ncwetlands</a> . If no, please provide a short narrative description:  N/A

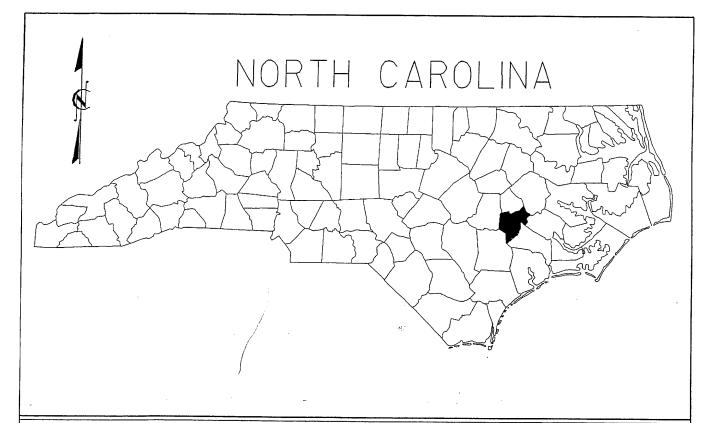
### XV. Other Circumstances (Optional):

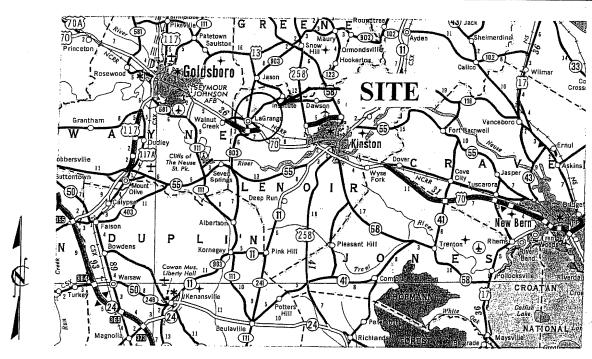
It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

Applicant/Agent's Signature

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)





### **WETLAND PERMIT**

VICINITY MAPS

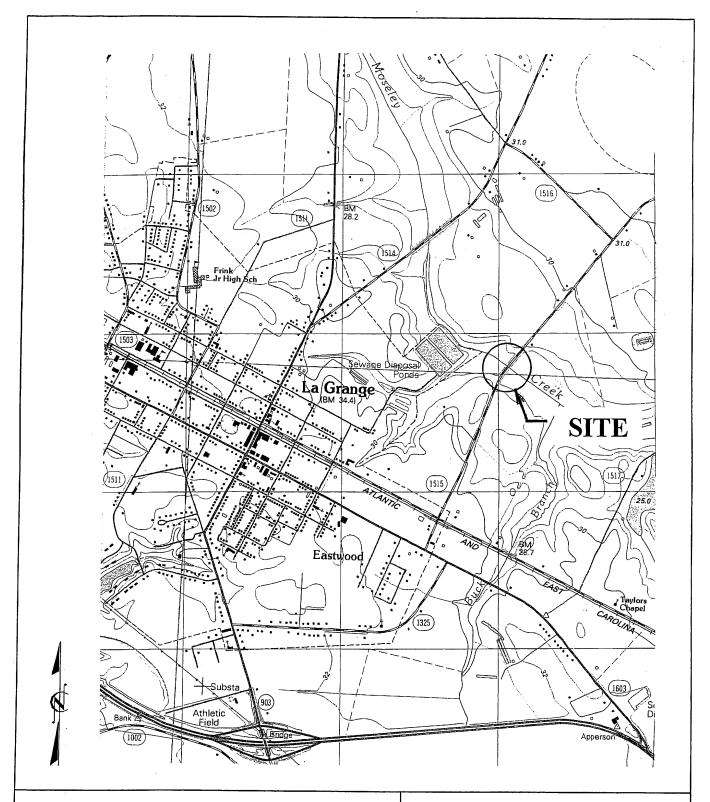
**NTS** 

### NCDOT

DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 33521.1.1 (B-4174)
REPLACE BRIDGE NO. 128
OVER MOSELEY CREEK
ALONG SR 1515
(ALDRIDGE STORE RD.)

SHEET / OF 8

5 // 1 // 06



### **WETLAND PERMIT**

TOPOGRAPHIC MAP

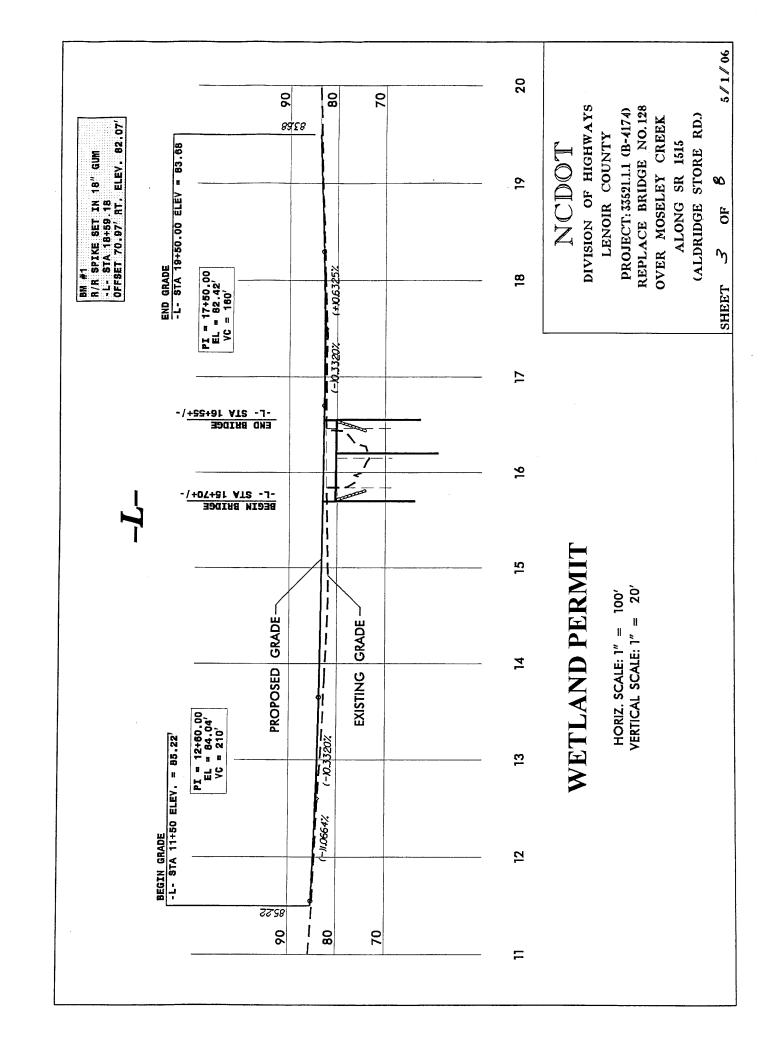
**SCALE:** 1" = 2000'

### NCDOT

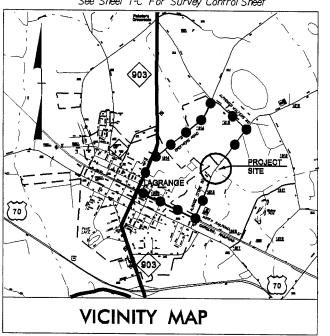
DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 33521.1.1 (B-4174)
REPLACE BRIDGE NO.128
OVER MOSELEY CREEK
ALONG SR 1515
(ALDRIDGE STORE RD.)

sheet 2 of 8

5 / 1 / 06



See Sheet 1-A For Index of Sheets See Sheet 1-B For Symbology Sheet See Sheet 1-C For Survey Control Sheet



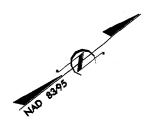
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

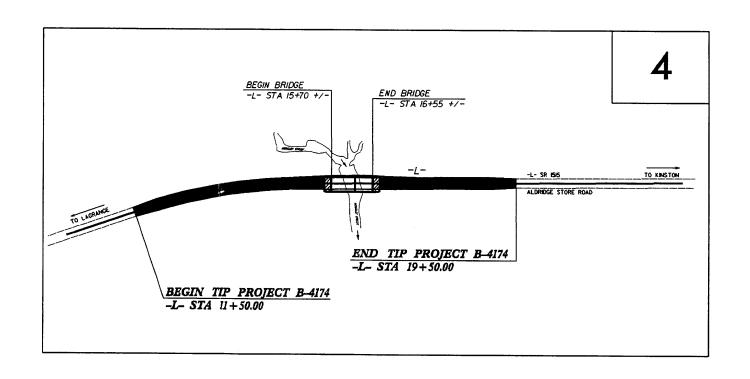
### LENOIR COUNTY

LOCATION: BRIDGE NO. 128 OVER MOSELEY CREEK ON SR 1515

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS	
N.C.		B-4174	1	4 of 8	
STATE	PROJ. NO.	F. A. PROJ. NO.	DESCRI	PTION	
335	21.1.1	BRZ-1515(3)	PE		
33521.2.1		BRZ-1515(3)	R/W & UTIL.		
	· · · · · · · · · · · · · · · · · · ·				
			ļ		
		L			





THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

		GRA	PHI	c sc	ALE	<b>s</b>
I	50	25	Q	5	0	100
	ı.		PL	ANS		
	50	25	0	5(	0	100
l		PROF	ILE (F	IORIZO	ONTAL	.)
	10	5	P	10	)	20
		PRO	OFILE	(VERT	CAL)	

OFFSITE DETOUR

### DESIGN DATA

ADT 2006 = 1140ADT 2026 = 1835DHV = 10 %D = 60 %

T = 6 %V = 60 MPH

CLASSIFICATION: RURAL LOCAL \* TTST 2% + DUAL 4%

### PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4174 = 0.136 MILES LENGTH STRUCTURE TIP PROJECT B-4174 = 0.016 MILES TOTAL LENGTH TIP PROJECT B-4174 = 0.152 MILES

**DIVISION OF HIGHWAYS** 1000 Birch Ridge Dr., NC, 27610 2002 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: GARY LOVERING, PE **NOVEMBER 18, 2005** LETTING DATE: ANTHONY C. WEST MARCH 20, 2007

Prepared in the Office of:

HYDRAULICS ENGINEER ROADWAY DESIGN **ENGINEER** 

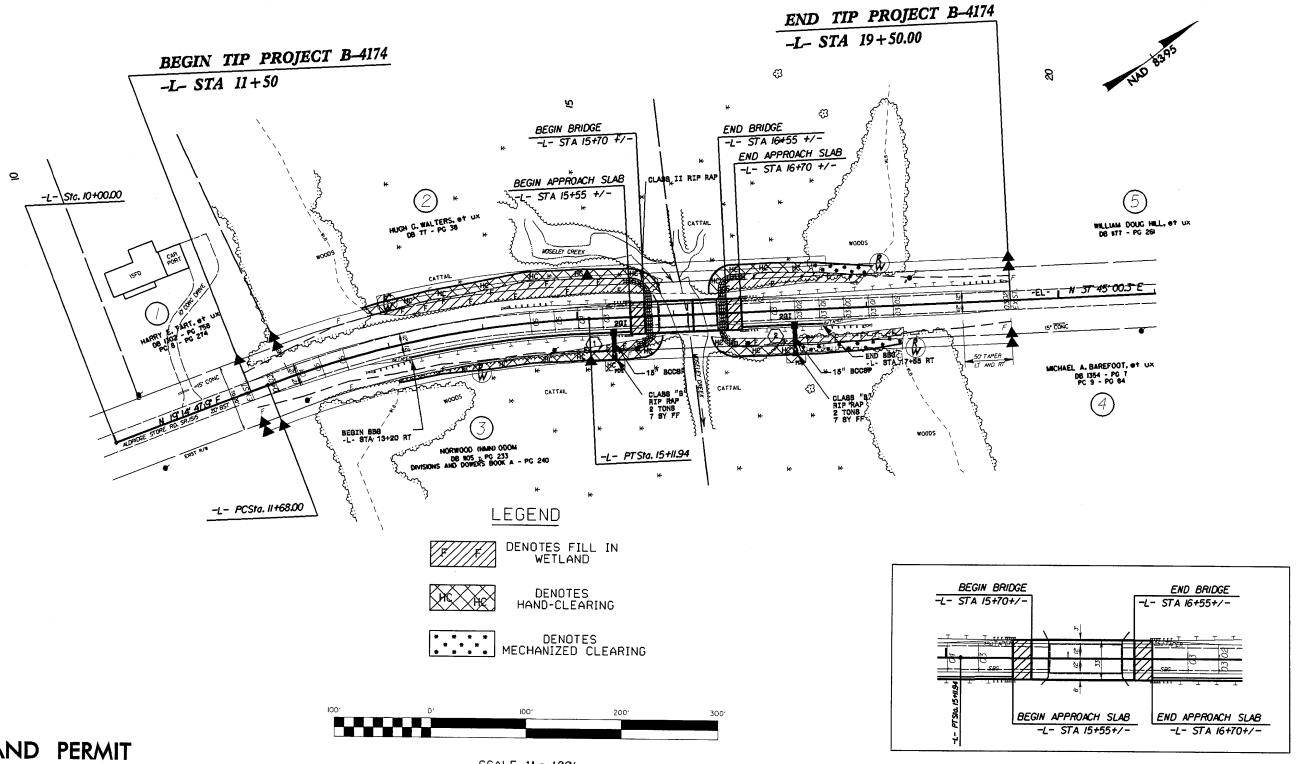
SIGNATURE

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

AFPROVED
DIVISION ADMINISTRATOR

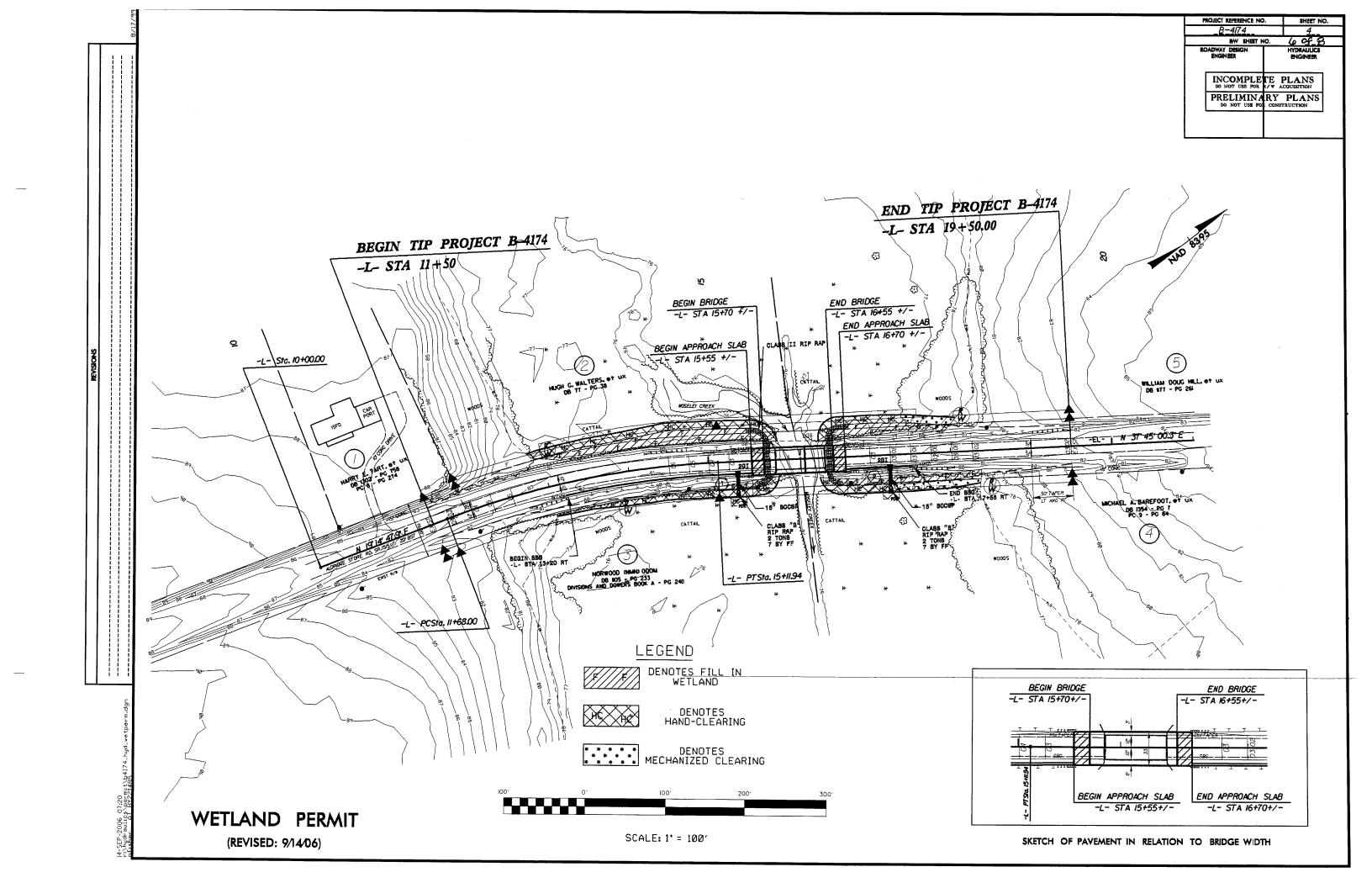
PROJECT REFERENCE NO	O. SHEET NO.
B <b>-4</b> 174	4
RW SHEET I	NO. 5 of B
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	TE PLANS
	RY PLANS



WETLAND PERMIT
(REVISED: 9/14/06)

SCALE: 1' = 100'

SKETCH OF PAVEMENT IN RELATION TO BRIDGE WIDTH



			<del>-</del>	 E !		T	$\Box$	$\overline{}$													$\neg$
			Natural	Stream	nesign	E	0	c		0		0									
	PACTS	Existing	Channel	Toma	iemp.	(E)	0	c		0	C	0									
:	SURFACE WATER IMPACTS	Existing	Channel	Impacts	Fermanent	(μ)	0			0		0									
RY	SURFACE	ı	emb.	200	Impacts	(ac)	0.0	000	200	0.00	0	9.0									
CT SUMMA			Permanent C.M.	200	Impacts	(ac)	0.00	0	3	0.00	C	0.00									
RMIT IMPA		Hand	Clearing	III	vvetiands	(ac)	0.07	200	3	0.03	0	0.03									0.18
WETLAND PERMIT IMPACT SUMMARY	STS		Mechanized	Clearing i: Wells de	in vvetiands	(ac)	0.00	0		0.01	0	0.03									0.04
M	WETLAND IMPACTS	;	Excavation	UI - OH-) V1	vvetiands	(ac)	0.00	0	8	00.00	0	0.00									
	WEI	ŀ	lemp.	LIII III	vvetiands	(ac)	0.00	00 0	9	00.00	0	0.00									
			Permanent	UI III I	vvetlands	(ac)	0.09	200	ò	0.05	8	0.03									0.18
			40	Structure Sing ( Time	olze / I ype		Bridge	Bridge	200	Bridge		Dridge									
			Q	Station	(From/10)		13+00 to 15+75 (LT)	14+80 to 15+75 (RT)		16+50 to 18+00 (LT)	10,00,00	10+20 10 10+40 (K1									
			di c	e de			-	0	l	ო		4									TOTALS

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

LENOIR COUNTY
WBS - 33521.1.1 (B-4174)

7 of 8

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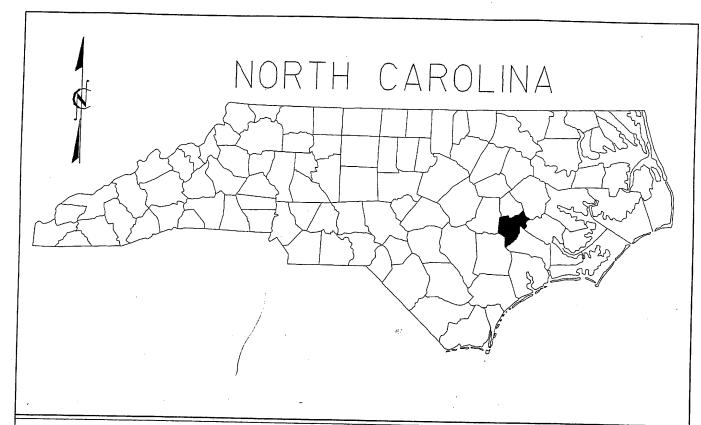
9/14/2006

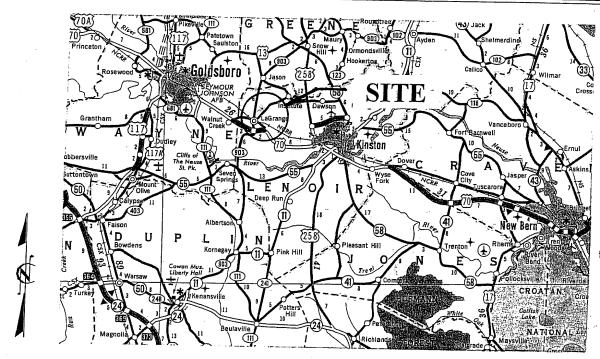
## PROPERTY OWNERS

ADDRESS	1473 HOOKS ROAD FREMONT, NC 27830	606 E. WASHINGTON STREET LAGRANGE, NC 28551	401 HENDERSON STREET MOUNT OLIVE, NC 28365	5501 ALDRIDGE STORE ROAD LAGRANGE, NC 28551	3593 WILLIE MEASLEY ROAD LAGRANGE, NC 28551
PROPERTY OWNER	HARRY E. TART	HUGH G. WALTERS	NORWOOD ODOM	MICHAEL BAREFOOT	WILLIAM DOUGLAS HILL
PARCEL		(2)	(3)	4	(2)

### WETLAND PERMIT

DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 35521.1.1 (B-4174)
REPLACEMENT OF BRG.# 128
OVER MOSELEY CREEK
ALONG SR 1515
CALDRIDGE STORE RD.)
SHEET 8 OF 8 5/11/6





### **BUFFER PERMIT**

VICINITY MAPS

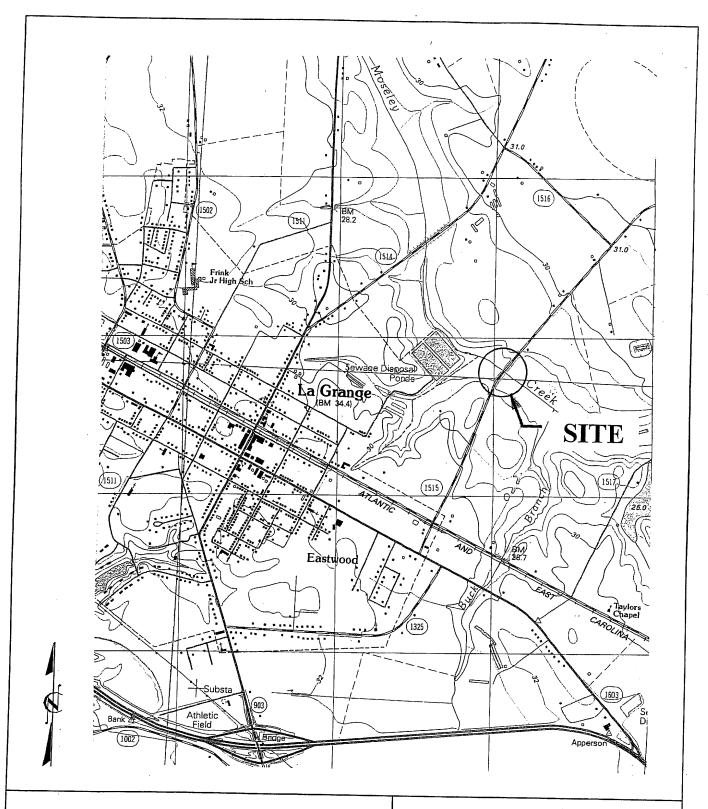
**NTS** 

### NCDOT

DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 33521.1.1 (B-4174)
REPLACE BRIDGE NO. 128
OVER MOSELEY CREEK
ALONG SR 1515
(ALDRIDGE STORE RD.)

SHEET / OF 8

5 // 1 // 06



### **BUFFER PERMIT**

TOPOGRAPHIC MAP

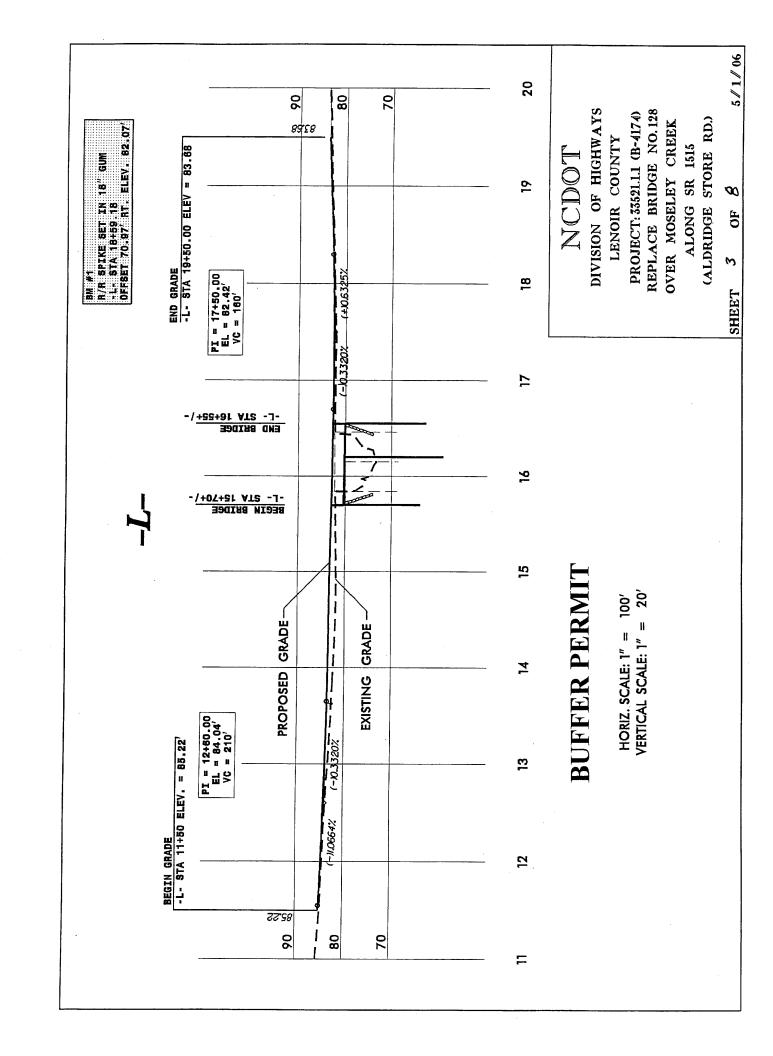
**SCALE:** 1" = 2000'

### NCDOT

DIVISION OF HIGHWAYS
LENOIR COUNTY
PROJECT: 33521.1.1 (B-4174)
REPLACE BRIDGE NO. 128
OVER MOSELEY CREEK
ALONG SR 1515
(ALDRIDGE STORE RD.)

SHEET 2 OF 8

5 / 1 / 06

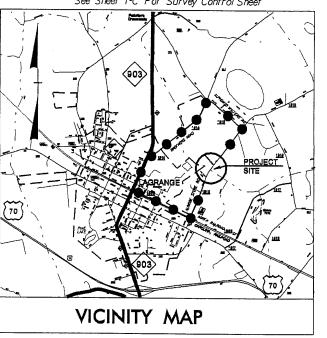


# PROJECT: B-4174

: C201600

NIKACI:

See Sheet 1-A For Index of Sheets See Sheet 1-B For Symbology Sheet See Sheet 1-C For Survey Control Sheet



### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

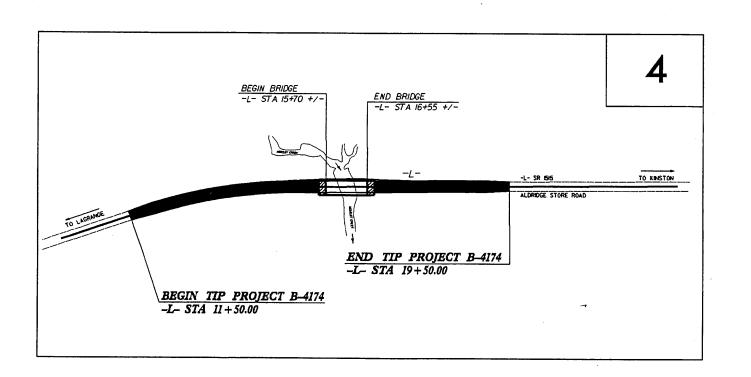
### LENOIR COUNTY

LOCATION: BRIDGE NO. 128 OVER MOSELEY CREEK ON SR 1515

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE	PROJECT REFERENCE NO.	SHEE NO.	TOTAL SHEBTS
N.C.		B-4174	1	424
STATE PR	oJ. NO.	P. A. PROJ. NO.	DESC	RIPTION
3352	1.1.1	BRZ-1515(3)		PE
3352	.2.1	BRZ-1515(3)	R/W	& UTIL.
		Ī		



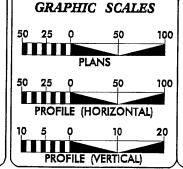


NOTE:

OFFSITE DETOUR

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USE POR CONSTRUCTION



### DESIGN DATA

ADT 2006 = 1140 ADT 2026 = 1835

> DHV = 10 % D = 60 %

T = 6 % \*
V = 60 MPH

CLASSIFICATION: RURAL LOCAL
\* TTST 2% + DUAL 4%

### PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4174 =

LENGTH STRUCTURE TIP PROJECT B-4174 =

TOTAL LENGTH TIP PROJECT B-4174 =

0.016 MILES 0.152 MILES

0.136 MILES

### Prepared in the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., NC, 27610 2002 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: NOVEMBER 18, 2005 LETTING DATE: MARCH 20, 2007 PROJECT DESIGN ENGINEER PROJECT DESIGN ENGINEER

### HYDRAULICS ENGINEER

P.E.

ROADWAY DESIGN

ENGINEER

### DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

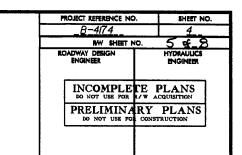
P.E.

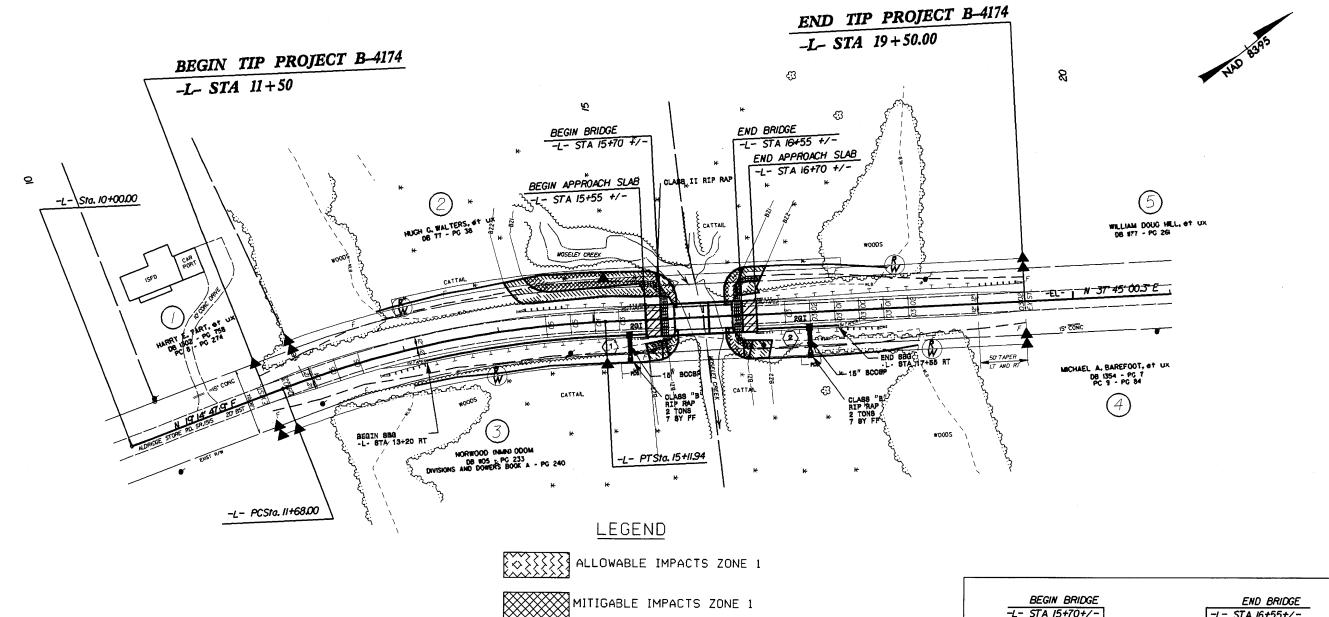
Z DESIGN
NEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

P.E.

APPROVED
DIVISION ADMINISTRATOR
DATE





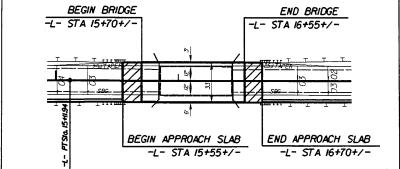
NEUSE RIVER BUFFER PERMIT

(REVISED: 9/14/06)

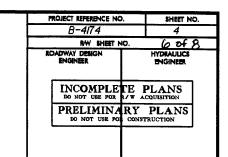
SCALE: 1' = 100'

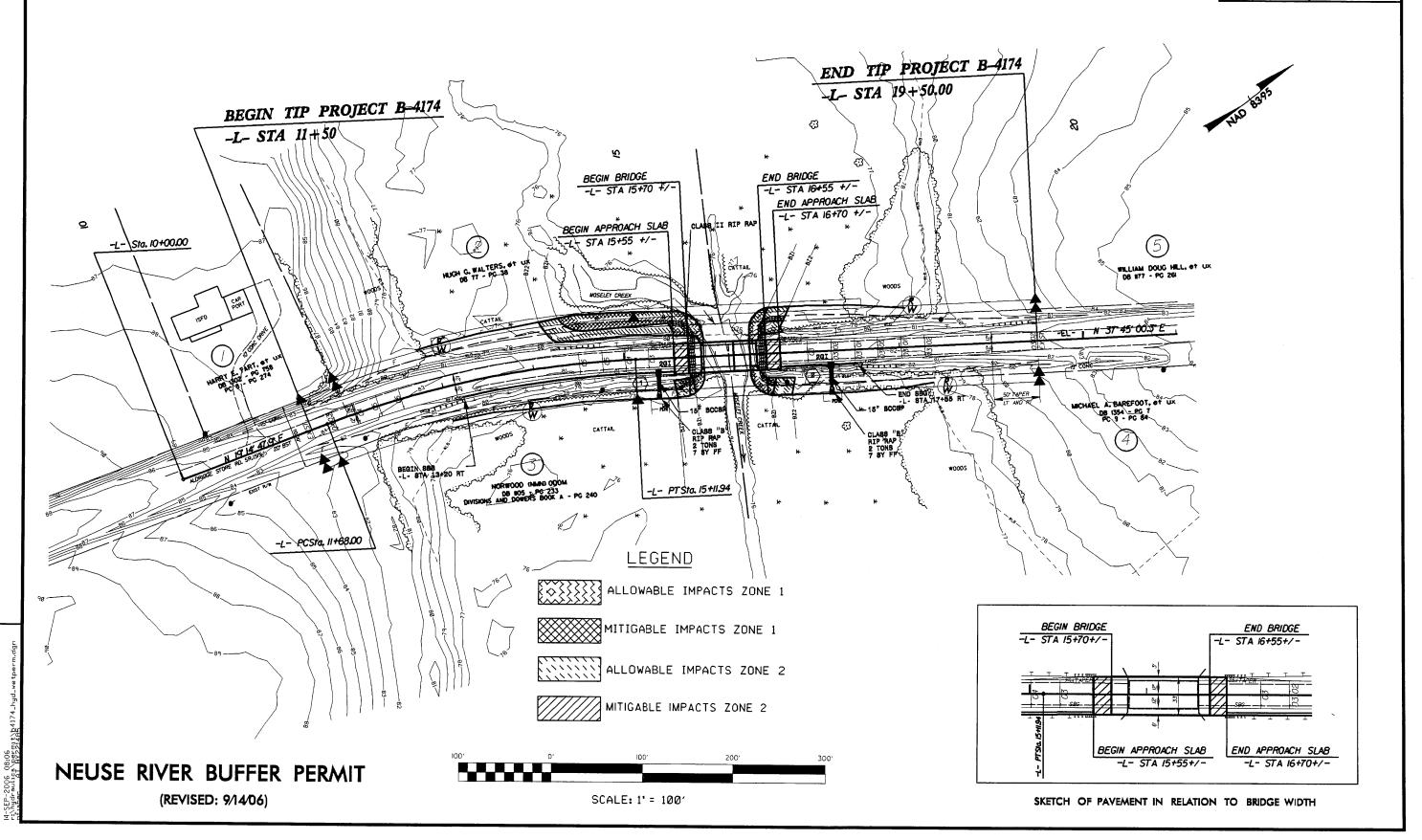
ALLOWABLE IMPACTS ZONE 2

MITIGABLE IMPACTS ZONE 2



SKETCH OF PAVEMENT IN RELATION TO BRIDGE WIDTH





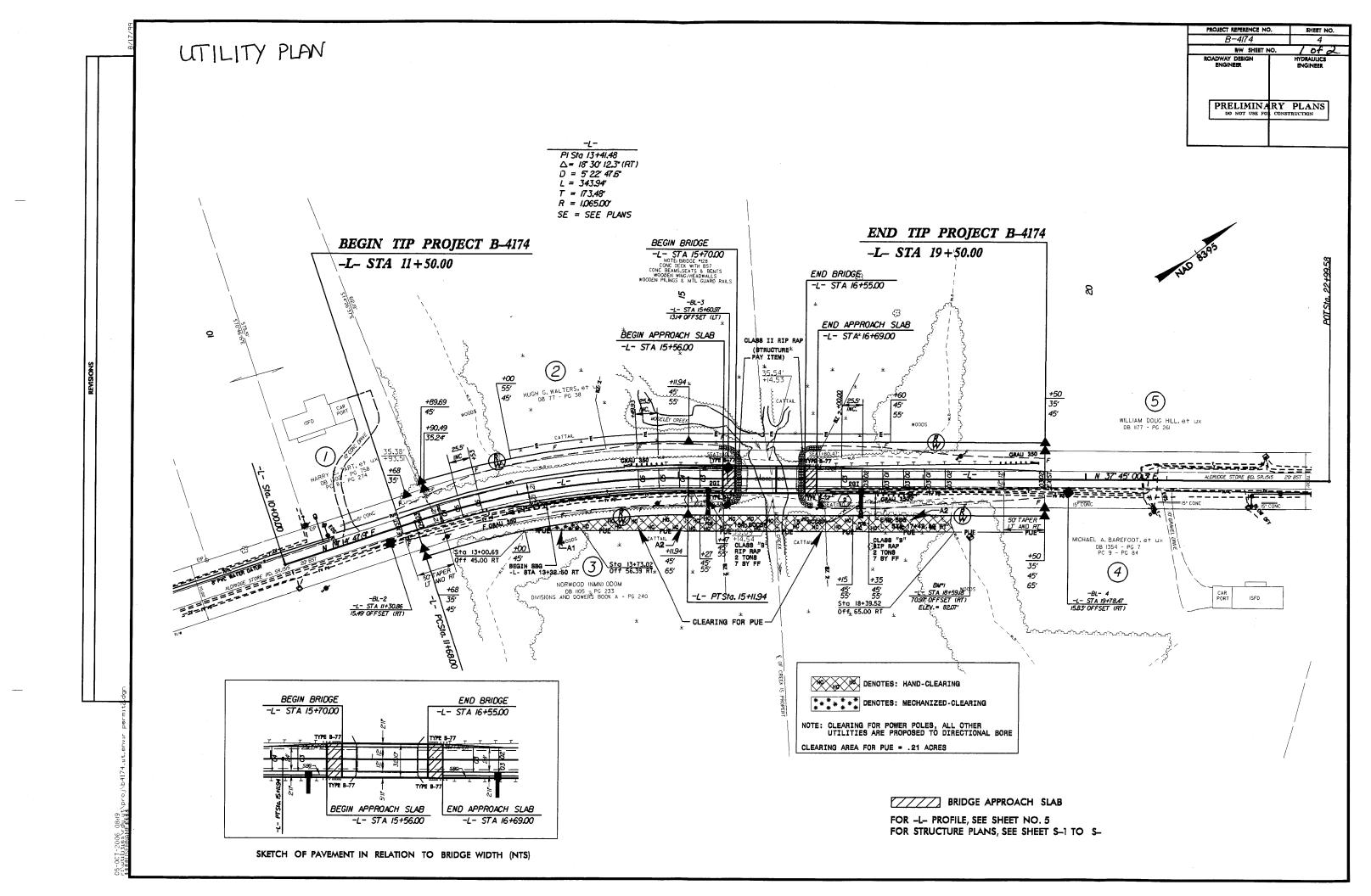
		:											
							IMPACT					BUE	BUFFER
				TYPE		ALI	ALLOWABLE	щ		MITIGABLE	Щ	REPLA	REPLACEMENT
SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ft²)	ZONE 1 (ft²)	ZONE 2 (ft²)	TOTAL (ff²)	ZONE 1 (ft²)	ZONE 2 (ft²)
-	Bridge	13+00 to 15+70 (LT)	×			2306	1782	4088	0	0	0		0
		15+70 to 16+12.5 (LT)		×		340	0	340	0	0	0		0
2	Bridge	13+00 to 15+70 (RT)	×			0	279	279	0	0	0		0
		15+70 to 16+12.5 (RT)		×		200	87	287	0	0	0		0
က	Bridge	16+55 to 18+10 (LT)	×			400	71	471	0	0	0		0
		16+12.5 to 16+55 (LT)		×		15	552	267	0	0			0
4	Bridge	16+55 to 18+40 (RT)	×			354	0	354	0	0	0		0
		16+12.5 to 16+55 (RT)		×		136	388	524	0	•	0		0
TOTAL:						3751	3159	6910	0	0	0		
tal Permar	Total Permanent Wetland Impacts = 0.220 Ac.	0.220 Ac.	RE		RECEIVED						V.C. DEPT. OF DIVISION	N.C. DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS	ATION 'S
				 		<u></u>			<del>_</del> _		LENO PROJECT: 3	LENOIR COUNTY PROJECT: 33521.1.1.2 (B-4174)	-4174)
			<i>(</i> )	SEP	01 8 3	A.					9/ SHEFT	9/14/2006	
					4	_							

# PROPERTY OWNERS

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PARCEL		(2)	(3)	4	(2)

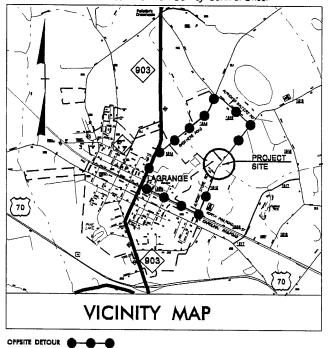
### **BUFFER PERMIT**

## DIVISION OF HIGHWAYS LENOIR COUNTY PROJECT: 35521.1.1 (B-4174) REPLACEMENT OF BRG. # 128 OVER MOSELEY CREEK ALONG SR 1515 (ALDRIDGE STORE RD.) SHEET 8 OF 8 5/11/



1	PROJECT: B-4174 A	REA AFFECTI	ED BY PRO	OP. PUE CLEARING				1
					UPDATED: 10	/05/06 Vmc	oua	
					filename: b417	4 Ut Envir P	ermit.xls	
								-
	MECHANIZED CLEARI	NG		HAND CLEARING				
	(SQ FT)			(SQ FT)				
Area 1	375.03		Area 2	8,746.65				
Area 3			Area 4	5,7 10.00				
	-					· · · · · · · · · · · · · · · · · · ·		
	TOTAL (SQ FT):	375.03		TOTAL (SQ FT):	8,746.65			
	TOTAL (ACREAGE):	0.01		TOTAL (ACREAGE):	0.20			
	1 acre = <u>43,560</u> sq ft							
		43,560						+
	TOTAL AREA OF WETLA	ND THAT WILL	BE IMPACTE	D BY PUE CLEARING :		0.21	Acres	

See Sheet 1-A For Index of Sheets See Sheet 1-B For Symbology Sheet See Sheet 1-C For Survey Control Sheet



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

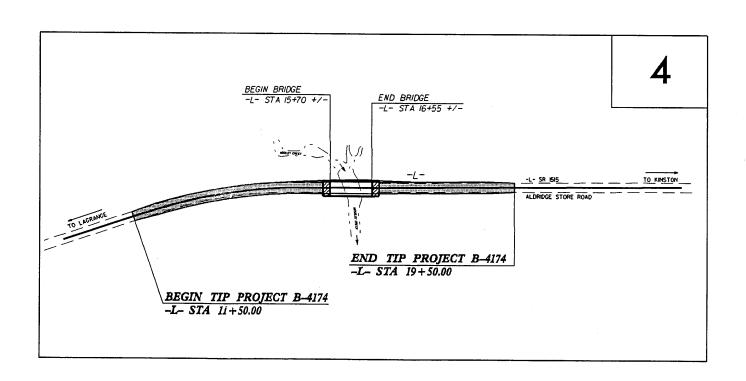
### LENOIR COUNTY

LOCATION: BRIDGE NO. 128 OVER MOSELEY CREEK ON SR 1515

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	BTATE	PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		B-4174	1	
STATE PR	OJ. NO.	F.A.PROLNO.	20000	RIPTION
3352	.1.1	BRZ-1515(3)	I	E
33521	.2.1	BRZ-1515(3)	R/W &	L UTIL.
			1	

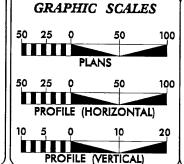




THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

PRELIMINARY PLANS
DO NOT USB FOR CONSTRUCTION

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA



### DESIGN DATA

ADT 2006 = 1140ADT 2026 = 1835DHV = 10 %

D = 60 %

CLASSIFICATION: RURAL LOCAL \* TTST 2% + DUAL 4%

### PROJECT LENGTH

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### Prepared In the Office of: **DIVISION OF HIGHWAYS** 1000 Birch Ridge Dr., NC, 27610 2002 STANDARD SPECIFICATIONS RIGHT OF WAY DATE: GARY LOVERING, PE PROJECT ENGINEER **NOVEMBER 18, 2005** LETTING DATE: ANTHONY C. WEST MARCH 20, 2007

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

STATE DESIGN ENGINEER DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED DIVISION ADMINISTRATOR

V = 60 MPH

\*S.U.E. = Subsurface Utility Engineering

### STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

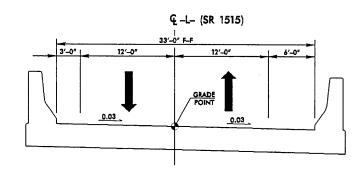
### CONVENTIONAL PLAN SHEET SYMBOLS

						WATER:	
BOUNDARIES AND PROPERTY:						Water Manhole	
State Line		RAILROADS:				Water Meter	
County Line		Standard Gauge	CSX TRANSPORTATION			Water Valve	
Township Line		RR Signal Milepost		EXISTING STRUCTURES:		Water Hydrant	- •
City Line		Switch		MAJOR:		Recorded U/G Water Line	<u> </u>
Reservation Line ————————————————————————————————————		RR Abandoned	SWITCH	Bridge, Tunnel or Box Culvert	CONC	Designated U/G Water Line (S.U.E.*)	
Property Line		RR Dismantled		Bridge Wing Wall, Head Wall and End Wall -	CONC WW (	Above Ground Water Line	
Existing Iron Pin				MINOR:			
		RIGHT OF WAY:		Head and End Wall	CONC HW	TV:	
Property Corner		Baseline Control Point	- 🔷	Pipe Culvert		TV Satellite Dish	- «
Property Monument		Existing Right of Way Marker	- <u></u>	Footbridge>		TV Pedestal	
Parcel/Sequence Number	-	Existing Right of Way Line		Drainage Box: Catch Basin, DI or JB		TV Tower —	
Existing Fence Line		Proposed Right of Way Line	- <del>(</del> *)	Paved Ditch Gutter		U/G TV Cable Hand Hole	_
Proposed Woven Wire Fence		Proposed Right of Way Line with		Storm Sewer Manhole			,
Proposed Chain Link Fence		non im and cap Marker				Recorded U/G TV Cable ————————————————————————————————————	
Proposed Barbed Wire Fence		Proposed Right of Way Line with Concrete or Granite Marker		Storm Sewer ———————————————————————————————————	\$	Designated U/G TV Cable (S.U.E.*)	
Existing Wetland Boundary			<b>₩</b>			Recorded U/G Fiber Optic Cable	
Proposed Wetland Boundary		Existing Control of Access	\ <b>5</b> /	UTILITIES:		Designated U/G Fiber Optic Cable (S.U.E.*)	TV F0—
Existing High Quality Wetland Boundary —		Proposed Control of Access ——————	•	POWER:	·.		
Existing Endangered Animal Boundary	EAB	Existing Easement Line	-	Existing Power Pole ————————————————————————————————————	•	GAS:	
Existing Endangered Plant Boundary		Proposed Temporary Construction Easement		Proposed Power Pole	6	Gas Valve	
	75 (2) 51	Proposed Temporary Drainage Easement	TDE	Existing Joint Use Pole	<del>-</del>	Gas Meter	- ♦
BUILDINGS AND OTHER CULT		Proposed Permanent Drainage Easement	PDE	Proposed Joint Use Pole	<del>-</del> 6-	Recorded U/G Gas Line	6
Gas Pump Vent or U/G Tank Cap		Proposed Permanent Utility Easement ———	PUE	Power Manhole	(P)	Designated U/G Gas Line (S.U.E.*)	
Sign —	<b>.</b>	DOADO AND DELATED DELATE	<b>1</b> 5.50	Power Line Tower	$\boxtimes$	Above Ground Gas Line	
Well -	**	ROADS AND RELATED FEATU	= '	Power Transformer	<u> </u>		
Small Mine		Existing Edge of Pavement		U/G Power Cable Hand Hole	— FQ	SANITARY SEWER:	
Foundation ————————————————————————————————————	<del></del>	Existing Curb		H-Frame Pole	••	Sanitary Sewer Manhole	_ 🙈
Area Outline	_	Proposed Slope Stakes Cut		Recorded U/G Power Line		Sanitary Sewer Cleanout	
Cemetery	- <u>†</u>	Proposed Slope Stakes Fill	<u>£</u>	Designated U/G Power Line (S.U.E.*)		U/G Sanitary Sewer Line	*
Building	_ [	Proposed Wheel Chair Ramp	- OFCB	Designated U/G Fower Line (5.U.E.*)		Above Ground Sanitary Sewer	•
School ———		Curb Cut for Future Wheel Chair Ramp	- CFB			•	
Church -		Existing Metal Guardrail		TELEPHONE:		Recorded SS Forced Main Line	
Dam -		Proposed Guardrail ————————————————————————————————————		Existing Telephone Pole	<del></del>	Designated SS Forced Main Line (S.U.E.*) —	
		Existing Cable Guiderail		Proposed Telephone Pole	-0-		
HYDROLOGY:		Proposed Cable Guiderail		Telephone Manhole	•	MISCELLANEOUS:	
Stream or Body of Water —		Equality Symbol		Telephone Booth	3	Utility Pole	- •
Hydro, Pool or Reservoir —————		Pavement Removal	•	Telephone Pedestal		Utility Pole with Base ——————	- 🖸
Jurisdictional Stream		Tayonion Removal		Telephone Cell Tower	, <b>ā</b> ,	Utility Located Object —————	- ⊙
River Basin Buffer ———————————————————————————————————		VEGETATION:		U/G Telephone Cable Hand Hole	<b>5</b>	Utility Traffic Signal Box —	<b>–</b> 🖺
Flow Arrow	<del></del>	Single Tree	<del>-</del> &	Recorded U/G Telephone Cable	1	Utility Unknown U/G Line	
Disappearing Stream ————————————————————————————————————		Single Shrub	<b>–</b> 0	Designated U/G Telephone Cable (S.U.E.*) —		U/G Tank; Water, Gas, Oil —	
Spring ———		Hedge		Recorded U/G Telephone Conduit		A/G Tank; Water, Gas, Oil	
Swamp Marsh —	· >	Woods Line		Designated U/G Telephone Conduit (S.U.E.*)		U/G Test Hole (S.U.E.*)	
Proposed Lateral, Tail, Head Ditch	$\Longrightarrow\Longrightarrow$	Orchard ————————————————————————————————————		Recorded U/G Fiber Optics Cable		Abandoned According to Utility Records —	•
False Sump	<del></del>	Vineyard				End of Information ————————————————————————————————————	
	$\checkmark$	vineyoru -	virie yard	Designated U/G Fiber Optics Cable (S.U.E.*)	1 ro	End of information	– <b>E.O.</b> I.

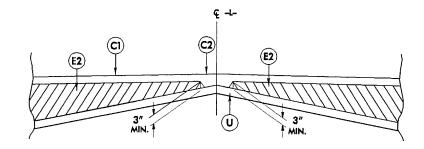
PROJECT REFERENCE NO. SHEET NO. IB

	FINAL PAVEMENT SCHEDULE
<b>C</b> 1	PROP. APPROX. 2½"ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 1.5" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SHOULDER BERM GUTTER
Т	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH WEDGING (SEE DETAIL THIS SHEET).

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

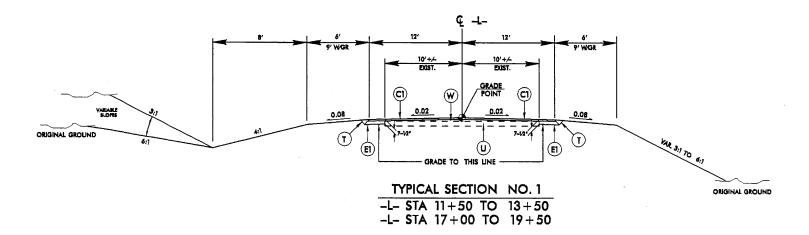


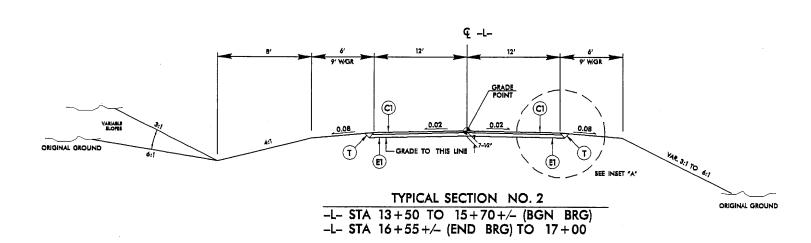
TYPICAL SECTION ON STRUCTURE -L- STA 15+70+/- (BGN BRG) TO 16+55+/- (END BRG)

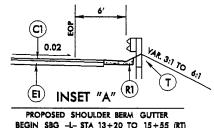


**Detail Showing Method of Wedging** 

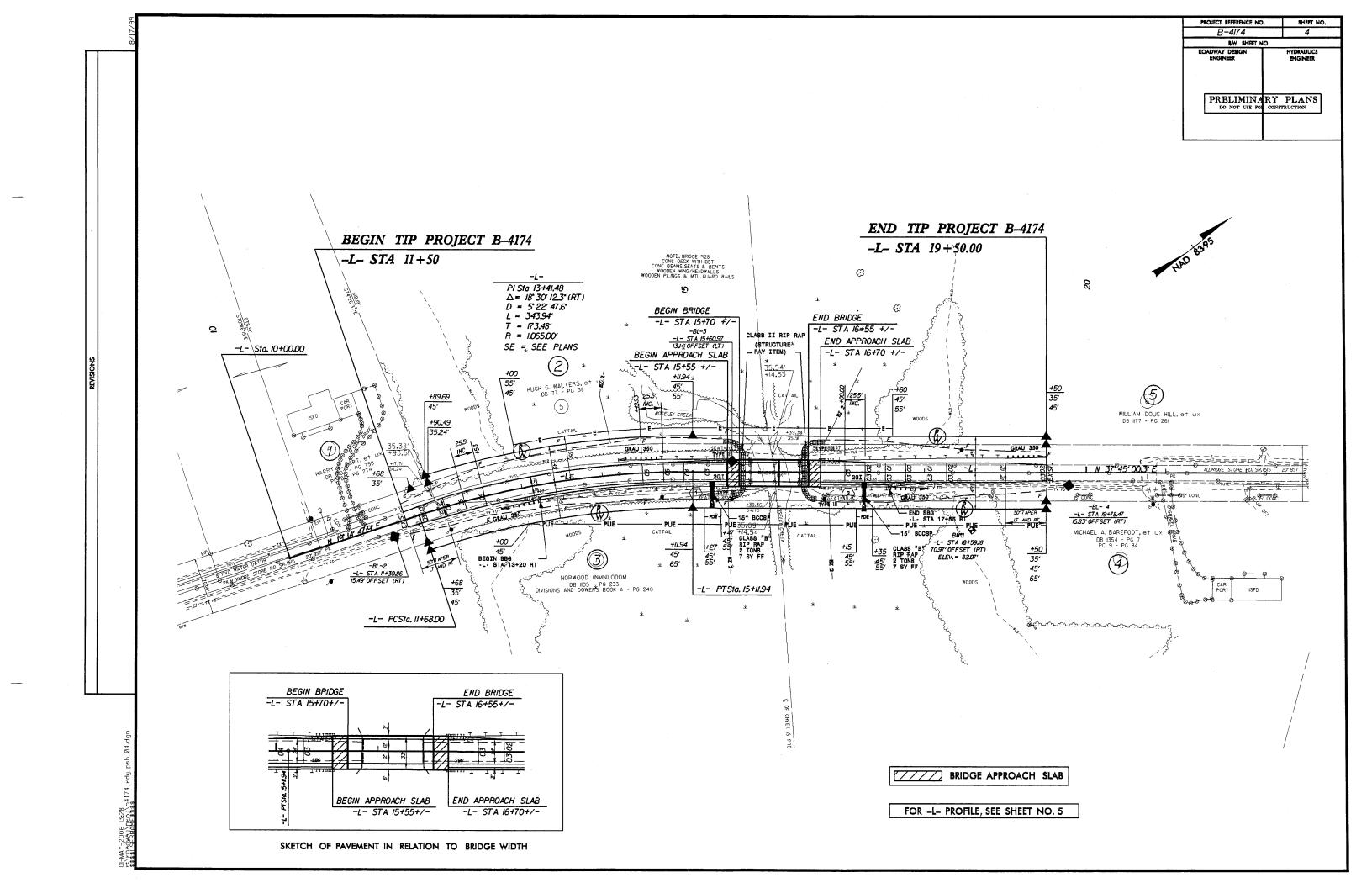
PRELIMINARY PLANS
30 NOT USE FOR CONSTRUCTION

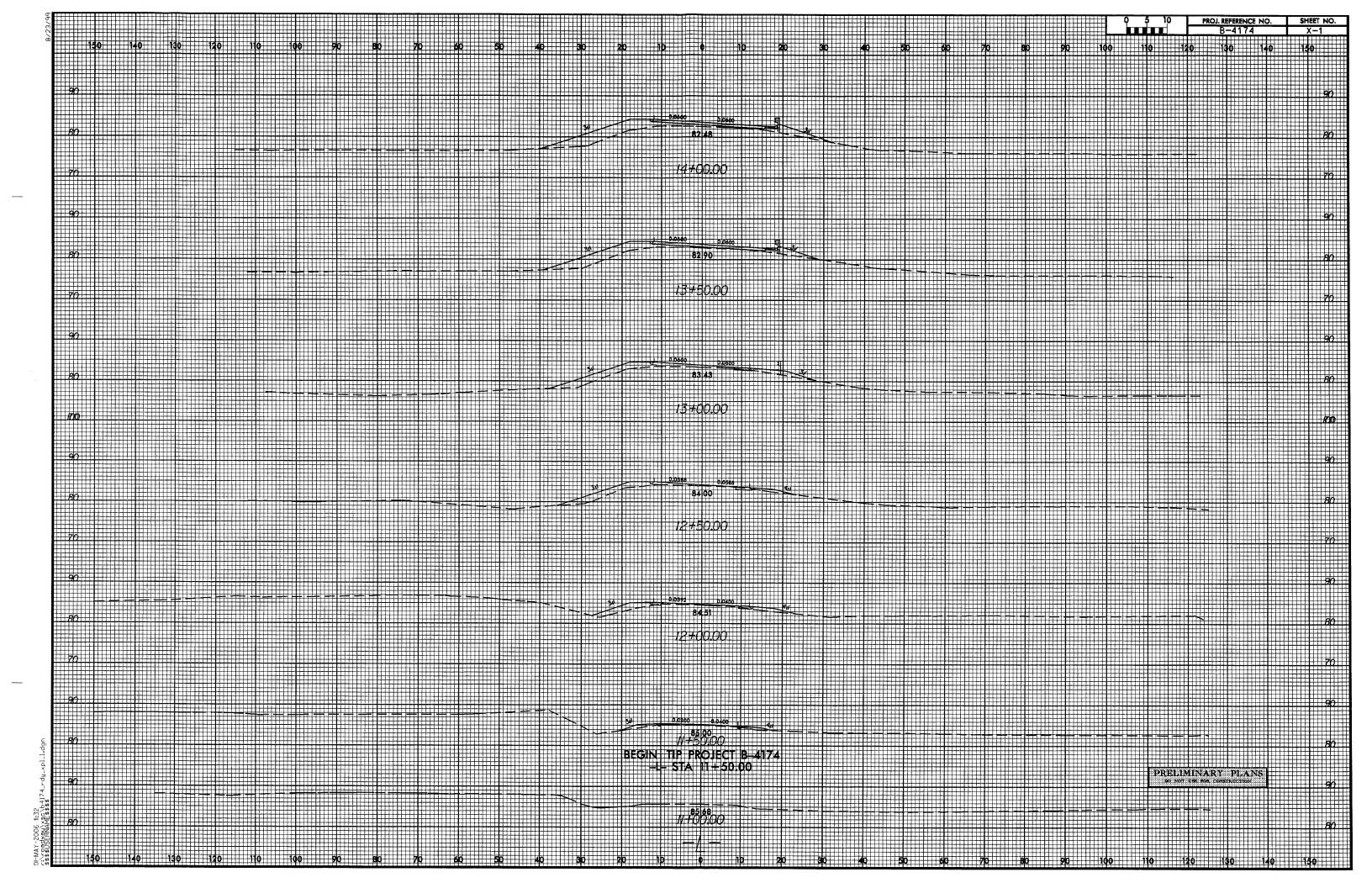


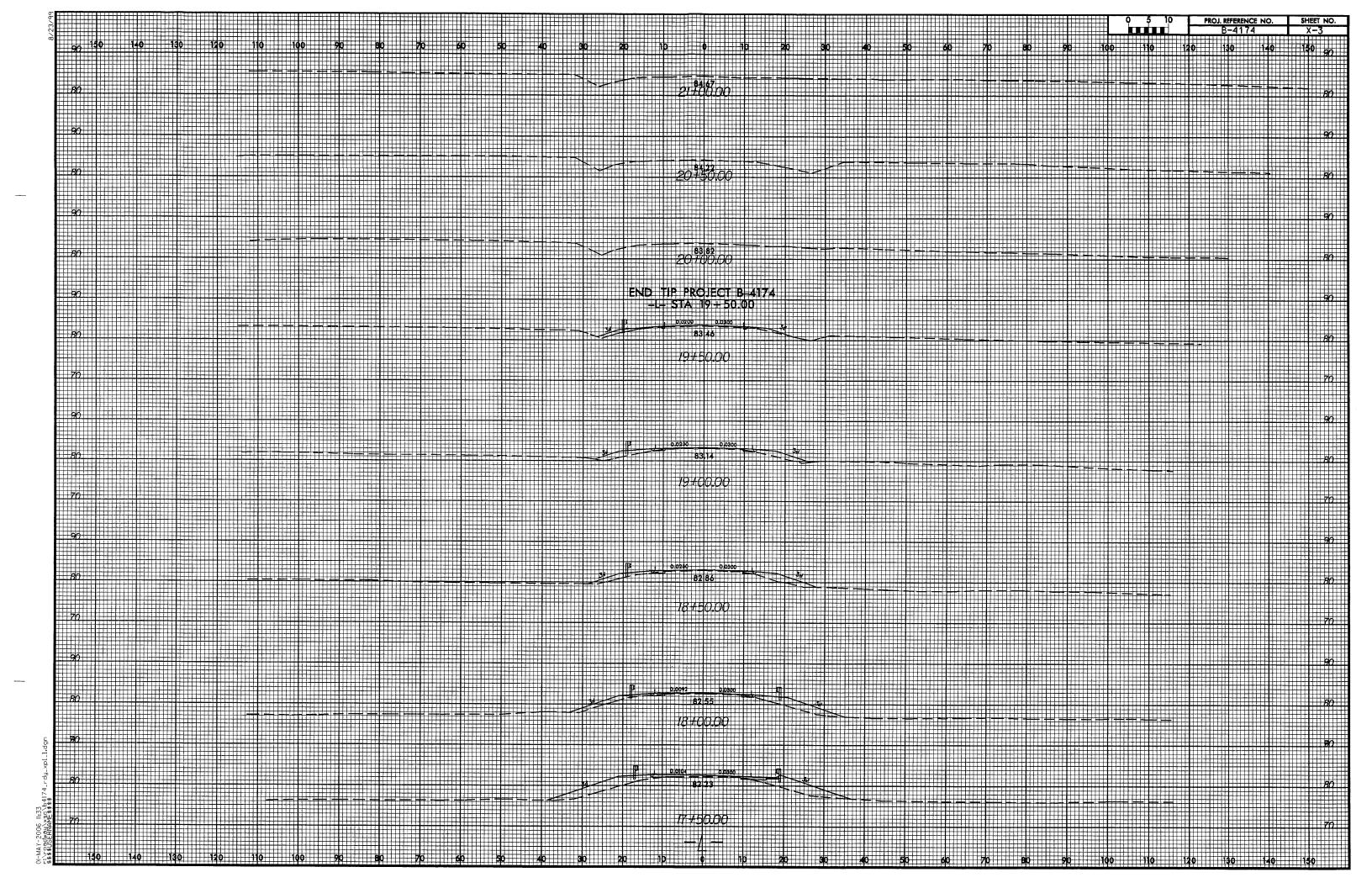




PROPOSED SHOULDER BERM GUTTER
BEGIN SBG -L- STA 13+20 TO 15+55 (RT)
-L- STA 16+70 TO STA 17+55 (RT)







RECEIVED

# CATEGORICAL EXCLUSION ACTION CLASSIFICATION FORM

MAY 16 2006

DIVISION OF HIGHWAYS	
PDEA-OFFICE OF NATURAL ENVIRON	ME

TIP Project No.	B-4174
State Project No.	8.2200401
W.B.S. No.	33521.1.1
Federal Project No.	BRZ-1515(3)
	****

## A. Project Description:

This project proposes to replace Bridge No. 128 on SR 1515 over Mosely Creek in Lenoir County. The replacement structure will consist of an 80-foot long bridge. The bridge will be of sufficient width to provide for a minimum of two 12-foot lanes with three-foot offsets on each side. Traffic will be detoured offsite during construction.

The roadway grade of the new structure will be approximately the same as the existing grade at this location.

The existing roadway will be widened to a 24-foot pavement width to provide two 12-foot lanes. Eight-foot shoulders will be provided on each side. This roadway will be designed as a local route with a 60 mile per hour design speed.

# B. Purpose and Need:

Bridge Maintenance Unit records indicate the bridge has a sufficiency rating of 22.6 out of a possible 100 for a new structure. According to Federal Highway Administration (FHWA) standards the bridge is considered structurally deficient with a structure appraisal of 2 out of 9 and paired with a sufficiency rating of 50 or less is eligible for FHWA's Highway Bridge Replacement and Rehabilitation Program. The replacement of this inadequate structure will result in safer traffic operations.

# C. <u>Proposed Improvements</u>:

Circle one or more of the following Type II improvements which apply to the project:

- 1. Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing).
  - a. Restoring, Resurfacing, Rehabilitating, and Reconstructing pavement (3R and 4R improvements)
  - b. Widening roadway and shoulders without adding through lanes
  - c. Modernizing gore treatments
  - d. Constructing lane improvements (merge, auxiliary, and turn lanes)
  - e. Adding shoulder drains

f. Replacing and rehabilitating culverts, inlets, and drainage pipes, including safety treatments

Providing driveway pipes g.

Performing minor bridge widening (less than one through lane) h.

i. Slide Stabilization

- Structural BMP's for water quality improvement į.
- 2. Highway safety or traffic operations improvement projects including the installation of ramp metering control devices and lighting.
  - Installing ramp metering devices a.

Installing lights b.

Adding or upgrading guardrail c.

Installing safety barriers including Jersey type barriers and pier d. protection

Installing or replacing impact attenuators e.

- Upgrading medians including adding or upgrading median barriers f.
- Improving intersections including relocation and/or realignment g.
- ĥ. Making minor roadway realignment

i. Channelizing traffic

- Performing clear zone safety improvements including removing j. hazards and flattening slopes
- Implementing traffic aid systems, signals, and motorist aid k.
- Installing bridge safety hardware including bridge rail retrofit 1.
- Bridge rehabilitation, reconstruction, or replacement or the construction of grade separation to replace existing at-grade railroad crossings.
  - Rehabilitating, reconstructing, or replacing bridge approach slabs a.
  - Rehabilitating or replacing bridge decks b.
  - Rehabilitating bridges including painting (no red lead paint), scour c. repair, fender systems, and minor structural improvements d. )

Replacing a bridge (structure and/or fill)

- Transportation corridor fringe parking facilities. 4.
- 5. Construction of new truck weigh stations or rest areas.
- 6. Approvals for disposal of excess right-of-way or for joint or limited use of right-of-way, where the proposed use does not have significant adverse impacts.
- Approvals for changes in access control. 7.
- 8. Construction of new bus storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and located on or near a street with adequate capacity to handle anticipated bus and support vehicle traffic.
- 9. Rehabilitation or reconstruction of existing rail and bus buildings and ancillary facilities where only minor amounts of additional land are required and there is not a substantial increase in the number of users.

- 10. Construction of bus transfer facilities (an open area consisting of passenger shelters, boarding areas, kiosks and related street improvements) when located in a commercial area or other high activity center in which there is adequate street capacity for projected bus traffic.
- 11. Construction of rail storage and maintenance facilities in areas used predominantly for industrial or transportation purposes where such construction is not inconsistent with existing zoning and where there is no significant noise impact on the surrounding community.
- 12. Acquisition of land for hardship or protective purposes, advance land acquisition loans under section 3(b) of the UMT Act. Hardship and protective buying will be permitted only for a particular parcel or a limited number of parcels. These types of land acquisition qualify for a CE only where the acquisition will not limit the evaluation of alternatives, including shifts in alignment for planned construction projects, which may be required in the NEPA process. No project development on such land may proceed until the NEPA process has been completed.
- 13. Acquisition and construction of wetland, stream and endangered species mitigation sites.
- 14. Remedial activities involving the removal, treatment or monitoring of soil or groundwater contamination pursuant to state or federal remediation guidelines.
- D. Special Project Information: (Include Environmental Commitments and Permits Required.)

#### **Estimated Costs:**

Total Construction	\$ 500,000
Right of Way	44,000
Total	\$ 544,000

#### **Estimated Traffic:**

Current	-	1000	Year 2025	-	1800
TTST	-	4%	Dual	-	2%

**Accidents**: In a check of a recent three-year period there were no accidents recorded by the Department of Motor Vehicles.

Design Speed: 60 mph

Functional Classification: Rural Local Route

**School Busses**: During the school year there are 10 school bus crossings per day at this location. The Transportation Director for Lenoir County Public Schools indicated that an offsite detour is acceptable although at least one of the busses will require a place to turn around near the north end of the bridge during construction.

**Division Office Comments**: The Division concurs with the proposed alternate.

**Bridge Demolition**: Bridge 128 is composed timber piles with concrete caps and a concrete superstructure. It is likely that all components can be removed without any appreciable debris falling into the water.

Studied Offsite Detour: The offsite detour will utilize SR 1516, SR 1514, SR 1503, and back to SR 1515 (see Figure One). There would be 1.4 miles of additional travel resulting in a total delay of 2 minutes. The construction period is not likely to exceed four months. Neither Emergency Services nor the County School System has a problem with temporary offsite detour. Furthermore, replacing the bridge on the existing location and detouring traffic offsite during construction will help to minimize impacts to the high quality wetlands in all four quadrants of the bridge. NCDOT Division 2 also supports an offsite detour. These conditions all fall within NCDOT's guidelines for acceptable offsite detours.

Other Alternatives: No other alternatives were developed because all data and input pointed to the proposed alternative.

**Design Exception**: There will be no design exceptions for this project.

E.	Threshold Criteria		
	The following evaluation of threshold criteria must be completed actions	for Type II	I
ECOI	LOGICAL	<u>YES</u>	<u>NO</u>
(1)	Will the project have a substantial impact on any unique or important natural resource?		X
(2)	Does the project involve habitat where federally listed endangered or threatened species may occur?		X
(3)	Will the project affect anadromous fish?	X	
(4)	If the project involves wetlands, is the amount of permanent and/or temporary wetland taking less than one-tenth (1/10) of an acre and have all practicable measures to avoid and minimize wetland takings been evaluated?		X
(5)	Will the project require the use of U. S. Forest Service lands?		X
(6)	Will the quality of adjacent water resources be adversely impacted by proposed construction activities?		x
(7)	Does the project involve waters classified as Outstanding Water Resources (OWR) and/or High Quality Waters (HQW)?	·	X
(8)	Will the project require fill in waters of the United States in any of the designated mountain trout counties?		X
(9)	Does the project involve any known underground storage tanks (UST's) or hazardous materials sites?		X
PERN	MITS AND COORDINATION	YES	NO
(10)	If the project is located within a CAMA county, will the project significantly affect the coastal zone and/or any "Area of Environmental Concern" (AEC)?		x
(11)	Does the project involve Coastal Barrier Resources Act resources?		X
(12)	Will a U. S. Coast Guard permit be required?		v

Will the project result in the modification of any existing regulatory floodway?

(13)

(14)	Will the project require any stream relocations or channel changes?		X
SOCIA	AL, ECONOMIC, AND CULTURAL RESOURCES	YES	NO
(15)	Will the project induce substantial impacts to planned growth or land use for the area?		X
(16)	Will the project require the relocation of any family or business?		X
(17)	Will the project have a disproportionately high and adverse human health and environmental effect on any minority or low-income population?		X
(18)	If the project involves the acquisition of right of way, is the amount of right of way acquisition considered minor?	x	
(19)	Will the project involve any changes in access control?		X
(20)	Will the project substantially alter the usefulness and/or land use of adjacent property?		X
(21)	Will the project have an adverse effect on permanent local traffic patterns or community cohesiveness?		X
(22)	Is the project included in an approved thoroughfare plan and/or Transportation Improvement Program (and is, therefore, in conformance with the Clean Air Act of 1990)?	X	
(23)	Is the project anticipated to cause an increase in traffic volumes?		X
(24)	Will traffic be maintained during construction using existing roads, staged construction, or on-site detours?		
(25)	If the project is a bridge replacement project, will the bridge be replaced at its existing location (along the existing facility)		
	and will all construction proposed in association with the bridge replacement project be contained on the existing facility?	X	
(26)	Is there substantial controversy on social, economic, or environmental grounds concerning the project?		X
(27)	Is the project consistent with all Federal, State, and local laws relating to the environmental aspects of the project?	x	
(28)	Will the project have an "effect" on structures/properties eligible for or listed on the National Register of Historic Places?		X

(29)	important to history or pre-history?	X
(30)	Will the project require the use of Section 4(f) resources (public parks, recreation lands, wildlife and waterfowl refuges, historic sites, or historic bridges, as defined in Section 4(f) of the U. S. Department of Transportation Act of 1966)?	X
(31)	Will the project result in any conversion of assisted public recreation sites or facilities to non-recreation uses, as defined by Section 6(f) of the Land and Water Conservation Act of 1965, as amended?	X_
(32)	Will the project involve construction in, across, or adjacent to a river designated as a component of or proposed for inclusion in the National System of Wild and Scenic Rivers?	X
F.	Additional Documentation Required for Unfavorable Responses in Part E	

#### **Documentation for Question 3**

Mosely Creek is an anadromous fish stream. As such, The North Carolina Division of Marine Fisheries has indicated that a moratorium from February 15 to June 15 of any given year must be implemented to minimize impacts to anadramous fish. In addition, NCDOT will implement High Quality Waters Sedimentation and Erosion Control Measures as well as <a href="Stream Crossing Guidelines for Anadramous Fish Crossings">Stream Crossing Guidelines for Anadramous Fish Crossings</a>.

#### **Documentation for Question 4**

There will be approximately 0.4 acres of fill in wetlands associated with the widening of the approaches on this project. Choosing an offsite detour has been the chief means of minimizing impacts to the wetlands. In addition, minimized fill slopes and cross section have been incorporated and will be a continued consideration as design progresses.

# G. CE Approval

TIP Project No.	B-4174
State Project No.	8.2200401
W.B.S. No.	33521.1.1
Federal Project No.	BRZ-1515(3)
Federal Project No.	BRZ-1515(3)

# Project Description:

This project proposes to replace Bridge No. 128 on SR 1515 over a Mosely Creek in Lenoir County. The replacement structure will consist of an 80-foot long bridge. The bridge will be of sufficient width to provide for a minimum of two 12-foot lanes with three-foot offsets on each side. Traffic will be detoured offsite during construction.

12-foot lanes with three-foot offsets on each side. Traffic will be detoured offsite during construction.
Categorical Exclusion Action Classification: (Check one)
TYPE II(A) TYPE II(B)
Approved:
Date  Assistant Manager Project Development & Environmental Analysis Branch
Date Project Planning Unit Head Project Development & Environmental Analysis Branch

Project Planning Engineer Project Development & Environmental Analysis Branch

For Type II(B) projects only:

John F. Sullivan, III, Division Administrator Federal Highway Administration

### **PROJECT COMMITMENTS:**

Lenoir County
Bridge No. on SR 1515
Over Mosely Creek
Federal Aid Project No. BRZ-1515(3)
State Project No. 8.2200401
W.B.S. No. 33521.1.1
T.I.P. No. B-4174

# All Design Groups/ Division Resident Engineer - Anadramous Fish, High Quality Wetlands

The North Carolina Division of Marine Fisheries has indicated that a moratorium on in-water construction will be in place from February 15 to June 15 of any given year.

To the extent practical, construction should be accomplished without the use of construction pads.

To the extent practical, bridge demolition should occur without getting into the water.

To the extent practical, the footprint of the proposed project should be minimized.

NCDOT will implement Stream Crossing Guidelines for Anadromous Fish Crossings.

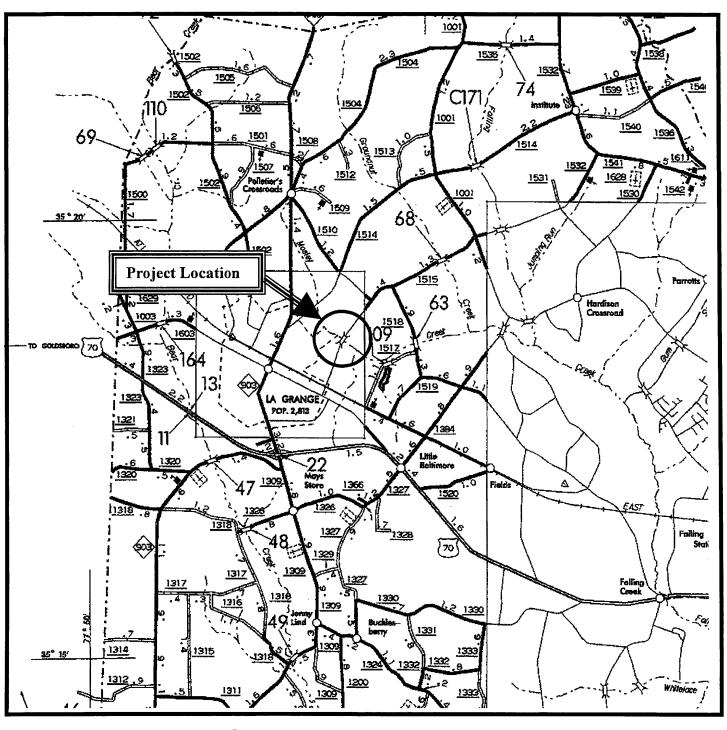
NCDOT will implement High Quality Waters Sedimentation and Erosion Control Measures.

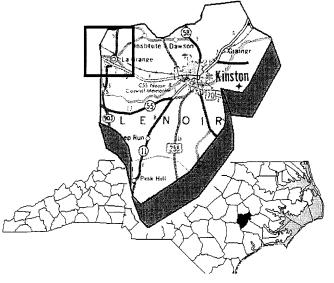
#### Office of Natural Environment - Bridge Demolition

Bridge 128 is composed timber piles with concrete caps and a concrete superstructure. It is likely that all components can be removed without any appreciable debris falling into the water.

#### Resident Engineer - School Bus Turn-Around

Lenoir County Schools have indicated that an offsite detour is acceptable but that a turn-around on the north end of the bridge should be established prior to road closure. Please coordinate with the School Bus Superintendent prior to closure.







NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS BRANCH

LENOIR COUNTY
REPLACE BRIDGE NO. 128 ON SR 1515
OVER MOSELY CREEK
B-4174

Figure 1



# North Carolina Department of Cultural Resources

State Historic Preservation Office

Michael F. Easley, Governor Lisbeth C. Evans, Secretary Jeffrey J. Crow, Deputy Secretary David L. S. Brook, Administrator

David J. Olson, Director

May 5, 2003

#### **MEMORANDUM**

TO:

Greg Thorpe, Manager

Project Development and Environmental Analysis Branch

NCDOT Division of Highways

FROM:

David Brook Palard Brook

SUBJECT:

Replacement of Bridge No. 128 on SR 1515 over Mosely Creek, B-4174,

Lenoir County, ER03-0950

Thank you for your memorandum of April 7, 2003, concerning the above project.

We have conducted a review of the proposed undertaking and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the undertaking as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

Mary Pope Furr cc:

4618 Mail Service Center, Raleigh NC 27699-4618

(919) 733-6545 • 715-4801

# **Lenoir County Public Schools Transportation Department**

Anthony Mitchell Director 1624 HWY 11/55 Kinston, NC 28504 (252) 527-7092 Fax (252) 527-1483

#### March 26, 2003

To:

William T. Goodwin, Jr. PE

Project Development & Environmental Analysis Branch

From:

Anthony Mitchell A---

School Transportation Director

1624 HWY 11/55 Kinston, NC 28504

Subject:

Replacement of Bridge No. 128 on SR 1515 over Mosely Creek, Lenoir

County, Federal Aid Project No. BRZ-1515(3). State Project No.

8.2200401, TIP No. B-4174

At this time there are five school buses routed on the proposed segment of SR 1515 to be replaced. Four of the five can be rerouted. The fifth bus has a stop at Laydens Mobile Home Park just north of the bridge. The bus will have trouble turning around. The Mobile Home Park entrance is narrow. There are other drives that the bus could possibly use but permission would need to be granted from the landowners. None of the possible turnaround sites are paved and the buses will eventually cause large mud holes.

csb



# North Carolina Department of Environment and Natural Resources Division of Marine Fisheries

Michael F. Easley, Governor William G. Ross, Jr., Secretary Preston P. Pate, Jr., Director

#### **MEMORANDUM**

TO:

William T. Goodwin, Jr., PE

NCDOT

Bridge Replacement Planning Unit

FROM:

Mike Street,

DATE:

July 16, 2003

SUBJECT:

Natural System Report

Replacement of Bridge Numbers: 128, 53, 219, 121, 21, 84, 39, 74, 52

Attached is the Divisions' reply for the above referenced project. If you have any questions, please do not hesitate to contact me.

MS/sw



#### MEMORANDUM:

TO:

William Goodwin, Jr.

THROUGH: Mike Street

FROM:

Sean McKenna 5MA

DATE:

July 14, 2003

SUBJECT:

Natural System Report. Replacement of Bridge Numbers 128, 53, 219, 121, 21,

84, 39, 74, and 52.

The following comments by the North Carolina Division of Marine Fisheries (NCDMF) on the Natural System Report for the replacement of the subject bridge's are offered pursuant to G.S. 113-131.

#### Bridge Numbers 128, 53, 121, 21, 84, 39, 74, and 52.

The NCDMF concurs with the findings in these reports and agrees with DOT's in-stream construction moratoriums to limit the effects on fishery resources and their plan to protect water quality (BMP's for erosion control, and surface waters protection) during construction. The NCDMF encourages DOT to bridge all wetlands for these replacement projects.

#### Bridge Number 219.

In the Natural System Reports for this bridge DOT makes no mention of anadromous fish utilizing the creek (Hardee) that this bridges traverse. NCDMF data (1974) indicates that Hardee Creek does support river herring. The NCDMF requests that DOT impose an in-water moratorium from February through September to protect adult, egg, and larval stages of these migratory species. If data from the Wildlife Resource Commission or a stream survey shows that these areas no longer support anadromous species then the NCDMF will withdrawal it's request for a moratorium.



# **United States Department of the Interior**

FISH AND WILDLIFE SERVICE Raleigh Field Office Post Office Box 33726 Raleigh, North Carolina 27636-3726 November 8, 2005



NOV 17 2005

DIVISION OF HIGHWAYS
POEA-OFFICE OF NATURAL ENVIRONMENT

Phil S. Harris, III, P.E., Unit Head North Carolina Department of Transportation Project Development and Environmental Analysis 1598 Mail Service Center Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

This letter is in response to your letter of October 31, 2005 which provided the U.S. Fish and Wildlife Service (Service) with the biological determination of the North Carolina Department of Transportation (NCDOT) that the replacement of Bridge No. 128 on SR 1515 over Mosely Creek in Lenoir County (TIP No. B-4174) may affect, but is not likely to adversely affect the federally threatened bald eagle (*Haliaeetus leucocephalus*). In addition, NCDOT has determined that the project will have no effect on the federally protected red-cockaded woodpecker (*Picoides borealis*) and sensitive joint-vetch (*Aeschynomene virginica*). These comments are provided in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543).

According to information provided, an eagle survey was conducted at the project site on October 13, 2005. The driving/walking survey extended to a radius of one mile. No eagles or eagle nest were observed. In addition, no habitat for the red-cockaded woodpecker was observed.

Based on the survey results, the Service concurs with your determination that the proposed bridge replacement may affect, but is not likely to adversely affect the bald eagle. In addition, due to the lack of habitat, the Service concurs with your determination that the project will have no effect on the red-cockaded woodpecker and sensitive joint-vetch. We believe that the requirements of section 7(a)(2) of the ESA have been satisfied. We remind you that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered in this review; (2) this action is subsequently modified in a manner that was not considered in this review; or (3) a new species is listed or critical habitat determined that may be affected by this identified action.

The Service appreciates the opportunity to review this project. If you have any questions regarding our response, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Pete Benjamin

Ecological Services Supervisor

Subject: RE: B-4174 Lenoir

Date: Wed, 19 Jul 2006 13:58:24 -0400

From: "Wilson, Travis W." < travis.wilson@ncwildlife.org>

To: "Tyler P. Stanton" <tstanton@dot.state.nc.us>

In a memo dated July 3, 2003 to Bill Goodwin, we did not recommend a moratorium for this project.

----Original Message----

From: Tyler P. Stanton [mailto:tstanton@dot.state.nc.us]

Sent: Wednesday, July 19, 2006 9:13 AM

To: Travis Wilson Subject: B-4174 Lenoir

Travis,

DOT plans to replace bridge No. 128 over Mosely Creek in Lenoir Co. I believe scoping letters were sent in April 2003. Do you have any recommendations concerning anadromous fish? Thanks, Tyler

Tyler Stanton, Biologist North Carolina Department of Transportation PDEA, Natural Environment Unit 1598 Mail Service Center Raleigh, NC 27699-1598

voice: (919)715-1439 fax: (919)715-5501

#### **Special Sediment Control Fence:**

#### Description:

The work covered by this section consists of the construction, maintenance, and removal of special sediment control fence. Place special sediment control fence as shown on the plans or as directed by the Engineer in wetland areas permitted for the installation of Sediment and Erosion Control measures. The sections of Special Sediment Control Fence shall serve as drainage breaks for Silt Fence and shall not exceed 10 ft. (3 m) in length.

#### Materials:

#### (A) Posts:

Steel posts shall be at least 5 feet (1.5 m) in length, approximately 1 3/8 inches (35 mm) wide measured parallel to the fence, and have a minimum weight of 1.25 lb/ft (1.86 kg/m) of length. The post shall be equipped with an anchor plate having a minimum area of 14.0 square inches (9000 square millimeters), and shall have a means of retaining wire in the desired position without displacement.

#### (B) 1/4 inch (6.4mm) Hardware Cloth:

Hardware cloth shall have 1/4 inch (6.4mm) openings constructed from #24 gauge wire. Install hardware cloth according to the detail shown on the plans.

#### (C) Sediment Control Stone:

Sediment control stone shall meet the requirements of Section 1005 of the 2002 Standard Specifications for Roads and Structures. Install stone according to the detail included with the plans.

#### Maintenance and Removal:

The Contractor shall maintain the special sediment control fence until the project is accepted or until the fence is removed, and shall remove and dispose of silt accumulations at the fence when so directed by the Engineer in accordance with Section 1630 of the 2002 Standard Specifications for Roads and Structures.

S

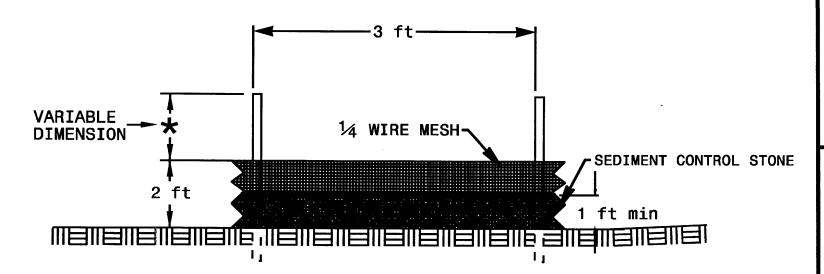
**GENERAL NOTES:** 

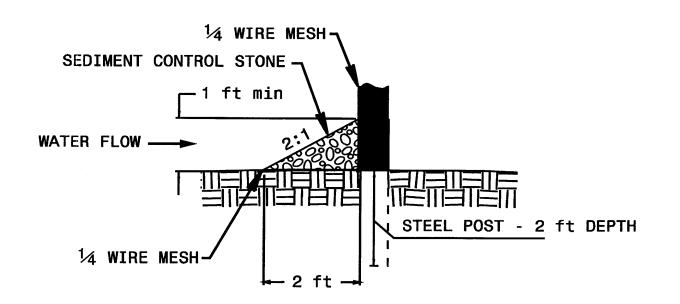
SEDIMENT CONTROL STONE SHALL BE NO. 5 OR NO. 57 AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER TON "SEDIMENT CONTROL STONE."

USE HARDWARE CLOTH 24 GAUGE WIRE MESH WITH 1/4 INCH MESH OPENINGS.

INSTALL 5 FT. SELF FASTENER ANGLE STEEL POST 2 FT. DEEP MINIMUM.

POST SPACING SHALL BE A MAXIMUM OF 3 FT.





SHEET 1 OF 1

1606.01

SHEET 1 OF 1 1606.01

FENCE CONTROL DRAWING ENGLISH STANDARD SEDIMENT SPECIAL

DEPT. OF T DIVISION



# STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT SECRETARY

May 1, 2006

**MEMORANDUM TO:** 

File

FROM:

Paul F. Fisher, P.E.

Hydraulics Unit

SUBJECT:

Stormwater Management Plan

B-4174, Lenoir County

The following items were incorporated into the Hydraulic design of this project for stormwater quality considerations:

- No deck drains on the bridge
- No untreated discharge directly into Buffer Zones
- Roadway side slopes set at 3:1 maximum.
- Use top-down construction methods.

**PFF** 

WEBSITE: WWW.DOH.DOT.STATE.NC.US