



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

April 7, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

ATTENTION: Mr. Steve Lund
NCDOT Coordinator

Dear Sir:

SUBJECT: **Nationwide Permit 23 and 33 Application** for the replacement of Bridge No. 223 over West Fork Twelve Mile Creek on SR 1321 in Union County. Federal Aid Project No. BRZ-1321(3), WBS Element 33634.1.1, Division 10, TIP No. B-4296.

Please see the enclosed Pre-Construction Notification (PCN), US Fish and Wildlife Concurrence Letter, permit drawings, and design plans, for the above referenced project. A Programmatic Categorical Exclusion, dated June 12, 2007, has been completed and distributed for this project. Additional copies are available upon request. The North Carolina Department of Transportation (NCDOT) proposes to replace the 41-foot, single-span bridge with a new 115-foot, single-span bridge over West Fork Twelve Mile Creek. The existing bridge will be replaced in place at the location of the existing bridge, and traffic will be maintained on an off site detour. There will 120 feet of linear stream impacts due to the relocation of an unnamed tributary to West Fork Twelve Mile Creek. There are no jurisdictional wetlands in the project area.

IMPACTS TO WATERS OF THE UNITED STATES

General Description:

The single water resource impacted for project B-4296 is an Unnamed Tributary to West Fork Twelve Mile Creek. Within the project area, West Fork Twelve Mile Creek is approximately 25 feet wide and 1-2 feet deep, and the UT is approximately 1 foot wide and <4 inches deep where water exists. The Division of Water Quality (DWQ) Index number for this section of West Fork Twelve Mile Creek is 11-138-1, and the Hydrological Cataloguing Unit is 03050103 within the Catawba River Basin. The DWQ classifies West Fork Twelve Mile Creek as "C". Within the project area, West Fork Twelve Mile Creek is not listed as a 303(d) water. There are no 303(d) waters within a mile downstream of the project area. No High Quality Waters (HQW), Water Supplies (WS-I or WSII), or Outstanding Resource Waters (ORW), occur within one mile of the project study area.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-715-1334
FAX: 919-715-5501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING,
2728 CAPITAL BLVD.
RALEIGH NC 27604

Permanent Impacts:

There will be 120 feet of stream impacts to the UT to West Fork Twelve Mile Creek due to the improvement of the alignment of SR 1315. This design places the fill for the abutment into the UT to West Fork Twelve Mile Creek and requires the relocation of this system. The new single-span structure will have no permanent impacts to West Fork Twelve Mile Creek.

Temporary Impacts:

There will be <0.01 acre of temporary impact to the UT of West Fork Twelve Mile Creek associated with the relocation of this system.

Utility Impacts:

A gas line will be relocated on the north side of the bridge using a directional bore method. There will be no jurisdictional impacts associated with utilities for this project.

Bridge Demolition:

Bridge No. 223 is constructed of timber and steel and should be removed without any temporary fill falling into West Fork Twelve Mile Creek during demolition.

FEDERALLY PROTECTED SPECIES

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE) and Proposed Threatened (PT) are protected under provisions of Section 7 and Section 9 of the Endangered Species Act of 1973, as amended. As of January 31, 2008, the United States Fish and Wildlife Service (USFWS) lists three federally protected species for Union County (Table 1).

NCDOT is in receipt of a letter from USFWS (attached to this package) concurring with the findings below.

Table 1. Federally Protected Species for Union County

Common Name	Scientific Name	Status	Habitat Present	Last Survey Date	Biological Conclusion
Carolina heelsplitter	<i>Lasmigona decorata</i>	Endangered	Yes	10/2004	No Effect
Michaux's sumac	<i>Rhus michauxii</i>	Endangered	Yes	7/2006	No Effect
Schweinitz's sunflower	<i>Helianthus schweinitzii</i>	Endangered	Yes	10/2006	No Effect

AVOIDANCE, MINIMIZATION AND MITIGATION

Avoidance and Minimization:

Avoidance examines all appropriate and practicable possibilities of averting impacts to “Waters of the United States.” The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impact. In addition, Best Management Practices will be followed as outlined in “NCDOT’s Best Management Practices for Construction and Maintenance Activities”.

Additional avoidance and minimization efforts for this project also include:

- The replacement with a spanning structure over West Fork Twelve Mile Creek.
- Traffic will be maintained on an off site detour eliminating the need for construction of a temporary on-site detour.
- Water will not be directly discharged into West Fork Twelve Mile Creek via deck drains.
- The new bridge will be longer, allowing for better hydraulic connectivity for West Fork Twelve Mile Creek.

Mitigation:

NCDOT proposes no mitigation for the 120 linear feet of impacts to the UT to West Fork Twelve Mile Creek due to the low quality of this system, and the reconstruction of this system resulting in a less incised feature.

PROJECT SCHEDULE

The project schedule calls for a December 16, 2008 let date, and a review date of October 28, 2008.

REGULATORY APPROVALS

Section 404 Permit:

It is anticipated that the permanent impacts to the UT to West Fork Twelve Mile Creek will be authorized under Section 404 Nationwide Permit 23 for the permanent stream impacts for the project, and a Nationwide Permit 33 for the temporary impacts associated with this project. We are, therefore, requesting the issuance of Nationwide Permits 23 and 33.

Section 401 Permit:

We anticipate 401 General Certification numbers 3701 and 3688 will apply to this project. All conditions of the General Certification will be adhered to; therefore, we are not requesting concurrence from NCDWQ. In accordance with 15A NCAC 2H .0501(a) we are providing two copies of this application to the North Carolina Department of Environmental and Natural Resources, Division of Water Quality, for their records.

A copy of this application will be posted at
<http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html>

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Michael Turchy at maturchy@dot.state.nc.us or (919) 715-1468.

Sincerely,



EV Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

cc:

W/attachment

Mr. Brian Wrenn, NCDWQ (2 Copies)
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. Barry Moose, PE, Division Engineer
Mr. Larry Thompson, DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Mr. Greg Blakeney, PDEA Project Planning Engineer

Office Use Only:

Form Version March 05

USACE Action ID No. _____ **DWQ No.** _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Section 404 Permit | <input type="checkbox"/> Riparian or Watershed Buffer Rules |
| <input type="checkbox"/> Section 10 Permit | <input type="checkbox"/> Isolated Wetland Permit from DWQ |
| <input type="checkbox"/> 401 Water Quality Certification | <input type="checkbox"/> Express 401 Water Quality Certification |

2. Nationwide, Regional or General Permit Number(s) Requested: NW 23 & 33
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

Name: Gregory J. Thorpe, Ph.D., Environmental Management Director
Mailing Address: 1598 Mail Service Center

Telephone Number: (919) 733-3141 Fax Number: (919) 733-9794
E-mail Address: maturchy@dot.state.nc.us

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: _____
Company Affiliation: _____
Mailing Address: _____

Telephone Number: _____ Fax Number: _____
E-mail Address: _____

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: Replacement of Bridge 223 over West Fork Twelve Mile Creek on SR 1321 (Cuthbertson Road).
2. T.I.P. Project Number or State Project Number (NCDOT Only): B-4296
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Union Nearest Town: Waxhaw
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): 34.9577 °N -80.7523 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: West Fork Twelve Mile Creek
8. River Basin: Catawba
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: The land uses surrounding and within the project area are primarily woodland and scattered residential homes.
10. Describe the overall project in detail, including the type of equipment to be used: _____

Standard construction equipment will be used (backhoes, bulldozers, cranes and/or other heavy machinery)

11. Explain the purpose of the proposed work: The purpose of the project is to replace a functionally and structurally obsolete structure, and to obtain a safer and more efficient traffic operation.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. None.

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.
None.

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: 120 linear feet of permanent impacts and 14 feet of temporary impacts to UT to West Fork Twelve Mile Creek due to the relocation of this system.

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)
None					
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: None

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)
1	UT to 12 mi. Creek	Permanent	Intermittent	1'	120	0.01
1	UT to 12 mi. Creek	Temporary	Intermittent	1'	14	<0.01
Total Permanent Stream Impact (by length and acreage)					134	<0.02

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)
No open water impacts				
Total Open Water Impact (acres)				

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

Stream Impact (acres):	0.01 (120')
Wetland Impact (acres):	
Open Water Impact (acres):	
Total Impact to Waters of the U.S. (acres)	0.01 (120')
Total Stream Impact:	0.01 (120')

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.

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.): _____

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. Traffic will be maintained on an offsite detour during construction. No deck drains will be used and NCDOT's Best Management Practices will be followed.

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 <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

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.

No mitigation is proposed due to the quality and size of the UT to Twelve Mile Creek.

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 website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): 0

Amount of buffer mitigation requested (square feet): 0

Amount of Riparian wetland mitigation requested (acres): 0

Amount of Non-riparian wetland mitigation requested (acres): 0

Amount of Coastal wetland mitigation requested (acres): 0

IX. Environmental Documentation (required by DWQ)

1. Does the project involve an expenditure of public (federal/state/local) funds or the use of public (federal/state) land? Yes No

2. If yes, does the project require preparation of an environmental document pursuant to the requirements of the National or North Carolina Environmental Policy Act (NEPA/SEPA)?
 Note: If you are not sure whether a NEPA/SEPA document is required, call the SEPA coordinator at (919) 733-5083 to review current thresholds for environmental documentation.
 Yes No
3. If yes, has the document review been finalized by the State Clearinghouse? If so, please attach a copy of the NEPA or SEPA final approval letter. Yes No

X. Proposed Impacts on Riparian and Watershed Buffers (required by DWQ)

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to required state and local buffers associated with the project. The applicant must also provide justification for these impacts in Section VII above. All proposed impacts must be listed herein, and must be clearly identifiable on the accompanying site plan. All buffers must be shown on a map, whether or not impacts are proposed to the buffers. Correspondence from the DWQ Regional Office may be included as appropriate. Photographs may also be included at the applicant's discretion.

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify _____)? Yes No
2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1		3 (2 for Catawba)	
2		1.5	
Total			

* 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. Impervious surfaces will not significantly increase as a result of this project. Water will not directly discharge into West Fork Twelve Mile Creek.

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 No

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 No
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 <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: The new bridge will be constructed near the location of the old bridge.

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).



4.4.08

Applicant/Agent's Signature

Date

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



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

October 16, 2006

Dr. Gregory J. Thorpe, Director
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Attention: Mr. Michael Turchy

Dear Dr. Thorpe:

Subject: Endangered Species Concurrence for the Replacement of Bridge No. 223 on SR 1321 over West Fork Twelve Mile Creek, Union County, North Carolina (TIP Project No. B-4296)

We have reviewed the survey report for the federally endangered Carolina heelsplitter (*Lasmigona decorata*) for the subject project and are providing the following comments and our concurrence that the project will have no effect on the Carolina heelsplitter. The comments are provided in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); and the Migratory Bird Treaty Act (16 U.S.C. 703, et seq.).

Fish and Wildlife Resources - The information provided for this project does not include a detailed description of the structure that will replace the existing bridge. We recommend that the existing bridge be replaced with a new bridge, and we request that the National Environmental Policy Act (NEPA) document for this project address an alternative of replacing the existing bridge with a new one. If an alternative other than the replacement of the existing bridge with a new bridge (such as replacing the existing bridge with a culvert) is chosen, we request that the NEPA document include an evaluation as to why an alternative of replacing the existing bridge with a new bridge was not chosen. We recommend that the new bridge design include provisions for the roadbed and deck drainage to flow through a vegetated buffer prior to reaching the affected stream. This buffer should be large enough to alleviate any potential effects from the runoff of storm water and pollutants. The bridge design should not alter the natural stream or the stream-bank morphology or impede fish passage. Any piers or bents should be placed outside the bank-full width of the stream. The bridge and approaches should be designed to

avoid any fill that will result in the damming or constriction of the channel or floodplain. If spanning the floodplain is not feasible, culverts should be installed in the floodplain portion of the approaches in order to restore some of the hydrological functions of the floodplain and reduce high velocities of floodwaters within the affected area. Measures to control erosion and sedimentation should be in place prior to any ground-disturbing activities. Wet concrete should never be allowed to come into contact with the stream. Equipment should be inspected daily to ensure that there are no equipment leaks that could enter the river. Construction material should not enter the water during demolition of the existing bridge and construction of the new bridge. In most cases we prefer that a bridge be replaced in place by constructing the new bridge through staged construction or by detouring traffic to existing off-site routes.

When reseeding/revegetating disturbed areas, we strongly recommend that only native plant species be used or, if an adequate seed source cannot be found, that noninvasive species (such as annual rye) be used until native plants can reestablish themselves. While many of the exotic plant species typically used in erosion-control and reclamation efforts have proven beneficial to some wildlife species, we now know that the invasive nature of these species outweighs any short-term erosion-control or wildlife benefits they may provide. Exotic species, including tall fescue (native to Eurasia), Korean and Sericea lespedeza (eastern Asia species), redtop (a Eurasian species), Sudan grass and Bermuda grass (native to Africa), and Kentucky bluegrass (native to Eurasia and northern Canada), choke out native vegetation and often result in monocultures that prove to be of little benefit to wildlife and can be very detrimental to the ecosystem as a whole.

Federally Listed Species - The federally endangered Carolina heelsplitter (*Lasmigona decorata*) has been recorded from the Twelve Mile Creek subbasin in Union County, North Carolina. Accordingly, a mussel survey was conducted 100 meters upstream and 400 meters downstream of the project area on August 19, 2004. No Carolina heelsplitters were discovered during the survey. However, 16 eastern elliptio (*Elliptio complanata*), 1 variable spike (*Elliptio icterina*), and 1 eastern creekshell (*Villosa delumbis*) mussels were found. Your letter requested our concurrence that there may be an effect, although not an anticipated adverse effect, from the project on the Carolina heelsplitter. To issue a concurrence letter that a project "may affect, but is not likely to adversely affect" a listed species, we need to review the analysis of the effect and how the project has been designed to ensure that the effect is not likely to be adverse. Because no Carolina heelsplitters were discovered during the survey for the subject project and because other recent mussel surveys within West Fork Twelve Mile Creek did not result in the discovery of any Carolina heelsplitters, we do not believe the project will have any effect on the Carolina heelsplitter. Your letter also stated that no specimens of the federally endangered Schweinitz's sunflower (*Helianthus schweinitzii*) or Michaux's sumac (*Rhus michauxii*) were discovered in the project area during a plant survey. Therefore, we believe the requirements under section 7(c) of the Act are fulfilled for these species. However, obligations under section 7 of the Act 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, (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 is determined that may be affected by the identified action.

While we believe obligations under section 7 of the Act are fulfilled, we request that the NCDOT contact the North Carolina Natural Heritage Program (NCNHP) prior to construction to inform them that the eastern creekshell, which is listed by the NCNHP as significantly rare, is within the project area and may be impacted by the project.

Migratory Birds – The MBTA (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds (including the bald eagle), their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. To avoid impacts to migratory birds, we recommend conducting a visual inspection of the bridge and any other migratory bird nesting habitat within the project area during the migratory bird nesting season from March through September. If migratory birds are discovered nesting in the project impact area, including on the existing bridge, the NCDOT should avoid impacting the nests during the migratory bird nesting season (March through September). If birds are discovered nesting on the bridge during years prior to the proposed construction date, the NCDOT, in consultation with us, should develop measures to discourage birds from establishing nests on the bridge by means that will not result in the take of the birds or eggs, or the NCDOT should avoid construction and demolition activities during the nesting period.

If we can be of assistance or if you have any questions about these comments, please contact Ms. Denise Moldenhauer of our staff at 828/258-3939, Ext. 226. In any future correspondence concerning this project, please reference our Log Number 4-2-03-448.

Sincerely,



Brian P. Cole
Field Supervisor

cc:

Mr. Steve Lund, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006

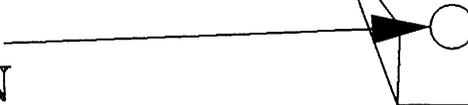
Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 4614 Wilgrove-Mint Hill Road, Suite M, Charlotte, NC 28227

Ms. Sarah McRae, North Carolina Department of Environment and Natural Resources, natural Heritage Program, 1601 Mail Service Center, Raleigh, NC 27699-1601

NORTH CAROLINA



PROJECT
LOCATON



VICINITY MAP

NCDOT

DIVISION OF HIGHWAYS

UNION COUNTY

PROJECT: 33634.1.1 (B-4296)

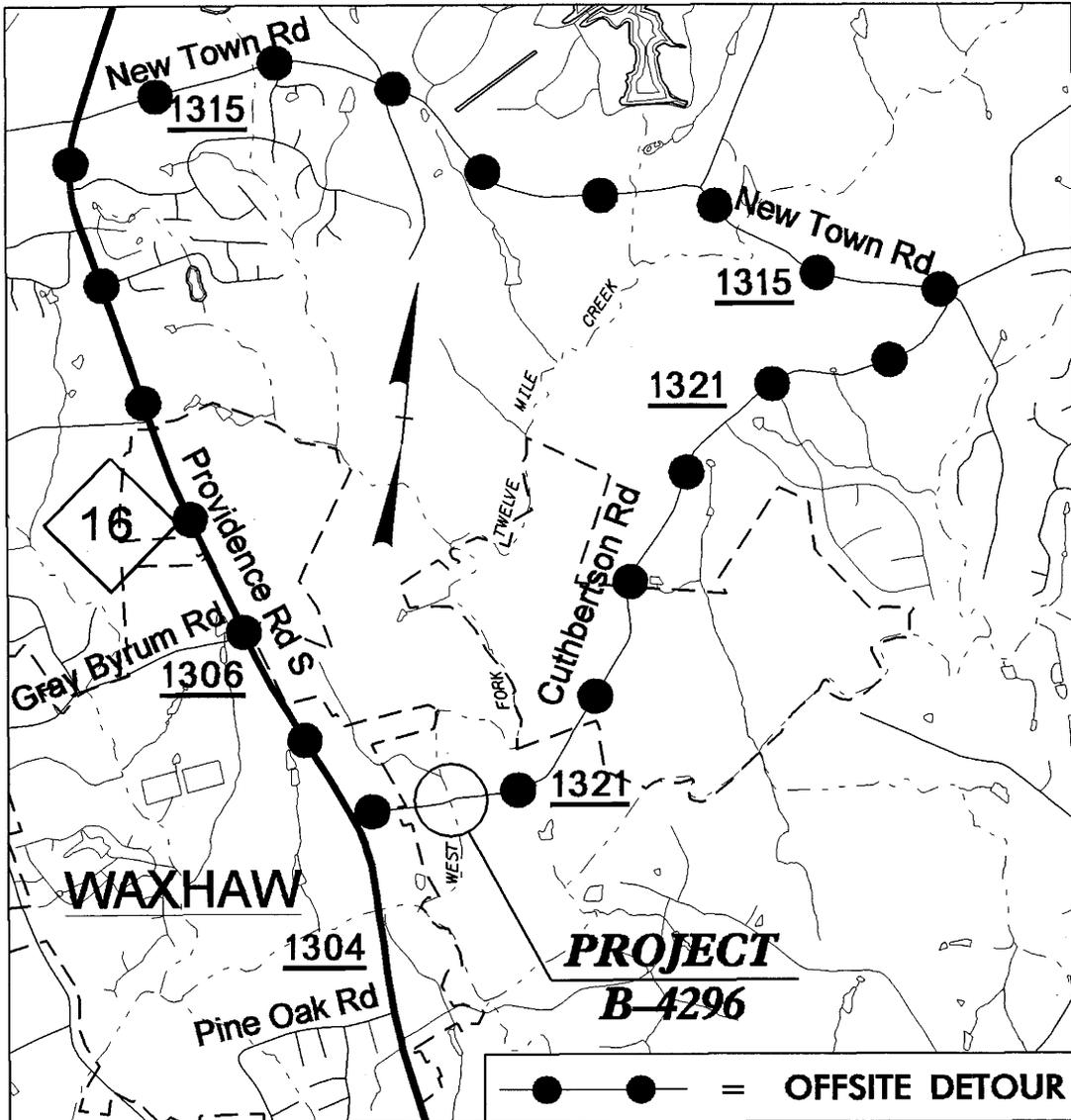
WAXHAW, NC

CUTHBERTSON RD (SR1321)

REPLACEMENT OF BRIDGE 223

SHEET

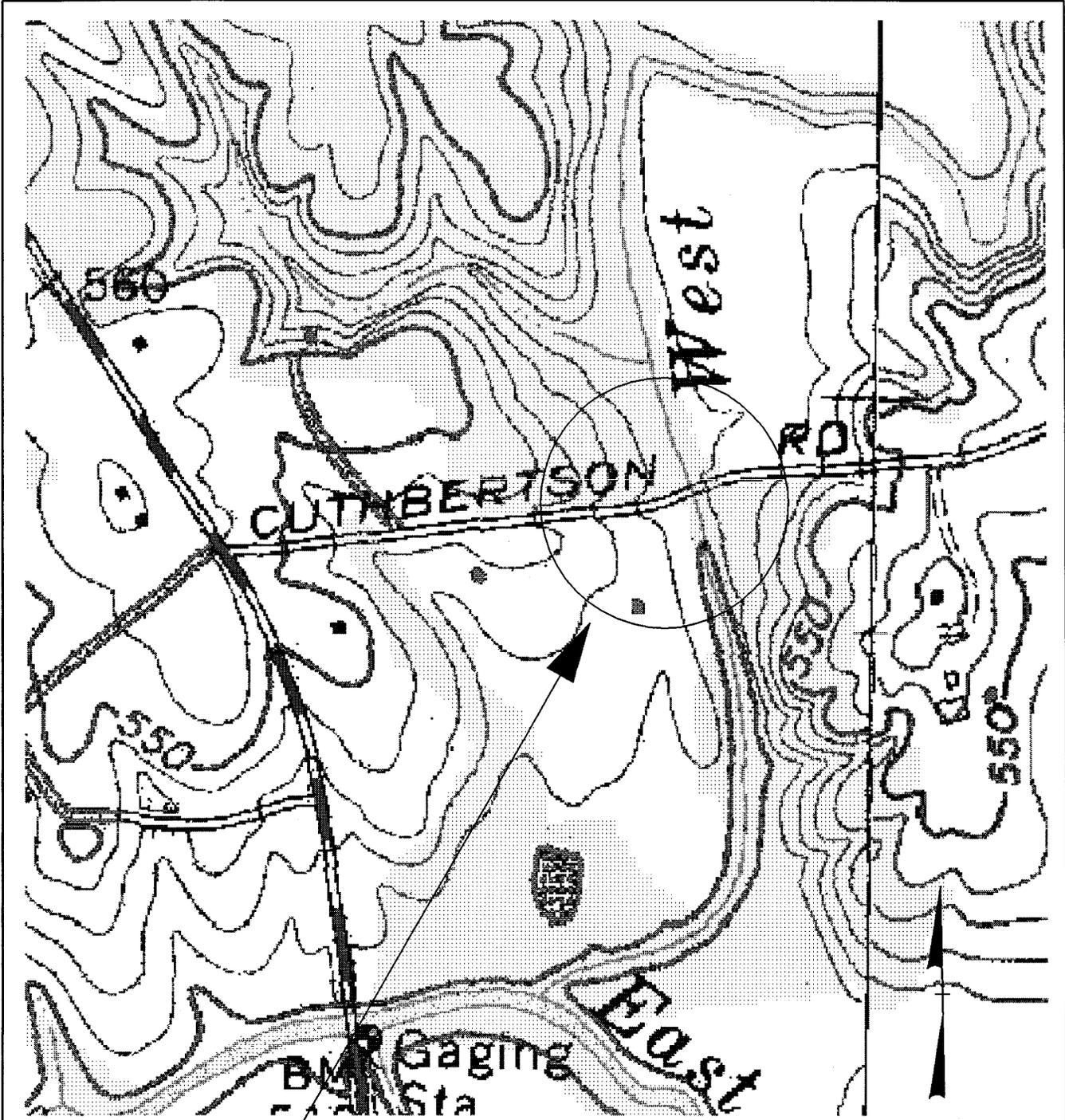
1 OF 8



VICINITY MAP

VICINITY
MAP

NCDOT
DIVISION OF HIGHWAYS
UNION COUNTY
PROJECT: 33634.1.1 (B-4296)
WAXHAW, NC
CUTHBERTSON RD (SR1321)
REPLACEMENT OF BRIDGE 223



B-4296

-NOT TO SCALE-

SITE
MAP

NCDOT
DIVISION OF HIGHWAYS
UNION COUNTY
PROJECT: 33634.1.1 (B-4296)
WAXHAW, NC
CUTHBERTSON RD (SR1321)
REPLACEMENT OF BRIDGE 223

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	Owens, Clayton S.	2409 Cuthbertson Rd. Waxhaw, NC 28173
2	Pfister, Walter R., Christine L.	P.O. Box 191 Waxhaw, NC 28173
3	Pfister, Heirs Emil J., Rosly P.	P.O. Box 191 Waxhaw, NC 28173
4	Pfister, Heirs Emil J., Rosly P.	P.O. Box 191 Waxhaw, NC 28173

NCDOT

DIVISION OF HIGHWAYS

UNION COUNTY

PROJECT: 33634.1.1 (B-4296)

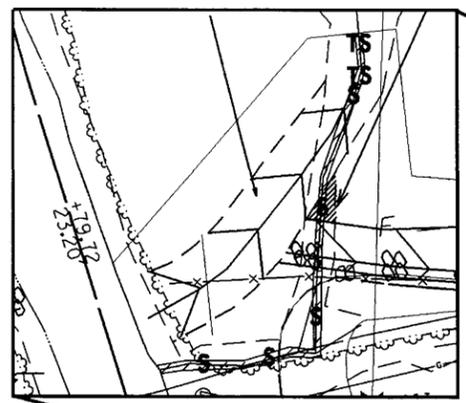
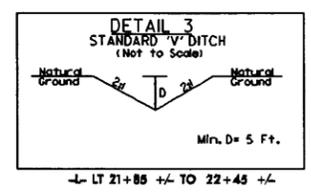
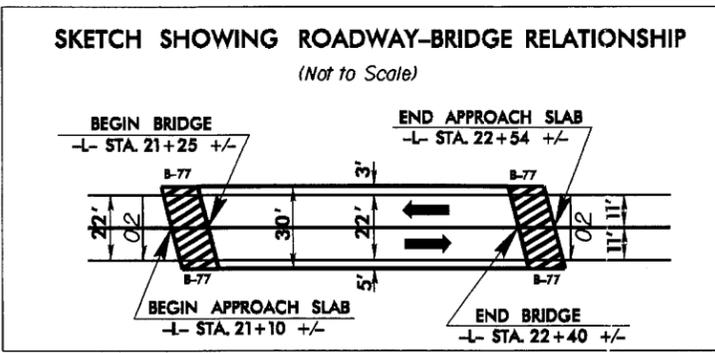
WAXHAW, NC

CUTHBERTSON RD (SR1321)

REPLACEMENT OF BRIDGE 223

SHEET 4 OF 8

PROJECT REFERENCE NO. B-4296	SHEET NO. 4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



SCALE 1" = 50'

2
WALTER R. PFISTER
CHRISTINE L. PFISTER
DB 288 PG 288

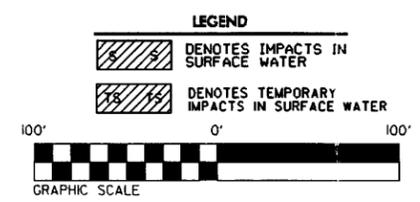
3
EMIL J. PFISTER &
ROSLEY P. PFISTER, HEIRS
DB 258 PG 257

1
CLAYTON S. OWENS &
IRENE E. EDWARDS
DB 48 PG 303
DB 703 PG 293

3
EMIL J. PFISTER &
ROSLEY P. PFISTER, HEIRS
DB 251 PG 267

-L-

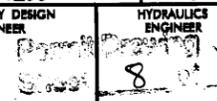
PI Sta 18+77.94	PI Sta 24+32.84
$\Delta = 8^{\circ} 22' 33.6"$ (LT)	$\Delta = 10^{\circ} 33' 02.7"$ (RT)
$D = 3^{\circ} 48' 25.3"$	$D = 3^{\circ} 02' 51.5"$
$L = 220.0'$	$L = 346.19'$
$T = 110.20'$	$T = 173.59'$
$R = 1,505.00'$	$R = 1,880.00'$
SE = SEE PLANS	SE = SEE PLANS

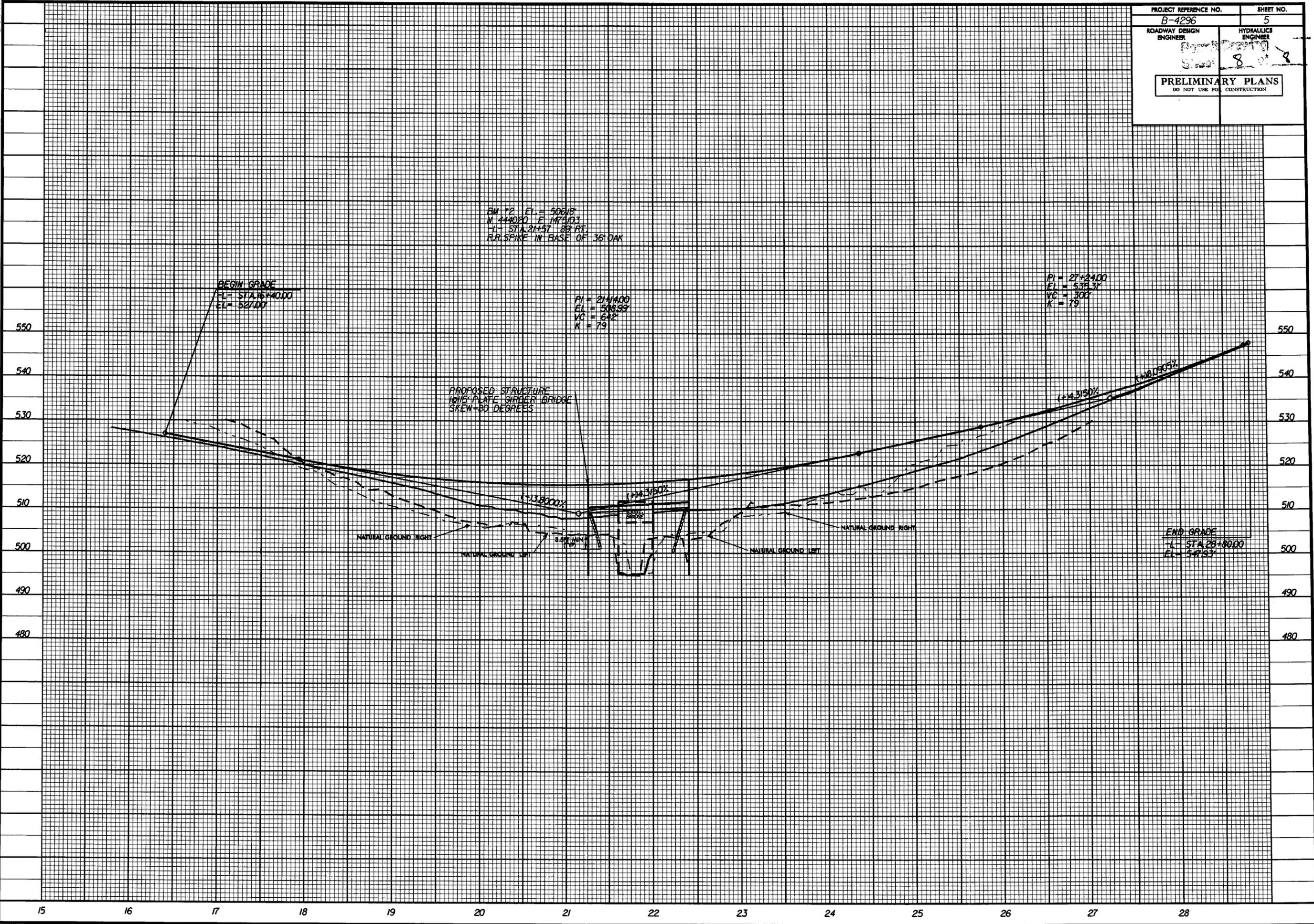


FOR -L- PROFILE, SEE SHEET NO. 5
FOR DITCH DETAILS, SEE SHEET NO. 2-A

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revision

5/14/99

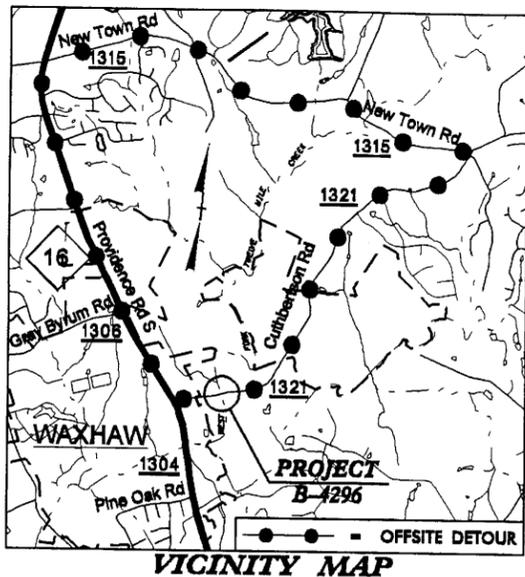
PROJECT REFERENCE NO. B-4296	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
 PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	



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05/08/99

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
UNION COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4296	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33634.1.1	BRZ-1321(3)	P.E.	
33634.2.1	BRZ-1321(3)	R/W & UTIL	

LOCATION: BRIDGE NO. 223 OVER WEST FORK TWELVE MILE CREEK AND APPROACHES ON SR 1321 (CUTHBERTSON ROAD)
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

RECEIVED

JAN 30 2008

DIVISION OF HIGHWAYS
HYDRAULICS UNIT



TO SR 1315
NEW TOWN RD.

BEGIN TIP PROJECT B-4296
-L- STA. 16+40.00
BEGIN CONSTRUCTION

TO NC 16
PROVIDENCE RD. S.

CUTHBERTSON RD. SR 1321

BEGIN BRIDGE
-L- STA 21+25 ±

END BRIDGE
-L- STA 22+40 ±

West Fork
Twelve Mile Creek

END TIP PROJECT B-4296
-L- STA. 28+80.00
END CONSTRUCTION

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

TIP PROJECT: B-4296

CONTRACT:

<p>GRAPHIC SCALES</p> <p>50 25 0 50 100 PLANS</p> <p>50 25 0 50 100 PROFILE (HORIZONTAL)</p> <p>10 5 0 10 20 PROFILE (VERTICAL)</p>	<p>DESIGN DATA</p> <p>ADT 2008 = 935 ADT 2025 = 1600 DHV = 10 % D = 60 % T = 5 % * V = 45 MPH * TTST 1% + DUAL 4%</p>	<p>PROJECT LENGTH</p> <p>LENGTH ROADWAY TIP PROJ. B-4296 = 0.213 MILES +/- LENGTH STRUCTURES TIP PROJ. B-4296 = 0.022 MILES +/- TOTAL LENGTH OF TIP PROJ. B-4296 = 0.235 MILES</p>	<p>Prepared In the Office of: DIVISION OF HIGHWAYS 1000 Birch Ridge Dr., Raleigh NC, 27610</p> <p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: DECEMBER 19, 2007</p> <p>LETTING DATE: DECEMBER 16, 2008</p> <p>ROGER D. THOMAS, PE PROJECT ENGINEER</p> <p>SAMUEL L. ST. CLAIR PROJECT DESIGN ENGINEER</p>	<p>HYDRAULICS ENGINEER</p> <p>SIGNATURE: _____ P.E.</p> <p>ROADWAY DESIGN ENGINEER</p> <p>SIGNATURE: _____ P.E.</p>	<p>DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA</p>  <p>STATE HIGHWAY DESIGN ENGINEER</p>
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\$\$\$USERNAME\$\$\$

3/15/06

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Property Corner	⊗
Property Monument	⊠
Parcel/Sequence Number	Ⓢ
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Electric Fence	-◇-◇-◇-
Existing Wetland Boundary	-MLB-
Proposed Wetland Boundary	-MLB-
Existing Endangered Animal Boundary	-LAB-
Existing Endangered Plant Boundary	-EPB-

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊕
Small Mine	⊗
Foundation	⊠
Area Outline	⊠
Cemetery	⊠
Building	⊠
School	⊠
Church	⊠
Dam	⊠

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	⊠
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Swamp Marsh	⊗
Proposed Lateral, Tail, Head Ditch	-----
False Sump	⊠

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊠
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	⊙
Proposed Right of Way Line with Concrete or Granite Marker	⊙
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	⊠
Proposed Wheel Chair Ramp Curb Cut	⊠
Curb Cut for Future Wheel Chair Ramp	⊠
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊠

VEGETATION:

Single Tree	⊙
Single Shrub	⊙
Hedge	-----
Woods Line	-----
Orchard	⊙
Vineyard	⊠

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	⊠
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	⊙
Proposed Power Pole	⊙
Existing Joint Use Pole	⊙
Proposed Joint Use Pole	⊙
Power Manhole	⊙
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	⊠
H-Frame Pole	⊙
Recorded U/G Power Line	-----
Designated U/G Power Line (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	⊙
Proposed Telephone Pole	⊙
Telephone Manhole	⊙
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	⊠
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	⊙
TV Pedestal	⊠
TV Tower	⊙
U/G TV Cable Hand Hole	⊠
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	⊙
Gas Meter	⊙
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

MISCELLANEOUS:

Utility Pole	⊙
Utility Pole with Base	⊙
Utility Located Object	⊙
Utility Traffic Signal Box	⊠
Utility Unknown U/G Line	-----
U/G Tank; Water, Gas, Oil	⊠
A/G Tank; Water, Gas, Oil	⊠
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

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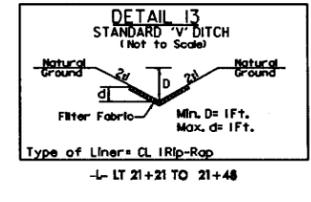
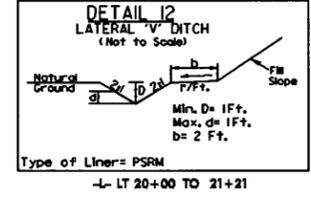
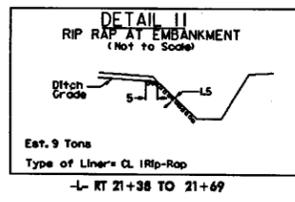
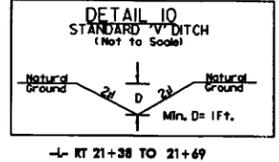
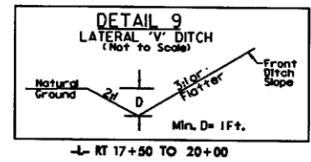
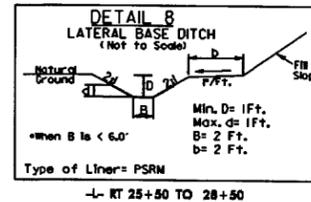
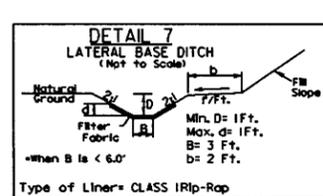
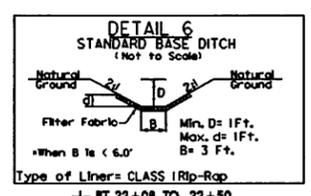
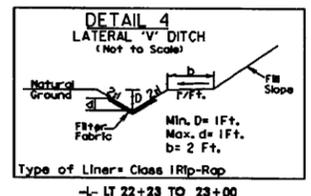
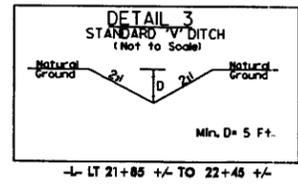
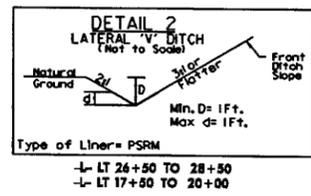
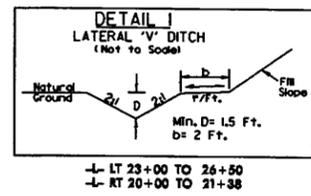
REVISIONS

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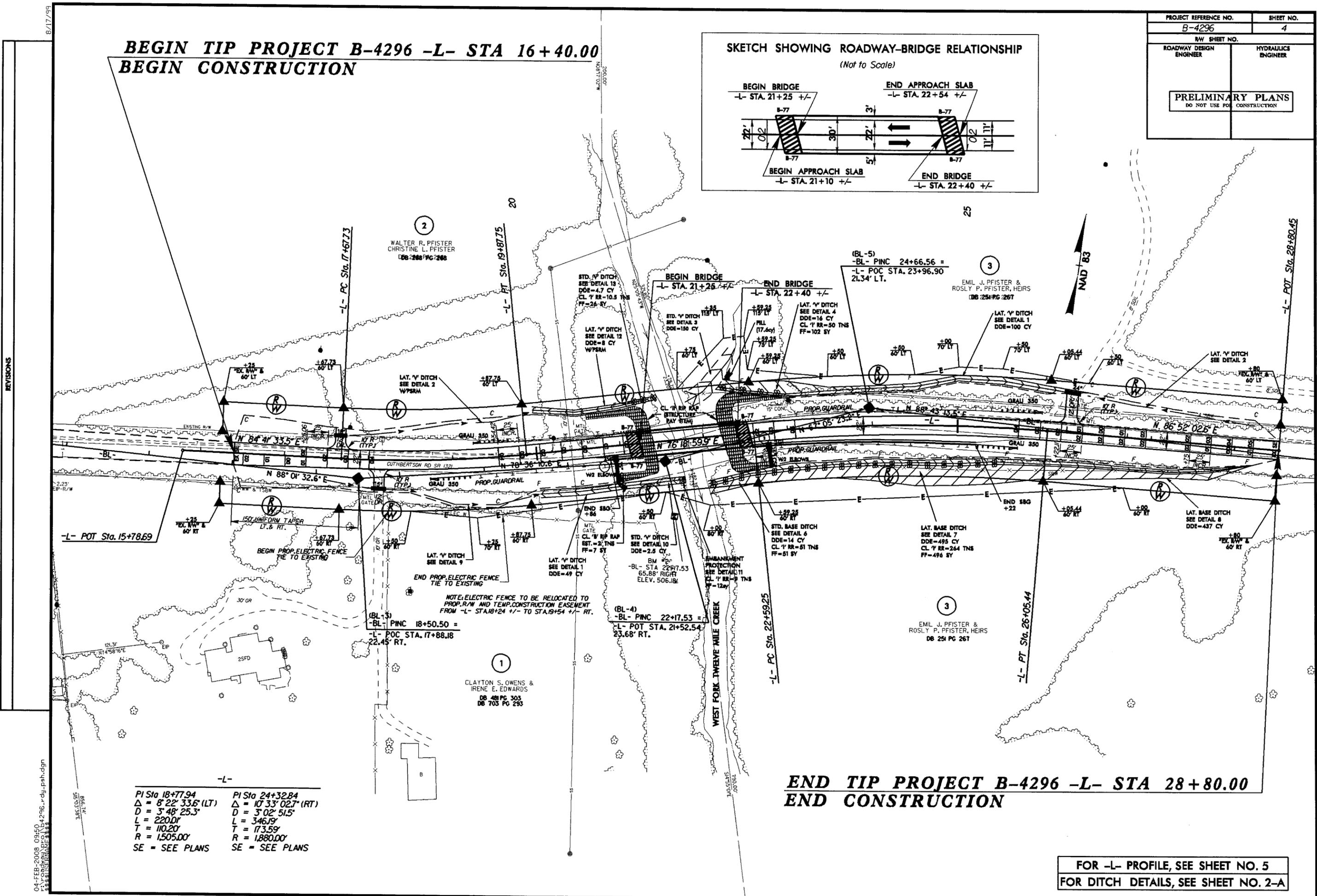
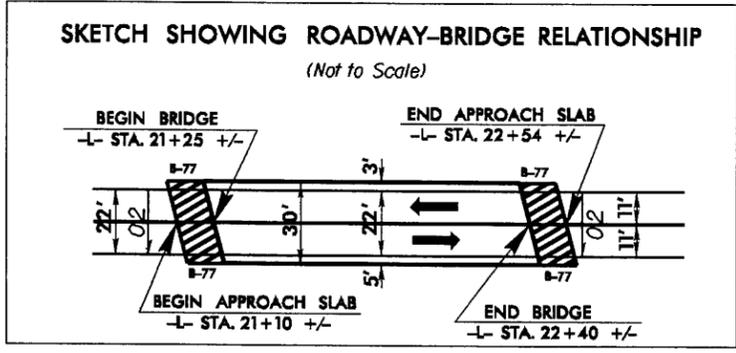
DIVISION OF HIGHWAYS HYDRAULICS UNIT

PROJECT REFERENCE NO. B-4296	SHEET NO. 2-A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS <small>DO NOT USE FOR CONSTRUCTION</small>	



PROJECT REFERENCE NO. B-4296	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

**BEGIN TIP PROJECT B-4296 -L- STA 16+40.00
BEGIN CONSTRUCTION**



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SE = SEE PLANS	SE = SEE PLANS

**END TIP PROJECT B-4296 -L- STA 28+80.00
END CONSTRUCTION**

FOR -L- PROFILE, SEE SHEET NO. 5
FOR DITCH DETAILS, SEE SHEET NO. 2-A

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