



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY PERDUE  
GOVERNOR

EUGENE CONTI  
SECRETARY

January 7, 2009

MEMORANDUM TO: Mr. J. Wally Bowman , PE  
Division Five Engineer

FROM: Philip S. Harris, III, P.E., Unit Head *E. J. Fusk*  
Natural Environment Unit  
Project Development and Environmental Analysis Branch

SUBJECT: Granville County, Replace Bridge No.164 on SR 1307 over  
Fox Creek; T.I.P. Number B-4523; Federal Aid Project No.  
BRZ-1307(3); State Project 8.2371501

Attached are the U.S. Army Corps of Engineers Section 404 Nationwide Permit Number 13, the N.C. Division of Water Quality Section 401 General Water Quality Certification and Riparian Buffer Authorization for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:  
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

PSH/gyb

Attachment

Cc: W/attachment  
Mr. Randy Garris, P.E. State Contract Officer  
Ms. Beth Harmon, EEP  
Mr. Chris Murray, Division Environmental Officer

Cc: W/o attachment (see website for attachments)  
Mr. Majed Alghandour, P. E., Programming and TIP  
Mr. Jay Bennett, P.E., Roadway Design  
Dr. David Chang, P.E., Hydraulics  
Mr. Art McMillan, P.E., Highway Design  
Mr. Tom Koch, P.E., Structure Design

Mr. Mark Staley, Roadside Environmental  
Mr. John F. Sullivan, FHWA  
Mr. Ron Hancock, P.E., State Roadway Construction Engineer  
Mr. Mike Robinson, P.E., State Bridge Construction Engineer  
Mr. Eric Midkiff, P.E., PDEA Central Region Unit Head

## **PROJECT COMMITMENTS:**

**Granville County  
Bridge No. 164 on SR 1307  
Over Fox Creek  
Federal Aid Project No. BRZ-1307(3)  
State Project No. 8.2371501  
W.B.S. No. 33747.1.1  
T.I.P. No. B-4523**

### **Commitments Developed Through Project Development and Design**

#### **Division 5 Construction**

In order to have time to adequately reroute school busses, Granville County Schools should be contacted at least one month prior to road closure.

Granville County Emergency Services needs to be contacted at least one month prior to road closure to make the necessary temporary reassignments to primary response units.

This project falls within the Tar-Pamlico river basin. Tar-Pamlico riparian buffer rules shall apply.

Install special sediment control fence along the top of the stream bank. Install silt fence along the toe of slope parallel to the stream. Once the disturbed areas of the project draining to the special sediment control fence have been stabilized, the special sediment control fence and all built up sediment adjacent to the fence will be removed to natural ground and stabilized with a native grass mix.

A temporary access road for conveying construction equipment in the floodplain/buffer will be stabilized with rock or timber matting.

Embankment construction and grading shall be managed in such a manner to prevent surface runoff/drainage from discharging directly in the riparian buffer. All interim surfaces will be graded to drain to temporary erosion control devices. Temporary berms, ditches, etc. will be incorporated as necessary to prevent temporary runoff from discharging directly into the riparian buffer (As specified in NCDOT BMP Manual).

The NCDOT Resident Engineer is responsible for providing a written invitation to the North Carolina Wildlife Resource Commission: Non-game and Protected Species Branch and the US Fish and Wildlife Service to attend the Pre-Construction meeting.

#### **Roadside Environmental Unit**

Design standards in sensitive watersheds will apply.

### **PD & EA Natural Environment Unit**

NCDOT will complete a pre-construction mussel survey approximately 1-2 months prior to LET. Any Federally Protected mussel species will be moved out of the project footprint. The Natural Environment Unit will provide a copy of the survey report to USFWS.

*Action Taken: This was not a required conservation measure included on the USFWS Biological Opinion (BO) dated September 4, 2008. Per Gary Jordan, NCDOT will not be required to conduct pre-construction mussel surveys*

### **Commitments Developed Through the Permitting Process**

The authorization under the Nationwide Permit 13 is conditional upon compliance with all the mandatory terms and conditions associated with incidental take described in the BO.

### **Division 5 Construction and Roadside Environmental Unit**

The following conditions are incorporated by reference from the BO conservation measures:

In areas identified as Environmentally Sensitive Areas, the contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations.

Once grading operations begin in identified Environmentally Sensitive Areas, work shall progress in a continuous manner until complete.

In areas identified as Environmentally Sensitive Areas, erosion control devices shall be installed immediately following the clearing operation.

In areas identified as Environmentally Sensitive Areas, seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment.

In areas identified as Environmentally Sensitive Areas, seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet in height measured along the slope, or greater than two acres in area, whichever is less.

No new bents will be placed in the channel; new bents will be greater than 10 feet from the normal waterline.

Removal of the existing bents will take place when water flow level is at a minimum point allowable within the project schedule and will be done in such a manner to minimize disturbance to the stream bed.

All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when half full with sediment, to ensure proper function of the measures.

Install rip rap slope protection simultaneously with the embankment construction.

A temporary access road for conveying construction equipment in the floodplain/buffer will be stabilized with rock or timber matting.

NCDOT will ensure that the contractor understands and follows the conservation measures listed in the BO.

NCDOT will ensure that the Division Environmental Officer maintains a level of oversight to insure that all appropriate erosion control measures are fully implemented to avoid/minimize sedimentation of the stream.

**U.S. ARMY CORPS OF ENGINEERS  
WILMINGTON DISTRICT**

Action ID(s): **200421000**

County: **Granville** USGS Quad: **Berea**

**GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION**

Property Owner: **NCDOT; Division of Highways  
ATTN: Gregory J. Thorpe, Ph.D**  
Mailing Address: **1598 Mail Service Center  
Raleigh, North Carolina 27699-1598**  
Telephone No.: **(919) 715-5499 (Erica McLamb)**

Location of property (road name/number, town, etc.): **TIP #B-4523; On SR 1307 (Bob Daniel Road), over Fox Creek, southwest of Hebron, North Carolina.**

Site Coordinates: **36.3448° N -78.7265° W** Waterway: **Fox Creek** River Basin: **Tar** HUC: **03020101**

Description of projects area and activity (see page 2 for a summary of authorized impacts): **TIP #B-4523; Discharge of fill material for riprap bank stabilization, related to replacement of Bridge No. 164 with a new bridge at the same general location, in accordance with the drawings submitted on 10/28/2008, and subject to the attached special condition.**

Applicable Law:  Section 404 (Clean Water Act, 33 USC 1344)  
 Section 10 (Rivers and Harbors Act, 33 USC 403)

Authorization: **Nationwide General Permit Number(s): 13**

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786) to determine Section 401 requirements.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact **Eric Alsmeyer** at telephone **(919) 554-4884, ext. 23**.

Corps Regulatory Official \_\_\_\_\_ Date: **11/25/2008** Verification Expiration Date: **11/25/2010**

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the Customer Satisfaction Survey located at our website at <http://regulatory.usacesurvey.com/> to complete the survey online.

Copy Furnished: **NCDOT-NEU (Erica McLamb) by e-mail**  
**USFWS (Gary Jordan) by e-mail**

**Determination of Jurisdiction:**

- Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- The jurisdictional areas within the above described project area have been identified under a previous action. Please reference the jurisdictional determination issued on 1/14/2005; AID 200421000.

**Summary of Authorized Impacts and Required Mitigation**

Action ID #	NWP / GP #	Open Water (ac)		Wetland (ac)		Unimportant Stream (lf)		Important Stream (lf)	
		Temporary	Permanent	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
<b>200421000</b>	<b>13</b>		<b>0.01</b>						
Impact Totals			<b>0.01</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total Loss of Waters of the U.S. (ac)				<b>0</b>	Total Loss of Waters of the U.S. (lf)				<b>0</b>
Required Wetland Mitigation (ac)			<b>0</b>	Required Stream Mitigation (lf)			<b>0</b>		

Special Permit Condition:

**This Corps permit does not authorize you to take an endangered species, in particular *Alasmidonta heterodon* (dwarf wedgemussel). In order to legally take a listed species, you must have separate authorization under the Endangered Species Act (ESA) (e.g., a Biological Opinion (BO) under the ESA, Section 7, with “incidental take” provisions with which you must comply). The U.S. Fish and Wildlife Service (USFWS) BO, dated July 15, 2008, contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with “incidental take” that is also specified in the BO. Your authorization under this Corps permit is conditional upon your compliance with all the mandatory terms and conditions associated with incidental take of the BO, which terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS is the appropriate authority to determine compliance with the terms and conditions of its BO, and with the ESA.**

**NOTE: No stream or wetland mitigation is required.**

**WILMINGTON DISTRICT  
POST-CONSTRUCTION COMPLIANCE FORM**

**Action ID Number: 200421000**

**County: Granville**

**Permittee: NCDOT; Division of Highways; TIP #B-4523; On SR 1307 (Bob Daniel Road), over Fox Creek, southwest of Hebron, North Carolina.**

**Date Permit Issued: 11/25/2008**

**Project Manager: Eric Alsmeyer**

**Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:**

**US Army Corps of Engineers, Wilmington District  
Raleigh Regulatory Field Office  
3331 Heritage Trade Drive, Suite 105  
Wake Forest, NC 27587**

**Please note that your permitted activity is subject to a compliance inspection by a U. S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.**

**I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and condition of the said permit, and required mitigation was completed in accordance with the permit conditions.**

\_\_\_\_\_  
**Signature of Permittee**

\_\_\_\_\_  
**Date**



**NATIONWIDE PERMIT 13  
DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS  
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS  
FEDERAL REGISTER  
AUTHORIZED MARCH 19, 2007**

**Bank Stabilization.** Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria:

- (a) No material is placed in excess of the minimum needed for erosion protection;
- (b) The activity is no more than 500 feet in length along the bank, unless this criterion is waived in writing by the district engineer;
- (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless this criterion is waived in writing by the district engineer;
- (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless this criterion is waived in writing by the district engineer;
- (e) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the United States;
- (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and,
- (g) The activity is not a stream channelization activity.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general condition 27.) (Sections 10 and 404)

## NATIONWIDE PERMIT CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.  
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.  
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
  
2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
  
3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
  
4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
  
5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
  
6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
  
7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
  
8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized

under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal “takes” of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State

Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NHPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NHPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NHPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWP.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:  
“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate

the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

---

(Transferee)

---

(Date)

26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

27. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) Forty-five calendar days have passed from the district engineer’s receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is “no effect” on listed species or “no potential to cause effects” on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained.



Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment

(after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

### **FURTHER INFORMATION**

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

### **DEFINITIONS**

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a

decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

*Ephemeral stream:* An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

*Establishment (creation):* The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

*Historic Property:* Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

*Independent utility:* A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

*Intermittent stream:* An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

*Loss of waters of the United States:* Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

*Non-tidal wetland:* A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

*Open water:* For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or

flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through

which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a “single and complete project” is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

## **REGIONAL CONDITIONS FOR NATIONWIDE PERMITS IN THE WILMINGTON DISTRICT**

### **1.0 Excluded Waters**

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

#### **1.1. Anadromous Fish Spawning Areas**

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from NCDMF or NCWRC and the Corps.

#### **1.2. Trout Waters Moratorium**

Waters of the United States in the twenty-five designated trout counties of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC. (see Section I. b. 7. for a list of the twenty-five trout counties).

#### **1.3. Sturgeon Spawning Areas**

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the National Marine Fisheries Service (NMFS).

### **2.0 Waters Requiring Additional Notification**

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWP's. These waters are:

#### **2.1. Western NC Counties that Drain to Designated Critical Habitat**

Waters of the U.S. that requires a Pre-Construction Notification pursuant to General Condition 27 (PCN) and located in the sixteen counties listed below, applicants must provide a copy of the PCN to the US Fish and Wildlife Service, 160 Zillicoa Street, Asheville, North Carolina 28805. This PCN must be sent concurrently to the US Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 17 for specific notification requirements related to Federally Endangered Species and the following website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville US Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood,



Henderson, Jackson, Macon Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for applicants which provide guidelines on how to review linked websites and maps in order to fulfill NWP general condition 17 requirements.

<http://www.saw.usace.army.mil/wetlands/ESA>

Applicants who do not have internet access may contact the appropriate US Fish and Wildlife Service offices or the US Army Corps of Engineers office listed below.

US Fish and Wildlife Service  
Asheville Field Office  
160 Zillicoa Street  
Asheville, NC 28801  
Telephone: (828) 258-3939

Asheville US Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsyth and Stokes Counties

US Fish and Wildlife Service  
Raleigh Field Office  
Post Office Box 33726  
Raleigh, NC 27636-3726  
Telephone: (919) 856-4520

Raleigh US Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

## **2.2. Special Designation Waters**

Prior to the use of any NWP in any of the following North Carolina identified waters and contiguous wetlands, applicants must comply with Nationwide Permit General Condition 27 (PCN). The North Carolina waters and contiguous wetlands that require additional notification requirements are:

“Outstanding Resource Waters” (ORW) and “High Quality Waters” (HQW) (as designated by the North Carolina Environmental Management Commission), or  
“Inland Primary Nursery Areas” (IPNA) (as designated by the North Carolina Wildlife Resources Commission), or “Contiguous Wetlands” (as defined by the North Carolina Environmental Management Commission), or “Primary Nursery Areas” (PNA) (as designated by the North Carolina Marine Fisheries Commission).

### **2.3. Coastal Area Management Act (CAMA) Areas of Environmental Concern**

Non-Federal applicants for any NWP in a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA), must also obtain the required CAMA permit. Construction activities for non-Federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – P.O. Box 1890, Wilmington, NC 28402 or Washington Field Office – P.O. Box 1000, Washington, NC 27889).

### **2.4. Barrier Islands**

Prior to the use of any NWP on a barrier island of North Carolina, applicants must comply with Nationwide Permit General Condition 27 (PCN).

### **2.5. Mountain or Piedmont Bogs**

Prior to the use of any NWP in a “Mountain or Piedmont Bog” of North Carolina, applicants shall comply with Nationwide Permit General Condition 27 (PCN).

Note: The following wetland community types identified in the N.C. Natural Heritage Program document, “Classification of Natural communities of North Carolina (Michael P. Schafale and Alan S. Weakley, 1990), are subject to this regional condition.

Mountain Bogs	Piedmont Bogs
Swamp Forest-Bog Complex	Upland depression Swamp Forest
Swamp Forest-Bog Complex (Spruce Subtype)	
Southern Appalachian Bog (Northern Subtype)	
Southern Appalachian Bog (Southern Subtype)	
Southern Appalachian Fen	

### **2.6. Animal Waste Facilities**

Prior to use of any NWP for construction of animal waste facilities in waters of the US, including wetlands, applicants shall comply with Nationwide Permit General Condition 27 (PCN).

### **2.7. Trout Waters**

Prior to any discharge of dredge or fill material into streams or waterbodies within the twenty-five (25) designated trout counties of North Carolina, the applicant shall comply with

Nationwide Permit General Condition 27 (PCN). The applicant shall also provide a copy of the notification to the appropriate NCWRC office to facilitate the determination of any potential impacts to designated Trout Waters. Notification to the Corps of Engineers will include a statement with the name of the NCWRC biologist contacted, the date of the notification, the location of work, a delineation of wetlands, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

#### NCWRC and NC Trout Counties

Mr. Ron Linville			
Western Piedmont Region Coordinator	Alleghany	Caldwell	Watauga
3855 Idlewild Road	Ashe	Mitchell	Wilkes
Kernersville, NC 27284-9180	Avery	Stokes	
Telephone: (336) 769-9453	Burke	Surry	

Mr. Dave McHenry			
Mountain Region Coordinator	Buncombe	Henderson	Polk
20830 Great Smoky Mtn. Expressway	Cherokee	Jackson	Rutherford
Waynesville, NC 28786	Clay	Macon	Swain
Telephone: (828) 452-2546	Graham	Madison	Transylvania
Fax: (828) 452-7772	Haywood	McDowell	Yancey

### 3.0 List of Corps Regional Conditions for All Nationwide Permits

The following conditions apply to all Nationwide Permits in the Wilmington District:

#### 3.1. Limitation of Loss of Perennial Stream Bed

NWPs may not be used for activities that may result in the loss or degradation of greater than 300 total linear feet of perennial streams. The NWPs may not be used for activities that may result in the loss or degradation of greater than 300 total linear feet of ephemeral and intermittent streams that exhibit important aquatic function(s)\* Loss of stream includes the linear feet of stream bed that is filled, excavated, or flooded by the proposed activity. The District Commander can waive the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis if he determines that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing. This waiver only applies to the 300 linear feet threshold for NWPs. Mitigation may still be required for impacts to ephemeral and intermittent streams, on a case-by-case basis, depending on the impacts to the aquatic environment of the proposed project. [\*Note: The Corps uses the Stream Quality Assessment Worksheet, located with Permit Information on the Regulatory Program Web Site, to aid in the determination of aquatic function within the intermittent stream channel.]

### **3.2. Mitigation for Loss of Stream Bed Exceeding 150 Feet.**

For any NWP that results in a loss of more than 150 linear feet of perennial and/or ephemeral/intermittent stream, the applicant shall provide a mitigation proposal to compensate for the loss of aquatic function associated with the proposed activity. For stream losses less than 150 linear feet, that require a PCN, the District Commander may determine, on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

### **3.3. Pre-construction Notification for Loss of Streambed Exceeding 150 Feet.**

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream or ephemeral/ intermittent stream, the applicant must comply with Nationwide Permit General Condition 27 (PCN). This applies to NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

### **3.4. Restriction on Use of Live Concrete**

For all NWPs which allow the use of concrete as a building material, measures will be taken to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with waters of the state until the concrete has hardened.

### **3.5. Requirements for Using Riprap for Bank Stabilization**

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

**3.5.1.** Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters.

**3.5.2.** The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

**3.5.3.** The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

**3.5.4.** It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

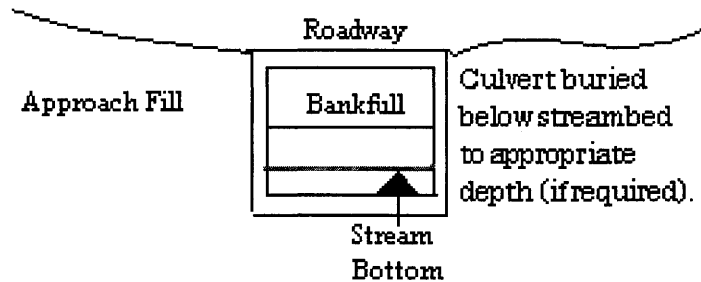
**3.5.5.** The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

**3.5.6.** A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional condition would result in greater adverse impacts to the aquatic environment.

### **3.6. Safe Passage Requirements for Culvert Placement**

For all NWP's that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gage data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

In the twenty (20) counties of North Carolina designated as coastal counties by the Coastal Area Management Act (CAMA): All pipe and culvert bottoms shall be buried at least one foot below normal bed elevation when they are placed within the Public Trust Area of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by CAMA, and/or all streams appearing as blue lines on United States Geological Survey (USGS) quad sheets.



In all other counties: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions.

Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert.

A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment.

All counties: Culverts placed in wetlands do not have to be buried.

### **3.7. Notification to NCDENR Shellfish Sanitation Section**

Applicants shall notify the NCDENR Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps of Engineers Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued.

### **3.8. Preservation of Submerged Aquatic Vegetation**

Adverse impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP within any of the twenty coastal counties defined by North Carolina's Coastal Area Management Act of 1974 (CAMA).

### **4.0 Additional Regional Conditions Applicable to Specific Nationwide Permits**

The following regional conditions are required for NWP # 13 – Bank Stabilization:

#### **4.1. Prohibited Materials**

Unanchored trees, treetops, or debris may not be used as stream bank stabilization material.

#### **4.2. Suitable Materials**

Properly anchored and cabled structural stabilization techniques, such as timber crib structures, revetments, and root wads, are acceptable materials to stabilize stream banks.

**NC DIVISION OF WATER QUALITY - GENERAL CERTIFICATION CONDITIONS**

For the most recent General Certification conditions, call the NC Division of Water Quality, Wetlands/401 Certification Unit at (919) 733-1786 or access the following website:  
<http://h2o.enr.state.nc.us/ncwetlands/certs.html>

**NC DIVISION OF COASTAL MANAGEMENT - STATE CONSISTENCY**

In a letter dated May 7, 2007, the North Carolina Division of Coastal Management found this NWP consistent with the North Carolina Coastal Zone Management Program. Updates on CAMA Consistency for NC can be found on the NC DCM web site at:  
<http://dcm2.enr.state.nc.us/Permits/consist.htm>

**EASTERN BAND OF THE CHEROKEE INDIANS TRIBAL WATER QUALITY CERTIFICATIONS**

In a letter dated May 8, 2007, US EPA, on behalf of the Eastern Band of Cherokee Indians, provided Tribal General Conditions for Nationwide Permits on Cherokee Indian Reservation. These Tribal General Conditions are located on the Corps website at:  
<http://www.saw.usace.army.mil/WETLANDS/NWP2007/EBCI-certs.html>

**Citations:**

2007 Nationwide Permits Public Notice for Final Issue Date: March 15, 2007

Correction Notice for Nationwide Permits, Federal Register / Vol. 72, No. 88 / Tuesday, May 8, 2007 / Notices p.26082

2007 SAW Regional Conditions – Authorized June 1, 2007

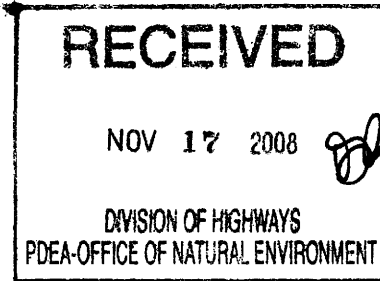
This and other information can be found on the Corps web site at:  
<http://www.saw.usace.army.mil/WETLANDS/NWP2007/nationwide-permits.html>







*McLamb*



November 12, 2008  
 Granville County  
 DWQ Project No. 20081665  
 Bridge 164 on SR 1307  
 TIP No. B-4523

**APPROVAL of 401 WATER QUALITY CERTIFICATION and TAR-PAMLICO BUFFER AUTHORIZATION, with ADDITIONAL CONDITIONS**

Dr. Gregory J. Thorpe, Environmental Management Director  
 NCDOT, PDEA  
 1598 Mail Service Center  
 Raleigh, NC 27699-1548

Dear Dr. Thorpe:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge 164 in Granville County:

**Stream Impacts in the Tar-Pamlico River Basin**

Site	Riprap to Perennial Stream (linear ft)	Total Stream Impact (linear ft)
1	73	73
<b>Total</b>	<b>73</b>	<b>73</b>

**Total Stream Impact for Project: 73 linear feet.**

**Tar-Pamlico Riparian Buffer Impacts**

Site	Zone 1 Impact (sq ft)	minus Wetlands in Zone 1 (sq ft)	= Zone 1 Buffers (not wetlands) (sq ft)	Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Zone 2 Impact (sq ft)	minus Wetlands in Zone 2 (sq ft)	= Zone 2 Buffers (not wetlands) (sq ft)	Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
1	5944	0	5944	N/A	2566	0	2566	N/A
<b>Totals</b>	<b>5944</b>	<b>0</b>	<b>5944</b>	<b>0</b>	<b>2566</b>	<b>0</b>	<b>2566</b>	<b>0</b>

\* n/a = Total for Site is less than 1/3 acre and 150 linear feet of impact, no mitigation required

**Total Buffer Impact for Project: 8,510 square feet.**

The project shall be constructed in accordance with your application dated received November 6, 2008. After reviewing your application, we have decided that these impacts are covered by General Water Quality Certification Number 3689. This certification corresponds to the Nationwide Permit 13 issued by the Corps of Engineers. This approval is also valid for the Tar-Pamlico Riparian Buffer Rules (15A NCAC 2B.0259). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control, Non-Discharge and Water Supply Watershed regulations. This approval will expire with the accompanying 404 permit.



This approval is valid solely for the purpose and design described in your application (unless modified below). Should your project change, you must notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If total wetland fills for this project (now or in the future) exceed one acre, or of total impacts to streams (now or in the future) exceed 150 linear feet, compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you must adhere to the conditions listed in the attached certification as well as those listed below.

**Conditions of Certification:**

1. The post-construction removal of any temporary bridge structures must return the project site to its preconstruction contours and elevations. The impacted areas shall be revegetated with appropriate native species.
2. Strict adherence to the most recent version of NCDOT's Best Management Practices For Bridge Demolition and Removal approved by the US Army Corps of Engineers is a condition of the 401 Water Quality Certification.
3. Bridge deck drains shall not discharge directly into the stream. Stormwater shall be directed across the bridge and pre-treated through site-appropriate means (grassed swales, pre-formed scour holes, vegetated buffers, etc.) before entering the stream. Please refer to the most current version of *Stormwater Best Management Practices*.
4. All stormwater runoff shall be directed as sheetflow through stream buffers at nonerosive velocities, unless otherwise approved by this certification.
5. All riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated. Maintained buffers shall be permanently revegetated with non-woody species by the end of the growing season following completion of construction. For the purpose of this condition, maintained buffer areas are defined as areas within the transportation corridor that will be subject to regular DOT maintenance activities including mowing. The area with non-maintained buffers shall be permanently revegetated, with native woody species before the next growing season following completion of construction.
6. Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any Tar-Pamlico Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.
7. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
8. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
9. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.
10. The use of rip-rap above the Normal High Water Mark shall be minimized. Any rip-rap placed for stream stabilization shall be placed in stream channels in such a manner that it does not impede aquatic life passage.
11. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.



12. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
13. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
14. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
15. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
16. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
17. The permittee and its authorized agents shall conduct its activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act) and any other appropriate requirements of State and Federal law. If DWQ determines that such standards or laws are not being met (including the failure to sustain a designated or achieved use) or that State or federal law is being violated, or that further conditions are necessary to assure compliance, DWQ may reevaluate and modify this certification.
18. A copy of this Water Quality Certification shall be maintained on site at the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
19. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
20. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.
21. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
22. Upon completion of the project (including any impacts at associated borrow or waste site), the NCDOT Division Engineer shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed.
23. Native riparian vegetation (i.e., trees and shrubs native to your geographic region) must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
24. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.



25. Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to protect surface waters standards:

- a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
- b. The design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- d. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

26. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, N.C. 27699. This certification and its conditions are final and binding unless you ask for a hearing. This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please contact Rob Ridings at (919) 733-98170

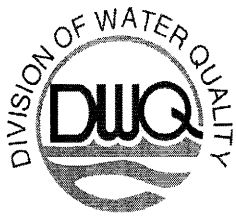
Sincerely,

A handwritten signature in black ink, appearing to read "C. Sullins", written over a horizontal line.

Coleen Sullins,  
Director

Attachments (General Certification and Certificate of Completion form)

cc: Chris Murray, Division 5 Environmental Officer  
Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office  
Travis Wilson, NC Wildlife Resources Commission  
Erica McLamb, NCDOT PDEA  
File Copy



DWQ Project No.: \_\_\_\_\_ County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

**Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401 Transportation Permitting Unit, North Carolina Division of Water Quality, 1650 Mail Service Center, Raleigh, NC, 27699-1650. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

**Applicant's Certification**

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Agent's Certification**

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Engineer's Certification**

\_\_\_\_\_ Partial \_\_\_\_\_ Final

I, \_\_\_\_\_, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_

## Water Quality Certification N°. 3689

**GENERAL CERTIFICATION FOR STREAM RESTORATION, ENHANCEMENT AND STABILIZATION PROJECTS AND WETLAND AND RIPARIAN RESTORATION AND CREATION ACTIVITIES INCLUDING THOSE ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBERS 13 (BANK STABILIZATION) AND 27 (WETLAND AND RIPARIAN RESTORATION AND CREATION), AND REGIONAL PERMIT 197800080 (BULKHEADS AND RIPRAP) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)**

Water Quality Certification Number 3689 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters as described in 33 CFR 330 Appendix A (B) (13) and (27) of the Corps of Engineers regulations (i.e., Nationwide Permit Numbers 13 and 27) and Regional Permit 197800080. The category of activities shall include stream bank stabilization or stream restoration activity as long as impacts to waters or significant wetlands are minimized; wetland and riparian restoration or creation; and the construction and maintenance of bulkheads on non-Federal Energy Regulatory Commission (FERC) lakes.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions set forth.

All proposed fill or modification of wetlands and/or waters, including streams and streambanks, under this General Certification requires application to, and written approval from the Division of Water Quality (the "Division"), regardless of the purpose of the restoration, enhancement, stabilization, or creation activity.

Bank Stabilization projects qualifying for Nationwide Permit 13 for erosion protection of up to 500 feet of stream banks to protect property are exempt from the requirement for written approval.

Any impacts to riparian buffers associated with this work in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application [in accordance with 15A NCAC 2B .0200]) will require written approval, *unless* the activities are listed as "EXEMPT" from these Rules.

In accordance with North Carolina General Statute Section 143-215.3D(e), written approval for a 401 Water Quality General Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

### Conditions of Certification:

1. Activities shall meet the definitions, design, and monitoring protocols specified within the US Army Corps of Engineers Wilmington District *Regulatory Guidance Letter* (RGL02-02) and the *Stream Mitigation Guidelines* (April 2003) or any subsequent updates to these documents.
2. No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the Pre-construction Notification and/or those authorized by this Certification, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control

## Water Quality Certification N<sup>o</sup>. 3689

Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

### 3. Standard Erosion and Sediment Control Practices

Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices:

- a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- c. Reclamation measures and implementation must comply with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
- d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times, except for publicly funded linear transportation projects when materials can be accessed offsite in a timely manner..
- e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNA's), Trout (Tr), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sediment and erosion control requirements contained within *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) supercede all other sediment and erosion control requirements.

### 4. No Sediment and Erosion Control Measures in Wetlands or Waters

Sediment and erosion control measures should not be placed in wetlands or waters outside of the permitted impact areas without prior approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

### 5. Construction Stormwater Permit NCG010000

Upon the approval of an Erosion and Sedimentation Control Plan issued by the Division of Land Resources (DLR) or a DLR delegated local erosion and sedimentation control program, an NPDES General stormwater permit (NCG010000) administered by the Division is automatically issued to the project. This General Permit allows stormwater to be discharged during land disturbing construction activities as stipulated by conditions in the permit. If your project is covered by this permit [applicable to construction projects that disturb one (1) or more acres], full compliance with permit conditions including the sedimentation control plan, self-monitoring, record keeping and reporting requirements are required. A copy of this permit and monitoring report forms may be found at [http://h2o.enr.state.nc.us/su/Forms\\_Documents.htm](http://h2o.enr.state.nc.us/su/Forms_Documents.htm).

The North Carolina Department of Transportation (NCDOT) shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

## Water Quality Certification N°. 3689

### 6. Construction Moratoriums and Coordination

If activities must occur during periods of high biological activity (i.e. sea turtle or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. This condition can be waived through written concurrence on a case by case basis upon reasonable justification.

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern shall be implemented. This condition can be waived through written concurrence on a case by case basis upon reasonable justification.

Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

NC Wildlife Resources Commission will not object to construction of Natural Resources Conservation Service (NRCS) 'urgent and compelling' sites during the spawning period provided these projects are, to the extent appropriate and practical, constructed by:

- a. Using flow diversion structures such as sandbags;
- b. Placing large-size rock toes and filter cloth backing for stabilization sites before backfilling; and
- c. Excavating new channel alignments in dry areas.

Construction at non-'urgent and compelling' sites shall not occur during the spawning period to minimize the potential adverse effects of multiple construction activities on trout or anadromous fish resources in this stream.

### 7. Work in the Dry

All work in or adjacent to stream waters shall be conducted in a dry work area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Exceptions to this condition require submittal to, and approval by, the Division.

### 8. Riparian Area Protection (Buffer) Rules

Activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman, Catawba (or any other basin with buffer rules), shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250 and .0243, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All buffer rule requirements, including diffuse flow requirements, must be met.

### 9. Water Supply Watershed Buffers

The 100-foot wide (high-density development) or the 30-foot wide vegetative buffer (all other development) must be maintained adjacent to all perennial waters except for allowances as



## Water Quality Certification N°. 3689

provided in the Water Supply Watershed Protection Rules [15A NCAC 2B .0212 through .0215].

10. If concrete is used during the construction, then a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life/fish kills.
11. Any rip-rap shall be of such a size and density so as not to be able to be carried off by wave or current action and consist of clean rock or masonry material free of debris or toxic pollutants. Rip-rap shall not be installed in the streambed except in specific areas required for velocity control and to ensure structural integrity of bank stabilization measures. If rip-rap is to be installed within the streambed, the amount and location must be approved in writing by the Division of Land Resources and Division of Water Quality. However, rock vanes, wing deflectors, and similar structures for grade control and bank protection are acceptable.
12. If an environmental document is required under NEPA or SEPA, then this General Certification is not valid until a Finding of No Significant Impact or Record of Decision is issued by the State Clearinghouse.
13. Additional site-specific conditions may be added to the written approval attached to this Certification in order to ensure compliance with all applicable water quality and effluent standards.
14. This Certification shall expire three (3) years from the date of the approval letter from DWQ or on the same day as the corresponding Nationwide Permit. In accordance with General Statute 136-44.7B, certifications issued to the NCDOT shall expire only upon expiration of the federal 404 Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. If the construction process for approved activities will overlap the expiration and renewal date of the corresponding 404 Permit and the Corps allows for continued use of the 404 Permit, then the General Certification shall also remain in effect without requiring re-application and re-approval to use this Certification for the specific impacts already approved.
15. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

### 16. Certificate of Completion

When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

Non-compliance with or violation of the conditions herein set forth by a specific project shall result in revocation of this Certification for the project and may also result in criminal and/or civil penalties.

## Water Quality Certification N<sup>o</sup>. 3689

The Director of the North Carolina Division of Water Quality may require submission of a formal application for Individual Certification for any project in this category of activity if it is determined that the project is likely to have a significant adverse effect upon water quality including state or federally listed endangered or threatened aquatic species or degrade the waters so that existing uses of the wetland or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date:

November 1, 2007

DIVISION OF WATER QUALITY

By

A handwritten signature in black ink, appearing to read 'Coleen H. Sullins', with a long horizontal line extending to the right.

Coleen H. Sullins

Director

*History Note:* Water Quality Certification Number 3689 replaces Water Quality Certification (WQC) Number 3399 issued March 2003, Water Quality Certification (WQC) Number 3495 issued December 31, 2004, and Water Quality Certification (WQC) Number 3626 issued March 2007. This WQC is rescinded when the Corps of Engineers reauthorizes Nationwide Permits 13 or 27 or Regional Permit 197800080 or when deemed appropriate by the Director of the Division of Water Quality.



## United States Department of the Interior

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

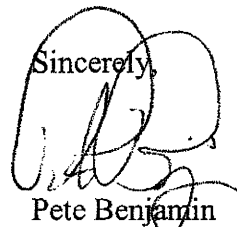
July 15, 2008

John F. Sullivan III, PE  
Federal Highway Administration  
310 New Bern Avenue, Suite 410  
Raleigh, North Carolina 27601

Dear Mr. Sullivan:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed replacement of Bridge No. 164 over Fox Creek on SR 1307, located in Granville County, North Carolina (TIP No. B-4523), and its effects on the federally endangered dwarf wedgemussel (*Alasmodonta heterodon*, DWM) in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). Your June 30, 2008 request for formal consultation was received on July 3, 2008.

If you have any questions concerning this biological opinion, please contact Mr. Gary Jordan at (919) 856-4520 (Ext. 32).

Sincerely,  
  
Pete Benjamin  
Field Supervisor

cc: Ken Graham, USFWS, Atlanta, GA  
Susi von Oettingen, USFWS, Concord, NH  
Eric Alsmeyer, USACE, Raleigh, NC  
Greg Thorpe, NCDOT, Raleigh, NC  
Logan Williams, NCDOT, Raleigh, NC  
Chris Murray, NCDOT, Durham, NC  
David Harris, NCDOT, Raleigh, NC  
Chris Militscher, USEPA, Raleigh, NC  
Travis Wilson, NCWRC, Creedmoor, NC  
Rob Ridings, NCDWQ, Raleigh, NC

This Biological Opinion (BO) is based on information provided in the Biological Assessment (BA) prepared by the North Carolina Department of Transportation (NCDOT), telephone conversations, emails, field investigations and other sources of information. A complete administrative record of this consultation is on file at this office.

## **CONSULTATION HISTORY**

June 6, 2007 – Service staff attended an on-site field meeting with NCDOT staff to discuss the potential effects to the DWM.

January-February 2008 – Service staff and NCDOT staff have discussions and email exchanges regarding the development of a BA.

July 3, 2008 – The Service received a letter from the Federal Highway Administration (FHWA), dated June 30, 2008, with the attached BA, requesting formal consultation on the proposed Bridge No. 164 replacement over Fox Creek.

## **BIOLOGICAL OPINION**

### **I. DESCRIPTION OF THE PROPOSED ACTION**

The B-4523 project is located at the SR 1307 crossing of Fox Creek in Granville County, North Carolina, approximately seven miles west-northwest of the city of Oxford. The existing three-span, 76 feet long bridge will be replaced with a single-span, 120 feet long steel plate girder bridge. The new bridge will be placed on the same alignment, but will be raised approximately seven feet. The new bridge will completely span the channel of Fox Creek. Some existing approach fill within the floodplain will be removed at the location of the existing abutments. Two temporary access roads will be constructed on the south side of the existing alignment. Approach road work will consist of raising the elevation and widening for a distance of approximately 650 feet to the west and 260 feet to the east. Traffic will be detoured onto other roads during construction.

#### **Action Area**

The action area is defined as the SR 1307 project right-of-way (ROW) of B-4523, beginning approximately 650 feet west of the bridge to approximately 260 feet east of the bridge, plus Fox Creek for a distance of 1,312 feet (400 meters) downstream and 328 feet (100 meters) upstream of the bridge. The action area consists mainly of a maintained/disturbed roadside vegetative community, the SR 1307 pavement and bridge structure, and the Fox Creek channel. The action area occurs in Tar River Sub-basin 03-03-01, as assigned by the North Carolina Department of Environment and Natural Resources, Division of Water Quality Section. At the project site, Fox Creek is approximately 25 feet wide. Bottomland hardwood forest borders along each bank within the action area.

## Conservation Measures

Conservation measures represent actions, pledged in the project description, that the action agency will implement to minimize the effects of the proposed action and further the recovery of the species under review. Such measures should be closely related to the action and should be achievable within the authority of the action agency. Since conservation measures are part of the proposed action, their implementation is required under the terms of the consultation. The FHWA and NCDOT have proposed the following conservation measures.

- In areas identified as Environmentally Sensitive Areas, the contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations.
- Once grading operations begin in identified Environmentally Sensitive Areas, work shall progress in a continuous manner until complete.
- In areas identified as Environmentally Sensitive Areas, erosion control devices shall be installed immediately following the clearing operation.
- In areas identified as Environmentally Sensitive Areas, seeding and mulching shall be performed on the areas disturbed by construction immediately following final grade establishment.
- In areas identified as Environmentally Sensitive Areas, seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet in height measured along the slope, or greater than two acres in area, whichever is less.
- An off-site detour will be utilized for this project.
- NCDOT Best Management Practices for Bridge Demolition and Removal will be implemented during the removal of the existing bridge.
- No new bents will be placed in the channel. New bents will be greater than 10 feet from the normal waterline.
- Deck drains will not be allowed to discharge directly into the stream.
- Removal of the existing bents will take place when water flow level is at a minimum point allowable within the project schedule and will be done in such a manner to minimize disturbance to the stream bed.
- Install special sediment control fence along the top of the stream bank. Install silt fence along the toe of slope parallel to the stream. Once the disturbed areas of the project draining to the special sediment control fence have been stabilized, the special sediment control fence and all built up sediment adjacent to the fence will be removed to natural ground and stabilized with a native grass mix.
- All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when ½ full with sediment, to ensure proper function of the measures.
- Install rip rap slope protection will be installed simultaneously with the embankment construction.
- A temporary access road for conveying construction equipment in the floodplain/buffer will be stabilized with rock or timber matting.
- Embankment construction and grading shall be managed in such a manner to prevent surface runoff/drainage from discharging into the riparian buffer. All interim surfaces will be graded to drain to temporary erosion control devices. Temporary berms, ditches, etc. will be

incorporated as necessary to prevent temporary runoff from discharging into the riparian buffer (as specified in the NCDOT BMP manual).

## II. STATUS OF THE SPECIES

The DWM was federally listed as endangered on March 14, 1990. The DWM is found solely in Atlantic Coast drainage streams and rivers of various sizes and moderate current. It ranges from New Hampshire to North Carolina, in small creeks to deep rivers in stable habitat with substrates ranging from mixed sand, pebble and gravel, to clay and silty sand. In the southern portion of its range, it is often found buried under logs or root mats in shallow water (USFWS 1993); whereas in the northern portion of its range, it may be found in firm substrates of mixed sand, gravel or cobble, or embedded in clay banks in water depths of a few inches to greater than 20 feet (Fichtel and Smith 1995; Gabriel 1995; Gabriel 1996; Nedeau and Werle 2003; Nedeau 2004a, 2004b, 2006a).

The DWM's reproductive cycle is typical of other freshwater mussels, requiring a host fish on which its larvae (glochidia) parasitize and metamorphose into juvenile mussels. The DWM is not a long-lived species as compared to other freshwater mussels; life expectancy is estimated at 10 to 12 years (Michaelson and Neves 1995).

Human activity has significantly degraded DWM habitat causing a general decline in populations and a reduction in distribution of the species. Primary factors responsible for the decline of the DWM include: 1) impoundment of river systems, 2) pollution, 3) alteration of riverbanks, and 4) siltation (USFWS 1993).

Damming and channelization of rivers throughout the DWM's range have resulted in the elimination or alteration of much of its formerly occupied habitat (Watters 2001). Domestic and industrial pollution was the primary cause for mussel extirpation at many historic sites. Mussels are known to be sensitive to a wide variety of heavy metals and pesticides, and to excessive nutrients and chlorine (Havlik and Marking 1987). Mussel die-offs have been attributed to chemical spills, agricultural waste run-off and low dissolved oxygen levels.

Because freshwater mussels are relatively sedentary and cannot move quickly or for long distances, they cannot easily escape when silt is deposited over their habitat. Siltation has been documented to be extremely detrimental to mussel populations by degrading substrate and water quality, increasing exposure to other pollutants and by direct smothering of mussels (Ellis 1936, Markings and Bills 1979). In Massachusetts, a bridge construction project decimated a population of DWM by accelerated sedimentation and erosion (Smith 1981).

Most DWM populations are small and geographically isolated from each. This isolation restricts exchange of genetic material among populations and reduces genetic variability within populations (USFWS 1993).

At one time, DWM was recorded from 70 localities in 15 major drainages ranging from North Carolina to New Brunswick, Canada. Since the 1993 Recovery Plan, a number of new locations

have been discovered and a number of known locations are possibly no longer extant. Based on preliminary information, the dwarf wedgemussel is currently found in 15 major drainages (Table 1), comprising approximately 70 "sites" (one site may have multiple occurrences). At least 45 of these sites are based on less than five individuals or solely on spent shells (USFWS 2007).

Table 1. Dwarf wedgemussel major drainages.

State	Major Drainage	County
NH	Upper Connecticut River	Coos, Grafton, Sullivan, Cheshire
VT	Upper Connecticut River	Essex, Orange, Windsor, Windham
MA	Middle Connecticut River	Hampshire, Hampden
CT	Lower Connecticut River	Hartford
NY	Middle Delaware	Orange, Sullivan, Delaware
NJ	Middle Delaware	Warren, Sussex
PA	Upper Delaware River	Wayne
MD	Choptank River	Queen Anne's, Caroline
MD	Lower Potomac River	St. Mary's, Charles
MD	Upper Chesapeake Bay	Queen Anne's
VA	Middle Potomac River	Stafford
VA	York River	Louisa, Spotsylvania
VA	Chowan River	Sussex, Nottoway, Lunenburg
NC	Upper Tar River	Granville, Vance, Franklin, Nash
NC	Fishing Creek	Warren, Franklin, Halifax
NC	Contentnea	Wilson, Nash
NC	Upper Neuse	Johnson, Wake, Orange

\* The 15 major drainages identified in Table 1 do not necessarily correspond to the original drainages identified in the 1993 Recovery Plan although there is considerable overlap.

The main stem of the Connecticut River in New Hampshire and Vermont is considered to have the largest remaining DWM population, consisting of three distinct stretches of sporadically occupied habitat segmented by hydroelectric dams. It is estimated that there are hundreds of thousands of DWM scattered within an approximate 75-mile stretch of the Connecticut River. The Ashuelot River in New Hampshire, the Farmington River in Connecticut, and the Neversink River in New York harbor large populations, but these number in the thousands only. The remaining populations from New Jersey south to North Carolina are estimated at a few individuals to a few hundred individuals (USFWS 2007).

In summary, it appears that the populations in North Carolina, Virginia, and Maryland are declining as evidenced by low densities, lack of reproduction, or inability to relocate any DWM in follow-up surveys. Populations in New Hampshire, Massachusetts, and Connecticut appear to be stable, while the status of populations in the Delaware River watershed affected by the recent floods of 2005 is uncertain at this time (USFWS 2007).

### III. ENVIRONMENTAL BASELINE

Under section 7(a)(2) of the Act, when considering the “effects of the action” on federally listed species, the Service is required to take into consideration the environmental baseline. The environmental baseline includes past and ongoing natural factors and the past and present impacts of all federal, state, or private actions and other activities in the action area (50 CFR 402.02), including federal actions in the area that have already undergone section 7 consultation, and the impacts of state or private actions which are contemporaneous with the consultation in process.

#### Status of the Species Within the Action Area

The action area occurs within the Upper Tar River Basin. Records maintained by the North Carolina Natural Heritage Program (NCNHP) have shown DWM to be present in the Tar River main stem between SR 1150 (Gooches Mill Road) and US 158 and in the following tributaries: Cub Creek, Shelton Creek, Fox Creek and North Fork Tar River. All of the element occurrences in the Upper Tar River Basin are designated as NHP Element Occurrence No. 89, representing them as a single population of DWM.

Observations (G. Jordan, Service, personal observations) of the Upper Tar River Basin suggest that the DWM in the Upper Tar River Basin are genetically isolated and may not be represented as a single population. Shelton Creek and Fox Creek are a contiguous unit, separated from the Tar River main stem by Gooches Mill Dam. The dam is located at the mouth of Shelton Creek and impounds the Tar River and Shelton Creek. The habitat at their junction is not suitable for DWM or their host species and likely represents a complete barrier to movement between the two areas.

NCNHP data indicate a 2003 observation of DWM approximately one mile upstream of the project area near the SR 1304 crossing. On April 28, 2005, a single DWM was observed just upstream of the SR 1307 crossing. On July 17, 2007 Fox and Shelton Creek were observed to have completely stopped flowing and were reduced to a series of stagnant pools due to drought conditions (G. Jordan, Service, personal observation). Little or no rain occurred from July 2007 to at least November 2007. An October 29, 2007 site visit by NCDOT biologists to a location approximately 2.5 miles downstream of the action area in Shelton Creek revealed dry conditions and heavy mussel mortality.

Rainfall returned to action area during the winter of 2007/2008 and flow resumed in Fox Creek. It is unknown if any DWM survived the 2007 draught within the action area; however, it is possible that some may have survived by burrowing down into moist subterranean substrate. A February 5, 2008 survey conducted within the action area found large numbers of dead shells of *Elliptio complanata* and *Lampsilis sp.* Six fresh dead DWM shells were also found. No live DWM were observed, and very low numbers (eight total) of live specimens of other species were observed. However, this survey was conducted early in the season and very soon after flow returned to the stream. It is possible that other specimens which had survived the draught may not have yet reemerged from the substrate, and thus were not detected.



## **Factors Affecting the Species Environment Within the Action Area**

The existing bridge, with its approach fill material within the floodplain, may have affected DWM habitat within the action area. DWM, like all mussels, are sensitive to changes within their watershed, particularly deforestation, urbanization and major construction activities. Presently the action area and surrounding areas are primarily rural and do not appear to be experiencing deforestation, urbanization or any other major construction activities. The most prevalent recent factor affecting the species in and near the action area was the effect of the severe 2007 drought and the lack of genetic connectivity with nearby, but isolated populations.

## **IV. EFFECTS OF THE ACTION**

Under section 7(a)(2) of the Act, “effects of the action” refers to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action. The federal agency is responsible for analyzing these effects. The effects of the proposed action are added to the environmental baseline to determine the future baseline, which serves as the basis for the determination in this BO. Should the effects of the federal action result in a situation that would jeopardize the continued existence of the species, we may propose reasonable and prudent alternatives that the federal agency can take to avoid a violation of section 7(a)(2). The discussion that follows is our evaluation of the anticipated direct and indirect effects of the proposed project. Indirect effects are those caused by the proposed action that occur later in time but are still reasonably certain to occur (50 CFR 402.02).

### **Factors to be Considered**

Given the effects of the severe 2007 draught, it is uncertain that any DWM still occur within the action area. If the species does occur within the action area, the work adjacent to the channel is expected to have negative effects for only a short duration. The long term and overall effect of the project may be beneficial if there is significant recovery of the species in the Upper Tar Basin.

### **Analysis for Effects of the Action**

**Beneficial Effects:** The commitment to completely span the channel and lengthen the bridge from 76 feet to 120 feet will have beneficial effects. Some of the approach fill material in the floodplain at the existing abutments will be removed, allowing the stream to access more of its floodplain. This can be expected to reduce the bridge’s effects on stream-flow patterns by potentially reducing downstream bank scouring and sedimentation.

**Direct Effects:** No in-channel work will occur. However, removal of the existing bents immediately adjacent to the waterline, the extensive bank excavation, and the large amount of fill utilized to raise the grade of the approach roads pose a potentially significant risk of adverse effects due to sediment input into the stream. A major storm event could erode soil from within

the disturbed construction area and wash it into the stream, thus smothering mussels, interfering with respiration and feeding, and degrading habitat. To avoid or minimize the potential for this effect, NCDOT has developed stringent erosion control measures and other conservation measures (see "Conservation Measures" section of this BO) which greatly reduce the likelihood of sediment entering the stream.

**Indirect Effects:** Since the project involves replacing an existing two-lane bridge with a new two-lane bridge, it is unlikely that the project will promote any secondary development or land-use changes. Also, since no bents will be placed in the channel, no negative indirect effects to stream flow are anticipated. Overall, the project is not likely to have any measurable indirect effect on DWM or its habitat.

**Interrelated and Interdependent Actions:** Underground telephone lines on the east side of SR 1307 may need to be relocated. Effects of this action will likely be minimal and immeasurable.

## **V. CUMMULATIVE EFFECTS**

Cumulative effects include the effects of future state, tribal, local or private actions that are reasonably certain to occur in the action area considered in this BO. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. At this time there are no known future local, state or private actions, not requiring federal actions that are reasonably certain to occur within the action area.

## **VI. CONCLUSION**

After reviewing the current status of the DWM, the environmental baseline for the action area, all effects of the proposed project, and the conservation measures identified in the BA, it is the Service's biological opinion that the proposed replacement of Bridge No. 164 over Fox Creek on SR 1307 (TIP No. B-4523), as proposed, is not likely to jeopardize the continued existence of this species. No critical habitat has been designated for this species; therefore, none will be affected.

This non-jeopardy opinion is based, in part, on the following facts: It is not known if DWM still exists within the action area. The project has some beneficial effects. Several conservation measures will greatly reduce the potential for negative effects. There will be no in-channel work, thus limiting the potential for negative effects.

## **INCIDENTAL TAKE STATEMENT**

Section 9 of the ESA and federal regulations pursuant to Section 4(d) of the ESA prohibit the taking of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to

engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FHWA so that they may become binding conditions of any grant or permit issued to the NCDOT, as appropriate, for the exemption in section 7(o)(2) to apply. The FHWA has a continuing duty to regulate the activity covered by this Incidental Take Statement. If the FHWA (1) fails to assume and implement the terms and conditions or (2) fails to require the NCDOT to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the FHWA or the NCDOT must report the progress of the action and its impact on the species to the Service as specified in the Incidental Take Statement [50 CFR §402.14(I)(3)].

#### **Amount or Extent of Take Anticipated**

The Service anticipates that incidental take of the DWM may occur as a result of the bridge replacement. During the removal of the existing bridge and construction of the new bridge, mussels may be harmed by siltation or other water quality degradation.

Because there are no reliable data on the number of DWM buried in the substrate compared to those on the surface (and even those on the surface are difficult to detect), it is not possible to base the amount of incidental take on numbers of individual mussels. Additionally, incidental take will likely be difficult to detect and monitor. Although spent shells may be collected, attributing the cause of mortality may be difficult. Glochidia and juvenile mussels are also extremely difficult to sample, therefore it is difficult to document take of either of these life stages.

The level of incidental take of the DWM can be defined as all DWM that may be harmed, harassed, or killed within the action area from the bridge to a point 400 meters downstream. If incidental take is exceeded, all work should stop, and the Service should be contacted immediately.

#### **Effect of the Take**

In the accompanying BO, the Service has determined that the level of anticipated take is not likely to result in jeopardy to the DWM. Since critical habitat has not been designated for this

species, the proposed project will not result in the destruction or adverse modification of critical habitat.

### **Reasonable and Prudent Measures**

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the DWM. These nondiscretionary measures include, but are not limited to, the terms and conditions outlined in this BO.

1. All Conservation Measures previously described in this BO must be implemented.

### **Terms and Conditions**

In order to be exempt from the prohibitions of section 9 of the ESA, the NCDOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described previously and outline required reporting requirements. These terms and conditions are nondiscretionary.

1. NCDOT will ensure that the contractor understands and follows the measures listed in the "Conservation Measures" section of this BO.
2. NCDOT will ensure that a Division Environmental Officer maintains a level of oversight to insure that all appropriate erosion control measures are fully implemented to avoid/minimize sedimentation of the stream.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs federal agencies to use their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. The following conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. Acquire riparian conservation buffers in the Upper Tar Basin to benefit DWM either unilaterally or in concert with other conservation programs.
2. Conduct periodic DWM status surveys in the Upper Tar Basin and submit results to the Service.
3. Contribute funding and/or staff to any future DWM reintroduction or population augmentation efforts conducted by others.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

## REINITIATION/CLOSING STATEMENT

This concludes formal consultation on the action outlined in your August 30, 2007 request for formal consultation. As provided in 50 CFR section 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

### Literature Cited

- Ellis, M. M. 1936. Erosion silt as a factor in aquatic environments. *Ecology* 17:29-42.
- Fichtel, C. and D. G. Smith. 1995. The Freshwater Mussels of Vermont. Nongame and Natural Heritage Program, Vermont Fish and Wildlife Department. Technical Report 18. 53 pp.
- Gabriel, M. 1995. Freshwater mussel distribution in the rivers and streams of Cheshire, Hillsborough, Merrimack and Rockingham Counties, New Hampshire. Report submitted to U.S. Fish and Wildlife Service, New England Field Office and New Hampshire Fish and Game Department. 60 pp.
- Gabriel, M. 1996. 1996 Monitoring of the dwarf wedgemussel (*Alasmidonta heterodon*) in the Ashuelot and Connecticut Rivers, New Hampshire. Report submitted to The Nature Conservancy, Eastern Regional Office, Boston, Massachusetts. 27 pp.
- Havlik, M. E. and L.L. Marking. 1987. Effects of contaminants on Naiad Mollusks (Unionidae): A Review. U.S. Department of the Interior, Fish and Wildlife Service, Resource Publication 164. Washington, D.C. 20 pp.
- Marking, L.L. and T.D. Bills. 1979. Acute effects of silt and sand sedimentation on freshwater mussels. Pages 204-211 in: J.R. Rasmussen, ed. Proceedings of the UMRCC symposium on Upper Mississippi River bivalve mollusks. Upper Mississippi River Conservation Committee, Rock Island, Illinois.
- Michaelson, D. L. and R. J. Neves. 1995. Life History and habitat of the endangered dwarf wedgemussel *Alasmidonta heterodon* (Bivalvia:Unionidae). *Jour. N. Am. Benthol. Soc.* 14:324-340.
- Nedeau, E. J. and S. Werle. 2003. Freshwater Mussels of the Ashuelot River: Keene to Hinsdale. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 50 pp.

- Nedeau, E. J. 2004a. A Fourth Investigation of the Survival of Dwarf Wedgemussels (*Alasmidonta heterodon*) for the Relocation Project on the Connecticut River, Route 2 Stabilization Project, Lunenburg, Vermont. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 7 pp.
- Nedeau, E. J. 2004b. Quantitative survey of dwarf wedgemussel (*Alasmidonta heterodon*) populations downstream of the Surry Mountain Flood Control Dam on the Ashuelot River. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 12 pp.
- Nedeau, E. 2006. Characterizing the Range and Habitat of Dwarf Wedgemussels in the "Middle Macrosite" of the Upper Connecticut River. Unpublished report submitted to the U.S. Fish and Wildlife Service, Concord, New Hampshire. 6 pp.
- Smith, D. G. 1981. Selected freshwater invertebrates proposed for special concern status in Massachusetts. Massachusetts Department of Environmental Quality Engineering. Division of Water Pollution Control. Westborough, MA.
- U.S. Fish and Wildlife Service. 1993. Dwarf Wedge Mussel *Alasmidonta heterodon* Recovery Plan. Hadley, Massachusetts. 52 pp.
- U.S. Fish and Wildlife Service. 2007. Dwarf Wedgemussel *Alasmidonta heterodon* 5-Year Review: Summary and Evaluation. Concord, New Hampshire. 19 pp.
- Watters, T. 2001. Freshwater mussels and water quality: A review of the effects of hydrologic and instream habitat alterations. Proceedings of the First Freshwater Mollusk Conservation Society Symposium, 1999. Ohio Biological Survey, Columbus, Ohio. pages 261-274.

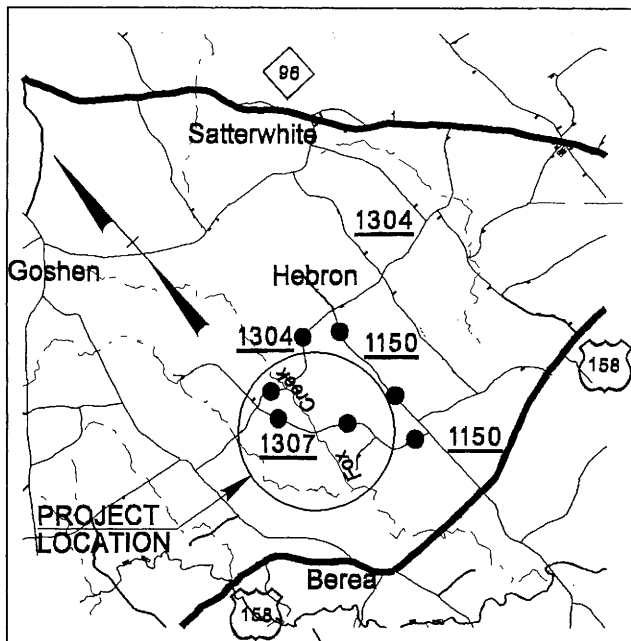
See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4523	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33747.1.1	BRZ-1307(3)	PE	
33747.1.1	BRZ-1307(3)	RW & UTILITIES	

TIP PROJECT: B-4523



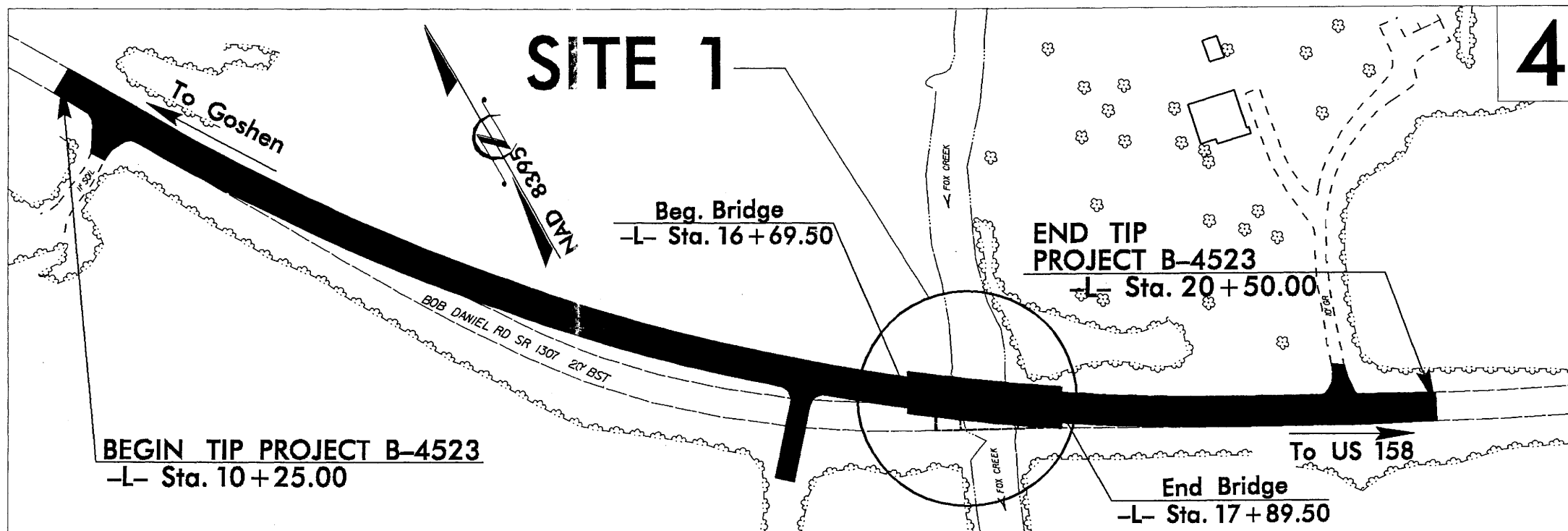
Offsite Detour Route

LOCATION: BRIDGE No. 164 on SR 1307 OVER FOX CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

Permit Drawing  
Sheet 1 of 7

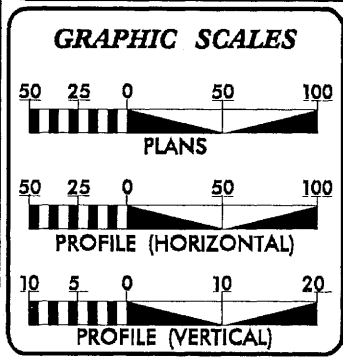
WETLAND/SURFACE WATER  
PERMIT DWGS.



Design Exception Required for Vertical  
Curve K Factors, Vertical Stopping  
Sight Distances & Maximum Grade

METHOD OF CLEARING III  
THIS PROJECT IS NOT WITHIN THE LIMITS OF ANY MUNICIPALITY

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION



**DESIGN DATA**

ADT 2008 =	450 ypd
ADT 2030 =	900 ypd
DHV =	13 %
D =	60 %
T =	3 % *
V =	55 MPH
* TTST 1% * DUAL 2%	

**PROJECT LENGTH**

Length Roadway TIP Project B-4523 =	0.171 Miles
Length Structure TIP Project B-4523 =	0.023 Miles
Total Length TIP Project B-4523 =	0.194 Miles

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
June 20, 2008

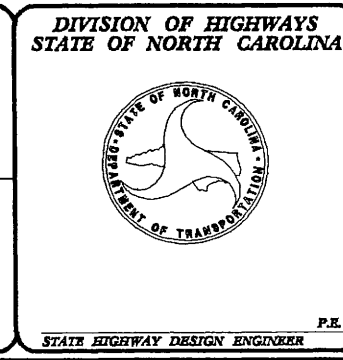
LETTING DATE:  
June 16, 2009

JAMES A. SPEER, PE  
PROJECT ENGINEER

JOHN C. LANSFORD, PE  
PROJECT DESIGN ENGINEER

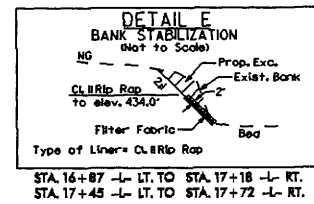
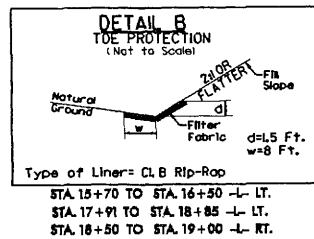
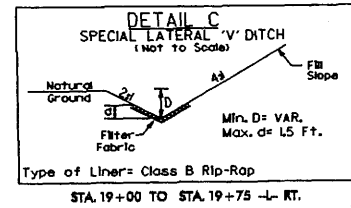
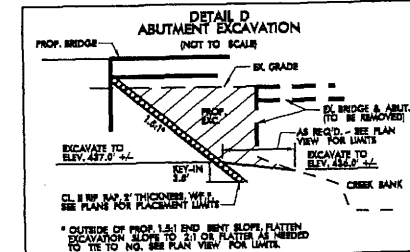
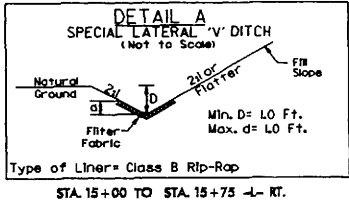
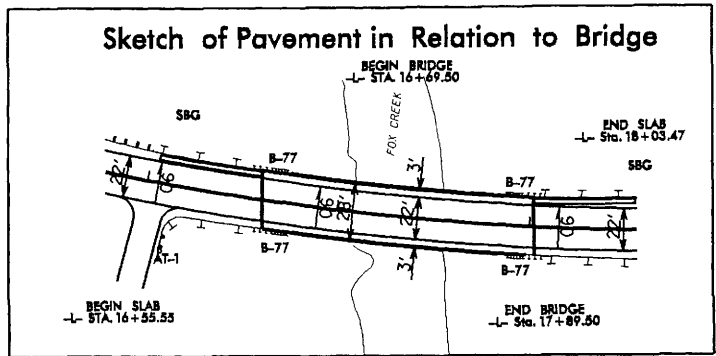
HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER



29-JUL-2008 08:51  
C:\hydraulics\permits\environmental\drawings\b4523\_hyd\_prm\_wet.dgn  
bearderson AT HY244558

CONTRACT: C202126



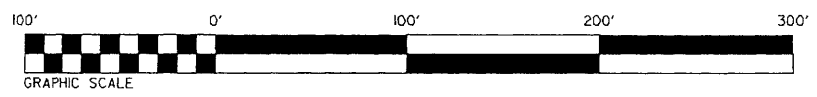
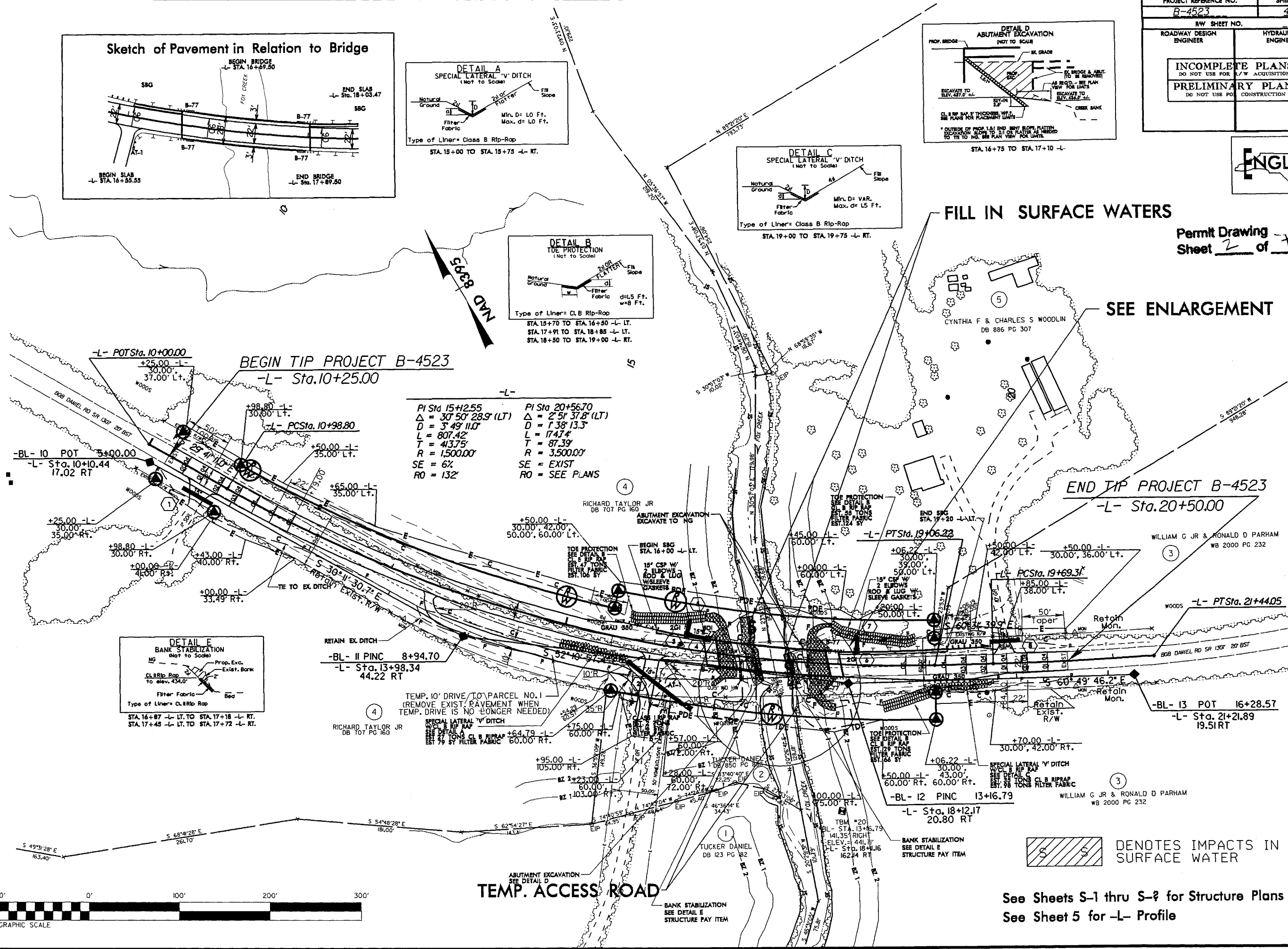
PI Sta 15+25.55 Δ = 30° 50' 28.9" (LT) D = 3' 49' 11.0" L = 807.42' T = 413.75' R = 1,500.00' SE = 6% RO = 132'

PI Sta 20+56.70 Δ = 2° 51' 37.8" (LT) D = 1' 38' 13.3" L = 174.74' T = 87.39' R = 3,500.00' SE = EXIST RO = SEE PLANS

**FILL IN SURFACE WATERS**

Permit Drawing Sheet 2 of 7

**SEE ENLARGEMENT**



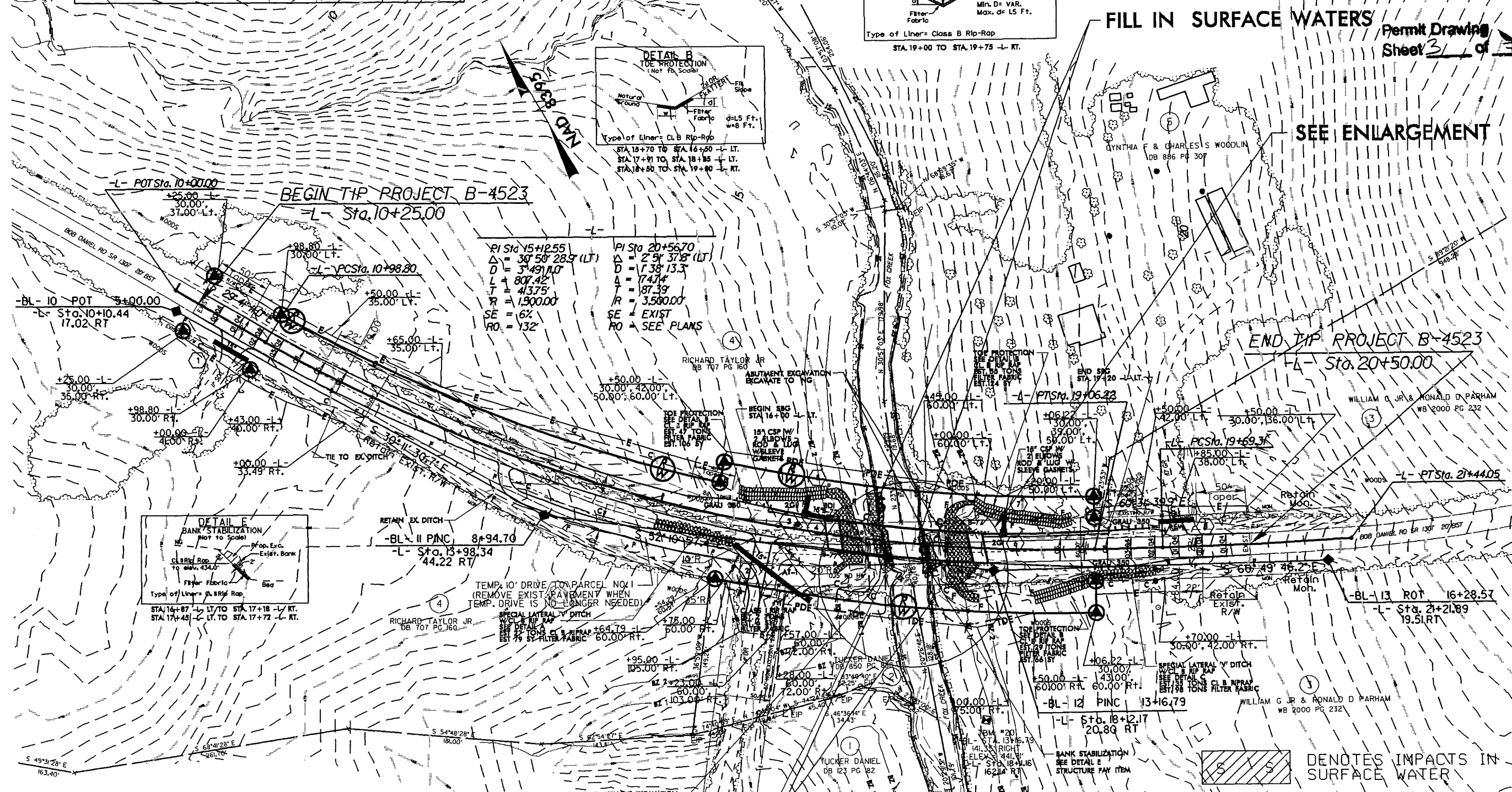
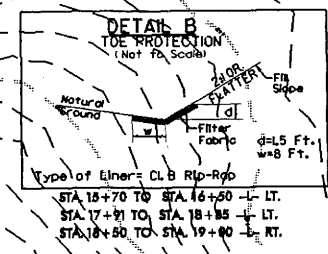
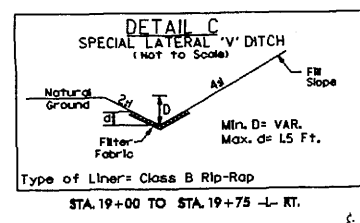
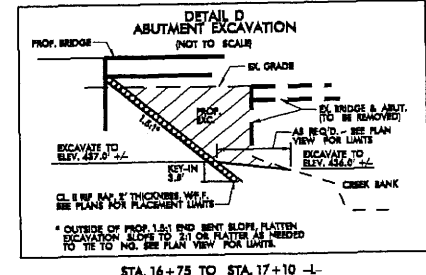
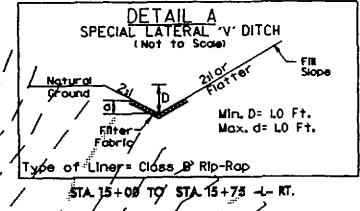
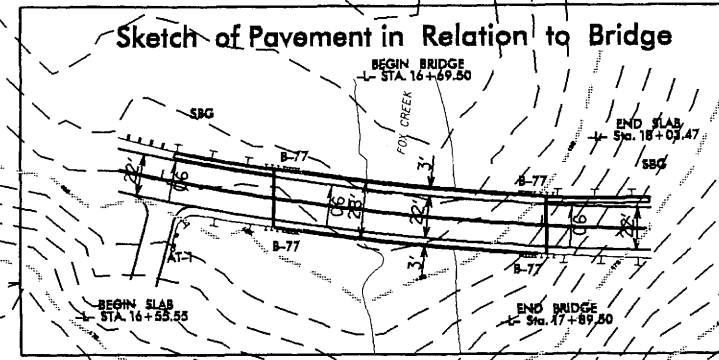
See Sheets S-1 thru S-7 for Structure Plans  
See Sheet 5 for -L- Profile

DENOTES IMPACTS IN SURFACE WATER

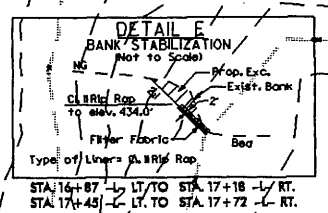
3/11/2008 10:04 C:\projects\environmental\dwg\4523\hd\4523.dwg user: wsl/gdr  
Title: Environmental Impact Statement for the Proposed B-4523 Highway Project  
Author: wsl/gdr  
Plot Date: 3/11/2008 10:04  
Plot Scale: 1:1  
Plot Size: 11.71 x 17.00  
Plot Path: C:\projects\environmental\dwg\4523\hd\4523.dwg



**ENGLISH**



PI Sta 15+12.55	PI Sta 20+56.70
Δ = 30° 58' 28.5" (LT)	Δ = 2° 51' 37.8" (LT)
D = 3,491.00	D = 1,381.33
L = 807.42	L = 74.74
T = 437.5	T = 87.39
R = 1,500.00	R = 3,500.00
SE = 6%	SE = EXIST
RO = 132'	RO = SEE PLANS

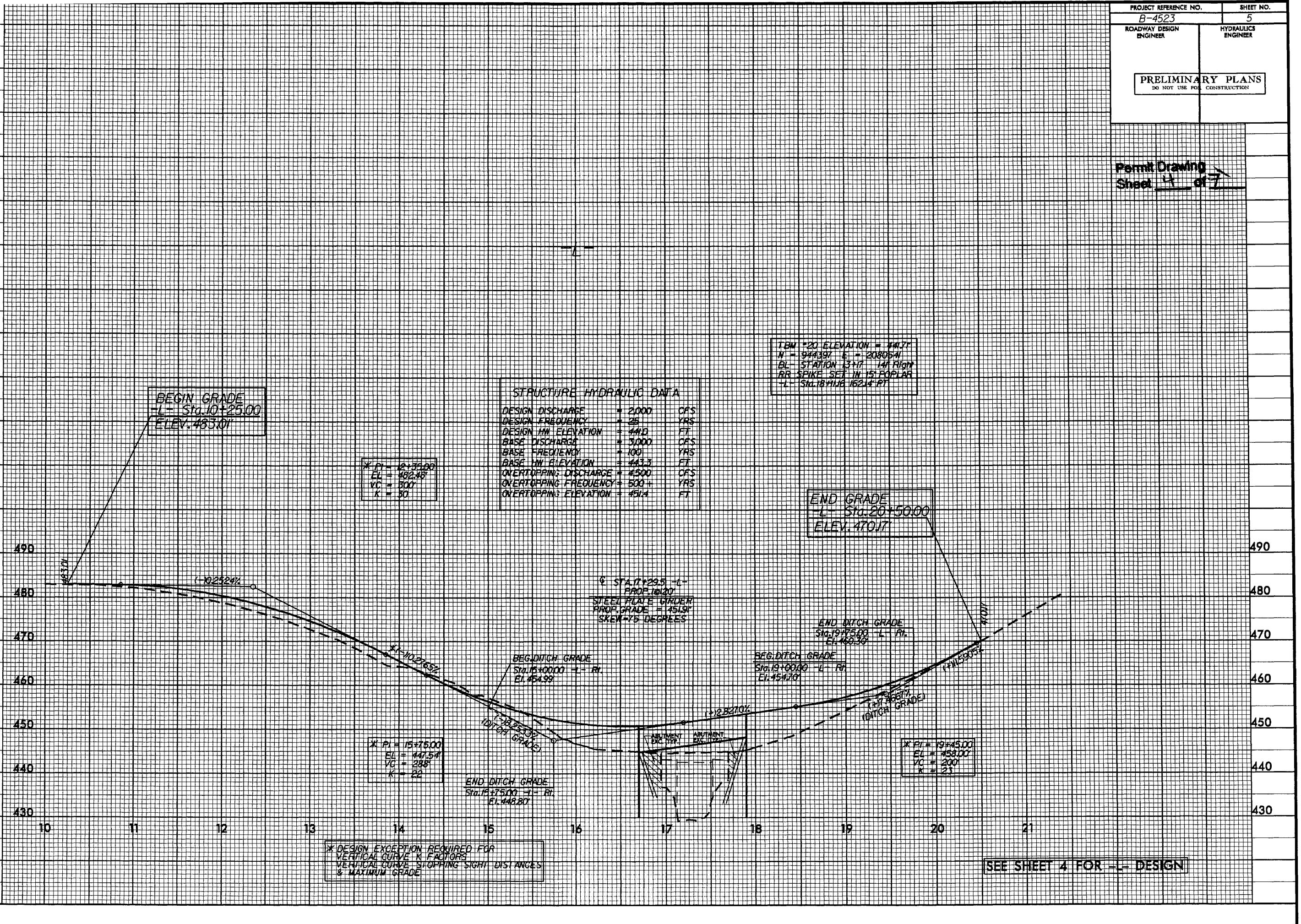


31-JUL-2008 10:04  
 C:\Users\miller\Documents\Drawings\B-4523-hyd-perm-wet.dgn  
 miller  
 1:1

29-JUL-2008 08:50  
 C:\Hydraulics\Drawings\environmental\Drawings\B4523\_hyd.prm.wet.dgn  
 5/14/08

PROJECT REFERENCE NO. B-4523	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
<b>PRELIMINARY PLANS</b> DO NOT USE FOR CONSTRUCTION	

Permit Drawing  
 Sheet 4 of 7



**STRUCTURE HYDRAULIC DATA**

DESIGN DISCHARGE	+ 2000	CFS
DESIGN FREQUENCY	+ 25	YRS
DESIGN H/L ELEVATION	+ 441.0	FT
BASE DISCHARGE	+ 3000	CFS
BASE FREQUENCY	+ 100	YRS
BASE H/L ELEVATION	+ 443.3	FT
OVERTOPPING DISCHARGE	+ 4500	CFS
OVERTOPPING FREQUENCY	+ 500	YRS
OVERTOPPING ELEVATION	+ 451.4	FT

TBM #20 ELEVATION = 441.77  
 N = 944.397 E = 2080.541  
 BL STATION 13+17 14th Right  
 RR SPIKE SET IN 15' POPLAR  
 +L Sta. 18+41.16 162.14 FT

**BEGIN GRADE**  
 -L- Sta. 10+25.00  
 ELEV. 463.01

\* PI = 12+35.00  
 EL = 482.48  
 VC = 300'  
 K = 30

**END GRADE**  
 -L- Sta. 20+50.00  
 ELEV. 470.17

§ STA. 17+29.5 -L-  
 PROP. 18x20  
 STEEL PLATE GARDEN  
 PROP. GRADE = 145.18'  
 SKEN = 75 DEGREES

**END DITCH GRADE**  
 Sta. 19+75.00 -L- Rt.  
 EL. 460.30

**BEG. DITCH GRADE**  
 Sta. 19+00.00 -L- Rt.  
 EL. 454.70

\* PI = 15+75.00  
 EL = 441.54  
 VC = 288'  
 K = 22

**END DITCH GRADE**  
 Sta. 18+75.00 -L- Rt.  
 EL. 448.80

\* PI = 19+45.00  
 EL = 453.00  
 VC = 200'  
 K = 23

\* DESIGN EXCEPTION REQUIRED FOR  
 VERTICAL CURVE K FACTORS  
 VERTICAL CURVE STOPPING SIGHT DISTANCES  
 & MAXIMUM GRADE

SEE SHEET 4 FOR -- DESIGN

**WETLAND PERMIT IMPACT SUMMARY**

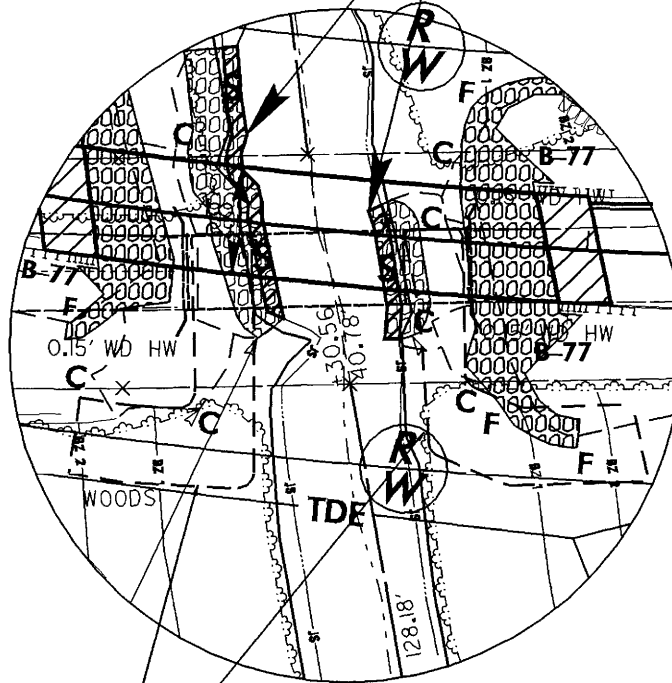
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS								
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)			
1	16+50 to 18+00 -L-	BRIDGE								0.01*			73*		
TOTALS:										0.010			73		

\*Permanent surface water impacts (0.01 acres) and existing channel impacts permanent (73 feet) are due to bank stabilization.

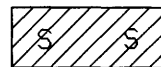
NC DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 GRANVILLE COUNTY  
 WBS - 33747.1.1 (B-4523)  
 SHEET **5 of 7** 8/4/2008

# WETLAND/SURFACE WATER IMPACT DRAWING ENLARGEMENT

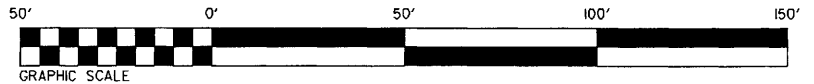
FILL IN SURFACE WATER  
(BANK STABILIZATION)



TEMP. ACCESS ROAD



DENOTES IMPACTS IN  
SURFACE WATER



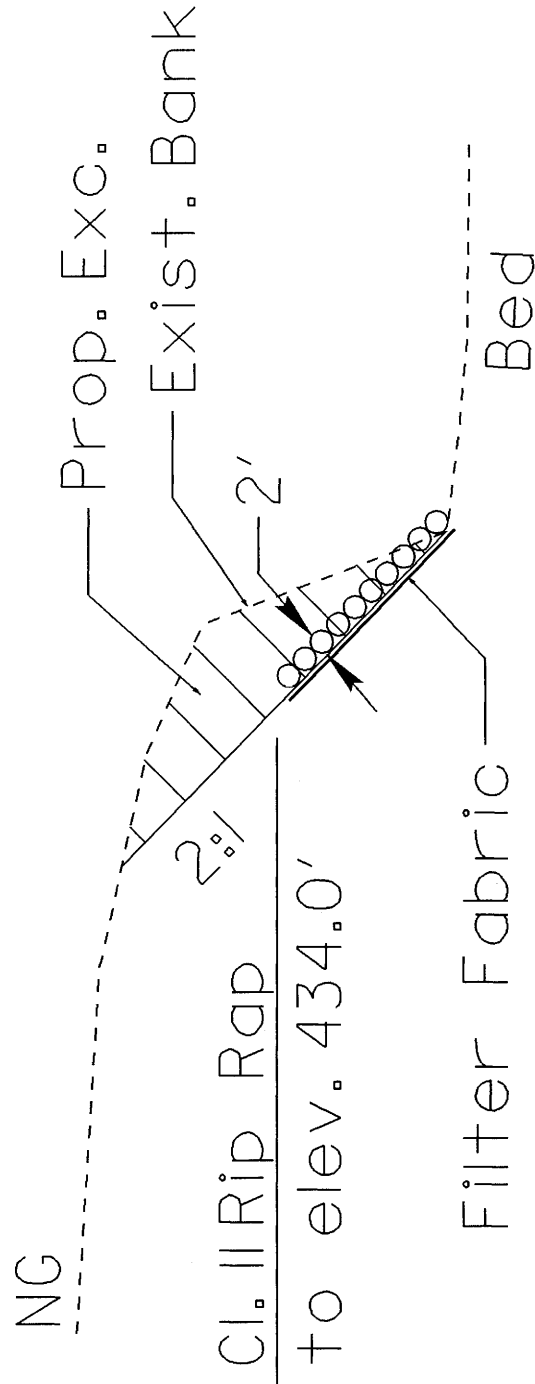
N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
GRANVILLE COUNTY

PROJECT: 33747.1.1 (B-4523)

BRIDGE NO. 164 ON SR 1307  
OVER FOX CREEK

SHEET 6 OF 7

# BANK STABILIZATION



**NC****DOT**

**DIVISION OF HIGHWAYS**  
**GRANVILLE COUNTY**  
**PROJECT: 33747.1.1 (B-4523)**

**BRIDGE NO.164 ON SR 1307**  
**OVER FOX CREEK**

**SHEET 7 OF 7**

Type of Liner = Cl. II Rip Rap  
(NOT TO SCALE)

See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS



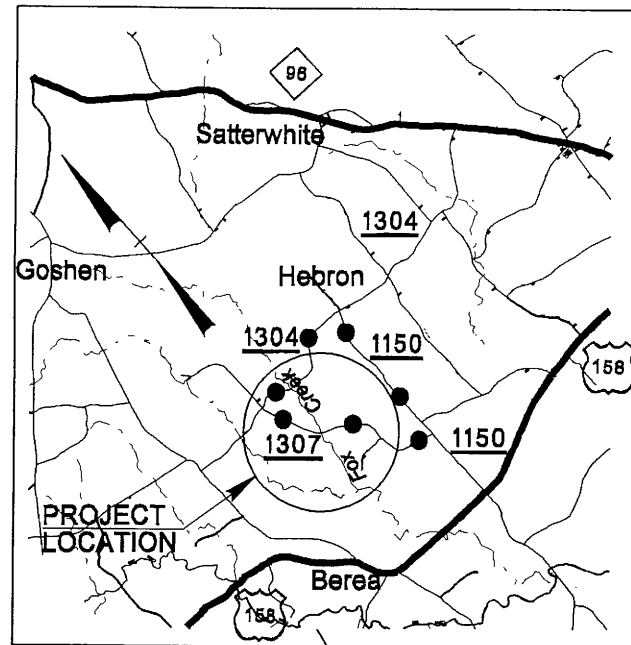
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4523	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33747.1.1	BRZ-1307(3)	PE	
33747.1.1	BRZ-1307(3)	RW & UTILITIES	

**GRANVILLE COUNTY**

LOCATION: BRIDGE No. 164 on SR 1307 OVER FOX CREEK

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE

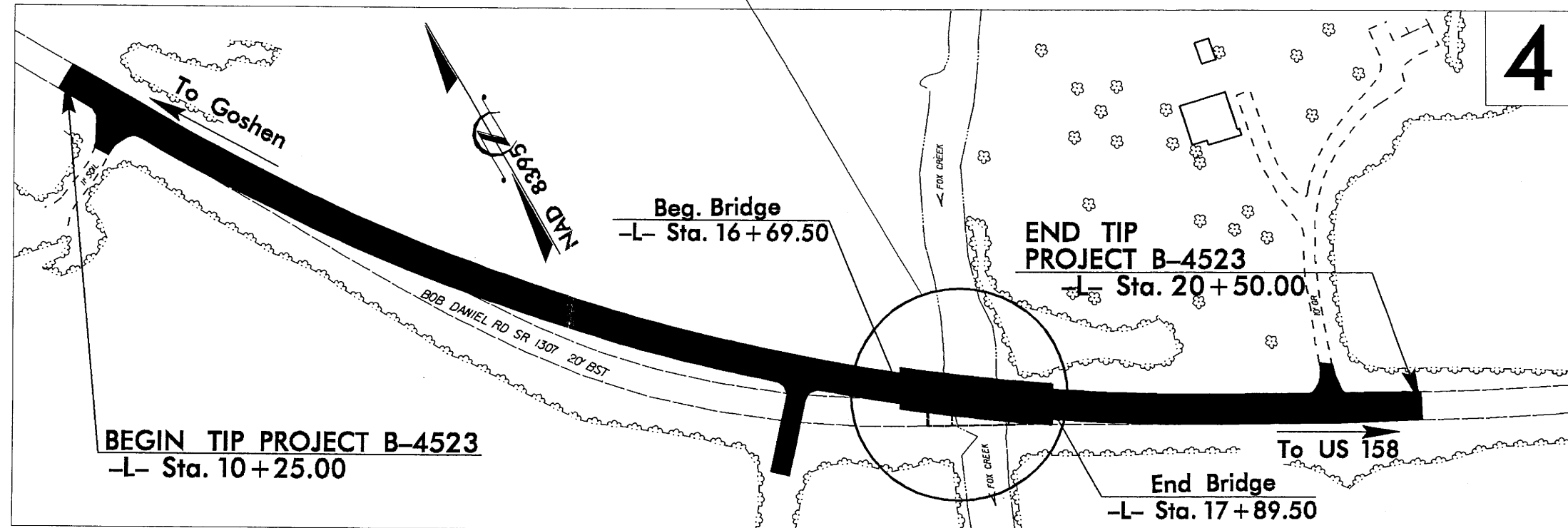
Buffer Drawing Sheet 1 of 5



Offsite Detour Route

**BUFFER PERMIT DWGS.**

**SITE 1**



Design Exception Required for Vertical Curve K Factors, Vertical Stopping Sight Distances & Maximum Grade

METHOD OF CLEARING III  
THIS PROJECT IS NOT WITHIN THE LIMITS OF ANY MUNICIPALITY

PRELIMINARY PLANS  
DO NOT USE FOR CONSTRUCTION

<p><b>GRAPHIC SCALES</b></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><b>DESIGN DATA</b></p> <p>ADT 2008 = 450 vpd ADT 2030 = 900 vpd DHV = 13 % D = 60 % T = 3 % * V = 55 MPH * TTST 1% * DUAL 2%</p>	<p><b>PROJECT LENGTH</b></p> <p>Length Roadway TIP Project B-4523 = 0.171 Miles Length Structure TIP Project B-4523 = 0.023 Miles Total Length TIP Project B-4523 = 0.194 Miles</p>	<p>Prepared in the Office of: <b>DIVISION OF HIGHWAYS</b> 1000 Birch Ridge Dr., Raleigh NC, 27610</p>	<p><b>HYDRAULICS ENGINEER</b></p> <p>SIGNATURE: _____ P.E.</p> <p><b>ROADWAY DESIGN ENGINEER</b></p> <p>SIGNATURE: _____ P.E.</p>	<p><b>DIVISION OF HIGHWAYS</b> STATE OF NORTH CAROLINA</p> <p>STATE HIGHWAY DESIGN ENGINEER</p>
			<p>2006 STANDARD SPECIFICATIONS</p> <p>RIGHT OF WAY DATE: June 20, 2008</p> <p>LETTING DATE: June 16, 2009</p>		

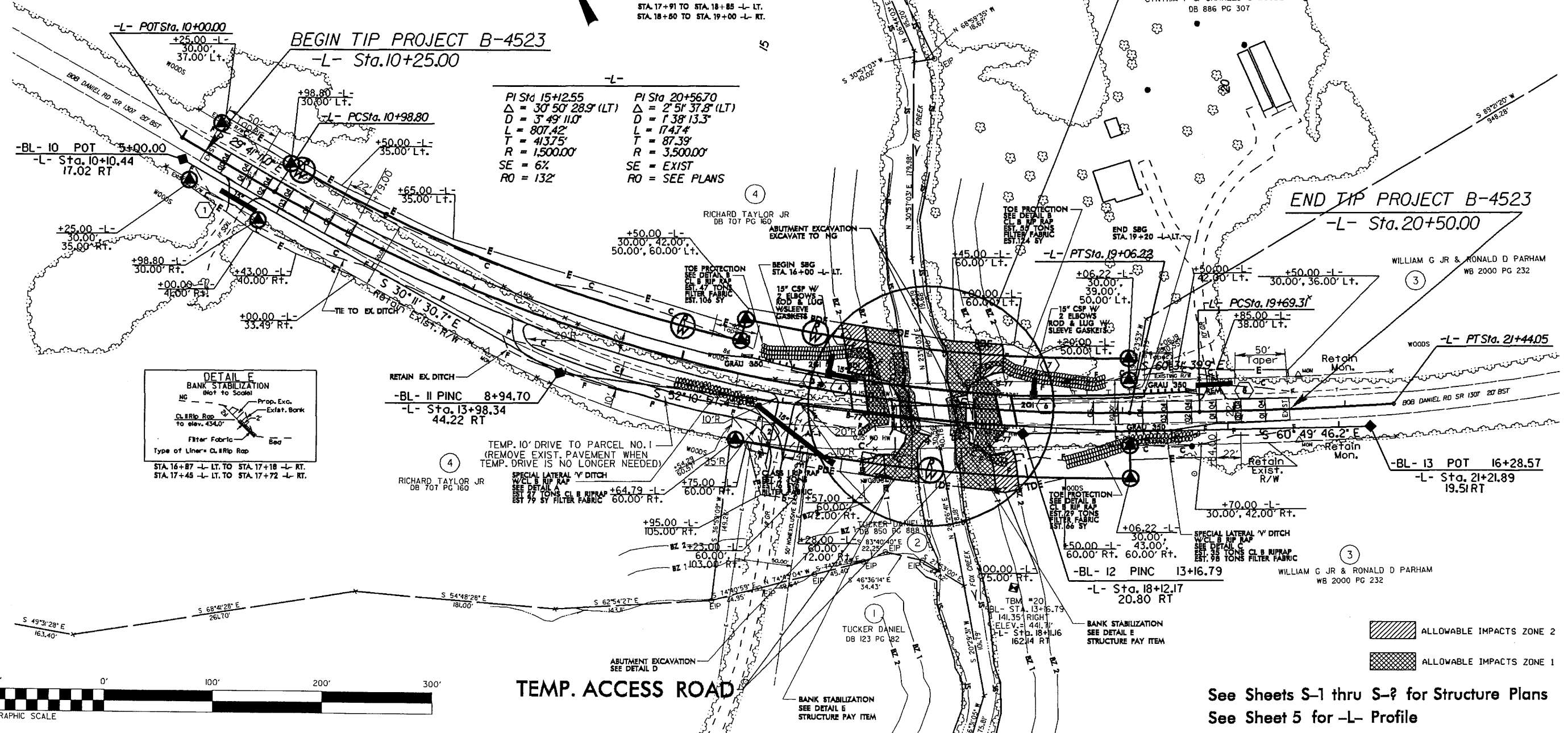
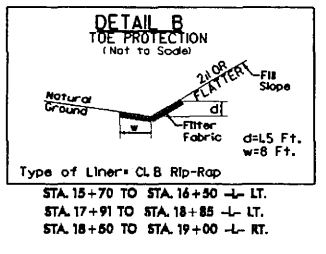
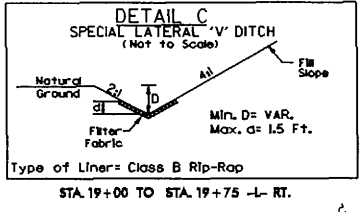
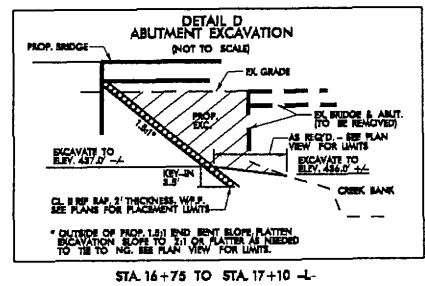
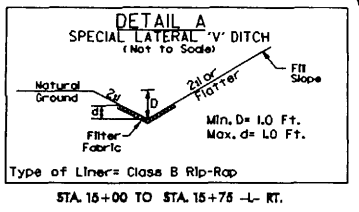
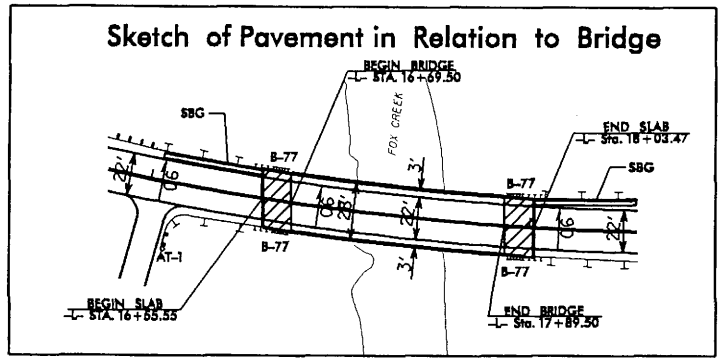
TIP PROJECT: B-4523

CONTRACT: C202126

29-JUL-2008 08:55 I:\hydraulics\p\m\environmental\drawings\b4523\_hyd\_prm\_buf.dgn

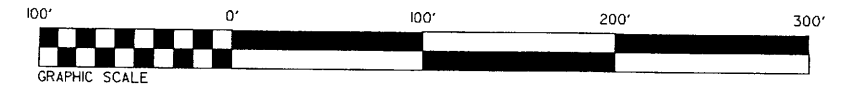
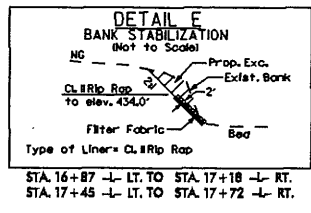
**INCOMPLETE PLANS**  
DO NOT USE FOR R/W ACQUISITION

**PRELIMINARY PLANS**  
DO NOT USE FOR CONSTRUCTION

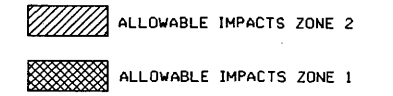


SEE ENLARGEMENT

Buffer Drawing Sheet 2 of 5



TEMP. ACCESS ROAD



See Sheets S-1 thru S-2 for Structure Plans  
 See Sheet 5 for -L- Profile

3/1/2008 10:40  
 s:\projects\2008\1040\000\1040001.dwg  
 anderson HT HIC14536

## BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT							BUFFER REPLACEMENT									
			TYPE		ALLOWABLE		MITIGABLE			ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )								
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft <sup>2</sup> )	ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )	ZONE 1 (ft <sup>2</sup> )			ZONE 2 (ft <sup>2</sup> )	TOTAL (ft <sup>2</sup> )						
1	16+50 to 18+00 -L-	BRIDGE		X		5911	1251	8477											
		ROADWAY	X				1315	1315											
<b>TOTAL:</b>						5911	2566	9792											

N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
  
 GRANVILLE COUNTY  
 WBS - 33747.1.1 (B-4523)





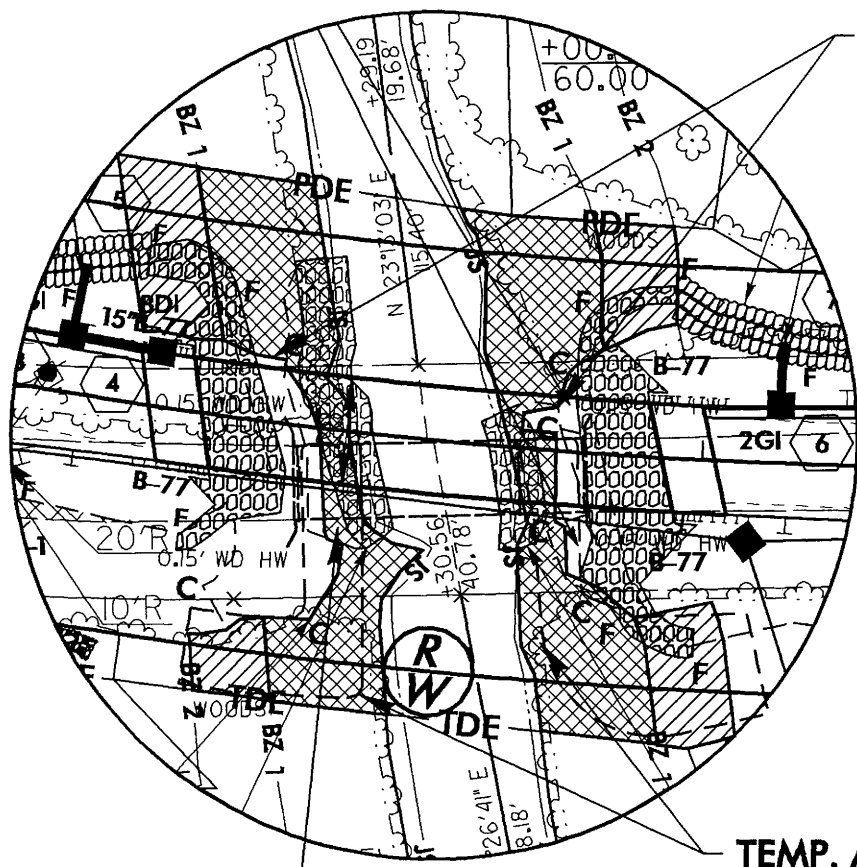
# Property Owner Contact Report

TIP # B-4523

Owner Last Name/ Business	Owner First Name	Address	City/Town	State	Zip Code	Contact/ Relationship	Home Phone	Contacted By	Contact Date	How Contacted	Comments
Daniel	Tucker	3112 Kenan Road	Durham	NC	27704	Same		K. Elliott	01.17.2005	Letter	
Daniel	Tucker	3112 Kenan Road	Durham	NC	27704	Same		K. Elliott	01.17.2005	Letter	
Parham	William	3407 Noel Ct	Raleigh	NC	27607						WILL BOOK 2000 PG 232 PER TAX INFO
Taylor, Jr.	Richard	403 Forest Road	Oxford	NC	27656	Same		K. Elliott	01.17.2005	Letter	
Woodlin	Cynthia	6118 Bob Daniel Road	Oxford	NC	27565	Same		K. Elliott	01.17.2005	Letter	

Buffer Drawing  
Sheet 4 of 5

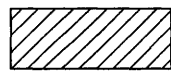
# BUFFER DRAWING ENLARGEMENT



EXCAVATE TO N.G.

TEMP. ACCESS ROAD

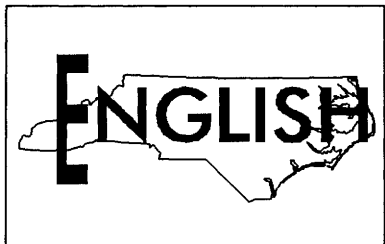
ABUTMENT EXCAVATION  
SEE DETAIL D  
ROADWAY PLAN SHEET



ALLOWABLE IMPACTS ZONE 2



ALLOWABLE IMPACTS ZONE 1



**NCDOT**  
 DIVISION OF HIGHWAYS  
 GRANVILLE COUNTY  
 PROJECT: 33747.1.1 (B-4523)  
 BRIDGE NO.164 ON SR1307  
 OVER FOX CREEK

SHEET 5 OF 5