



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

DAVID MCCOY  
SECRETARY

January 10, 2001

MEMORANDUM TO: Mr. H. Allen Pope, P.E.  
Division 3 Engineer

FROM: *fol* V. Charles Bruton, Ph.D. *Ben Bruton*  
Assistant Manager, Project Development and  
Environmental Analysis Branch

SUBJECT: New Hanover County, Wilmington – Smith Creek Parkway  
from the Northeast Cape Fear River Bridge to 0.85 km East of  
23<sup>rd</sup> Street; State Project No. 8.2250108; T.I.P. Number  
U-92A/B

Attached are the U. S. Army Corps of Engineers Individual Permit, the CAMA Major permit, the Division of Water Quality 401 Certification, and the letter of exemption from the U. S. Coast Guard for the above referenced project. All environmental permits required for the construction of this project have been received.

VCB/eah

Attachment

cc: Ms. Debbie Barbour, P.E.  
Mr. Calvin Leggett, P.E.  
Mr. John Alford, P.E.  
Mr. David Henderson, P.E.  
Mr. Randy Garris, P.E.  
Mr. Tim Rountree, P.E.  
Mr. W. D. Johnson  
Mr. N. L. Graf, FHWA

MAILING ADDRESS:

NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1548 MAIL SERVICE CENTER  
RALEIGH NC 27609-1548

TELEPHONE: 919-733-3141  
FAX: 919-733-8794

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

LOCATION:

TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC



## PROJECT COMMITMENTS

Smith Creek Parkway  
US 117 to Twenty-Third Street  
New Hanover County  
State Project No. 8.2250101  
Federal Aid Project No. MAM-M-5851(2)  
TIP No. U-92A/B

*In addition to the standard Section 404 Individual Permit General Conditions and Special Conditions, as well as Section 401 Water Quality Certification (WQC) Numbers 3253 General Conditions, the following commitments are agreed to by the NCDOT:*

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

#### *Project Development and Environmental Analysis Branch (PDEA), Roadway Design Unit and Hydraulics Unit*

NCDOT will attempt to further minimize wetland impacts in the final design of the project. All unavoidable wetland impacts will be mitigated for by the NCDOT. A final mitigation plan will be included with the permit application. A permit application will be submitted during the final design and construction plan preparation phase for jurisdictional impacts of the project.

*Wetland impacts have been substantially reduced since the Public Hearing Design Plan. Additional bridges have been included in the final design to reduce wetland impacts from 15 acres to approximately 6.9 acres. PDEA has submitted the permit application including a mitigation proposal.*

#### *Roadway Design Unit and Structure Design Unit*

Federal Aviation Administration Form 7460-1 will be completed during the final design phase of the project.

*This has been submitted to the appropriate office.*

#### *Roadway Design Unit, Designs Services Unit (Utilities Section), Right of Way Branch*

All utility relocations will be coordinated with the local government and vendor responsible for such utility services. Particular concerns for relocating water and sewer lines will be resolved prior to construction.

*Coordination is underway with appropriate authorities to resolve the outstanding Utility agreements.*

*Structure Design Unit and Right of Way Branch*

Railroad encroachment agreements must be resolved prior to construction.

*Coordination is underway with appropriate authorities to resolve the outstanding Railroad agreements.*

*PDEA, Roadway Design Unit, Roadside Environmental Branch, and Division 3 Engineer*

All Section 106 commitments included in the Memorandum of Agreement dated 8/1997 must be fulfilled prior to construction. These commitments are only applicable for the A section of the project from Third street to US 117 connection. However, all correspondence is included to assure that NCDOT is following through with these commitments.

*PDEA, Roadway Design staff and Roadside Environmental Staff are actively working with the City of Wilmington and the 1898 Memorial Committee to finalize all landscape plans at the two mini park areas, one located at the corner of Third and Davis Streets and the other across from Taylor homes located on Fourth Street. This work will continue and be finalized prior to construction.*

**Commitments Developed Through Permitting**

*Division 3 Resident Engineer*

Within waters of the Northeast Cape Fear River, no in-water work will be permitted from January 1 through May 31 of any year without the prior approval of the Division of Coastal Management (DCM), in consultation with the Division of Marine Fisheries (DMF).

*Division 3 Resident Engineer*

Within waters of Smith Creek or its tributaries, NCDOT shall conform with the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997). Furthermore, no in-water work will be permitted from February 1st to June 15<sup>th</sup> without prior approval of DCM, in consultation with the Wildlife Resources Commission (WRC).

*Division 3 Resident Engineer*

All work must be performed as shown on the approved plans.

*Division 3 Resident Engineer/ Structure Design Unit*

NCDOT understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structures 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 water, NCDOT 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.

*Division 3 Resident Engineer*

NCDOT shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit.

*Division 3 Resident Engineer*

The temporary placement or double handling of excavated or fill material within waters and wetlands is not authorized.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

All fill material shall be immediately stabilized and maintained to prevent erosion and sedimentation into adjacent waters and/or wetlands.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

The clearing of an additional ten (10) feet beyond the slope stake limits in wetlands, as shown on the plans, is authorized to install the necessary sediment and erosion control measures.

*Division 3 Resident Engineer*

All fill material will be clean and free of any pollutants except in trace quantities.

*Division 3 Resident Engineer*

NCDOT shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to the river when it no longer poses a threat to aquatic organisms.

*Division 3 Resident Engineer*

NCDOT will maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. NCDOT is not relieved of this requirement if it abandons the permitted activity without having it transferred to a third party.

*Structure Design Unit/ Division 3 Resident Engineer*

No attempt will be made by NCDOT to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work. Use of the facility must not interfere with the public's right to free navigation on all navigable waters of the United States.

*PDEA/ Division 3 Resident Engineer/ Division 3 Right-of-Way Office*

Compensatory mitigation for the unavoidable impacts to 5.5 acres of Coastal Plain Bottomland Hardwood wetlands and 1.4 acres of Tidal Cypress-Gum

Swamp Forest shall be accomplished as described in the "Revised Compensatory Mitigation Plan for the Smith Creek Parkway (Sections AA and B)", dated June 29, 2000. Construction of the Smith Creek Mitigation Site, Third Street Mitigation Site, McRae Street Site, Waste Treatment Site, and the County Property Site shall be completed prior to completion of the Smith Creek Parkway Project, TIP U-92A/B. NCDOT shall maintain the mitigation sites, in their natural condition, as altered by the mitigation plan, in perpetuity. Except as authorized or required by the mitigation plan, prohibited activities on the mitigation property include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage trash, or other waste material. In addition, NCDOT shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands on the mitigation property. NCDOT shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.

*Division 3 Resident Engineer/ PDEA/ Roadside Environmental Unit*

Construction and monitoring of the Smith Creek Site shall be conducted in accordance with the approved mitigation plan titled "Compensatory Mitigation Plan for Smith Creek, Spring Branch and Dreyfours South Mitigation Sites", dated 9/23/96, as modified in the mitigation plan dated 6/29/00 that was submitted with the CAMA permit application, except as follows: on-site monitoring gauges to document restoration of hydrology will be implemented as outlined in the 9/23/96 mitigation plan. The 9/23/96 mitigation plan states that four water level gauges will be used to document hydrologic restoration.

*PDEA/ Division 3 Resident Engineer/ Division 3 Right-of-Way Office*

NCDOT shall preserve the 47.0-acre tract referred to as the "Kerr Avenue Site" in its natural condition in perpetuity. Prohibited activities on the mitigation property include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage trash, or other waste material. In addition, NCDOT shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands on the mitigation property. NCDOT shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.

*PDEA/ Division 3 Resident Engineer*

NCDOT shall make payment to the North Carolina Wetlands Restoration Program (NCWRP) in an amount determined by NCWRP, sufficient to perform 875 linear feet of warm water stream restoration in the Lower Cape Fear River basin (Hydrologic Unit 03030007). Construction within streams shall begin only after NCDOT has made full payment to the NCWRP, and the NCWRP has provided written confirmation to the Corps that it agrees to accept responsibility for the mitigation work required, in compliance with the MOU between the North Carolina Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District, dated November 4, 1998.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

All land disturbing activity associated with the highway construction will be conducted in a way that prevents a significant increase in turbidity outside the area of construction or construction-related discharge. Increases such that the turbidity in the water body is 50 NTU's or less are not considered significant.

*Division 3 Resident Engineer*

NCDOT and its contractors and/or agents shall not excavate, fill, or perform mechanized land clearing at any time in the construction or maintenance of this project within waters and/or wetlands, except as authorized by the permit, or any modification to the permit. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with the permit without appropriate modification of the permit.

*Division 3 Resident Engineer*

To ensure that all borrow and waste activities occur on high ground, except as authorized by the permit, NCDOT shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. NCDOT shall ensure that all such areas comply with permit conditions, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will be available to the Corps of Engineers on request.

*Division 3 Resident Engineer/ PDEA*

If NCDOT discovers any previously unknown historic or archeological remains while accomplishing the authorized work, it will immediately notify the Wilmington District Engineer who will initiate the required State/Federal coordination.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

Sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but NCDOT must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.

*Division 3 Resident Engineer/ Hydraulics Unit*

Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including 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. NCDOT is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.

*Division 3 Resident Engineer/ Structure Design Unit*

Installation and removal of pilings to support all the temporary and permanent bridges for the project shall result in no changes to the existing surface elevations. No material associated with the construction of the referenced bridges shall be deposited into or removed from jurisdictional wetlands and waters.

*Division 3 Resident Engineer/ Structure Design Unit/ PDEA*

All pilings for the proposed permanent bridge over Smith Creek shall be installed by using standard pile driving techniques and standard sediment containment methods. This condition does not apply to the installation of any bents located outside jurisdictional areas. No material associated with the construction of the permanent bridges over Smith Creek and associated wetlands shall be deposited into or removed from jurisdictional wetlands and waters. Use of other pile installation practices is not authorized without first acquiring written approval from the North Carolina Division of Water Quality and Division of Coastal Management. Should jetting or drilling of any bridge piles within any CAMA Areas of Environmental Concern become necessary, a modification of this permit and possibly the Water Quality Certification will be required.

*Division 3 Resident Engineer/ PDEA*

If NCDOT determines that additional permanent and/or temporary impacts (such as additional temporary access roads, or matting to transport equipment across wetlands) will occur that are not shown on the attached permit drawings, then additional authorization from DCM will be required. Depending upon the magnitude of the impacts and the habitat types that are impacted, additional DCM authorization may be in the form of a refinement of this permit or a permit modification.

*PDEA/ Roadside Environmental Unit/ Division 3 Resident Engineer*

NCDOT shall provide an annual update on the wetland areas temporarily impacted by this project. This annual update will consist of photographs provided during the agency monitoring report meeting and a brief report on the progress of these temporarily impacted areas in re-attaining wetland jurisdictional status. Three years after project completion, NCDOT shall schedule an agency field meeting with DCM, DWQ and WRC to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If at the end of 3 years after project completion the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, NCDOT and the above listed agencies shall determine whether a compensatory wetland mitigation plan will be required.

*Division 3 Resident Engineer*

Placement of riprap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material must be free from loose dirt or any pollutant. It must be of a size sufficient to prevent its movement from the site by wave or current action.

*Division 3 Resident Engineer*

Construction staging areas shall be situated in uplands, specifically not in wetlands.

*Division 3 Resident Engineer*

The retaining walls depicted in the workplan drawings must be in place and structurally tight prior to backfilling to prevent seepage of fill materials into surrounding waters.

*Division 3 Resident Engineer*

All excavated materials shall be confined above the normal water level and landward of any wetlands behind adequate dikes or other retaining structures to prevent spill-over of solids into any wetlands or surrounding waters.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

The excavated material will be placed a sufficient distance from the mean high water level or any vegetated wetlands to eliminate the possibility of erosion into surrounding wetlands or waters.

*Division 3 Resident Engineer*

The spoil disposal area must be inspected and approved by a representative of DCM prior to commencement of any excavation.

*Division 3 Resident Engineer*

Any in-water pile installation practices shall be enclosed in turbidity curtains. The turbidity curtains are to be properly maintained and retained in the water until construction is complete.

*Division 3 Resident Engineer*

Wetland areas to be cleared under the permanent bridges and temporary work bridges shall not be grubbed.

*Division 3 Resident Engineer*

Bridge construction over open water areas will be conducted from either temporary work bridges or from floating work barges. If sunken barges are used, then they shall be floated into position and then sunk. Dragging of the barges is specifically prohibited.

*Division 3 Resident Engineer*

NCDOT shall remove all temporary work bridges, including piles, immediately after construction is completed.

*Division 3 Resident Engineer*

All excavated materials and debris associated with the removal of the existing bridge will be disposed of on an approved high ground site.

*Division 3 Resident Engineer/ Structure Design Unit*

Debris resulting from demolition of the existing bridge, including deck components, shall not enter wetlands or waters of the United States, even temporarily.

*Division 3 Resident Engineer*

Prior to any construction activity associated with the culvert extension, a turbidity curtain will be installed upstream and downstream of the project site and will remain in place for 24 hours after the culvert extension and associated backfill has been completed.

*Division 3 Resident Engineer/ PDEA/ Roadside Environmental Unit*

As-built reports for the Third Street site, McRae Street site, Smith Creek site, Waste Treatment site and the County Property site must be submitted to the regulatory agencies within 90 days after construction.

*PDEA/ Roadside Environmental Unit*

Annual monitoring reports shall be provided to the regulatory agencies for five years for the Third Street site, McRae Street site, Smith Creek site, Waste Treatment site and the County Property site. Annual monitoring reports shall include photos, hydrologic data from monitoring gauges, an evaluation of that data, and an assessment of whether success criteria are being met. Progress reports shall also be provided upon request. After five years, monitoring may cease if NCDOT can demonstrate that success criteria have been met and written concurrence is received from the regulatory agencies. Monitoring may cease earlier than five years at the McRae Street site when NCDOT can demonstrate that success criteria have been met and written concurrence is received.

*Division 3 Resident Engineer*

To facilitate colonization from the adjacent marsh, after the existing McRae Street roadway embankment fill is removed, the soil within the area impacted by the existing roadway embankment will be rehabilitated by disking, undercutting and backfilling with suitable organic materials or similar procedures.

*PDEA/ Roadside Environmental Unit*

A monitoring plan for the McRae Street mitigation site must be submitted to DCM and approved by DCM and DWQ prior to construction of the mitigation site. The monitoring plan must include pre-project conditions and must outline what wetland functions are being enhanced. In order to obtain enhancement credit, monitoring reports must show that the mitigation has resulted in enhanced wetland function. The monitoring plan should include sample plots for the revegetating areas. Should the monitoring plan demonstrate that the area is not revegetating, NCDOT shall confer with the regulatory agencies on additional remediation measures.

*Division 3 Resident Engineer/ PDEA/ Roadside Environmental Unit*

All temporary fill material for the proposed temporary haul road at the Smith Creek Mitigation Site must be placed on geo-textile fabric to facilitate the total removal upon completion of the project. Immediately after the site is constructed, all fill associated with the temporary haul road must be removed in its entirety and placed in an approved high ground disposal area. The area impacted by the temporary haul road will be restored to the pre-existing contour and elevation. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10' x 10'. Monitoring of the temporarily impacted areas shall be conducted as described above.

*Division 3 Resident Engineer/ Design Services Unit (Utilities Section)/ PDEA*

The relocation of any utility lines not depicted on the attached permit drawings will require additional authorization, either by way of a modification to this permit or by the utility company obtaining separate authorization.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

The cut or filled slopes shall be at an angle that can be retained by vegetative or other appropriate cover.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

This project must conform to all requirements of the NC Sedimentation Pollution Control Act and NCDOT's Memorandum of Agreement with the Division of Land Resources.

*Division 3 Resident Engineer/ Roadside Environmental Unit*

All disturbed areas shall be properly graded and provided a ground cover sufficient to restrain erosion within thirty days of project completion.

*Structure Design Unit*

In accordance with Environmental Commitments made within the Final Supplemental Environmental Impact Statement dated 3/30/98, deck drains (weep holes) will not be installed in bridges over Smith Creek.

*Structure Design Unit*

NCDOT must install and maintain, at its expense, any signal lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized facilities.

*Division 3 Resident Engineer*

NCDOT and/or its contractor must contact a representative of DCM's Wilmington District Office at (910) 395-3900 prior to project initiation.

*Division 3 Resident Engineer/ PDEA*

Any subsequent changes to the authorized mitigation plan will require a modification of the permits.



**DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS**

P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

IN REPLY REFER TO

December 18, 2000

Regulatory Division

Action ID. 199603836; T.I.P. No. U-92C/B/A

Mr. William D. Gilmore, P.E, Manager  
Project Development & Environmental Analysis Branch  
1548 Mail Service Center  
Raleigh, North Carolina 27699-1548

Dear Mr. Gilmore:

In accordance with the written request of July 10, 2000, and the ensuing administrative record, enclosed is a permit to construct a four-lane divided highway on a new location from 23rd Street to Third Street, Wilmington, New Hanover County, North Carolina. This project will connect with the recently completed section of Smith Creek Parkway that extends from NC 132 to 23rd street (TIP U-92C) and will terminate at the NC 117 Northeast Cape Fear River Bridge.

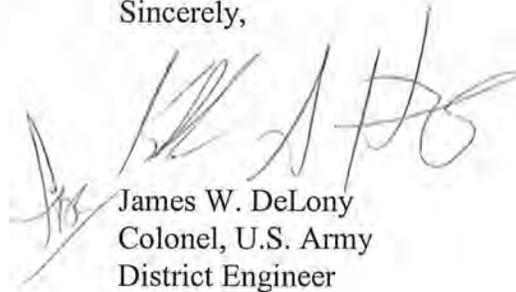
If any change in the authorized work is required because of unforeseen or altered conditions or for any other reason, the plans revised to show the change must be sent promptly to this office. Such action is necessary, as revised plans must be reviewed and the permit modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 2003.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

Should you have questions, contact Mr. Dave Timpy, Wilmington Field Office, Regulatory Division, at telephone (910) 251-4634.

Sincerely,



James W. DeLony  
Colonel, U.S. Army  
District Engineer

Enclosures

Copy Furnished with enclosures:

Chief, Source Data Unit  
NOAA/National Ocean Service  
ATTN: Sharon Tear N/CS261  
1315 East-West Hwy., Rm 7316  
Silver Spring, MD 20910-3282

Mr. Larry Hardy  
National Marine Fisheries Service  
Pivers Island  
Beaufort, North Carolina 28516

Copies Furnished with special conditions  
and plans:

Mr. William L. Cox, Chief  
Wetlands Section - Region IV  
Water Management Division  
U.S. Environmental Protection Agency  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

Mr. John Hefner, Field Supervisor  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Doug Huggett  
Division of Coastal Management  
North Carolina Department of  
Environment and Natural Resources  
1638 Mail Service Center  
Raleigh, North Carolina 27699-16387

DEPARTMENT OF THE ARMY PERMIT

Permittee NC Department of Transportation

Permit No. 199603836

Issuing Office CESAW-RG-L

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

The project being considered for authorization is a 4-lane divided highway on new location that will extend from the terminus of TIP U-92C, near 23rd Street, to Third Street in Wilmington, New Hanover County, North Carolina. The proposed full access-controlled facility will be constructed in two sections U-92A and U-92B. Section U-92B will connect with the recently completed Section U-92C that extends from NC 132 to 23rd Street and will terminate at McRae Street. Section U-92A will connect with Section U-92B at McRae Street and will terminate at Third Street in downtown Wilmington, NC. The total length of the proposed project, Section U-92A and Section U-92B is 3.59 miles (Section U-92A is 2.23 miles and Section U-92B 1.36 miles in length).

Project Location:

The project is located from NC 132 to 3<sup>rd</sup> Street, Wilmington, New Hanover County, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2003. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**Special Conditions:**

See enclosed sheet.

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.



SMITH CREEK PARKWAY  
TIP Project U-92A/B  
SPECIAL CONDITIONS

Special Conditions to be placed on the Department of the Army permit:

1. All work must be performed as shown on the attached plans, which are a part of this permit.
2. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration of the structures 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 water, 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.
3. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit.
4. The temporary placement or double handling of excavated or fill material within waters and wetlands is not authorized.
5. All fill material shall be immediately stabilized and maintained to prevent erosion and sedimentation into adjacent waters and/or wetlands.
6. This permit authorizes the clearing of an additional ten (10) feet beyond the slope stake limits in wetlands, as shown on the plans, to install the necessary sediment and erosion control measures.
7. All fill material will be clean and free of any pollutants except in trace quantities.
8. The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.
9. The permittee will maintain the authorized work in good condition and in conformance with the terms and conditions of this permit. The permittee is not relieved of this requirement if he abandons the permitted activity without having it transferred to a third party.
10. No attempt will be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the authorized work. Use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
11. Compensatory mitigation for the unavoidable impacts to 5.5 acres of Coastal Plain Bottomland Hardwood wetlands and 1.4 acres of Tidal Cypress-Gum Swamp Forest shall be accomplished as described in the "Revised Compensatory Mitigation Plan for the Smith Creek Parkway (Sections AA and B)", dated June 29, 2000. Construction of the Smith Creek Mitigation Site,

Third Street Mitigation Site, McRae Street Site, Waste Treatment Site, and the County Property Site shall be completed prior to completion of the Smith Creek Parkway Project, TIP U-92A/B.

12. The permittee shall maintain the mitigation sites, as specified under the preceding condition (11.) of this permit, in their natural condition, as altered by the mitigation plan, in perpetuity. Except as authorized or required by the mitigation plan, prohibited activities on the mitigation property include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage trash, or other waste material. In addition, the permittee shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands on the mitigation property.
13. Condition (12.), above, runs with the land. The permittee shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.
14. The permittee shall preserve the 47.0-acre tract referred to as the "Kerr Avenue Site" in its natural condition in perpetuity. Prohibited activities on the mitigation property include, but are not limited to, filling; grading; excavating; earth moving of any kind; construction of roads, walkways, buildings signs, or any other structure; any activity that may alter the drainage patterns on the property; destruction, mowing, or other alteration of vegetation on the property; disposal or storage of any garbage trash, or other waste material. In addition, the permittee shall take no action, whether on or off the mitigation property, which will adversely impact the wetlands on the mitigation property.
15. Condition (14.), above, runs with the land. The permittee shall not sell, lease, or otherwise convey any interest in the mitigation property without subjecting the property to legally enforceable restrictions on the use of the property, to ensure its preservation, approved in writing by the Wilmington District Corps of Engineers.
16. The permittee shall make payment to the North Carolina Wetlands Restoration Program (NCWRP) in an amount determined by NCWRP, sufficient to perform 875 linear feet of warm water stream restoration in the Lower Cape Fear River basin (Hydrologic Unit 03030007). Construction within streams shall begin only after the permittee has made full payment to the NCWRP, and the NCWRP has provided written confirmation to the Corps that it agrees to accept responsibility for the mitigation work required, in compliance with the MOU between the North Carolina Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District, dated November 4, 1998.
17. Installation of the permanent bridge foundations by any method other than drilled shafts with turbidity curtains shall result in a moratorium on any work

within waters of the Northeast Cape Fear River from February 1 to May 31 of any year.

18. All land disturbing activity associated with the highway construction will be conducted in a way that prevents a significant increase in turbidity outside the area of construction or construction-related discharge. Increases such that the turbidity in the water body is 50 NTU's or less are not considered significant.
19. The permittee and its contractors and/or agents shall not excavate, fill, or perform mechanized land clearing at any time in the construction or maintenance of this project within waters and/or wetlands, except as authorized by this permit, or any modification to this permit. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit.
20. To ensure that all borrow and waste activities occur on high ground, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall ensure that all such areas comply with condition (20.) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with special condition (20.) above. This information will be available to the Corps of Engineers on request.
21. If the permittee discovers any previously unknown historic or archeological remains while accomplishing the authorized work, he will immediately notify the Wilmington District Engineer who will initiate the required State/Federal coordination.
22. All conditions attached to the Section 401 Water Quality Certification are incorporated as conditions of this permit.

Permit Number: **199603836**

Name of Permittee: **NCDOT/TIP NO. U-92C/B/A**

Issuance: **12/18/2000**

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 COE/WILMINGTON DISTRICT  
WILMINGTON REGULATORY FIELD OFFICE  
POST OFFICE 1890  
WILMINGTON, NORTH CAROLINA 28402**

Please note that your permitted activity is subject to a compliance inspection by an 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**

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality

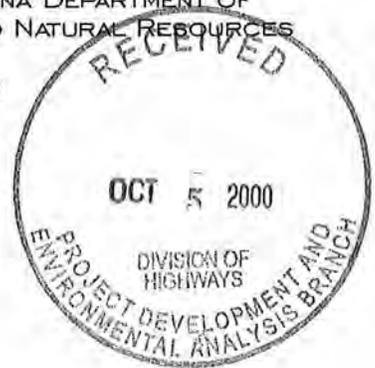


NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENT AND NATURAL RESOURCES

September 29, 2000

James B. Hunt, Jr., Governor  
Bill Holman, Secretary  
Kerr T. Stevens, Director

Mr. William D. Gilmore, P.E., Manager  
Planning and Environmental Branch  
North Carolina Department of Transportation  
P.O. Box 25201  
Raleigh, NC, 27611-5201



Dear Mr. Gilmore:

Re: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act,  
Proposed construction of the Smith Creek Parkway in New Hanover County (TIP U-92A&B).  
WQC Project No. 001045  
New Hanover County

Attached hereto is a copy of Certification No. 3304 issued to The North Carolina Department of  
Transportation dated September 29, 2000.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Kerr T. Stevens

Attachments

cc: Wilmington District Corps of Engineers  
Corps of Engineers Wilmington Field Office  
DWQ Wilmington Regional Office  
Cathy Brittingham, Division of Coastal Management  
Ron Ferrell, Wetlands Restoration Program  
Central Files  
File Copy

Wetlands/401 Unit

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Division of Water Quality



James B. Hunt, Jr., Governor  
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Kerr T. Stevens, Director

**NORTH CAROLINA 401 WATER QUALITY CERTIFICATION**

**THIS CERTIFICATION** 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 (DWQ) Regulations in 15 NCAC 2H, Section .0500. This certification authorizes the NCDOT to place fill material in 6.9 acres of jurisdictional wetlands and 875 linear feet of streams in New Hanover County. The project shall be constructed pursuant to the application dated the 10<sup>th</sup> day of July 2000 to construct the Smith Creek Parkway in New Hanover.

The application provides adequate assurance that the discharge of fill material into the Waters of the State in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application, as described in the Public Notice. Should your project change, you are required to notify the DWQ and you may be required to 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 additional wetland or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is sooner.

Condition(s) of Certification:

1. Appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" whichever is more appropriate (available from the Division of Land Resources (DLR) in the DENR Regional or Central Offices) shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices in order to assure compliance with the appropriate turbidity water quality standard (50 NTUs in all fresh water streams and rivers not designated as trout waters; 25 NTUs in all lakes and reservoirs, and all saltwater classes; and 10 NTUs in trout waters);

State of North Carolina  
 Department of Environment  
 and Natural Resources  
 Division of Water Quality



James B. Hunt, Jr., Governor  
 Bill Holman, Secretary  
 Kerr T. Stevens, Director

2. Sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project;
3. If an environmental document is required, this Certification is not valid until a FONSI or ROD is issued by the State Clearinghouse. All water quality-related conditions of the FONSI or ROD shall become conditions of this Certification;
4. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the state until the concrete has hardened;
5. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this certification. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
6. All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.
7. Compensatory mitigation shall be done for impacts to 6.9 acres of jurisdictional wetlands as follows:

| Mitigation Site | Restoration (acres) | Creation (acres) | Enhancement (acres) | Preservation (acres) | Total (acres) |
|-----------------|---------------------|------------------|---------------------|----------------------|---------------|
| Third Street    |                     | 1.2              |                     |                      | 1.2           |
| McRae Street    | 1.1                 |                  | 12.7                |                      | 13.8          |
| Smith Creek     | 11.7                |                  |                     | 16.0                 | 27.7          |
| Waste Treatment |                     | 0.8              |                     |                      | 0.8           |
| County Property |                     | 1.9              |                     |                      | 1.9           |
| Kerr Avenue     |                     |                  |                     | 47.3                 | 47.3          |
| <b>Total</b>    | <b>12.8</b>         | <b>3.9</b>       | <b>12.7</b>         | <b>63.3</b>          | <b>92.7</b>   |

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality



James B. Hunt, Jr., Governor  
Bill Holman, Secretary  
Kerr T. Stevens, Director

8. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
9. Compensatory mitigation for impacts to 875 linear feet of streams shall be provided by two means. Construction of on-site relocations as proposed in the July 10, 2000 application and an additional payment to the North Carolina Wetlands Restoration Program. 875 linear feet of mitigation shall be provided with an in lieu payment to the North Carolina Wetland Restoration Program (NCWRP). In accordance with 15A NCAC 2R.0500, the contribution will satisfy our compensatory mitigation requirements under 15A NCAC 2H.0506(h). Until the Wetland Restoration Program receives and clears your check (made payable to DENR – Wetland Restoration Program), wetland or stream fill shall not occur. Mr. Ron Ferrell should be contacted at 919-733-5083 ext. 358 if you have any questions concerning the Wetland Restoration Program. The payment to NCWRP shall be sent within two months of issuance of the 404 permit.
10. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including 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. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.
11. The permittee shall require its contractors (and/or agents) to comply with all of the terms of this certification, and shall provide each of its contractors (and/or agents) a copy of this certification.
12. Installation and removal of pilings to support all the temporary and permanent bridges for the project shall result in no changes to the existing surface elevations. No material associated with the construction of the referenced bridges shall be deposited into or removed from jurisdictional wetlands and waters.
13. All pilings for the proposed permanent bridge over Smith Creek shall be installed by using standard pile driving techniques and standard sediment containment methods. This condition does not apply to the installation of any bents located outside jurisdictional areas. No material associated with the construction of the permanent bridge over the Smith Creek and associated wetlands shall be deposited into or removed from jurisdictional wetlands and waters. Use of other pile installation practices is not authorized without first acquiring written approval from the North Carolina Division of Water Quality.

Violations of any condition herein set forth shall result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

Wetlands/401 Unit

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Division of Water Quality



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Kerr T. Stevens, Director

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 29<sup>th</sup> day of September 2000

DIVISION OF WATER QUALITY



Kerr T. Stevens

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality



James B. Hunt, Jr., Governor  
Bill Holman, Secretary  
Kerr T. Stevens, Director

DWQ Project No.: \_\_\_\_\_  
Applicant: \_\_\_\_\_

County: \_\_\_\_\_

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/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. 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: \_\_\_\_\_

State of North Carolina  
Department of Environment  
and Natural Resources  
Division of Water Quality



James B. Hunt, Jr., Governor  
Bill Holman, Secretary  
Kerr T. Stevens, Director

*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 \_\_\_\_\_

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NORTH CAROLINA DEPARTMENT OF  
ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF COASTAL MANAGEMENT

December 4, 2000



JAMES B. HUNT JR.  
GOVERNOR

BILL HOLMAN  
SECRETARY

DONNA D. MOFFITT  
DIRECTOR

NC Dept. of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548

Dear Sir:

The enclosed permit constitutes authorization under the Coastal Area Management Act, and where applicable, the State Dredge and Fill Law, for you to proceed with your project proposal. The original (buff-colored form) is retained by you and it must be available on site when the project is inspected for compliance. Please sign both the original and the copy and return the copy to this office in the enclosed envelope. Signing the permit and proceeding means you have waived your right of appeal described below.

If you object to the permit or any of the conditions, you may request a hearing pursuant to NCGS 113A-121.1 or 113-229. Your petition for a hearing must be filed in accordance with NCGS Chapter 150B with the Office of Administrative Hearings, P.O. Drawer 11666, Raleigh, NC 27611, (919) 733-2698 within twenty (20) days of this decision on your permit. You should also be aware that if another qualified party submits a valid objection to the issuance of this permit within twenty (20) days, the matter must be resolved prior to work initiation. The Coastal Resources Commission makes the final decision on any appeal.

The project plan is subject to those conditions appearing on the permit form. Otherwise, all work must be carried out in accordance with your application. Modifications, time extensions, and future maintenance require additional approval. Please read your permit carefully prior to starting work and review all project plans, as approved. If you are having the work done by a contractor, it would be to your benefit to be sure that he fully understands all permit requirements.

From time to time, Department personnel will visit the project site. To facilitate this review, we request that you complete and mail the enclosed Notice Card just prior to work initiation. However, if questions arise concerning permit conditions, environmental safeguards, or problem areas, you may contact Department personnel at any time for assistance. By working in accordance with the permit, you will be helping to protect our vitally important coastal resources.

Very sincerely,

Douglas Huggett  
Major Permits/Consistency Manager

DH/amw

Enclosure



MAILING: 1638 MAIL SERVICE CENTER, RALEIGH, NORTH CAROLINA 27699-1638

PHYSICAL: 2728 CAPITAL BLVD., RALEIGH, NC 27604

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Permit Class  
NEW

Permit Number  
178-00

STATE OF NORTH CAROLINA  
Department of Environment and Natural Resources  
and  
Coastal Resources Commission

# Permit

for

Major Development in an Area of Environmental Concern  
pursuant to NCGS 113A-118

Excavation and/or filling pursuant to NCGS 113-229

Issued to N.C. Department of Transportation, 1548 Mail Service Center, Raleigh, NC 27699-1548

Authorizing development in New Hanover County at Smith Creek, Highway Corridor between 23<sup>rd</sup> Street and 3<sup>rd</sup> Street, Wilmington, as requested in the permittee's application dated 7/10/00, including attached workplan drawings (38) dated as received on 7/19/00.

This permit, issued on 11/28/00, is subject to compliance with the application (where consistent with the permit), all applicable regulations, special conditions and notes set forth below. Any violation of these terms may be subject to fines, imprisonment or civil action; or may cause the permit to be null and void.

### Smith Creek Parkway, U-92 A/B

- 1) The Northeast Cape Fear River and Smith Creek support anadromous fish and potentially shortnose sturgeon. Therefore, the following conditions shall apply to this project:
  - A. Within waters of the Northeast Cape Fear River, no in-water work will be permitted from January 1 through May 31 of any year without the prior approval of the Division of Coastal Management (DCM), in consultation with the Division of Marine Fisheries (DMF).
  - B. Within waters of Smith Creek or its tributaries, the permittee shall conform with the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997). Furthermore, no in-water work will be permitted from February 1st to June 15<sup>th</sup> without prior approval of DCM, in consultation with the Wildlife Resources Commission (WRC). **(See attached sheets for Additional Conditions)**

This permit action may be appealed by the permittee or other qualified persons within twenty (20) days of the issuing date. An appeal requires resolution prior to work initiation or continuance as the case may be.

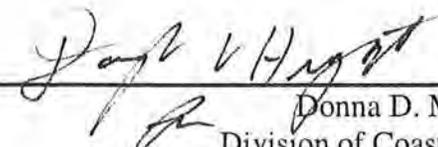
This permit must be accessible on-site to Department personnel when the project is inspected for compliance.

Any maintenance work or project modification not covered hereunder requires further Division approval.

All work must cease when the permit expires on

**December 31, 2003**

Signed by the authority of the Secretary of DENR and the Chairman of the Coastal Resources Commission.

  
\_\_\_\_\_  
Donna D. Moffitt, Director  
Division of Coastal Management

This permit and its conditions are hereby accepted.

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

In issuing this permit, the State of North Carolina agrees that your project is consistent with the North Carolina Coastal Management Program.

**ADDITIONAL CONDITIONS**

- 2) This permit does not authorize any excavation activities within the Northeast Cape Fear River, Smith Creek, or their tributaries.
- 3) If the permittee determines that additional permanent and/or temporary impacts (such as additional temporary access roads, or matting to transport equipment across wetlands) will occur that are not shown on the attached permit drawings, then additional authorization from DCM will be required. Depending upon the magnitude of the impacts and the habitat types that are impacted, additional DCM authorization may be in the form of a refinement of this permit or a permit modification.
- 4) Temporary wetland impacts will occur during several aspects of project construction. The temporarily impacted wetlands are expected to naturally revegetate over time. However, due to the possibility that some site alterations might prevent the temporary wetland impact areas from re-attaining wetland jurisdictional status, the permittee shall provide an annual update on the wetland areas temporarily impacted by this project. This annual update will consist of photographs provided during the agency monitoring report meeting and a brief report on the progress of these temporarily impacted areas in re-attaining wetland jurisdictional status. Three years after project completion, the permittee shall schedule an agency field meeting with DCM, DWQ and WRC to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If at the end of 3 years after project completion the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, NC DOT and the above listed agencies shall determine whether a compensatory wetland mitigation plan will be required.
- 5) Placement of rip rap shall be limited to the areas as depicted on the attached workplan drawings. The riprap material must be free from loose dirt or any pollutant. It must be of a size sufficient to prevent its movement from the site by wave or current action.
- 6) Construction staging areas shall be situated in uplands, specifically not in wetlands.
- 7) Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands and stream beds or banks, adjacent to or upstream and downstream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.
- 8) The retaining walls depicted in the workplan drawings must be in place and structurally tight prior to backfilling to prevent seepage of fill materials into surrounding waters.

**Excavation and Fill**

- 9) Fill material placed in wetland and water areas will be clean and free of any pollutants, except in trace quantities.
- 10) No excavation shall be conducted, and no fill shall be placed, in any vegetated wetlands or surrounding waters outside of the areas as indicated on the workplan drawing(s).
- 11) All fill material will be obtained from an upland source.

**ADDITIONAL CONDITIONS**

- 12) The temporary placement or double handling of any excavated or fill material within waters or vegetated wetlands is not authorized, except for any temporary access roads authorized by this permit. This condition also applies to removal of the existing bridge structure.
- 13) All excavated materials shall be confined above the normal water level and landward of any wetlands behind adequate dikes or other retaining structures to prevent spill-over of solids into any wetlands or surrounding waters.
- 14) The excavated material will be placed a sufficient distance from the mean high water level or any vegetated wetlands to eliminate the possibility of erosion into surrounding wetlands or waters.
- 15) The spoil disposal area must be inspected and approved by a representative of DCM prior to commencement of any excavation.

**Channel Relocation**

- 16) In accordance with Condition No. 6 of the Water Quality Certification, all channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for bank stabilization shall be limited to native woody species, and should include establishment of a 30 foot wide wooded and an adjacent 20 foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.

**Permanent Bridge Construction**

**NOTE:** This permit authorizes the construction of five permanent bridges at the following locations: (1) Northeast Cape Fear River realignment; (2) Smith Creek (near Castle Hayne Road); (3) 23<sup>rd</sup> Street over Smith Creek; (4) Parkway over 23<sup>rd</sup> Street at Smith Creek; and (5) McRae Street.

- 17) Should jetting or drilling of any bridge piles within any Areas of Environmental Concern become necessary, a modification of this permit and possibly the Water Quality Certification will be required.
- 18) Any in-water pile installation practices shall be enclosed in turbidity curtains. The turbidity curtains are to be properly maintained and retained in the water until construction is complete.
- 19) Wet concrete shall not be allowed to contact any open water area. Water inside coffer dams or casings that has been in contact with wet concrete shall only be returned to the river when it no longer poses a threat to aquatic organisms.
- 20) Wetland areas to be cleared under the permanent bridges shall not be grubbed.

**ADDITIONAL CONDITIONS**

- 21) Bridge construction over open water areas will be conducted from either temporary work bridges or from floating work barges. If sunken barges are used, then they shall be floated into position and then sunk. Dragging of the barges is specifically prohibited.

**Temporary Work Bridges Associated with Construction of the Permanent Bridges**

- 22) Wetland areas to be cleared under the temporary work bridges shall not be grubbed.
- 23) The permittee shall remove all temporary work bridges, including piles, immediately after construction is completed.

**Removal of the Existing Bridge at 23<sup>rd</sup> Street over Smith Creek**

- 24) All excavated materials and debris associated with the removal of the existing bridge will be disposed of on an approved high ground site.
- 25) Debris resulting from demolition of the existing bridge, including deck components, shall not enter wetlands or waters of the United States, even temporarily.

**Culvert Extension, Tributary to Smith Creek**

- 26) Prior to any construction activity associated with the culvert extension, a turbidity curtain will be installed upstream and downstream of the project site and will remain in place for 24 hours after the culvert extension and associated backfill has been completed.
- 27) The culvert invert shall be set at least one foot below normal bed elevation to allow for fish passage.

**Conditions Applicable to All Mitigation Sites**

**NOTE:** This project will impact approximately 9.2 acres of state and federal wetlands. These wetland impacts include 6.9 acres of permanent fill, 0.4 acres of temporary fill and 1.9 acres of mechanized clearing. The estimate of 9.2 acres of impacts includes approximately 4.3 acres of permanent fill in coastal wetlands. This project will impact approximately 875 linear feet of streams.

**NOTE:** The permittee is encouraged to schedule a pre-construction meeting for the mitigation sites with DCM's Wetland Restoration Specialist.

- 28) Compensatory mitigation is required for 6.9 acres of permanent fill in state and federal jurisdictional wetlands. Approved mitigation sites for wetland impacts resulting from this project include: Third Street Site; McRae Street Site; Smith Creek Site; Waste Treatment Site; County Property Site; and Kerr Avenue Site.
- 29) As-built reports for the Third Street site, McRae Street site, Smith Creek site, Waste Treatment site and the County Property site must be submitted to DCM's Raleigh office within 90 days after they have been constructed.

**ADDITIONAL CONDITIONS**

- 30) Mitigation sites and on-site stream mitigation must be constructed prior to or concurrent with construction of this project, and must be demonstrating reasonable success prior to the expiration date of this permit.
- 31) Annual monitoring reports shall be provided to DCM and DWQ for five years for the Third Street site, McRae Street site, Smith Creek site, Waste Treatment site and the County Property site. Annual monitoring reports shall include photos, hydrologic data from monitoring gauges, an evaluation of that data, and an assessment of whether success criteria are being met. Progress reports shall also be provided upon request. After five years, monitoring may cease if the permittee can demonstrate that success criteria have been met and written concurrence is received from DCM and DWQ. Monitoring may cease earlier than five years at the McRae Street site when the permittee can demonstrate that success criteria have been met and written concurrence is received from DCM and DWQ.
- 32) All mitigation sites will be protected in perpetuity in their restored, enhanced, or preserved states as appropriate according to the approved final mitigation plans and owned by the permittee or its approved designee. Conservation easements, covenants, deed restrictions or other appropriate instruments shall be attached to the titles for the subject properties and copies of such provided to DCM. Failure to adequately protect mitigation sites may result in further mitigation requirements.
- 33) In accordance with Condition Number 9 of the Water Quality Certification, compensatory mitigation for impacts to 875 linear feet of streams shall be provided by two means. Construction of on-site relocations as proposed in the July 10, 2000 application and an additional payment to the North Carolina Wetlands Restoration Program. Until the payment is received and cleared by the Wetland Restoration Program, wetland or stream fill shall not occur.

**Conditions Applicable only to the McRae Street Mitigation Site**

- 34) To facilitate colonization from the adjacent marsh, after the existing McRae Street roadway embankment fill is removed, the soil within the area impacted by the existing roadway embankment will be rehabilitated by disking, undercutting and backfilling with suitable organic materials or similar procedures.
- 35) A monitoring plan for the McRae Street mitigation site must be submitted to DCM and approved by DCM and DWQ prior to construction of the mitigation site. The monitoring plan must include pre-project conditions and must outline what wetland functions are being enhanced. In order to obtain enhancement credit, monitoring reports must show that the mitigation has resulted in enhanced wetland function. The monitoring plan should include sample plots for the revegetating areas. Should the monitoring plan demonstrate that the area is not revegetating, the permittee shall confer with DCM and DWQ on additional remediation measures.

**Conditions Applicable only to the Smith Creek Mitigation Site**

**NOTE:** Due to difficulties in accessing the Smith Creek Mitigation Site, the permittee plans to construct a temporary haul road across the wetland area located behind the Corbett Package Company from approximately Station 30+60 to Station 31+80.

**ADDITIONAL CONDITIONS**

- 36) All temporary fill material must be placed on geo-textile fabric to facilitate the total removal upon completion of the project.
- 37) Immediately after the mitigation site is constructed, all fill associated with the temporary haul road must be removed in its entirety and placed in an approved high ground disposal area. The area impacted by the temporary haul road will be restored to the pre-existing contour and elevation. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10' x 10'. Monitoring of the temporarily impacted areas shall be conducted in conformance with Condition No. 4 of this permit.
- 38) Construction and monitoring of the Smith Creek Site shall be conducted in accordance with the approved mitigation plan titled "Compensatory Mitigation Plan for Smith Creek, Spring Branch and Dreyfours South Mitigation Sites", dated 9/23/96, as modified in the mitigation plan dated 6/29/00 that was submitted with the CAMA permit application, except as follows: on site monitoring gauges to document restoration of hydrology will be implemented as outlined in the 9/23/96 mitigation plan. The 9/23/96 mitigation plan states that four water level gauges will be used to document hydrologic restoration.

**Utility Line Relocation**

- 39) The relocation of any utility lines not depicted on the attached permit drawings will require additional authorization, either by way of a modification to this permit or by the utility company obtaining separate authorization.

**Sedimentation and Erosion Control**

- 40) Appropriate sedimentation and erosion control devices, measures or structures must be implemented to ensure that eroded materials do not enter adjacent wetlands, watercourses and property (e.g. silt fence, diversion swales or berms, sand fence, etc.).
- 41) Prior to initiating any land-disturbing activities, a barrier line of filter cloth or other sedimentation and erosion control structures, devices or measures, must be installed between the land-disturbing activity and any adjacent marsh, wetland or open water area, until such time as the area has been properly stabilized with vegetated cover.
- 42) The cut or filled slopes shall be at an angle that can be retained by vegetative or other appropriate cover.
- 43) The permittee shall use Best Management Practices for the protection of Surface Waters and sedimentation and erosion control measures sufficient to protect aquatic resources.
- 44) This project must conform to all requirements of the NC Sedimentation Pollution Control Act and NC DOT's Memorandum of Agreement with the Division of Land Resources.
- 45) In order to protect water quality, runoff from construction must not visibly increase the amount of suspended sediments in adjacent waters.

**ADDITIONAL CONDITIONS**

- 46) All disturbed areas shall be properly graded and provided a ground cover sufficient to restrain erosion within thirty days of project completion.

**Stormwater Management**

- 47) The N.C. Division of Water Quality approved this project under stormwater management rules of the Environmental Management Commission under Stormwater Permit No. SW8 000715 on 9/26/00. Any violation of the permit approved by DWQ will be considered a violation of this CAMA permit.
- 48) In accordance with Environmental Commitments made within the Final Supplemental Environmental Impact Statement dated 3/30/98, deck drains (weep holes) will not be installed in bridges over Smith Creek.

**General**

- 49) The permittee must install and maintain, at his expense, any signal lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, on authorized facilities.
- 50) This permit does not authorize the interference with any existing or proposed federal project, and the permittee will not be entitled to compensation for damage to the authorized structure or work or injury which may be caused from existing or future operations undertaken by the United States in the public interest.
- 51) Use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.
- 52) The N.C. Division of Water Quality (DWQ) has authorized the proposed project under a Water Quality Certification which was issued on 9/29/00. Any violation of the Water Quality Certification approved by DWQ will be considered a violation of this CAMA permit.
- 53) The permittee and/or his contractor must contact a representative of DCM's Wilmington District Office at (910) 395-3900 prior to project initiation.
- 54) Any subsequent changes to the mitigation plan authorized by this CAMA permit will require a modification of this CAMA permit and shall also require review by DWQ for the need to modify the Water Quality Certification.

**NOTE:** This permit does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

**NOTE:** The permittee is encouraged to contact the Public Health Pest Management Section at (919) 733-6407 to discuss mosquito control measures.

**NOTE:** The U.S. Army Corps of Engineers is reviewing this project as an Individual Permit (Action ID No. 199603836).

U.S. Department  
of Transportation

United States  
Coast Guard



Commander  
United States Coast Guard  
Fifth Coast Guard District (Aowb)

431 Crawford Street  
Portsmouth, Va. 23704-5004  
Staff Symbol: Aowb  
Phone: (757)398-6227  
FAX: (757) 398-6334

265B

16590  
30 Aug 00



Mr. William T. Gilmore, P.E., Manager  
North Carolina Department of Transportation  
P.O. Box 25201  
Raleigh, North Carolina 27611-5201

Dear Mr. Gilmore:

We have reviewed your application for approval of the location and plans for two new bridges to be constructed as part of the Smith Creek Bypass across Smith Creek, in Wilmington, North Carolina.

Based on the information obtained from the Final Environmental Impact Statement/Final Section 4(f) Statement, and conversations with your staff, we have determined that the two crossings of Smith Creek meet the criteria for advance approval waterways outlined in Title 33, Code of Federal Regulations, Section 115.70. Advance approval waterways are those that are navigable in law, but not actually navigated by other than small boats. The Commandant of the Coast Guard has given his advance approval to the construction of bridges across such waterways. Ms. Sue Brady of your office confirmed such conditions. Therefore, an individual permit will not be required for this project.

If you have any questions regarding this matter, please contact Ms. Linda L. Gilliam, Project Officer, at (757) 398-6227.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ann B. Deaton".

ANN B. DEATON  
Chief, Bridge Administration Section  
By direction of the Commander  
Fifth Coast Guard District

State of North Carolina  
Department of Environment  
and Natural Resources  
Wilmington Regional Office

James B. Hunt, Jr., Governor  
Bill Holman, Secretary  
Division of Water Quality



September 26, 2000

Mr. V.C. Bruton, Assistant Manager  
NCDOT PDEA Branch  
PO Box 25201  
Raleigh, NC 27611

Subject: Permit No. SW8 000715  
Smith Creek Parkway U-0092A and U-0092B  
Other Stormwater Permit-Public Road  
New Hanover County

Dear Mr. Bruton:

The Wilmington Regional Office received a complete Stormwater Management Permit Application for Smith Creek Parkway U-0092A and U-0092B on August 21, 2000. Staff review of the plans and specifications has determined that the project, as proposed, will comply with the Stormwater Regulations set forth in Title 15A NCAC 2H .1000. We are forwarding Permit No. SW8 000715 dated September 26, 2000, for the construction of Smith Creek Parkway U-0092A and U-0092B.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the conditions and limitations as specified therein.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, P.O. Drawer 27447, Raleigh, NC 27611-7447. Unless such demands are made this permit shall be final and binding.

If you have any questions, or need additional information concerning this matter, please contact either me or Linda Lewis at (910) 395-3900.

Sincerely,

Rick Shiver  
Water Quality Regional Supervisor

RSS/arl: S:\WQS\STORMWAT\PERMIT\000715.SEP

cc:  
Tony Roberts, New Hanover County Inspections  
Beth Easley, New Hanover County Engineering  
Linda Lewis  
Wilmington Regional Office  
Central Files

**STATE OF NORTH CAROLINA**  
**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES**  
**DIVISION OF WATER QUALITY**

**STATE STORMWATER MANAGEMENT PERMIT**

**OTHER PERMIT**

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations

PERMISSION IS HEREBY GRANTED TO

*NCDOT PDEA Branch*

*Smith Creek Parkway U-0092A and U-0092B*

*New Hanover County*

FOR THE

construction of a public road in compliance with the provisions of 15A NCAC 2H .1000 (hereafter referred to as the "stormwater rules") and the approved stormwater management plans and specifications, and other supporting data as attached and on file with and approved by the Division of Water Quality and considered a part of this permit for Smith Creek Parkway U-0092A and U-0092B.

The Permit shall be effective from the date of issuance until rescinded and shall be subject to the following specific conditions and limitations:

**I. DESIGN STANDARDS**

1. The runoff from public roads must be directed away from surface waters as much as possible.
2. The amount of built-upon area must be minimized as much as possible.
3. The approved Erosion Control plan and 401/404 permit requirements will be followed.
4. Approved plans and specifications for projects covered by this permit are incorporated by reference and are enforceable parts of the permit.
5. Best Management Practices have been employed which minimize water quality impacts, and include:
  - a. Road side ditches
  - b. Sheet flow
  - c. Deck drainage systems on bridges over Smith Creek so that runoff does not discharge directly to surface waters.
  - d. Wetland mitigation sites.

**II. SCHEDULE OF COMPLIANCE**

1. The permittee shall at all times provide adequate erosion control measures in conformance with the approved Erosion Control Plan.

2. The permittee shall submit all information requested by the Director or his representative within the time frame specified in the written information request.
3. The permittee shall submit to the Director and shall have received approval for revised plans, specifications, and calculations prior to construction for the following items:
  - a. Major revisions to the approved plans, such as road realignment, deletion of any proposed BMP, etc.
  - b. Project name change.
  - c. Redesign of, addition to or deletion of the approved amount of built-upon area, regardless of size.
  - d. Alteration of the proposed drainage.
4. The Director may determine that other revisions to the project should require a modification to the permit.
5. The Director may notify the permittee when the permitted site does not meet one or more of the minimum requirements of the permit. Within the time frame specified in the notice, the permittee shall submit a written time schedule to the Director for modifying the site to meet minimum requirements. The permittee shall provide copies of revised plans and certification in writing to the Director that the changes have been made.

### III. GENERAL CONDITIONS

1. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division of Water Quality, in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C.
2. The permit issued shall continue in force and effect until revoked or terminated.
3. The permit may be modified, revoked and reissued or terminated for cause. The filing of a request for a permit modification, revocation and reissuance, or termination does not stay any permit condition.
4. The issuance of this permit does not prohibit the Director from reopening and modifying the permit, revoking and reissuing the permit, or terminating the permit as allowed by the laws, rules, and regulations contained in Title 15A of the North Carolina Administrative Code, Subchapter 2H.1000; and North Carolina General Statute 143-215.1 et. al.
5. The permit is not transferable to any person except after notice to and approval by the Director. The Director may require modification or revocation and reissuance of the permit to change the name and incorporate such other requirements as may be necessary. A formal permit request must be submitted to the Division of Water Quality accompanied by the appropriate fee, documentation from both parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits, and may or may not be approved.
6. The issuance of this permit does not preclude the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state and federal) which have jurisdiction.
7. The permittee shall notify DWQ of any name, ownership, or mailing address changes within 30 days.

Permit issued this the 26th day of September, 2000

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

*Rich Blinner*  
-----

*for*  
Kerr T. Stevens, Director  
Division of Water Quality  
By Authority of the Environmental Management Commission

**Permit Number SW8 000715**

| Date Received | Fees Paid             | Permit Number |
|---------------|-----------------------|---------------|
| 8-21-2000     | \$ 420 <sup>001</sup> | SW8 000715    |

State of North Carolina  
 Department of Environment and Natural Resources  
 Division of Water Quality

STORMWATER MANAGEMENT PERMIT APPLICATION FORM

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 LINEAR ROADWAY PROJECT

*This form may be photocopied for use as an original.*

DWQ Stormwater Management Plan Review:

A complete stormwater management plan submittal includes this application form, a supplement form for each BMP proposed (see Section V), design calculations, and plans and specifications showing all road and BMP details.

I. PROJECT INFORMATION

NCDOT Project Number: U-0092A U-0092B  
8.2250101 8.2250102 County: NEW HANOVER

Project Name: SMITH CREEK PARKWAY

Project Location: WILMINGTON

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Receiving Stream Name: SMITH CREEK River Basin: N.E. CAPE FEAR Class: C SW

Proposed linear feet of project: 14,250

Proposed Structural BMP and Road Station (attach a list of station and BMP type if more room is needed):

SEE ATTACHED LISTS

Type of proposed project: (check all that apply):

New  Widening  2 lane\*  4 lane\*  Curb and Gutter  Bridge Replacement

Other (Describe) CURB AND GUTTER USED ONLY ON RAMP AND -Y- LINES

\*2 lane and 4 lane imply that roadside ditches are used unless Curb and Gutter is also checked.

II. REQUIRED ITEMS CHECKLIST

Initial in the space provided below to indicate the following design requirements have been met and supporting documentation is attached. Supporting documentation shall, at a minimum, consist of a brief narrative description including (1) the scope of the project, (2) how the items below are met, (3) how the proposed best management practices minimize water quality impacts, and (4) any significant constraints and/or justification for not meeting a, b, c and d to the maximum extent practicable.

Designer's Initials

- MSJ a. The amount of impervious surface has been minimized as much as possible.
- MSJ b. The runoff from the impervious areas has been diverted away from surface waters as much as possible.
- MSJ c. Best Management Practices are employed which minimize water quality impacts.
- MSJ d. Vegetated roadside ditches are 3:1 slope on 11:1.

### III. OPERATION AND MAINTENANCE AGREEMENT

I acknowledge and agree by my initials below that the North Carolina Department of Transportation is responsible for the implementation of the four maintenance items listed. I agree to notify DWQ of any operational problems with the BMP's that would impact water quality or prior to making any changes to the system or responsible party.

#### Maintenance Engineer's Initials

- RC a. BMP's shall be inspected and maintained in good working order.  
RC b. Eroded areas shall be repaired and reseeded as needed.  
RC c. Stormwater collection systems, including piping, inlets, and outlets, shall be maintained to insure proper functioning.

Maintenance Engineer's Name: Roger Cates  
Title: Division Maintenance Engineer

### IV. APPLICATION CERTIFICATION

I, (print or type name) V. C. Brunton of PDEA Branch, certify that the information included on this permit application form is, to the best of my knowledge, correct and that the project will be constructed in conformance with the approved plans and that the proposed project complies with the requirements of 15A NCAC 2H .1000.

Title: Assistant Manager, PDEA Branch, NCDOT  
Address: P.O. Box 25201, Transportation Bldg, Raleigh NC 27611  
Signature: V. C. Brunton Date: 7/31/2000

### V. SUPPLEMENT FORMS

The applicable state stormwater management permit supplement form(s) listed below must be submitted for each BMP specified for this project. Contact the Stormwater and General Permits Unit at (919) 733-5083 for the status and availability of these forms.

- Form SWU-102 Wet Detention Basin Supplement
- Form SWU-103 Infiltration Basin Supplement
- Form SWU-104 Low Density Supplement
- Form SWU-105 Curb Outlet System Supplement
- Form SWU-106 Off-Site System Supplement
- Form SWU-107 Underground Infiltration Trench Supplement
- Form SWU-108 Neuse River Basin Supplement
- Form SWU-109 Innovative Best Management Practice Supplement
- Form SWU-110 Extended Dry Detention Basin Supplement

U-0092A & U-0092B  
Smith Creek Parkway  
Project Scope

The North Carolina Department of Transportation (NCDOT) proposes to construct Sections A and B of the Smith Creek Parkway from Third Street to Twenty-third Street in the City of Wilmington (TIP No. U-92A/B). The proposed project is a divided four-lane limited-access roadway. The facility will connect with the previously constructed Section C of the Smith Creek Parkway on the eastern end, and the Third Street Northeast Cape Fear River Bridge on the western end. When completed, the Smith Creek Parkway will serve as a bypass around downtown Wilmington, allowing traffic to move more easily from east to west and reducing congestion on Market Street. The alignment of the project is generally north of Smith Creek, and crosses the creek twice. Efforts have been made to reduce the acreage of wetlands impacted by this project. By analyzing several alternatives for potential impacts and extending bridges to avoid wetlands, the total area of impacted wetlands was reduced to 6.9 acres. The total amount of streams impacted by the proposed project is 875 linear feet.

Best Management Practices

- 1.) Roadway runoff is being carried laterally by the use of ditches, as opposed to pipe systems, wherever possible. The side slopes of these channels are 3:1 or flatter and the longitudinal slope is generally less than one percent. This gradual slope keeps the velocity in the ditches low and allows them to be grass lined therefore maximizing infiltration and filtration.
- 2.) Runoff is being allowed to sheet flow through and away from the project. This also helps with filtration and infiltration.
- 3.) Ditching through wetlands is being avoided.
- 4.) The wetland sites near McRae Street and Smith Creek are being spanned therefore reducing environmental impacts.
- 5.) Deck drainage systems are being used on the bridge over Smith Creek so that no runoff is being discharged directly into surface waters.

U-0092A 8.2250101  
New Hanover County

Stormwater Measures

- 1.) Drainage from -L- sta. 14+40 South ties to existing drainage system.
- 2.) -L- sta. 14+40 to 17+00 +/- ties to existing drainage system that discharges into marsh @ 85m from N. E. Cape Fear River.
- 3.) -L- sta. 17+00 +/- to 20+20 discharges into wetland mitigation site @ 17+50 ft.
- 4.) -L- sta. 20+20 to 23+00 +/- roadway runoff is being collected and discharged into lateral ditches that run into a wetland site.
- 5.) Drainage from the south on McRae Street is being collected and discharged into an 8m diameter depression built in the floodplain of Smith Creek. Discharge sheetflows out of this depression.
- 6.) Drainage from -L- sta. 32+00 to 33+20 It is picked up in a lateral ditch and discharged into a Wetland site.
- 7.) Drainage from -L- sta. 33+20 to 35+40 It is picked up in lateral ditches that go to a crosspipe at sta. 33+95 +/-.
- 8.) Drainage on the right from -L- sta. 32+00 to 36+20 is discharged at the toe of fill and leaves the project as sheet flow.
- 9.) Drainage @ -Y1- AND -Y1RPB- is collected in lateral ditches and taken to an existing outfall under the RR spur.
- 10.) Drainage @ -Y25- and north of Division Drive is collected in lateral ditches and outlets into a wetland area.

Best Management Practices

- 1.) Roadway runoff is being carried laterally by the use of ditches, as opposed to pipe systems, wherever possible. The side slopes of these channels are 3:1 or flatter and the longitudinal slope is generally less than one percent. This gradual slope keeps the velocity in the ditches low and allows them to be grass lined therefore maximizing infiltration and filtration.
- 2.) Runoff is being allowed to sheet flow through and away from the project. This also helps with filtration and infiltration.
- 3.) Ditching through wetlands is being avoided.
- 4.) Most of the wetlands and Smith Creek are being spanned therefore reducing environmental impacts.
- 5.) Deck drainage systems are being used on bridges over Smith Creek and are being discharged onto high ground wherever possible. The discharge of deck drainage into wetland areas is being eliminated wherever feasible.

U-0092B 8.2250102  
New Hanover County

Stormwater Measures

- 1.) All drainage to the west of Krauss Lane is being collected in lateral ditches and discharged into a proposed wetland mitigation site.
- 2.) Drainage from -L- sta. 37+00 +/- to 39+00 rt. and -Y1RPD- and -Y1LPD- west of the RR is being drained to wetlands mainly by the use of lateral ditches and sheetflow.
- 3.) Drainage from -L- sta. 39+00 to 41+00 rt. and most of -Y1RPD- east of the RR is being collected by lateral ditches and then discharged through a crosspipe to a wetland area.
- 4.) Drainage from -L- sta. 39+60 to 41+60 lt. is being collected by ditches and discharged into a wetland site through a crosspipe. Drainage on the right side of the project in this area sheetflows away from the fill slope.
- 5.) -L- sta. 42+40 to 49+00 +/- is a bridge with deck drainage systems which are discharging onto high ground wherever possible.
- 6.) Drainage on 23<sup>rd</sup> Street north of Smith Creek is being collected in ditches and being allowed to sheetflow away from the project.
- 7.) Drainage on the 23<sup>rd</sup> Street bridge over Smith Creek is being collected in deck drainage systems and being discharged on the northern spillthrough slope.
- 8.) Drainage on 23<sup>rd</sup> Street between Smith Creek Blvd. and the bridge over Smith Creek is being collected in a curb and gutter system and discharged near the southern spillthrough of the bridge.
- 9.) Drainage south of Smith Creek Blvd. on 23<sup>rd</sup> Street is being collected in a curb and gutter system which is being tied to the existing pipe system that runs through the N.C. Film Studios property.
- 10.) Drainage from -L- sta. 49+00 +/- to 53+60 +/- and -Y3LPD- is being collected in grass lined ditches and discharged into Smith Creek floodplain through a crosspipe @ sta. 51+20 -L-.
- 11.) Drainage from -Y3RPD- sta. 1+60 +/- to 8+00 +/- is being picked up in lateral ditches which exit the project @ -Y3RPD- sta. 4+40 lt.
- 12.) Drainage from -L- sta. 53+60 to 56+20 drains to a tributary to Smith Creek through lateral ditches and sheetflow. The tributary passes under the project through a culvert.

**Smith Creek Parkway (Sections A and B)  
Compensatory Mitigation Plan**

**REVISED**

Smith Creek Parkway  
New Hanover County  
TIP Project Number U-92A/B  
State Project Number 8.2250102  
COE Action ID Number 199603836

Prepared By:  
Natural Systems Unit  
Project Development and Environmental Analysis Branch  
North Carolina Department of Transportation  
Raleigh, North Carolina

June 29, 2000

## 1.0 DESCRIPTION OF PROPOSED PROJECT

The North Carolina Department of Transportation (NCDOT) proposes to construct Sections A and B of the Smith Creek Parkway from Third Street to Twenty-third Street in the City of Wilmington (TIP No. U-92A/B). The proposed project is a 3.6-mile divided four-lane limited-access roadway. This facility will connect with the previously constructed Section C of the Smith Creek Parkway on the eastern end, and the Third Street Northeast Cape Fear River Bridge on the western end. When completed, the Smith Creek Parkway will serve as a bypass around downtown Wilmington, allowing traffic to move more easily from east to west and reducing congestion on Market Street. The alignment of the project is generally north of Smith Creek, and crosses the creek twice. The environmental impacts of the project have been addressed in several documents, most recently the Final Supplemental Environmental Impact Statement (FHWA, 1998). Efforts have been made to reduce the acreage of wetlands impacted by this project. By analyzing several alternatives for potential impacts and extending bridges to avoid wetlands, the total area of impacted wetlands was reduced to 6.9 acres. The total amount of streams impacted by the proposed project is 875 linear feet.

## 2.0 IMPACTED WETLAND RESOURCES

### 2.1 Methodology

Impacted jurisdictional wetlands and streams were delineated using the parameters provided in the "Corps of Engineers Wetland Delineation Manual (87 Manual)" (DOA 1987). The delineations were done in May 1995 and January 1999, and confirmed by the US Army Corps of Engineers.

### 2.2 Affected Environment

A total of 6.9 acres of jurisdictional wetlands will be impacted by the construction of the project. These wetlands are described as Coastal Plain Bottomland Hardwood Forest (5.5 acres) and Tidal Cypress-Gum Swamp Forest (1.4 acres). These communities have been described in the Natural Resources Technical Memorandum for Jurisdictional Wetlands, Biotic Communities and Protected Species (HNTB 1994).

## 3.0 WETLAND MITIGATION SITES

Several sites will provide compensatory mitigation to offset unavoidable impacts to wetlands as a result of construction of TIP No. U-92A/B. These sites are:

- Third Street Site (at the Third Street Bridge)
- McRae Street Site (at the present location of McRae Street)
- Smith Creek Site (behind the Corbett Lumber Company)
- Waste Treatment Site (at the waste treatment plant on Division Drive)
- County Property Site (on New Hanover County property adjacent to Smith Creek)
- Kerr Avenue Site (near North Kerr Avenue)

These sites are all within the City of Wilmington, and are adjacent to Smith Creek, except the Third Street Site which is adjacent to the Northeast Cape Fear River. The locations of these sites are shown in Figure 1.

### 3.1 Site Descriptions

#### 3.1.1 Third Street Site

This site is approximately 1.3 acres in size and is located where the Smith Creek Parkway will join the Third Street Bridge at the Northeast Cape Fear River. Vegetation on this site consists mainly of weedy species such as Chinese privet (*Ligustrum sinense*), kudzu (*Fueria lobata*), multiflora rose (*Rosa multiflora*), poison ivy (*Toxicodendron radicans*), and Japanese honeysuckle (*Lonicera japonica*), as well as upland vegetation such as loblolly pine (*Pinus taeda*), tulip tree (*Liriodendron tulipifera*), southern magnolia (*Magnolia grandiflora*), grape (*Vitis rotundifolia*), and greenbriers (*Smilax* spp.). Soils in this area are mapped as Urban, indicating disturbance from development so that the soil properties have been altered to the extent that a soil series cannot be recognized. Grading this area down and planting with hardwood trees and shrubs will result in the creation of 1.3 acres of bottomland hardwood forest.

#### 3.1.2 McRae Street Site

This site is approximately 13.8 acres in size, and consists of tidal marsh south of Castle Hayne Road, adjacent to Smith Creek. Currently, McRae Street acts as a dike, with the only hydrological exchange between the east and west sides of the road occurring through two 18-inch diameter culverts. The proposed project design calls for removing the portion of McRae Street that passes through the marsh and replacing it with a low bridge, approximately 6.5 feet above the surface of the marsh. This will result in the restoration of 1.1 acres of tidal marsh wetland within the present footprint of McRae Street and enhancement of 12.7 acres of tidal marsh wetland to the west of the road, through restored hydrological connection. Soils in this area are mapped as Dorovan, which is listed as hydric.

Vegetation on this site consists mainly of black needlerush (*Juncus roemarianus*), arrowhead (*Sagittaria falcata*), and narrow-leaved cattail (*Typha angustifolia*). Shrubs such as black willow (*Salix nigra*), wax myrtle (*Myrica cerifera*), and silverling (*Baccharis hulimifolia*) are present along the edges of the marsh, and there are numerous dead bald cypress (*Taxodium distichum*) standing in the center.

#### 3.1.3 Smith Creek Site

This site is approximately 27.7 acres in size and is located south of Castle Hayne Road behind the Corbett Lumber Company, adjacent to Smith Creek. The mitigation plan for the Smith Creek Site has already been written, as it was originally planned to offset wetland impacts associated with construction of Section C of the Smith Creek Parkway. For a description of this site, see the Compensatory Mitigation Plan for Smith Creek, Spring Branch, and Dreyfours South Mitigation Sites (NCDOT 1996). Since this Mitigation Plan was written, an additional 2.8

acres of mitigation has been proposed for construction in the area under the proposed bridge. This will result in the restoration of 11.7 acres and preservation of 16.0 acres of Tidal Swamp Forest.

#### 3.1.4 Waste Treatment Site

This site is 0.8 acres in size, and is located adjacent to the Bridge Maintenance Mitigation Site (currently under construction), on the present site of a New Hanover County waste treatment facility. This site is heavily maintained, and vegetation found here includes weedy species such as fescue (*Festuca* spp.), henbit (*Lamium amplexicaule*), narrow-leaved plantain (*Plantago lanceolata*), dandelion (*Taraxacum officinale*), geranium (*Geranium* spp.), vetch (*Vicia* spp.), verbena (*Verbena bonariensis*), red clover (*Trifolium pratense*), blackberry (*Rubus* spp.), and silverling. Soils in this area are classified as Urban, indicating disturbance from development so that the soil properties have been altered to the extent that a soil series cannot be recognized. Mitigation activities on this site will result in the creation of 0.8 acres of Tidal Swamp Forest.

#### 3.1.5 County Property Site

This site is comprised of three adjacent areas, totaling 1.9 acres, and is located between the CSX Railroad and Twenty-third Street on property currently owned by New Hanover County. This site is currently upland, and vegetation found here includes loblolly pine, southern magnolia, red maple (*Acer rubrum*), tulip tree, grapes, and greenbrier. Soils in this area are classified as Kenansville fine sand (0-3% slope) in the eastern portions of the site and Craven fine sandy loam (1-4%) in the western portion, both of which are listed as non-hydric. Mitigation activities on this site will result in the creation of 1.9 acres of Tidal Swamp Forest.

#### 3.1.6 Kerr Avenue Site

This site consists of approximately 47 acres of Cypress-Gum Swamp preservation, and is located east of North Kerr Avenue and north of Smith Creek (Figure 2). Soils at this site are classified as Dorovan in the southern portion and Johnston in the northern portion. These soils are both listed as hydric. There are small areas of Murville fine sand and Baymeade fine sand in the extreme northwestern side, both of which are listed as non-hydric.

This area is dominated by bald cypress, with loblolly pine in the higher elevation areas. Other species in the canopy include red maple, sweetgum, water oak (*Quercus nigra*), and sweetbay (*Magnolia virginiana*). The understory is composed of sweet pepperbush (*Clethra alnifolia*), fetterbush (*Lyonia lucida*), American holly (*Ilex opaca*), and sweetbay. Vines present in this community include greenbrier, poison ivy, muscadine grapes, and Japanese honeysuckle.

30-51-1  
30-51-1

elevation of the highest tides and help to increase their chance of survival. The cypress trees will be planted at a density of 108 trees per acre.

Herbaceous marsh vegetation (big cordgrass and sawgrass) will be planted over the whole site, including the area under the proposed bridge, at a density of 4840 plants per acre. It may be necessary to plant a 75:25 mix of *Spartina:Cladium*, rather than 50:50, due to difficulty in obtaining *Cladium*. Colonization by other native species is expected to result in the development of species composition in the mitigation area similar to that of the relatively undisturbed flood plain of Smith Creek.

#### 4.4 Waste Treatment Site

Mitigation activities on this site will involve removal of the existing waste treatment facility and grading the area outside the fill slope of the proposed roadway to an elevation of approximately 2.0-2.2 feet, adjusted as necessary to tie into the adjacent Bridge Maintenance Mitigation Site and existing natural wetlands (see attached design sheets). The area will then be planted with bald cypress, big cordgrass, and sawgrass. As mentioned above, it is uncertain whether the bald cypress will survive due to changes in the hydrologic regime of Smith Creek. Trees as tall as possible will also be used in the planted areas of this site. The cypress trees will be planted at a density of 108 trees per acre.

Herbaceous marsh vegetation (big cordgrass and sawgrass) will be planted between the trees, at a density of approximately 4840 plants per acre. It may be necessary to plant a 75:25 mix of *Spartina:Cladium*, rather than 50:50, due to difficulty in obtaining *Cladium*. Colonization by other native species is expected to result in the development of species composition in the mitigation area similar to that of the relatively undisturbed flood plain of Smith Creek.

#### 4.5 County Property Site

Mitigation activities on this site will involve grading the area outside the fill slope of the proposed roadway to an elevation of approximately 2.0-2.2 feet, adjusted as necessary to tie into the adjacent existing natural wetlands (see attached design sheets). The area will then be planted with bald cypress, big cordgrass, and sawgrass. Again, it is uncertain whether the bald cypress will survive due to changes in the hydrologic regime of Smith Creek. Trees as tall as possible will also be used in the planted areas of this site. The cypress trees will be planted at a density of 108 trees per acre.

Big cordgrass and sawgrass will be planted between the trees at a density of approximately 4840 plants per acre. It may be necessary to plant a 75:25 mix of *Spartina:Cladium*, rather than 50:50, due to difficulty in obtaining *Cladium*. Colonization by other native species is expected to result in the development of species composition in the mitigation area similar to that of the relatively undisturbed flood plain of Smith Creek.

#### 4.6 Kerr Avenue Site

Forty-seven acres of existing Cypress-Gum Swamp (Blackwater Subtype) at the Kerr Avenue Site will be preserved (see Figure 2). There will be no construction activities (grading or planting) at this site. The property will be preserved in perpetuity through the transfer of the deed to a resource agency (public or private) acceptable to the appropriate regulatory agencies. Covenants and/or restrictions on the deed will be included that will ensure protection of the site in perpetuity.

#### 5.0 MONITORING PLAN

##### 5.1 Third Street Site

###### Hydrology:

Two groundwater monitoring wells (40-inch), a surface water gauge, and a rain gauge will be placed in the planted area of the site. Data from these wells will be collected throughout the year, with particular attention given to the growing season (February 27 through November 26). Hydrological success of this area will be determined using data from these wells to demonstrate that inundation or saturation within 12 inches of the surface has existed consecutively for at least 12.5% of the growing season.

###### Vegetation:

This site will be monitored through the use of a minimum of two 50-foot x 50-foot sampling plots, placed within the planted areas. The total number of live trees/shrubs within each plot will be counted during each monitoring period. The site will be considered successful if there is a survival rate of 320 trees/shrubs per acre after three years and 259 trees/shrubs per acre after five years.

##### 5.2 McRae Street Site

No monitoring activities are planned for this property; the site will be graded down to restore the hydrology of the area, and no planting is planned.

##### 5.3 Smith Creek Site

###### Hydrology:

Water level data already collected from the Bridge Maintenance Mitigation Site (adjacent to the Smith Creek Site and the Waste Treatment Site) indicates that an elevation of 2.5 feet above sea level will result in flooding approximately 37% of the time. In order to ensure that the Smith Creek Site accomplishes this, the elevations of a series of points located throughout the site will be measured after grading is complete. This will ensure that the target elevation of the site is met (2.5 feet above sea level). A tide gauge will be installed on the adjacent Bridge Maintenance Mitigation Site to monitor the tidal regime in this stretch of Smith Creek and serve as a reference for the Smith Creek, Bridge Maintenance, Waste Treatment, and County Property Sites. This gauge will record the water depth in Smith Creek every hour for one growing season

(February 27 through November 26). These data will then be compared to the elevation data to confirm the period of flooding at the Smith Creek Site.

#### Vegetation:

Emergent herbaceous vegetation monitoring of the site will utilize a system of sample plots randomly located within the previously delineated restoration area, using GPS software and different coordinates each year. The location of the sample plots in the field will be determined using real-time GPS. Sampling will take place at the end of the growing season. A total of 180 1.0-m<sup>2</sup> sample plots will be located in the planted area.

In order to assess the success of the site, sample plots will be taken in the planted marsh areas. Specific success criteria for the marsh restoration will be frequency of emergent herbaceous vegetation, determined by using the Braun-Blanquet Technique (see Appendix I) as recommended by the National Marine Fisheries Service. **Frequency** will be determined by  $F = (n_x/n_y) \times 100$ , where  $F$  = frequency,  $n_x$  = the number of plots where emergent herbaceous vegetation occurs, and  $n_y$  = total number of plots. **Density** (cover) will be determined by  $D = \Sigma_{BB}/n$ , where  $D$  = density,  $\Sigma_{BB}$  = the sum of Braun-Blanquet scale values for all plots, and  $n$  = the total number of plots. **The site will be considered a success if the calculated value for density is greater than or equal to 5.0 (75% cover) by the end of the fifth growing season.** If frequency falls below 70% at the end of any growing season, replanting will be undertaken to reestablish the grass species. If *Phragmites australis* appears in any monitoring period, in more than five sampling plots, then the Department of Transportation will consult with the Corps of Engineers to develop potential control measures.

Bald cypress monitoring will utilize two 100.0 x 100.0 ft sampling plots. These plots will be placed within the planted areas, and the total number of live trees within the plot counted during each monitoring period. As mentioned above, changes in the hydrology of Smith Creek have caused the decline in natural bald cypress populations, and it is uncertain if the planted bald cypress trees will survive. NCDOT will not be responsible for the success of the cypress trees.

#### 5.4 Waste Treatment Site

##### Hydrology:

The hydrologic success of this site will be evaluated in the same way described for the Smith Creek Site. After grading is complete, the elevations of a series of points located throughout the site will be measured to ensure that the target elevation (2.0-2.2 feet above sea level) is met. These data will then be compared to data from the tide gauge located at the Bridge Maintenance Mitigation Site to confirm the period of flooding.

##### Vegetation:

This site will be monitored using the same protocols described above for the Smith Creek Site. A total of 30 sampling plots will be taken within the planted area. The success criteria will be the same as those described for the Smith Creek Site.

## 5.5 County Property Site

### Hydrology:

The hydrologic success of this site will be evaluated in the same way described for the Smith Creek Site. After grading is complete, the elevations of a series of points located throughout the site will be measured to ensure that the target elevation (2.0-2.2 feet above sea level) is met. These data will then be compared to data from the tide gauge located at the Bridge Maintenance Mitigation Site to confirm the period of flooding.

### Vegetation:

This site will be monitored using the same protocols described above for the Smith Creek Site. A total of 30 sampling plots will be taken within the planted area. The success criteria will be the same as those described for the Smith Creek Site.

## 5.6 Kerr Avenue Site

No monitoring activities are proposed for this property, as the site will be preserved; no grading or planting is planned.

## 6.0 WETLAND AND STREAM MITIGATION SUMMARY

NCDOT proposes to provide compensatory mitigation for unavoidable impacts to wetlands resulting from the construction of TIP Project Number U-92A/B through restoration and preservation of Tidal Swamp Forest at the Smith Creek Site, restoration and enhancement of Tidal Freshwater Marsh at the McRae Site, creation of Bottomland Hardwood Forest at the Third Street Site, restoration of Tidal Swamp Forest at the Waste Treatment and County Property Sites and preservation of existing Tidal Cypress-Gum Swamp on the Kerr Avenue Site. Acreages for each type of mitigation at each site are given in Table 1.

Table 1. Wetland Mitigation for Sections A and B of the Smith Creek Parkway.

| Mitigation Site | Restoration | Creation | Enhancement | Preservation | Total |
|-----------------|-------------|----------|-------------|--------------|-------|
| Third Street    |             | 1.3      |             |              | 1.3   |
| McRae Street    | 1.1         |          | 12.7        |              | 13.8  |
| Smith Creek     | 11.7        |          |             | 16.0         | 27.7  |
| Waste Treatment |             | 0.8      |             |              | 0.8   |
| County Property |             | 1.9      |             |              | 1.9   |
| Kerr Avenue     |             |          |             | 47.3         | 47.3  |
| Total           | 12.8        | 4.0      | 12.7        | 63.3         | 92.8  |

NCDOT proposes to provide compensatory mitigation for 875 linear feet of unavoidable impacts to streams. The North Carolina Wetland Restoration Program has agreed to provide a total of 875 feet of stream channel restoration.

## 7.0 IMPLEMENTATION SCHEDULE

Construction of all the wetland mitigation sites and on-site stream mitigation will be implemented concurrently with the construction of TIP Project Number U-92A/B. The NC Wetland Restoration Program has been contacted regarding the 875 feet of stream mitigation, and has agreed to provide it. NCDOT has purchased and holds title to the Kerr Avenue Site.

## 8.0 AS-BUILT REPORT AND DRAWINGS

As-built descriptions, photographs, and plans describing the Smith Creek, Third Street, Waste Treatment, and County Property Mitigation Sites will be provided to the appropriate regulatory agencies within 90 days after the mitigation project is completed. This information will include, but not be limited to, descriptions of vegetation establishment, vegetation monitoring plot locations, ground and surface water gauges (if any), and final ground elevations.

## 9.0 ANNUAL REPORT PREPARATION AND SUBMITTAL

Annual reports for the Smith Creek, Third Street, Waste Treatment, and County Property Mitigation Sites, including photographs (or copies thereof), will be prepared annually after field monitoring activities are completed. Vegetation and hydrologic data will be included in these reports, as well as information on any significant developments on the sites. Copies of these reports will be submitted to the appropriate regulatory agencies by January 31 of each year following monitoring for five years after planting the mitigation site.

## 10.0 CONTINGENCY PLANS

Establishment of cypress trees over the restoration area of the Smith Creek, Waste Treatment, and County Property Mitigation Sites is proposed, although there is evidence that they may not survive because of increases in salinity, tidal amplitude, and sea level (Hackney and Yelverton, 1990). Consequently, cypress mortality may occur and the areas may develop into emergent marsh communities. The vegetation success criteria will therefore be based on emergent marsh vegetation.

Should noxious plant species become established on the Third Street, Smith Creek, Waste Treatment, or County Property Sites, NCDOT will undertake appropriate control measures using accepted chemical, biological, and/or cultural methods.

## 11.0 DISPENSATION OF PROPERTY

NCDOT will maintain ownership of the mitigation properties until all mitigation activities are completed. Although no final plan for dispensation of the properties has been developed, NCDOT may deed the properties to a resource agency (public or private) acceptable to the appropriate regulatory agencies. Covenants and/or restrictions on the deeds will be included that will ensure adequate management and/or protection of the sites in perpetuity.

## 12.0 REFERENCES CITED

Department of the Army (DOA). 1987. Corps of Engineers Wetland Delineation Manual. Tech. Rpt. 87-1, Waterways Experiment Station, COE, Vicksburg, Mississippi.

FHWA, 1998. Final Supplemental Environmental Impact Statement and Final Section 4(f) Statement: Smith Creek Parkway from Third Street to Kornegay Avenue, Wilmington, New Hanover County, North Carolina. State Project Number 8.2250101, U-92A/B, Federal Project No. MAM-M-5851(2).

Hackney, C. T., and G. F. Yelverton. 1990. Effects of Human Activities and Sea Level Rise on Wetland Ecosystems in the Cape Fear River Estuary, North Carolina, USA. pp. 55-61. In: Whigman, D. F., ed. Wetland Ecology and Management: Case Studies. Kluwer Academic Publishers, The Netherlands.

HNTB (Howard, Needles, Tammen, and Bergendoff). 1994. Natural Resources Technical Memorandum for Jurisdictional Wetlands, Biotic Communities and Protected Species: Smith Creek Parkway and Downtown Spur, Wilmington, New Hanover County, North Carolina. State Project Number 8.2250102, U-92, Federal Project Number M-5851(2).

NCDOT. 1996. Compensatory Mitigation Plan for Smith Creek, Spring Branch, and Dreyfours South Mitigation Sites. Smith Creek Parkway, New Hanover County. TIP Project No. U-92C, State Project No. 8.2250101, Federal Project No. MAM-M-5851(2).

Schafale, Michael P., and Alan S. Weakley. 1990. Classification of the Natural Communities of North Carolina, Third Approximation. North Carolina Natural Heritage Program, Division of Parks and Recreation. NC Department of Environment, Health, and Natural Resources.

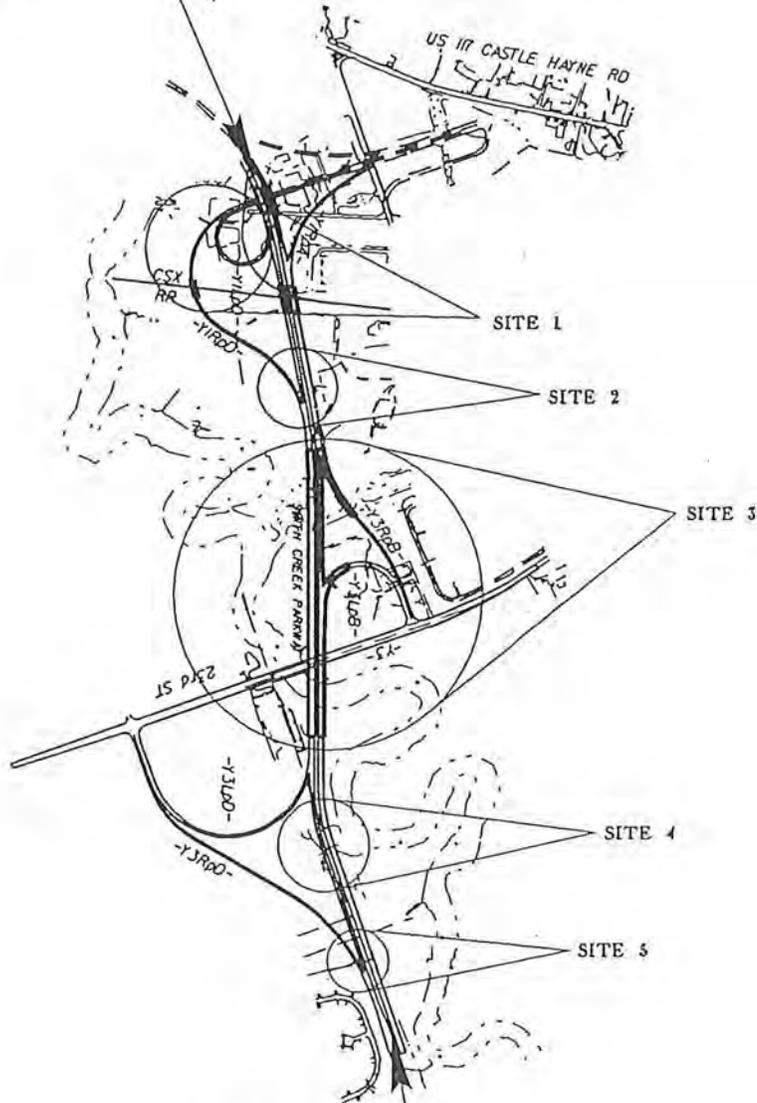
U. S. Department of Agriculture (USDA). 1977. Soil Survey of New Hanover County, North Carolina. USDA Soil Conservation Service.



# SITE MAP

BEGIN STATE PROJECT 8.2250102  
BEGIN F.A. PROJECT M-5855(1)

-L- STA. 36+20.000  
N 57202.1487 E 708038.6294

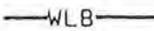
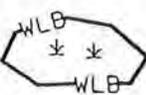
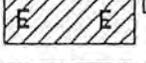
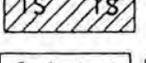
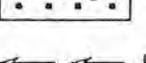
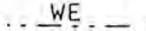
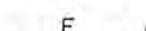
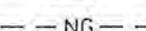
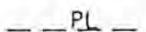
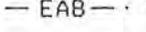
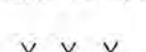
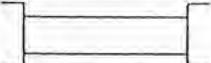
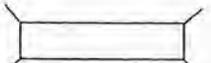
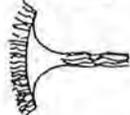


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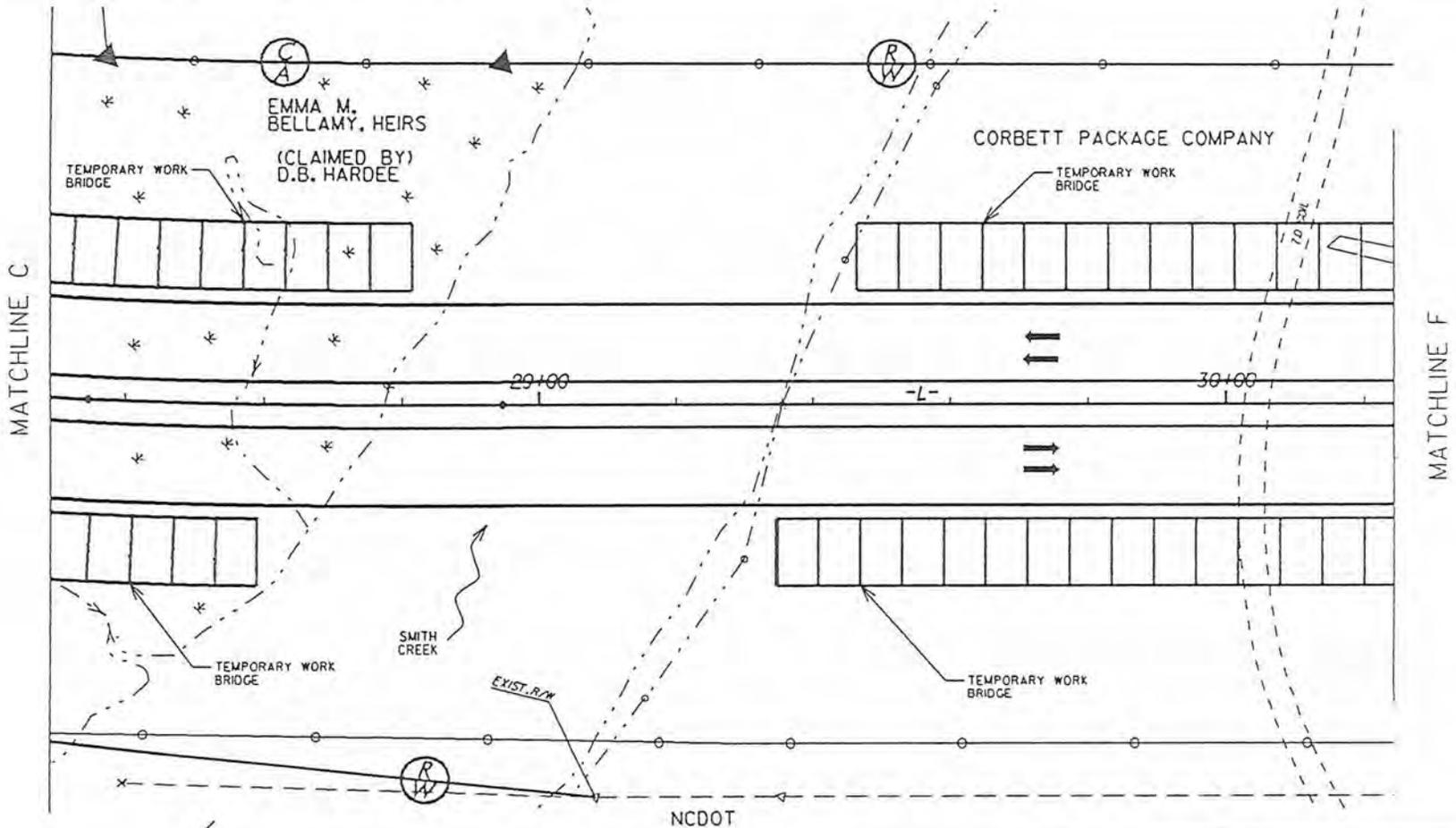
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N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
NEW HANOVER COUNTY  
PROJECT: 8.2250102 (U-0092B)  
SMITH CREEK PARKWAY FROM  
PROPOSED US 117 CONNECTOR TO  
0.85 KM EAST OF 23RD STREET.  
SHEET OF DATE

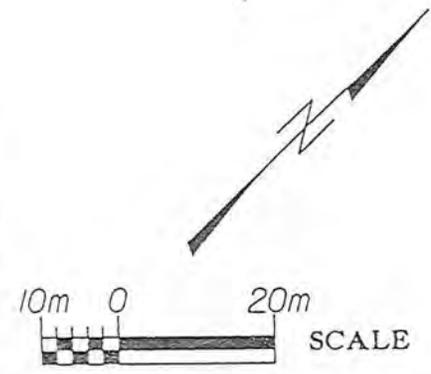
# LEGEND

|  | LINE WT |                                    | LINE WT |
|--|---------|------------------------------------|---------|
|  WLB  | 4-6     | WETLAND BOUNDARY                   |         |
|  WLB  | 4-6     | WETLAND                            |         |
|  DENOTES FILL IN WETLAND                                | 2       |                                    |         |
|  DENOTES FILL IN SURFACE WATER                          | 2       |                                    |         |
|  DENOTES FILL IN SURFACE WATER (POND)                   | 2       |                                    |         |
|  DENOTES TEMPORARY FILL IN WETLAND                      | 2       |                                    |         |
|  DENOTES EXCAVATION IN WETLAND                          | 2       |                                    |         |
|  DENOTES TEMPORARY FILL IN SURFACE WATER                | 2       |                                    |         |
|  DENOTES MECHANIZED CLEARING                            | 2       |                                    |         |
|  FLOW DIRECTION   | 2       |                                    |         |
|  TOP OF BANK  | 2-4     |                                    |         |
|  EDGE OF WATER  | 2       |                                    |         |
|  PROP. LIMIT OF CUT                                   | 2       |                                    |         |
|  PROP. LIMIT OF FILL                                  | 2       |                                    |         |
|  PROP. RIGHT OF WAY                                   | 2       |                                    |         |
|  NATURAL GROUND                                       | 2       |                                    |         |
|  PROPERTY LINE  | 2       |                                    |         |
|  TEMP. DRAINAGE EASEMENT                              | 2       |                                    |         |
|  PERMANENT DRAINAGE EASEMENT                          | 2       |                                    |         |
|  EXIST. ENDANGERED ANIMAL BOUNDARY                    | 2       |                                    |         |
|  EXIST. ENDANGERED PLANT BOUNDARY                     | 2       |                                    |         |
|  WATER SURFACE  | 2       |                                    |         |
|  LIVE STAKES  | 2       |                                    |         |
|  BOULDER  | 6       |                                    |         |
|  CORE FIBER ROLLS                                     | 2       |                                    |         |
|  PROPOSED BRIDGE  | 6       |                                    |         |
|  PROPOSED BOX CULVERT                                   | 6       |                                    |         |
|  PROPOSED PIPE CULVERT                                  | 15      |                                    |         |
| (DASHED LINES DENOTE EXISTING STRUCTURES)  | 6       | 12'-48' PIPES<br>54' PIPES & ABOVE |         |
|  SINGLE TREE  | 2       |                                    |         |
|  WOODS LINE  | 2       |                                    |         |
|  DRAINAGE INLET   | 2       |                                    |         |
|  ROOTWAD  | 2       |                                    |         |
|  RIP RAP  | 2       |                                    |         |
|  ADJACENT PROPERTY OWNER OR PARCEL NUMBER IF AVAILABLE | 2       |                                    |         |

N. C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 NEW HANOVER COUNTY  
 PROJECT: 8.2250102 (U-0092B)  
 SMITH CREEK PARKWAY FROM  
 PROPOSED US 117 CONNECTOR TO  
 0.85 KM EAST OF 23RD STREET.  
 SHEET            OF            DATE



PLAN VIEW  
SITE 3



N. C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
  
NEW HANOVER COUNTY  
PROJECT: 8.2250101 (U-0092A)  
SMITH CREEK PARKWAY FROM  
BRUNSWICK STREET TO US 117  
CASTLE HAYNE ROAD  
  
SHEET      OF      DATE

## SUMMARY

| Site No. | Station (From/To)           | Structure Size | WETLAND IMPACTS       |                            |                             |                                       | SURFACE WATER IMPACTS     |                        |                       |                               |                       |                      |
|----------|-----------------------------|----------------|-----------------------|----------------------------|-----------------------------|---------------------------------------|---------------------------|------------------------|-----------------------|-------------------------------|-----------------------|----------------------|
|          |                             |                | Fill In Wetlands (ha) | Temp.Fill In Wetlands (ha) | Excavation In Wetlands (ha) | Mechanized Clearing (Method III) (ha) | Fill In SW (Natural) (ha) | Fill In SW (Pond) (ha) | Temp. Fill In SW (ac) | Existing Channel Impacted (m) | Relocated Channel (m) | Enclosed Channel (m) |
| 1        | 10+24 -Y- TO<br>12+93 -Y-   | BRIDGE         | 0.236                 | 0.006                      |                             | 0.025                                 |                           |                        |                       |                               |                       |                      |
| 2        | 22+00 -L- TO<br>22+85 -L-   | 750 RCP        | 0.254                 |                            |                             | 0.029                                 | 0.006                     |                        |                       |                               | 105                   | 91                   |
| 3        | 24+00 -L- TO<br>32+20 -L-   | BRIDGE         | 0.184                 | 0.159                      |                             | 0.023                                 |                           |                        |                       |                               |                       |                      |
| 4        | 15+50 -Y1- TO<br>16+20 -Y1- | 3@900 RCP      | 0.406                 |                            |                             | 0.051                                 |                           |                        |                       |                               |                       |                      |
| TOTALS:  |                             |                | 1.080                 | 0.165                      |                             | 0.128                                 | 0.006                     |                        |                       |                               | 105                   | 91                   |

NOTE: 0.445 ha OF WETLAND WILL BE RESTORED DUE TO REMOVAL OF THE EXISTING ROADWAY EMBANKMENT OF McCRAE STREET ON SITE 3

N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

NEW HANOVER COUNTY  
PROJECT: 8.2250101 (U-0092A)

SHEET

OF