STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

November 08, 2004

MEMORANDUM TO: Mr. Jon G. Nance, P.E.
Division 5 Engineer

FROM: Philip S. Harris, III, P.E., Manager
Office of the Natural Environment
Project Development and
Environmental Analysis Branch

SUBJECT: Wake County; Division 5; Replace Bridge No. 246 over Little Arm Branch on SR 2564; State Project No. 8.2406301; TIP Project No. B-3376

Attached is the Division of Water Quality 401 Water Quality Certification for the above referenced project. All environmental permits have been received for the construction of this project.

PSH/gyb

Attachment

cc: Mr. Art McMillan, P.E.
Mr. Omar Sultan
Mr. Jay Bennett, P.E.
Mr. David Chang, P.E.
Mr. Randy Garris, P.E.
Mr. Greg Perfetti, P.E.
Mr. Mark Staley
Mr. John F. Sullivan, III, FHWA
Mr. Chris Murray, Division 5 DEO
Ms. Cathy Houser, PE

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

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

WEBSITE: WWW.DOT.ORG

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

Project Commitments

Wake County
Bridge No. 246
Over Little Arm Branch on SR 2564
Federal Project BRSTP-2564(1)
State Project 8.2406301
TIP B-3376

In addition to the Neuse Buffer Rules General Certification Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for Bridge Demolition and Removal, NCDOT's Best Management Practices for Protection of Surface Waters, the following special commitments have been agreed to by NCDOT:

Highway Division 5, Hydraulics Unit, Roadside Environmental Unit

NCDOT's Best Management Practices (BMP) for the Protection of Surface Waters and Sedimentation Control guidelines in Sensitive Watersheds will be strictly enforced during the construction stage of the project. Provisions to preclude contamination by toxic substances during the construction interval will also be strictly enforced.

Roadway Design Unit, Project Development and Environmental Analysis Branch, Roadside Environmental Unit, Highway Division 5

Upon completion of the new bridge, the temporary detour bridge will be removed. The temporary approach fill will be removed to natural grade and the area will be planted with native grasses and/or tree species as appropriate.

The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.

Roadway Design Unit, Project Development and Environmental Analysis Branch, Highway Division 5, Structure Design Unit

The bridge rail, deck and substructure of both bridges will be removed without dropping them into Waters of the United States. During and after bridge demolition no bridge debris will be allowed to enter Waters of the United States.

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

October 27, 2004
Wake County
DWQ Project No. 041464
TIP No. B-3376

Amended APPROVAL of NEUSE RIVER BUFFER RULES AUTHORIZATION CERTIFICATE with ADDITIONAL CONDITIONS

Dr. Gregory J. Thorpe, PhD, Manager
Planning and Environmental Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina, 27699-1548

Dear Dr. Thorpe:

You have our approval, in accordance with the conditions listed below, for the following impacts for the purpose of replacing Bridge No. 246 over Little Arm Branch on SR 2564 (Creech Road) in Wake County.

Impact Locations	Stream Impacts (Linear Feet)	Riparian Buffer Impacts (Square Feet)
STA –L- 12+66 to 12+85 (Allowable)	0	2,265 (697 Zone 1 + 1,568 Zone 2)
STA –L- 12+99 to 13+10 (Allowable)	0	2,178 (697 Zone 1 + 1,481 Zone 2)
DET STA 11+68 to 12+24 (Temporary)	0	5,794 (1,525 Zone 1 + 4,269 Zone 2)
DET STA 12+39 to 12+54 (Temporary)	0	2,352 (697 Zone 1 + 1,655 Zone 2)
Sewer –L- STA 12+77 to 12+93 (Mitigation Required)	0	1,219 (653 Zone 1 + 566 Zone 2)
Sewer –L- STA 12+38 to 12+48 (Mitigation Required)	0	523 (0 Zone 1 + 523 Zone 2)
Total	**0**	**14,331 (4,269 Zone 1 + 10,062 Zone 2)**

The project shall be constructed in accordance with your application dated received September 1, 2004 and your amended application dated received September 15, 2004. This approval shall act as your Authorization Certificate as required within the Neuse River Riparian Buffer Rules (15A NCAC 2B .0233). In addition, you should acquire any other federal, state or local permits before you proceed with your project including (but not limited to) Sediment and Erosion Control.

This approval is only valid for the purpose and design that you described in your application dated received September 1, 2004 and your amended application dated received September 15, 2004. If you change your project, you must notify us and you may be required to send us a new application. If the property is sold, the new owner must be given a copy of this authorization and approval letter and is thereby responsible for complying with all conditions. For this approval to be valid, you must follow the conditions listed below.

1.) 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.

2.) All stormwater runoff shall be directed to sheetflow through stream buffers at nonerosive velocities, unless approved otherwise by this certification.

3.) During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.

4.) Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.

5.) The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.

6.) Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.

7.) All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.

8.) Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

9.) The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.

10.) There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. 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.

11.) The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.

12.) Pursuant to NCAC15A 2B.0259(6), sediment and erosion control devices shall not be placed in Zone 1 of any ~~Tar-Pamlico~~ Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1 outside the identified impacts presented in your application. Sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

13.) The post-construction removal of any temporary bridge structures will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species may also be necessary.

14.) When the old bridge is removed, no discharge of bridge material into surface waters is preferred. Strict adherence the Corps of Engineers guidelines for bridge demolition will be a condition of the 401 Water Quality Certification.

15.) No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.

16.) Heavy equipment must be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into the stream.

17.) All work shall be performed during low or normal flow conditions.

18.) A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.

19.) Mitigation for impacts to 653 square feet of protected riparian buffers in Zone 1 and 1,089 square feet of protected riparian buffers in Zone 2 will be mitigated for as described below:

Zone of Impact	Impacts (Square Feet)	Replacement Ratio	Total Square Feet of Mitigation Required
Zone 1	653	3:1	1,959
Zone 2	1,089	1.5:1	1,634
Total	**1,742**		**3,593**

We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through an in lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided through an in-lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP) at a rate of $0.96 per square foot for 3,593 square feet of buffer impact. Therefore, a total payment of $3,449.28 shall be submitted to the NCEEP to offset the impacts. No construction activities in Neuse River Riparian buffers shall begin until payment for buffer mitigation is made and the Ecosystem Enhancement Program receives and clears your check (made payable to DENR – Ecosystem Enhancement Program).

20.) All protected riparian buffers impacted by the placement of temporary fill or clearing activities shall be restored to the preconstruction contours and revegetated with native woody species upon completion of the project construction. A post-construction as-built with the restoration activities included shall be submitted to the DWQ no later than 60 days after the project is closed out by the Department of Transportation.

If you do not accept any of the conditions of this certification, you may ask for an adjudicatory hearing. You must act within 60 days of the date that you receive this letter. To ask for a hearing, send a written petition that conforms to Chapter 150B of the North Carolina General Statutes to the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. This certification and its conditions are final and binding unless you ask for a hearing.

This letter completes the review of the Division of Water Quality under Section 401 of the Clean Water Act. If you have any questions, please contact Nicole Thomson at 919-715-3415.

Sincerely,

Alan W. Klimek, P.E.

Attachment

cc: Wilmington District US Army Corps of Engineers
Mr. Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office
Mr. Jon G. Nance, PE, Division 5 Engineer, 2612 N. Duke Street, Durham, NC 27704
Mr. Chris Murray, Division 5 Environmental Officer, 2612 N. Duke Street, Durham, NC 27704
NCDWQ Raleigh Regional Office
File Copy
Central Files

C:\Correspondence\DWQ041464\102204wcq.doc

DWQ Project No.: _____ **County:** _____

Applicant: _____

Project Name: _____

Date of Issuance of 401 Water Quality Certification: _____

Certificate of Completion
Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/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:_____

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 _____

WQC #3403

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 23 (APPROVED CATEGORICAL EXCLUSIONS) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General 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 Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (23) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. This Certification replaces Water Quality Certification Number 2670 issued on January 21, 1992, Certification Number 2734 issued on May 1 1993, Certification Number 3107 issued on February 11, 1997 and Water Quality Certification Number 3361 issued March 18, 2002. This WQC is rescinded when the Corps of Engineers re-authorizes Nationwide Permit 23 or when deemed appropriate by the Director of the DWQ.

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

Conditions of Certification:

1. Proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality. Two copies shall be submitted to DWQ at the time of notification in accordance with 15A NCAC 2H .0501(a). Written concurrence from DWQ is not required unless any standard conditions of this Certification cannot be met;

2. 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;

3. In accordance with 15A NCAC 2H .0506 (h) compensatory mitigation may be required for impacts to 150 linear feet or more of streams and/or one acre or more of wetlands. In addition, buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the "Table of Uses" section of the Buffer Rules or require a variance under the Buffer Rules. A determination of buffer, wetland and stream mitigation requirements shall be made for any Certification for this Nationwide Permit. The most current design and monitoring protocols from DWQ shall be followed and written plans submitted for DWQ approval as required in those protocols. When compensatory mitigation is required for a project, the mitigation plans must be approved by DWQ in writing before the impacts approved by the Certification occur. The mitigation plan must be implemented and/or constructed before any permanent building or structure on

site is occupied. In the case of public road projects, the mitigation plan must be implemented before the road is opened to the travelling public;

4. Compensatory stream mitigation shall be required at a 1:1 ratio for not only perennial but also intermittent stream impacts equal to or exceeding 150 feet and that require application to DWQ in watersheds classified as ORW, HQW, Tr, WS-I and WS-II unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance;

5. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;

6. Measures shall be taken to prevent live or fresh concrete from coming into contact with freshwaters of the state until the concrete has hardened;

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

8. Impacts to any stream length in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;

9. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

10. Concurrence from DWQ that this Certification applies to an individual project 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 Nationwide and Regional General Permits, whichever is sooner;

11. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

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

WQC #3403

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

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

Effective date: March 2003

DIVISION OF WATER QUALITY

By

Alan W. Klimek, P.E.

Director

WQC # 3403

WQC #3366

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 33 (TEMPORARYCONSTRUCTION, ACCESS AND DEWATERING) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

This General 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 Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (33) of the Corps of Engineers regulations (i.e., Nationwide Permit No. 33) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. The category of activities shall include any fill activity for temporary construction, access and de-watering. This Certification replaces Water Quality Certification Number 2727 issued on May 1, 1992 and Certification Number 3114 issued on February 11, 1997. This WQC is rescinded when the Corps of Engineers reauthorize Nationwide Permit 33 or when deemed appropriate by the Director of the DWQ.

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

Conditions of Certification:

1. These activities do not require written concurrence from the Division of Water Quality as long as they comply with all conditions of this General Certification. If any condition in this Certification cannot be met, application to and written concurrence from DWQ are required. Also, Condition No. 2 is applicable to all streams in basins with riparian area protection rules;

2. Impacts to any stream length in the Neuse, Tar-Pamlico and Randleman River Basins (or any other major river basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application) requires written concurrence from DWQ in accordance with 15A NCAC 2B.0200. Activities listed as "exempt" from these rules do not need to apply for written concurrence under this Certification. New development activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0200. All new development shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices;

3. 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;

4. All sediment and erosion control measures placed in wetlands or waters shall be removed and the original grade restored within two months after the Division of Land Resources has released the project;

5. If an environmental document is required, this Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse;

6. 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 including open bottom or bottomless arch culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in aggradation, degradation or significant changes in hydrology 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. Additionally, when roadways, causeways or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in aggradation, degradation or significant changes in hydrology of streams or wetlands;

7. Measures shall be taken to prevent live or fresh concrete from coming into contact with waters of the state until the concrete has hardened;

8. All temporary fill shall be removed to the original grade after construction is complete and the site shall be stabilized to prevent erosion;

9. Pipes shall be installed under the road or causeway in all streams to carry at least the 25 year storm event as outlined in the most recent edition of the "North Carolina Sediment and Erosion Control Planning and Design Manual" or the "North Carolina Surface Mining Manual" so as not to restrict stream flow during use of this Certification;

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

11. Additional site-specific conditions may be added to projects for which written concurrence is required or requested under this Certification in order to ensure compliance with all applicable water quality and effluent standards;

12. Concurrence from DWQ that this Certification applies to an individual project shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of these corresponding Nationwide and Regional General Permits, whichever is sooner;

13. When written concurrence is required, the applicant is required to use the most recent version of the Certification of Completion form to notify DWQ when all work included in the 401 Certification has been completed.

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

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity that requires written concurrence under this certification, if it is determined that the project is likely to have a significant adverse effect upon water quality or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

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

Effective date: 18 March 2002

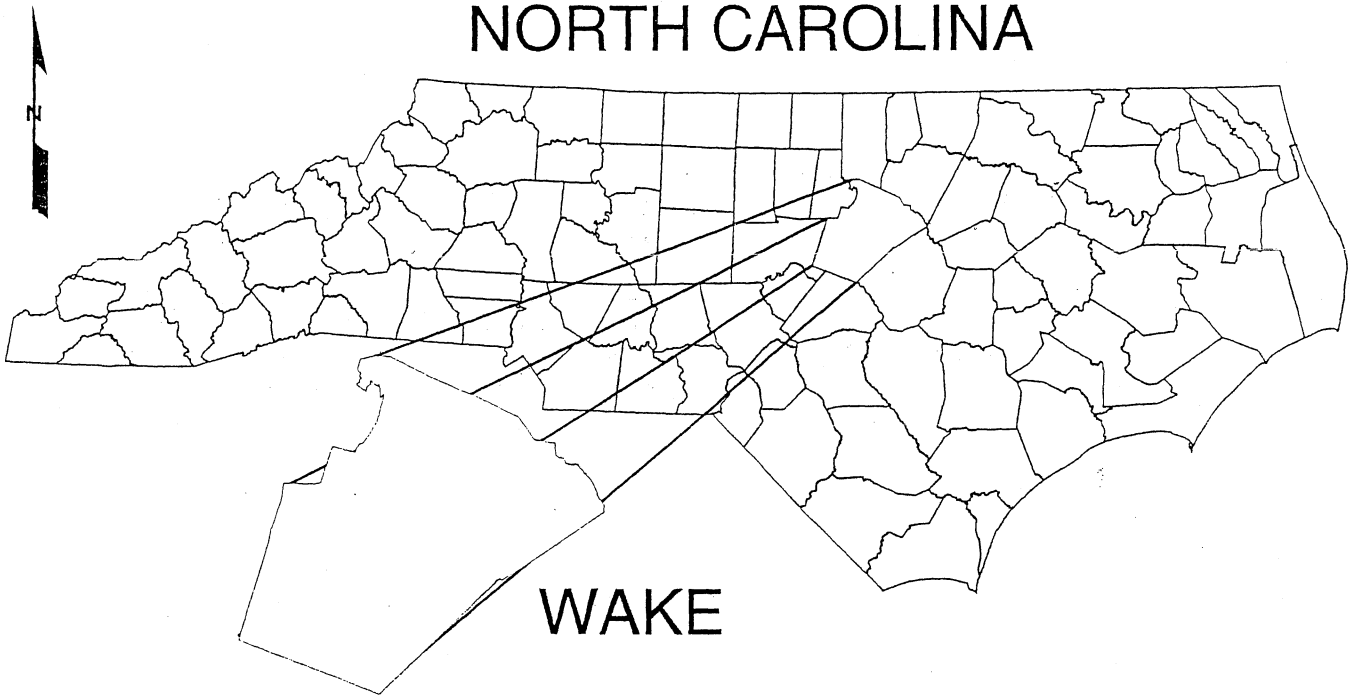
DIVISION OF WATER QUALITY

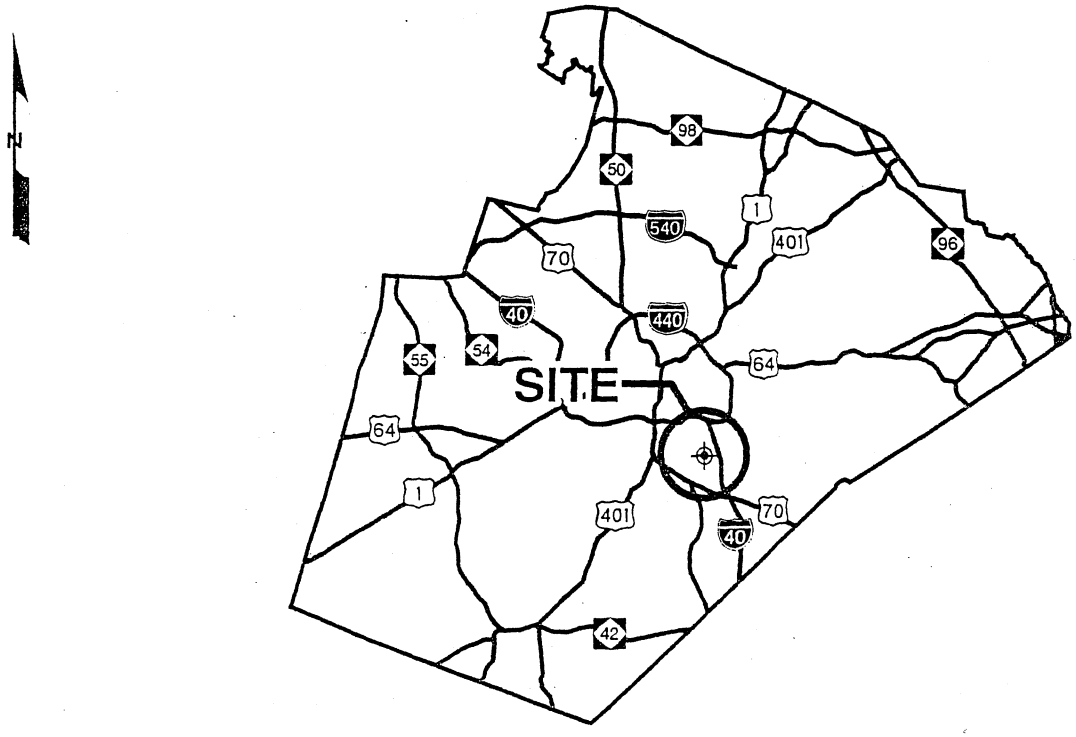
By

Gregory J. Thorpe, Ph.D.

Acting Director

WQC # 3366



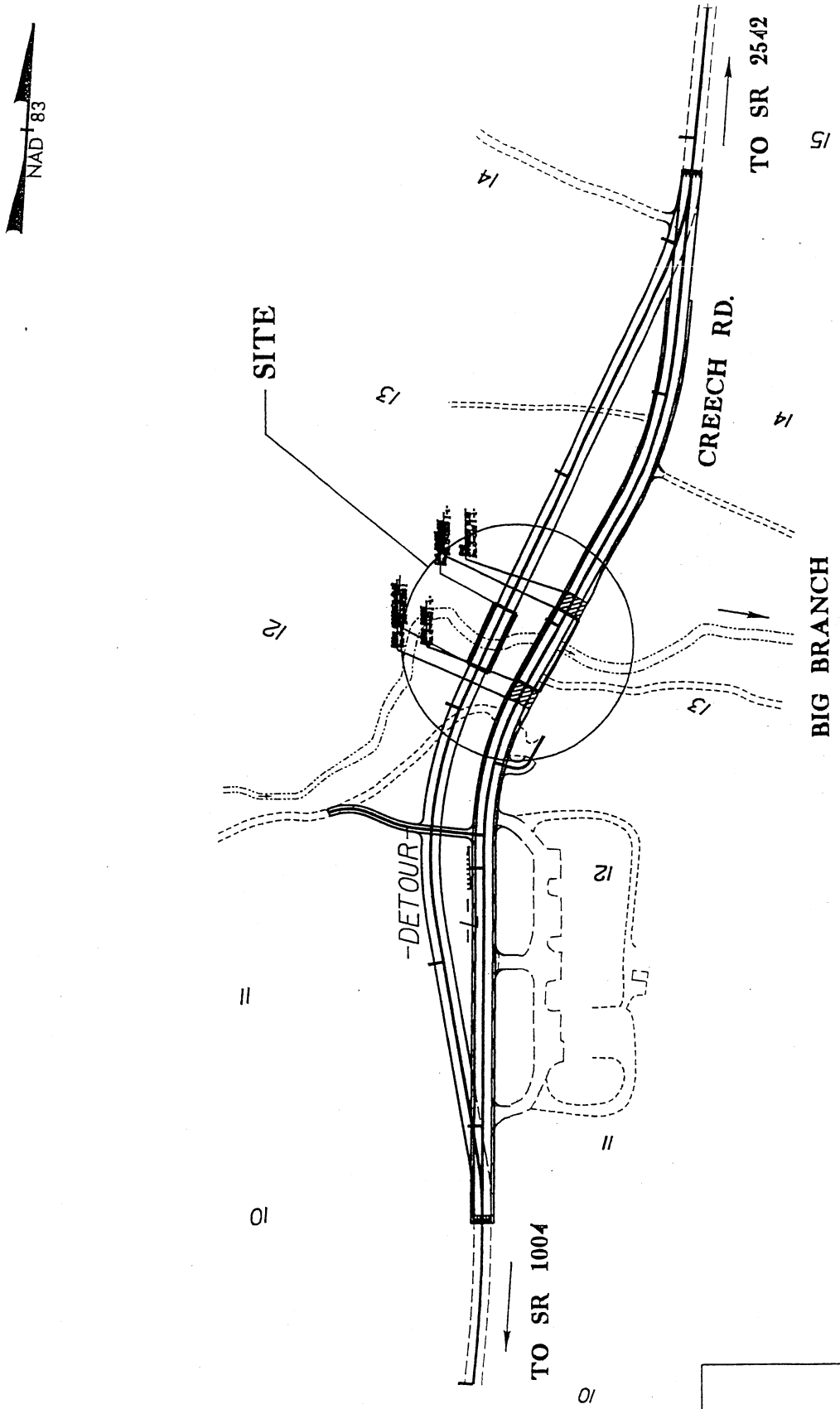


VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 8.2406301 (B-3376)
BRIDGE NO. 246 ON SR 2564
OVER BIG BRANCH CREEK

4/06/04

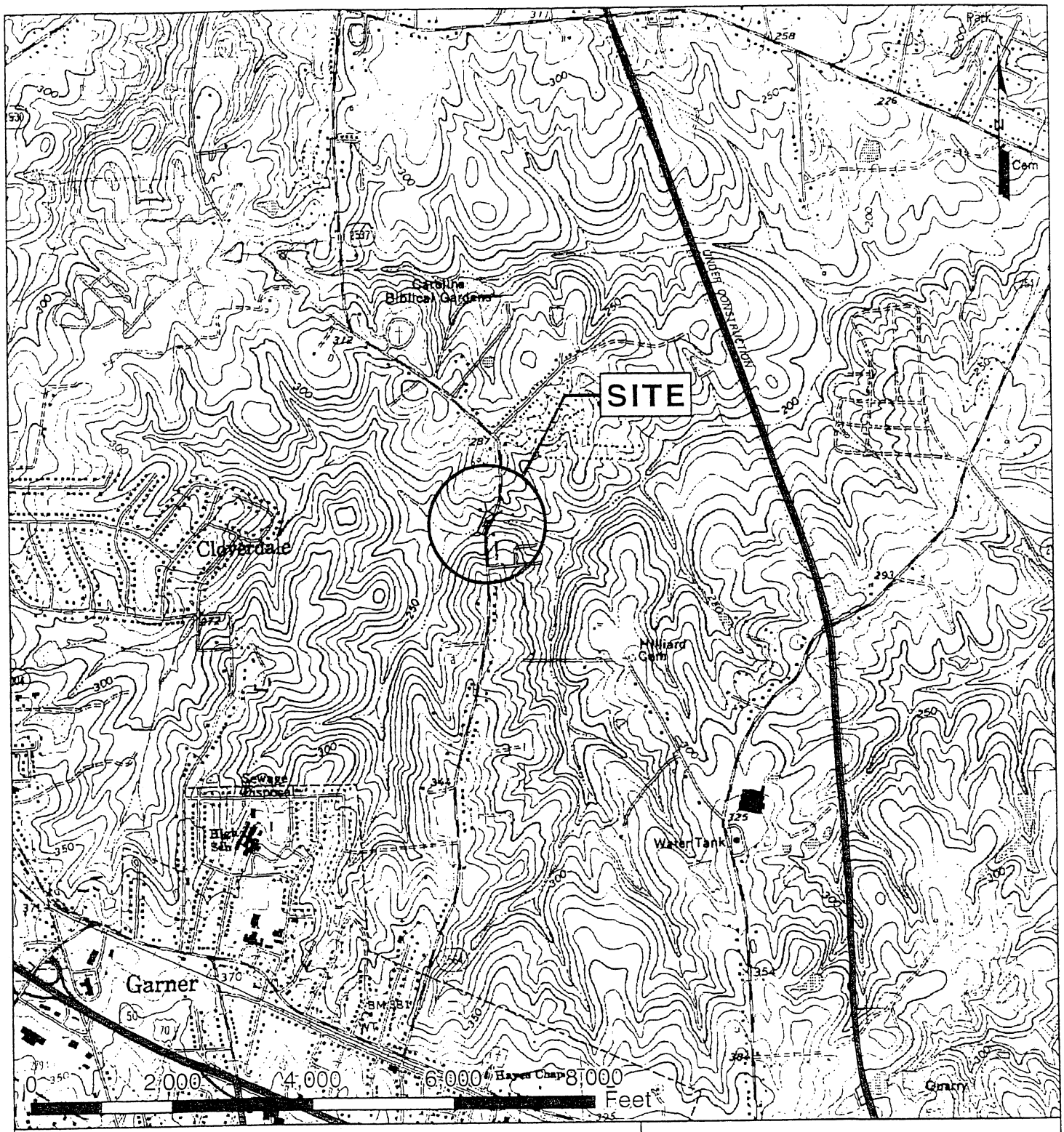


SITE MAP

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 8.2406301 (B-3376)
BRIDGE NO. 246 ON SR 2564
OVER BIG BRANCH CREEK

4/06/04



1 inch equals 2,000 feet

LOCATION

NCDOT

DIVISION OF HIGHWAYS
WAKE COUNTY
PROJECT: 8.2406301 (B-3376)
BRIDGE NO. 246 ON SR 2564
OVER BIG BRANCH CREEK

3 OF 8

4/06/04

Source: USGS 7.5 Minute Quadrangle, Garner, NC

PROPERTY NO.	PROPERTY OWNER NAME	PROP. OWNER MAILING ADDRESS
(12)	BETTY C. & BILLY T. WILDER	3425 ARTHUR PIERCE RD APEX, NC 27539
(42)	MARC C. YOUNG	4127 8th ST. NW WASHINGTON D.C. 20011
(7)	MARGARET B. COLEMAN	4408 WILMINGTON RD GARNER, NC 27529
(8)	JOAN E. BUOL	1408 CREECH RD. GARNER, NC 2752

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

PROJECT 8.2406301 (B-3376)

BRIDGE NO. 246 AND APPROACHES
ON SR 2564 OVER BIG BRANCH CREEK

08/18/04

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3376-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 218812.248 EASTING: 645690.466
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989708
THE NC LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3376-1" TO -L- STATION 12+00.000 IS N 4° 20' 37.11" E DISTANCE 582.673m
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

-DET-

PI Sta 10+11.615	PI Sta 11+62.483
Δ = 10° 37' 01.6" (LT)	Δ = 36° 08' 59.6" (RT)
L = 23.163	L = 94.640
T = 11.615	T = 48.955
R = 125.000	R = 150.000

Legend	
	ALLOWABLE IMPACTS ZONE 1
	ALLOWABLE IMPACTS ZONE 2
	MITIGABLE ZONE 1
	MITIGABLE ZONE 2

METRIC

PROJECT REFERENCE NO.	SHEET NO.
B-3376	4 OF 8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CONST. REV.

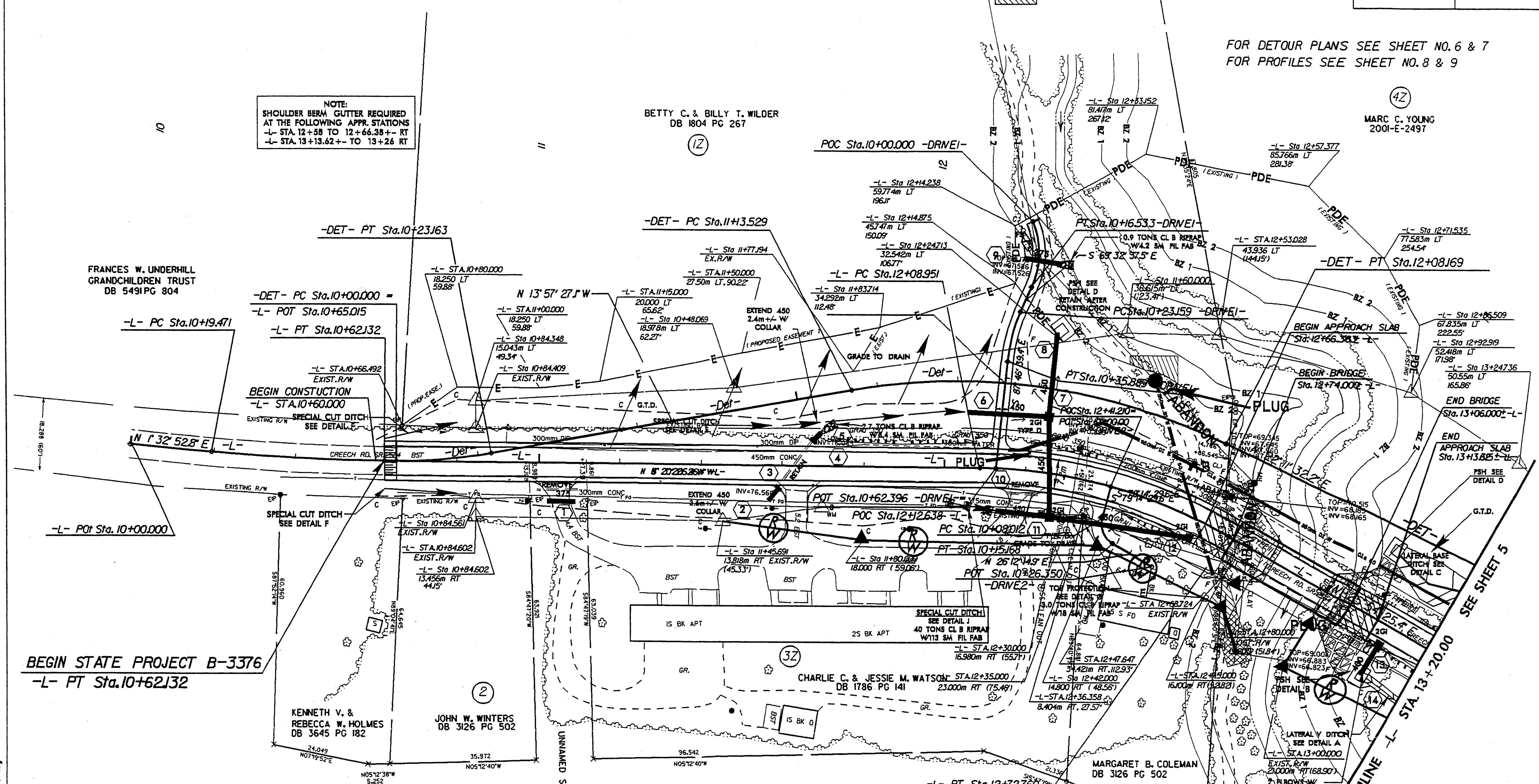
R/W REV.

INCOMPLETE PLANS — DO NOT USE FOR R/W ACQUISITION

PRELIMINARY PLANS — DO NOT USE FOR CONSTRUCTION

FOR DETOUR PLANS SEE SHEET NO. 6 & 7
FOR PROFILES SEE SHEET NO. 8 & 9

NOTE:
SHOULDER BERM GUTTER REQUIRED AT THE FOLLOWING APPR. STATIONS
-L- STA. 12+58 TO 12+66.38+- RT
-L- STA. 13+13.62+- TO 13+26 RT



-L-

PI Sta 10+40.814
Δ = 4° 53' 19.2" (LT)
L = 42.662
T = 21.344
R = 500.000

-DRIVE1-

PI Sta 10+08.772	PI Sta 10+29.578
Δ = 47° 21' 45.1" (RT)	Δ = 18° 14' 04.5" (LT)
L = 16.533	L = 12.730
T = 8.772	T = 6.419
R = 20.000	R = 40.000

-DRIVE2-

PI Sta 10+12.198
Δ = 74° 33' 04.2" (LT)
L = 7.156
T = 4.186
R = 5.500

-L-

PI Sta 12+41.567
Δ = 29° 14' 51.8" (RT)
L = 63.808
T = 32.616
** R = 125.000
V = 50 Km/h

** DESIGN SPEED EXCEPTION REQUIRED

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3376-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 218812.248 EASTING: 645890.486
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989708
THE NC LAMBERT GRID BEARING LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3376-1" TO -L- STATION 12+00.000 IS N 4° 20' 37.11" E DISTANCE 582.673m
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NGVD 29

PROJECT REFERENCE NO.	SHEET NO.
B-3376	4 OF 8
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

METRIC 5 0 10

CONST.REV.

R/W REV.

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

ALLOWABLE IMPACTS ZONE 1
ALLOWABLE IMPACTS ZONE 2
MITIGABLE ZONE 1
MITIGABLE ZONE 2

NAD 83

FOR DETOUR PLANS SEE SHEET NO. 6 & 7
FOR PROFILES SEE SHEET NO. 8 & 9

NOTE:
SHOULDER BERM GUTTER REQUIRED AT THE FOLLOWING APPR. STATIONS
-L- STA. 12+58 TO 12+66.38+- RT
-L- STA. 13+13.62+- TO 13+26 RT

-DET-
PI Sta 10+11.615
Δ = 10° 37' 01.6" (LT)
L = 23.163
T = 11.615
R = 125.000

PI Sta 11+62.483
Δ = 36° 08' 59.6" (RT)
L = 94.640
T = 48.955
R = 150.000

BETTY C. & BILLY T. WILDER
DB 1804 PG 267

FRANCES W. UNDERHILL
GRANDCHILDREN TRUST
DB 5491 PG 804

MARC C. YOUNG
2001-E-2497

KENNETH V. & REBECCA W. HOLMES
DB 3645 PG 182

JOHN W. WINTERS
DB 3126 PG 502

CHARLIE C. & JESSIE M. WATSON
DB 1786 PG 141

MARGARET B. COLEMAN
DB 3126 PG 502

JOAN E. BUOL
DB 1850 PG 163
DB 8076 PG 615

UNNAMED STREET

BEGIN STATE PROJECT B-3376
-L- PT Sta.10+62.132

-L- PC Sta.10+19.471
-L- POT Sta.10+00.000

-DET- PC Sta.10+00.000 =
-L- POT Sta.10+65.015
-L- PT Sta.10+62.132

-DET- PT Sta.10+23.163

-DET- PC Sta.11+13.529

PC Sta.10+16.533 -DRIVE1-
PT Sta.10+15.168 -DRIVE1-
PC Sta.10+23.159 -DRIVE1-

PQC Sta.10+00.000 -DRIVE1-
PQT Sta.10+62.396 -DRIVE1-
POC Sta.12+12.638 -L-
POT Sta.10+26.350 -DRIVE2-
PC Sta.10+08.012 -DRIVE2-

-L- PC Sta.12+08.951

-DET- PT Sta.12+08.169

BEGIN CONSTUCTION
-L- STA.10+60.000

BEGIN APPROACH SLAB
Sta.12+66.38 -L-

BEGIN BRIDGE
Sta.12+74.000 -L-

END BRIDGE
Sta.13+06.000 -L-

END APPROACH SLAB
Sta.13+43.85 -L-

MATCHLINE -L- STA. 13+20.00 SEE SHEET 5

-L- PT Sta.12+72.760

-L-
PI Sta 10+40.814
Δ = 4° 53' 19.2" (LT)
L = 42.662
T = 21.344
R = 500.000

-DRIVE1-
PI Sta 10+08.772
Δ = 47° 21' 45.1" (RT)
L = 16.533
T = 8.772
R = 20.000

PI Sta 10+29.578
Δ = 18° 14' 04.5" (LT)
L = 12.730
T = 6.419
R = 40.000

-DRIVE2-
PI Sta 10+12.198
Δ = 7° 33' 04.2" (LT)
L = 7.156
T = 4.186
R = 5.500

-L-
PI Sta 12+41.567
Δ = 29° 14' 51.8" (RT))
L = 63.809
T = 32.616
** R = 125.000
V = 50 Km/h

** DESIGN SPEED EXCEPTION REQUIRED

20-AUG-2004 10:06
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Scottfield_AM

METRIC

SCALE 5 0 10

PROJECT REFERENCE NO.	SHEET NO.
B-3376	7 OF 8
DESIGNED BY: JH	
DRAWN BY: JH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DESIGN SERVICES UNIT
PHONE: (919)250-4128
FAX: (919)250-4119

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23041 CASEY D. BOUSQUET 12-31-07

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

FOR PROFILE OF -L- SEE SHEET 6
FOR PROFILE OF DRIVE 1 SEE SHEET 6

FOR DETOUR PLANS SEE SHEET NO. 3 & 7
FOR PROFILES SEE SHEET NO. 8 & 9

ALL WATER AND SEWER LINES OWNED BY THE CITY OF RALEIGH

PROP. FILL OR REMOVE 76M OF 450 MM ABANDONED SEWER PIPES

PROP. MANHOLE "EQ1"
STA. 0+69.4 LINE 1
STA. 0+00 LINE 2
STA. 12+44.24, LINE -L- 28.21 LT

EXIST. MANHOLE "B2"
STA. 0+24.8, LINE 2
STA. 12+32.19, LINE -L- 7.51 LT

PROP. BREAK DOWN AND PLUG AND FILL 2 ABANDONED UTILITY MANHOLES

PROP. 24.8 M OF 200mm DI SEWER PIPE, CLASS 50

PROP. 69.4 M OF 450mm DI SEWER PIPE, CLASS 50

EXIST. MANHOLE "A1"
STA. 0+00, LINE 1
STA. 12+88.45, LINE -L- 23.54 RT

SKETCH SHOWING BRIDGE PAVEMENT RELATIONSHIP

BETTY C. & BILLY T. WILDER DB 1804 PG 267

BETTY C. & LEONODUS J. CLARK DB 1804 PG 267

THEODORE W. BROWN DB 13074 PG 2284

FRANCES W. UNDERHILL GRANDCHILDREN TRUST DB 5491 PG 304

KENNETH V. & REBECCA W. HOLMES DB 3645 PG 182

JOHN W. WINTERS DB 3126 PG 502

CHARLIE C. & JESSIE M. WATSON DB 1786 PG 141

MARGARET B. COLEMAN DB 3126 PG 502

DAN E. BUOL DB 8350 PG 1634 DB 8076 PG 615

UNNAMED STREET

NOTE: ALL DRIVEWAY RADII ARE 3.0m UNLESS OTHERWISE NOTED

BUFFER IMPACTS SUMMARY

SITE NO.	STRUCTURE SIZE / TYPE	STATION (FROM/TO)	IMPACT TYPE: ROAD CROSSING	IMPACT TYPE: PARALLEL IMPACT	ALLOWABLE: ZONE 1 (ac)	ALLOWABLE: ZONE 2 (ac)	ALLOWABLE: TOTAL (ac)	MITIGABLE: ZONE 1 (ac)	MITIGABLE: ZONE 2 (ac)	MITIGABLE: TOTAL (ac)	BUFFER REPLACEMENT: ZONE 1 (ac)	BUFFER REPLACEMENT: ZONE 2 (ac)
	Bridge	-L- Sta 12+66-12+85	X		0.016	0.036	0.052					
	Bridge	-L- Sta 12+99-13+10	X		0.016	0.034	0.051					
	Bridge	DET' Sta. 11+68-12+24	X		0.035	0.098	0.134	0.133				
	Bridge	DET- Sta. 12+39-12+5	X		0.016	0.038	0.055	0.054				
	Sewer Line	-L- Sta 12+77-12+93		X				0.015	0.013	0.028		
	Sewer MH	-L- Sta 12+38-12+48		X					0.012	0.012		
TOTAL:					0.084	0.207	0.291	0.015	0.025	0.040		

N.C. DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS

WAKE COUNTY
PROJECT: 8.2406301 (B-3376)

SHEET 8 OF 8 8-18-2004

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