



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

October 14, 2004
Amended November 4, 2004

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

ATTN.: Mr. Michael F. Bell
Regulatory Permits Manager

Dear Sir:

Subject: **Amended Application for modifications to Section 404 Individual Permit, Section 401 Major Water Quality Certification, and Neuse/Tar-Pamlico Buffer Certification for TIP No. R-2539, Section C.** NC 55 Widening From US 17 in Bridgeton to NC 304 in Bayboro, Craven and Pamlico Counties, NCDOT Division No. 2. Federal Aid Project STP-55(1). State Project No. 8.1170901. Debit \$475 for Major WQC modification from WBS Element No. 34452.1.1.

Reference: Individual Permit issued May 9, 2003. USACE Action ID 199303531
NC WQC No. 3415, issued March 17, 2003. DWQ Project No. 021232
CAMA Major Development Permit No. 55-03, issued April 22, 2003

*This letter serves to replace the previously submitted permit modification application. Resolutions to issues raised as a result of the previous submittal, as well as updates and corrections are presented in **italics**. A corrected permit drawing (sheet 13 of 24) and summary sheet (sheet 24 of 24) is also attached. Corrections to the location of a wetland line reduced total non-riverine wetland impacts by 0.08 for Section C. All numeric changes in this letter have been **italicized**.*

The North Carolina Department of Transportation (NCDOT), Division of Highways, is requesting a permit modification to the Department of the Army Individual Permit, as well as to the NCDWQ 401 Water Quality Certification for approval of impacts associated with Section C of the project. The Section 404 and 401 permits approved the jurisdictional impacts associated with Section A of the project and gave tentative approval for Sections B and C pending submittal of the final design drawings and jurisdictional impact assessments for those sections. Modifications were received for Section B based on final design. Section C begins just east of SR 1129 (Bennett Tingle Road) and extends 5.1 miles along NC 55 to NC 304. The final permit drawings and relevant information for R-2539C are attached. Note that the revised permit drawings are stationed in metric, while the

permit drawings submitted with the original permit application were stationed in English. However, for your convenience we have included a summary sheet in English units.

The completed design for R-2539C does not compromise NCDOT's compliance with the existing permit conditions. The completed design has been evaluated for compliance with the avoidance/minimization criteria and is in compliance with all previous Individual Permit factors, including the following:

- Protected Species,
- Cultural Resources,
- Aquatic Life passage,
- FEMA compliance, and
- Utilities.

Much of the general information in the original Individual Permit application remains the same and is not repeated in this modification request. Information on the purpose and need, project schedule, NEPA document status, and mitigation options is contained in the original permit application.

Summary of Project Impacts

Sections A,B, and C

Impacts to jurisdictional areas of the entire R-2539 were estimated in the August 9, 2002 application to be:

- 15.69 acres of permanent wetland, (1.39 riverine and 14.30 non-riverine),
- 0.15 acres of fill in surface waters, and
- 619 linear feet of stream channels.

With the revised impacts associated with the final designs of Sections A, B, and C (Table 1), the total project impacts are now estimated to be:

- *20.64 acres* of wetland impacts (1.39 riverine and *19.25 non-riverine*),
- 0.29 acres of fill in surface waters, and
- 765 linear feet of stream channels.

Section C

The differences in wetland impacts are from wetland drainage impacts in the final design of Sections B and C and minor changes in the impact area calculations (rounding). The additional stream channel impacts are due to a slight southern shift of the road widening in the final design, as well as a more complete accounting of impacts due to culvert slopes.

Permanent impacts associated with the final design of Section C consist of:

- *9.88 acres* of non-riverine wetland impacts (*includes drainage impacts*)
- 355 linear feet of stream channel impacts
- 4.95 acres of drainage impacts of non-riverine wetlands.
- 47,582 square feet (sqft) of Tar-Pamlico Buffer impacts, 29,675 sqft in Zone 1 and 17,907 sqft in Zone 2.

Table 1. Final Jurisdictional Stream and Wetland Impacts for R-2539 by Section

Section	Permanent Wetland (ac)		Drainage Impacts (ac)		Channel Impacts (ft)	Surface Water impacts (ac)
	Riverine	Non-riverine	Riverine	Non-riverine		
A	0.42	4.51	0.12	2.02	114.8	0.05
B	0.85	2.78	0.00	0.06	295.2	0.15
C	0.00	4.93	0.00	4.95	354.6	0.09
Totals	1.27	12.22	0.12	7.03		
TOTAL	1.39 riverine + 19.25 nonriverine = 20.64				764.6	0.29

Design Changes

Final design revisions resulted in several sites differing from those submitted with the original permit application. *The original 2002 permit application presented jurisdictional impacts for Section C based on functional hydraulic design. Wetland impacts (fill, excavation, and mechanized clearing) presented at the Concurrence Point 4B meeting totaled 6.30 acres. These impacts did not include drainage impacts, which were calculated later. Therefore, the final impacts of 4.93 acres, not including drainage impacts, are actually less than those presented in the Conc. Pt. 4B meeting. All design revisions presented in this application were presented at the Concurrence Point 4B meeting in October 2003.*

Site specific changes are as follows:

Site 1, Permit sheet 5 of 24, Stations 153+20 to 154+20

The two small wetlands at Site 1 were originally included in Section C. After the original permit were issued, Section B project limits were extended slightly eastward and they became part of Section B. However, wetland impacts were not accounted for in the permit modification application for Section B. Therefore, we have included them as Site 1 with this permit application. Both wetlands are counted as a total take because of their small size.

Impact change Site 1: increase of 0.15 acres of non-riverine wetland impacts.

Site 2, Permit Sheets 6 to 12 of 24, Station 155+40 to 166+08

At this site fill slopes have changed very little from the original permit application. However, the road subgrade drainage challenge is the same for Section C as it was for Section A. Because of the low grade and minimal drainage potential of the natural ground elevation at this site, it will be necessary to install a special cut ditch on each side of the new road to drain the subgrade. Elevating the road so that ditches are not needed would have increased the road footprint and required significantly more wetland fill. The NCDOT has calculated the drainage effect using the Boussinesq equation. There will be 4.95 acres of impacts resulting from the drainage. The Ditch Impact Study, dated October 2004, is attached.

Impact change Site 2: Mechanized clearing and excavation impacts have decreased (0.10 acres and 0.65 acres, respectively). However, including the drainage impacts, there is a net increase of 4.2 acres of non-riverine wetland impacts

Site 3, Permit Sheets 13 to 18 of 24

(Note revised sheet 13 of 24 showing corrected wetland line southwest of the culvert and revised sheet 24 of 24 showing correct impacts reducing wetland impacts by 0.08 acres.)

The fill slopes are extended slightly to the south, from the original submittal, which results in a slight increase in wetland fill. This is due to increasing the super elevation of the road, which was necessary to reduce the pooling water hazard on the road top during storm events.

Increasing the super elevation has also added to the length of the southside culvert extensions for the UT-1 and UT-2 of the South Prong Bay River. The outlet ends of the culvert extensions for UT-1 and UT-2 will be sloped down to near the top of the stream bank to reduce the effect of perched culverts and enhance the movement of aquatic life (see Permit sheets 14 and 16 of 24). Finalizing design has resulted in slightly more mechanized clearing impacts along the length of the widening covered by this site.

Impact change Site 3: increase of 0.52 acres of non-riverine wetland impacts and 114 linear feet stream channel.

Site 4, Permit Sheet 29 of 24, Station 204+40

In the original application the wetland impacts at this site were included with Site 3. However, this particular wetland is now Site 4.

Impact change at Site 4: increase of 0.03 non-riverine wetland impacts.

Site 5, Permit Sheet 20 of 24, Station 206+00

The stream at this site was included in Site 4 of the original permit application. It has since been separated out to be Site 5. A preformed scour hole has been added to the outlet of the pipe carrying roadside runoff to the north side of the proposed roadway. Final design resulted in lengthening the culverts slightly on both sides of the road. The outlet end of the culvert extensions for UT-3 will be sloped down to near the top of the stream bank to reduce the effect of perched culverts and enhance the movement of aquatic life (see permit sheet 21 of 24).

Impact change Site 5: increase of 31 linear feet of stream channel.

Table 2. Final Jurisdictional Wetland Impacts on R-2539C by site

Site	Station From/To	Fill in Wetland (ac)	Excavation in Wetlands (ac)	Mechanized Clearing (ac) (Method III) ¹	Drainage impacts (ac)
1	153+20 to 154+20	0.0	0.01 (+0.01)	0.17 (+0.14)	0.0
2	155+40 to 166+08	0.0	1.30 (-0.10)	0.12 (-0.65)	4.95 (+4.95)
3	195+45 to 202+60	2.45 (+0.93)	0.02 (-0.54)	0.83 (+0.13)	0.0
4	202+20	0.02 (+0.02)	0.0	0.01 (+0.01)	0.0
Total R-2539C		2.47 (+0.95) ²	1.33 (-0.63)	1.13 (-0.37)	4.95 (+4.95)
GRAND TOTAL		9.88 (+4.90)			

¹ Clearing and grubbing of vegetation to 10 feet beyond the construction limits.

² Impact increase or decrease from original IP application is denoted in parentheses.

Table 3. Final Jurisdictional Stream Impacts on R-2539C by site

Site	Station Number	Structure	Stream Name	DWQ Index No.	DWQ Rating	Status	Impact (ft)
3	196+60	3 RCBC 2.1 x 2.4m	UT1 to South Prong Bay River	27-150-3	SC Sw NSW	P	135.5 (+57.2)
3	199+77	2.7 x 1.8 RCBC	UT2 to South Prong Bay River	27-150-3	SC Sw NSW	P	123 (+57.2)
5	206+00	2.4 x 1.2 RCBC	UT3 to South Prong Bay River	27-150-3	SC Sw NSW	P	96.1 (+31.1)
TOTAL R-2539C							354.6 (+145.5)

¹ Impact increase or decrease from original IP application is denoted in parentheses.

Utility Impacts

Summary of Utility Impacts for Section C (see attached permit drawings for location of utility line): It will be necessary to relocate several utilities because of road widening activities. *However, no additional Section 404 jurisdictional impacts are anticipated.* Any required clearing will be conducted by hand. Cleared vegetation will remain onsite. Directional boring will be utilized where necessary.

Site 2, Permit Sheets 6, 7, 9, 11, 12

Progress Energy will relocate their pole line Right of the L-Line from Station 155+43 to Station 166+31 in the wetland boundary and within the NCDOT right of way. The relocation will also require an additional 12 to 13 feet hand clearing outside the right of way.

Sprint Telephone will relocate their underground cables inside of the footprint of the project from Station 155+43 to Station 166+31. Lines underneath jurisdictional areas will be relocated utilizing boring, rather than trenching. No clearing will be done in the wetland area.

Site 3, Permit Sheets 17

Sprint Telephone will relocate their underground cables inside the footprint of the road project. No additional clearing will be needed.

Tideland EMC will replace the power pole at Station 201+08, Right, for a taller pole. Their power line crosses over a part of the wetlands on Parcel 71 owned by Arther M. Kelly. No tree clearing will be needed on Parcel 71.

The existing water main and sewer lines will be relocated within the proposed impacts for the road widening. The new lines will directionally bored under the three stream channels.

Indirect and Cumulative Effects: The Indirect and Cumulative Effects Study for R-2539C has been completed and is included in this permit modification package. Information from the study indicates that the widening of NC 55 will allow for faster commutes between the small communities of Pamlico County and New Bern. In combination with the planned future widening of NC 55 and NC 306 to the waterfront communities will likely further stimulate growth in Oriental and Minnesott Beach as well as other waterfront areas. Pamlico County has designated

the NC 55 as an Enterprise Corridor, which with the widening will continue to focus commercial development along the highway.

The ICE Study also indicates that much of the anticipated future growth will be from non-permanent seasonal residents and that poor soils and large areas of wetlands will be restrictive to growth. Existing policies and regulations on jurisdictional waters and coastal areas will manage potential indirect impacts to the area's water quality. The construction of R-2539C is not expected to result in any indirect or cumulative effects that will adversely affect water quality.

Federally Protected Species: As of January 29, 2003, the U.S. Fish and Wildlife Service (USFWS) lists seven federally protected species for Pamlico County. On August 18, 2003 the USFWS concurred with NCDOT's findings of No Effect for five species and May Affect, Not Likely to Adversely Affect for the rough-leaved loosestrife. The seventh species, American alligator, is Threatened due to Similarity of Appearance and does not require a Biological Conclusion. The USFWS concurrence letter is attached.

Cultural Resources: The reduction of the sidewalk and berm widths, and the elimination of the drainage box from the Bayboro House (historic Dr. S.E. McCotter House) property has resulted in a Section 106 conclusion of "No Adverse Effect" on the property since no right of way or construction easement will be required.

Avoidance, Minimization and Compensatory Mitigation

Throughout the NEPA and design process this project has been designed to avoid and minimize impacts to jurisdictional areas to the greatest extent practicable. Specific strategies, detailed in the original application, remain valid for this application. Highlights include widening NC 55 along the existing roadway, using 3:1 slopes within wetland limits, use of preformed scour holes to dissipate runoff, and hand clearing in sensitive areas.

Based upon the agreements stipulated in the "Memorandum of Agreement Among the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U.S. Army Corps of Engineers, Wilmington District (MOA)", it is understood that the North Carolina Department of Environment and Natural Resources Ecological Enhancement Program (EEP), will assume responsibility for satisfying the Section 404 compensatory mitigation requirements for NCDOT projects that are listed in Exhibit 1 of the subject MOA during the Ecological Enhancement Program (EEP) transition period which ends on July 1, 2005. Since the subject project is listed in *Exhibit 1* the necessary compensatory mitigation to offset unavoidable impacts to waters that are jurisdictional under the federal Clean Water Act will be provided by the EEP (see attached confirmation letter from EEP).

The final mitigation strategy for Sections A, B, C of R-2539 is as follows:

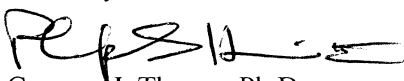
- 1.39 acres of riverine wetland impacts will be mitigated via onsite 4.23 acres of riverine wetland restoration detailed in the original permit application.
- 19.25 acres of non-riverine wetland impacts will be mitigated via the Croatan Mitigation site. Use of the Croatan Mitigation site was approved for all non-riverine wetland impacts with the initial permits. The original proposal was for 14.3 acres of impacts. Since the Croatan Mitigation site has become an EEP asset, a supplemental mitigation request was forwarded to EEP for the additional 4.95 acres of impacts. The response letter dated October 13, 2004, confirming EEP's commitment to provide mitigation is attached.

- 765 feet of stream impacts will be mitigated via:
 - Onsite stream mitigation in Section B (Permit Site 13) will provide 135 feet of mitigation (134.5 feet @ 1:1 ratio).
 - Offsite mitigation from the Brock Stream Mitigation site in Jones County, also previously approved, will provide mitigation for the balance of 630 feet of impacts. The original proposal was for 484.5 feet of impacts. Since the Brock Stream Mitigation site has become an EEP asset, a supplemental mitigation request for the additional 145.6 feet of impacts was forwarded to EEP. The response letter dated October 13, 2004, confirming EEP's commitment to provide mitigation is attached.

Regulatory Approval

Application is hereby made for modification of the Department of the Army Individual 404 Permit as required for the above-described activities. We are also hereby requesting a modification of the 401 Water Quality Certification from the NCDWQ. R-2539C has been designed to comply with the Riparian Buffer Mitigation Program (15A NCAC 2B .0242) and the Neuse and Tar-Pamlico River Basin Riparian Buffer Rules (15A NCAC 2B .0233 and .0259). Therefore, as part of the Modification request, we respectfully request that the DWQ issue an Authorization Certificate pursuant to 15A NCAC 2B .0233 for the proposed use. In compliance with Section 143-215.3D(e) of the NCAA we have provided a method of debiting \$475, as noted in the subject line of this application, as payment for processing the Section 401 permit modification application. We are providing seven copies of this application to the North Carolina Department of Environment and Natural Resources, NCDWQ, for their review. If there are any further questions, please contact Elizabeth Lusk at 919-715-1444.

Sincerely,


 Gregory J. Thorpe, Ph.D.
 Environmental Management Director, PDEA

Attachments:

Tar Pamlico Buffer Addendum
 Permit Drawings and Half-size plans
 Buffer Impact Drawings
 Indirect and Cumulative Effect Study
 Ditch Impact Study, October 2004
 EEP Mitigation Confirmation letter

Mr. Greg Perfetti, P.E., Structure Design
 Mr. Steve Sollod, NCDWM
 Mr. Bill Arrington, NCDWM
 Mr. C. E. Lassiter, P.E., 2 Engineer
 Mr. Jay Johnson, Division 2 DEO

Cc:

w/attachment
 Mr. John Hennessy, NCDWQ (7 copies)
 Mr. Travis Wilson, NCWRC
 Ms. Becky Fox, USEPA – Whittier, NC
 Mr. Ronald Mikulak, USEPA – Atlanta, GA
 Mr. Gary Jordan, USFWS
 Mr. Ron Sechler, NMFS
 Mr. Michael Street, NCDMF
 Dr. David Chang, P.E., Hydraulics

w/o attachment
 Mr. Jay Bennett, P.E., Roadway Design
 Mr. Omar Sultan, Programming and TIP
 Mr. Art McMillan, P.E., Highway Design
 Mr. Mark Staley, Roadside Environmental
 Mr. David Franklin, USACE, Wilmington
 Ms. Colista Freeman, PDEA Engineer
 Ms. Beth Harmon, EEP
 Mr. Omar Sultan, Programming TIP
 Ms. Laurie P. Smith, CPA, Funds
 Administration Section

TAR PAMLICO BUFFER ADDENDUM

The purpose of this addendum is to provide the NCDWQ with the information needed to evaluate the impacts of the project on the Tar Pamlico Buffer areas. The avoidance and minimization efforts described in the original permit application still apply. R-2539C has been designed to comply with the Riparian Buffer Mitigation Program (15A NCAC 2B .0242) and the Tar Pamlico River Basin Riparian Buffer Rules (15A NCAC 2B .0259). Therefore, as part of the Modification request, we respectfully request that the DWQ issue an Authorization Certificate pursuant to 15A NCAC 2B .0233 for the proposed use.

Tar-Pamlico Riparian Buffer Impacts: Due to the nature of this project, impacts to the riparian buffers of three UT's to the South Prong of Bay River are unavoidable. Section R-2539C has a total impact of 47,582 square feet to Tar-Pamlico Riparian Buffers. Table A-1 below specifies impacts per buffer zone and per site. The area of impact was calculated to reflect the maximum potential impact by including riparian buffers of anticipated construction access rather than stopping at the toe of the fill slopes.

Site 3: The riparian buffer impacts at Site 3 occur at 2 separate Road Crossings. However, since impacts at each crossing are greater than 0.33 acres, Site 3 impacts qualify as "Allowable with Mitigation" under the Tar-Pamlico River Basin Buffer Rules.

Site 3A: Activities at Site 3A will qualify as an "Allowable" use not requiring mitigation because the impacts are associated with a bridge.

Site 5: Activities at Site 5 qualify as an "Allowable" use not requiring mitigation because impacts are less than 0.33 acres and 150 linear feet associated with this Road Crossing.

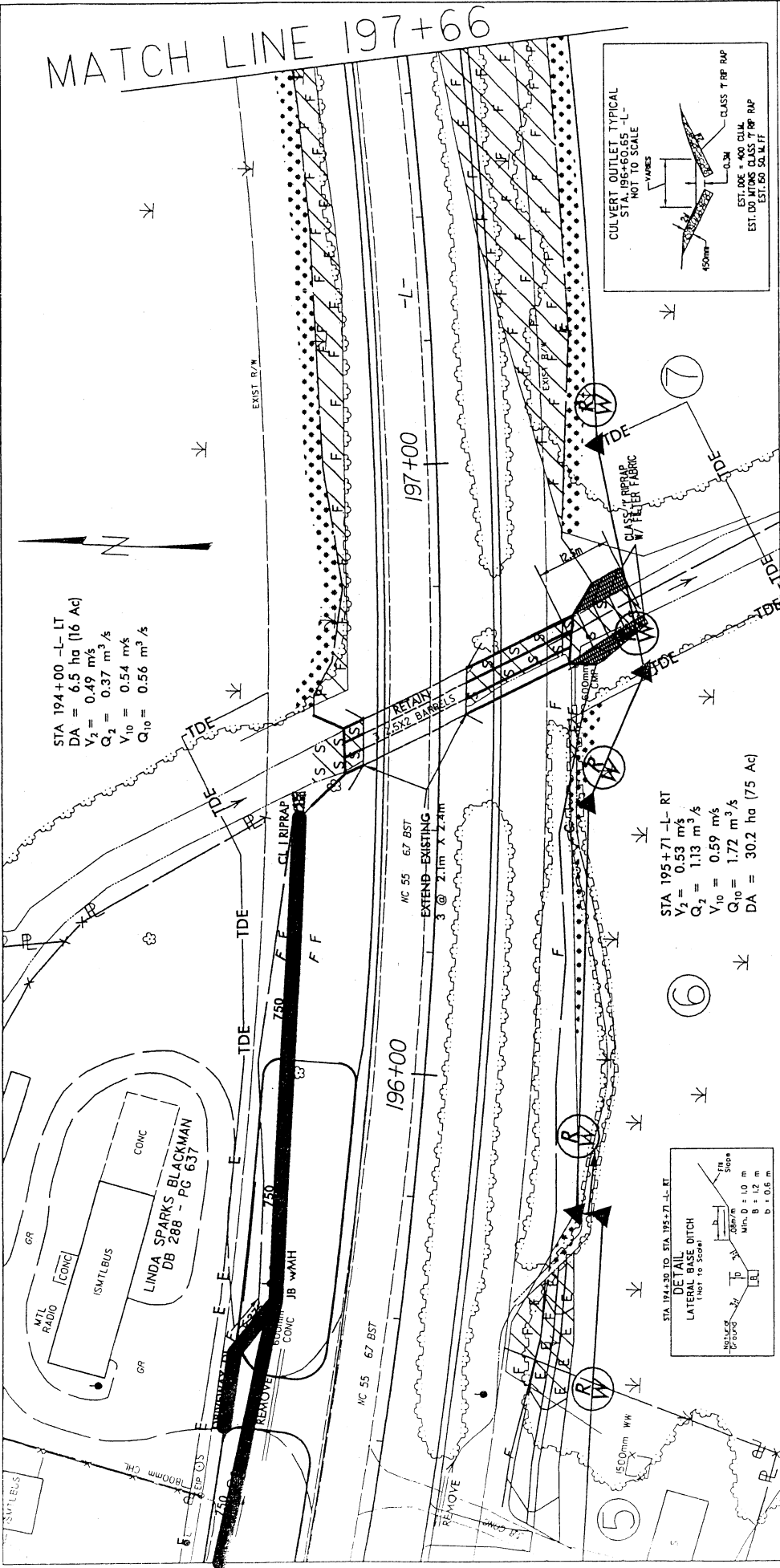
Table A-1. R-2539C Tar-Pamlico River Basin Buffer Impact Calculations

Permit Site Number	Impact Type	Zone 1 (sqft)	Zone 2 (sqft)	Totals	Onsite Buffer Mitigation (Zone 1)
3	Road Crossing Allowable with mitigation	21,233	12,868	34,101	903
3A	Bridge Allowable	750	1,064	1,814	0
5	Road Crossing Allowable	8,442	5,039	13,481	283
Totals	Allowable with mitigation	21,233	12,868	34,101	1,186
	Allowable	9,192	6,103	15,295	

Compensatory Buffer Mitigation:

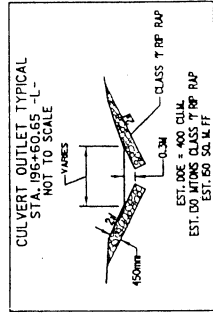
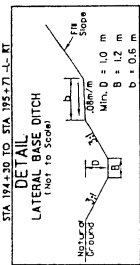
Onsite mitigation will be provided at Sites 3 and 5 for 1,186 sqft of Zone 1 impacts. The balance of 20,047 sq.ft. of Zone 1 impacts and 12,868 sq.ft. of Zone 2 impacts will be covered by the NC Ecological Enhancement Program (EEP). See the attached mitigation confirmation letter from the EEP.

MATCH LINE 197+66



STA 194+00 -L- LT
 DA = 6.5 ha (16 Ac)
 $V_2 = 0.49 \text{ m}^3/\text{s}$
 $Q_2 = 0.37 \text{ m}^3/\text{s}$
 $V_{10} = 0.54 \text{ m}^3/\text{s}$
 $Q_{10} = 0.56 \text{ m}^3/\text{s}$

STA 195+71 -L- RT
 $V_2 = 0.53 \text{ m}^3/\text{s}$
 $Q_2 = 1.13 \text{ m}^3/\text{s}$
 $V_{10} = 0.59 \text{ m}^3/\text{s}$
 $Q_{10} = 1.72 \text{ m}^3/\text{s}$
 DA = 30.2 ha (75 Ac)



NCDOT
 DIVISION OF HIGHWAYS
 PAMLICO COUNTY
 PROJECT: 8.1170901 (R-2539C)
 NC 55 FROM EAST OF SR 1129
 TO NC 304 IN BAYBORO
 Rev. 11/1/04
 SHEET 13 OF 24 ~~24~~

PLAN VIEW
 STREAM & WETLAND
 IMPACTS
 SITE 3
 SCALE = 1:1000

WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS			SURFACE WATER IMPACTS				Natural Stream Design (ft)		
			Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation In Wetlands (ac)	Mechanized Clearing (Method III) (ac)	Fill In SW (Natural) (ac)	Fill In SW (Pond) (ac)	Temp. Fill In SW (ac)		Existing Channel Impacted (ft)	
1	153+20 to 154+20 -L-			0.01	0.01	0.17						
2	155+40 to 166+08 -L-		2.45	6.25*	0.12	0.83						
3	195+45 to 202+60 -L-			0.02								
3		3 @ 2.1 X 2.4 RCBC					0.05				135.5	
3		2 @ 2.7 X 1.8 RCBC					0.02				123	
4	202+20 -L-		0.02			0.01						
5	206+00 -L-	1 @ 2.4 x 1.2 RCBC					0.02				96.1	
TOTALS:			2.47	0	6.28	1.13	0.09	0	0	354.6	0	

NCDOT

DIVISION OF HIGHWAYS
PAMLICO COUNTY
PROJECT 8.1170901 (R-2539C)
NC 55 FROM EAST OF SR 1129
TO NC 304 IN BAYBORO

SHEET 24 OF 24 Rev 11/2/04 8/30/2004

* - There are 4.95 acres of Boussinesq impacts at Site No. 2.