



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

August 13, 2008

Mr. Brian Wrenn
NCDWQ Transportation Permitting Unit
1650 Mail Service Center
Raleigh, NC 27699-1650

Dear Sir:

SUBJECT: NCDOT Response to the § 401 Water Quality Certification Application- Request for more information. The widening of Brawley School Road and New Interchange with I-77 from SR 1109 to east of I-77 in Iredell County. TIP No. R-3833B.

REFERENCE: June 11, 2008 401 Certification Application
July 30, 2008 401 On- hold letter
Attached:
EEP Letter for Additional Mitigation Requested
Catawba Buffer Treatment Tables
Revised Permit Drawings Sheets 5 and 6 of 23
Revised Buffer Drawings Sheets 6-9 of 11
Revised Roadway Drawings Sheet 8
Revised Pre-Construction Notification

The NCDOT is in receipt of a letter from your office dated July 30, 2008 placing the project on hold. The DWQ's concerns and NCDOT's responses are addressed below:

NCDWQ Concern:

"The Pre-Construction Notification (PCN) includes a letter from the Ecosystem Enhancement Program (EEP) indicating that they will provide 26,024 square feet of buffer mitigation for the project. Based on the impacts in the PCN, 47,556.5 square feet of buffer mitigation is required. Please provide a revised letter from EEP indicating that the appropriate amount of buffer mitigation will be provided."

NCDOT's interprets the intention of NCDWQ's comment to state "...EEP will provide mitigation for 26,024 square feet of buffer **impacts.**"

NCDOT Response:

NCDOT provides in its application a copy of the mitigation acceptance verifying that mitigation has been accepted. The EEP then sends a separate EEP Mitigation Acceptance Letter to the appropriate agencies which calculates the proper mitigation based on the impacts requested. NCDOT has attached this letter as part of this request for more information indicating that NCDOT was provided 64,477.5 square feet of Catawba Buffer mitigation for the project.

NCDWQ Concern:

“Please provide buffer treatment tables for all stormwater measures proposed as part of the Catawba Buffer Regulations. This should include information for stormwater measures proposed at Site 4 (the additional stormwater treatment area required as per the February 1, 2008, meeting).”

NCDOT Response:

The buffer treatment tables have been attached to this letter. These tables also include the additional stormwater treatment areas (over 1,000’) per the February 1, 2008 meeting.

NCDWQ Concern:

“Please provide a detail or additional information on how the unnamed tributary (UT) at Site 2 will be tied into the proposed ditch and the type of ditch proposed.”

NCDOT Response:

A replacement Permit Drawing Sheet 5 of 23 is attached to this letter. The new sheets display proper alignment with the channel. No changes in impacts result from this drawing adjustment. The relocated channel will be a grassed 6' base ditch. The proposed channel improves the existing cross section as the existing slide slopes will be flattened (the existing banks are nearly vertical).

NCDWQ Concern:

“Based on discussions, it is our understanding the impacts to Permit Site 7 will be avoided. If impacts will be avoided, please provide revised plans and the appropriate PCN sheets. If impacts cannot be avoided, please revise the impact summary table.”

NCDOT Response:

Due to the shortening of the project, Permit Site 7 will no longer be impacted for this project. NCDOT has included in this response a revised PCN and plan sheets to show the project’s termination before the previous “Site 7”. This reduction will reduce project impacts by 90 linear feet.

NCDWQ Concern:

“The PCN does not propose mitigation for riprap impacts at Sites 1, 2, 3 and 4. If riprap is proposed for bank stabilization below the high water mark and is required as a result of the

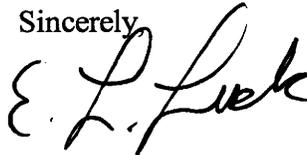
installation, extension, or replacement of a culvert, riprap impacts shall be counted toward the total amount of impact which may result in stream mitigation (if the impacts exceed the 150 linear feet threshold).”

NCDOT Response:

Your concern stated that “the PCN does not propose mitigation for riprap impacts at Sites 1, 2, 3, and 4.” Our original application inadvertently stated that we would not be providing mitigation at Site 3, when it should have said Site 5 (See Original Application, page 4/5, dated June 11, 2008). However NCDOT did propose mitigation for rip rap impacts for Sites 3 and 4 due to the nature of the impacts, but not at Sites 1, 2 and 5. Per NCDWQ’s request, NCDOT has obtained an additional 102 feet of stream mitigation for Sites 1, 2 and 5 with the exception of the 70 linear feet at Site 1 for the creation of a bench. This results in a total of 729 linear feet of warm water stream mitigation for this project. (This number accounts for the 90 linear feet previously acquired by EEP that will no longer be impacted due to the removal of Site 7.) See attached permit impact summary table.

By way of this letter, NCDOT requests the “on hold” status of this project be lifted. NCDOT also requests a modification to the existing 404 permit reflecting the reduction in project length. If you have any questions or would like additional information, please contact Mr. Michael Turchy at (919) 715-1468.

Sincerely,



for

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

W/attachment

Mr. Steve Lund, USACE
Ms. Marella Buncick, USFWS
Ms. Marla Chambers, NCWRC

W/o attachment (see website for attachments)

Dr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Victor Barbour, P.E., Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. M.L. Holder, P.E, Division 12
Ms. Trish Simon, Division 12 DEO
Mr. Jay Bennett, P.E., Roadway Design
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. Scott McLendon, USACE, Wilmington
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Ms. Kristina Solberg, Project Planning Engineer



August 12, 2008

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

Dear Dr. Thorpe:

Subject: EEP Mitigation Acceptance Letter:

R-3833B, SR 1101 (Brawley School Road) Widening from
SR 1109 (Centre Church Road) to I-77 and New Interchange with
I-77, Iredell County

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation and buffer mitigation for the subject project. **This mitigation acceptance letter replaces the mitigation acceptance letter issued on May 27, 2008.** Based on the information supplied by you on August 11, 2008, the impacts are located in CU 03050101 of the Catawba River Basin in the Central Piedmont (CP) Eco-Region, and are as follows:

Warm Stream:	729 feet
Buffer – Zone 1:	16,921 square feet
Buffer – Zone 2:	9,143 square feet

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds from Tri-Party MOA Fund into the Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for TIP R-3833B. Subsequently,

Restoring the Landscapes of North Carolina



from Fund 2984 (Tri-Party MOA Account) into Fund 2982 and commit to provide the appropriate buffer mitigation to offset the impacts associated with this project.

Stream mitigation associated with this project will be provided in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient stream mitigation up to 1,458 stream credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,



William D. Gilmore, P.E.
EEP Director

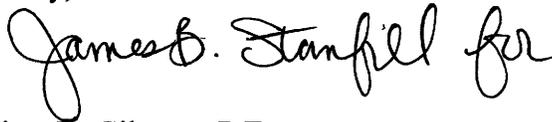
cc: Mr. Gregory J. Thorpe, Ph.D., NCDOT-PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-3833B Revised

EEP will conduct a review of current MOA mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from Tri-Party MOA Fund.

EEP commits to implementing sufficient stream mitigation credits to offset the impacts associated with this project by the end of the MOA Year in which this project is permitted, in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the North Carolina Department of Environment and Natural Resources, the North Carolina Department of Transportation, and the U. S. Army Corps of Engineers, fully executed on March 8, 2007. If the above referenced stream or buffer impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

A handwritten signature in cursive script that reads "James B. Stanfill for". The signature is written in black ink and is positioned above the typed name of the signatory.

William D. Gilmore, P.E.
EEP Director

cc: Mr. Steve Lund, USACE – Asheville Regulatory Field Office
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: R-3833B Revised



August 12, 2008

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

Dear Mr. Lund:

Subject: EEP Mitigation Acceptance Letter:

R-3833B, SR 1101 (Brawley School Road) Widening from SR 1109 (Centre Church Road) to I-77 and New Interchange with I-77, Iredell County; Catawba River Basin (Cataloging Unit 03050101); Central Piedmont (CP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation and the buffer mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated August 11, 2008, stream mitigation from EEP is required for approximately 729 feet of warm stream impacts. **This mitigation acceptance letter replaces the mitigation acceptance letter issued May 27, 2008.**

Also, this project will impact buffers located in CU 03050101 of the Catawba River Basin. The total buffer impacts are 16,921 square feet in Zone 1 and 9,143 square feet in Zone 2 with a total buffer mitigation requirement of 64,477.5 square feet. If the buffer impacts or the amount of mitigation required from EEP increases or decreases for this project, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required. All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund (Fund 2982).

The NCDOT will be responsible to ensure that the appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWQ's Buffer Authorization Certification, EEP will transfer funds

Restoring... Enhancing... Preserving Our State



R-3338B IREDELL Co. Affected Buffer Areas

Discharge is considered to be treated if it meets the following criteria:
 100 ft. of grass swale for every 1 acre of drainage area. AND
 2 yr. velocity is less than or equal to 2 ft./sec.

Date: 8/13/2008
 Dsn. By: FFF
 Check: SDG

SHT.	Structure	Station	Type	Total D.A. (ac)	Required length for treatment (ft.)	Actual Length (ft)	Channel Slope (ft/ft)	Side Slopes	Treated Discharge?	Q2 cfs	Q2 vel. fps	Q10 cfs	Q10 vel. fps	Treatment Provided
12	103&104			0.66	66.0	175	0.0034	3:1	YES	1.90	1.00	2.80	1.10	*GS
				*GS IS LATERAL 2' BASE DITCH AT OUTLET OF STRUCTURE #103 AND #104										
12	126	51+50 -Y6- RT	2GI	0.54	54.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	122	50+00 -Y6- RT	2GI	0.19	19.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	117	48+85 -Y6- RT	2GI	0.33	33.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	118	48+85 -Y6- RT	2GI	0.24	24.0	30	0.029	6/3:1	YES	0.35	1.35	0.52	1.60	GS
12	116	11+00 -RPB- RT	2GI	0.19	19.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	115	11+00 -RPB- LT	2GI	0.13	13.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	114	48+00 -Y6- RT	2GI	0.16	16.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	111	46+15 -Y6- RT	2GI	0.33	33.0	185	0.016	NA	YES	1.00	0.35	1.50	1.50	GS
12	110	9+12 -RPB- RT	2GI	0.11	11.0	NONE	NA	NA	NO	NA	NA	NA	NA	
12	EX	46+42 -Y6- MED	2GI	0.68	68.0	675	0.004	6:1	YES	2.10	0.94	3.20	1.10	GS
				2.90	290.0	**150	0.003	3:1	NO	6.50	1.30	9.60	1.40	**GS
				1.65	165.0	**150	0.003	3:1	NO	6.20	1.30	9.20	1.40	**GS
				**GS IS 2' BASE DITCH AT OUTLET OF STRUCTURE #110										

TOTAL DA TO 2' LATERAL BASE DITCH =

MINUS TREATED AREAS IN SYSTEM = TOTAL

NON-TREATED AREA OF 1.65 AC

2GI = 2 GRATED INLET

3GI = 3 GRATED INLET

SBG = SHOULDER BERM GUTTER

CB = CATCH BASIN

DDB = DRY DETENTION BASIN

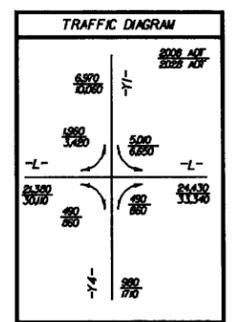
BDOS = BERM DRAINAGE OUTLET STRUCTURE

OTCB = OPEN THROAT CATCH BASIN

OPEN = OPEN END PIPE

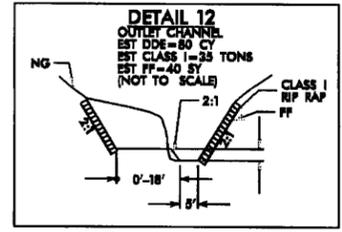
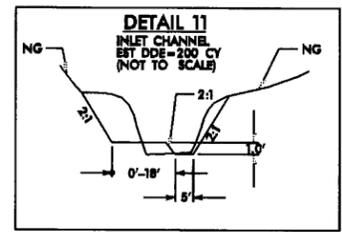
PSH = PRE FORMED SCOUR HOLE

LS = LEVEL SPREADER

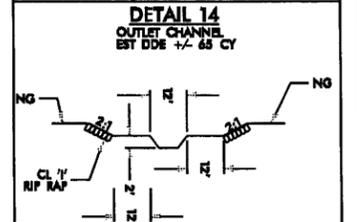
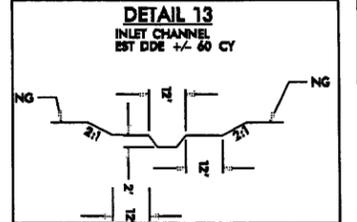


-Y10-
 PI Sta 14+95.40
 $\Delta = 66' 16" 53.5" (LT)$
 $D = 17' 06" 11.6"$
 $L = 387.54'$
 $T = 218.72'$
 $R = 335.00'$
 $DS = 30\text{mph}$

-L-
 PI Sta 264+36.64
 $\Delta = 48' 37" 27.4" (LT)$
 $D = 4' 46" 28.7"$
 $L = 1,018.38'$
 $T = 542.13'$
 $R = 1,200.00'$
 $e = 0.04$
 $RO = 100'$
 $DS = 50\text{mph}$

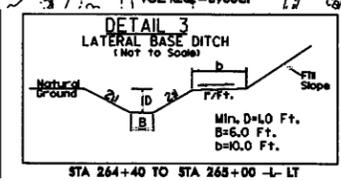
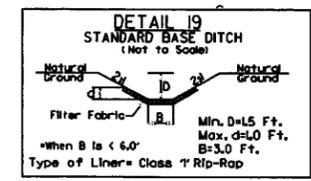
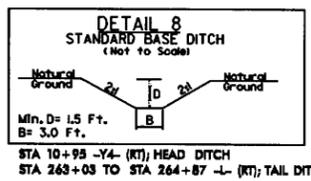
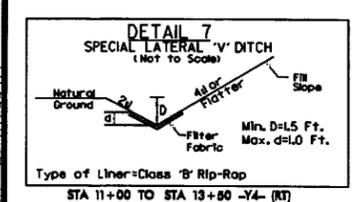
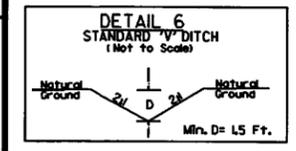


-Y12-
 PI Sta 13+64.80
 $\Delta = 87' 25" 54.0" (RT)$
 $D = 38' 11" 49.9"$
 $L = 228.90'$
 $T = 143.42'$
 $R = 150.00'$
 $DS = 25\text{mph}$



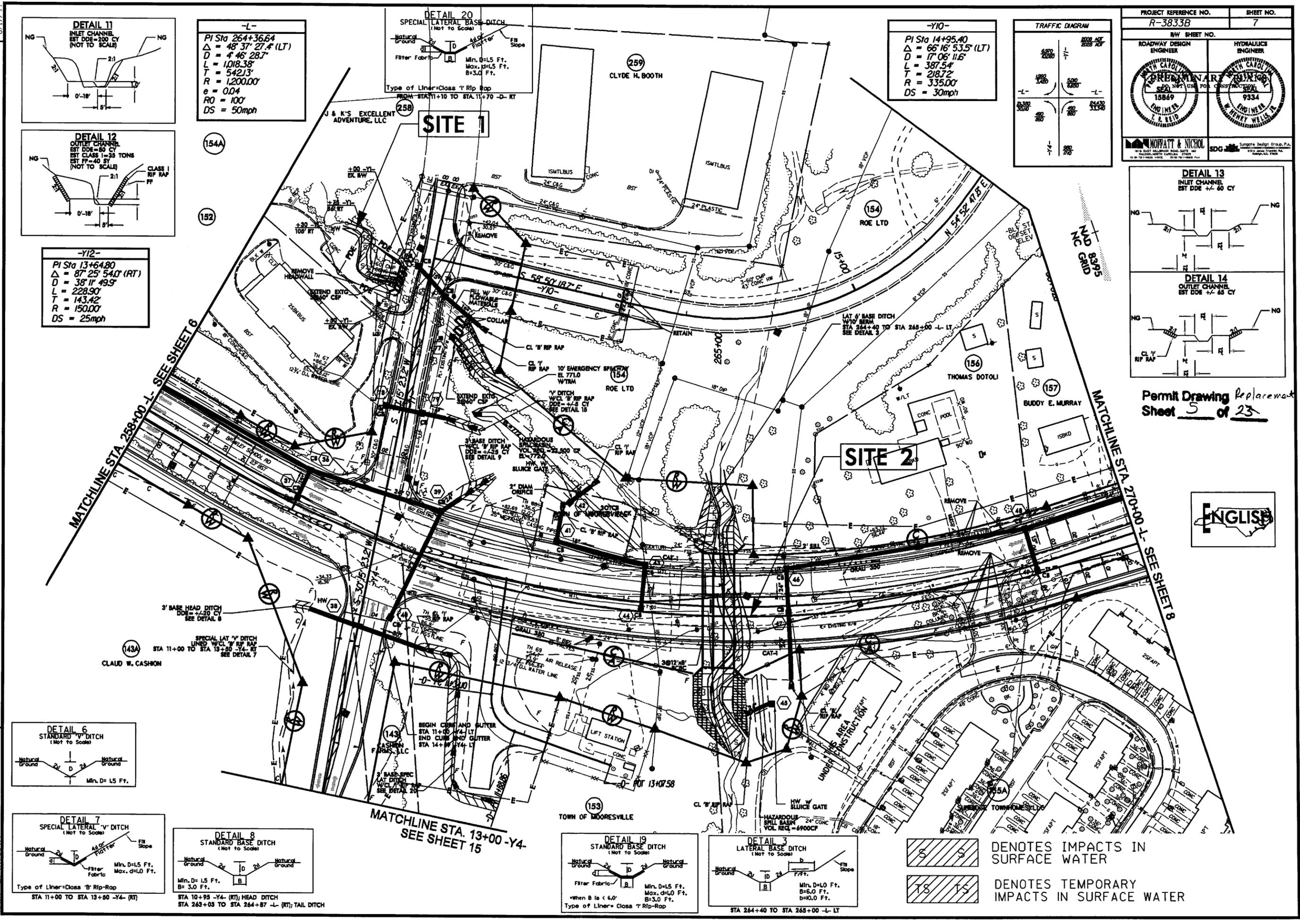
Permit Drawing Replacement
 Sheet 5 of 23

ENGLISH

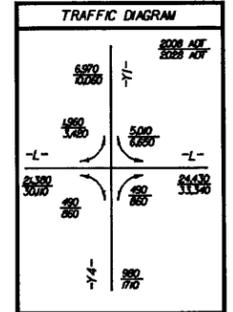


DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

REVISIONS
 DATE: 01/26/2007 -REVISED R/W FOR PARCELS 153 & 155
 DATE: 02/21/2008 -ADDED PARCEL 143, REVISED PARCEL 143 TO 143A, UPDATED DEED BOOK AND PAGE
 13-AUG-2008 13:38
 P:\hyd-ar\p15\p15-environmental\drawings\3833b_hyd_prm_vet_psh07.dgn

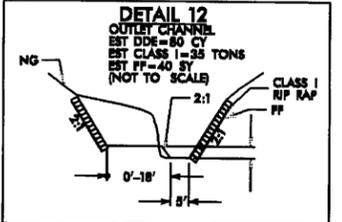
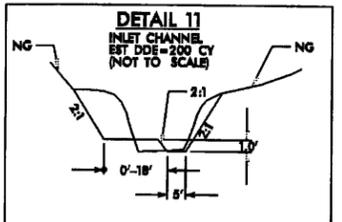


-Y10-
 PI Sta 14+95.40
 $\Delta = 66' 16" 53.5" (LT)$
 $D = 17' 06" 11.6"$
 $L = 387.54'$
 $T = 218.72'$
 $R = 335.00'$
 $DS = 30mph$

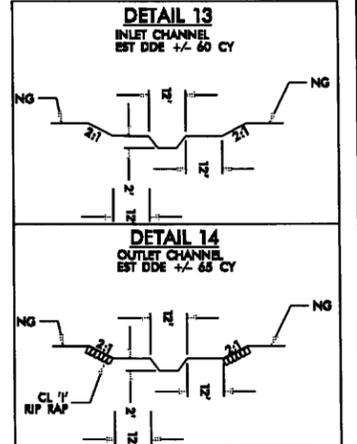


-L-
 PI Sta 264+36.64
 $\Delta = 48' 37" 27.4" (LT)$
 $D = 4' 46" 28.7"$
 $L = 1,018.38'$
 $T = 542.13'$
 $R = 1,200.00'$
 $e = 0.04$
 $RO = 100'$
 $DS = 50mph$

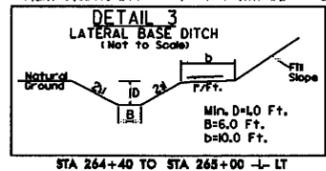
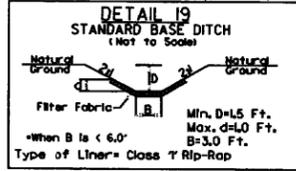
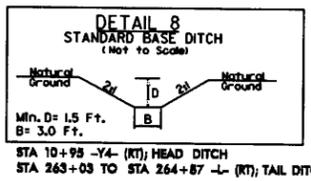
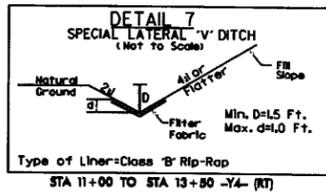
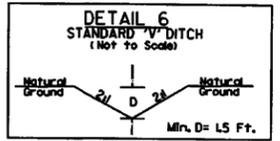
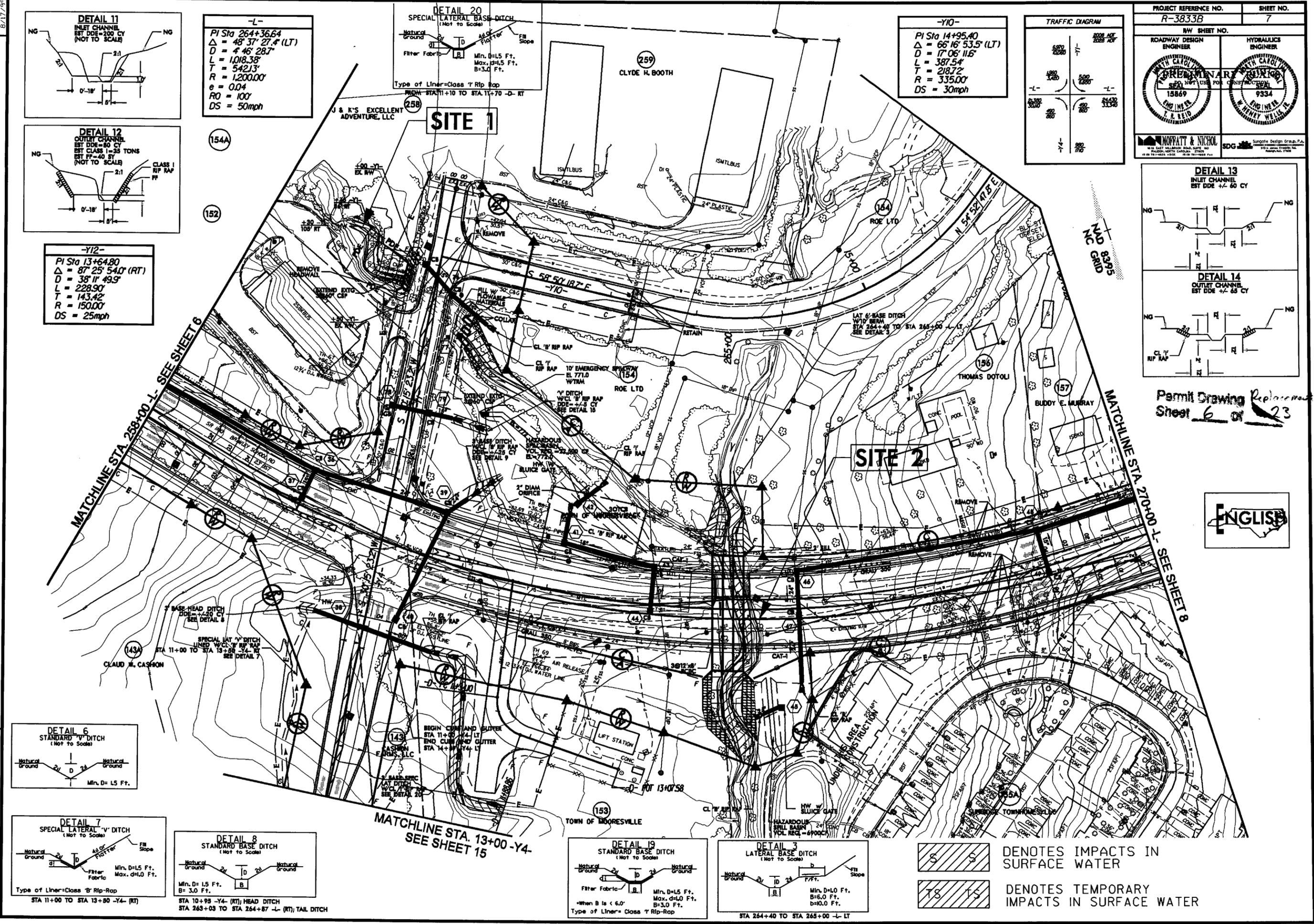
DETAIL 20
 SPECIAL LATERAL BASE DITCH
 (Not to Scale)
 Filter Fabric
 Min. D=1.5 Ft.
 Max. d=1.5 Ft.
 B=3.0 Ft.
 Type of Liner=Class T Rip Rap



-Y12-
 PI Sta 13+64.80
 $\Delta = 87' 25" 54.0" (RT)$
 $D = 38' 11" 49.9"$
 $L = 228.90'$
 $T = 143.42'$
 $R = 150.00'$
 $DS = 25mph$



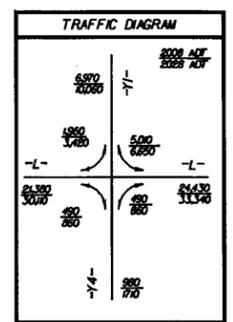
Permit Drawing Replacement
 Sheet 6 of 23



DENOTES IMPACTS IN SURFACE WATER
 DENOTES TEMPORARY IMPACTS IN SURFACE WATER

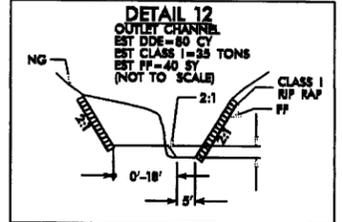
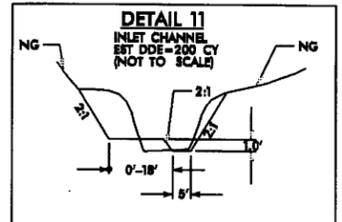
REVISIONS
 DATE: 01/26/2007 -REVISED R/W FOR PARCELS 153 & 155
 DATE: 02/21/2008 -ADDED PARCEL 145. REVISED PARCEL 145 TO 143A. UPDATED DEED BOOK AND PAGE

8/17/99
 13-AUG-2008 13:38
 r:\hyd-audits\permits\environmental\drawings\3833b_hyd-prm-wet_psh07.dgn

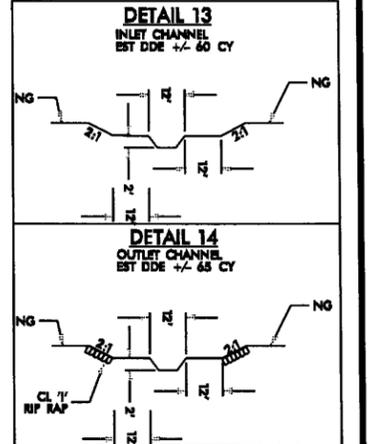


-Y10-
 PI Sta 14+95.40
 $\Delta = 66' 16'' 53.5''$ (LT)
 $D = 17' 06'' 11.6''$
 $L = 387.54'$
 $T = 218.72'$
 $R = 335.00'$
 $DS = 30\text{mph}$

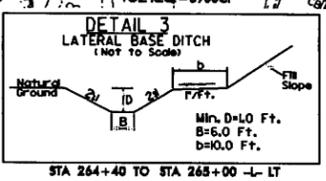
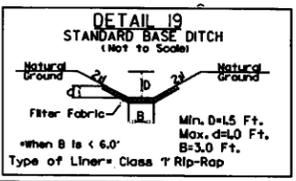
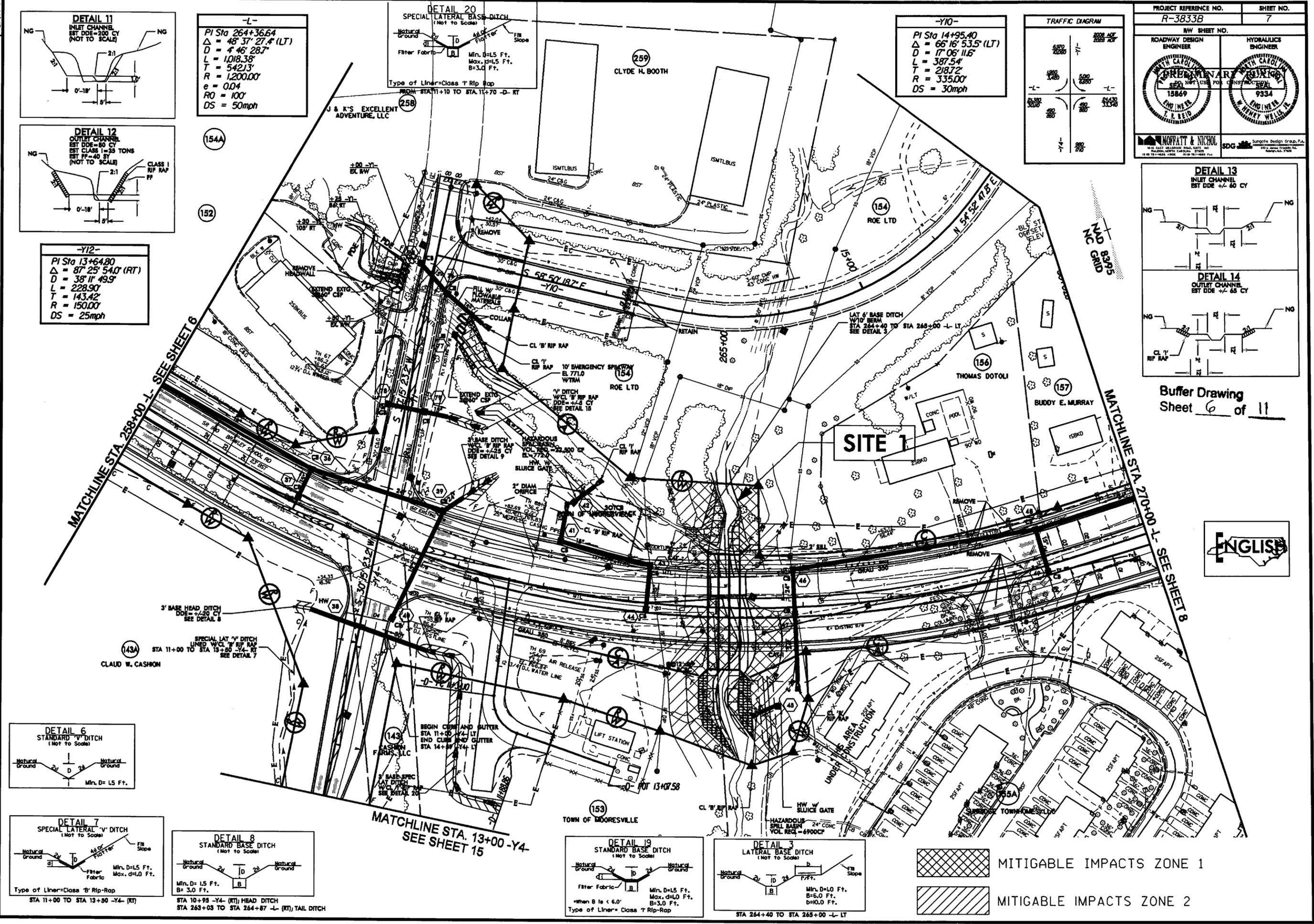
-L-
 PI Sta 264+36.64
 $\Delta = 48' 37'' 27.4''$ (LT)
 $D = 4' 46'' 28.7''$
 $L = 1,018.38'$
 $T = 542.13'$
 $R = 1,200.00'$
 $e = 0.04$
 $RO = 100'$
 $DS = 50\text{mph}$



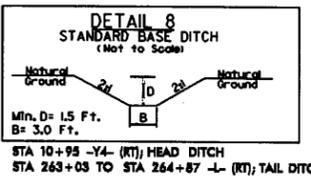
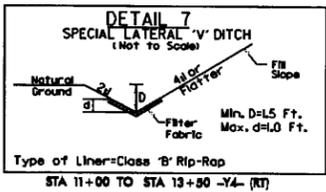
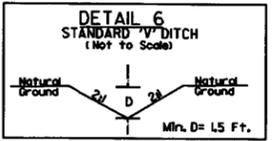
-Y12-
 PI Sta 13+64.80
 $\Delta = 87' 25'' 54.0''$ (RT)
 $D = 38' 11'' 49.9''$
 $L = 228.90'$
 $T = 143.42'$
 $R = 150.00'$
 $DS = 25\text{mph}$



Buffer Drawing
 Sheet 6 of 11



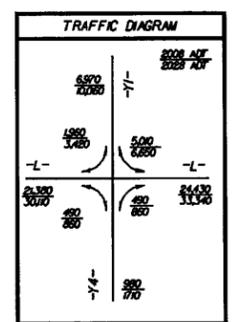
MITIGABLE IMPACTS ZONE 1
 MITIGABLE IMPACTS ZONE 2



DATE: 01/26/2001 -REVISED R/W FOR PARCELS 153 & 155
 DATE: 02/21/2008 -ADDED PARCEL 143, REVISED PARCEL 143 TO 143A, UPDATED DEED BOOK AND PAGE
 13-AUG-2008 13:31
 C:\pdr-audits\pdr\env\environmental\dr-drawings\3833b_hyd-prm-buf_f-sh07.dgn

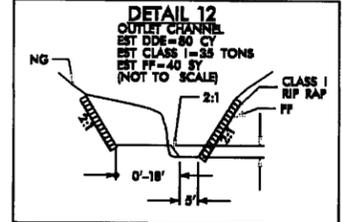
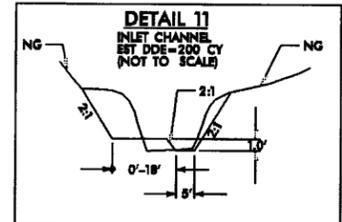
REVISIONS

8/17/95

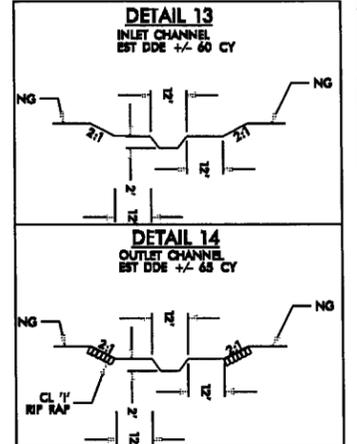


-Y10-
 PI Sta 14+95.40
 $\Delta = 66' 16" 53.5" (LT)$
 $D = 17' 06" 11.6"$
 $L = 387.54'$
 $T = 218.72'$
 $R = 335.00'$
 $DS = 30\text{mph}$

-L-
 PI Sta 264+36.64
 $\Delta = 48' 37" 27.4" (LT)$
 $D = 4' 46" 28.7"$
 $L = 1018.38'$
 $T = 542.13'$
 $R = 1200.00'$
 $e = 0.04$
 $RO = 100'$
 $DS = 50\text{mph}$



-Y12-
 PI Sta 13+64.80
 $\Delta = 87' 25" 54.0" (RT)$
 $D = 38' 11" 49.9"$
 $L = 228.90'$
 $T = 143.42'$
 $R = 150.00'$
 $DS = 25\text{mph}$

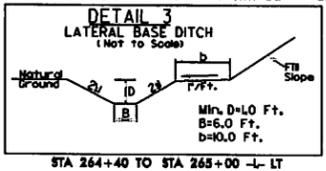
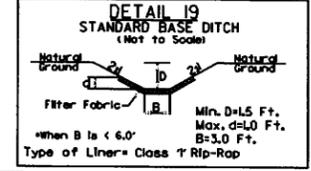
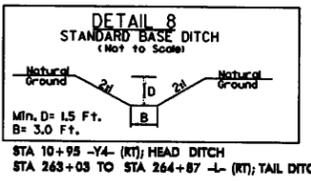
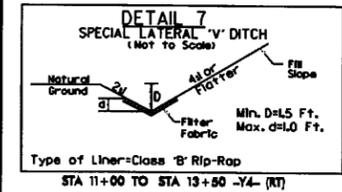
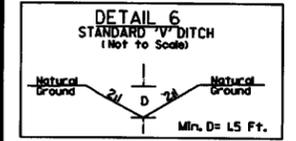


Buffer Drawing
 Sheet 7 of 11

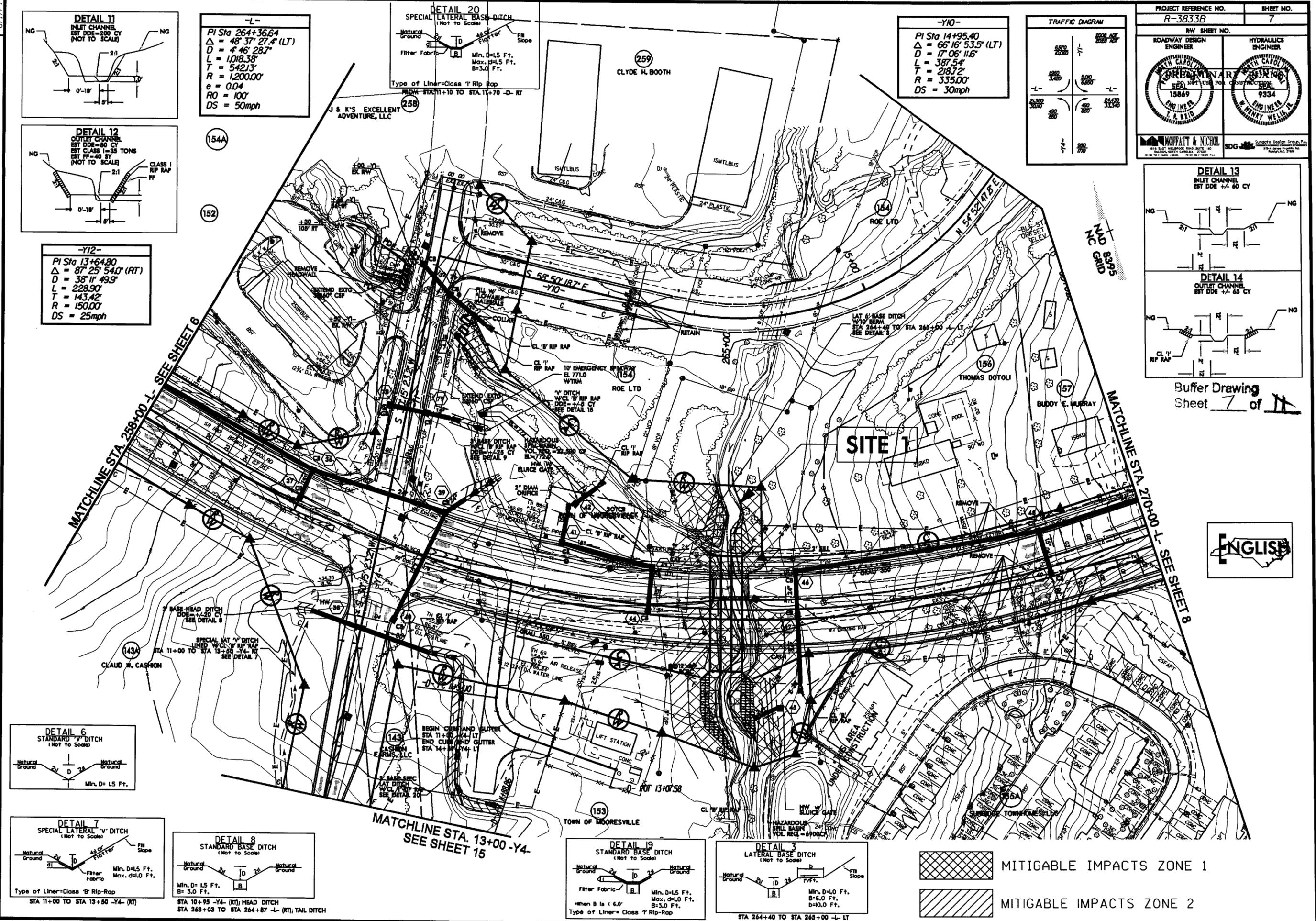


8/17/09
 DATE: 01/26/2002 -REVISED R/W FOR PARCELS 153 & 155
 DATE: 02/21/2008 -ADDED PARCEL 143, REVISED PARCEL 143 TO 143A, UPDATED DEED BOOK AND PAGE
 13-AUG-2008 13:31
 r:\hyd-audits\perm\33-envir\omental\dr-awings\3833b-hyd-prm-buf_psh07.dgn

REVISIONS
 MATCHLINE STA 258+00 L- SEE SHEET 6
 MATCHLINE STA 270+00 L- SEE SHEET 8
 MATCHLINE STA. 13+00 -Y4- SEE SHEET 15



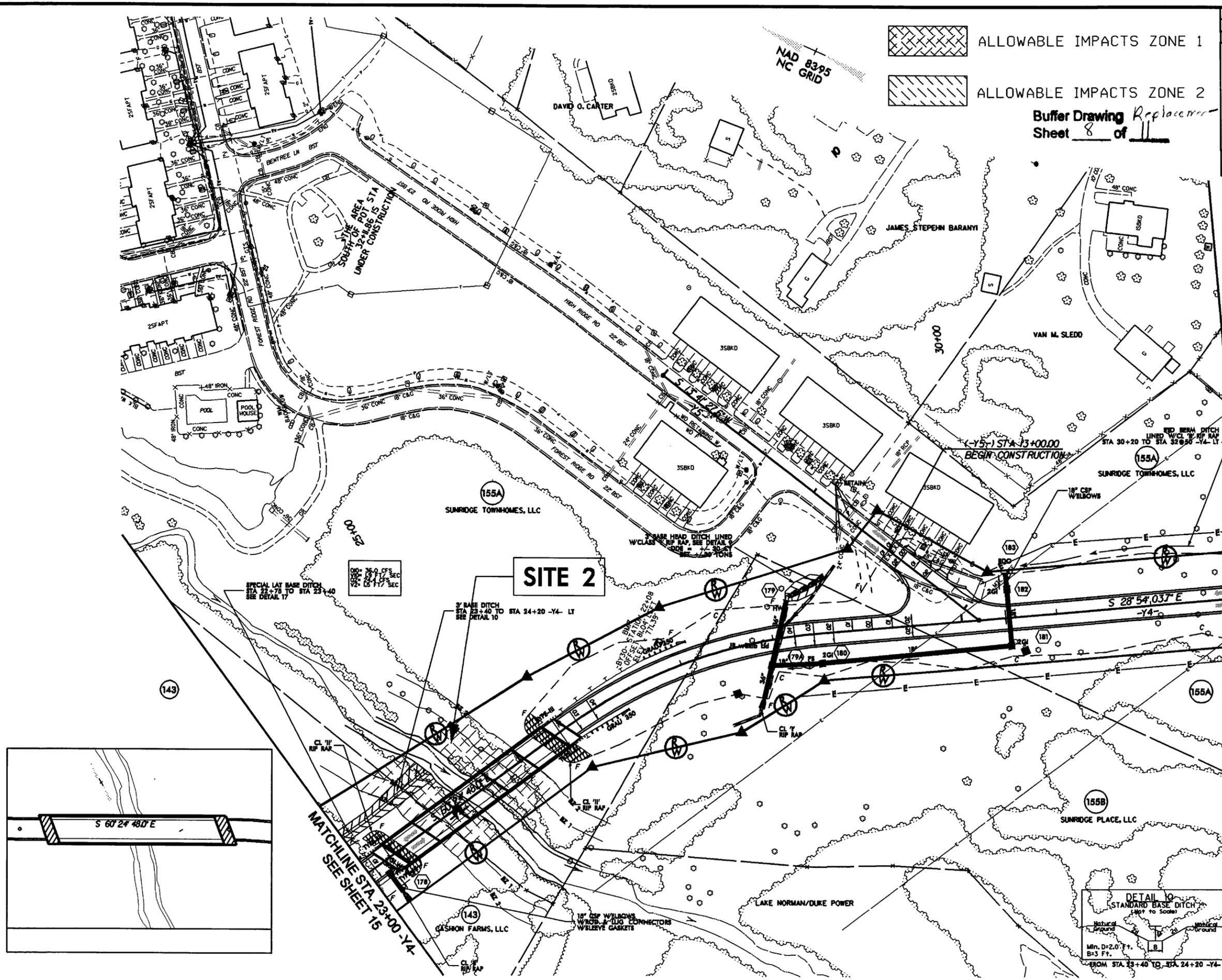
MITIGABLE IMPACTS ZONE 1
 MITIGABLE IMPACTS ZONE 2



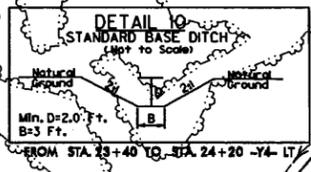
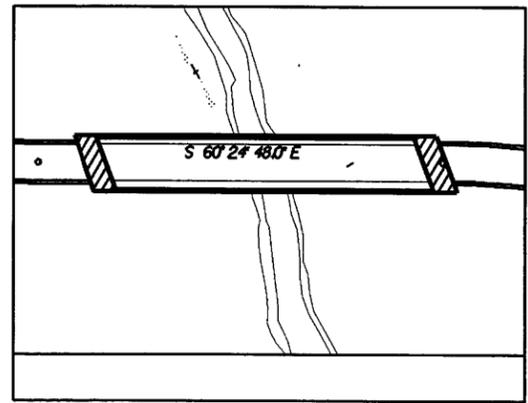
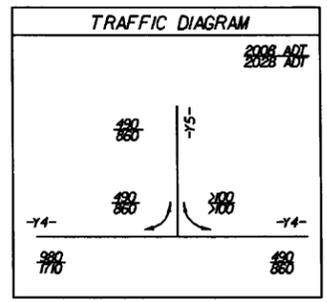
8/17/99

REVISIONS
DATE: 1/08/2008 -REVISED PARCEL'S 155A & 155B
DATE: 2/21/2008 -REVISED PARCEL 143 OWNER NAME AND UPDATED DEED BOOK AND PAGE

13-AUG-2008 13:40
P:\hyd-solits\permits-environmental\drawings\8833b_hyd_prm_buf_psh16.dgn



PROJECT REFERENCE NO. R-3833B	SHEET NO. 16
ROADWAY DESIGN ENGINEER	HYDRAULIC ENGINEER
SEAL	SEAL
INCOMPLETE PLANS	INCOMPLETE PLANS
MORPATT & NICHOL	SDG



MATCHLINE STA. 23+00 -Y4-
SEE SHEET 15

MATCHLINE STA. 33+00 -Y4-
SEE SHEET 17

SITE 2

SPECIAL LAT. BASE DITCH
STA. 22+78 TO STA. 23+40
SEE DETAIL 17

3' BASE DITCH
STA. 23+40 TO STA. 24+20 -Y4- LT
SEE DETAIL 10

(-Y5-) STA. 13+00.00
BEGIN CONSTRUCTION

STA. 30+20 TO STA. 32+50 -Y4- LT

S 60° 24' 48" E

S 28° 54' 03" E

LAKE NORMAN/DUKE POWER

CASHON FARMS, LLC

SUNRIDGE PLACE, LLC

SUNRIDGE TOWNHOMES, LLC

SUNRIDGE TOWNHOMES, LLC

VAN M. SLEDD

JAMES STEPHEN BARANYI

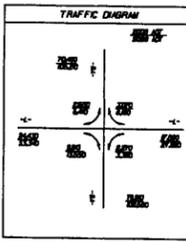
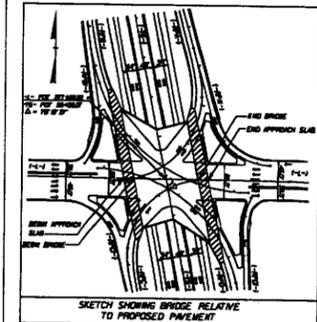
DAVID O. CARTER

NAD 8395
NC GRID

TYPE AREA
SOUTH OF SPOT STA
UNDER CONSTRUCTION

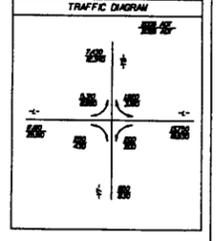
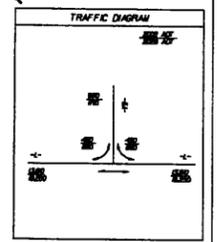
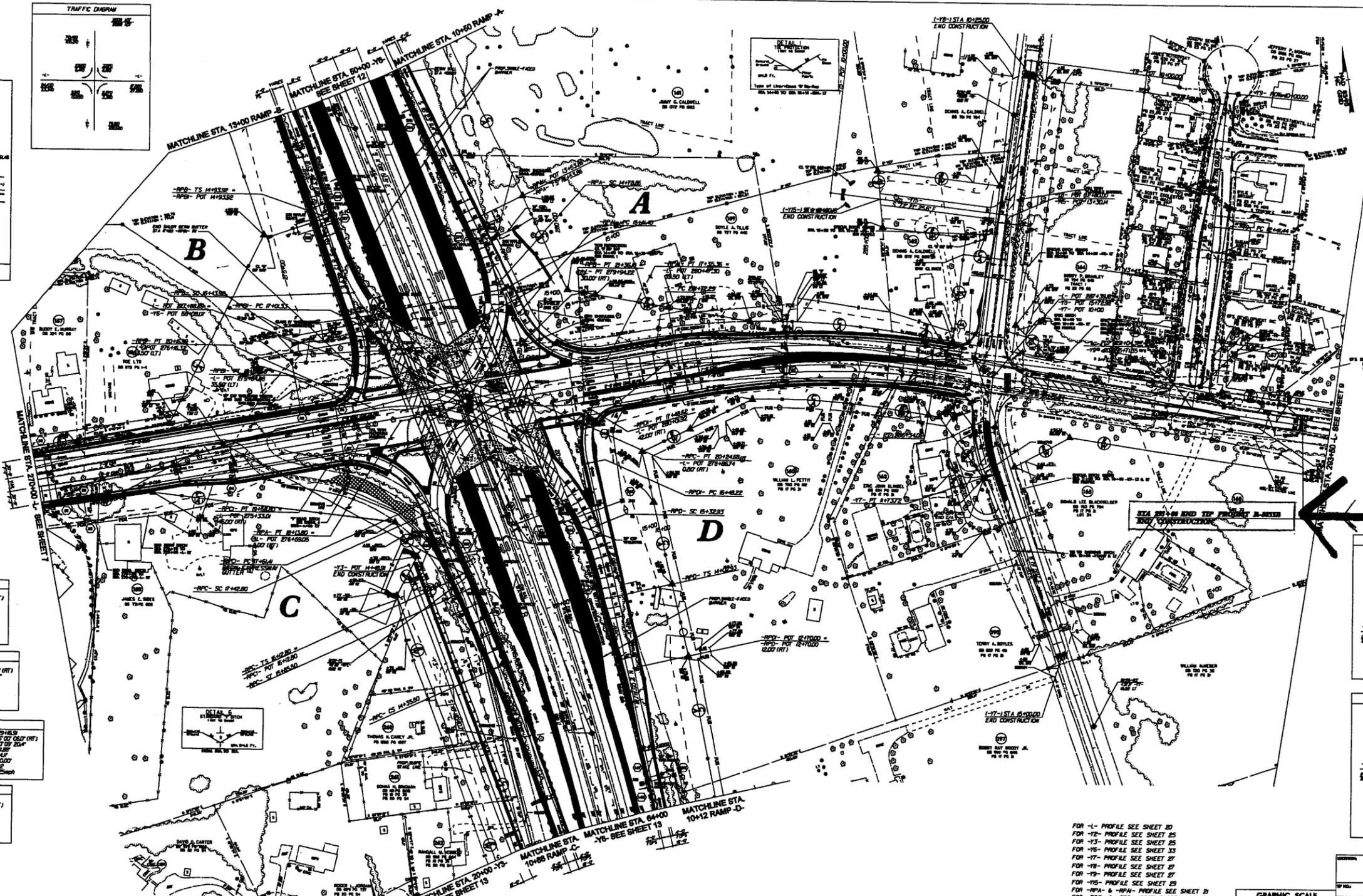
25FAPT

BRIDGES
 DATA OBTAINED FROM FIELD SURVEY (1948-1950) AND FROM
 DATA OBTAINED FROM CONSTRUCTION RECORDS (1948-1950) AND
 DATA OBTAINED FROM CALCULATIONS TO MATCH EXISTING AND
 DATA OBTAINED FROM FIELD SURVEY

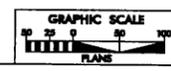


PROJECT NUMBER: 1-10-50
 SHEET NO: 2
 DATE: 10/1/50
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]

<p>-L-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>-Y-</p> <p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-Y-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>-RPC-</p> <p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-RPA-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>-RPA-</p> <p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-RPD-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>-RPD-</p> <p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-RPC-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-RPD-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>-RPD-</p> <p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>
<p>-Y-</p> <p>PI STA 81410.00 Δ = 18' 53" (RT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>	<p>PI STA 81410.00 Δ = 18' 53" (LT) D = 400' 00" L = 233.00' R = 400' 00" DS = 30mph</p>



FOR -L- PROFILE SEE SHEET 10
 FOR -Y- PROFILE SEE SHEET 25
 FOR -Y3- PROFILE SEE SHEET 25
 FOR -Y6- PROFILE SEE SHEET 33
 FOR -Y7- PROFILE SEE SHEET 27
 FOR -Y8- PROFILE SEE SHEET 27
 FOR -Y9- PROFILE SEE SHEET 27
 FOR -Y15- PROFILE SEE SHEET 25
 FOR -RPA- & -RPA- PROFILE SEE SHEET 21
 FOR -RPA- & -RPA- PROFILE SEE SHEET 22
 FOR -RPC- & -RPC- PROFILE SEE SHEET 23
 FOR -RPD- & -RPD- PROFILE SEE SHEET 24



Office Use Only:

Form Version March 05

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

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

I. Processing

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

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

2. Nationwide, Regional or General Permit Number(s) Requested: NW 13, 14 and 33
3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:
4. If payment into the North Carolina Ecosystem Enhancement Program (NCEEP) is proposed for mitigation of impacts, attach the acceptance letter from NCEEP, complete section VIII, and check here:
5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

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

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

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

Name: _____
Company Affiliation: _____
Mailing Address: _____

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

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: R-3833B, The widening of Brawley School Road from Centre Church Road, to just east of I-77.
2. T.I.P. Project Number or State Project Number (NCDOT Only): R-3833 B
3. Property Identification Number (Tax PIN): N/A
4. Location
County: Iredell Nearest Town: Mooresville
Subdivision name (include phase/lot number): N/A
Directions to site (include road numbers/names, landmarks, etc.):
5. Site coordinates (For linear projects, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
Decimal Degrees (6 digits minimum): 35.57954 °N 80.85627 °W
6. Property size (acres): N/A
7. Name of nearest receiving body of water: Catawba River (Lake Norman)
8. River Basin: Catawba
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Residential & Commercial

10. Describe the overall project in detail, including the type of equipment to be used: Brawley School Road will be widened from a 2 lane, to a 4 lane curb and gutter facility. Equipment may include, but not limited to, earth moving equipment including graders, pavers, bull dozers, backhoes, etc.
11. Explain the purpose of the proposed work: To improve safety, access and capacity of Brawley School Road.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules. N/A

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.
N/A

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. Each impact must be listed separately in the tables below (e.g., culvert installation should be listed separately from riprap dissipater pads). Be sure to indicate if an impact is temporary. All proposed impacts, permanent and temporary, must be listed, and must be labeled and clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) should be shown on a delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

1. Provide a written description of the proposed impacts: Proposed impacts include pipe, culvert and a bridge on new location. Specific descriptions and reasons for replacement can be found on the attached coversheet.
2. Individually list wetland impacts. Types of impacts include, but are not limited to mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.

Wetland Impact Site Number (indicate on map)	Type of Impact	Type of Wetland (e.g., forested, marsh, herbaceous, bog, etc.)	Located within 100-year Floodplain (yes/no)	Distance to Nearest Stream (linear feet)	Area of Impact (acres)
No	Wetland	Impacts			
Total Wetland Impact (acres)					

3. List the total acreage (estimated) of all existing wetlands on the property: N/A

4. Individually list all intermittent and perennial stream impacts. Be sure to identify temporary impacts. Stream impacts include, but are not limited to placement of fill or culverts, dam construction, flooding, relocation, stabilization activities (e.g., cement walls, rip-rap, crib walls, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included. To calculate acreage, multiply length X width, then divide by 43,560.

Stream Impact Number (indicate on map)	Stream Name	Type of Impact	Perennial or Intermittent?	Average Stream Width Before Impact (linear feet)	Impact Length (linear feet)	Area of Impact (acres)
1	UT to Catawba River	Permanent	Perennial	4	140	0.02
1	UT to Catawba River	Temporary	Perennial	4	14	<0.01
2	UT to Catawba River	Permanent	Perennial	8	252	0.07
2	UT to Catawba River	Temporary	Perennial	8	85	0.02
2	UT to UT to Catawba River	Permanent	Perennial	4	65	<0.01
3	UT to Catawba River	Permanent	Perennial	5	65	0.01
3	UT to Catawba River	Temporary	Perennial	5	30	<0.01
4	UT to Catawba River	Permanent	Perennial	5	78	0.02
4	UT to Catawba River	Temporary	Perennial	5	75	0.02
5	UT to Catawba River	Permanent	Perennial	8	25	<0.01
6	UT to Catawba River	Permanent	Perennial	2	174	<0.01
Total Stream Impact (Linear feet)				Permanent	799	0.16
				Temporary	204	0.06

5. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.). Open water impacts include, but are not limited to fill, excavation, dredging, flooding, drainage, bulkheads, etc.

Open Water Impact Site Number (indicate on map)	Name of Waterbody (if applicable)	Type of Impact	Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.)	Area of Impact (acres)
NONE				
Total Open Water Impact (acres)				

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

Stream Impact (acres):	0.16 (permanent) 0.06 (temp)
Wetland Impact (acres):	None
Open Water Impact (acres):	None
Total Impact to Waters of the U.S. (acres)	0.06 (temp) 0.16 (permanent)
Total Stream Impact (linear feet):	799 (permanent) 204 (temp)

7. Isolated Waters

Do any isolated waters exist on the property? Yes No

Describe all impacts to isolated waters, and include the type of water (wetland or stream) and the size of the proposed impact (acres or linear feet). Please note that this section only applies to waters that have specifically been determined to be isolated by the USACE.

N/A

8. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): uplands stream wetlands

Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): _____

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): _____

Current land use in the vicinity of the pond: _____

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts. Jurisdictional impacts for this project are limited to extensions of current structures, with the exception of a new bridge used for the relocation of Gibbs Road. Widening occurs asymmetrically throughout the project to minimize impacts to jurisdictional resources.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE – In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on January 15, 2002, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCEEP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

Mitigation will be provided by the EEP for this project.

2. Mitigation may also be made by payment into the North Carolina Ecosystem Enhancement Program (NCEEP). Please note it is the applicant's responsibility to contact the NCEEP at (919) 715-0476 to determine availability, and written approval from the NCEEP indicating that they are will to accept payment for the mitigation must be attached to this form. For additional information regarding the application process for the NCEEP, check the NCEEP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of the NCEEP is proposed, please check the appropriate box on page five and provide the following information:

Amount of stream mitigation requested (linear feet): 729
Amount of buffer mitigation requested (square feet): Zone 1-16,921 Zone 2-9,143
Amount of Riparian wetland mitigation requested (acres): n/a
Amount of Non-riparian wetland mitigation requested (acres): n/a
Amount of Coastal wetland mitigation requested (acres): n/a

IX. Environmental Documentation (required by DWQ)

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

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

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

1. Will the project impact protected riparian buffers identified within 15A NCAC 2B .0233 (Neuse), 15A NCAC 2B .0259 (Tar-Pamlico), 15A NCAC 02B .0243 (Catawba) 15A NCAC 2B .0250 (Randleman Rules and Water Supply Buffer Requirements), or other (please identify Catawba)? Yes No

2. If "yes", identify the square feet and acreage of impact to each zone of the riparian buffers. If buffer mitigation is required calculate the required amount of mitigation by applying the buffer multipliers.

Zone*	Impact (square feet)	Multiplier	Required Mitigation
1	16,921	3 (2 for Catawba)	33,842
2	9,143	1.5	13,714.5
Total	26,064		47556.5

* Zone 1 extends out 30 feet perpendicular from the top of the near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

3. If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Riparian Buffer Restoration / Enhancement, or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0244, or .0260. _____

XI. Stormwater (required by DWQ)

Describe impervious acreage (existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property. If percent impervious surface exceeds 20%, please provide calculations demonstrating total proposed impervious level. NCDOT's Best Management Practices will be followed throughout the construction of the project.

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.
N/A

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?
 Yes No

Is this an after-the-fact permit application? Yes No

XIV. Cumulative Impacts (required by DWQ)

Will this project (based on past and reasonably anticipated future impacts) result in additional development, which could impact nearby downstream water quality? Yes No
 If yes, please submit a qualitative or quantitative cumulative impact analysis in accordance with the most recent North Carolina Division of Water Quality policy posted on our website at <http://h2o.enr.state.nc.us/ncwetlands>. If no, please provide a short narrative description: _____

XV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

N/A

E. L. Lusk

8.13.08

Applicant/Agent's Signature

Date

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