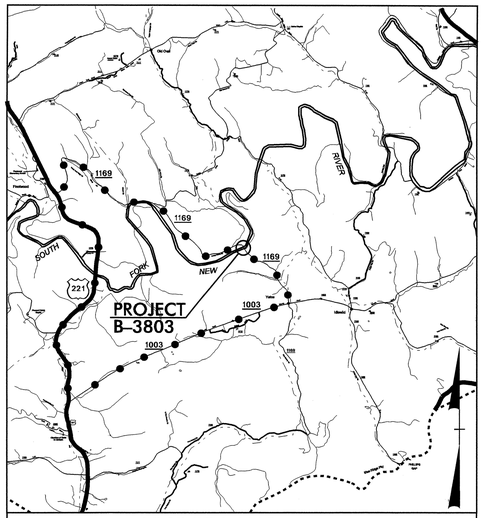
09/08/99

TIP PROJECT: B-3803

CONTRACT: C201838

See Sheet 1-A For Index of Sheets



VICINITY MAP

DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

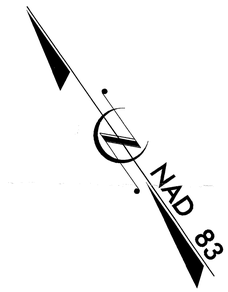
ASHE COUNTY

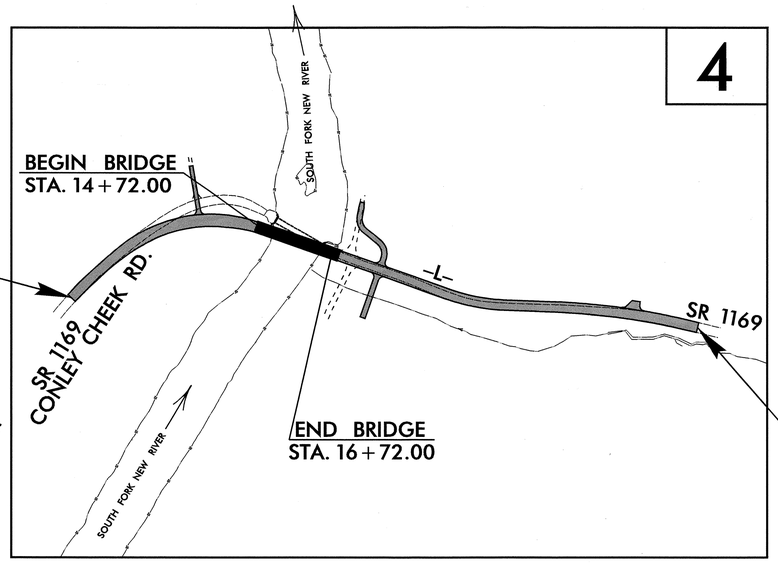
LOCATION: BRIDGE NO. 334 OVER THE SOUTH FORK NEW RIVER ON SR 1169 (CONLEY CHEEK RD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, & STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3803	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33259.1.1	BRZ-1169(2)	PE
33259.2.1	BRZ-1169(2)	R/W, UTIL.
33259.3.1	BRZ-1169(2)	CONST.





BEGIN TIP PROJECT B-3803
-L- STA 10+50.00

TO US 221

TO YATES/SR 1003

END TIP PROJECT B-3803
-L- STA 23+75.00

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2008 = 392
ADT 2030 = 900
DHV = 12 %
D = 60 %
T = 3 % *
V = 30 MPH

* TTST 1 * DUAL 2

FUNC. CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3803 = 0.213 Mi.

LENGTH STRUCTURE TIP PROJECT B-3803 = 0.038 Mi.

TOTAL LENGTH TIP PROJECT B-3803 = 0.251 Mi.

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 15, 2006

LETTING DATE:
MAY 20, 2008

JIMMY GOODNIGHT, PE
PROJECT ENGINEER

MARK HUSSEY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 31986 ENGINEER JAMES R. RICE
SIGNATURE: P.E. 2-14-08

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES J. GOODNIGHT JR
SIGNATURE: P.E. 2-14-08

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

P.E.
STATE HIGHWAY DESIGN ENGINEER

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5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3803	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODRIGHT, JR.

2-13-08

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS

EFF. 07-18-06
REV. 01-02-07

2006 ROADWAY STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.02	Method of Pipe Installation - Method 'B'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.02	Aggregate Shoulder Drain
840.24	Frames and Narrow Slot Sag Grates
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
846.02	Drop Inlet Installation in Expressway Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
866.04	Barbed Wire Fence with Wood Posts (2 - 7 Strands)
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

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3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-3803	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Swamp Marsh
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Utility Easement — PUE

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheel Chair Ramp — WCR
- Proposed Wheel Chair Ramp Curb Cut — WCC
- Curb Cut for Future Wheel Chair Ramp — CCFR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

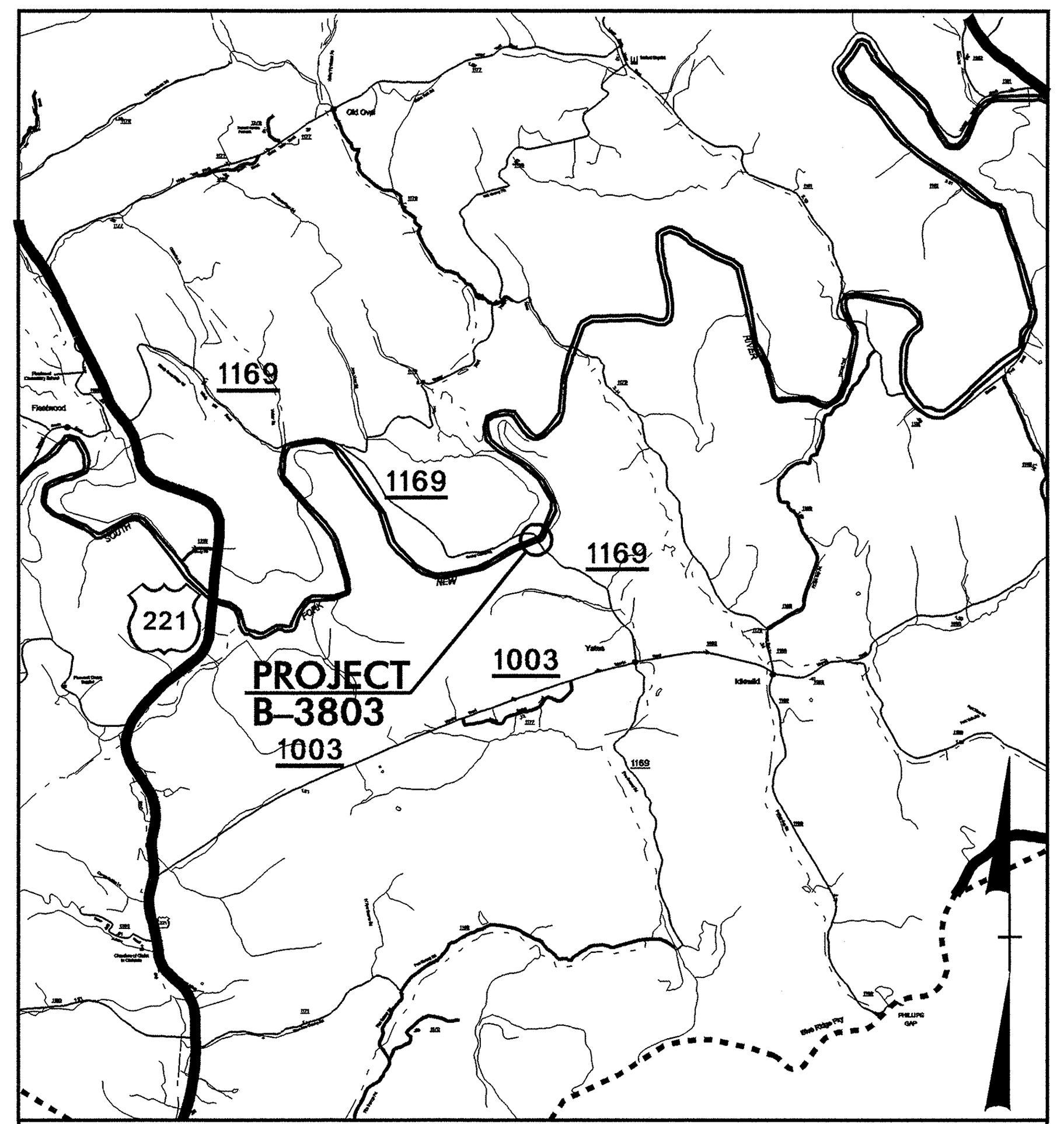
SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

SURVEY CONTROL SHEET B-3803

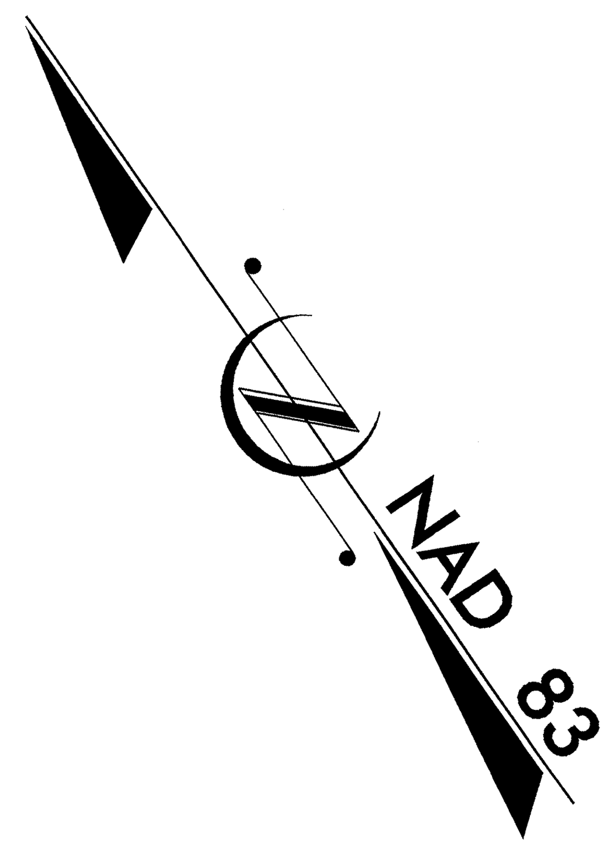


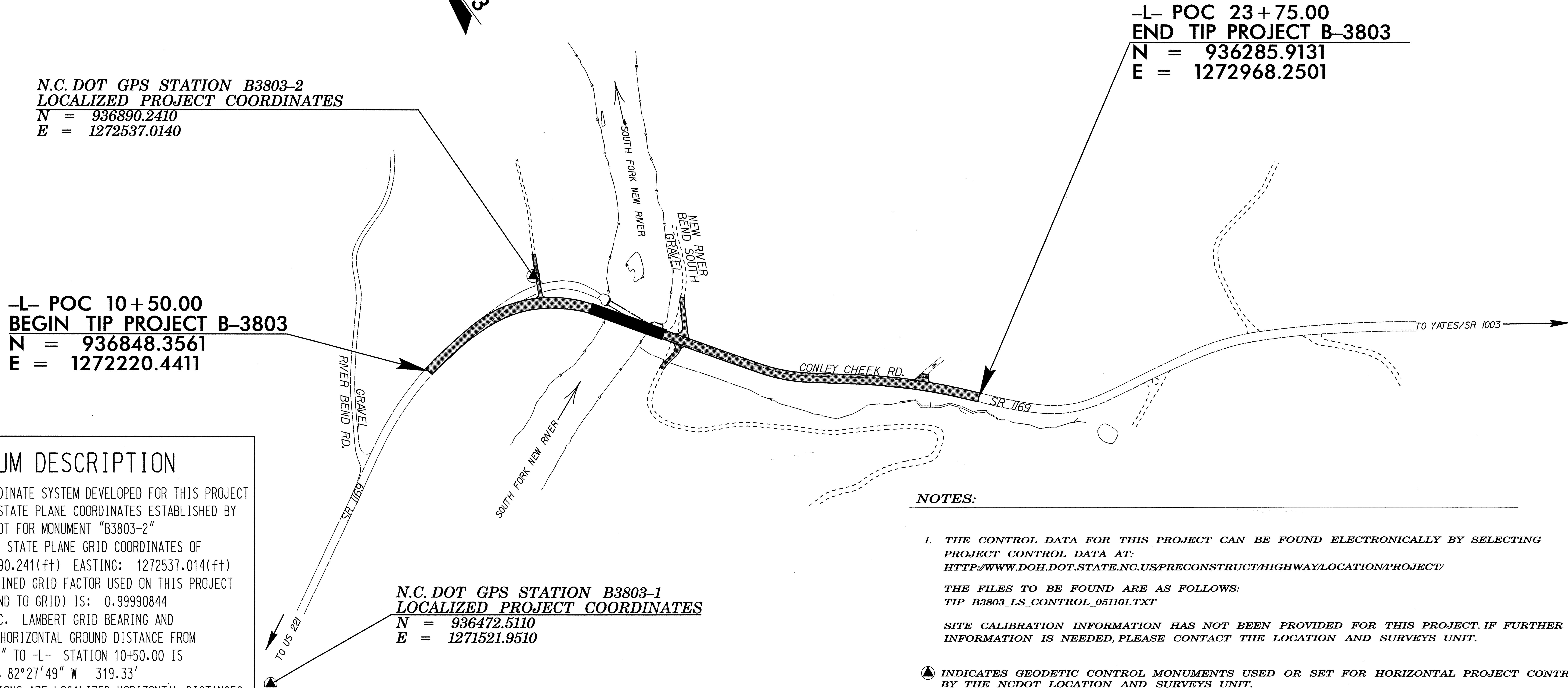
VICINITY MAP

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
B38031	(GPS B3803-1)	936472.5110	1271521.9510	2859.46'	OUTSIDE PROJECT LIMITS	
BL3	(BL-3)	936808.7863	1272065.2714	2841.82'	OUTSIDE PROJECT LIMITS	
B38032	(GPS B3803-2)	936890.2410	1272537.0140	2840.29'	13+44.72	60.95' LT
BL4	(BL-4)	936792.1835	1272647.3287	2835.19'	14+67.00	58.31' LT
BL5	(BL-5)	936390.1595	1272844.0837	2851.96'	19+05.93	16.92' RT
BL6	(BL-6)	935920.9167	1273402.9923	2897.02'	OUTSIDE PROJECT LIMITS	

BM#1 ELEVATION = 2851.08'
N 936750 E 1272884
L STATION 16+38 226' LEFT
8" SPIKE IN ROOT OF 24" CUCUMBER TREE





DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3803-2"
WITH NAD 83 STATE PLANE GRID COORDINATES OF
NORTHING: 936890.241(ft) EASTING: 1272537.014(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99990844
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3803-2" TO -L- STATION 10+50.00 IS
S 82°27'49" W 319.33'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/*

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   TIP B3803_LS_CONTROL_051101.TXT

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

▲ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
B-3803	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT, JR.

2-15-08

PAVEMENT DESIGN ENGINEER

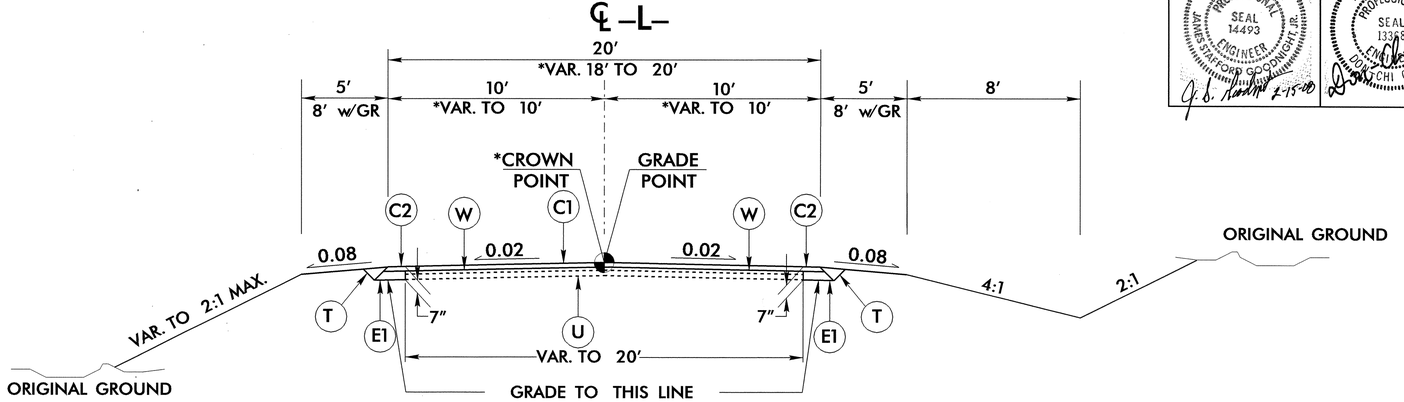
NORTH CAROLINA PROFESSIONAL SEAL 13368 ENGINEER DONGCHI CHEN

2/15/08

PAVEMENT SCHEDULE

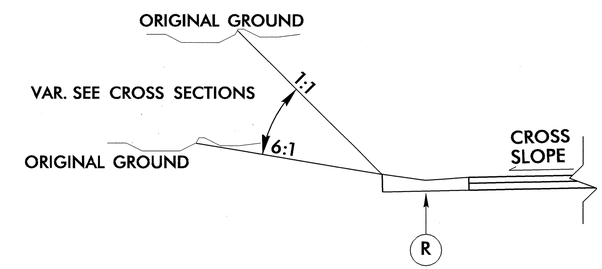
C1	PROP. APPROX. 1½"ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD.
C2	PROP. APPROX. 3 "ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165.0 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
J	6" AGGREGATE BASE COURSE
R	EXPRESSWAY GUTTER
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

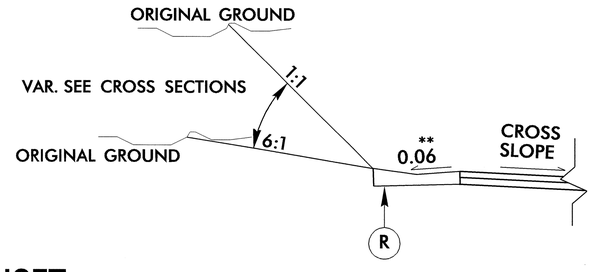
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

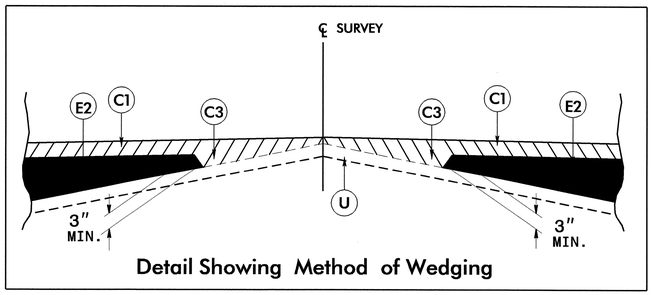
*–L– STA. 10+50.00 TO 10+75.00
–L– STA. 10+75.00 TO 13+00.00
–L– STA. 18+75.00 TO 23+50.00
*–L– STA. 23+50.00 TO 23+75.00



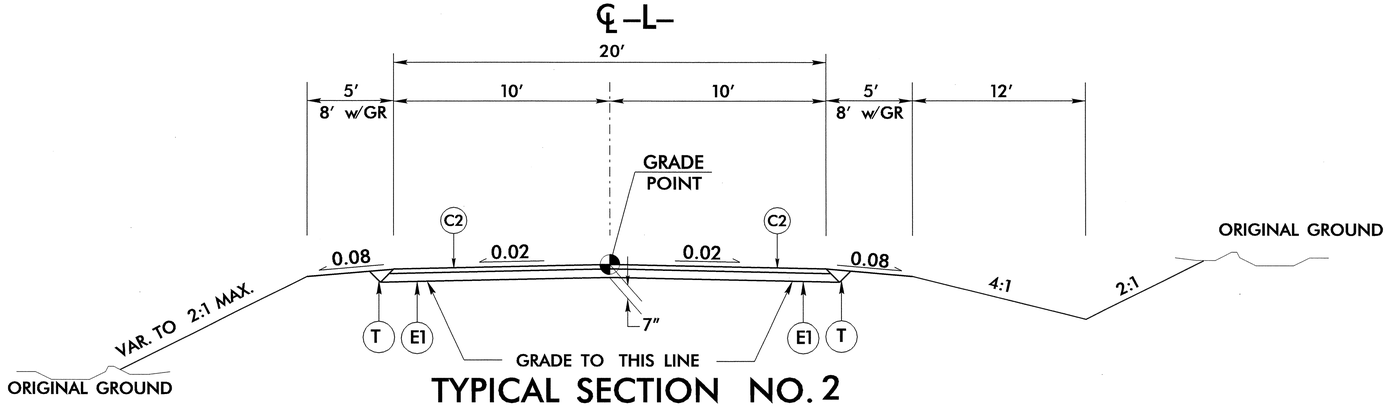


INSET

USE INSET IN CONJUNCTION WITH TYPICAL NO. 1 AND 2 LEFT SIDE:
TYPICAL NO. 1 FROM STATION 18+75.00 TO 22+00.00
TYPICAL NO. 2 FROM STATION 18+00.00 TO 18+75.00
** MAINTAIN –6% SLOPE ON GUTTER ON HIGH SIDE OF PAVEMENT



Detail Showing Method of Wedging



TYPICAL SECTION NO. 2

–L– STA. 13+00.00 TO 14+72.00 (BEGIN BRIDGE)
–L– STA. 16+72.00 (END BRIDGE) TO 18+75.00

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6/2/99

PAVEMENT SCHEDULE	
C1	1½" SF9.5A
C2	3" SF9.5A
C3	VAR. SF9.5A
D1	4" I19.0B
E1	4" B25.0B
E2	VAR. B25.0B
J	6" ABC
R	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	WEDGING

PROJECT REFERENCE NO.	SHEET NO.
B-3803	2A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT JR.

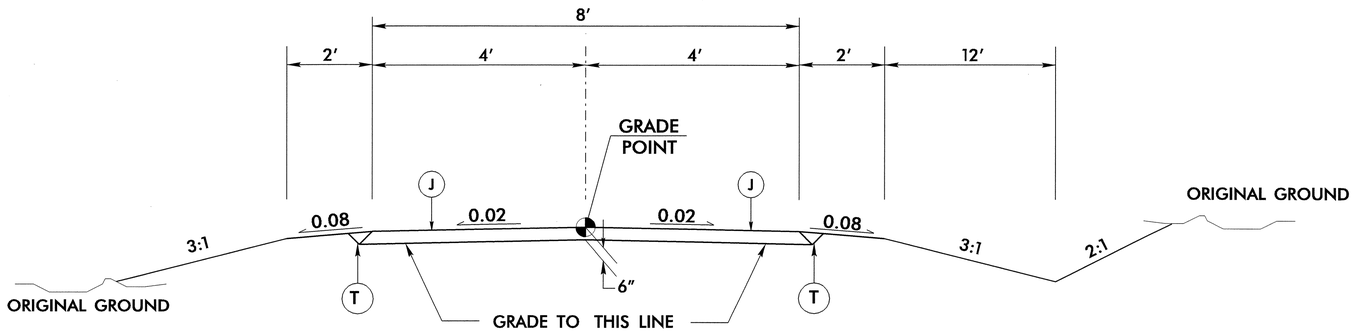
12-13-08

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 13748 ENGINEER JOHN-CHI CHEN

2/15/08

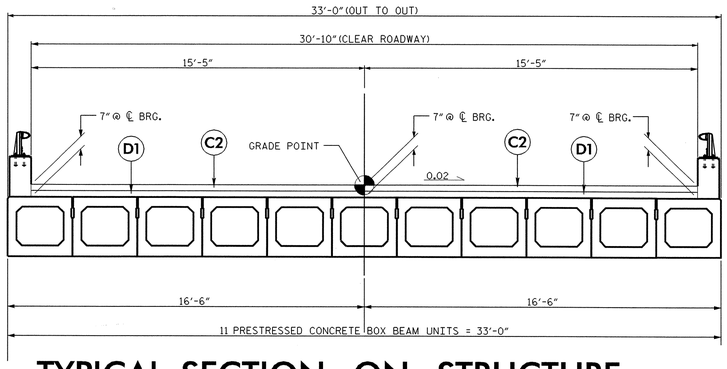
℄ DRIVE 1



TYPICAL SECTION NO. 3

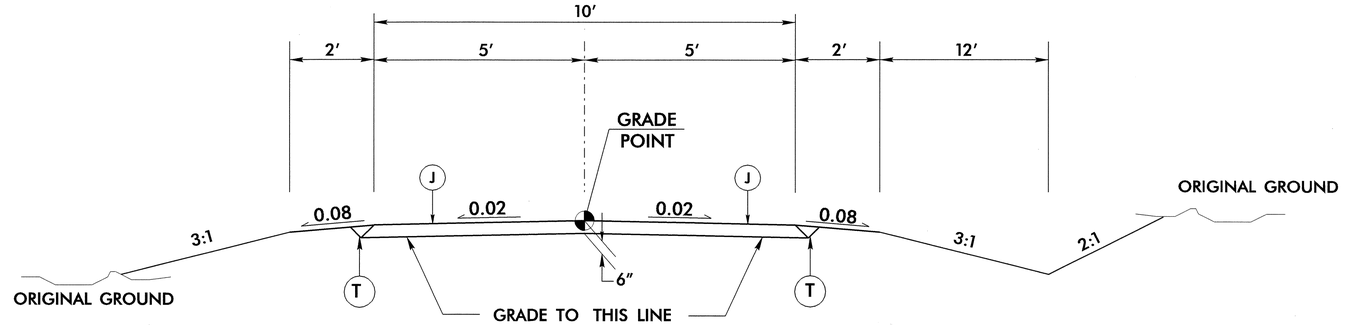
–DRIVE 1– STA. 10+10.03 TO –DRIVE 1– STA. 10+72.00

℄ –L– (SR 1169)



TYPICAL SECTION ON STRUCTURE

℄ DRIVE 2 & 3



TYPICAL SECTION NO. 4

–DRIVE 2– STA. 10+10.00 TO –DRIVE 2– STA. 11+00.00
–DRIVE 3– STA. 10+10.00 TO –DRIVE 3– STA. 11+56.47

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PROJECT REFERENCE NO.	SHEET NO.
B-3803	2-B

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

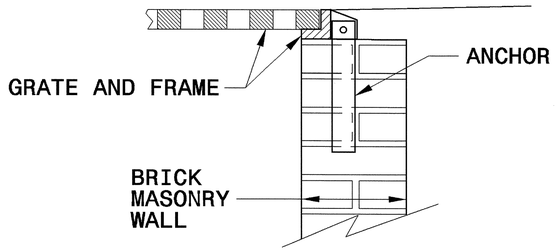
ENGLISH DETAIL DRAWING FOR

ANCHORAGE FOR FRAMES

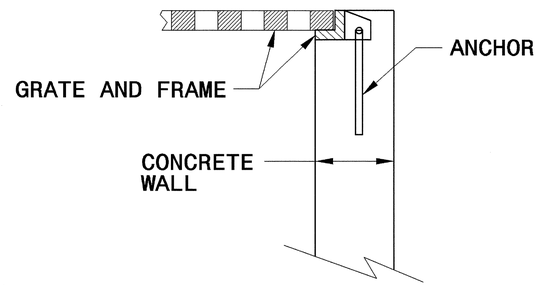
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1

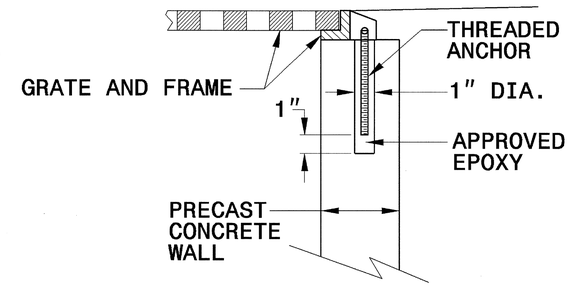
840D25



BRICK MASONRY CONSTRUCTION



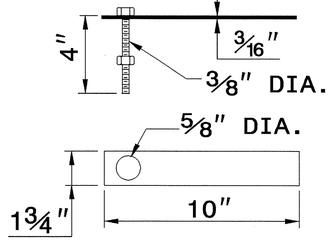
CONCRETE CONSTRUCTION



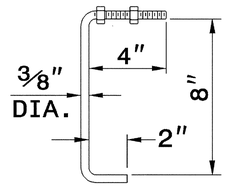
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

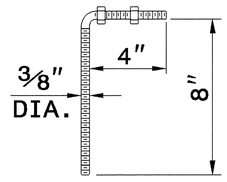
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



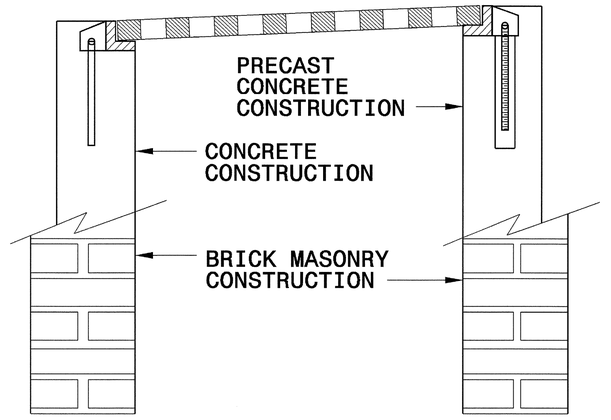
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR

ANCHORAGE FOR FRAMES

BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1

840D25

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HONEYCUTT
S/ JOEL S. HONEYCUTT
4/18/08

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

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ericward AT 19222203

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-3803	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201838

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ********** (15+72.00)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	300	CY	UNDERCUT EXCAVATION
0080000000-E	SP	600	TON	CLASS IV SUBGRADE STABILIZATION
0134000000-E	240	150	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	500	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	70	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0344000000-E	310	120	LF	18" SIDE DRAIN PIPE
0384000000-E	310	96	LF	30" RC PIPE CULVERTS, CLASS III
0726000000-E	310	8	LF	30" BIT COAT CS PIPE CULVERTS, TYPE B 0.079" THICK
0995000000-E	340	132	LF	PIPE REMOVAL
1121000000-E	520	125	TON	AGGREGATE BASE COURSE
1220000000-E	545	150	TON	INCIDENTAL STONE BASE
1489000000-E	610	490	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	180	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1525000000-E	610	380	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	55	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	40	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	13	EA	RIGHT OF WAY MARKERS
2022000000-E	815	68	CY	SUBDRAIN EXCAVATION
2033000000-E	815	51	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	300	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	9	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2132000000-N	816	1	EA	CONCRETE PAD FOR SHOULDER DRAIN PIPE OUTLET
2286000000-N	840	10	EA	MASONRY DRAINAGE STRUCTURES
2354200000-N	840	2	EA	FRAME WITH GRATE, STD 840.24
2355000000-N	840	8	EA	FRAME WITH GRATE, STD 840.29
2556000000-E	846	16	LF	SHOULDER BERM GUTTER
2577000000-E	846	350	LF	CONCRETE EXPRESSWAY GUTTER
3030000000-E	862	125	LF	STEEL BM GUARDRAIL
3045000000-E	862	37.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3559000000-E	866	500	LF	** STRAND BARBED WIRE FENCE WITH POSTS (4")
3578000000-N	SP	1	EA	GENERIC FENCING ITEM REMOVE & RESET EXISTING METAL GATE
3649000000-E	876	100	TON	RIP RAP, CLASS B
3656000000-E	876	665	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	417	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	10	EA	DRUMS
4435000000-N	1135	10	EA	CONES
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
4847000000-E	1205	5,840	LF	POLYUREA PAVEMENT MARKING LINES (4", **********) (STANDARD GLASS BEADS)
6000000000-E	1605	1,200	LF	TEMPORARY SILT FENCE
6006000000-E	1610	90	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	300	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	320	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	15	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	440	LF	SAFETY FENCE
6030000000-E	1630	660	CY	SILT EXCAVATION
6036000000-E	1631	1,350	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	20	SY	COIR FIBER MAT
6038000000-E	SP	250	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	200	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	8	EA	SPECIAL STILLING BASINS
6071030000-E	SP	90	LF	COIR FIBER BAFFLES
6071050000-E	SP	2	EA	**" SKIMMER (1-1/2")
6084000000-E	1660	1.5	ACR	SEEDING & MULCHING
6087000000-E	1660	1	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	1.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.15	ACR	REFORESTATION
				******* BEGIN SCHEDULE AA *******
				******* (3 ALTERNATES) *******
0372000000-E AA1	310	336	LF	18" RC PIPE CULVERTS, CLASS III
0396000000-E AA1	310	44	LF	42" RC PIPE CULVERTS, CLASS III
				*** OR ***
0372000000-E AA2	310	220	LF	18" RC PIPE CULVERTS, CLASS III
0536000000-E AA2	SP	116	LF	***" HDPE PIPE CULVERTS (18")
0536000000-E AA2	SP	44	LF	***" HDPE PIPE CULVERTS (42")
				*** OR ***
0372000000-E AA3	310	220	LF	18" RC PIPE CULVERTS, CLASS III
0540000000-E AA3	SP	116	LF	***" ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, ****" THICK (18", 0.064")
0540000000-E AA3	SP	44	LF	***" ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, ****" THICK (42", 0.079")
				******* END SCHEDULE AA *******

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CHECKED BY: GJL	DATE: 12/07

PROJECT REFERENCE NO.	SHEET NO.
B-3803	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	CLASS III R.C. PIPE OR ALUMINIZED CS PIPE, TYPE IR OR HDPE PIPE, TYPE S OR D 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	T.B.D.I. STD. 840.35	G.D.I. (N.S.) FRAME WITH TWO GRATES STD.840.29	G.D.I. (N.S.) FRAME WITH TWO GRATES STD.840.24	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN. FT.	REMARKS
-L- 13+55	LT	1																															36'														
-L- 14+47	RT	2		2841.6																																	1			1	1						
-L- 14+47	RT	2	3		2838.6	2835.3																				24'																					
-DR 1- 11+00	LT	4																															24'														
-L- 16+67	RT																																													40'	
-L- 17+21	LT	5																															60'														
-DR 2- 11+50	RT	6																													44'																
-L- 18+54	LT	7		2848.3																																	1			1	1						
-L- 18+34	LT	7	8		2845.3	2845.0																				32'																					
-L- 19+74	RT	9		2855.4																																	1			1	1						
-L- 19+70	CL	9	10		2852.4	2851.2			44'																																					44'	
-L- 20+10	LT	9	11		2858.1	2852.4			96'																																						
-L- 20+65	LT	11		2861.1																																	1			1	1						
-L- 20+78	LT	11	12		2859.6	2858.1			24'																																						
-L- 20+90	LT	12		2862.6																																	1			1	1						
-L- 21+04	LT	12	13		2861.0	2859.6			28'																																						
-L- 21+15	LT	13		2864.0																																	1			1	1						
-L- 21+26	LT	13	14		2862.3	2861.0			28'																																						
-L- 21+40	LT	14		2865.3																																	1			1	1						
-L- 21+65	LT	15		2866.6																																	1			1	1						
-L- 21+60	CL	15	16		2861.3	2859.2					48'																																			48'	
-L- 21+91	LT	15	17		2863.4	2861.3					48'																																				
-L- 22+10	LT	17		2868.6																																	1			1		1					
-L- 22+12	LT	17	18		2868.6	2863.4														8'																											
-L- 22+40	LT	17	19		2869.0	2863.4																				60'																					
-L- 22+69	LT	19		2872.0																																	1			1		1					
TOTALS									220'		96'									8'						116'					44'		120'				10			10	8	2				132'	

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOULDER WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS GRAU-350	M-350	CAT-1	TYPE III	AT-1	XIII	IMPACT ATTENUATOR TYPE 350 NO.	PERMITTED G	PERMITTED NG	REMARKS
-L-	13+34.50	14+72.00	RT	137.5'				14+72.00	5.417'	8.417'	118.75'		2.375'		1			1						
-L-	13+97.00	14+72.00	LT	75'			14+72.00		5.417'	8.417'		56.25'		1.125'	1			1						
-L-	16+72.00	17+22.00	RT	37.5'	12.5'		16+72.00		5.417'	8.417'								1	1					
-L-	16+72.00	17+22.00	LT	37.5'	25'			16+72.00	5.417'	8.417'								1	1					
	SUBTOTAL			287.5'	37.5'										2			4	2					
	ANCHOR DEDUCTIONS:																							
	GRAU-350 2 @ 50' =			100'																				
	TYPE III 4 @ 18.75' =			75'																				
	TOTAL DEDUCTIONS =			175'																				
	TOTAL			112.5'											2			4	2					
	SAY			125'																				
	ADDITIONAL GUARDRAIL POST = 5																							

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COMPUTED BY: BCF DATE: 12/07
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PROJECT REFERENCE NO.	SHEET NO.
B-3803	3-B

SUMMARY OF REMOVAL /BREAKING EXISTING ASPHALT-CONCRETE PAVEMENT IN SQUARE YARDS

STATION TO STATION	ASPHALT PAVEMENT REMOVAL			ASPHALT PAVEMENT BREAKING			CONCRETE PAVEMENT REMOVAL		
	LENGTH	WIDTH	SQUARE YARDS	LENGTH	WIDTH	SQUARE YARDS	LENGTH	WIDTH	SQUARE YARDS
-L- STA 12+12.00 TO 14+80.00			452.25 SY						
-L- STA 16+35.00 TO 17+22.00			126.05 SY						
-L- STA 17+22.00 TO 18+75.00						238.06 SY			
-L- STA 14+80.00 TO 15+02.00									48.19 SY
-L- STA 16+04.00 TO 16+36.00									75.66 SY
TOTAL			578.29 SY			238.06 SY			123.85 SY
SAY			580 SY			240 SY			130 SY

SUMMARY OF EARTHWORK IN CUBIC YARDS

LOCATION	UNCL. EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- STA. 10+50.00 TO STA. 14+72.00 (BEGIN BRIDGE)	25	0	1,554	1,529	0
-DRIVE1- STA. 10+10.03 TO STA. 10+70.00	0	0	66	66	0
SUBTOTAL:	25	0	1,620	1,595	0
-L- STA. 16+72.00 (END BRIDGE) TO STA. 23+75.00	2,002	0	1,025	0	977
-DRIVE2- STA. 10+10.00 TO STA. 11+09.01	2	0	230	228	0
-DRIVE3- STA. 10+10.00 TO STA. 11+17.18	46	0	227	181	0
SUBTOTAL:	2,050	0	1,482	409	977
PROJECT SUBTOTAL:	2,075	0	3,102	2,004	977
ADDITIONAL UNDERCUT	0	300	345	345	300
PROJECT TOTAL:	2,075	300	3,447	2,349	1,277
WASTE IN LIEU OF BORROW	0	0	0	-1,277	-1,277
LOSS DUE TO CLEARING & GRUBBING	-200	0	0	+200	0
ESTIMATED 5% TO REPLACE TOPSOIL IN BORROW PIT	0	0	0	64	0
GRAND TOTAL:	1,875	300	3,447	1,336	0
SAY:	1,900			1,350	

DDE = 150cu.yds.
GEOTECH REC'S
FABRIC for SOIL STABILIZATION = 500 SY
UNDERDRAIN = 300 FT
UNDERCUT = 300 CY
CLASS IV SUBGRADE STABILIZATION = 600 TON
SELECT GRANULAR MATERIAL, CLASS II OR III = 500 CY

"Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit."

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

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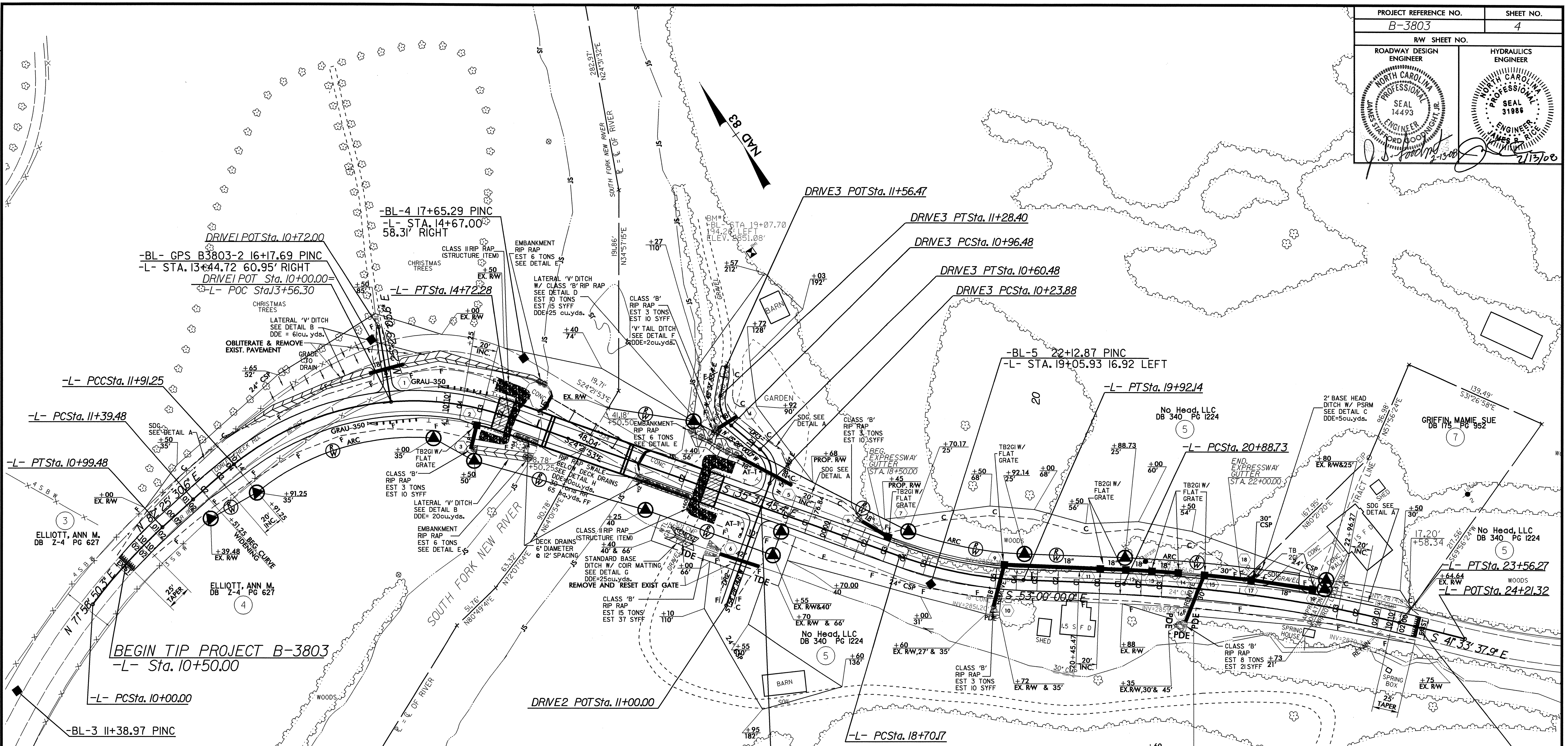
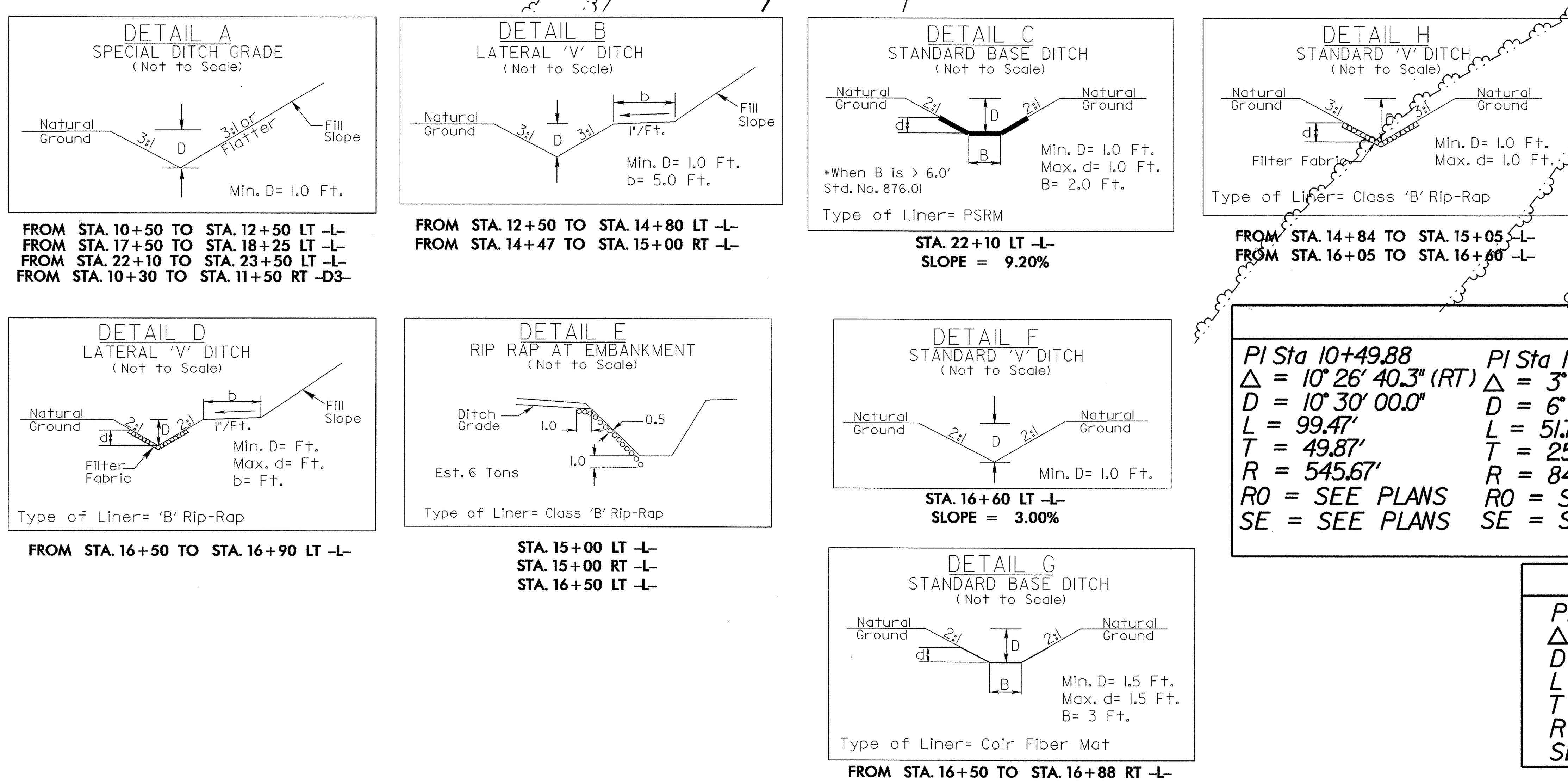
PROJECT REFERENCE NO.	SHEET NO.
B-3803	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
SEAL 14493 (NORTH CAROLINA PROFESSIONAL ENGINEER, JAMES STAFFORD GOODNIGHT, JR.) 2-13-08	SEAL 31986 (NORTH CAROLINA PROFESSIONAL ENGINEER, JAMES B. RICE) 2/13/08



-L- POT Sta.17+29 =
DRIVE2 POT Sta. 10+00.00
DRIVE3 POT Sta. 10+00.00



SEE SHEET 5 FOR -L- AND -DRIVE- PROFILE

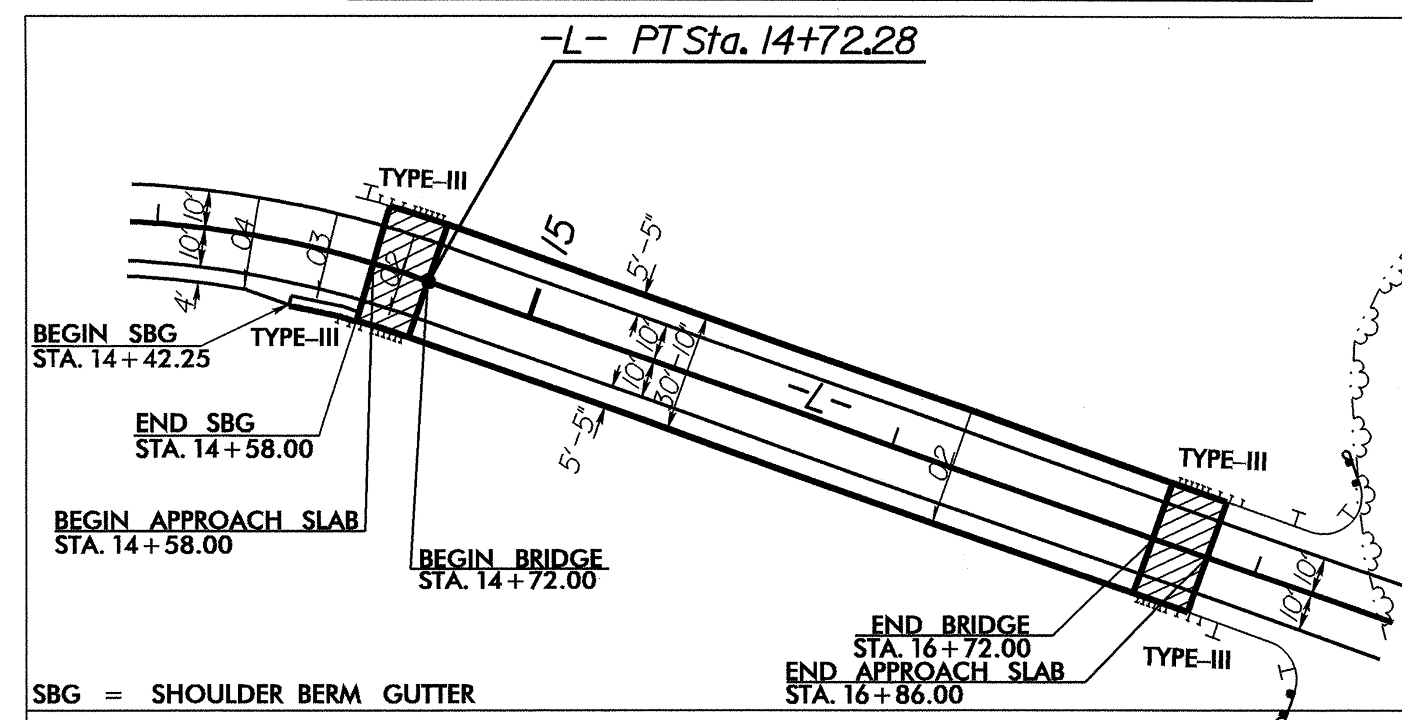
SEE SHEETS S1 - S28 FOR STRUCTURE PLANS

-L- CURVE DATA

PI Sta 10+49.88	PI Sta 11+65.37	PI Sta 13+45.42	PI Sta 19+31.63	PI Sta 22+22.95
Δ = 10° 26' 40.3" (RT)	Δ = 3° 29' 40.6" (RT)	Δ = 58° 33' 03.3" (RT)	Δ = 17° 28' 14.6" (LT)	Δ = 11° 26' 22.1" (RT)
D = 10° 30' 00.0"	D = 6° 45' 00.0"	D = 20° 50' 05.4"	D = 14° 19' 26.2"	D = 4° 16' 32.9"
L = 99.47'	L = 51.77'	L = 281.02'	L = 121.97'	L = 267.54'
T = 49.87'	T = 25.89'	T = 154.17'	T = 61.46'	T = 134.22'
R = 545.67'	R = 848.83'	R = 275.00'	R = 400.00'	R = 1,340.00'
RO = SEE PLANS	RO = SEE PLANS	4' CURVE WID.REQ'D	RO = SEE PLANS	RO = SEE PLANS
SE = SEE PLANS	SE = SEE PLANS	RO = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS
		SE = SEE PLANS		

DRIVE 3

PI Sta 11+14.14	PI Sta 10+44.85
Δ = 60° 57' 55.4" (RT)	Δ = 69° 54' 14.5" (LT)
D = 190° 59' 09.4"	D = 190° 59' 09.4"
L = 31.92'	L = 36.60'
T = 17.66'	T = 20.97'
R = 30.00'	R = 30.00'
SE = NC	SE = NC



BRIDGE SKETCH/RELATIONSHIP

REVISIONS

8/17/99

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PROJECT REFERENCE NO.	SHEET NO.
B-3803	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STEPHEN GOODNIGHT JR.

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 31986 ENGINEER JAMES R. PRICE

-L-

BM#1
-BL- STA 19+07.70
194.26' LEFT
ELEV. 2851.08'

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 8,141 CFS
DESIGN FREQUENCY	= 10 YRS
DESIGN HW ELEVATION	= 2837.5 FT
BASE DISCHARGE	= 22,004 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 2845.3 FT
OVERTOPPING DISCHARGE	= 14,000 CFS
OVERTOPPING FREQUENCY	= <50 YRS
OVERTOPPING ELEVATION	= 2840.7 FT

BEGIN GRADE
-L- STA. 10+75.00
EL. = 2,841.20
FEATHER PAVEMENT TO EXISTING

PI = 12+00.00
EL = 2,841.26'
VC = 90'
K = 134.1

PI = 13+22.00
EL = 2,840.50'
VC = 90'
K = 41.1

PI = 14+12.00
EL = 2,841.91'
VC = 90'
K = 71.6

BEGIN BRIDGE
STA. 14+72

END BRIDGE
STA. 16+72

3 SPAN 33" BOX BEAM GIRDERS
1@40', 2@80'

PI = 17+60.00
EL = 2,842.99'
VC = 230'
K = 39.3

PI = 20+24.00
EL = 2,859.26'
VC = 200'
K = 183.6

PI = 22+69.00
EL = 2,871.69'
VC = 90'
K = 52.4

END GRADE
-L- STA. 23+50.00
EL. = 2,877.19

+50'
+75

(+)0.0480%
(-)0.6230%
(+)1.5667%
(+)0.3103%
(+)6.1629%
(+)5.0735%
(+)6.7901%

SDG @ 0.50%
SDG @ 5.67%
SDG @ 7.19%

LAT 'V' @0.50%
LAT 'V' @ 3.29%
LAT 'V' DITCH @ 5.18%
LAT 'V' @7.16%

BEG DITCH GRADE RT
STA 10+50
ELEV = 2839.98

PI = 12+50
EL = 2839.98

PI = 13+00
EL = 2838.73

BEG DITCH GRADE RT
STA 14+46.7 RT
ELEV = 2835.25

END DITCH GRADE LT
STA 14+80
ELEV = 2832.81

END DITCH GRADE RT
STA 15+00
ELEV = 2840.25

BEG DITCH GRADE LT
STA 16+50
ELEV = 2832.81

END DITCH GRADE LT
STA 16+90
ELEV = 2835.67

BEG DITCH GRADE LT
STA 17+50
ELEV = 2839.56

END DITCH GRADE LT
STA 18+25
ELEV = 2844.95

BEG DITCH GRADE LT
STA 22+10
ELEV = 2868.62

END DITCH GRADE LT
STA 23+50
ELEV = 2876.56

FEATHER PAVEMENT TO EXISTING

SEE SHEET 4 FOR -L- ALIGNMENT

SEE SHEET 4 FOR -DRIVEWAY- ALIGNMENTS

-DRIVE1-

BEGIN GRADE
-DRIVE1- STA. 10+10.03
EL. = 2,841.44

PI = 10+57
EL = 2,840.50'
VC = 25'

END GRADE
-DRIVE1- STA. 10+70.00
EL. = 2,840.50

(-)2.0%
0%

-DRIVE2-

BEGIN GRADE
-DRIVE2- STA. 10+10.00
EL. = 2,843.59

PI = 10+30.00
EL = 2,841.99'
VC = 40'

PI = 10+75.00
EL = 2,836.87'
VC = 50'

END GRADE
-DRIVE2- STA. 11+09.01
EL. = 2,836.52

(-)8.0%
(-)17.37%
(-)1.4%

30" RCP
STA. 10+55
INV IN = 2833.2
INV OUT = 2831.9

-DRIVE3-

BEGIN GRADE
-DRIVE3- STA. 10+10.00
EL. = 2,843.99

PI = 10+50.00
EL = 2,842.39'
VC = 30'

PI = 11+20.00
EL = 2,836.33'
VC = 72'

END GRADE
-DRIVE3- STA. 11+56.47
EL. = 2,837.64

18" RCP
STA. 10+30
INV IN = 2839.6
INV OUT = 2835.7

(-)4.0%
(-)8.65%
(+)3.5920%

SDG @2.28%
SDG @10.36%
SDG @2.50%

BEG DITCH GRADE RT
STA 10+30
ELEV = 2839.56

PI = 10+60
EL = 2840.25

PI = 11+00
EL = 2836.10

18" RCP
STA. 11+00
INV IN = 2836.1
INV OUT = 2834.0

END DITCH GRADE RT
STA 11+50
ELEV = 2837.35

DITCH LEGEND

LEFT DITCH	-·-·-·-·-
RIGHT DITCH	----------

07-FEB-2008 13:36
r:\roadway\pro\b3803_rdy_pf1.dgn
$$$$USERNAME$$$$