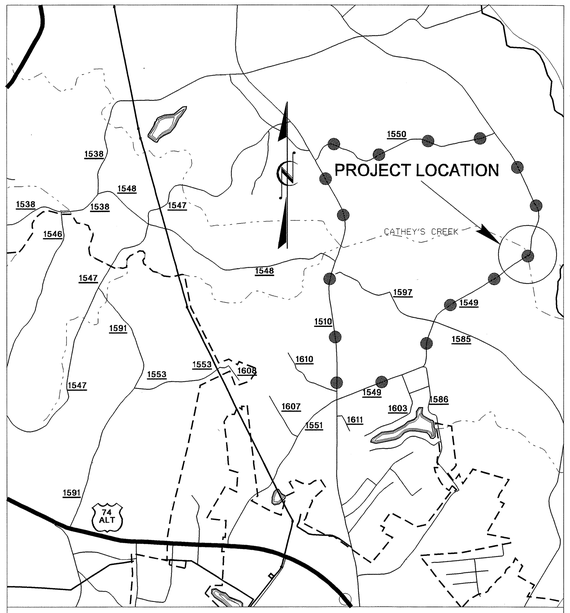
09/08/99

TIP PROJECT: B-4263

CONTRACT: C.201928

See Sheet 1-A For Index of Sheets



VICINITY MAP

OFF-SITE DETOUR ROUTE

THIS IS NOT A CONTROLLED-ACCESS PROJECT.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RUTHERFORD COUNTY

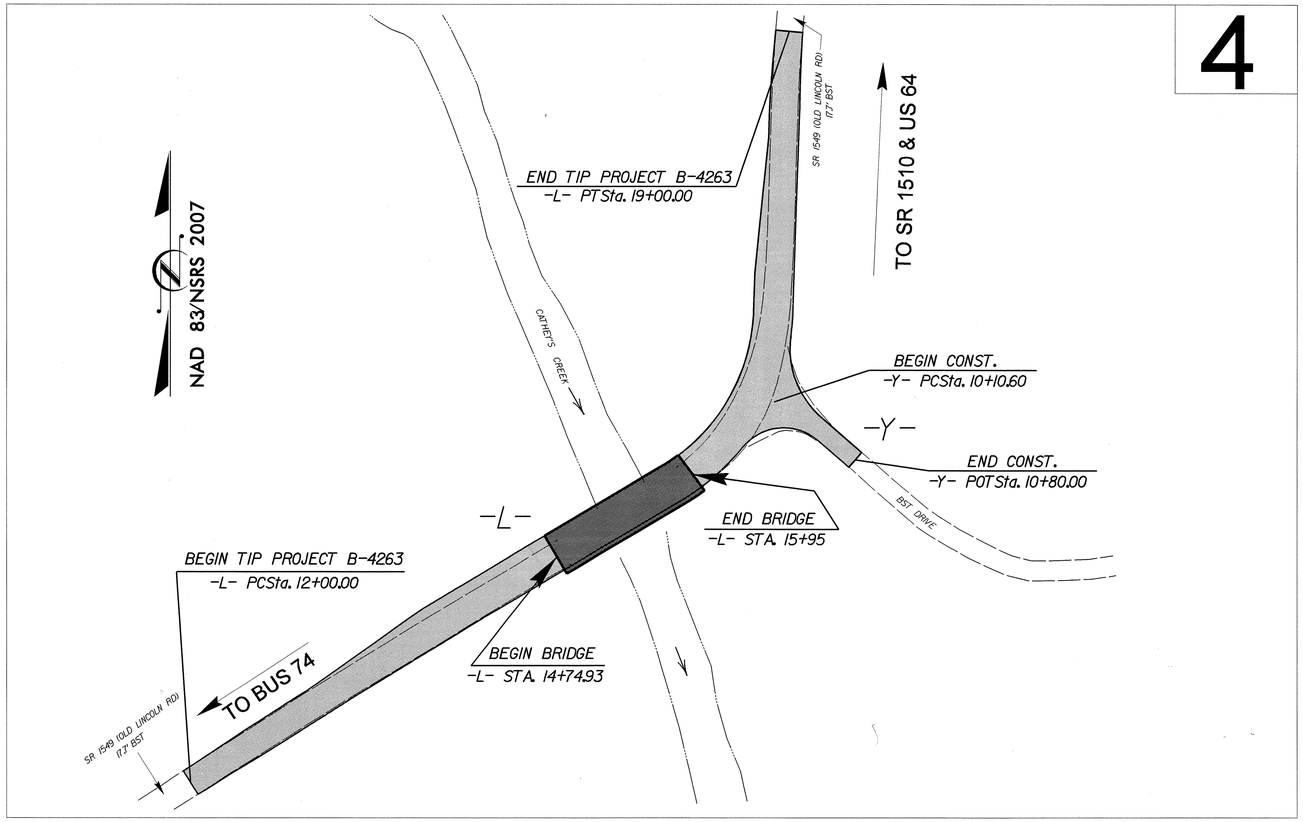
LOCATION: BRIDGE 41 OVER CATHEY'S CREEK AND APPROACHES ON SR 1549 (OLD LINCOLN RD.)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, GUARDRAIL, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4263	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33605.1.1	BRZ-1549 (5)	P.E.
33605.2.1	BRZ-1549 (5)	R /W,UTILITIES
33605.3.1	BRZ-1549 (5)	CONST.

4



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 = 580 VPD
ADT 2025 = 800 VPD
DHV = 10 %
D = 60 %
T = 5 % *
V = 20 MPH
* TTST 2% DUAL 3%
FUNC CLASS = LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT = 0.11 MILES
LENGTH STRUCTURE TIP PROJECT = 0.023 MILES
TOTAL LENGTH TIP PROJECT = 0.133 MILES

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 21, 2007

LETTING DATE:
SEPTEMBER 16, 2008

JIMMY GOODNIGHT PE
PROJECT ENGINEER

TIM GOINS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 20870 ENGINEER MARC T. SHOWN
SIGNATURE: 6-16-08 P.E.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT JR.
SIGNATURE: 6/16/08 P.E.

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
P.E.
STATE HIGHWAY DESIGN ENGINEER

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4263	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES S. PAPPAS DOUGLAS

6/20/08

INDEX OF SHEETS

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 II.

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.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS 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.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE AT&T

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

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

2006 ROADWAY ENGLISH 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	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.45	Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

3/15/06

PROJECT REFERENCE NO.	SHEET NO.
B-4263	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
- Wetland
- 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
- 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

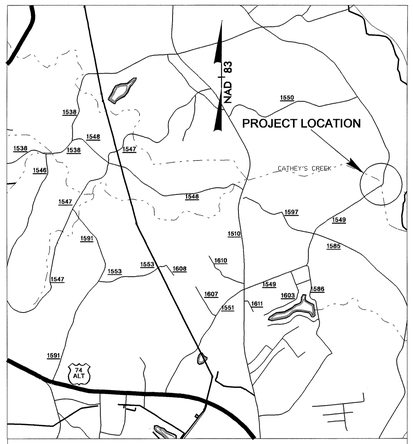
MISCELLANEOUS:

- 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.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4263	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4263



VICINITY MAP

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	605152.4260	1144890.7300	899.24	OUTSIDE PROJECT LIMITS	
2	BL-2	605413.8620	1145284.5740	876.42	OUTSIDE PROJECT LIMITS	
3	BL-3	605646.4170	1145577.1690	838.13	11+37.55	14.28 LT
GPS1	B4263-1	605884.1620	1146010.8540	830.42	16+25.16	20.47 RT
5	BL-5	606297.5450	1146038.1600	860.32	OUTSIDE PROJECT LIMITS	
GPS2	B4263-2	606630.5740	1146105.5080	886.33	OUTSIDE PROJECT LIMITS	

****
BM1 ELEVATION = 893.58
N 605324 E 1145189
L STATION 10+00
S 50° 17' 27.8" W DIST 366.04
NAIL SET IN BASE OF 12" POPLAR
****
****
BM2 ELEVATION = 832.78
N 605904 E 1146068
L STATION 16+62 59 RIGHT
CHISELED SQUARE ON HEADWALL
****
****
BM3 ELEVATION = 904.82
N 607004 E 1146298
L STATION 19+72
N 18° 28' 18.4" E DIST 809.52
PUNCH HOLE IN METAL CAP SET IN CONC.
****

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4263-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 605884.1620(ft) EASTING: 1146010.8540(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999766266 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4263-1" TO -L- STATION 10+00.00 IS S 58° 53' 23" W 631.03' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

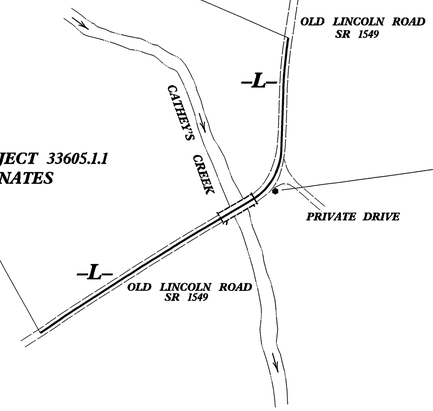
NC GRID
NAD 83

NCDOT GPS STA. "B4263-2"
LOCALIZED PROJECT COORDINATES
N = 606630.5740
E = 1146105.5080

-L- STA. 19+71.83 END STATE PROJECT 33605.1.1
LOCALIZED PROJECT COORDINATES
N = 606235.9631
E = 1146041.2595

NCDOT GPS STA. "B4263-1"
LOCALIZED PROJECT COORDINATES
N = 605884.1620
E = 1146010.8540

-L- STA. 10+00.00 BEGIN STATE PROJECT 33605.1.1
LOCALIZED PROJECT COORDINATES
N = 605558.1142
E = 1145470.5798



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:
   B4263_LS_CONTROL_070306.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)

NOTE: DRAWING NOT TO SCALE

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4263	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT JR.

6/16/08

PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON

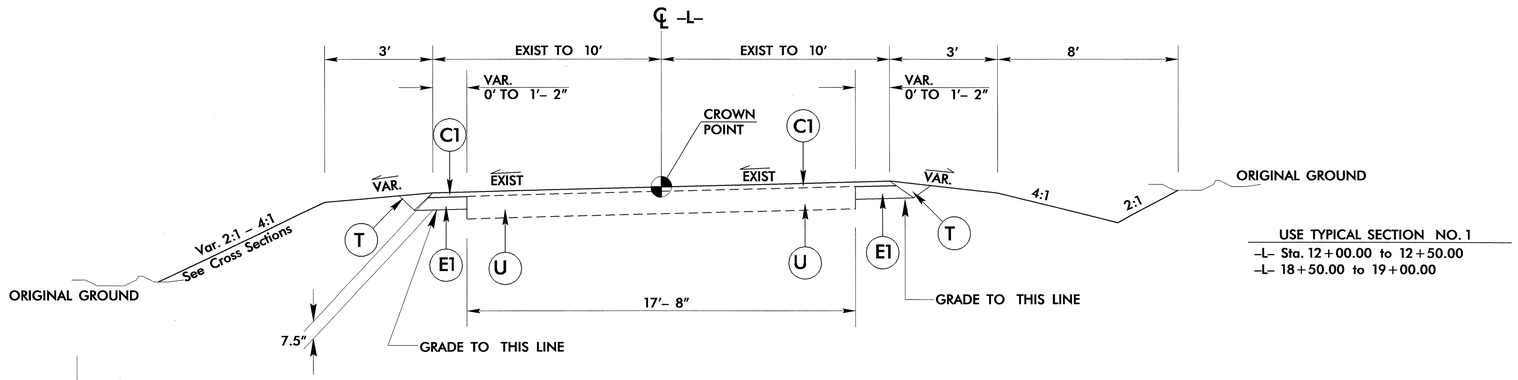
6/16/08

PAVEMENT SCHEDULE

(FINAL PAVEMENT DESIGN)

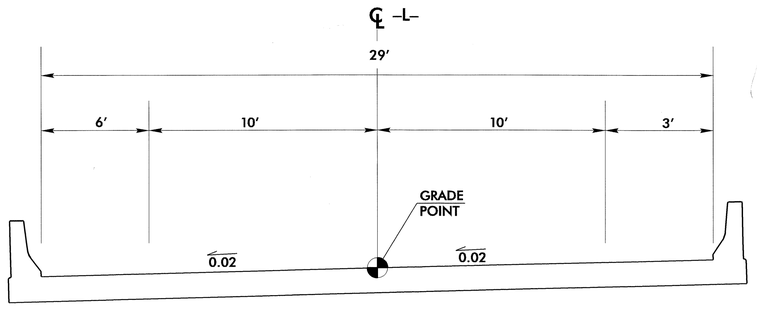
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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.
T	EARTH MATERIAL
U	EXISTING PAVEMENT

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



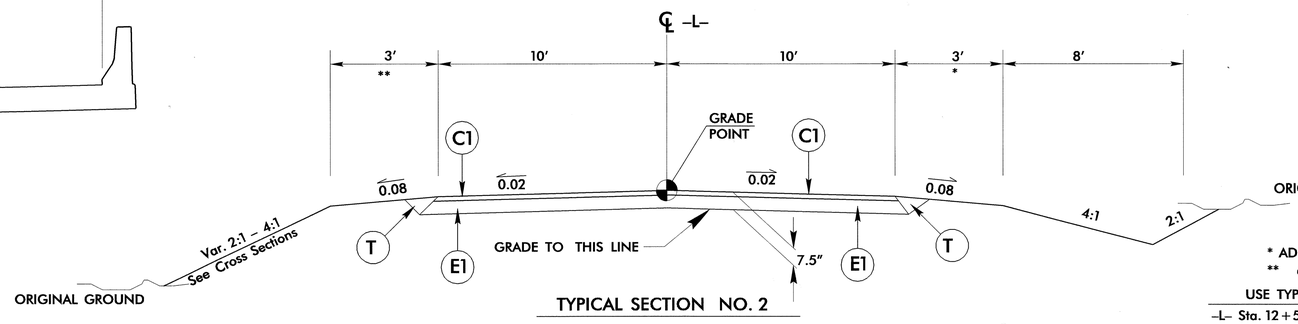
USE TYPICAL SECTION NO. 1
–L– Sta. 12+00.00 to 12+50.00
–L– 18+50.00 to 19+00.00

TYPICAL SECTION NO 1.



TYPICAL SECTION ON BRIDGE

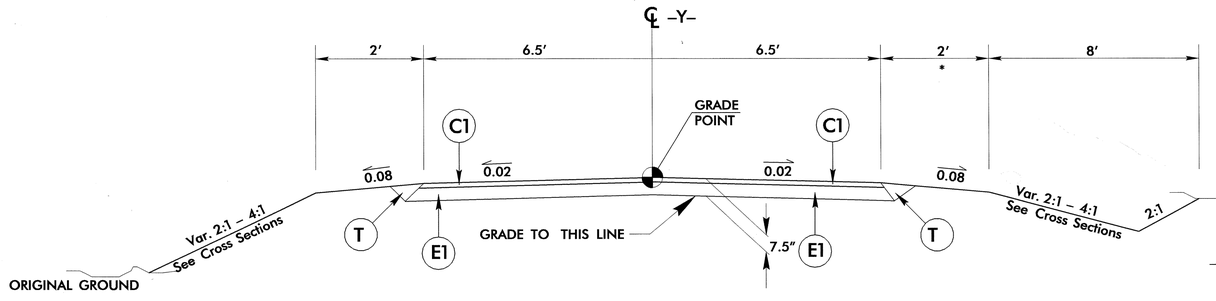
–L– Sta. 14+74.93 to –L– Sta. 15+95.00



TYPICAL SECTION NO. 2

* ADD 3′–0″ W/GUARDRAIL
** 6′–0″ P.S. IN GUARDRAIL LOCATIONS

USE TYPICAL SECTION NO. 2
–L– Sta. 12+50.00 to –L– Sta. 14+75 (Begin Bridge)
–L– Sta. 15+95.00 (End Bridge) to 18+50.00



* ADD 3′–0″ W/GUARDRAIL

USE TYPICAL SECTION NO. 3
–Y– Sta. 10+10.60 to 10+80.00

TYPICAL SECTION NO. 3

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PROJECT REFERENCE NO.	SHEET NO.
B-4263	2-A

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

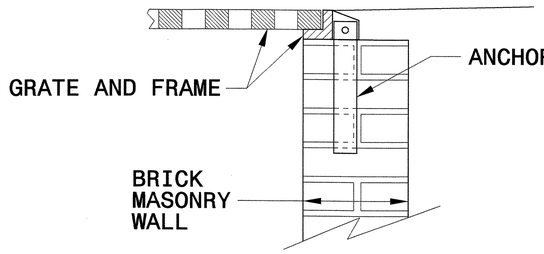
ENGLISH DETAIL DRAWING FOR

ANCHORAGE FOR FRAMES

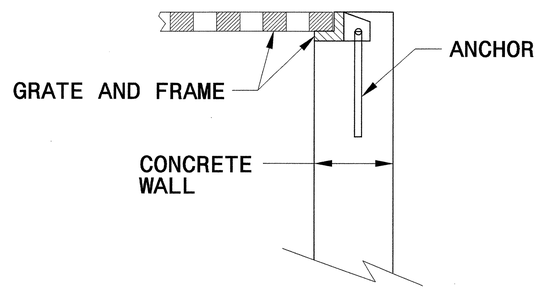
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1

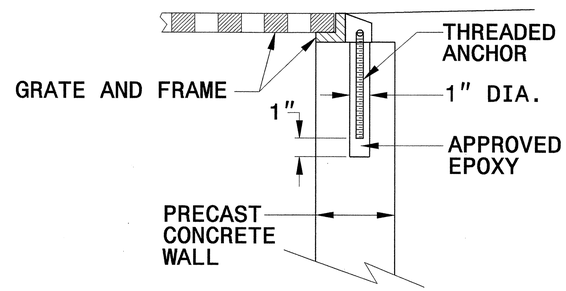
840D25



BRICK MASONRY CONSTRUCTION



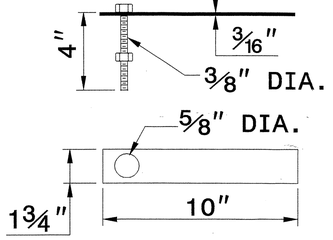
CONCRETE CONSTRUCTION



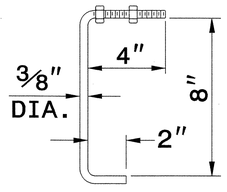
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

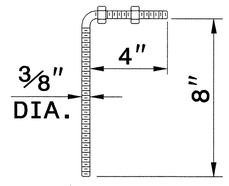
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



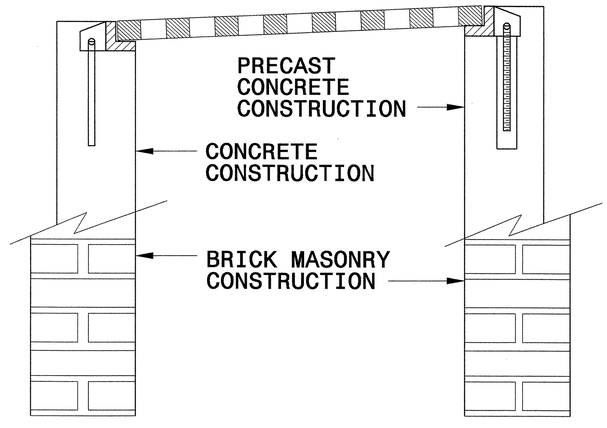
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



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. HOWERTON
6/19/08

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

SEE PLATE FOR TITLE

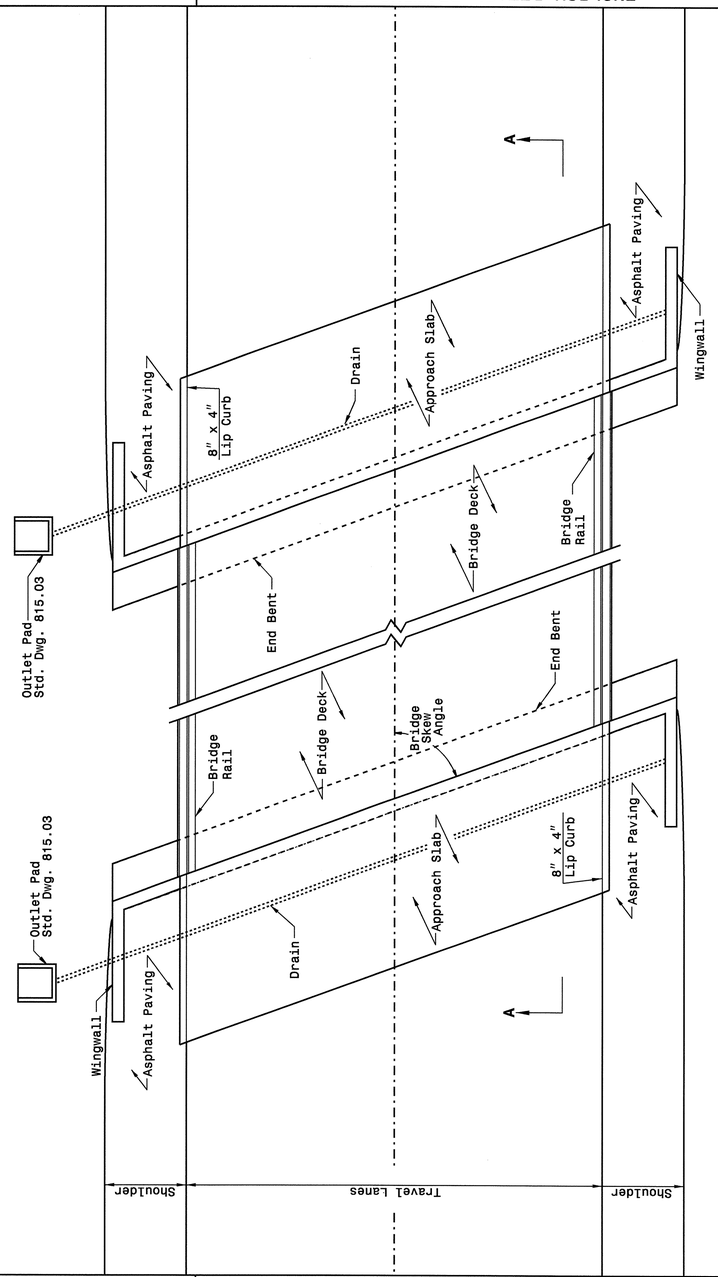
ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

PROJECT REFERENCE NO.	SHEET NO.
B-4263	2-B

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
SUB REGIONAL TIER

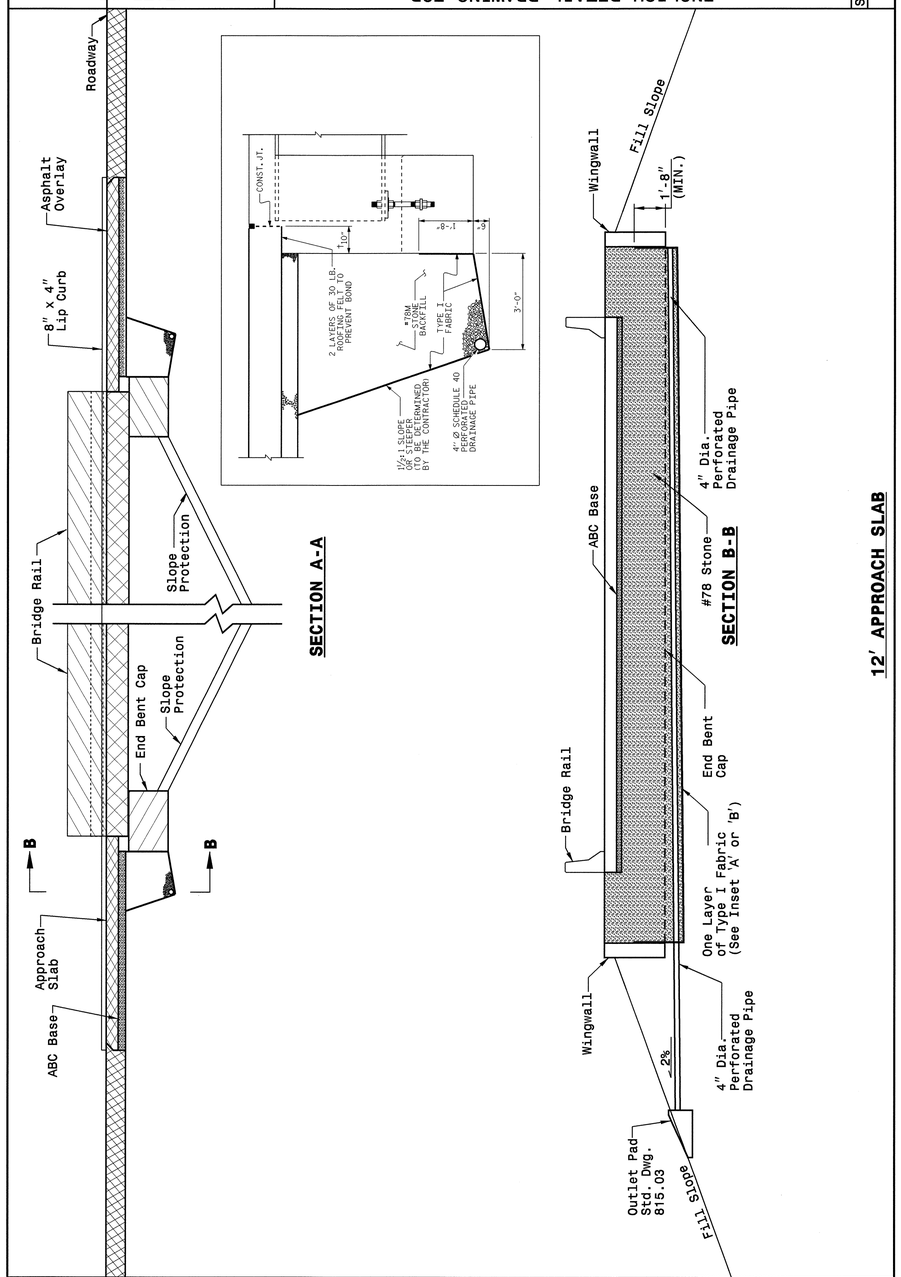
SHEET 1 OF 2 **422D11**

PLAN VIEW
12′ APPROACH SLAB



ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
SUB REGIONAL TIER

SHEET 2 OF 2 **422D11**



SECTION A-A

SECTION B-B

12′ APPROACH SLAB

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

BRIDGE APPROACH FILLS

SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: 8/5/08
FILE SPEC.: kkempf\english\bridge approach fills.dgn

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON
8/5/08

05-AUG-2008 15:02
s:\contracts\special details\kkempf\english\bridge approach fill.dgn
kkempf AT PS237489

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4263	3
R/W SHEET NO.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201928

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0022000000-E	225	1,750	CY	UNCLASSIFIED EXCAVATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ******* (15+34.93)
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	50	CY	UNDERCUT EXCAVATION
0063000000-N	SP	Lump Sum		GRADING
0080000000-E	SP	100	TON	CLASS IV SUBGRADE STABILIZATION
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	6.5	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0708000000-E	310	60	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	4	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
1220000000-E	545	30	TON	INCIDENTAL STONE BASE
1489000000-E	610	422	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	227	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	33	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	30	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	21	EA	RIGHT OF WAY MARKERS
2022000000-E	815	44.8	CY	SUBDRAIN EXCAVATION
2033000000-E	815	33.6	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	6	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)

ItemNumber	Sec #	Quantity	Unit	Description
2286000000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	130	LF	SHOULDER BERM GUTTER
3030000000-E	862	87.5	LF	STEEL BM GUARDRAIL
3045000000-E	862	137.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3270000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3649000000-E	876	2	TON	RIP RAP, CLASS B
3656000000-E	876	2,110	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	400	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	100	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	50	LF	BARRICADES (TYPE III)
4810000000-E	1205	6,000	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	3,300	LF	TEMPORARY SILT FENCE
6006000000-E	1610	495	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	80	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	50	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	75	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	1	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	200	LF	SAFETY FENCE

ItemNumber	Sec #	Quantity	Unit	Description
6030000000-E	1630	125	CY	SILT EXCAVATION
6036000000-E	1631	6,100	SY	MATTING FOR EROSION CONTROL
6038000000-E	SP	425	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	50	LF	1/4" HARDWARE CLOTH
6071010000-E	SP	50	LF	WATTLE
6071020000-E	SP	20	LB	POLYACRYLAMIDE (PAM)
6071030000-E	SP	100	LF	COIR FIBER BAFFLES
6084000000-E	1660	2	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	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	0.75	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

6/21/00

COMPUTED BY: JBW DATE: 05/07/08
CHECKED BY: DDL DATE: 05/14/08

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4263	3-A

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIE EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO.1					
-L- STA.12+00 TO 14+75	87		42		45
BRIDGE---14+75 TO 15+95					
-L- STA.15+95 TO 19+00	1604		716		888
-Y- STA. 10+10.60 TO 10+80	2		49	47	
SUBTOTAL	1693		807	47	933
WASTE TO REPLACE BORROW				-47	-47
GRAND TOTALS	1693		807		886
SAY	1750		850		930
SHOULDER BORROW		13			
ESTIMATED UNDERCUT		50			

NOTE: 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. Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

STATION	STATION	LOCATION	ASPHALT REMOVAL	ASPHALT BREAKUP	CONCRETE REMOVAL	CONCRETE BREAKUP
12+50 -L-	14+91.39 -L-	C/L	482.78			
15+81.15 -L-	18+50 -L-	C/L	537.7			
10+10.60 -Y-	10+80 -Y-	C/L	176.96			
	TOTAL		1197.44			
	SAY		1220			

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

STATION	SIZE / THICKNESS OR GAUGE	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) 12"	15"	18"	24"	30"	36"	42"	48"	BITUMINOUS COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) 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.	CU. YDS. C.S.P.	QUANTITIES FOR ENDWALLS ON MULTIPLE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL 'A' + (1.3 X COL. 'B') PER EACH (0' THRU 5.0')	LIN. FT. A 5.0' THRU 10.0'	LIN. FT. B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	FRAMES AND NARROW SLOT FLAT GRATES STD. 840.29	BITUMINOUS COATED. 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- 14+55.91		LT	1		828.7	825.6	818.0											20											1																	1				2@15"				
-L- 16+17.97		LT	2		829.5	826.4	818.0											40											1																	1				2@15"				
TOTALS																		60											2																	2				4@15"				

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 SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	XI	GRAU 350	B-77	XIII	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	13+93.68	14+74.93	LT	81.25				14+74.93	6	9		62.50		1.25			1	1												
-L-	13+31.18	14+74.93	RT	143.75			14+74.93		3	6	125		2.50				1	1		ANCHOR UNIT DEDUCTIONS										
-L-	15+95	17+38.75	LT		143.75		15+95		6	9	125		2.50				1	1		4 B-77 @ 18.75										
-L-	15+95	10+60 -Y-	RT		87.50			15+95	3	6		68.75		1.375				1		3 GRAU 350 @ 50.00			1							TRAILING END OF RIGHT LANE GUARDRAIL TERMINATES
TOTALS				225.00	231.25															1 AT-1 @ 6.25										ON -Y- LINE TO ACCOMMODATE ACCESS AND SIGHT DISTANCE
LESS ANCHOR UNITS				137.50	93.75															TOTAL = 231.25										
SAY				87.50	137.50																									
ADDITIONAL GUARDRAIL POSTS		5 each																												

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$$$$STANDARD$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4263	4
R/W SHEET NO.	

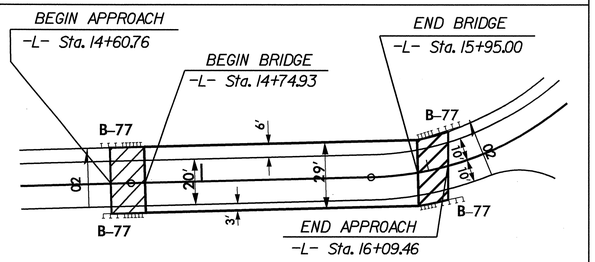
ROADWAY DESIGN ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GODDIGHT, JR. 6-16-08

HYDRAULICS ENGINEER: NORTH CAROLINA PROFESSIONAL SEAL 20970 ENGINEER MARC T. SHOWN 6-16-08

REVISIONS

8/17/99

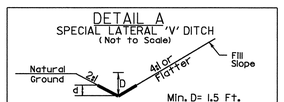
SKETCH OF PAVEMENT IN RELATION TO BRIDGE



See Sheets S-1 thru S-? For Structure Plans

PROP APPROACH SLAB

DETAIL A
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



FROM -L- STA. 17+00 TO STA. 19+00 RT.

NAD 83/NSRS 2007

BEGIN TIP PROJECT B-4263
-L- POCSta. 12+00.00

END TIP PROJECT B-4263
-L- POC Sta. 19+00.00

-L-

PI Sta 12+34.52	PI Sta 16+51.00	PI Sta 19+09.94
Δ = 3° 31' 00.0" (RT)	Δ = 57° 21' 00.0" (LT)	Δ = 6° 49' 00.0" (RT)
D = 0° 45' 00.0"	D = 40° 55' 32.0"	D = 5° 30' 00.0"
L = 468.89'	L = 140.13'	L = 123.94'
T = 234.52'	T = 76.57'	T = 62.04'
R = 7,639.44'	R = 140.00'	R = 1,041.74'
SE = EXIST	SE = SEE PLANS	SE = EXIST
RO = EXIST	RO = SEE PLANS	RO = EXIST

SEE SHEET 5 FOR -L- PROFILE
SEE SHEET 5 FOR -Y- PROFILE

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-4263	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 14493 ENGINEER JAMES STAFFORD GOODNIGHT

6-16-08

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 030547 ENGINEER MARC T. SHOWN

6-16-08

BM1 ELEVATION = 893.58
N 605324 E 1145189
BL STATION 8+44 22 RIGHT
NAIL SET IN BASE OF 12" POPLAR

BM2 ELEVATION = 832.78
N 605904 E 1146068
BL STATION 18+65 56 RIGHT
CHISELED SQUARE ON HEADWALL
L STA 16+61.50 59.39' RT

BM3 ELEVATION = 904.82
N 607004 E 1146298
BL STATION 25+95
N 27^ 15' 11.7" E Dist 419.80
PUNCH HOLE IN METAL CAP SET IN CONC.

-L-

END RESURFACING
BEGIN GRADE
-L- STA 12+50.00
ELEV = 831.78

PI = 13+35.00
EL = 828.28'
VC = 170'
K = 35

PI = 16+45.00
EL = 830.55'
VC = 185'
K = 27

END GRADE
BEGIN RESURFACING
-L- STA 18+50.00
ELEV = 846.32'

-L- STA 19+00
END RESURFACING

1.25"
RESURFACING

-L- STA 12+00
BEGIN RESURFACING

(-)4.1170%

(+)0.7336%

(+)7.6889%

(+)1.6000%

(+)3.0000%

(+)10.6000%

1.25"
RESURFACING

PI =17+50.000
ET = 835.00

PI =18+50.000
ET = 842.60

END RT. SPECIAL LATERAL 'V' DITCH
-L- STA.19+00 EL=848.0

BEGIN RT. SPECIAL LATERAL 'V' DITCH
-L- STA.17+00 EL=833.50

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 5500	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 823.0	FT
BASE DISCHARGE	= 7900	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 825.0	FT
OVERTOPPING DISCHARGE	= N/A	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 828.8	FT
DATE OF SURVEY	= 01/22/2007	
W.S. ELEVATION AT DATE OF SURVEY	= 813.1	FT

SEE SHEET 4 FOR L DESIGN

-Y-

BEGIN GRADE
-Y- STA 10+10.60
ELEV = 833.36'

END GRADE
-Y- STA 10+80.00
ELEV = 832.26

PI = 10+30.00
EL = 833.94'
VC = 30'
K = 4

PI = 10+65.00
EL = 832.40'
VC = 30'
K = 9

(-)4.4200%

(+)3.0000%

(-)0.9000%

SEE SHEET 4 FOR Y DESIGN

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