

09/08/09

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Symbolology

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**BEAUFORT COUNTY**

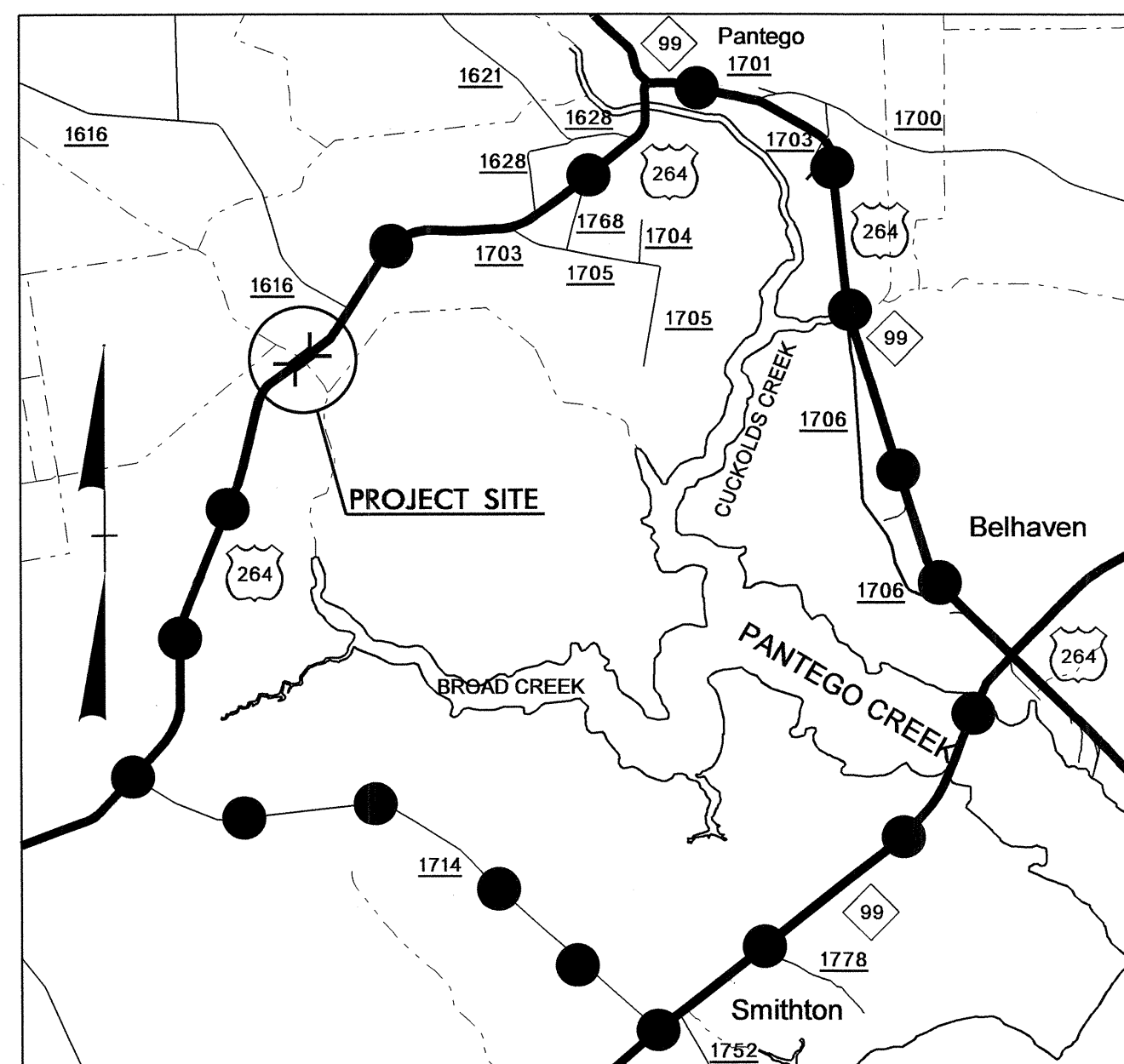
LOCATION: BRIDGE NO. 51 OVER BROAD CREEK ON US 264

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4413	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33690.1.1	BRSTP-0264(24)	PE	
33690.2.1	BRSTP-0264(24)	ROW, UTIL	
33690.3.1	BRSTP-0264(24)	CONST.	

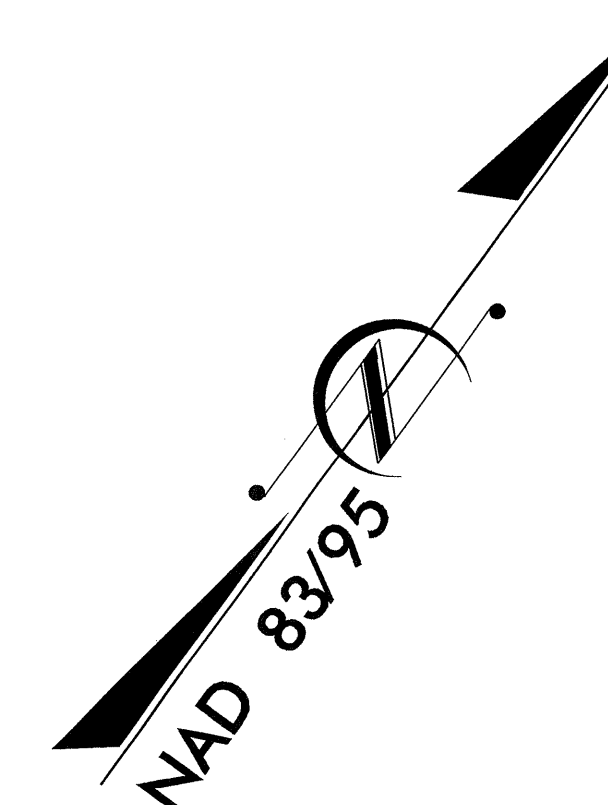
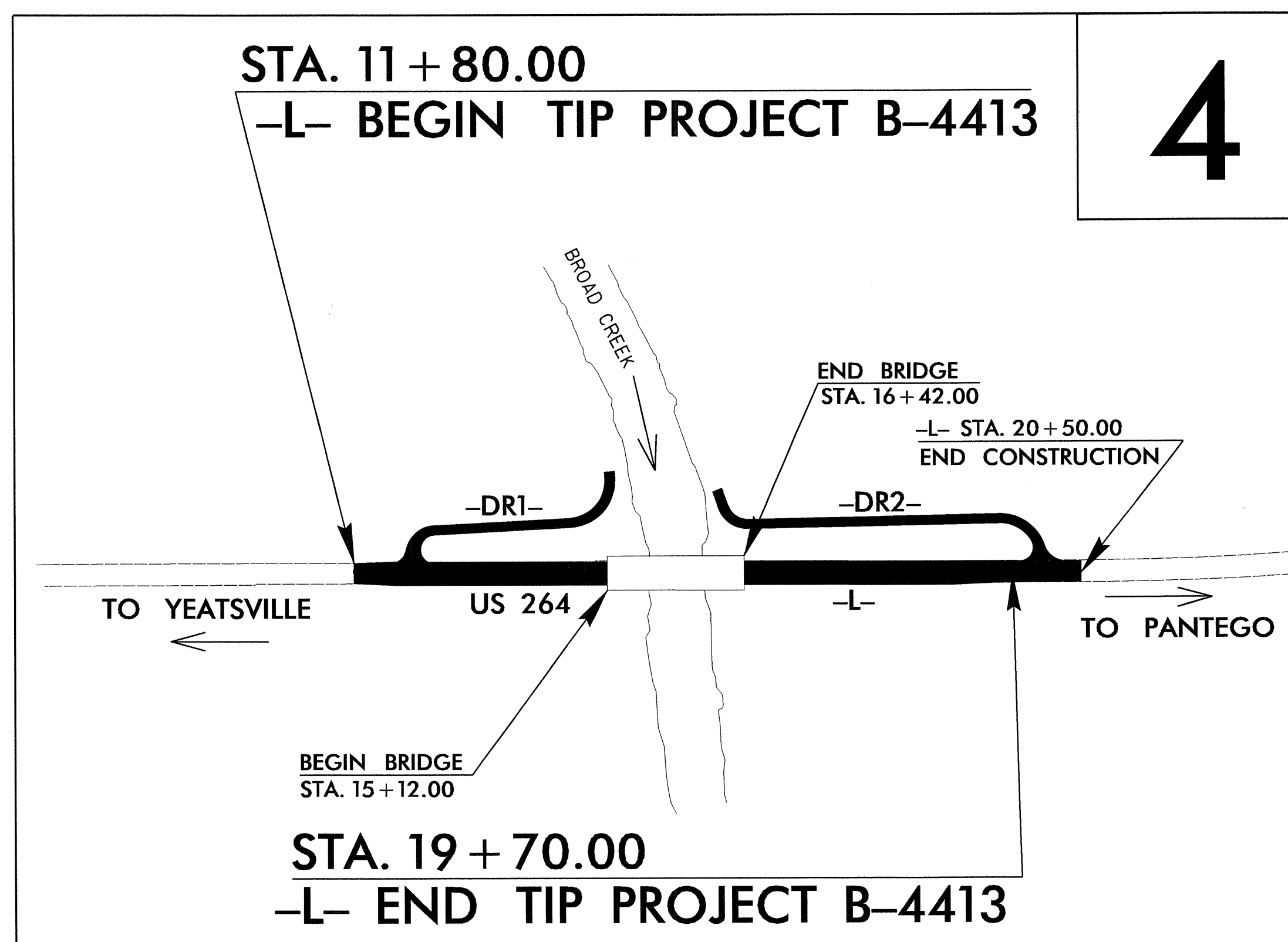
TIP PROJECT: B-4413

CONTRACT: C202658

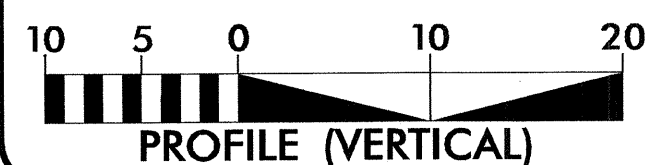


VICINITY MAP

●●●●● OFFSITE DETOUR



GRAPHIC SCALES



**DESIGN DATA**

ADT 2010 =	3,792
ADT 2030 =	6,100
DHV =	10 %
D =	60 %
T =	7 % *
V =	60 MPH
FUNC. CLASS. =	RURAL MINOR ARTERIAL
REGIONAL TIER	*(TTST 3% + DUAL 4%)

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4413	=	0.125 MI
LENGTH STRUCTURE TIP PROJECT B-4413	=	0.025 MI
TOTAL LENGTH TIP PROJECT B-4413	=	0.150 MI

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

2012 STANDARD SPECIFICATIONS	
RIGHT OF WAY DATE: OCTOBER 1, 2010	G. E. BREW, PE PROJECT ENGINEER
LETTING DATE: OCTOBER 16, 2012	THAD F. DUNCAN, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

*W. Salem Cail* 7/19/12  
SIGNATURE: W. SALEM CAIL  
SEAL 022000  
NORTH CAROLINA PROFESSIONAL ENGINEER  
W. SALEM CAIL

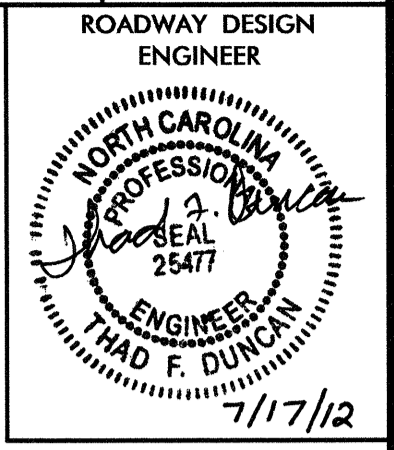
ROADWAY DESIGN ENGINEER

*Thad F. Duncan* 7/17/12 P.E.  
SIGNATURE: THAD F. DUNCAN  
SEAL 25477  
NORTH CAROLINA PROFESSIONAL ENGINEER  
THAD F. DUNCAN

DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER P.E.

17-JUL-2012 08:44  
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\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2 THRU 2-A	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2-B	GEOTEXTILE FOR EMBANKMENT STABILIZATION
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT/CONCRETE PAVEMENT REMOVAL
4	PLAN SHEET
5	PROFILE SHEET
TMP-1	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
RF-1	REFORESTATION PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UC-1 THRU UC-2	UTILITIES CONSTRUCTION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1 THRU X-4	CROSS-SECTIONS
S-1 THRU S-20	STRUCTURE PLANS

**GENERAL NOTES:**

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 11/01/11

**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 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.

**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 Beaufort County (Water), Tideland EMC - Electric Power, Century Link - Telephone, and Tri-County - Telephone- Telephone and Cable.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

**RIGHT-OF-WAY MARKERS:**

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

2012 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 January, 2012 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	
300.01	Method of Pipe Installation
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	
815.03	Pipe Underdrain and Blind Drain
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
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
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

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	②③
Existing Fence Line	-x-x-x-
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	○
Well	○
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	-----
False Sump	⊠

**RAILROADS:**

Standard Gauge	-----
RR Signal Milepost	○
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite Marker	⊠
Existing Control of Access	⊗
Proposed Control of Access	⊗
Existing Easement Line	----- E
Proposed Temporary Construction Easement	----- E
Proposed Temporary Drainage Easement	----- TDE
Proposed Permanent Drainage Easement	----- PDE
Proposed Permanent Drainage / Utility Easement	----- DUE
Proposed Permanent Utility Easement	----- PUE
Proposed Temporary Utility Easement	----- TUE
Proposed Permanent Easement with Iron Pin and Cap Marker	⊠

**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
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	⊕
Storm Sewer	----- S

**UTILITIES:**

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊠
Power Transformer	⊠
U/G Power Cable Hand Hole	⊠
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	⊕
Telephone Booth	⊠
Telephone Pedestal	⊠
Telephone Cell Tower	⊠
U/G Telephone Cable Hand Hole	⊠
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	⊕
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	⊠
TV Tower	⊗
U/G TV Cable Hand Hole	⊠
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

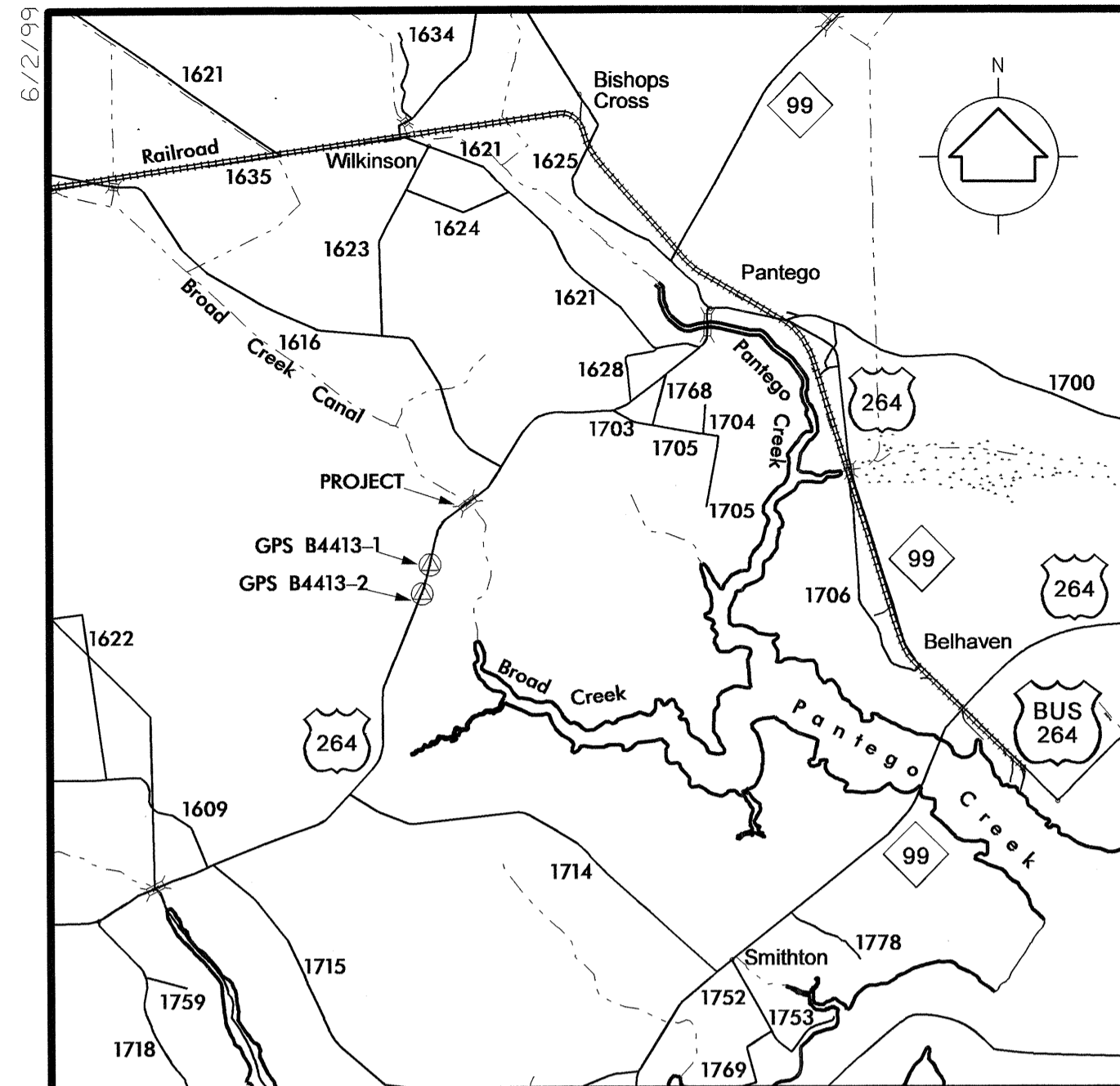
**SANITARY SEWER:**

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	⊠
Utility Unknown U/G Line	----- 7UTL
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.

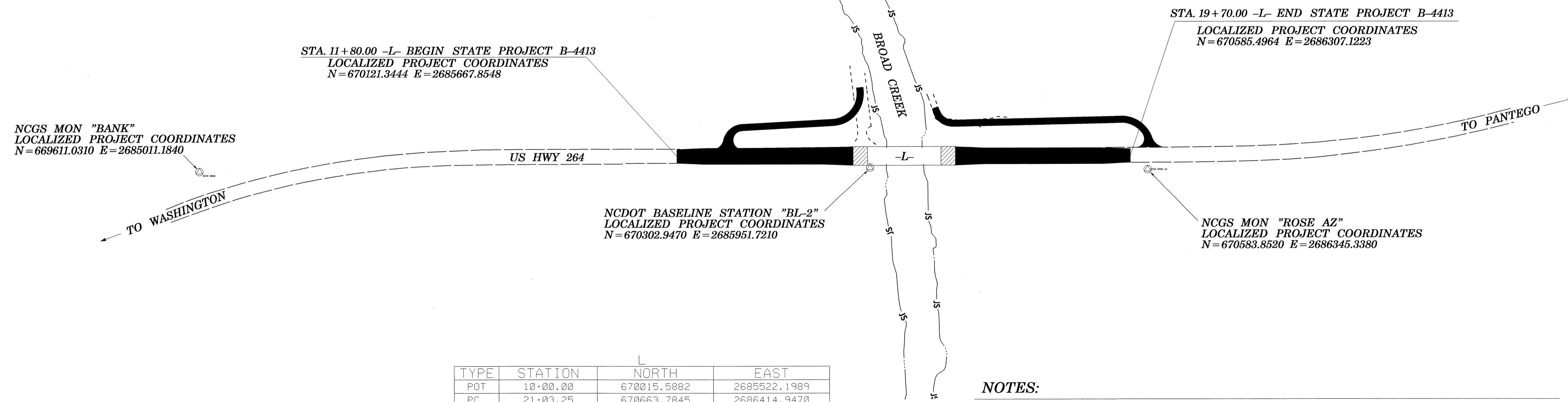
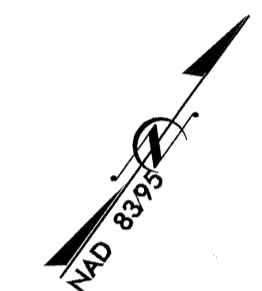
# SURVEY CONTROL SHEET B-4413



VICINITY MAP

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	NCGS BANK	669611.0310	2685011.1840	8.96	OUTSIDE PROJECT LIMITS	
2	BL-2	670302.9470	2685951.7210	5.87	15+16.40	19.83 RT
3	NCGS ROSE AZ	670583.8520	2686345.3380	5.54	19+99.96	23.78 RT

FINAL ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	11+80.00	50.00	670080.8838	2685697.2307
L	11+80.00	65.00	670068.7458	2685706.0437
L	18+50.00	-90.00	670587.8203	2686157.1403
L	18+50.00	-50.00	670555.4523	2686180.6416
L	18+80.00	-90.00	670605.4463	2686181.4163
L	18+80.00	-50.00	670573.0783	2686204.9176
L	19+70.00	50.00	670545.0359	2686336.4981
L	19+70.00	65.00	670532.8979	2686345.3111



TYPE	STATION	NORTH	EAST
POT	10+00.00	670015.5882	2685522.1989
PC	21+03.25	670663.7845	2686414.9470
PT	28+93.63	671236.2231	2686953.1695
POT	34+10.95	671672.7519	2687230.7674

DR1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	670423.5202	2685838.5600
PC	10+29.79	670401.6407	2685858.7763
PT	11+11.49	670328.9169	2685853.5996
PC	12+69.42	670229.2708	2685731.0688
PT	13+14.90	670188.3697	2685725.7209
POT	13+35.14	670171.9927	2685737.6117

DR2			
TYPE	STATION	NORTH	EAST
POT	10+00.00	670461.4117	2685970.7385
PC	10+22.12	670449.1417	2685989.1386
PT	10+59.24	670450.2066	2686023.9223
PC	13+51.74	670627.0702	2686256.8977
PT	14+31.35	670616.6211	2686327.5915
POT	14+44.51	670605.9720	2686335.3229

**NOTES:**

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4413\_LS\_CONTROL\_090416.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)

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4413-1" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 668039.330(±) EASTING: 2684569.365(±) ELEVATION: 7.375(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999887015

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4413-1" TO -L- STATION 11+80.00 IS N27°48'59.5"E 2354.03 (±)

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

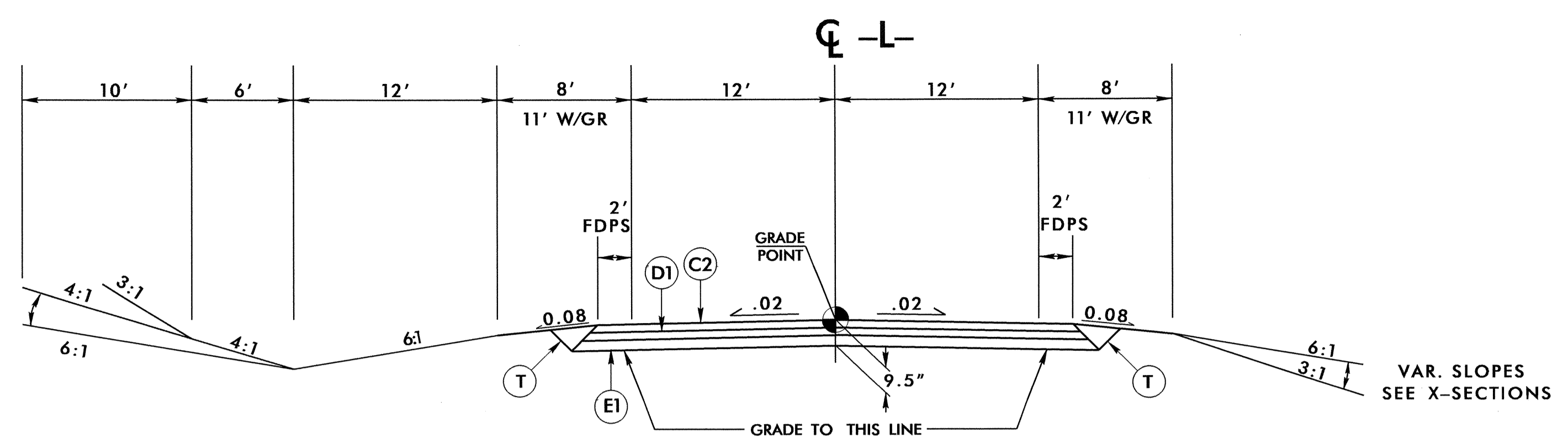
NOTE: DRAWING NOT TO SCALE

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PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 224 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
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 5 1/2" IN DEPTH.
J1	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
T1	SHOULDER RECONSTRUCTION.
U	EXISTING PAVEMENT.

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

VAR. SLOPES  
SEE X-SECTIONS

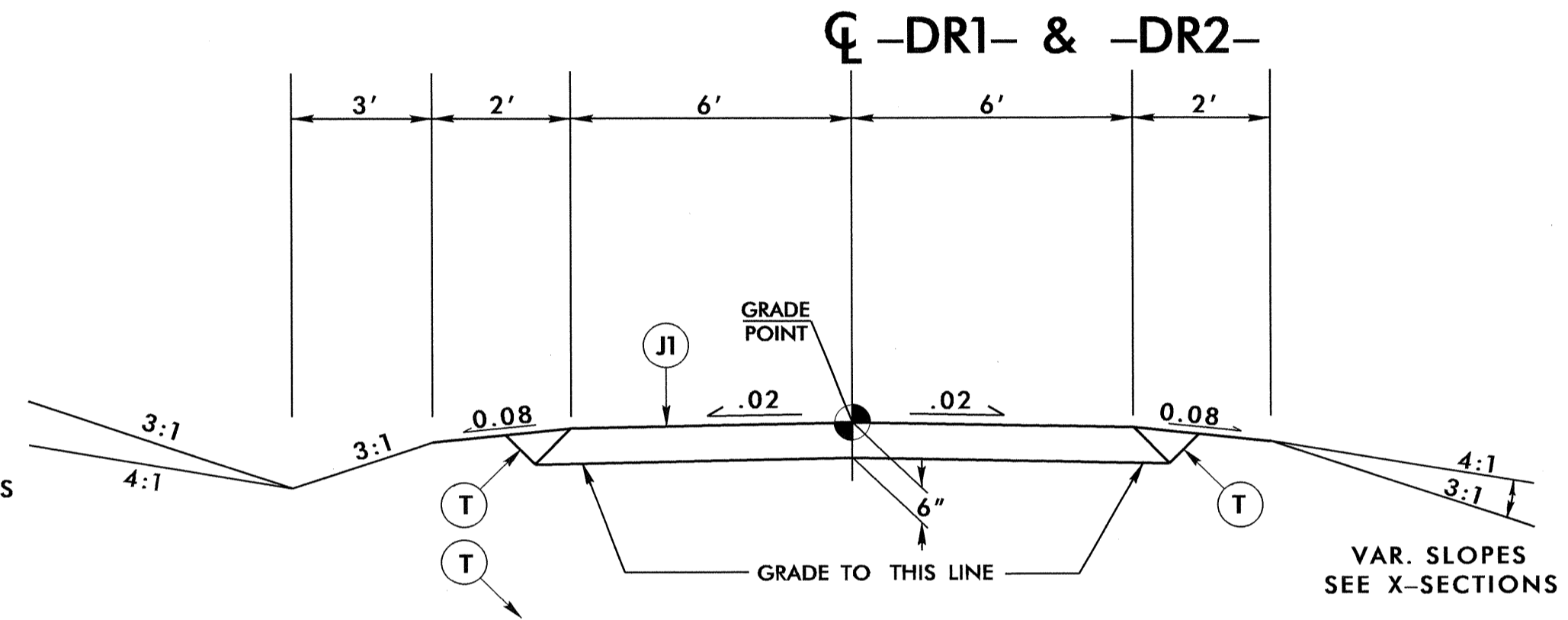


TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

- L- STA. 11+80.00 TO -L- STA. 12+30.00 TRANSITION FROM EXIST.
- L- STA. 12+30.00 TO -L- STA. 15+12.00 (BEGIN BRIDGE)
- L- STA. 16+42.00 (END BRIDGE) TO -L- STA. 19+20.00
- L- STA. 19+20.00 TO -L- STA. 19+70.00 TRANSITION TO EXIST.

VAR. SLOPES  
SEE X-SECTIONS



TYPICAL SECTION NO. 2

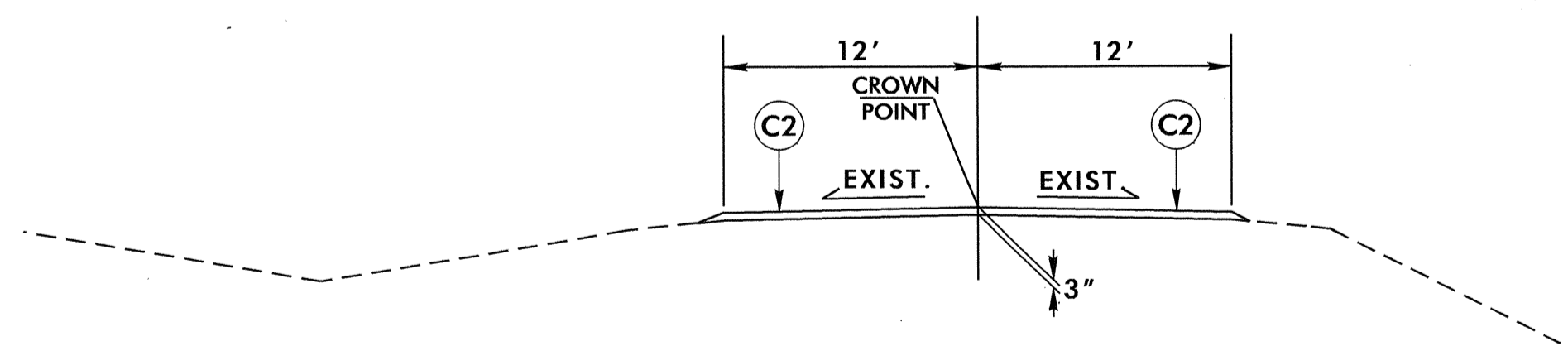
USE TYPICAL SECTION NO. 2

- USE GRASS ONLY
- DR1- STA. 10+25.00 TO -DR1- STA. 10+90.00
- DR2- STA. 10+14.00 TO -DR2- STA. 10+65.00

USE ABC

- DR1- STA. 10+90.00 TO -DR1- STA. 13+23.14
- DR2- STA. 10+65.00 TO -DR2- STA. 14+30.37

CL-L-



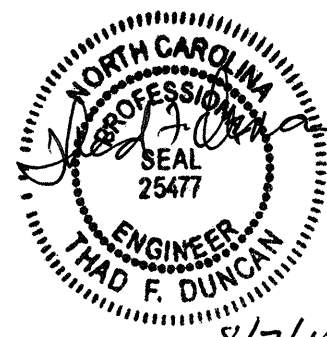
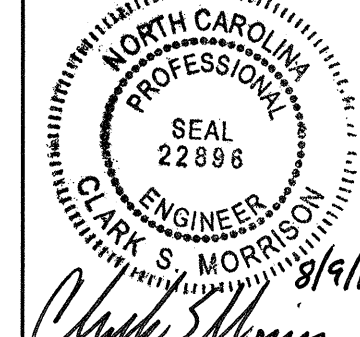
TYPICAL SECTION NO. 3

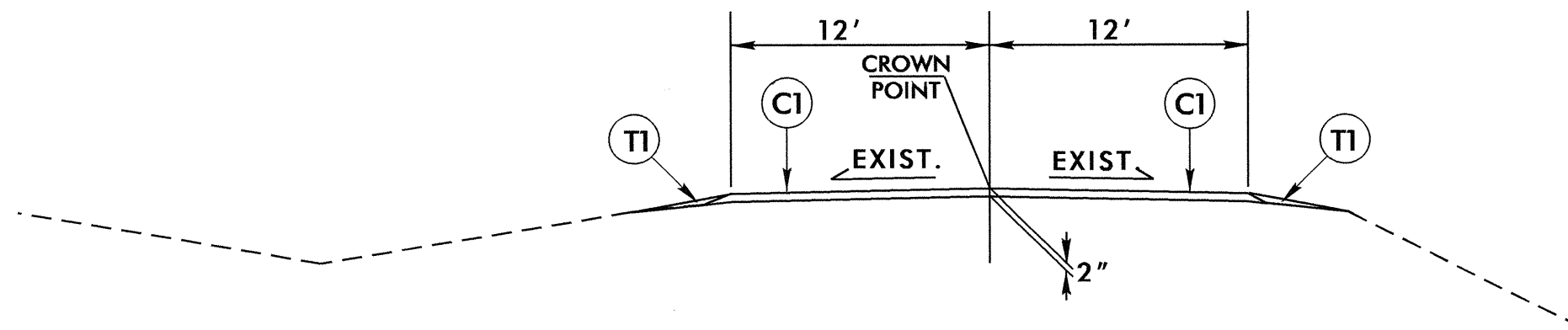
USE TYPICAL SECTION NO. 3

- L- STA. 19+70.00 TO -L- STA. 20+50.00

6/2/99

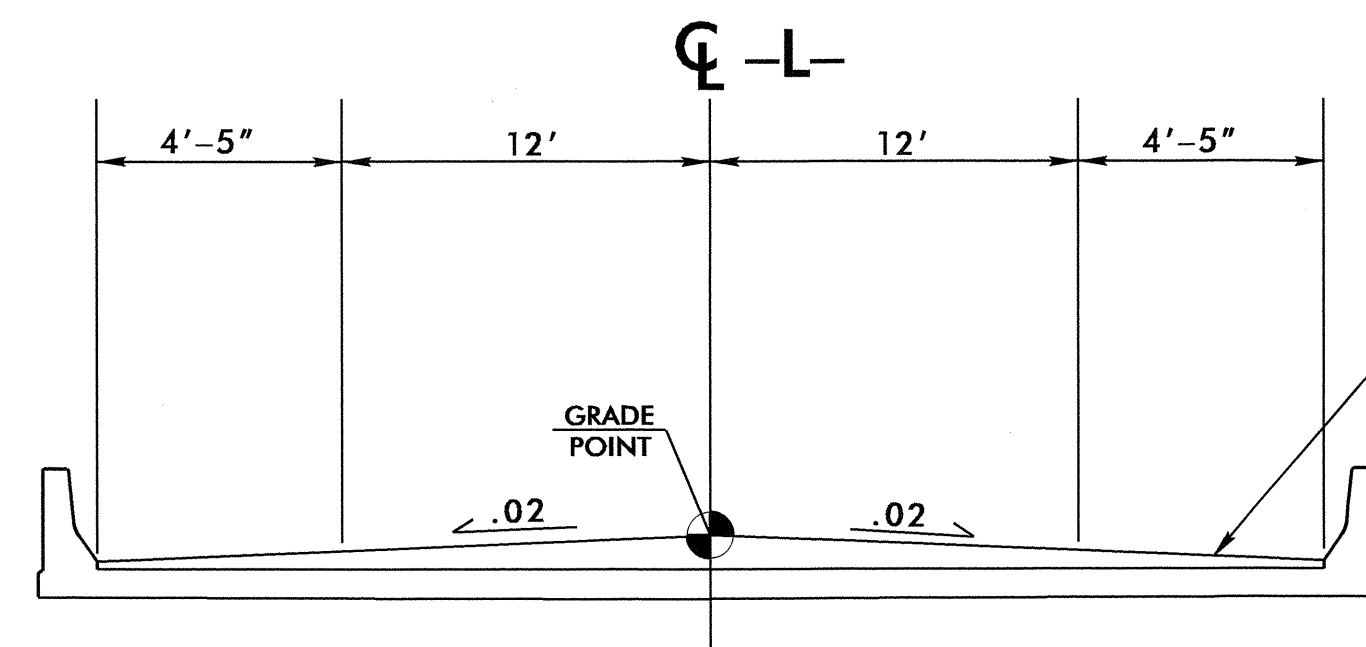
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	2" S9.5B
T1	SHOULDER RECONSTRUCTION

PROJECT REFERENCE NO. B-4413	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4  
SR 1714 ON THE OFFSITE DETOUR

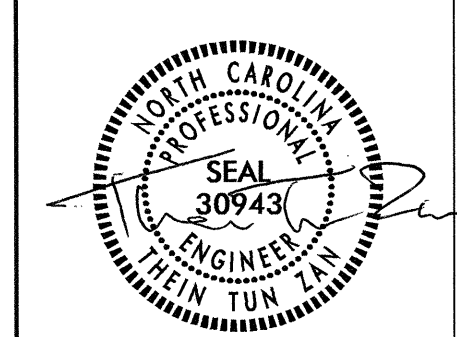


TYPICAL BRIDGE DETAIL NO. 1

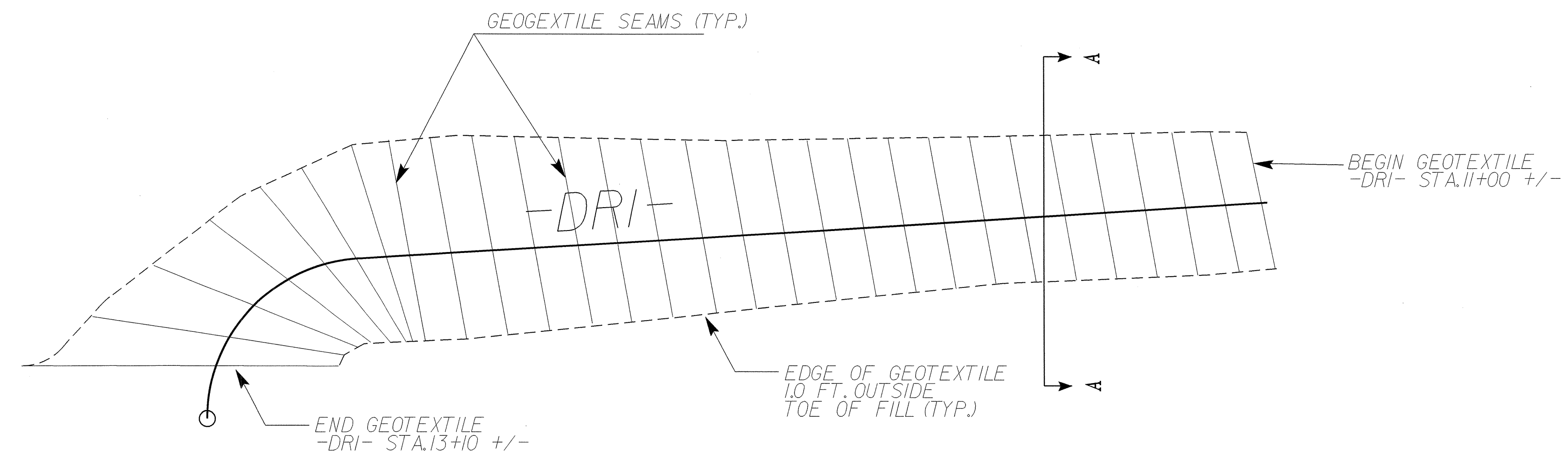
USE TYPICAL BRIDGE DETAIL NO. 1  
-L- STA. 15+12.00 TO -L- STA. 16+42.00

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\$\$\$\$\$USERNAME\$\$\$\$\$

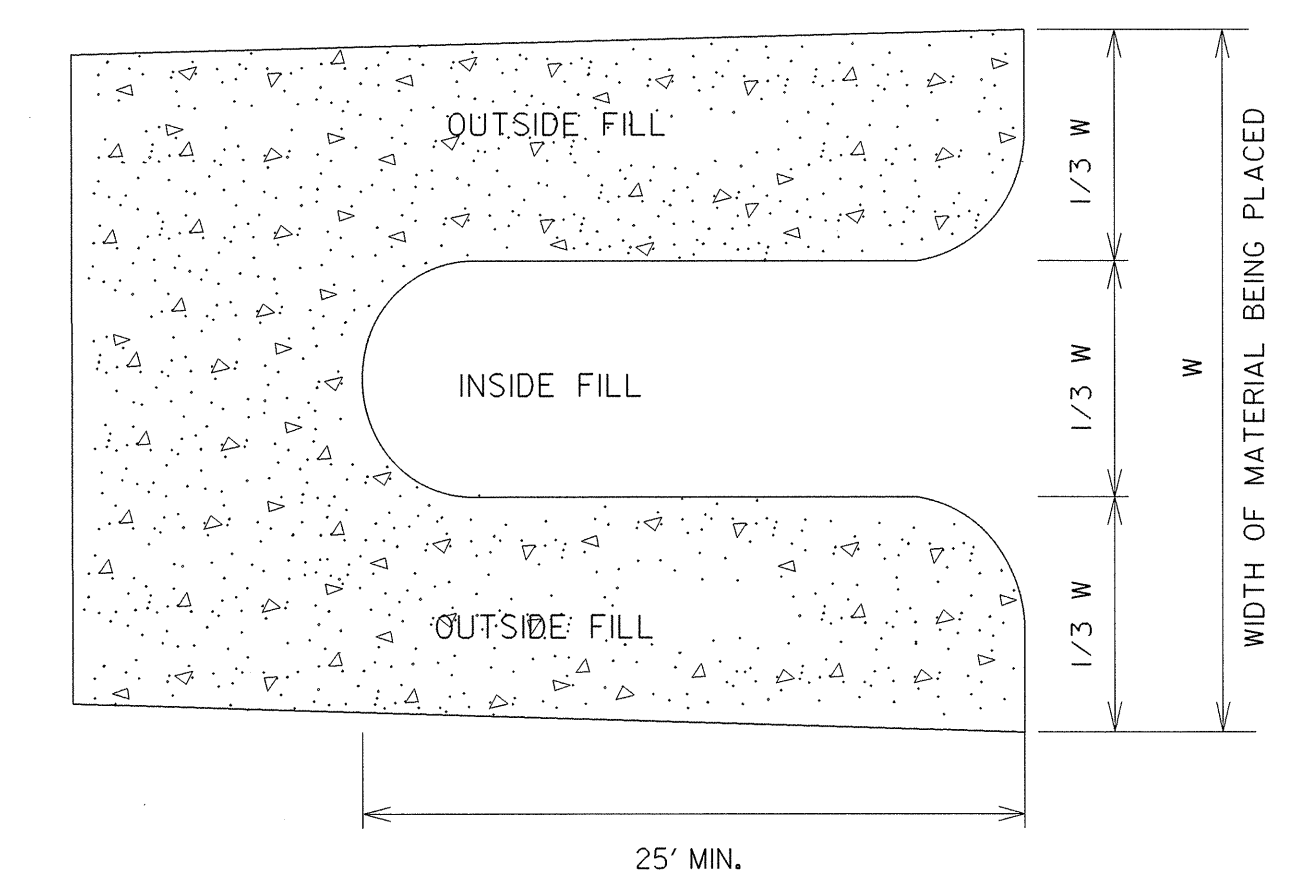
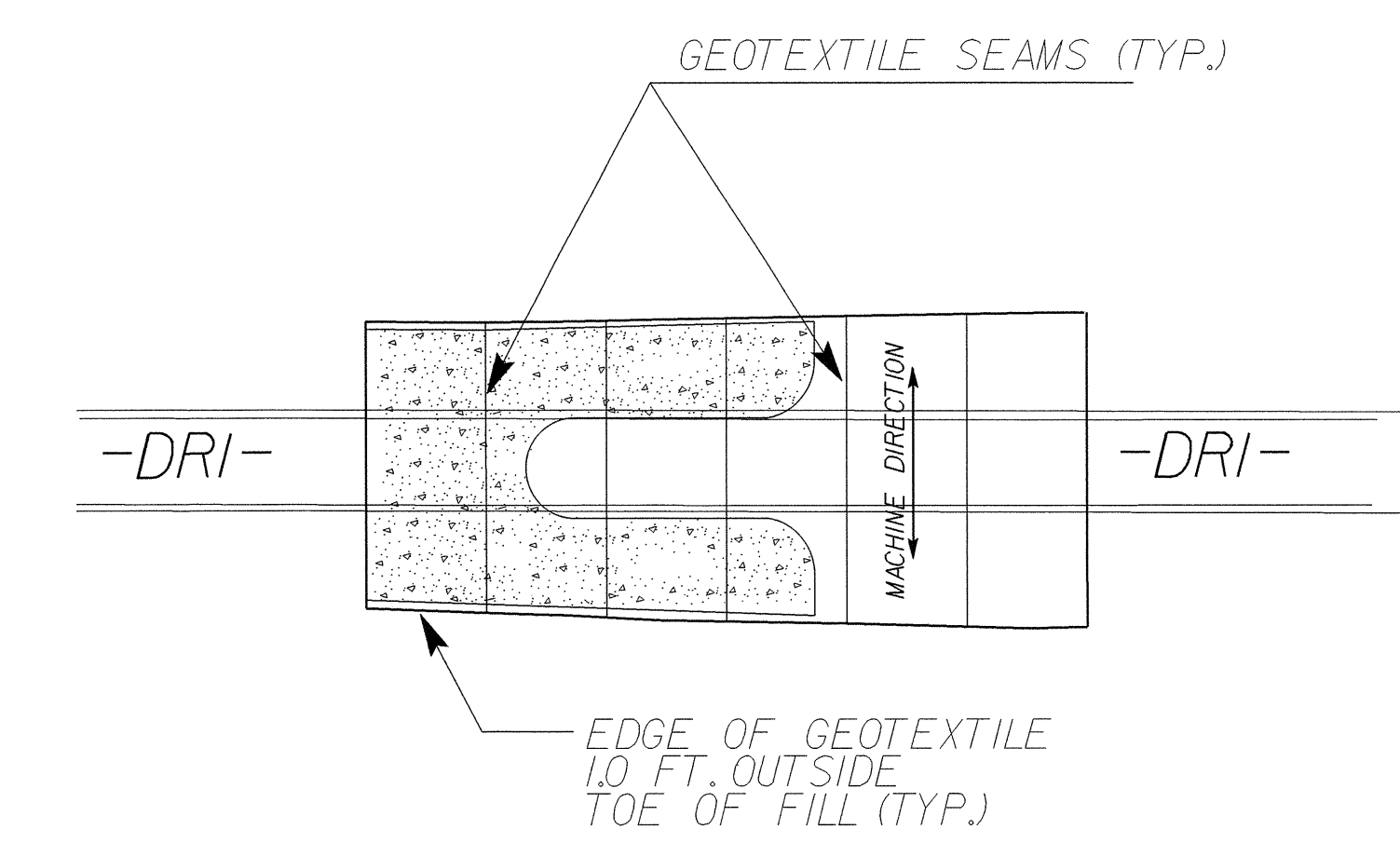
GEOTECHNICAL ENGINEER ENGINEER



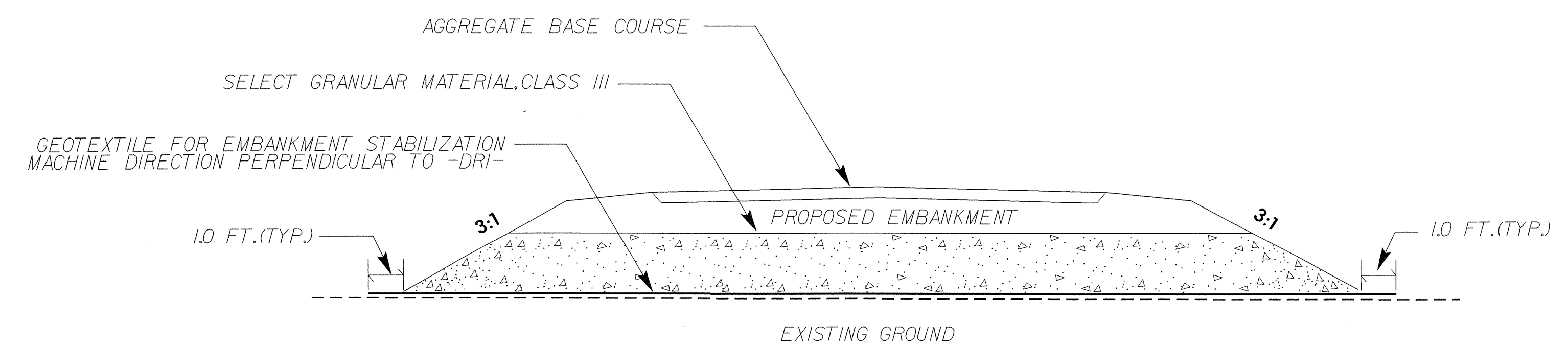
Signature: [Handwritten Signature] DATE: 7/5/12



GEOTEXTILE FOR EMBANKMENT STABILIZATION LAYOUT  
N.T.S.



FILL PLACEMENT DETAIL  
N.T.S.



TYP. SECTION A-A  
N.T.S.

NOTES

FOR GEOTEXTILE FOR EMBANKMENT STABILIZATION, SEE SPECIAL PROVISION.  
PLACE GEOTEXTILE FOR EMBANKMENT STABILIZATION FROM -DRI- STA.11+00 +/- TO STA.13+10 +/- AS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER.  
ESTIMATED QUANTITY OF GEOTEXTILE FOR EMBANKMENT STABILIZATION IS 900 SQUARE YARD.

CONSTRUCTION SEQUENCE

1. PREPARE SUBGRADE BY CUTTING TREES AND STUMPS FLUSH WITH GROUND SURFACE. GRUBBING IS NOT TO BE PERFORMED IN THE GEOGEXTILE PLACEMENT AREA.
2. PLACE GEOTEXTILE FOR EMBANKMENT STABILIZATION WITH MACHINE DIRECTION PERPENDICULAR TO THE EMBANKMENT ALIGNMENT AND SEW STRIPS TOGETHER.
3. PLACE 3 FEET OF SELECT GRANULAR MATERIAL, CLASS III, ABOVE GEOTEXTILE FOR EMBANKMENT STABILIZATION AS SHOWN IN FILL PLACEMENT DETAIL OR DIRECTED BY THE ENGINEER.
4. PLACE REMAINING EMBANKMENT FILL MATERIAL.

FILL PLACEMENT SEQUENCE:

1. CONSTRUCT OUTSIDE SECTIONS (OUTSIDE FILL) ALONG THE EDGE OF GEOTEXTILE AND PARALLEL TO THE ROADWAY ALIGNMENT TO ANCHOR GEOTEXTILE.
2. CONSTRUCT INSIDE SECTION (INSIDE FILL) PARALLEL TO THE ROADWAY ALIGNMENT TO TENSION GEOTEXTILE.

PROJECT NO.: 33690.1.1 (B-4413)  
BEAUFORT COUNTY  
STATION: -DR1- 11+00 +/- TO 13+10 +/-

**GEOTECHNICAL ENGINEERING UNIT**

EASTERN REGIONAL OFFICE  
 WESTERN REGIONAL OFFICE  
 CONTRACT OFFICE

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

PREPARED BY: TTZ	DATE: 07/2012
REVIEWED BY: JRB	DATE: 07/2012

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202658

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
000960000-E	SP	900	SY	GENERIC MISCELLANEOUS ITEM GEOTEXTILE FOR EMBANKMENT STABILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (15+77)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
005700000-E	226	700	CY	UNDERCUT EXCAVATION
019400000-E	SP	1,600	CY	SELECT GRANULAR MATERIAL, CLASS III
019600000-E	270	700	SY	GEOTEXTILE FOR SOIL STABILIZATION
025500000-E	SP	1,000	TON	GENERIC GRADING ITEM AGGREGATE SHOULDER BORROW
031800000-E	300	23	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	242	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	76	LF	15" DRAINAGE PIPE
044820000-E	310	64	LF	15" RC PIPE CULVERTS, CLASS IV
111000000-E	510	400	TON	STABILIZER AGGREGATE
112100000-E	520	309	TON	AGGREGATE BASE COURSE
122000000-E	545	100	TON	INCIDENTAL STONE BASE
124500000-E	SP	6	SMI	SHOULDER RECONSTRUCTION
148900000-E	610	480	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	300	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	5,000	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	336	TON	ASPHALT BINDER FOR PLANT MIX
202200000-E	815	22.4	CY	SUBDRAIN EXCAVATION
203300000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE

Summary of Quantities - B-4413

ItemNumber	Sec #	Quantity	Unit	Description
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
228600000-N	840	4	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	268	LF	SHOULDER BERM GUTTER
283000000-N	858	1	EA	ADJUSTMENT OF MANHOLES
303000000-E	862	600	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
331700000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
362800000-E	876	25	TON	RIP RAP, CLASS I
364900000-E	876	2	TON	RIP RAP, CLASS B
365600000-E	876	500	SY	GEOTEXTILE FOR DRAINAGE
365900000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
440000000-E	1110	359	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	144	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443500000-N	1135	70	EA	CONES
444500000-E	1145	64	LF	BARRICADES (TYPE III)
445500000-N	1150	30	DAY	FLAGGER
468500000-E	1205	1,390	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	1,390	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
477000000-E	1205	520	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (III)
481000000-E	1205	126,720	LF	PAINT PAVEMENT MARKING LINES (4")

ItemNumber	Sec #	Quantity	Unit	Description
490000000-N	1251	215	EA	PERMANENT RAISED PAVEMENT MARKERS
532620000-E	1510	48	LF	12" WATER LINE
555800000-E	1515	1	EA	12" VALVE
580400000-E	1530	48	LF	ABANDON 12" UTILITY PIPE
600000000-E	1605	2,300	LF	TEMPORARY SILT FENCE
600600000-E	1610	250	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	30	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	90	TON	SEDIMENT CONTROL STONE
601500000-E	1615	2.5	ACR	TEMPORARY MULCHING
601800000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
602900000-E	SP	1,500	LF	SAFETY FENCE
603000000-E	1630	100	CY	SILT EXCAVATION
603600000-E	1631	1,510	SY	MATTING FOR EROSION CONTROL
604200000-E	1632	350	LF	1/4" HARDWARE CLOTH
604800000-E	SP	170	SY	FLOATING TURBIDITY CURTAIN
607101000-E	SP	210	LF	WATTLE
607102000-E	SP	25	LB	POLYACRYLAMIDE (PAM)
608400000-E	1660	4	ACR	SEEDING & MULCHING
608700000-E	1660	1	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	1.5	TON	FERTILIZER TOPDRESSING
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	25	EA	RESPONSE FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
612300000-E	1670	0.1	ACR	REFORESTATION

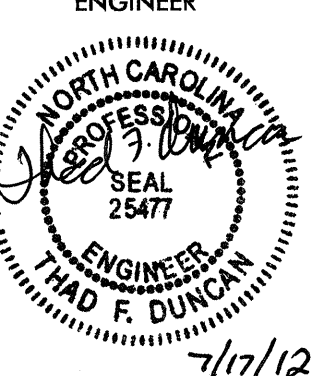







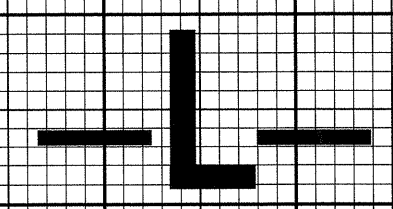


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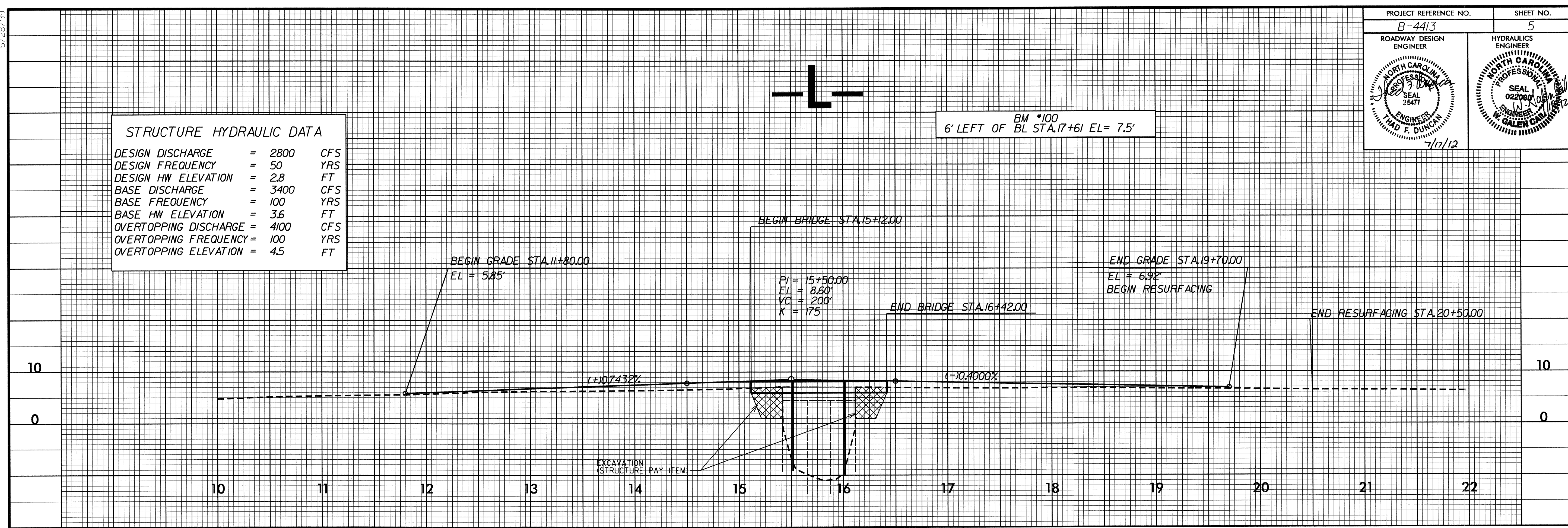
PROJECT REFERENCE NO. B-4413	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	
7/17/12	

**STRUCTURE HYDRAULIC DATA**

DESIGN DISCHARGE	= 2800	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 2.8	FT
BASE DISCHARGE	= 3400	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 3.6	FT
OVERTOPPING DISCHARGE	= 4100	CFS
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING ELEVATION	= 4.5	FT

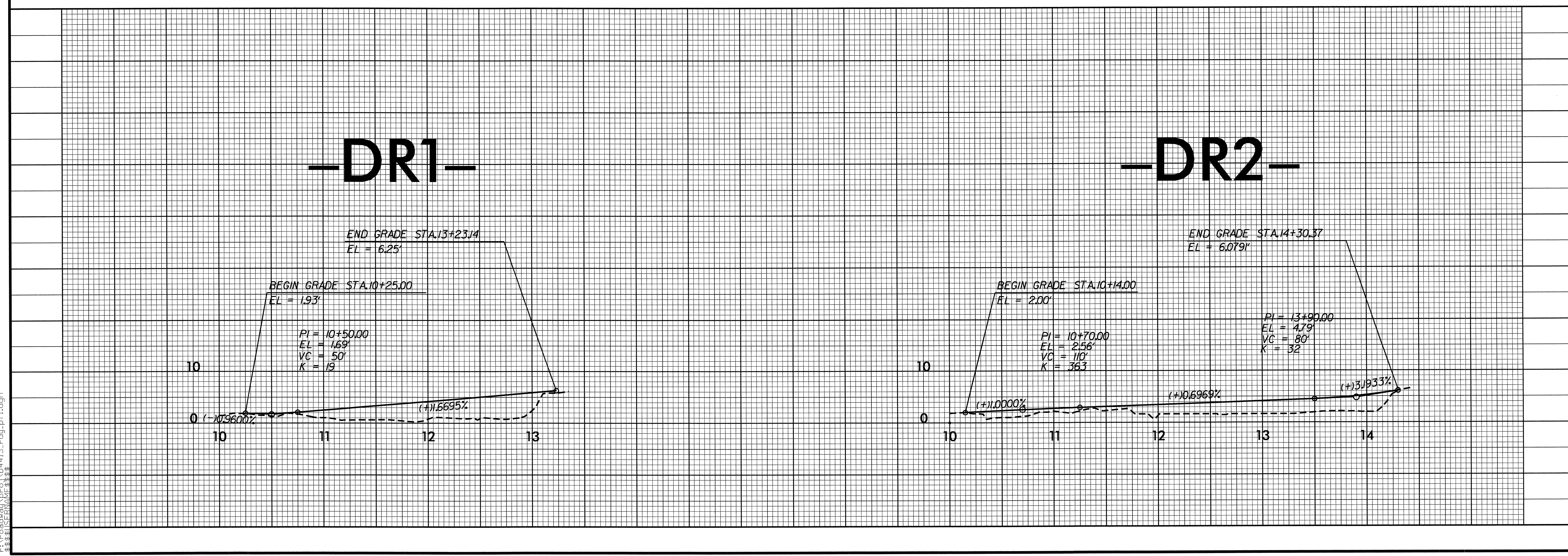


BM \*100  
6' LEFT OF BL STA.17+61 EL= 7.5'



**-DR1-**

**-DR2-**



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