

See Sheet 1-A For Index of Sheets

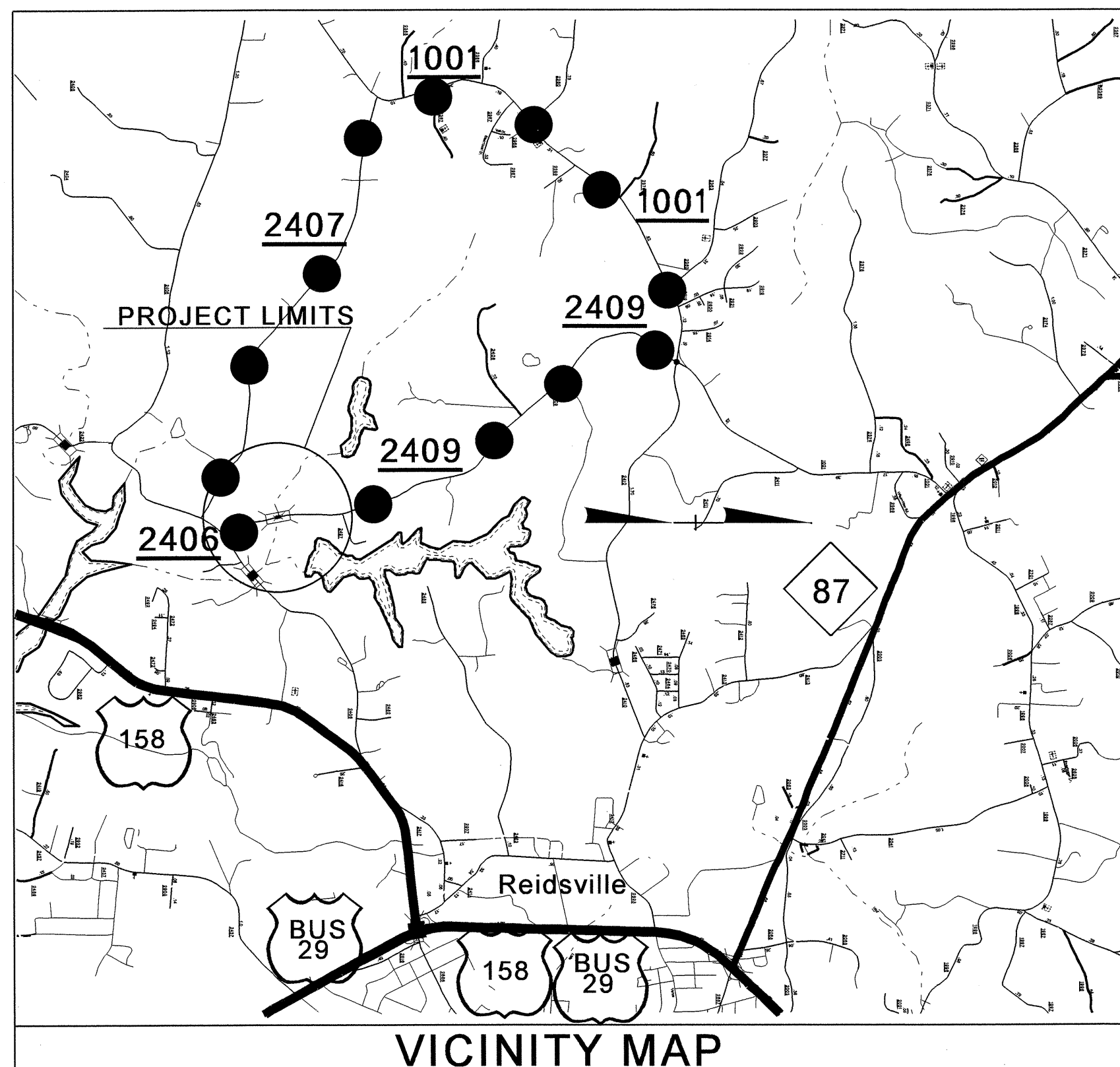
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**Rockingham County**

**LOCATION:** Bridge #3 over Troublesome Creek Tributary  
on SR 2409 (Boyd Road)

**TYPE OF WORK:** Grading, Drainage, Paving and Structure

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4806	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
38576.1.1	BRZ-2409(1)	PE	
38576.2.1	BRZ-2409(1)	RW & UTILITIES	
38576.3.1	BRZ-2409(1)	CONSTRUCTION	



●●●●● Offsite Detour Route

**Begin Project B-4806**  
-L- Sta. 10+10.00

**Begin Bridge**  
-L- Sta. 12+34.83

NAD 83/  
NSRS 2007

4

SR 2409  
(Boyd Road)

To NC 87

**End Project B-4806**  
-L- Sta. 14+75.00

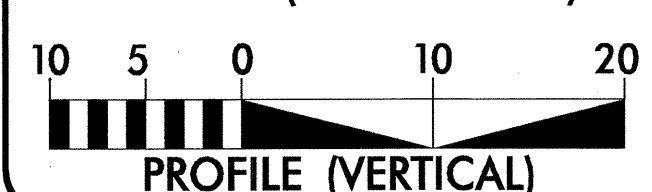
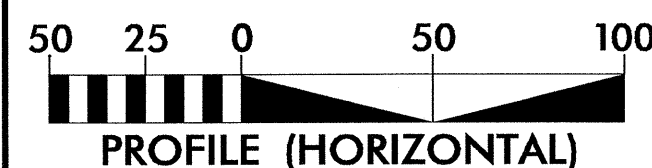
**End Bridge**  
-L- Sta. 13+17.17

To US 158

SR 2409  
(Boyd Road)

Troublesome Creek  
Tributary

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 1045 vpd  
ADT 2035 = 1300 vpd  
DHV = 17 %  
D = 65 %  
T = 4 % \*  
V = 55 MPH  
\* TTST 1% DUAL 3%  
Functional Class.  
Rural Local  
Sub Regional Tier

PROJECT LENGTH

Total Length Roadway TIP Project B-4806 = 0.072 Miles  
Total Length Structure TIP Project B-4806 = 0.016 Miles  
Total Length TIP Project B-4806 = 0.088 Miles

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**

1000 Birch Ridge Dr., Raleigh NC, 27610

2012 STANDARD SPECIFICATIONS

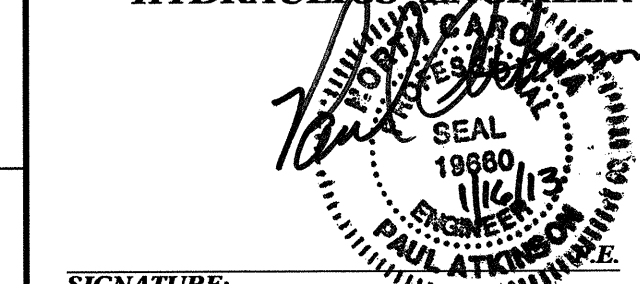
**RIGHT OF WAY DATE:**  
February 1, 2012

**LETTING DATE:**  
April 16, 2013

James Speer, PE  
PROJECT ENGINEER

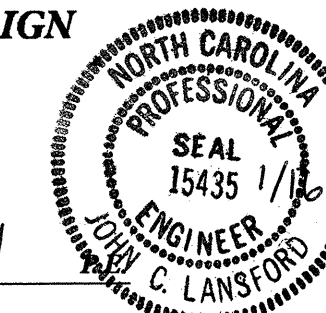
John Lansford, PE  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

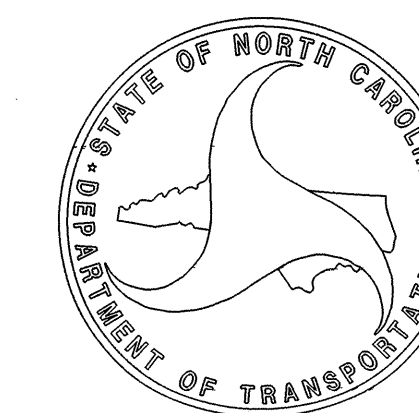


SIGNATURE:

ROADWAY DESIGN  
ENGINEER



SIGNATURE:



TIP PROJECT: B-4806

CONTRACT: C203090



GENERAL NOTES: 2012 SPECIFICATIONS  
EFFECTIVE: 01-17-12  
REVISED: 07/30/12

GRADE LINE:  
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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.

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 BST (TELICS)

PIEDMONT NATURAL GAS

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.

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
<b>DIVISION 2 - EARTHWORK</b>	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation
<b>DIVISION 4 - MAJOR STRUCTURES</b>	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
<b>DIVISION 6 - ASPHALT BASES AND PAVEMENTS</b>	
654.01	Pavement Repairs
<b>DIVISION 8 - INCIDENTALS</b>	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.25	Anchorage for Frames - Brick or Concrete or Precast
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
876.02	Guide for Rip Rap at Pipe Outlets

INDEX OF SHEETS

SHEET NUMBER	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	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" AND UNDER) SHOULDER BERM GUTTER SUMMARY, GUARDRAIL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-2	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-5	CROSS-SECTIONS
S-1 THRU S-19	STRUCTURE PLANS

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale

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

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○ EP
Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑩ 23
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
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	?? ??

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
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	▭
False Sump	▭

### RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ CSX TRANSPORTATION 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 RW Marker	○ RW ●
Proposed Control of Access Line with Concrete CA Marker	○ CA
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 Drainage / Utility Easement	--- DUE
Proposed Permanent Utility Easement	--- PUE
Proposed Temporary Utility Easement	--- TUE
Proposed Aerial Utility Easement	--- AUE
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 Curb Ramp	○ CR
Existing Metal Guardrail	--- T T T T
Proposed Guardrail	--- T T T T
Existing Cable Guiderail	--- T T T T
Proposed Cable Guiderail	--- T T T T
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	▭
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	▭
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	▭
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	○ SS
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	--- U/UL
U/G Tank; Water, Gas, Oil	▭
Underground Storage Tank, Approx. Loc.	▭ (UST)
A/G Tank; Water, Gas, Oil	▭
Geoenvironmental Boring	○
U/G Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# B-4806 SURVEY CONTROL SHEET

**DATUM DESCRIPTION**

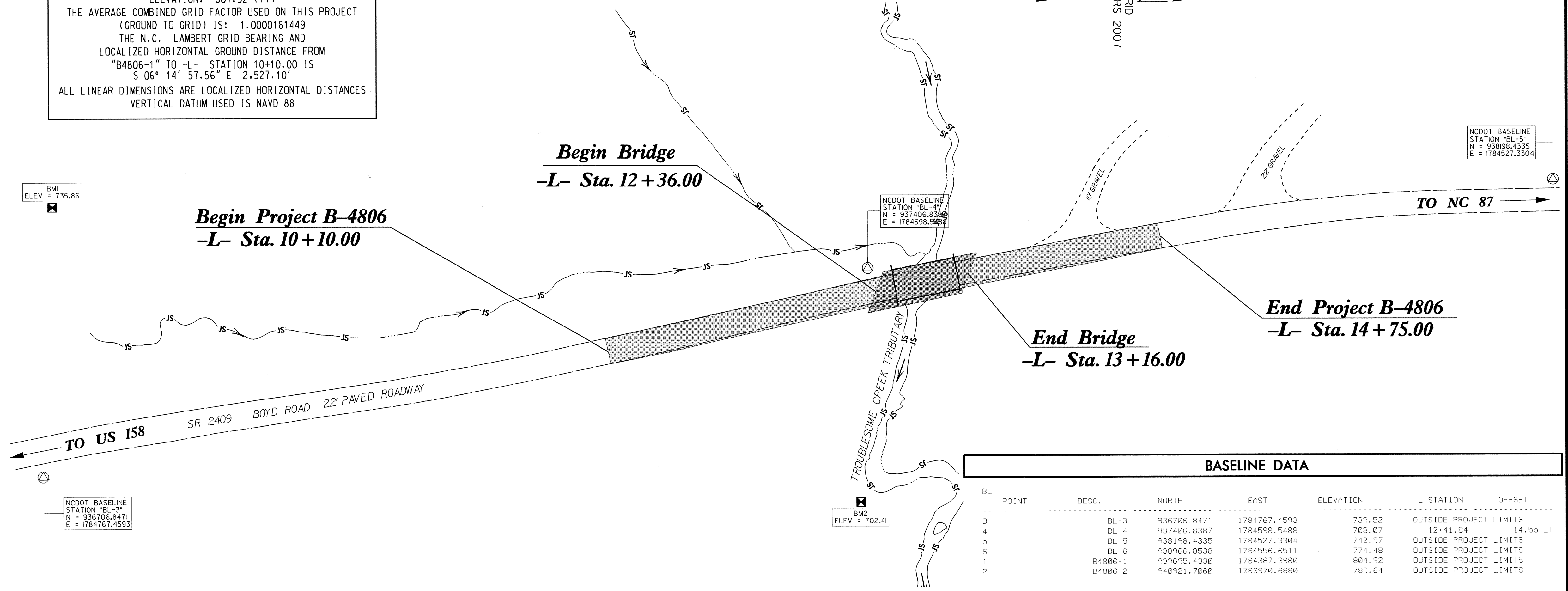
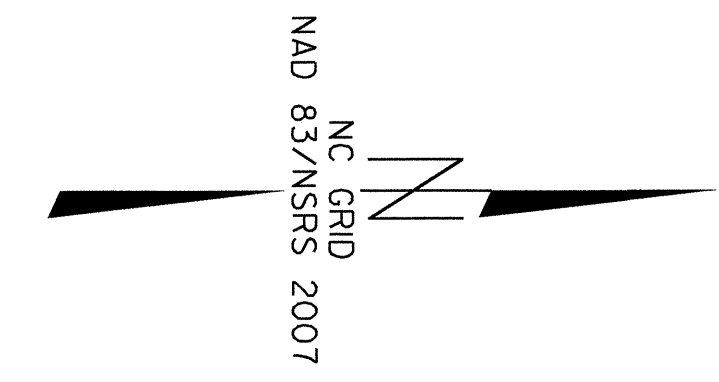
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4806-1"

WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF  
 NORTHING: 939,695.433(±) EASTING: 1,784,387.398(±)  
 ELEVATION: 804.92'(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000161449

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4806-1" TO -L- STATION 10+10.00 IS  
 S 06° 14' 57.56" E 2,527.10'

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



BASELINE DATA						
BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION
3	BL-3		936706.8471	1784767.4593	739.52	OUTSIDE PROJECT LIMITS
4	BL-4		937406.8387	1784598.5488	708.07	12+41.84 14.55 LT
5	BL-5		938198.4335	1784527.3304	742.97	OUTSIDE PROJECT LIMITS
6	BL-6		938966.8538	1784556.6511	774.48	OUTSIDE PROJECT LIMITS
1	B4806-1		939695.4330	1784387.3980	804.92	OUTSIDE PROJECT LIMITS
2	B4806-2		940921.7060	1783970.6880	789.64	OUTSIDE PROJECT LIMITS

BENCHMARK DATA	
BM1	ELEVATION = 735.86
N	936725 E 1784544
L STATION	10+00.00
S	15°06'14.30" W DIST 464.74
RR SPIKE	IN ROOT OF 33" OAK
BM2	ELEVATION = 702.41
N	937392 E 1784786
L STATION	11+88.00 166 RIGHT
RR SPIKE	IN ROOT OF 15" SWEET GUM

**NOTES**

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HI GHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/hi ghway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B4806\_LS\_CONTROL\_110829.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 FROM EXISTING NCGS MONUMENTATION.

NEW R/W MONUMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
L	14+75.00	30.00	937644.2471	1784597.7741
L	14+75.00	-30.00	937633.0867	1784538.8212
L	13+73.02	-30.00	937532.8831	1784557.7907
L	11+28.22	-30.00	937292.1859	1784607.4388
L	10+10.00	-30.00	937176.8078	1784633.2074
L	10+10.00	30.00	937189.8861	1784691.7648
L	11+28.22	30.00	937305.2642	1784665.9961
L	13+73.02	30.00	937544.0434	1784616.7436

NEW PUE MONUMENT				
ALIGN	STATION	OFFSET	NORTH	EAST
L	10+80.00	30.00	937258.2030	1784676.5068
L	11+60.00	51.00	937340.6604	1784679.6766
L	13+44.00	46.00	937518.6946	1784637.8833
L	14+25.00	30.00	937595.1196	1784607.0744
L	12+18.00	-43.00	937377.5910	1784575.5978
L	12+18.00	-30.54	937380.1612	1784587.7903
L	14+70.00	-50.00	937624.4539	1784520.1003
L	14+70.00	-30.00	937628.1740	1784539.7512

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	937173.5874	1784664.6658
PC	11+28.22	937298.7250	1784636.7174
PT	13+73.02	937538.4632	1784587.2672
POT	14+87.87	937651.3084	1784565.9045

NOTE: DRAWING NOT TO SCALE

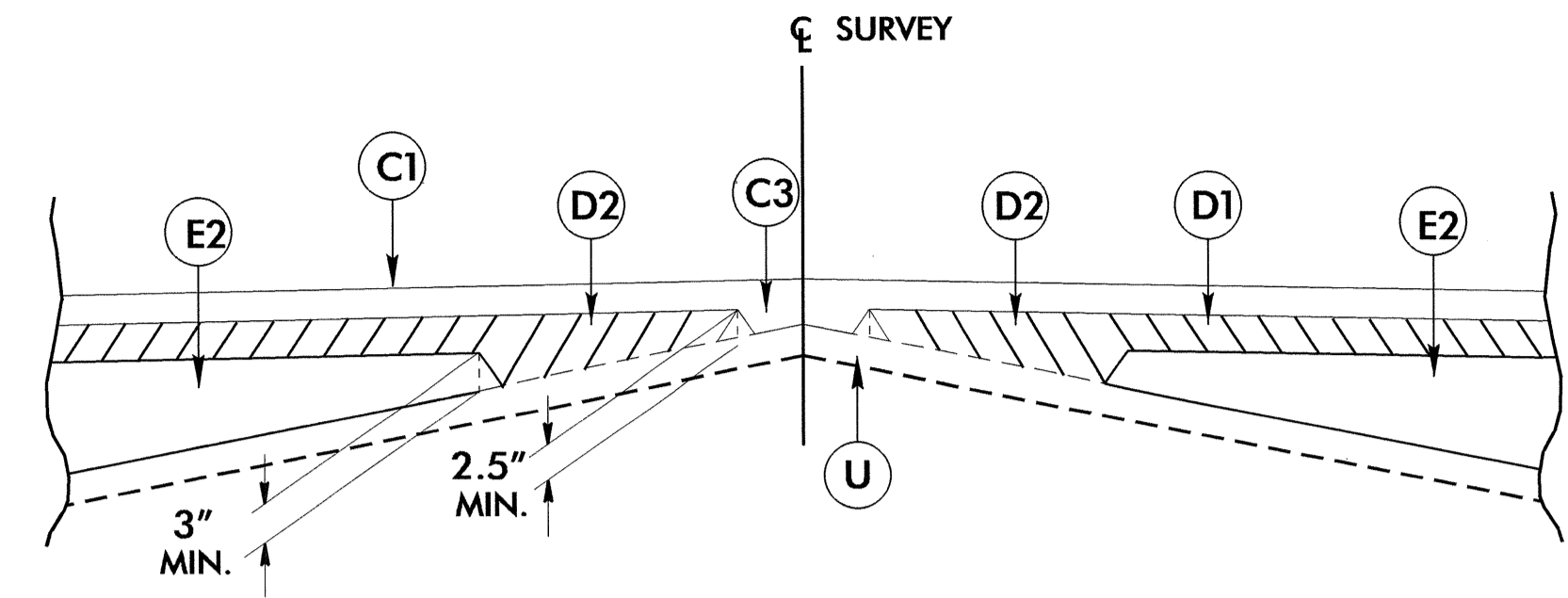
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5/14/99

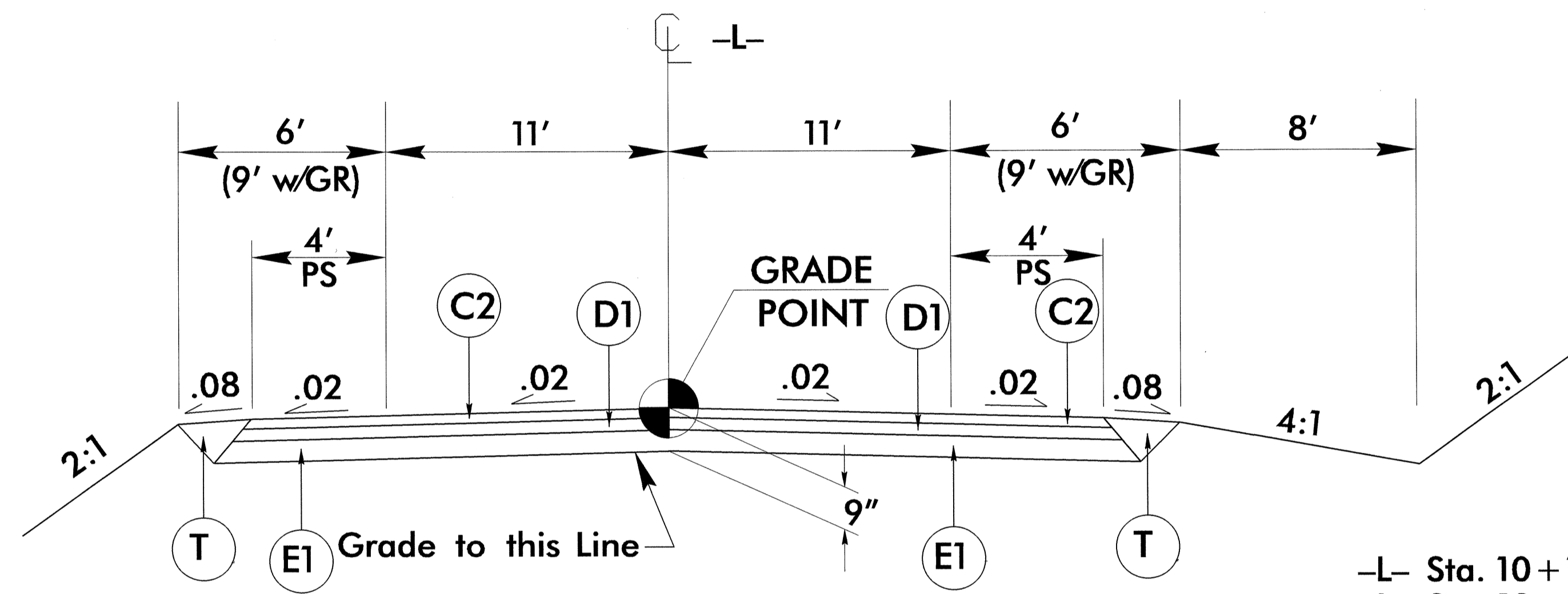
PROJECT REFERENCE NO. B-4806	SHEET NO. 2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	PAVEMENT DESIGN ENGINEER 

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS PER SQ. YARD 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. YARD PER 1" DEPTH, TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
D1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285LBS. 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. YARD
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.
R	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

ALL PAVEMENT SLOPES ARE 1:1 UNLESS OTHERWISE NOTED

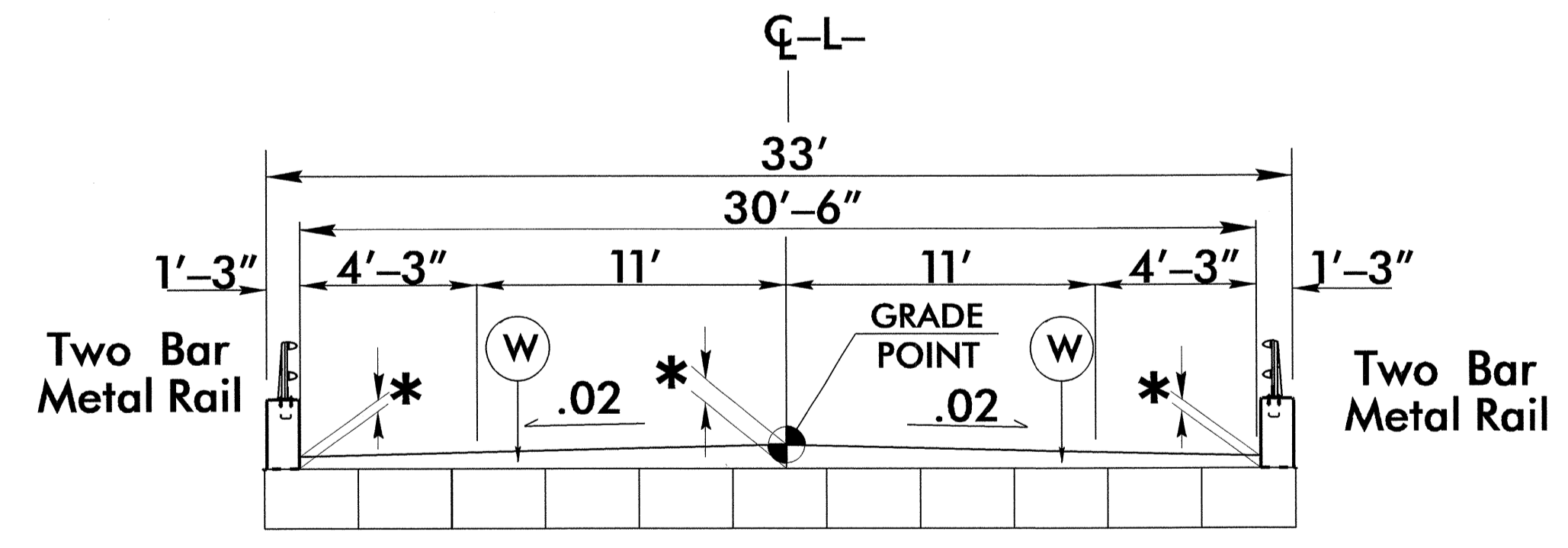


Detail Showing Method of Wedging



TYPICAL SECTION #1

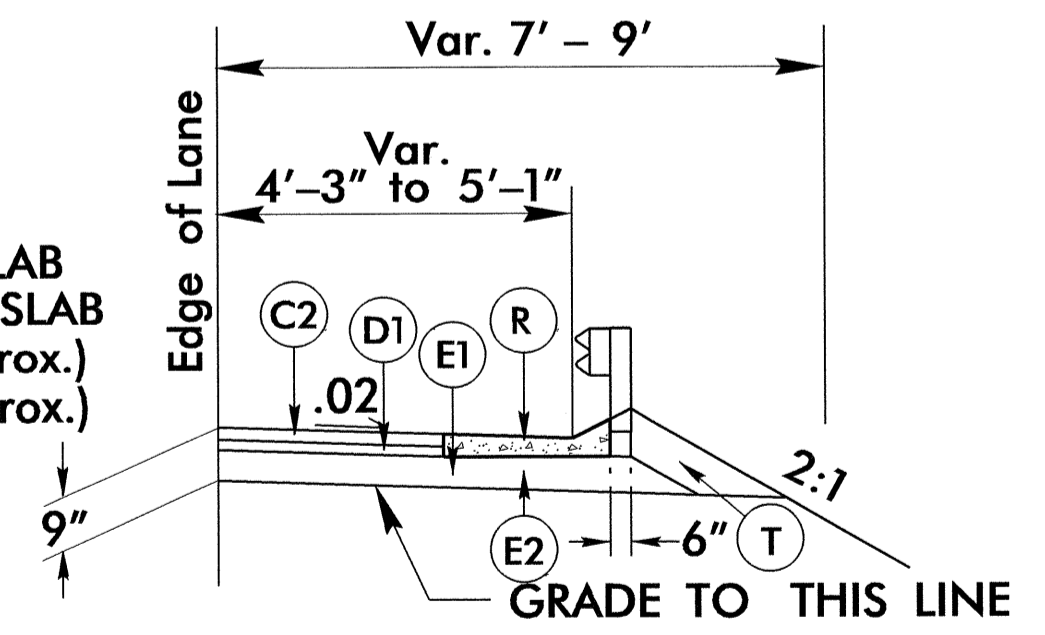
USE TYPICAL SECTION #1  
 -L- Sta. 10+10.00 to -L- Sta. 12+34.83 (Begin Bridge)  
 -L- Sta. 13+17.17 (End Bridge) to -L- Sta. 14+75.00



TYPICAL SECTION BRIDGE  
 (11 BOX BEAM UNITS = 33' OUT TO OUT)

\* SEE STRUCTURE PLANS FOR OVERLAY DEPTHS.

USE SHOULDER BERM GUTTER  
 LEFT: -L- Sta. 11+99 to BEGIN APPR. SLAB  
 RIGHT: -L- Sta. 11+70 to BEGIN APPR. SLAB  
 LEFT: END APPR. SLAB to -L- Sta. 13+35.00 (3' approx.)  
 RIGHT: END APPR. SLAB to -L- Sta. 13+27.00 (3' approx.)



TYPICAL SECTION OF PAVED SHOULDER AND SHOULDER BERM GUTTER AT GUARDRAIL LOCATIONS

15-JAN-2013 09:25  
 B:\4806-rdy-tyj-dgn  
 8881135800\15425

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203090

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (12+76.00 -L-)	3649000000-E	876	2	TON	RIP RAP, CLASS B	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
0043000000-N	226	Lump Sum		GRADING	3656000000-E	876	460	SY	GEOTEXTILE FOR DRAINAGE	6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	4400000000-E	1110	277	SF	WORK ZONE SIGNS (STATIONARY)	6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION	4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL	4445000000-E	1145	80	LF	BARRICADES (TYPE III)	6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
0196000000-E	270	300	SY	GEOTEXTILE FOR SOIL STABILIZA-TION	4810000000-E	1205	3,800	LF	PAINT PAVEMENT MARKING LINES (4")	6123000000-E	1670	0.1	ACR	REFORESTATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES	6000000000-E	1605	800	LF	TEMPORARY SILT FENCE					
0320000000-E	300	30	SY	FOUNDATION CONDITIONING GEO-TEXTILE	6006000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A					
0372000000-E	310	16	LF	18" RC PIPE CULVERTS, CLASS III	6009000000-E	1610	35	TON	STONE FOR EROSION CONTROL, CLASS B					
0448300000-E	310	56	LF	18" RC PIPE CULVERTS, CLASS IV	6012000000-E	1610	120	TON	SEDIMENT CONTROL STONE					
1220000000-E	545	50	TON	INCIDENTAL STONE BASE	6015000000-E	1615	1	ACR	TEMPORARY MULCHING					
1489000000-E	610	352	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING					
1498000000-E	610	231	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B	6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEED-ING					
1525000000-E	610	187	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS					
1575000000-E	620	40	TON	ASPHALT BINDER FOR PLANT MIX	6029000000-E	SP	300	LF	SAFETY FENCE					
1693000000-E	654	50	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	6030000000-E	1630	100	CY	SILT EXCAVATION					
2000000000-N	806	10	EA	RIGHT OF WAY MARKERS	6036000000-E	1631	2,900	SY	MATTING FOR EROSION CONTROL					
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES	6037000000-E	SP	285	SY	COIR FIBER MAT					
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29	6042000000-E	1632	560	LF	1/4" HARDWARE CLOTH					
2556000000-E	846	90	LF	SHOULDER BERM GUTTER	6071010000-E	SP	50	LF	WATTLE					
3030000000-E	862	100	LF	STEEL BM GUARDRAIL	6071020000-E	SP	20	LB	POLYACRYLAMIDE (PAM)					
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	6071030000-E	1640	80	LF	COIR FIBER BAFFLE					
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III	6071050000-E	SP	2	EA	*** SKIMMER (1-1/2")					
					6084000000-E	1660	1	ACR	SEEDING & MULCHING					
					6087000000-E	1660	0.6	ACR	MOWING					

5/28/99

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SHEET NUMBER \$\$\$







5/14/99

SEE SHEET 4 FOR PLAN VIEW

-L-

BM2 ELEVATION = 702.4'  
 N 937392 E 1784786  
 L STATION 11+88.00 166' RIGHT  
 RR SPIKE IN ROOT OF 15' SWEET GUM

BRIDGE HYDRAULIC DATA		
DESIGN DISCHARGE	=	1,070 CFS
DESIGN FREQUENCY	=	25 YRS
DESIGN HW ELEVATION	=	705.9 FT
BASE DISCHARGE	=	1,530 CFS
BASE FREQUENCY	=	100 YRS
BASE HW ELEVATION	=	707.2 FT
OVERTOPPING DISCHARGE	=	2,080+ CFS
OVERTOPPING FREQUENCY	=	500+ YRS
OVERTOPPING ELEVATION	=	709.2 FT
DATE OF SURVEY	=	05 /04 /2011
W.S. ELEVATION AT DATE OF SURVEY	=	698.2 FT

CL STA. -L- 12+76  
 PROP. 1@80'  
 33" BOX BEAM  
 PROP. GRADE = 709.41'  
 SKEW = 105°

Begin Grade  
 Sta. 10+10.00 -L-  
 El. 712.5'

PI = 11+50.00  
 EL = 708.99'  
 VC = 140'  
 K = 49

PI = 13+65.00  
 EL = 709.68'  
 VC = 200'  
 K = 49

End Grade  
 Sta. 14+75.00 -L-  
 El. 714.48'

BEGIN BRIDGE  
 -L- STA. 12+34.83

END BRIDGE  
 -L- STA. 13+17.17

EXISTING BRIDGE  
 (TO BE REMOVED)

1.5:1 NORMAL  
 ABUT. SLOPE W/  
 EL. 11" RAMP (FPA)  
 PROP. BRIDGE EXCAVATION SEE DETAIL

NORMAL W.S. ELEV. = 698.2  
 (FIELD OBS. 5/4/2011)

720  
710  
700  
690

720  
710  
700  
690

10 11 12 13 14

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