

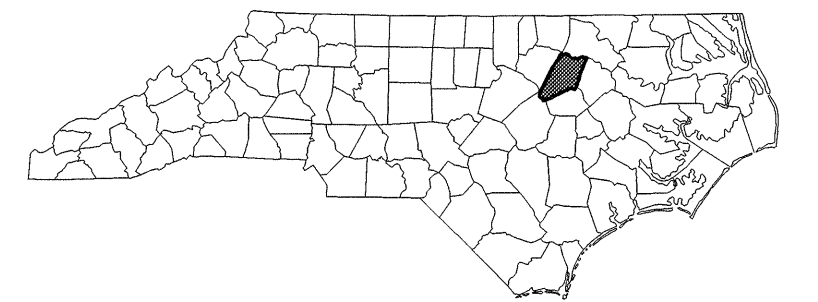
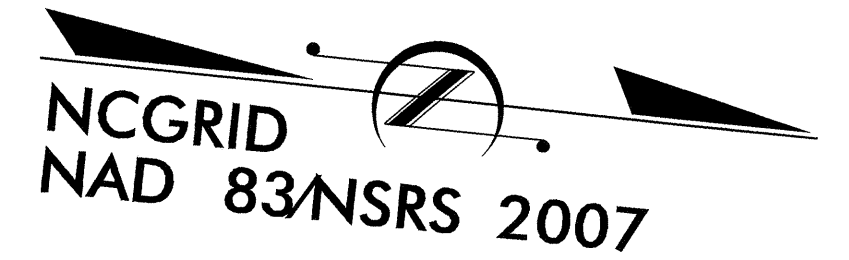
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4939	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40170.1.1	BRZ-1433(4)	PE	
40170.2.1	BRZ-1433(4)	R/W & UTIL.	
40170.3.FD1	BRZ-1433(4)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

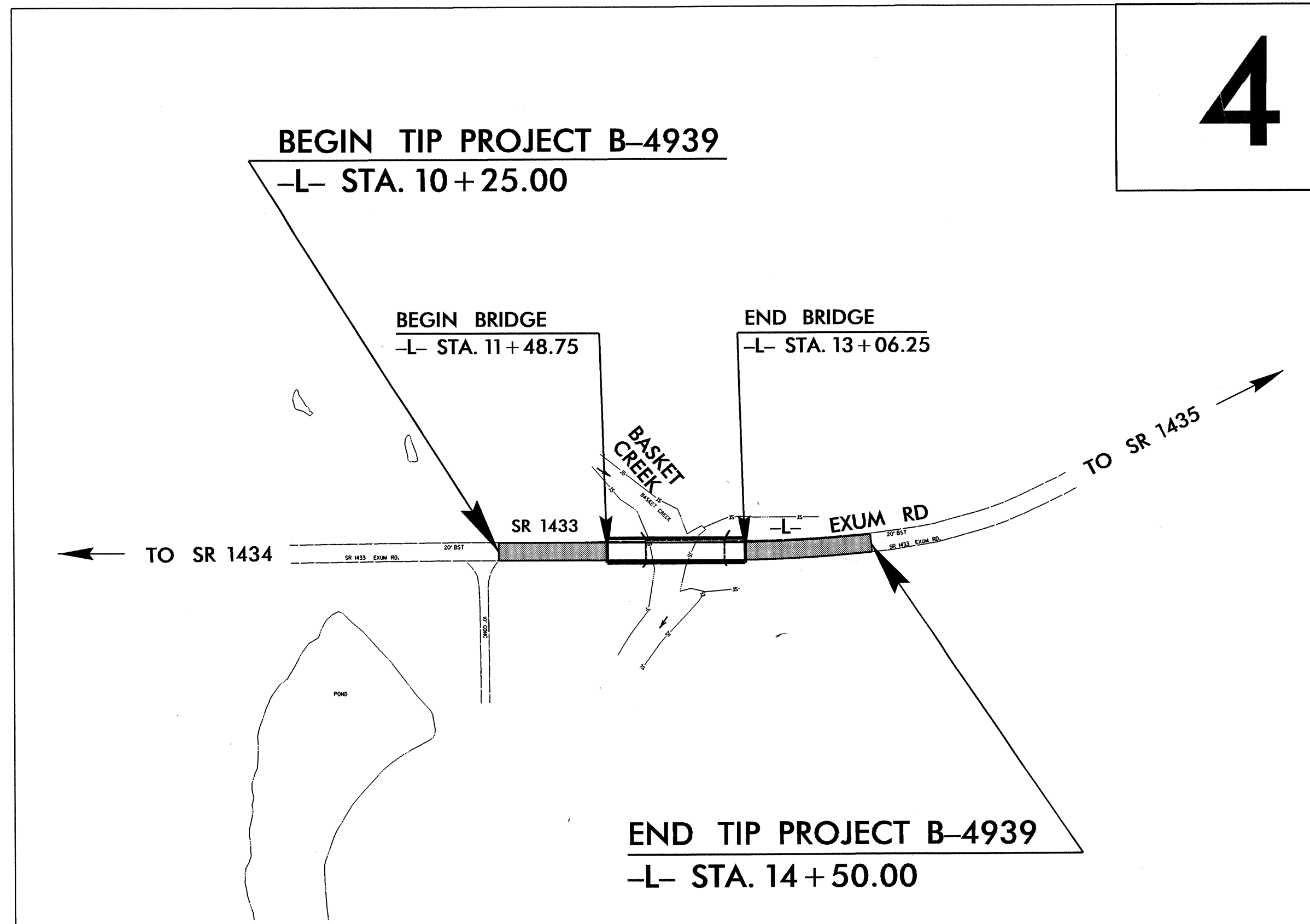
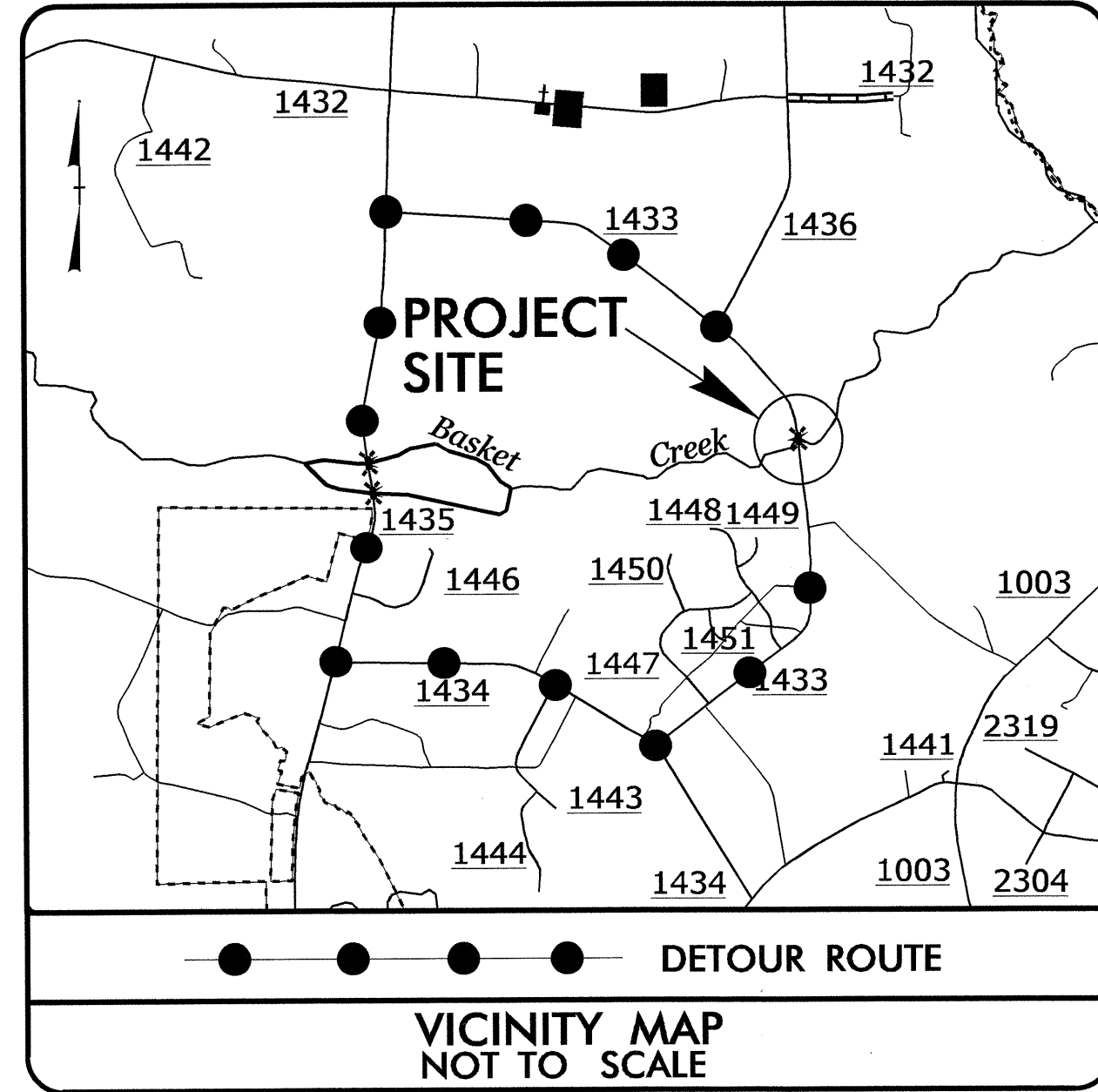
NASH COUNTY

LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

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



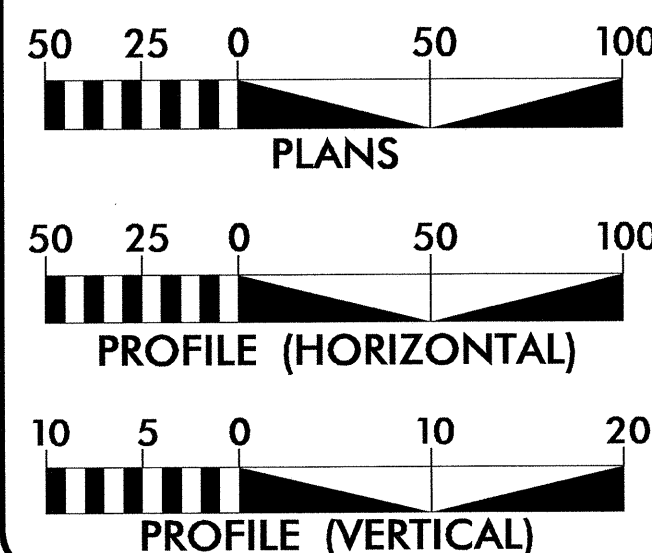
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



TIP PROJECT: B-4939

CONTRACT: C203288

GRAPHIC SCALES



DESIGN DATA

ADT 2013 = 435
ADT 2033 = 585
DHV = 10 %
D = 60 %
T = 5 % *
V = 60 MPH
* (TTST 2% + DUALS 3%)
FUNC CLASS = RURAL LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4939 = 0.050 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4939 = 0.030 MILES
TOTAL LENGTH TIP PROJECT B-4939 = 0.080 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 17, 2012

LETTING DATE:
DECEMBER 17, 2013

GARY LOVERING, PE
PROJECT ENGINEER

SUSAN C. LANCASTER, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

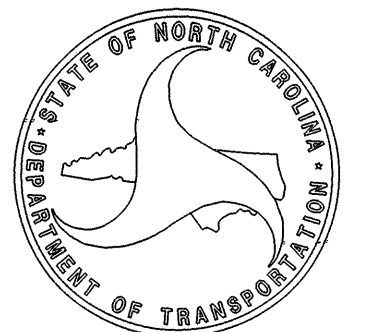
SEAL 9334
HENRY WELLS, JR.
ENGINEER
11/15/13

SIGNATURE: *[Signature]*

ROADWAY DESIGN ENGINEER

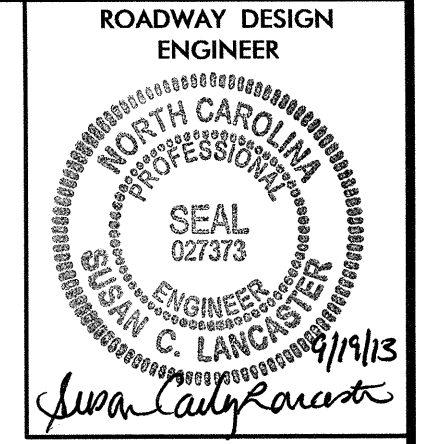
SEAL 027373
SUSAN C. LANCASTER
ENGINEER
11/19/13

SIGNATURE: *[Signature]*



09/08/13

10-SEP-2013 16:53
R:\Roadway\Proj\B4939-Rdy-tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARDS (2012 SPECIFICATIONS)
1-B	CONVENTIONAL SYMBOLS
1-C THROUGH 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAIL
2-A	GUARDRAIL ANCHOR UNIT, TYPE III
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE
3-B	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL, SHOULDER BERM, GUTTER, AND GUARDRAIL
4	PLAN SHEETS
5	PROFILE SHEETS
TMP-1 THROUGH TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THROUGH PMP-2	PAVEMENT MARKING PLANS
EC-1 THROUGH EC-4	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THROUGH SIGN-2	SIGNING PLANS
UO-1 THROUGH UO-2	UTILITIES BY OTHER PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THROUGH X-2	CROSS-SECTIONS
S-1 THROUGH S-21	STRUCTURE PLANS

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

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 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

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

CenturyLink (Telephone)

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
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
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
840.00	Concrete Base Pad for Drainage Structures
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
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
876.02	Guide for Rip Rap at Pipe Outlets

8/17/09

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04/16/11

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	○ EP
Property Corner	✕
Property Monument	□ ECM
Parcel/Sequence Number	⑫③
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
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	----- FUM
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite RW Marker	▲
Proposed Control of Access Line with Concrete CA 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 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	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗
Single Tree	○
Single Shrub	○
Hedge	-----
Woods Line	-----

VEGETATION:

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	----- ?UTL
U/G Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
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.

SURVEY CONTROL SHEET B-4939

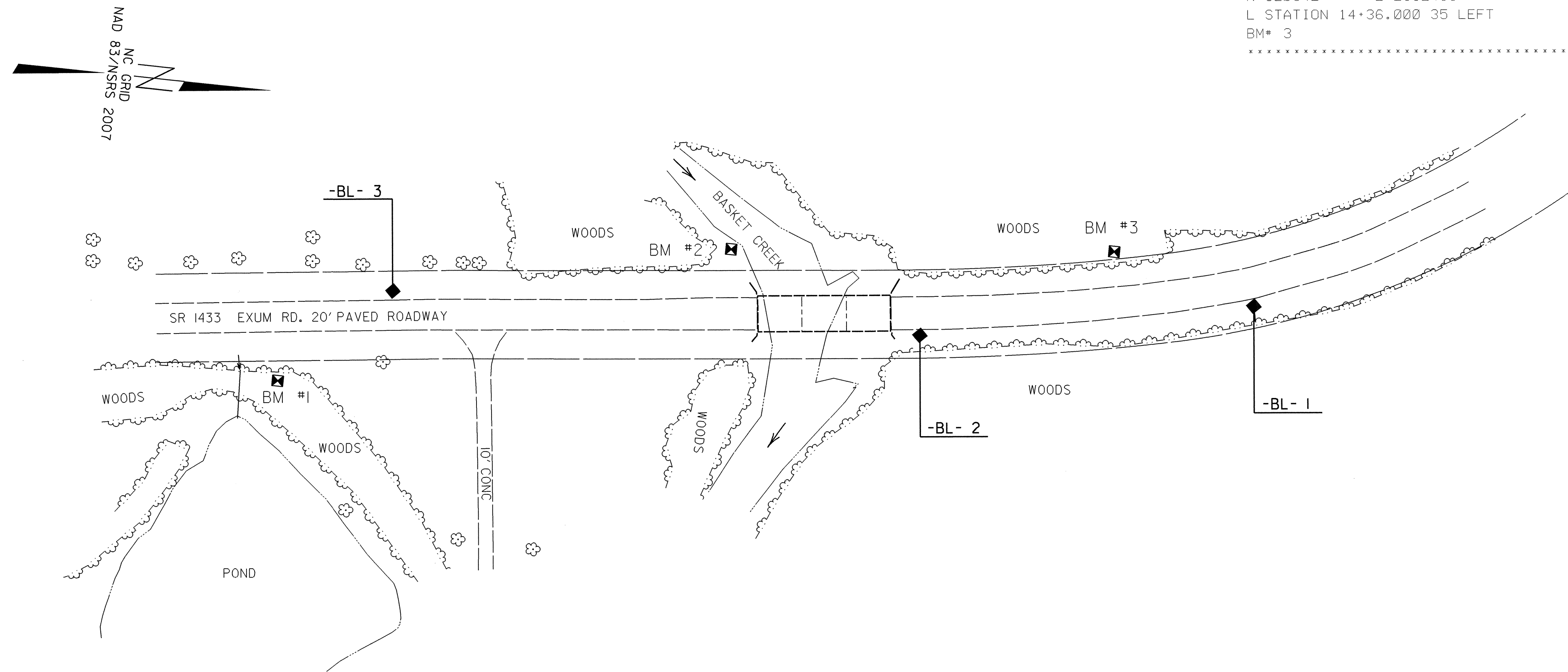
BENCHMARK DATA

```

*****
BM1      ELEVATION = 151.96
N 819790   E 2312561
L STATION 10+00.000
  S 24°31'19.81" E DIST 138.46
BM# 1
*****
BM2      ELEVATION = 133.84
N 820085   E 2312441
L STATION 11+75.000 44 LEFT
BM# 2
*****
BM3      ELEVATION = 132.77
N 820342   E 2312416
L STATION 14+36.000 35 LEFT
BM# 3
*****
    
```

BASELINE DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3		BL-3	819861.3900	2312492.9690	142.27	OUTSIDE PROJECT LIMITS	
2		BL-2	820217.8640	2312485.8520	137.16	13+01.928	14.22 RT
1		BL-1	820439.8940	2312443.0540	136.02	OUTSIDE PROJECT LIMITS	



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4939-2" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 819172.945(ft) EASTING: 2312610.158(ft) ELEVATION: 175.15(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999545099

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4939-2" TO -L- STATION 10+00.00 IS S 03°21'06.9" E 302.41'

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

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4939_LS_CONTROL.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

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4939	1-D
Location and Surveys	
FINAL	

SURVEY CONTROL SHEET B-4939

ROW MARKER CONCRETE OR GRANITE

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+23.00	-30.00	820035.1380	2312460.7806
L	11+23.00	-60.00	820031.9871	2312430.9466
L	11+35.00	30.00	820053.3736	2312519.1884
L	11+35.00	53.00	820055.7893	2312542.0612
L	12+84.54	53.00	820204.5005	2312526.3549
L	12+84.54	-60.00	820192.6319	2312413.9799
L	13+33.00	-60.00	820238.9370	2312408.3791
L	13+33.00	-30.00	820242.9900	2312438.1040
L	13+40.00	30.00	820258.1597	2312496.5751
L	13+40.00	53.00	820261.3667	2312519.3504

ALIGNMENTS

TYPE	STATION	NORTH	EAST
POT	10+00.00	819915.9693	2312503.5336
PC	12+84.54	820198.9338	2312473.6480
PT	14+68.51	820380.3801	2312443.8600

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WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
 NORTHING: 819172.945(±) EASTING: 2312610.158(±)
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 S 03°21'06.9" E 302.41'

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

NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/](https://connect.ncdot.gov/resources/location/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4939_LS_CONTROL.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

19-SEP-2013 07:34
R:\LocationSurveys\B4939-1s-1.dgn

6/2/09

REVISIONS

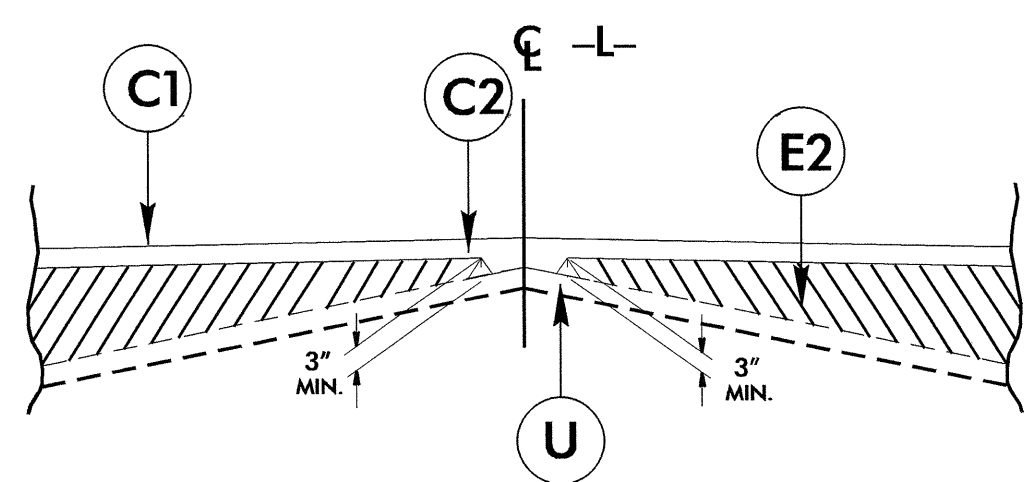
16 SEP 2015 10:36 AM B-4939_RdL1_fup.dgn

PAVEMENT SCHEDULE

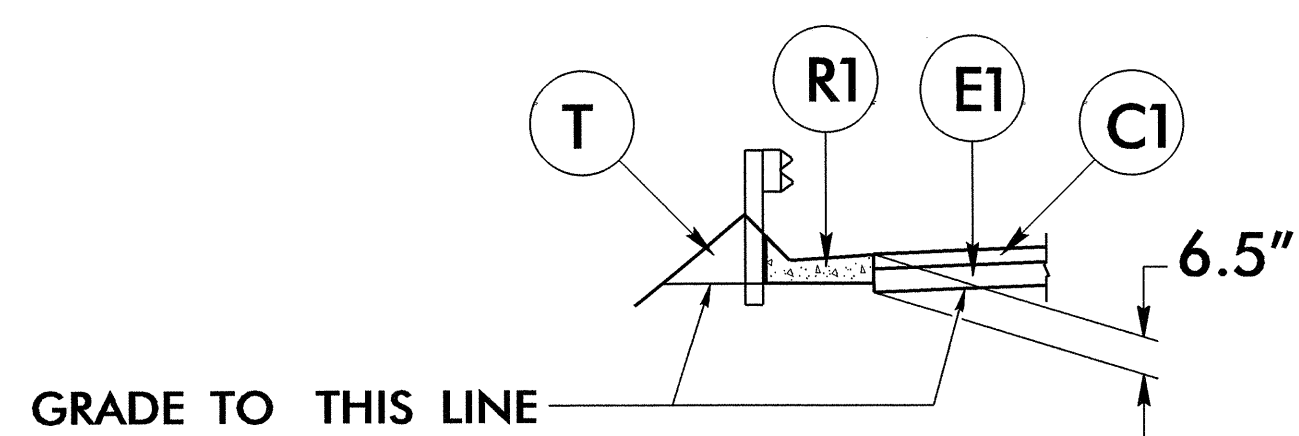
FINAL PAVEMENT DESIGN

C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 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 1.5" 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 TO EXCEED 5.5" IN DEPTH.
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING)

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



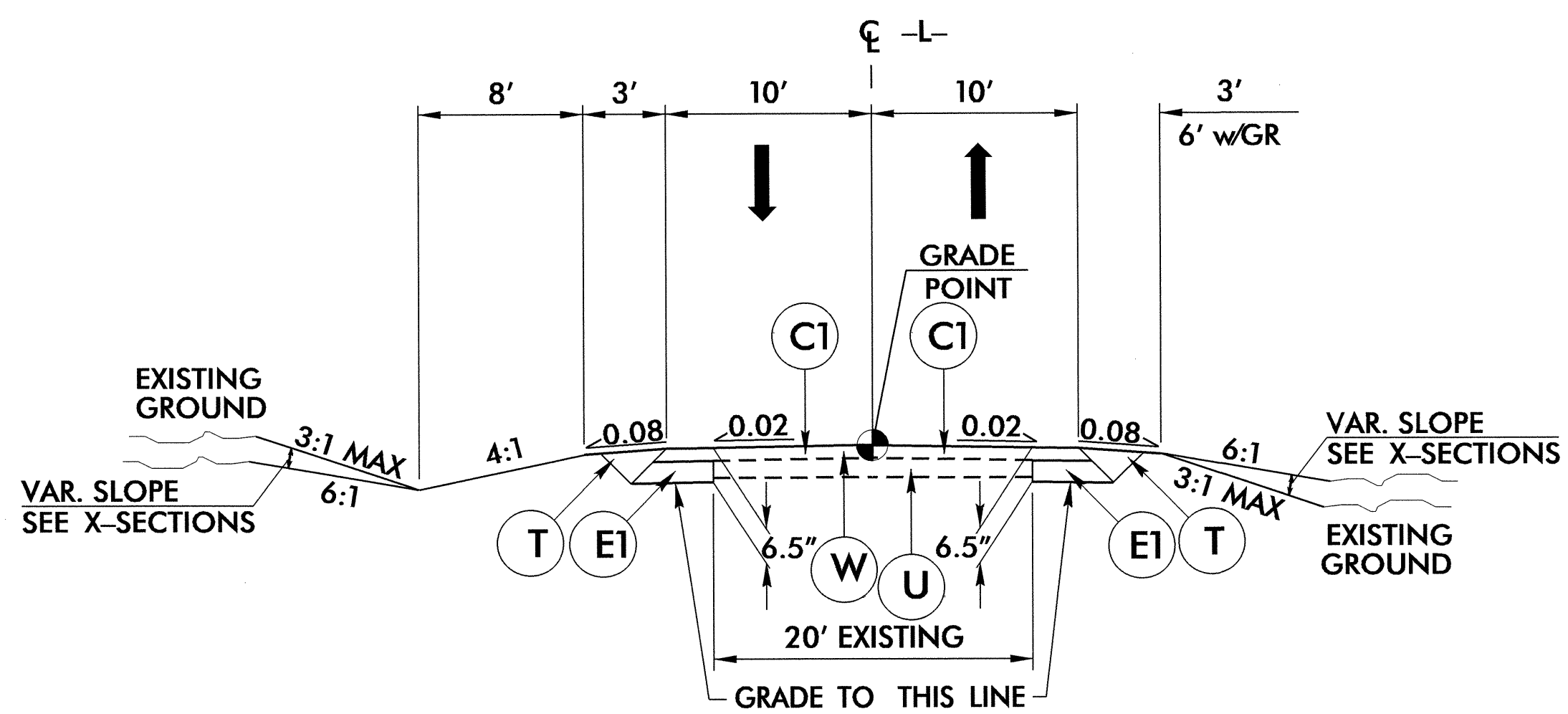
Detail Showing Method of Wedging



DETAIL SHOWING SHOULDER BERM GUTTER ON TOP OF SUBGRADE

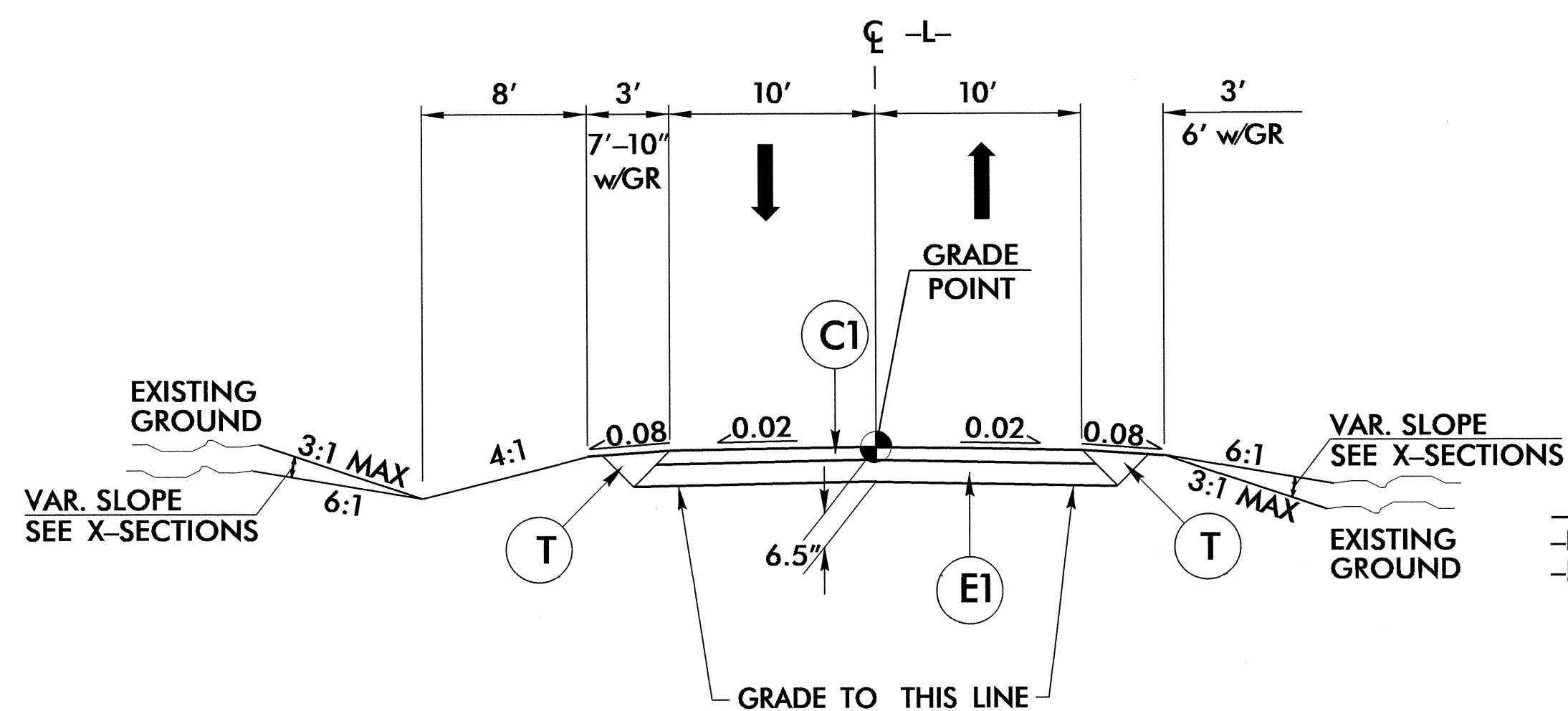
-L- STA. 13+20.25 TO -L- STA. 13+34.75(LT)

PROJECT REFERENCE NO. B-4939	SHEET NO. 2
ROADWAY DESIGN ENGINEER SUSAN C. LANCASTER SEAL 027373 9/19/13	PAVEMENT DESIGN ENGINEER VADIMIR G. MITCHELL SEAL 031484 07/25/13



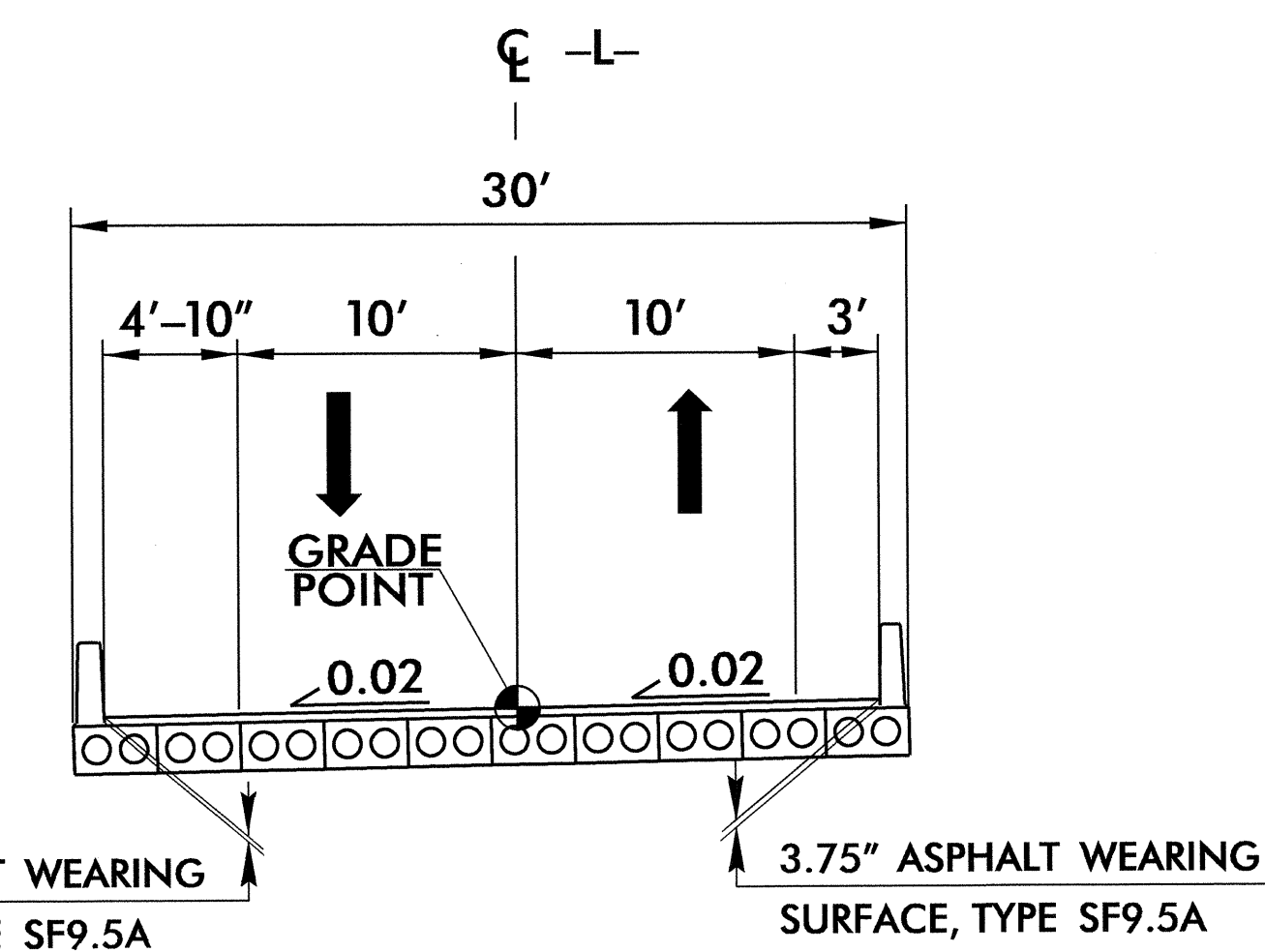
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 10+25.00 TO -L- STA. 11+00.00
-L- STA. 13+75.00 TO -L- STA. 14+50.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 11+00.00 TO -L- STA. 11+48.75 (BEGIN BRIDGE)
-L- STA. 13+06.25 (END BRIDGE) TO -L- STA. 13+75.00



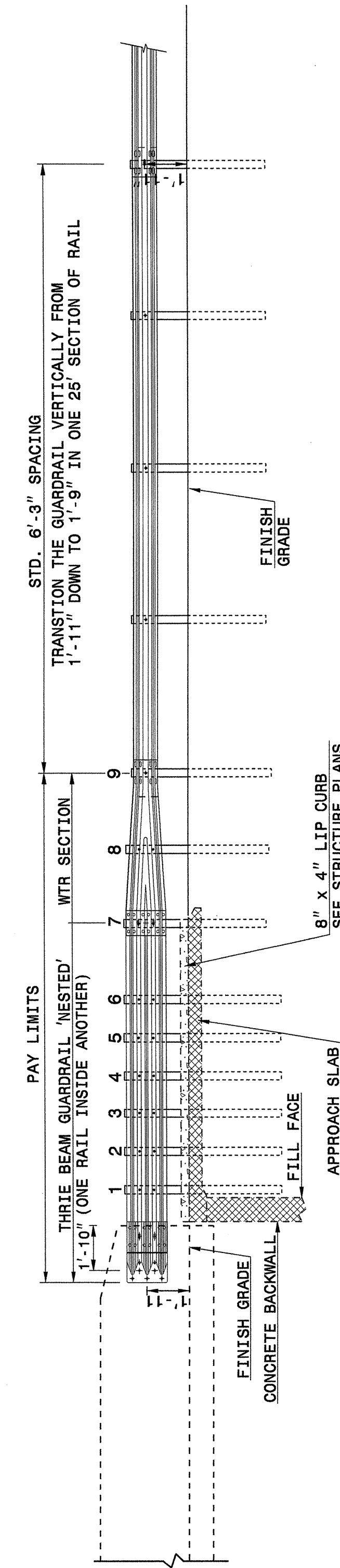
TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
-L- STA. 11+48.75 (BEGIN BRIDGE) TO
-L- STA. 13+06.25 (END BRIDGE)

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

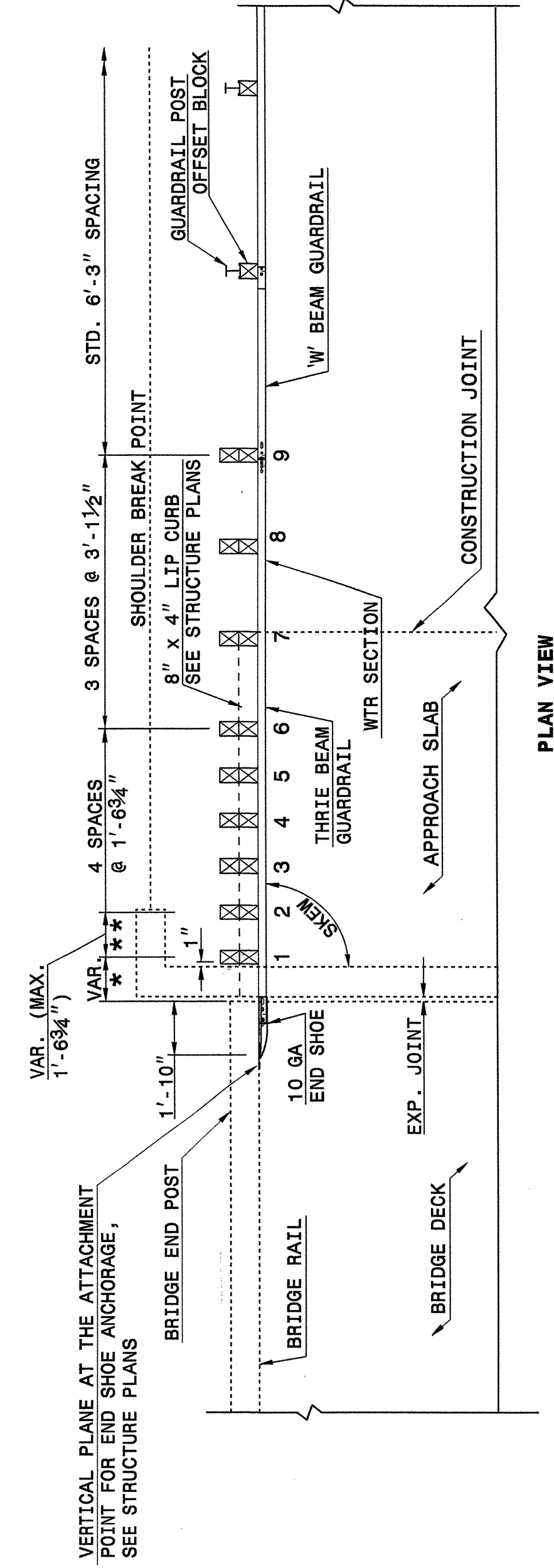
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862d03



NOTE:
 **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" X 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

ELEVATION



PLAN VIEW

GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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

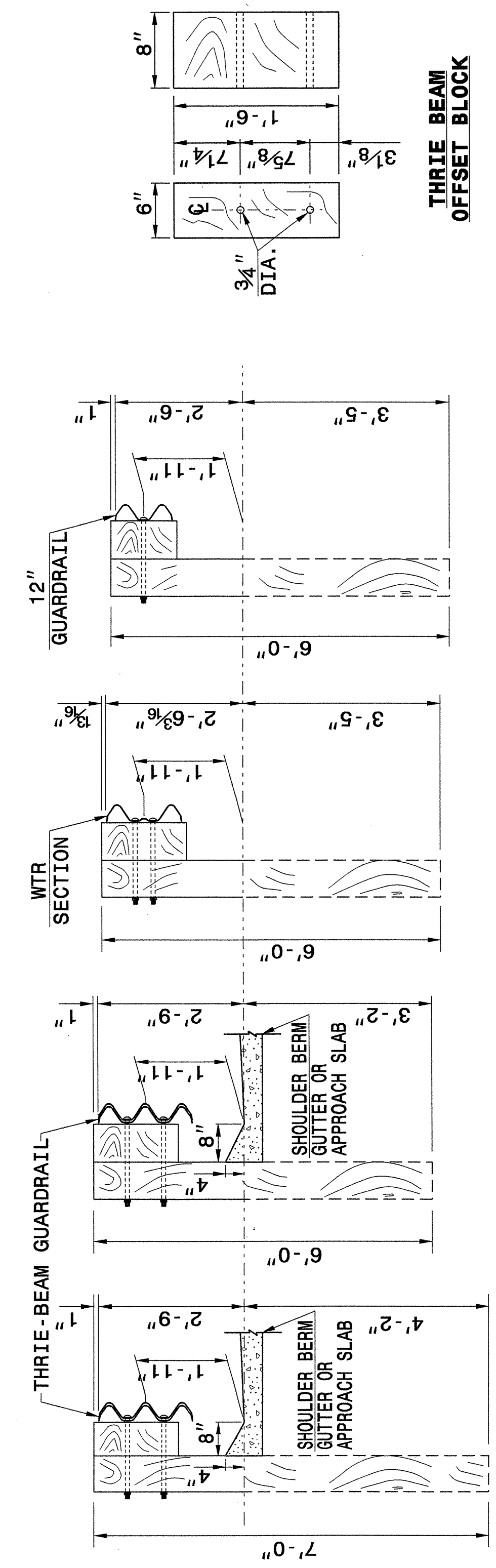
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862d03

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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 862d03

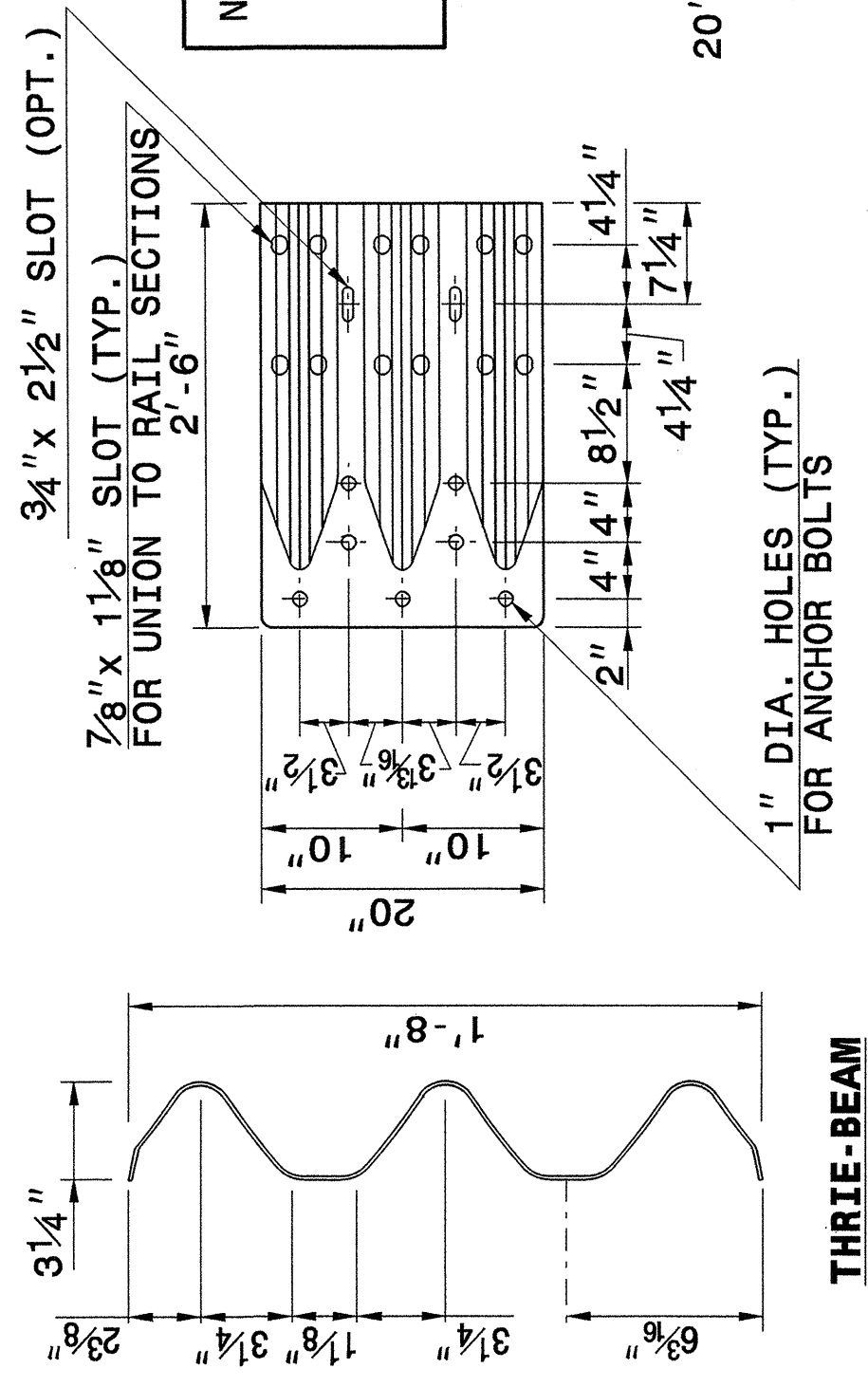


SECTION OF THRIE BEAM POSTS 1 THRU 6

SECTION OF THRIE BEAM POST 7

SECTION OF WTR BEAM POST 8

SECTION OF WTR BEAM POST 9



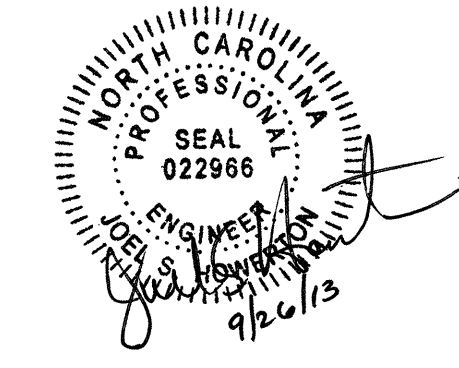
END SHOE

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.

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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 862d03



CONTRACT STANDARDS AND DEVELOPMENT UNIT Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 11/13/12
 FILE SPEC.:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203288

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (12+27.50)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZA- TION
0318000000-E	300	8	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES
0320000000-E	300	10	SY	FOUNDATION CONDITIONING GEO- TEXTILE
0335200000-E	305	20	LF	15" DRAINAGE PIPE
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1330000000-E	607	500	SY	INCIDENTAL MILLING
1489000000-E	610	110	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	220	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	20	TON	ASPHALT BINDER FOR PLANT MIX
2000000000-N	806	10	EA	RIGHT OF WAY MARKERS
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	15	LF	SHOULDER BERM GUTTER
3030000000-E	862	62.5	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	1	TON	RIP RAP, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
3656000000-E	876	1,265	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	13	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	1	EA	SIGN ERECTION, TYPE E
4155000000-N	907	7	EA	DISPOSAL OF SIGN SYSTEM, U- CHANNEL
4400000000-E	1110	291	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	144	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	112	LF	BARRICADES (TYPE III)
4810000000-E	1205	3,400	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	1,150	LF	TEMPORARY SILT FENCE
6006000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	15	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	335	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	100	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	500	LF	SAFETY FENCE
6030000000-E	1630	50	CY	SILT EXCAVATION
6036000000-E	1631	750	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	250	SY	COIR FIBER MAT
6042000000-E	1632	300	LF	1/4" HARDWARE CLOTH
6048000000-E	SP	180	SY	FLOATING TURBIDITY CURTAIN
6070000000-N	1639	12	EA	SPECIAL STILLING BASINS
6084000000-E	1660	0.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.2	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	0.25	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION

5/28/99

09-SEP-2013 09:35
S:\B1\PROJECTS\B1-4939-Rdy.sum.dgn

COMPUTED BY: FMM DATE: 5-10-2012
 CHECKED BY: SCL DATE: 5-22-2012

PROJECT NO. SHEET NO.
 B-4939 3-B

RD248621

**STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS**

SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
10+25.00	11+48.75	0	55	55	0
13+06.25	14+50.00	8	60	52	0
SUBTOTALS:		8	115	107	0
TOTAL:		8	115	107	0
EST 3% TO REPLACE TOP SOIL ON BORROW PIT				5	
PROJECT TOTALS:		8	115	112	0
GRAND TOTALS:		8	115	112	0
SAY:		10		115	

UNDERCUT = 200 CY
 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. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Asphalt Pavement will be paid for at the contract lump sum price for "Grading".

**SUMMARY OF EXISTING ASPHALT
 PAVEMENT REMOVAL**

LINE	Station	Station	LOC LT/RT/CL	YD ²
L	11+00.00	11+92.46	LT	114.42
L	11+00.00	11+92.46	RT	103.62
L	12+82.85	13+75.00	LT	118.48
L	12+82.85	13+75.00	RT	106.10
TOTAL:				442.62
SAY:				450

SHOULDER BERM GUTTER

LOCATION	SIDE	BEG. STA.	END STA.	LENGTH
-L-	LT	13+20.25	13+34.75	14.5'
TOTAL:				14.5'
SAY:				15'

"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

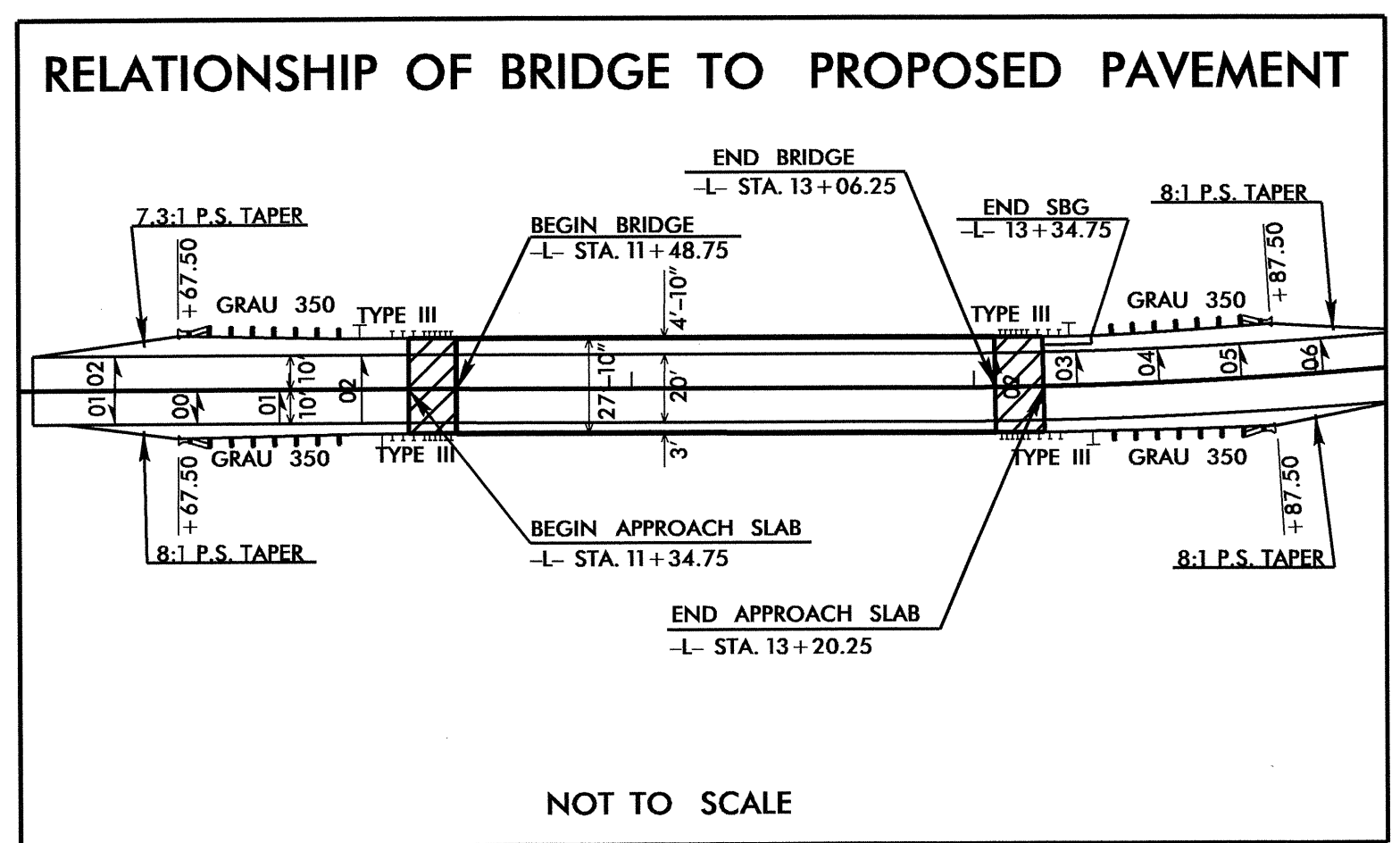
GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST FROM E.O.L.	TOTAL SHLDR WIDTH	FLAIR LENGTH		W		ANCHORS						MP. ATTN TYPE 350 EA	REMOVE EXISTING GRDRAIL	REMARKS				
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	XI MOD	XI	GRAU 350	M-350	TYPE-III	CAT-1				VI MOD			
-L-	10+67.50	11+48.75	LT	81.25			11+48.75		4'-10"	7'-10"		50		1													
-L-	10+67.50	11+48.75	RT	81.25				11+48.75	3'	6'	50		1														
-L-	13+06.25	13+87.50	LT	81.25				11+48.75	4'-10"	7'-10"		50		1													
-L-	13+06.25	13+87.50	RT	81.25			13+06.25		3'	6'	50		1														
SUBTOTAL:				325													4										
ANCHOR DEDUCTIONS:																											
GRAU-350																	4 @ 50										
TYPE-III																	4 @ 18.75										
TOTAL				50																							
SAY				62.5																							(5 ADDITIONAL GUARDRAIL POSTS)

8/17/99

01-SEP-2013 07:15 18-B-4939_Rdwy_psh.dgn

REVISIONS



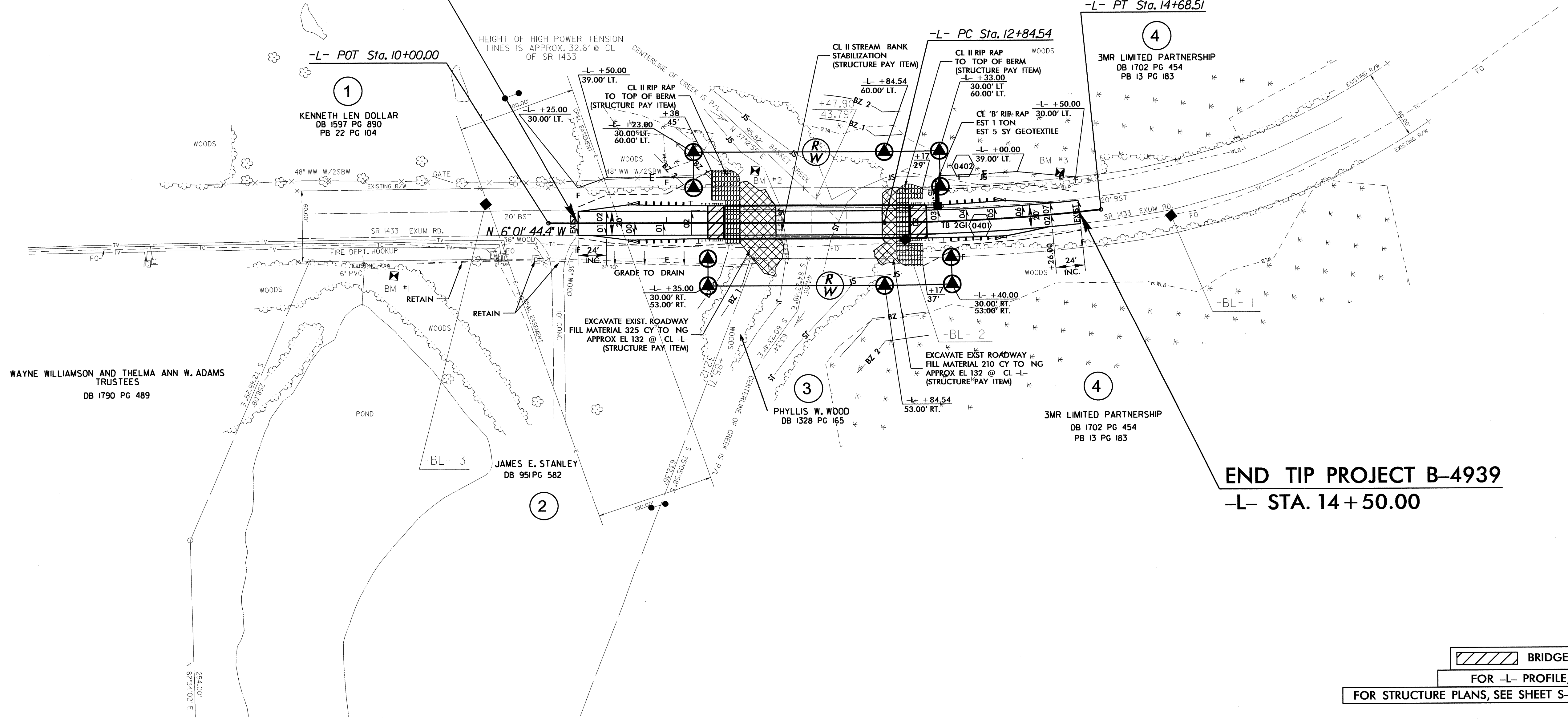
-L-

PI Sta 13+76.63
 $\Delta = 6^\circ 35' 17.4" (LT)$
 $D = 3^\circ 34' 51.6"$
 $L = 183.98'$
 $T = 92.09'$
 $R = 1,600.00'$

NCGRID
 NAD 83/NSRS 2007

PROJECT REFERENCE NO. B-4939	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER

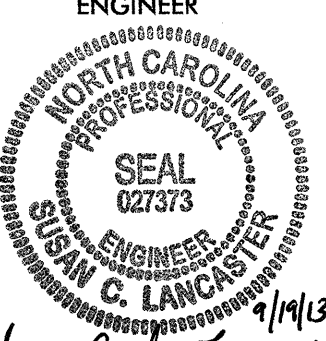
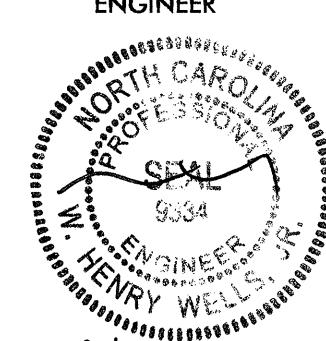
BEGIN TIP PROJECT B-4939
 -L- STA. 10+25.00

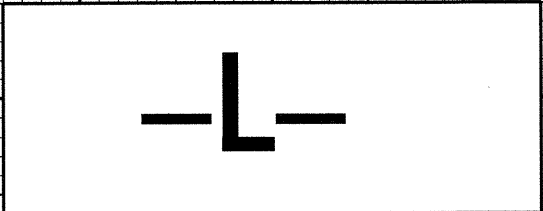


BRIDGE APPROACH SLAB
 FOR -L- PROFILE, SEE SHEET 5
 FOR STRUCTURE PLANS, SEE SHEET S-1 THROUGH S-21

5/14/99

05-SEP-2013 08:28 B-4939_Rdy.plt.dgn

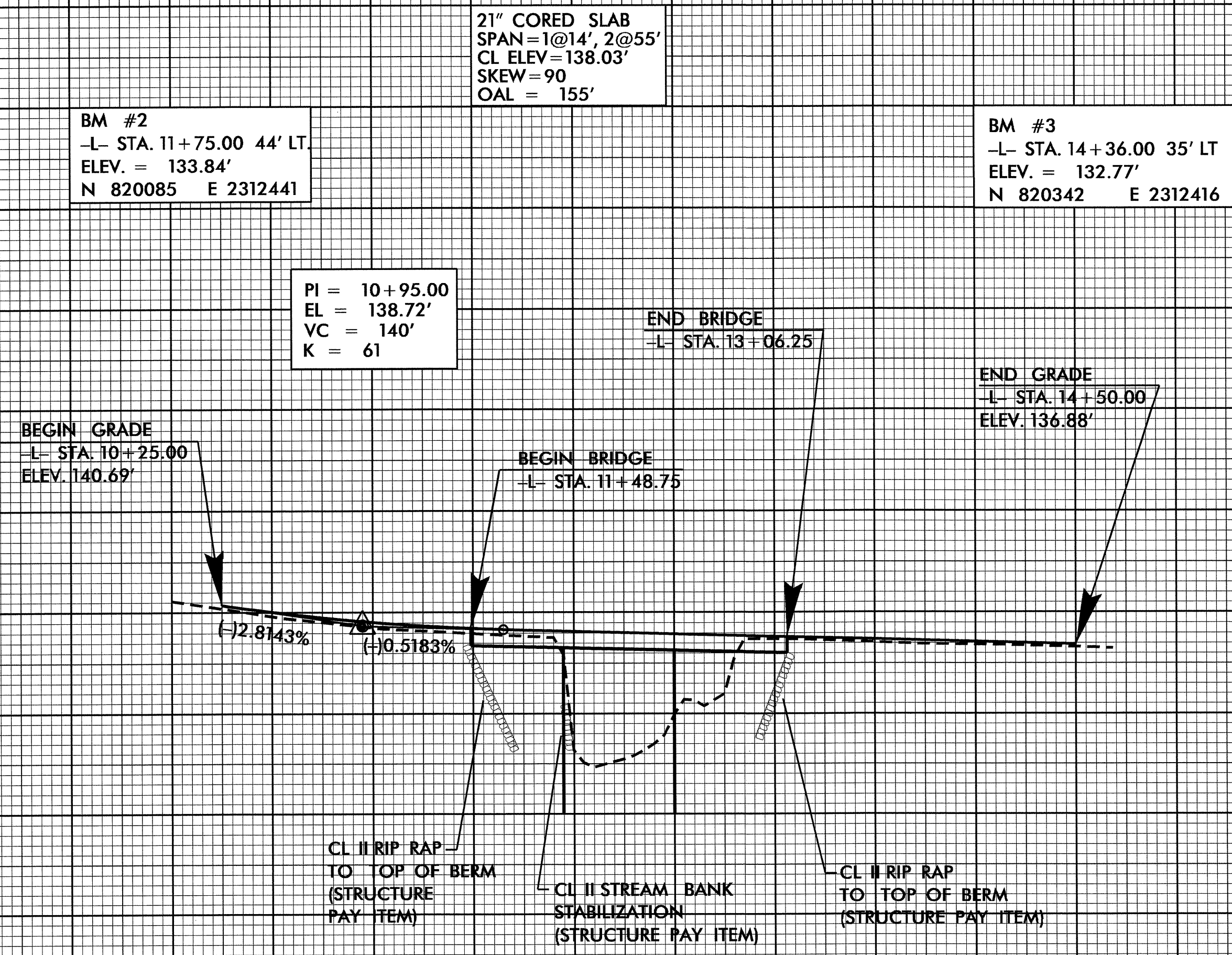
PROJECT REFERENCE NO. B-4939	SHEET NO. 5
ROADWAY DESIGN ENGINEER  Brian C. Lancaster 9/1/13	HYDRAULICS ENGINEER  Henry Wells 9/1/13



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 1975 CFS
 DESIGN FREQUENCY = 25 YRS
 DESIGN HW ELEVATION = 134.6 FT
 BASE DISCHARGE = 2884 CFS
 BASE FREQUENCY = 100 YRS
 BASE HW ELEVATION = 135.1 FT
 OVERTOPPING DISCHARGE = 1975 CFS
 OVERTOPPING FREQUENCY = <25 YRS
 OVERTOPPING ELEVATION = 134.28 FT

DATE OF SURVEY = 10-20-11
 W.S. ELEVATION AT DATE OF SURVEY = 129.1 FT



BM #2
 -L- STA. 11+75.00 44' LT
 ELEV. = 133.84'
 N 820085 E 2312441

21" CORED SLAB
 SPAN=1@14', 2@55'
 CL ELEV.=138.03'
 SKEW=90
 OAL = 155'

BM #3
 -L- STA. 14+36.00 35' LT
 ELEV. = 132.77'
 N 820342 E 2312416

PI = 10+95.00
 EL = 138.72'
 VC = 140'
 K = 61

END BRIDGE
 -L- STA. 13+06.25

END GRADE
 -L- STA. 14+50.00
 ELEV. 136.88'

BEGIN GRADE
 -L- STA. 10+25.00
 ELEV. 140.69'

BEGIN BRIDGE
 -L- STA. 11+48.75

CL II RIP RAP
 TO TOP OF BERM
 (STRUCTURE
 PAY ITEM)

CL II STREAM BANK
 STABILIZATION
 (STRUCTURE PAY ITEM)

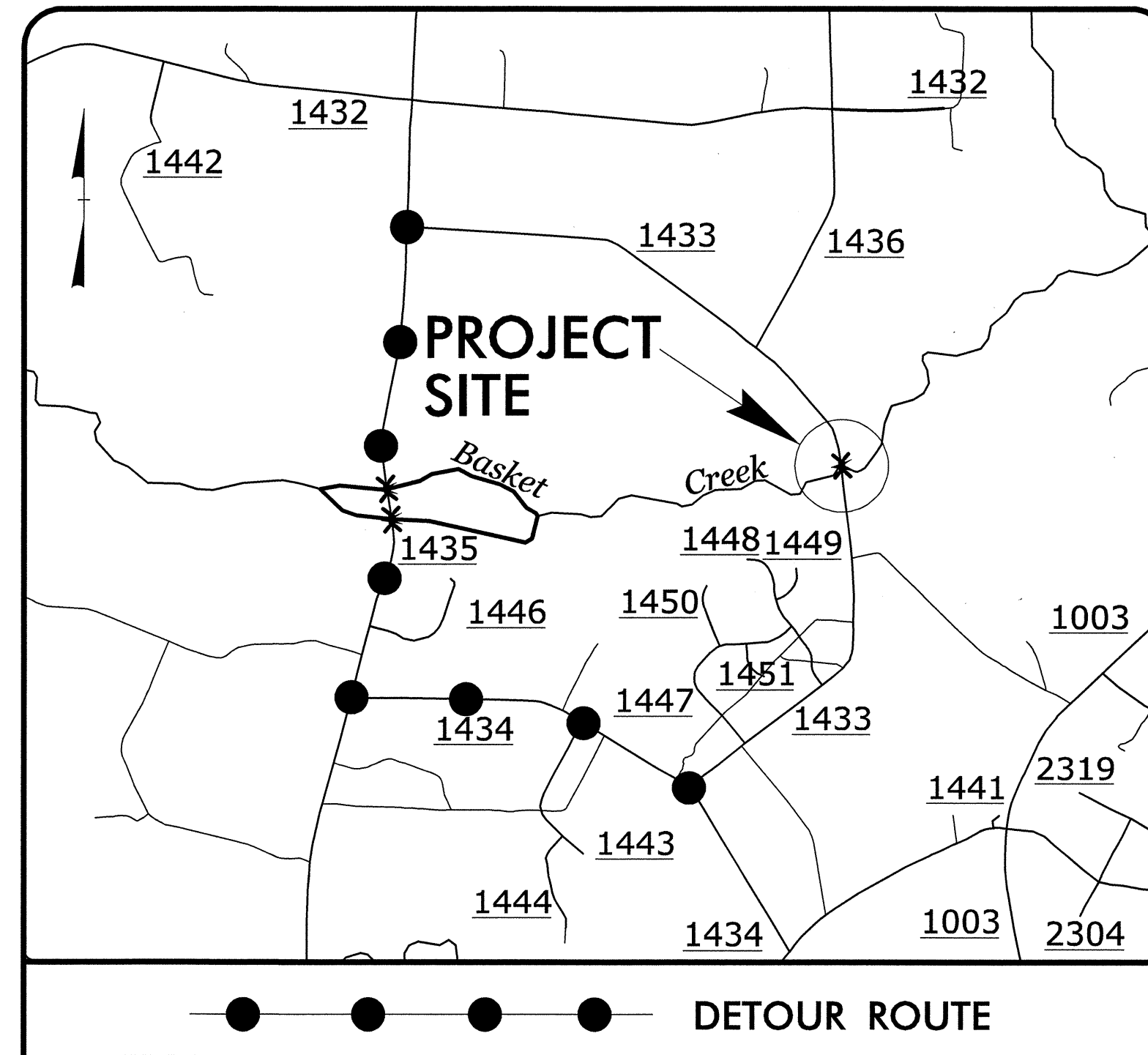
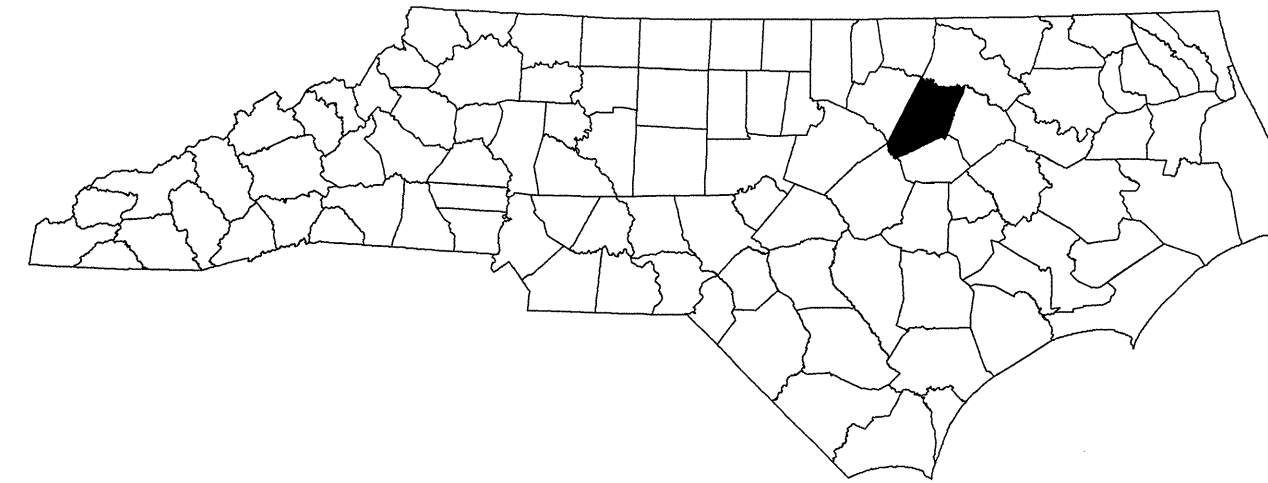
CL II RIP RAP
 TO TOP OF BERM
 (STRUCTURE PAY ITEM)

FOR -L- ALIGNMENT, SEE SHEET 4

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

NASH COUNTY



**LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433
(EXUM ROAD)**

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

INDEX OF SHEETS

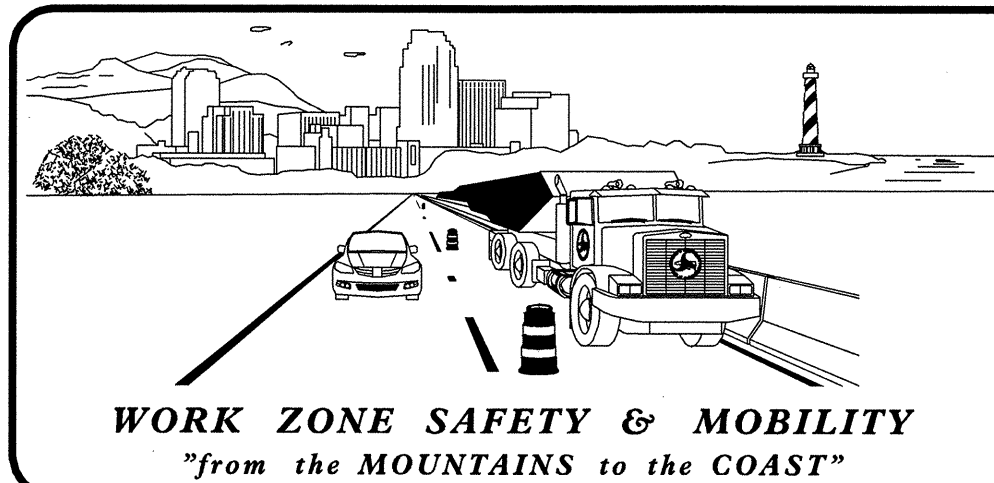
SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES, AND PHASING)
TMP-2	SIGN DESIGN
TMP-3	OFF-SITE DETOUR
TMP-4	ROAD CLOSURE

SHEET NO.
TMP-1

B-4939

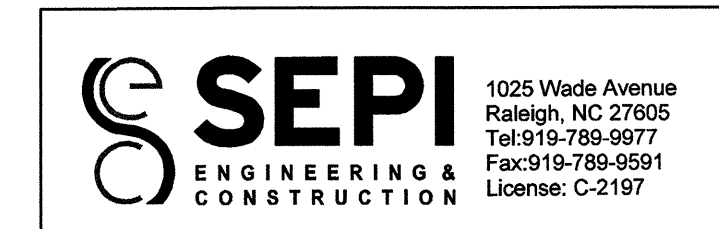
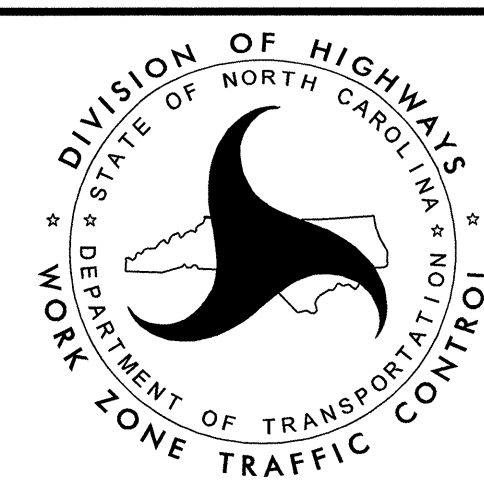
TIP PROJECT:

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\$\$\$\$\$DCNS\$\$\$\$\$
\$\$\$\$\$SERNAME\$\$\$\$\$

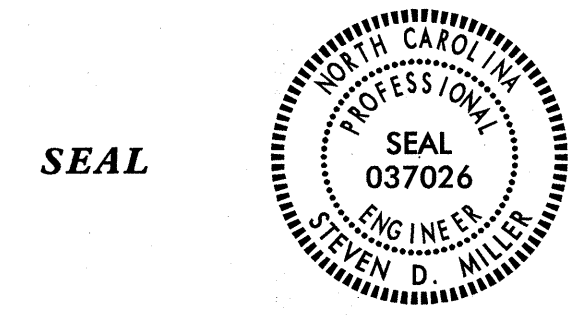


N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
J. S. KITE, P.E. TRAFFIC CONTROL PROJECT ENGINEER
D. W. BISSETTE, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
TRAFFIC CONTROL DESIGN ENGINEER



APPROVED: *St. Miller*
DATE: 7-23-11



ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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:

<u>STD. NO.</u>	<u>TITLE</u>
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES-TYPE III

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)

WORK AREA

REMOVAL

USER DEFINED (IF NEEDED)

USER DEFINED (IF NEEDED)

SIGNALS

- EXISTING
- PROPOSED
- TEMPORARY
-
-
-

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

\$\$\$SYTIME\$\$\$
 \$\$\$DON\$\$\$
 \$\$\$USERNAME\$\$\$

APPROVED: DATE: 7-23-11		
ROADWAY STANDARD DRAWINGS & LEGEND		

MANAGEMENT STRATEGIES

- CLOSE SR 1433 (EXUM ROAD) AND DETOUR TRAFFIC OFF-SITE
- LOCAL ACCESS TO ALL RESIDENCES AND BUSINESSES WILL BE MAINTAINED BETWEEN CLOSURE POINTS AT ALL TIMES DURING CONSTRUCTION

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRABLE OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A) NOTIFY THE ENGINEER TWENTY-ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC MANAGEMENT PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC MANAGEMENT PLANS.

- C) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

- D) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

PHASING

PROVIDE TWENTY-ONE DAYS NOTICE TO THE ENGINEER, NASH COUNTY EMERGENCY SERVICES, AND NASH COUNTY SCHOOL OFFICIALS PRIOR TO ROAD CLOSURE.

- STEP 1 USING RSD 1101.03 SHEET 1 OF 9, CLOSE EXUM ROAD (SR 1433) AND DETOUR TRAFFIC OFF-SITE AS SHOWN ON TMP-3. MAINTAIN ACCESS TO ALL RESIDENCES AND BUSINESSES BETWEEN CLOSURE POINTS.

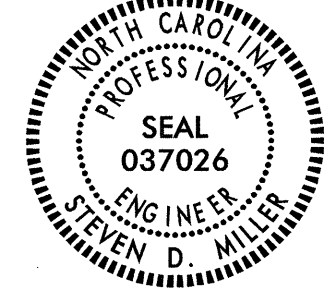

STEP 2 REMOVE THE EXISTING STRUCTURE.

STEP 3 CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY.

STEP 4 PLACE FINAL PAVEMENT MARKINGS ACCORDING TO THE PAVEMENT MARKING PLANS.

STEP 5 OPEN EXUM ROAD (SR 1433) TO TRAFFIC AND REMOVE ALL TRAFFIC CONTROL DEVICES.

\$\$\$SYTIME\$\$\$
 \$\$\$USERNAME\$\$\$
 \$\$\$DGN\$\$\$
 \$\$\$\$\$\$

APPROVED: <i>Se. Miller</i> DATE: 7-23-11			TRANSPORTATION OPERATIONS PLAN
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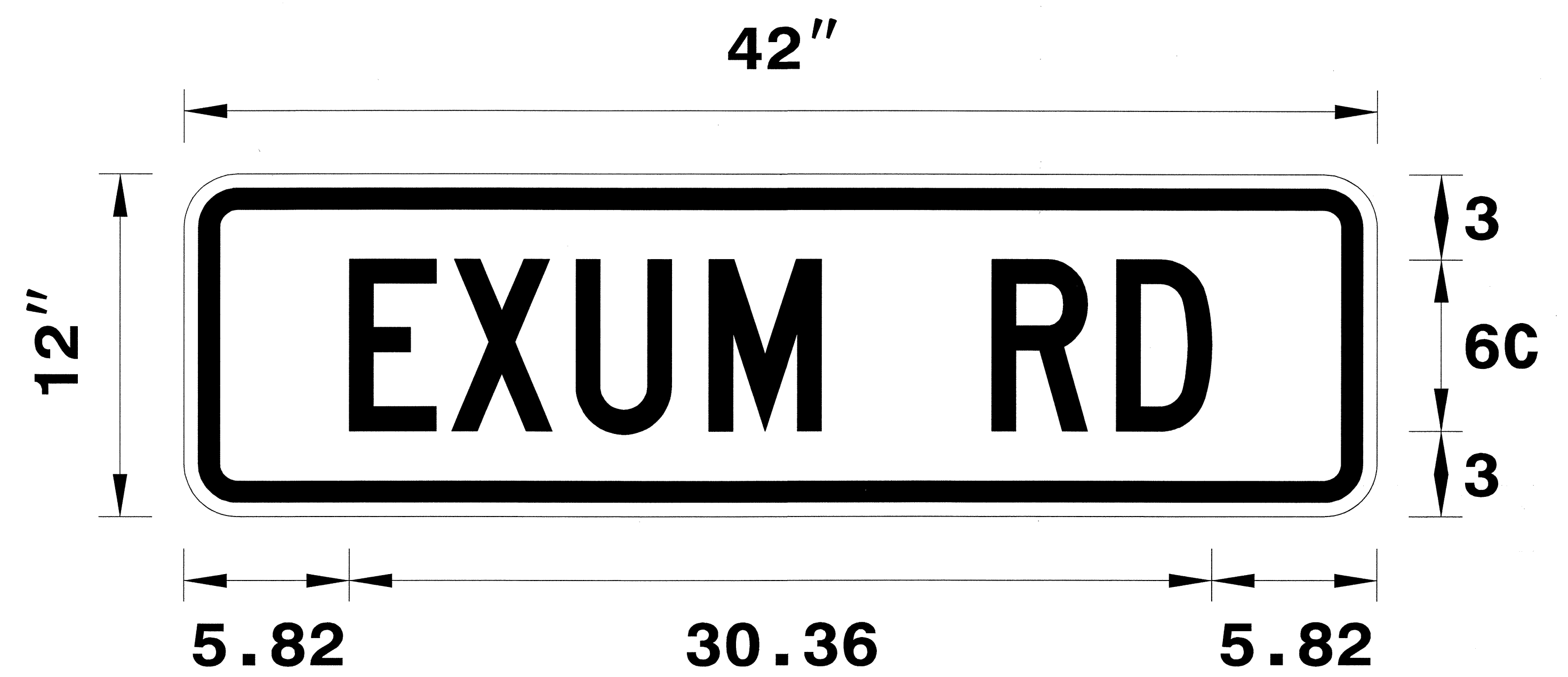
SIGN NUMBER: SP-1 **BACKG COLOR:** Fluorescent Orange
TYPE: STATIONARY **COPY COLOR:** Black
QUANTITY: SEE PLANS

SIGN WIDTH: 42"
HEIGHT: 12"
TOTAL AREA: 3.5 Sq. Feet

BORDER TYPE: RECESSED
RECESS: 0.5"
WIDTH: 0.75"
RADII: 1.38"

MAT'L: 0.125" (3.2 mm) ALUMINUM
0.079" COMPOSITE

DESIGN BY: R DRAYTON **CHECKED BY:** S MILLER
PROJECT ID: B-4939 **DIV:** 4 **DATE:** Mar 15, 2013



USE NOTES:
1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be Type VII, VIII, or IX (prismatic) fluorescent orange retroreflective sheeting.

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

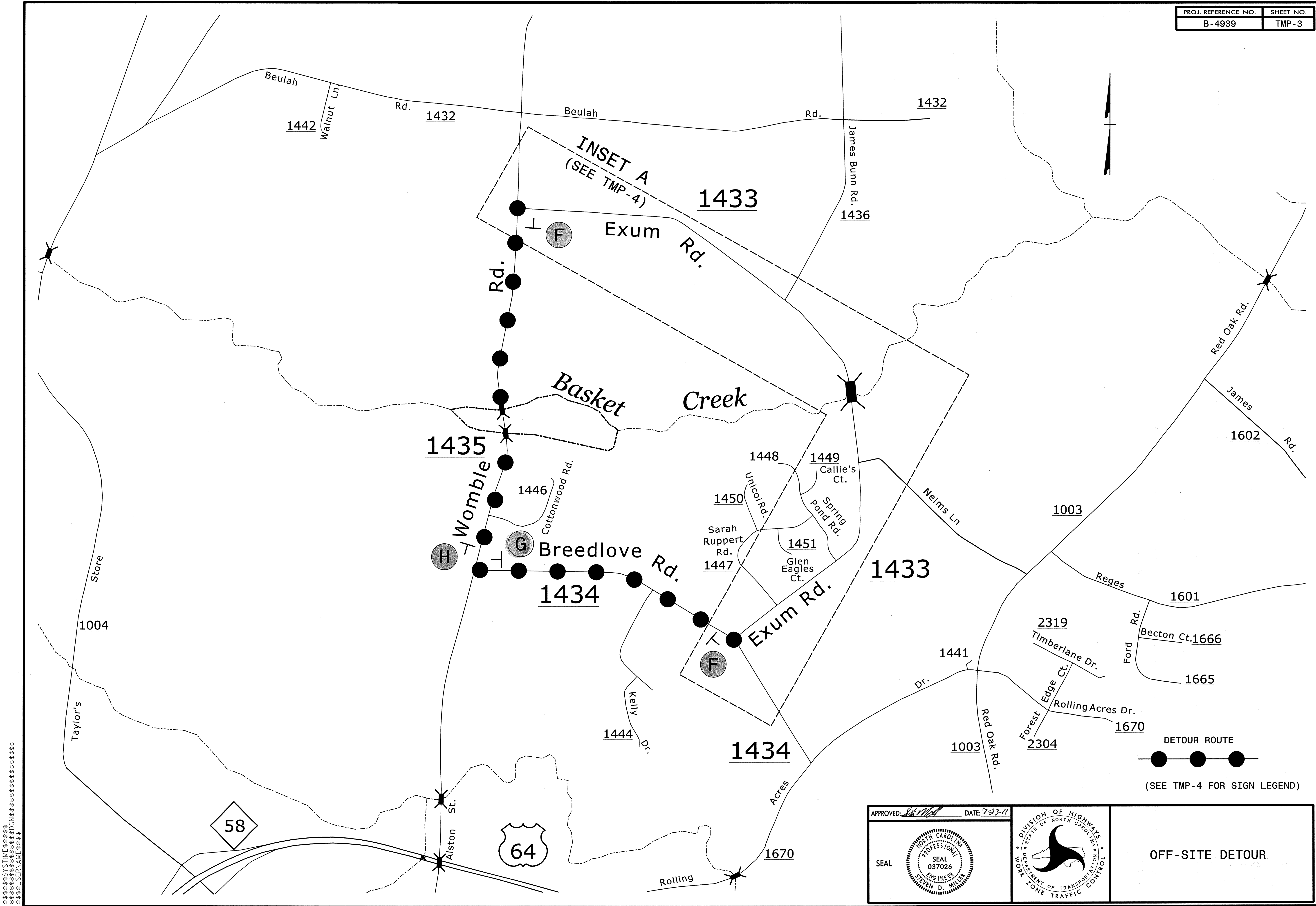
Letter locations are panel edge to lower left corner															Series/Size	
E	X	U	M		R	D										Text Length
5.82	9.42	13.8	18.48	22.44	28.44	32.82										C 2000
																30.36

FILENAME: sign designs

SEPI ENGINEERING & CONSTRUCTION SIGN DETAIL

\$\$\$\$\$SYSTEM\$\$\$\$\$
\$\$\$\$\$DGN\$\$\$\$\$
\$\$\$\$\$USERNAM\$\$\$\$\$

APPROVED: <i>[Signature]</i> DATE: 7-23-11 		SIGN DESIGN
--	--	-------------

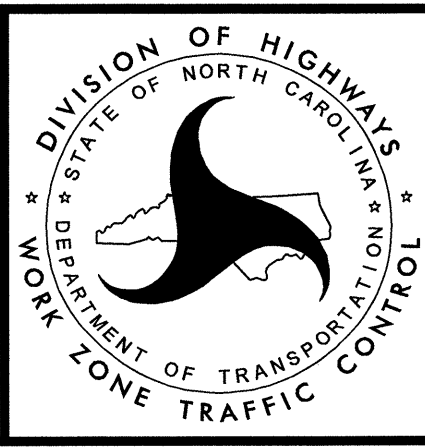


*****SYSTEMTIME*****
 *****DSC*****
 *****SERIAL*****

DETOUR ROUTE
 (SEE TMP-4 FOR SIGN LEGEND)

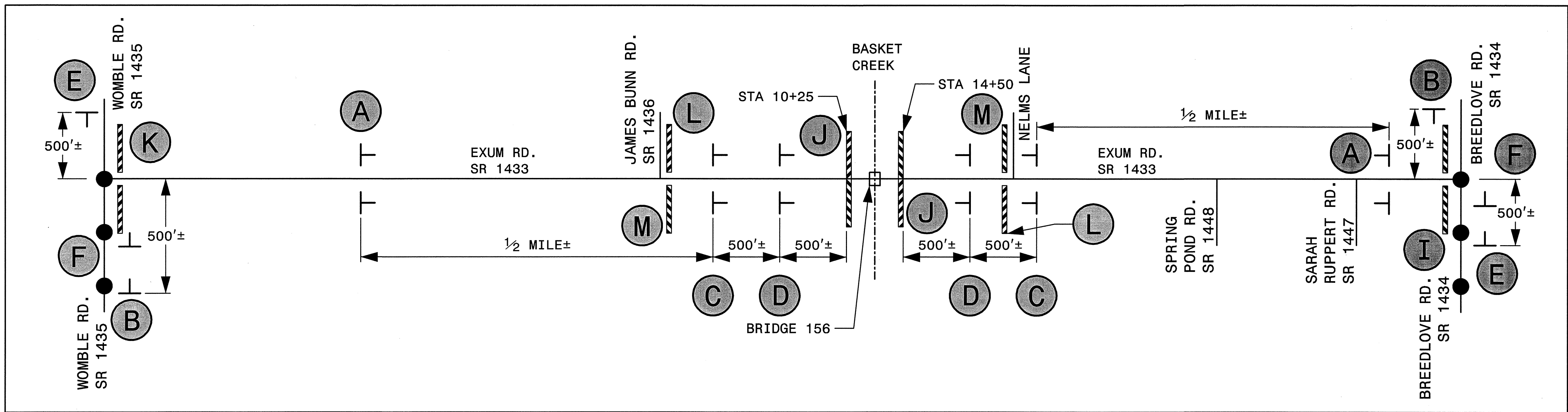
APPROVED: *[Signature]* DATE: 7-23-11

SEAL
 NORTH CAROLINA
 PROFESSIONAL
 ENGINEER
 SEVEN D. MILLER
 SEAL 037026



OFF-SITE DETOUR

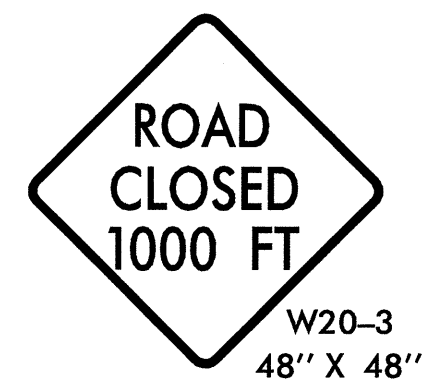
INSET A



A



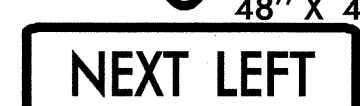
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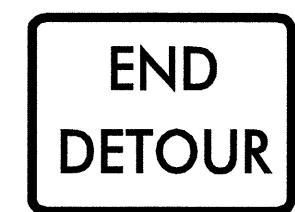
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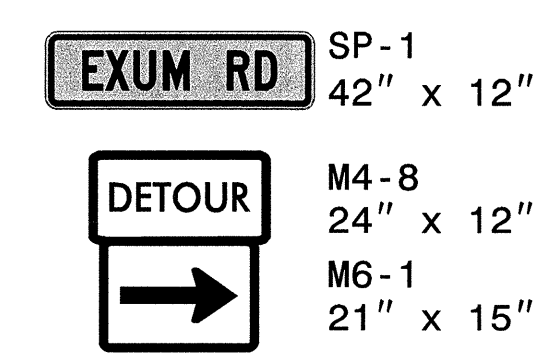
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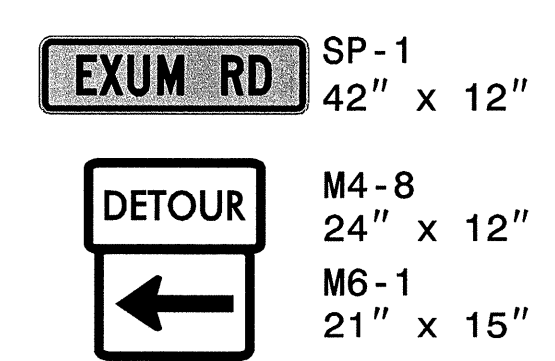
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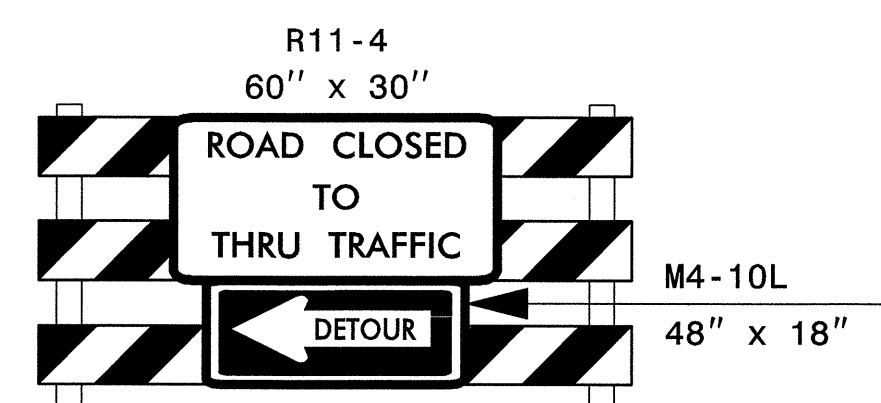
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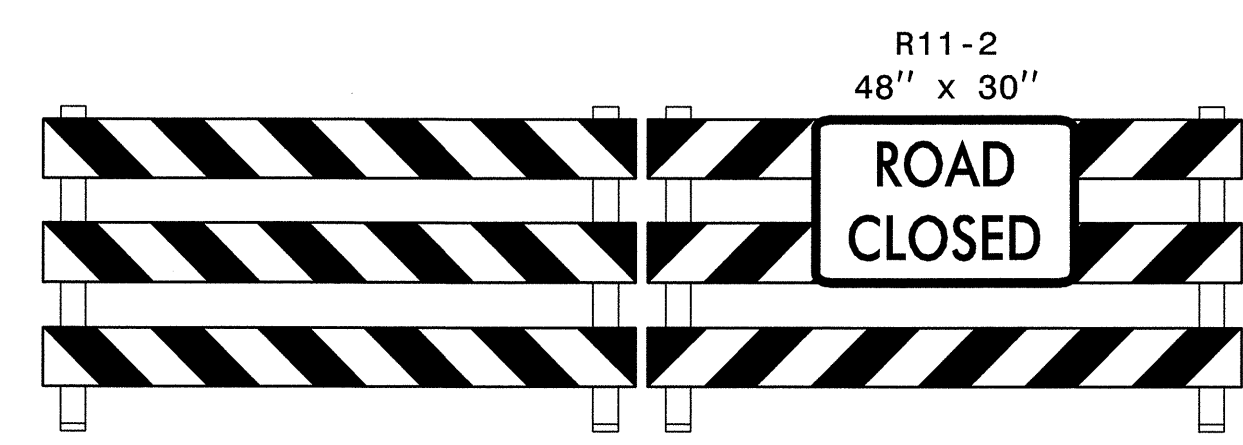
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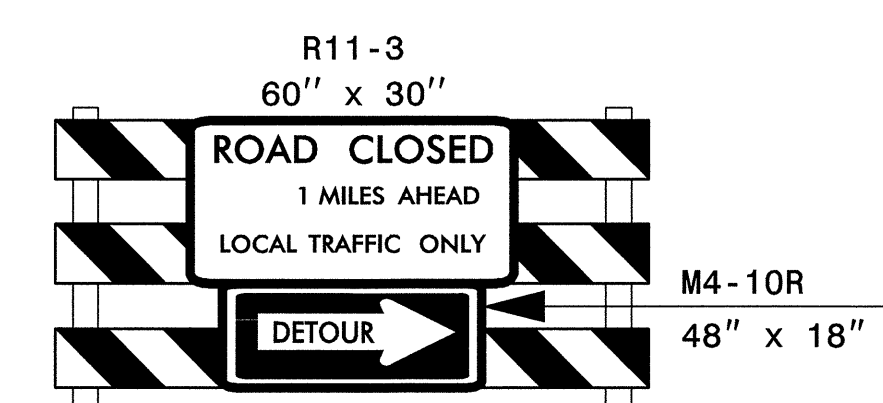
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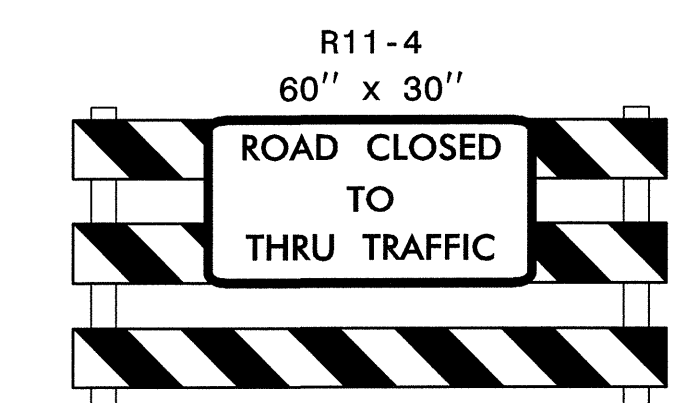
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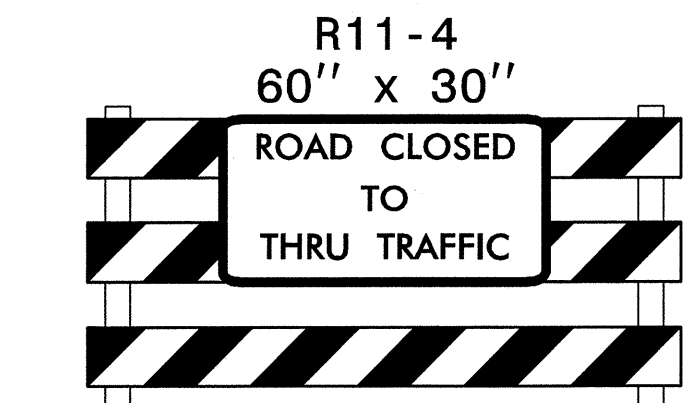
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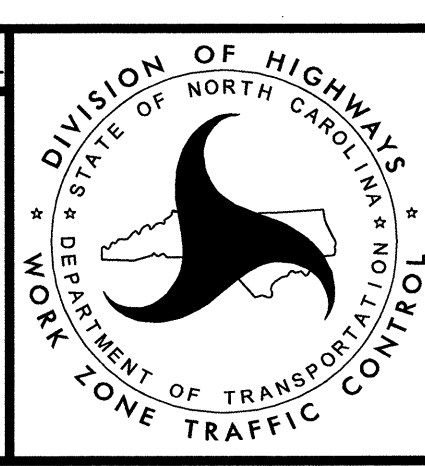
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M

APPROVED: *[Signature]* DATE: 7-23-11

SEAL



ROAD CLOSURE

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$DCN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$

TIP NO. B - 4939	SHEET NO. PMP - 1
APPROVED: <i>[Signature]</i>	
DATE: 7-17-13	
SEAL	

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN
NASH COUNTY**

LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

T.I.P.: B-4939

CONTRACT:

B-4939 PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
PA	WHITE EDGELINE	PAINT (4")
PI	YELLOW DOUBLE CENTER	PAINT (4")
(MARKERS)		
NONE		

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

GENERAL NOTES

- THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.
- A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
-L- SR 1433	PAINT	NONE
-L- BRIDGE DECK	PAINT	NONE
 - B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.
 - C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
 - D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.
 - E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.
 - F) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.
 - G) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING PAINT PAVEMENT MARKING MATERIAL.

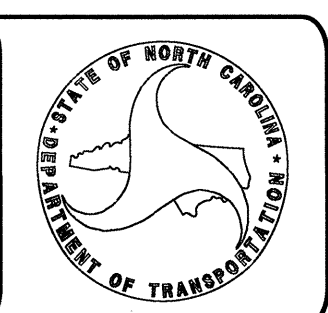
INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

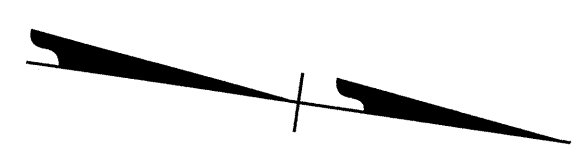
AYMAN ALQUDWAH, PE, CPM, SIGNING & DELINEATION REGIONAL ENGINEER

BASIR A. RASHID SIGNING & DELINEATION PROJECT DESIGN ENGINEER



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br-rashid

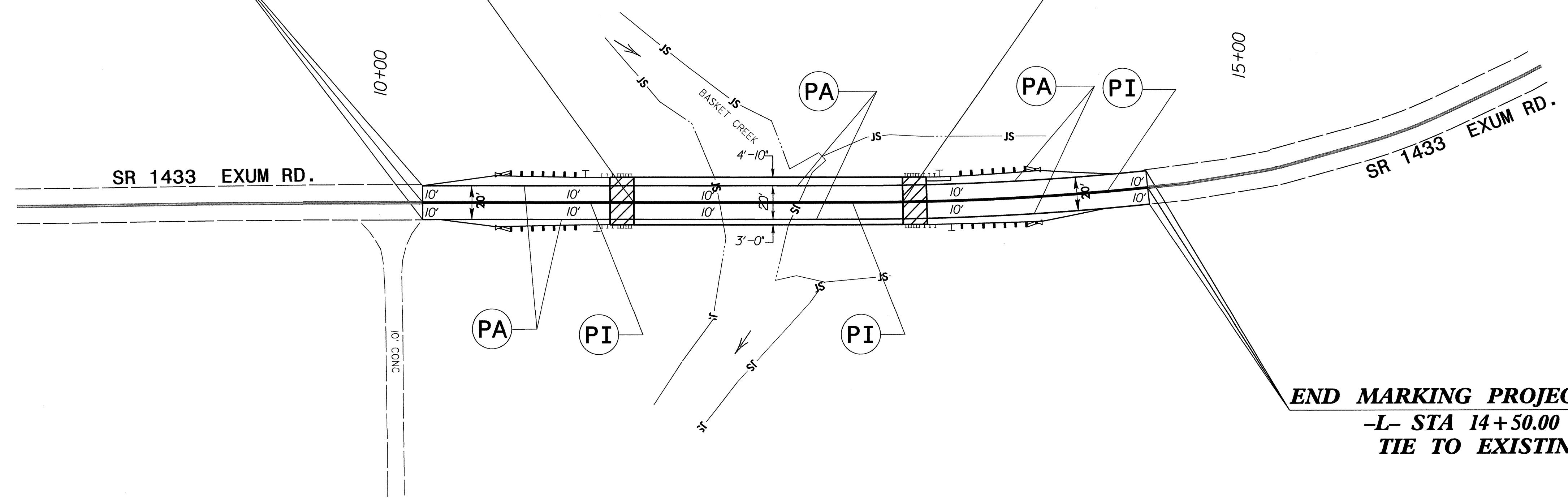
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APPROVED: <i>[Signature]</i>	
DATE: 7-17-13	
SEAL	



BEGIN MARKINGS PROJECT B-4939
-L- STA 10+25.00 +/-
TIE TO EXISTING

BEGIN BRIDGE
-L- STA 11+48.75

END BRIDGE
-L- STA 13+06.25



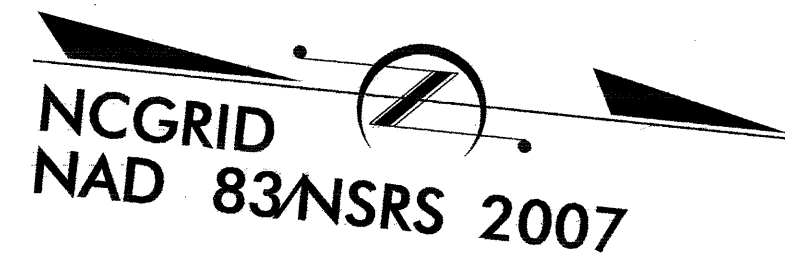
END MARKING PROJECT B-4939
-L- STA 14+50.00 +/-
TIE TO EXISTING

P:\JUL-2015_10:51
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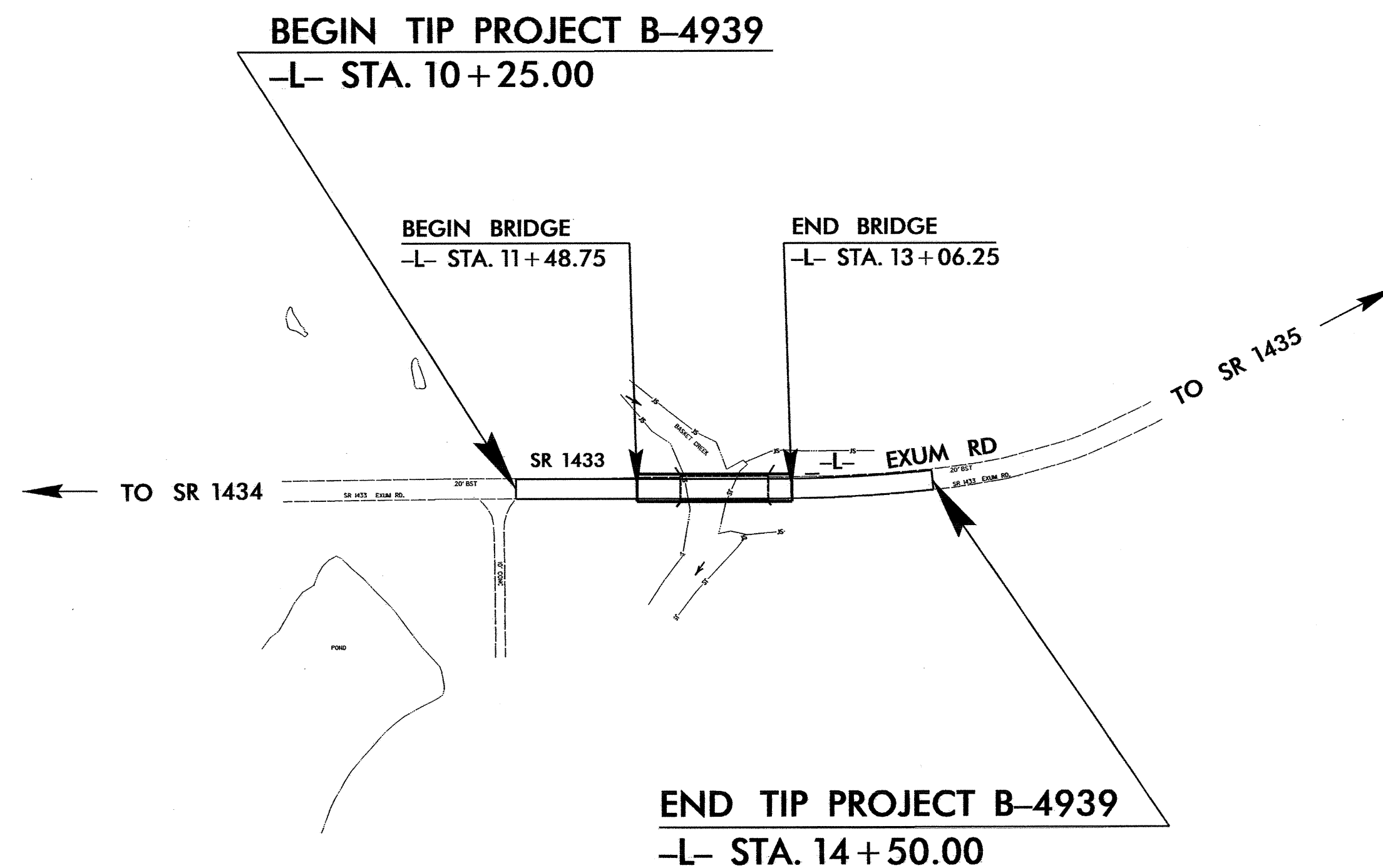
PAVEMENT MARKING DETAIL

TIP PROJECT: B-4939

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 PLAN FOR PROPOSED
 HIGHWAY EROSION CONTROL
NASH COUNTY



LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE



STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4939	EC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	

EROSION AND SEDIMENT CONTROL MEASURES

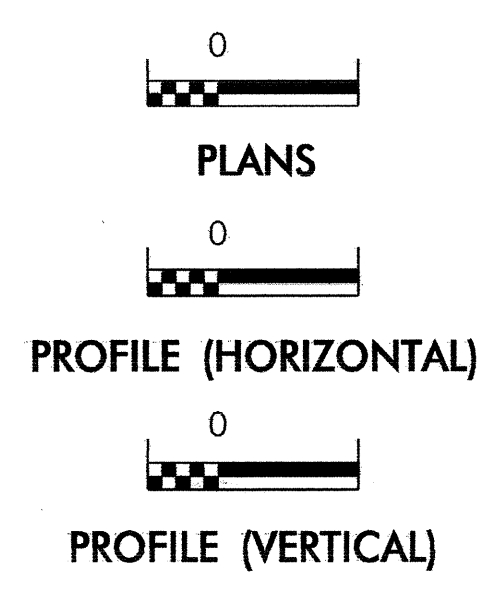
Std. #	Description	Symbol
1630.03	Temporary Silt Ditch.....	
1630.05	Temporary Diversion.....	
1605.01	Temporary Silt Fence.....	
1606.01	Special Sediment Control Fence.....	
1622.01	Temporary Berms and Slope Drains.....	
1630.02	Silt Basin Type B.....	
1635.01	Temporary Rock Silt Check Type-A.....	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM).....	
1633.02	Temporary Rock Silt Check Type-B.....	
	Wattle/Coir Fiber Wattle.....	
	Wattle/Coir Fiber Wattle with Polyacrylamide (PAM).....	
1634.01	Temporary Rock Sediment Dam Type-A.....	
1634.02	Temporary Rock Sediment Dam Type-B.....	
1635.01	Rock Pipe Inlet Sediment Trap Type-A.....	
1635.02	Rock Pipe Inlet Sediment Trap Type-B.....	
1630.04	Stilling Basin.....	
1630.06	Special Stilling Basin.....	
	Rock Inlet Sediment Trap:	
1632.01	Type A.....	
1632.02	Type B.....	
1632.03	Type C.....	
	Skimmer Basin.....	
	Tiered Skimmer Basin.....	
	Infiltration Basin.....	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT
Refer To E. C. Special Provisions for Special Considerations.

GRAPHIC SCALE



ROADSIDE ENVIRONMENTAL UNIT
 DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:
ROADSIDE ENVIRONMENTAL UNIT
 1 South Wilmington St.
 Raleigh, NC 27611
2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revision thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01 Railroad Erosion Control Detail	1632.01 Rock Inlet Sediment Trap Type A
1605.01 Temporary Silt Fence	1632.02 Rock Inlet Sediment Trap Type B
1606.01 Special Sediment Control Fence	1632.03 Rock Inlet Sediment Trap Type C
1607.01 Gravel Construction Entrance	1633.01 Temporary Rock Silt Check Type A
1622.01 Temporary Berms and Slope Drains	1633.02 Temporary Rock Silt Check Type B
1630.01 Riser Basin	1634.01 Temporary Rock Sediment Dam Type A
1630.02 Silt Basin Type B	1634.02 Temporary Rock Sediment Dam Type B
1630.03 Temporary Silt Ditch	1635.01 Rock Pipe Inlet Sediment Trap Type A
1630.04 Stilling Basin	1635.02 Rock Pipe Inlet Sediment Trap Type B
1630.05 Temporary Diversion	1640.01 Coir Fiber Baffle
1630.06 Special Stilling Basin	1645.01 Temporary Stream Crossing
1631.01 Matting Installation	

P:\20-AUG-2013 NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011
 ncing\proj\REN\2013\B4939\EC.txd.dgn

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

PROJECT REFERENCE NO. <i>B-4939</i>	SHEET NO. <i>EC-2</i>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

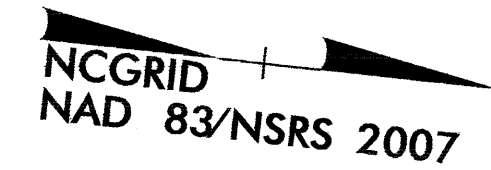
SOIL STABILIZATION TIMEFRAMES

<i>SITE DESCRIPTION</i>	<i>STABILIZATION TIME</i>	<i>TIMEFRAME EXCEPTIONS</i>
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

8/17/99

PROJECT REFERENCE NO.		SHEET NO.	
B-4939		EC-3/CONST.4	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

-L- CURVE DATA
 PI Sta 13+76.63
 $\Delta = 6' 35' 17.4" (LT)$
 $D = 3' 34' 51.6"$
 $L = 183.98'$
 $T = 92.09'$
 $R = 1,600.00'$



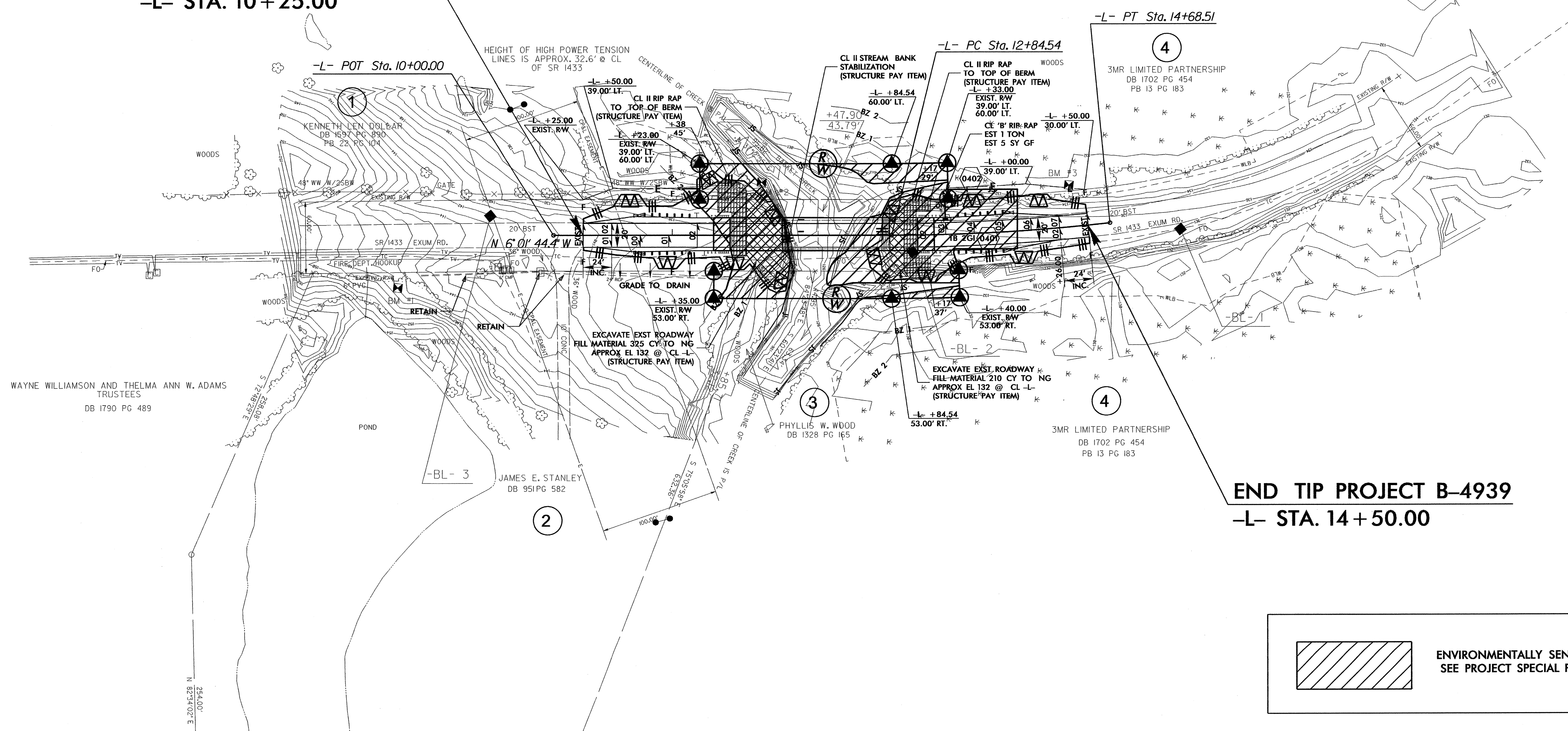
CLEARING AND GRUBBING
 EROSION CONTROL FOR
 CONSTRUCTION SHEET 4

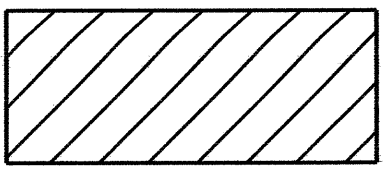
NOTE:
 PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE - B
 AND TEMPORARY ROCK SILT CHECKS TYPE - A AT
 DRAINAGE OUTLETS.

NOTE:
 UTILIZE SPECIAL STILLING BASIN(S) WHERE APPLICABLE.

BEGIN TIP PROJECT B-4939
 -L- STA. 10+25.00

END TIP PROJECT B-4939
 -L- STA. 14+50.00



 ENVIRONMENTALLY SENSITIVE AREA
 SEE PROJECT SPECIAL PROVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
B-4939	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

-L- CURVE DATA
 PI Sta 13+76.63
 $\Delta = 6^{\circ}35'17.4" (LT)$
 $D = 3^{\circ}34'51.6"$
 $L = 183.98'$
 $T = 92.09'$
 $R = 1,600.00'$

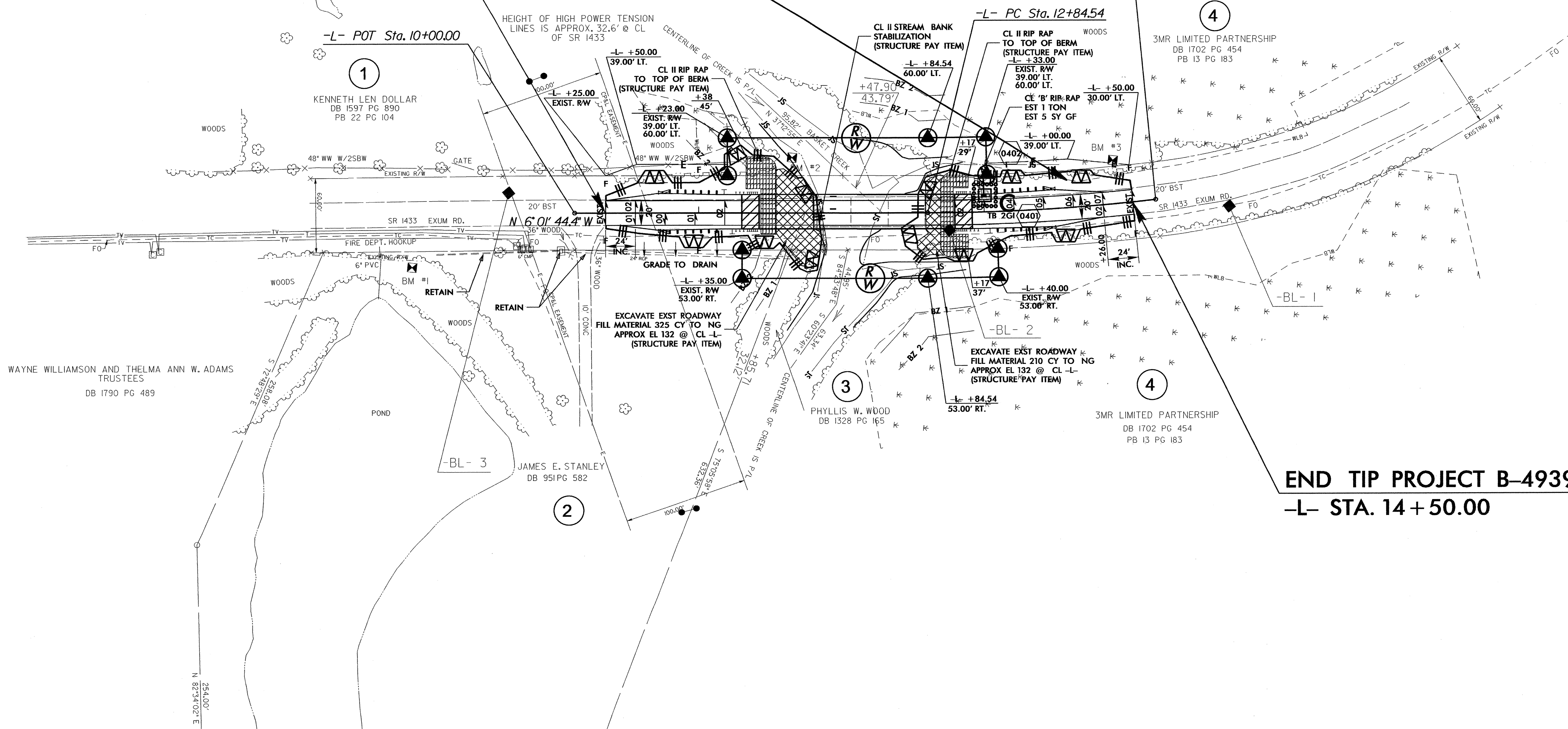
NCGRID
 NAD 83/NSRS 2007

NOTE:
 UTILIZE SPECIAL STILLING BASIN(S) WHERE APPLICABLE.

BEGIN TIP PROJECT B-4939
 -L- STA. 10+25.00

Place Matting for Erosion Control
 on Slopes Adjacent to Permitted
 Wetlands as Work Allows.

-L- PT Sta. 14+68.51



END TIP PROJECT B-4939
 -L- STA. 14+50.00

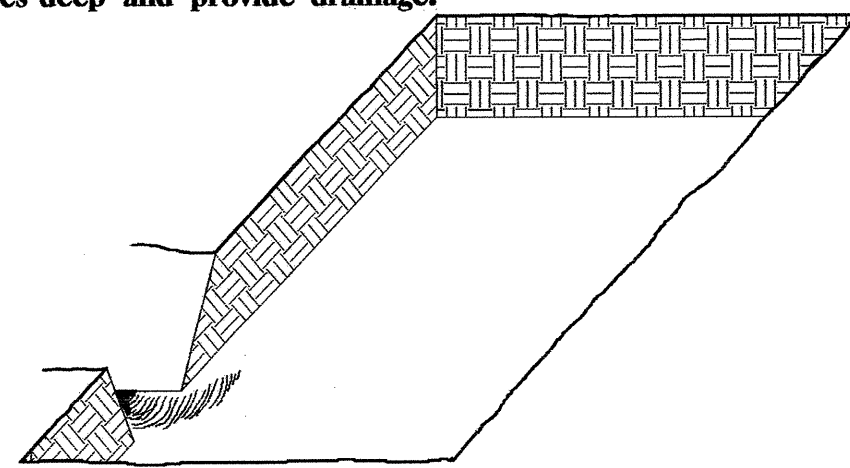
PROJECT REFERENCE NO. b-4939	SHEET NO. RF-1
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

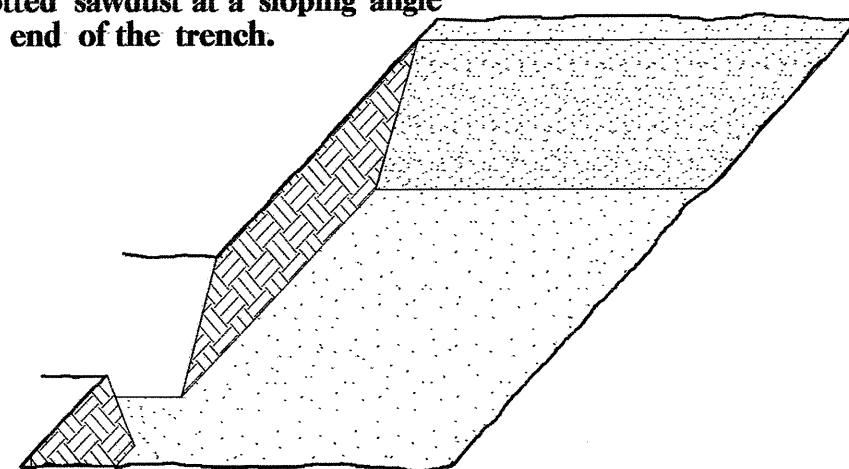
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

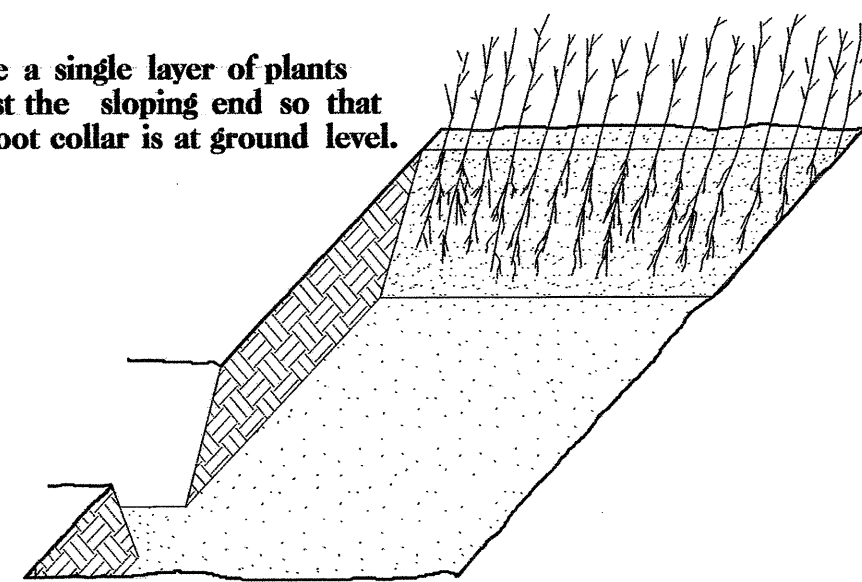
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



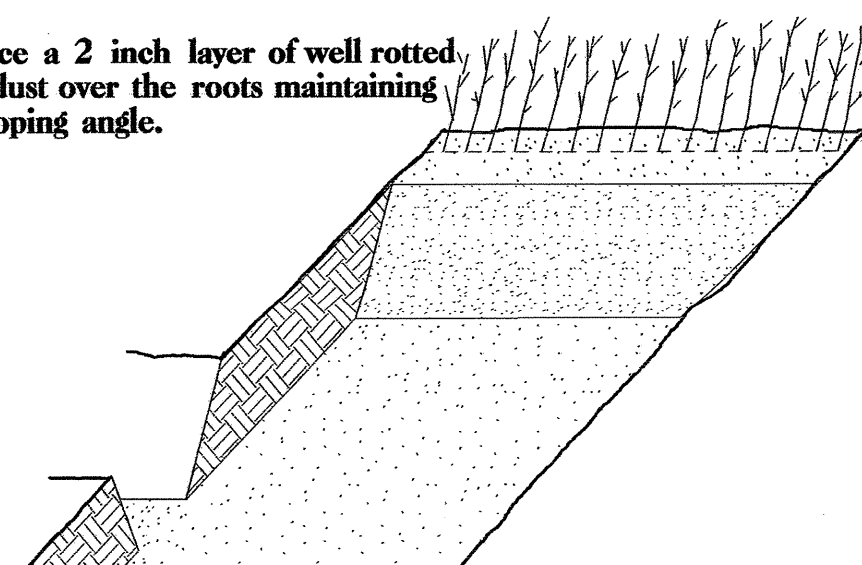
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

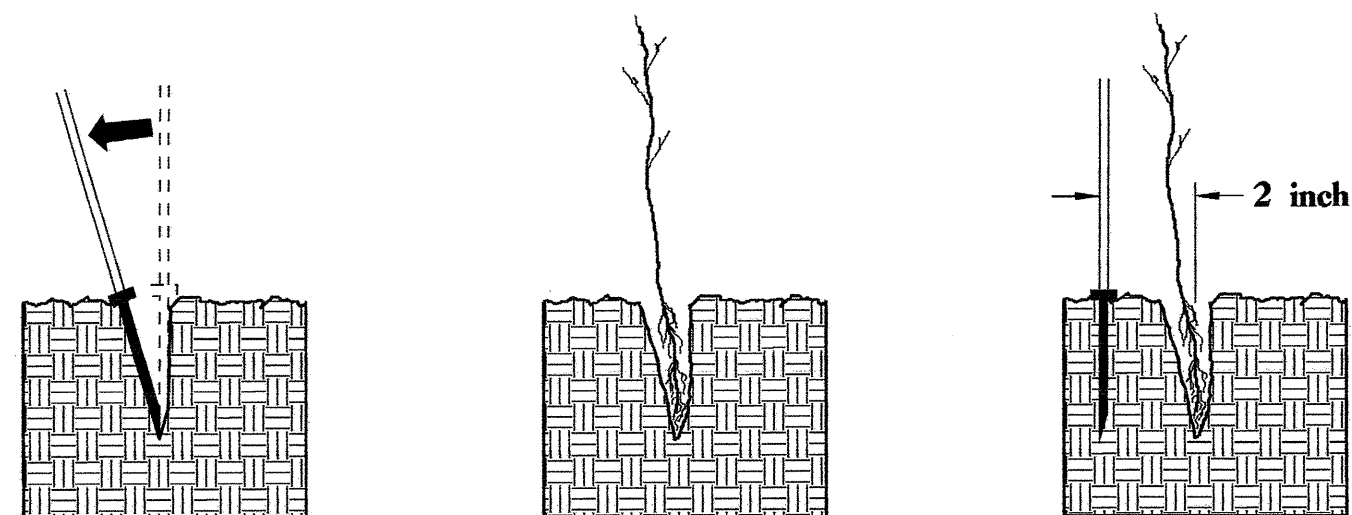


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.



6. Repeat layers of plants and sawdust as necessary and water thoroughly.

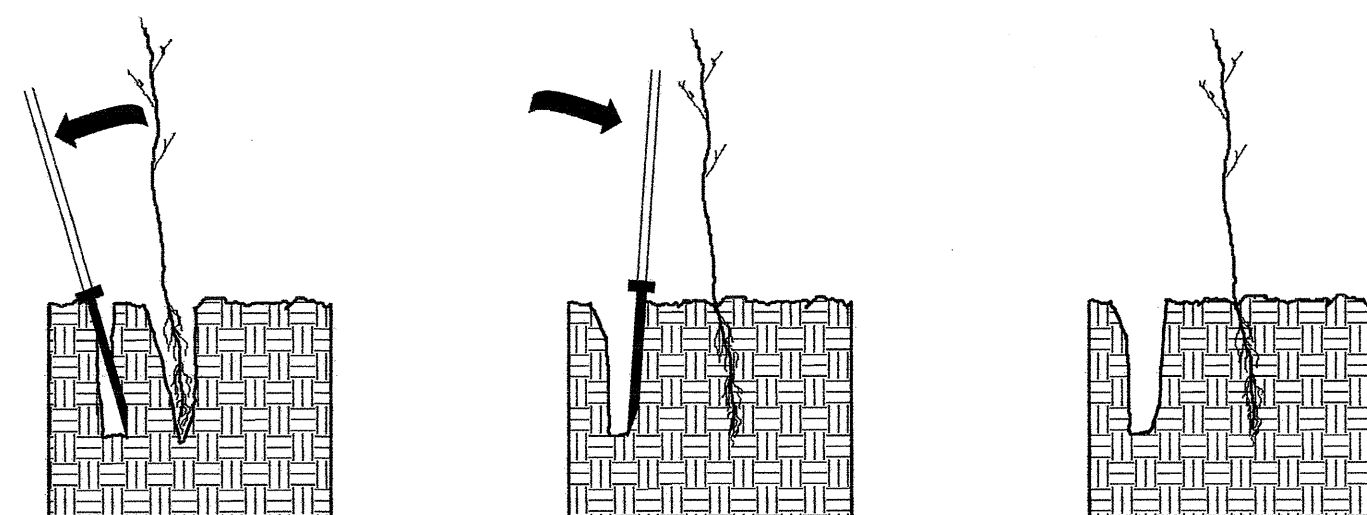
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.

2. Remove planting bar and place seedling at correct depth.

3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.

5. Push handle forward firming soil at top.

6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

- TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

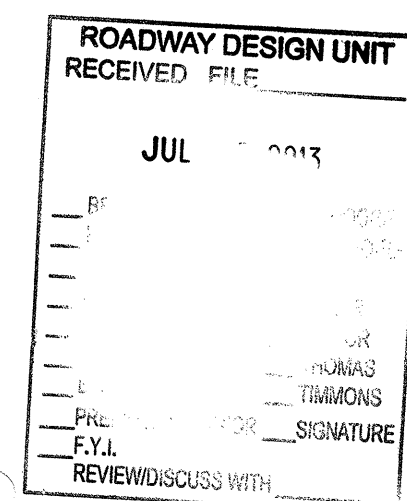
REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

34% QUERCUS MICHAUXII	SWAMP CHESTNUT OAK	12 in - 18 in BR
33% LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in - 18 in BR
33% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT



T.I.P.: B-4939

CONTRACT:

**STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLAN
NASH COUNTY**

LOCATION: BRIDGE NO. 156 OVER BASKET CREEK ON SR 1433

TIP NO. B-4939	SHEET NO. SIGN-1
APPROVED: <i>[Signature]</i>	
DATE: 7-17-13	
SEAL	

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	13	L.F.
4102000000	904	SIGN ERECTION, TYPE E	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	7	EA.

GENERAL NOTES

- . SIGNS FURNISHED BY STATE
- . IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- . WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- . ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- . WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
- . THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- . SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

NOTES

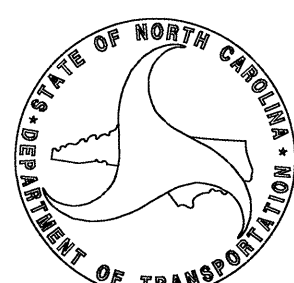
- 1) DISPOSAL OF SIGN SYSTEM, U CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	SIGN DETAIL SHEET

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

AYMAN ALQUDWAH, PE, CPM, SIGNING & DELINEATION REGIONAL ENGINEER
BASIR A. RASHID SIGNING & DELINEATION PROJECT DESIGN ENGINEER



TIP NO. B-4939	SHEET NO. SIGN-2
APPROVED: <i>[Signature]</i>	
DATE: 7-17-13	
SEAL	

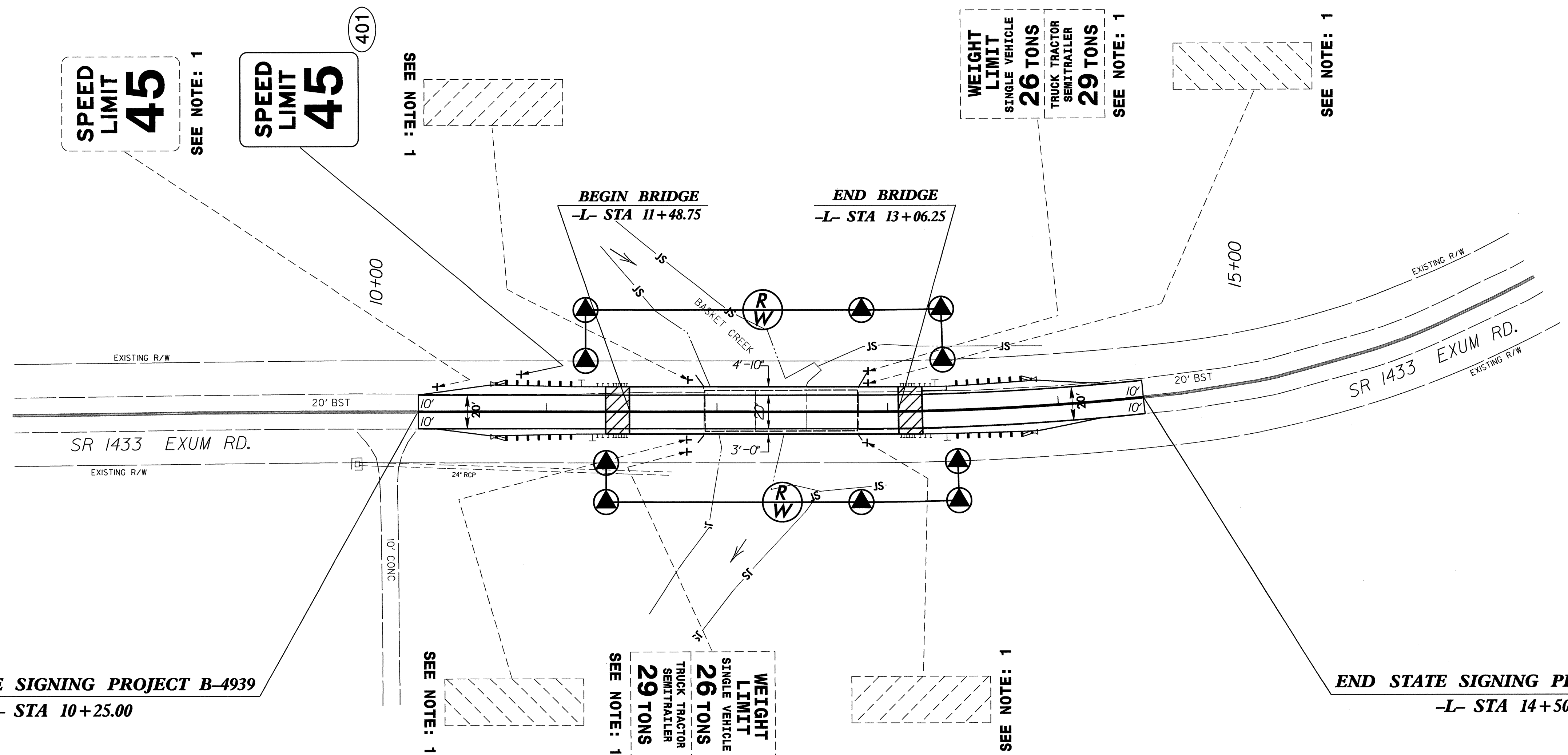
401 QUANTITY REQ'D 1

**SPEED
LIMIT
45**

24" X 30"
R2-1

ONE "U" POST PER SIGN

TYPE "E" SIGN



BEGIN STATE SIGNING PROJECT B-4939
-L- STA 10+25.00

END STATE SIGNING PROJECT B-4939
-L- STA 14+50.00

**EXISTING AND PROPOSED SIGNS
STA. 10+25.00 TO STA. 14+50.00 -L-
SR 1433 (EXUM ROAD)**

09-JUL-2013 10:33
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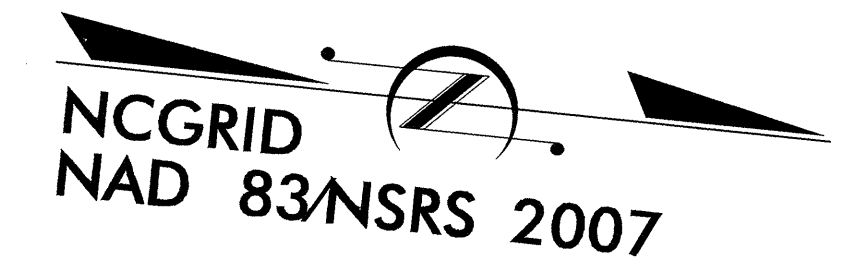
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4939	UO-1

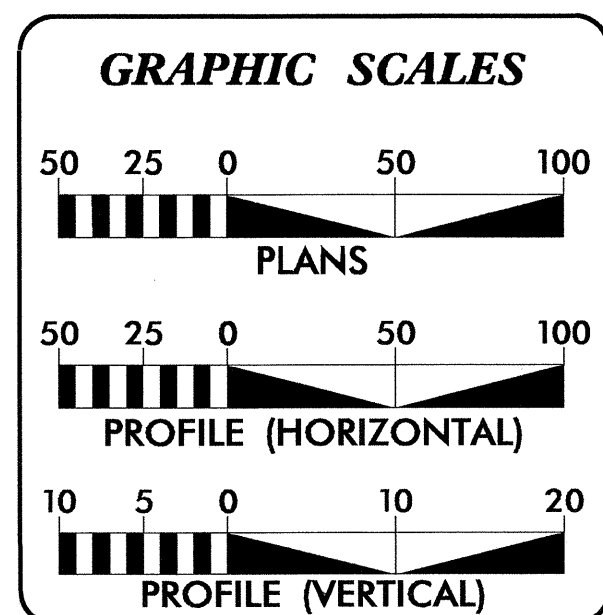
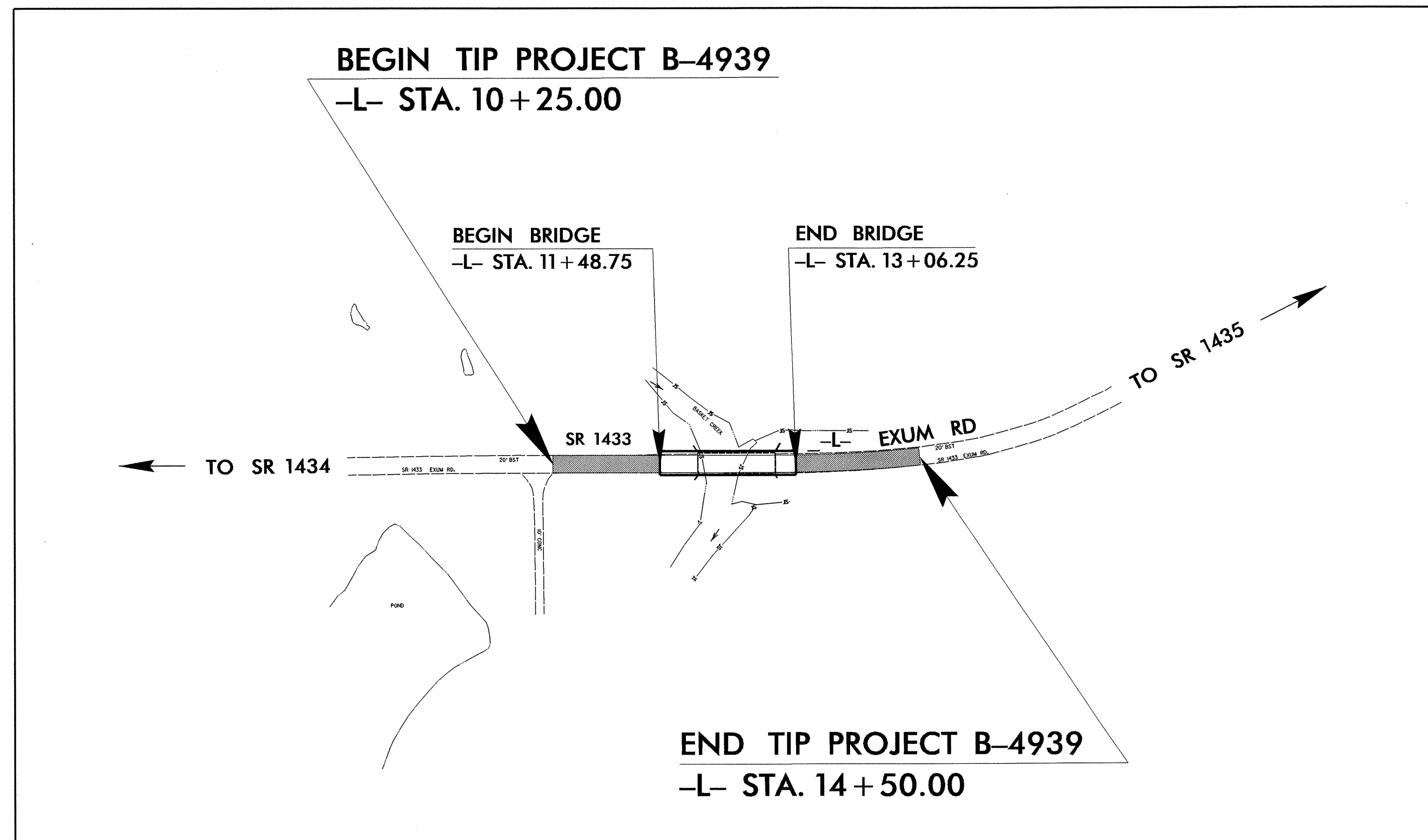
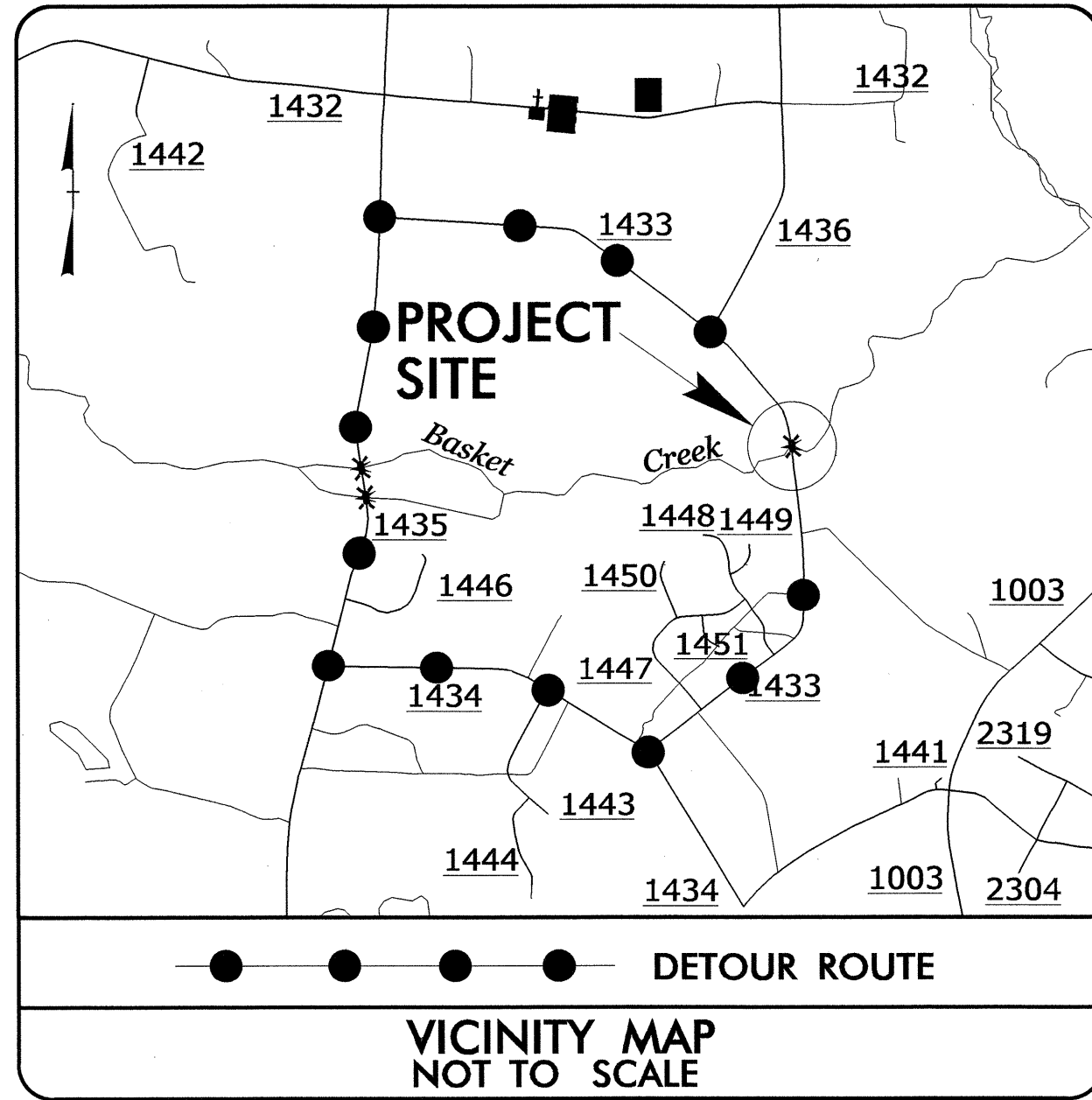
**UTILITIES BY OTHERS PLANS
NASH COUNTY**

**LOCATION: BRIDGE NO. 156 OVER BASKET CREEK
ON SR 1433 (EXUM RD.)**

TYPE OF WORK: RELOCATION OF TELEPHONE LINE



TIP PROJECT: B-4939



INDEX OF SHEETS	
<u>SHEET NO.</u>	<u>DESCRIPTION</u>
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

UTILITY OWNERS ON PROJECT
(1) CENTURYLINK (TELEPHONE)

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

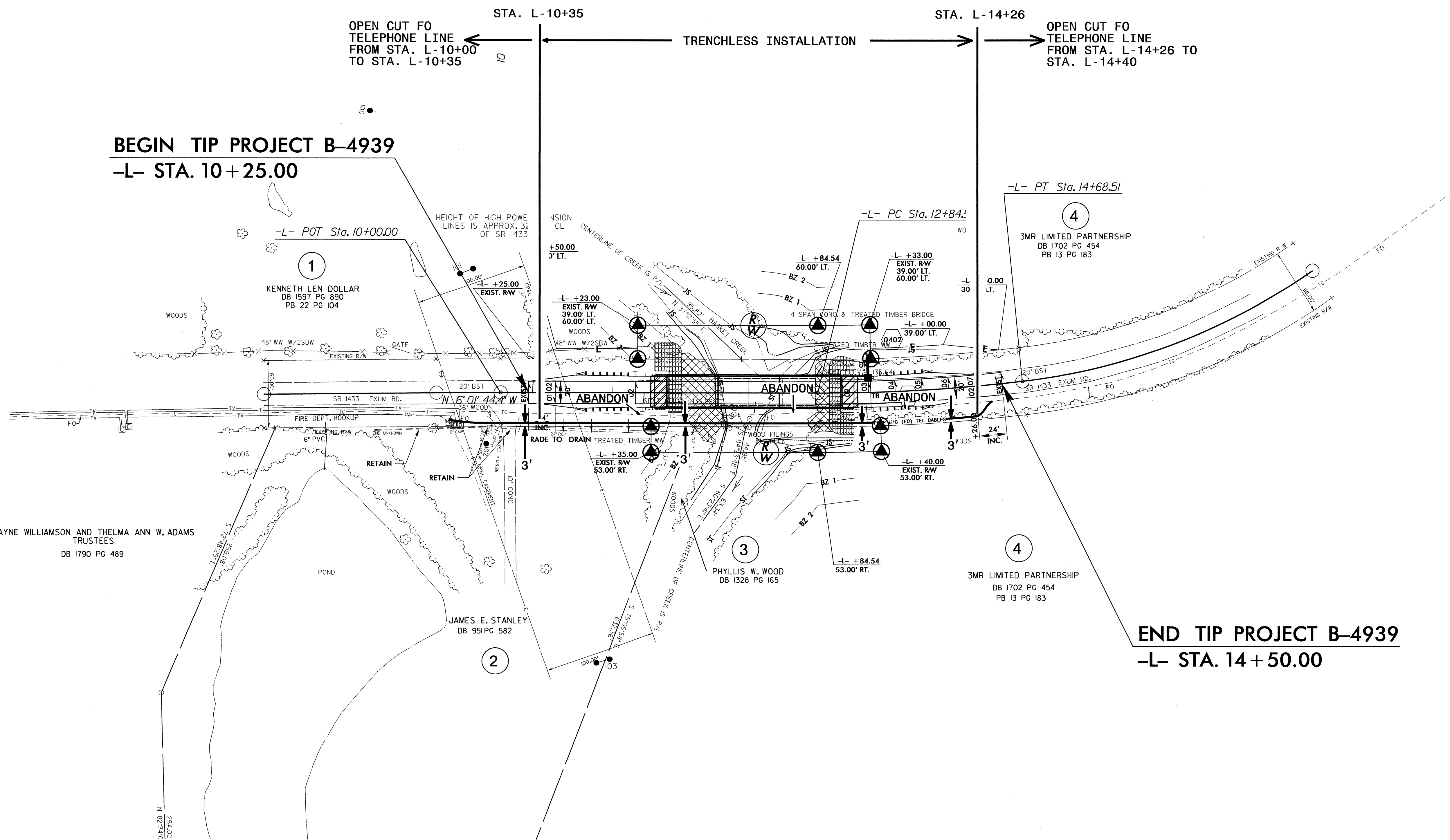
<u>Roger Worthington, P.E.</u>	UTILITIES SECTION ENGINEER
<u>Corey Bousquet, P.E.</u>	UTILITIES SQUAD LEADER PROJECT ENGINEER
<u>Kevin Martin</u>	UTILITIES PROJECT DESIGNER

20-AUG-2013 09:20 P:\Utilities\RDY_UT\Proj\B-4939_UT_U0tsh.dgn \$\$\$USERNAME\$\$\$

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

NAD 83/NSRS 2007



BEGIN TIP PROJECT B-4939
-L- STA. 10+25.00

END TIP PROJECT B-4939
-L- STA. 14+50.00

WAYNE WILLIAMSON AND THELMA ANN W. ADAMS
TRUSTEES
DB 1790 PG 489

1
KENNETH LEN DOLLAR
DB 1597 PG 890
PB 22 PG 104

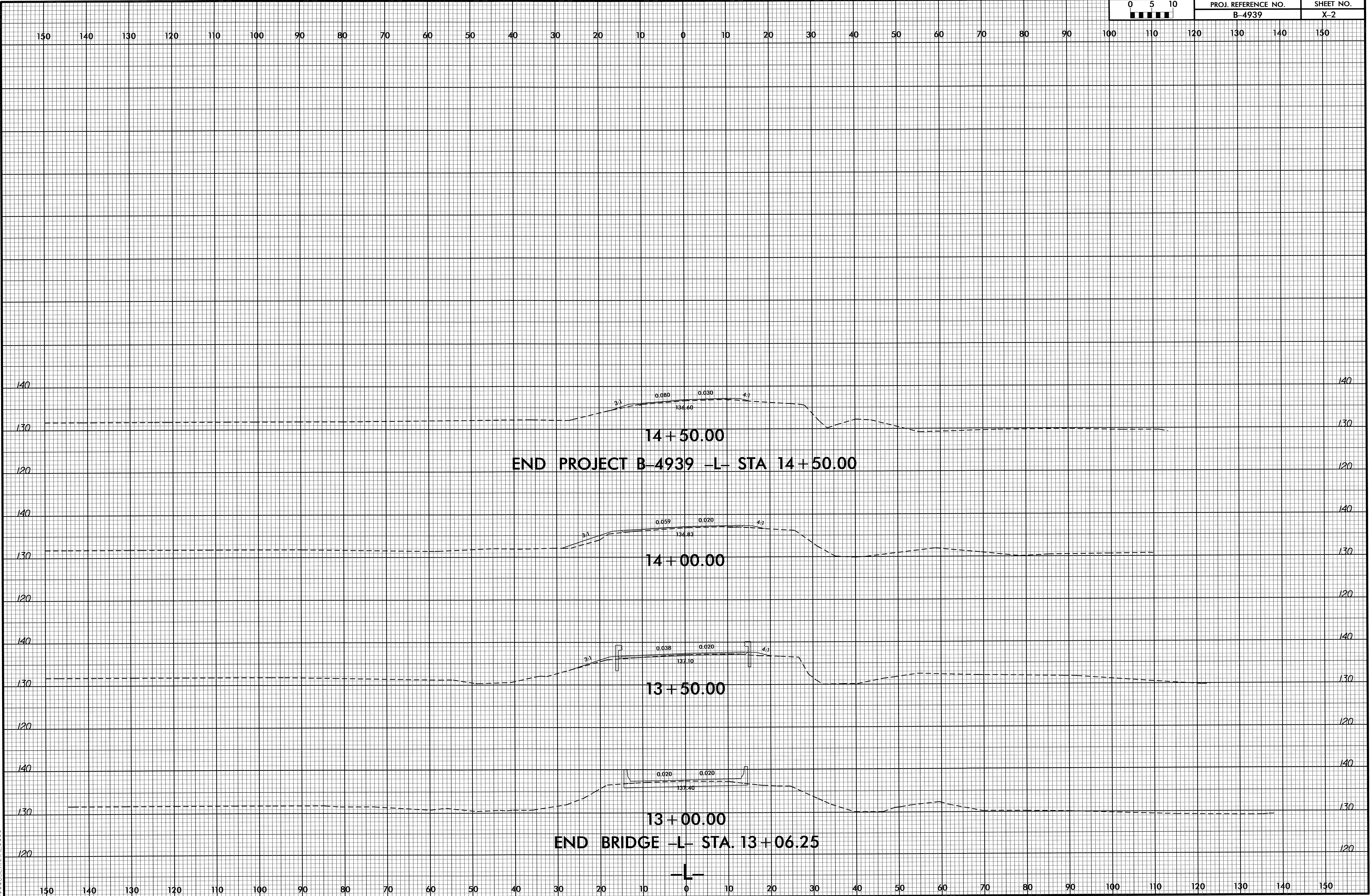
2
JAMES E. STANLEY
DB 951 PG 582

3
PHYLLIS W. WOOD
DB 1328 PG 165

4
3MR LIMITED PARTNERSHIP
DB 1702 PG 454
PB 13 PG 183

5/14/99
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8/23/99



14 + 50.00
 END PROJECT B-4939 -L- STA 14 + 50.00

14 + 00.00

13 + 50.00

13 + 00.00
 END BRIDGE -L- STA. 13 + 06.25

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 \$\$\$SERRAVALLE\$\$\$