

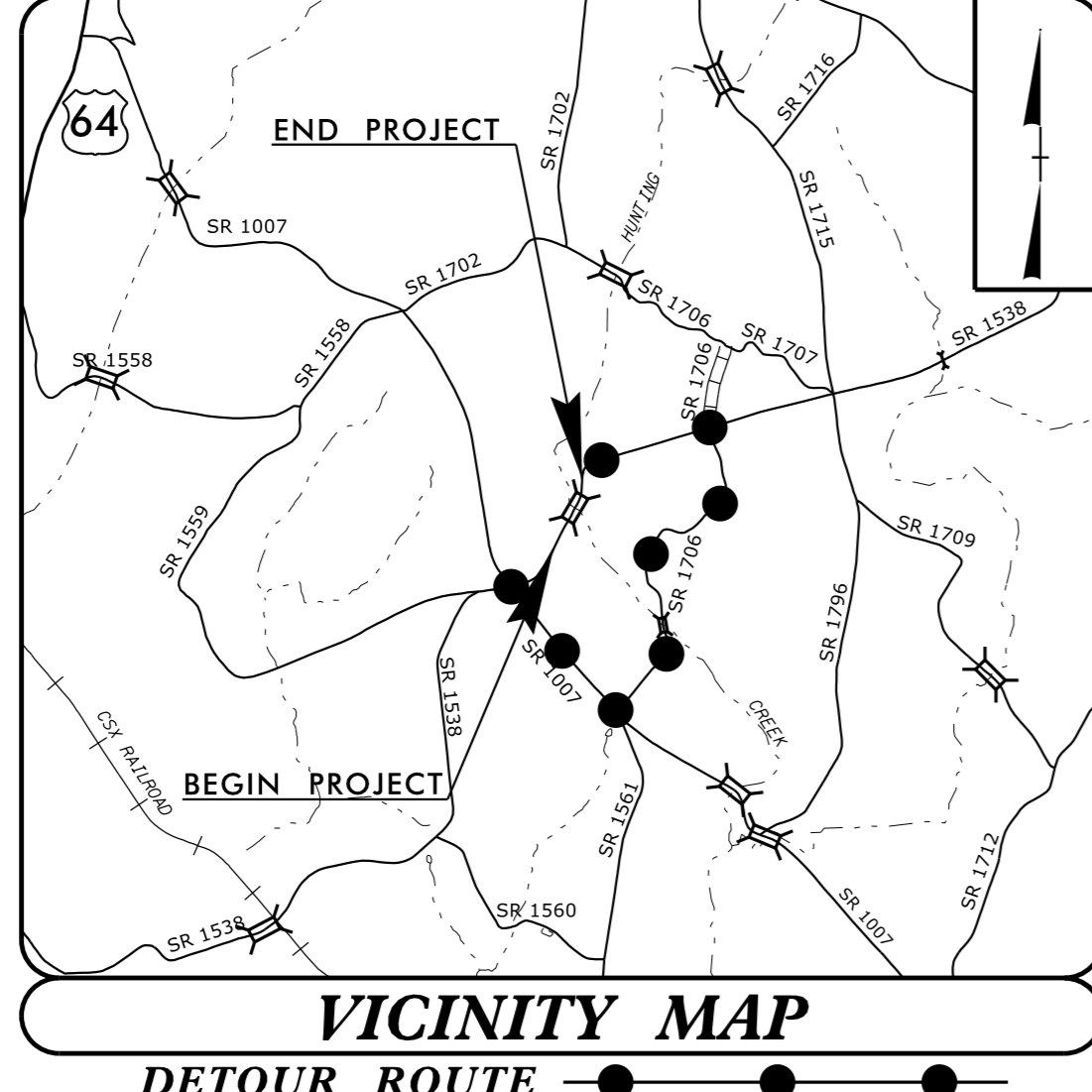
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09/08/99

See Sheet 1A For Index of Sheets  
See Sheet 1B For Conventional Symbols  
See Sheets 1C-1 & 1C-2 For Survey Control Sheets



**VICINITY MAP**  
DETOUR ROUTE

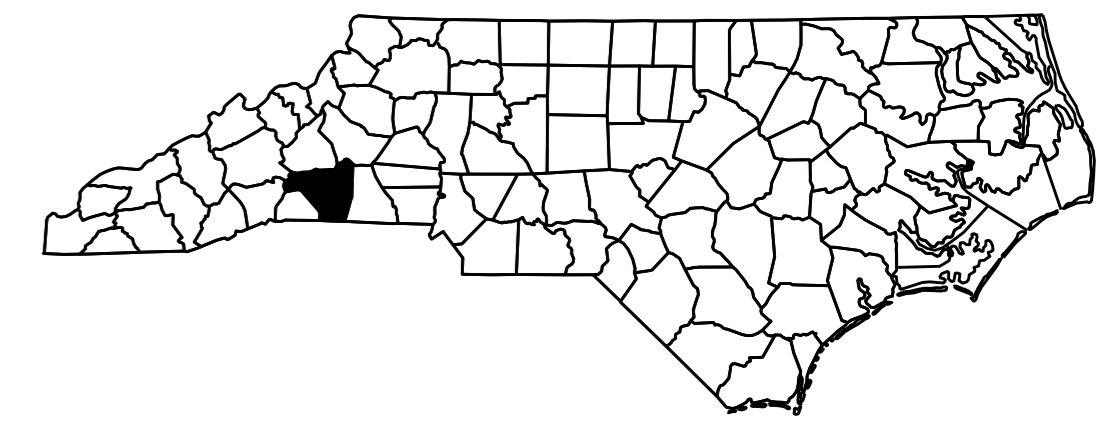
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**RUTHERFORD COUNTY**

**LOCATION: REPLACEMENT OF BRIDGE No. 577 OVER HUNTING CREEK ON SR 1538 (WHITESIDES ROAD)**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND CULVERT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5395	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46110.1.1	BRSTP-1538(8)	P.E.	
46110.2.FD1	BRSTP-1538(8)	RW, UTILITIES	
46110.3.2		CONSTRUCTION	

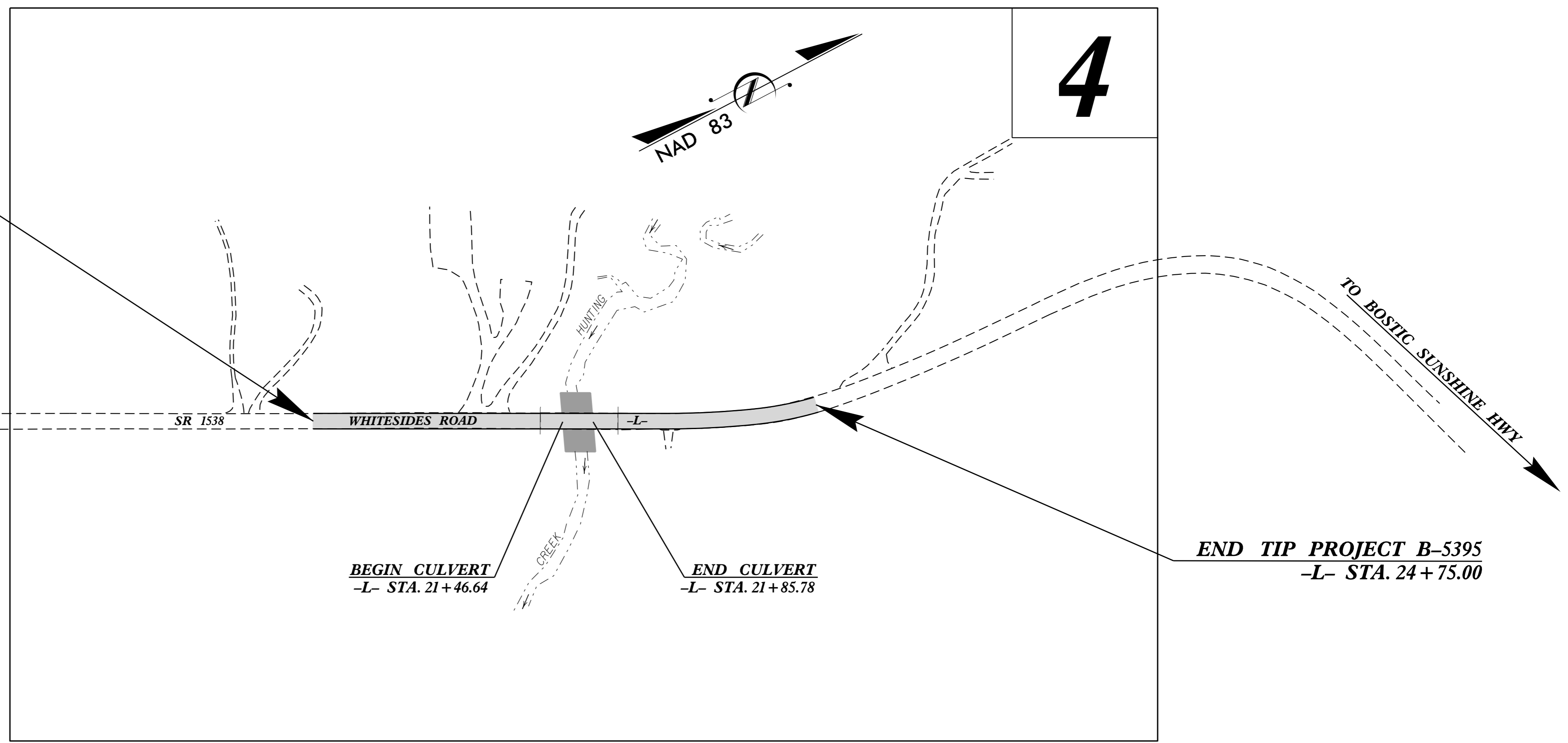


**TIP PROJECT: B-5395**

**CONTRACT: C203665**

**BEGIN TIP PROJECT B-5395**  
-L- STA. 18+25.00

TO RUTHERFORDTON



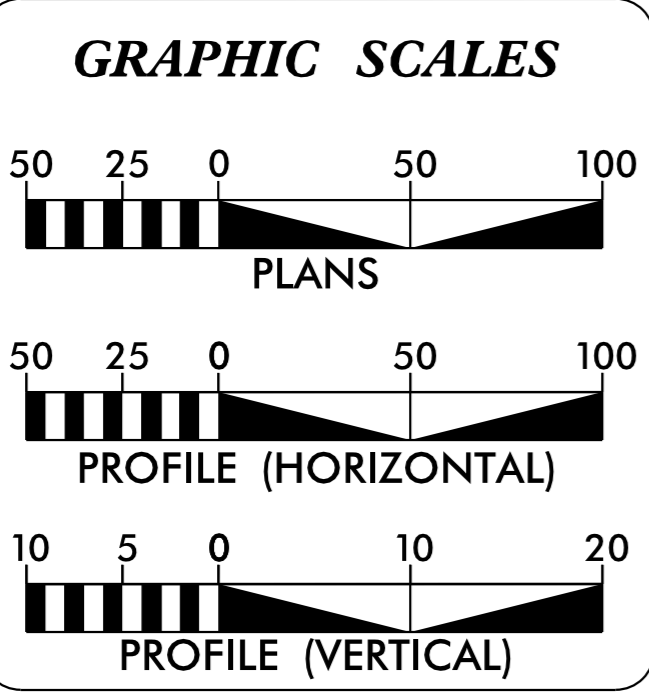
**BEGIN CULVERT**  
-L- STA. 21+46.64

**END CULVERT**  
-L- STA. 21+85.78

**END TIP PROJECT B-5395**  
-L- STA. 24+75.00

TO BOSTIC SUNSHINE HWY

**\*\* DESIGN EXCEPTIONS FOR MINIMUM HORIZONTAL CURVE RADIUS, SAG VERTICAL CURVE K AND VERTICAL STOPPING SIGHT DISTANCE**



**DESIGN DATA**

ADT 2016 =	1040
ADT 2036 =	1170
K =	11 %
D =	70%
T =	8 % *
V =	50 MPH

\* TTST = 3% DUAL = 5%  
FUNC CLASS = LOCAL SUBREGIONAL TIER

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-5395	=	0.116 Miles
LENGTH STRUCTURE TIP PROJECT B-5395	=	0.007 Miles
<b>TOTAL LENGTH TIP PROJECT B-5395</b>	=	<b>0.123 Miles</b>

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

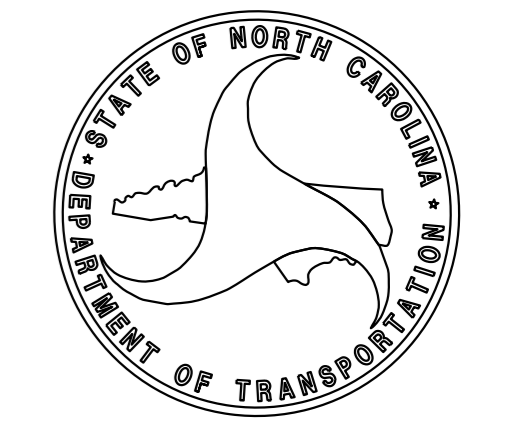
2012 STANDARD SPECIFICATIONS	
<b>RIGHT OF WAY DATE:</b> JANUARY 23, 2015	<b>KEVIN E. MOORE, P.E.</b> PROJECT ENGINEER
<b>LETTING DATE:</b> JANUARY 19, 2016	<b>STEVEN D. KENDALL, P.E.</b> PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

DocuSigned by:  
Carlos R. Sharpless  
SIGNATURE: CARLOS R. SHARPLESS  
12/16/2015

**ROADWAY DESIGN ENGINEER**

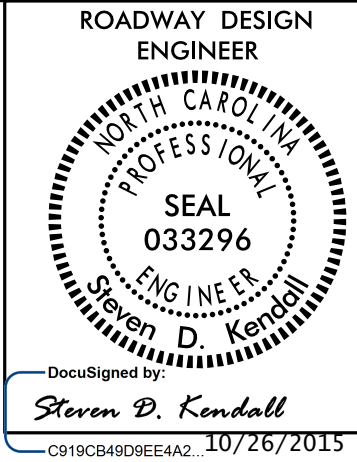
DocuSigned by:  
Steven D. Kendall  
SIGNATURE: STEVEN D. KENDALL  
12/16/2015



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

14-DEC-2015 12:11  
R:\Roadway\Proj\B-5395\_Rdy\_11sh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
1C-1 AND 1C-2	SURVEY CONTROL SHEETS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, SHOULDER BERM GUTTER SUMMARY, GUARDRAIL SUMMARY, INCIDENTAL MILLING SUMMARY AND DRAINAGE SUMMARY
3G-1	GEO TECHNICAL SUMMARIES
4 AND 5	PLAN AND PROFILE SHEET
TMP-1 THRU TMP-4	TRAFFIC MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-6	EROSION CONTROL PLANS
SIGN-1	SIGNING PLAN
UO-1 AND UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY SHEET
X-2 THRU X- 18	CROSS-SECTIONS
C-1 THRU C-7	CULVERT STRUCTURE PLANS

**GENERAL NOTES:**

2012 SPECIFICATIONS  
EFFECTIVE: 01-17-2012  
REVISED: 10-31-2014

EFF. 01-17-2012  
REV. 10-30-2012

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:

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

**CLEARING:**  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

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

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

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

**SUBSURFACE DRAINS:**  
SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 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.

**UTILITIES:**  
UTILITY OWNERS ON THIS PROJECT ARE DUKE ENERGY (AERIAL POWER) AND AT&T (BURIED 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.

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
815.02	Subsurface Drain
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 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
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap



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	⑫③
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	--- MLB
Proposed Wetland Boundary	--- MLB
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	○ S
Well	○ W
Small Mine	✕
Foundation	▭
Area Outline	▭
Cemetery	▭ †
Building	▭
School	▭
Church	▭
Dam	▭

**HYDROLOGY:**

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	--- JS
Buffer Zone 1	--- BZ 1
Buffer Zone 2	--- BZ 2
Flow Arrow	←
Disappearing Stream	----->
Spring	○
Wetland	---
Proposed Lateral, Tail, Head Ditch	-----
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	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R W ▲
Proposed Right of Way Line with Concrete or Granite R/W Marker	▲ R W
Proposed Control of Access Line with Concrete CA Marker	○ C A
Existing Control of Access	○ C A
Proposed Control of Access	○ C A
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	▨
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	-----

**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	-----
Designated U/G Power Line (S.U.E.*)	-----

**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	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

**WATER:**

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
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	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

**GAS:**

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

**SANITARY SEWER:**

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

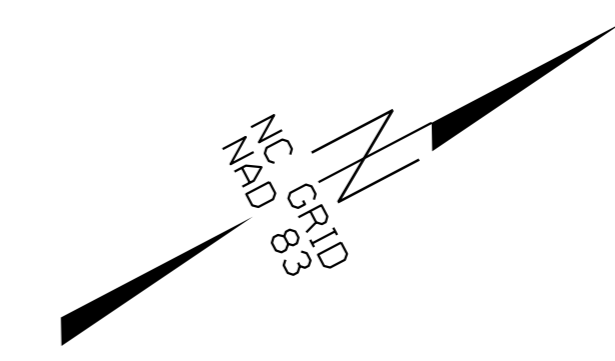
**MISCELLANEOUS:**

Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
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-5395

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
	1	BL-1	621845.0832	1149902.4514	1061.22		OUTSIDE PROJECT LIMITS
	2	BL-2	622398.5821	1150320.6692	1029.22	10+38.39	14.31 RT
	3	BL-3	623032.6789	1150617.4164	969.11	17+37.70	19.05 LT
	4	BL-4	623359.3642	1150790.7138	938.92	21+07.50	18.18 LT
	5	BL-5	623680.4208	1150973.4519	956.94	24+74.72	15.04 RT
	6	BL-6	624213.7835	1151005.1959	1001.91	30+00.41	25.19 LT
	GPS1	B-5395-1	621054.6320	1150025.4070	1058.74		OUTSIDE PROJECT LIMITS
	GPS2	B-5395-2	621786.4680	1149421.9790	1049.57		OUTSIDE PROJECT LIMITS

.....  
 BM1 ELEVATION = 940.87'  
 N 623474 E 1150906  
 L STATION 22+62.34 30.02' RIGHT  
 RR SPIKE IN BASE OF 20" SYCAMORE TREE  
 .....



**NCDOT GPS MONUMENT (B-5395-2)**  
**LOCALIZED PROJECT COORDINATES**

N = 691786.4680  
 E = 1149.421.9790

B-5395-2  
 =GPS-2

**NCDOT BASELINE MONUMENT (BL-1)**  
**LOCALIZED PROJECT COORDINATES**

N = 621845.0832  
 E = 1149902.4514

BL-1

**NCDOT BASELINE MONUMENT (BL-2)**  
**LOCALIZED PROJECT COORDINATES**

N = 622398.5821  
 E = 1150320.6692

**NCDOT GPS MONUMENT (B-5395-1)**  
**LOCALIZED PROJECT COORDINATES**

N = 621054.6320  
 E = 1150025.4070

B-5395-1  
 =GPS-1

**NCDOT BASELINE MONUMENT (BL-3)**  
**LOCALIZED PROJECT COORDINATES**

N = 623032.6789  
 E = 1150617.4164

**-DRI- STA. 10+50.00**  
**END STATE PROJECT 42846.11**  
**LOCALIZED PROJECT COORDINATES**

N = 623348.3664  
 E = 1150751.4709

**-DR2- STA. 10+50.08**  
**END STATE PROJECT 42846.11**  
**LOCALIZED PROJECT COORDINATES**

N = 623348.3664  
 E = 1150751.4709

**NCDOT BASELINE MONUMENT (BL-4)**  
**LOCALIZED PROJECT COORDINATES**

N = 623359.3642  
 E = 1150790.7138

**-L- STA. 24+75.00**  
**END STATE PROJECT 46110.11**  
**LOCALIZED PROJECT COORDINATES**

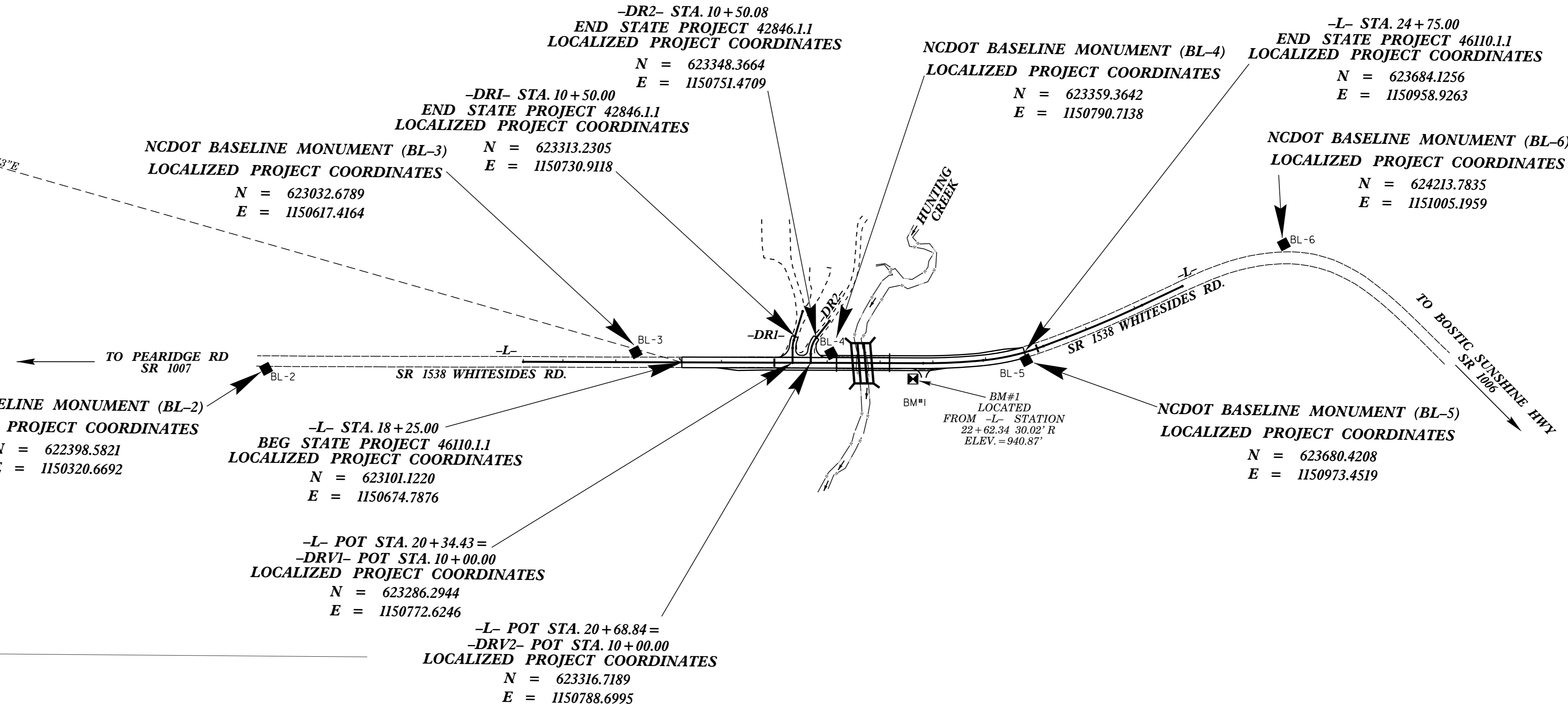
N = 623684.1256  
 E = 1150958.9263

**NCDOT BASELINE MONUMENT (BL-6)**  
**LOCALIZED PROJECT COORDINATES**

N = 624213.7835  
 E = 1151005.1959

**NCDOT BASELINE MONUMENT (BL-5)**  
**LOCALIZED PROJECT COORDINATES**

N = 623680.4208  
 E = 1150973.4519



**NOTES:**

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B5395\_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)

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-5395-2 = GPS-2" WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 621786.4680(ft) EASTING: 1149421.9790(ft)  
 ELEVATION: 1049.57(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999762637  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-5395-2 = GPS-2" TO -L- STATION 18+25.00 IS  
 N 43°37'12.4"E 1816.00'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

# SURVEY CONTROL SHEET B-5395 (FINAL)

PROJECT REFERENCE NO. B-5395	SHEET NO. 1C-2
Location and Surveys	

## (DESIGN ALIGNMENTS)

-L-

L			
TYPE	STATION	NORTH	EAST
POT	15+25.00	622835.8699	1150534.6401
PC	22+81.67	623504.8975	1150888.1248
PCC	23+95.26	623607.8915	1150935.9148
PT	25+12.59	623721.2170	1150964.9592
PC	25+59.37	623767.6710	1150970.5122
PT	27+14.71	623922.4679	1150982.9442
POT	27+99.08	624006.7699	1150986.4283

## -DRIVES-

DRV1			
TYPE	STATION	NORTH	EAST
POT	10+00.00	623286.2944	1150772.6246
PC	10+27.62	623299.1803	1150748.1948
PT	10+42.27	623307.8050	1150736.4133
POT	11+00.00	623348.3392	1150695.3115

DRV2			
TYPE	STATION	NORTH	EAST
POT	10+00.00	623316.7189	1150788.6995
PC	10+16.93	623324.6277	1150773.7307
PT	10+50.08	623348.3664	1150751.4709
POT	10+90.00	623384.7922	1150735.1282

## (ROW MARKERS)

-L-

ROW MARKER CONCRETE OR GRANITE				
ALIGN	STATION	OFFSET	NORTH	EAST
L	20+00.00	-18.00	623264.2612	1150740.6252
L	20+00.00	-35.00	623272.2029	1150725.5942
L	21+00.00	30.00	623330.2550	1150829.7814
L	21+00.00	19.00	623335.3937	1150820.0555
L	21+30.00	65.00	623340.4296	1150874.7422
L	22+10.00	65.00	623411.1635	1150912.1149
L	22+20.00	-85.00	623490.0790	1150784.1604
L	22+30.00	45.00	623438.1902	1150903.7746
L	22+35.00	-35.00	623479.9837	1150835.3765
L	22+35.00	-19.00	623472.5092	1150849.5232
L	22+75.00	45.00	623477.9780	1150924.7967
L	22+75.00	18.00	623490.5912	1150900.9240

## (PERMANENT EASEMENTS)

-L-

PERMANENT UTILITY EASEMENT MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	19+05.00	-46.00	623193.3451	1150671.4883
L	19+05.00	-18.00	623180.2647	1150696.2451
L	19+05.00	18.00	623163.4470	1150728.0754
L	19+05.00	45.00	623150.8337	1150751.9481
L	19+25.00	-18.00	623197.9482	1150705.5883
L	19+25.00	18.00	623181.1305	1150737.4186
L	19+25.00	45.00	623168.5172	1150761.2913
L	24+37.00	-117.00	623680.6218	1150837.5172
L	24+38.00	-149.00	623690.3778	1150807.0326

PERMANENT DRAINAGE EASEMENT MARKER IRON PIN AND CAP				
ALIGN	STATION	OFFSET	NORTH	EAST
L	21+84.00	-94.00	623462.4532	1150759.3851
L	21+84.00	-76.82	623454.4266	1150774.5768
L	22+20.00	-94.00	623494.2834	1150776.2028
L	22+20.00	-85.00	623490.0790	1150784.1604

### NOTES:

- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstructhighway/location/project/)  
  
THE FILES TO BE FOUND ARE AS FOLLOWS:  
**B5395\_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)

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-5395-2 = GPS-2"  
WITH NAD 83 STATE PLANE GRID COORDINATES OF  
NORTHING: 621786.4680(±) EASTING: 1149421.9790(±)  
ELEVATION: 1049.57(±)  
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999762637  
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-5395-2 = GPS-2" TO -L- STATION 18+25.00 IS  
N 43°37'12.4"E 1816.00'  
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

6/2/99

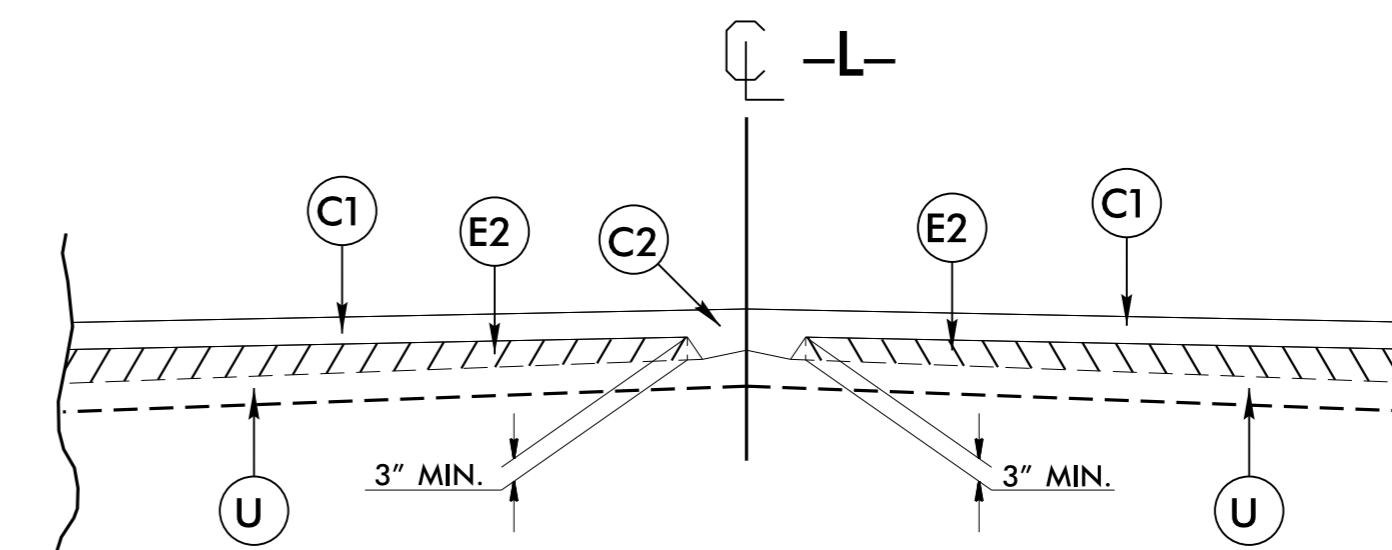
15-OCT-2015 14:07:15 B5395-LS-1c-2.dgn



PAVEMENT SCHEDULE

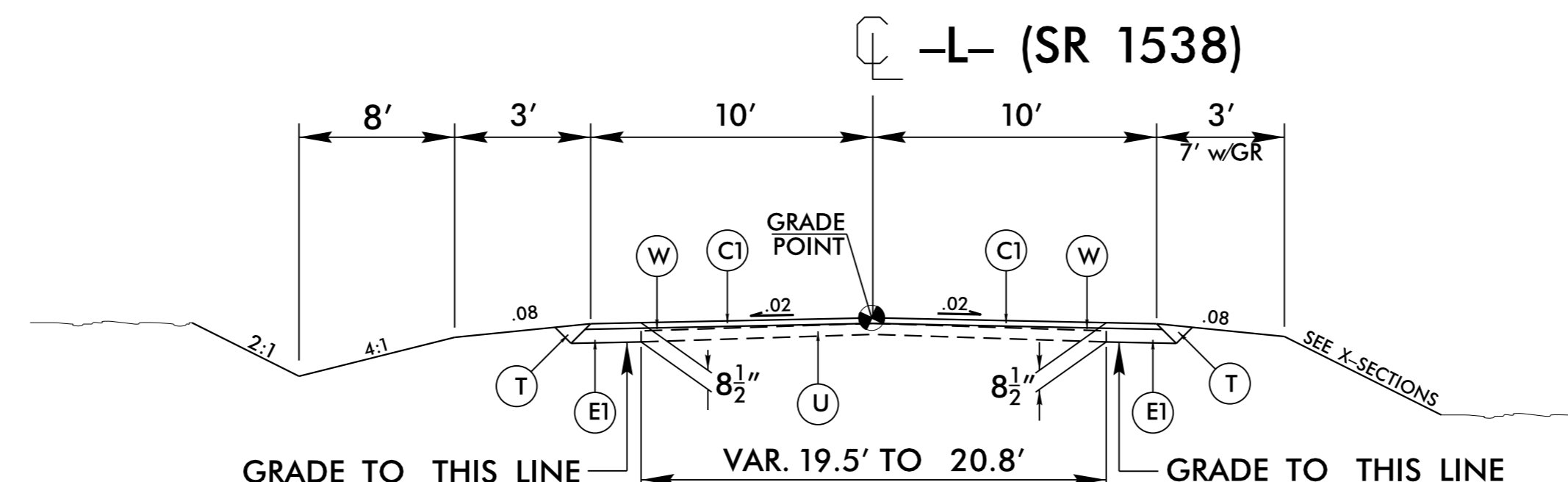
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R	SHOULDER BERM GUTTER
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH	T	EARTH MATERIAL
E1	PROP. APPROX. 5 1/2" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.	U	EXISTING PAVEMENT
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	W	WEDGING (SEE WEDGING DETAIL)

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



Wedging Detail

PROJECT REFERENCE NO. B-5395	SHEET NO. 2A-1
ROADWAY DESIGN ENGINEER SEAL 033296 Steven D. Kendall 10/22/2015	PAVEMENT DESIGN ENGINEER SEAL 039819 LATOYA T. HEYWARD 10/22/2015
<p><b>DOCUMENT NOT CONSIDERED FINAL</b> UNLESS ALL SIGNATURES COMPLETED</p>	



TYPICAL SECTION NO. 1

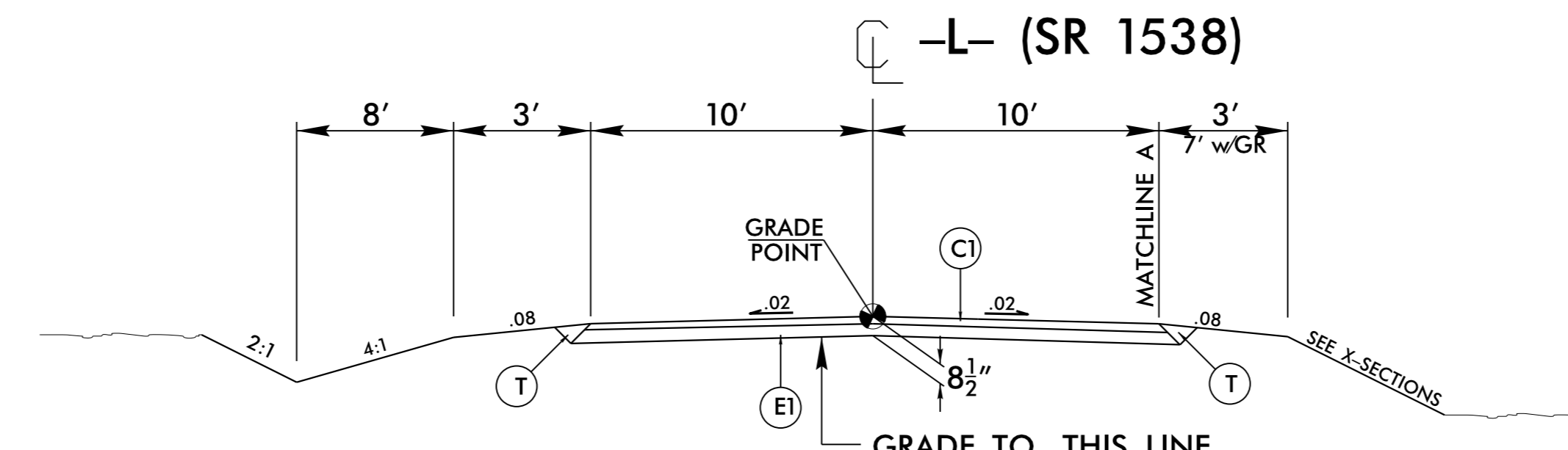
USE TYPICAL SECTION NO. 1

- L- STA 18+25.00 TO STA 20+00.00
- L- STA 24+00.00 TO STA 24+75.00

NOTE: MILLING REQUIRED FOR PAVEMENT TIE-IN  
 -L- STA. 18+25.00 TO STA. 19+50.00  
 -L- STA. 24+00.00 TO STA. 24+75.00

NOTE: TRANSITION FROM EXISTING TO T.S. NO. 1  
 -L- STA. 18+25.00 TO STA. 18+75.00

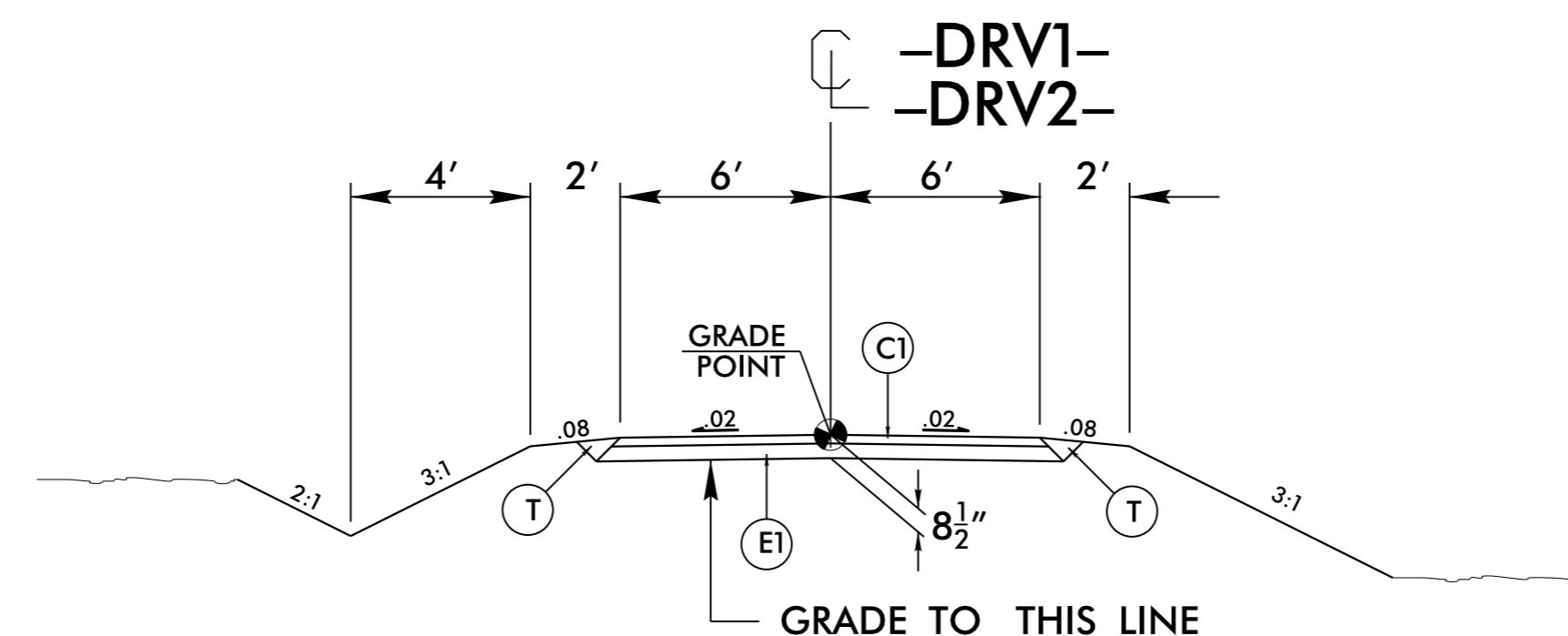
NOTE: TRANSITION FROM T.S. NO. 1 TO EXISTING  
 -L- STA. 24+25.00 TO STA. 24+75.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

- L- STA 20+00.00 TO STA 24+00.00
- \* 4' PAVED SHOULDER AT GUARDRAIL LOCATIONS

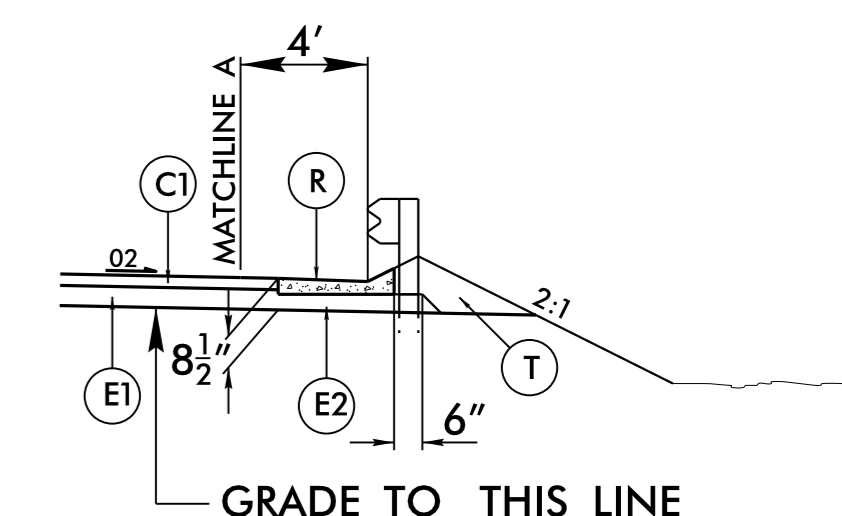


TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

- DRV1- STA 10+10.00 to 10+50.00
- DRV2- STA 10+10.00 to 10+50.00

INSET A



USE INSET A IN CONJUNCTION WITH TYPICAL SECTION No. 2

SEE PLANS FOR LOCATIONS

12/06/07

COMPUTED BY: TAH DATE: 8/24/15  
CHECKED BY: TRM DATE: 8/25/15

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO. B-5395  
SHEET NO. 3B-1

SHOULDER BERM GUTTER SUMMARY

SUMMARY OF INCIDENTAL MILLING

Table with 4 columns: SURVEY LINE, STATION, STATION, YD'. Rows include stationing from 18+25.00 to 24+75.00 and a total of 444.5 YD'.

Table with 4 columns: SURVEY LINE, STATION, STATION, LENGTH. Rows include LT and RT stationing from 20+99.00 to 22+00.00 and a total length of 401.00.

PAVEMENT REMOVAL SUMMARY

Table with 5 columns: SURVEY LINE, STATION, STATION, LOCATION LT/RT/CL, YD'. Rows include CL location stationing from 20+00.00 to 22+18.18 and a total of 671.28 YD'.

SUMMARY OF EARTHWORK

Large summary table with 6 columns: STATION, STATION, UNCL EXCAV., EMBANK. +%, BORROW, WASTE. Includes subtotals for two sections and project totals.

UNDERCUT EXCAVATION: 100 CY  
SELECT GRANULAR MATERIAL: 100 CY  
SHALLOW UNDERCUT: 100 CY  
CLASS IV SUBGRADE STAB.: 190 TONS

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 Pavement will be paid for at the contract lump sum price for "Grading."

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

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

Large table listing pipe details: STATION, LOCATION, STRUCTURE NO., TOP ELEVATION, INVERT ELEVATION, SLOPE, CRITICAL, DRAINAGE PIPE, C.S. PIPE, CLASS IV R.C. PIPE, ENDWALLS, QUANTITIES FOR DRAINAGE STRUCTURES, TYPE OF GRATE, CORR. STEEL ELBOWS, CONC. COLLARS, CONC. & BRICK PIPE PLUG, PIPE REMOVAL LIN. FT., ABBREVIATIONS, REMARKS.

"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

Table summarizing guardrail details: SURVEY LINE, BEG. STA., END STA., LOCATION, LENGTH (STRAIGHT, SHOP CURVED, DOUBLE FACED), WARRANT POINT, TOTAL SHOUL. WIDTH, FLARE LENGTH, W, ANCHORS, IMPACT ATTENUATOR TYPE 350, SINGLE FACED GUARDRAIL, REMOVE EXISTING GUARDRAIL, REMOVE AND STOCKPILE EXISTING GUARDRAIL, REMARKS.

05-NOV-2015 11:46 AM B-5395\_P01.dwg - sum.dwg



COMPUTED BY: J.W. Mann DATE: 1/17/14  
 CHECKED BY: S.C. Clark DATE: 1/17/14

PROJECT NO. SHEET NO.  
 B-5395 3G-1

**STATE OF NORTH CAROLINA  
 DIVISION OF HIGHWAYS**

**SUMMARY OF SUBSURFACE DRAINAGE**

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				SD	150
				<b>TOTAL LF:</b>	150

\*UD = Underdrain  
 \*BD = Blind Drain  
 \*SD = Subsurface Drain

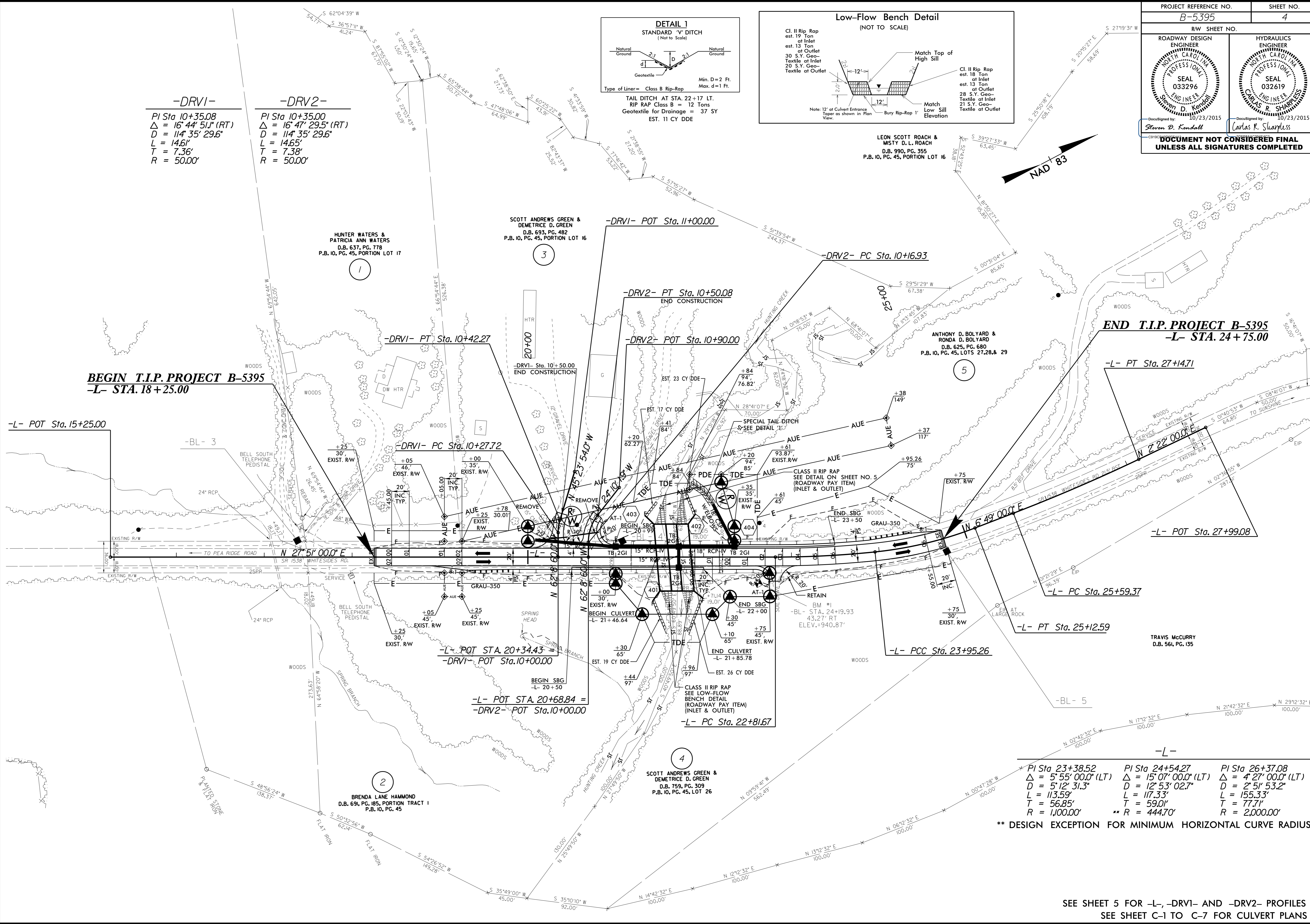
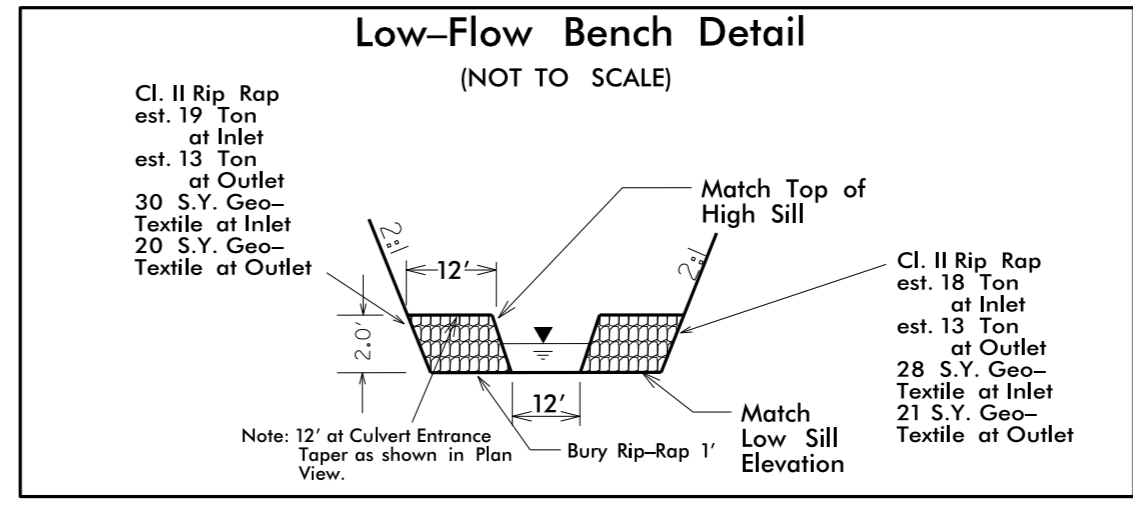
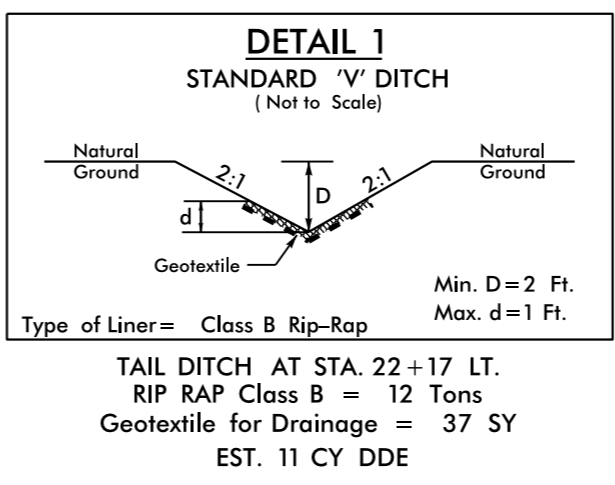
**SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION**

LINE	Station	Station	Aggregate Type* ASU/AST	Aggregate Thickness INCHES	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Soil Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
CONTINGENCY			ASU		100	190	150		
<b>TOTAL CY/TONS/SY:</b>					100	190	150	0	0

\*ASU = Aggregate Subgrade      \*AST = Aggregate Stabilization  
 \*Total square yards of Geotextile for Soil Stabilization is only estimated for ASU/AST and may only represent a portion of the geotextile quantity shown in the Item Sheets of the Proposal.

**-DRV1-**  
 PI Sta 10+35.08  
 $\Delta = 16' 44" 51.1" (RT)$   
 $D = 114' 35" 29.6"$   
 $L = 14.61'$   
 $T = 7.36'$   
 $R = 50.00'$

**-DRV2-**  
 PI Sta 10+35.00  
 $\Delta = 16' 47" 29.5" (RT)$   
 $D = 114' 35" 29.6"$   
 $L = 14.65'$   
 $T = 7.38'$   
 $R = 50.00'$



**-L-**

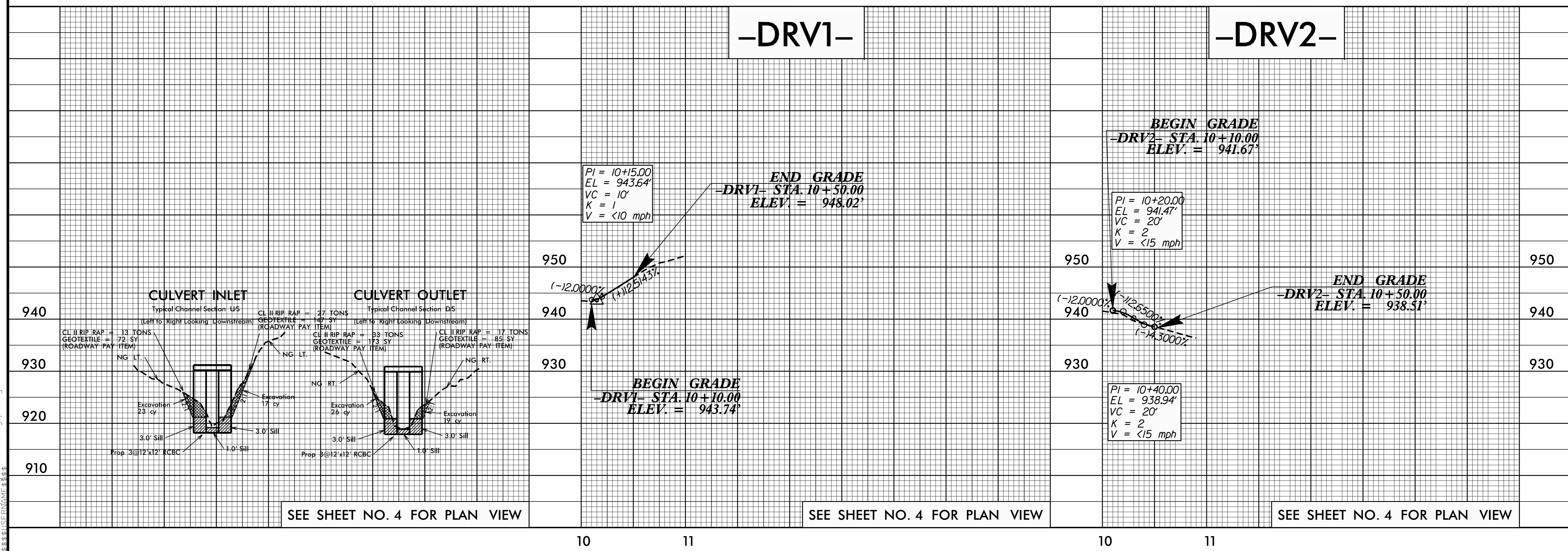
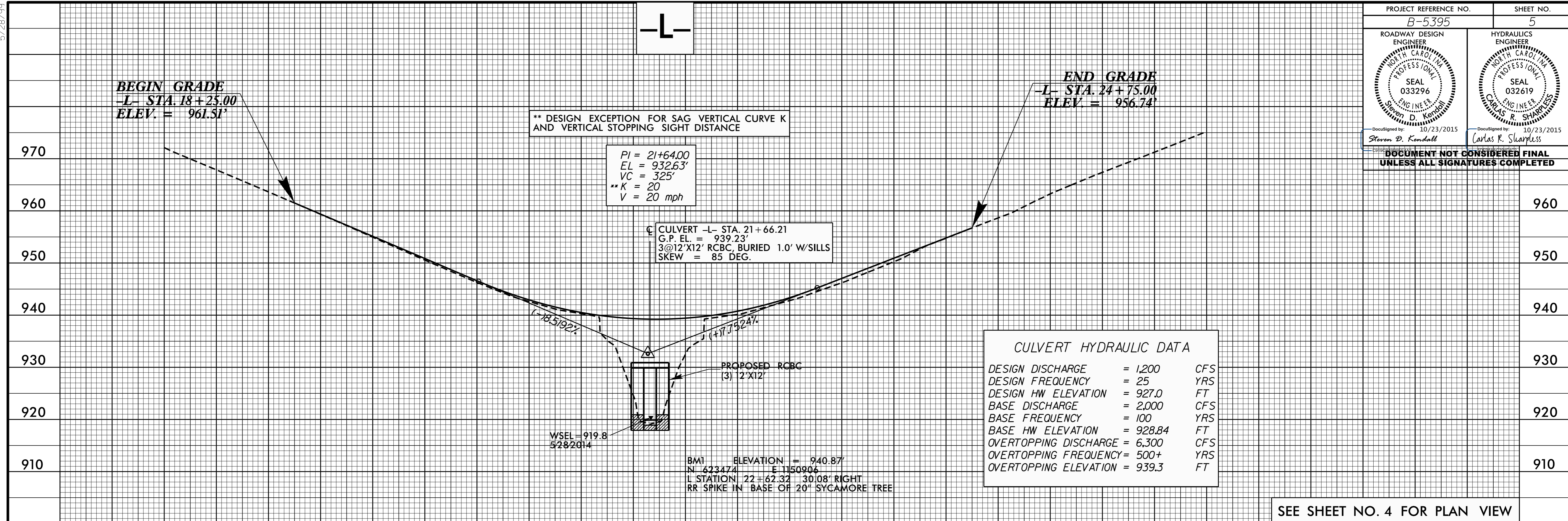
PI Sta 23+38.52 $\Delta = 5' 55" 00.0" (LT)$ $D = 5' 12" 31.3"$ $L = 113.59'$ $T = 56.85'$ $R = 1,100.00'$	PI Sta 24+54.27 $\Delta = 15' 07" 00.0" (LT)$ $D = 12' 53" 02.7"$ $L = 117.33'$ $T = 59.01'$ $R = 444.70'$	PI Sta 26+37.08 $\Delta = 4' 27" 00.0" (LT)$ $D = 2' 51" 53.2"$ $L = 155.33'$ $T = 77.71'$ $R = 2,000.00'$
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**\*\* DESIGN EXCEPTION FOR MINIMUM HORIZONTAL CURVE RADIUS**

21-OCT-2015 06:13:06 B:\5395\_Rd1\_psh4.dgn  
 8/17/199



5/28/99



20-OCT-2015 13:51 \\B-5395-Rdy-pl.dgn  
448607887