

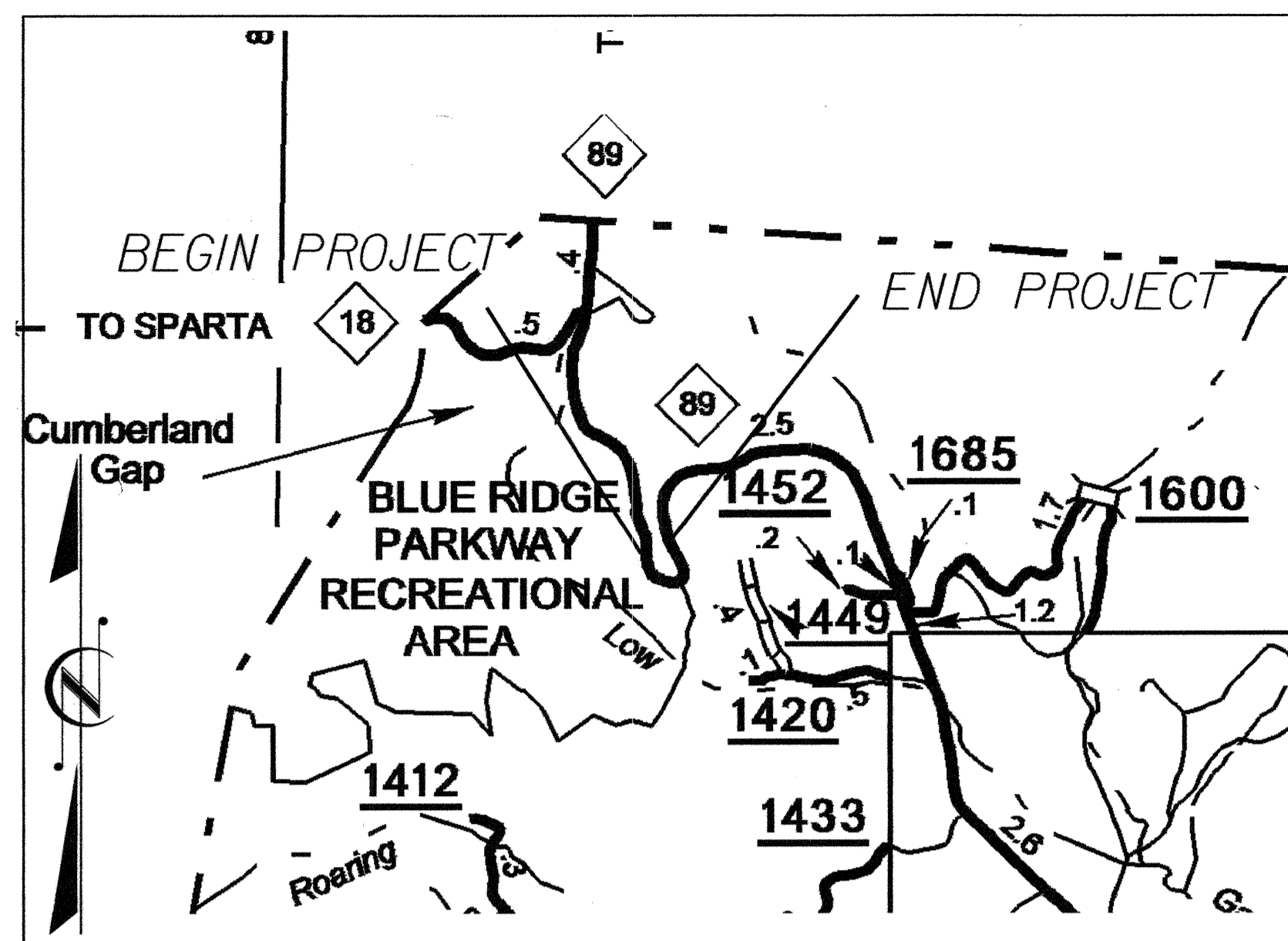
See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SURRY COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5307	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46131.1.1	STP-0089 (8)	P.E.	
46131.2.1	STP-0089 (8)	RW	
46131.3.1	STP-0089 (8)	Const.	

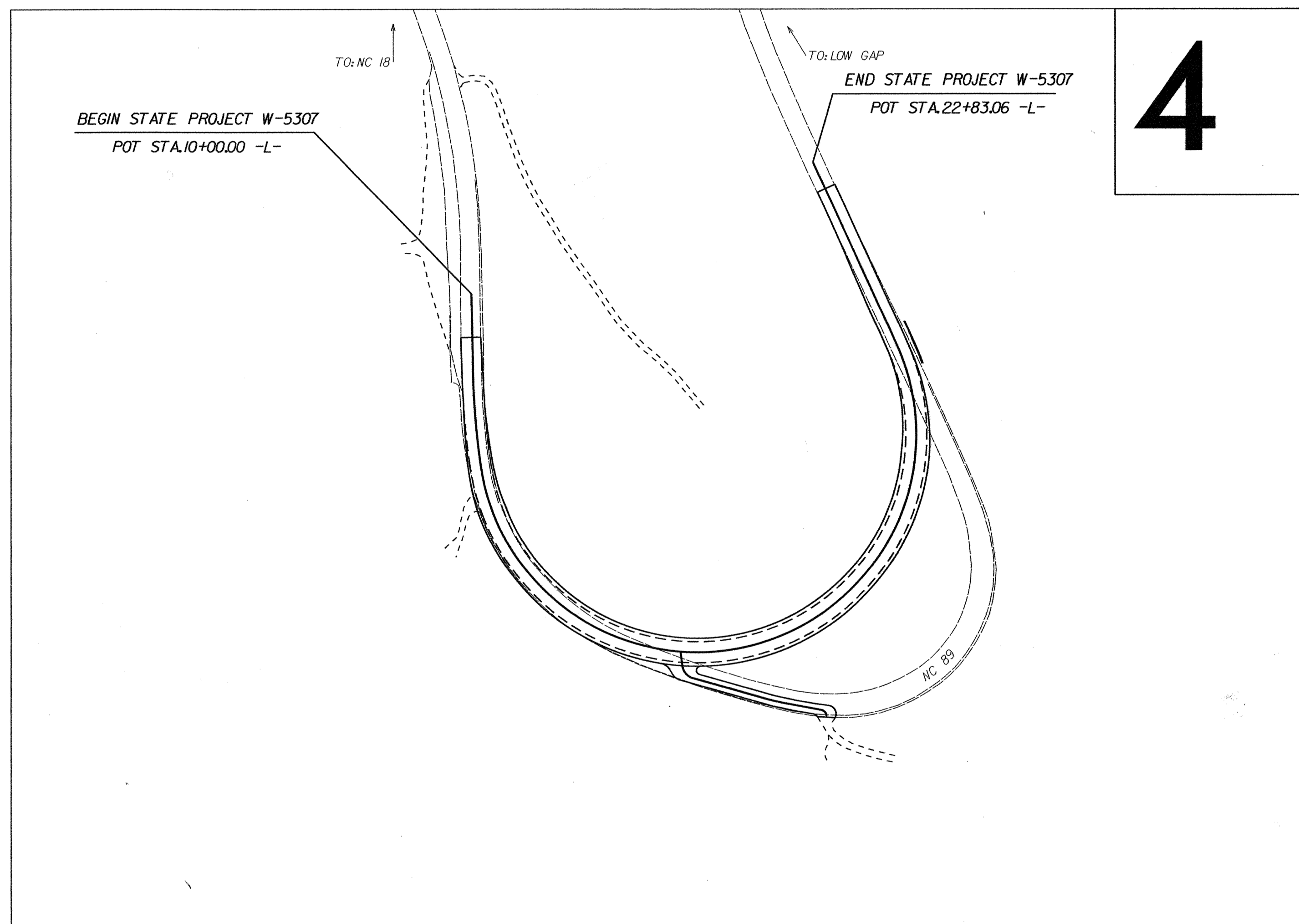
TIP PROJECT: W-5307



FOR OFF-SITE DETOUR ROUTE - SEE SHEETS TMP-5A - TMP-5C  
**VICINITY MAP**  
(NOT TO SCALE)

**LOCATION: NC 89 FROM 0.85 MILES SOUTH OF NC 18  
TO 1.09 MILES SOUTH OF NC 18**

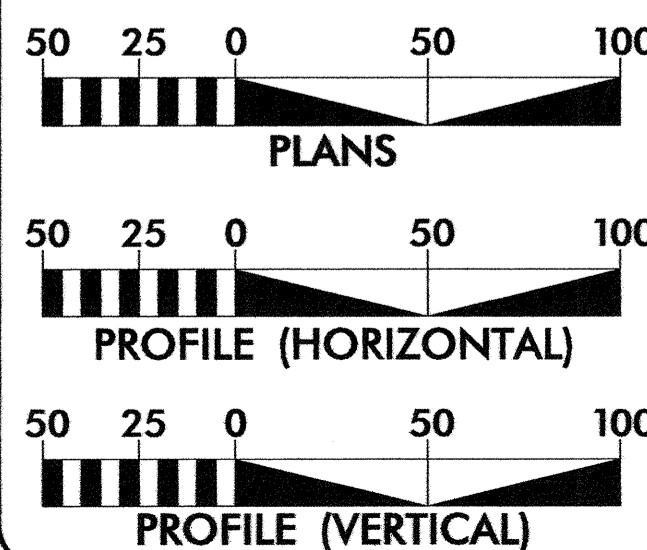
**TYPE OF WORK: GRADING, DRAINAGE, PAVING AND SIGNALS**



NAD 83/CORS96

\*\* DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED

**GRAPHIC SCALES**



**DESIGN DATA  
REGIONAL TIER DESIGN**

ADT 2009 = 2800  
ADT 2030 = 5200  
DHV = 12 %  
D = 50 %  
T = 6 % \*  
\*\* V = 30 MPH  
\* TTST = 2 DUAL 4

**PROJECT LENGTH**

TIP PROJECT W-5307 TOTAL LENGTH = 0.24 MI

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

801 Statesville Road, North Wilkesboro, NC, 28659

2012 STANDARD SPECIFICATIONS

**DIVISION ENGINEER  
M.A. PETTYJOHN, PE**

**RIGHT OF WAY DATE:**  
April 30, 2012

**LETTING DATE:**  
August 21, 2012

SIGNATURE: *M.A. Pettyjohn* P.E.  
DATE: 6/19/2012

**HYDRAULICS ENGINEER  
MARK T. SHOWN, PE**

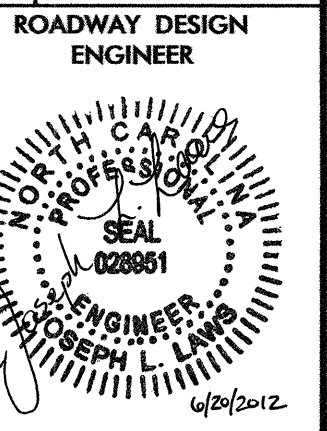


SIGNATURE: *Mark T. Shown* P.E.  
DATE: 6/20/12

**DIVISION PROJECT MANAGER  
JOSEPH L. LAWS, PE**



SIGNATURE: *Joseph L. Laws* P.E.  
DATE: 6/20/2012



# 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 THRU 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A THRU 2B	GABION WALL DETAIL
3	SUMMARY OF QUANTITIES
3-A THRU 3-C	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY, PARCEL INDEX SHEET
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-5D	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
RF-1	REFORESTATION PLANS
EC-1 THRU EC-05	EROSION CONTROL PLANS
SIG-1 THRU SIG-4	SIGNAL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
X	CROSS SECTION INDEX
X-A	CROSS SECTION SUMMARY
X-1 THRU X-22	CROSS-SECTIONS

**GENERAL NOTES:**

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

**GRADING AND SURFACING OR RESURFACING AND WIDENING:**

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

**CLEARING:**

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD 11.

**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.

**BERM DITCHES:**

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

**UNDERDRAINS:**

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

**DRIVEWAYS:**

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS 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.

**SUBSURFACE PLANS:**

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

**UTILITIES:**

UTILITY OWNERS ON THIS PROJECT ARE SURRY 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.

ROCK IS ANTICIPATED BETWEEN -L- STA. 10+50 - 22+00 LT AND RT. BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE, ROCK BLASTING PROVISION.

**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 Superlevation - Two Lane Pavement
240.01	Guide for Berm Ditch Construction
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Superelevated 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
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.66	Drainage Structure Steps
840.72	Pipe Collar
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets
<b>806.02</b>	<b>GRANITE RIGHT OF WAY MARKER</b>

# CONVENTIONAL PLAN SHEET SYMBOLS

## BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	×
Property Monument	□
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: Boundary or Site	☠
Potential Soil Contamination: Boundary or Site	☠?

## BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	▭
School	▭
Church	▭
Dam	▭

## HYDROLOGY:

Stream or Body of Water	~~~~~
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	-JS-
Buffer Zone 1	-BZ 1-
Buffer Zone 2	-BZ 2-
Flow Arrow	→
Disappearing Stream	→
Spring	○
Wetland	⬇
Proposed Lateral, Tail, Head Ditch	→
False Sump	▽

## RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

## RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	○
Proposed Right of Way Line with Iron Pin and Cap Marker	○
Proposed Right of Way Line with Concrete or Granite Marker	○
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Drainage / Utility Easement	-DUE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed 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	○
Curb Cut Future Ramp	○
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	⊗

## 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

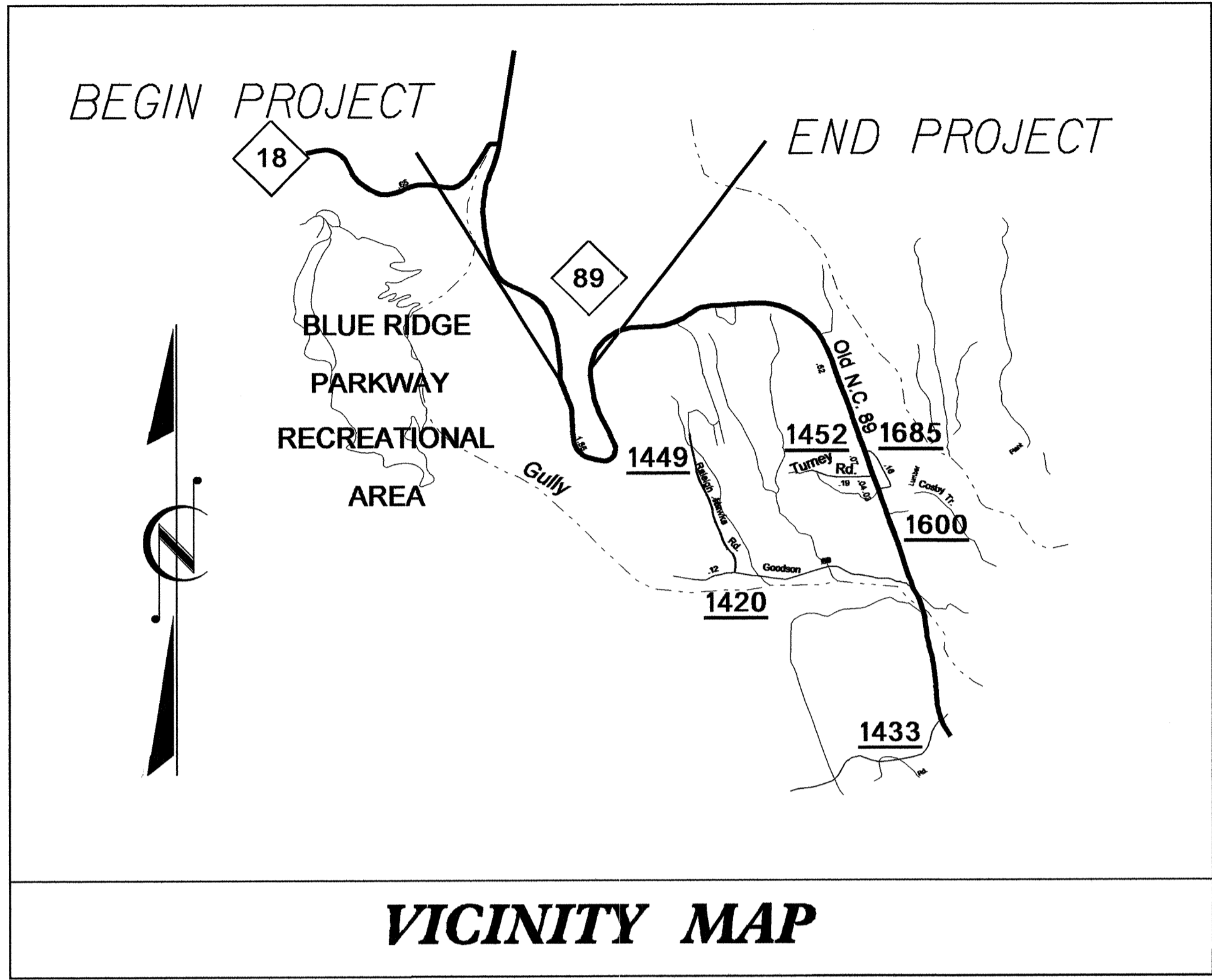
## SANITARY SEWER:

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.	⊕
AG 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 W-5307



NCDOT GPS STATION W4447-6  
 N = 1,031,505.3503  
 E = 1,442,152.6055

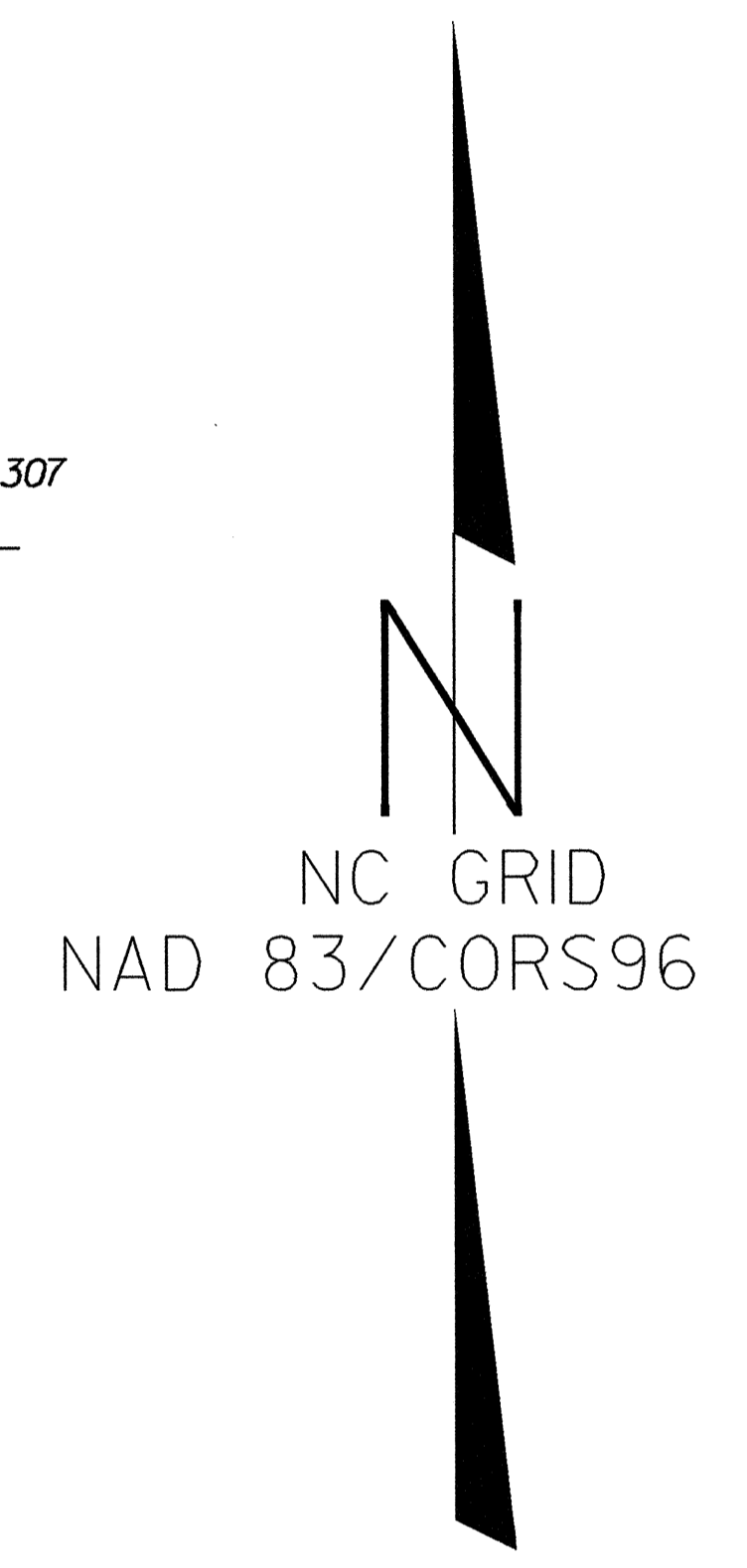
NCDOT GPS STATION W4447-5  
 N = 1,030,771.4934  
 E = 1,442,328.5257

NCDOT GPS STATION W4447-3  
 N = 1,024,574.2667  
 E = 1,444,801.9568

NCDOT GPS STATION W4447-4  
 N = 1,024,397.6952  
 E = 1,443,884.2731

BEGIN STATE PROJECT W-5307  
 POT STA. 10+00.00 -L-  
 N = 1,023,022.9404  
 E = 1,443,292.2283

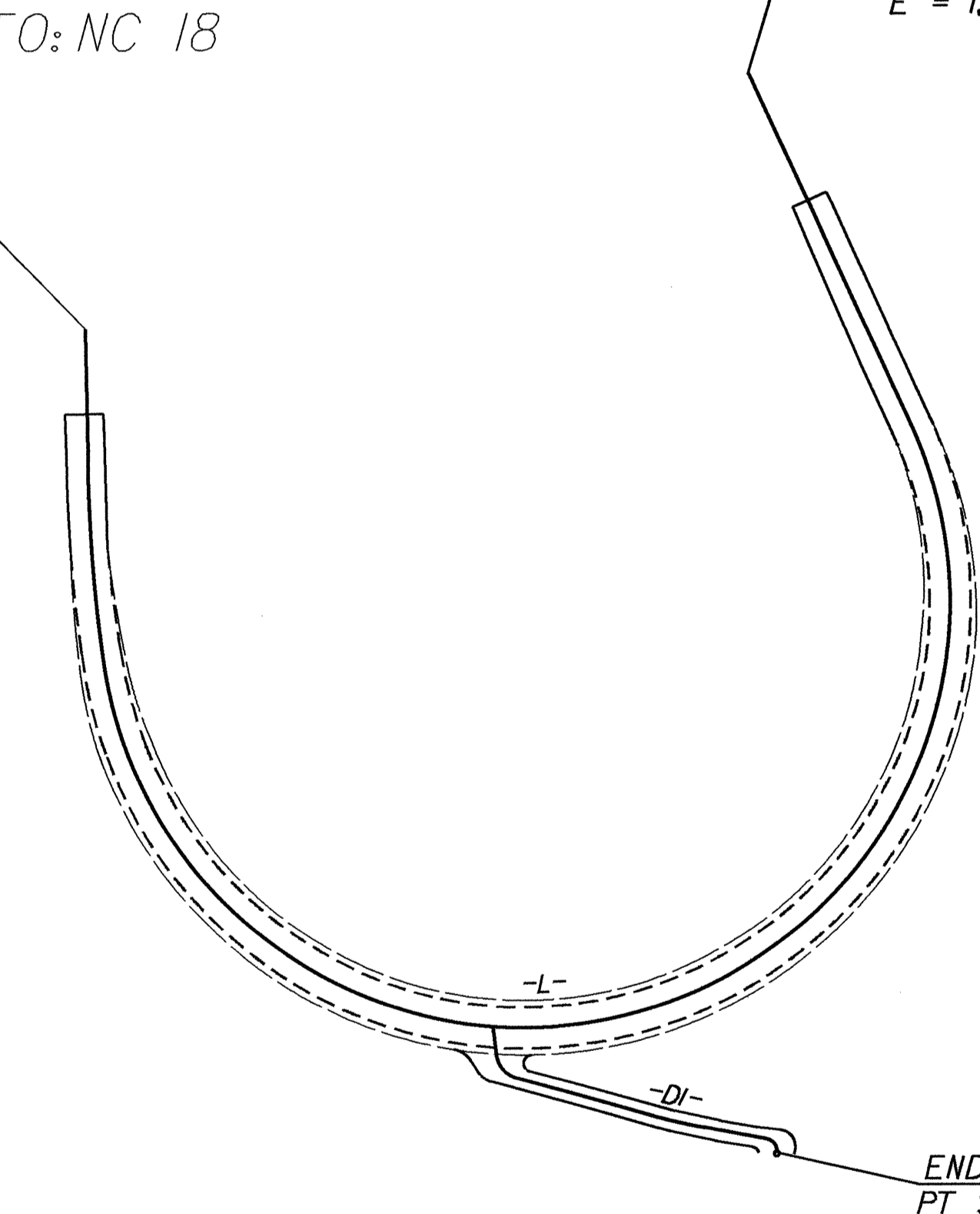
END STATE PROJECT W-5307  
 POT STA. 22+83.06 -L-  
 N = 1,023,172.5768  
 E = 1,443,682.3768



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL19	BL-19		1023843.9992	1443511.3045	1987.05	11+97.40	OUTSIDE PROJECT LIMITS
BL20	BL-20		1023274.3883	1443619.4997	2032.23	11+97.40	OUTSIDE PROJECT LIMITS
BL21	BL-21		1022809.6092	1443871.9909	2070.28	19+07.77	75.69 RT
BL22	BL-22		1022599.7050	1443865.9285	2082.43	17+74.52	159.79 RT
BL23	BL-23		1022533.3401	1443691.3078	2090.67	16+56.30	106.83 RT
BL24	BL-24		1022653.0610	1443372.9466	2107.46	13+78.30	23.48 RT
BL25	BL-25		1022937.3595	1443268.3098	2121.08	10+85.10	25.59 RT
BL26	BL-26		1023284.1546	1443282.9840	2142.50	11+97.40	OUTSIDE PROJECT LIMITS
BL27	BL-27		1023758.6786	1443084.1522	2183.20	11+97.40	OUTSIDE PROJECT LIMITS

TO: NC 18

TO: LOW GAP



### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "W4447-3"  
 WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF  
 NORTHING: 1024574.2667(±) EASTING: 1444801.9568(±)  
 ELEVATION: 1874.2712(±)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000409917  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "W4447-3" TO -L- STATION 10+00.00 IS  
 S 44°13'17.21" W 2164.6919  
 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:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/DOH/PRECONSTRUCTHIGHWAY/LOCATION/PROJECT/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 W5307\_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)  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

6/22/99  
 19-JUN-2012 10:03  
 Location & Surveys\W5307\_1s-1-C.dgn

# SURVEY CONTROL SHEET W-5307

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	1023022.9404	1443292.2283
PC	10+85.78	1022937.1751	1443293.9034
PCC	11+97.40	1022825.9825	1443302.8636
PT	20+55.30	1022965.6530	1443777.5388
POT	22+83.06	1023172.5729	1443682.3786

D1

TYPE	STATION	NORTH	EAST
POT	10+00.00	1022611.9151	1443531.1272
PC	10+16.93	1022595.1233	1443533.2955
PT	10+36.37	1022581.2523	1443545.3081
PC	11+19.35	1022558.9768	1443625.2440
PT	11+48.57	1022552.3809	1443653.6973
PC	11+87.25	1022545.3116	1443691.7234
PT	11+98.97	1022536.6840	1443697.8845

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+00.00	25.00	1023022.4522	1443267.2331
L	10+00.00	-30.00	1023023.5262	1443322.2226
L	10+00.00	-15.00	1023023.2333	1443307.2255
L	10+75.00	-30.00	1022948.5405	1443323.6871
L	11+00.00	-50.00	1022924.7137	1443344.2606
L	12+00.00	-40.00	1022829.4577	1443342.7833
L	12+01.20	25.19	1022818.3031	1443278.5403
L	12+16.74	34.64	1022799.4473	1443272.5069
L	12+50.00	-60.00	1022795.7370	1443372.0009
L	13+00.00	55.00	1022701.3333	1443290.6175
L	13+50.00	-80.00	1022745.0964	1443426.1791
L	14+00.00	35.00	1022629.0842	1443384.9750
L	14+50.00	35.00	1022600.8486	1443434.3804
L	14+50.00	-95.00	1022719.5938	1443487.2941
L	15+00.00	36.10	1022581.9233	1443488.1727
L	15+14.01	39.14	1022575.8761	1443503.4168
L	15+50.00	-95.00	1022706.2006	1443547.4105
L	16+11.63	81.44	1022538.2571	1443625.0707
L	16+19.54	92.76	1022529.8327	1443638.1518
L	16+48.22	115.59	1022520.8060	1443683.8284
L	16+50.00	-110.00	1022731.1990	1443602.4230
L	17+50.00	-120.00	1022768.8241	1443641.8957
L	18+50.00	-95.00	1022802.2387	1443693.7615
L	18+51.05	139.62	1022714.5326	1443911.3704
L	18+83.14	109.31	1022769.6640	1443897.8713
L	19+50.00	-85.00	1022862.8178	1443715.4002
L	19+74.34	49.60	1022893.2501	1443848.2926
L	20+00.00	36.09	1022920.7897	1443830.2191
L	20+50.00	-70.00	1022932.9198	1443715.5002
L	21+50.00	45.00	1023070.4899	1443778.8561
L	21+50.00	-115.00	1023003.6384	1443633.4915
L	22+50.00	25.62	1023153.2443	1443719.4641
L	22+50.00	-30.00	1023130.0061	1443668.9342
L	22+50.00	-14.38	1023136.5311	1443683.1224

PERMANENT DRAINAGE EASEMENT

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+25.00	40.40	1022788.8710	1443269.1227
L	12+25.00	35.14	1022790.1809	1443274.2173
L	12+36.00	48.96	1022774.0782	1443264.3893
L	12+45.00	37.65	1022767.5215	1443278.4000
L	12+45.00	50.00	1022763.4999	1443266.7224

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "w4447-3"

WITH NAD 83/CORS96 STATE PLANE GRID COORDINATES OF  
 NORTHING: 1024574.2667(ft) EASTING: 1444801.9568(ft)  
 ELEVATION: 1874.2712(ft)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.0000409917

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "w4447-3" TO -L- STATION 10+00.00 IS  
 S 44°13'17.21" W 2164.6919

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:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.ncdot.org/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT)  
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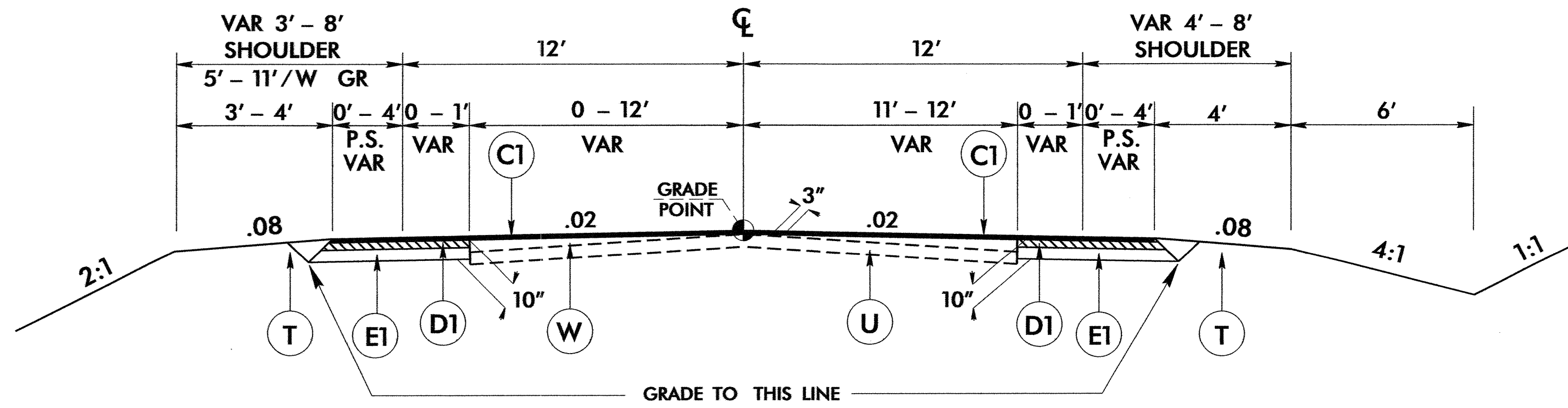
SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- © 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)
- SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

**NOTE: DRAWING NOT TO SCALE**

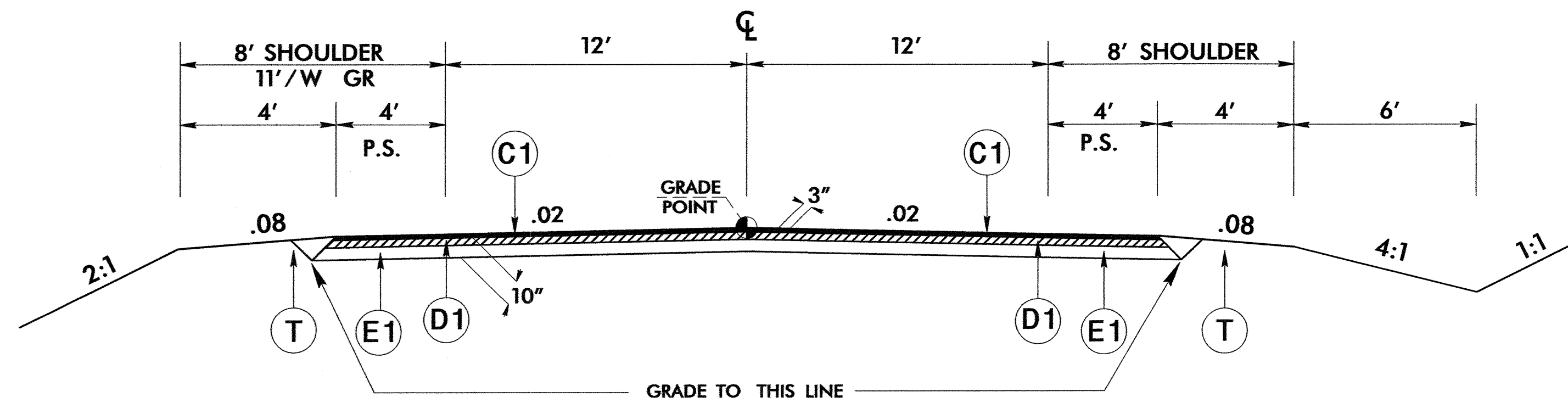
6/2/99

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 RA W5307 Location & Surveys W5307\_Ls\_1-D.dgn



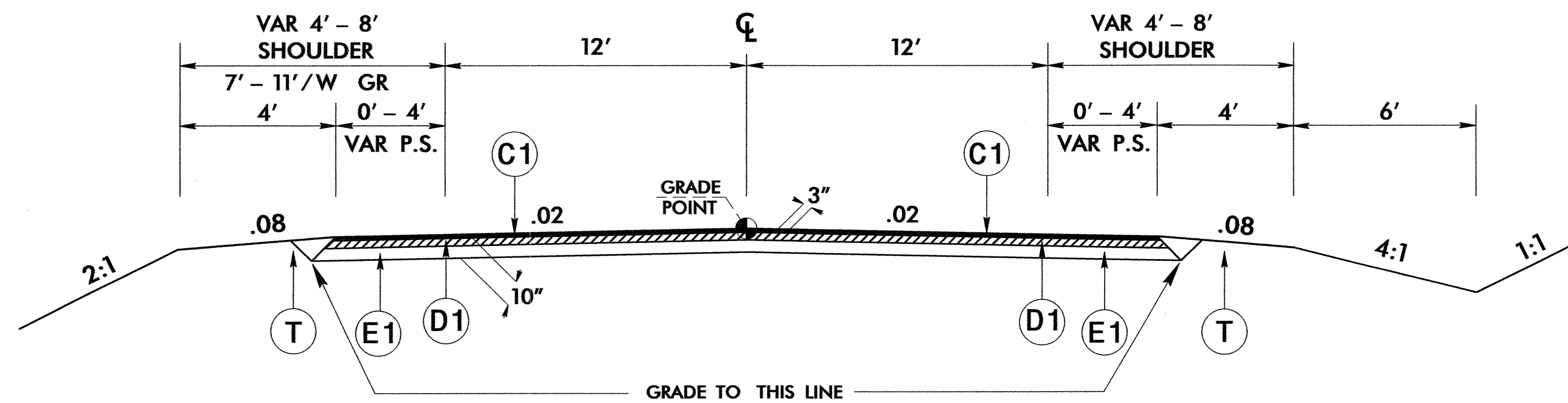
**TYPICAL SECTION NO. 1**

-L- STA. 11+00.00 TO STA. 15+50.00  
-L- STA. 20+50.00 TO STA. 22+00.00



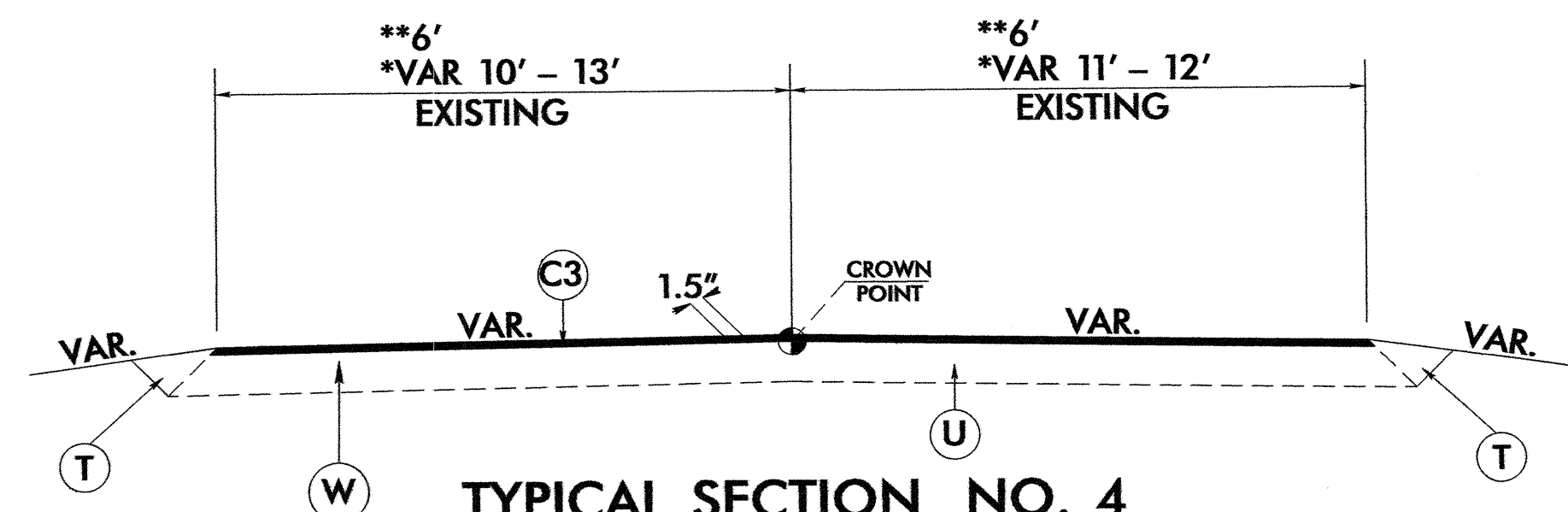
**TYPICAL SECTION NO. 2**

-L- STA. 15+50.00 TO STA. 19+30.00



**TYPICAL SECTION NO. 3**

-L- STA. 19+30.00 TO STA. 20+50.00

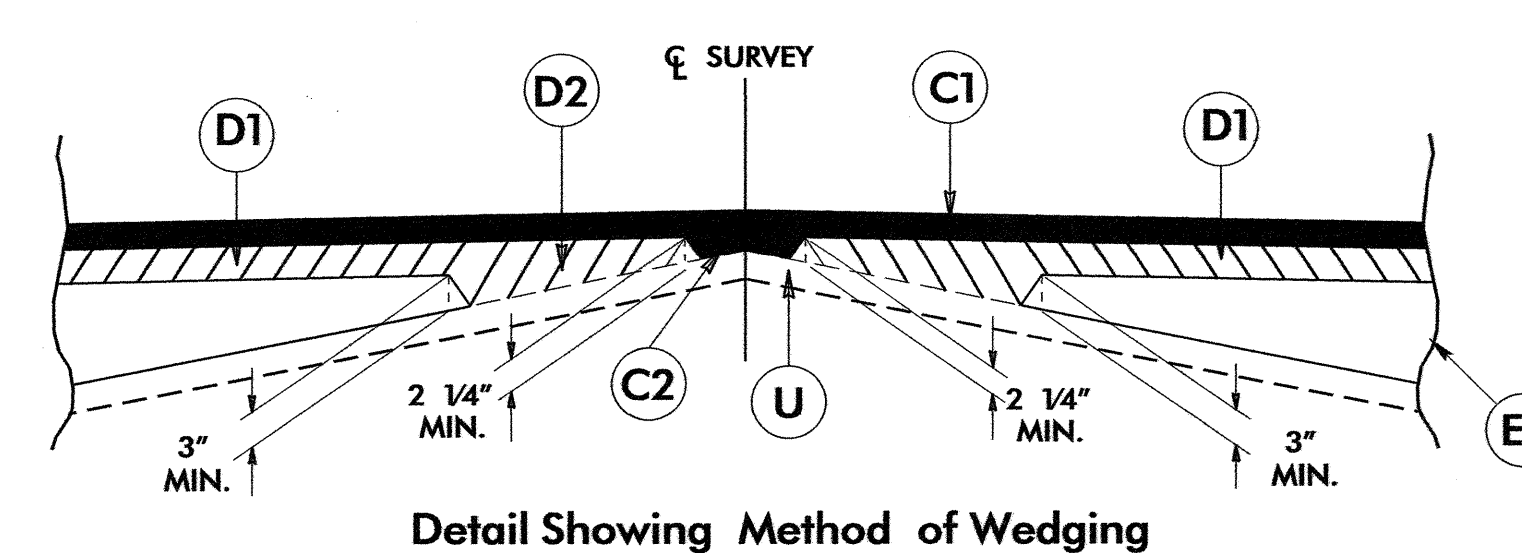


**TYPICAL SECTION NO. 4**

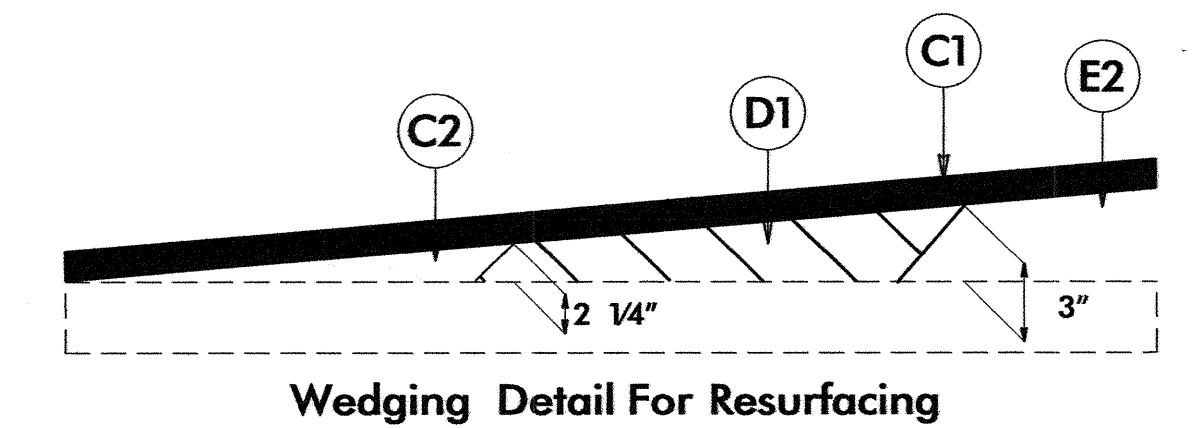
-L- 10+50.00 TO 11+00.00 (RESURFACE)\*  
-L- 22+00.00 TO 22+50.00 (RESURFACE)\*  
-D1- 10+16.00 TO 11+98.97 (RESURFACE)\*\*

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
D2	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 1/4" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)
U	EXISTING PAVEMENT.

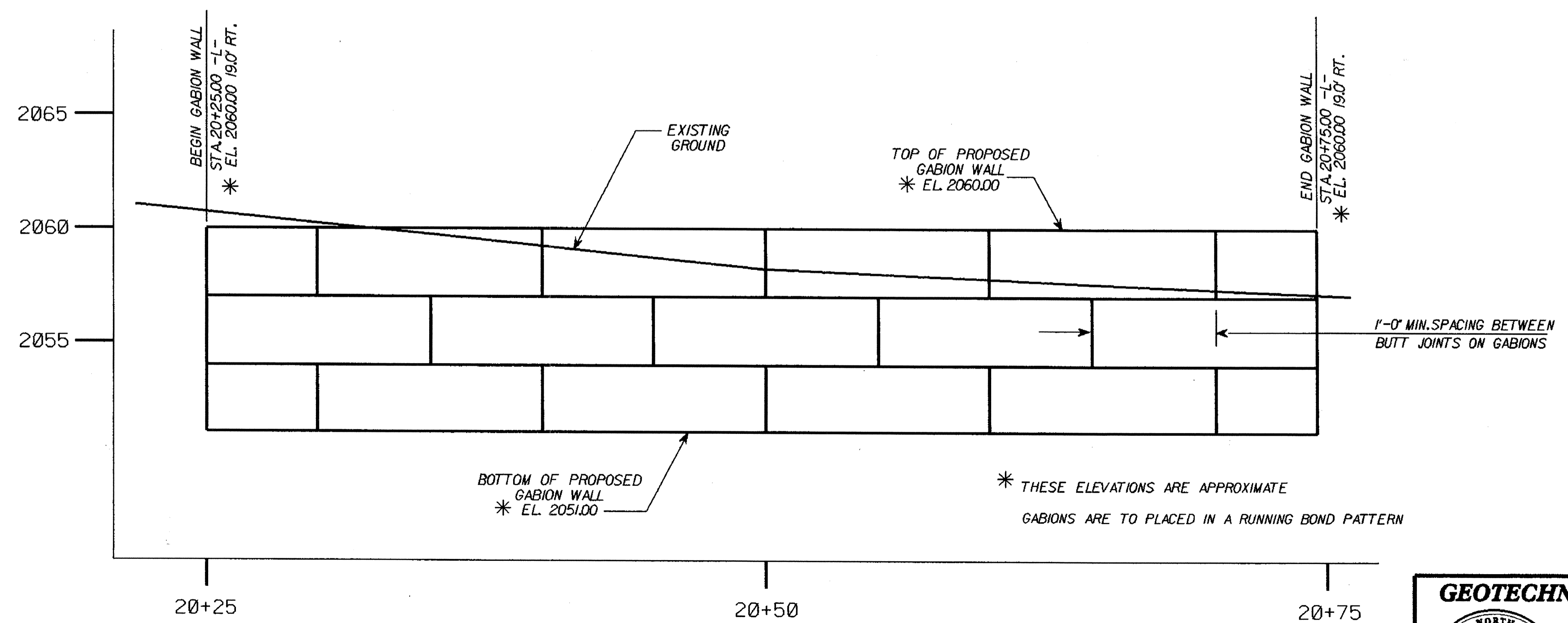
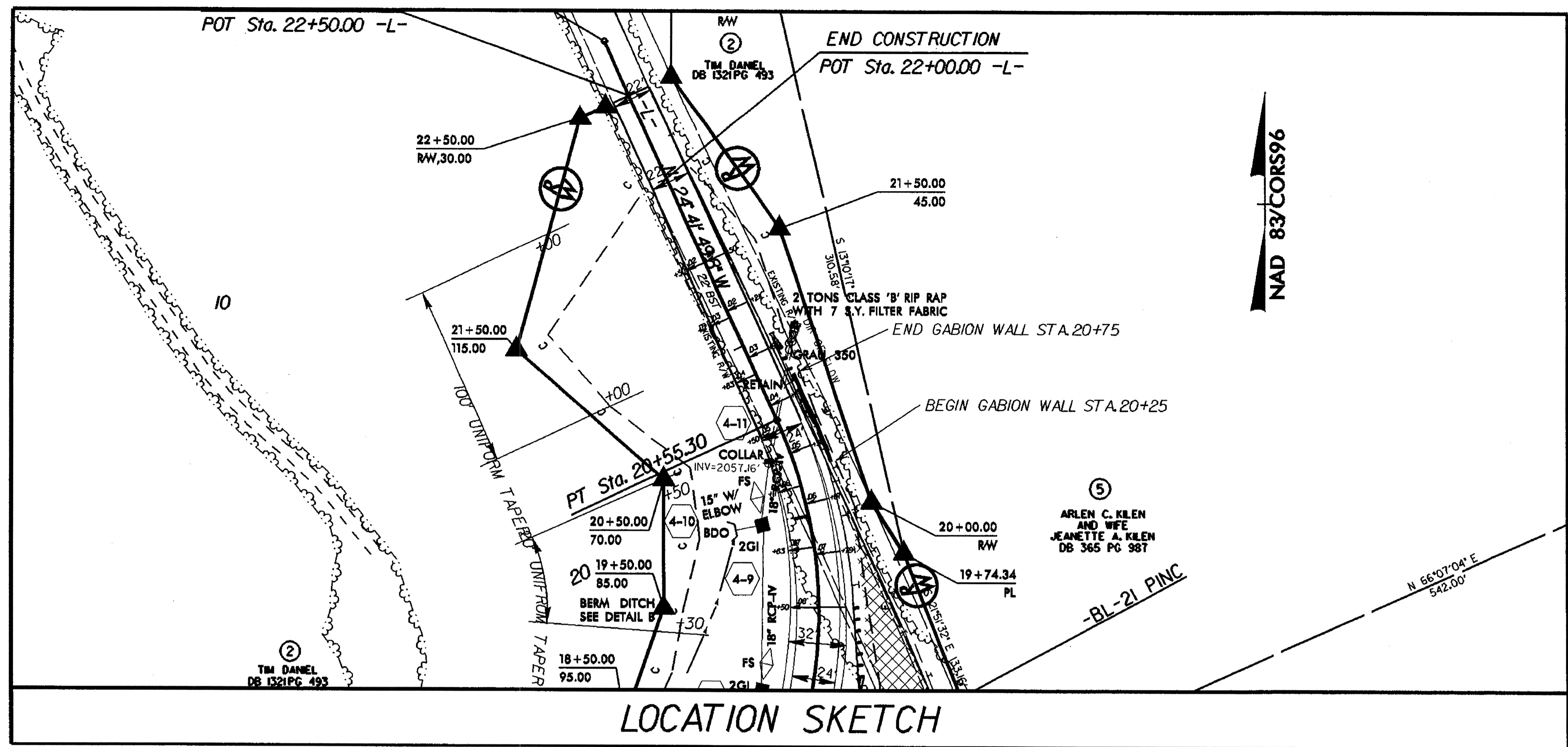
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



Detail Showing Method of Wedging



Wedging Detail For Resurfacing



### WALL ENVELOPE

PROPOSED WALL ENVELOPES DO NOT MATCH LIMITS OF GABIONS DUE TO EFFORTS TO LIMIT MODIFICATIONS TO GABIONS

\* THESE ELEVATIONS ARE APPROXIMATE  
GABIONS ARE TO BE PLACED IN A RUNNING BOND PATTERN

PREPARED BY: EJS DATE: 8/2012  
REVIEWED BY: SCC DATE: 8/2012

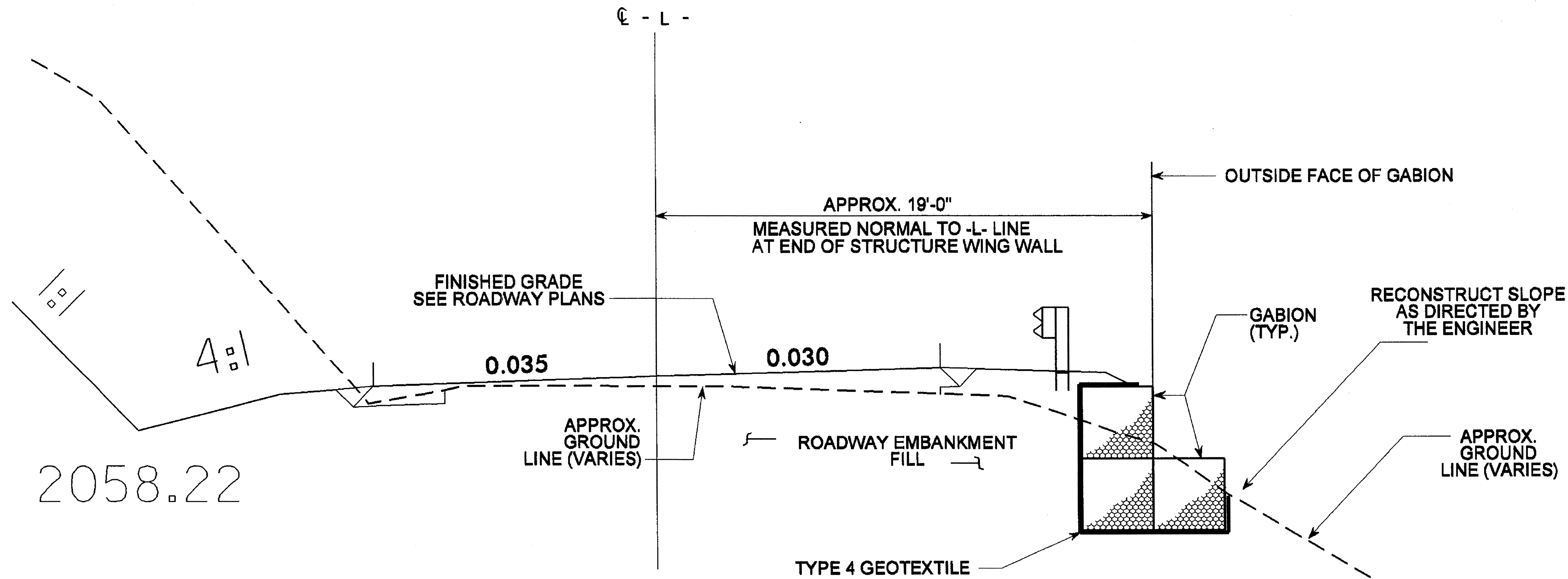
**GEOTECHNICAL ENGINEERING UNIT**

EASTERN REGIONAL OFFICE  
 WESTERN REGIONAL OFFICE  
 CONTRACT OFFICE

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

**GABION RETAINING WALL CONSTRUCTION DETAILS**

REVISIONS			
NO.	BY	DATE	NO.



TYPICAL SIZES			
GABIONS	LENGTH	WIDTH	HEIGHT
	6' X	3' X	3'
	9' X	3' X	3'
	12' X	3' X	3'

ESTIMATED QUANTITIES FOR BIDDING	
<b>GABIONS</b>	
TOTAL VOLUME OF GABIONS	= 1,350 CU. FT.
TOTAL VOLUME OF STONE	= 17 CU. YDS.

PAY ITEMS	
GABION RETAINING WALL	225 SQ. FT.

## GABION BASKET SHOULDER CONSTRUCTION

### NOTES:

- GABIONS ARE TO BE FILLED WITH THE SIZE AND TYPE OF STONE AS OUTLINED IN THE PROJECT SPECIAL PROVISIONS.
- OVERLAP FABRIC A MINIMUM 18" OR AS DIRECTED BY THE ENGINEER.
- TYPICAL GABIONS ARE 3 FT. HEIGHT BY 3 FT. DEPTH BY 6, 9, OR 12 FT. LENGTHS. GABION LENGTHS MAY NEED TO BE MODIFIED TO FIT THE WALL PARAMETERS.
- USE GABION RETAINING WALL BETWEEN STATIONS 20+25.00 -L- TO STATION 20+75.00 -L-, OR AS DIRECTED BY ENGINEER.



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**SUMMARY OF QUANTITIES**

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000100000-E	200	Lump Sum		CLEARING & GRUBBING .. ACRE(S)
000800000-E	200	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
002200000-E	225	74,000	CY	UNCLASSIFIED EXCAVATION
003600000-E	225	200	CY	UNDERCUT EXCAVATION
014100000-E	240	100	LF	BERM DITCH CONSTRUCTION
015600000-E	250	1,540	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT
019500000-E	265	100	CY	SELECT GRANULAR MATERIAL
019600000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZATION
031800000-E	300	50	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
032000000-E	300	150	SY	FOUNDATION CONDITIONING GEOTEXTILE
033520000-E	305	20	LF	15" DRAINAGE PIPE
033585000-E	305	1	EA	*** DRAINAGE PIPE ELBOWS (15")
044820000-E	310	224	LF	15" RC PIPE CULVERTS, CLASS IV
044830000-E	310	192	LF	18" RC PIPE CULVERTS, CLASS IV
101100000-N	500	Lump Sum		FINE GRADING
109950000-E	505	100	CY	SHALLOW UNDERCUT
109970000-E	505	100	TON	CLASS IV SUBGRADE STABILIZATION
122000000-E	545	100	TON	INCIDENTAL STONE BASE
148900000-E	610	510	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	770	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	680	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
157500000-E	620	105	TON	ASPHALT BINDER FOR PLANT MIX
169300000-E	654	5	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	34	EA	RIGHT OF WAY MARKERS
202200000-E	815	22.4	CY	SUBDRAIN EXCAVATION
203300000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE
225300000-E	840	0.45	CY	PIPE COLLARS
227500000-E	SP	15	CY	FLOWABLE FILL
228600000-N	840	6	EA	MASONRY DRAINAGE STRUCTURES
230800000-E	840	0.3	LF	MASONRY DRAINAGE STRUCTURES
236500000-N	840	6	EA	FRAME WITH TWO GRATES, STD 840.22
303000000-E	862	187.5	LF	STEEL BM GUARDRAIL
304500000-E	862	37.5	LF	STEEL BM GUARDRAIL, SHOP CURVED
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
327000000-N	SP	5	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
336000000-E	863	920	LF	REMOVE EXISTING GUARDRAIL
364900000-E	876	4	TON	RIP RAP, CLASS B
365600000-E	876	470	SY	GEOTEXTILE FOR DRAINAGE
407200000-E	903	355	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
410200000-N	904	28	EA	SIGN ERECTION, TYPE E
415500000-N	907	20	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	702	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	250	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	182	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
442000000-N	1120	4	EA	PORTABLE CHANGEABLE MESSAGE SIGN
443000000-N	1130	69	EA	DRUMS
443500000-N	1135	62	EA	CONES

ItemNumber	Sec #	Quantity	Unit	Description
444500000-E	1145	144	LF	BARRICADES (TYPE III)
445000000-N	1150	1,600	HR	FLAGGER
446500000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS
448000000-N	1165	2	EA	TMA
448500000-E	1170	950	LF	PORTABLE CONCRETE BARRIER
451600000-N	1180	31	EA	SKINNY DRUM
465000000-N	1251	435	EA	TEMPORARY RAISED PAVEMENT MARKERS
481000000-E	1205	24,520	LF	PAINT PAVEMENT MARKING LINES (4")
483500000-E	1205	44	LF	PAINT PAVEMENT MARKING LINES (24")
484700000-E	1205	4,600	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (HIGHLY REFLECTIVE ELEMENTS)
485000000-E	1205	5,660	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
487000000-E	1205	22	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
490500000-N	1253	29	EA	SNOWPLOWABLE PAVEMENT MARKERS
600000000-E	1605	1,530	LF	TEMPORARY SILT FENCE
600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	600	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	300	TON	SEDIMENT CONTROL STONE
601500000-E	1615	5.5	ACR	TEMPORARY MULCHING
601800000-E	1620	200	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.75	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
603000000-E	1630	1,140	CY	SILT EXCAVATION
603600000-E	1631	12,000	SY	MATTING FOR EROSION CONTROL
603800000-E	SP	2,120	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	150	LF	1/4" HARDWARE CLOTH
607101000-E	SP	315	LF	WATTLE
607102000-E	SP	95	LB	POLYACRYLAMIDE (PAM)
607103000-E	1640	100	LF	COIR FIBER BAFFLE
608400000-E	1660	4	ACR	SEEDING & MULCHING
608700000-E	1660	2.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	250	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	7	TON	FERTILIZER TOPDRESSING
611450000-N	1667	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	25	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	1	ACR	REFORESTATION
712000000-E	1705	4	EA	VEHICLE SIGNAL HEAD (12", 3 SECTION)
725200000-E	1710	1,760	LF	MESSENGER CABLE (1/4")
726400000-E	1710	110	LF	MESSENGER CABLE (3/8")
730010000-E	1715	140	LF	UNPAVED TRENCHING FOR TEMPORARY LEAD-IN
736000000-N	1720	14	EA	WOOD POLE
737200000-N	1721	6	EA	GUY ASSEMBLY
739600000-E	1722	1	EA	1/2" RISER WITH WEATHERHEAD
742000000-E	1722	3	EA	2" RISER WITH WEATHERHEAD
744400000-E	1725	280	LF	INDUCTIVE LOOP SAWCUT
745600000-E	1726	140	LF	LEAD-IN CABLE (*****) (14-2)
776800000-N	1751	1	EA	CONTROLLER WITH CABINET (TYPE 2070L, POLE MOUNTED)
778000000-N	1751	2	EA	DETECTOR CARD (TYPE 2070L)
791200000-N	1755	1	EA	BEACON CONTROLLER ASSEMBLY & CABINET (*****) (F3)
798000000-N	SP	1	EA	GENERIC SIGNAL ITEM NEMA TS-1 DETECTOR UNIT
799000000-E	SP	3,800	LF	GENERIC SIGNAL ITEM SIGNAL CABLE (12-4)
884700000-E	SP	225	SF	GENERIC RETAINING WALL ITEM GABION RETAINING WALL







PROJECT REFERENCE NO. W-5307		SHEET NO. 4	
RW SHEET NO. 4		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	

**NOTE**  
For -L- Profile See Sheet 5

NAD 83/CORS96

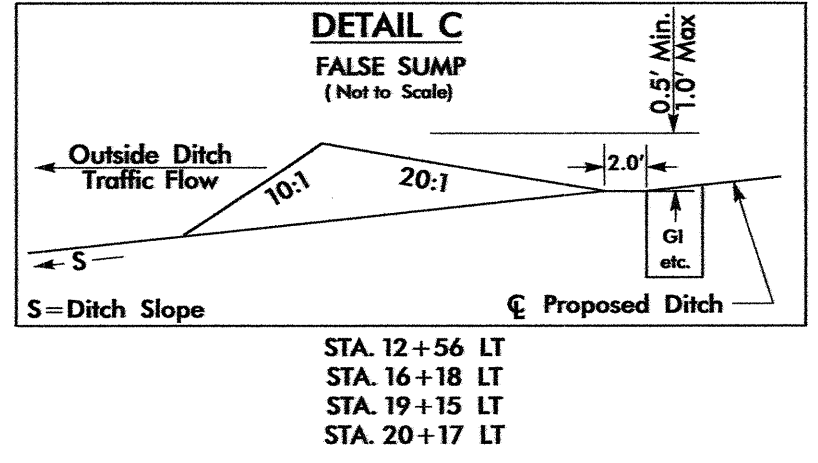
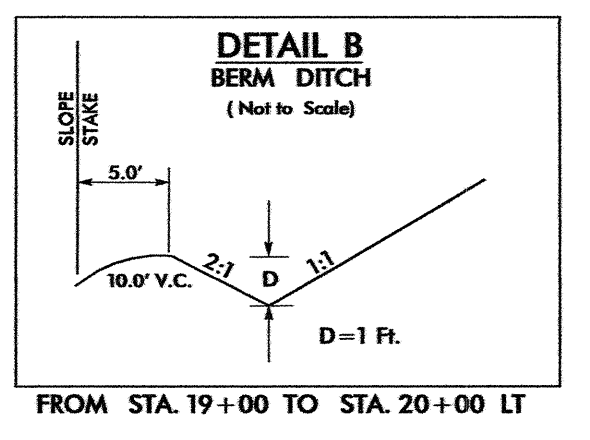
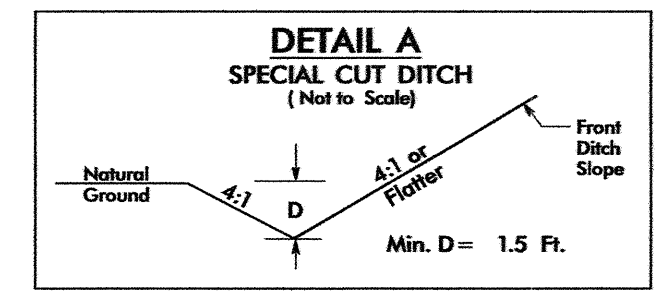
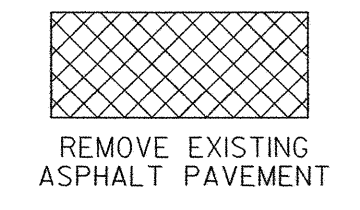
**\*\* -L- \*\***

PI Sta 11+41.66	PI Sta 29+11.02
$\Delta = 6' 58' 35.0''$ (LT)	$\Delta = 196' 36' 06.8''$ (LT)
D = 6' 15' 00.0"	D = 22' 55' 00.0"
L = 111.62'	L = 857.90'
T = 55.88'	T = 1,713.61'
R = 916.73'	R = 250.02'
SE = 0.08	SE = 0.08
RUNOFF = 18.25	RUNOFF = 31

**\*\*DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED**

**-DI-**

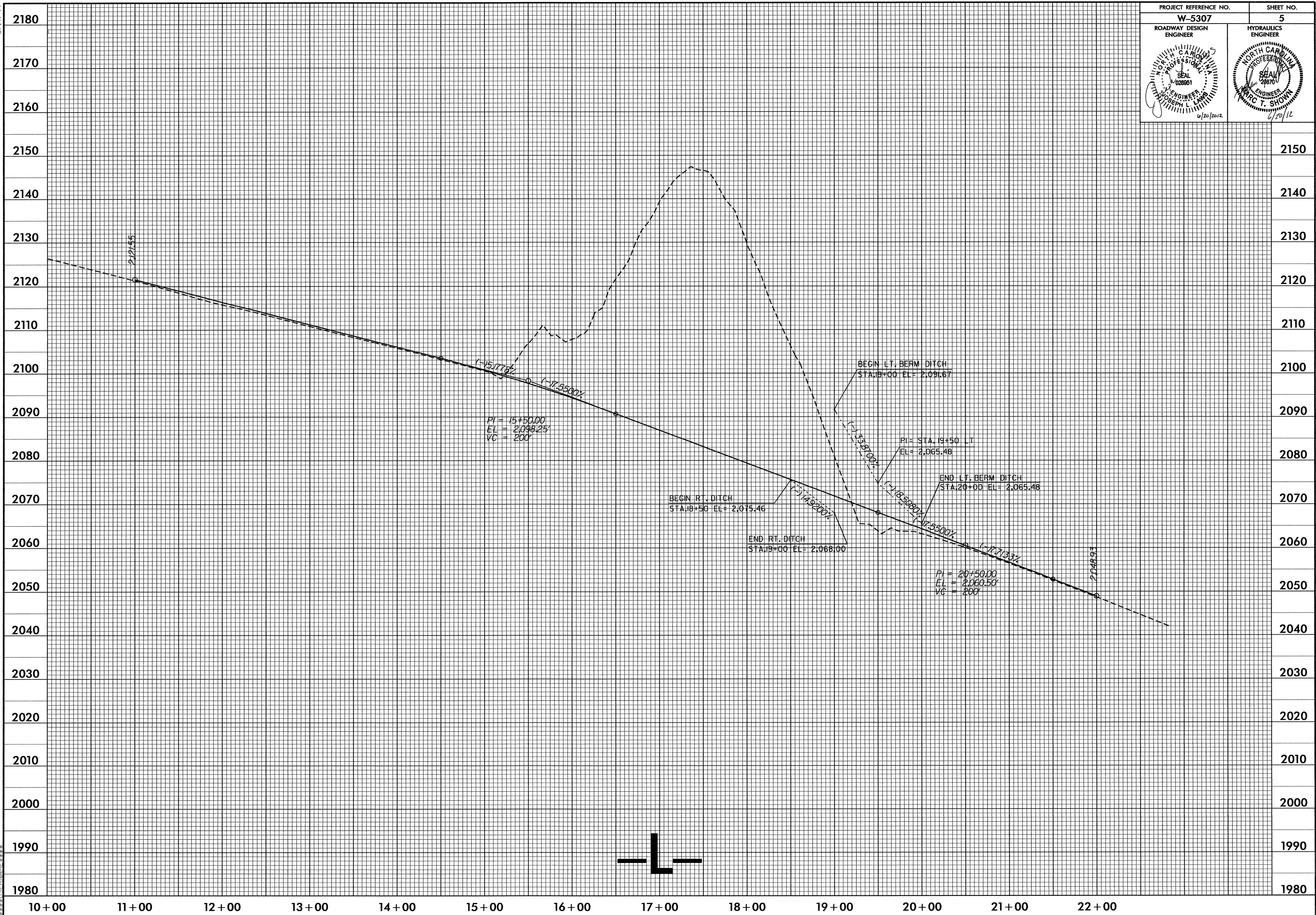
POC Sta. 15+35.52 -L- =	POT Sta. 10+00.00 -DI-
$\Delta = 7' 21' 28.3''$ E	
PC Sta. 10+16.93	
PI Sta. 10+27.94	
$\Delta = 67' 04' 14.7''$ (LT)	
D = 345' 00' 00.0"	
L = 19.44'	
T = 11.01'	
R = 16.61'	
PT Sta. 10+36.37	
S 74° 25' 43.0" E	
PC Sta. 11+19.35	
PI Sta. 11+33.97	
$\Delta = 5' 02' 23.9''$ (LT)	
D = 17' 15' 00.0"	
L = 29.22'	
T = 14.62'	
R = 332.15'	
PT Sta. 11+48.57	
S 79° 28' 06.8" E	
PC Sta. 11+87.25	
PI Sta. 11+94.61	
$\Delta = 87' 52' 30.7''$ (RT)	
D = 750' 00' 00.0"	
L = 11.72'	
T = 7.36'	
R = 7.64'	
PT Sta. 11+98.97	



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PROJECT REFERENCE NO. <b>W-5307</b>	SHEET NO. <b>5</b>
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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