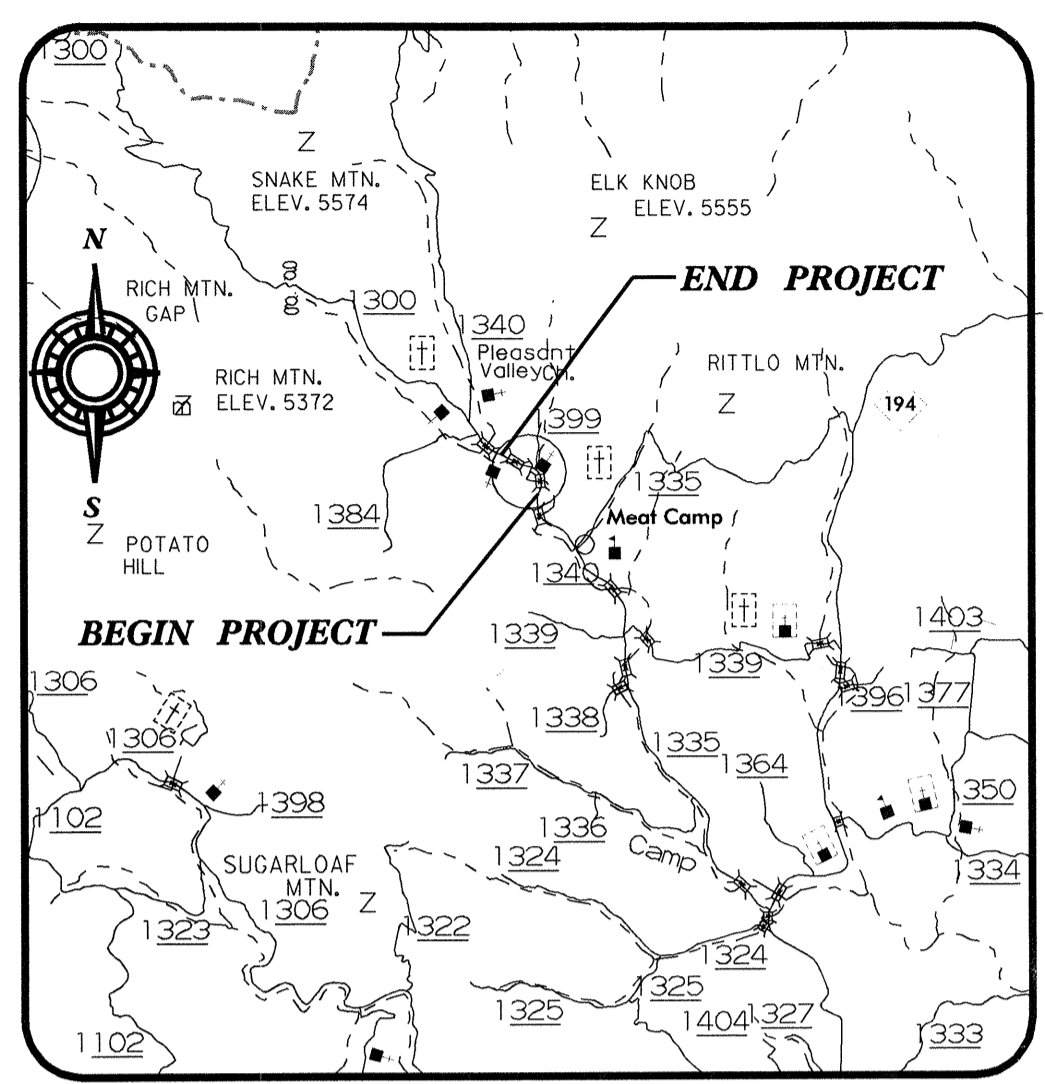


CONTRACT: C201509 PROJECT: B-3926

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



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

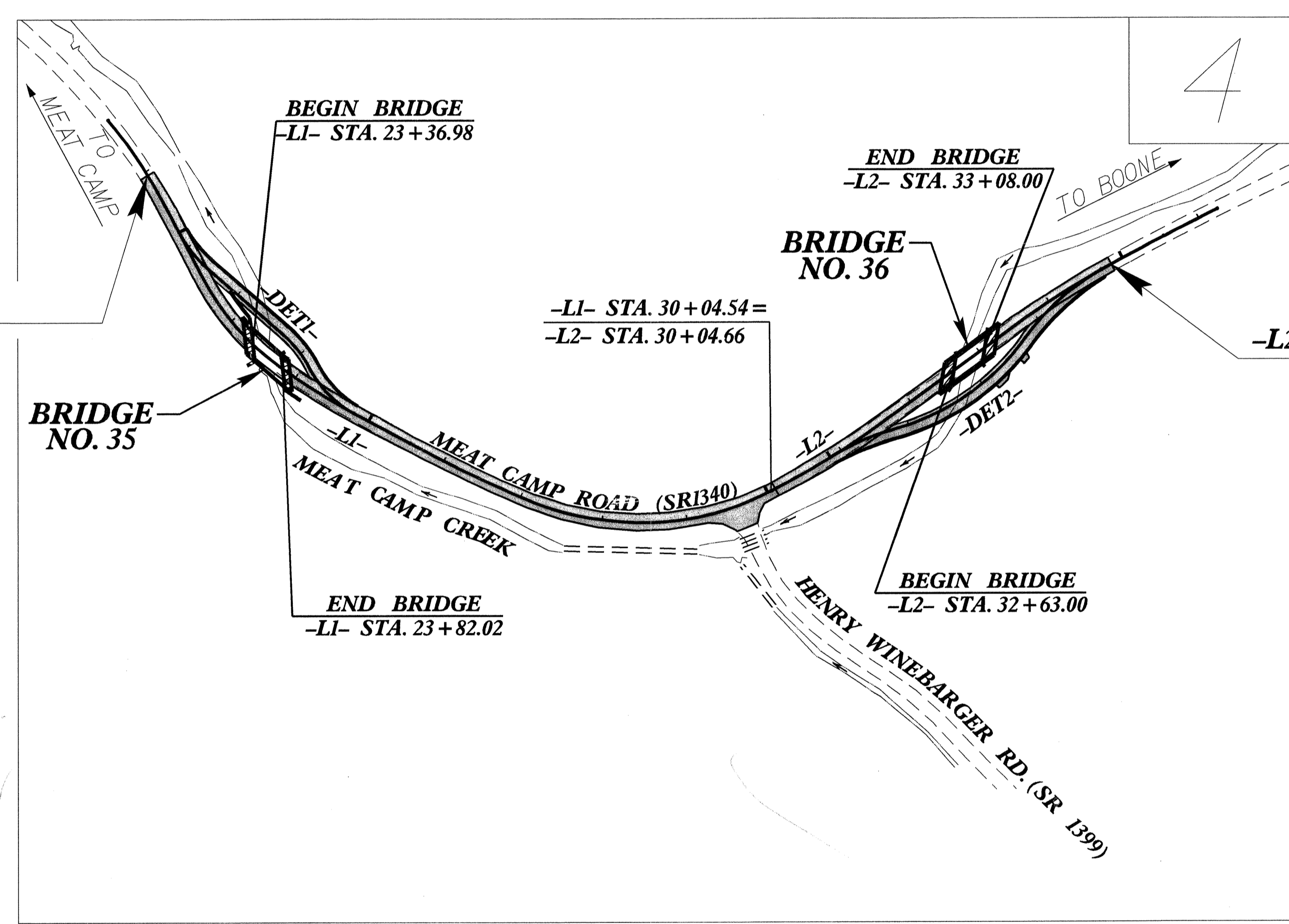
WATAUGA COUNTY

LOCATION: Replace Bridges No. 35 & No. 36 & approaches on SR 1340, Meat Camp Road, over Meat Camp Creek

TYPE OF WORK: GRADING, DRAINAGE, STRUCTURES & PAVING

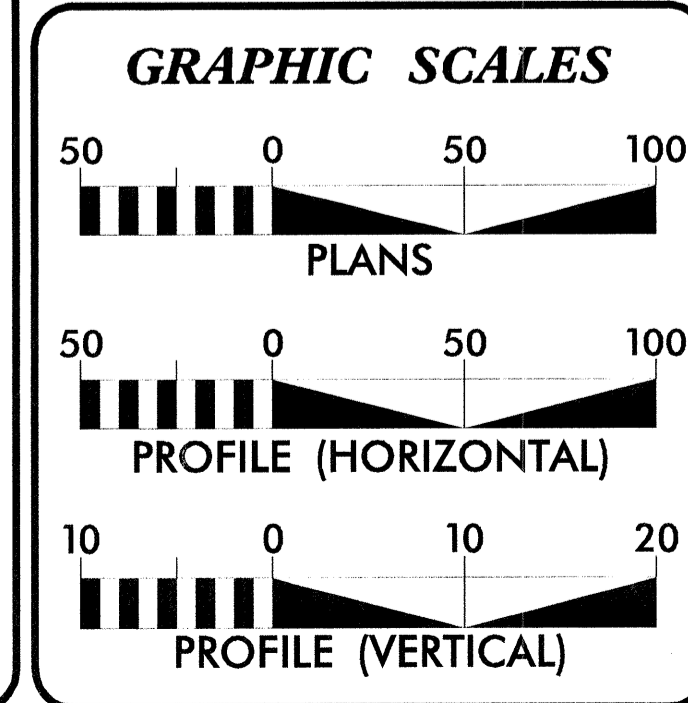
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3926	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33360.1.1	BRZ-1340 (4)	PE,UTL	
33360.2.1	BRZ-1340 (7)	R/W	
33360.3.1	BRZ-1340 (8)	CONSTR.	

-L1- STA. 21+05.00 BEGIN TIP PROJECT B-3926



-L2- STA. 34+85.00 END TIP PROJECT B-3926

DESIGN EXCEPTION REQUIRED FOR THE HORIZONTAL ALIGNMENT



DESIGN DATA

ADT 2005 = 980
ADT 2025 = 1,400
DHV = 15 %
D = 60 %
* T = 3 %
V = 30 MPH
* (1 % TTST & 2% DUAL)

PROJECT LENGTH

Length Roadway TIP Project B-3926.....	0.244 mi.
Length Structure TIP Project B-3926.....	0.017 mi.
Total Length of TIP Project B-3926	0.261 mi.

PLANS PREPARED BY :
RUMMEL, KLEPPER & KAHL, LLP
consulting engineers
5800 FARRINGTON PLACE, SUITE 105
RALEIGH, NORTH CAROLINA 27609
(919) 878-9560

DIVISION OF HIGHWAYS

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: July 31, 2003

LETTING DATE: May 16, 2006

B. Keith Skinner, P.E.
PROJECT ENGINEER

Michael T. Merritt, P.E.
PROJECT DESIGN ENGINEER

B. Doug Taylor, P.E.
NCDOT CONTACT: Project Engineer-Roadway Design Unit

HYDRAULICS ENGINEER

SEAL 18181

1/25/06

ROADWAY DESIGN ENGINEER

SEAL 18181

1/25/06

ROADWAY DESIGN ENGINEER

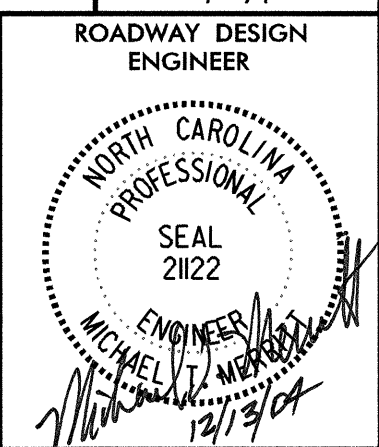
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

cat miller P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

DATE



GENERAL NOTES: 2002 SPECIFICATIONS
EFFECTIVE: 01-15-02
REVISED: 05-14-03

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. (SPECIFY METHOD II OR III.)

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE AREAS IN THE PLANS DESIGNATED SAFETY CLEARING. THE LIMITS ARE AS SHOWN AND THE CLEARING AND GRUBBING IS CONSIDERED A PART OF THE LUMP SUM ITEM FOR "CLEARING AND GRUBBING".

SUPERELEVATION:
ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 OR 225.05 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 AND EARTH SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 OR 560.02.

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 DETAILS IN PLANS USING 3'/900 MM RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE 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.

TEMPORARY SHORING:
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING" OR "TEMPORARY SHORING-BARRIER SUPPORTED" DEPENDING UPON THE LOCATION OF THE SHORING.

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
POWER - BLUE RIDGE ELECTRIC MEMBERSHIP COOPERATIVE (BREMCO)
TELEPHONE - BELLSOUTH
CABLE - CHARTER COMMUNICATIONS
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS. THE FOLLOWING NOTE WHEN UTILITY CONSTRUCTION PLANS ARE INCLUDED IN THE PROJECT.)

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

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2-2A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DETOUR ALIGNMENTS -DET1- AND DET2- PLAN SHEET
2-C	WALL ENVELOPE PLAN SHEET
2-D THRU 2-E2	REINFORCED BRIDGE APPROACH FILLS DETAIL
2-F	DROP INLET INSTALLATION IN EXPRESSWAY GUTTER DETAIL
2-G THRU 2-J	GUARDRAIL INSTALLATION DETAIL
2-K THRU 2-L1	STRUCTURE ANCHOR UNITS DETAIL
2-M	STRUCTURE ANCHOR UNITS DETAIL, TYPE III SHOP CURVED
2-N	TEMPORARY FABRIC WALL DETAIL
2-O	ROCK EMBANKMENT DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES AND SUMMARY OF GUARDRAIL
3-B	SUMMARY OF EARTHWORK, ROW, AND PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5 THRU 6	PROFILE SHEET
TCP-1 THRU TCP-8	TRAFFIC CONTROL PLANS
PM-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-6	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
UC-1 THRU UC-2	UTILITIES CONSTRUCTION PLANS
UD-1 THRU UD-2	UTILITY BY OTHERS PLANS
X-0	CROSS SECTION SUMMARY
X-1 THRU X-21	CROSS-SECTIONS
S-1 THRU S-36	STRUCTURE PLANS

ROADWAY ENGLISH STANDARD DRAWINGS
EFF. 01-15-02
REV.04-07-04

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 15, 2002 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 - Method 'A'
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
806.02	Granite Right-of-Way Marker
820.04	Drain Installation in Shoulder Berm Gutter
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.71	Concrete and Brick Pipe Plug
846.01	Concrete Curb, Gutter and Curb & Gutter
862.01	Guardrail Placement
876.02	Guide for Rip Rap at Pipe Outlets

5/28/04

12/31/04 08:58:30
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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	○
Property Corner	-----
Property Monument	□
Parcel/Sequence Number	⑫③
Existing Fence Line	-----
Proposed Woven Wire Fence	-----
Proposed Chain Link Fence	-----
Proposed Barbed Wire Fence	-----
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing High Quality Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----

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	-----
River Basin Buffer	-----
Flow Arrow	-----
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
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	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	C
Proposed Slope Stakes Fill	F
Proposed Wheel Chair Ramp	WCR
Curb Cut for Future Wheel Chair Ramp	CCFR
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	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	□
Paved Ditch Gutter	-----
Storm Sewer Manhole	○
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	-----

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	-----

SANITARY SEWER:

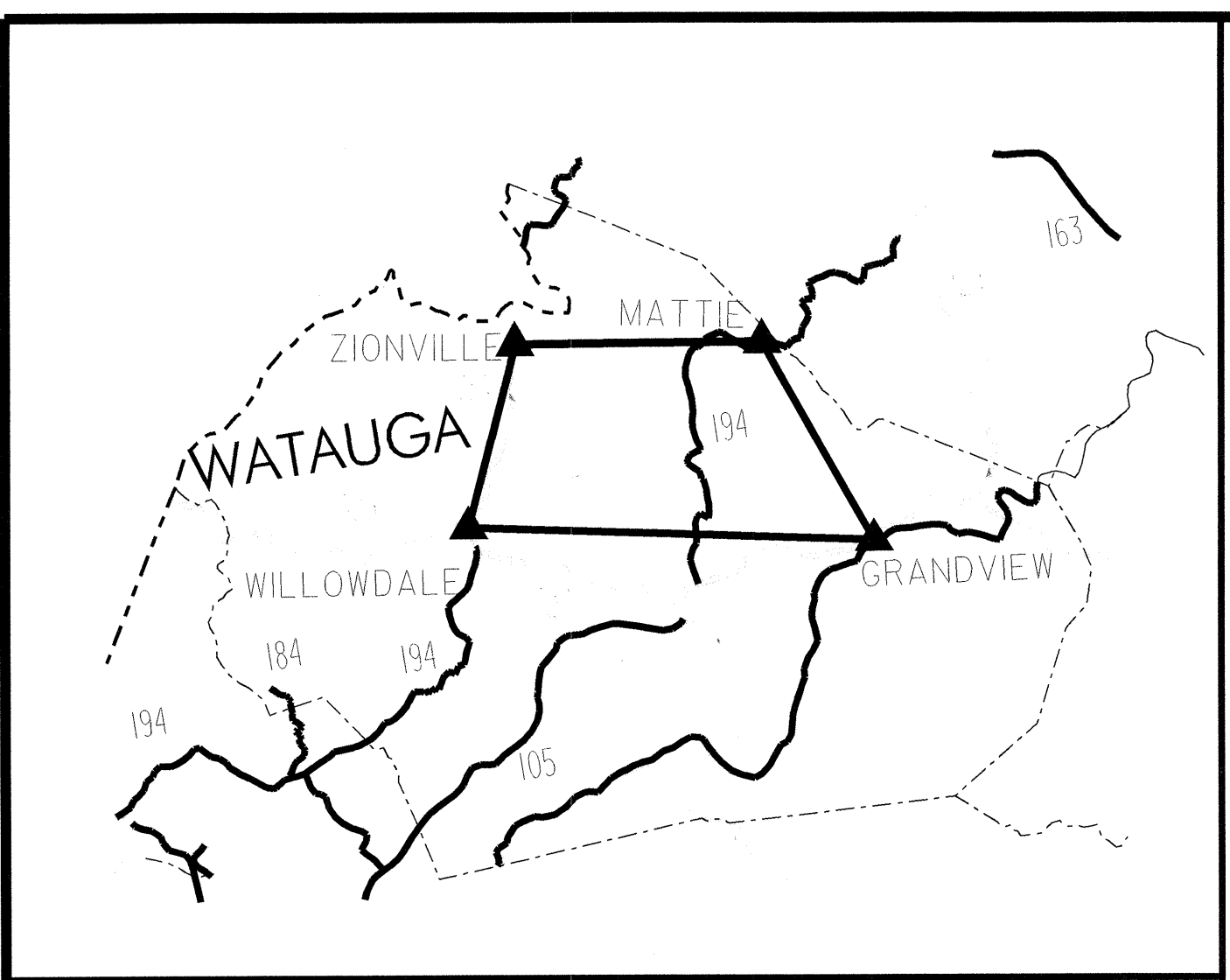
Sanitary Sewer Manhole	○
Sanitary Sewer Cleanout	○
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
Recorded SS Forced Main Line	-----
Designated SS Forced Main Line (S.U.E.*)	-----

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	-----
A/G Tank; Water, Gas, Oil	-----
U/G Test Hole (S.U.E.*)	○
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-3926

PROJECT REFERENCE NO.	SHEET NO.
33360.1.1	1 C
LOCATION AND SURVEYS	



GPS CONTROL NETWORK

▲ NC DOT GPS STATION B3926-1
 LOCALIZED PROJECT COORDINATES
 N = 938351.5221
 E = 1211230.5100

▲ NC DOT GPS STATION B3926-2
 LOCALIZED PROJECT COORDINATES
 N = 938981.9179
 E = 1210785.7080

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L1 STATION	OFFSET
102	GPS 3926-2		938981.9179	1210785.7080	3424.34	OUTSIDE PROJECT LIMITS	
2	BL-2		939282.1612	1210178.1943	3478.34	OUTSIDE PROJECT LIMITS	
3	BL-3		939526.8579	1210011.1724	3478.53	OUTSIDE PROJECT LIMITS	
4	BL-4		939801.1707	1209969.6108	3476.29	OUTSIDE PROJECT LIMITS	
5	BL-5		940106.9617	1209994.4203	3491.34	20+70.87	16.36 LT
6	BL-6		940339.6341	1210110.6989	3500.84	23+26.03	14.01 RT
7	BL-7		940661.3831	1210073.9278	3515.43	26+46.08	15.45 RT
8	BL-8		940913.0871	1209943.8860	3524.38	29+22.02	23.60 RT

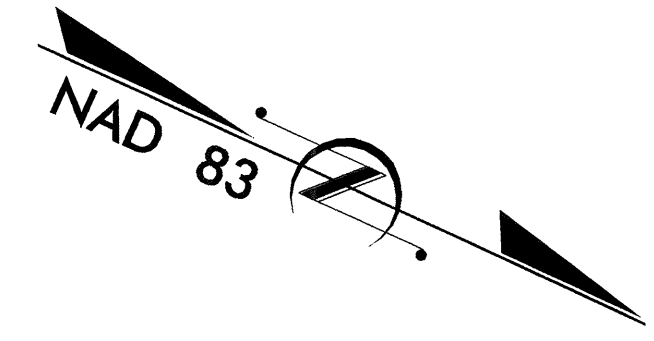
	POINT	DESC.	NORTH	EAST	ELEVATION	L2 STATION	OFFSET
9	BL-9		941025.0864	1209638.7796	3533.39	32+40.72	14.01 RT
10	BL-10		941116.0517	1209304.0572	3544.23	35+86.67	15.38 LT
11	BL-11		941253.7880	1209024.6126	3555.45	OUTSIDE PROJECT LIMITS	
14	BL-12		941377.9208	1208740.3792	3567.59	OUTSIDE PROJECT LIMITS	

BY	POINT	DESC.	NORTH	EAST	ELEVATION	L1 STATION	OFFSET
A8	BY		940913.0871	1209943.8860	3524.38	29+22.02	23.60 RT
12	12		941311.8128	1209943.2806	3563.93	OUTSIDE PROJECT LIMITS	

 BM 1 ELEVATION = 3541.98'
 N 941023 E 1209446
 L2 STATION 34+22 44 LEFT
 R/R SPIKE IN 22" LOCUST

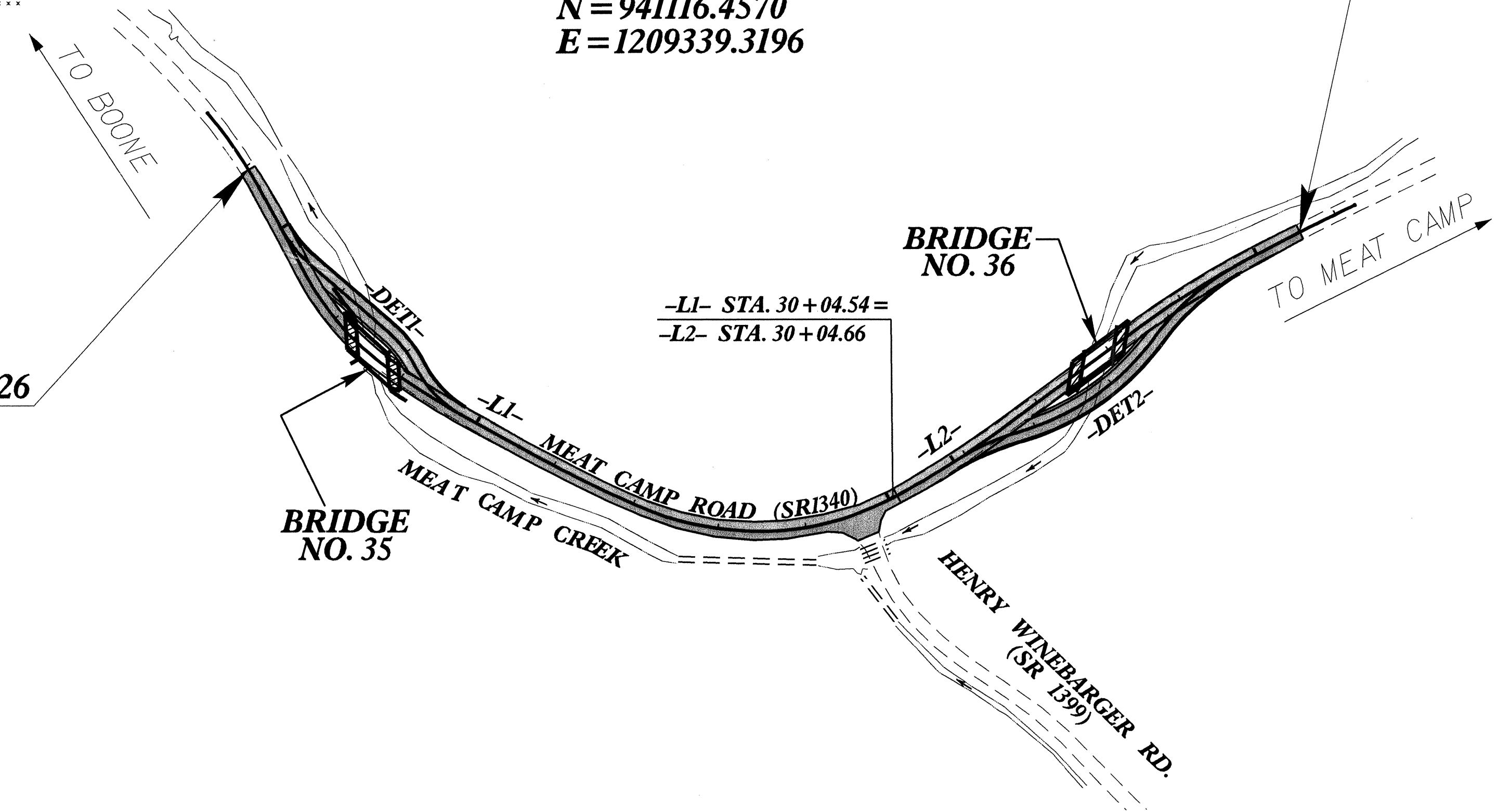
 BM 2 ELEVATION = 3477.46'
 N 939292 E 1210125
 OUTSIDE PROJECT LIMITS
 R/R SPIKE IN 25" OAK

 BM 3 ELEVATION = 3569.49'
 N 941405 E 1208798
 OUTSIDE PROJECT LIMITS
 R/R SPIKE IN 9.5" LOCUST



-L1- STA 21+05.00 BEGIN TIP PROJECT B-3926
LOCALIZED PROJECT COORDINATES
N = 940134.6317
E = 1210020.9269

-L2- STA 35+55.00 END TIP PROJECT B-3926
LOCALIZED PROJECT COORDINATES
N = 941116.4570
E = 1209339.3196



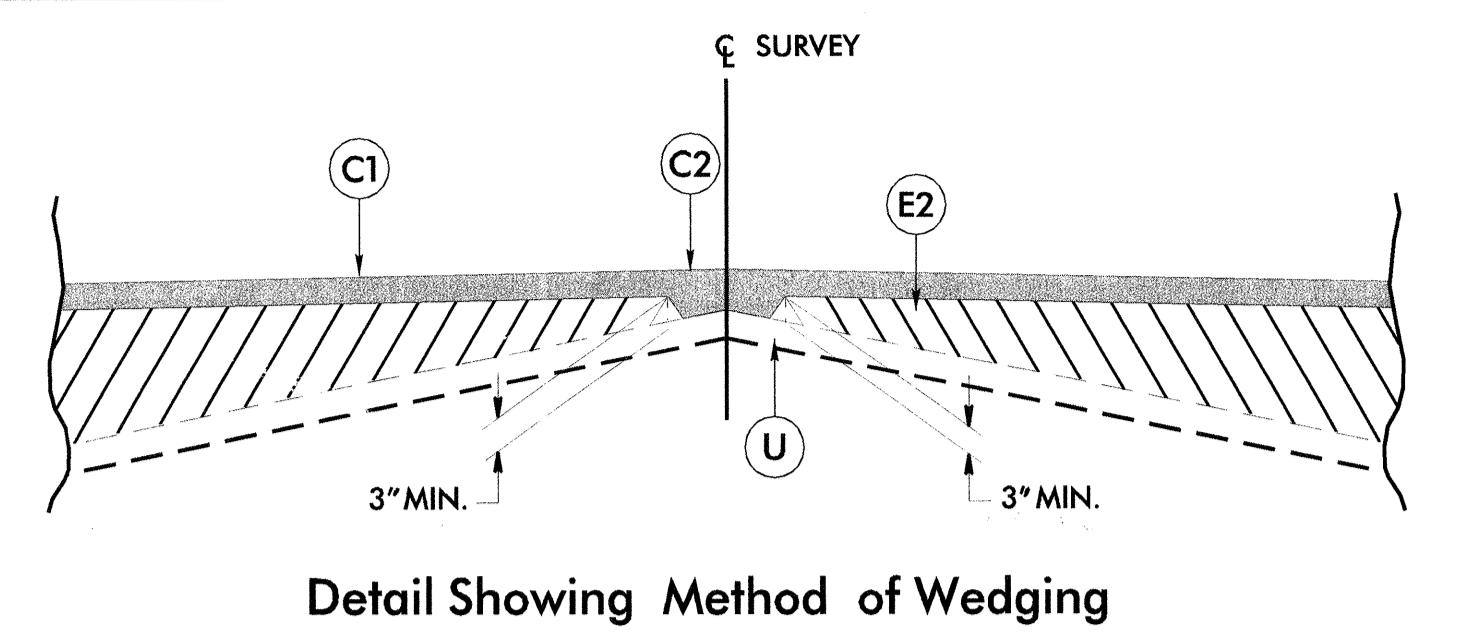
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3926-1" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 938351.5221(ft) EASTING: 1211230.5100(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99988164 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3926-1" TO L- STATION 21+05.00 IS N 34°09'05" W 2154.66' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

NOTES:
 THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project)
 THE FILES TO BE FOUND ARE AS FOLLOWS
 B3926_LS_CONTROL_040303.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.

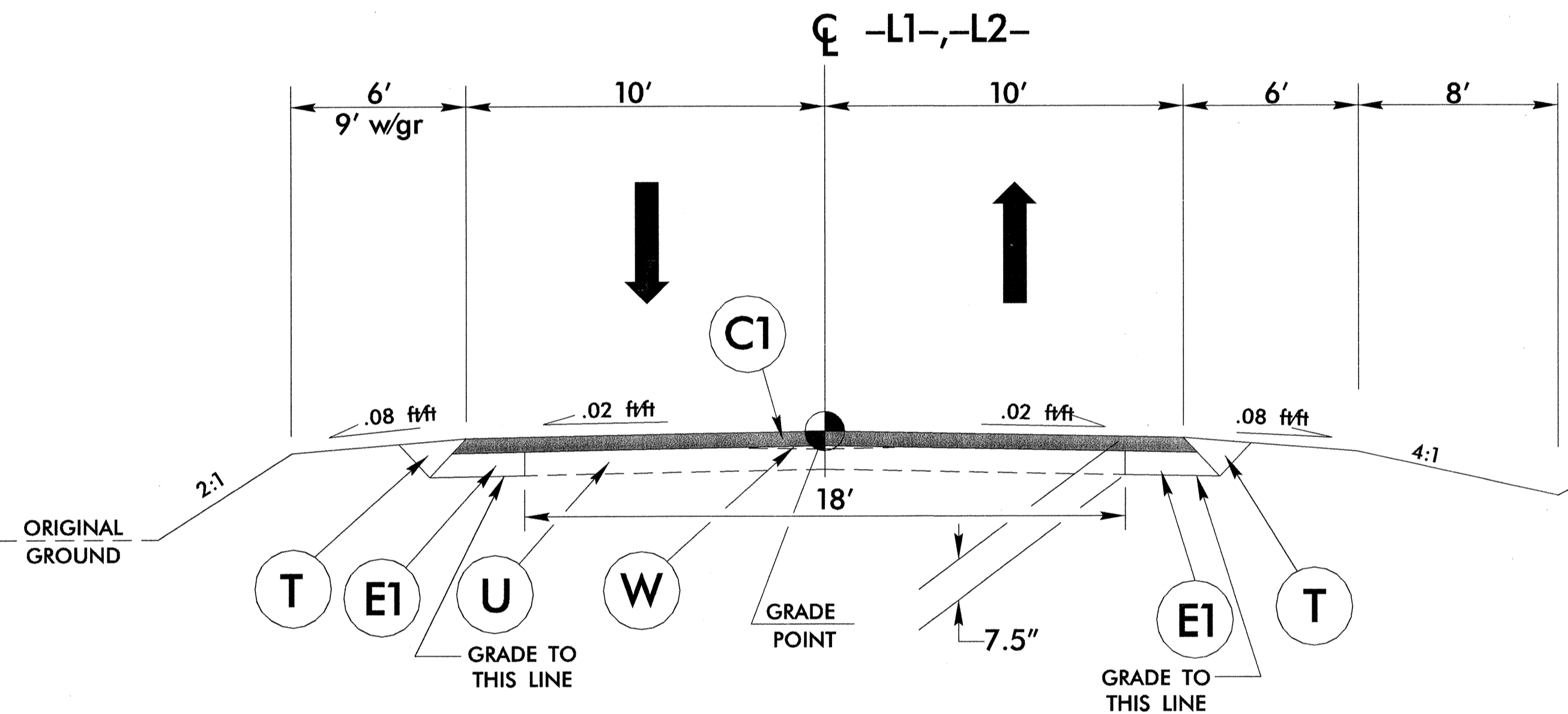
NOTE: DRAWING NOT TO SCALE

PAVEMENT SCHEDULE			
ITEM	DESCRIPTION	ITEM	DESCRIPTION
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS	R	EXPRESSWAY 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 1.5" IN DEPTH.	T	EARTH MATERIAL
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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 GREATER THAN 5.5" IN DEPTH OR LESS THAN 3" IN DEPTH.	W	WEDGING
J1	PROP. 8" AGGREGATE BASE COURSE		

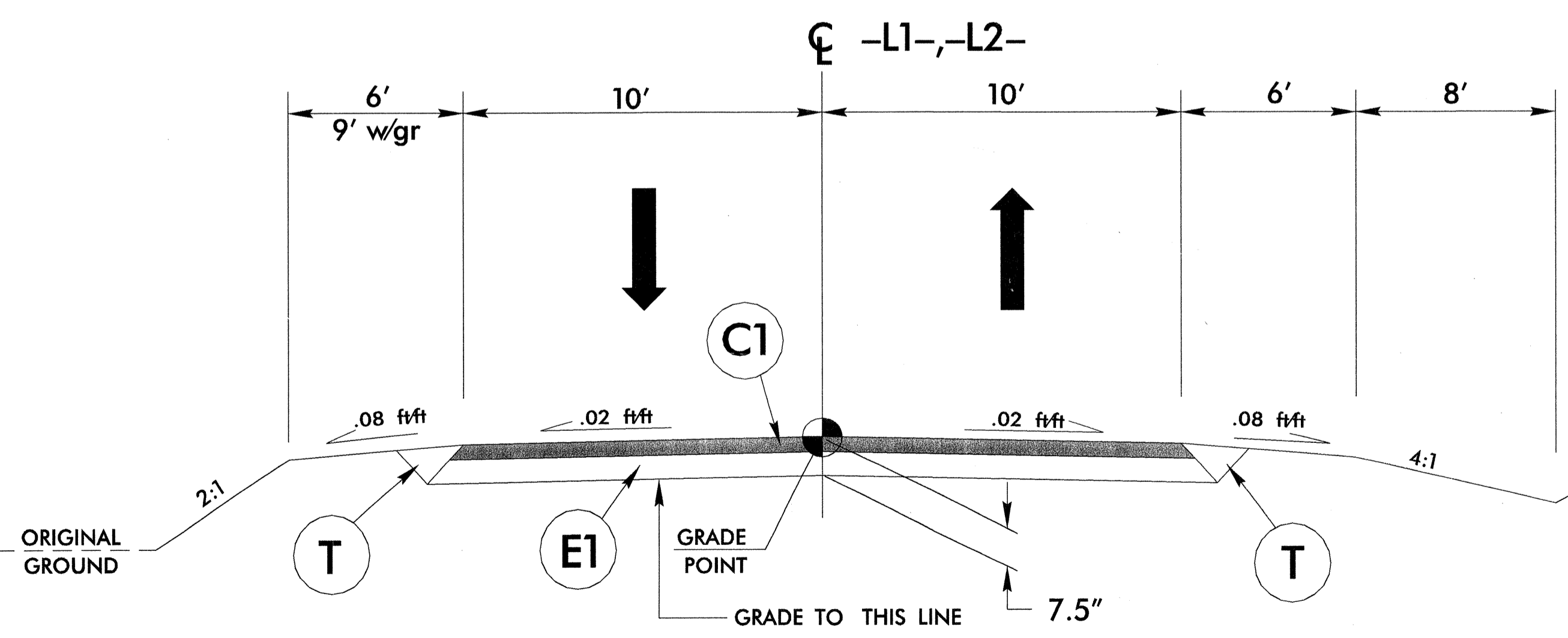


NOTE: 2.5in OVERLAY FROM -L1- STA. 25+55.00 TO STA. 30+04.54,
-L2- STA. 30+04.66 TO STA. 30+10.00, AND -L2- 34+00.00 STA. 34+85.00

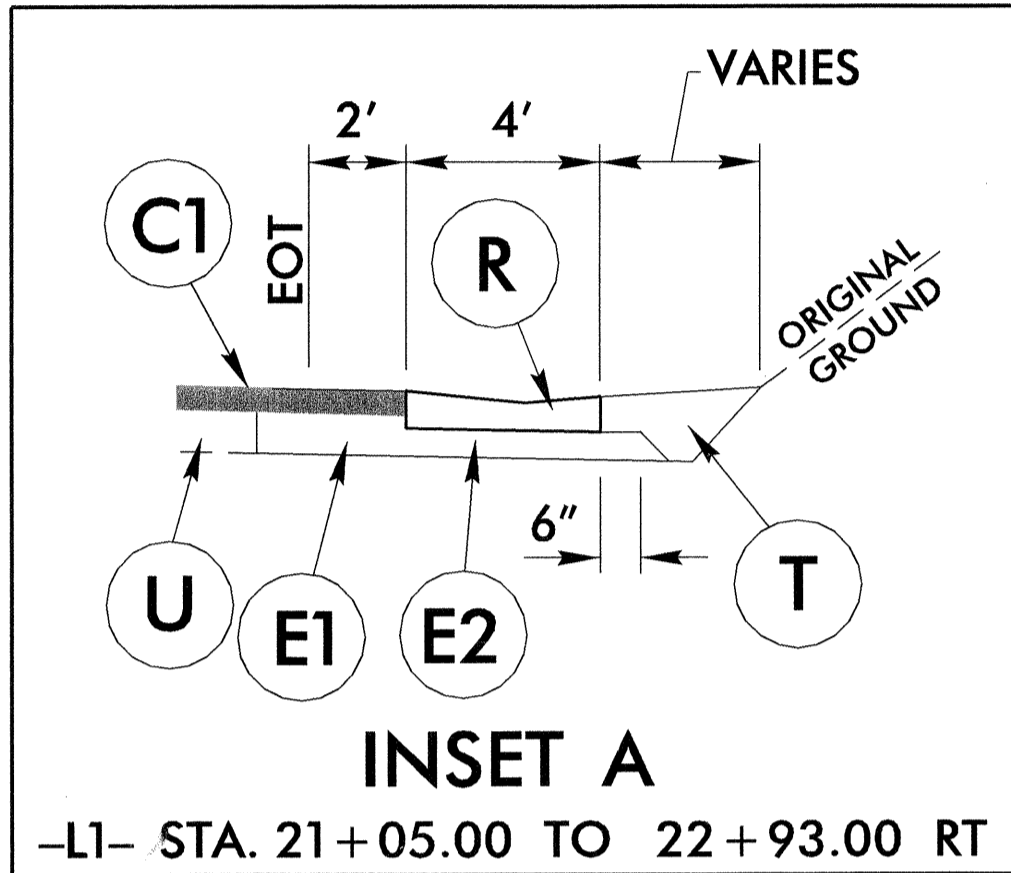
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1



ROADWAY TYPICAL SECTION No. 1

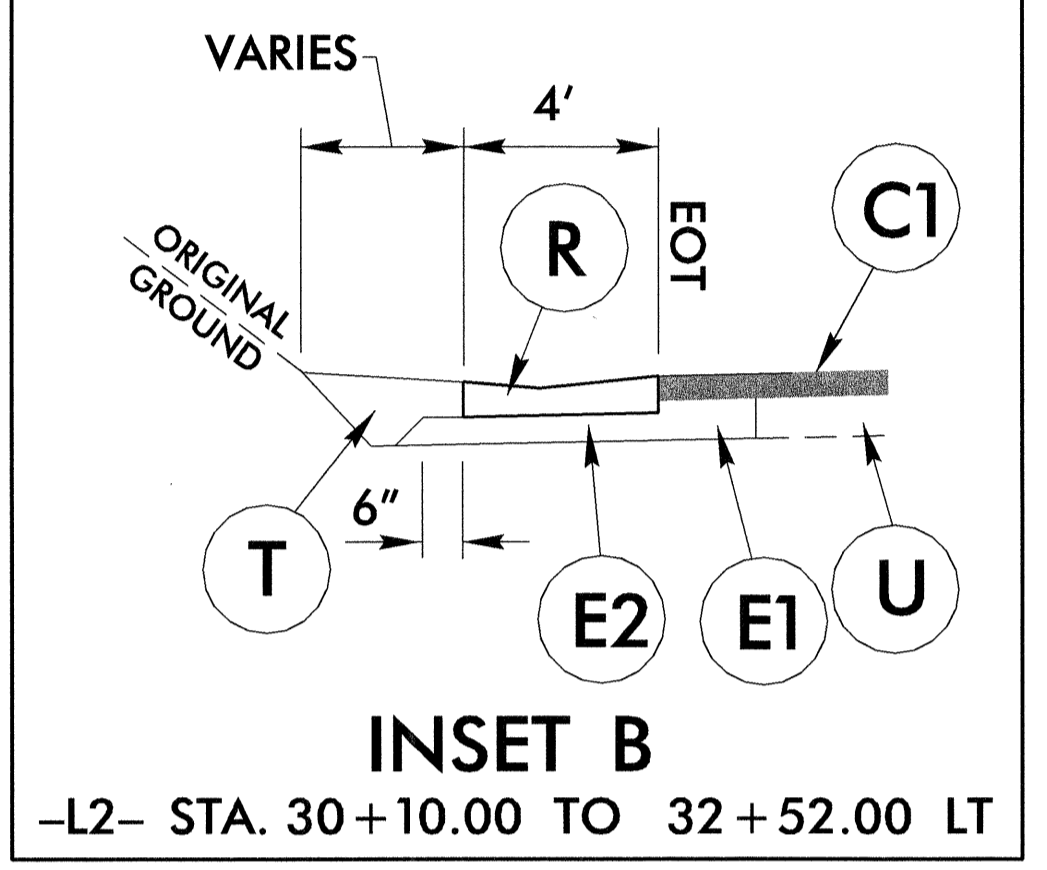


ROADWAY TYPICAL SECTION No. 2



INSET A

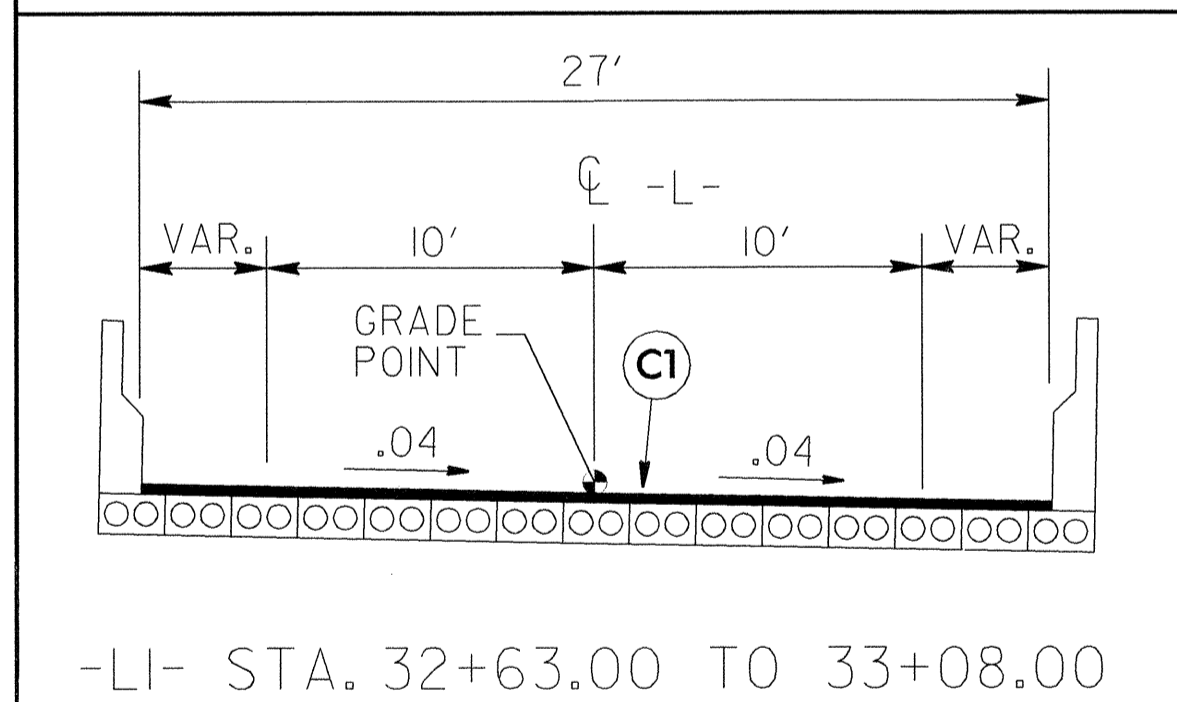
-L1- STA. 21+05.00 TO 22+93.00 RT



INSET B

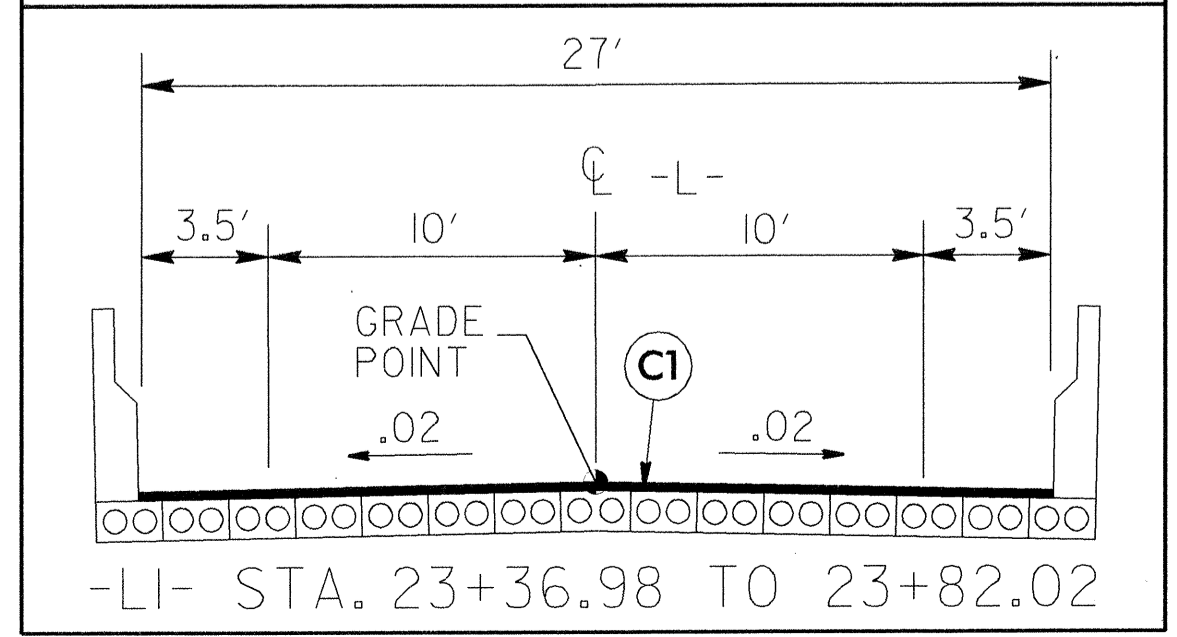
-L2- STA. 30+10.00 TO 32+52.00 LT

DETAIL OF PAVING ACROSS CORED SLAB BRIDGE



-L1- STA. 32+63.00 TO 33+08.00

DETAIL OF PAVING ACROSS CORED SLAB BRIDGE



-L1- STA. 23+36.98 TO 23+82.02

TRANSITION FROM EXISTING TO TYPICAL SECTION No. 1

-L1- STA. 21+05.00 TO 21+55.00
-L2- STA. 30+10.00 TO 30+60.00

USE TYPICAL SECTION No. 1

-L1- STA. 21+55.00 TO 22+50.00
-L1- STA. 24+50.00 TO 25+05.00
-L2- STA. 30+60.00 TO 32+00.00

TRANSITION FROM TYPICAL SECTION No. 1 TO EXISTING

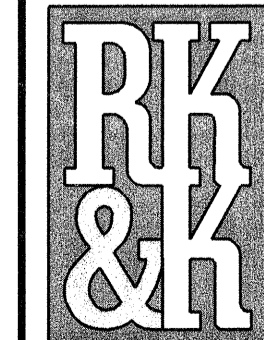
-L1- STA. 25+05.00 TO 25+55.00

USE TYPICAL SECTION No. 2

-L1- STA. 22+50.00 TO 23+36.98 (Begin Bridge)
-L1- STA. 23+82.02 (End Bridge) TO 24+50.00
-L2- STA. 32+00.00 TO 32+63.00 (Begin Bridge)
-L2- STA. 33+08.00 (End Bridge) TO 33+50.00

TRANSITION FROM TYPICAL SECTION No. 2 TO EXISTING
-L2- STA. 33+50.00 TO 34+00.00

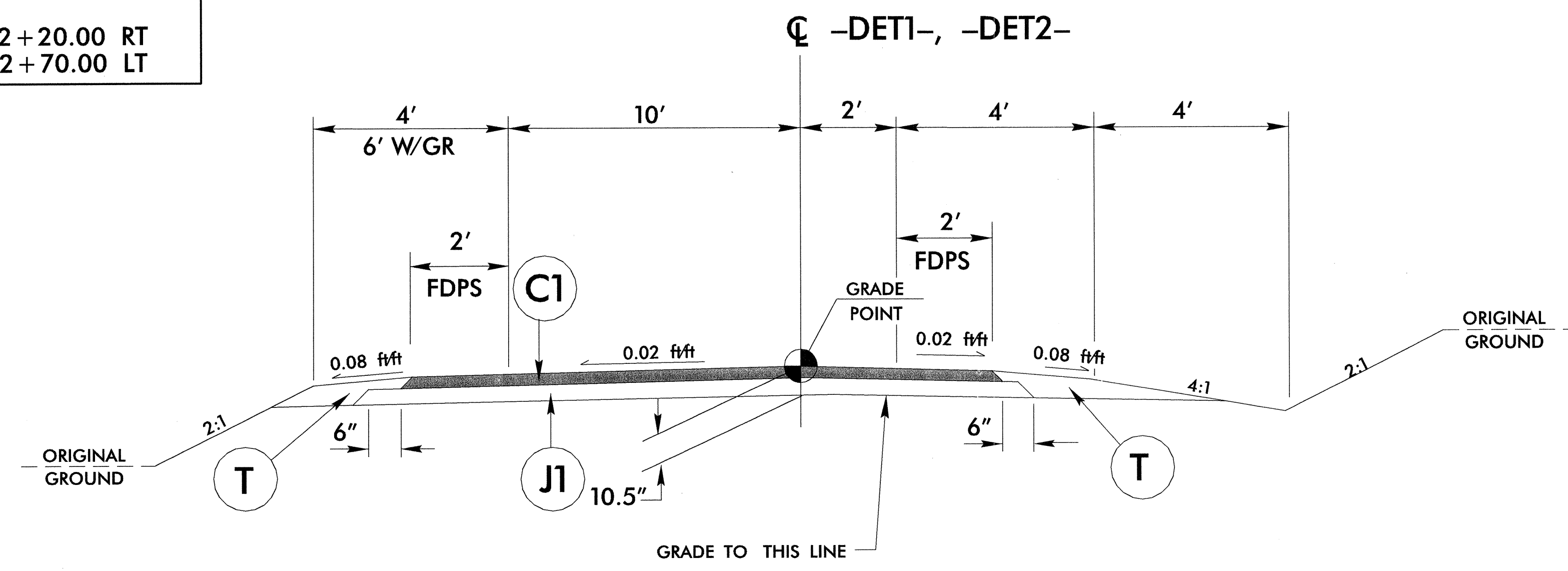
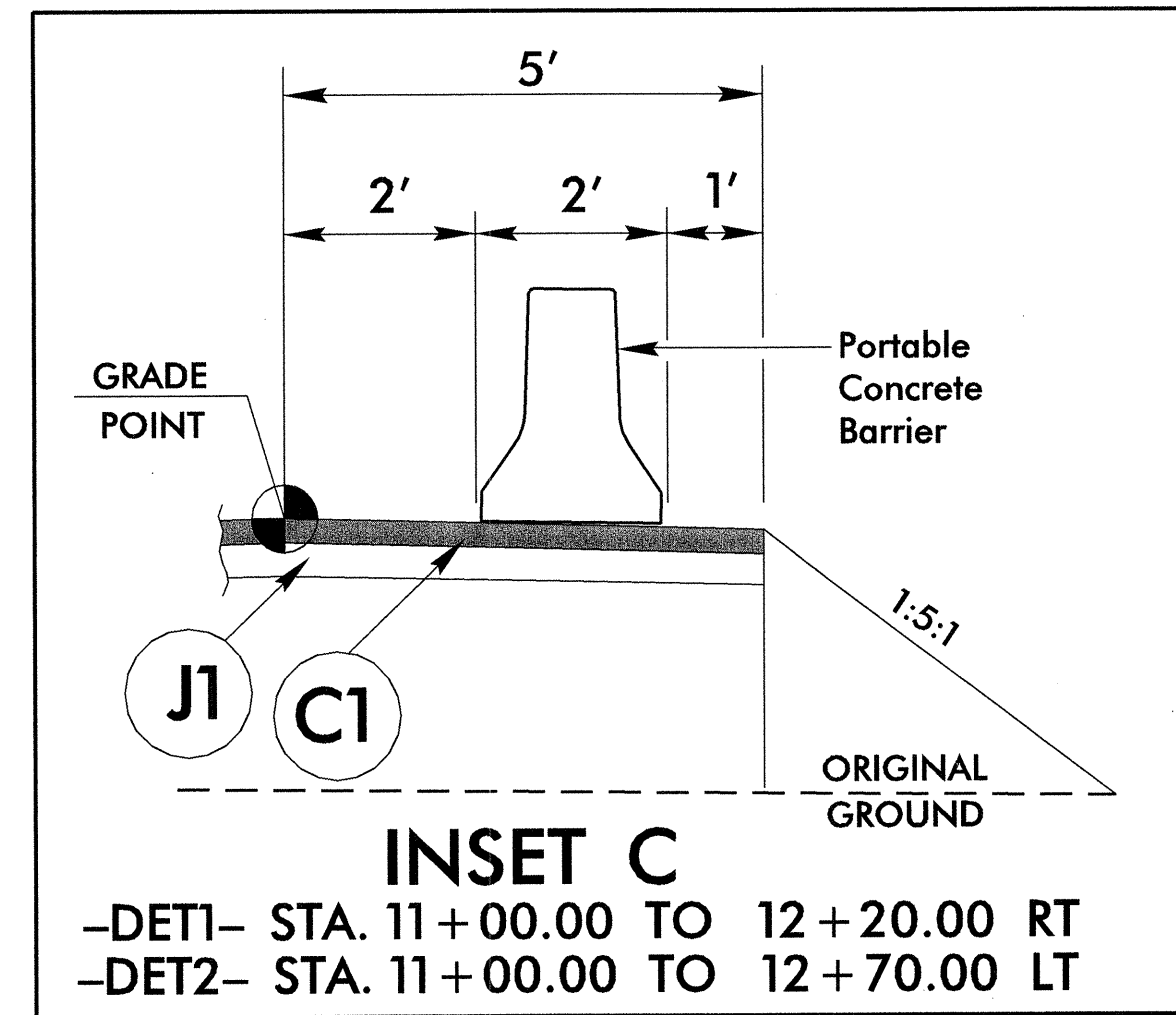
PLANS PREPARED BY :



RUMMEL • KLEPPER & KAHL, LLP
consulting engineers
5800 FARINGTON PLACE SUITE 105
RALEIGH, NORTH CAROLINA • 27609-3960
(919)-878-9560

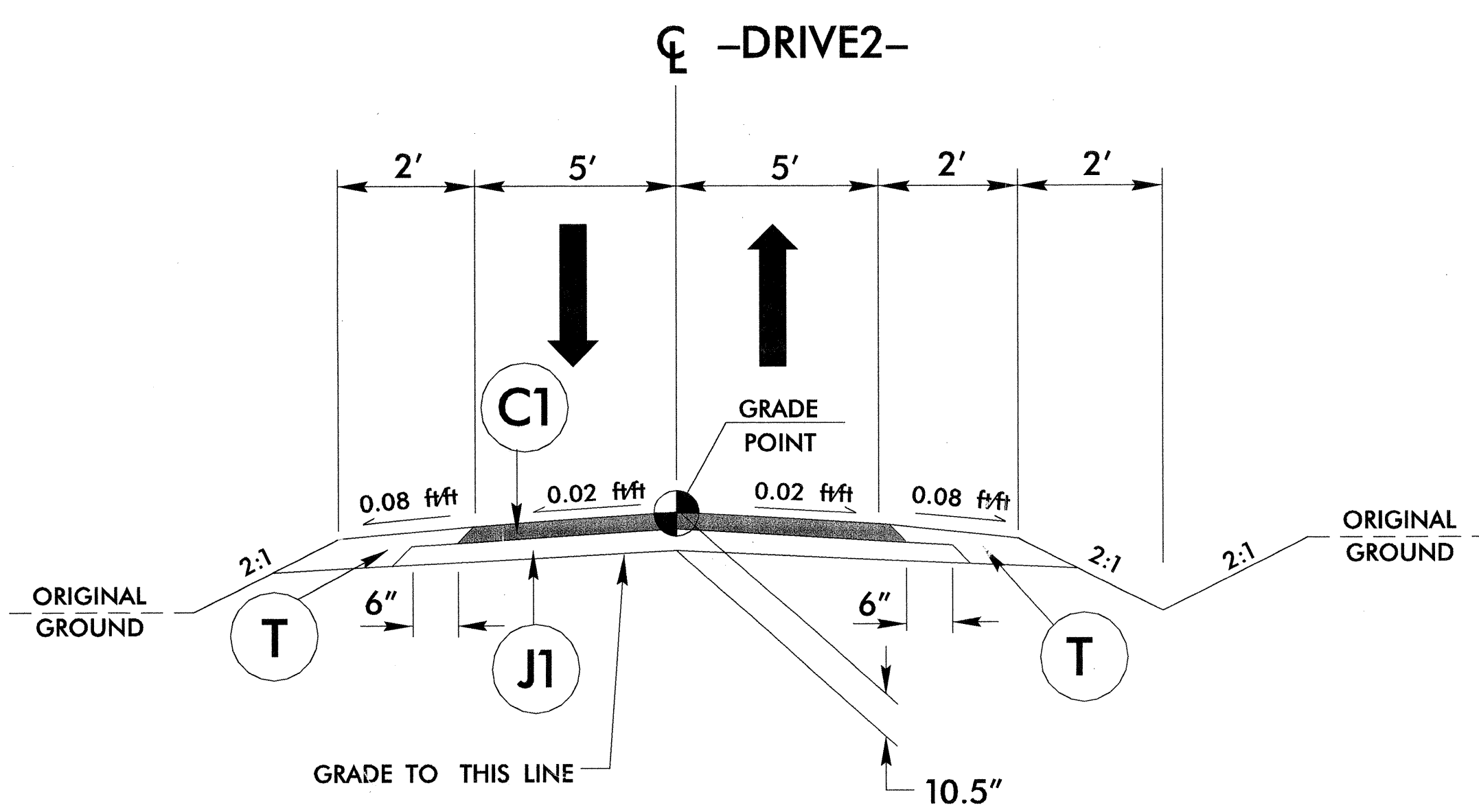
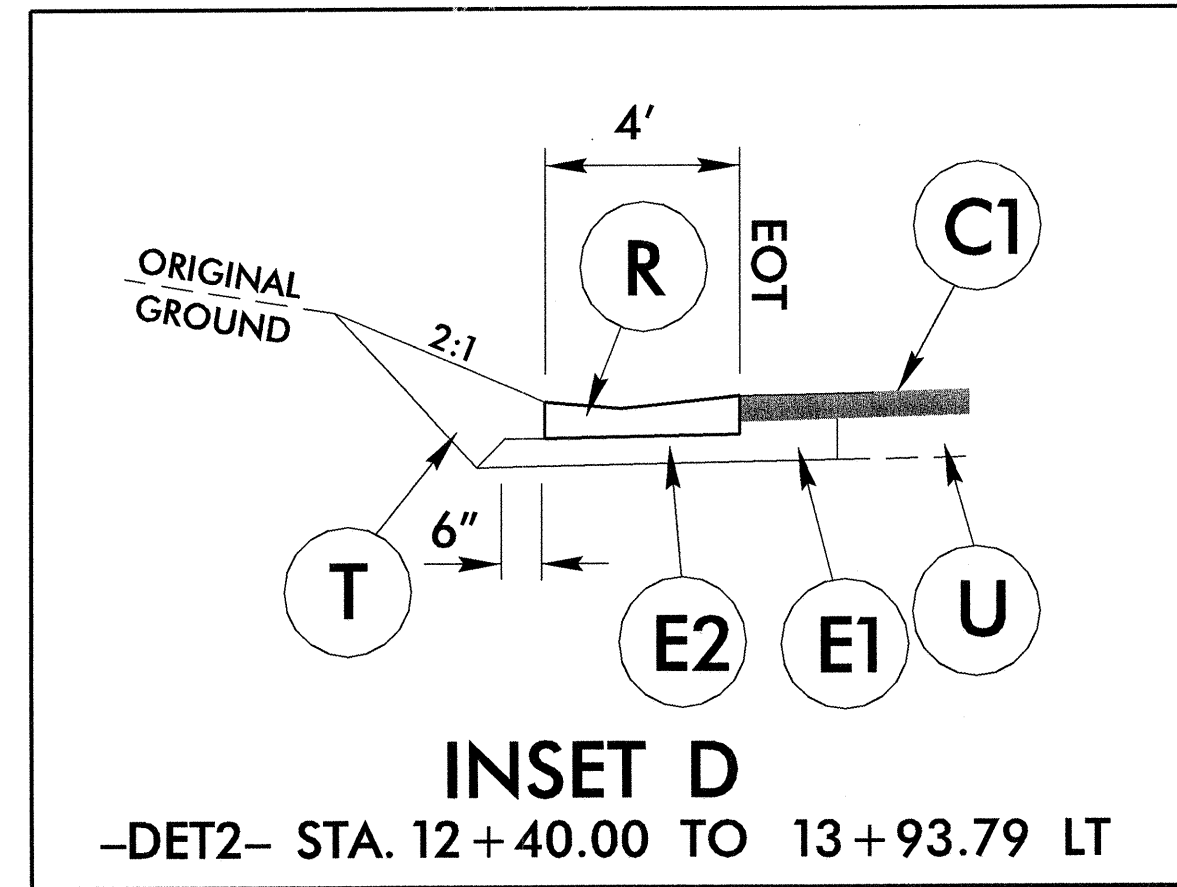
FOR
DIVISION OF HIGHWAYS

6/2/99
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TRANSITION FROM EXISTING TO TYPICAL SECTION No.3
 FROM -DET1- STA. 10+00.00 TO -DET1 STA. 10+51.07
 FROM -DET2- STA. 10+00.00 TO -DET2- STA. 10+59.59

USE TYPICAL SECTION No. 3
 -DET1- STA. 10+51.07 TO 12+45.68
 -DET2- STA. 10+59.59 TO 13+12.63



TRANSITION FROM TYPICAL SECTION No.3 TO EXISTING
 FROM -DET1- STA. 12+45.68 TO -DET1 STA. 12+95.83
 FROM -DET2- STA. 13+12.63 TO -DET2- STA. 13+93.79

USE TYPICAL SECTION No. 4
 -DRIVE2- STA. 10+13.00 TO 10+71.00

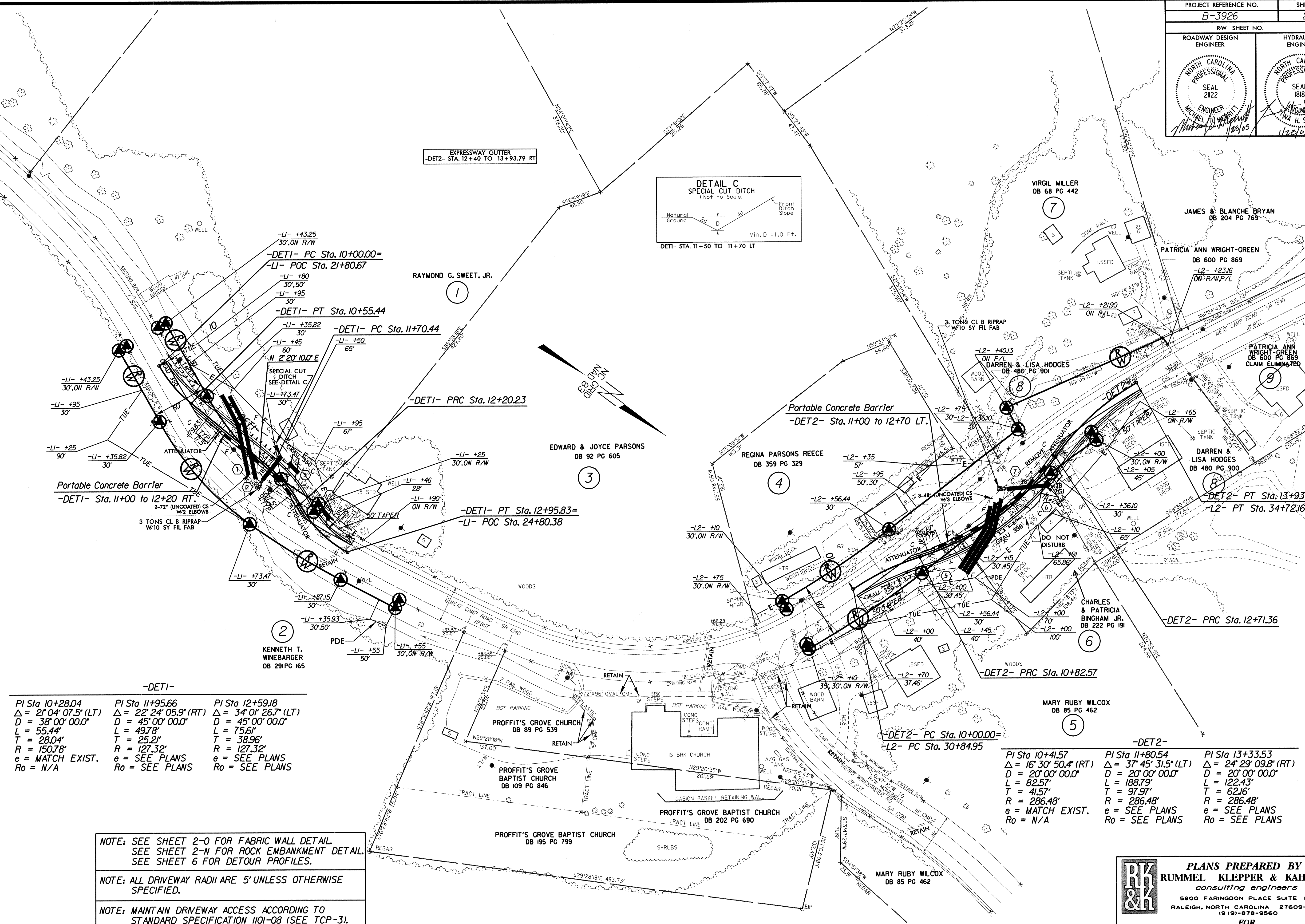
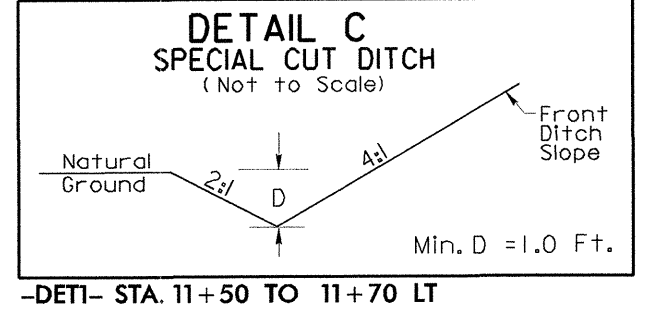
C1	2 1/2" SF9.5A
E1	5" B25.0B
E2	VAR. B25.0B
J1	8" ABC
R	EXPRESSWAY GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT

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FOR
DIVISION OF HIGHWAYS

6/27/04
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-DET1-		
PI Sta 10+28.04	PI Sta 11+95.66	PI Sta 12+59.18
$\Delta = 21^{\circ} 04' 07.5''$ (LT)	$\Delta = 22^{\circ} 24' 05.9''$ (RT)	$\Delta = 34^{\circ} 01' 26.7''$ (LT)
D = 38' 00" 00.0"	D = 45' 00" 00.0"	D = 45' 00" 00.0"
L = 55.44'	L = 49.78'	L = 75.61'
T = 28.04'	T = 25.21'	T = 38.96'
R = 150.78'	R = 127.32'	R = 127.32'
e = MATCH EXIST.	e = SEE PLANS	e = SEE PLANS
Ro = N/A	Ro = SEE PLANS	Ro = SEE PLANS

-DET2-		
PI Sta 10+41.57	PI Sta 11+80.54	PI Sta 13+33.53
$\Delta = 16^{\circ} 30' 50.4''$ (RT)	$\Delta = 37^{\circ} 45' 31.5''$ (LT)	$\Delta = 24^{\circ} 29' 09.8''$ (RT)
D = 20' 00" 00.0"	D = 20' 00" 00.0"	D = 20' 00" 00.0"
L = 82.57'	L = 188.79'	L = 122.43'
T = 41.57'	T = 97.97'	T = 62.16'
R = 286.48'	R = 286.48'	R = 286.48'
e = MATCH EXIST.	e = SEE PLANS	e = SEE PLANS
Ro = N/A	Ro = SEE PLANS	Ro = SEE PLANS

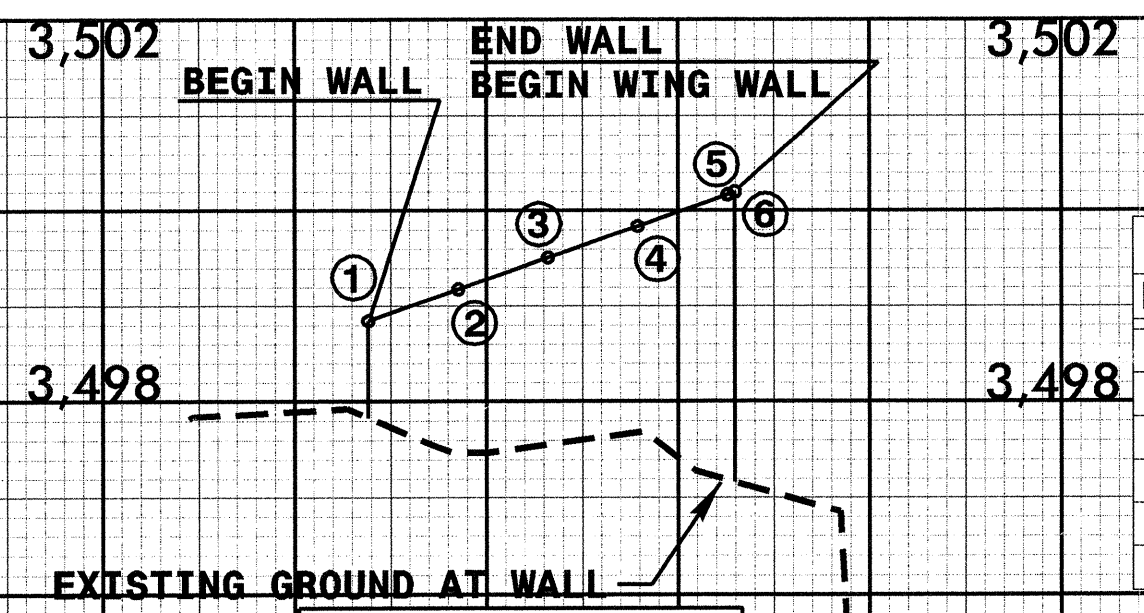
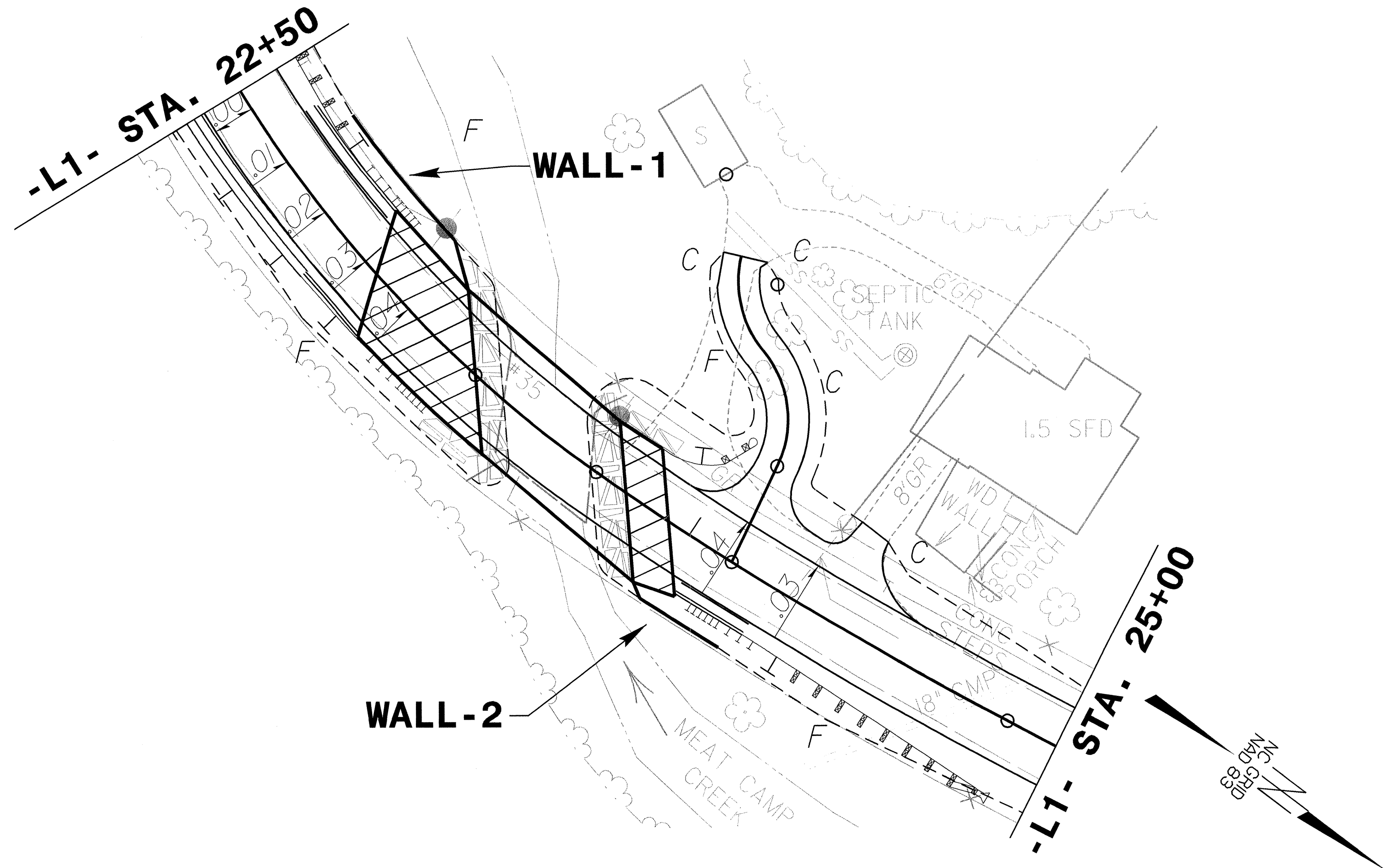
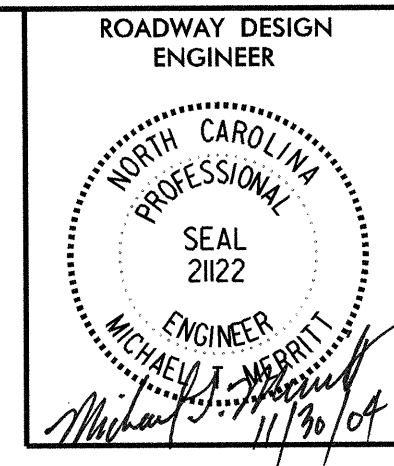
NOTE: SEE SHEET 2-0 FOR FABRIC WALL DETAIL.
SEE SHEET 2-N FOR ROCK EMBANKMENT DETAIL.
SEE SHEET 6 FOR DETOUR PROFILES.

NOTE: ALL DRIVEWAY RADII ARE 5' UNLESS OTHERWISE SPECIFIED.

NOTE: MAINTAIN DRIVEWAY ACCESS ACCORDING TO STANDARD SPECIFICATION 1101-08 (SEE TCP-3).

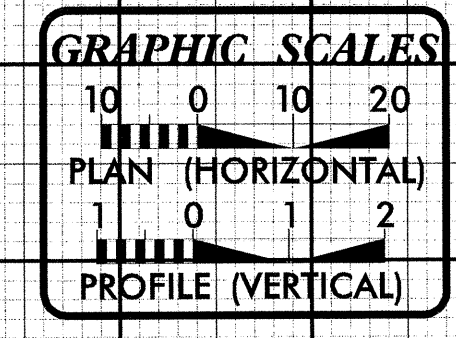
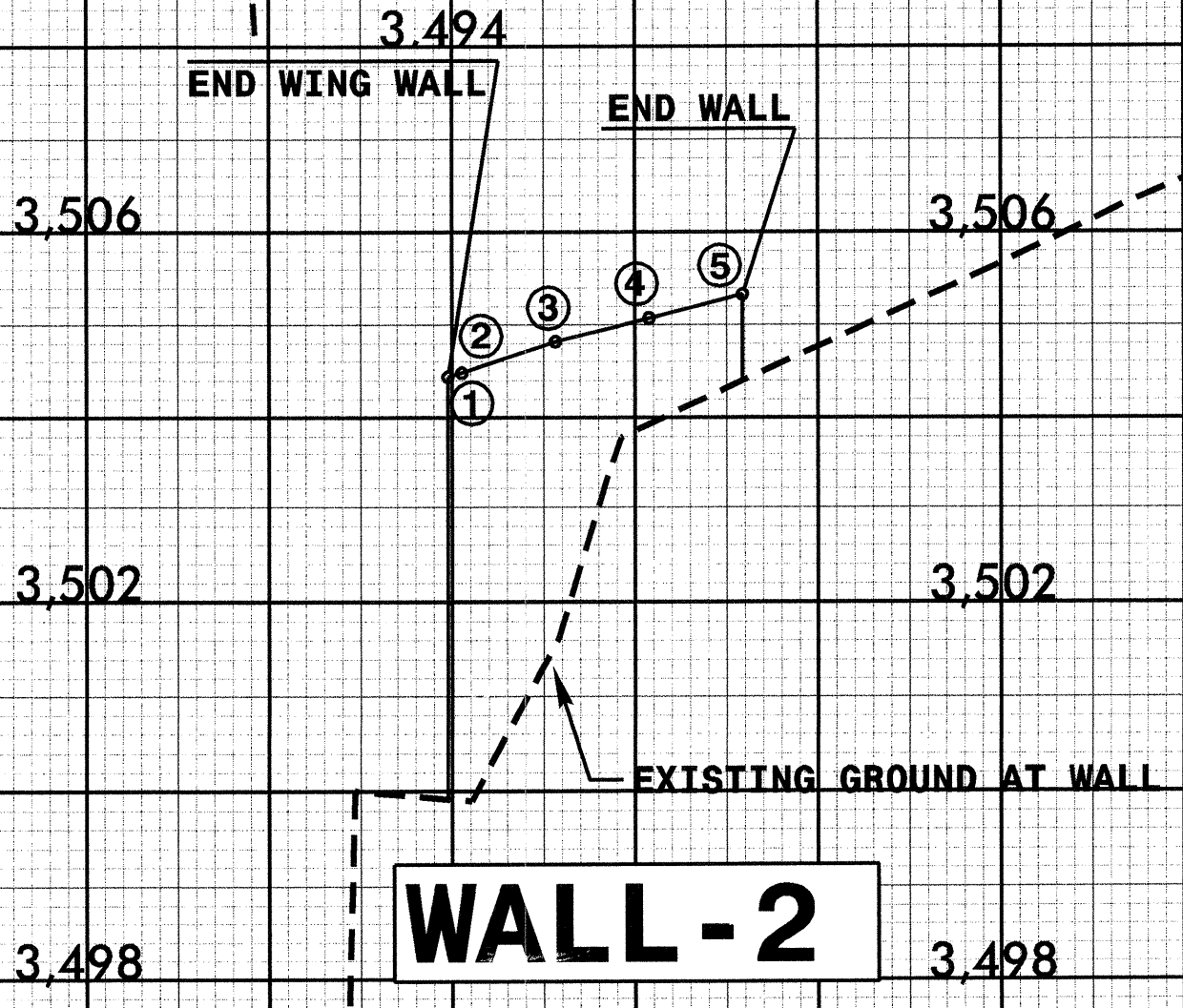
PLANS PREPARED BY :
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 FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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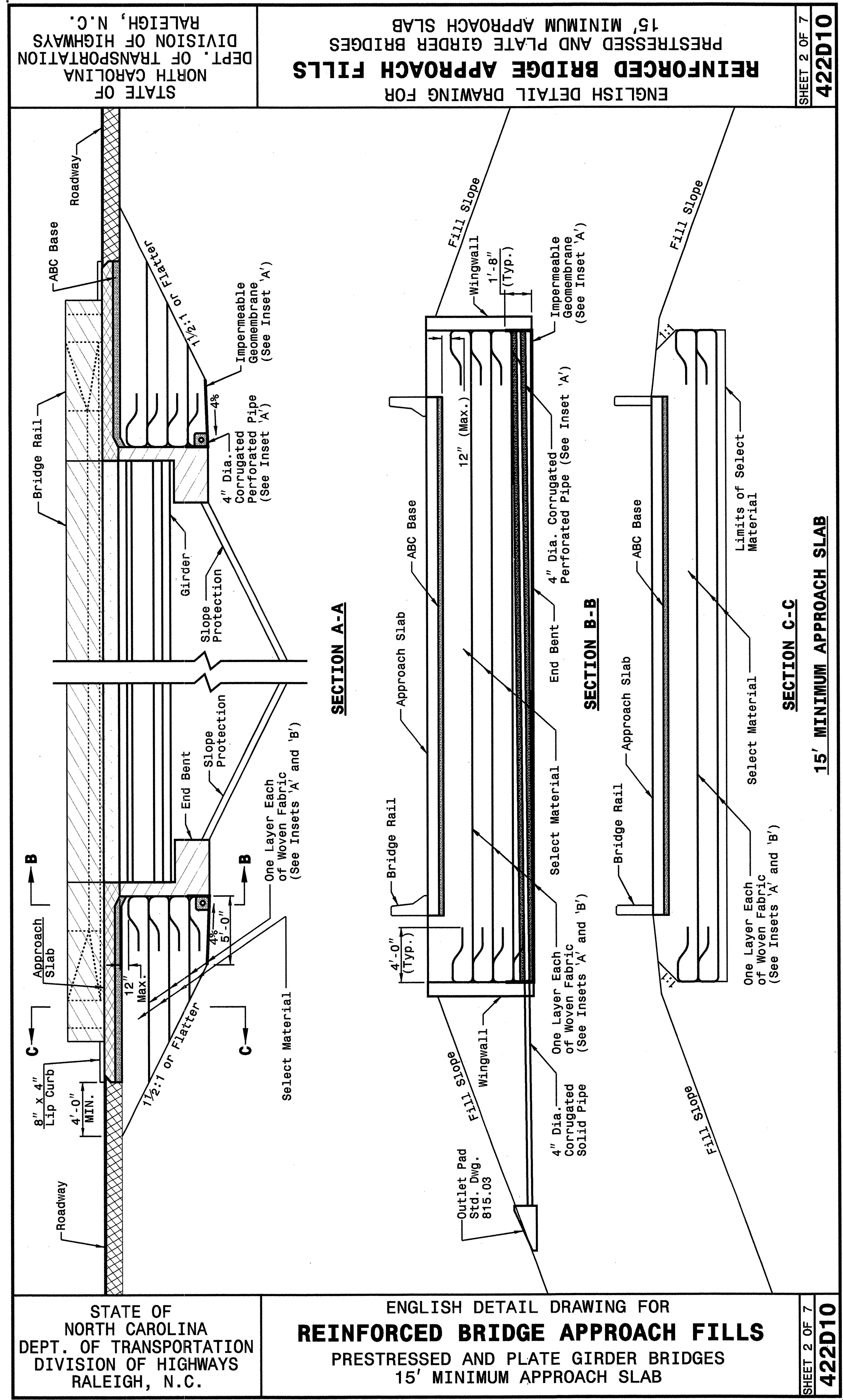
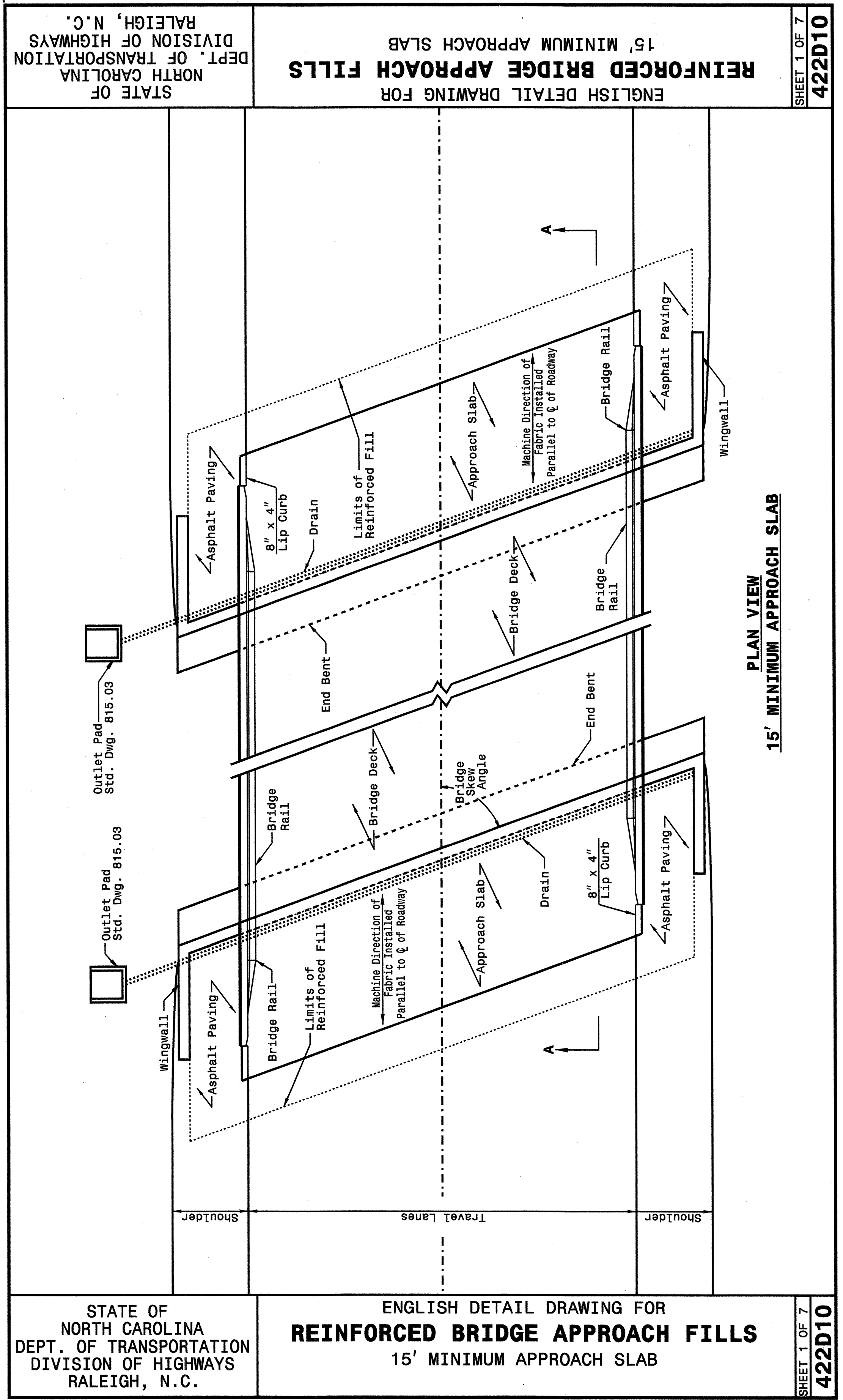
WALL-1			
PI#	-L1- STA.	-L1- OFF.	ELEVATION
1	22+70.00	-19.00'	3,498.85'
2	22+80.00	-19.00'	3,499.18'
3	22+90.00	-19.00'	3,499.51'
4	23+00.00	-19.00'	3,499.84'
5	23+10.00	-19.00'	3,500.17'
6	23+10.82	-19.00'	3,500.20'

WALL-2			
PI#	-L1- STA.	-L1- OFF.	ELEVATION
1	23+98.52	19.00'	3,504.44'
2	24+00.00	19.00'	3,504.48'
3	24+10.00	19.00'	3,504.82'
4	24+20.00	19.00'	3,505.07'
5	24+30.00	19.00'	3,505.33'



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FOR
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DIVISION OF HIGHWAYS

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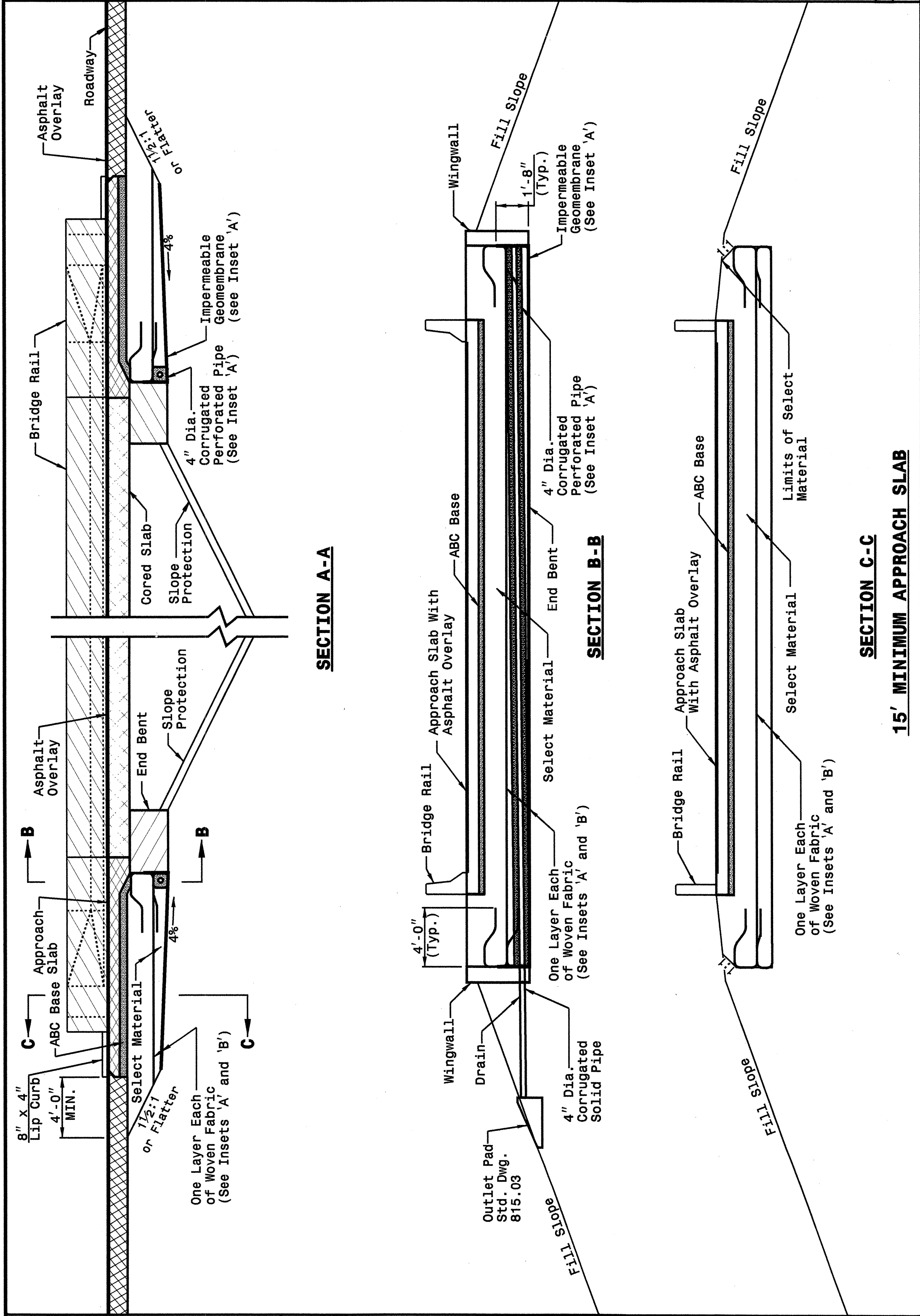
SEE PLATE FOR TITLE

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 MODIFIED BY: E.E. WARD DATE: 09-28-05
 CHECKED BY: *Joe S. Howerton* DATE: 9/29/05
 FILE SPEC.: stds/02stdstodetails/english/422d10.dgn

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

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
 CORED SLAB BRIDGES
 15' MINIMUM APPROACH SLAB

SHEET 3 OF 7
422D10



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

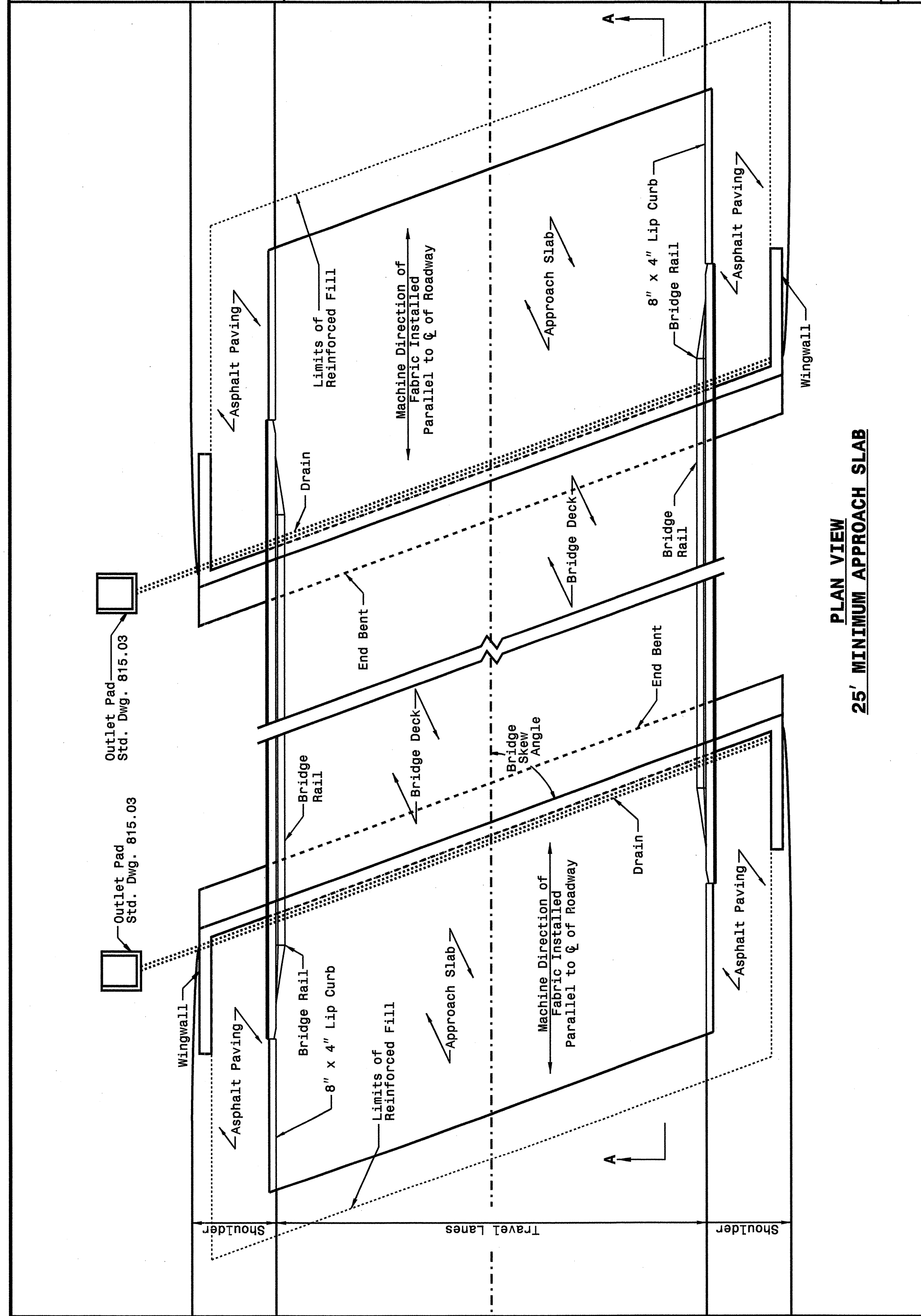
ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
 CORED SLAB BRIDGES
 15' MINIMUM APPROACH SLAB

SHEET 3 OF 7
422D10

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

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
 25' MINIMUM APPROACH SLAB

SHEET 4 OF 7
422D10

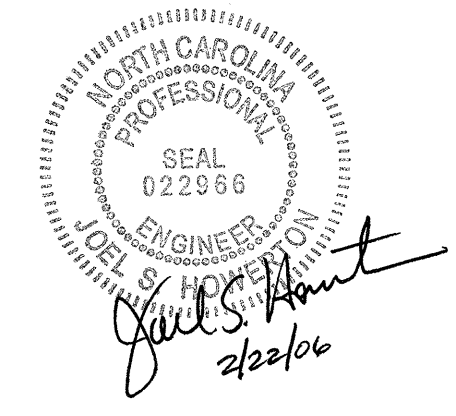


STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
 25' MINIMUM APPROACH SLAB

SHEET 4 OF 7
422D10

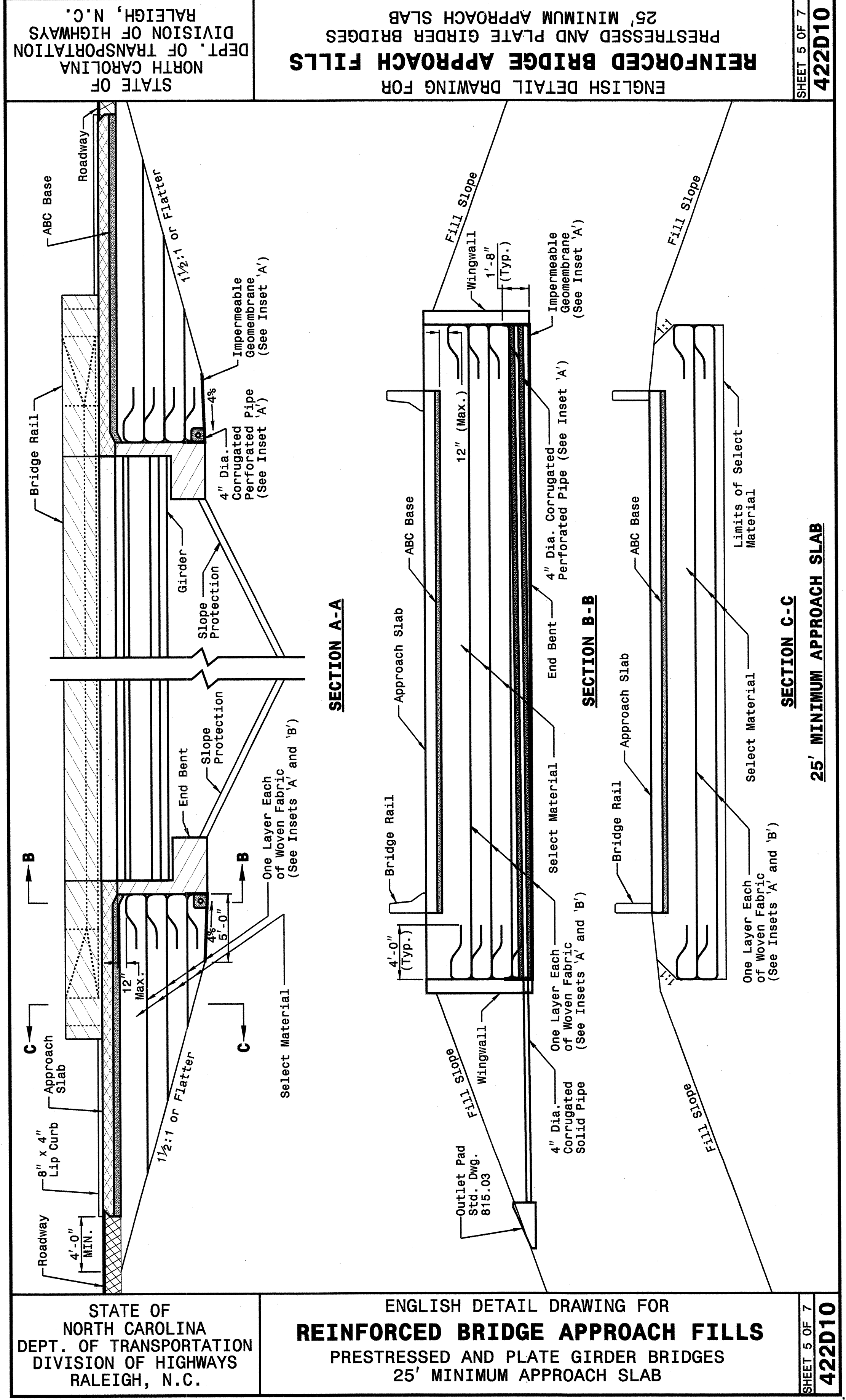
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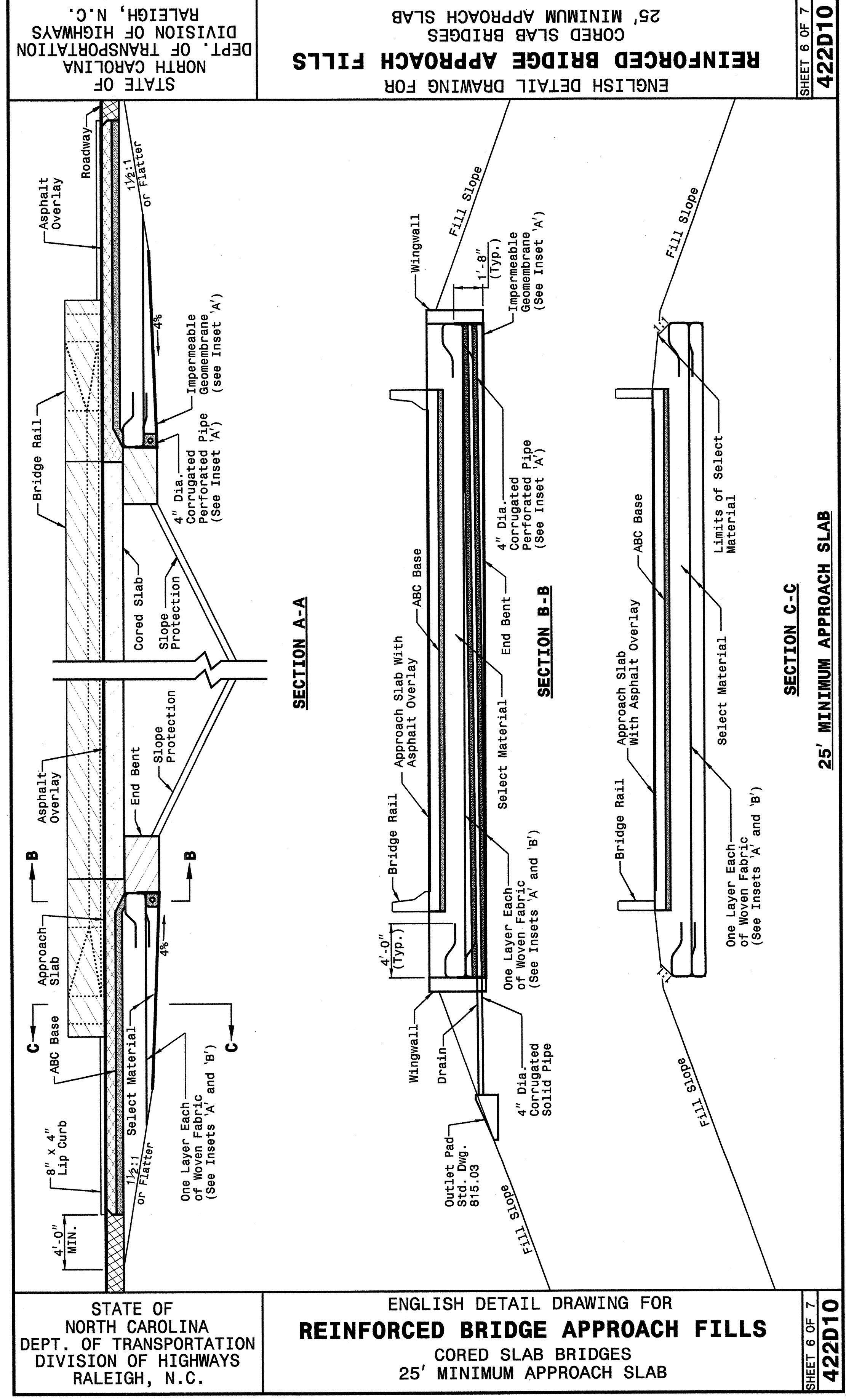
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 CHECKED BY: *E.E. Ward* DATE: 9/29/05
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ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
PRESTRESSED AND PLATE GIRDER BRIDGES
25' MINIMUM APPROACH SLAB

SHEET 5 OF 7
422D10



STATE OF NORTH CAROLINA
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
CORED SLAB BRIDGES
25' MINIMUM APPROACH SLAB

SHEET 6 OF 7
422D10

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CHECKED BY: *Joel S. Hunt* DATE: 7/20/05
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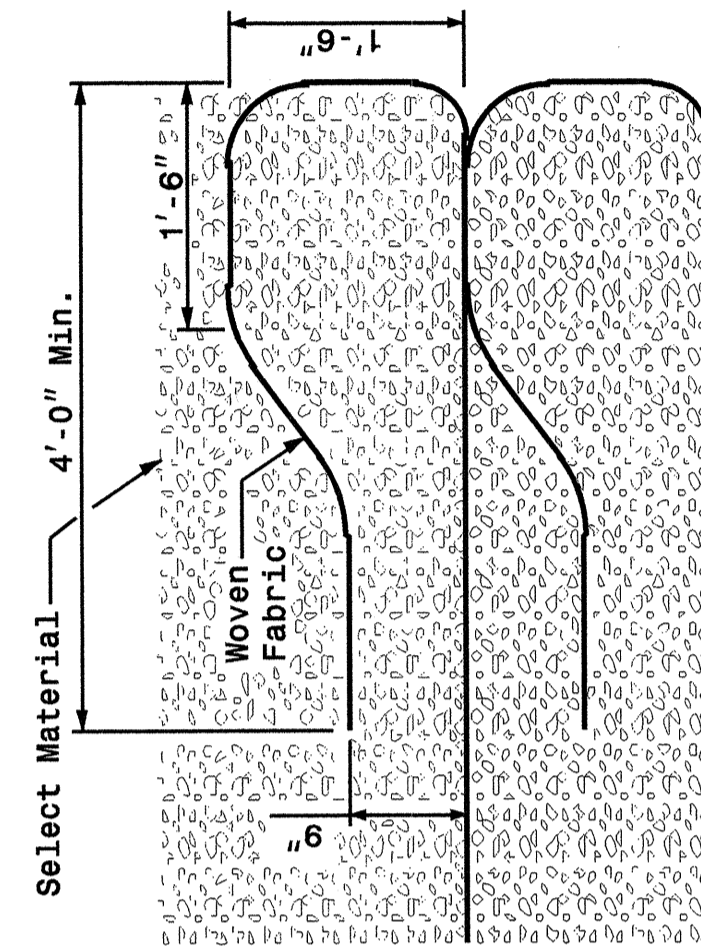


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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

SHEET 7 OF 7
422D10



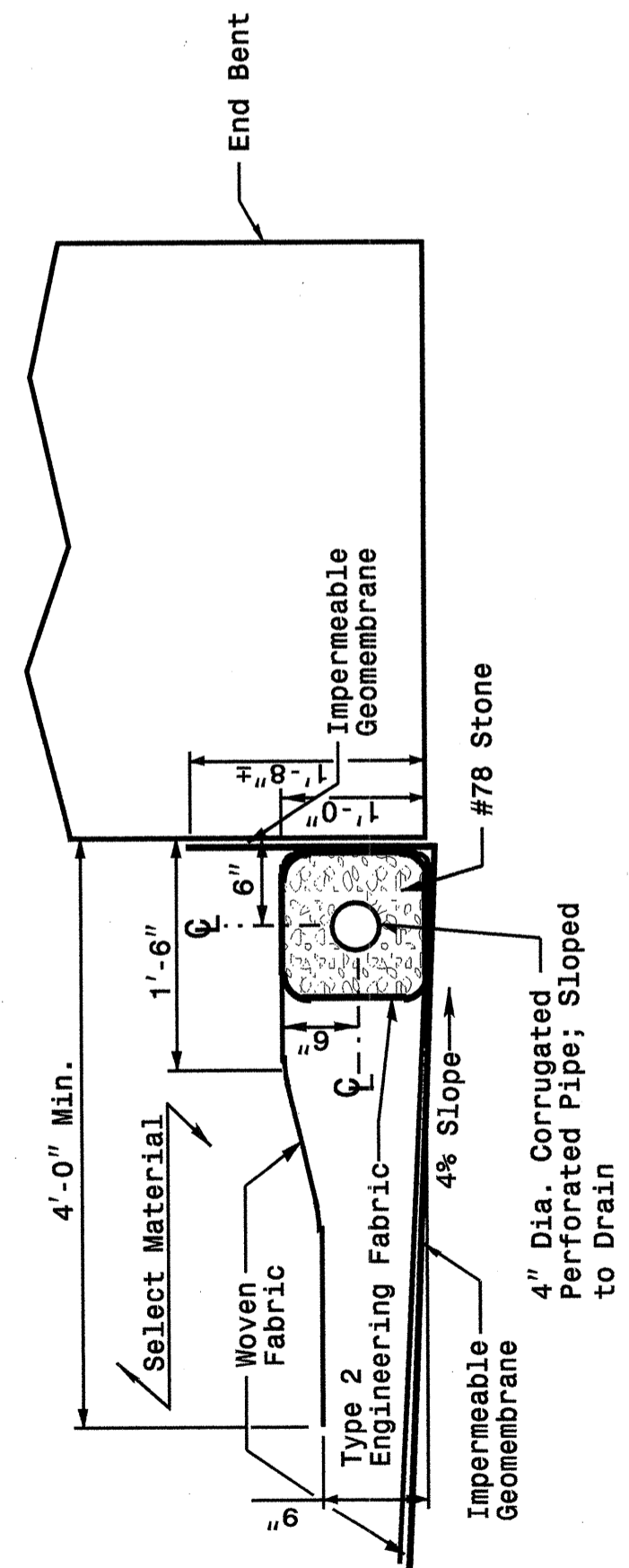
Typical Fabric Lift and Wrap

Showing Second and Above Lifts

Inset 'B'

Height of Backwall	Number of Fabric Layers
4'-6" - 5'-9"	3
5'-10" - 7'-2"	4
7'-3" - 8'-8"	5
8'-9" - 10'-1"	6
10'-2" - 11'-8"	7

Note: Cored Slab Structures
Require 2 Fabric Layers.

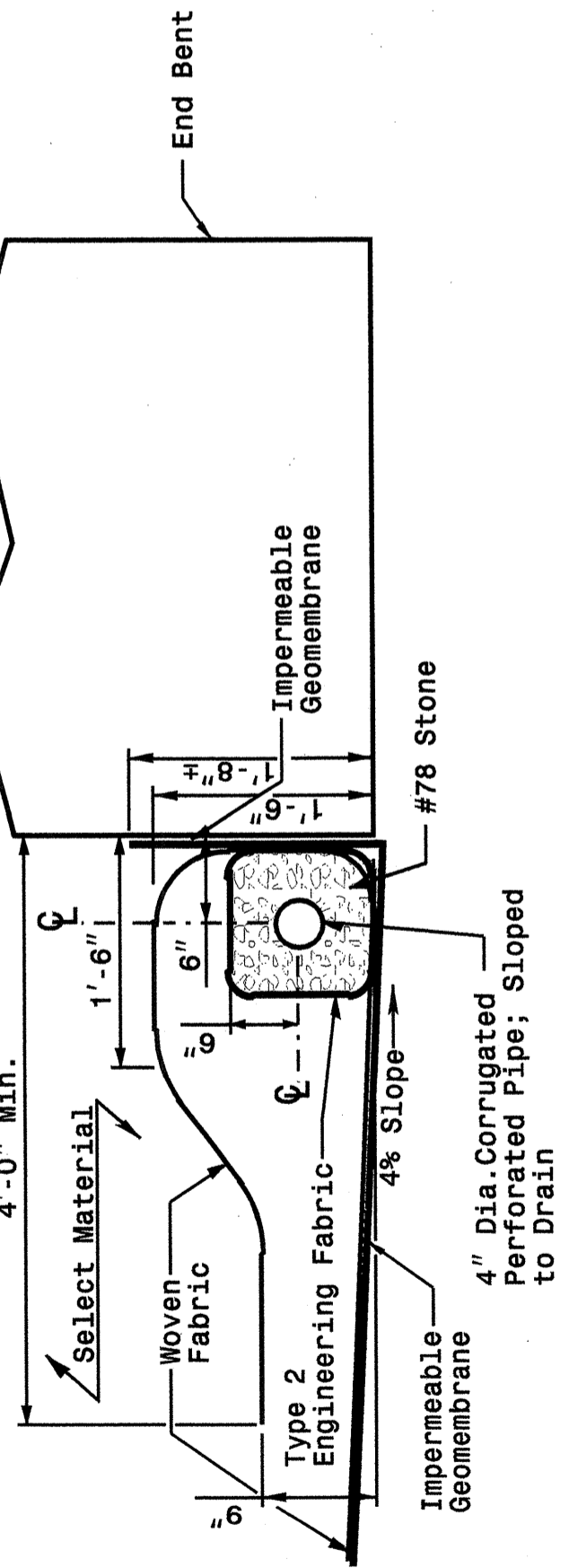


Cored Slab Bridge

Showing First Lift and Drains

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

SHEET 7 OF 7
422D10



Girder Bridge

Showing First Lift and Drains

Inset 'A'

Length of Bridge End Bent Inside Wingwalls

If Bridge Skew is Less Than or Equal to 90°:
$$\frac{(\text{Roadway Width} + 7'-0")}{\sin(\text{Bridge Skew Angle})} = \text{Dis. Between Wingwalls}$$

If Bridge Skew is Greater Than 90°:
$$\frac{(\text{Roadway Width} + 7'-0")}{\cos(\text{Bridge Skew Angle} - 90^\circ)} = \text{Dis. Between Wingwalls}$$



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CHECKED BY: Paul S. Hunt DATE: 9/20/05
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
DROP INLET INSTALLATION IN EXPRESSWAY GUTTER

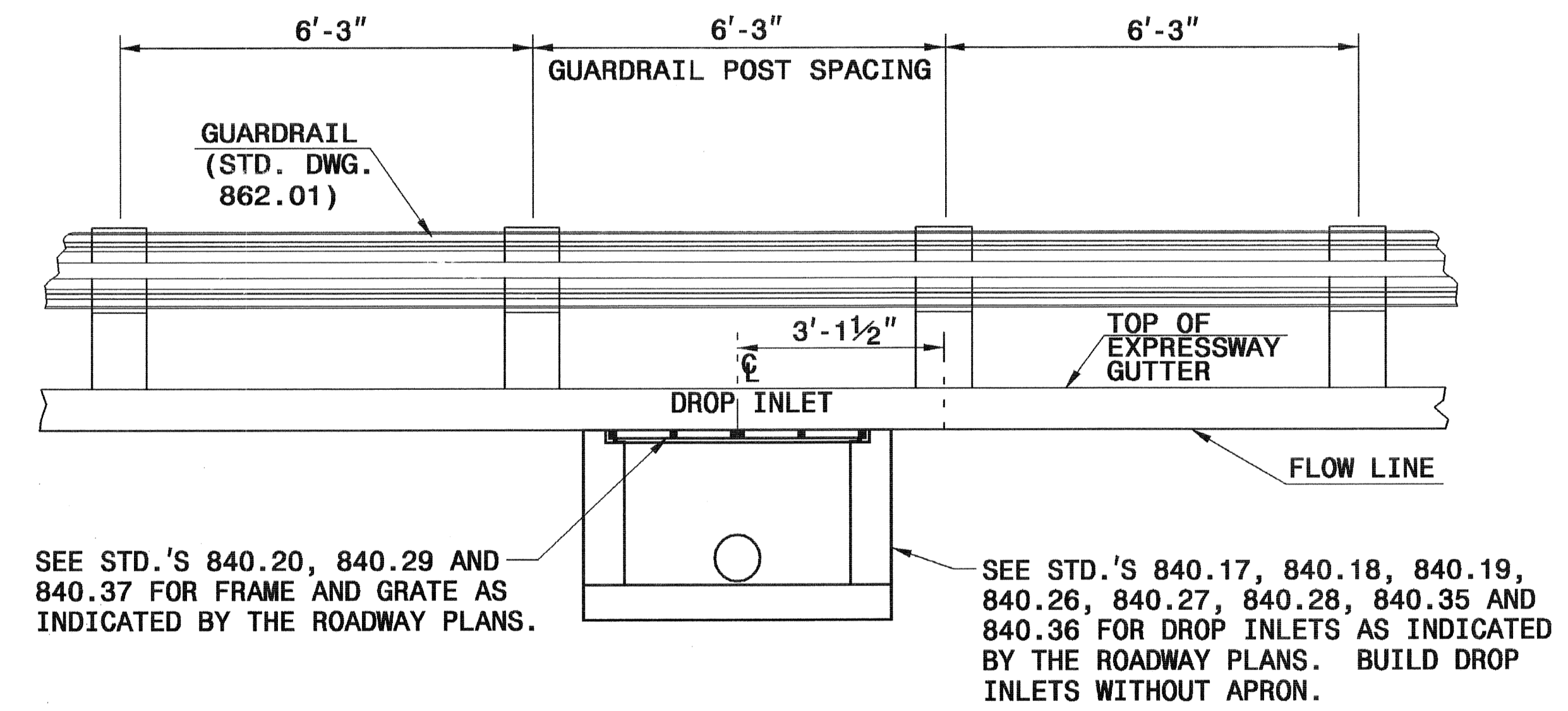
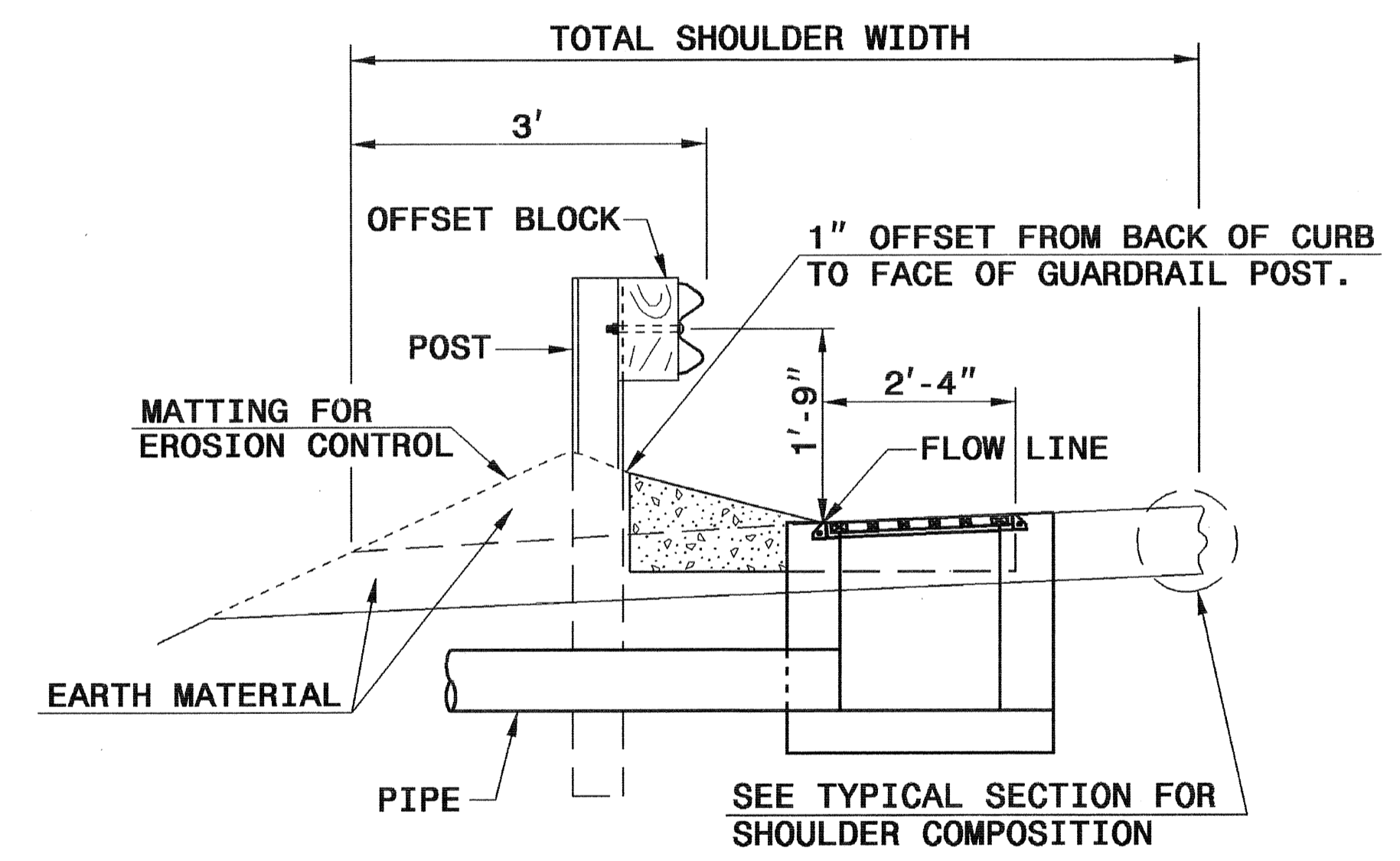
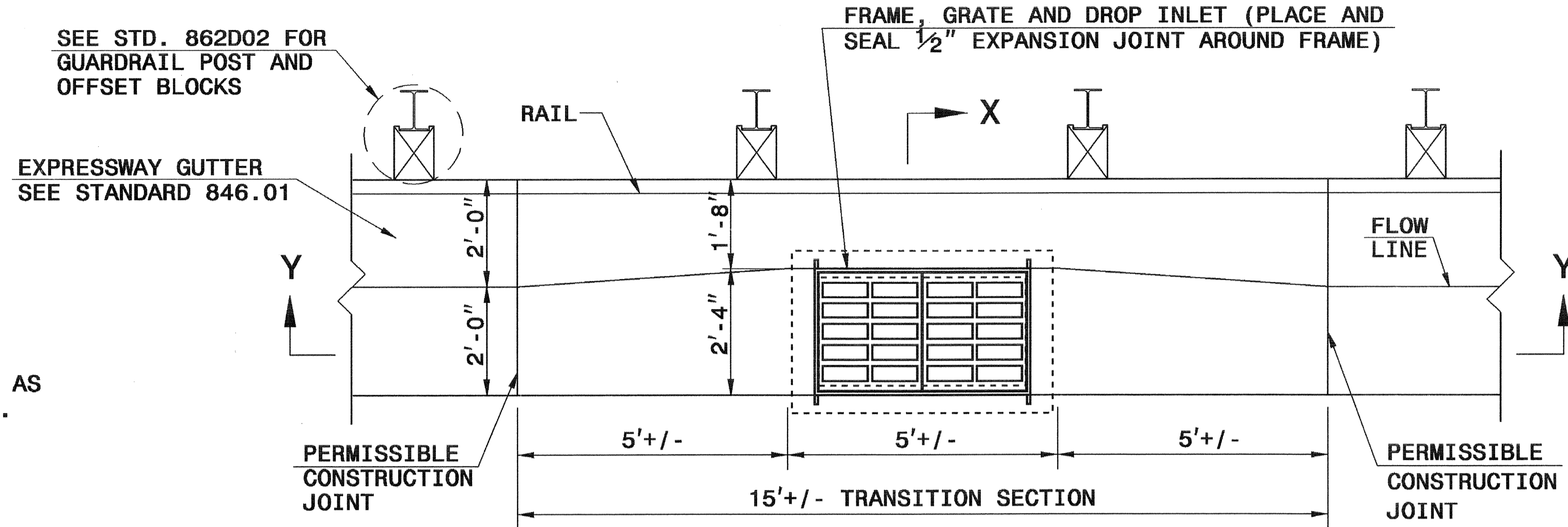
SHEET 1 OF 1
846D02

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

ENGLISH DETAIL DRAWING FOR
DROP INLET INSTALLATION IN EXPRESSWAY GUTTER

SHEET 1 OF 1
846D02

GENERAL NOTES:
-PAY FOR TRANSITION SECTION AS CONCRETE EXPRESSWAY GUTTER.
-GUARDRAIL OPTIONAL



DROP INLET INSTALLATION IN EXPRESSWAY GUTTER

NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 022966
JOEL S. HOWER
Joel S. Hower
12/14/04

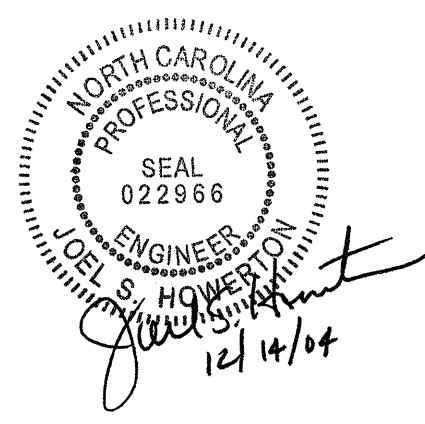
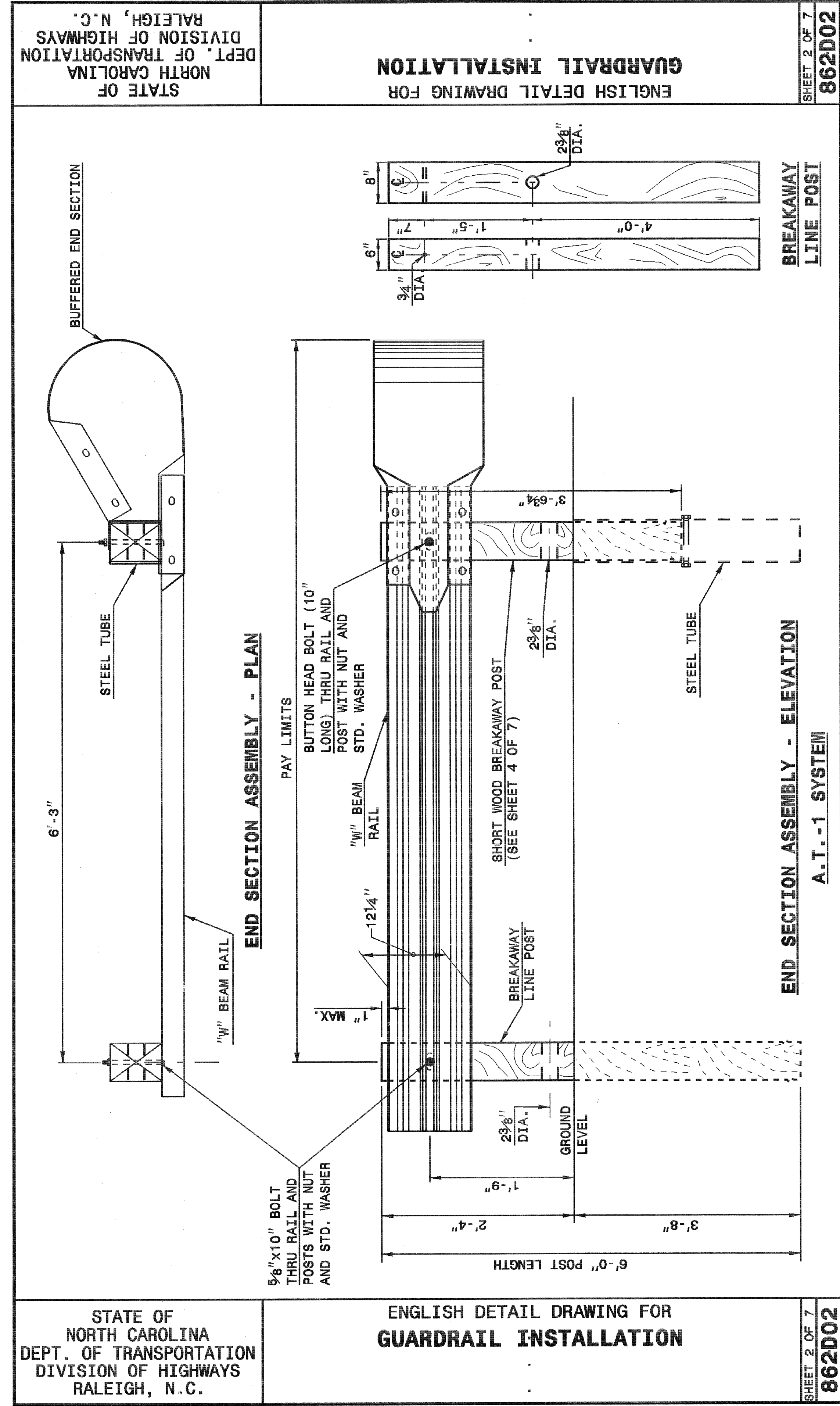
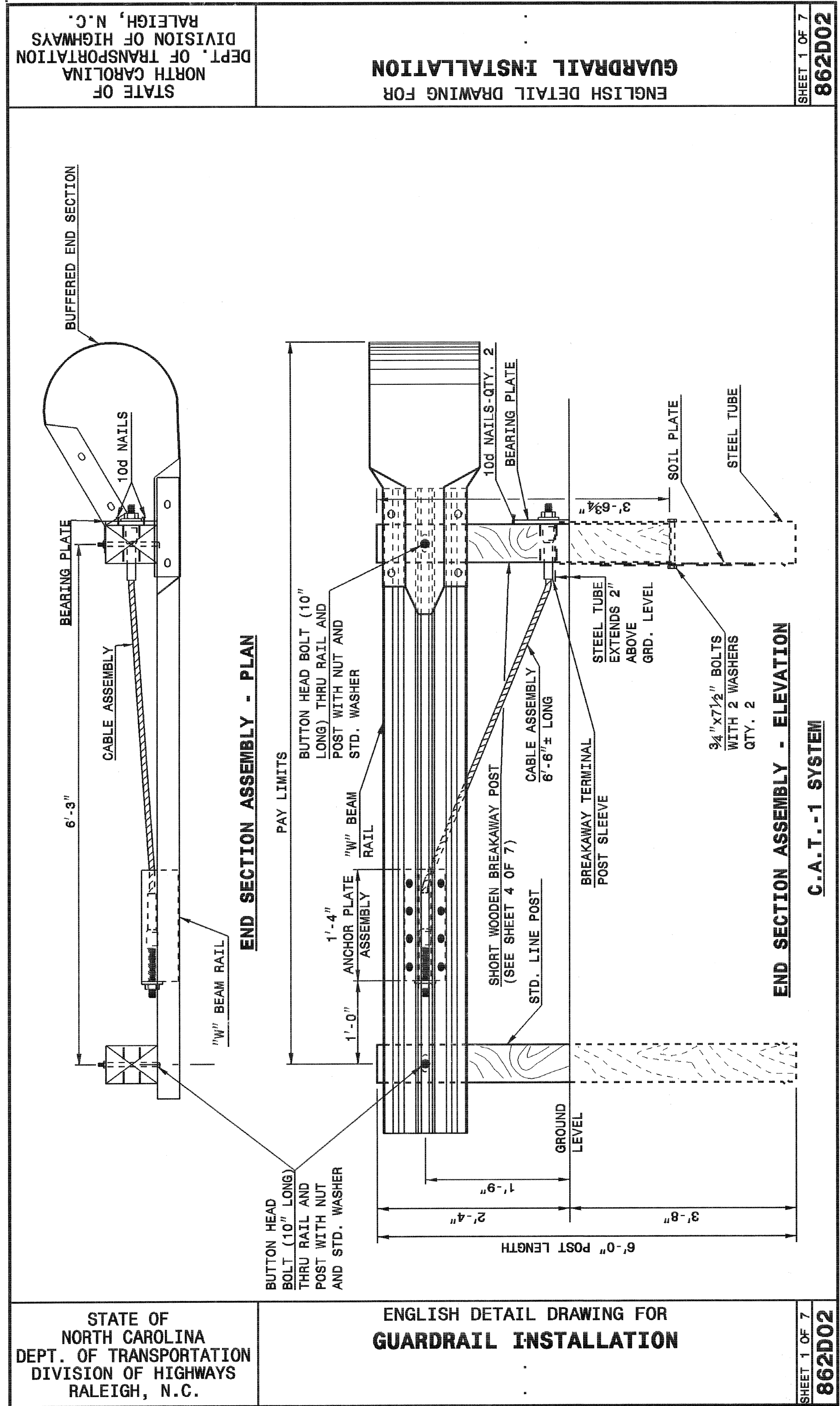
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 RALEIGH, N.C.

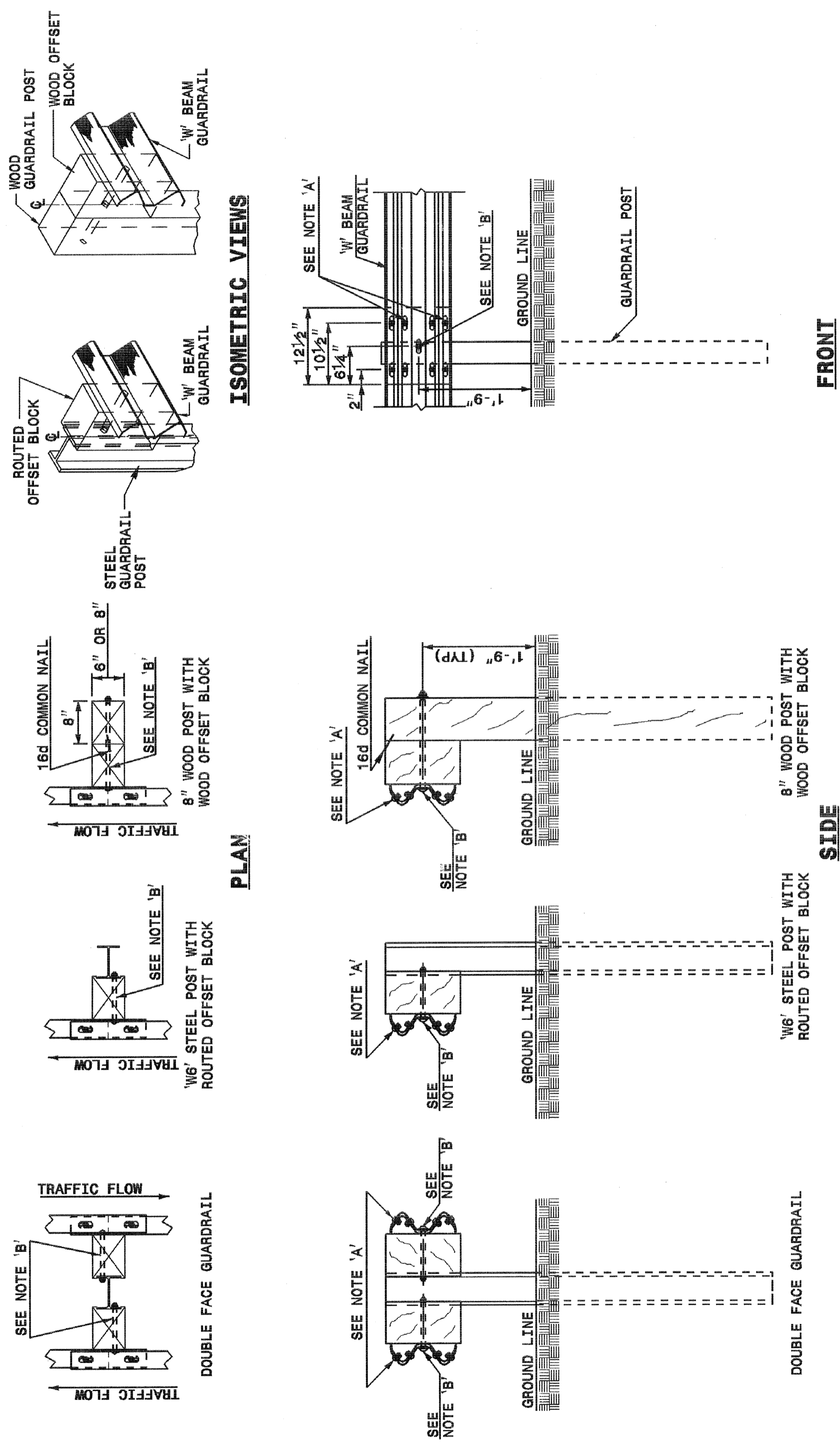
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 3 OF 7
862D02

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 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 3 OF 7
862D02



TYPICAL GUARDRAIL AND GUARDRAIL POST ALTERNATIVES

NOTES:
 A - 5/8" DIA. BUTTON HEAD SPLICE BOLT 1 1/4" LONG WITH STD. WASHER UNDER NUT (8 REQ. PER SPLICE JOINT).
 B - 3/8" DIA. BUTTON HEAD BOLT 7 1/2" LONG WITH NUT FOR BOLTING 6" X 7/8" ROUTED OFFSET BLOCK TO STEEL POSTS OR 5/8" DIA. BUTTON HEAD BOLT 18" LONG WITH STD. WASHER UNDER NUT FOR BOLTING TO WOOD POSTS (1 REQ. PER LOCATION)
 C - FIELD PUNCHING OF HOLES INTO GUARDRAIL SHALL BE AS DIRECTED BY THE ENGINEER.

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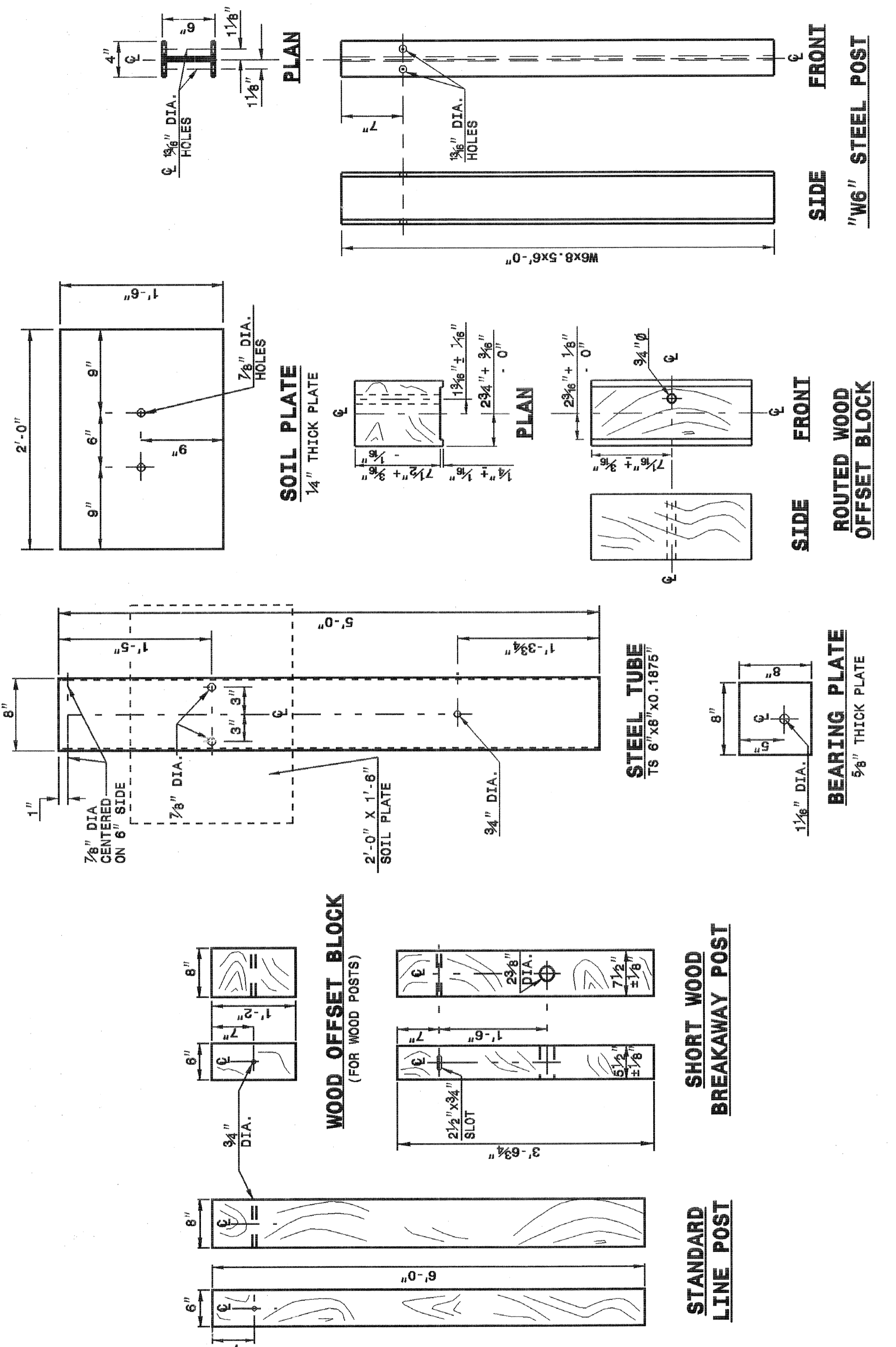
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 4 OF 7
862D02

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 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 4 OF 7
862D02

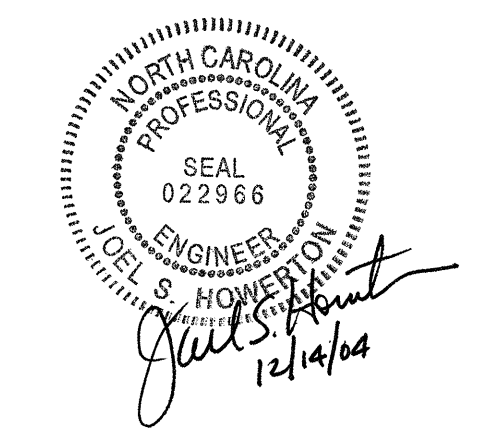
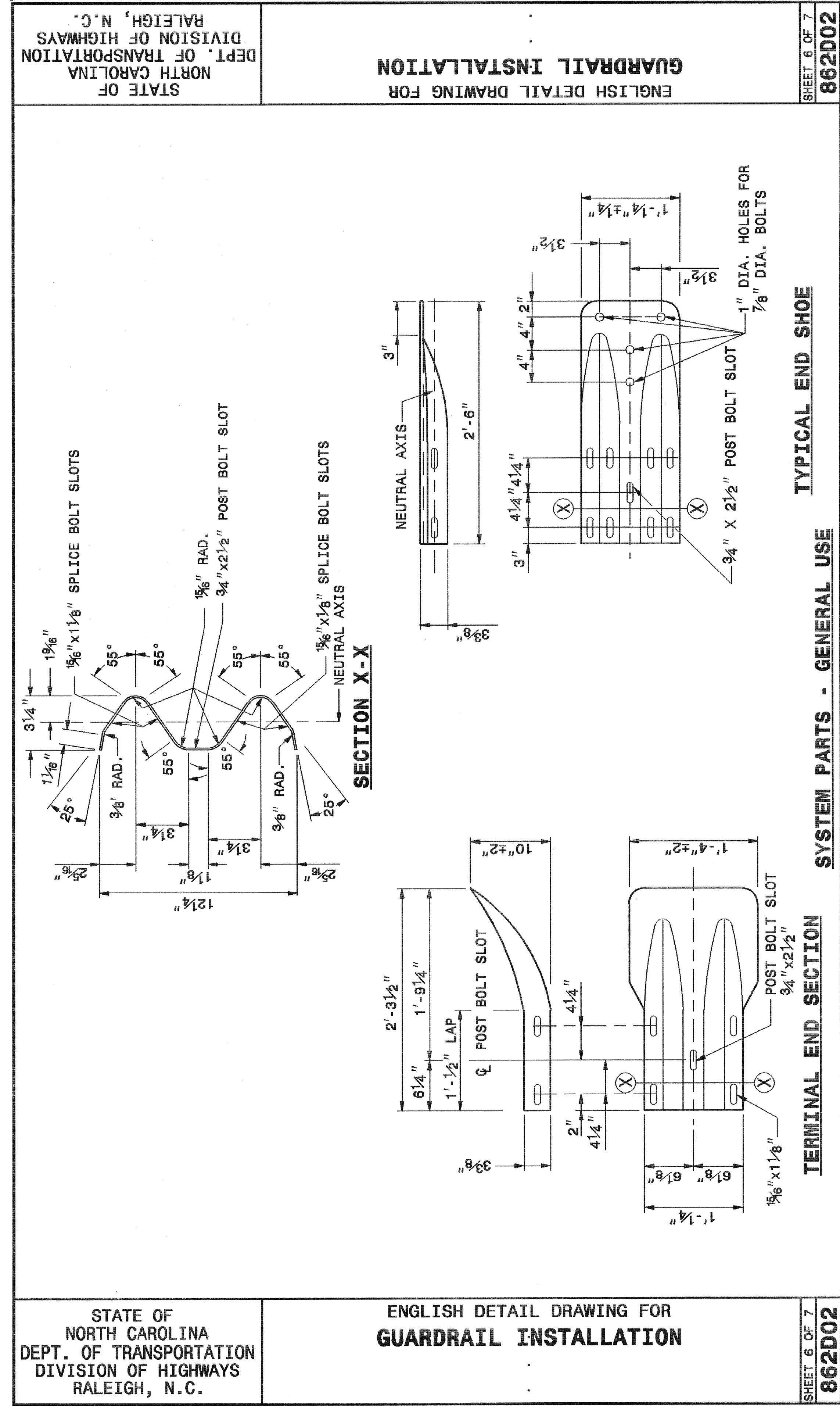
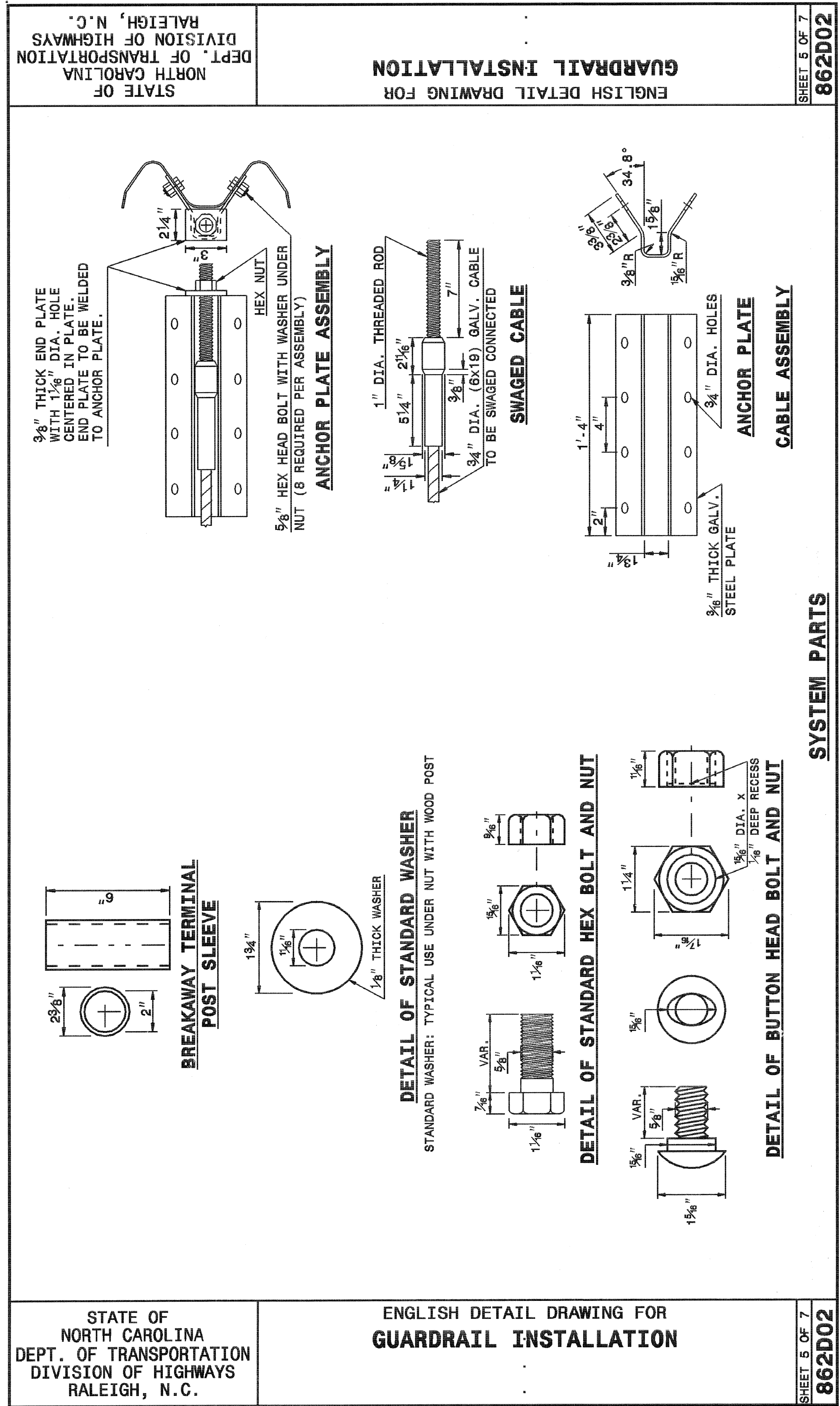


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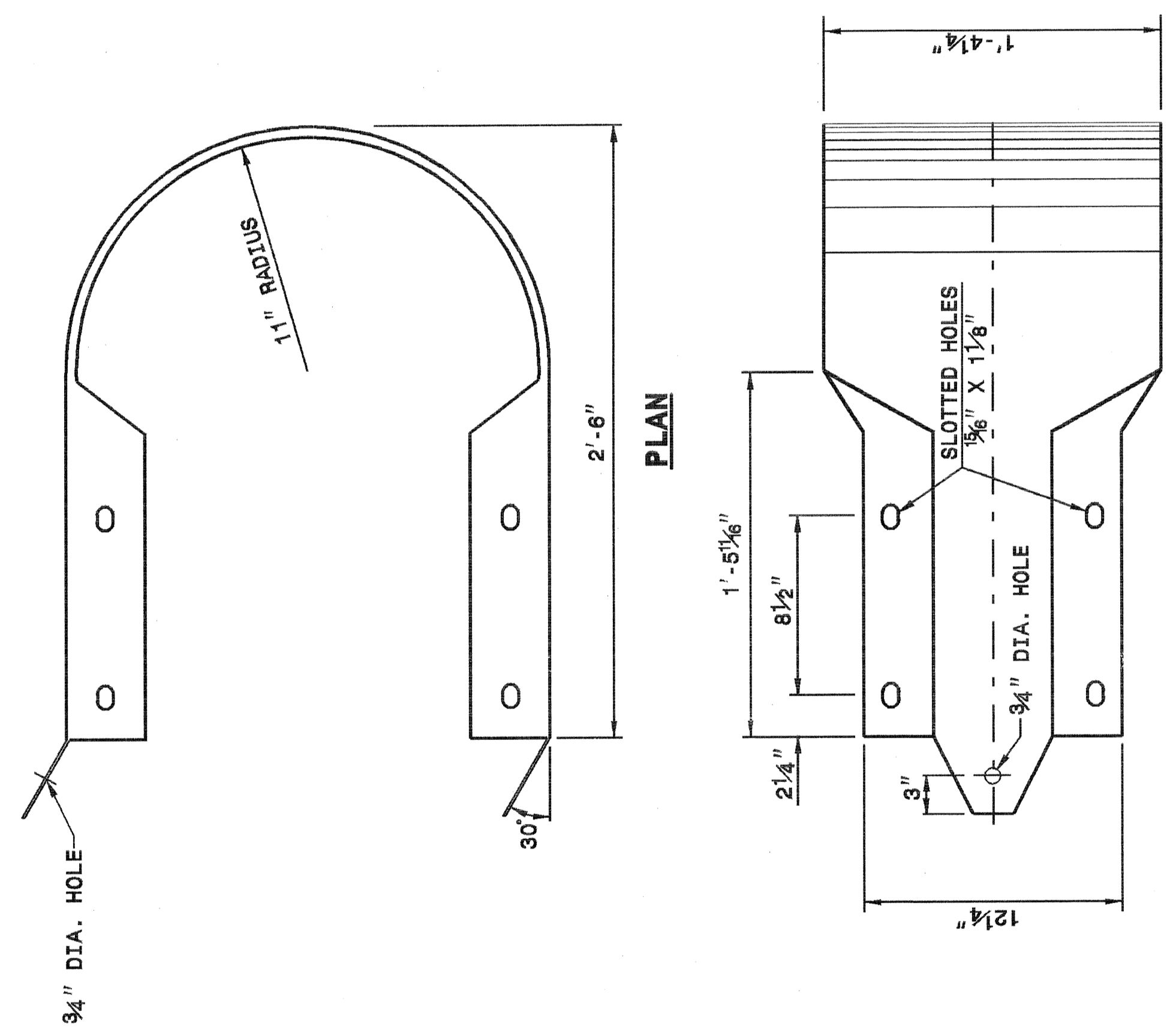
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ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 7 OF 7
862D02

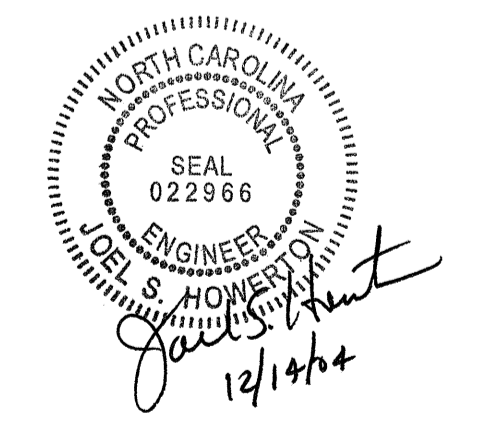


ELEVATION
BUFFERED END SECTION

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ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 7 OF 7
862D02



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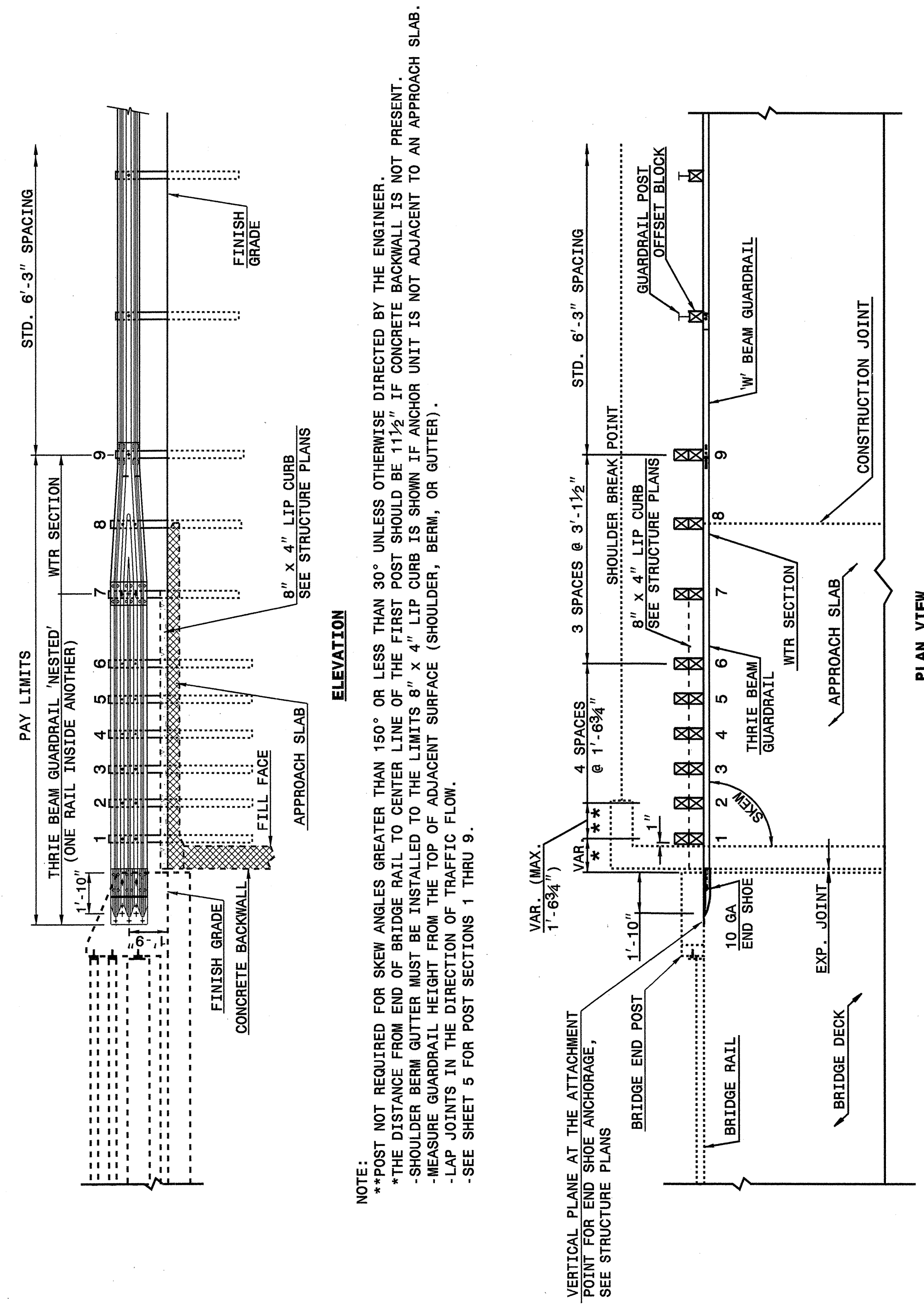
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 1 OF 6 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 1 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.

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

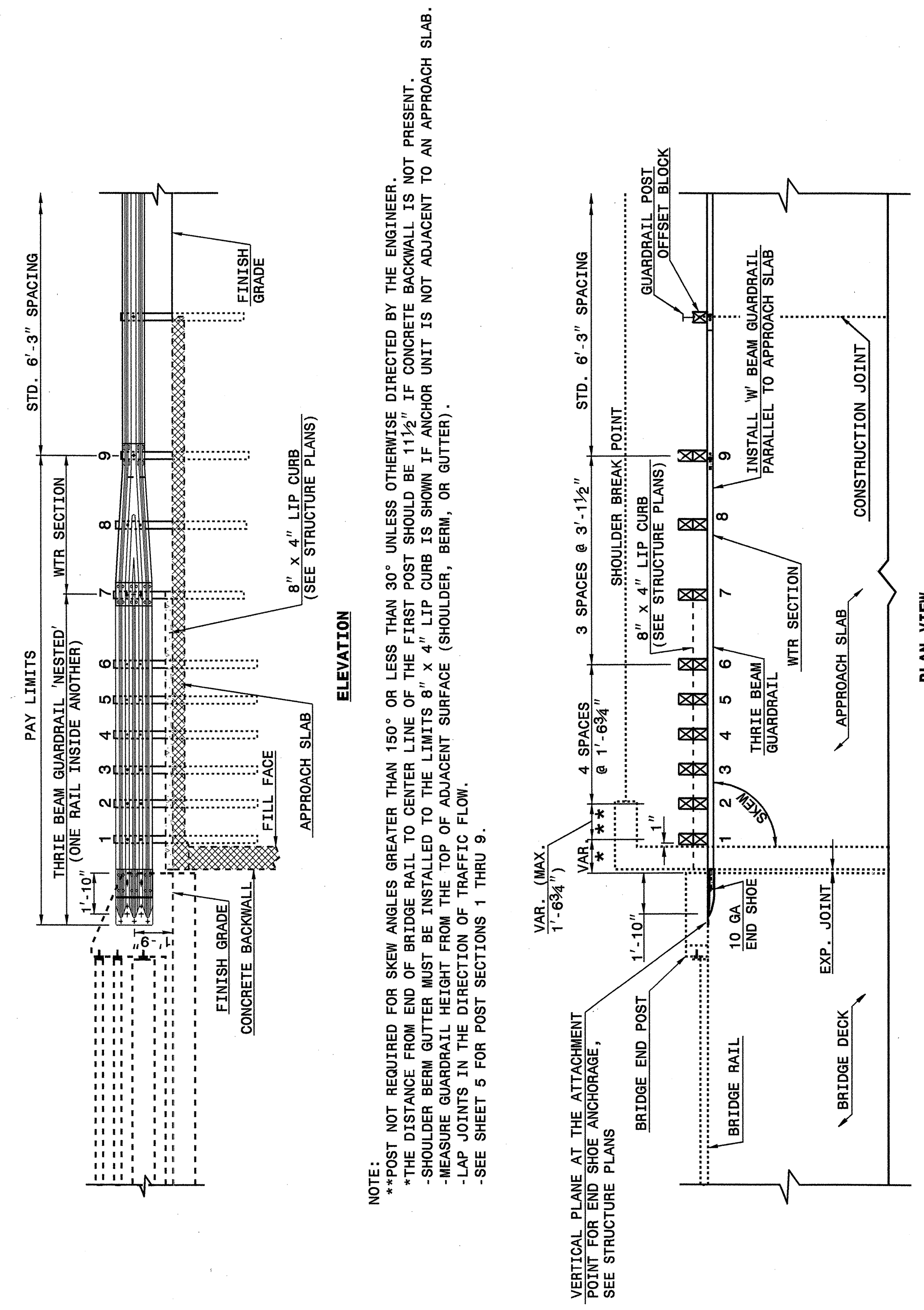
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 1 OF 6 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 FOR ATTACHMENT TO RAIL ON BRIDGE (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 2 OF 6 862D03

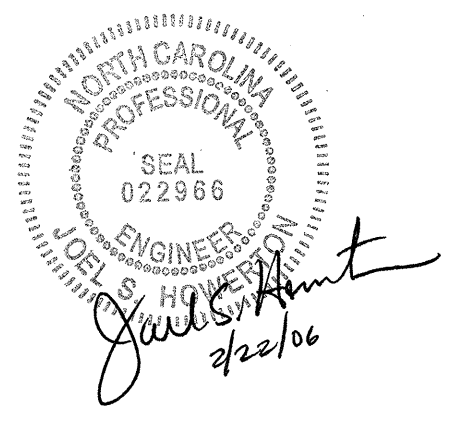


NOTE:
 **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 1 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 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.

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 (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 2 OF 6 862D03



PROJECT SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN
 Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
 MODIFIED BY: E.E. WARD DATE: 09-14-05
 CHECKED BY: *Joel S. Hunt* DATE: 7/2/05
 FILE SPEC: st05/02stdstodetails/english/862d03.dgn

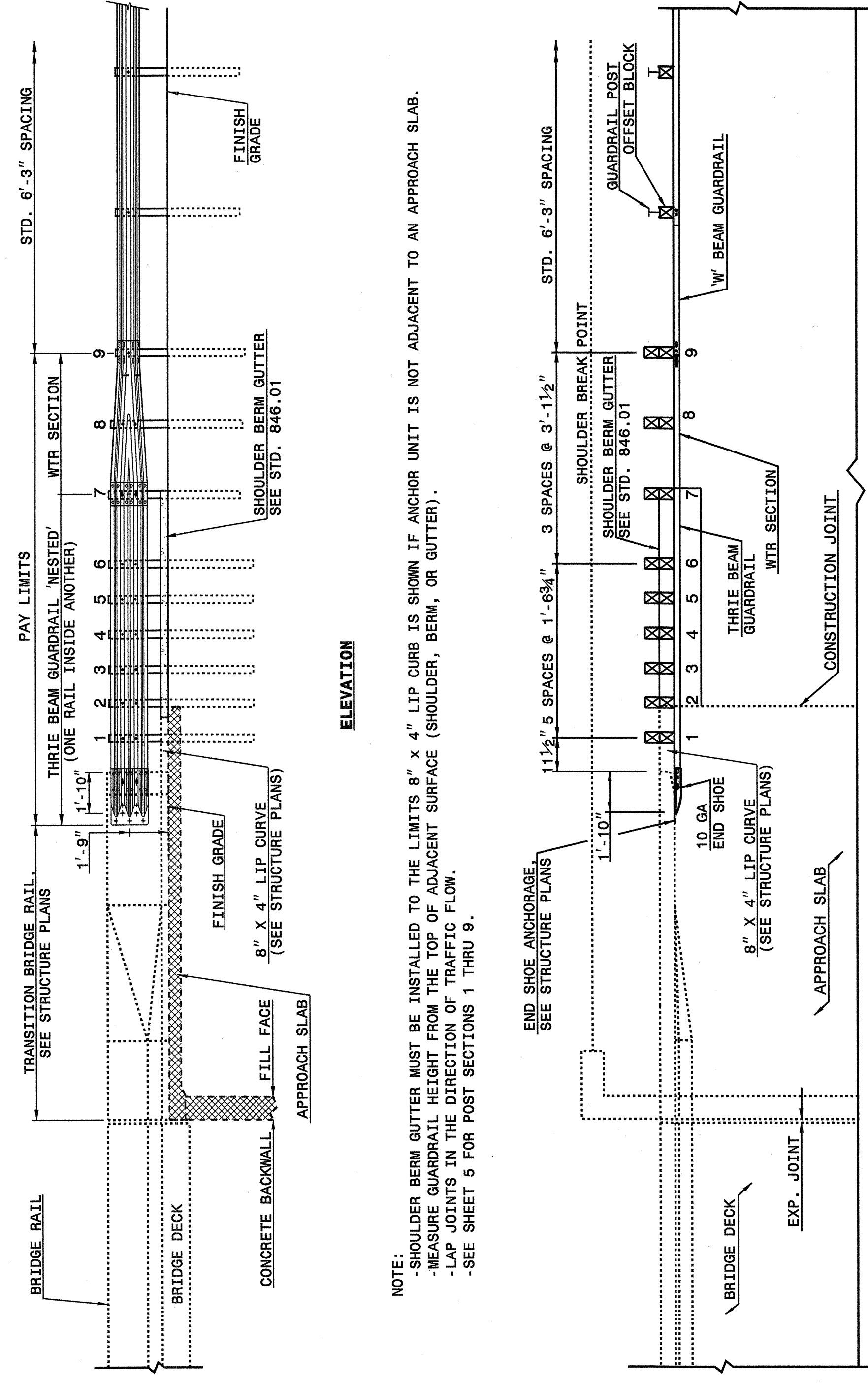
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
862D03



ELEVATION

PLAN VIEW

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

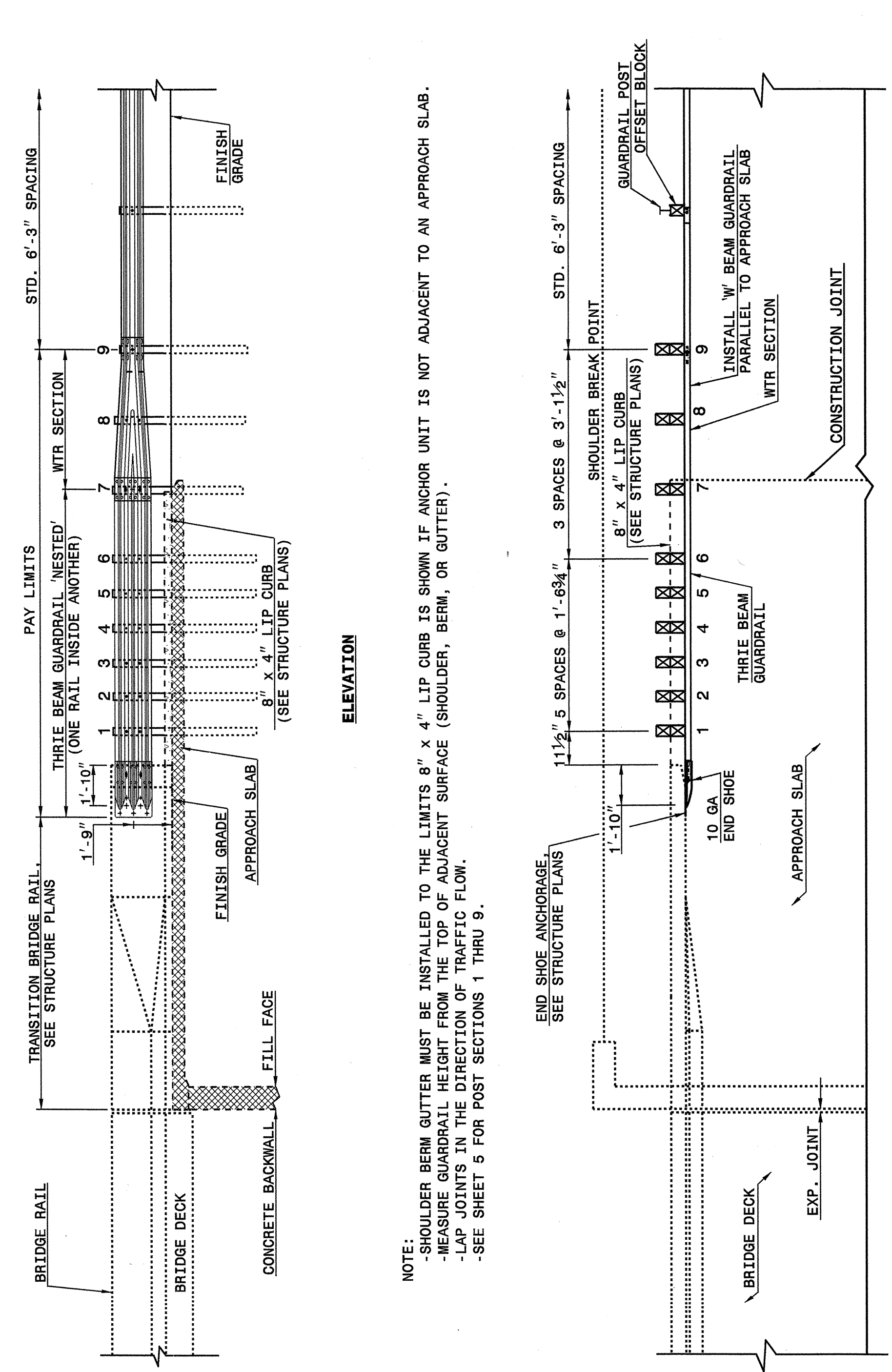
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
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 FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 4 OF 6
862D03



ELEVATION

PLAN VIEW

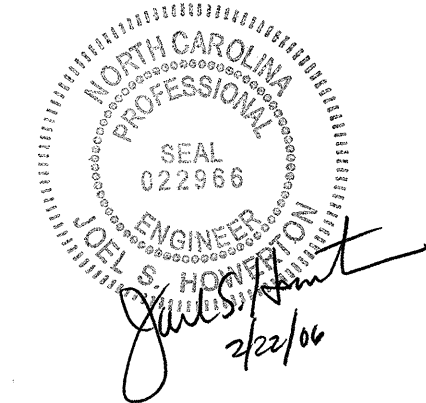
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 4 OF 6
862D03

NOTE:
-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.

NOTE:
-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.



**PROJECT SERVICES UNIT
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Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
 MODIFIED BY: E.E. WARD DATE: 09-14-05
 CHECKED BY: *[Signature]* DATE: 9/21/05
 FILE SPEC.: stds/02stdstodetails/english/862d03.dgn

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 5 OF 6 862D03

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.

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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS ANCHORAGE FOR GUARDRAIL POST ON BOX CULVERT

SHEET 6 OF 6 862D03

NOTE: POST ANCHORED TO STRUCTURE: GUARDRAIL LENGTH 1/4 BUT HELDS ANCHOR AROUND A TAPERED AREA AT THE OTHER END. USE WOOD POSTS WHICH FIT SNUBLY IN THE STEEL TUBE WITH A MAXIMUM OF 1/8" CLEARANCE BETWEEN TUBE WALL AND POST.

NEW STRUCTURES: ATTACH POST TO INSERT ASSEMBLY UNITS (USING ANCHOR BOLTS SUPPLIED WITH INSERTS) WHICH HAVE BEEN CAST INTO THE STRUCTURE DURING CONSTRUCTION.

EXISTING STRUCTURES: USE CONCRETE ANCHORS CONSISTING OF A STUD BOLT WITH NUT AND WASHER. USE ANCHORS WHICH PROVIDE A MINIMUM SAFE HOLDING POWER OF 2875 LBS. FOR A 3/4" OR 1" DIAMETER BOLT. CALCULATE HOLDING POWER BASED ON 1/4 THE ACTUAL HOLDING POWER OF THE ANCHOR IN 3500 PSI CONCRETE AS DETERMINED BY AN APPROVED COMMERCIAL TESTING LABORATORY.

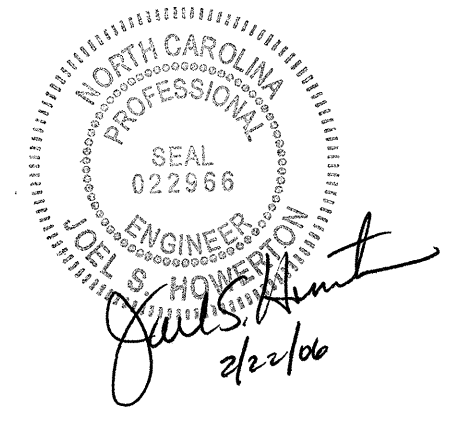
USE ANCHORS GALVANIZED IN ACCORDANCE WITH A.S.T.M. A-153. SIZE HOLES FOR THE CONCRETE ANCHORS IN ACCORDANCE WITH THE ANCHOR MANUFACTURER'S RECOMMENDATIONS. DRILL HOLES WITH A CARBIDE OR DIAMOND TIPPED MASONRY BIT POWERED BY A ROTARY OR ROTARY IMPACT DRILL. NO OTHER IMPACT TOOLS WILL BE PERMITTED. DRILL HOLES VERTICALLY. FURNISH DOCUMENTATION OF HOLE SIZE RECOMMENDED FOR THE SPECIFIED ANCHOR TO THE ENGINEER BEFORE DRILLING HOLES. THOROUGHLY CLEAN HOLES FOR ANCHORS OF ALL CONCRETE CHIPS, DUST, GREASE, OIL, ETC. BEFORE ANCHORS ARE INSTALLED. REPAIR ALL DAMAGE CAUSED BY THIS WORK TO THE SATISFACTION OF THE ENGINEER.

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

PROJECT SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
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SEE PLATE FOR TITLE

ORIGINAL BY: 2002 STANDARDS DATE: 01-15-02
MODIFIED BY: E.E. WARD DATE: 09-14-05
CHECKED BY: *Paul S. Hunt* DATE: 7/15/05
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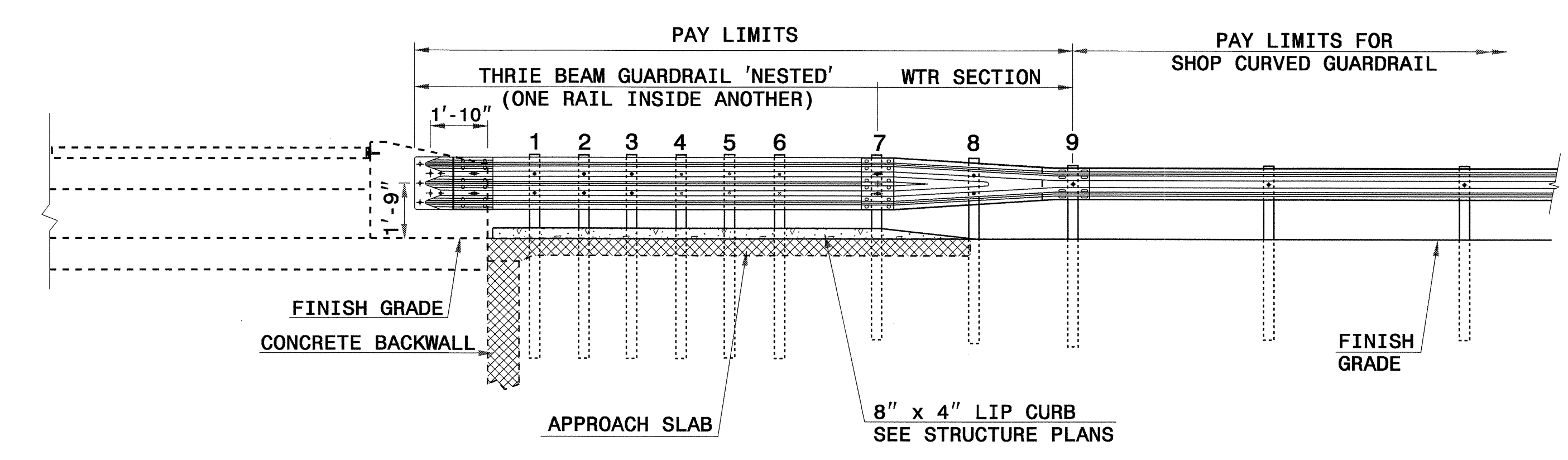


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 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

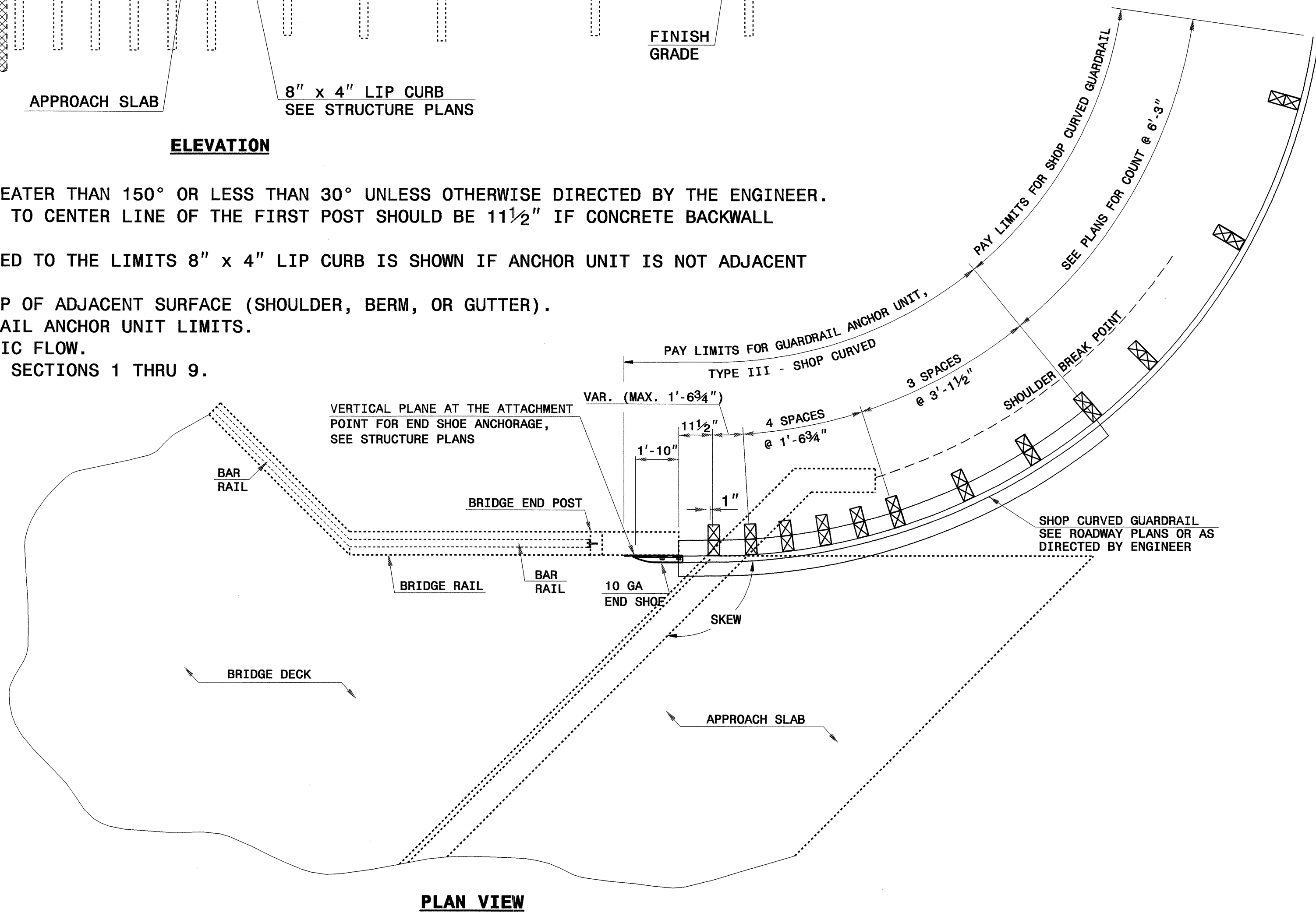
ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
 STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1
TYPE III SC



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 11½" 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).
- USE NO STEEL POSTS WITHIN THE GUARDRAIL ANCHOR UNIT LIMITS.
- LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
- SEE STANDARD 862.03 SHEET 4 FOR POST SECTIONS 1 THRU 9.



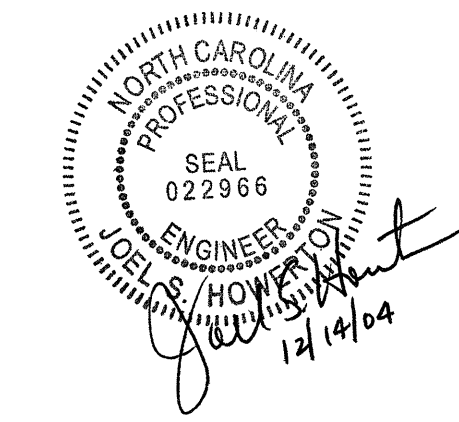
**GUARDRAIL ANCHOR UNIT, TYPE III - SHOP CURVED
 FOR ATTACHMENT TO RAIL ON BRIDGE**

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

ENGLISH DETAIL DRAWING FOR
**TYPE III - SHOP CURVED
 STRUCTURE ANCHOR UNIT**

SHEET 1 OF 1
TYPE III SC

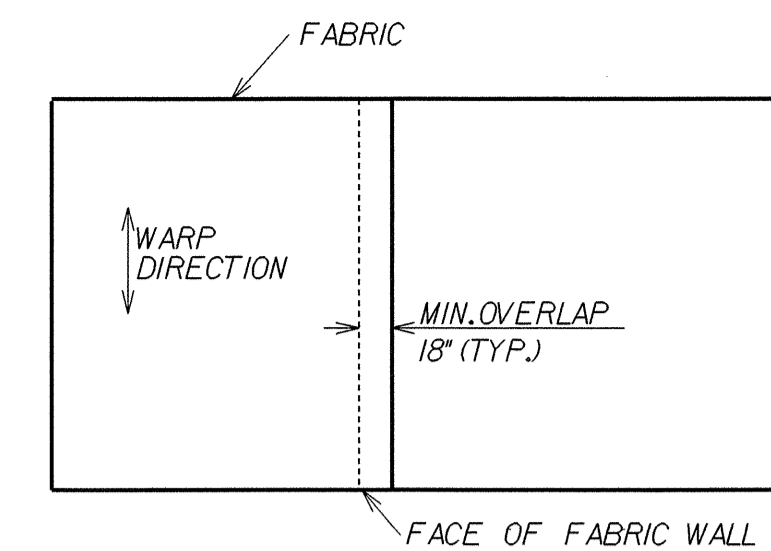
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**DESIGN SERVICES UNIT
 STANDARDS AND SPECIAL DESIGN**
 Office 919-250-4128 FAX 919-250-4119

SEE PLATE FOR TITLE

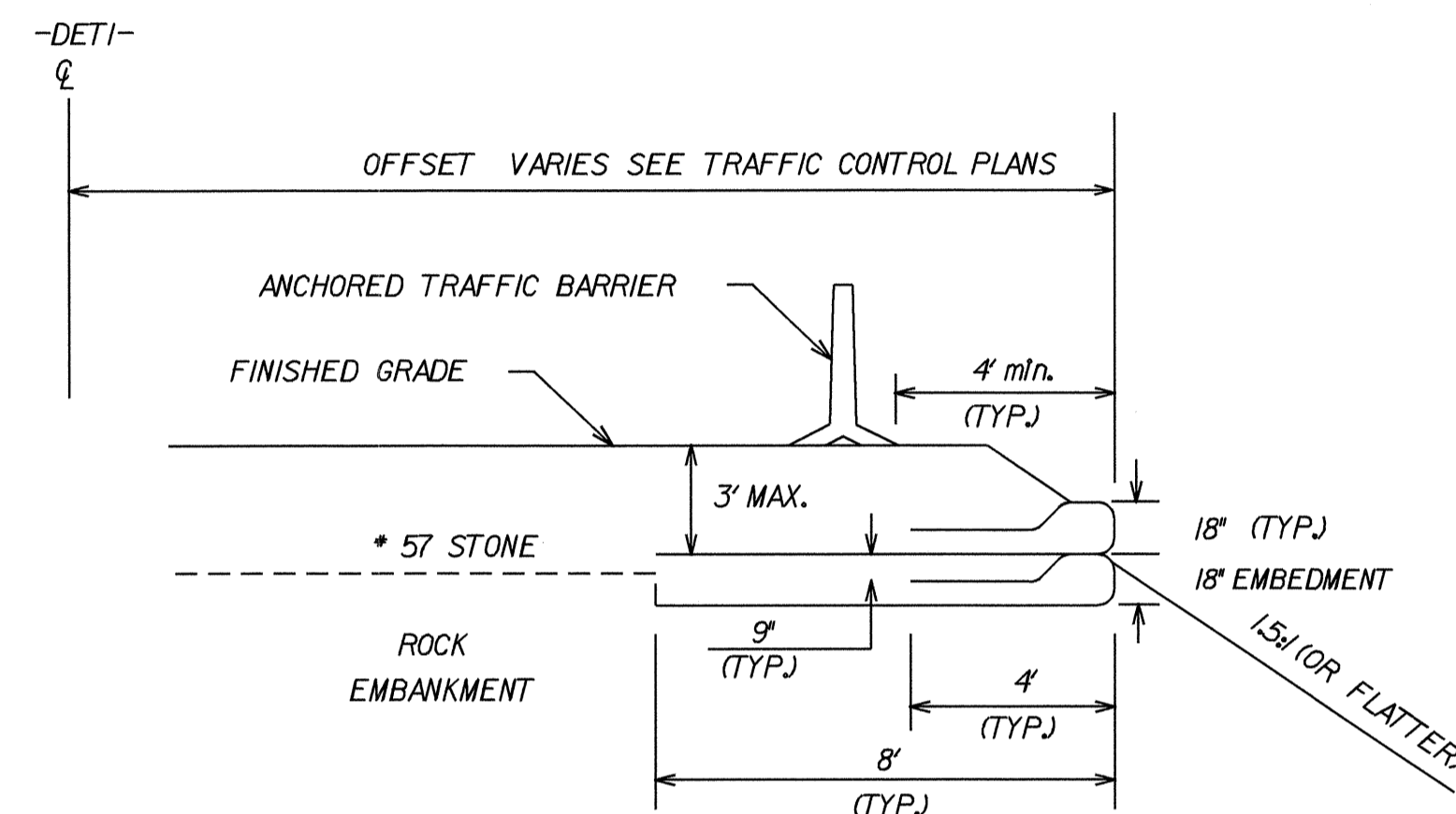
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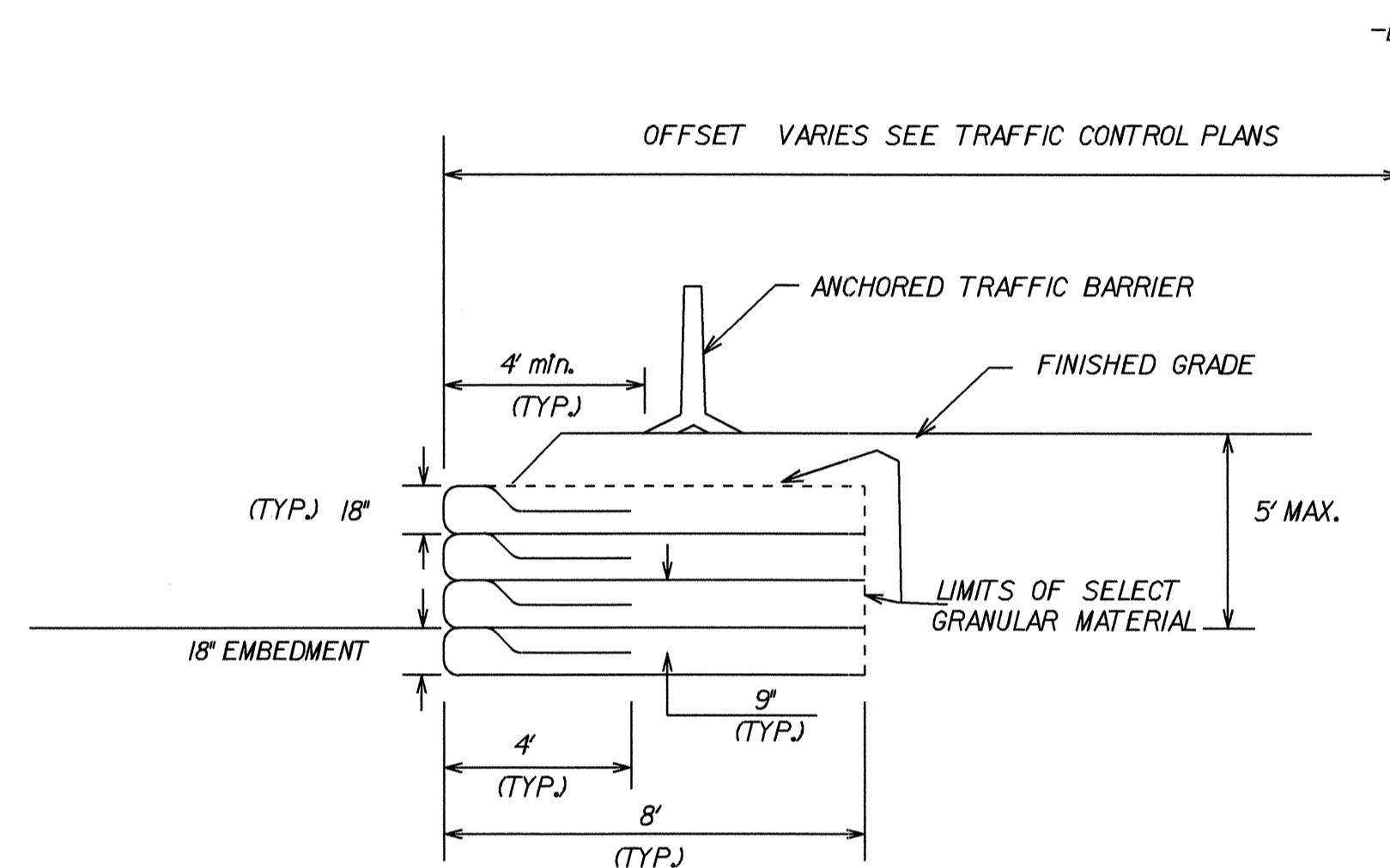
PLAN VIEW OF FABRIC OVERLAP
N.T.S.

NOTES:

- FABRIC FOR THE TEMPORARY FABRIC WALL SHALL HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 100 lb/1in IN THE WARP DIRECTION (BASED ON ASTM-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 400 lb/1in IN THE WARP DIRECTION.
- FOR TEMPORARY FABRIC WALL, SEE SPECIAL PROVISIONS.
- LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- THE FABRIC WALL SHALL BE BENCHED INTO THE SIDE OF THE EXCAVATION WHERE APPLICABLE AND AS DIRECTED BY THE ENGINEER.
- PROPER DRAINAGE AT THE TOP OF THE WALL SHALL BE AS DIRECTED BY THE ENGINEER.
- USE *57 STONE FOR FABRIC WALL FOR DETOUR. USE SELECT MATERIAL CLASS II FOR FABRIC WALL FOR -LI-.
- SELECT GRANULAR MATERIAL SHALL BE CLASS II, AND *57 STONE SHALL BE CLASS VI, IN ACCORDANCE WITH SECTION 1016 OF THE STANDARD SPECIFICATIONS.
- FABRIC WALL FOR -LI- SHALL BE LEFT IN PLACE PERMANENTLY.
- WHEN THE FINAL FILL IS PLACED IN FRONT OF THE WALL, UNFOLD THE TOP LAYER OF FABRIC AND INCORPORATE IT INTO THE FILL AS DIRECTED BY THE ENGINEER.
- THE REQUIRED BEARING PRESSURE FOR THE FABRIC WALLS IS ONE TSF. VERIFY THE REQUIRED BEARING PRESSURE IN THE FIELD.
- THE CONTRACTOR MAY ELECT TO USE A FORMING SYSTEM TO CONSTRUCT THE TEMPORARY FABRIC WALL OTHER THAN THE FALSEWORK OR WIRE MESH FORM OPTIONS SHOWN IN THESE PLANS, HOWEVER, THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- THE CONTRACTOR MAY ELECT TO USE A SHORING SYSTEM OTHER THAN FABRIC WALLS. THE ALTERNATE METHOD MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
- ALL FABRIC WALLS SHALL BE EMBEDDED A MINIMUM OF 18".

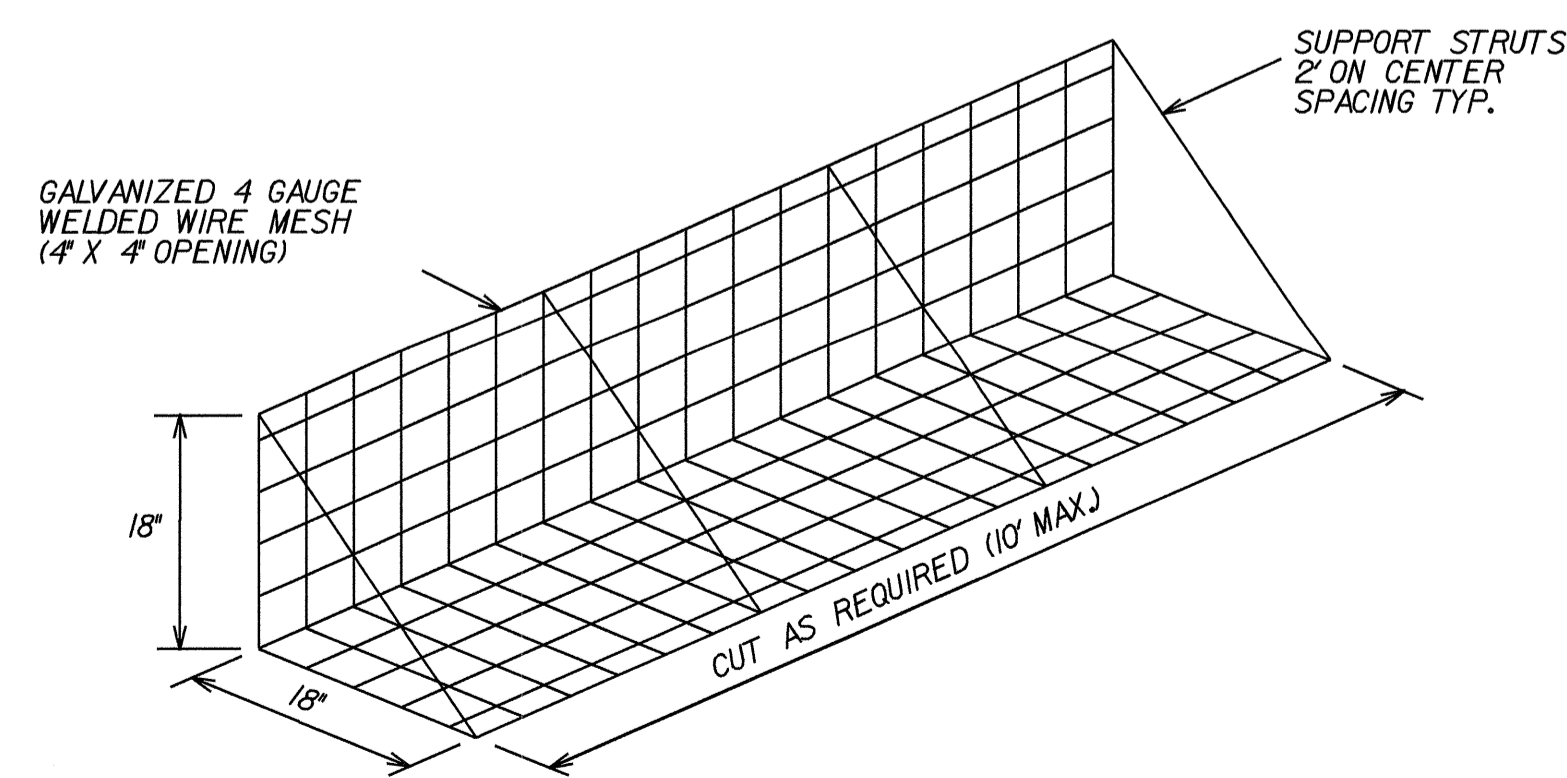


FABRIC WALL FOR DETOUR
N.T.S.
11+08± -DETI- to 11+24± -DETI-
(IF NEEDED)



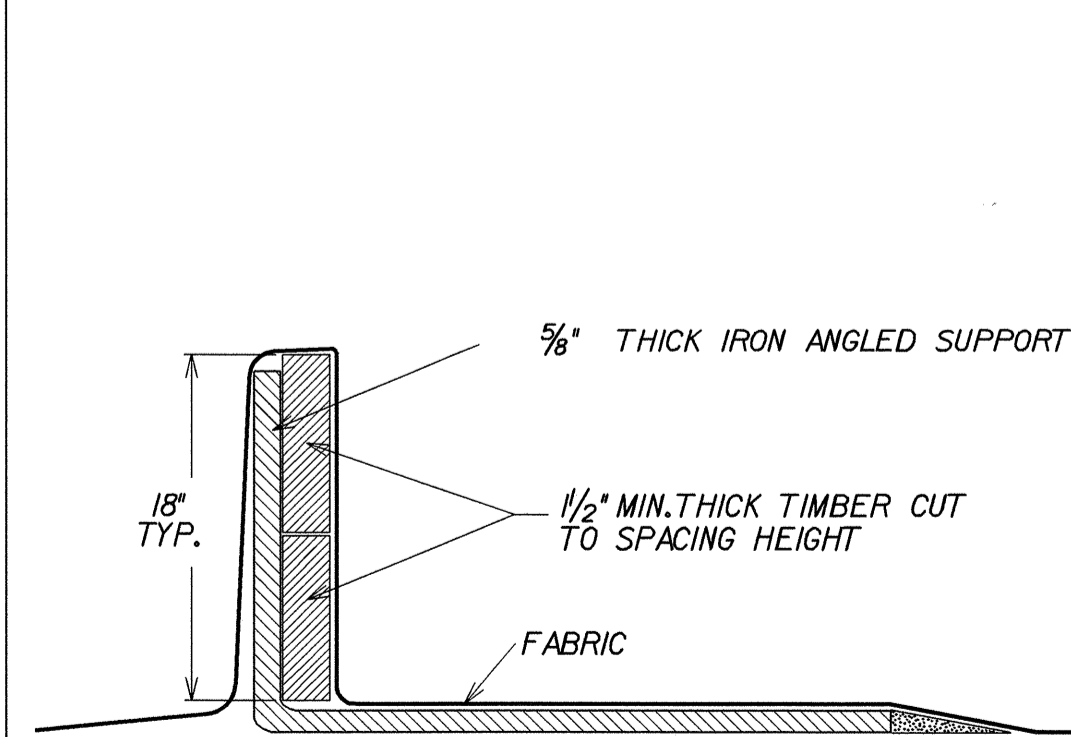
FABRIC WALL FOR -LI-
N.T.S.
22+70± -LI- to 22+90± -LI-

FORM OPTION #1

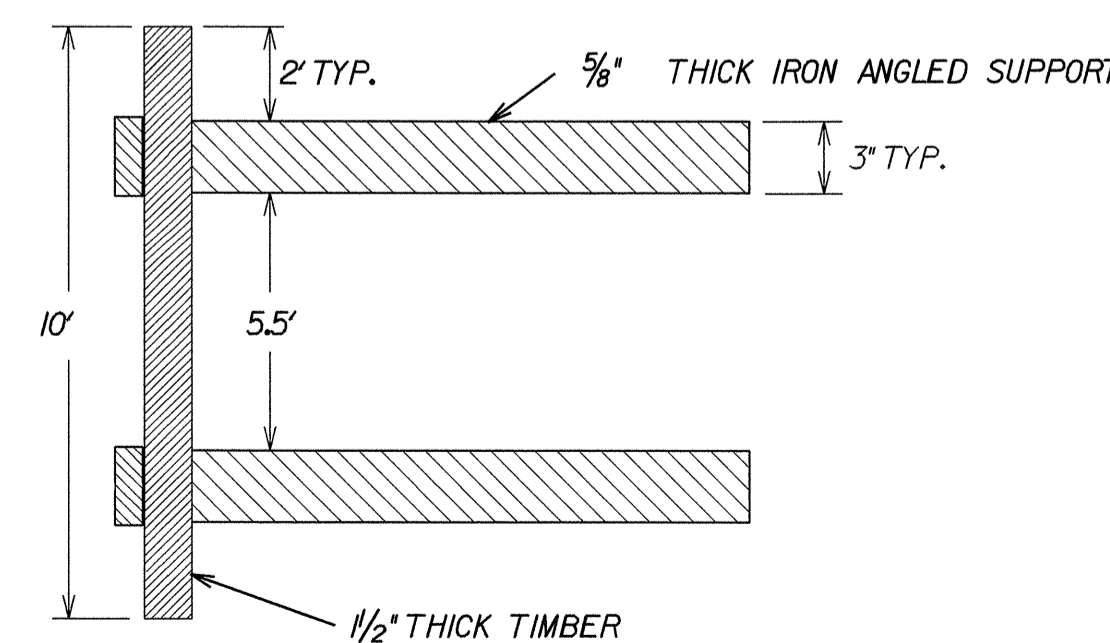


WELDED WIRE MESH FORM
N.T.S.

FORM OPTION #2



ELEVATION VIEW OF WALL
FACE FALSEWORK
N.T.S.



PLAN VIEW OF WALL
FACE FALSEWORK
N.T.S.

ESTIMATED QUANTITIES

FABRIC WALL:
TEMPORARY FABRIC WALLS 20 yd²

PROJECT B-3926
WATAUGA COUNTY
STATION SEE TRAFFIC CONTROL PLANS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TEMPORARY FABRIC WALL

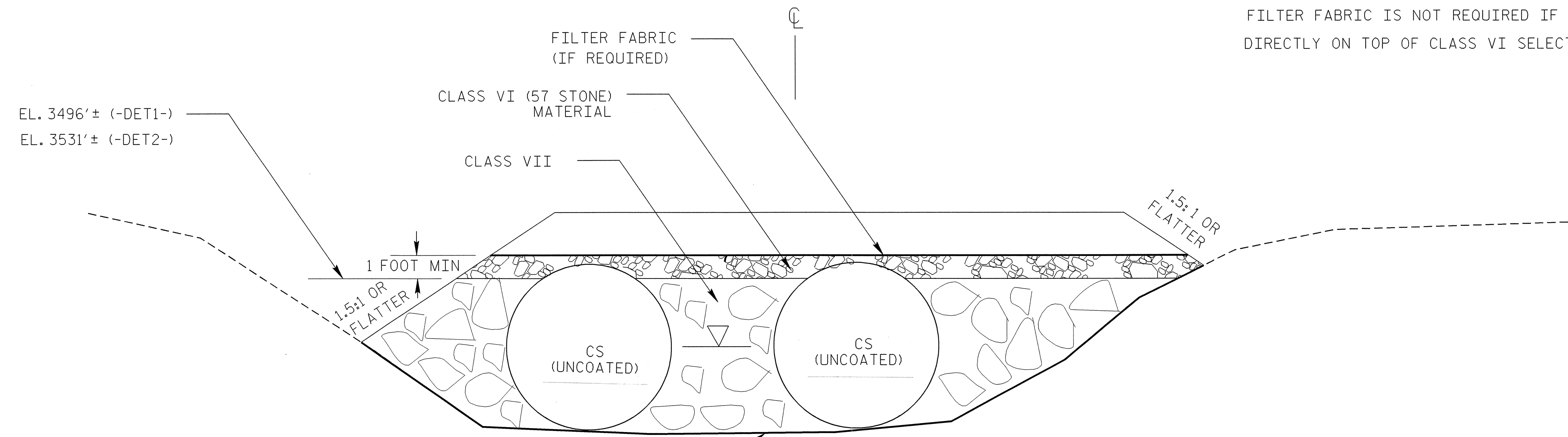
DRAWN BY RSW DATE 7/04
CHECKED BY JRB DATE 7/04

ESTIMATED QUANTITIES				
STATION FROM	STATION TO	FILTER FABRIC (SQ YARDS)	CLASS VI SELECT MATERIAL (TONS)	CLASS VII (TONS)
10+50± -DET1- 11+20± -DET2-	11+70± -DET1- 12+10± -DET2-	650 275	300 150	410 180

NOTES:

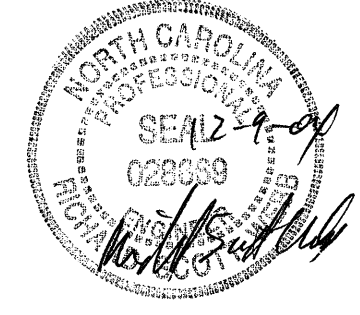
SEE ROADWAY PLANS FOR LOCATION OF -DET1- AND -DET2- AND PAVEMENT STRUCTURE.

FILTER FABRIC IS NOT REQUIRED IF PAVEMENT STRUCTURE LIES DIRECTLY ON TOP OF CLASS VI SELECT MATERIAL.



TYPICAL SECTION
-DET1- & -DET2-
NTS

PROJECT B-3926
WATAUGA COUNTY
STATION SEE TRAFFIC
CONTROL PLANS



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALPHIGH
ROCK EMBANKMENT
DETAIL

DRAWN BY RSW DATE 4/04
CHECKED BY JRB DATE 4/04

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

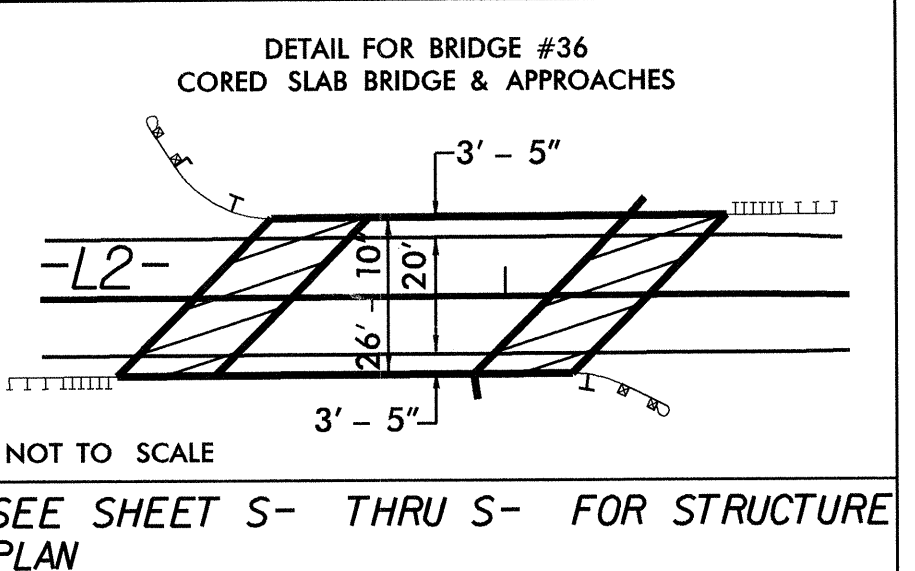
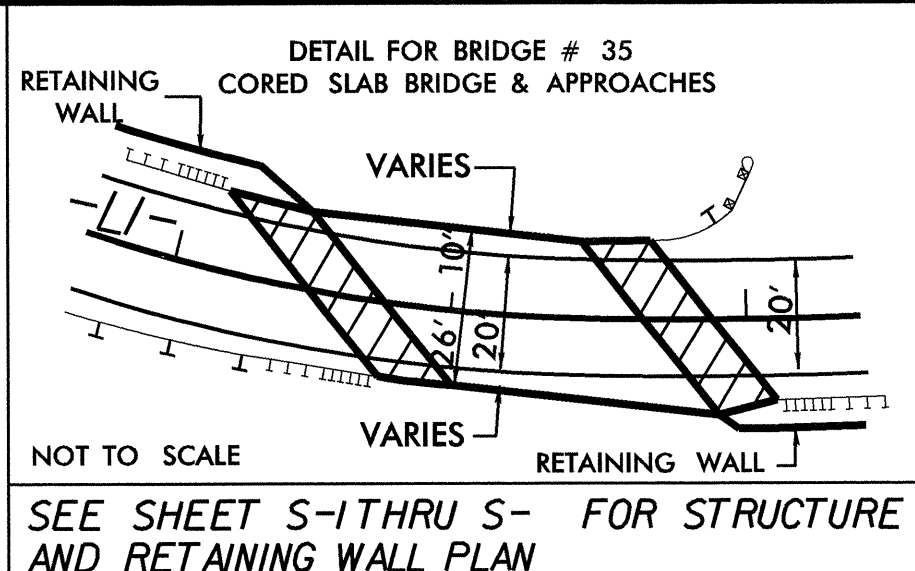
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201509

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	1489000000-E	610	200	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING	1525000000-E	SP	620	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (23+60-L1-)	1560000000-E	620	49	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (32+86-L2)	1693000000-E	654	15	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
0043000000-N	226	Lump Sum		GRADING	2000000000-N	806	24	EA	RIGHT OF WAY MARKERS
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING	2264000000-E	840	0.13	CY	PIPE PLUGS
0314000000-E	SP	450	TON	SELECT MATERIAL, CLASS ***** (VI)	2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
0314000000-E	SP	590	TON	SELECT MATERIAL, CLASS ***** (VII)	2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
0318000000-E	300	80	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	2500000000-E	842	18	CY	CONCRETE RETAINING WALLS
0343000000-E	310	72	LF	15" SIDE DRAIN PIPE	2556000000-E	846	125	LF	SHOULDER BERM GUTTER
0366000000-E	310	40	LF	15" RC PIPE CULVERTS, CLASS III	2577000000-E	846	590	LF	CONCRETE EXPRESSWAY GUTTER
0372000000-E	310	48	LF	18" RC PIPE CULVERTS, CLASS III	3030000000-E	862	250	LF	STEEL BM GUARDRAIL
0576000000-E	310	264	LF	*** CS PIPE CULVERTS, ***** THICK (48", 0.109")	3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
0576000000-E	310	200	LF	*** CS PIPE CULVERTS, ***** THICK (72", 0.138")	3180000000-N	862	3	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (III MOD)
0582000000-E	310	32	LF	15" CS PIPE CULVERTS, 0.064" THICK	3195000000-N	862	3	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
0588000000-E	310	80	LF	18" CS PIPE CULVERTS, 0.064" THICK	3215000000-N	862	5	EA	GUARDRAIL ANCHOR UNITS, TYPE III
0636000000-E	310	3	EA	*** CS PIPE ELBOWS, ***** THICK (48", 0.109")	3270000000-N	SP	5	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
0636000000-E	310	2	EA	*** CS PIPE ELBOWS, ***** THICK (72", 0.138")	3380000000-E	862	137.5	LF	TEMPORARY STEEL BM GUARDRAIL
0995000000-E	340	609	LF	PIPE REMOVAL	3389100000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY
1121000000-E	520	580	TON	AGGREGATE BASE COURSE	3649000000-E	876	13	TON	PLAIN RIP RAP, CLASS B
1220000000-E	545	100	TON	INCIDENTAL STONE BASE	3656000000-E	876	1,380	SY	FILTER FABRIC FOR DRAINAGE
					4412000000-E	SP	500	SF	WORK ZONE SIGNS (STATIONARY)
					4412100000-E	SP	96	SF	WORK ZONE SIGNS (PORTABLE)
					4412200000-E	SP	50	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)

ItemNumber	Sec #	Quantity	Unit	Description
4425000000-N	1125	12	EA	WARNING FLAG SETS
4430000000-N	1130	60	EA	DRUMS
4435000000-N	1135	41	EA	CONES
4446100000-E	SP	100	LF	BARRICADES (TYPE III)
4455000000-N	1150	80	MD	FLAGGER
4465000000-N	1160	4	EA	TEMPORARY CRASH CUSHIONS
4475000000-N	1165	1	EA	TRUCK MOUNTED IMPACT ATTENUATOR (45 MPH)
4490000000-E	1170	285	LF	PORTABLE CONCRETE BARRIER (ANCHORED)
4730000000-E	1205	5,810	LF	EPOXY PAVEMENT MARKING LINES (4")
4810000000-E	1205	2,800	LF	PAINT PAVEMENT MARKING LINES (4")
4835000000-E	1205	40	LF	PAINT PAVEMENT MARKING LINES (24")
4850000000-E	1205	1,390	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
5492000000-E	SP	52	LF	3/4" PE WATER TUBING, SDR 9, *****WP (200# WP)
6000000000-E	1605	750	LF	TEMPORARY SILT FENCE
6006000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	245	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	320	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	2	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6029000000-E	SP	640	LF	SAFETY FENCE
6030000000-E	1630	455	CY	SILT EXCAVATION
6036000000-E	1631	1,170	SY	MATTING FOR EROSION CONTROL
6038000000-E	SP	440	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	580	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	3	EA	SPECIAL STILLING BASINS
6084000000-E	1660	3.1	ACR	SEEDING & MULCHING
6087000000-E	1660	1	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	1.25	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	1.5	HR	SPECIALIZED HAND MOWING
6117000000-N	1675	8	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.25	ACR	REFORESTATION

5/28/09

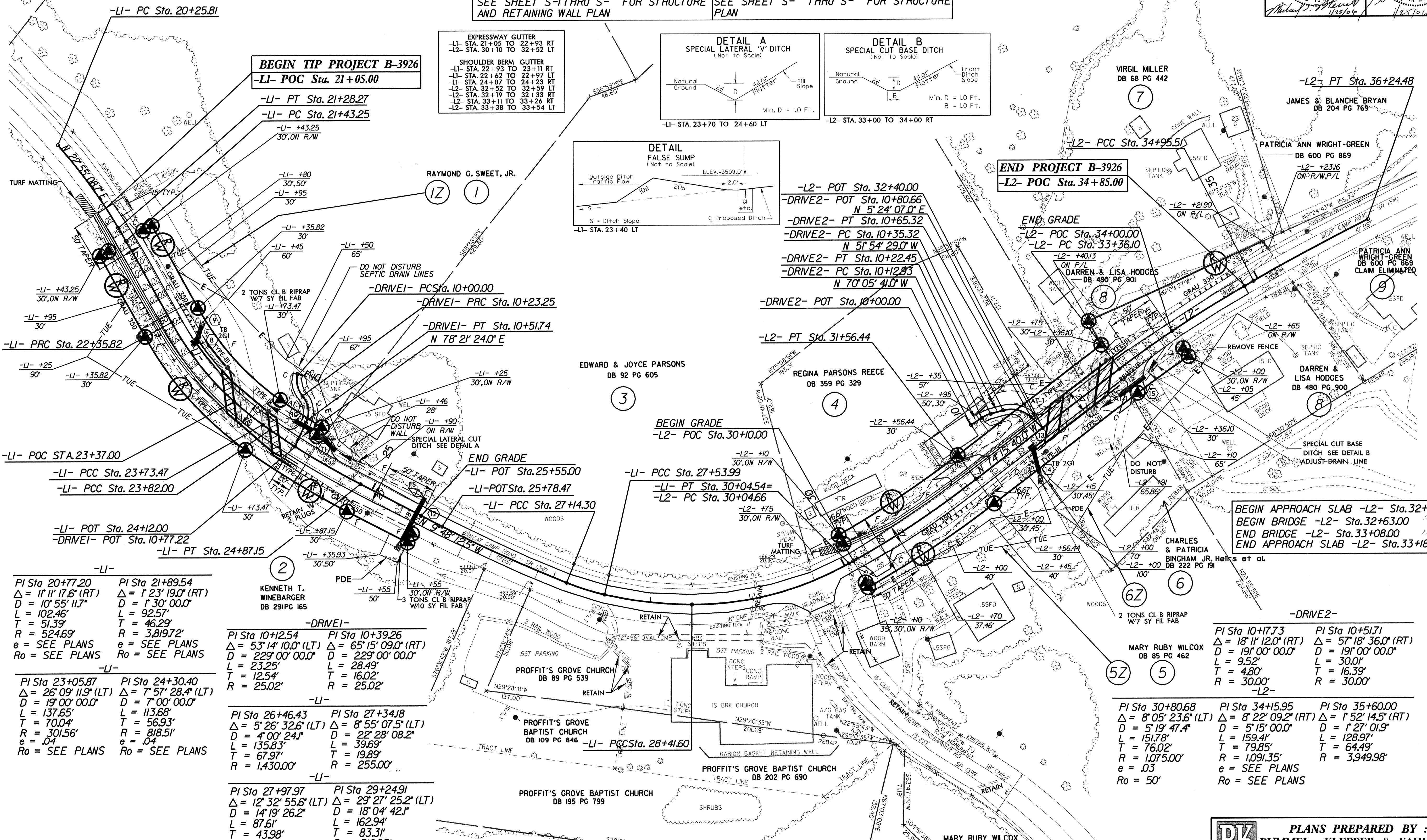
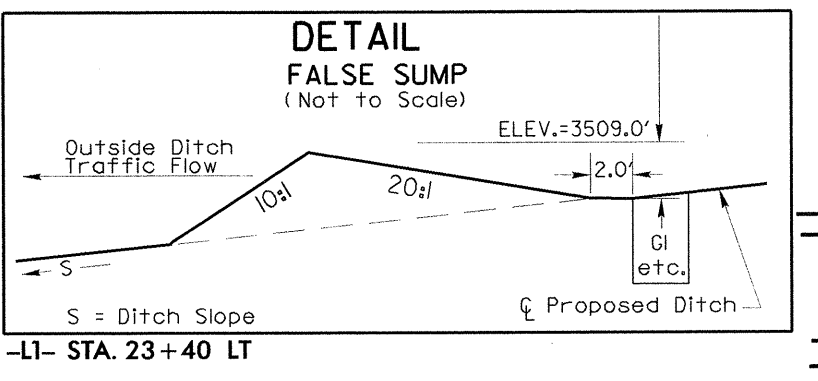
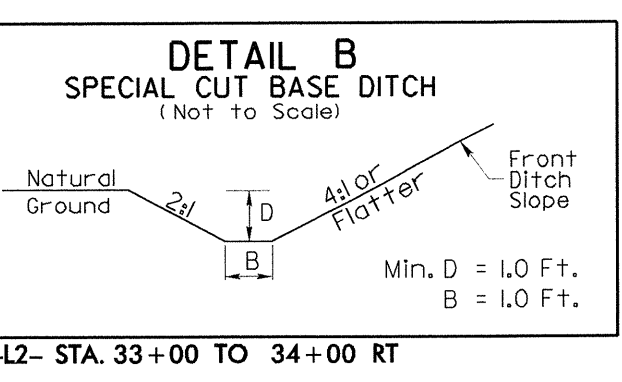
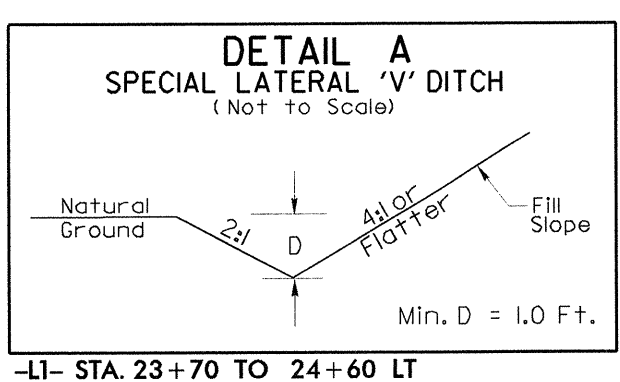
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BEGIN APPROACH SLAB -LI- Sta.23+23.51
 BEGIN BRIDGE -LI- Sta.23+36.98
 END BRIDGE -LI- Sta.23+82.02
 END APPROACH SLAB -LI- Sta.23+92.68

EXPRESSWAY GUTTER
 -L2- STA. 21+05 TO 22+93 RT
 -L2- STA. 30+10 TO 32+52 LT

SHOULDER BERM GUTTER
 -LI- STA. 22+93 TO 23+11 RT
 -LI- STA. 22+62 TO 22+97 LT
 -LI- STA. 24+07 TO 24+23 RT
 -L2- STA. 32+52 TO 32+59 LT
 -L2- STA. 32+19 TO 32+33 RT
 -L2- STA. 33+11 TO 33+26 RT
 -L2- STA. 33+38 TO 33+54 LT



-LI- PI Sta 20+77.20 Δ = 11° 11' 17.6" (RT) D = 10' 55' 11.7" L = 102.46' T = 51.39' R = 524.69' e = SEE PLANS Ro = SEE PLANS	-LI- PI Sta 21+89.54 Δ = 1° 23' 19.0" (RT) D = 1° 30' 00.0" L = 92.57' T = 46.29' R = 3,819.72' e = SEE PLANS Ro = SEE PLANS
-LI- PI Sta 23+05.87 Δ = 26° 09' 11.9" (LT) D = 19' 00' 00.0" L = 137.65' T = 70.04' R = 301.56' e = .04 Ro = SEE PLANS	-LI- PI Sta 24+30.40 Δ = 7° 57' 28.4" (LT) D = 7' 00' 00.0" L = 113.68' T = 56.93' R = 818.51' e = .04 Ro = SEE PLANS

-DRIVE1- PI Sta 10+12.54 Δ = 53° 14' 10.0" (LT) D = 229' 00' 00.0" L = 23.25' T = 12.54' R = 25.02'	-DRIVE1- PI Sta 10+39.26 Δ = 65° 15' 09.0" (RT) D = 229' 00' 00.0" L = 28.49' T = 16.02' R = 25.02'
-LI- PI Sta 26+46.43 Δ = 5° 26' 32.6" (LT) D = 4' 00' 24.1" L = 135.83' T = 67.97' R = 1,430.00'	-LI- PI Sta 27+34.18 Δ = 8° 55' 07.5" (LT) D = 22' 28' 08.2" L = 39.69' T = 19.89' R = 255.00'
-LI- PI Sta 27+97.97 Δ = 12° 32' 55.6" (LT) D = 14' 19' 26.2" L = 87.61' T = 43.98' R = 400.00'	-LI- PI Sta 29+24.91 Δ = 29° 27' 25.2" (LT) D = 18' 04' 42.1" L = 162.94' T = 83.31' R = 316.93'

-DRIVE2- PI Sta 10+17.73 Δ = 18° 11' 12.0" (RT) D = 191' 00' 00.0" L = 9.52' T = 4.80' R = 30.00'	-DRIVE2- PI Sta 10+51.71 Δ = 57° 18' 36.0" (RT) D = 191' 00' 00.0" L = 30.01' T = 16.39' R = 30.00'
-L2- PI Sta 30+80.68 Δ = 8° 05' 23.6" (LT) D = 5' 19' 47.4" L = 151.78' T = 76.02' R = 1,071.00' e = .03 Ro = 50'	-L2- PI Sta 34+15.95 Δ = 8° 22' 09.2" (RT) D = 5' 15' 00.0" L = 159.41' T = 79.85' R = 1,091.35' e = SEE PLANS Ro = SEE PLANS
-L2- PI Sta 35+60.00 Δ = 1° 52' 14.5" (RT) D = 1' 27' 01.9" L = 128.97' T = 64.49' R = 3,949.98'	

NOTE: SEE SHEET 2 FOR DETAIL OF TEMPORARY FABRIC WALL
 SEE SHEET 5 FOR -LI- & -L2- PROFILES
 SEE SHEET 6 FOR -DRIVE1- & -DRIVE2- PROFILES.

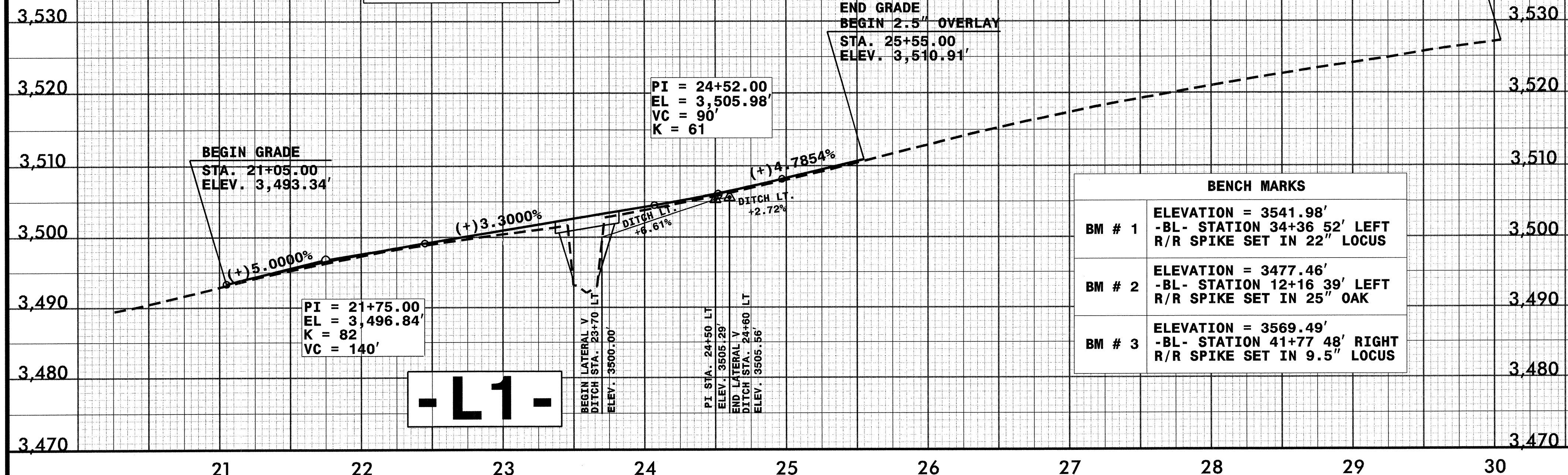
NOTE: 2.5in OVERLAY FROM -LI- STA.25+55.00 TO -LI- STA. 30+04.54, -L2- STA.30+04.66 TO -L2- STA.30+10.00, AND -L2- STA.34+00.00 TO -L2- STA.34+85.00
 ALL DRIVEWAY RADII ARE 5' UNLESS OTHERWISE SPECIFIED

PLANS PREPARED BY :
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 (919)-878-9560
 FOR
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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BRIDGE DATA
BRIDGE #35
OVER MEAT CAMP CREEK

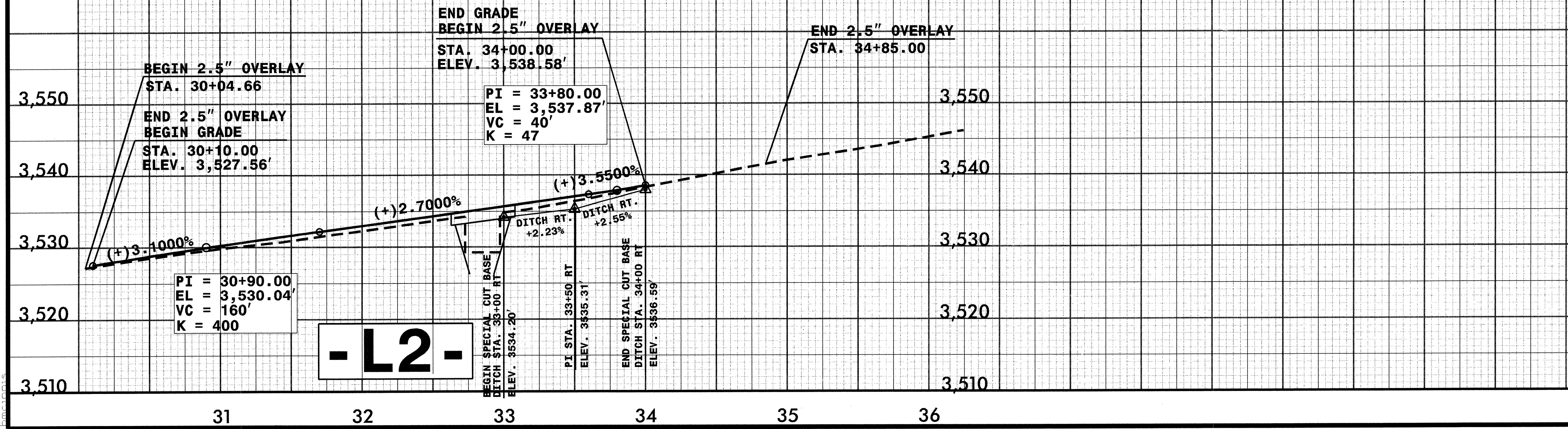
DESIGN Q = 1100 cfs
DESIGN FREQ = 25 yr
DESIGN EL = 3,502.8 ft
BASE FLOOD Q = 1700 cfs
BASE FLOOD FREQ = 100 yr
BASE FLOOD EL = 3,503.5 ft
OT Q = 1675 cfs
OT FREQ = 100 yr
OT EL = 3,503.1 ft



-L1-

BRIDGE DATA
BRIDGE #36
OVER MEAT CAMP CREEK

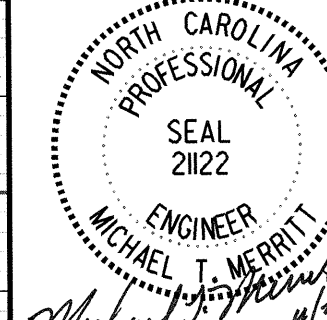
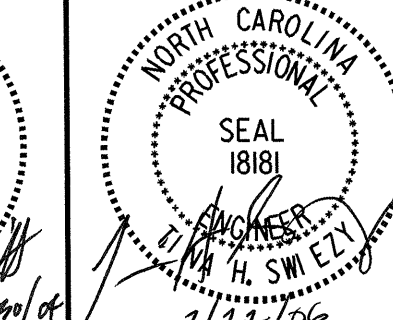
DESIGN Q = 1000 cfs
DESIGN FREQ = 25 yr
DESIGN EL = 3,537.8 ft
BASE FLOOD Q = 1500 cfs
BASE FLOOD FREQ = 100 yr
BASE FLOOD EL = 3,538.5 ft
OT Q = 1252 cfs
OT FREQ = 100-yr
OT EL = 3,535.9 ft

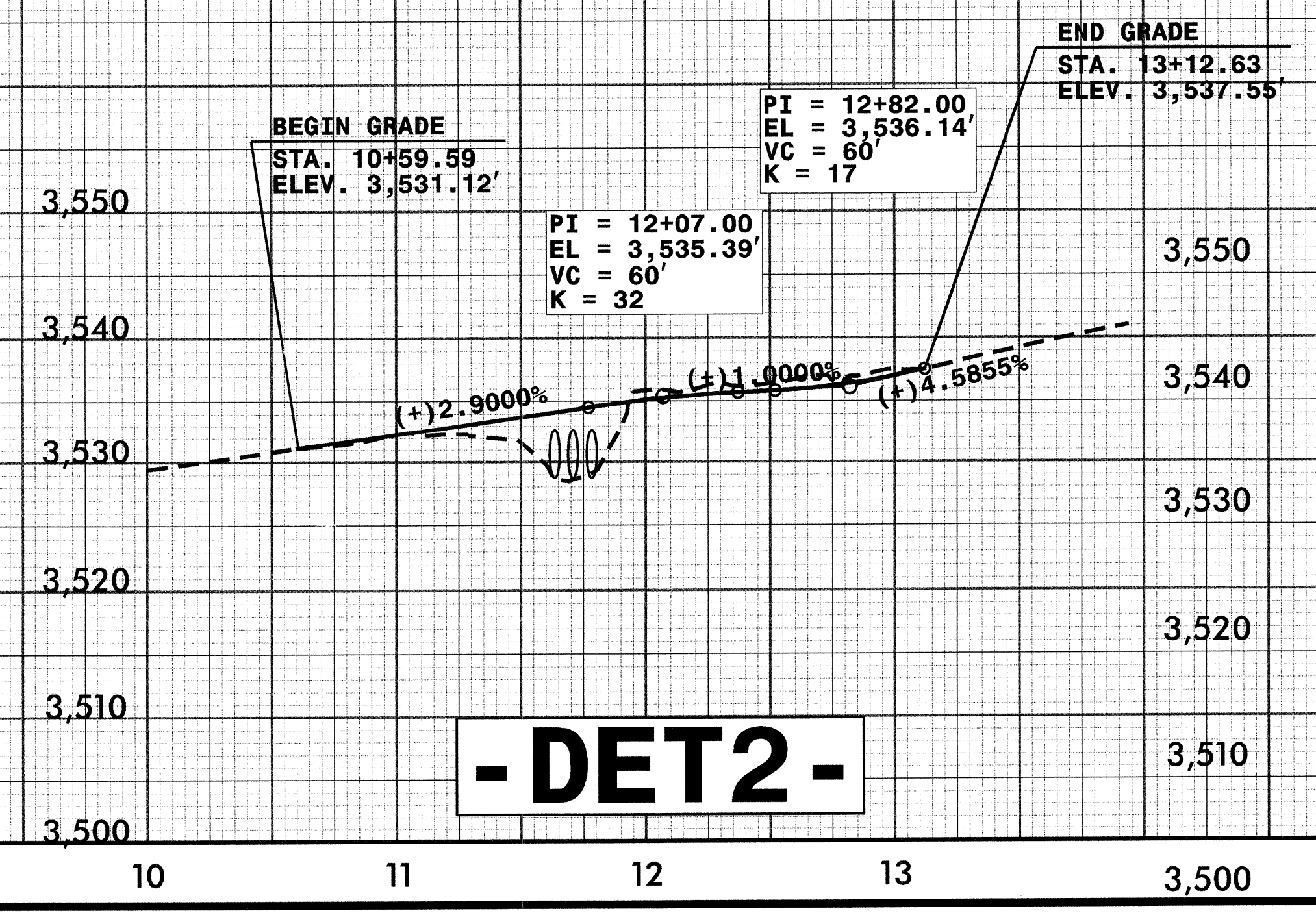
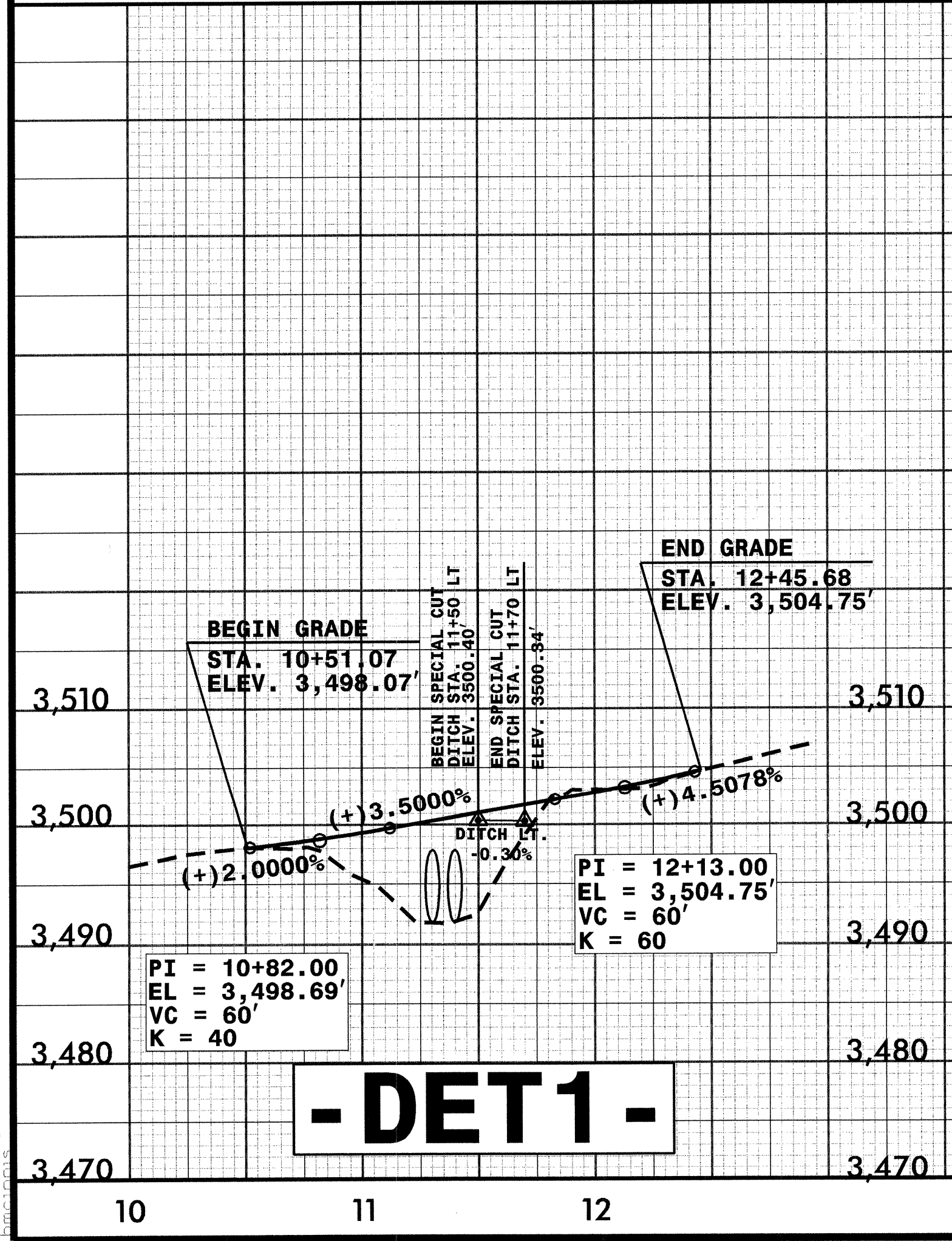
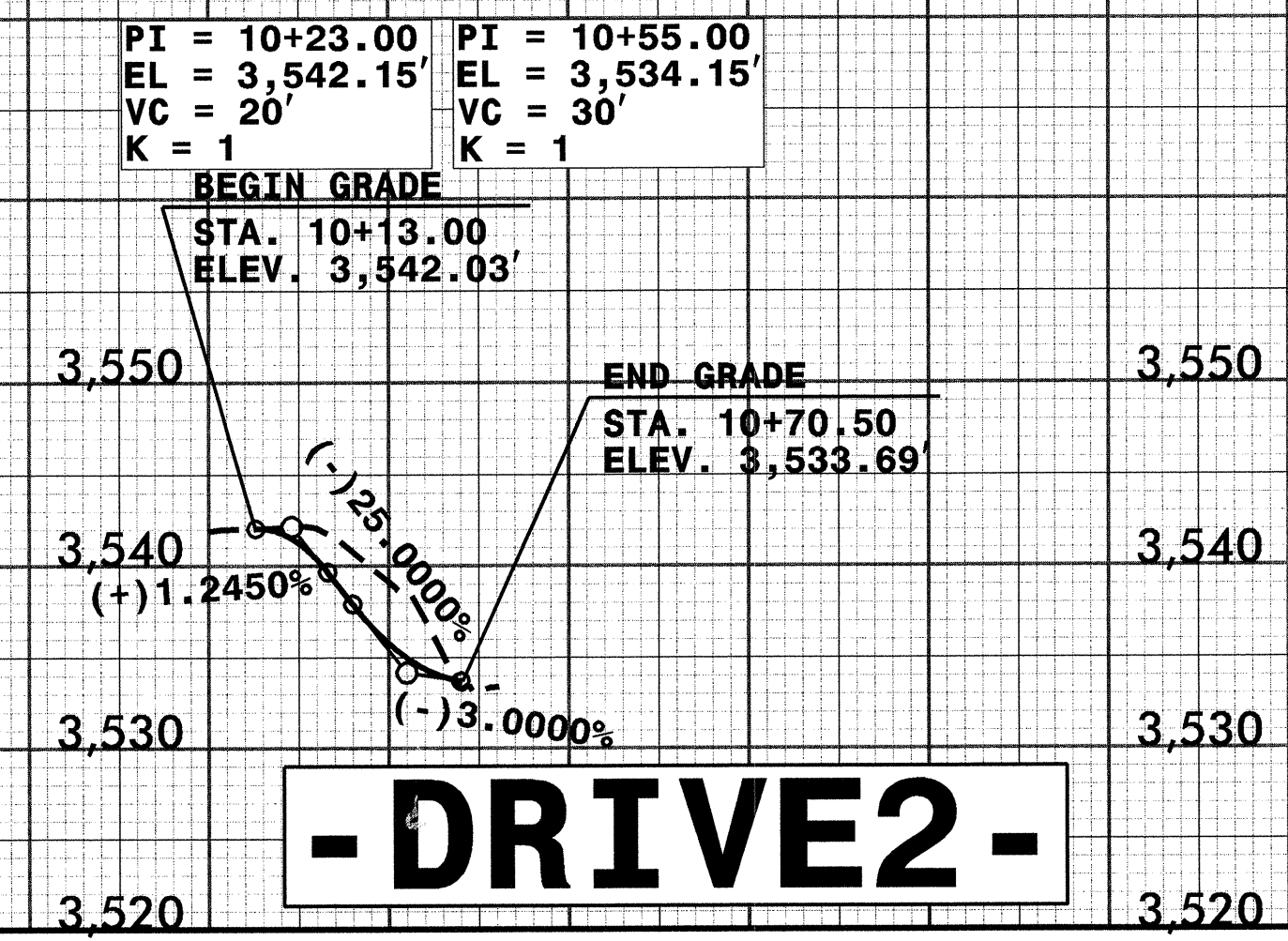
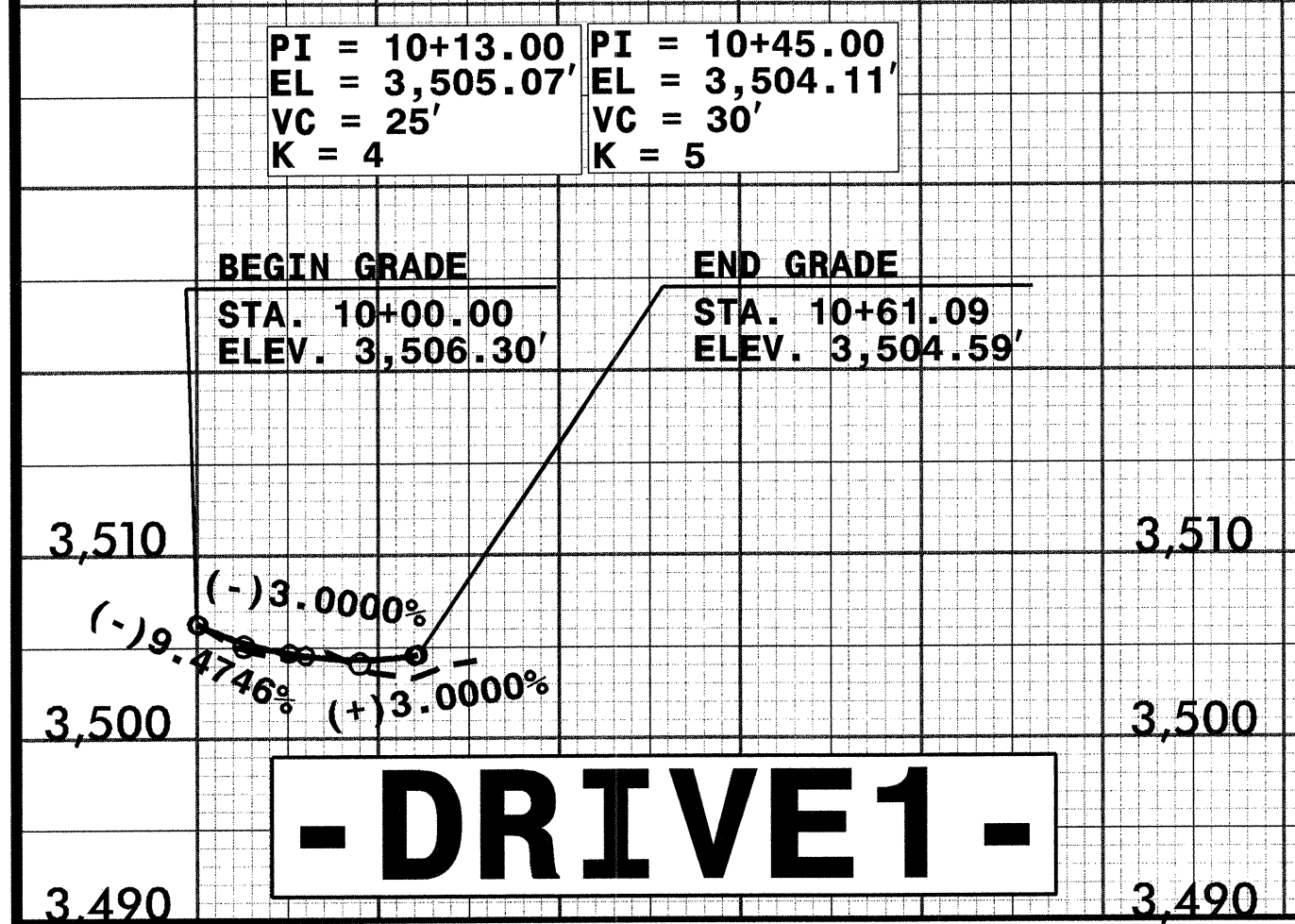


-L2-

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5/28/06

PROJECT REFERENCE NO. B-3926	SHEET NO. 6
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
	



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15/04/06 11:58:11 AM
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