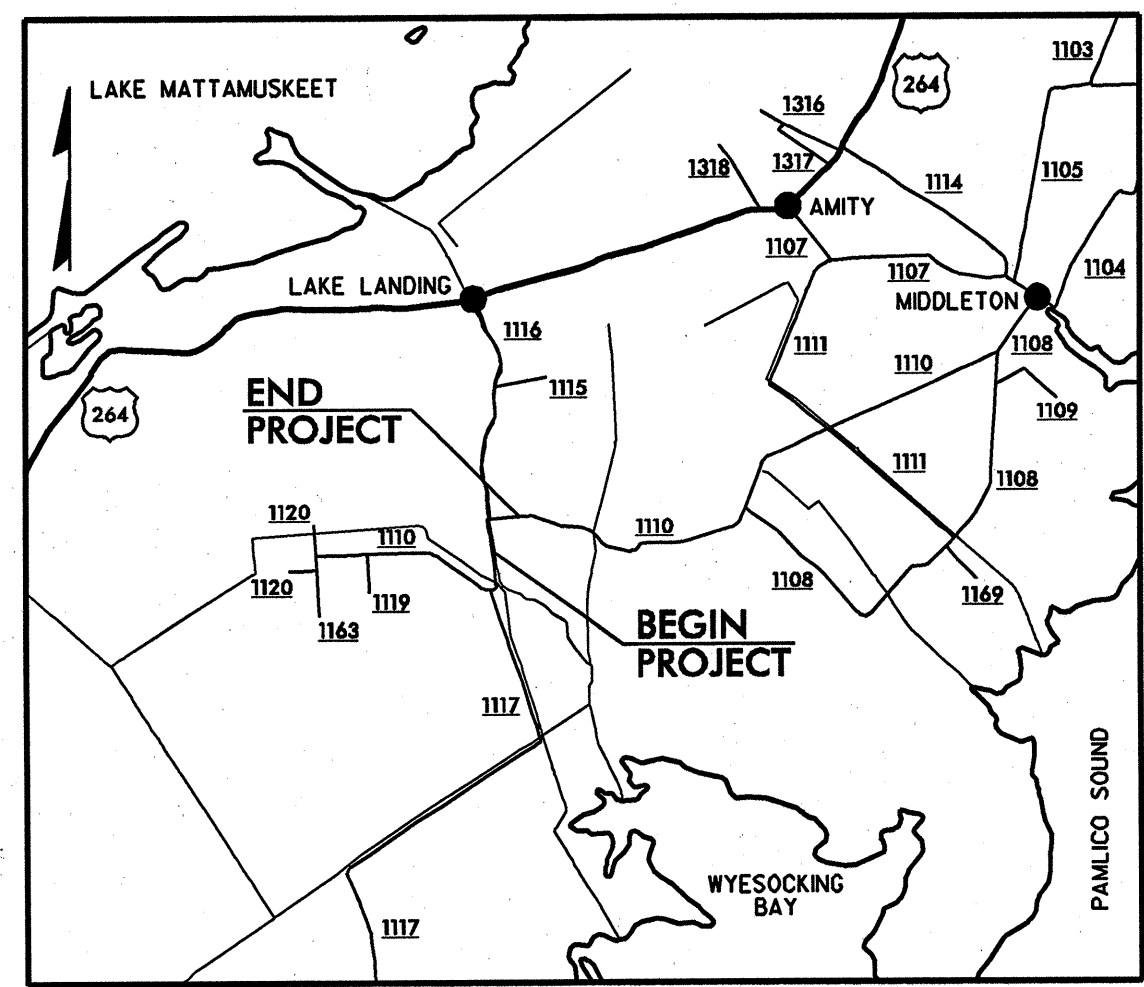


09/08/99

CONTRACT: C201241 TIP PROJECT: B-3858

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



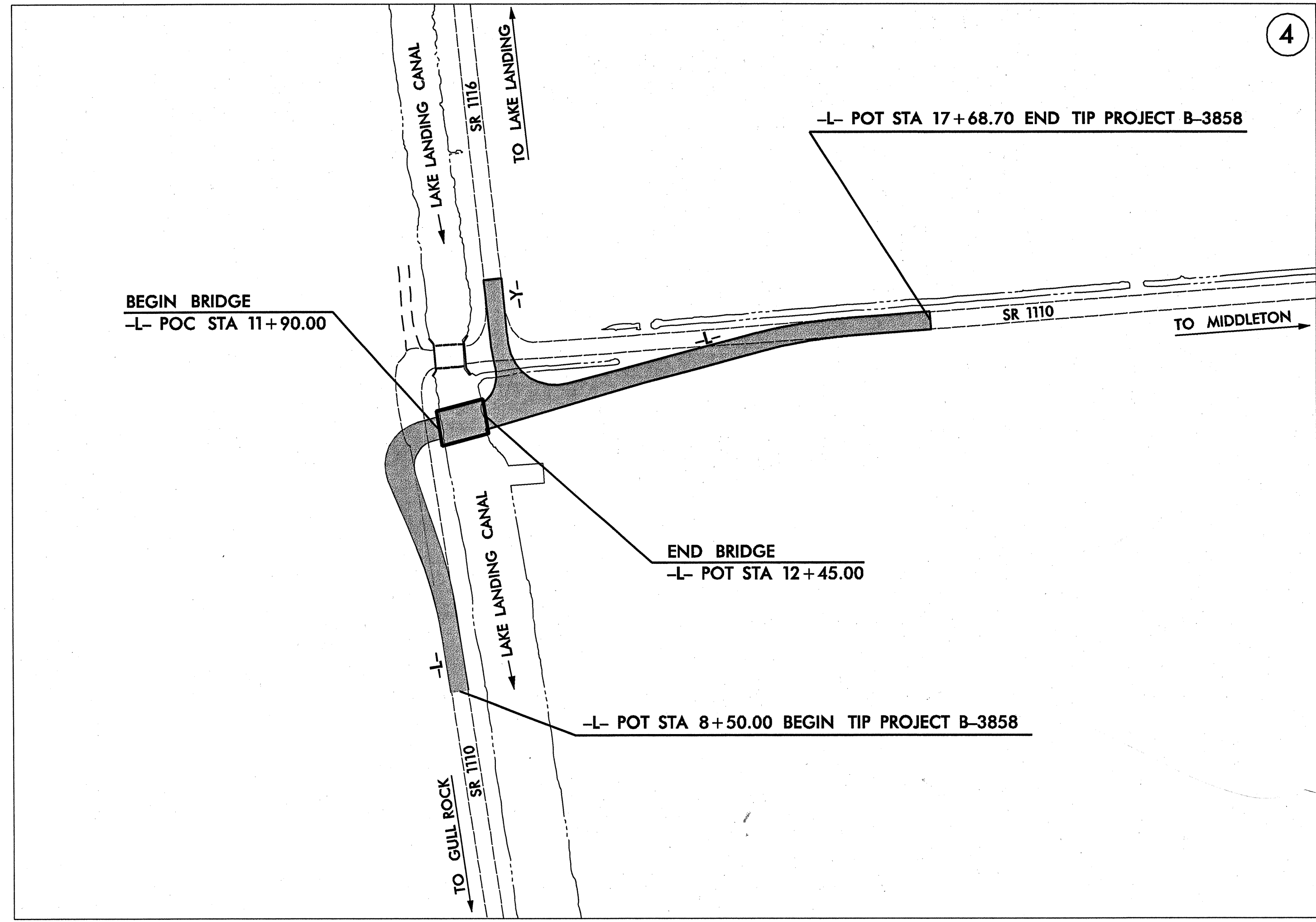
VICINITY MAP



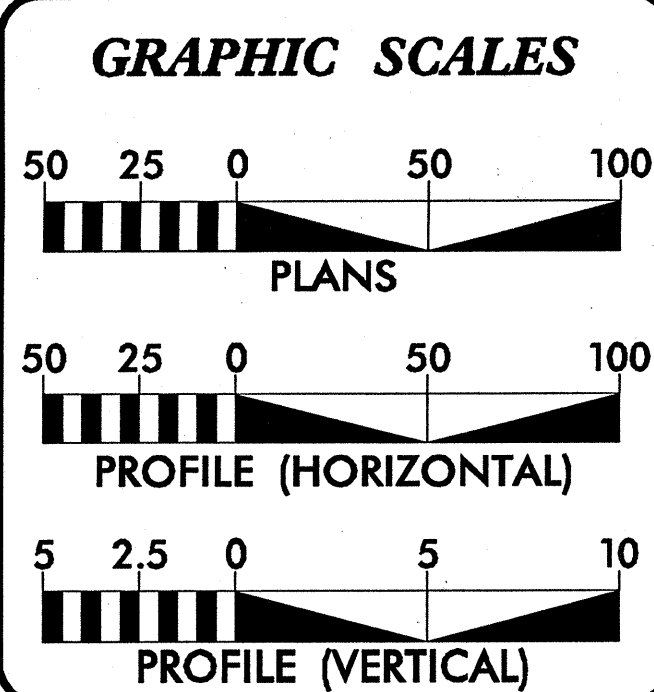
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
HYDE COUNTY

**LOCATION: REPLACE BRIDGE NO. 6 AND APPROACHES
ON SR 1110 OVER LAKE LANDING CANAL**

TYPE OF WORK: GRADING, PAVING, DRAINAGE AND STRUCTURE



** DESIGN EXCEPTION FOR HORIZONTAL ALIGNMENT REQUIRED.



DESIGN DATA

ADT 2005 =	700
ADT 2025 =	1,200
DHV =	12%
D =	60%
T =	5% *
V =	40 MPH**
* TTST	3% DUAL 2%

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3858	=	0.164 mi
LENGTH STRUCTURE TIP PROJECT B-3858	=	0.010 mi
TOTAL LENGTH TIP PROJECT B-3858	=	0.174 mi

Plans prepared in the office of:

Ramey Kemp & Associates, Inc.
Transportation Consulting Engineers
4328-A Windy Hill Drive
Raleigh, North Carolina 27609
(919) 872-5465 fax (919) 878-5416

for the North Carolina Department of Transportation

2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 30, 2004

LETTING DATE:
JUNE 20, 2006

N.C.D.O.T. CONTACT:
CATHY HOUSER - PROJECT ENGINEER
ROADWAY DESIGN

HYDRAULICS ENGINEER

ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

cut miller P.E.
STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR

DATE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3858	1	
STATE PROJ. NO.	P.A. PROJ. NO.	DESCRIPTION	
33305.1.1	BRZ-1110(3)	P.E.	
33305.2.2	BRZ-1110(3)	R/W, UTIL.	
33305.3.1	BRZ-1110(5)	CONST.	

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 15, 2002 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO. TITLE

DIVISION 2 - EARTHWORK

- 200.02 Method of Clearing - Method II
- 225.02 Guide for Grading Subgrade - Secondary and Local
- 225.04 Method of Obtaining Superelevation - Two Lane Pavement

DIVISION 3 - PIPE CULVERTS

- 300.01 Method of Pipe Installation - Method 'A'

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

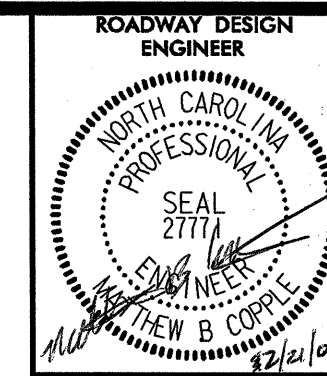
- 654.01 Pavement Repairs

DIVISION 8 - INCIDENTALS

- 850.01 Concrete Paved Ditches
- 862.01 Guardrail Placement
- 876.02 Guide for Rip Rap at Pipe Outlets

INDEX OF SHEETS

<u>SHEET NUMBER</u>	<u>SHEET</u>
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	CENTERLINE COORDINATE LIST
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND METHOD OF WEDGING DETAIL
2-A	-Y- LINE TYPICALS
2-B THRU 2-E	REINFORCED BRIDGE APPROACH FILLS
2-F THRU 2-I	GUARDRAIL INSTALLATION
2-J THRU 2-L	STRUCTURE ANCHOR UNITS
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL, & DRAINAGE
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-13	TRAFFIC CONTROL PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS SECTION SUMMARY
X-2 THRU X-9	CROSS-SECTIONS
S-1 THRU S-	STRUCTURE PLANS



PROJECT REFERENCE NO.	SHEET NO.
B-3858	1-A

GENERAL NOTES: 2002 SPECIFICATIONS
 EFFECTIVE: 01-15-02
 REVISED: 11-23-04

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.

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 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.

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.

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 WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:

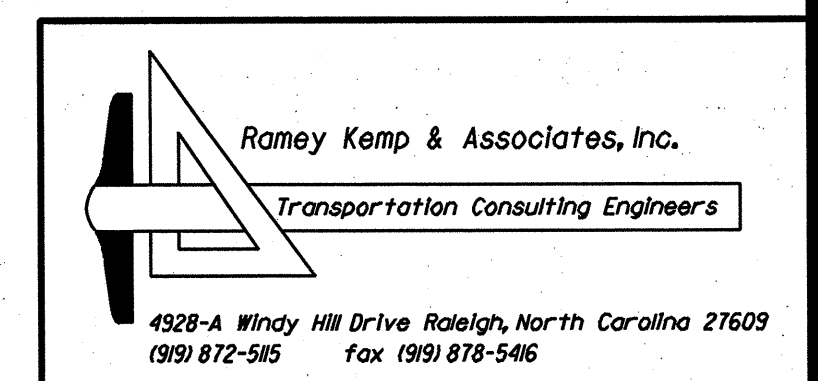
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE TIDELAND EMC, SPRINT, AND HYDE COUNTY WATER AND SEWER. UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL SYMBOLS

*S.U.E = SUBSURFACE UTILITY ENGINEER

ROADS & RELATED ITEMS

Edge of Pavement	---
Curb	---
Prop. Slope Stakes Cut	-C-
Prop. Slope Stakes Fill	-F-
Prop. Woven Wire Fence	-○-○-
Prop. Chain Link Fence	-□-□-
Prop. Barbed Wire Fence	-◇-◇-
Prop. Wheelchair Ramp	-WCP-
Curb Cut for Future Wheelchair Ramp	-CCFR-
Exist. Guardrail	-T-T-
Prop. Guardrail	-T-T-
Equality Symbol	⊕
Pavement Removal	-XXXX-

RIGHT OF WAY

Baseline Control Point	◆
Existing Right of Way Marker	△
Exist. Right of Way Line w/Marker	-△-
Prop. Right of Way Line with Proposed	-▲-
R/W Marker (Iron Pin & Cap)	-▲-
Prop. Right of Way Line with Proposed	-▲-
(Concrete or Granite) R/W Marker	⊙
Exist. Control of Access Line	-⊙-
Prop. Control of Access Line	-⊙-
Exist. Easement Line	-E-
Prop. Temp. Construction Easement Line	-E-
Prop. Temp. Drainage Easement Line	-TDE-
Prop. Perm. Drainage Easement Line	-PDE-

HYDROLOGY

Stream or Body of Water	- - - -
River Basin Buffer	-RBB-
Flow Arrow	->-
Disappearing Stream	->->-
Spring	○
Swamp Marsh	⋆
Shoreline	- - - -
Falls, Rapids	- -
Prop Lateral, Tail, Head Ditches	->->-

STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	-CONC-
Bridge Wing Wall, Head Wall and End Wall	-CONC WW-

MINOR	
Head & End Wall	-CONC HW-
Pipe Culvert	-= = =-
Footbridge	-X-X-
Drainage Boxes	-□ CB-
Paved Ditch Gutter	- - - -

UTILITIES

Exist. Pole	•
Exist. Power Pole	•
Prop. Power Pole	○
Exist. Telephone Pole	•
Prop. Telephone Pole	○
Exist. Joint Use Pole	•
Prop. Joint Use Pole	○
Telephone Pedestal	⊕
U/G Telephone Cable Hand Hold	⊕
Cable TV Pedestal	⊕
U/G TV Cable Hand Hold	⊕
U/G Power Cable Hand Hold	⊕
Hydrant	⊕
Satellite Dish	⊕
Exist. Water Valve	⊕
Sewer Clean Out	⊕
Power Manhole	⊕
Telephone Booth	⊕
Cellular Telephone Tower	⊕
Water Manhole	⊕
Light Pole	⊕
H-Frame Pole	⊕
Power Line Tower	⊕
Pole with Base	⊕
Gas Valve	⊕
Gas Meter	⊕
Telephone Manhole	⊕
Power Transformer	⊕
Sanitary Sewer Manhole	⊕
Storm Sewer Manhole	⊕
Tank; Water, Gas, Oil	⊕
Water Tank With Legs	⊕
Traffic Signal Junction Box	⊕
Fiber Optic Splice Box	⊕
Television or Radio Tower	⊕
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement	-TS-TS-

Recorded Water Line	-W-W-
Designated Water Line (S.U.E.*)	-W-W-
Sanitary Sewer	-SS-SS-
Recorded Sanitary Sewer Force Main	-FSS-FSS-
Designated Sanitary Sewer Force Main(S.U.E.*)	-FSS-FSS-
Recorded Gas Line	-G-G-
Designated Gas Line (S.U.E.*)	-G-G-
Storm Sewer	-S-S-
Recorded Power Line	-P-P-
Designated Power Line (S.U.E.*)	-P-P-
Recorded Telephone Cable	-T-T-
Designated Telephone Cable (S.U.E.*)	-T-T-
Recorded U/G Telephone Conduit	-TC-TC-
Designated U/G Telephone Conduit (S.U.E.*)	-TC-TC-
Unknown Utility (S.U.E.*)	-?UTL-?UTL-
Recorded Television Cable	-TV-TV-
Designated Television Cable (S.U.E.*)	-TV-TV-
Recorded Fiber Optics Cable	-FO-FO-
Designated Fiber Optics Cable (S.U.E.*)	-FO-FO-
Exist. Water Meter	⊕
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to U/G Record	ATTUR
End of Information	E.O.I.

BOUNDARIES & PROPERTIES

State Line	- - - -
County Line	- - - -
Township Line	- - - -
City Line	- - - -
Reservation Line	- - - -
Property Line	- - - -
Property Line Symbol	⊕
Exist. Iron Pin	⊕
Property Corner	+
Property Monument	⊕
Property Number	⊕
Parcel Number	⊕
Fence Line	-X-X-
Existing Wetland Boundaries	-WW & ISBW-
High Quality Wetland Boundary	-HQ WLB-
Medium Quality Wetland Boundaries	-MQ WLB-
Low Quality Wetland Boundaries	-LQ WLB-
Proposed Wetland Boundaries	-WLB-
Existing Endangered Animal Boundaries	-EAB-
Existing Endangered Plant Boundaries	-EPB-

BUILDINGS & OTHER CULTURE

Buildings	- - - -
Foundations	- - - -
Area Outline	- - - -
Gate	- - - -
Gas Pump Vent or U/G Tank Cap	- - - -
Church	- - - -
School	- - - -
Park	- - - -
Cemetery	- - - -
Dam	- - - -
Sign	- - - -
Well	- - - -
Small Mine	- - - -
Swimming Pool	- - - -

TOPOGRAPHY

Loose Surface	- - - -
Hard Surface	- - - -
Change in Road Surface	- - - -
Curb	- - - -
Right of Way Symbol	R/W
Guard Post	⊕ GP
Paved Walk	- - - -
Bridge	- - - -
Box Culvert or Tunnel	- - - -
Ferry	- - - -
Culvert	- - - -
Footbridge	- - - -
Trail, Footpath	- - - -
Light House	- - - -

VEGETATION

Single Tree	⊕
Single Shrub	⊕
Hedge	- - - -
Woods Line	- - - -
Orchard	- - - -
Vineyard	- - - -

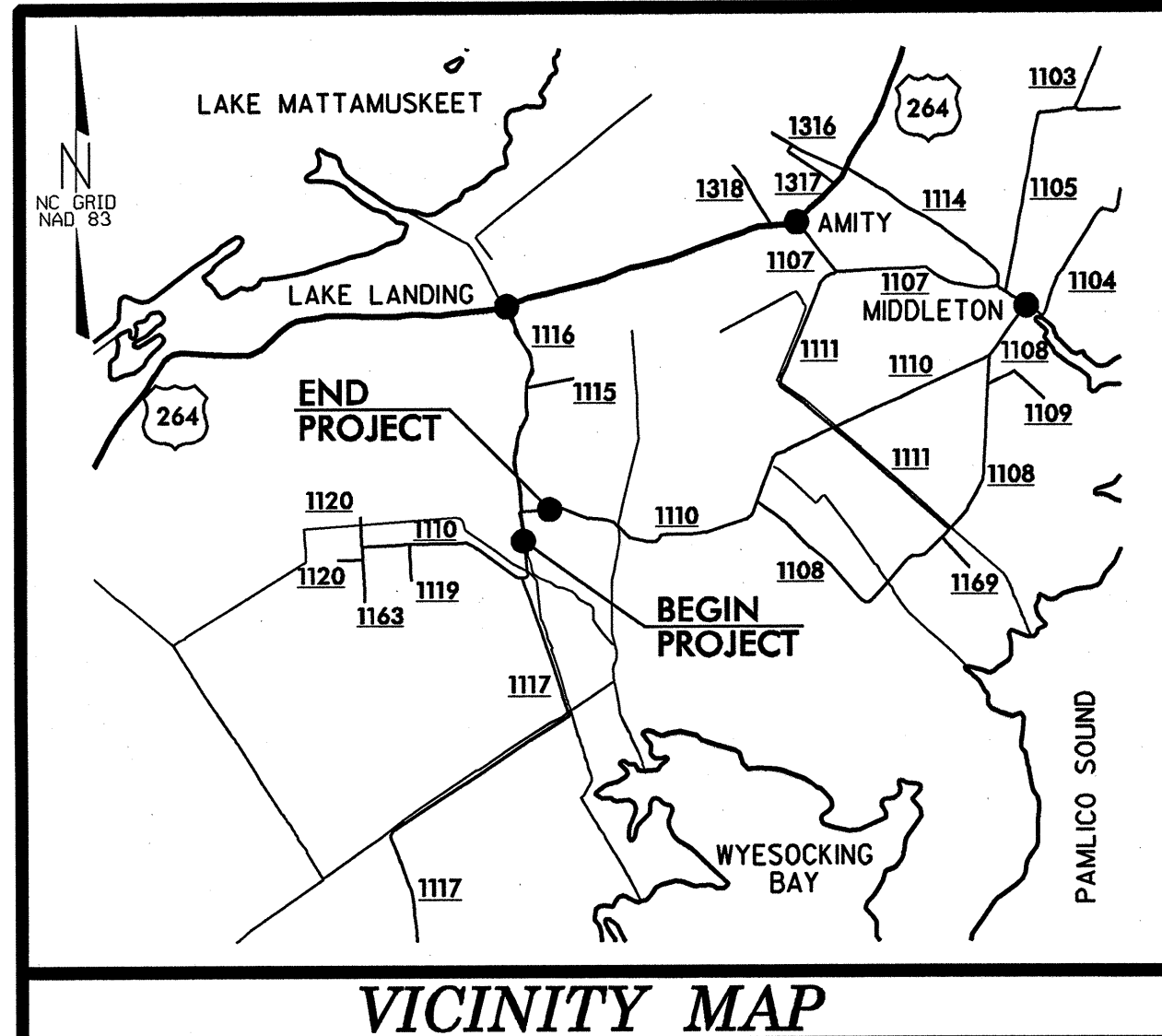
RAILROADS

Standard Gauge	- - - -
RR Signal Milepost	- - - -
Switch	- - - -

Ramey Kemp & Associates, Inc.
Transportation Consulting Engineers
4928-A Windy Hill Drive Raleigh, North Carolina 27609
1991 872-585 Fax 1991 878-5416

DATE PLOTTED: 11/19/91 11:58 AM

SURVEY CONTROL SHEET B-3858



NCDOT BASELINE STATION "BY-8"
LOCALIZED PROJECT COORDINATES
N = 636,082.5380
E = 2,870,731.6230

NCDOT BASELINE STATION "BY-7"
LOCALIZED PROJECT COORDINATES
N = 635,631.9350
E = 2,870,812.9950



CONTROL DATA

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
5		BL-5	634155.3620	2870888.1310	2.33'	OUTSIDE PROJECT LIMITS	
1		NCDOT GPS "B3858-1"	634886.4540	2870867.1720	3.58'	12+74.20	30.12' LT
6		BL-6	634964.9910	2871629.1450	2.19'	OUTSIDE PROJECT LIMITS	
2		NCDOT GPS "B3858-2"	635039.6450	2872273.4620	2.28'	OUTSIDE PROJECT LIMITS	

BY	POINT	DESC.	NORTH	EAST	ELEVATION	ALTC_Y STATION	OFFSET
8		BY-8	636082.5380	2870731.6230	3.31'	OUTSIDE PROJECT LIMITS	
7		BY-7	635631.9350	2870812.9950	2.50'	OUTSIDE PROJECT LIMITS	
1		NCDOT GPS "B3858-1"	634886.4540	2870867.1720	3.58'	10+30.12	4.83' LT

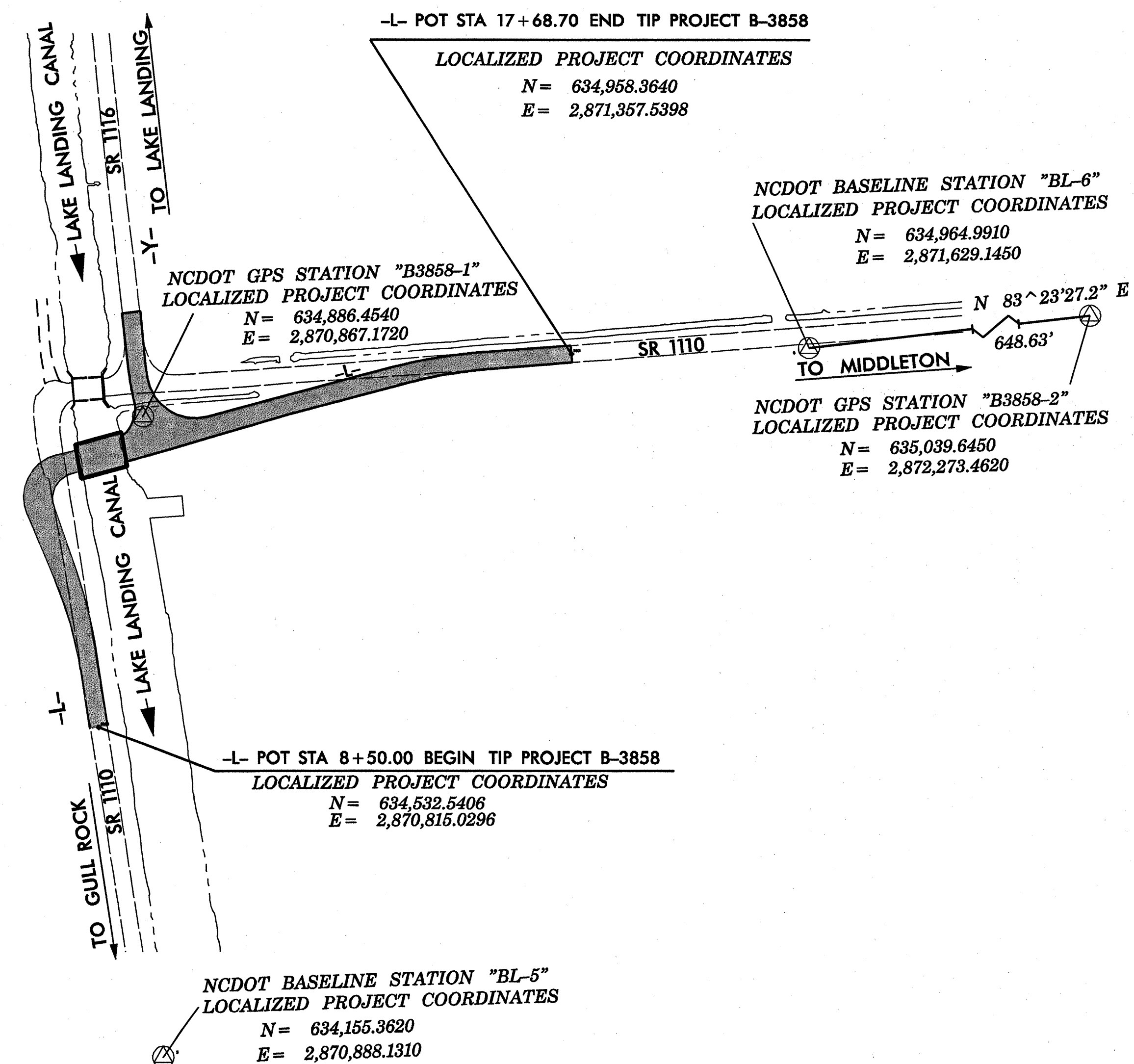
BENCHMARK DATA

.....
 BM9 ELEVATION = 3.84'
 N 634373 E 2871085
 L STATION 8+50
 S 59° 28' 21" E DIST 313.30'
 CROSS CHISELED IN SW COR. OF CONC. GAS PUMP ISLAND

 BM10 ELEVATION = 2.18'
 N 636540 E 2870641
 ALTC_Y STATION 11+69
 N 7° 56' 12.4" W DIST 1529.40'
 I.P. & CAP STAMPED B-3858 BM10. BURIED 0.4 FT +/- DEEP

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B3858-1" WITH NAD 1983 STATE PLANE GRID COORDINATES OF NORTHING: 634886.454(ft) EASTING: 2870867.172(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999879 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B3858-1" TO -L- STATION 8+50.00 IS S 08°22'52.1" W 357.73' 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 [HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project)

FILE: b3858_ls_control_051027.txt

SITE CALIBRATION PARAMETERS HAVE NOT BEEN DETERMINED 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

CENTERLINE COORDINATE LIST

Project Tip No. : B-3858

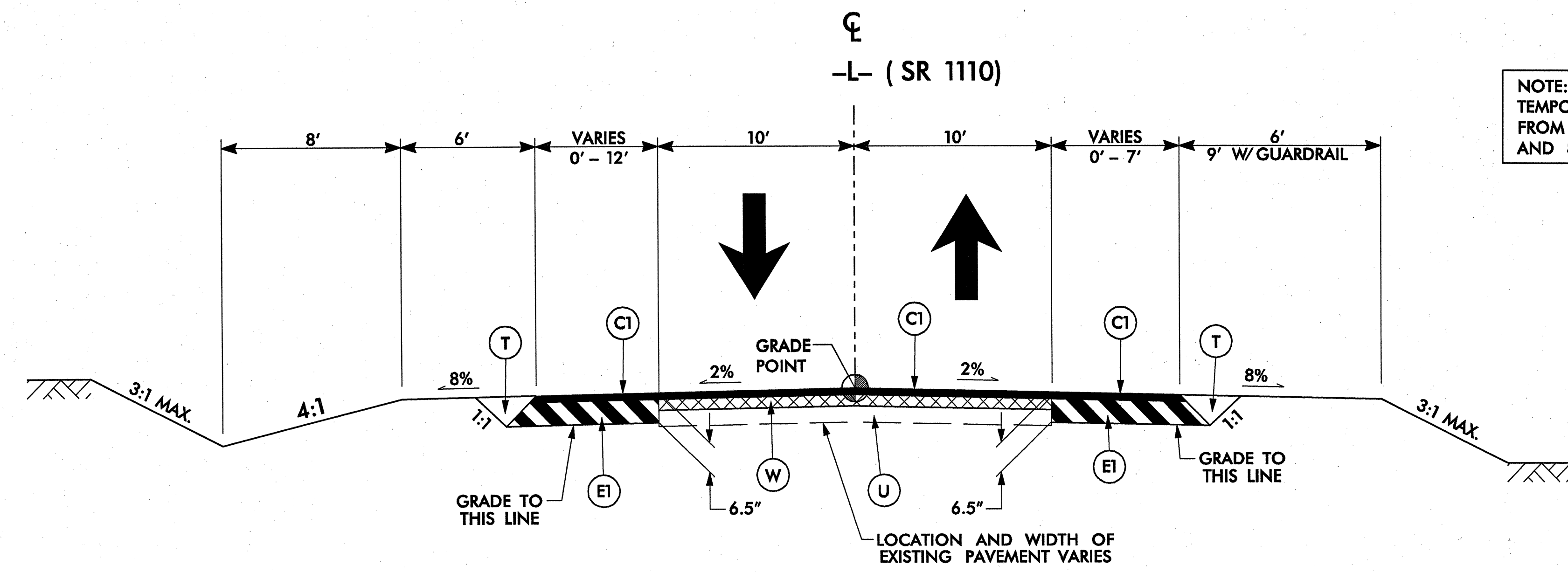
File Location\Name : R:\ 3858\Gpk\CL_Coord_List.xls

Date: 9/27/05

Disclaimer: This coordinate list is provided for the convenience of interested contractors and is intended for use during the project bidding process only. Coordinates are localized to this particular project and any conversion to state grid coordinates or other formats will be the responsibility of the recipient. While every effort has been made to provide up-to-date, accurate information, NCDOT makes no express guarantee as to the validity or potential for revision of this information prior to project letting.

POINT #	CHAIN	CL STATION	NORTH	EAST
900	L	8+50	634,532.5406	2,870,815.0296
901	L	9+00	634,581.9455	2,870,807.3379
902	L	9+50	634,631.2641	2,870,799.1396
903	L	10+00	634,679.8104	2,870,787.2369
904	L	10+50	634,727.3165	2,870,771.6590
905	L	11+00	634,774.6535	2,870,755.5591
906	L	11+50	634,821.3813	2,870,756.8046
907	L	12+00	634,838.2446	2,870,803.2329
908	L	12+50	634,851.1222	2,870,851.5461
909	L	13+00	634,863.9999	2,870,899.8593
910	L	13+50	634,876.8775	2,870,948.1725
911	L	14+00	634,889.7551	2,870,996.4858
912	L	14+50	634,902.6327	2,871,044.7990
913	L	15+00	634,915.5103	2,871,093.1122
914	L	15+50	634,928.3880	2,871,141.4254
915	L	16+00	634,940.4894	2,871,189.9309
916	L	16+50	634,948.6511	2,871,239.2442
917	L	17+00	634,953.0464	2,871,289.0459
918	L	17+50	634,956.9166	2,871,338.8959
919	L	17+68.70	634,958.3640	2,871,357.5398

NOTE:
TEMPORARY PAVEMENT NEEDS TO BE IN PLACE FROM -L- 11+20 TO -L- 11+80 LT. USE 1 1/2" SF9.5A AND 8" OF ABC.

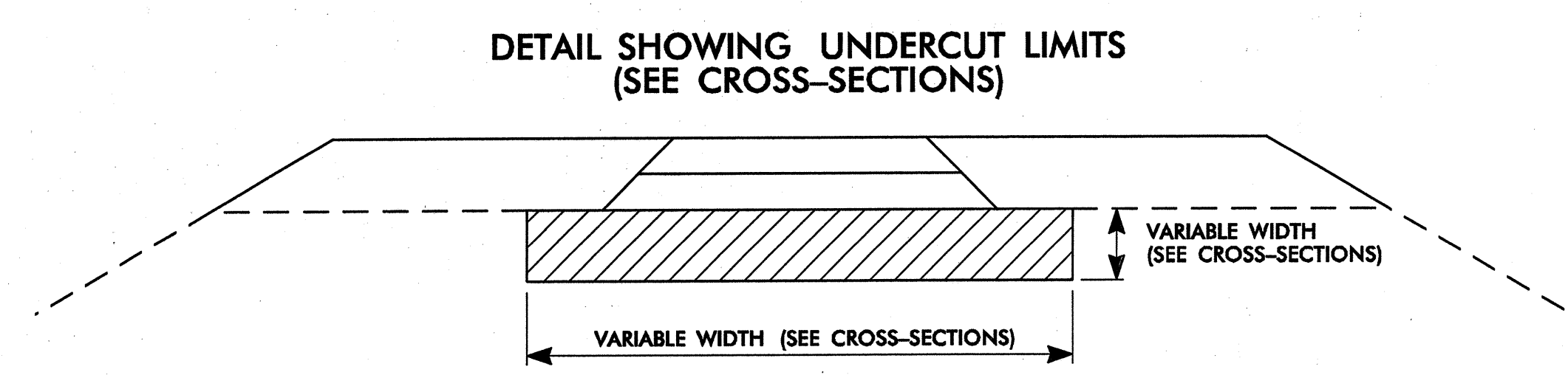


USE TYPICAL SECTION NO. 1
-L- STA. 8+50.00 TO STA. 11+25.00
-L- STA. 15+20.00 TO STA. 17+68.70

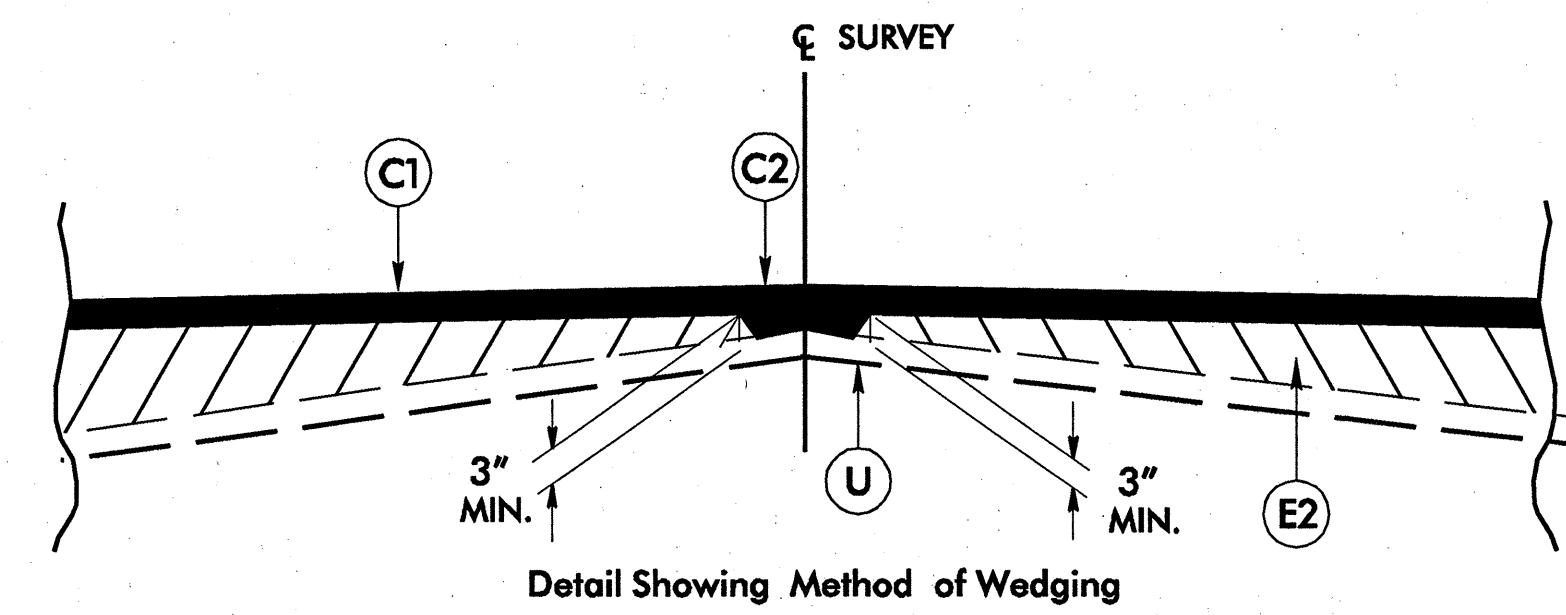
TYPICAL SECTION NO. 1

PAVEMENT SCHEDULE	
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.
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 PLACED IN LAYERS NOT TO EXCEED 1 1/2" 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 PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL THIS SHEET)

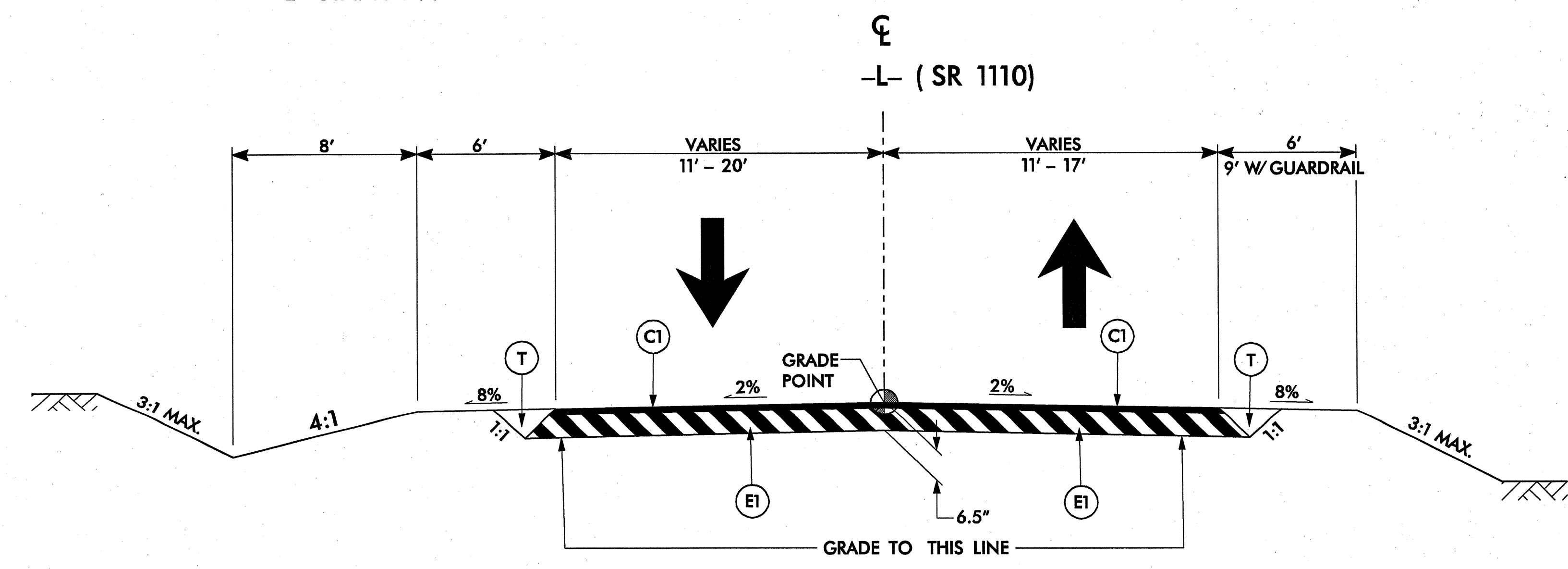
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



-L- STA. 13+99 TO -L- STA. 16+45

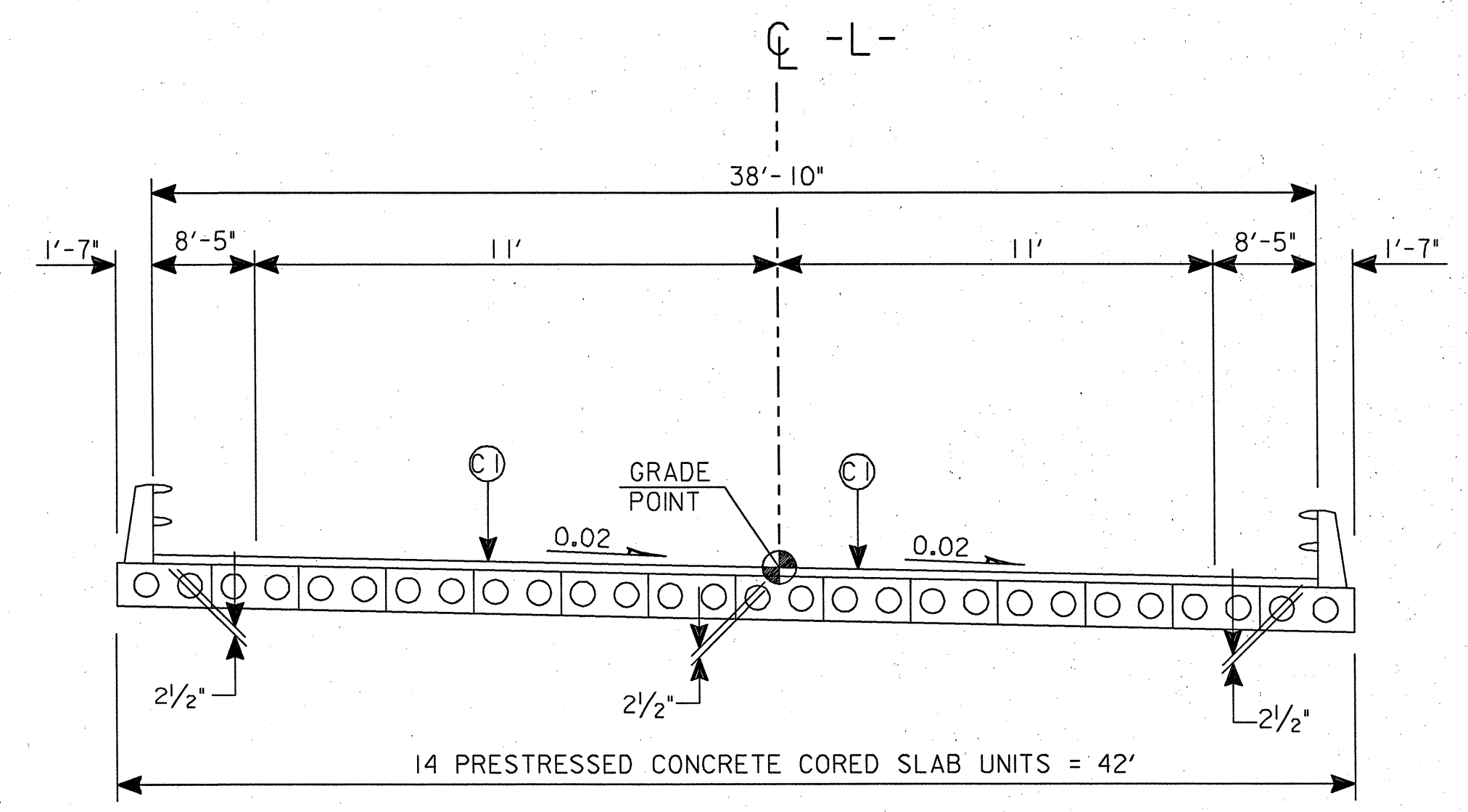


PAVEMENT DESIGN FOR DRIVEWAY:
1 1/2" SF9.5A
8" ABC



USE TYPICAL SECTION NO. 2
-L- STA. 11+25.00 TO STA. 11+90.00 (BEG. BRIDGE)
-L- STA. 12+45.00 (END BRIDGE) TO STA. 15+20.00

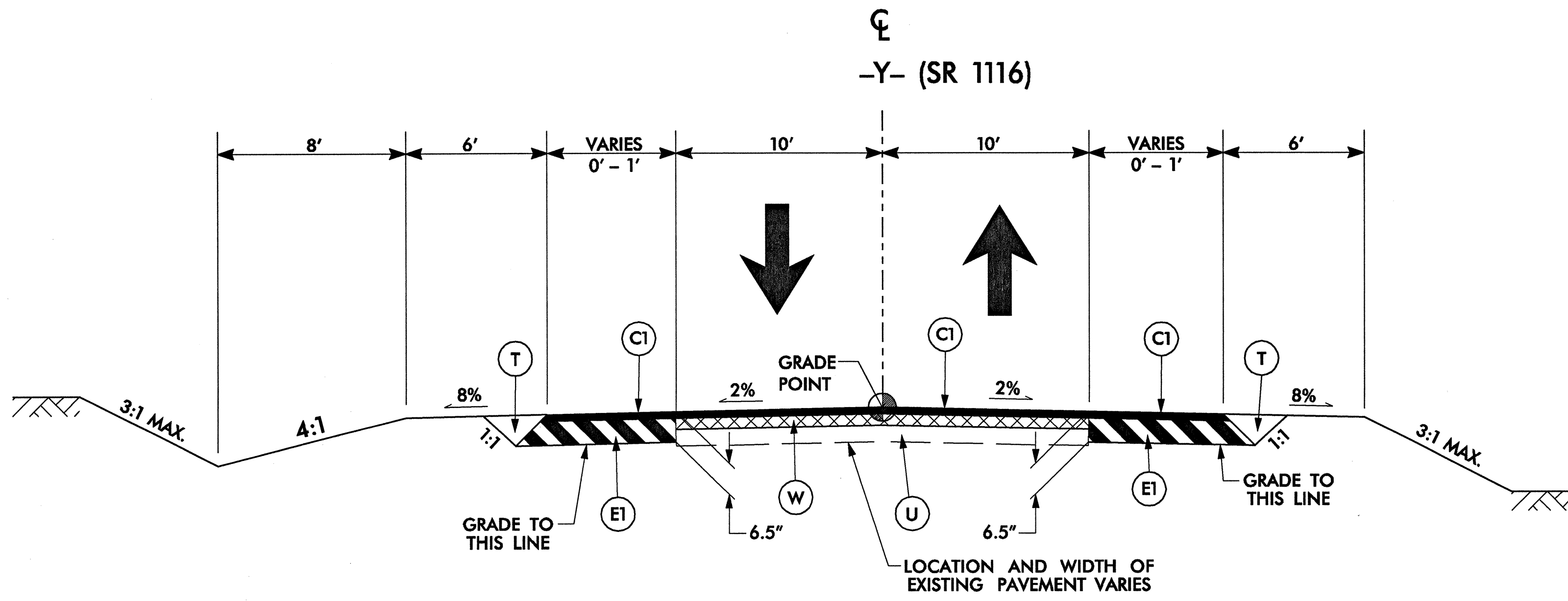
TYPICAL SECTION NO. 2



CORED SLAB DETAIL

6/2/99

PROJECT REFERENCE NO. B-3858	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 21771 MATTHEW B. COPPLE 2/22/06	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 1485 WEN-CHI CHEN 2/1/06

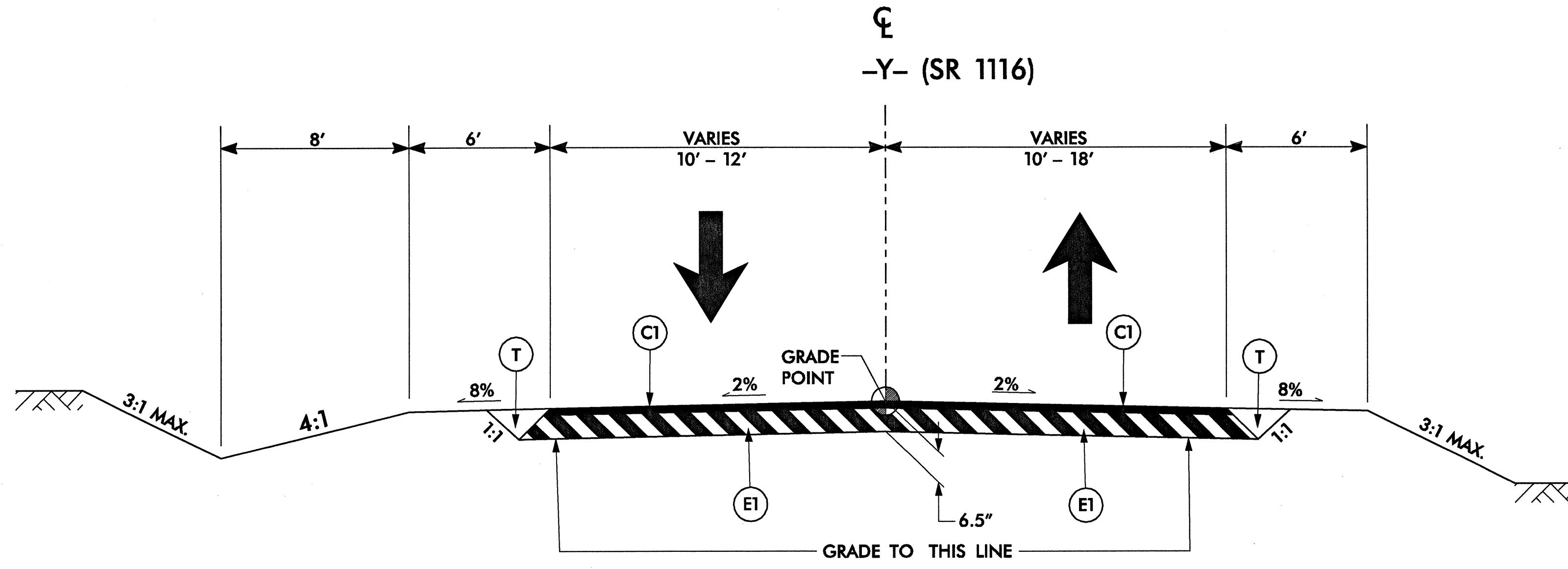


USE TYPICAL SECTION NO. 3
-Y- STA. 10+75.00 TO STA. 11+50.00

TYPICAL SECTION NO. 3

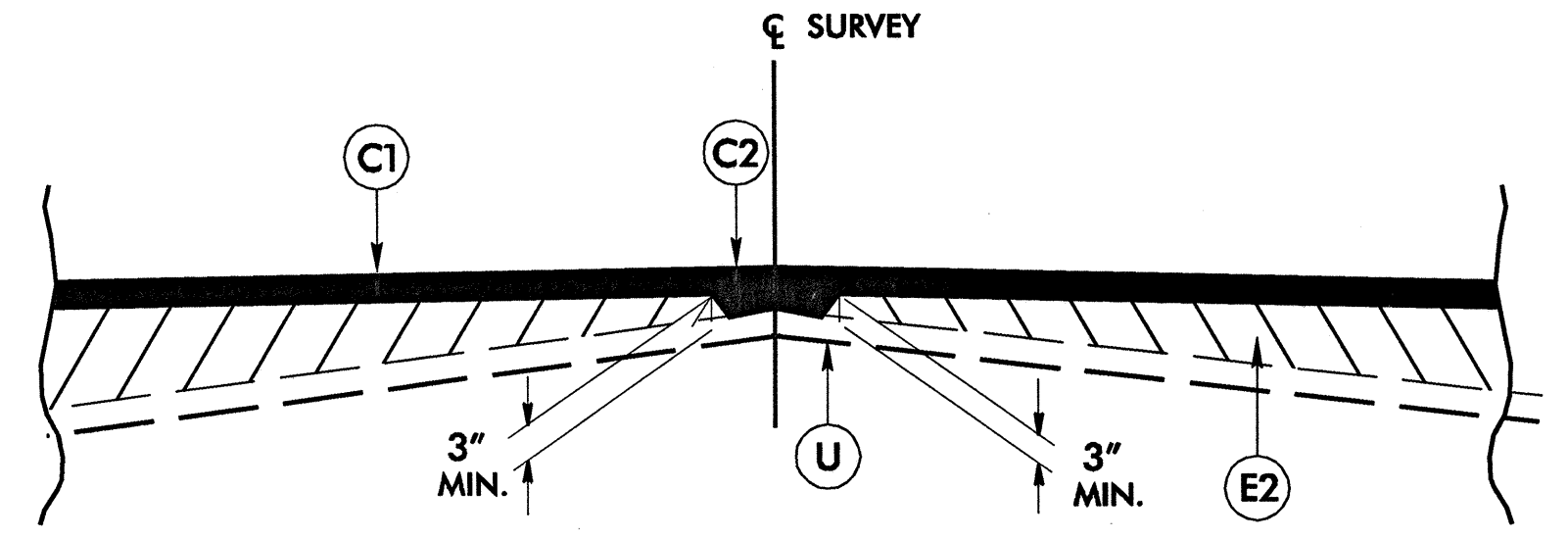
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
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 PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
J	8" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL THIS SHEET)

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

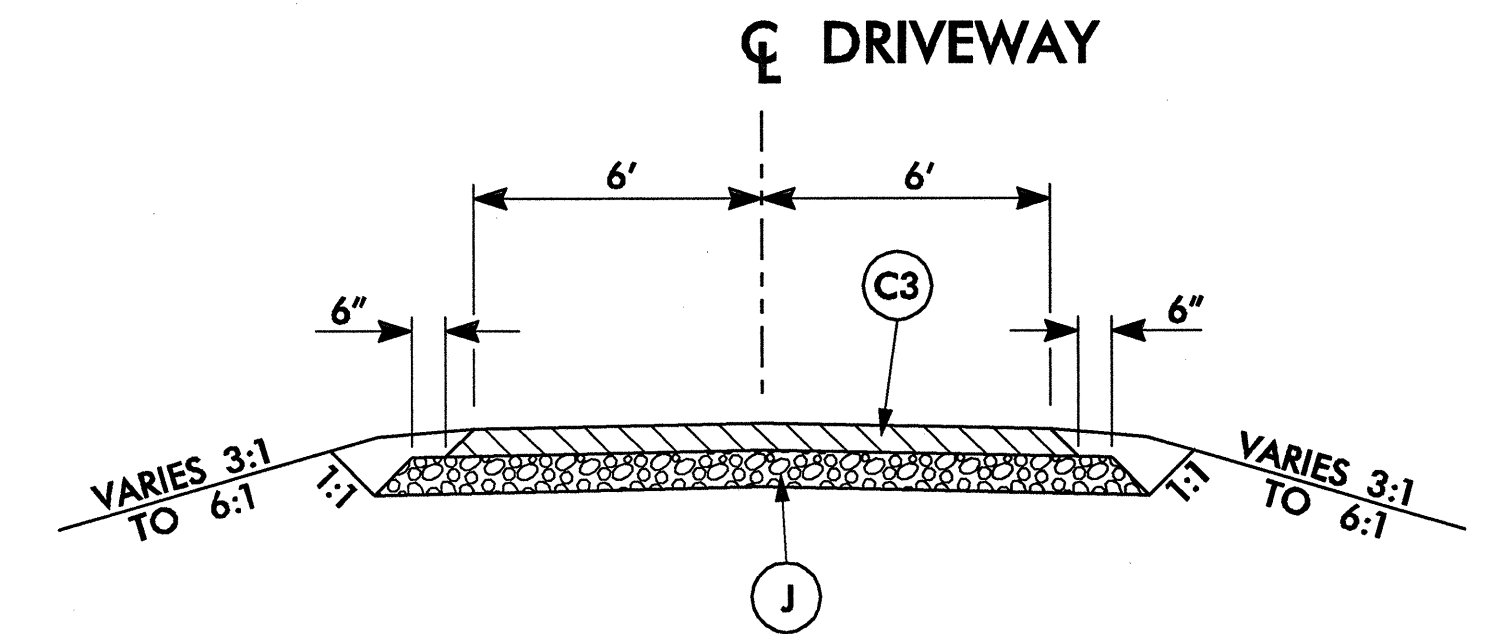


USE TYPICAL SECTION NO. 4
-Y- STA. 10+40.00 TO STA. 10+75.00

TYPICAL SECTION NO. 4



Detail Showing Method of Wedging



TYPICAL SECTION NO. 5

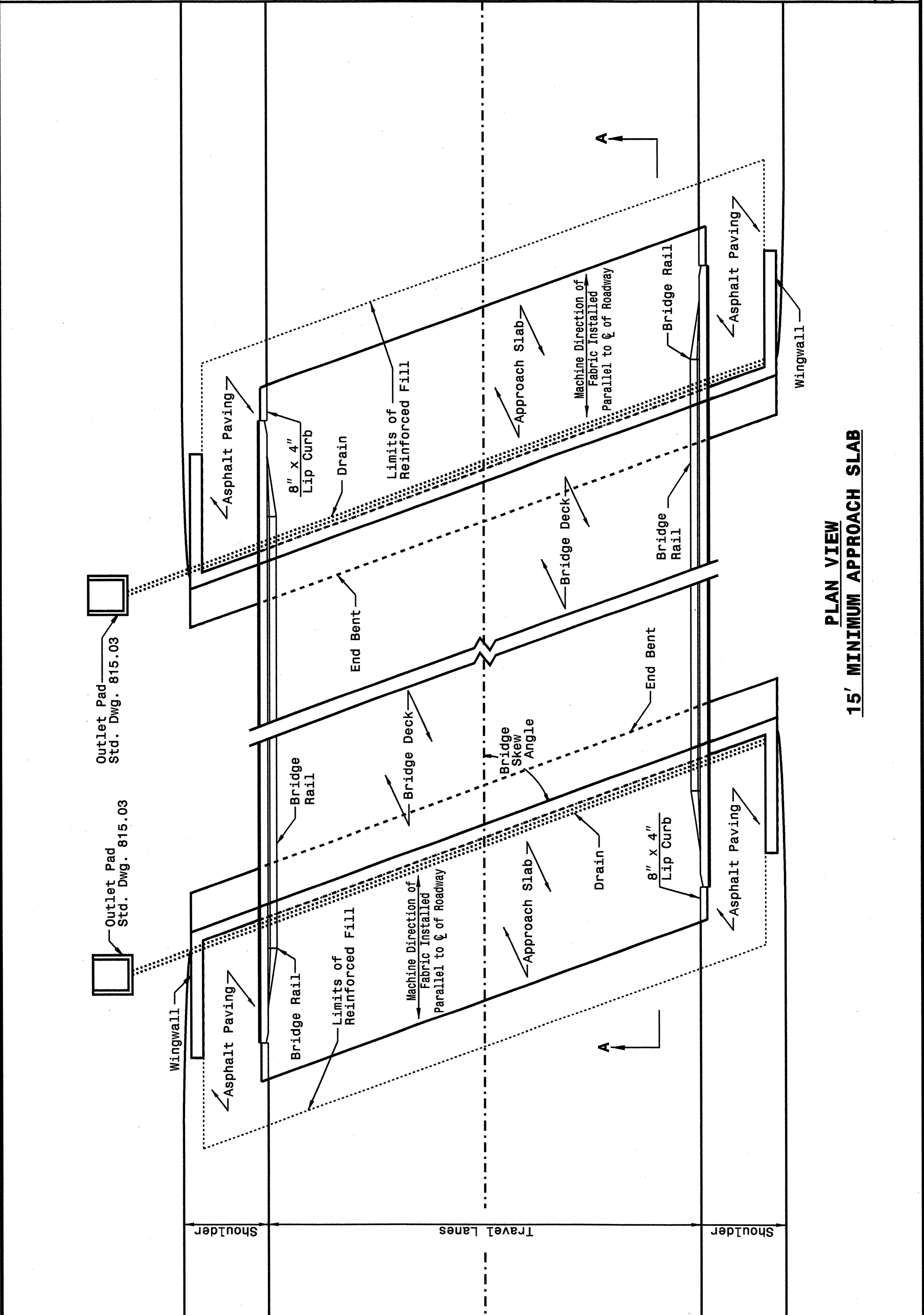
Ramey Kemp & Associates, Inc.
Transportation Consulting Engineers
4928-A Windy Hill Drive Raleigh, North Carolina 27609
(919) 872-5165 Fax (919) 878-5416

SYSTEMS DESIGN
 CONSULTING ENGINEERS
 1111 EAST 10TH STREET
 RALEIGH, NC 27601

STATE OF NORTH CAROLINA
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RALEIGH, N.C.

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

SHEET 1 OF 7
422D10



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

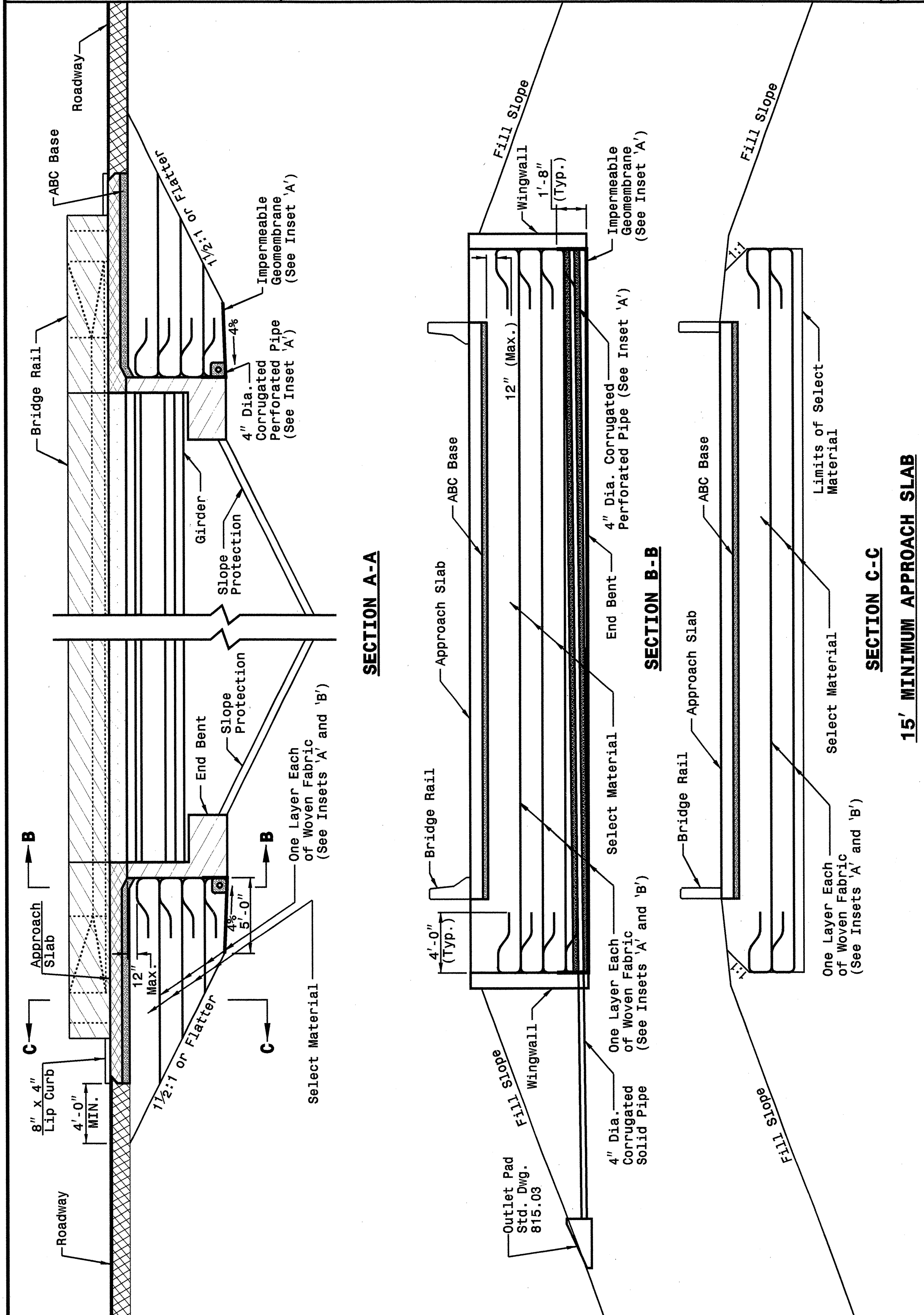
ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
15' MINIMUM APPROACH SLAB

SHEET 1 OF 7
422D10

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

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

SHEET 2 OF 7
422D10

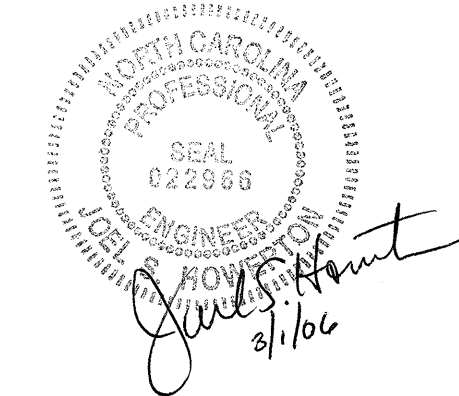


STATE OF NORTH CAROLINA
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ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
PRESTRESSED AND PLATE GIRDER BRIDGES
15' MINIMUM APPROACH SLAB

SHEET 2 OF 7
422D10

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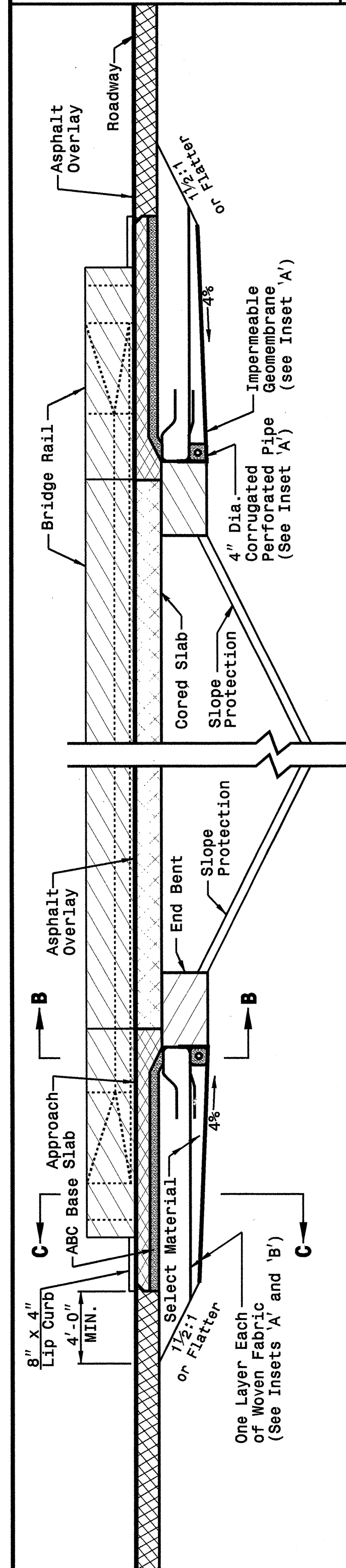


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RALEIGH, N.C.

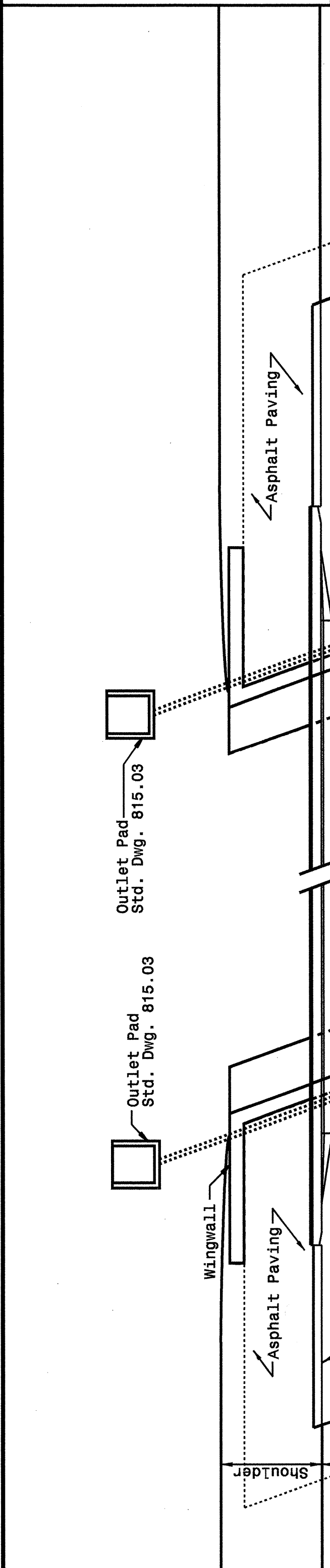


ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
CORED SLAB BRIDGES
15' MINIMUM APPROACH SLAB
SHEET 3 OF 7
422D10

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
CORED SLAB BRIDGES
15' MINIMUM APPROACH SLAB
SHEET 3 OF 7
422D10

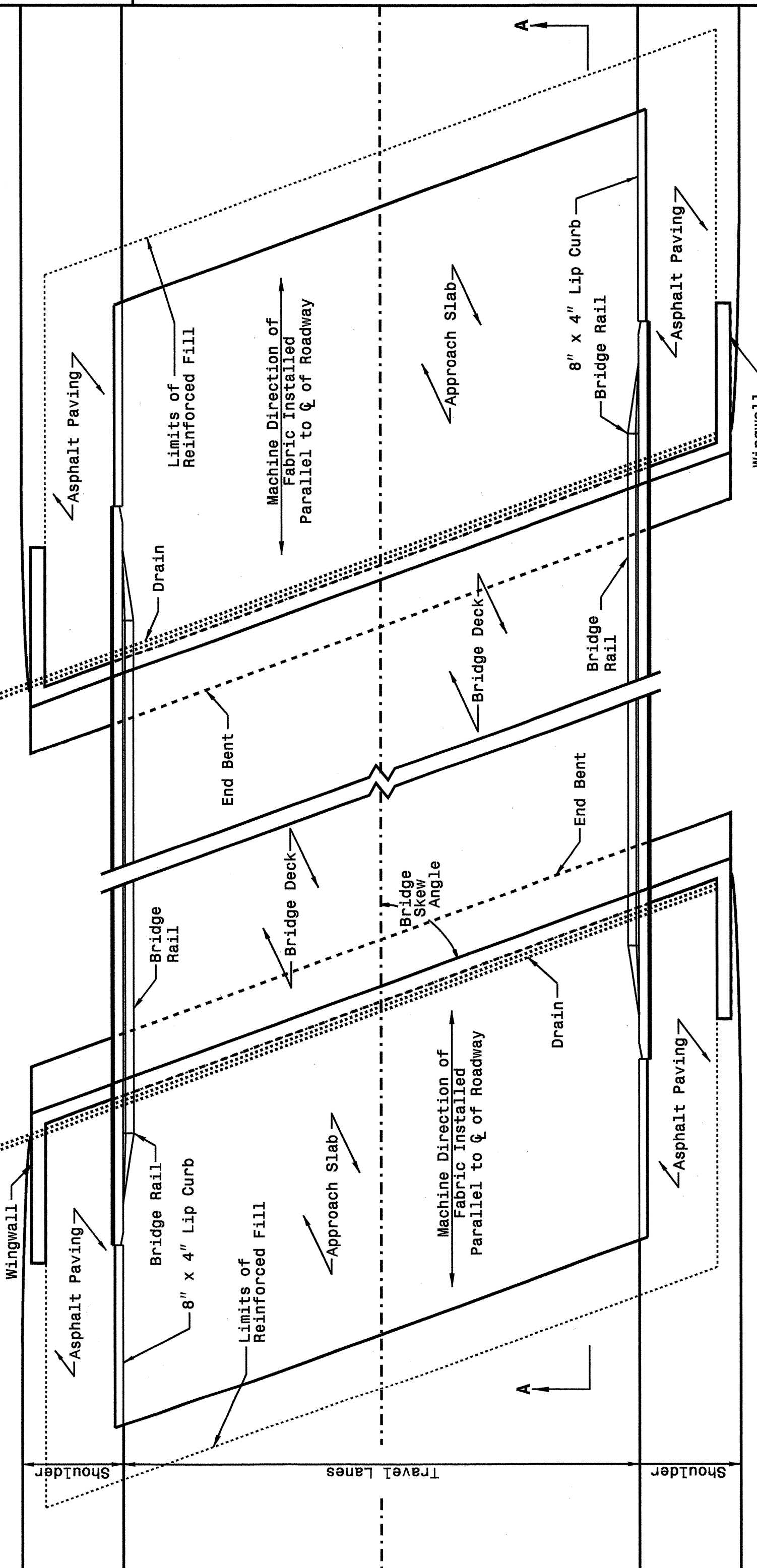
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RALEIGH, N.C.



ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
25' MINIMUM APPROACH SLAB
SHEET 4 OF 7
422D10

STATE OF
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RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
25' MINIMUM APPROACH SLAB
SHEET 4 OF 7
422D10



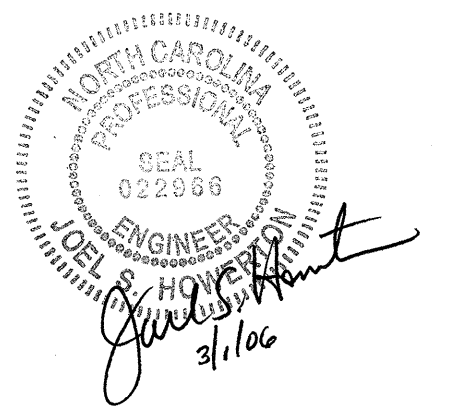
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REINFORCED BRIDGE APPROACH FILLS
25' MINIMUM APPROACH SLAB
SHEET 4 OF 7
422D10

PLAN VIEW
25' MINIMUM APPROACH SLAB

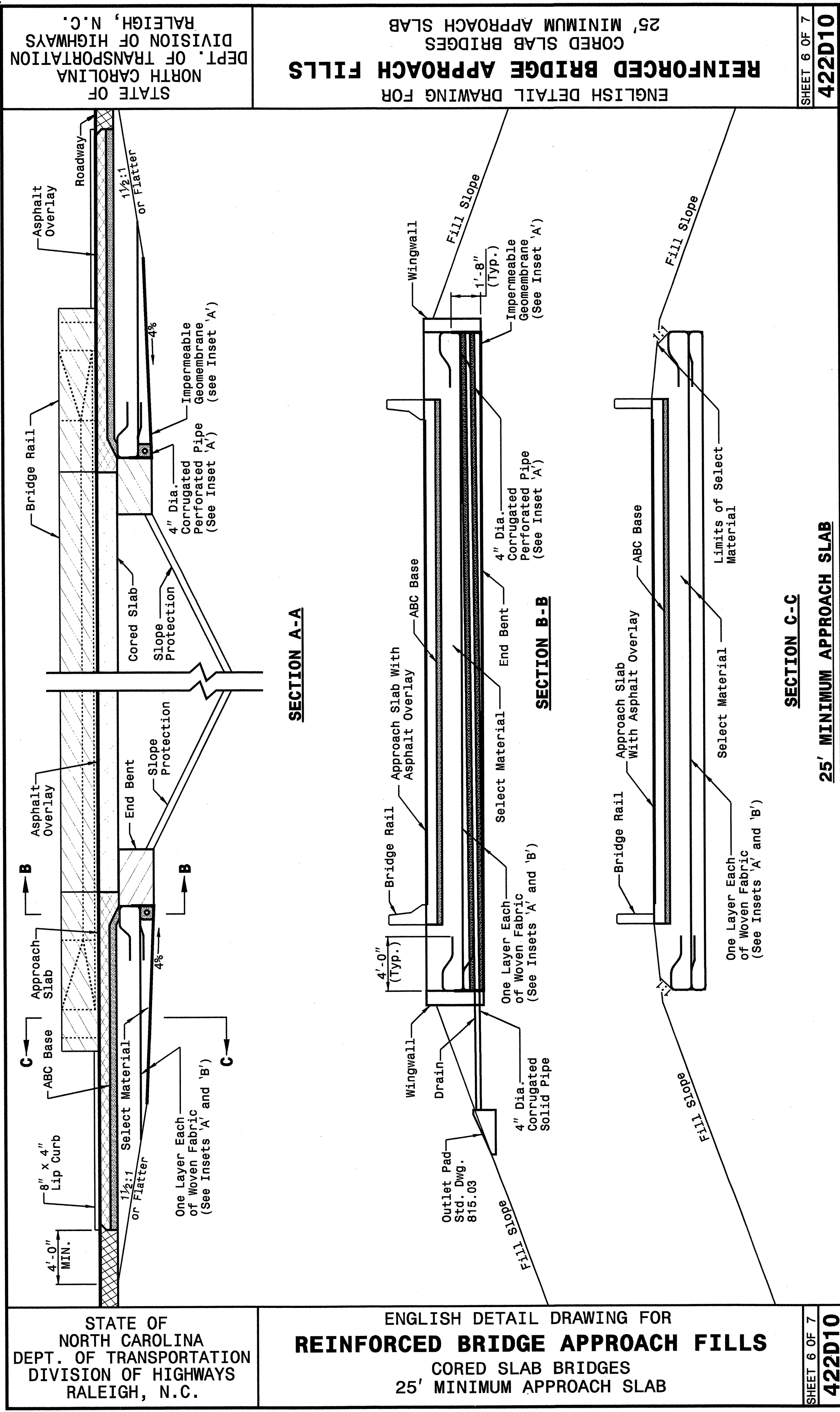
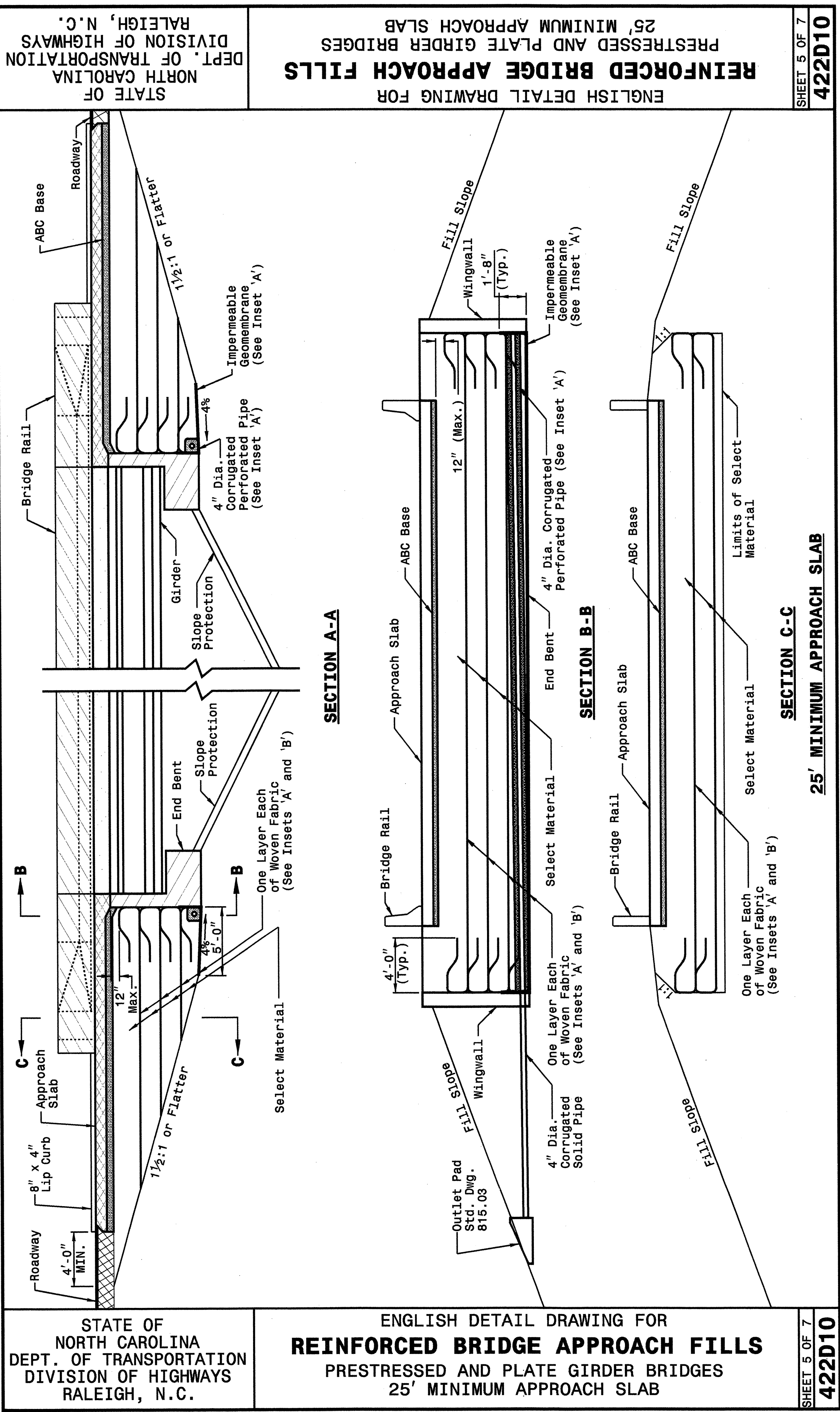
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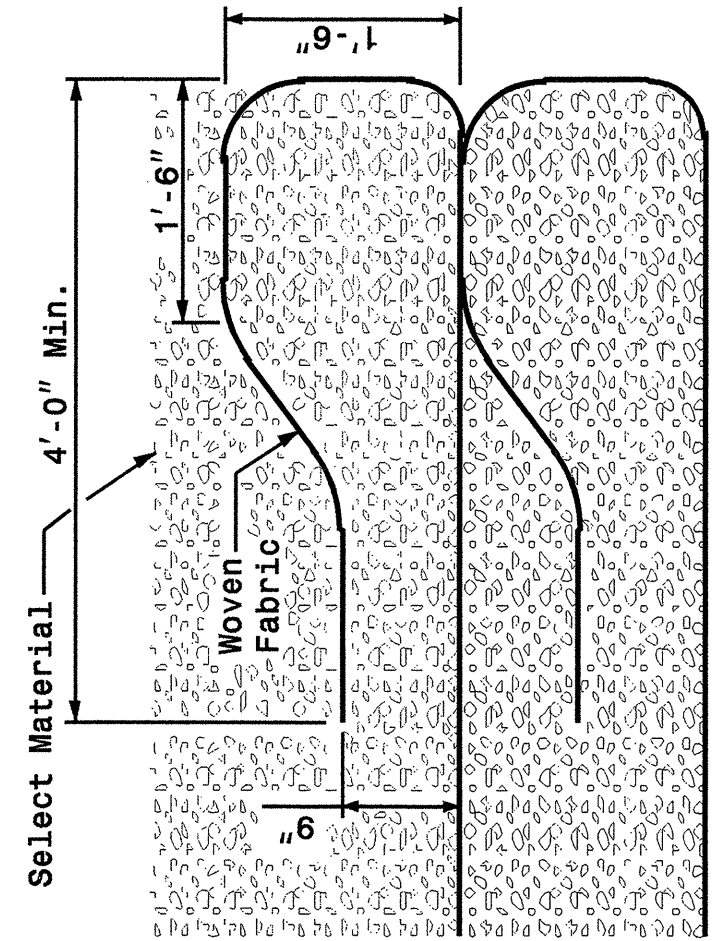
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STATE OF
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

SHEET 7 OF 7
422D10



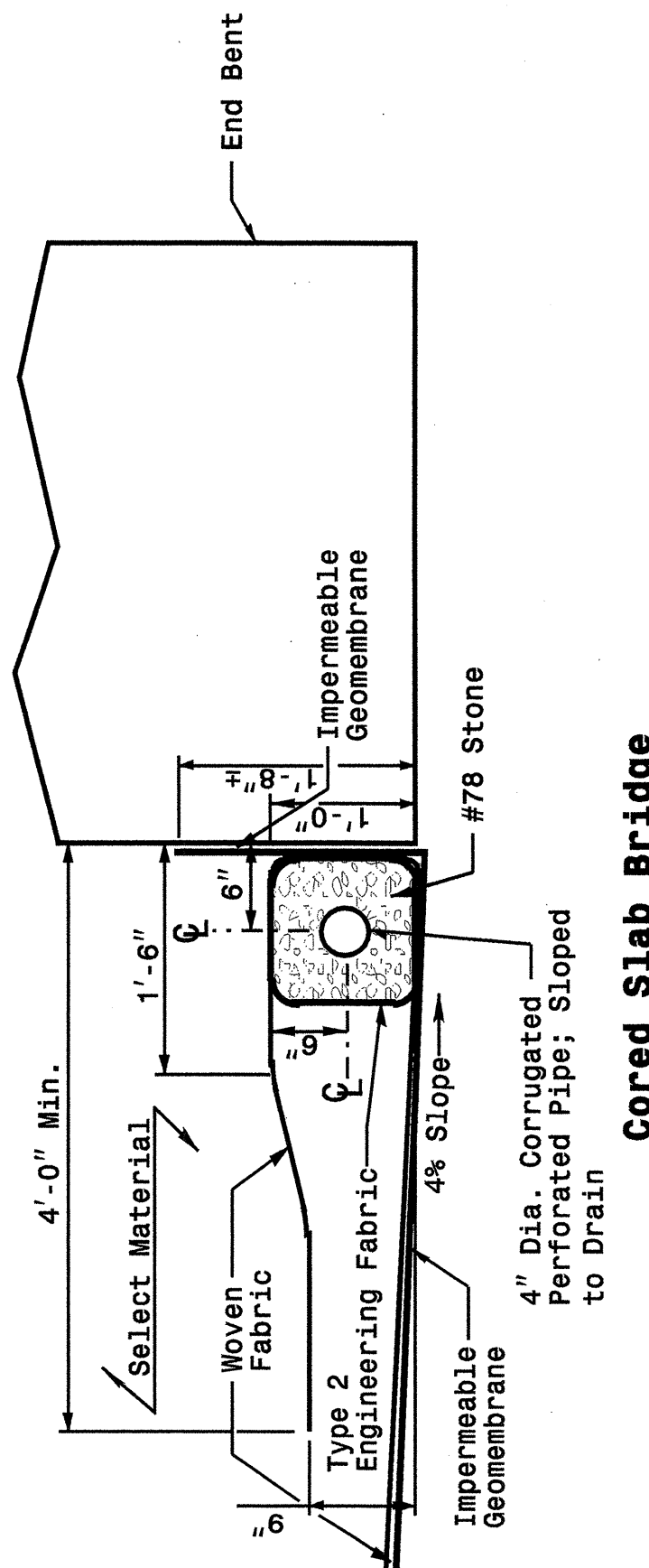
Typical Fabric Lift and Wrap
Showing Second and Above Lifts

Inset 'B'

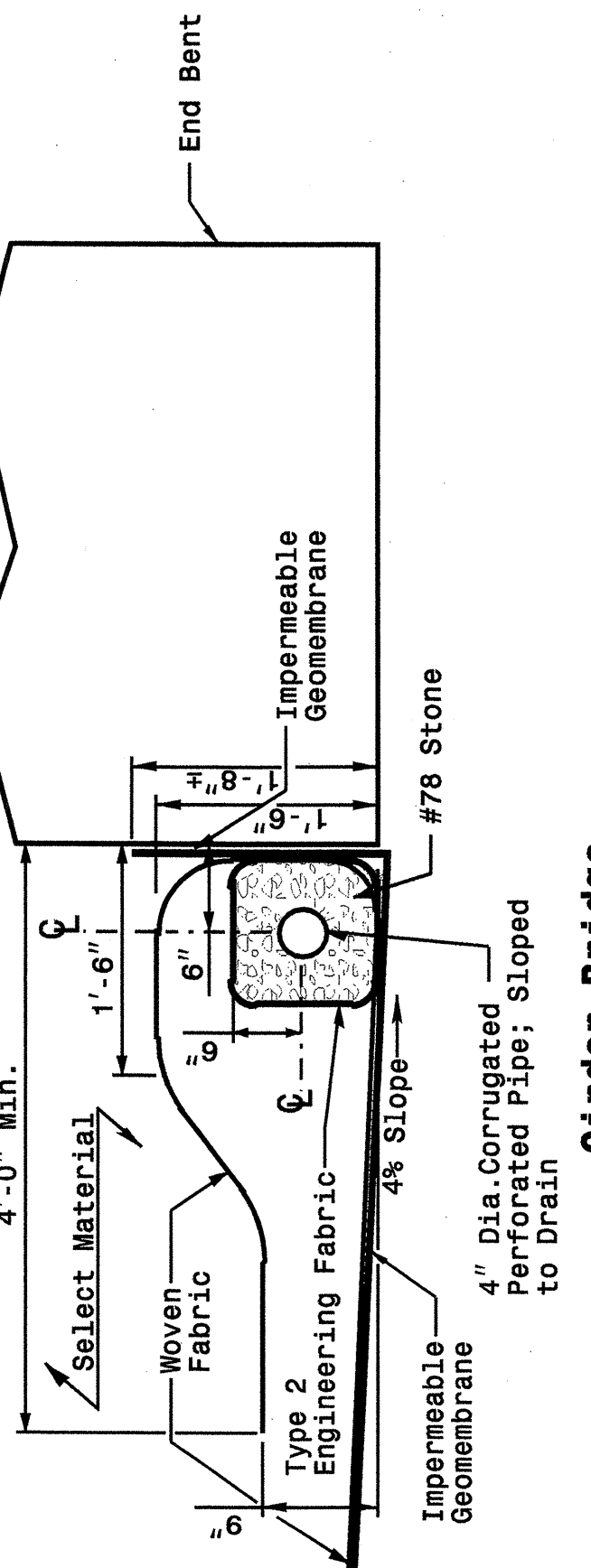
Height of Backwall	Number of Fabric Layers
4'-6" - 5'-9"	3
5'-10" - 7'-2"	4
7'-3" - 8'-8"	5
8'-9" - 10'-1"	6
10'-2" - 11'-8"	7

Note: Cored Slab Structures
Require 2 Fabric Layers.

Length of Bridge End Bent Inside Wingwalls
If Bridge Skew is Less Than or Equal to 90°:
(Roadway Width + 7'-0") / Sin (Bridge Skew Angle) = Dis. Between Wingwalls
If Bridge Skew is Greater Than 90°:
(Roadway Width + 7'-0") / Cos (Bridge Skew Angle - 90°) = Dis. Between Wingwalls



Cored Slab Bridge
Showing First Lift and Drains



Girder Bridge
Showing First Lift and Drains

Inset 'A'

STATE OF
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ENGLISH DETAIL DRAWING FOR
REINFORCED BRIDGE APPROACH FILLS
INSETS AND CHARTS

SHEET 7 OF 7
422D10

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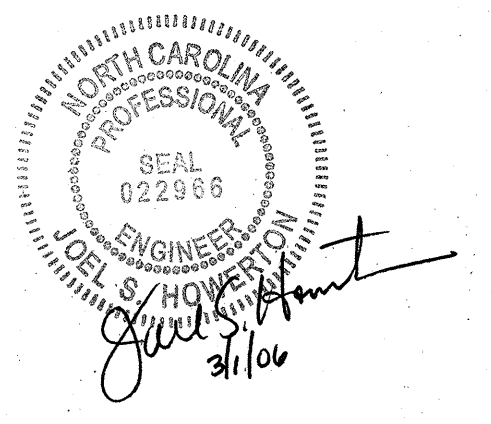
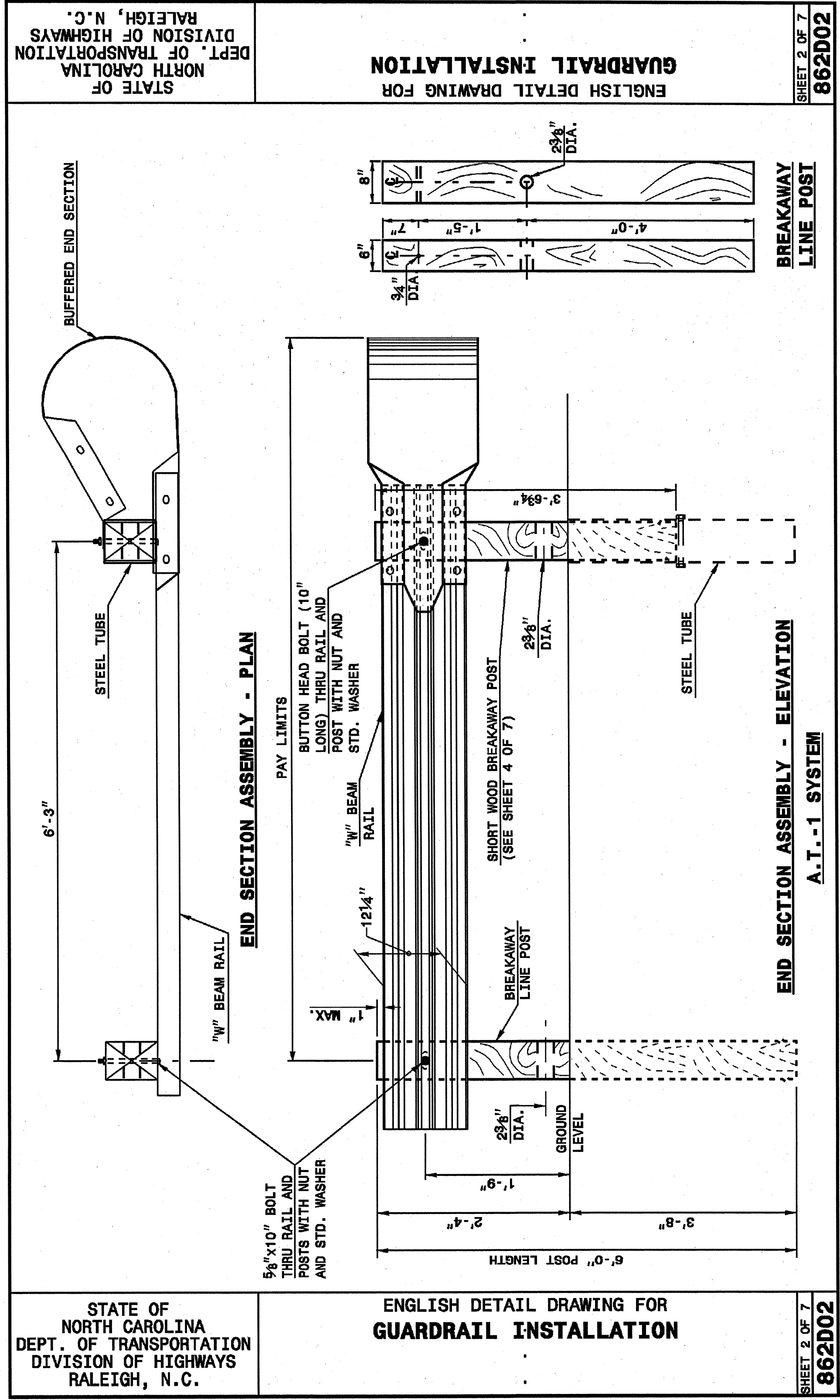
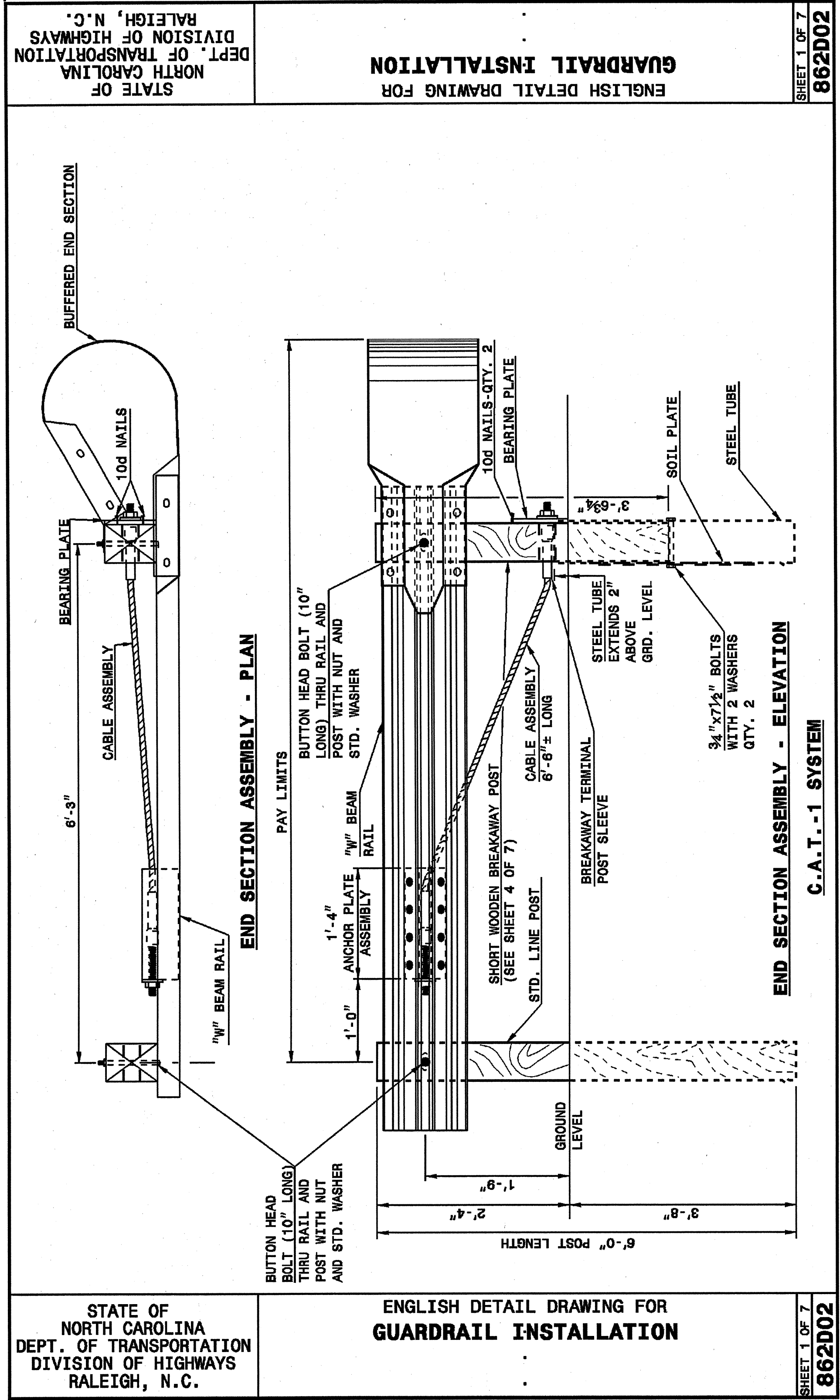
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ENGLISH DETAIL DRAWING FOR GUARDRAIL INSTALLATION

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

SHEET 3 OF 7 **862D02**

ISOMETRIC VIEWS

FRONT

SIDE

TYPICAL GUARDRAIL AND GUARDRAIL POST ALTERNATIVES

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

ENGLISH DETAIL DRAWING FOR GUARDRAIL INSTALLATION

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

SHEET 4 OF 7 **862D02**

FRONT

FRONT

FRONT

FRONT

SYSTEM PARTS

WOOD OFFSET BLOCK (FOR WOOD POSTS)

WOOD OFFSET BLOCK (FOR WOOD POSTS)

STEEL TUBE
15 6" X 1.1875"

STEEL TUBE
15 6" X 1.1875"

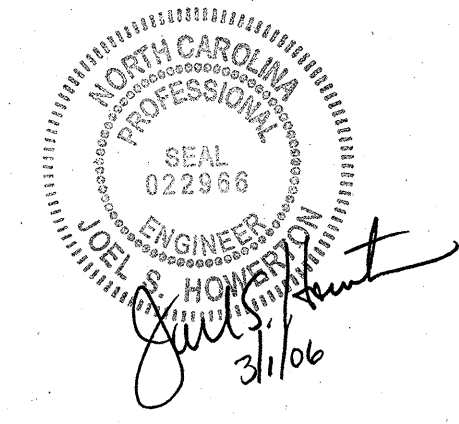
SOIL PLATE
1/4" THICK PLATE

BEARING PLATE
5/8" THICK PLATE

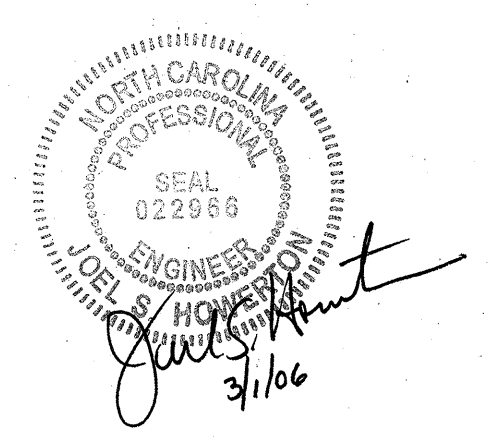
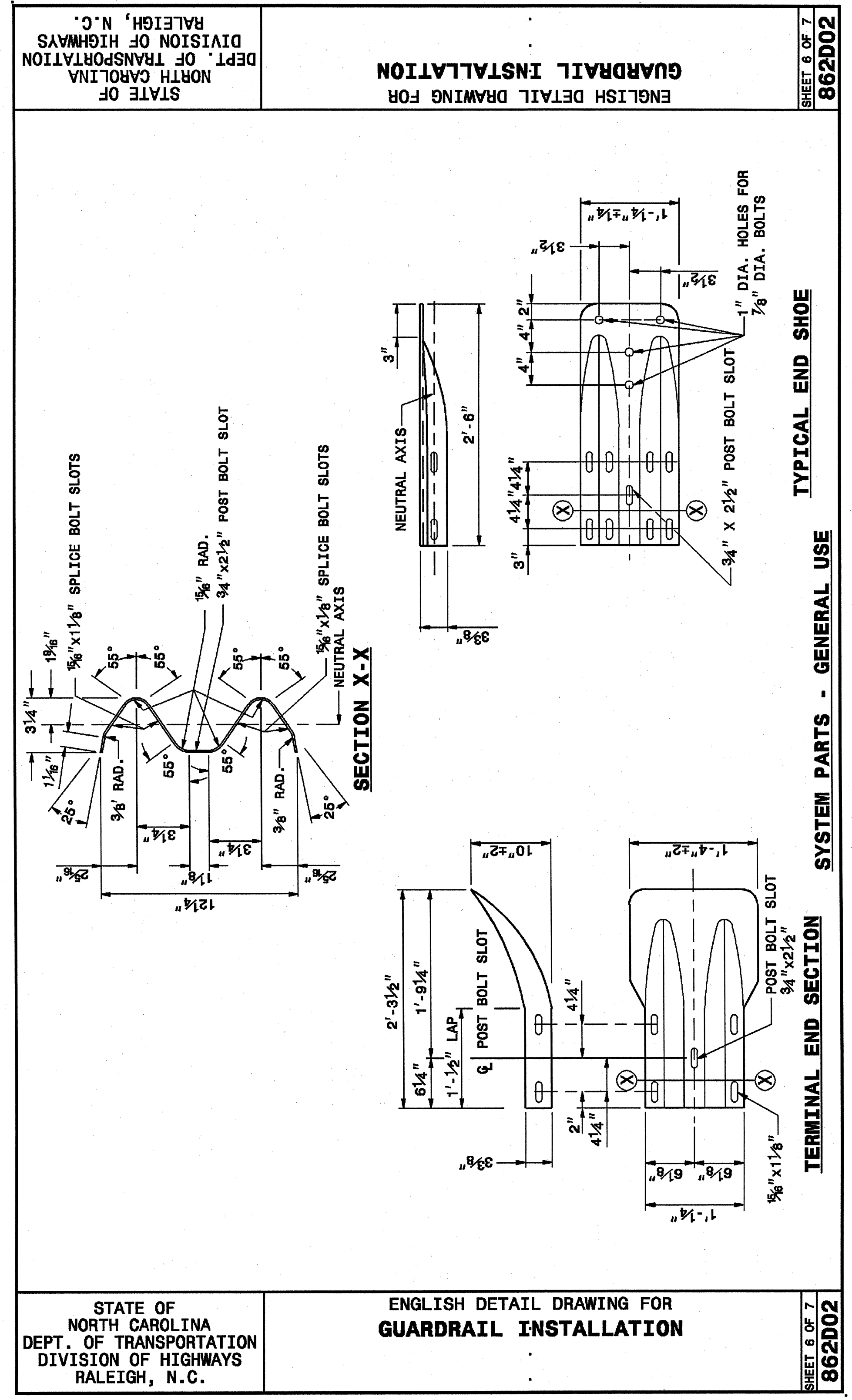
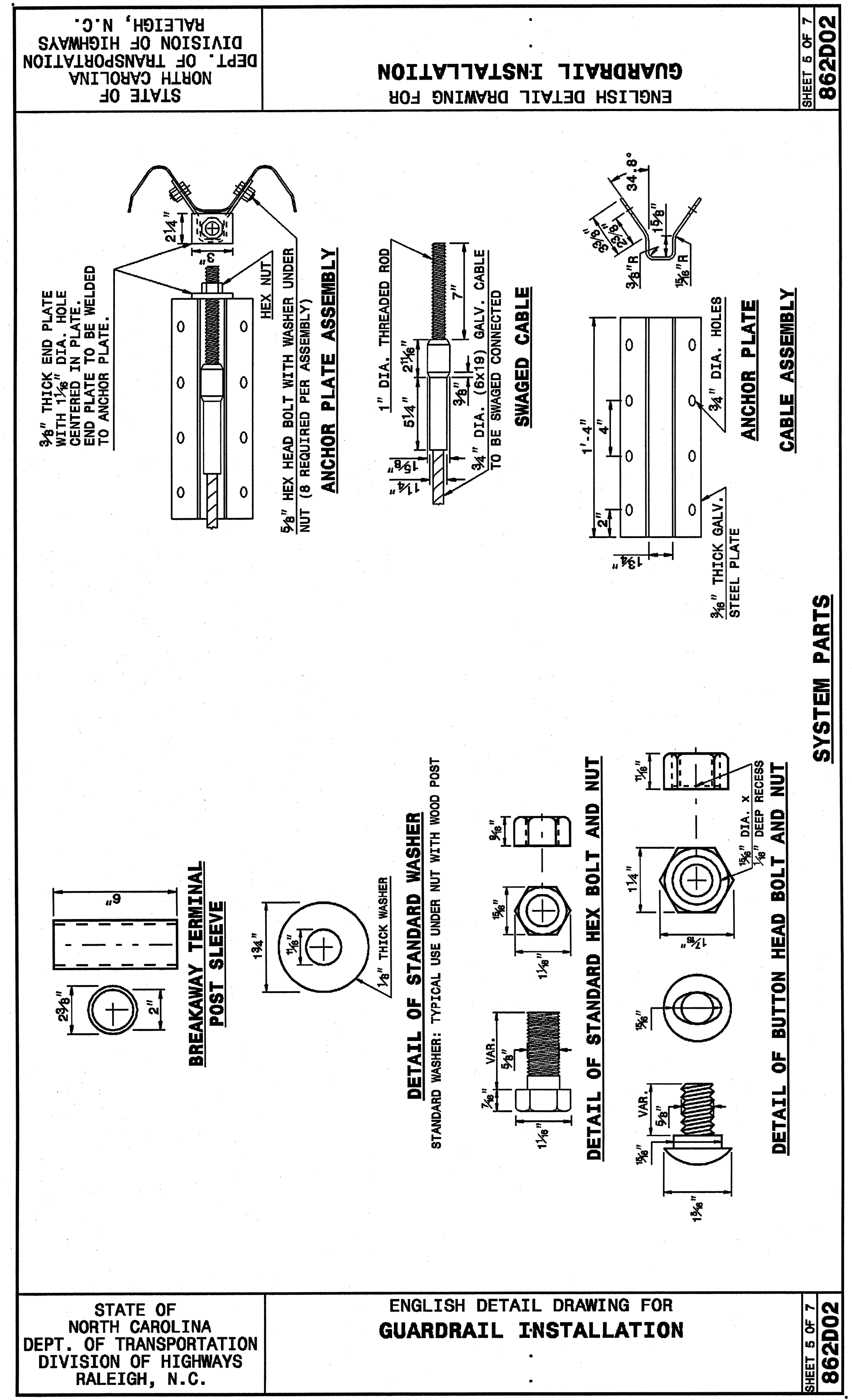
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DESIGN SERVICES UNIT STANDARDS AND SPECIAL DESIGN
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DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

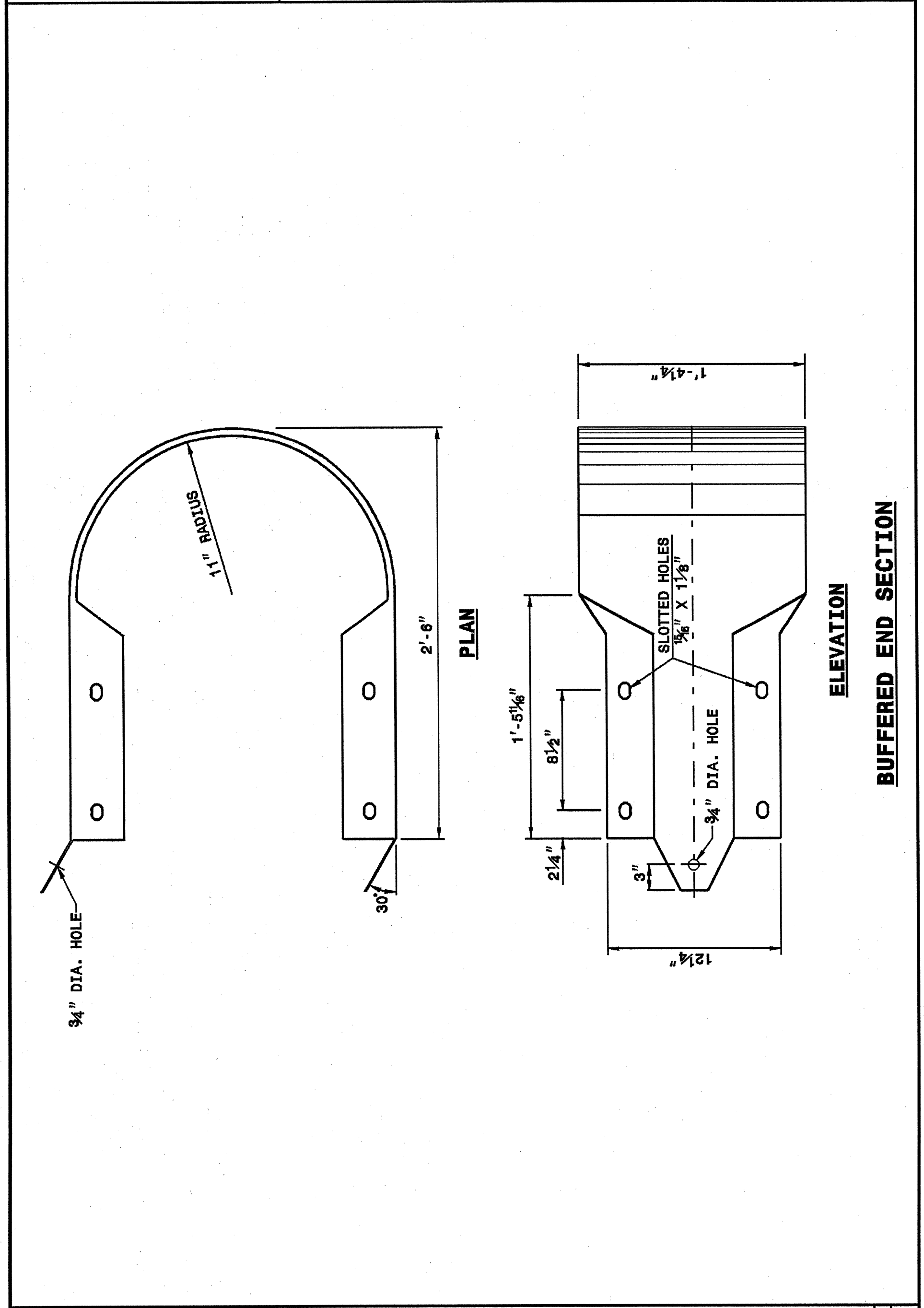
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SHEET 7 OF 7
862D02

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

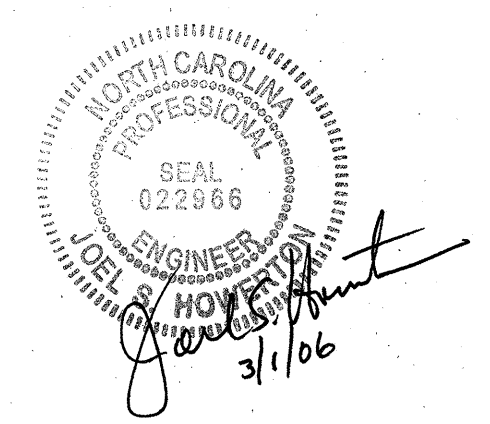
ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION



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

ENGLISH DETAIL DRAWING FOR
GUARDRAIL INSTALLATION

SHEET 7 OF 7
862D02



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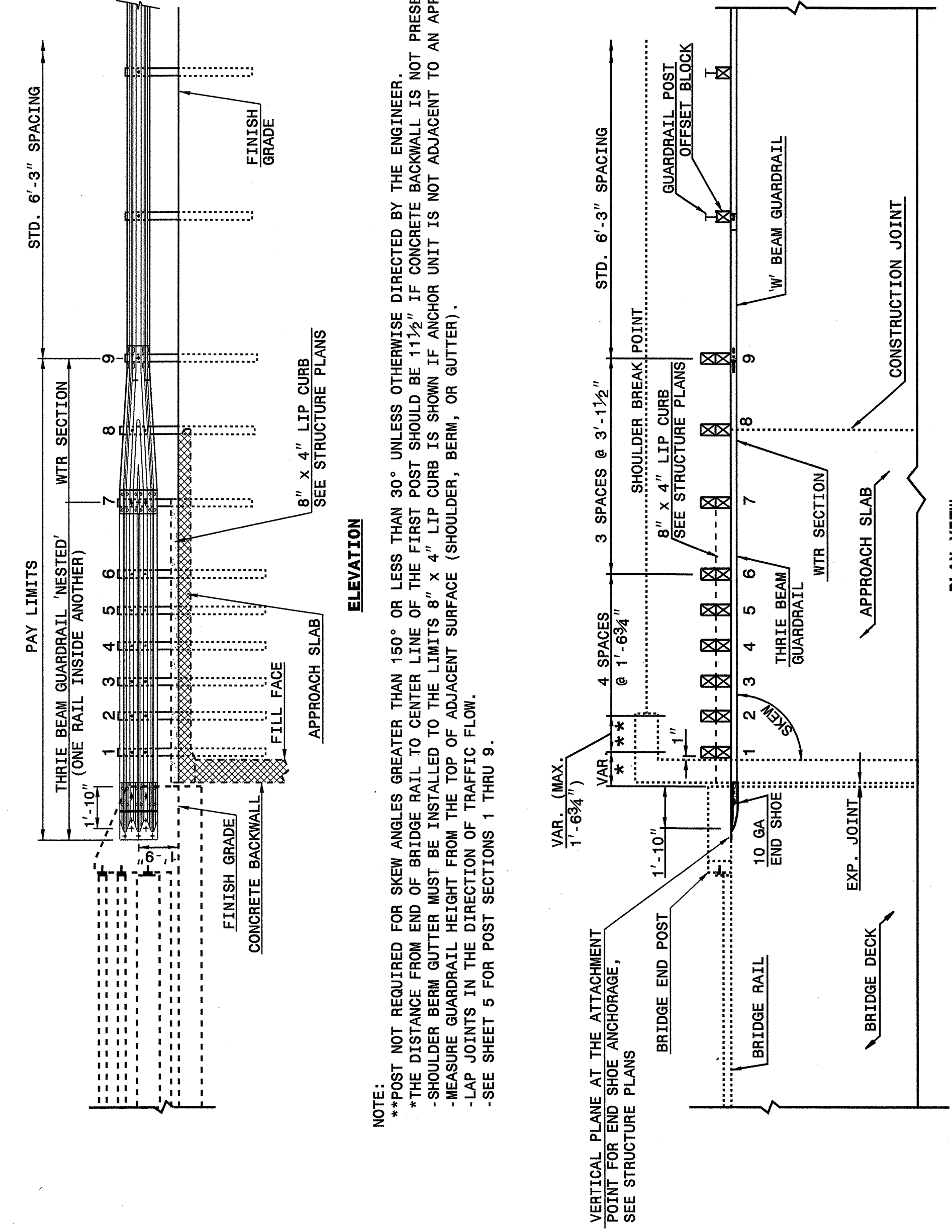
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
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 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).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

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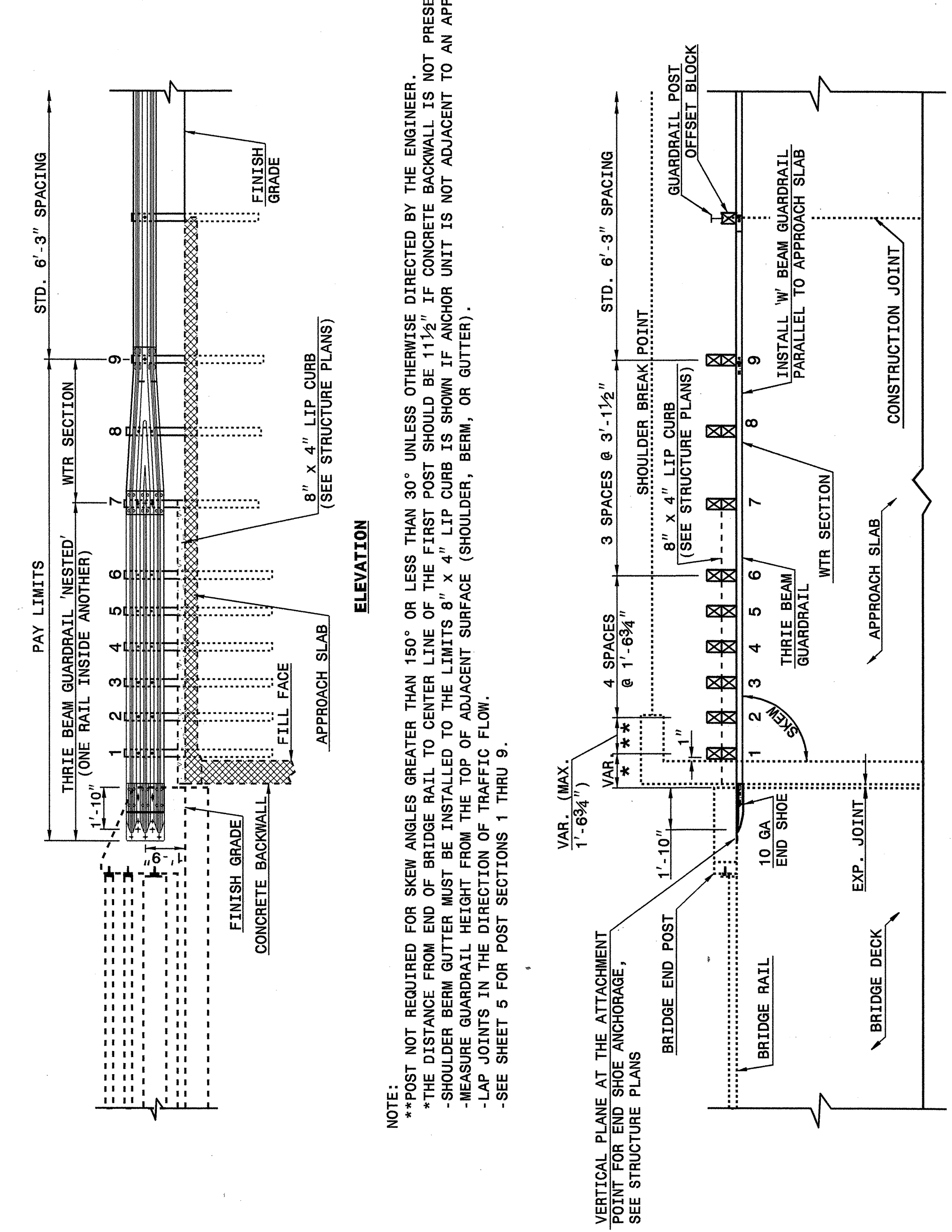
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON BRIDGE (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 1 OF 6
862D03

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

ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
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 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).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

STATE OF NORTH CAROLINA
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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



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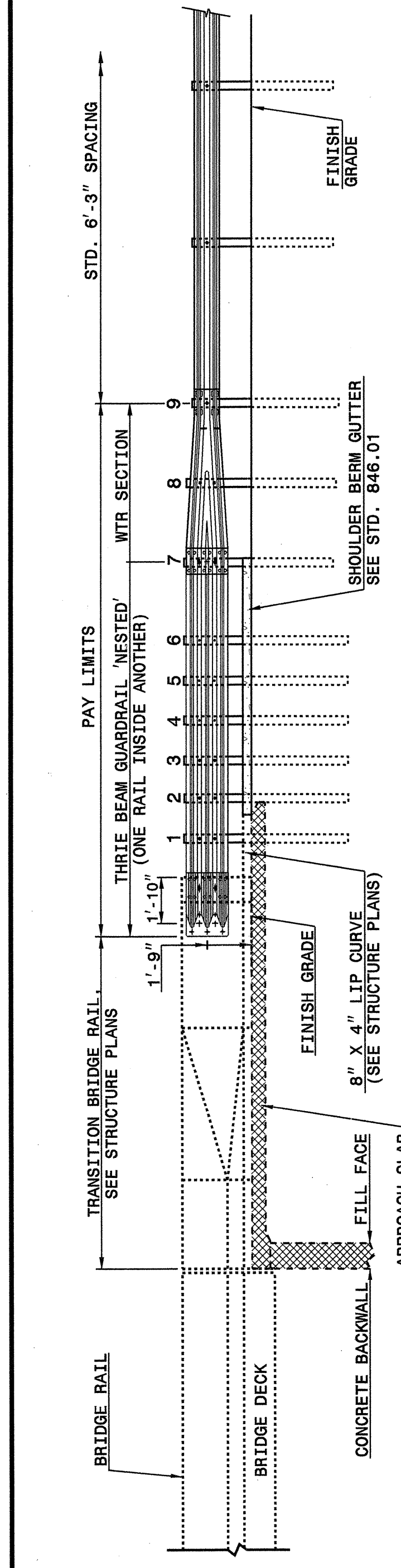
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

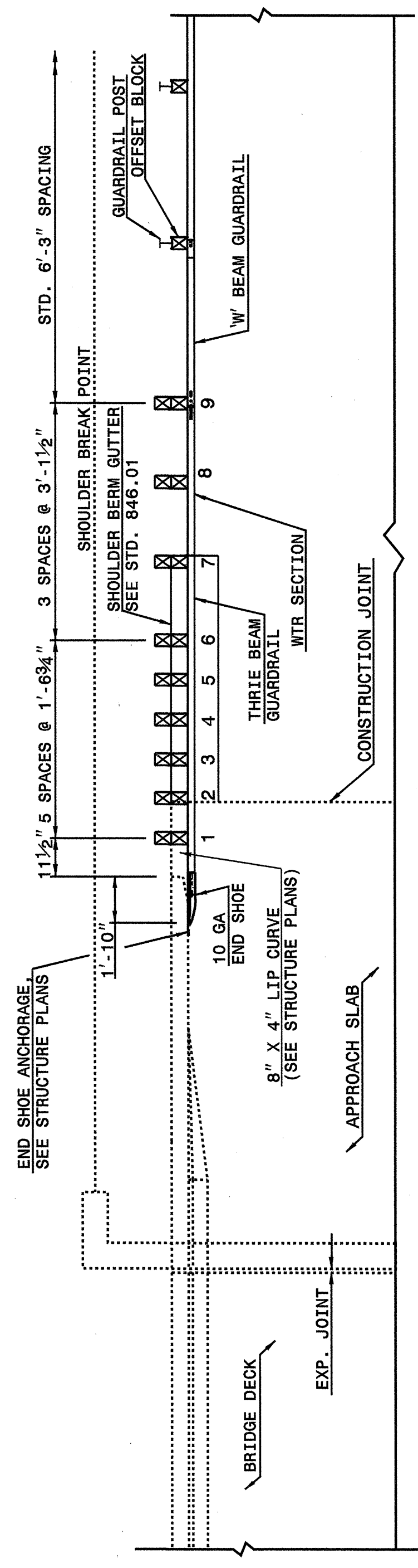
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
862D03



ELEVATION

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.



PLAN VIEW

**GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)**

STATE OF
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RALEIGH, N.C.

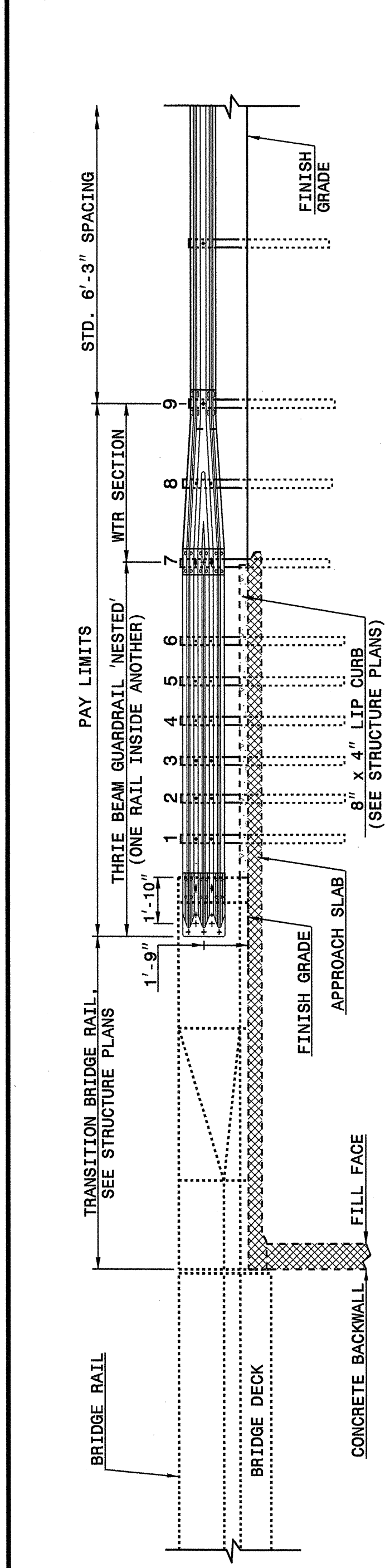
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GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (15' MINIMUM LENGTH APPROACH SLAB)

SHEET 3 OF 6
862D03

STATE OF
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RALEIGH, N.C.

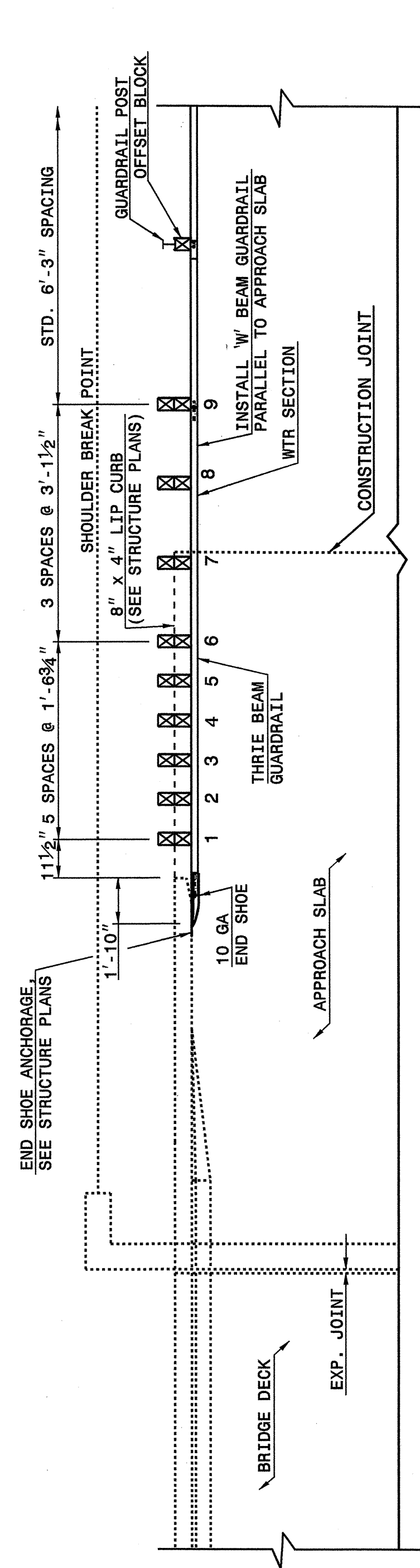
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STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)

SHEET 4 OF 6
862D03



ELEVATION

NOTE:
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 -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.



PLAN VIEW

**GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO
RAIL ON APPROACH SLAB (25' MINIMUM LENGTH APPROACH SLAB)**

STATE OF
NORTH CAROLINA
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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

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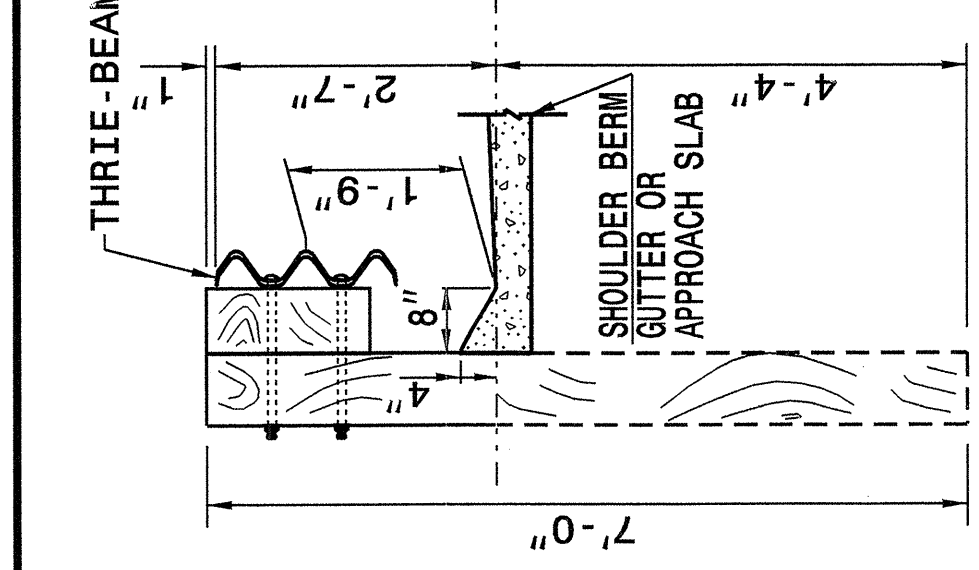
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 CHECKED BY: *Eric Ward* DATE: 9/21/05
 FILE SPEC.: stds/02stdstodetails/english/862d03.dgn



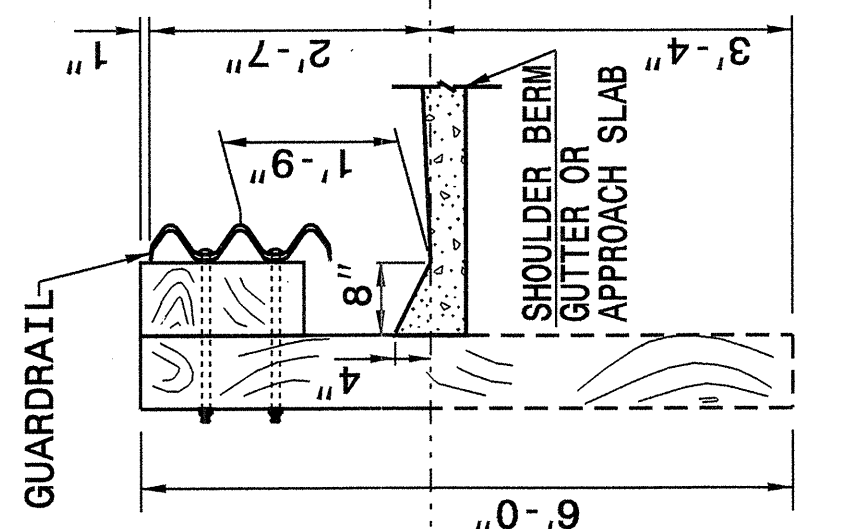
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

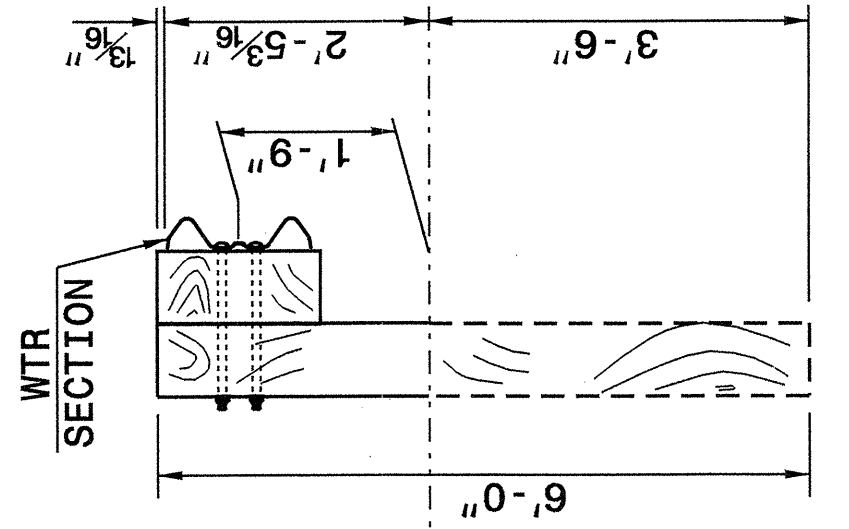
SHEET 5 OF 6
862D03



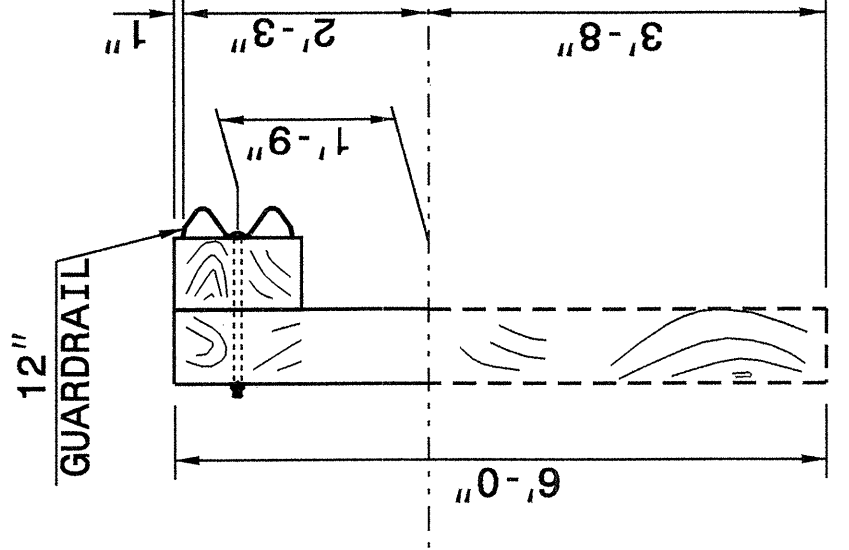
SECTION OF THRIE BEAM POSTS 1 THRU 6



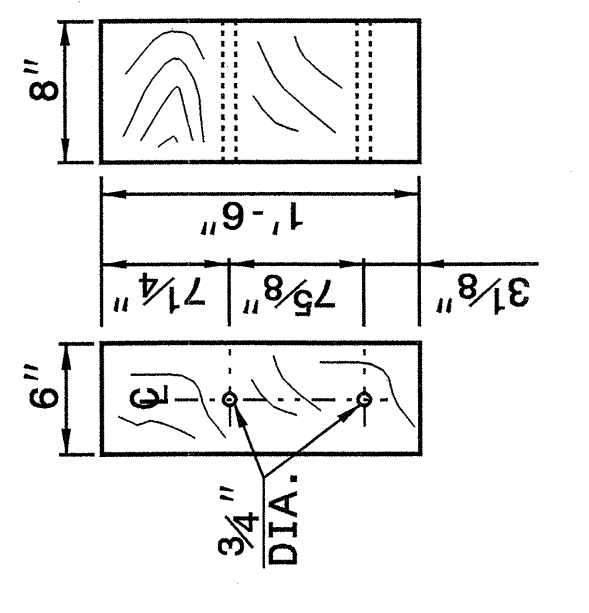
SECTION OF THRIE BEAM POST 7



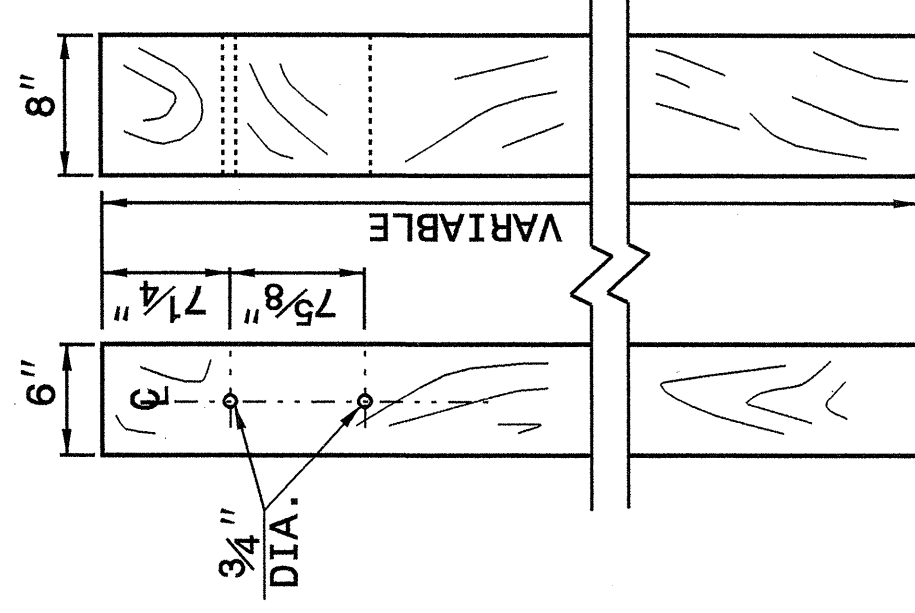
SECTION OF WTR BEAM POST 8



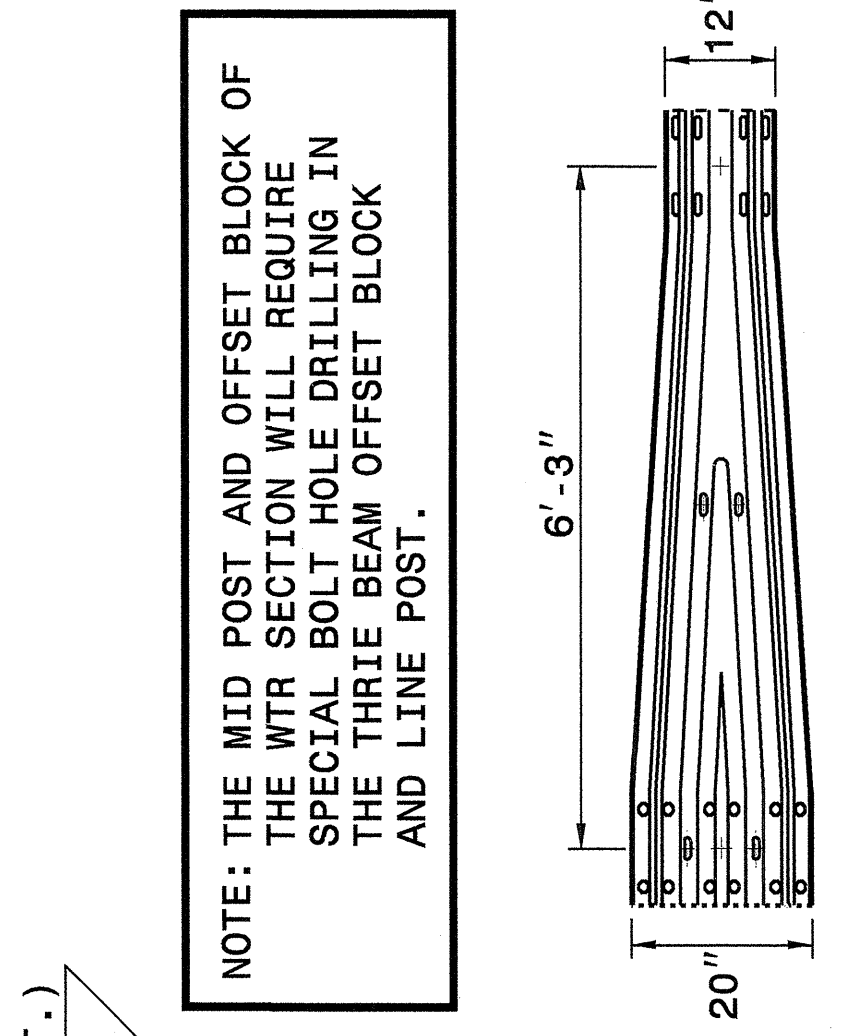
SECTION OF WTR BEAM POST 9



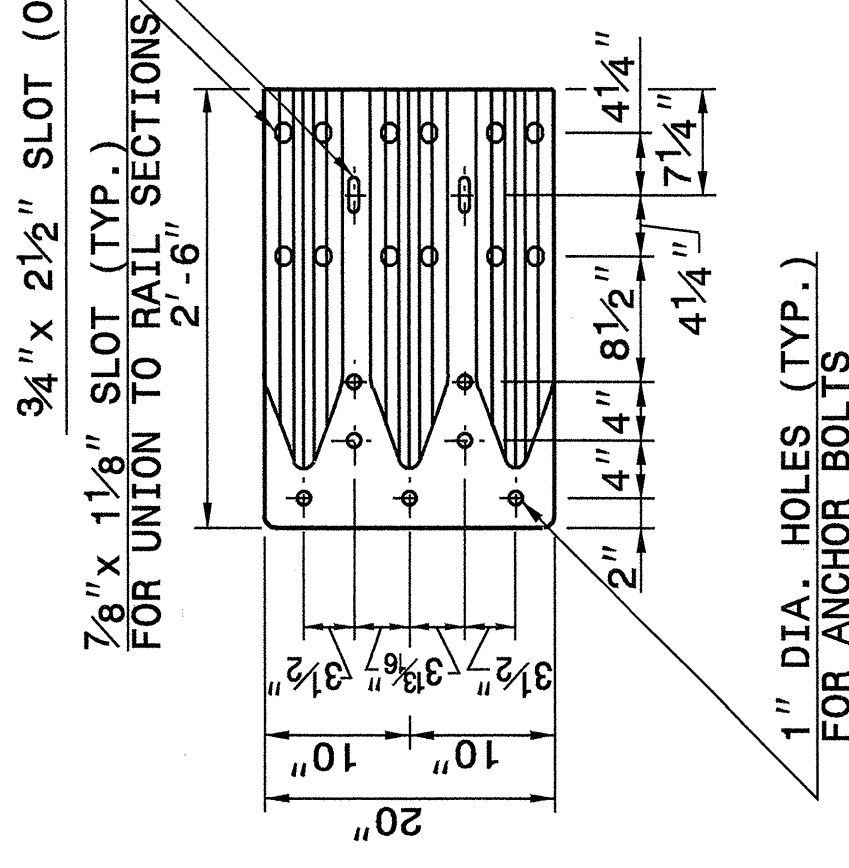
THRIE BEAM OFFSET BLOCK



THRIE BEAM LINE POST



WTR SECTION ELEVATION VIEW



END SHOE

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

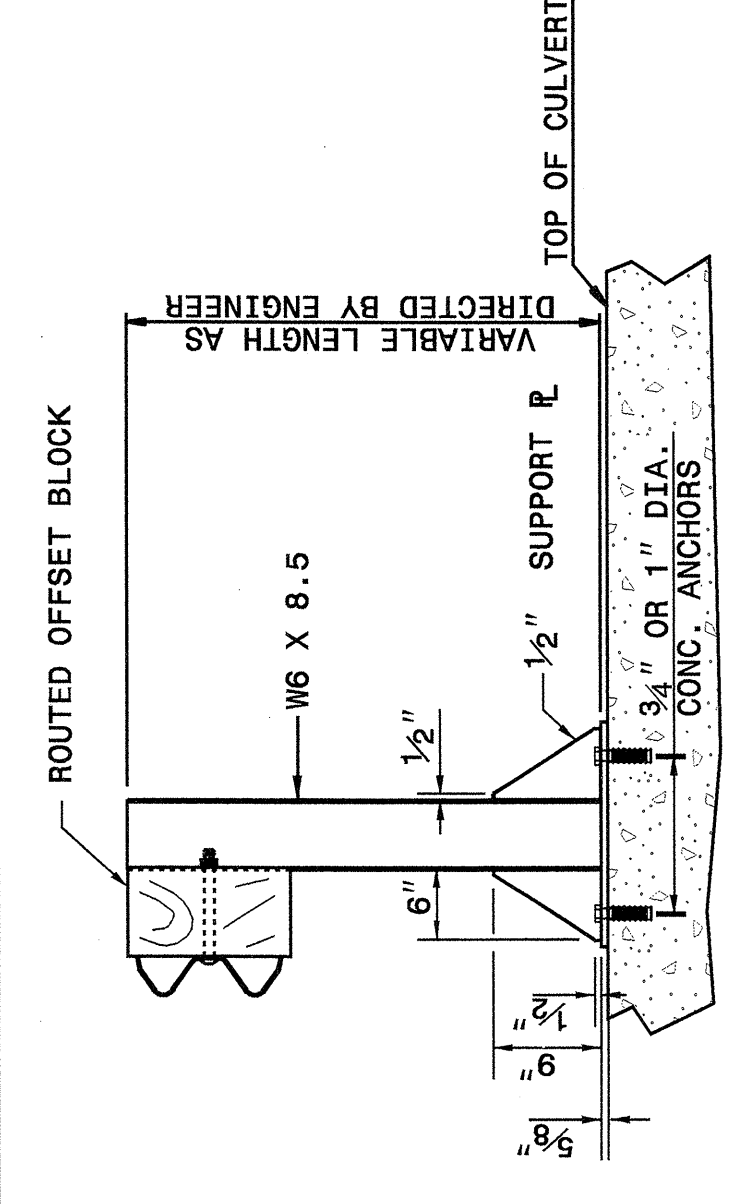
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 5 OF 6
862D03

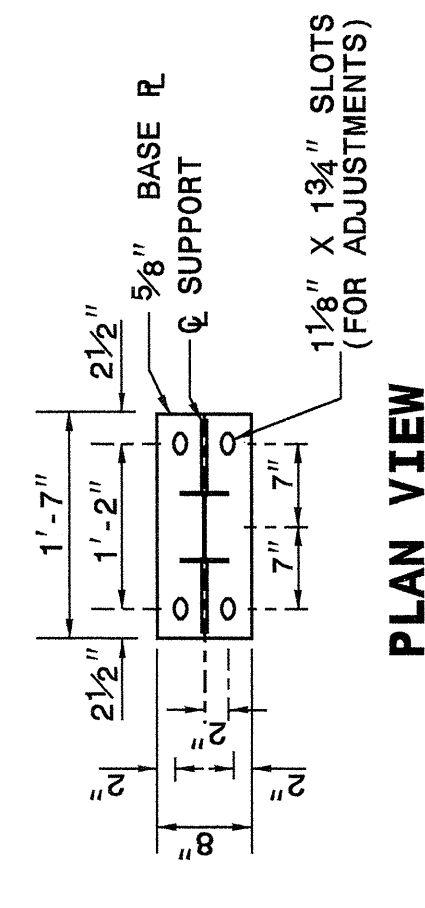
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

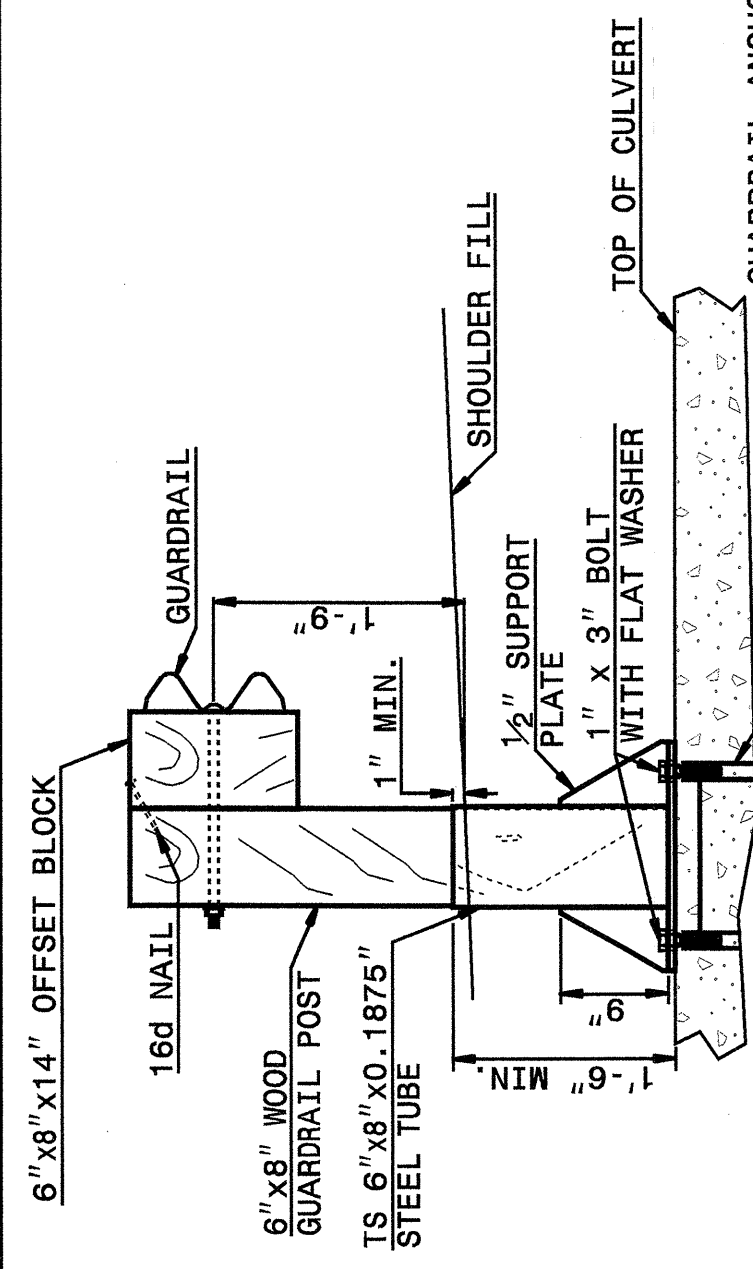
SHEET 6 OF 6
862D03



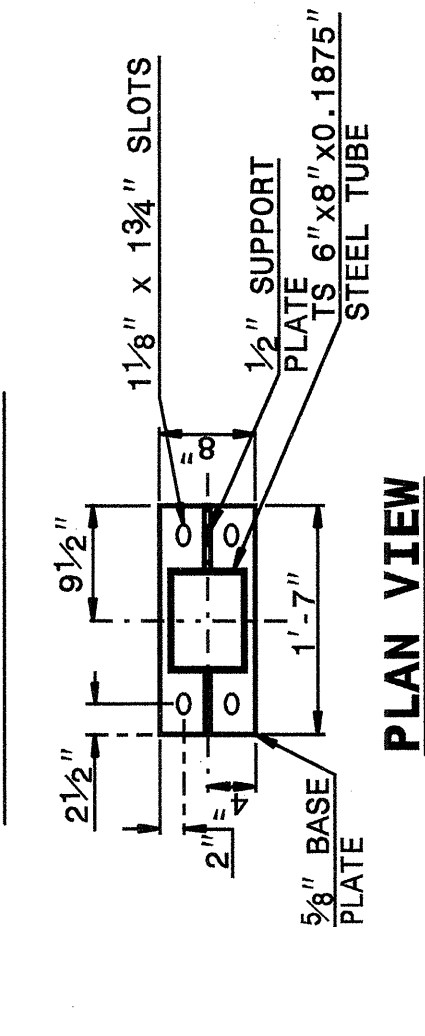
ELEVATION VIEW



PLAN VIEW



ELEVATION VIEW



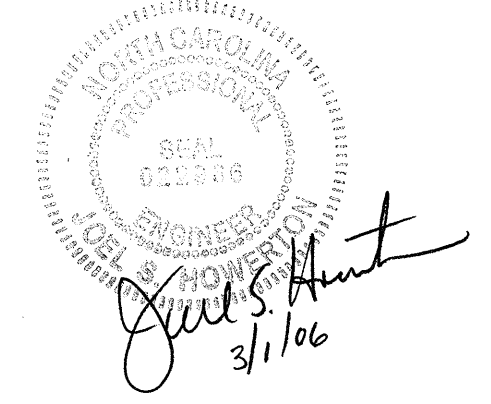
PLAN VIEW

NOTES FOR:
- GUARDRAIL POST ANCHORED TO STRUCTURE:
- USE FULL LENGTH 1/4" BUTT WELDS AT ALL LOCATIONS OF CONTACT BETWEEN THE BASE PLATE, SUPPORT PLATES AND STEEL POST OR STEEL TUBE.
- USE POST AND POST BASE PLATES CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A-36 AND GALVANIZED AFTER FABRICATION TO CONFORM TO A.S.T.M. A-123.
- USE WOOD POSTS WHICH FIT SNUGLY 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 STUDS THREADED ON ONE END AND HAVING AN EXPANDED WEDGE ASSEMBLY POSITIONED AROUND A TAPERED AREA AT THE OTHER END. 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 PORTABLE ROTARY IMPACT DRILL. NO OTHER IMPACT TOOLS WILL BE PERMITTED. DRILL HOLES VERTICALLY. FURNISH DOCUMENTATION OF DRILL HOLE SIZE RECORDS FOR THE ENGINEER BEFORE DRILLING HOLES. THOROUGHLY CLEAN HOLES FOR ANCHORS. ALL CONCRETE CHIPS, DUST, GREASE, OIL, ETC. BEFORE ANCHORS ARE INSTALLED. REPAIR ALL DAMAGE CAUSED BY THIS WORK TO THE SATISFACTION OF THE ENGINEER.



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: *James Hunt* DATE: 7/15/06
FILE SPEC: 4018/02stdstodetails/english/862d03.dgn

5/28/99

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201241

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	4025000000-E	901	37.75	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)	6036000000-E	1631	150	SY	MATTING FOR EROSION CONTROL
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (12+17.50)	4082000000-E	903	84	LF	SUPPORTS, WOOD	6042000000-E	1632	200	LF	1/4" HARDWARE CLOTH
0043000000-N	226	Lump Sum		GRADING	4096000000-N	904	1	EA	SIGN ERECTION, TYPE D	6048000000-E	SP	100	SY	FLOATING TURBIDITY CURTAIN
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	4102000000-N	904	6	EA	SIGN ERECTION, TYPE E	6084000000-E	1660	1	ACR	SEEDING & MULCHING
0057000000-E	226	625	CY	UNDERCUT EXCAVATION	4155000000-N	907	1	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6087000000-E	1660	0.5	ACR	MOWING
0134000000-E	240	45	CY	DRAINAGE DITCH EXCAVATION	4158000000-N	907	6	EA	DISPOSAL OF SIGN SYSTEM, WOOD	6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
0196000000-E	270	100	SY	FABRIC FOR SOIL STABILIZATION	4238000000-N	907	4	EA	DISPOSAL OF SIGN, D, E OR F	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
0318000000-E	300	8	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	4412000000-E	SP	192	SF	WORK ZONE SIGNS (STATIONARY)	6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
0390000000-E	310	72	LF	36" RC PIPE CULVERTS, CLASS III	4412100000-E	SP	144	SF	WORK ZONE SIGNS (PORTABLE)	6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
1121000000-E	520	160	TON	AGGREGATE BASE COURSE	4412200000-E	SP	40	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
1220000000-E	545	50	TON	INCIDENTAL STONE BASE	4430000000-N	1130	25	EA	DRUMS	6132000000-N	SP	8	EA	GENERIC EROSION CONTROL ITEM RESPONSE FOR EROSION CONTROL
1489000000-E	610	555	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	4435000000-N	1135	30	EA	CONES					
1525000000-E	SP	445	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	4446100000-E	SP	60	LF	BARRICADES (TYPE III)					
1560000000-E	620	53	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	4450000000-N	1150	720	HR	FLAGGER					
1693000000-E	654	10	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	4810000000-E	1205	13,200	LF	PAINT PAVEMENT MARKING LINES (4")					
2619000000-E	850	25	SY	4" CONCRETE PAVED DITCH	4835000000-E	1205	40	LF	PAINT PAVEMENT MARKING LINES (24")					
3030000000-E	862	50	LF	STEEL BM GUARDRAIL	6000000000-E	1605	1,450	LF	TEMPORARY SILT FENCE					
3150000000-N	862	3	EA	ADDITIONAL GUARDRAIL POSTS	6006000000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A					
3215000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE III	6009000000-E	1610	55	TON	STONE FOR EROSION CONTROL, CLASS B					
3270000000-N	SP	1	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	6012000000-E	1610	55	TON	SEDIMENT CONTROL STONE					
3649000000-E	876	15	TON	PLAIN RIP RAP, CLASS B	6015000000-E	1615	1	ACR	TEMPORARY MULCHING					
3656000000-E	876	285	SY	FILTER FABRIC FOR DRAINAGE	6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING					
4025000000-E	901	4.5	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)	6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING					
					6029000000-E	SP	570	LF	SAFETY FENCE					
					6030000000-E	1630	150	CY	SILT EXCAVATION					

REVISIONS

PROJECT REFERENCE NO. B-3858 SHEET NO. 4

R/W SHEET NO.

ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 27171 MICHAEL B. COPPE 3/2/06	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18442 ROLAND W. DALE 3/2/06
---	---

GEORGE I. WATSON, et ux
DB 121 PG 567

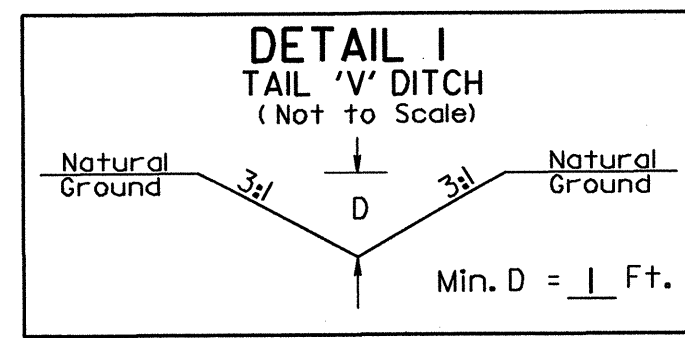
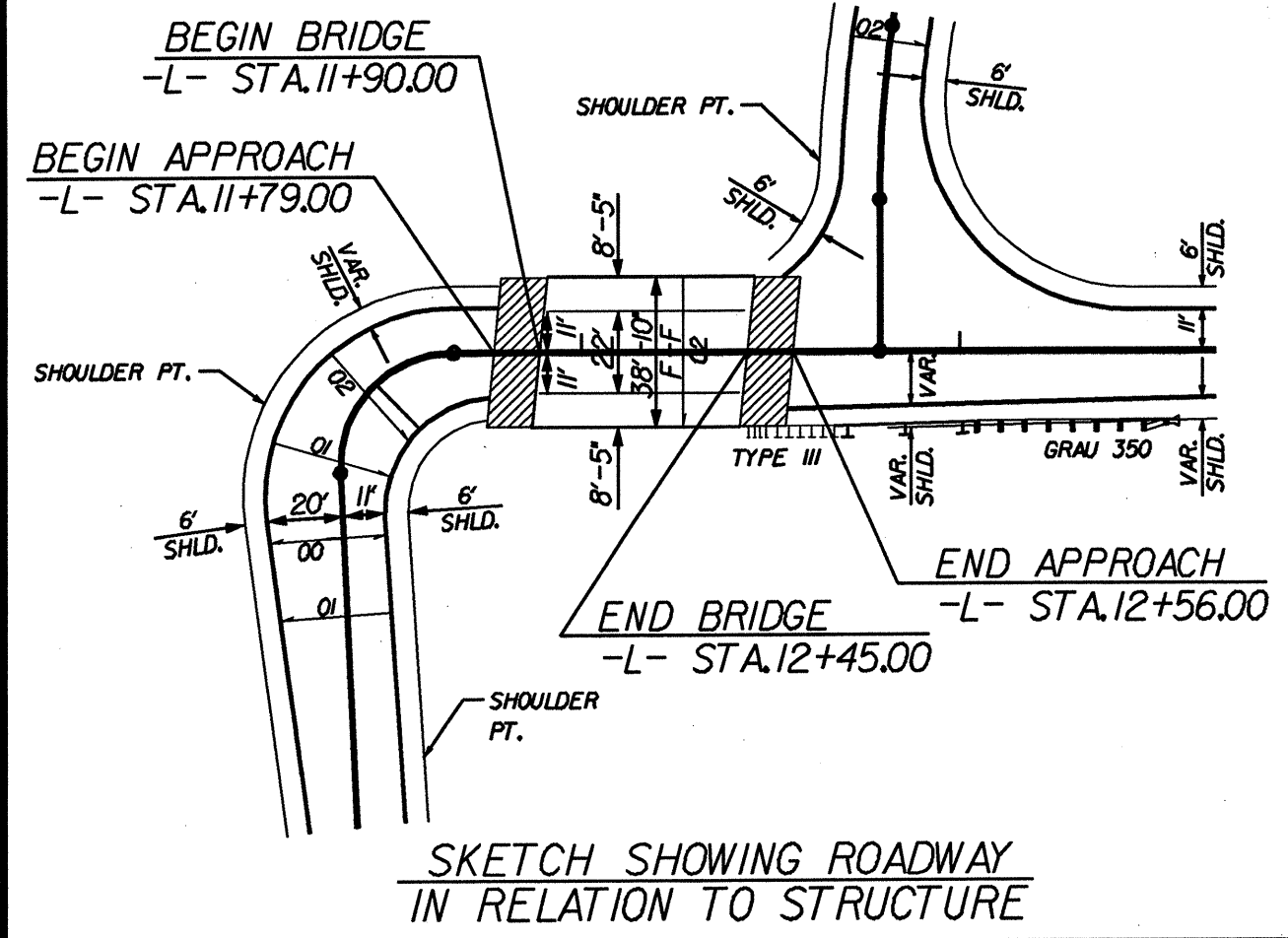
RUTH JOLLY WILSON
DB 150 PG 659
DB 145 PG 993

PAVEMENT DESIGN FOR DRIVEWAY:
1/2" SF9.5A
8" ABC

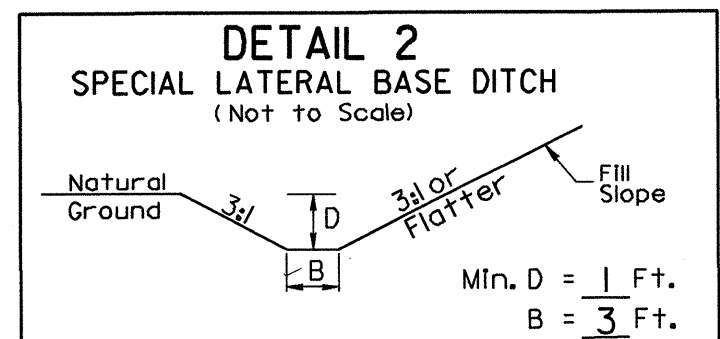
PROPOSED LIMITS OF GRADING
NOT TO EXCEED EXIST. EDGE
OF PAVEMENT FROM:
-L- STA. 13+00 +/- TO 13+85 LT
-Y- STA 10+70 +/- TO 11+50 LT.

NOTE: SAFETY FENCE TO BE
PLACED ALONG TDE.

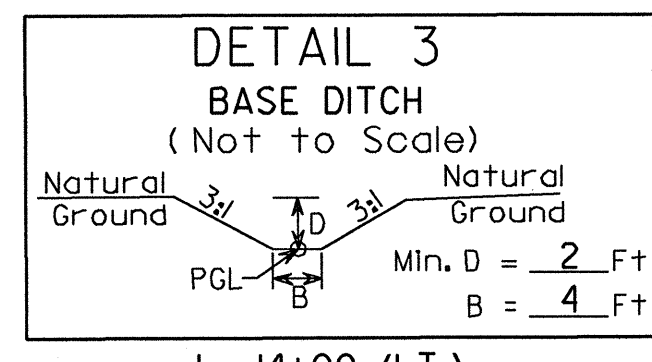
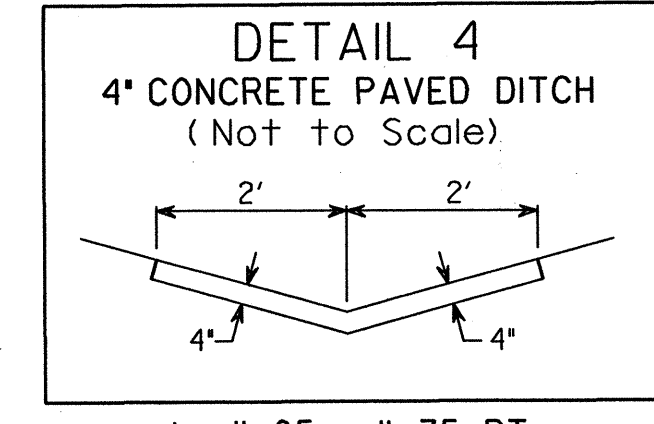
DO NOT
DISTURB
STORE



-L- 10+00 (RT.)
EST. DDE = 2 CY.



-L- 10+55 to 11+40 (LT.)
EST. DDE = 13 CY.



-L- 14+00 (LT.)
EST. DDE = 27 CY.

RUTH JOLLY WILSON
DB 150 PG 659
DB 145 PG 993

-L- CURVE 1	-L- CURVE 2	-L- CURVE 3	-Y- CURVE 1
PI Sta 9+75.53	PI Sta 11+49.28	PI Sta 16+22.30	PI Sta 10+63.53
$\Delta = 93^{\circ} 51' 32.2''$ (RT)	$\Delta = 10^{\circ} 29' 08.1''$ (RT)	$\Delta = 10^{\circ} 29' 08.1''$ (RT)	$\Delta = 8^{\circ} 41' 23.4''$ (RT)
D = 10' 00' 00.0"	D = 190' 59' 09.4"	D = 10' 00' 00.0"	D = 19' 00' 00.0"
L = 99.35'	L = 49.14'	L = 104.86'	L = 45.74'
T = 49.80'	T = 32.09'	T = 52.57'	T = 22.9'
R = 572.96'	R = 30.00'	R = 572.96'	R = 301.56'
e = See Plans	e = See Plans	e = See Plans	e = See Plans
Runoff = See Plans	Runoff = See Plans	Runoff = See Plans	Runoff = See Plans

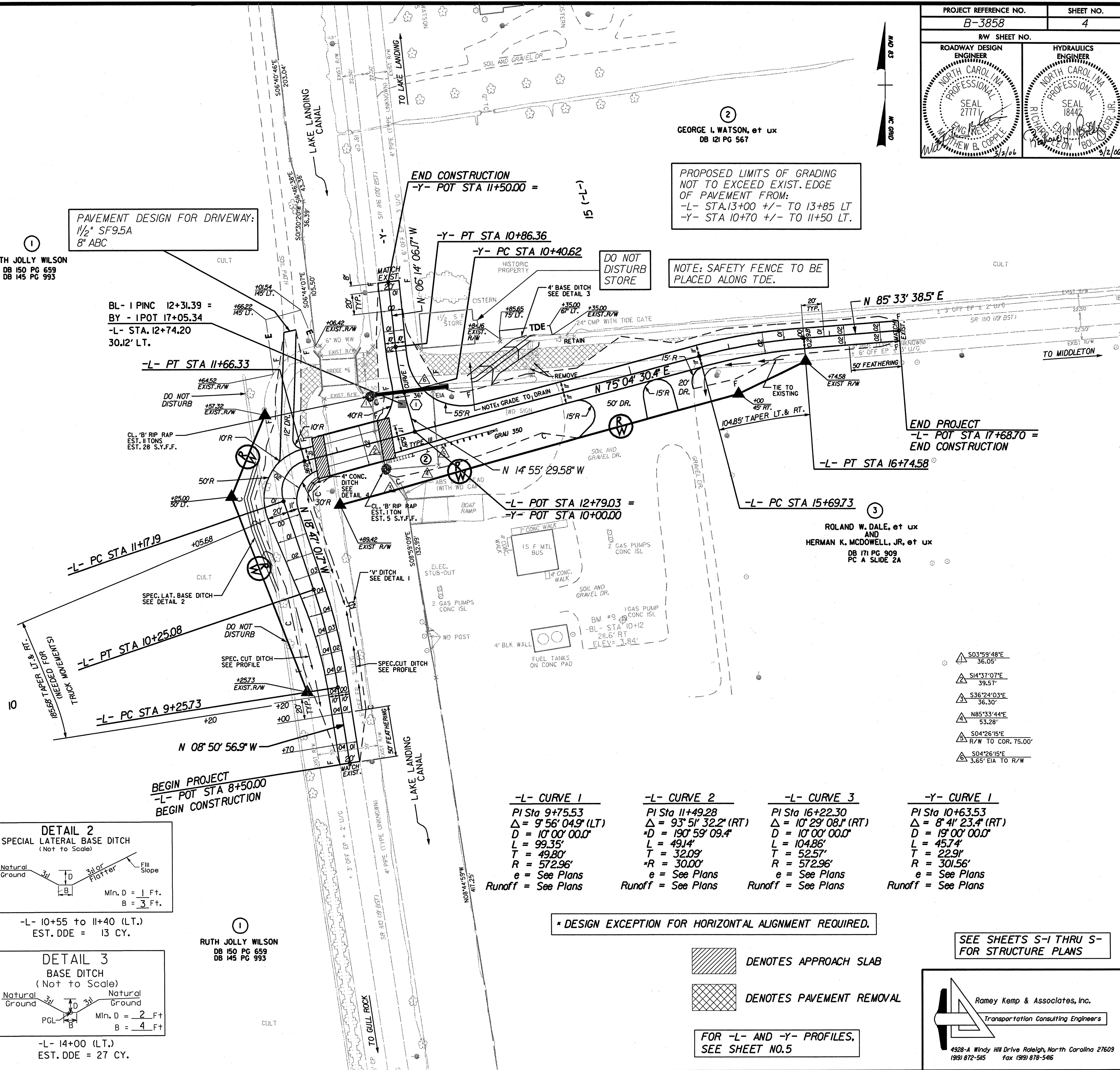
* DESIGN EXCEPTION FOR HORIZONTAL ALIGNMENT REQUIRED.

DENOTES APPROACH SLAB
 DENOTES PAVEMENT REMOVAL

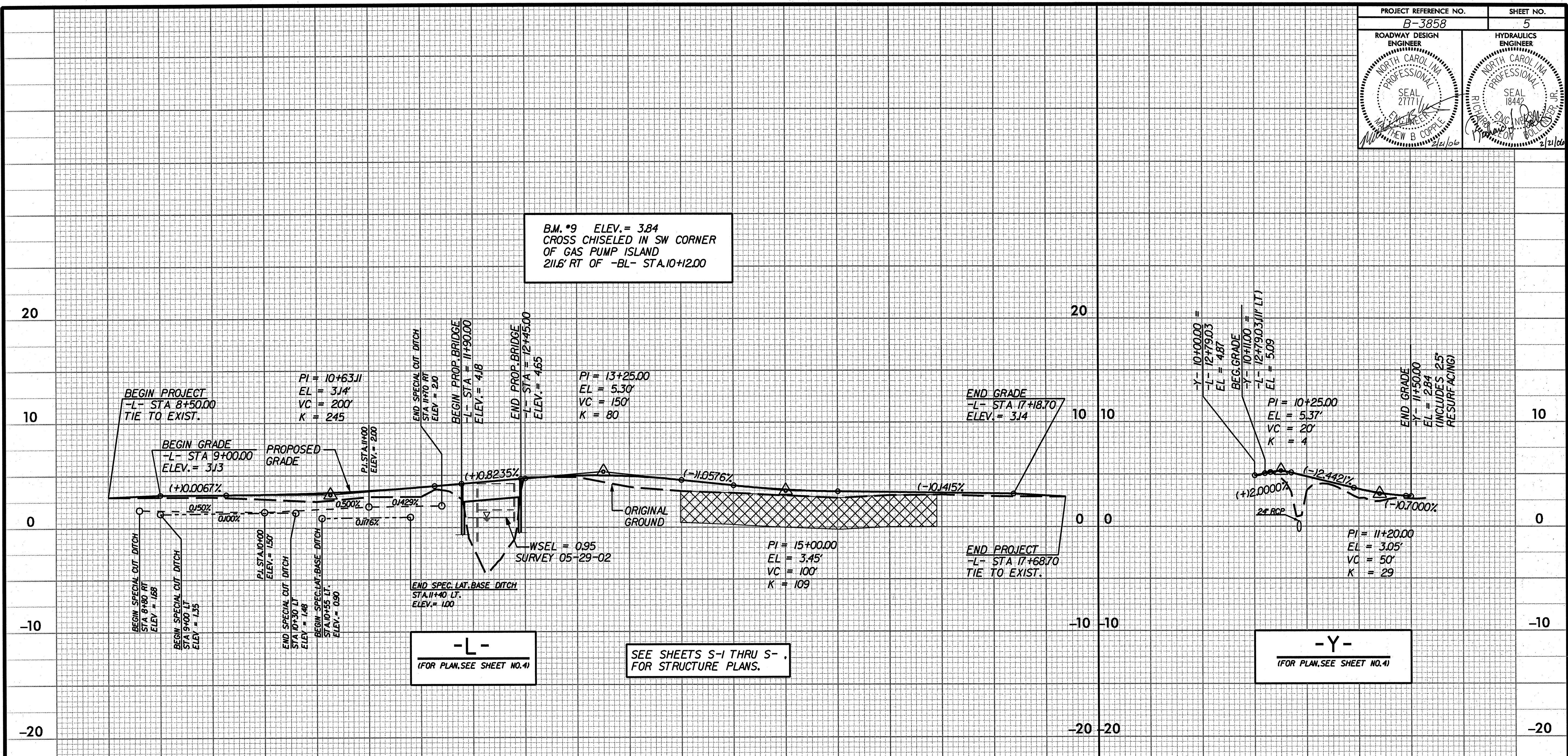
FOR -L- AND -Y- PROFILES,
SEE SHEET NO. 5

SEE SHEETS S-1 THRU S-
FOR STRUCTURE PLANS

Ramey Kemp & Associates, Inc.
Transportation Consulting Engineers
4928-A Windy Hill Drive Raleigh, North Carolina 27609
1991 872-505 Fax 1991 878-546



B.M. #9 ELEV. = 3.84
CROSS CHISELED IN SW CORNER
OF GAS PUMP ISLAND
211.6' RT OF -BL- STA.10+12.00



-L-
(FOR PLAN, SEE SHEET NO. 4)

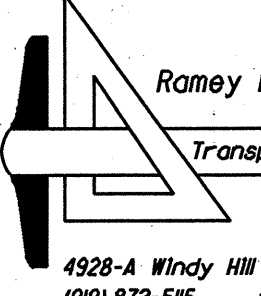
SEE SHEETS S-1 THRU S-4
FOR STRUCTURE PLANS.

-Y-
(FOR PLAN, SEE SHEET NO. 4)

BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= N/A CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= N/A FT
BASE DISCHARGE	= N/A CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 4.9 FT
OVERTOPPING DISCHARGE	= N/A CFS
OVERTOPPING FREQUENCY	= <10 YRS
OVERTOPPING ELEVATION	= 2.66 FT
	= FT
DATE OF SURVEY	= 5/29/02
W.S. ELEVATION AT DATE OF SURVEY	= 0.95 FT

 DENOTES UNDERCUT

LEGEND
 - - - - - DITCH LEFT
 - - - - - DITCH RIGHT



Ramey Kemp & Associates, Inc.
Transportation Consulting Engineers
4928-A Windy Hill Drive Raleigh, North Carolina 27609
919 872-595 Fax 919 878-546

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