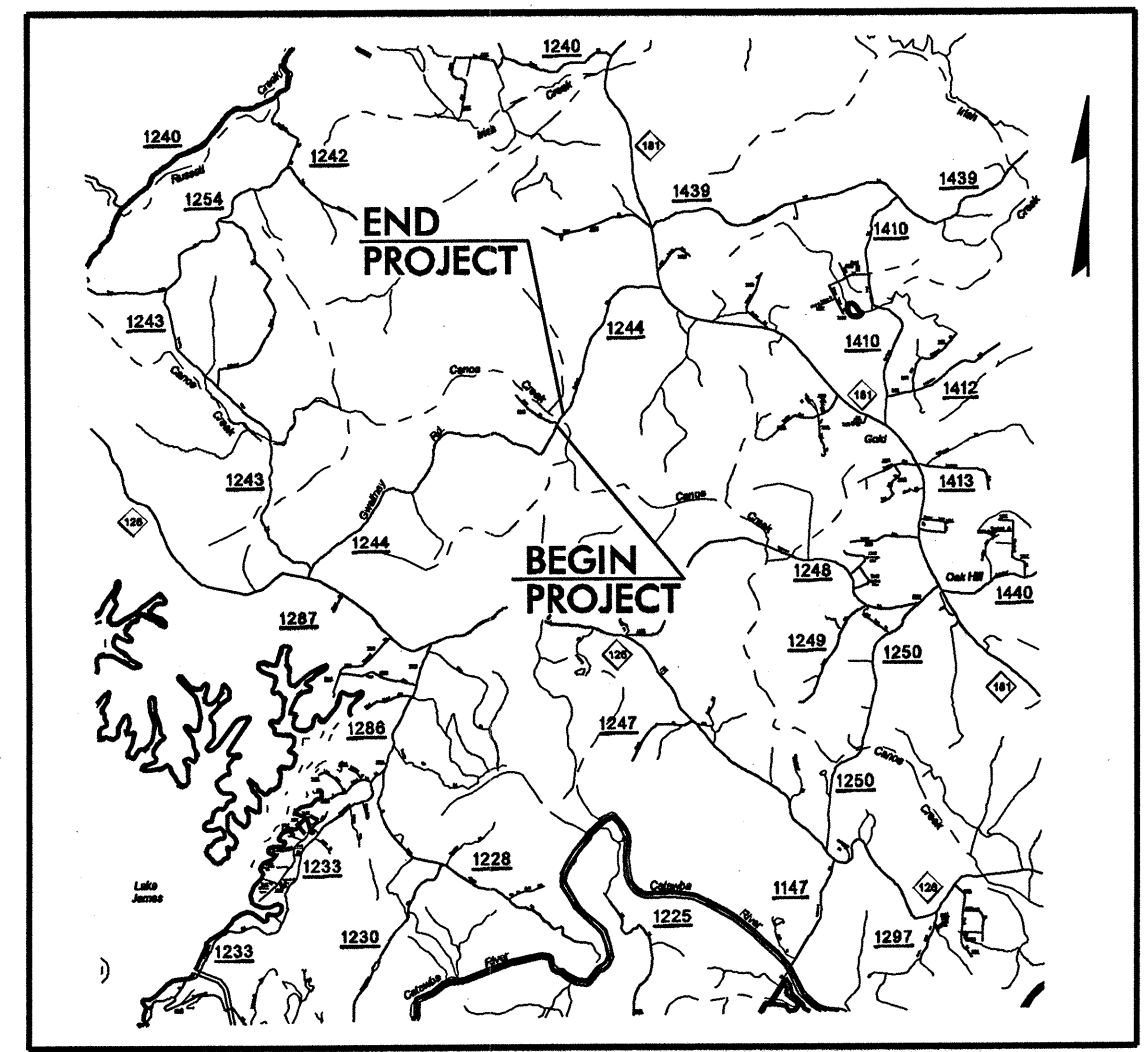
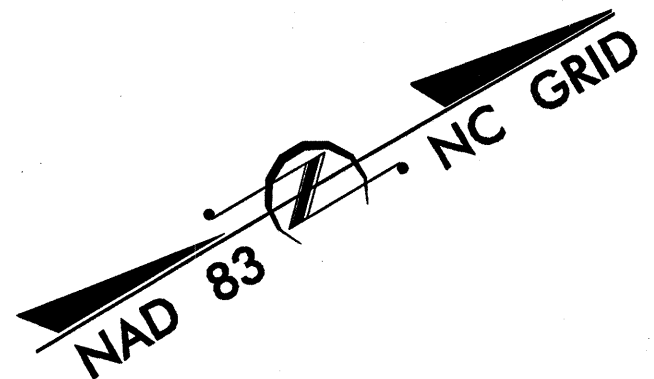


CONTRACT: C201443 TIP PROJECT: B-4041

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



VICINITY MAP

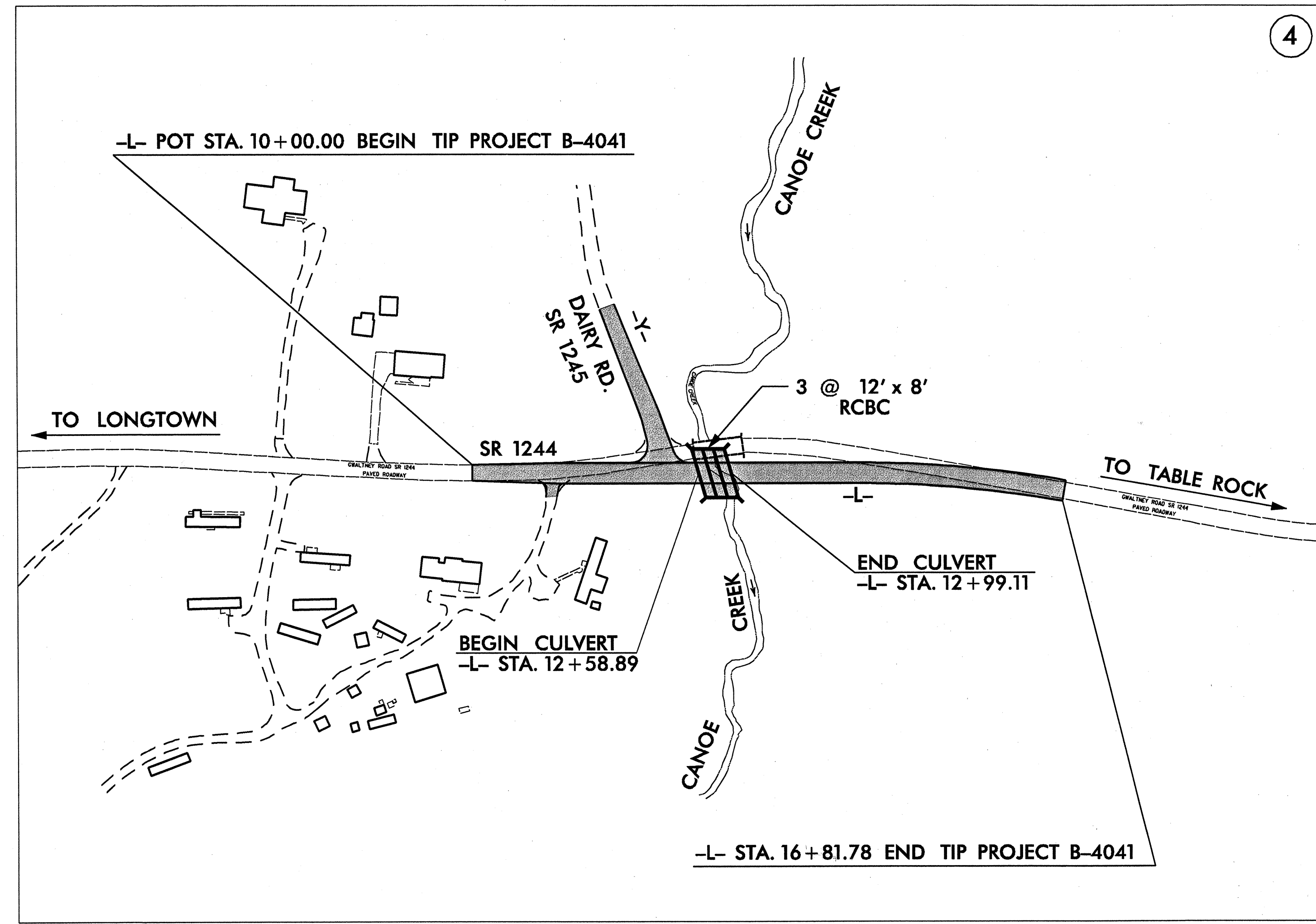


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

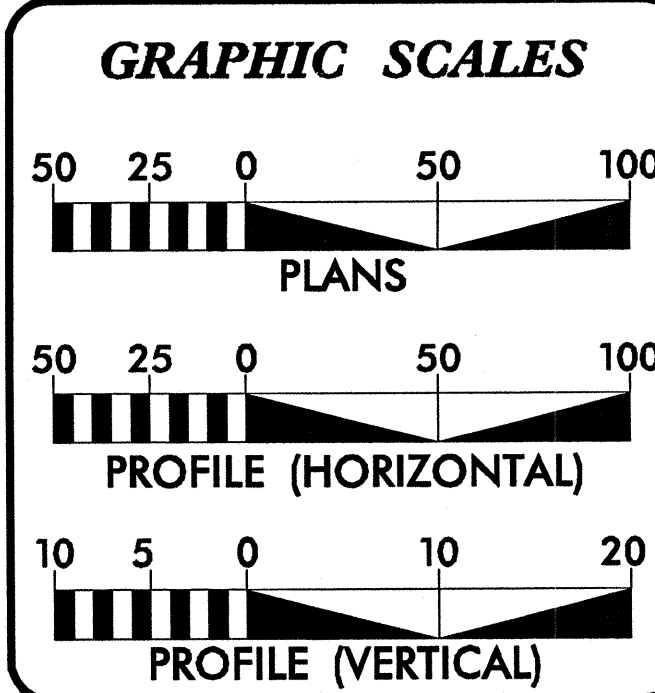
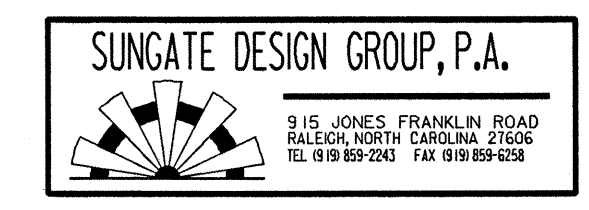
**BURKE COUNTY**

**LOCATION: BRIDGE NO. 57 ON SR 1244 OVER CANOE CREEK**  
**TYPE OF WORK: GRADING, PAVING, DRAINAGE AND CULVERT**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4041	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33407.1.1	BRZ-1244(1)	P.E.	
33407.2.1	BRZ-1244(1)	RW & UTIL.	
33407.3.1	BRZ-1244(1)	CONST.	



\*\* DESIGN EXCEPTION FOR VERTICAL ALIGNMENT (CREST K, SAG K, SSD)



**DESIGN DATA**

ADT 2006 =	943
ADT 2025 =	3,600
DHV =	12%
D =	55%
T =	3% *
** V =	60 MPH
* TTST 1%	DUAL 2%

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4041	=	0.121 mi
LENGTH STRUCTURE TIP PROJECT B-4041	=	0.008 mi
TOTAL LENGTH TIP PROJECT B-4041	=	0.129 mi

Plans prepared in the office of:

**Ramey Kemp & Associates, Inc.**  
Transportation Consulting Engineers  
4928-A Windy Hill Drive  
Raleigh, North Carolina 27609  
(919) 872-5165 fax (919) 878-5406

for the North Carolina Department of Transportation

2002 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
FEBRUARY 18, 2005

**LETTING DATE:**  
AUGUST 15, 2006

N.C.D.O.T. CONTACT:  
CATHY S. HOUSER, PE  
PROJECT ENGINEER  
ROADWAY DESIGN

**HYDRAULICS ENGINEER**

3/04/06 P.E.

**ROADWAY DESIGN ENGINEER**

5/8/06 P.E.  
MATTHEW B. COPPLE

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER P.E.

**DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED DIVISION ADMINISTRATOR DATE

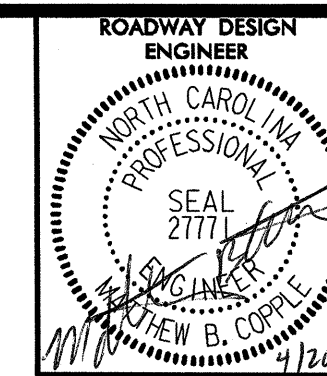
ROADWAY ENGLISH STANDARD DRAWINGS

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
<u>DIVISION 2 - EARTHWORK</u>	
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
<u>DIVISION 3 - PIPE CULVERTS</u>	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
<u>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</u>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
<u>DIVISION 8 - INCIDENTALS</u>	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
862.01	Guardrail Placement
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

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 THRU 1-D	SURVEY CONTROL SHEET
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND METHOD OF WEDGING DETAIL
2-B THRU 2-E	DETAIL OF GUARDRAIL INSTALLATION
2-F	DETAIL OF GUARDRAIL ANCHOR UNIT TYPE - TEMPORARY RETROFIT
2-G THRU 2-H	TEMPORARY FABRIC WALL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-8	TRAFFIC CONTROL PLANS
PM-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-7	EROSION CONTROL PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-7	CROSS-SECTIONS
C-1 THRU C-9	CULVERT PLANS



PROJECT REFERENCE NO.	SHEET NO.
B-4041	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 II.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT 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.

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 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

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

SUBSURFACE PLANS:

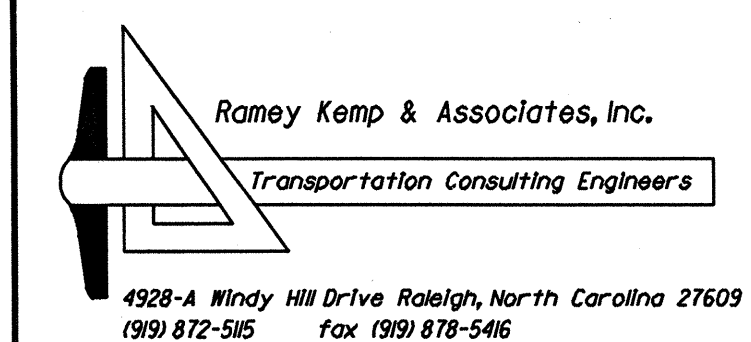
NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE REMC (RUTHERFORD ELECTRIC MEMBERSHIP CORP.), BELLSOUTH, CHARTER COMMUNICATIONS, AND CITY OF MORGANTON. ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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



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	----- <sup>C</sup> -----
Prop. Slope Stakes Fill	----- <sup>F</sup> -----
Prop. Woven Wire Fence	○-----○
Prop. Chain Link Fence	□-----□
Prop. Barbed Wire Fence	◇-----◇
Prop. Wheelchair Ramp	○ <sup>WCR</sup> -----○
Curb Cut for Future Wheelchair Ramp	○ <sup>CCFR</sup> -----○
Exist. Guardrail	-----
Prop. Guardrail	-----
Equality Symbol	⊕
Pavement Removal	▣

## 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	-----▲-----
RW Marker (Iron Pin & Cap)	▲
Prop. Right of Way Line with Proposed	-----▲-----
(Concrete or Granite) RW Marker	●
Exist. Control of Access Line	○ <sup>C</sup> -----○ <sup>A</sup>
Prop. Control of Access Line	○ <sup>C</sup> -----○ <sup>A</sup>
Exist. Easement Line	----- <sup>E</sup> -----
Prop. Temp. Construction Easement Line	----- <sup>E</sup> -----
Prop. Temp. Drainage Easement Line	----- <sup>TDE</sup> -----
Prop. Perm. Drainage Easement Line	----- <sup>PDE</sup> -----

## HYDROLOGY

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

## STRUCTURES

MAJOR	
Bridge, Tunnel, or Box Culvert	▣ <sup>CONC</sup>
Bridge Wing Wall, Head Wall and End Wall	▣ <sup>CONC</sup> WW

MINOR	
Head & End Wall	----- <sup>CONC HW</sup> -----
Pipe Culvert	=====
Footbridge	-----
Drainage Boxes	□ <sup>CB</sup>
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	□
UG Telephone Cable Hand Hold	□
Cable TV Pedestal	□
UG TV Cable Hand Hold	□
UG 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	----- <sup>TS</sup> -----

Recorded Water Line	----- <sup>W</sup> -----
Designated Water Line (S.U.E.*)	----- <sup>W</sup> -----
Sanitary Sewer	----- <sup>SS</sup> -----
Recorded Sanitary Sewer Force Main	----- <sup>FSS</sup> -----
Designated Sanitary Sewer Force Main(S.U.E.*)	----- <sup>FSS</sup> -----
Recorded Gas Line	----- <sup>G</sup> -----
Designated Gas Line (S.U.E.*)	----- <sup>G</sup> -----
Storm Sewer	----- <sup>S</sup> -----
Recorded Power Line	----- <sup>P</sup> -----
Designated Power Line (S.U.E.*)	----- <sup>P</sup> -----
Recorded Telephone Cable	----- <sup>T</sup> -----
Designated Telephone Cable (S.U.E.*)	----- <sup>T</sup> -----
Recorded UG Telephone Conduit	----- <sup>TC</sup> -----
Designated UG Telephone Conduit (S.U.E.*)	----- <sup>TC</sup> -----
Unknown Utility (S.U.E.*)	----- <sup>UTL</sup> -----
Recorded Television Cable	----- <sup>TV</sup> -----
Designated Television Cable (S.U.E.*)	----- <sup>TV</sup> -----
Recorded Fiber Optics Cable	----- <sup>FO</sup> -----
Designated Fiber Optics Cable (S.U.E.*)	----- <sup>FO</sup> -----
Exist. Water Meter	○
UG 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	-----
Existing Wetland Boundaries	----- <sup>WW &amp; ISBW</sup> -----
High Quality Wetland Boundary	----- <sup>HQ WLB</sup> -----
Medium Quality Wetland Boundaries	----- <sup>MQ WLB</sup> -----
Low Quality Wetland Boundaries	----- <sup>LQ WLB</sup> -----
Proposed Wetland Boundaries	----- <sup>WLB</sup> -----
Existing Endangered Animal Boundaries	----- <sup>EAB</sup> -----
Existing Endangered Plant Boundaries	----- <sup>EPB</sup> -----

## 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

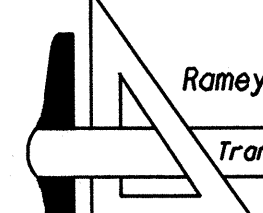
Loose Surface	-----
Hard Surface	-----
Change in Road Surface	-----
Curb	-----
Right of Way Symbol	R/W
Guard Post	○ GP
Paved Walk	-----
Bridge	-----
Box Culvert or Tunnel	-----
Ferry	-----
Culvert	-----
Footbridge	-----
Trail, Footpath	-----
Light House	-----

## 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  
 (919) 872-585 Fax (919) 878-5466

10/26/98

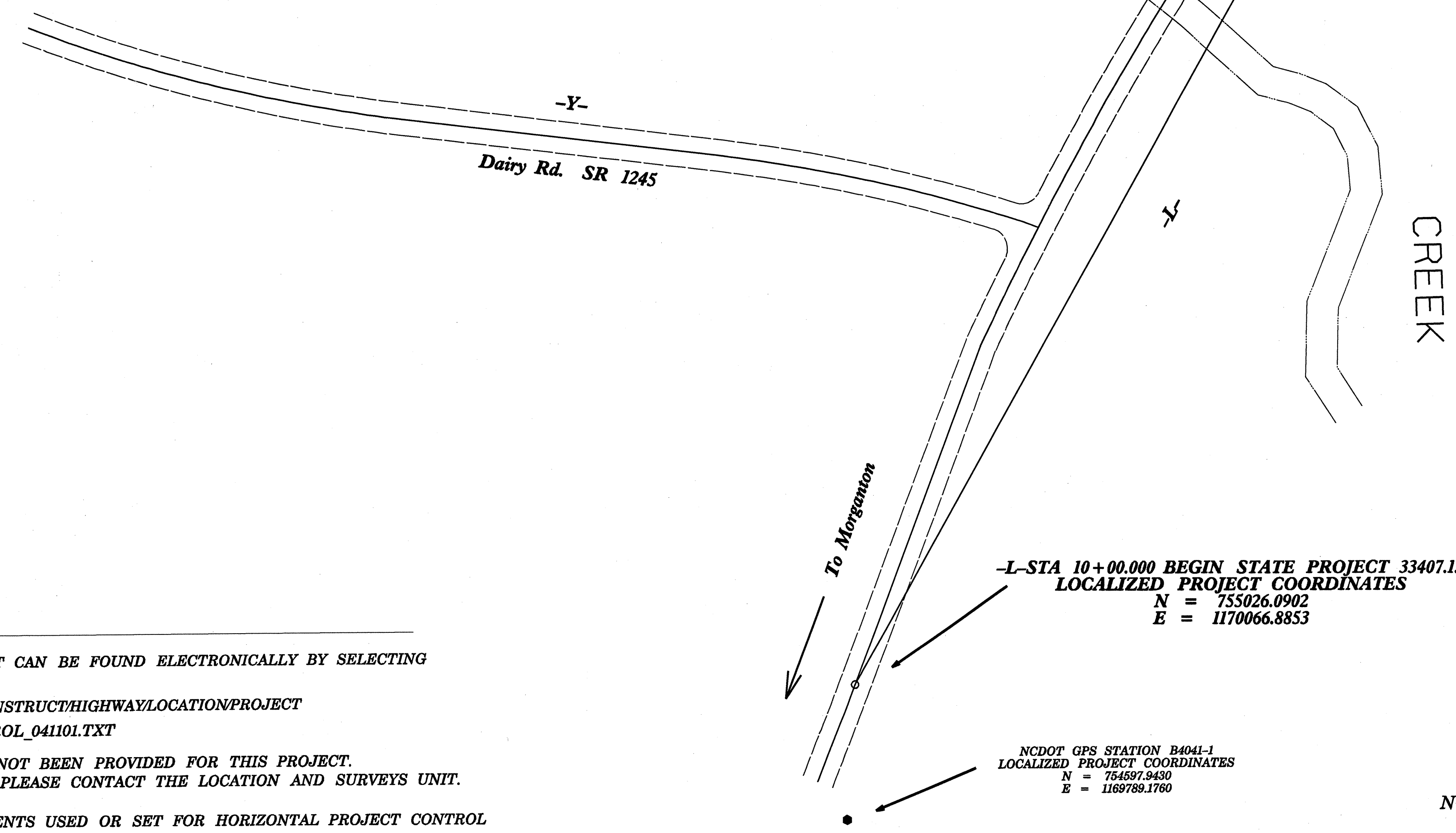
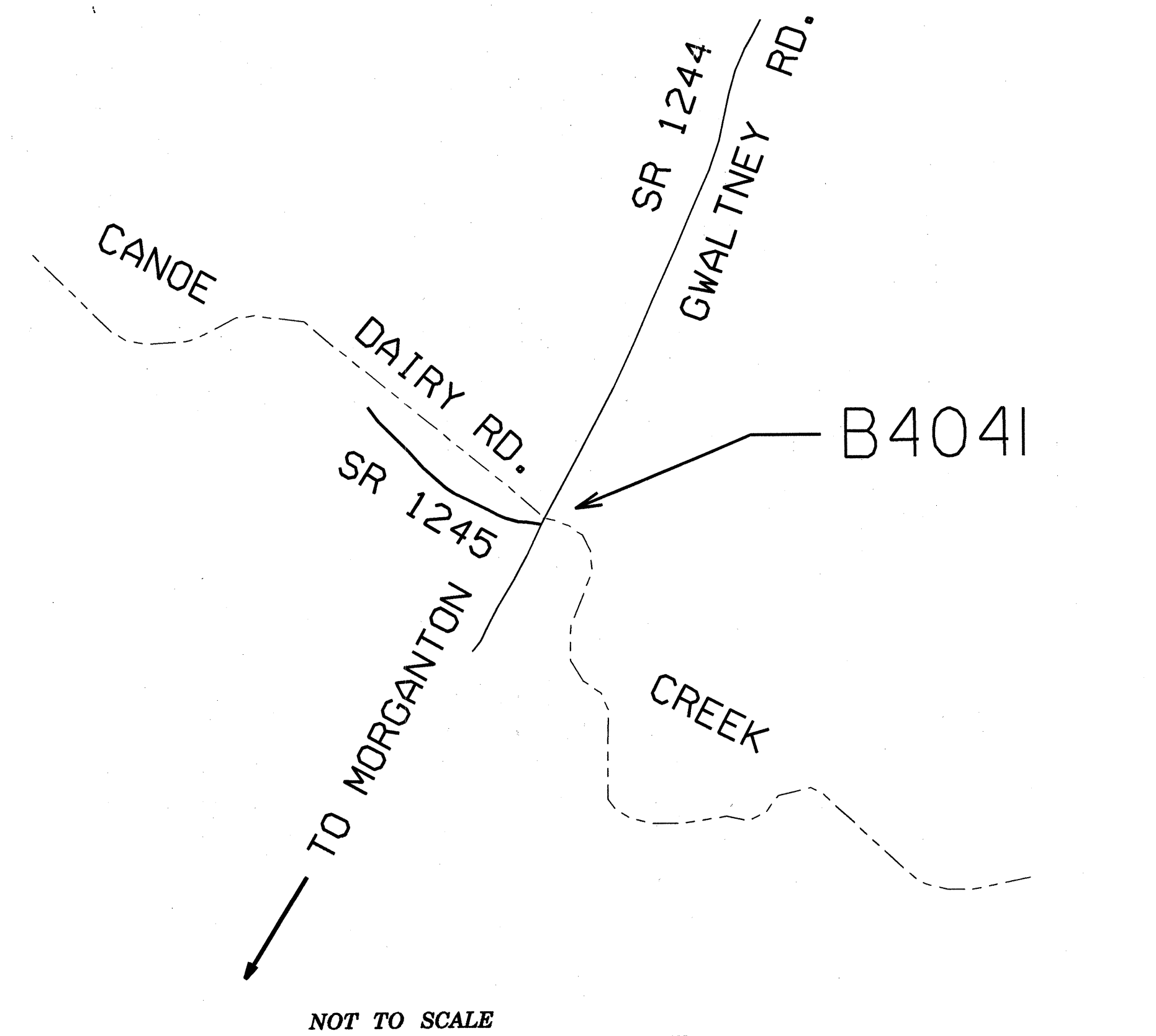
# SURVEY CONTROL SHEET

PROJECT REFERENCE NO.	SHEET NO.
B-4041	I-C
LOCATION AND SURVEYS	

NCDOT GPS STATION B4041-2  
 LOCALIZED PROJECT COORDINATES  
 N = 755889.9030  
 E = 1170647.2450

-L-STA 16+81.78 END STATE PROJECT 33407.1.1  
 LOCALIZED PROJECT COORDINATES  
 N = 755608.1923  
 E = 1170420.0810

**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4041-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 754597.9430(E) EASTING: 1169789.1760(W). THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999862311. THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4041-1" TO L- STATION 10+00.00 IS S 32 58 07.22 W 510.326'. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES. VERTICAL DATUM USED IS NAVD 88.



-L-STA 10+00.000 BEGIN STATE PROJECT 33407.1.1  
 LOCALIZED PROJECT COORDINATES  
 N = 755026.0902  
 E = 1170066.8853

NCDOT GPS STATION B4041-1  
 LOCALIZED PROJECT COORDINATES  
 N = 754597.9430  
 E = 1169789.1760

**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 B4041\\_LS\\_CONTROL\\_041101.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B4041_LS_CONTROL_041101.TXT)
  - SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
  - INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

# SURVEY CONTROL SHEET B-4041

PROJECT REFERENCE NO. B-4041	SHEET NO. 1-D
Location and Surveys	

BLN	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101			754230.9700	1169614.1540	UNKNOWN	OUTSIDE PROJECT LIMITS	
102		GPS B4041-1	754597.9430	1169789.1760	UNKNOWN	OUTSIDE PROJECT LIMITS	
103			755223.8697	1170170.4708	UNKNOWN	12+23.15	7.24 LT
104			755568.5950	1170405.5560	UNKNOWN	16+41.60	13.45 RT
105		GPS B4041-2	7558889.9030	1170647.2450	UNKNOWN	OUTSIDE PROJECT LIMITS	

```

.....
BM1      ELEVATION - 1152.26
N 754508      E 1169787
L STATION 10+00
S 28° 22' 31.3" W DIST 589.23
SPIKE IN BASE OF 12" TRIPLE OAK
.....
BM2      ELEVATION - 1134.82
N 755195      E 1170086
L STATION 11+56 66 LEFT
SPIKE IN BASE OF 12" WILD CHERRY
.....
BM3      ELEVATION - 1125.50
N 755646      E 1170638
L STATION 16+82
N 00° 02' 41.6" E DIST 221.09
SPIKE IN BASE OF 14" WALNUT
.....
    
```

### DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT  
 IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY  
 NCDOT FOR MONUMENT "GPS B4041-1"  
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 754597.9430(ft) EASTING: 1169789.1760(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT  
 (GROUND TO GRID) IS: 0.999862311  
 THE N.C. LAMBERT GRID BEARING AND  
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM  
 "GPS B4041-1" TO -L- STATION 10+00.00 IS  
 S 32 58 07.22 W 510.326'  
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NAVD 88

### NOTES:

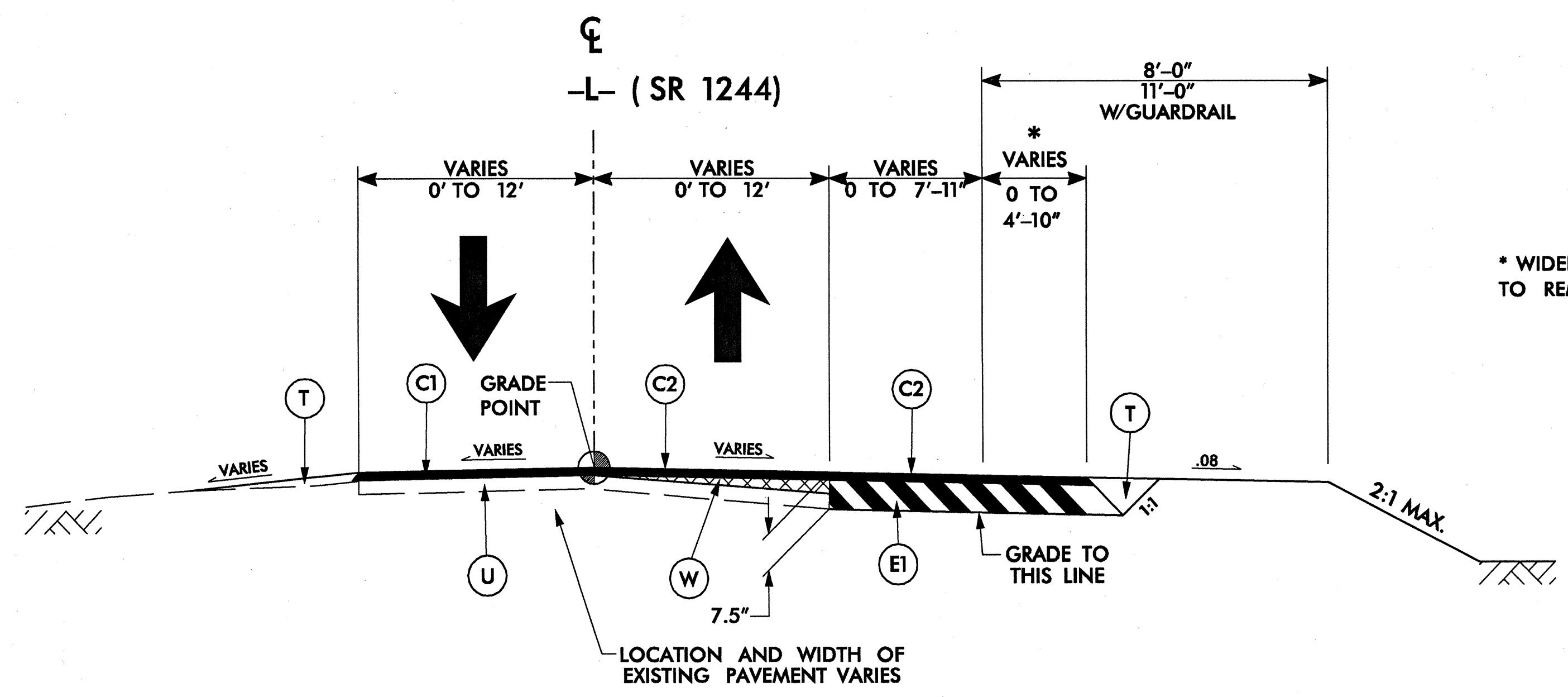
THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING  
 PROJECT CONTROL DATA AT:  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT  
 B4041\\_LS\\_CONTROL\\_041101.TXT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B4041_LS_CONTROL_041101.TXT)

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT.  
 IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)  
 BY THE NCDOT LOCATION AND SURVEYS UNIT.

6/2/99

PROJECT REFERENCE NO. B-4041	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 27771 MATTHEW B. COPPLE	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 22896 CLARK S. MORRISON



\* WIDENING FOR MAINTENANCE OF TRAFFIC TO REMAIN IN PLACE

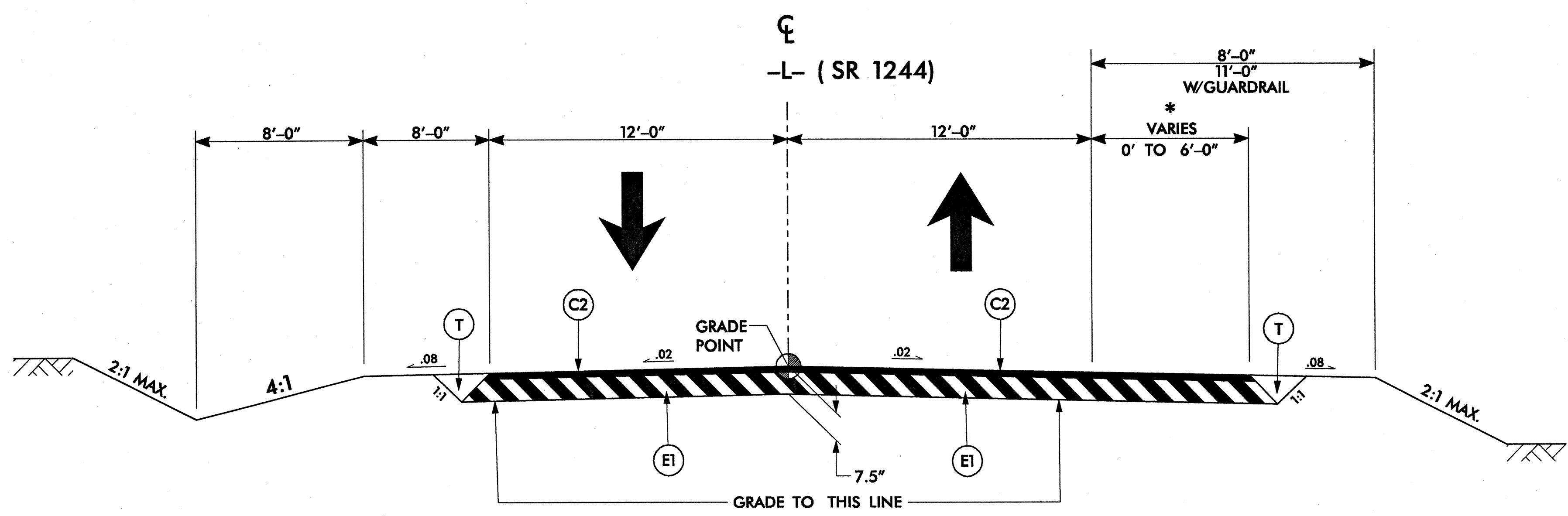
USE TYPICAL SECTION NO. 1  
-L- STA. 10+30.00 TO STA. 11+50.00  
-L- STA. 15+50.00 TO STA. 16+50.00

NOTE:  
FEATHER TO EXISTING PAVEMENT FROM  
-L- STA. 10+00.00 TO STA. 10+30.00 AND  
FROM -L- STA. 16+50.00 TO STA. 16+81.78

TYPICAL SECTION NO. 1

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	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.
C3	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. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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)

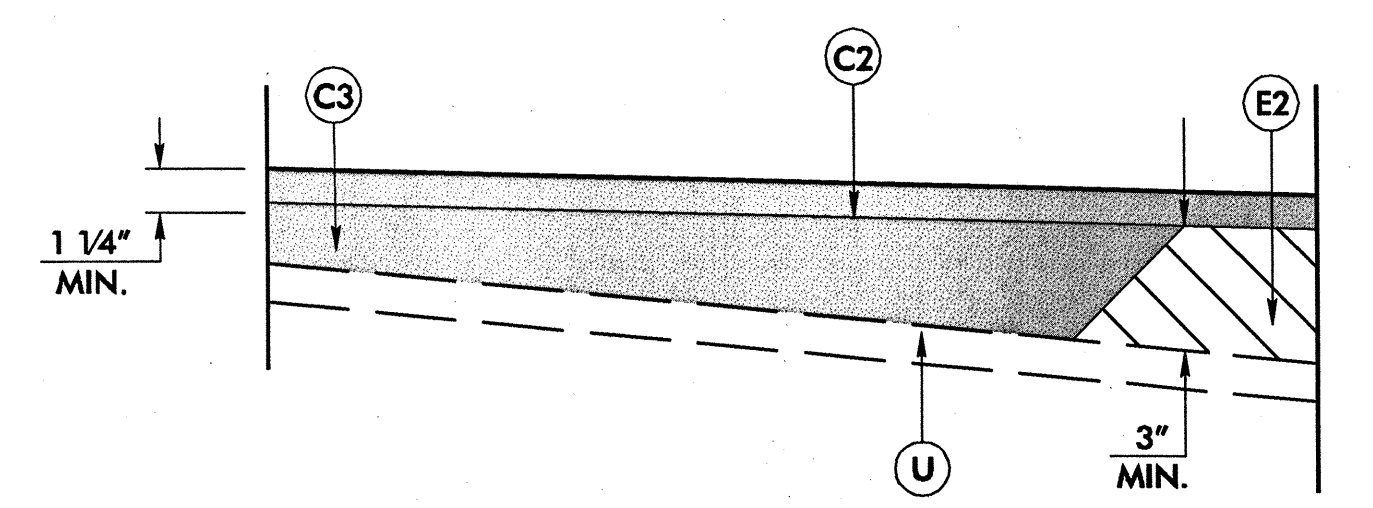
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



\* WIDENING FOR MAINTENANCE OF TRAFFIC TO REMAIN IN PLACE

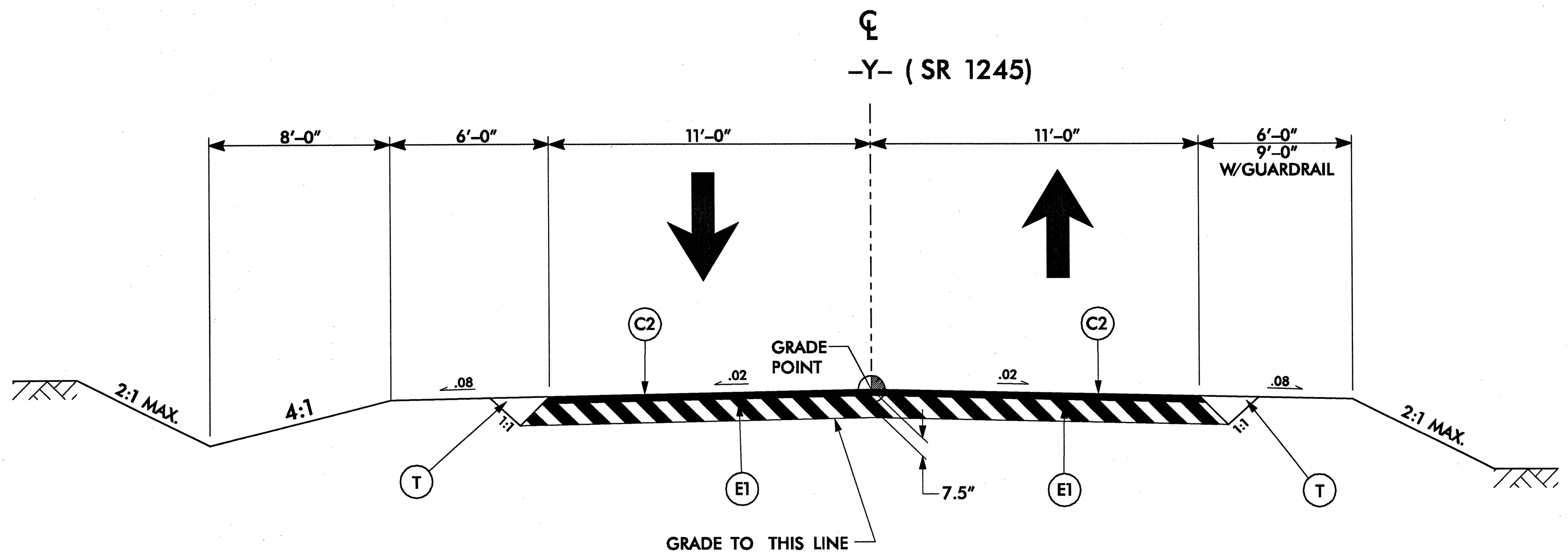
USE TYPICAL SECTION NO. 2  
-L- STA. 11+50.00 TO STA. 15+50.00

TYPICAL SECTION NO. 2



Detail Showing Method of Wedging

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



PAVEMENT SCHEDULE	
C2	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.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

USE TYPICAL SECTION NO. 3  
-Y- STA. 10+00.00 TO STA. 11+00.00

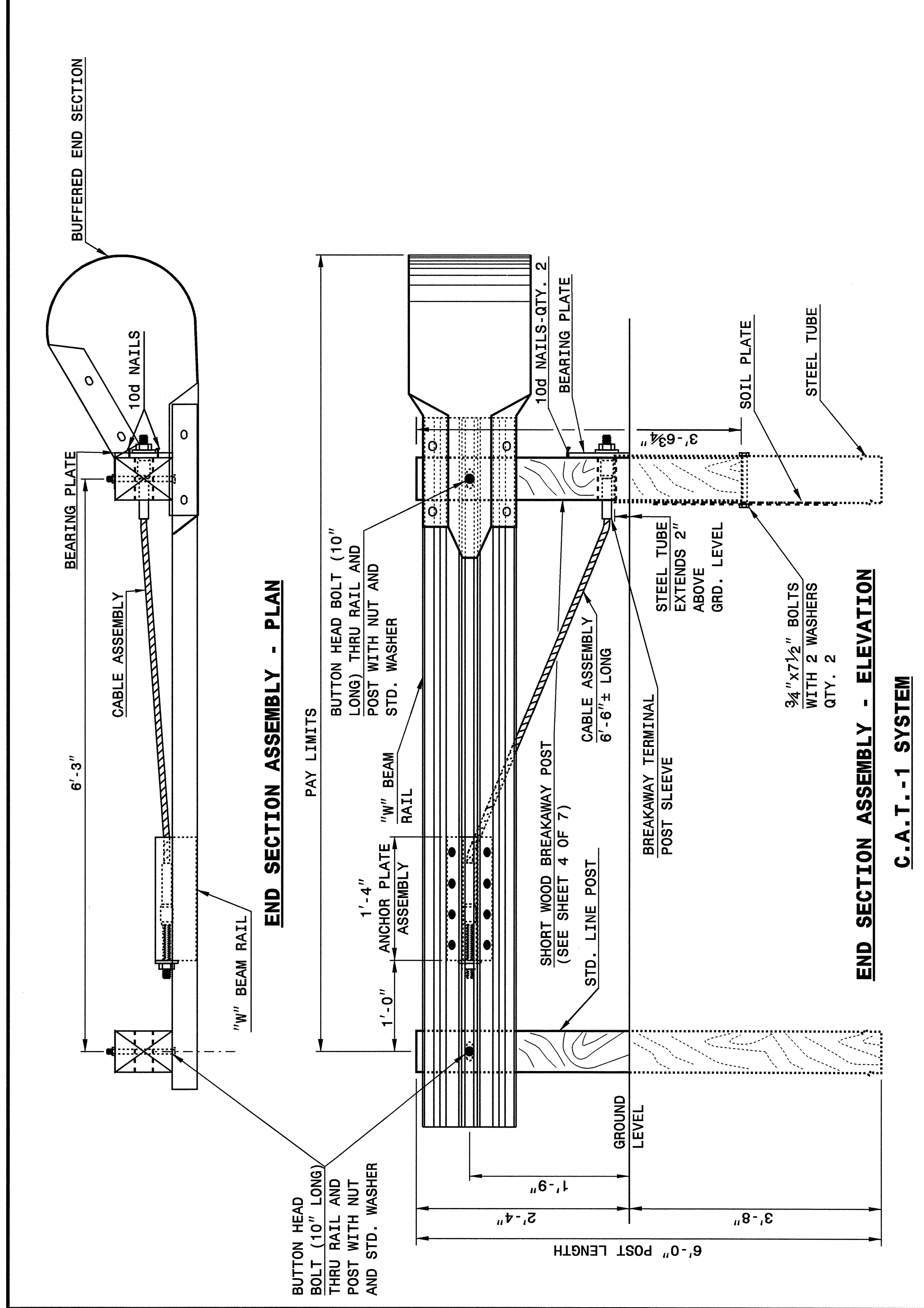
TYPICAL SECTION NO. 3

NOTE:  
FEATHER TO EXISTING PAVEMENT FROM  
-Y- STA. 11+00.00 TO STA. 11+15.00

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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 1 OF 7  
**862D02**



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

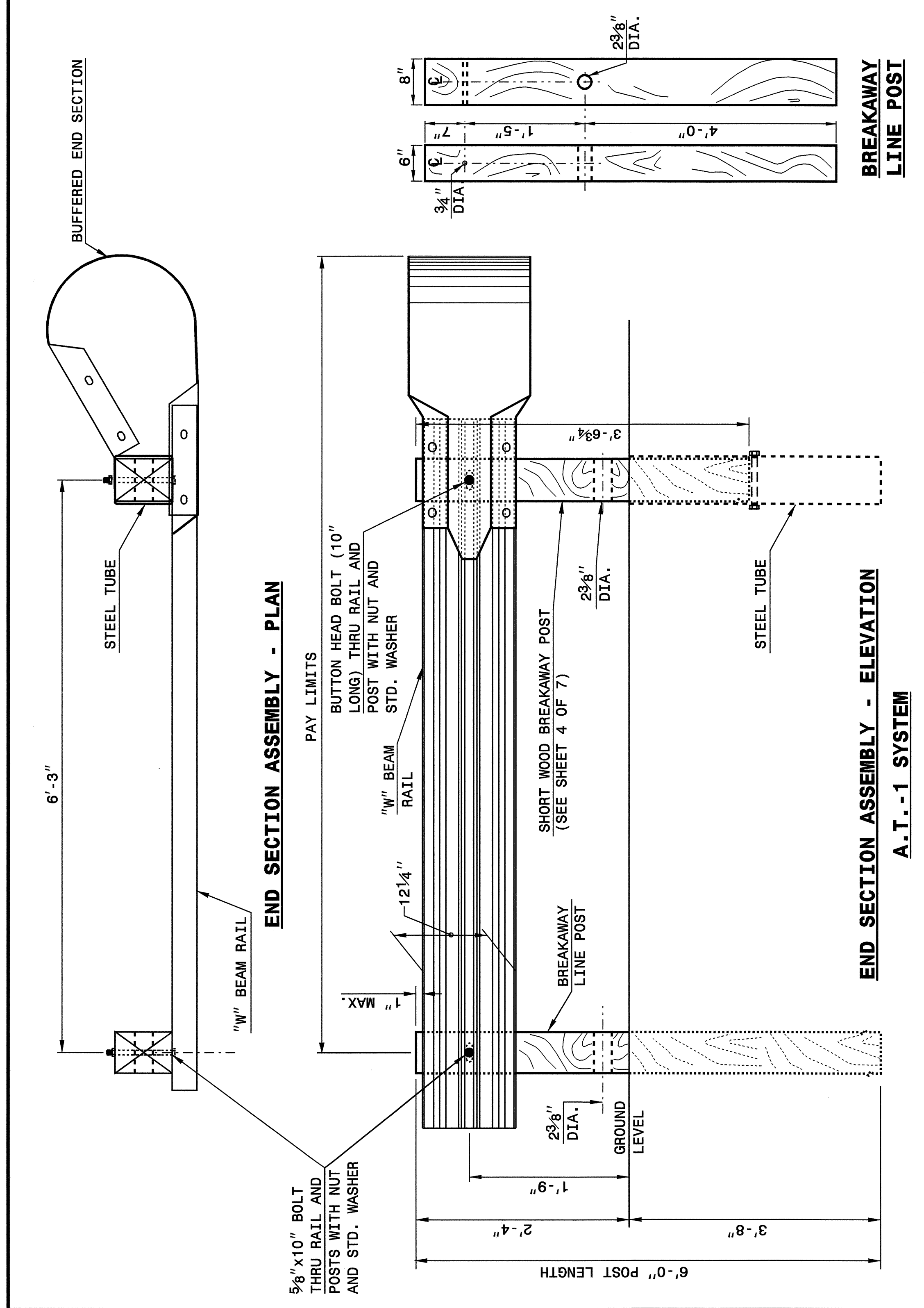
ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 1 OF 7  
**862D02**

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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 2 OF 7  
**862D02**



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

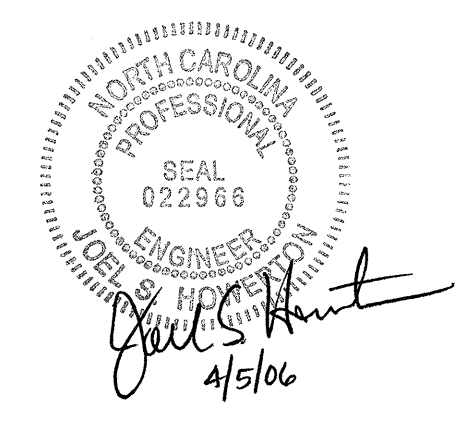
ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 2 OF 7  
**862D02**

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: 2002 STD. 862.02 DATE:  
MODIFIED BY: E.E. WARD DATE: 02-09-03  
CHECKED BY: *[Signature]* DATE: 10/2/04  
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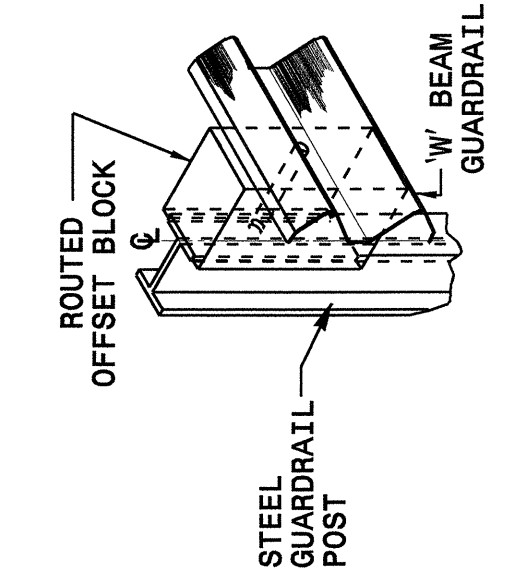
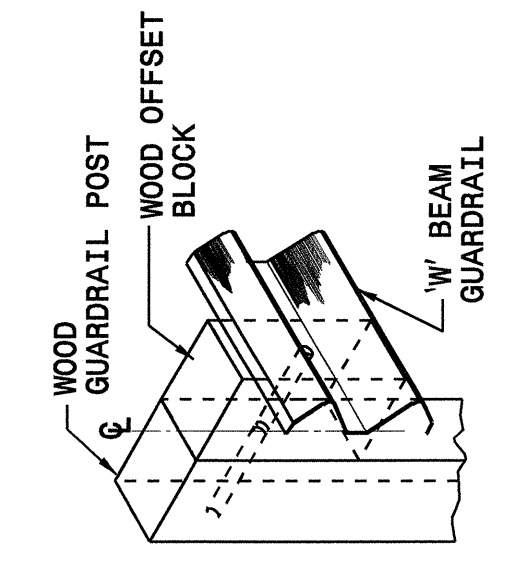
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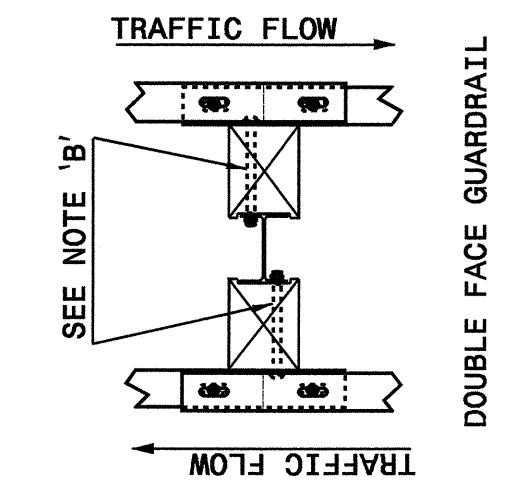
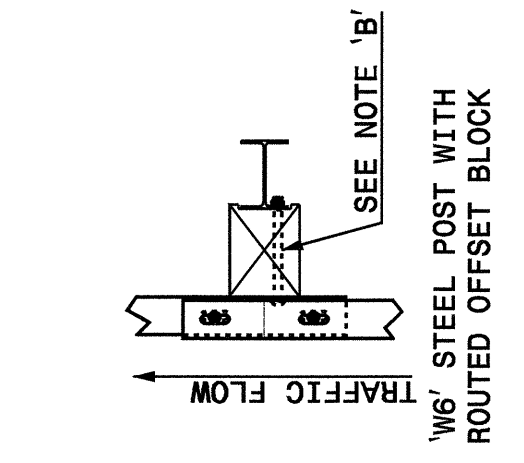
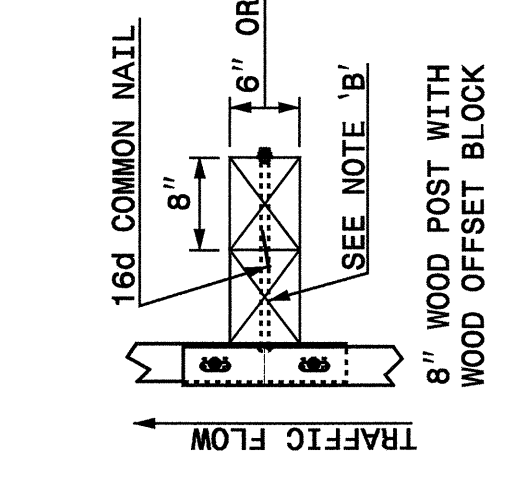
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 3 OF 7  
**862D02**



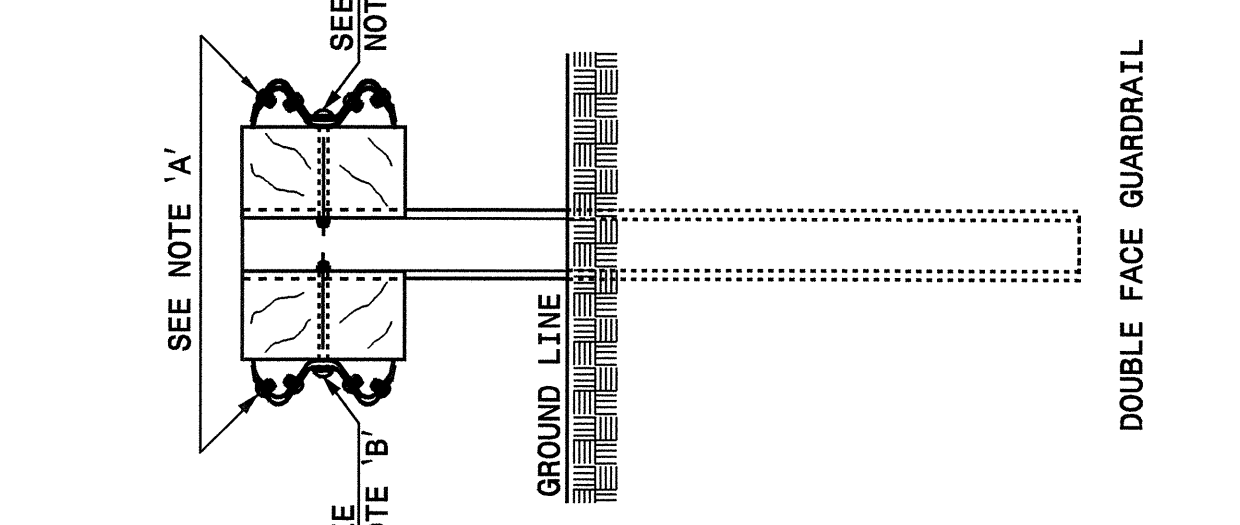
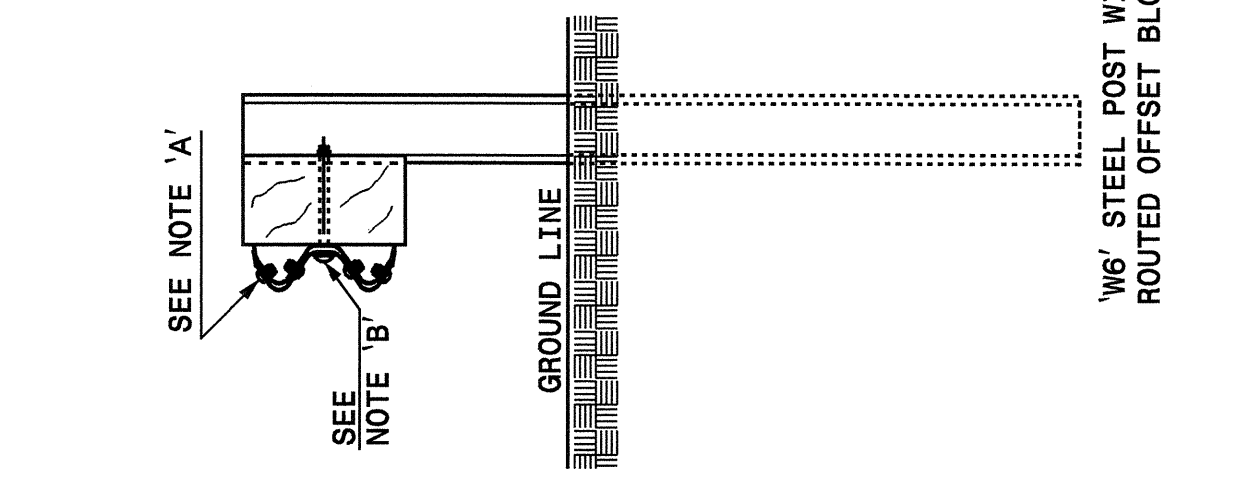
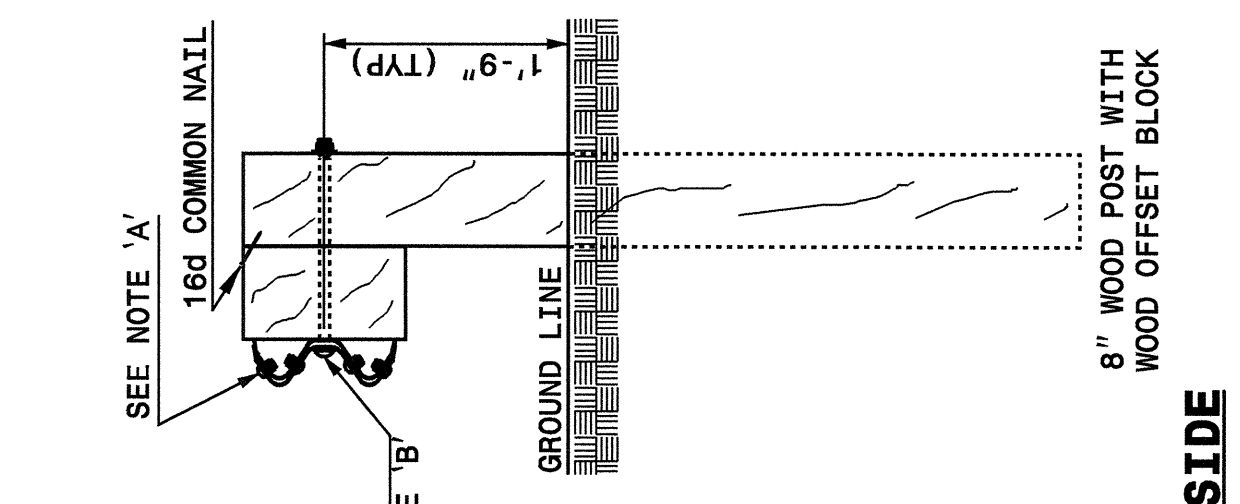
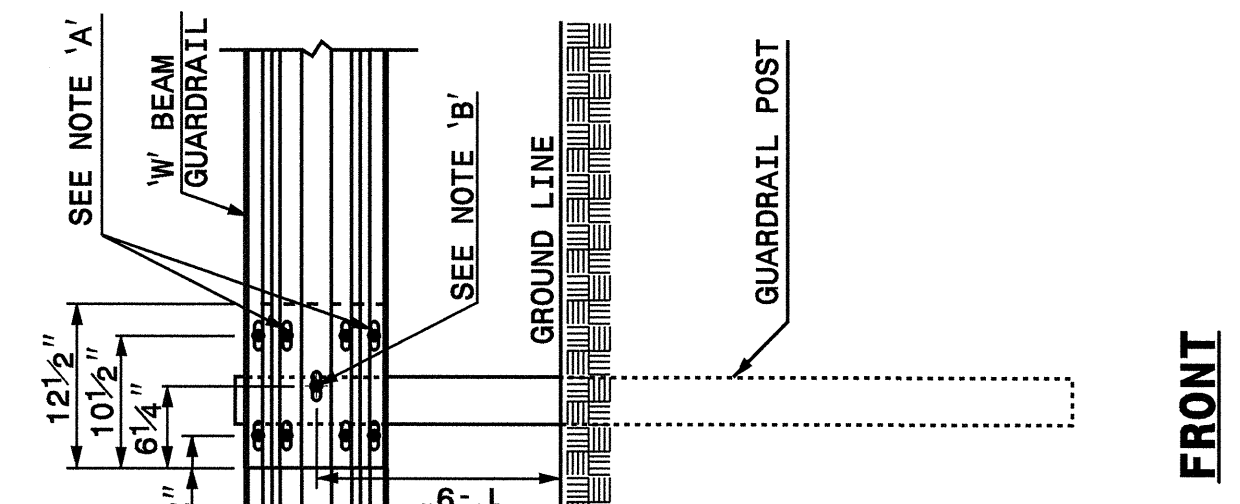
**ISOMETRIC VIEWS**



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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 3 OF 7  
**862D02**



**FRONT**

**SIDE**

**DOUBLE FACE GUARDRAIL**

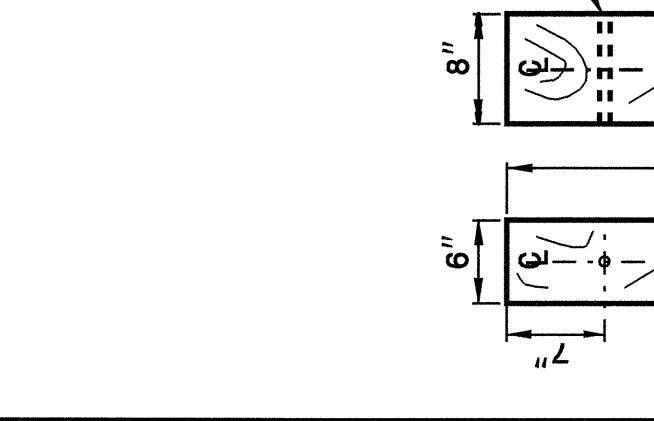
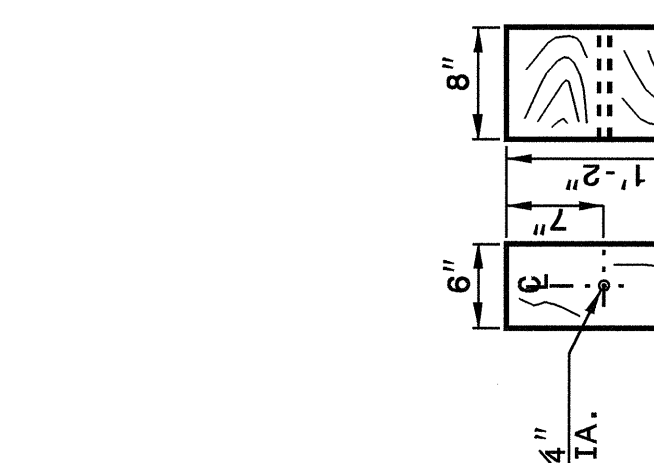
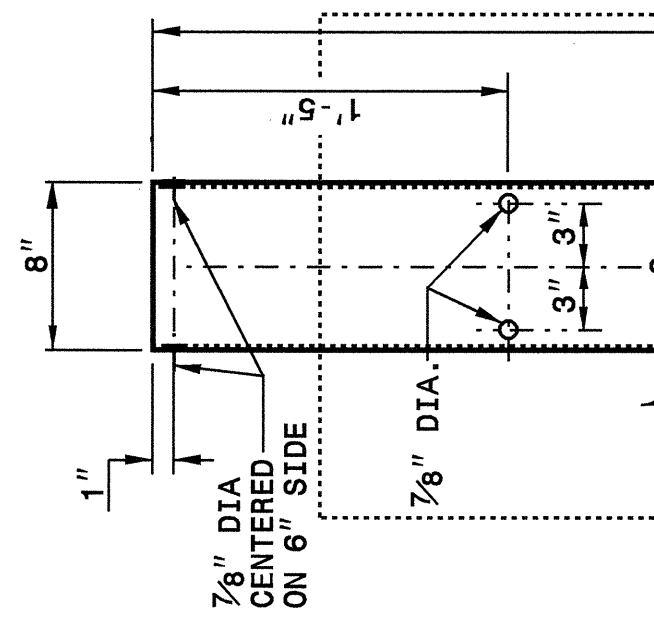
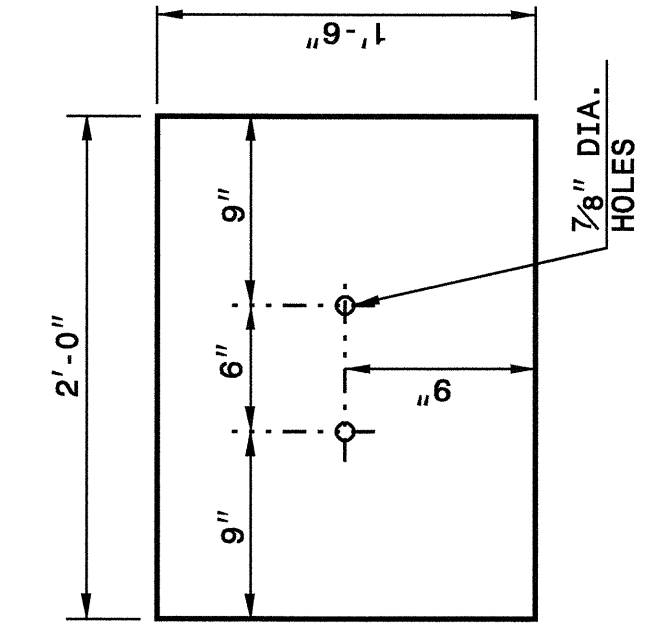
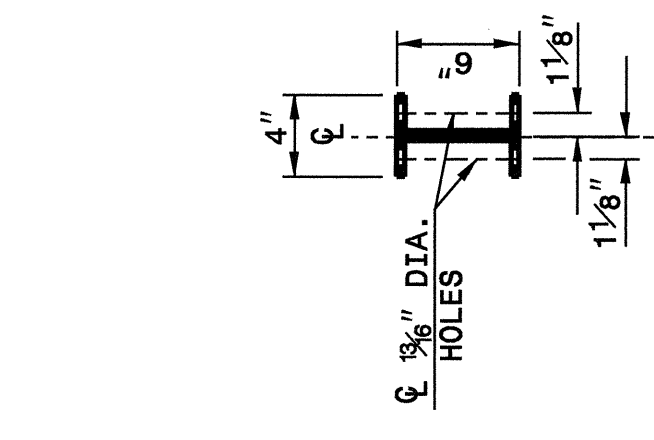
**TYPICAL GUARDRAIL AND GUARDRAIL POST ALTERNATIVES**

NOTES:  
A - 5/8" DIA. BUTTON HEAD SPLICE BOLT 1 1/4" LONG (8 REQ. PER SPLICE JOINT).  
B - 5/8" DIA. BUTTON HEAD BOLT 7 1/2" / 9" LONG WITH NUT FOR BOLTING 6" / 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.

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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 4 OF 7  
**862D02**



**SOIL PLATE**  
1/4" THICK PLATE

**WOOD OFFSET BLOCK**  
(FOR WOOD POSTS)

**STEEL TUBE**  
TS 6" X 8" X 0.1875"

**SHORT WOOD BREAKAWAY POST**

**STANDARD LINE POST**

**PLAN**

**FRONT**

**SIDE**

**FRONT**

**SIDE**

**FRONT**

**SIDE**

**FRONT**

**SIDE**

**FRONT**

**SIDE**

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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 4 OF 7  
**862D02**

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

**SEE PLATE FOR TITLE**

ORIGINAL BY: 2002 STD. 862.02 DATE:  
MODIFIED BY: E.E. WARD DATE: 02-09-03  
CHECKED BY: [Signature] DATE: 10/21/04  
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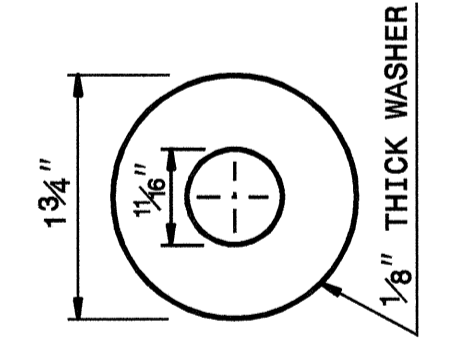
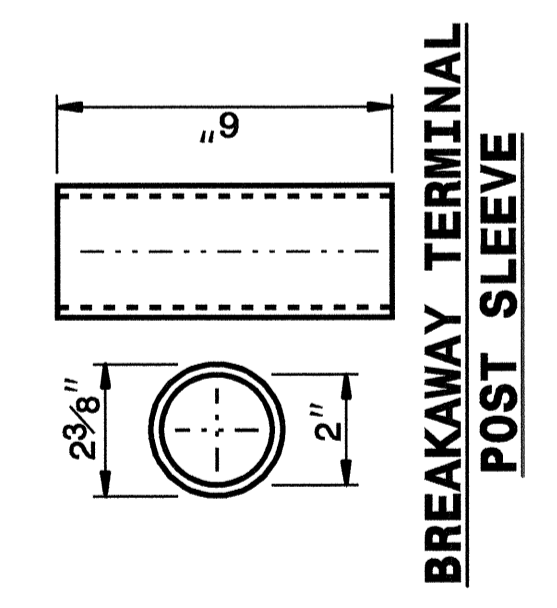


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STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

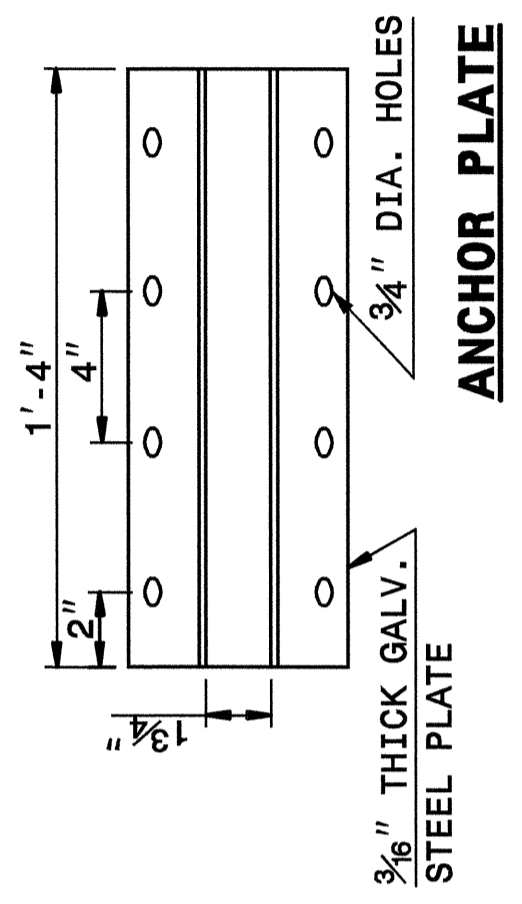
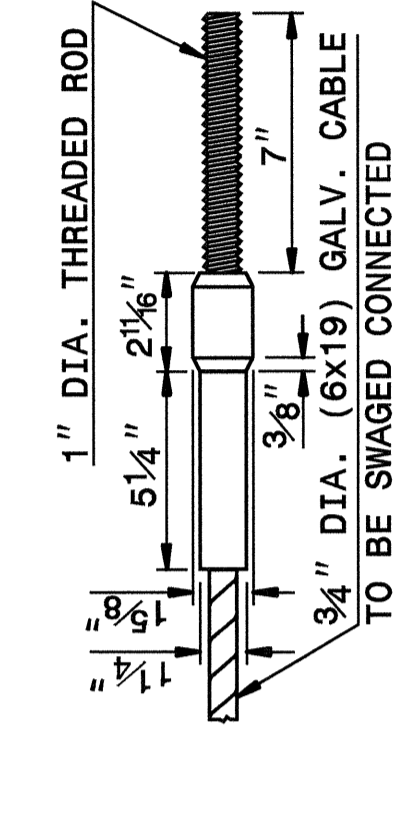
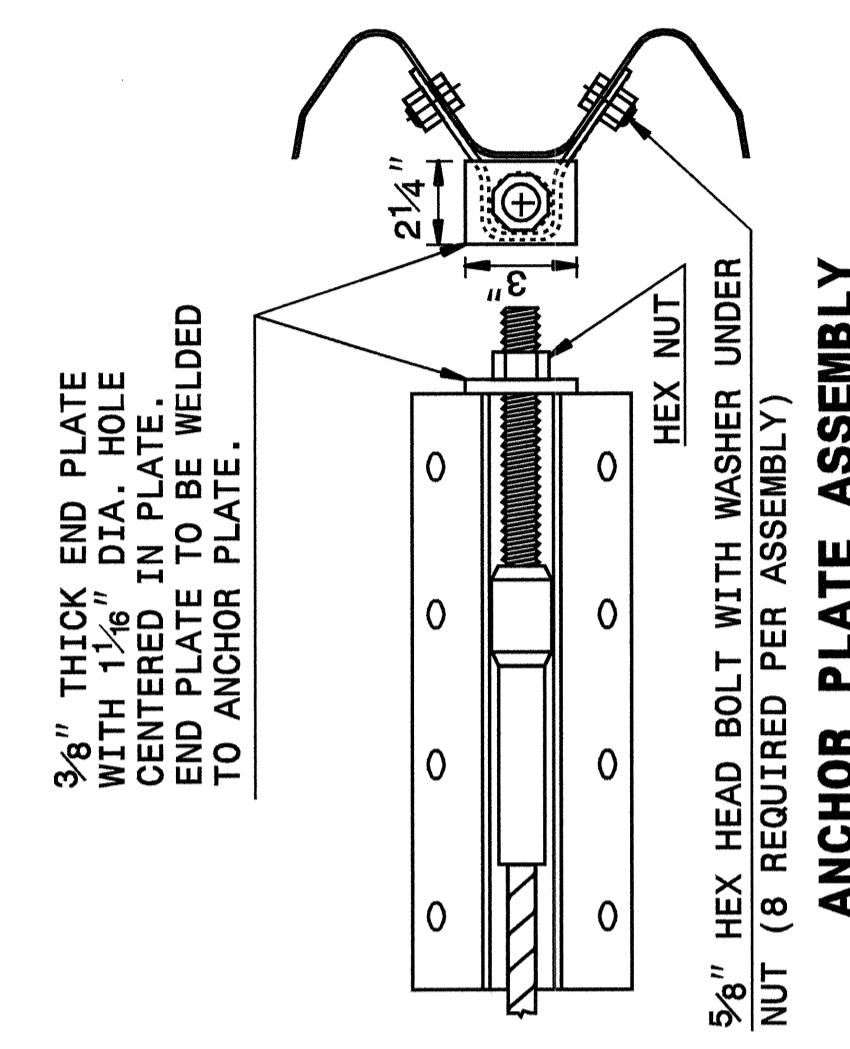
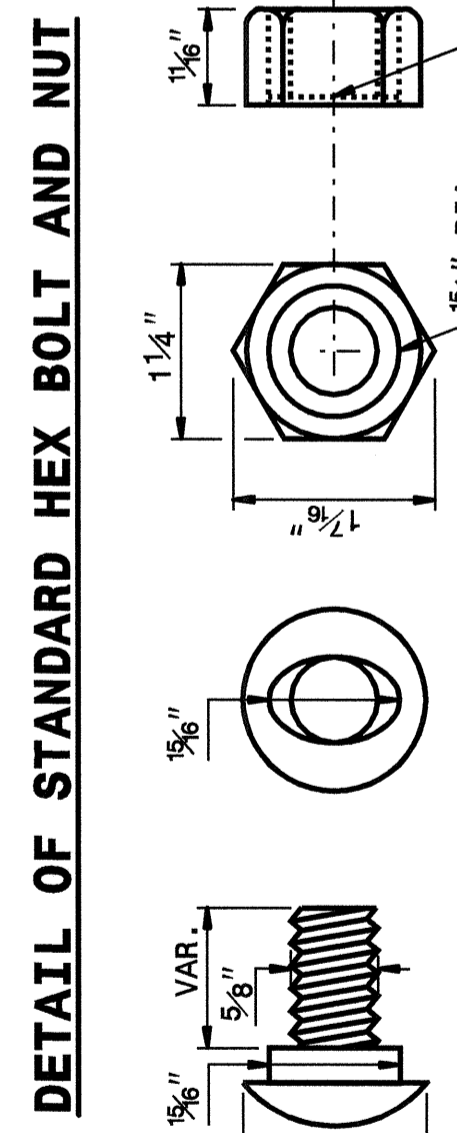
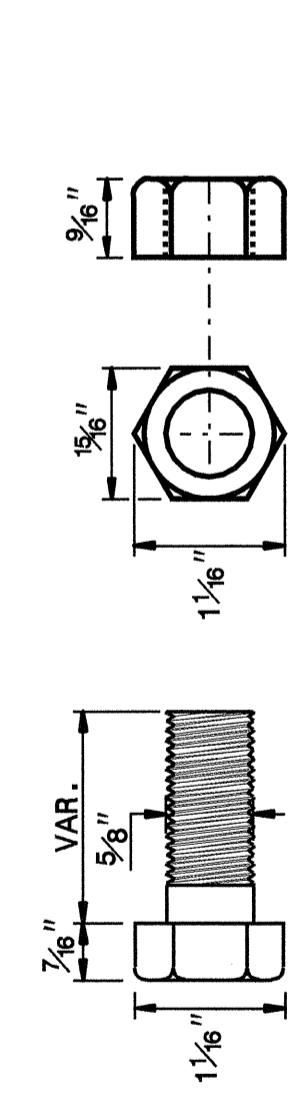
ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 5 OF 7  
**862D02**



**DETAIL OF STANDARD WASHER**

STANDARD WASHER: TYPICAL USE UNDER NUT WITH WOOD POST



SHEET 5 OF 7  
**862D02**

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

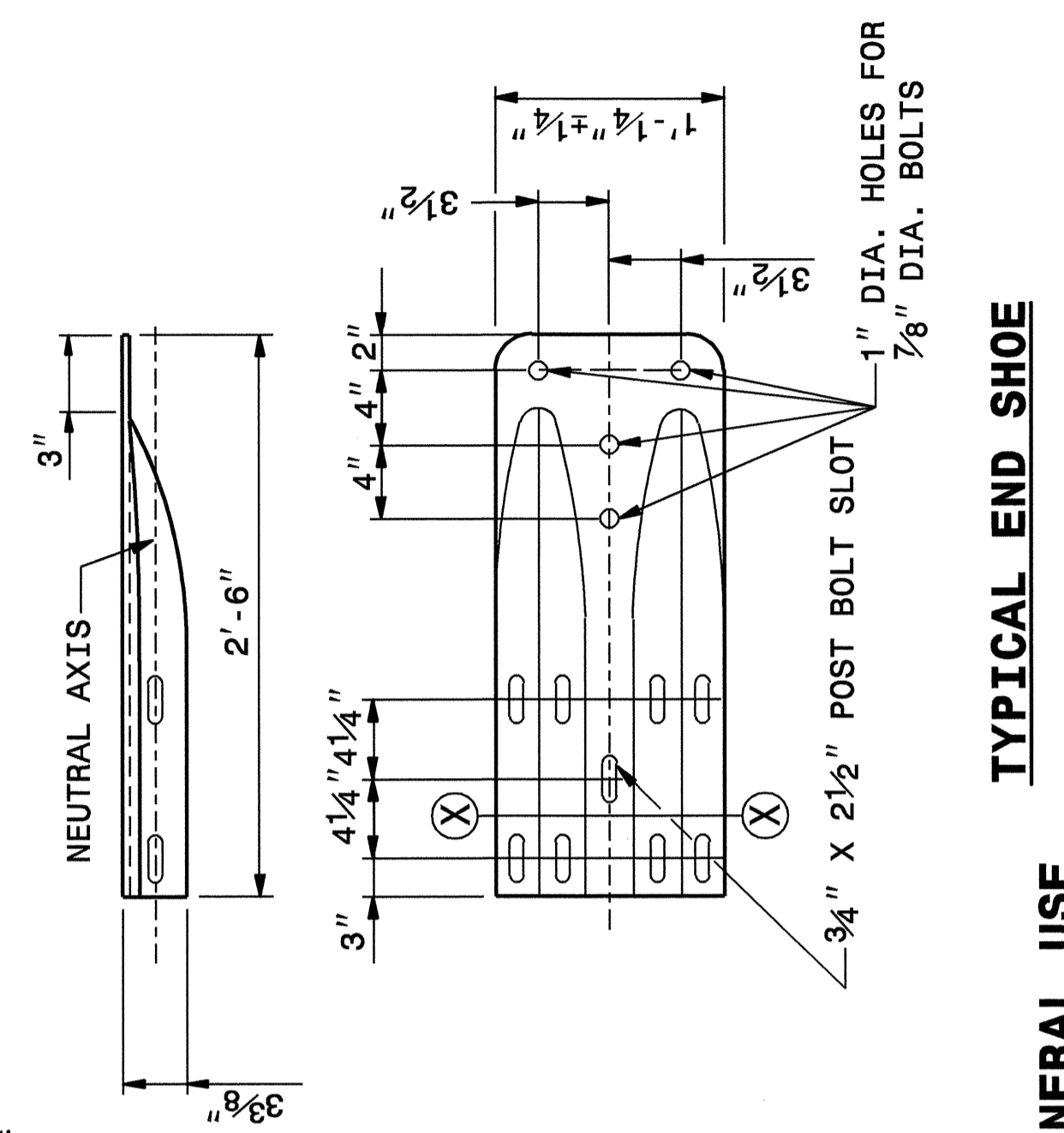
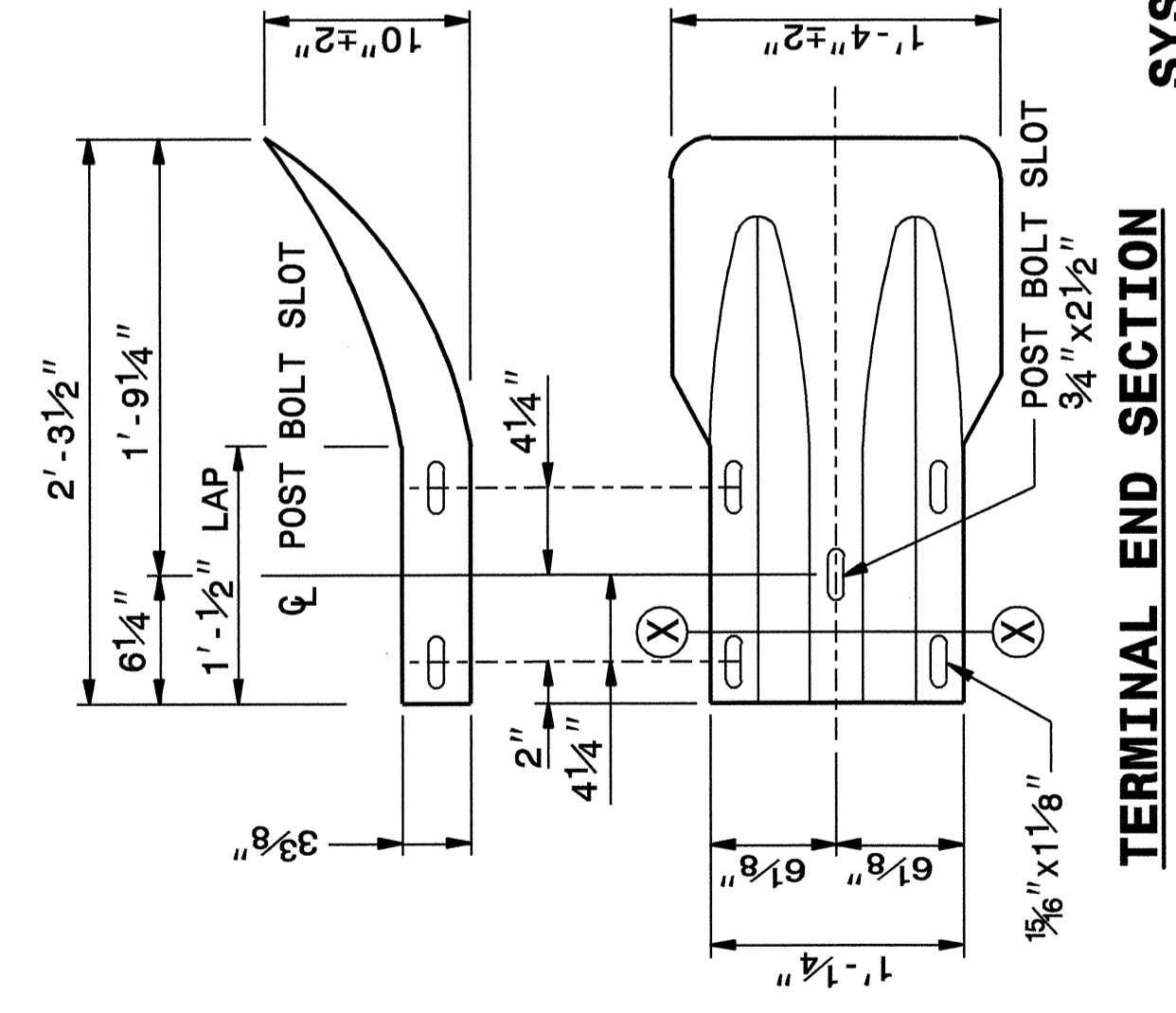
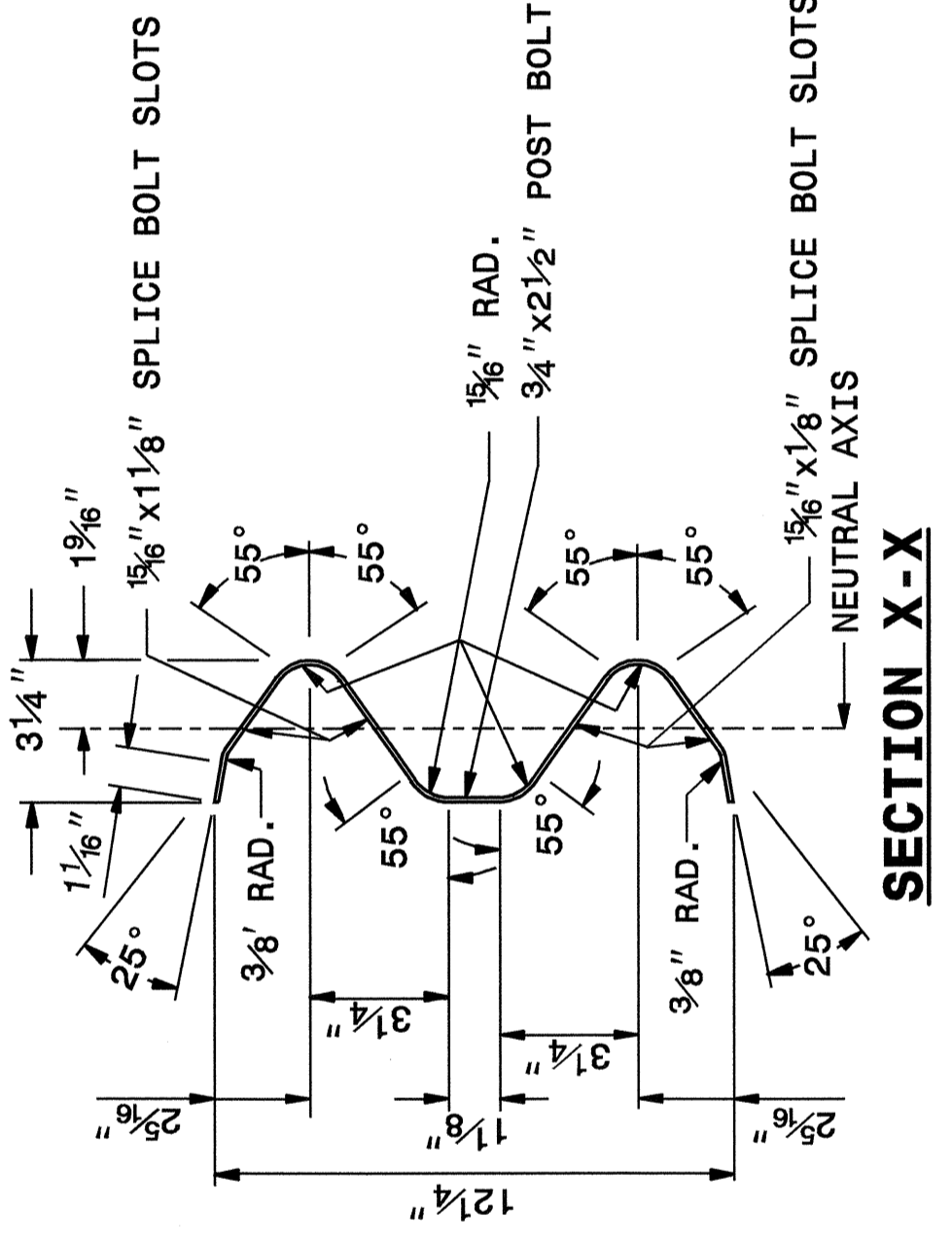
ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 5 OF 7  
**862D02**

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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 7  
**862D02**



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

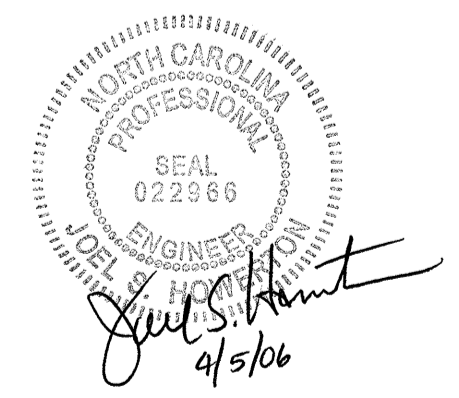
ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

SHEET 6 OF 7  
**862D02**

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

**SEE PLATE FOR TITLE**

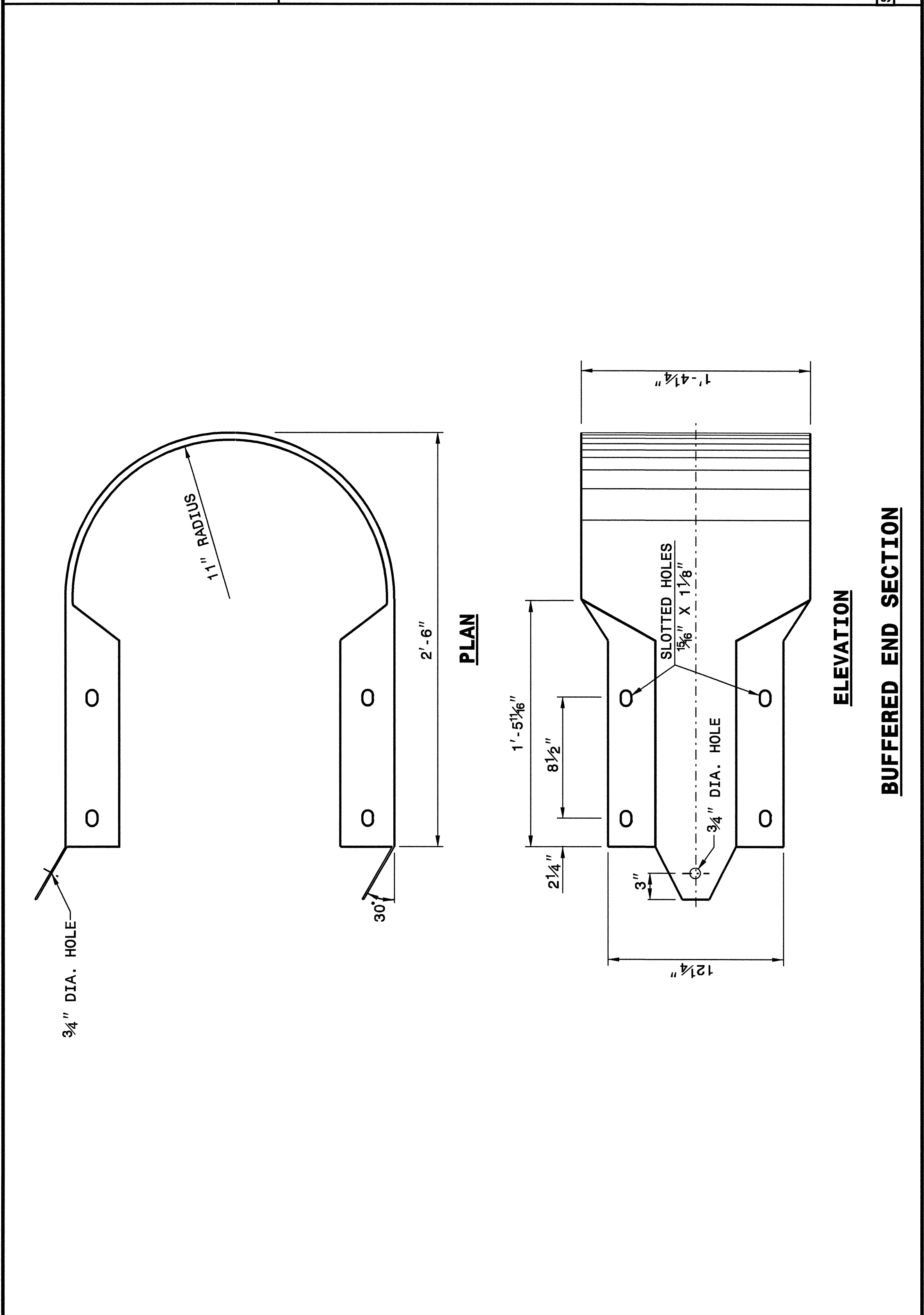
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STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

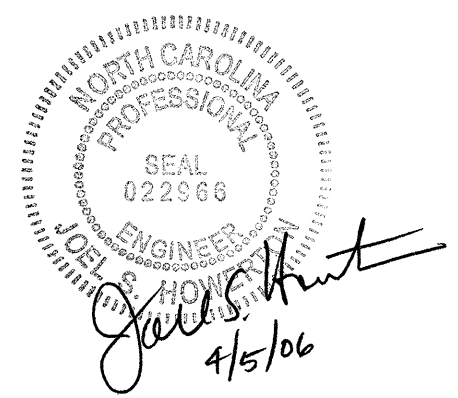
SHEET 7 OF 7  
**862D02**



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

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL INSTALLATION**

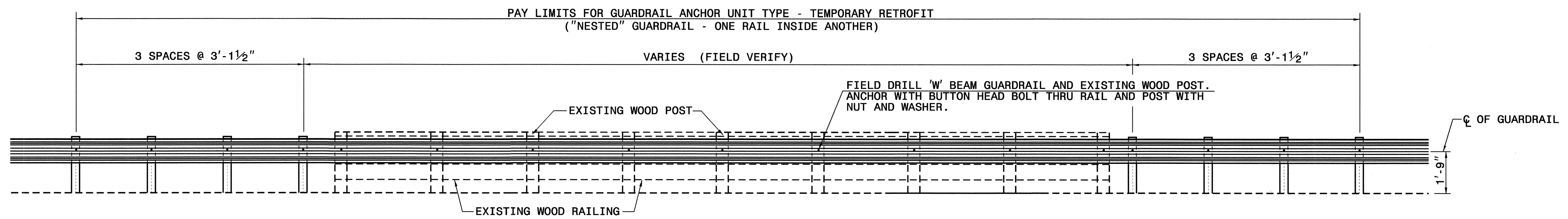
SHEET 7 OF 7  
**862D02**



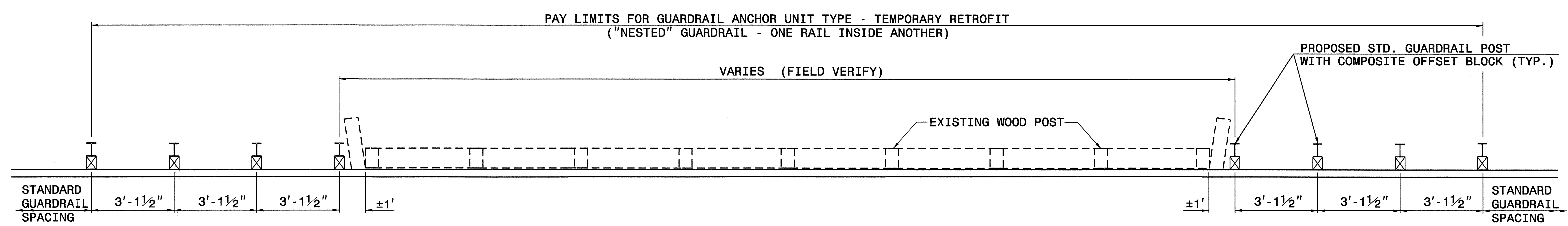
**PROJECT SERVICES UNIT**  
**STANDARDS AND SPECIAL DESIGN**  
Office 919-250-4128 FAX 919-250-4119

**SEE PLATE FOR TITLE**

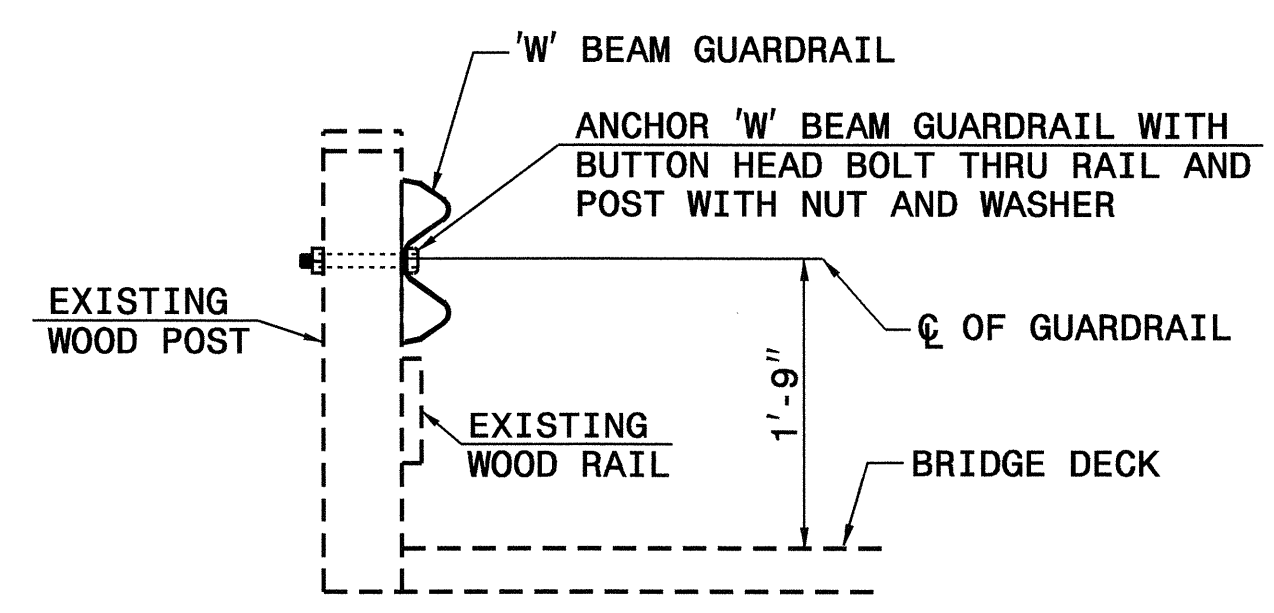
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MODIFIED BY: E.E. WARD DATE: 02-09-03  
CHECKED BY: *Joel S. Hunt* DATE: 10/21/04  
FILE SPEC.: \\usj\stds\02todetail\english\86202\862d02.dgn



**ELEVATION VIEW**



**PLAN VIEW**



**SECTION VIEW**

**GUARDRAIL ATTACHMENT TO WOOD POST**

Professional Engineer Seal for North Carolina, No. 82296, signed by Joel S. Hunt on 4/17/06.

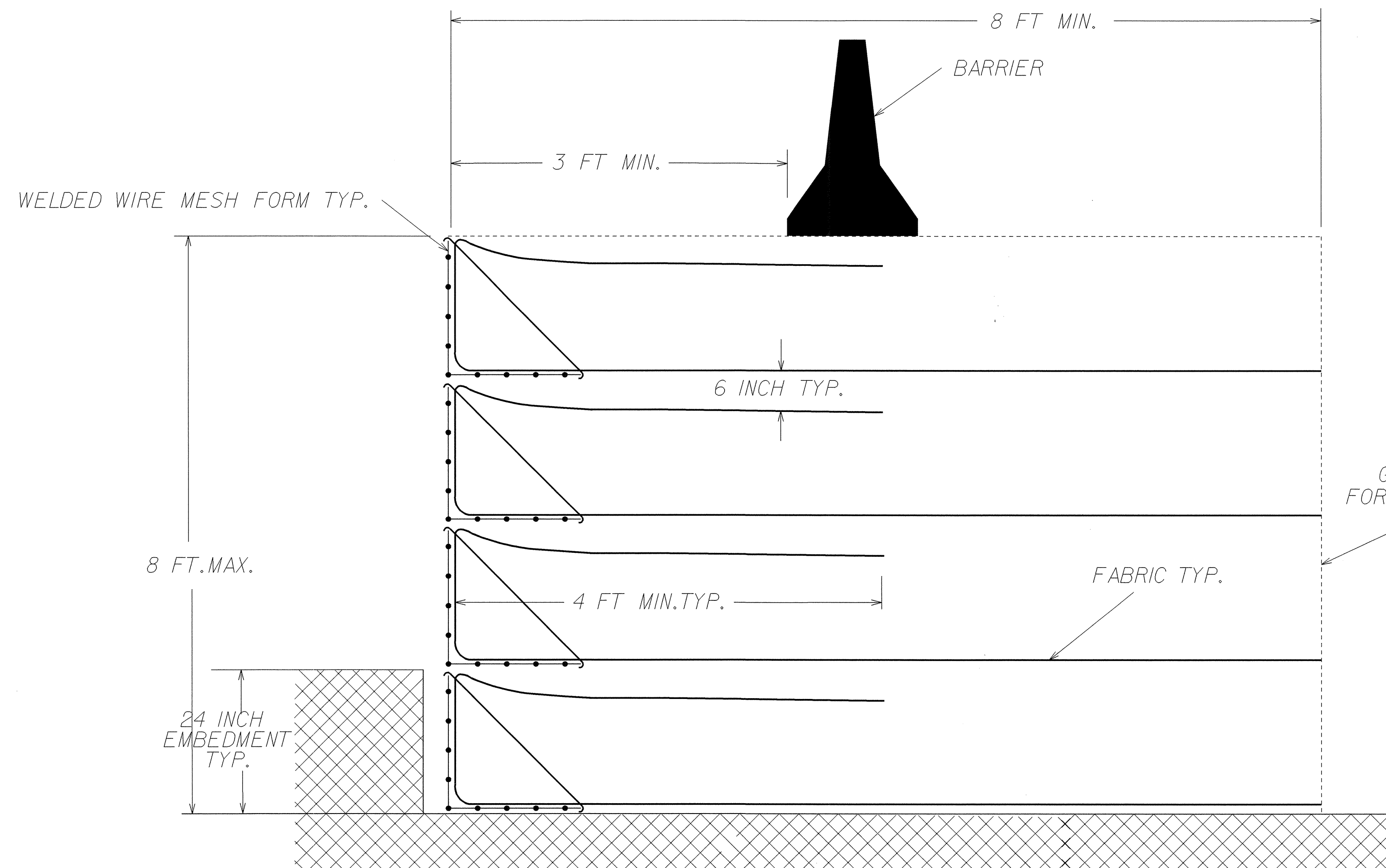
**PROJECT SERVICES UNIT  
STANDARDS AND SPECIAL DESIGN**  
Office 919-250-4128 FAX 919-250-4119

**DETAIL OF GUARDRAIL  
ANCHOR UNIT TYPE-  
TEMPORARY RETROFIT**

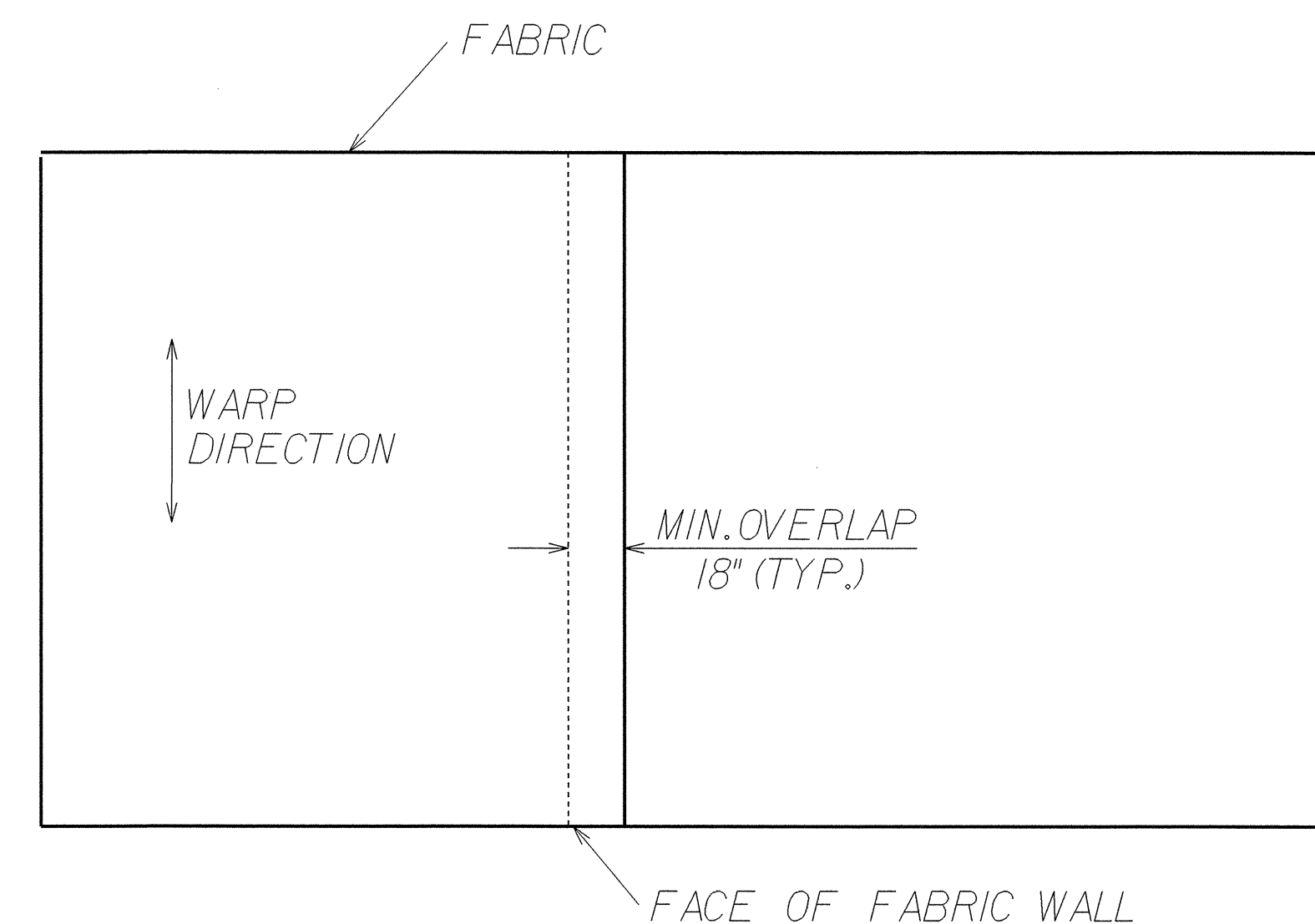
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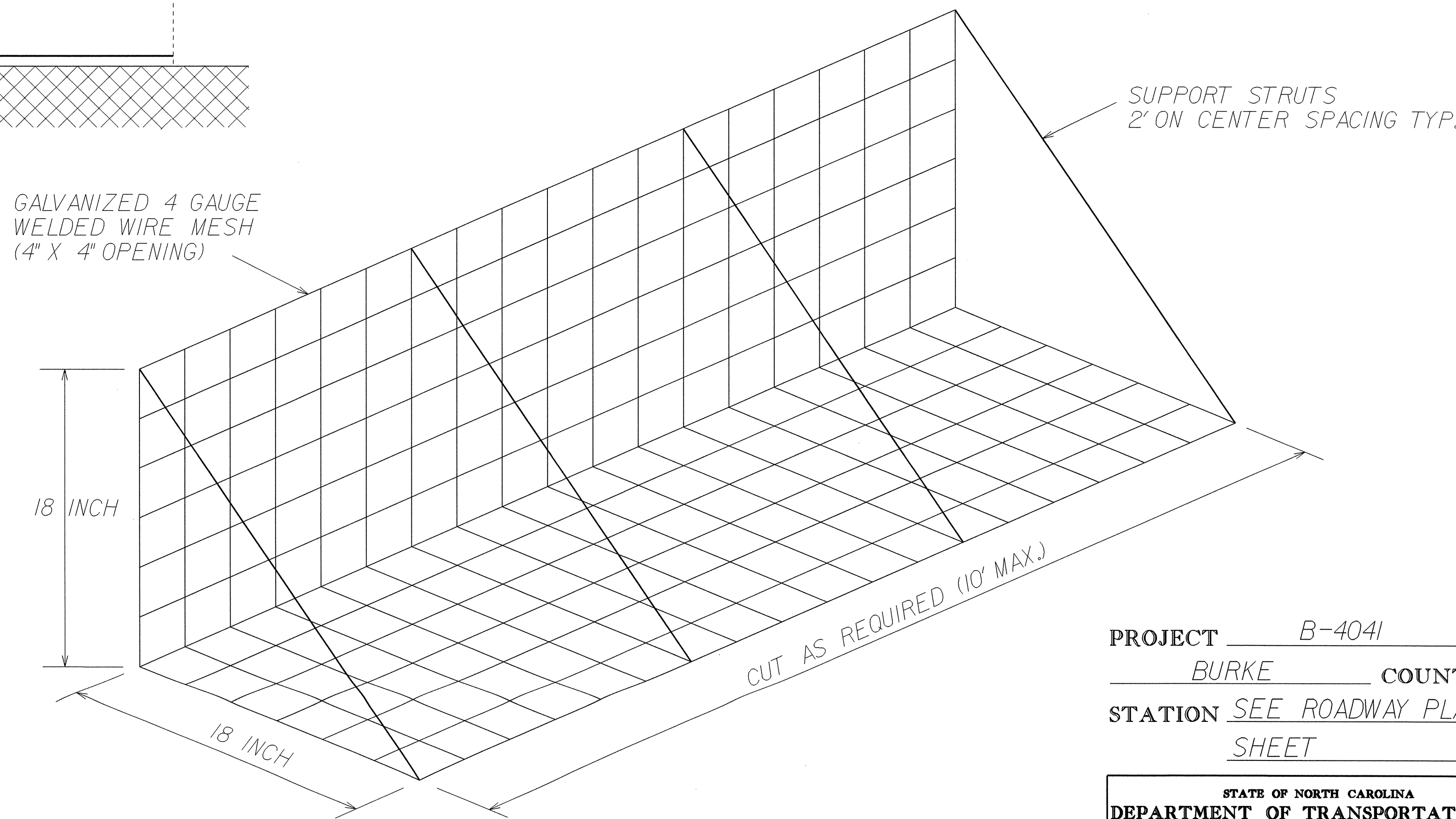
PROJ. REFERENCE NO. B-4041	SHEET NO. Z-6	TOTAL SHEETS
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



TYPICAL FABRIC WALL CROSS SECTION WHEN USING WIRE MESH FORM OPTION  
N.T.S.



PLAN VIEW OF FABRIC OVERLAP  
N.T.S.



WELDED WIRE MESH FORM  
N.T.S.

NOTES:

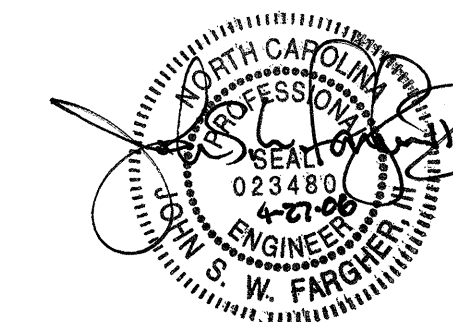
- FABRIC FOR THE TEMPORARY FABRIC WALL SHALL HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 120 LB/INCHES IN THE WARP AND FILL DIRECTION (BASED ON ASTM-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 360 LB/IN IN THE WARP DIRECTION.
- LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- PROPER DRAINAGE AT THE TOP OF THE WALL SHALL BE AS DIRECTED BY THE ENGINEER.
- SELECT GRANULAR MATERIAL SHALL BE CLASS II IN ACCORDANCE WITH SECTION 1016 OF THE STANDARD SPECIFICATIONS. CLASS II SHALL ALSO BE USED FOR THE FILL AREAS BEHIND THE TEMPORARY FABRIC WALL.
- 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 APPROVAL.
- SEE TRAFFIC CONTROL PLANS FOR APPROXIMATE FABRIC WALL LOCATION AND OVERALL TYPICAL CROSS SECTION.

PROJECT B-4041  
BURKE COUNTY  
 STATION SEE ROADWAY PLAN  
 SHEET

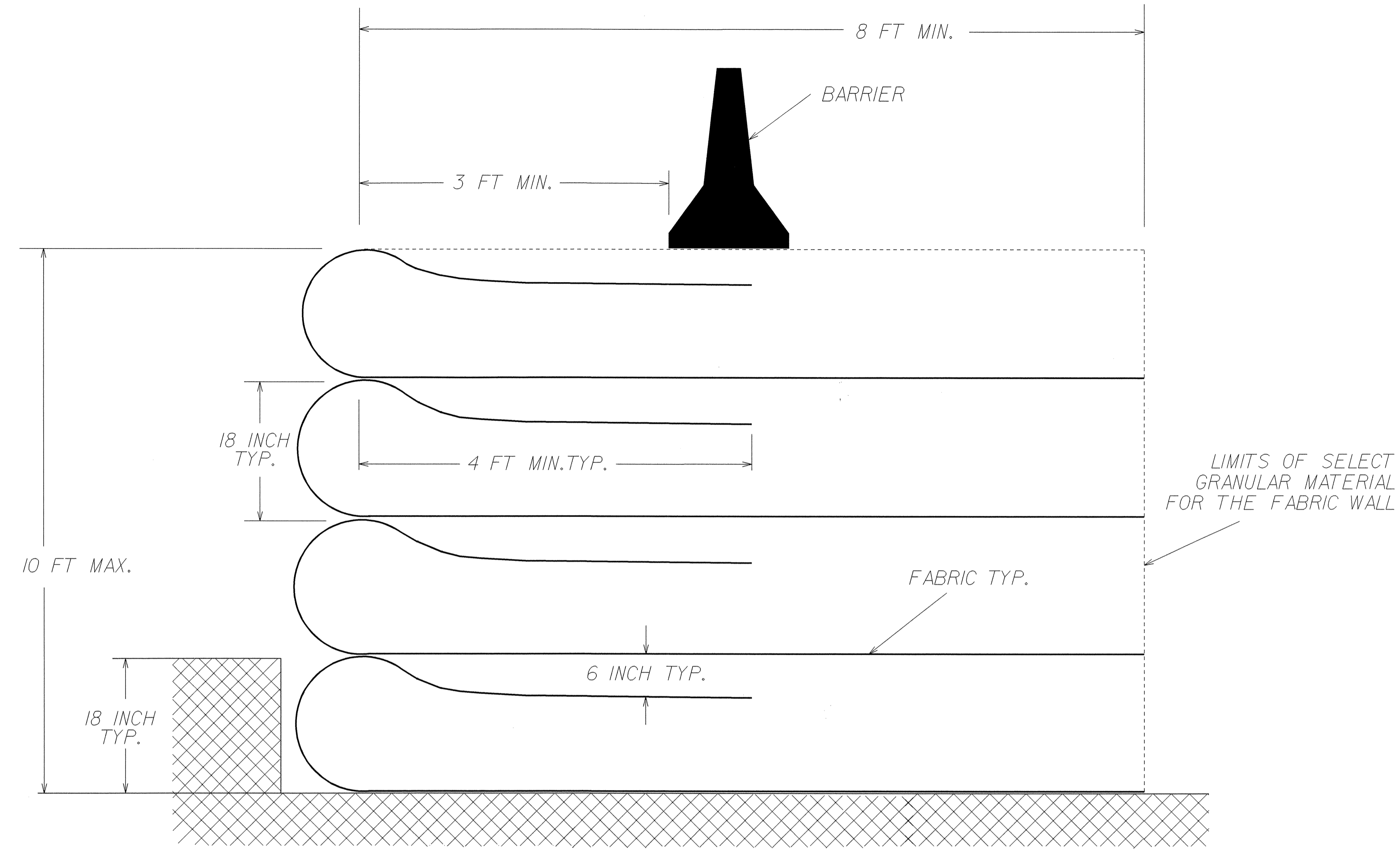
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TEMPORARY FABRIC WALL - WIRE MESH FORM OPTION

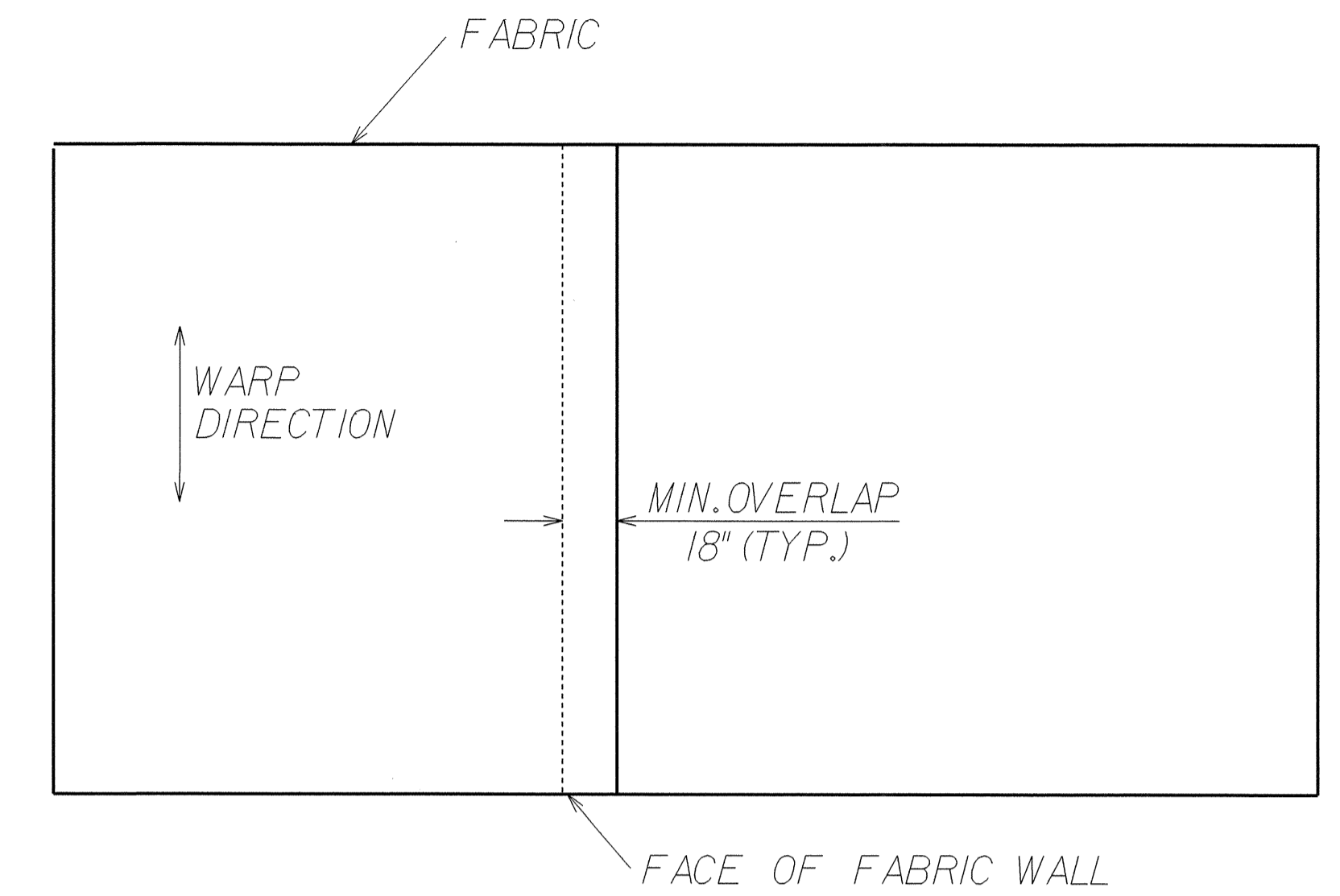
DRAWN BY EJS DATE 4/06  
 CHECKED BY JSF DATE 4/06  
 SHEET 1 OF 2



PROJ. REFERENCE NO. B-4041	SHEET NO. 2-H	TOTAL SHEETS
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION



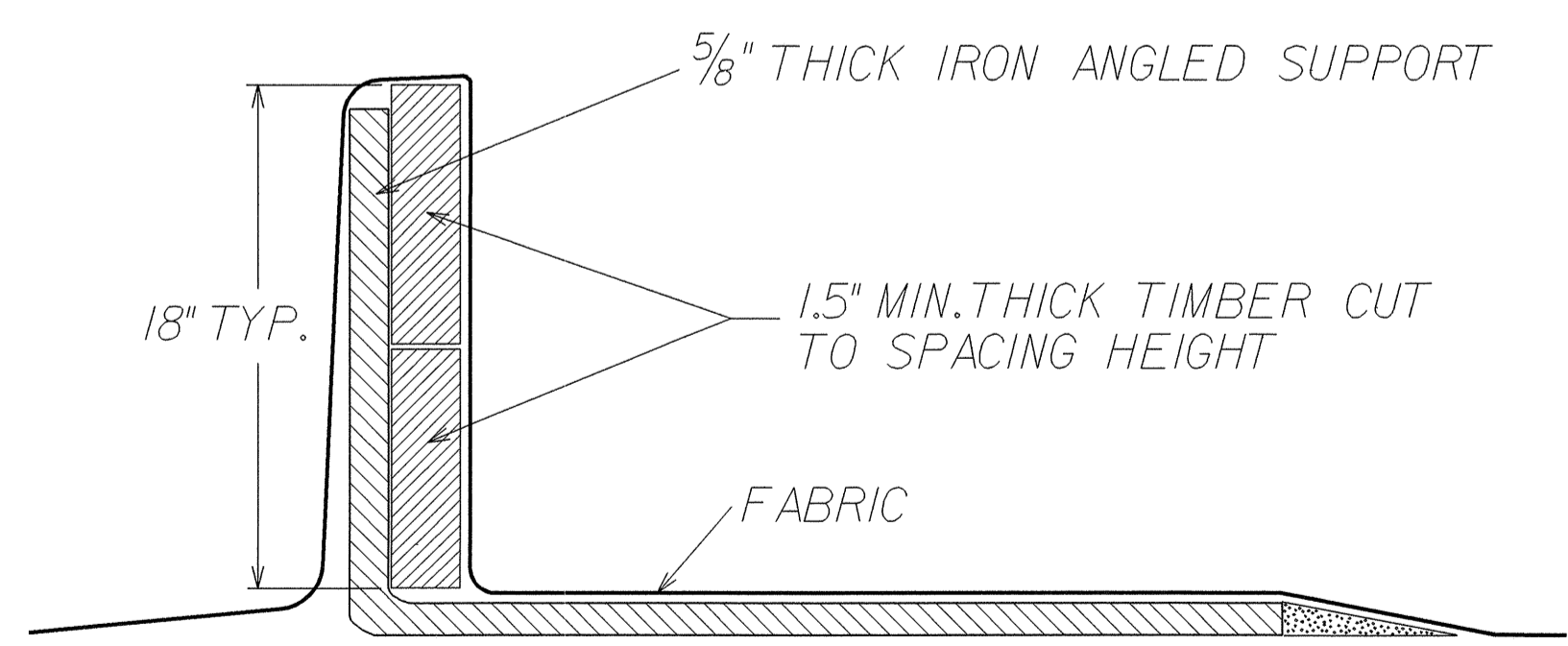
TYPICAL FABRIC WALL CROSS SECTION WHEN USING FALSEWORK OPTION



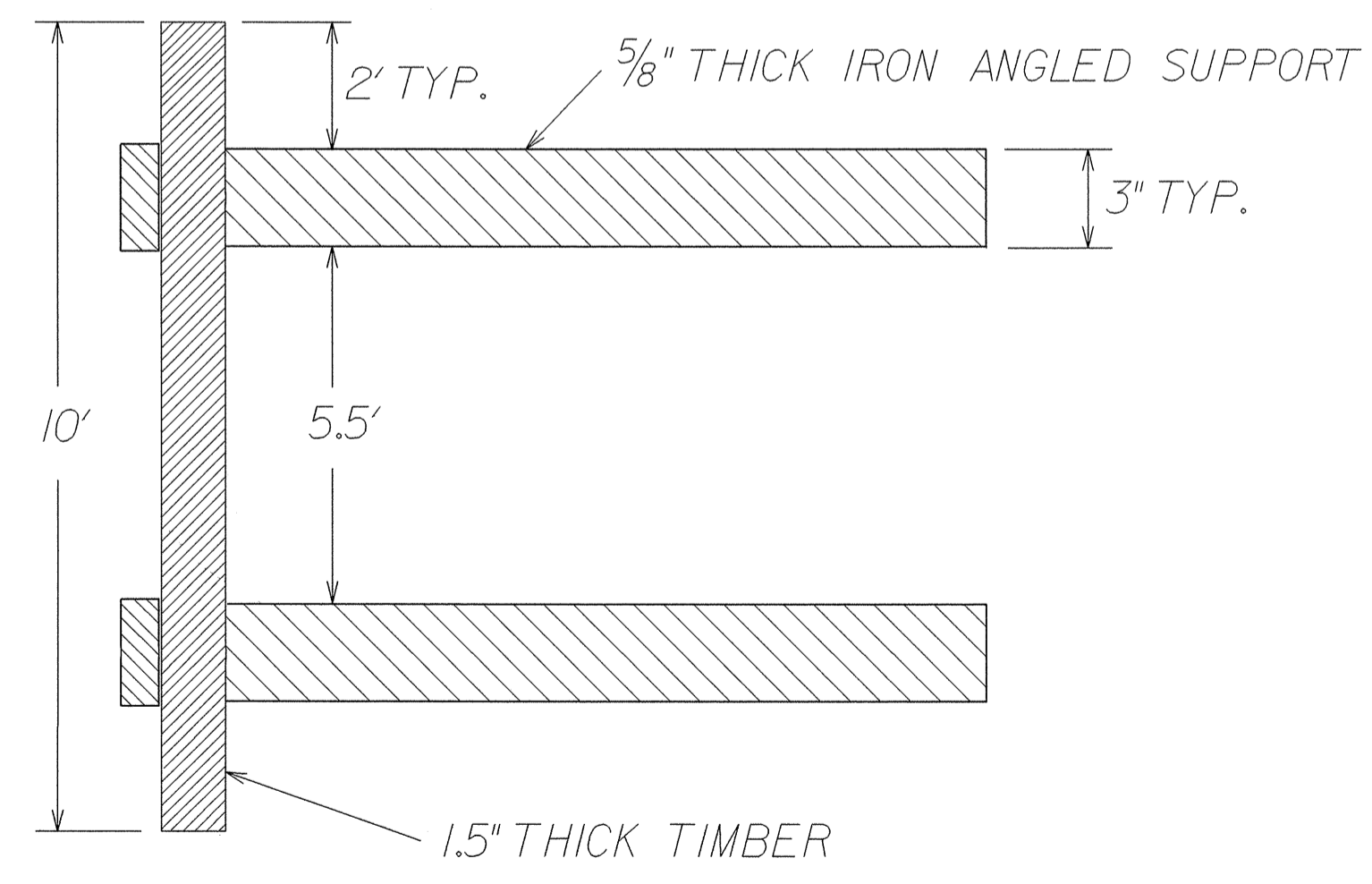
PLAN VIEW OF FABRIC OVERLAP  
N.T.S.

NOTES:

- FABRIC FOR THE TEMPORARY FABRIC WALL SHALL HAVE A MINIMUM WIDE WIDTH TENSILE STRENGTH OF 120 LB/INCHES IN THE WARP AND FILL DIRECTION (BASED ON ASTM-D4595) AT 5% ELONGATION AND A MINIMUM ULTIMATE WIDE WIDTH TENSILE STRENGTH OF 360 LB/IN IN THE WARP DIRECTION.
- LOCATIONS AND QUANTITIES PROVIDED ARE ONLY APPROXIMATE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- PROPER DRAINAGE AT THE TOP OF THE WALL SHALL BE AS DIRECTED BY THE ENGINEER.
- SELECT GRANULAR MATERIAL SHALL BE CLASS II IN ACCORDANCE WITH SECTION 1016 OF THE STANDARD SPECIFICATIONS. CLASS II SHALL ALSO BE USED FOR THE FILL AREAS BEHIND THE TEMPORARY FABRIC WALL.
- 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 APPROVAL.
- SEE TRAFFIC CONTROL PLANS FOR APPROXIMATE FABRIC WALL LOCATION AND OVERALL TYPICAL CROSS SECTION.

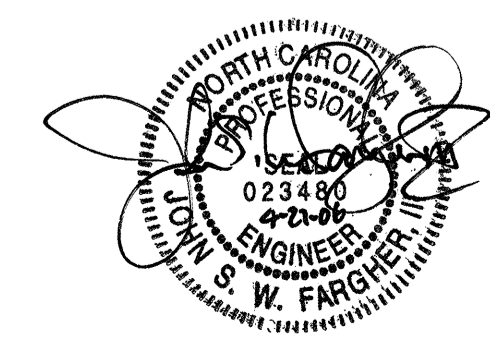


ELEVATION VIEW OF WALL FACE FALSEWORK  
N.T.S.



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

PROJECT B-4041  
BURKE COUNTY  
STATION SEE ROADWAY PLAN SHEET



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
TEMPORARY FABRIC WALL - FALSEWORK FORM OPTION  
DRAWN BY EJS DATE 4/06  
CHECKED BY JSF DATE 4/06  
SHEET 2 OF 2

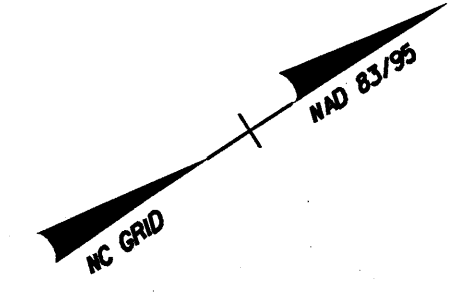
# SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201443														
ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION	2516000000-E	SP	150	CY	SELECT GRANULAR MATERIAL FOR TEMPORARY FABRIC WALL	4485000000-E	1170	110	LF	PORTABLE CONCRETE BARRIER
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	2517000000-E	SP	600	SY	FABRIC FOR TEMPORARY FABRIC WALL	4650000000-N	1251	18	EA	TEMPORARY RAISED PAVEMENT MARKERS
0057000000-E	226	100	CY	UNDERCUT EXCAVATION	3030000000-E	862	650	LF	STEEL BM GUARDRAIL	4810000000-E	1205	12,162	LF	PAINT PAVEMENT MARKING LINES (4")
0063000000-N	SP	Lump Sum		GRADING	3045000000-E	862	37.5	LF	STEEL BM GUARDRAIL, SHOP CURVED	4835000000-E	1205	88	LF	PAINT PAVEMENT MARKING LINES (24")
0080000000-E	SP	500	TON	CLASS IV SUBGRADE STABILIZATION	3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS	4850000000-E	1205	200	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
0106000000-E	230	1,875	CY	BORROW EXCAVATION	3180000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (RETROFIT)	6000000000-E	1605	665	LF	TEMPORARY SILT FENCE
0134000000-E	240	595	CY	DRAINAGE DITCH EXCAVATION	3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	6006000000-E	1610	115	TON	STONE FOR EROSION CONTROL, CLASS A
0195000000-E	265	500	CY	SELECT GRANULAR MATERIAL	3380000000-E	862	25	LF	TEMPORARY STEEL BM GUARDRAIL	6009000000-E	1610	135	TON	STONE FOR EROSION CONTROL, CLASS B
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION	3389100000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY	6012000000-E	1610	40	TON	SEDIMENT CONTROL STONE
0199000000-E	SP	300	SF	TEMPORARY SHORING	3628000000-E	876	200	TON	PLAIN RIP RAP, CLASS I	6015000000-E	1615	1	ACR	TEMPORARY MULCHING
0318000000-E	300	2	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	3649000000-E	876	2	TON	PLAIN RIP RAP, CLASS B	6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
0343000000-E	310	20	LF	15" SIDE DRAIN PIPE	3656000000-E	876	675	SY	FILTER FABRIC FOR DRAINAGE	6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
0995000000-E	340	24	LF	PIPE REMOVAL	4025000000-E	901	12.5	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)	6029000000-E	SP	200	LF	SAFETY FENCE
1220000000-E	545	50	TON	INCIDENTAL STONE BASE	4072000000-E	903	27	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	6030000000-E	1630	235	CY	SILT EXCAVATION
1489000000-E	610	520	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	4102000000-N	904	2	EA	SIGN ERECTION, TYPE E	6036000000-E	1631	775	SY	MATTING FOR EROSION CONTROL
1525000000-E	SP	280	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	4155000000-N	907	10	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6069000000-E	1638	140	CY	STILLING BASINS
1560000000-E	620	41	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	4412000000-E	SP	114	SF	WORK ZONE SIGNS (STATIONARY)	6084000000-E	1660	1	ACR	SEEDING & MULCHING
1693000000-E	654	25	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	4412100000-E	SP	154	SF	WORK ZONE SIGNS (PORTABLE)	6087000000-E	1660	0.5	ACR	MOWING
2000000000-N	806	12	EA	RIGHT OF WAY MARKERS	4412200000-E	SP	20	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
2022000000-E	815	225	CY	SUBDRAIN EXCAVATION	4430000000-N	1130	30	EA	DRUMS	6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
2033000000-E	815	170	CY	SUBDRAIN FINE AGGREGATE	4435000000-N	1135	20	EA	CONES	6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
2044000000-E	815	1,000	LF	6" PERFORATED SUBDRAIN PIPE	4446100000-E	SP	48	LF	BARRICADES (TYPE III)	6108000000-E	1665	0.5	TON	FERTILIZER TOPDRESSING
2055000000-E	815	30	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS	4450000000-N	1150	2,160	HR	FLAGGER	6111000000-E	SP	745	LF	IMPERVIOUS DIKE
2066000000-N	815	2	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET	4465000000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS	6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
2077000000-E	815	12	LF	6" OUTLET PIPE (SUBDRAINS)						6120000000-E	SP	196	CY	CULVERT DIVERSION CHANNEL
										6132000000-N	SP	8	EA	GENERIC EROSION CONTROL ITEM RESPONSE FOR EROSION CONTROL

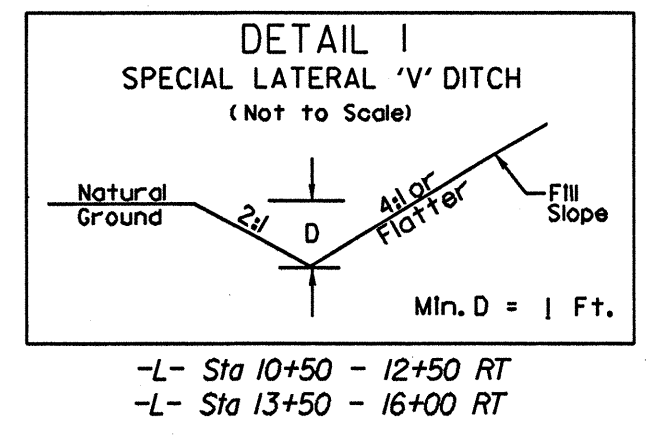
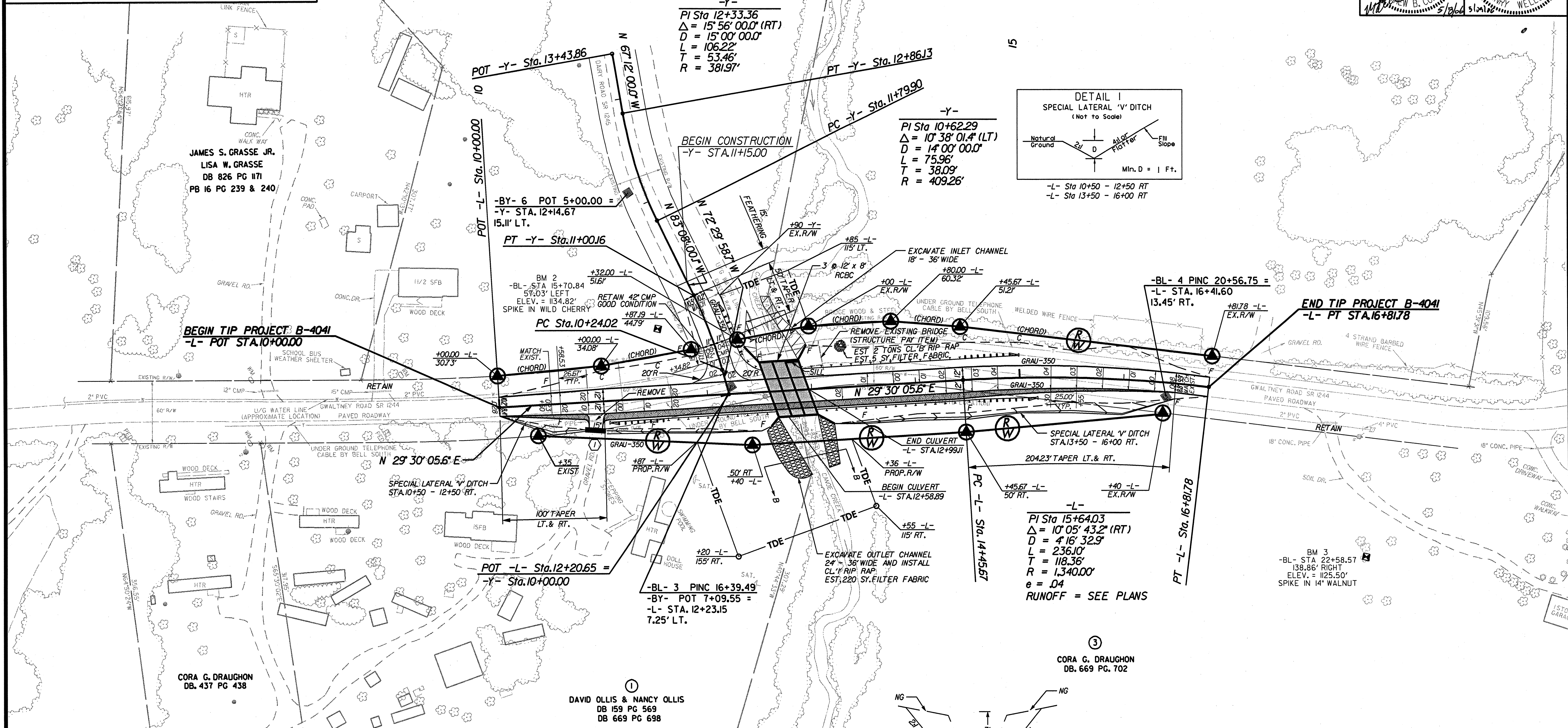




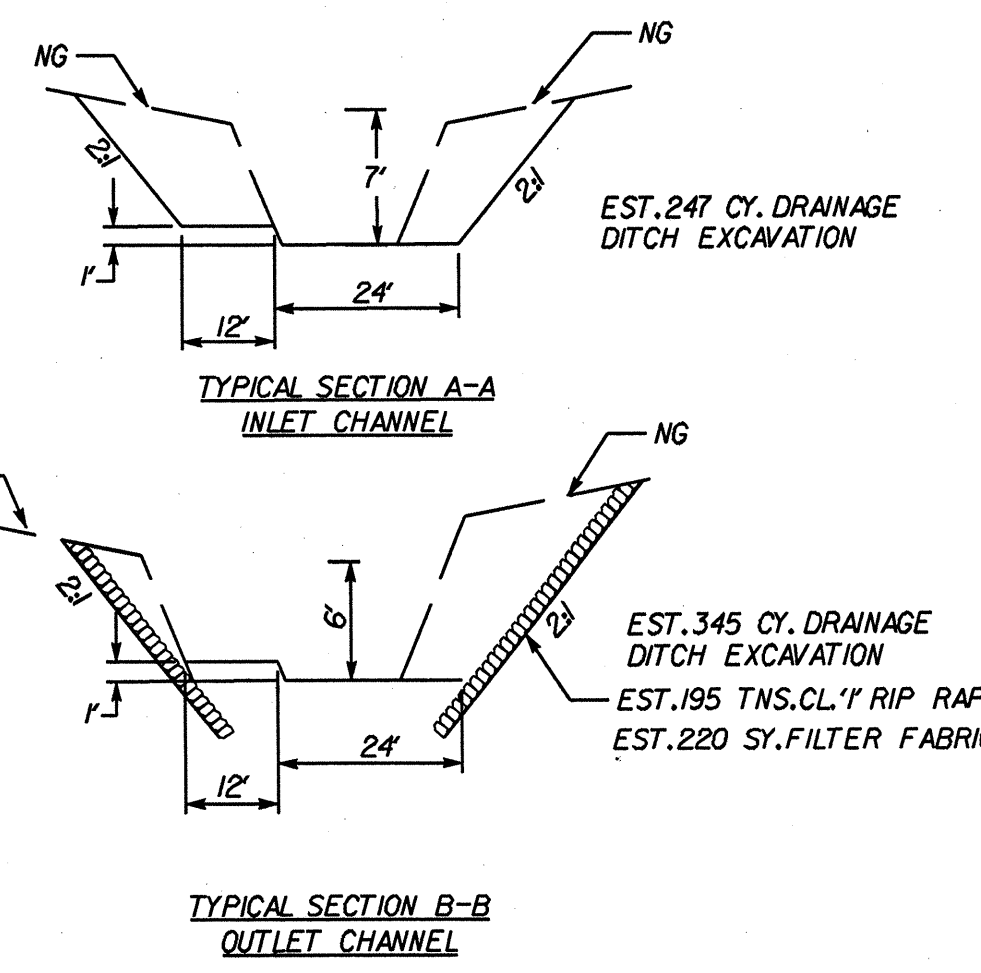
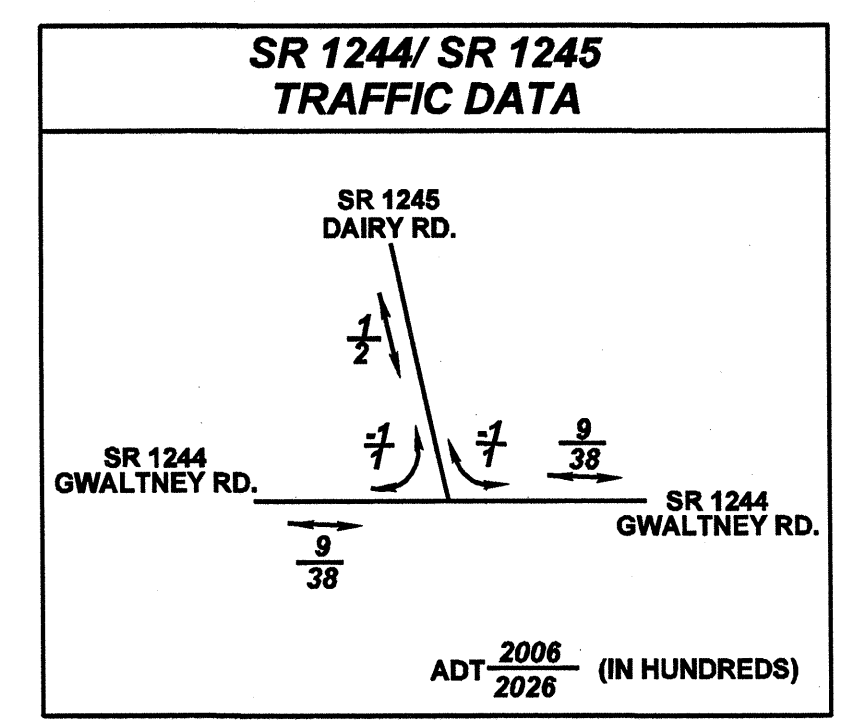
④  
JESSE M. PASCHALL  
DB. 185 PG. 34



②  
SONIA BRANDE  
JEAN WELLOWS  
DB. 870 PG. 1235



-L- Sta 10+50 - 12+50 RT  
-L- Sta 13+50 - 16+00 RT



DENOTES WIDENING FOR MAINTENANCE OF TRAFFIC TO REMAIN IN PLACE

FOR -L- PROFILE SEE SHEET NO.5

SEE SHEETS C-1 THRU C-9 FOR CULVERT PLANS

SEE TRAFFIC CONTROL PLANS FOR SHORING & TEMPORARY GUARDRAIL LOCATIONS

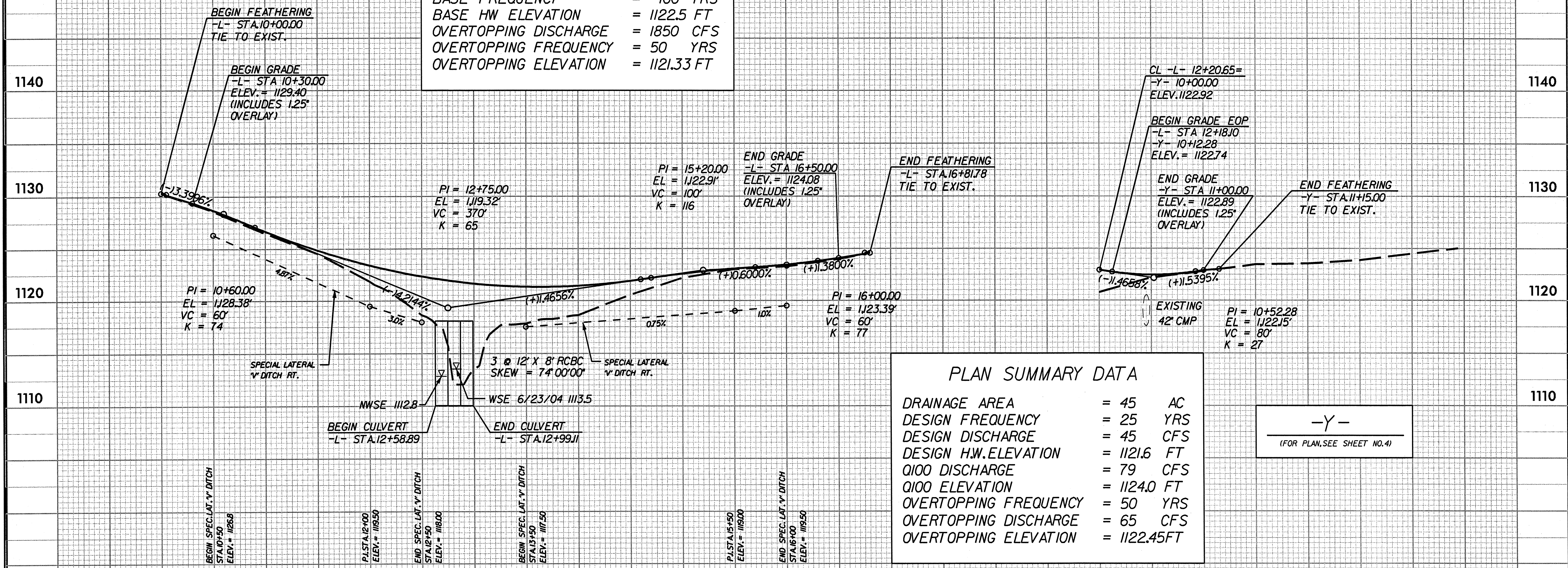
SUNGATE DESIGN GROUP, P.A.  
915 JONES FRANKLIN ROAD  
RALEIGH, NORTH CAROLINA 27605  
TEL 919 829-2500 FAX 919 829-5290

Ramey Kemp & Associates, Inc.  
Transportation Consulting Engineers  
4928-A Windy Hill Drive Raleigh, North Carolina 27609  
(919) 872-5165 Fax (919) 878-5466

B.M. \*2 ELEV. = 1134.82  
RR SPIKE IN BASE OF  
12' WILD CHERRY  
57.00' LT. OF -BL- STA. 15+71  
66.46' LT. OF -L- STA. 11+56.37

**STRUCTURE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1500 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 1121.2 FT
BASE DISCHARGE	= 2250 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 1122.5 FT
OVERTOPPING DISCHARGE	= 1850 CFS
OVERTOPPING FREQUENCY	= 50 YRS
OVERTOPPING ELEVATION	= 1121.33 FT



**PLAN SUMMARY DATA**

DRAINAGE AREA	= 45 AC
DESIGN FREQUENCY	= 25 YRS
DESIGN DISCHARGE	= 45 CFS
DESIGN H.W. ELEVATION	= 1121.6 FT
Q100 DISCHARGE	= 79 CFS
Q100 ELEVATION	= 1124.0 FT
OVERTOPPING FREQUENCY	= 50 YRS
OVERTOPPING DISCHARGE	= 65 CFS
OVERTOPPING ELEVATION	= 1122.45 FT

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

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

\*\* DESIGN EXCEPTION FOR VERTICAL ALIGNMENT  
(CREST K, SAG K, SSD)

SEE SHEET C-1 THRU C-9  
FOR CULVERT PLANS

Ramey Kemp & Associates, Inc.  
Transportation Consulting Engineers

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RALEIGH, NORTH CAROLINA 27606  
TEL. (919) 872-5415 FAX (919) 878-5416

CUT 1/4" = 1' 0" VERT. SCALE 1/4" = 10' HORIZ. SCALE  
 DATE: 11/11/06  
 DRAWN BY: JMW  
 CHECKED BY: JMW  
 APPROVED BY: JMW  
 PROJECT: B-4041  
 SHEET: 5