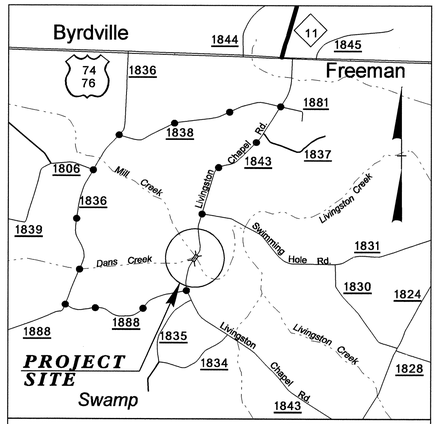
09/08/99

TIP PROJECT: B-4082

CONTRACT: C202120

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



VICINITY MAP

DENOTES OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

COLUMBUS COUNTY

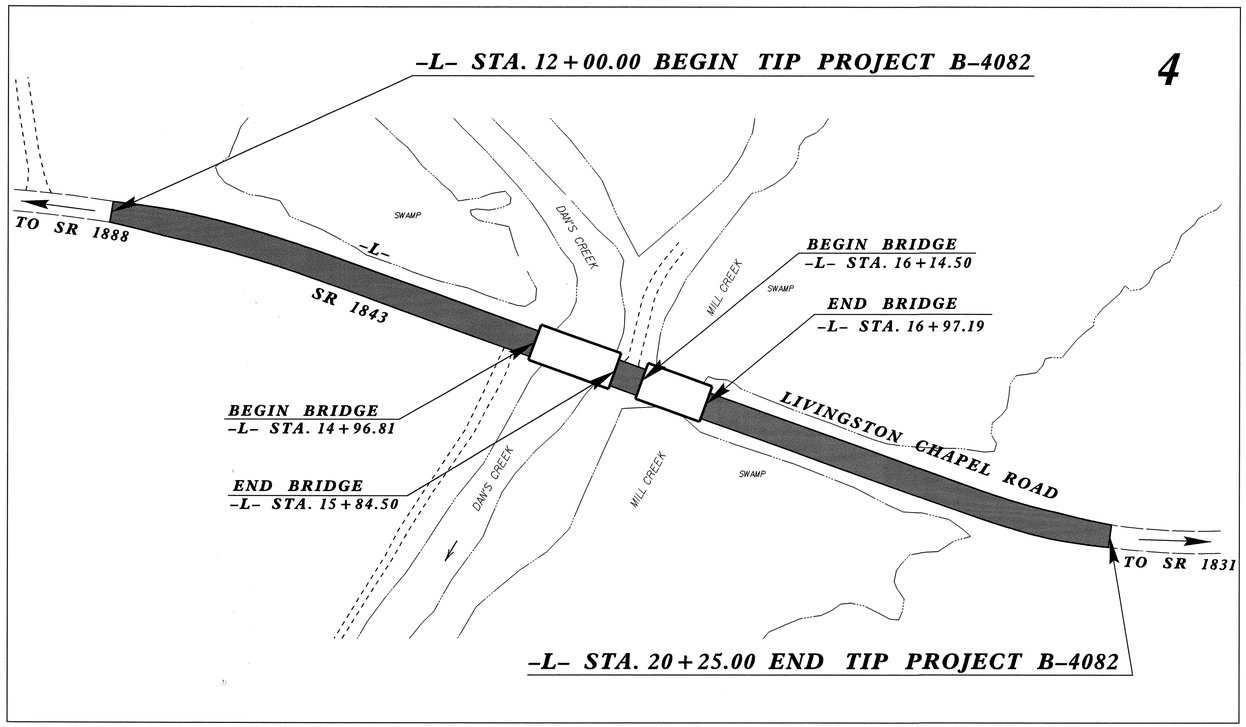
LOCATION: BRIDGE 280 OVER DAN'S CREEK AND BRIDGE 281 OVER MILL CREEK ON SR 1843 (LIVINGSTON CHAPEL ROAD)

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4082	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33443.1.1	BRZ-1843(1)	PE
33443.2.1	BRZ-1843(1)	R/W & UTIL
33443.3.1	BRZ-1843(1)	CONST.

NAD 83/95



GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2008	=	957
ADT 2028	=	1478
DHV	=	14 %
D	=	65 %
T	=	3 % *
V	=	60 MPH

* (TTST 1% + DUAL 2%)

FUNC CLASS = LOCAL

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4082	=	.124 MILES
LENGTH OF STRUCTURE TIP PROJECT B-4082	=	.032 MILES
TOTAL LENGTH OF TIP PROJECT B-4082	=	.156 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS

1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: SEPTEMBER 21, 2007

LETTING DATE: SEPTEMBER 16, 2008

BRENDA MOORE, P.E.
PROJECT ENGINEER

VACANT
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER W. HENRY WELLS, JR.

SIGNATURE: 7/1/08 *P.E.*

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19795 ENGINEER BRENDA L. MOORE

SIGNATURE: B.L. Moore *P.E.* 6/27/08

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

P.E.
STATE HIGHWAY DESIGN ENGINEER

10-JUN-2008 08:27
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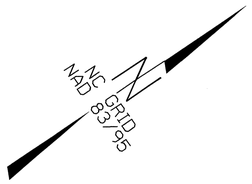
$$$$USERNAME$$$$

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4082	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4082

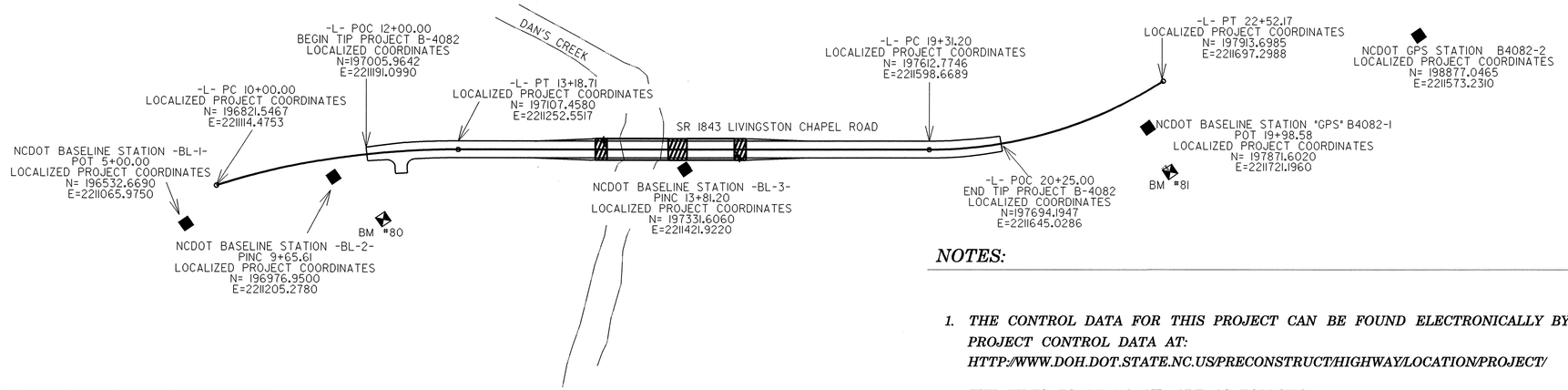


BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4082-BL1	196532.6690	2211065.9750	41.10	OUTSIDE PROJECT LIMITS	
2	B4082-BL2	196976.9500	2211205.2780	30.60	11+80.55	25.96 RT
3	B4082-BL3	197331.6060	2211421.9220	32.04	15+99.35	13.07 RT
101	B4082-1 (GPS)	197871.6020	2211721.1960	33.25	22+12.71	26.71 RT

```
****************************************
BM80       ELEVATION = 29.86
N 196944       E 2211250
L STATION 11+71 80 RIGHT
RR SPIKE IN BASE OF 18" PINE TREE
****************************************
```

```
****************************************
BM81       ELEVATION = 34.03
N 197849       E 2211786
L STATION 21+99 94 RIGHT
RR SPIKE IN BASE OF 15" PINE TREE
****************************************
```



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY FOR MONUMENT "B-4082-1" WITH STATE PLANE GRID COORDINATES OF NORTHING: 197871.603(ft) EASTING: 2211721.197(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.000015180 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4082-1" TO -L- STATION 12+00.00 IS S 31°28'56.5" W 1015.05 FT ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/*

   THE FILES TO BE FOUND ARE AS FOLLOWS: B4082_LS_CONTROL_060721.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 EXISTING HARN MONUMENTATION

SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

22-MAY-2008 16:43
c:\projects\b4082_ls_1c_060721.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4082	2

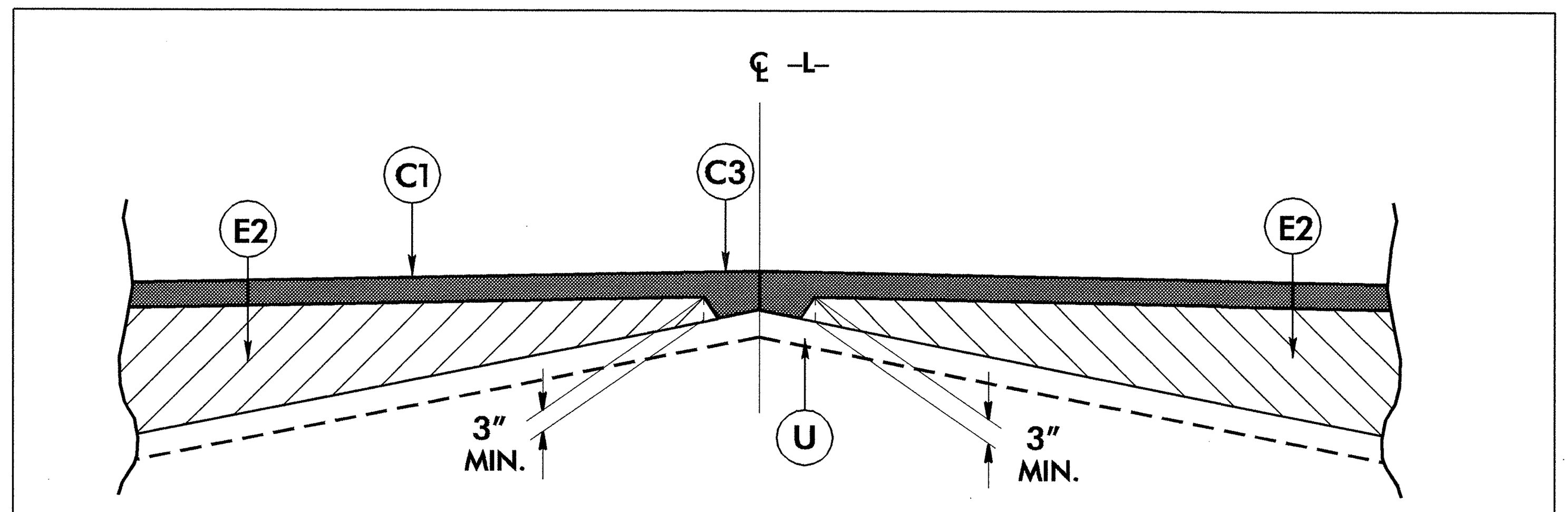
ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19795 ENGINEER BRENDA L. MOORE — B. L. Moore 6/27/08

PAVEMENT DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON — Clark S. Morrison 7/7/08

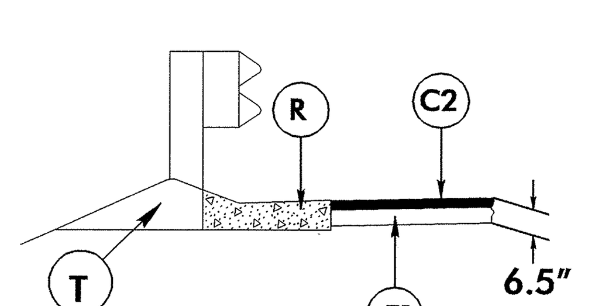
6/2/99

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" 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 BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING (SEE WEDGING DETAIL THIS SHEET).

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



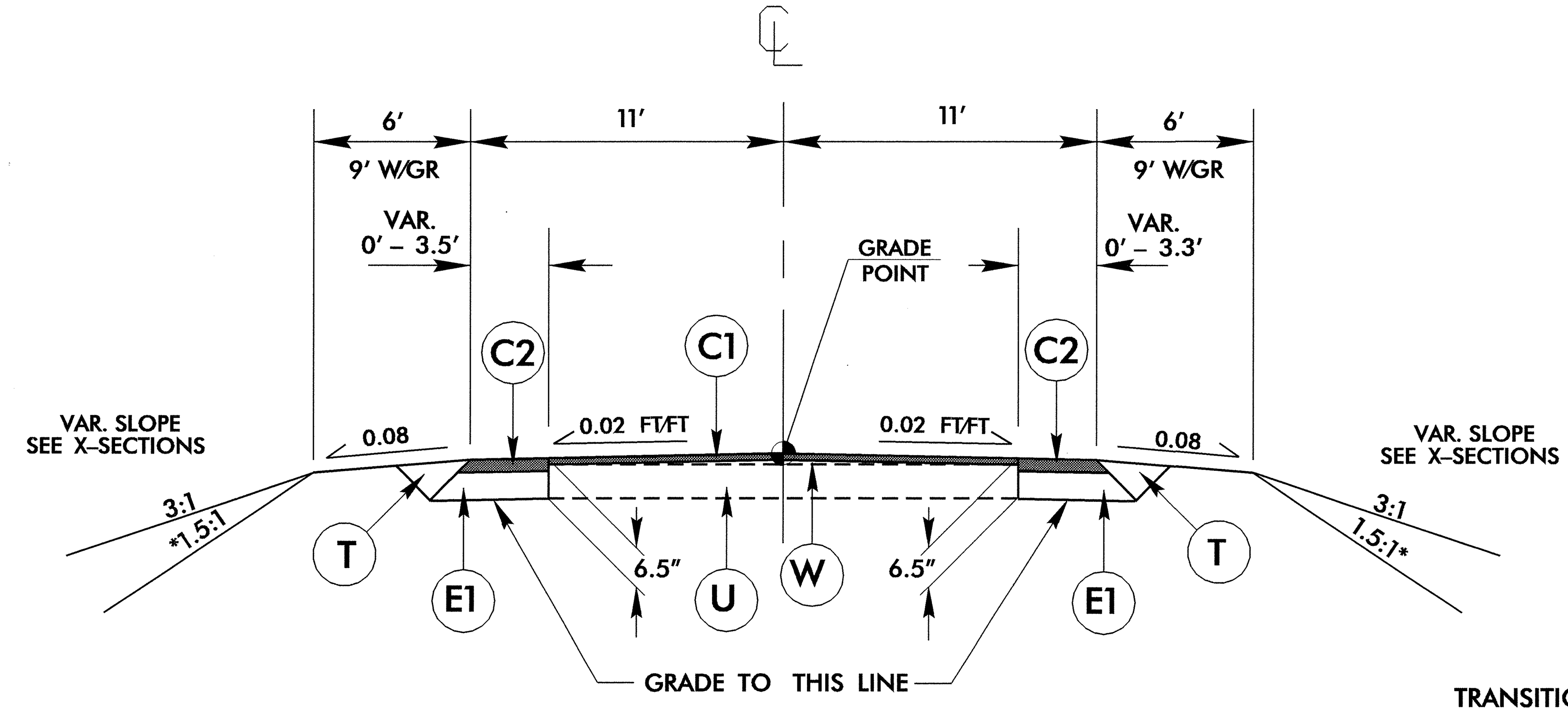
DETAIL SHOWING METHOD OF WEDGING



SHOULDER BERM GUTTER DETAIL

USE SHOULDER BERM GUTTER

-L- STA. 14+65.00 TO -L- STA. 14+82.81 (LT & RT)
-L- STA. 17+11.19 TO -L- STA. 17+30.00 (LT & RT)

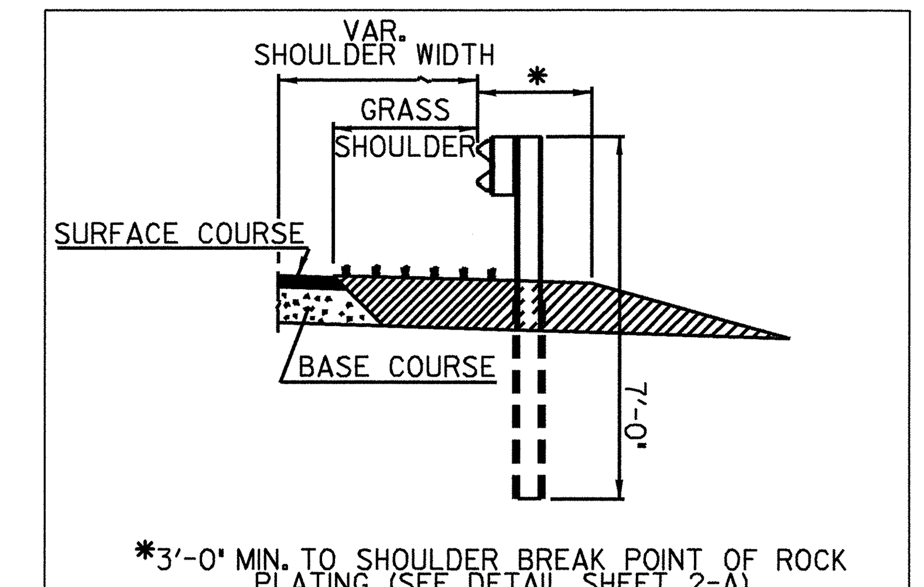


TYPICAL SECTION NO. 1

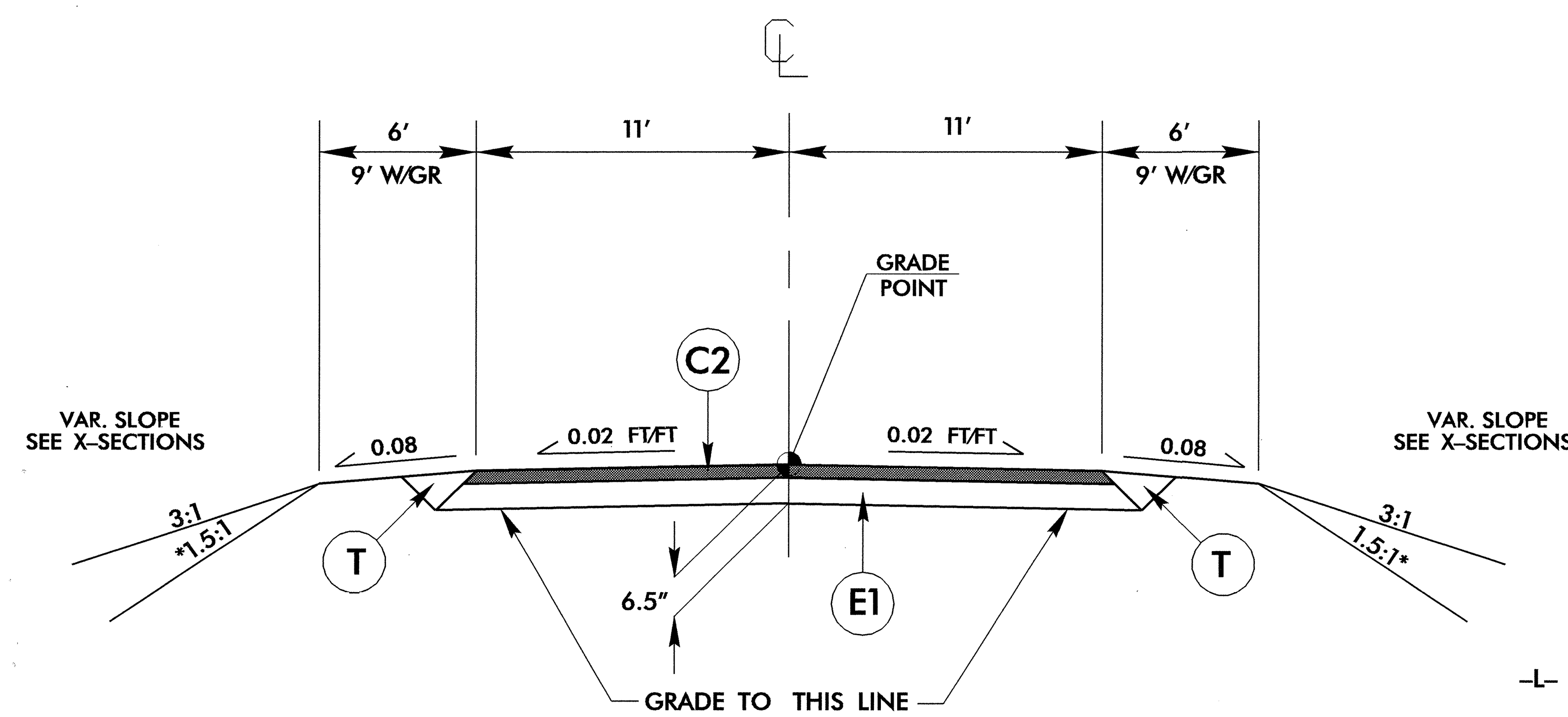
*ROCK PLATING WILL BE USED ON 1.5:1 SLOPES (SEE DETAIL SHEET 2-A)

USE TYPICAL SECTION NO. 1

TRANSITION FROM EXISTING -L- STA. 12+00.00 TO STA. 12+50.00
-L- STA. 12+50.00 TO STA. 14+50.00
-L- STA. 17+50.00 TO STA. 19+75.00
TRANSITION TO EXISTING -L- STA. 19+75.00 TO STA. 20+25.00



DETAIL OF 7' EXTRA LENGTH GUARDRAIL POSTS



TYPICAL SECTION NO. 2

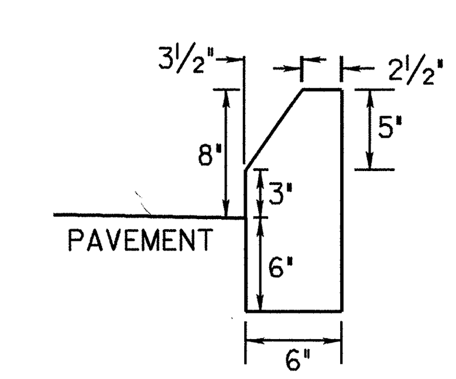
*ROCK PLATING WILL BE USED ON 1.5:1 SLOPES (SEE DETAIL SHEET 2-A)

USE TYPICAL SECTION NO. 2

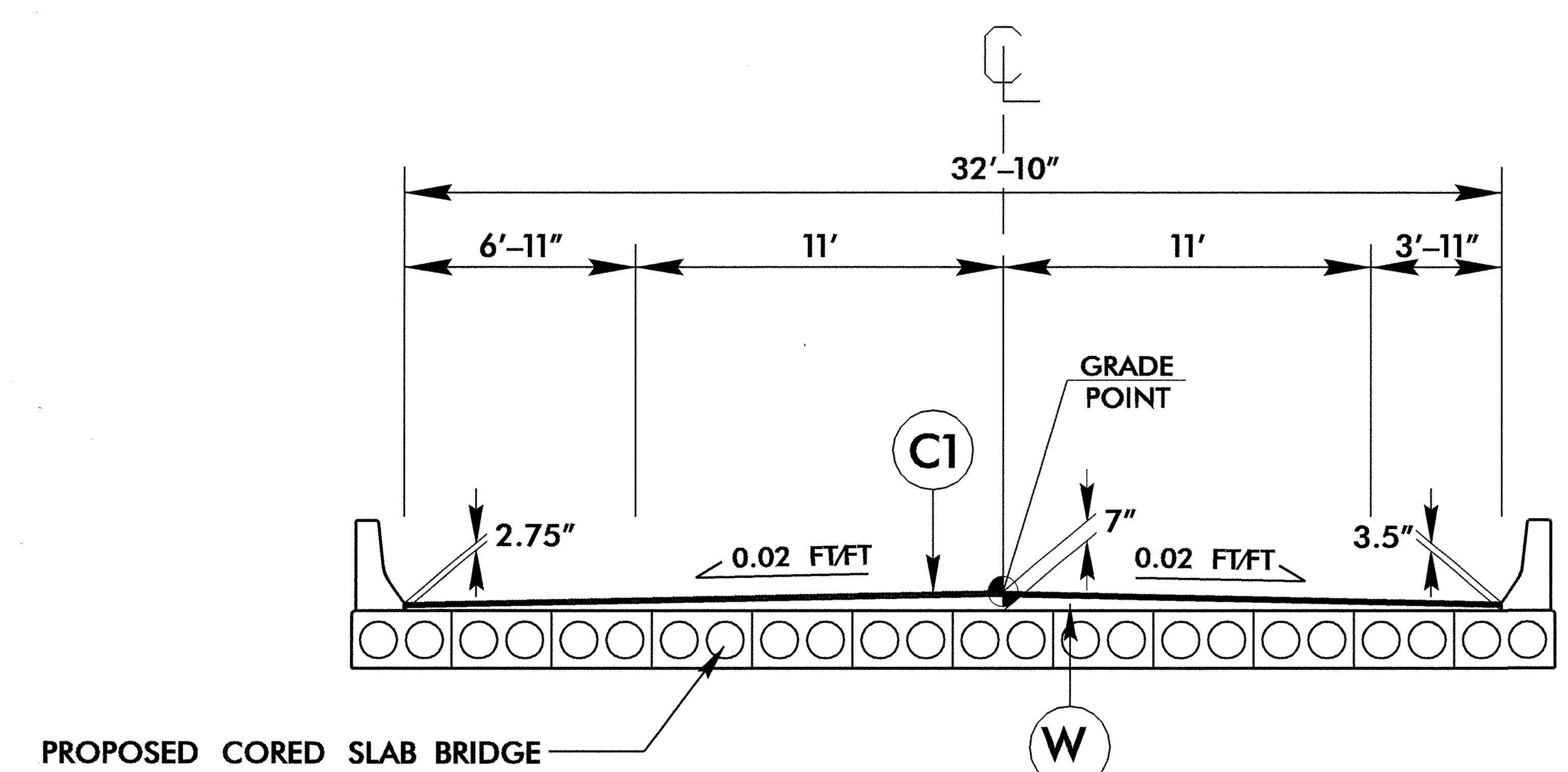
-L- STA. 14+50.00 TO STA. 14+96.81 (BEGIN BRIDGE)

OVERLAY REINFORCED CONCRETE SLAB WITH ASPHALT PAVEMENT BETWEEN -L- STA. 15+84.50 (END BRIDGE) AND STA. 16+14.50 (BEGIN BRIDGE)

-L- STA. 16+97.19 (END BRIDGE) TO STA. 17+50.00



DETAIL OF 6"x8" CONCRETE CURB



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3

-L- STA. 14+96.81 TO STA. 15+84.50
-L- STA. 16+14.50 TO STA. 16+97.19
*OVERLAY CORED SLAB BRIDGE AS DIRECTED BY THE ENGINEER

10-JUN-2008 08:27
r:\roadway\proj\b4082_rdy_typ.dgn
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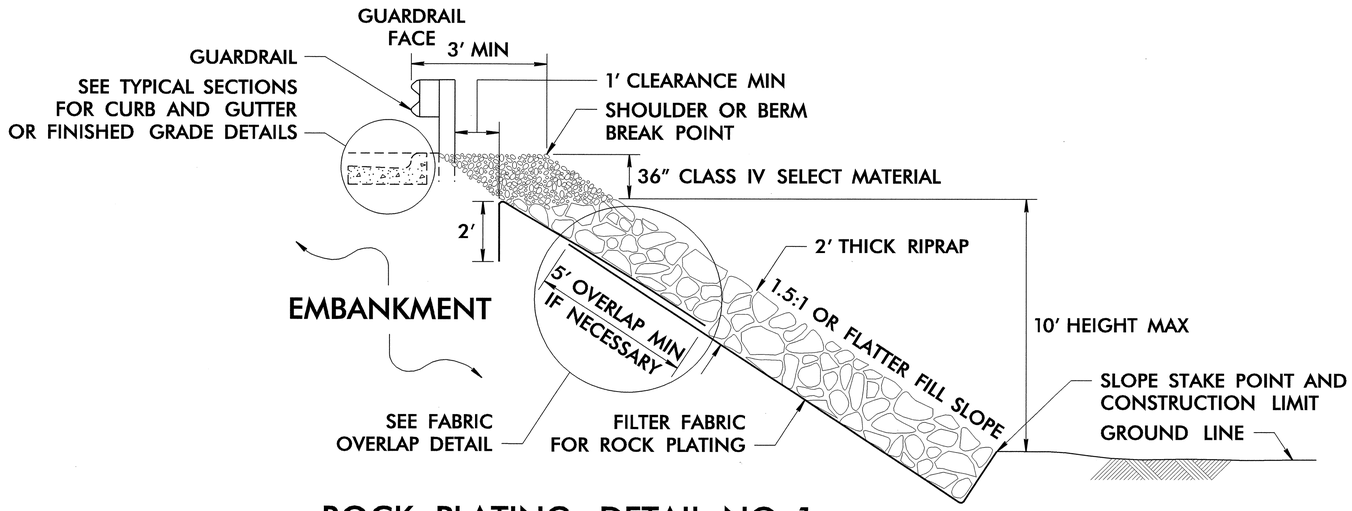
6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4082	2-A

GEOTECHNICAL ENGINEER

ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 20943 ENGINEER THEIN TUN ZAN
7/7/08

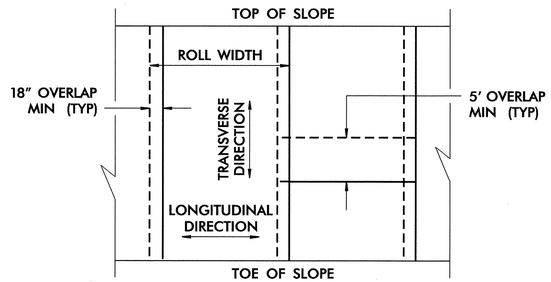


ROCK PLATING DETAIL NO. 1

USE ROCK PLATING DETAIL NO. 1 AT THE FOLLOWING LOCATIONS:

–L– STA 12+00 TO –L– STA 14+96 (LT.)
–L– STA 13+50 TO –L– STA 14+96 (RT.)
–L– STA 16+97 TO –L– STA 20+00 (LT. & RT.)
EXTEND ROCK PLATING LIMITS TO 3:1 SLOPES.

FOR ROCK PLATING,
SEE ROCK PLATING SPECIAL PROVISION.



FABRIC OVERLAP DETAIL
(PLAN VIEW)

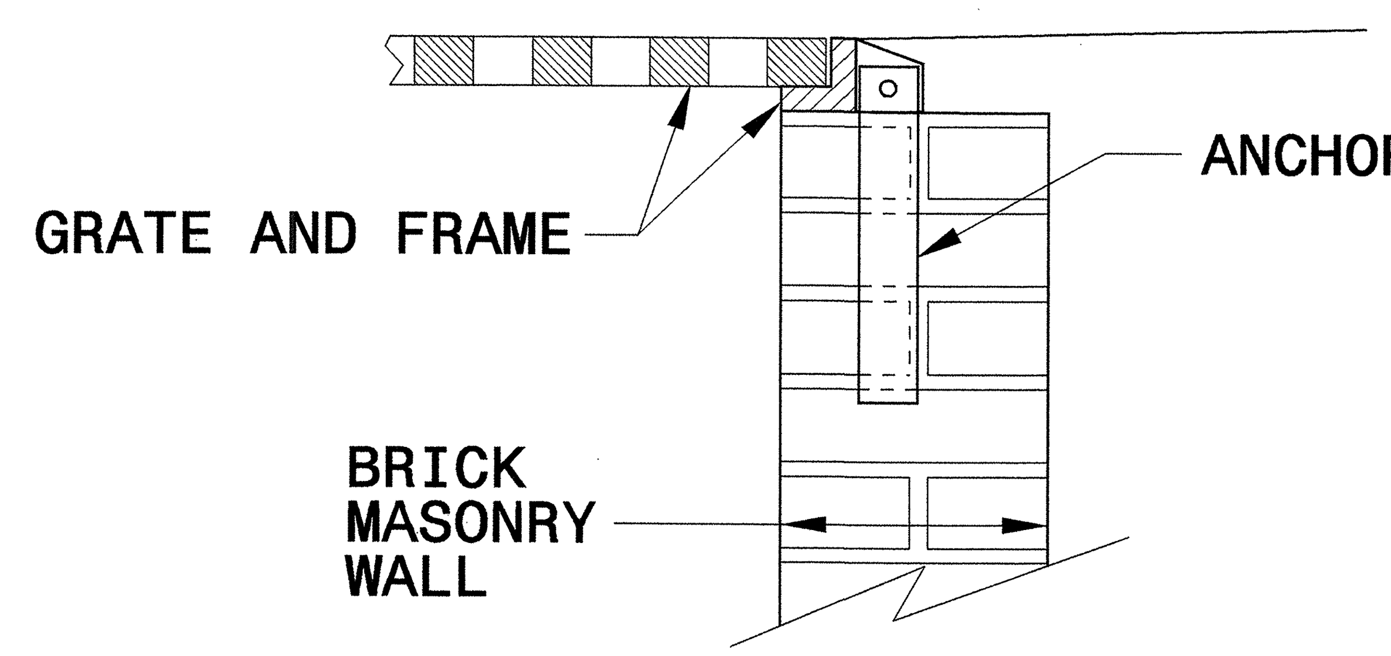
ESTIMATED QUANTITIES:

ROCK PLATING: 500 SQ.YD.

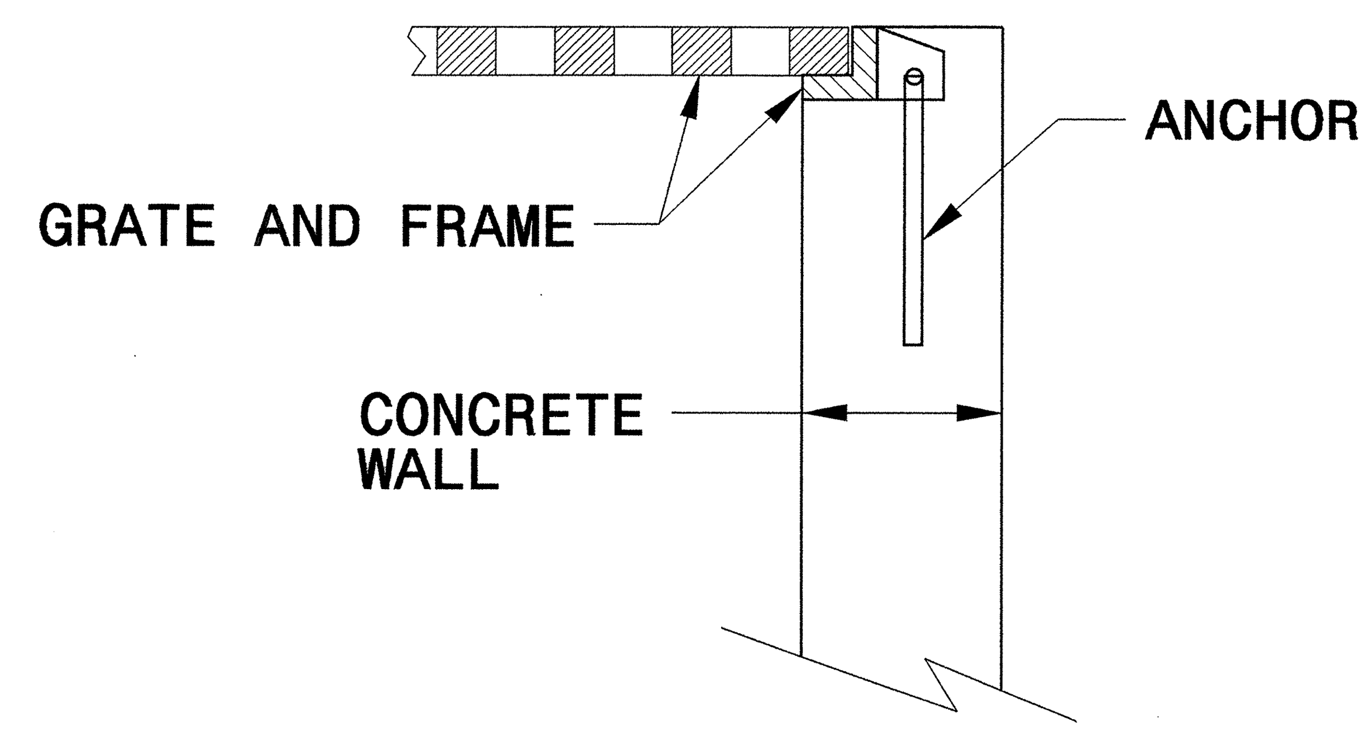
07-JUL-2008 09:41
C:\projects\4082_rdy_dtl_rock_plating.dgn
$$$$USERNAME$$$$

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

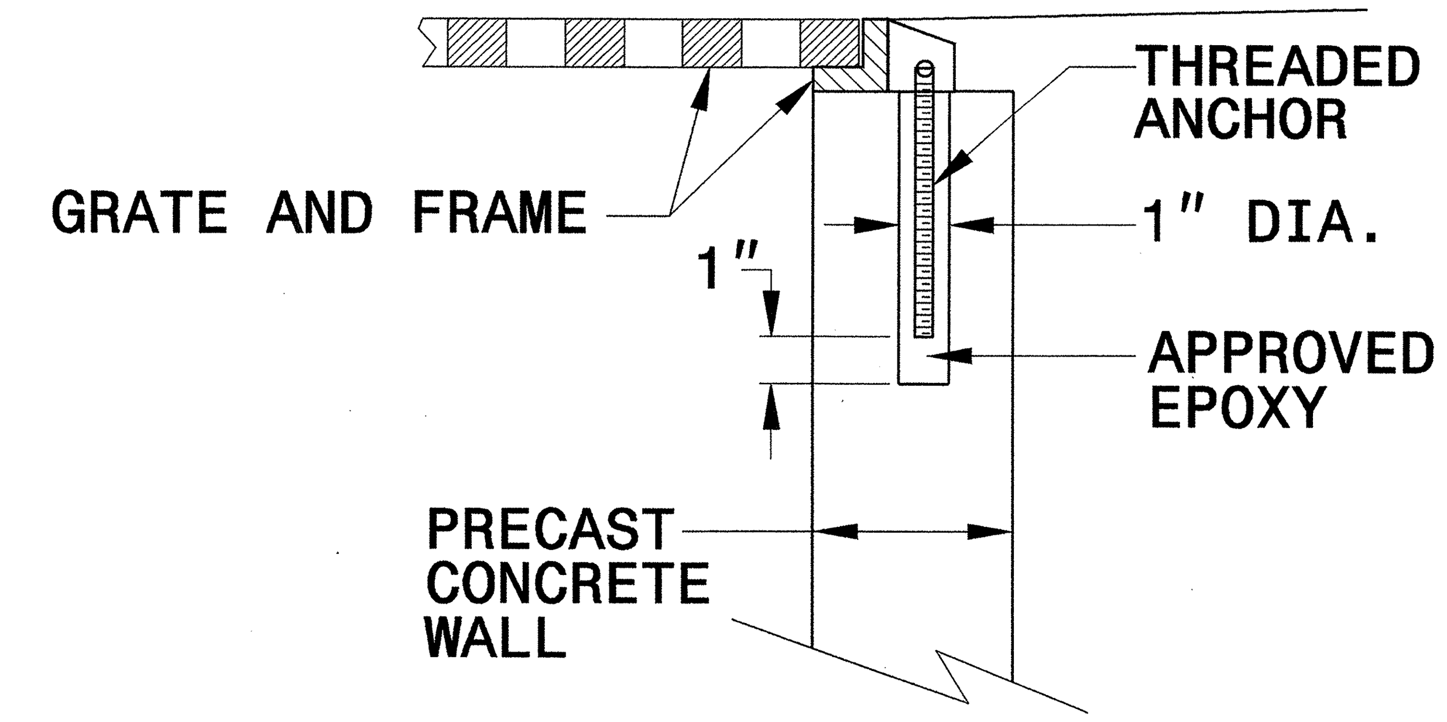
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE



BRICK MASONRY CONSTRUCTION



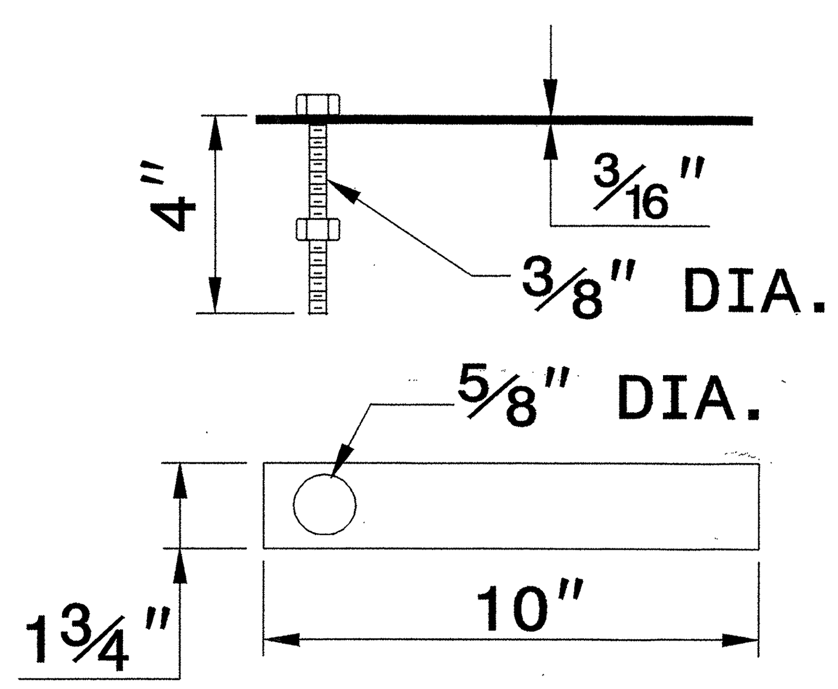
CONCRETE CONSTRUCTION



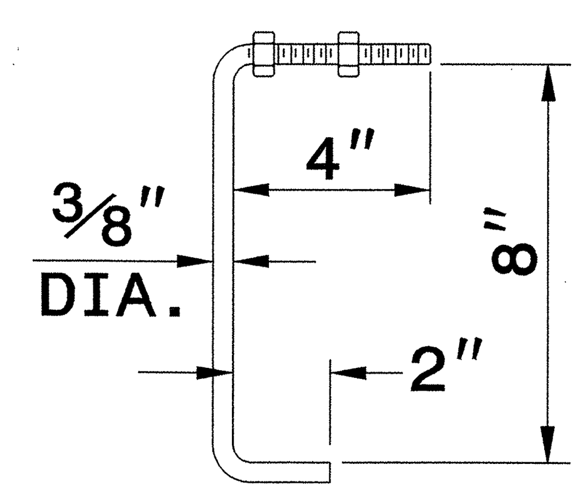
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

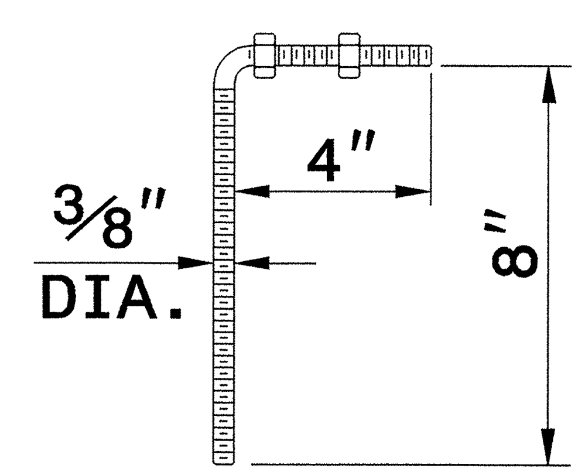
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



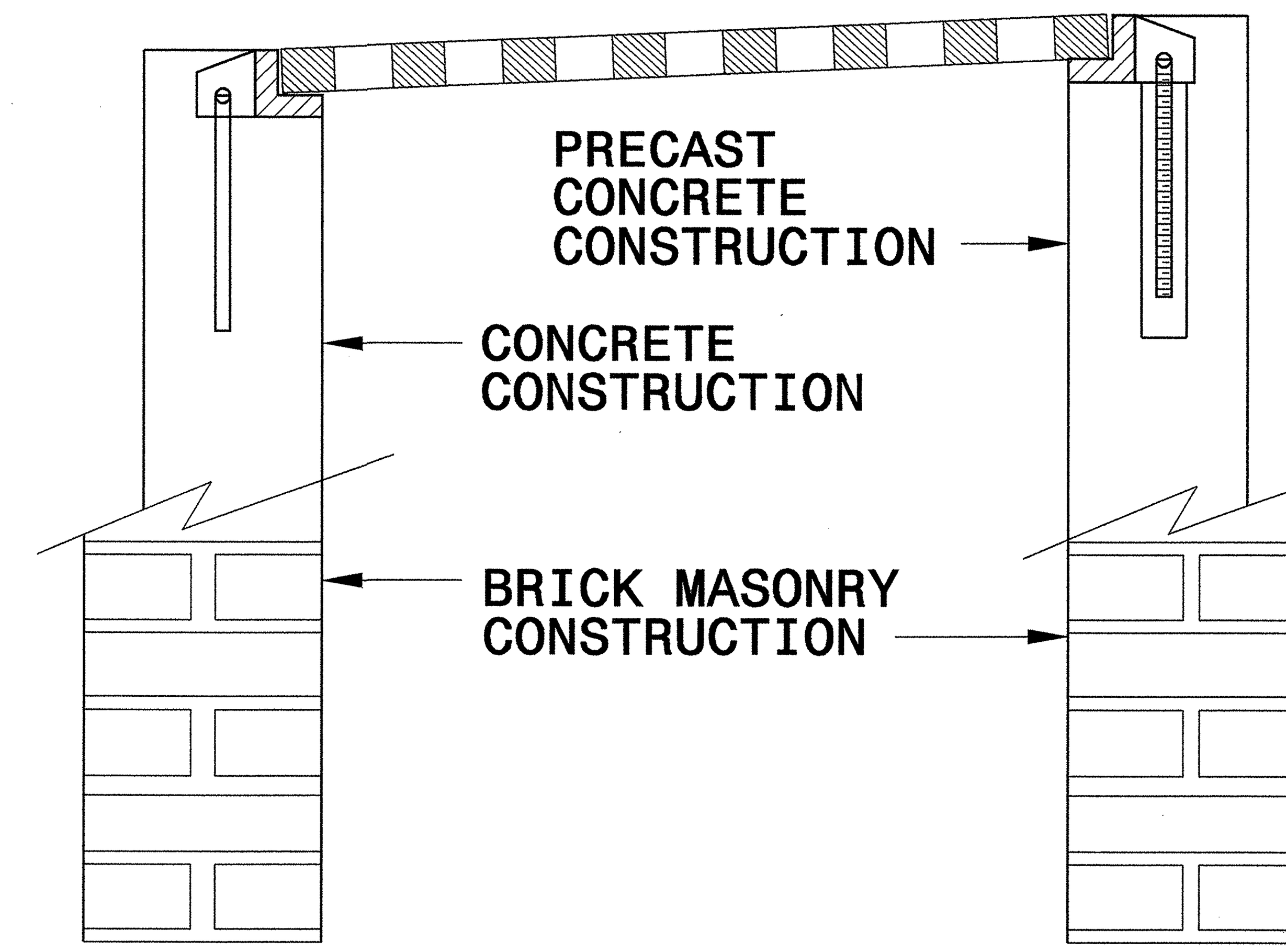
MASONRY ANCHOR
3⁄8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3⁄8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3⁄8" DIA. BENT BAR



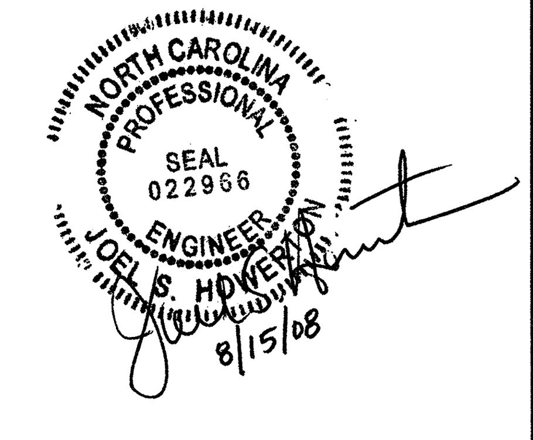
FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

SHEET 1 OF 1
840D25

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

ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25



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

SEE PLATE FOR TITLE

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06
MODIFIED BY: E.E. WARD DATE: 9/25/06
CHECKED BY: DATE:
FILE SPEC.:

$$$$$$SYSTIME$$$$$
$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

5/28/99

COMPUTED BY: RCK
CHECKED BY: CFP

PROJECT REFERENCE NO.	SHEET NO.
B-4082	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS			IMPACT ATTENUATOR TYPE 350			REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350	B-77	AT-1	EA	G	NG	
-L-	13+84.31	14+96.81	LT	112.5				14+96.81 (BR)	6.917	9.917		50		1	1	1					
-L-	12+59.31	14+96.81	RT	237.5			14+96.81 (BR)		6	VAR.*	50		1		1	1					
-L-	16+97.19	19+47.19	LT	250.0			16+97.19 (BR)		6.917	9.917	50		1		1	1					
-L-	16+97.19	18+09.69	RT	112.5				16+97.19 (BR)	3.917	VAR.*		93.75		1.875	1	1					
		SUBTOTAL		712.5											4	4					
		LESS ANCHORS		275.0																	
			TOTAL	437.5							DEDUCTIONS OF ANCHORS										
			SAY	437.5							4 GRAU-350 @ 50' = 200										
											4 TYPE B-77 @ 18.75' = 75										
											TOTAL = 275										
ADDITIONAL POSTS = 5 EACH																					

* THE DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT IS VARIABLE. SEE CROSS-SECTIONS.
NOTE: USE SEVEN (7) FOOT EXTRA LENGTH GUARDRAIL POSTS IN LIEU OF STANDARD GUARDRAIL POSTS THROUGHOUT THE LIMITS OF THE PROJECT, EXCEPT AT ANCHOR LOCATIONS. (SEE SHEET 2 FOR DETAIL)

SUMMARY OF EARTHWORK
(CUBIC YARDS)

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
-L- STA. 12+00.00 TO 14+96.81	9		77	68	
-L- STA. 15+84.50 TO 16+14.50	0		84	84	
-L- STA. 16+97.19 TO 20+25.00	23		81	58	
PROJECT SUBTOTALS	32		242	210	
UNCL. STRUCT. EXCAV. IN LIEU OF BORROW				-136	
PROJECT TOTAL	32		242	74	
EST. 5% TO REPLACE TOPSOIL ON BORROW PITS				4	
GRAND TOTAL	32			78	
SAY	40			90	

CONTINGENCY UNDERCUT = 200 CY

Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the lump sum price for "Grading."

NOTE: Earthwork quantities are calculated by the Roadway Design Unit. These earthwork quantities are based in part on subsurface data provided by the Geotechnical Engineering Unit.

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

STATION	SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) 15"	18"	48"	BIT. COATED C.S. PIPE TYPE B (UNLESS NOTED OTHRWISE) .064	18" .064	48" .064	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL. 'B') LIN. FT. A (5.0' THRU 10.0')	B (10.0' AND ABOVE)	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	D.I. STD. 840.14 OR STD. 840.15	T.B.D.I. STD. 840.35	D.I. (N.S.)FRAME WITH 2 GRATES STD. 840.29	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH TWO GRATES STD. 840.24	G.D.I. FRAME WITH TWO GRATES STD. 840.29	BIT. COATED C.S. ELBOWS NO. & SIZE	4" CONCRETE PAVED DITCH (FOR B.D.O.) STD. 850.10 IN SQUARE YARDS	PIPE REMOVAL LIN.FT.	REMARKS
-L- 12+32		RT	1													24																			
-L- 14+70		LT	2																	1								1	1						
			2	3					28																										
-L- 14+70		RT	3																	1								1	1						
			3	OUT								12																						2@15"		
-L- 17+30		LT	4																	1								1	1						
			4	5					32																										
-L- 17+30		RT	5																	1								1	1						
			5	OUT								12																						2@15"		
TOTALS									60			24				24				4								4	4						

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUCTION BOX

SUMMARY OF ASPHALT PAVEMENT BREAK-UP / REMOVAL
(IN SQUARE YARDS)

LINE	BEGIN STATION	END STATION	LOCATION	ASPHALT REMOVAL	ASPHALT BREAK-UP
-L-	14+50.00	15+15.50	EXISTING	132.9	
-L-	15+88.80	16+20.49	EXISTING	65.9	
-L-	16+74.59	17+50.00	EXISTING	153.5	
			TOTAL	352.3	
			SAY	355	

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PROJECT REFERENCE NO.	SHEET NO.
B-4082	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19795 ENGINEER BRENDA L MOORE — 7/15/08 — B.P. Moore

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER HENRY WELLS, JR. — 7/25/08

REVISIONS 8/17/99

NAD 83/95

–L– STA. 12+00.00 BEGIN TIP PROJECT B-4082

–L–
PI Sta 11+60.57
Δ = 17° 15' 48.6" (RT)
D = 5° 25' 00.0"
L = 318.71'
T = 160.57'
R = 1,057.77'

–L–
PI Sta 20+96.14
Δ = 32° 31' 28.8" (LT)
D = 10° 08' 00.0"
L = 320.97'
T = 164.94'
R = 565.42'

-BL- 2
-L- POC STA. 11+80.55,
25.96' RT.

BM = 80
-BL- STA 9+48
52' RIGHT
ELEV. 29.86'

BEGIN BRIDGE
–L– STA. 14+96.81

END BRIDGE
–L– STA. 15+84.50

BEGIN BRIDGE
–L– STA. 16+14.50

END BRIDGE
–L– STA. 16+97.19

-BL- 3
-L- POT STA. 15+99.35
13.07' RT.

-BL- 101
-L- POC STA. 22+12.71
26.71' RT.

BM = 81
-BL- STA 19+99
68.94' RIGHT
ELEV. 34.03

1 CALVIN THURSTON MALPASS DB 415 PG 937

2 ASHFORD MALPASS DB 761 PG 225

3 GENE MALPASS DB 525 PG 555

4 NELSON APPLEWHITE JR DB 484 PG 529

5 BOBBY RAY MOORE DB 241 PG 389 PLAT BOOK 4 PG 46

ROCK PLATING STA 12+00 TO STA 14+96 –L– LT SEE SHEET 2-A

ROCK PLATING STA 13+50 TO STA 14+96 –L– RT SEE SHEET 2-A

ROCK PLATING STA 16+97 TO STA 20+00 –L– LT SEE SHEET 2-A

ROCK PLATING STA 16+97 TO STA 20+00 –L– RT SEE SHEET 2-A

CL II RIP RAP TO TOP OF BERM (STRUCTURE PAY ITEM)

6"x8" CONCRETE CURB 5' RADII (SEE SHEET 2 FOR DETAIL)

PAVE DRIVEWAY CONNECTION TO RIGHT OF WAY AS DIRECTED BY ENGINEER

TBDI W/NARROW SLOT FLAT GRATE

15" CSP W/ELBOWS

CLASS B RIP-RAP EST. 1 TON 5 SY FF

CLASS II RIP RAP FOR 2:1 SLOPE PROTECTION EST 70 TONS EST 60 SY FF

CLASS B RIP-RAP EST. 1 TONS 5 SY FF

CLASS B RIP-RAP EST. 3 TONS 10 SY FF

BEGIN SBG LT & RT +11.19

END SBG LT & RT +30

BEGIN SBG LT & RT +65

END SBG LT & RT +82.81

SPECIAL LAT 'V' DITCH –L– STA 19+75 TO STA 20+25 RT SEE DETAIL #1

RETAIN

50' EP TAPER LT & RT

25:1 PAV'T TAPER

GRAU 350

TYPE B-77

27" INCR

18" BST

15" CONC

WOODS

SWAMP

DAMS CREEK

MILL CREEK

EXISTING R/W

SR 1843 LIVINGSTON CHAPEL RD

SCSta. 10+00.00

PTSta. 13+18.71

PCSta. 19+31.20

CSSta. 22+52.11

NOTE: USE 1.5:1 FILL SLOPES W/ROCK PLATING (SEE DETAIL SHEET 2-A)
FROM –L– STA 12+00 TO STA 14+96 LT
FROM –L– STA 13+50 TO STA 14+96 RT
FROM –L– STA 16+97 TO STA 20+00 LT & RT

SKETCH SHOWING BRIDGE/ PAVEMENT RELATIONSHIP

APPROACH SLAB –L– STA. 14+82.81
SEE STRUCTURE PLANS FOR SPECIAL APPROACH PAVEMENT
BEGIN BRIDGE –L– STA. 16+14.50
APPROACH SLAB –L– STA. 17+11.19
25:1 PAV'T TAPER
GRAU 350
TYPE B-77
BEGIN BRIDGE –L– STA. 14+96.81
END BRIDGE –L– STA. 15+84.50
END BRIDGE –L– STA. 16+97.19

DETAIL I
SPECIAL LATERAL 'V' DITCH
(Not to Scale)
Natural Ground — 3H — D — 3d or Flatter — Fill Slope
Min. D=1.5 Ft.
FROM STA. 19+75 TO STA. 20+25 –L– RT

–L– STA. 20+25.00 END TIP PROJECT B-4082

BRIDGE APPROACH SLAB
PAVED SHOULDER
SBG SHOULDER BERM GUTTER
FOR –L– PROFILE SEE SHEET 5
FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-36

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PROJECT REFERENCE NO.	SHEET NO.
B-4082	5

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19795 ENGINEER BRENDA L. MOORE — 6/21/08

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 9334 ENGINEER W. HENRY WELLS, JR. — 7/01/08

RIGHT DITCH --------------

BM # 80
RR SPIKE IN A 18" PINE TREE
52' RT OF BL STA.9+48 ELEV.29.86

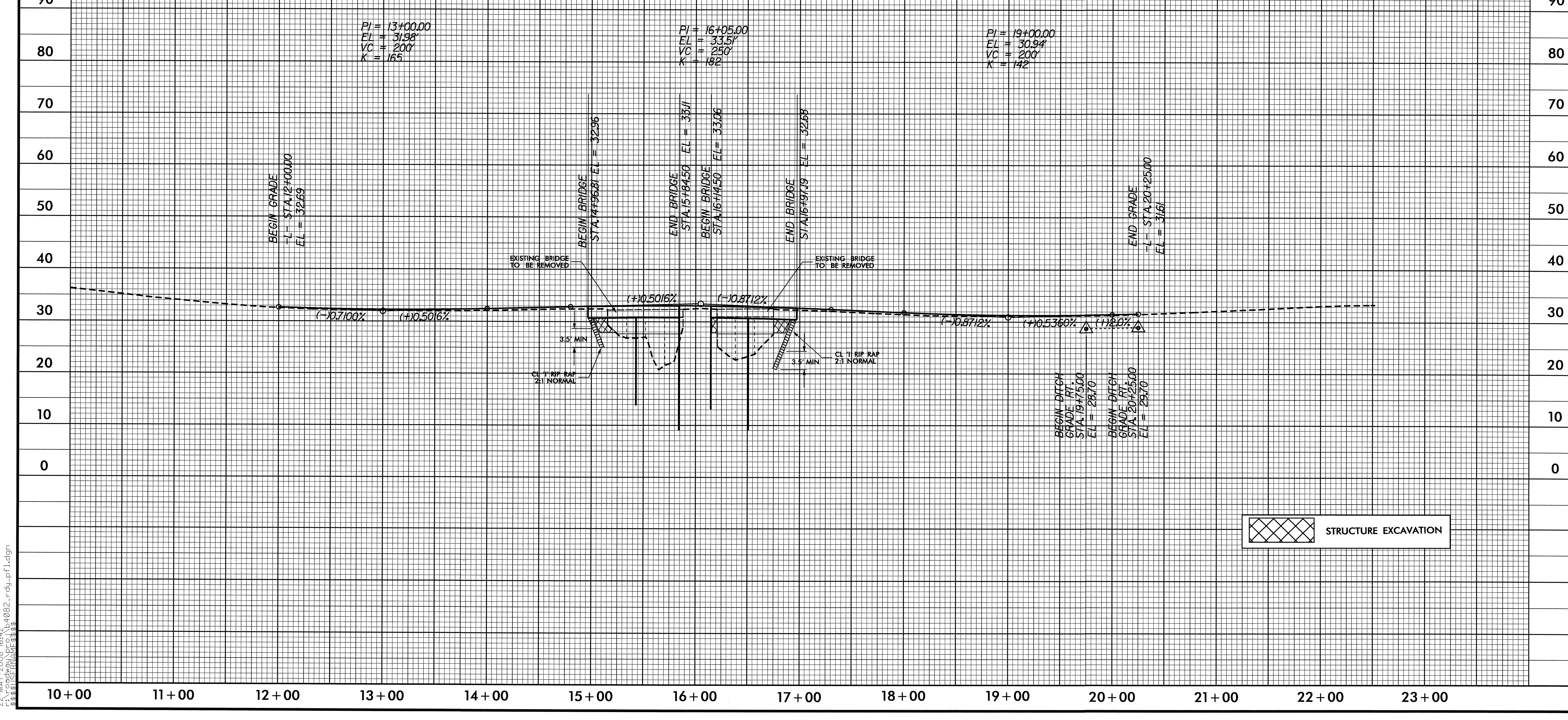
BM # 81
RR SPIKE IN A 15" PINE TREE
68.94' RT.OF BL STA.19+99 ELEV.34.03

STRUCTURE HYDRAULIC DATA

BRIDGE #280	
DESIGN DISCHARGE	= 1700 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 30.5 FT
BASE DISCHARGE	= 2272 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 31.8 FT
OVERTOPPING DISCHARGE	= 2300 CFS
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING ELEVATION	= 31.3 FT

STRUCTURE HYDRAULIC DATA

BRIDGE #281	
DESIGN DISCHARGE	= 1700 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 30.5 FT
BASE DISCHARGE	= 2272 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 31.8 FT
OVERTOPPING DISCHARGE	= 2300 CFS
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING ELEVATION	= 31.3 FT



5/14/99

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