

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

FRANKLIN COUNTY

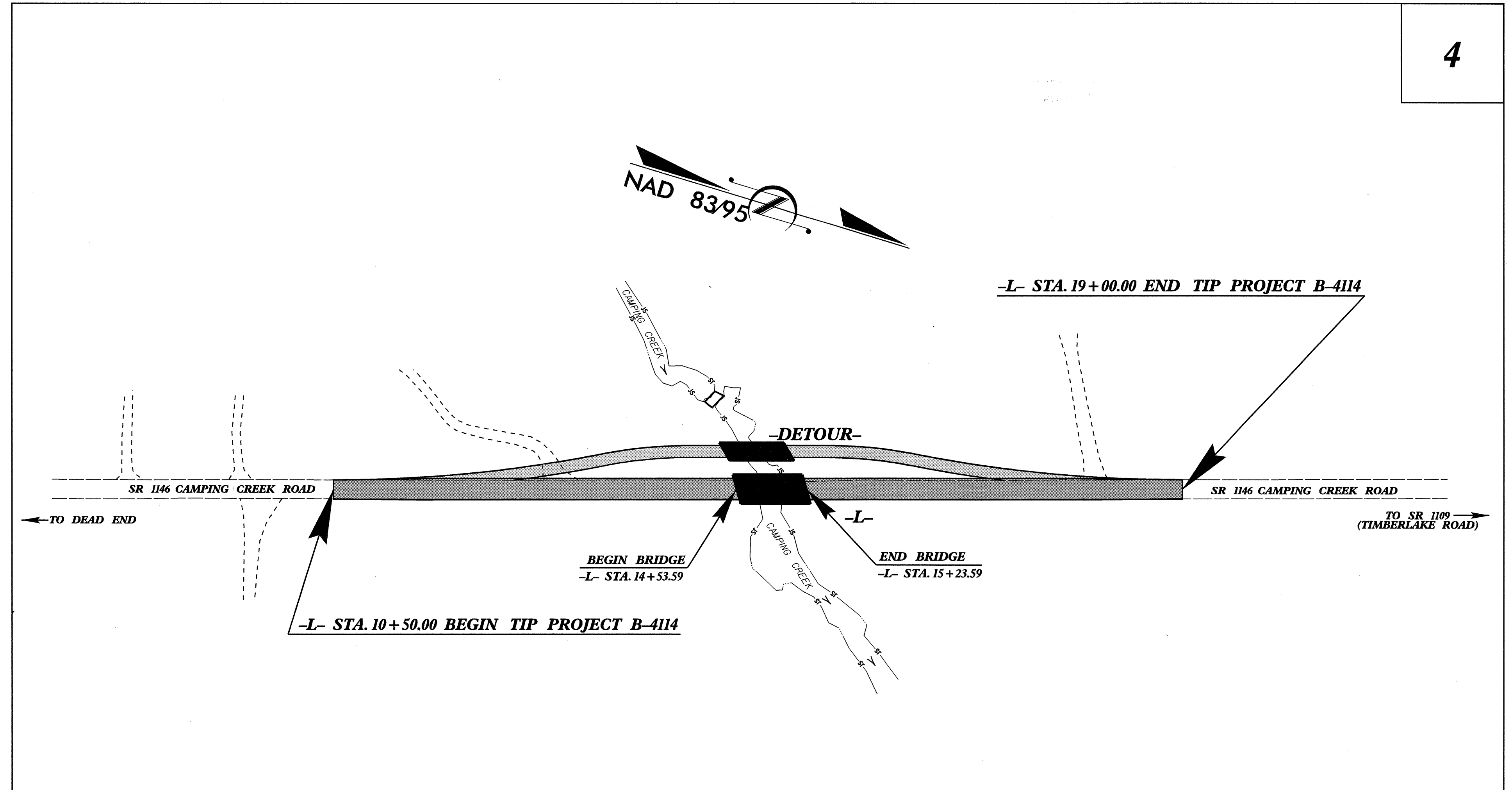
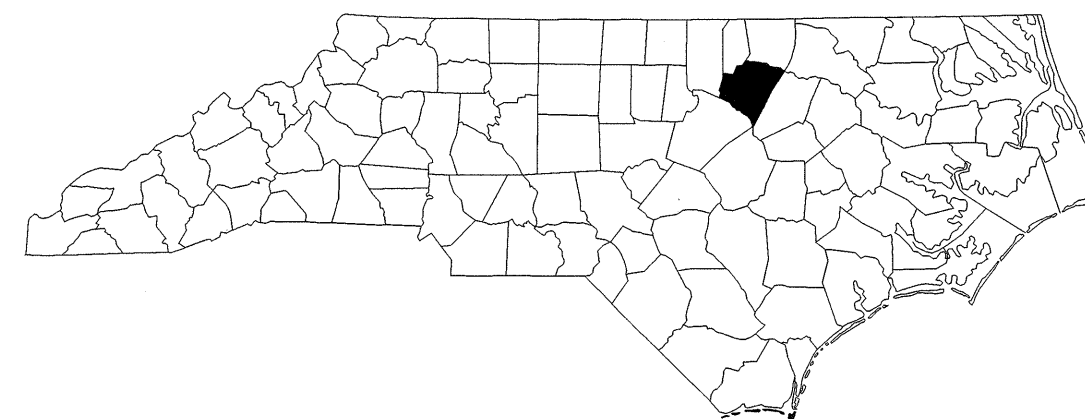
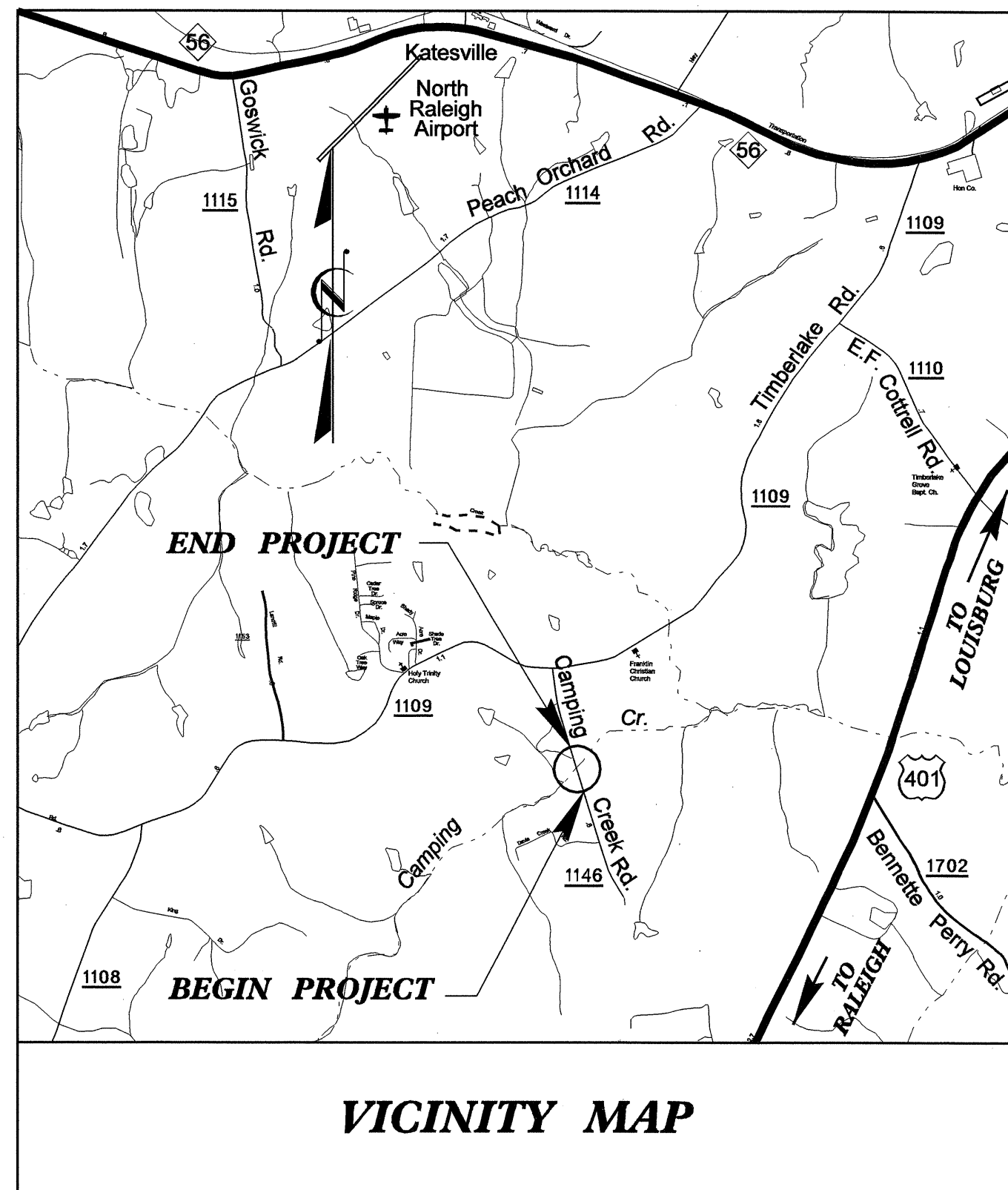
LOCATION: BRIDGE NO. 151 OVER CAMPING CREEK AND APPROACHES ON SR 1146 (CAMPING CREEK ROAD)

TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

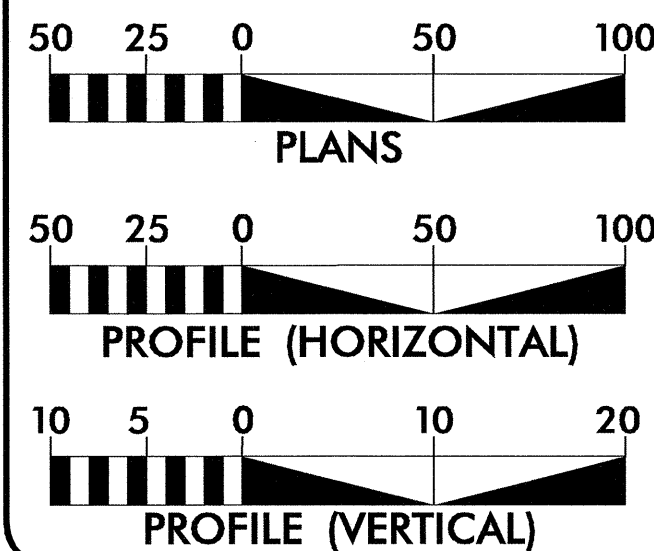
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4114	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33469.1.1	BRZ-1146(5)	P.E.	
33469.2.1	BRZ-1146(5)	RW & UTIL.	
33469.3.1	BRZ-1146(5)	CONST.	

TIP PROJECT: B-4114

CONTRACT: C202099



GRAPHIC SCALES



DESIGN DATA

ADT 2009 = 350 VPD
ADT 2030 = 700 VPD
DHV = 10 %
D = 60 %
*T = 3 %
V = 60 MPH
* (TTST 1% + DUAL 2%)
FUNC. CLASS. = RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4114 = 0.148 MILE
LENGTH STRUCTURE TIP PROJECT B-4114 = 0.013 MILE
TOTAL LENGTH TIP PROJECT B-4114 = 0.161 MILE

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

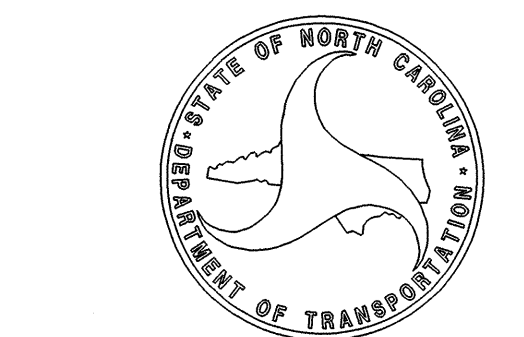
RIGHT OF WAY DATE: **GLENN W. MUMFORD, P.E.**
PROJECT ENGINEER
MARCH 7, 2008

LETTING DATE: **JEFFREY L. TEAGUE, P.E.**
PROJECT DESIGN ENGINEER
MARCH 17, 2009

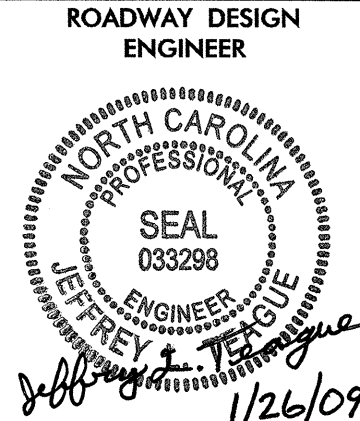
HYDRAULICS ENGINEER

Stephen R. Morgan 12/17/08
SIGNATURE: **STEPHEN R. MORGAN, P.E.**
ROADWAY DESIGN ENGINEER
Jeffrey L. Teague 12/17/08
SIGNATURE: **JEFFREY L. TEAGUE, P.E.**

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA



Art M. Miller P.E.
STATE HIGHWAY DESIGN ENGINEER



INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
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1-C	SURVEY CONTROL SHEET
2	FINAL PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	DETAIL OF ON-SITE DETOUR
2-B	DETAIL OF ANCHORAGE FOR FRAMES
2-C	DETAIL OF BRIDGE APPROACH FILLS, SUB REGIONAL TIER
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES AND GUARDRAIL SUMMARY
3-B	SUMMARY OF EARTHWORK AND ASPHALT PAVEMENT REMOVAL
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THROUGH TCP-6	TRAFFIC CONTROL PLANS
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RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THROUGH SIGN-2	SIGNING PLANS
UO-1 THROUGH UO-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY
X-1 THROUGH X-6	CROSS-SECTIONS
S-1 THROUGH S-18	STRUCTURE PLANS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 09-12-08

2006 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 07-18-06
REV. 01-02-07

GRADE LINE:

GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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 III.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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.

SUBSURFACE PLANS:

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

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 WAKE EMC AND EMBARQ.

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.

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for boundaries and property: State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin, Property Corner, Property Monument, Parcel/Sequence Number, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for buildings and other culture: Gas Pump Vent or U/G Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Swamp Marsh, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for right of way: Baseline Control Point, Existing Right of Way Marker, Existing Right of Way Line, Proposed Right of Way Line, Proposed Right of Way Line with Iron Pin and Cap Marker, Proposed Right of Way Line with Concrete or Granite Marker, Existing Control of Access, Proposed Control of Access, Existing Easement Line, Proposed Temporary Construction Easement, Proposed Temporary Drainage Easement, Proposed Permanent Drainage Easement, Proposed Permanent Utility Easement.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Detour Slope Stakes Cut, Detour Slope Stakes Fill, Proposed Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: MAJOR: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall; MINOR: Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for utilities: POWER: Existing Power Pole, Proposed Power Pole, Existing Joint Use Pole, Proposed Joint Use Pole, Power Manhole, Power Line Tower, Power Transformer, U/G Power Cable Hand Hole, H-Frame Pole, Recorded U/G Power Line, Designated U/G Power Line (S.U.E.*); TELEPHONE: Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Booth, Telephone Pedestal, Telephone Cell Tower, U/G Telephone Cable Hand Hole, Recorded U/G Telephone Cable, Designated U/G Telephone Cable (S.U.E.*), Recorded U/G Telephone Conduit, Designated U/G Telephone Conduit (S.U.E.*), Recorded U/G Fiber Optics Cable, Designated U/G Fiber Optics Cable (S.U.E.*).

WATER:

Table listing symbols for water: Water Manhole, Water Meter, Water Valve, Water Hydrant, Recorded U/G Water Line, Designated U/G Water Line (S.U.E.*), Above Ground Water Line.

TV:

Table listing symbols for TV: TV Satellite Dish, TV Pedestal, TV Tower, U/G TV Cable Hand Hole, Recorded U/G TV Cable, Designated U/G TV Cable (S.U.E.*), Recorded U/G Fiber Optic Cable, Designated U/G Fiber Optic Cable (S.U.E.*).

GAS:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.*), Above Ground Gas Line.

SANITARY SEWER:

Table listing symbols for sanitary sewer: Sanitary Sewer Manhole, Sanitary Sewer Cleanout, U/G Sanitary Sewer Line, Above Ground Sanitary Sewer, Recorded SS Forced Main Line, Designated SS Forced Main Line (S.U.E.*).

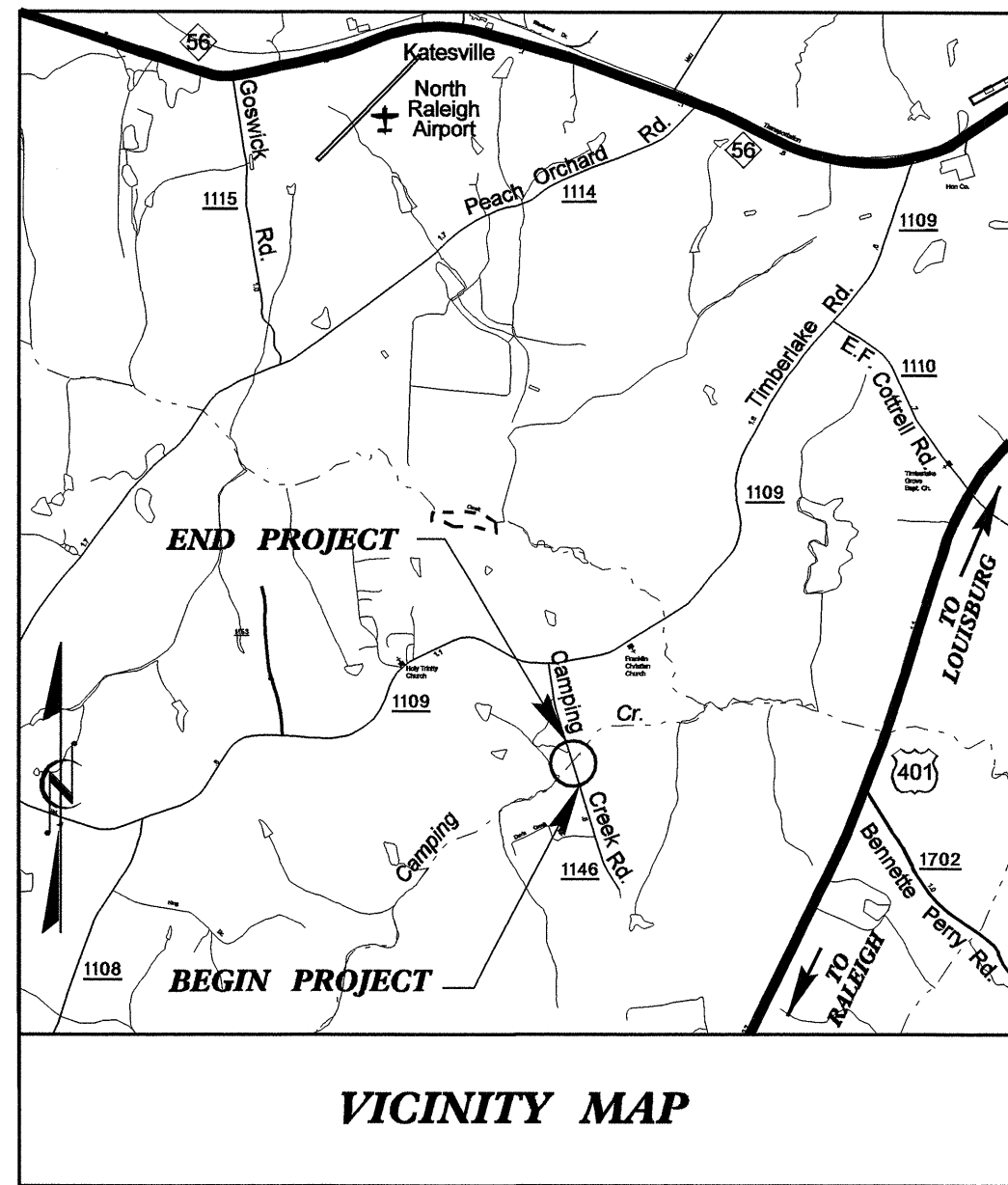
MISCELLANEOUS:

Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line, U/G Tank; Water, Gas, Oil, A/G Tank; Water, Gas, Oil, U/G Test Hole (S.U.E.*), Abandoned According to Utility Records, End of Information.

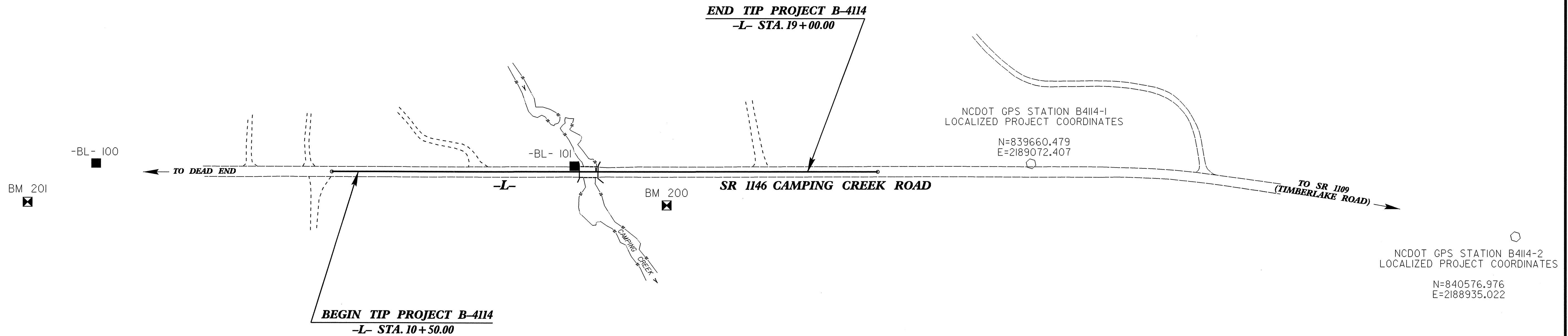
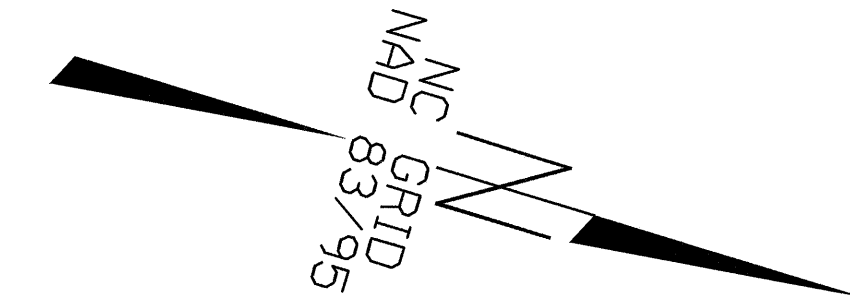
SURVEY CONTROL SHEET B-4114

FRANKLIN COUNTY

LOCATION: BRIDGE NO. 151 OVER CAMPING CREEK AND APPROACHES ON SR 1146 (CAMPING CREEK ROAD)



B-4114



BASELINE POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100	BL-100	837969.4190	2189590.4430	261.96	OUTSIDE PROJECT LIMITS	
101	BL-101	838835.7570	2189329.8370	239.30	14+58.91	10.87 LT
1	B4114-1	839660.4790	2189072.4070	247.66	OUTSIDE PROJECT LIMITS	

.....
 BM 200 ELEVATION • 236.68
 N 839024 E 2189350
 L STATION 16+33 64 RIGHT
 RR SPIKE IN 21' POPLAR

 BM 201 ELEVATION • 272.91
 N 837867 E 2189699
 L STATION 10+00
 S 22° 47' 53.1" E DIST 578.42
 RR SPIKE IN 12" SWEET GUM

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4114-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 839660.479(ft) EASTING: 2189072.407(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99996382 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4114-1" TO -L- STATION 10+00.00 IS S 17° 42' 39.8" E 1322.95'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

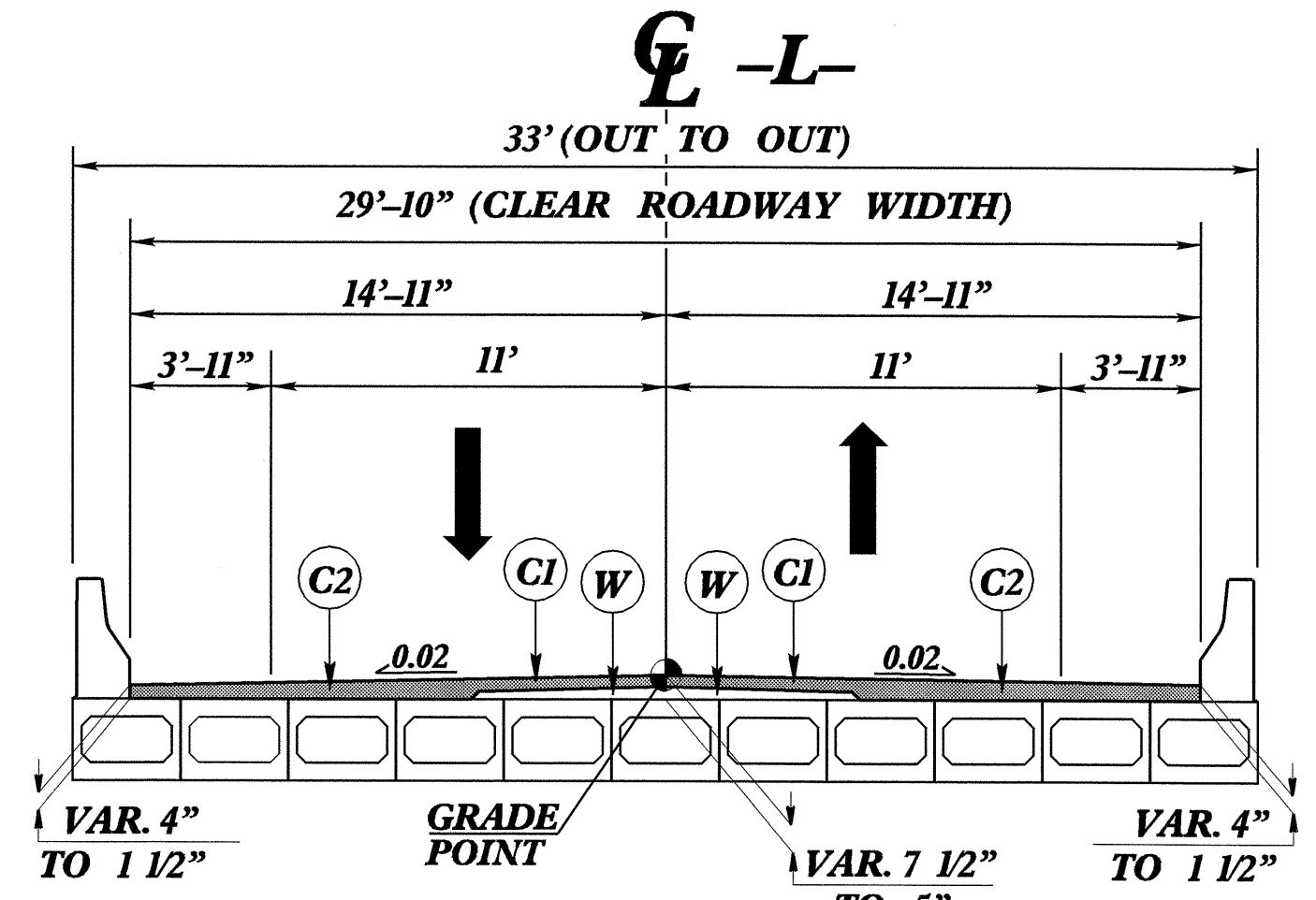
1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B-4114_ls_control_060322.txt](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/B-4114_ls_control_060322.txt)
- 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

NOTE: DRAWING NOT TO SCALE

6/2/09

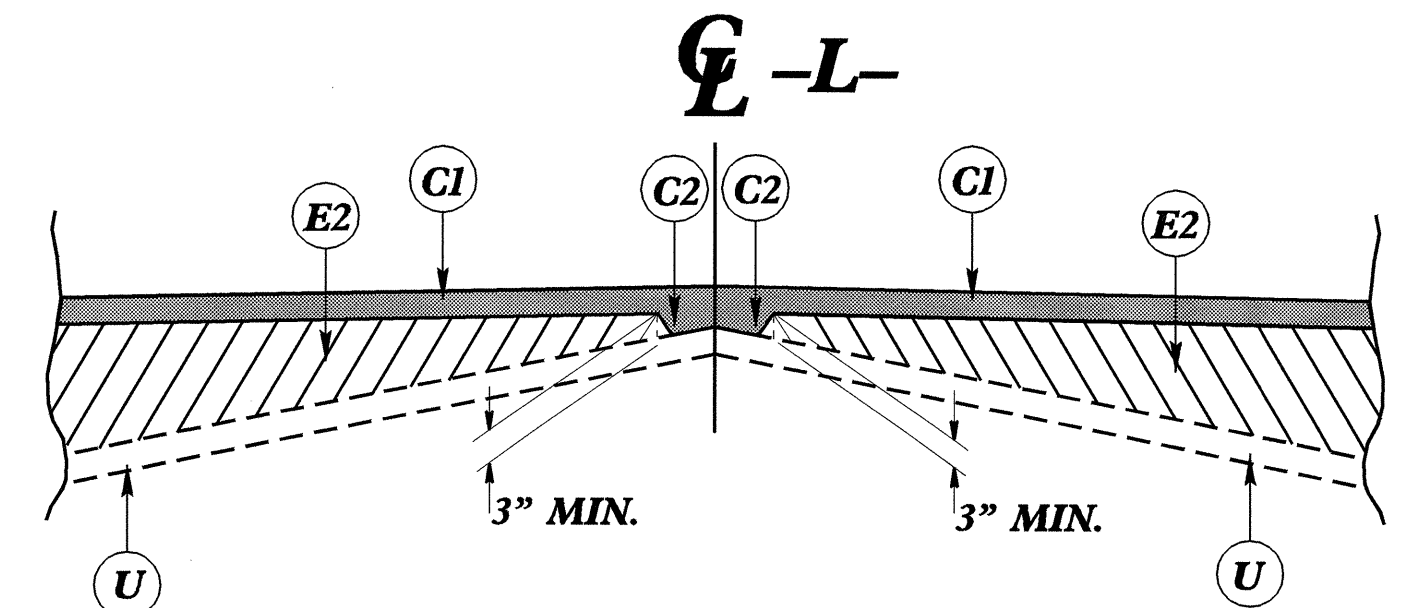
FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 1" IN DEPTH OR GREATER THAN 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.
J1	PROP. 6" AGGREGATE BASE COURSE.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

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

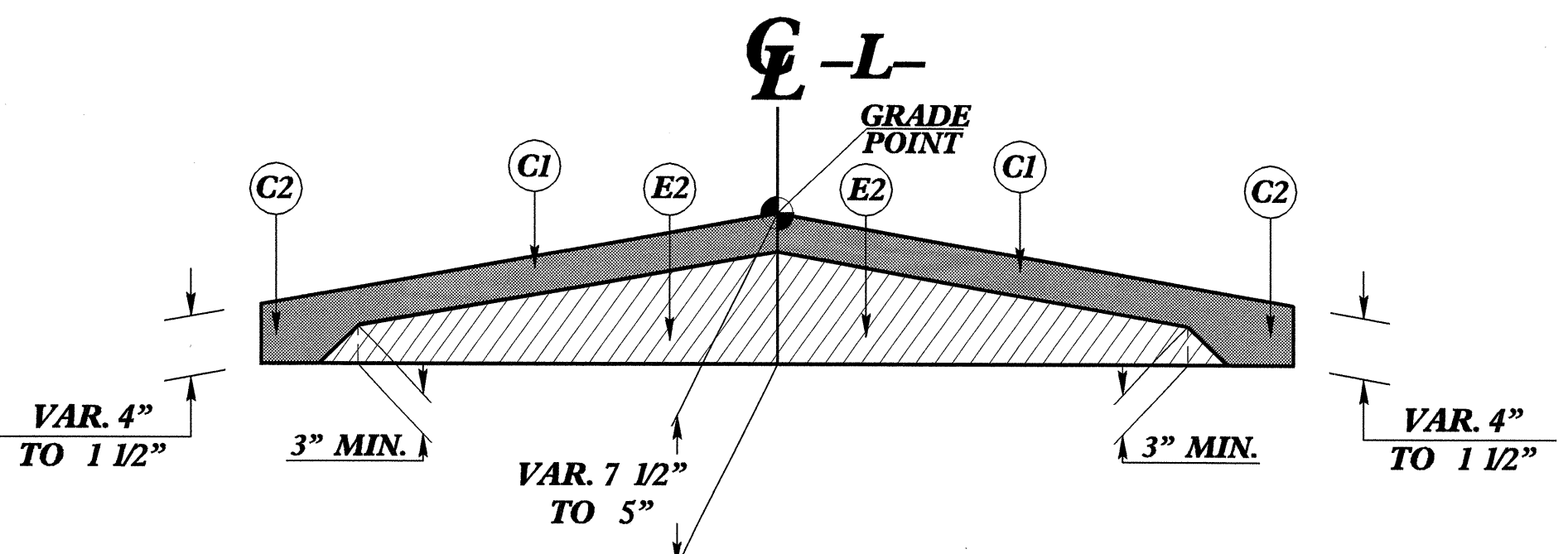


TYPICAL SECTION NO. 4

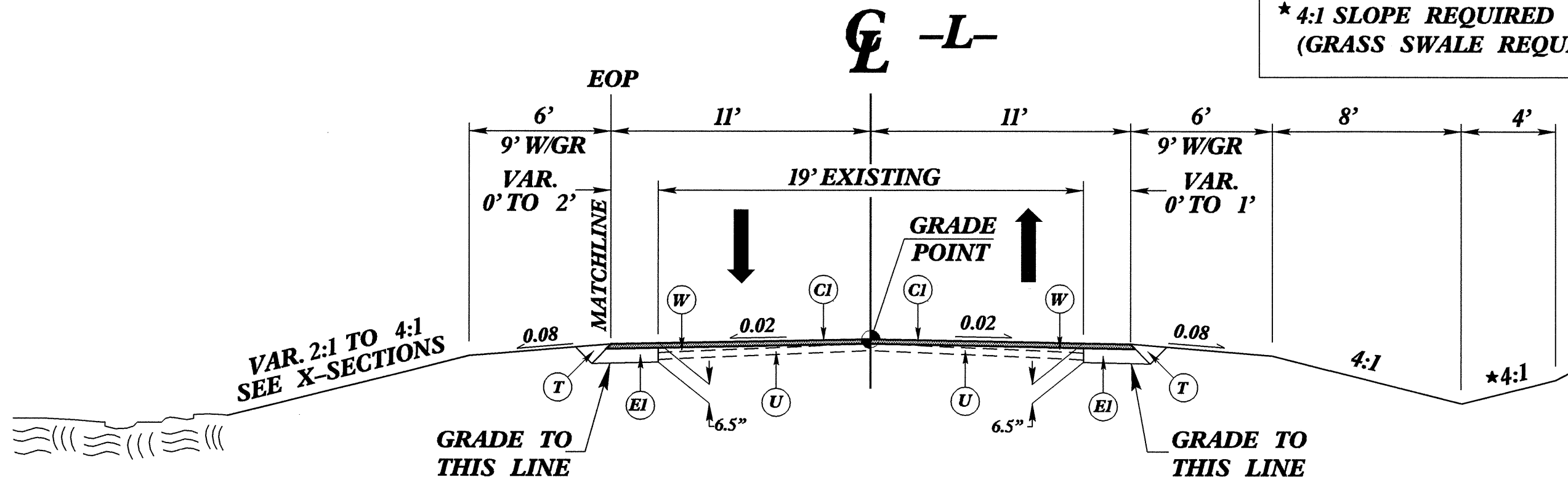
BOX BEAM BRIDGE
SEE STRUCTURE PLANS



DETAIL SHOWING METHOD OF WEDGING
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 1



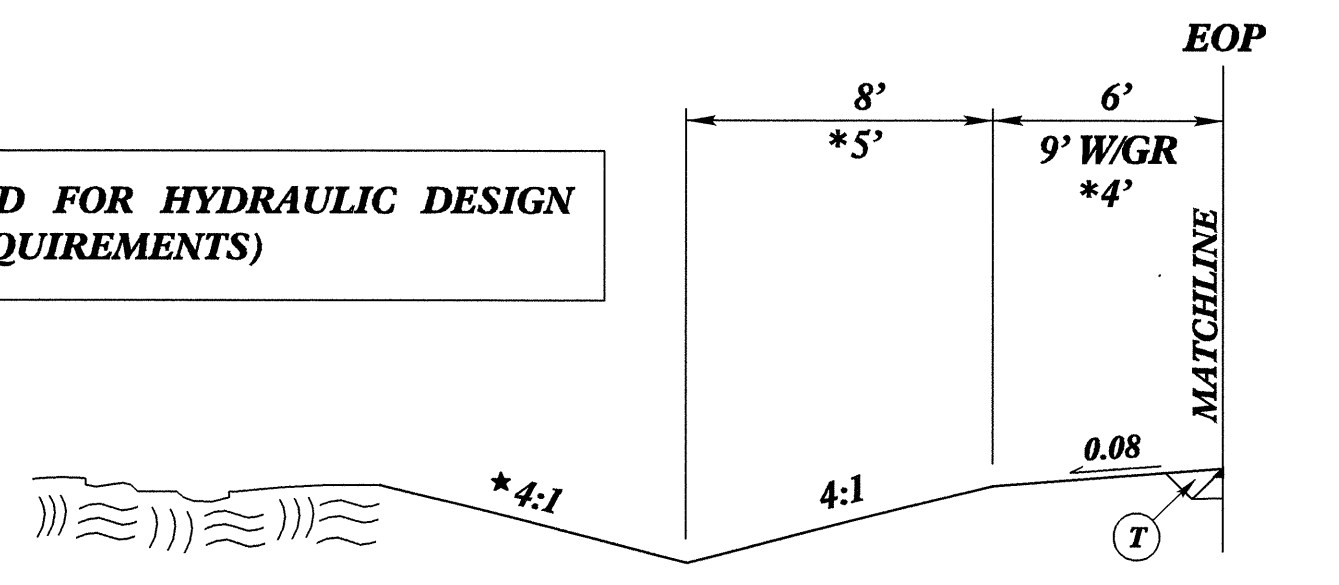
DETAIL SHOWING METHOD OF WEDGING ON BRIDGE
USE IN CONJUNCTION WITH TYPICAL SECTION NO. 4



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 4
AT THE FOLLOWING LOCATION:

- L- STA. 14+53.59 (BEGIN BRIDGE) TO
- L- STA. 15+23.59 (END BRIDGE)



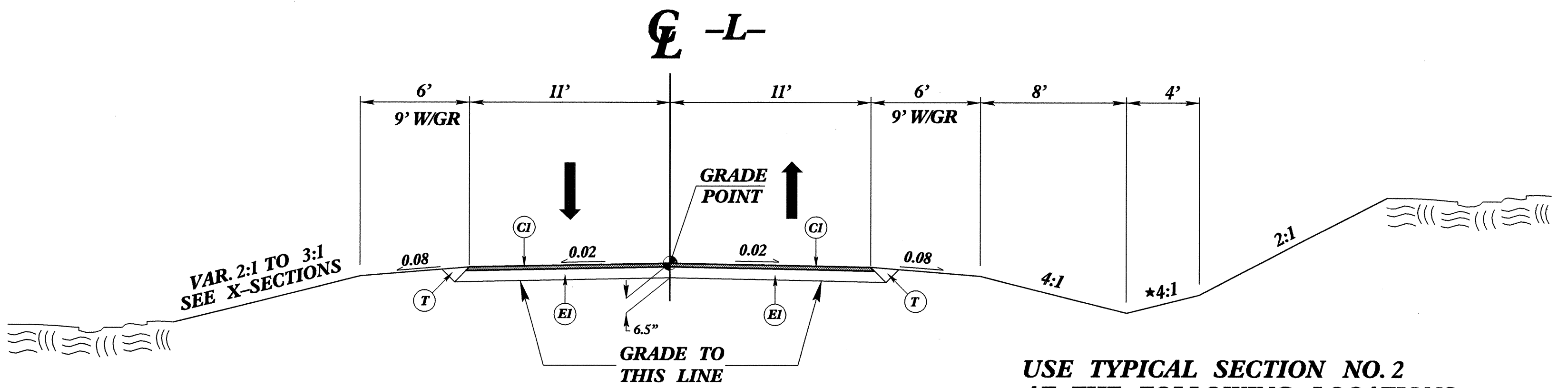
TYPICAL SECTION NO. 1A

USE TYPICAL SECTION NO. 1
AT THE FOLLOWING LOCATIONS:

- TRANSITION FROM EXISTING @ -L- STA. 10+50.00 TO TYPICAL SECTION NO. 1 @ -L- STA. 11+50.00
- L- STA. 11+50.00 TO 14+00.00
- L- STA. 15+75.00 TO 18+00.00
- TRANSITION FROM TYPICAL SECTION NO. 1 @ -L- STA. 18+00.00 TO EXISTING @ -L- STA. 19+00.00

USE TYPICAL SECTION NO. 1A
IN CONJUNCTION WITH T.S. NO. 1
AT THE FOLLOWING LOCATIONS:

- L- STA. 12+25.00 TO 14+00.00 LT.
- L- STA. 17+00.00 TO 18+00.00 LT.
- *-L- STA. 18+00.00 TO 19+00.00 LT.

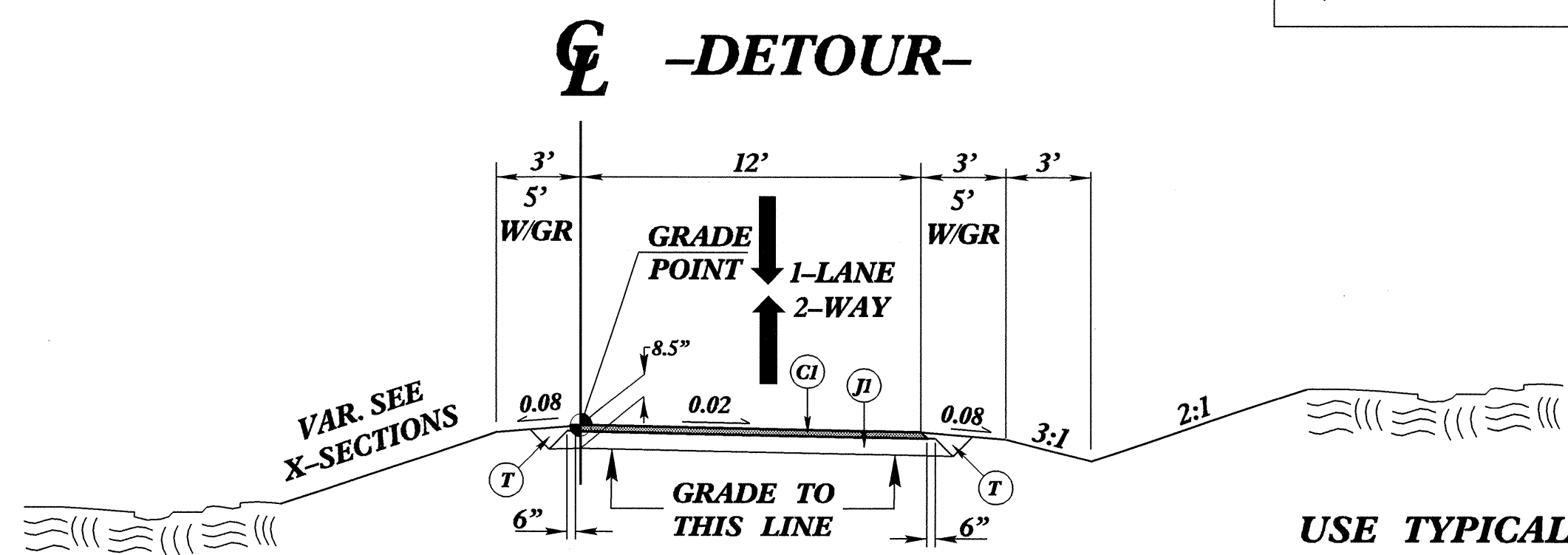


TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
AT THE FOLLOWING LOCATIONS:

- L- STA. 14+00.00 TO STA. 14+53.59 (BEGIN BRIDGE)
- L- STA. 15+23.59 (END BRIDGE) TO STA. 15+75.00

* 4:1 SLOPE REQUIRED FOR HYDRAULIC DESIGN
(GRASS SWALE REQUIREMENTS)



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3
AT THE FOLLOWING LOCATIONS:

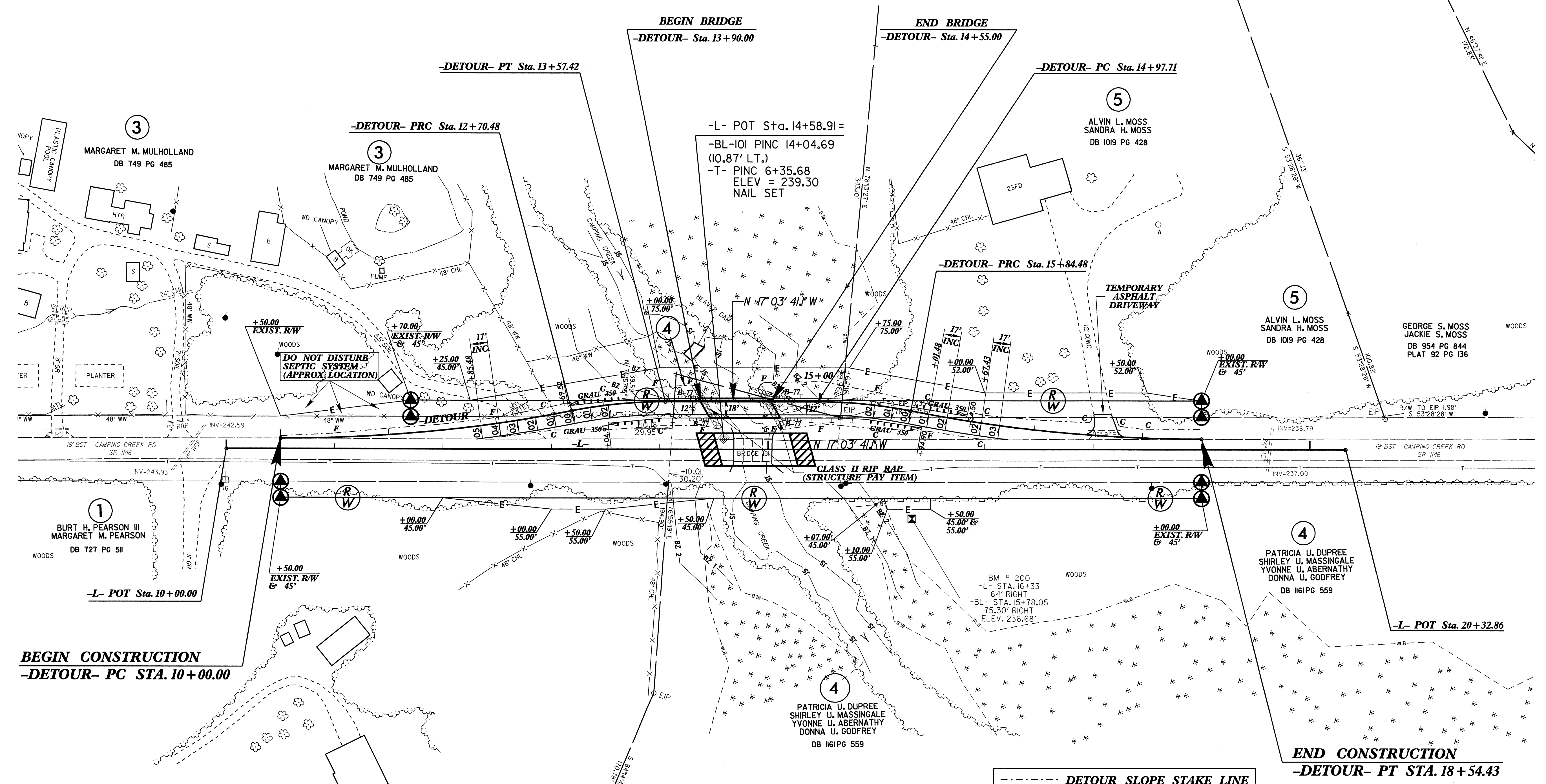
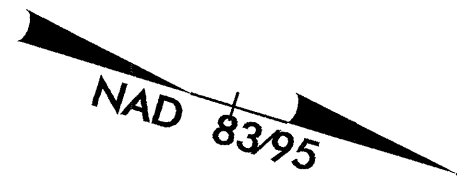
- DETOUR- STA. 10+00.00 TO STA. 13+90.00 (BEGIN BRIDGE)
- DETOUR- STA. 14+55.00 (END BRIDGE) TO STA. 18+54.43

PROJECT REFERENCE NO. B-4114	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033298 JEFFREY L. DEBOLE 12/17/08	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22896 CLARK S. MORRISON 12/14/08

08-DEC-2008 14h20
S:\PROJECTS\B-4114-r.dj.tup.dgn

-DETOUR-			
PI Sta 11+35.66 N 17° 03' 41" W (BACK) Δ = 11' 04' 10.2" (LT) D = 4' 05' 33.2" L = 270.48' T = 135.66' R = 1,400.00' SE = 0.02 RO = SEE PLANS	PI Sta 13+14.08 Δ = 11' 04' 10.2" (RT) D = 12' 43' 56.6" L = 86.94' T = 43.61' R = 450.00' SE = 0.02 RO = SEE PLANS	PI Sta 15+41.23 Δ = 11' 02' 51.8" (RT) D = 12' 43' 56.6" L = 86.77' T = 43.52' R = 450.00' SE = 0.02 RO = SEE PLANS	PI Sta 17+19.87 N 17° 03' 41" W (AHEAD) Δ = 11' 02' 51.8" (LT) D = 4' 05' 33.2" L = 269.95' T = 135.39' R = 1,400.00' SE = 0.02 RO = SEE PLANS

-DETOUR-



BEGIN CONSTRUCTION
-DETOUR- PC STA. 10+00.00

END CONSTRUCTION
-DETOUR- PT STA. 18+54.43

- DETOUR SLOPE STAKE LINE
- NOTES:**
- 1.) FOR -L- PLAN VIEW SEE SHEET 4
 - 2.) FOR -L- PROFILE SEE SHEET 5
 - 3.) FOR -DETOUR- PROFILE SEE SHEET 5
 - 4.) ALL DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE ON PLANS.

REVISIONS

8/17/99

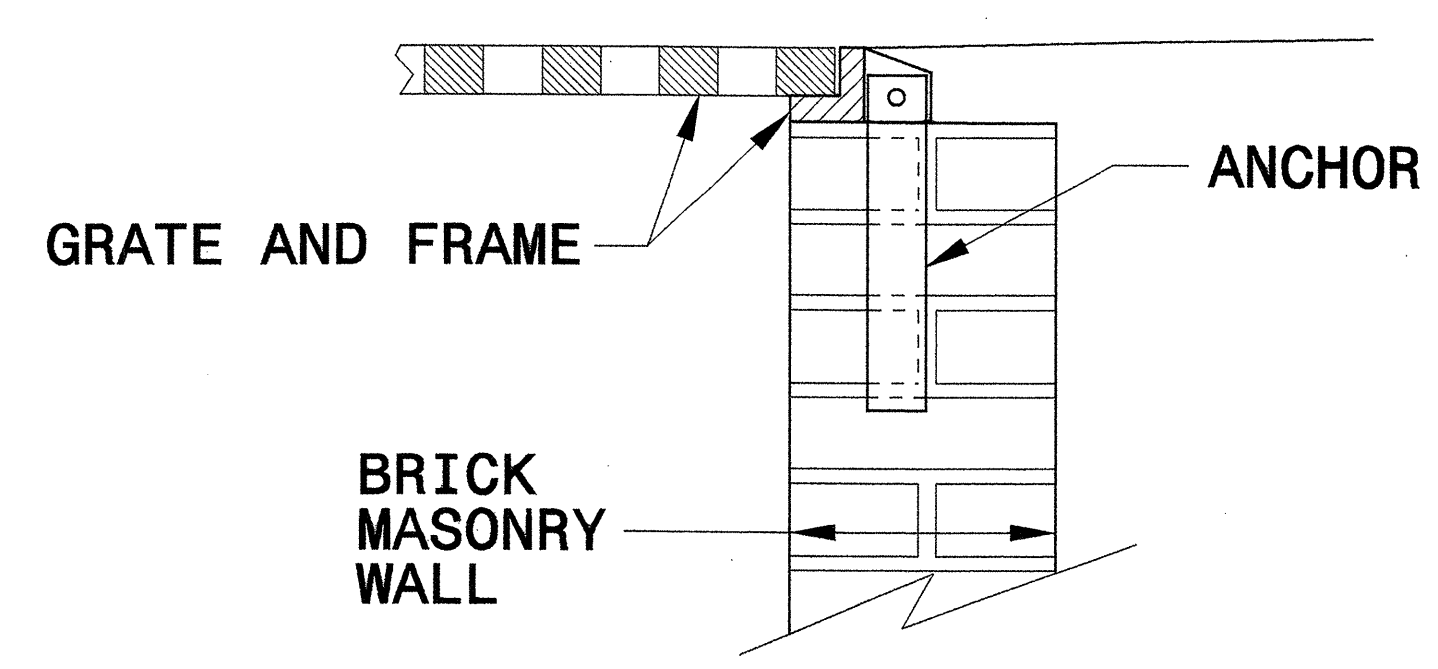
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STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

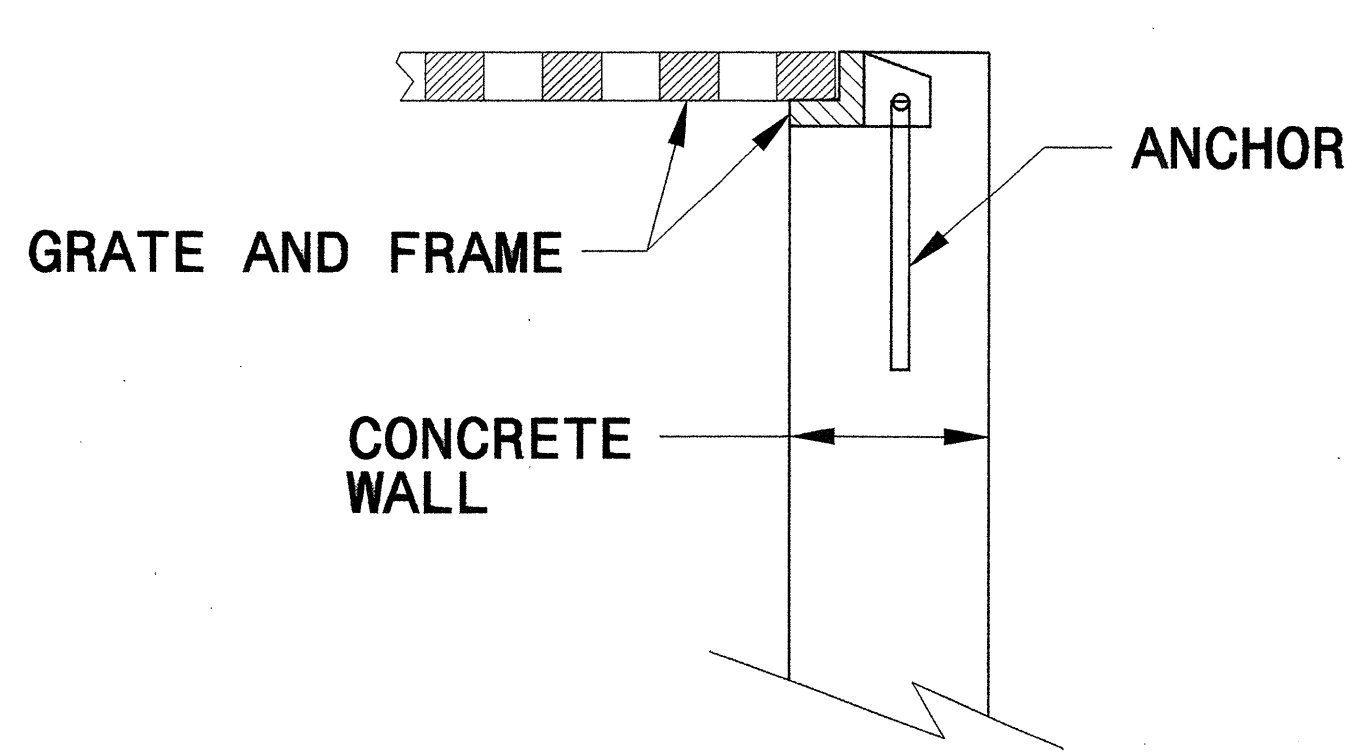
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

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

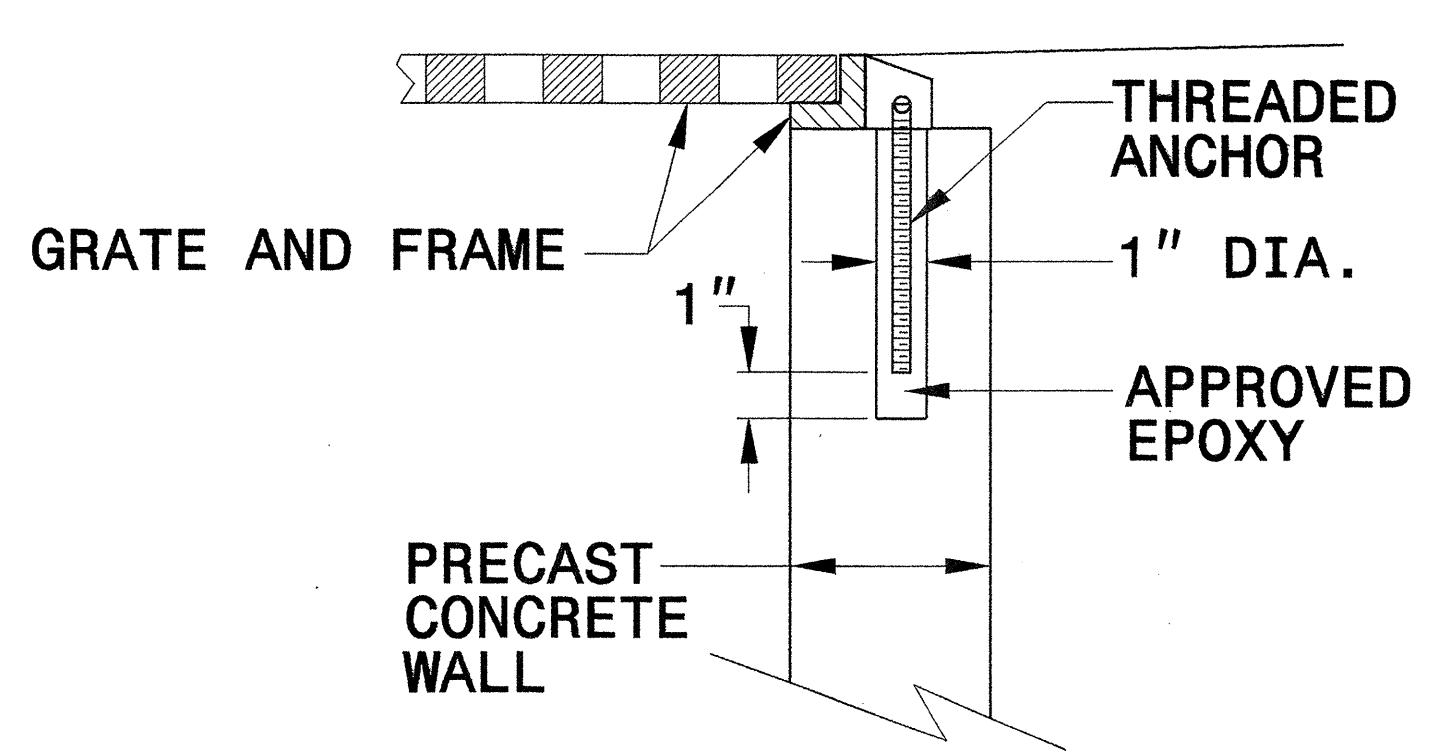
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE



BRICK MASONRY CONSTRUCTION



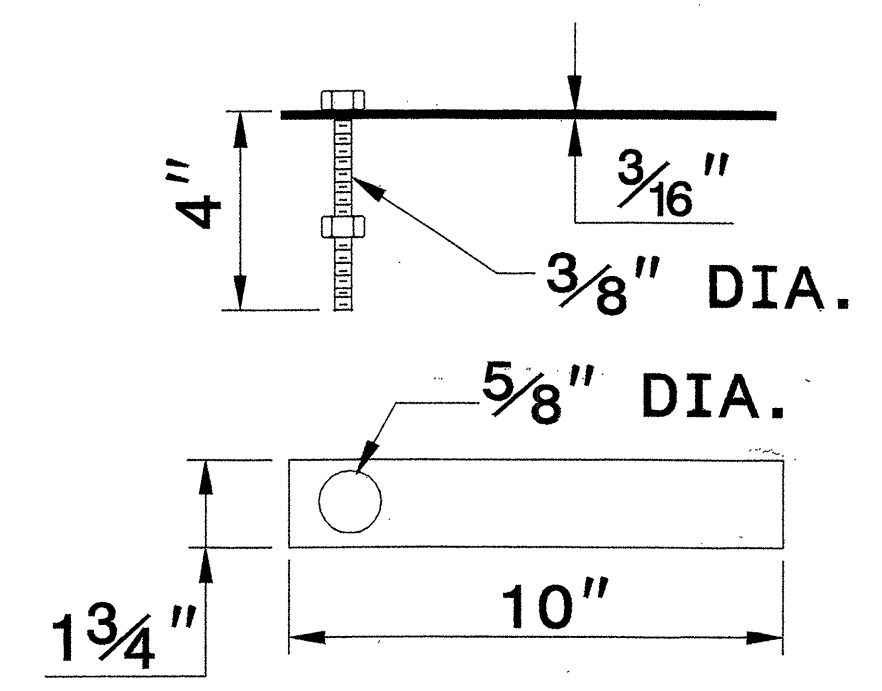
CONCRETE CONSTRUCTION



PRECAST CONCRETE CONSTRUCTION

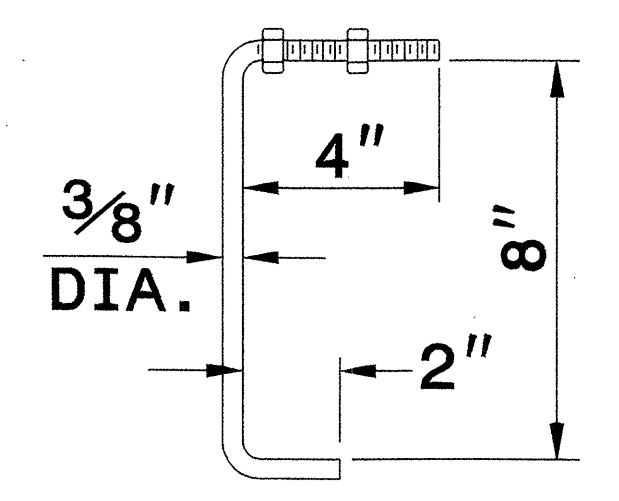
DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

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



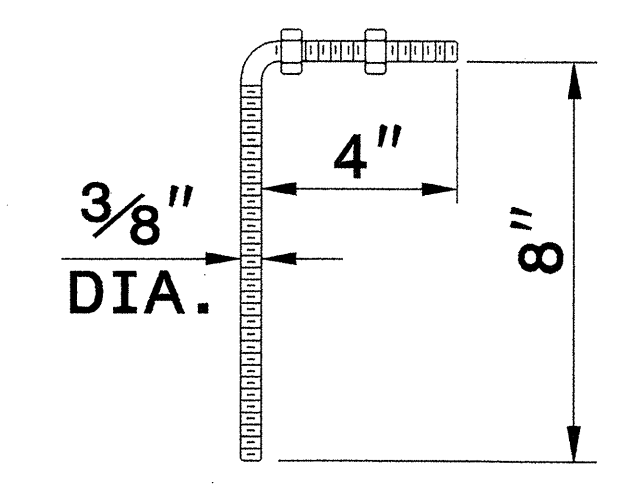
MASONRY ANCHOR

3/8" DIA. BOLT WITH PLATE



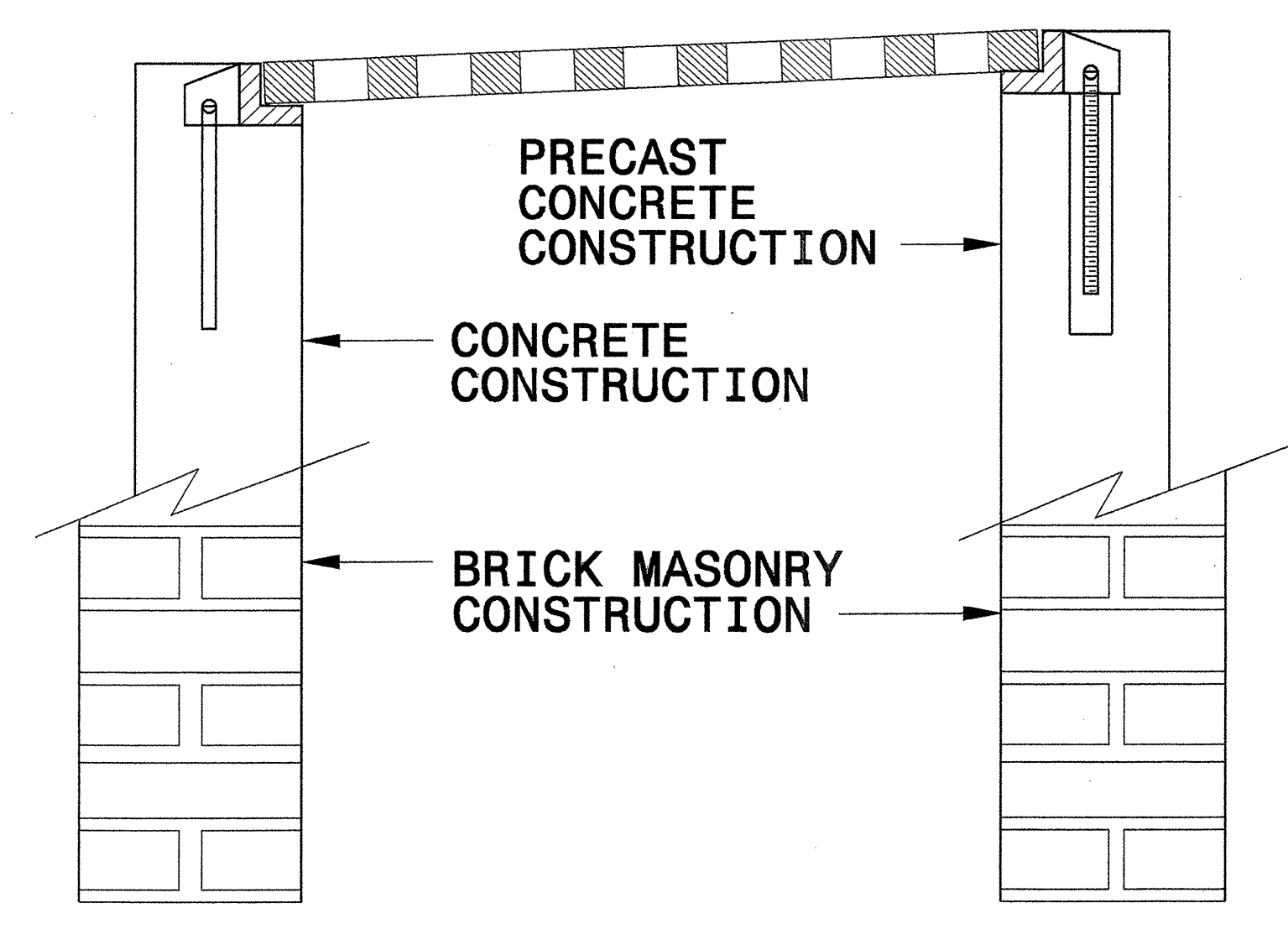
CONCRETE ANCHOR

3/8" DIA. BENT BAR



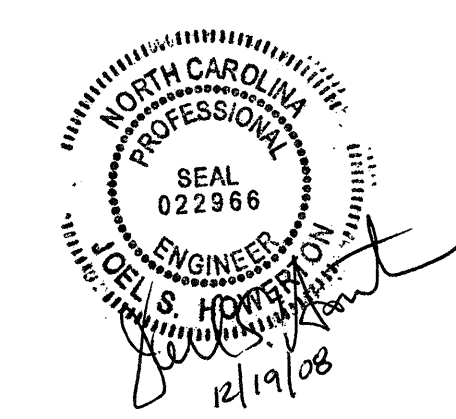
PRECAST CONCRETE ANCHOR

3/8" DIA. BENT BAR



FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$VENDOR\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



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

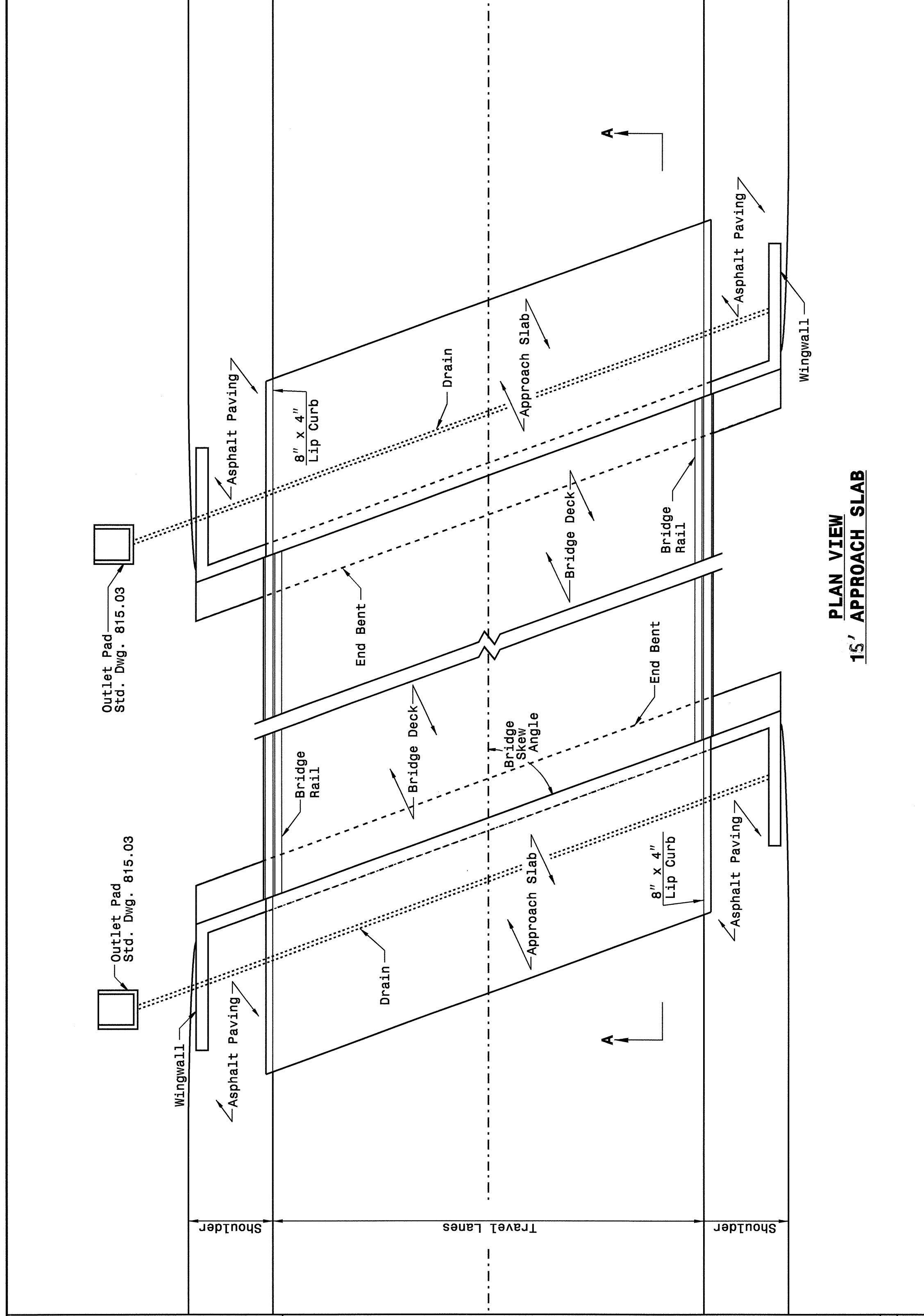
SEE PLATE FOR TITLE

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

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 1 OF 2
422D11



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

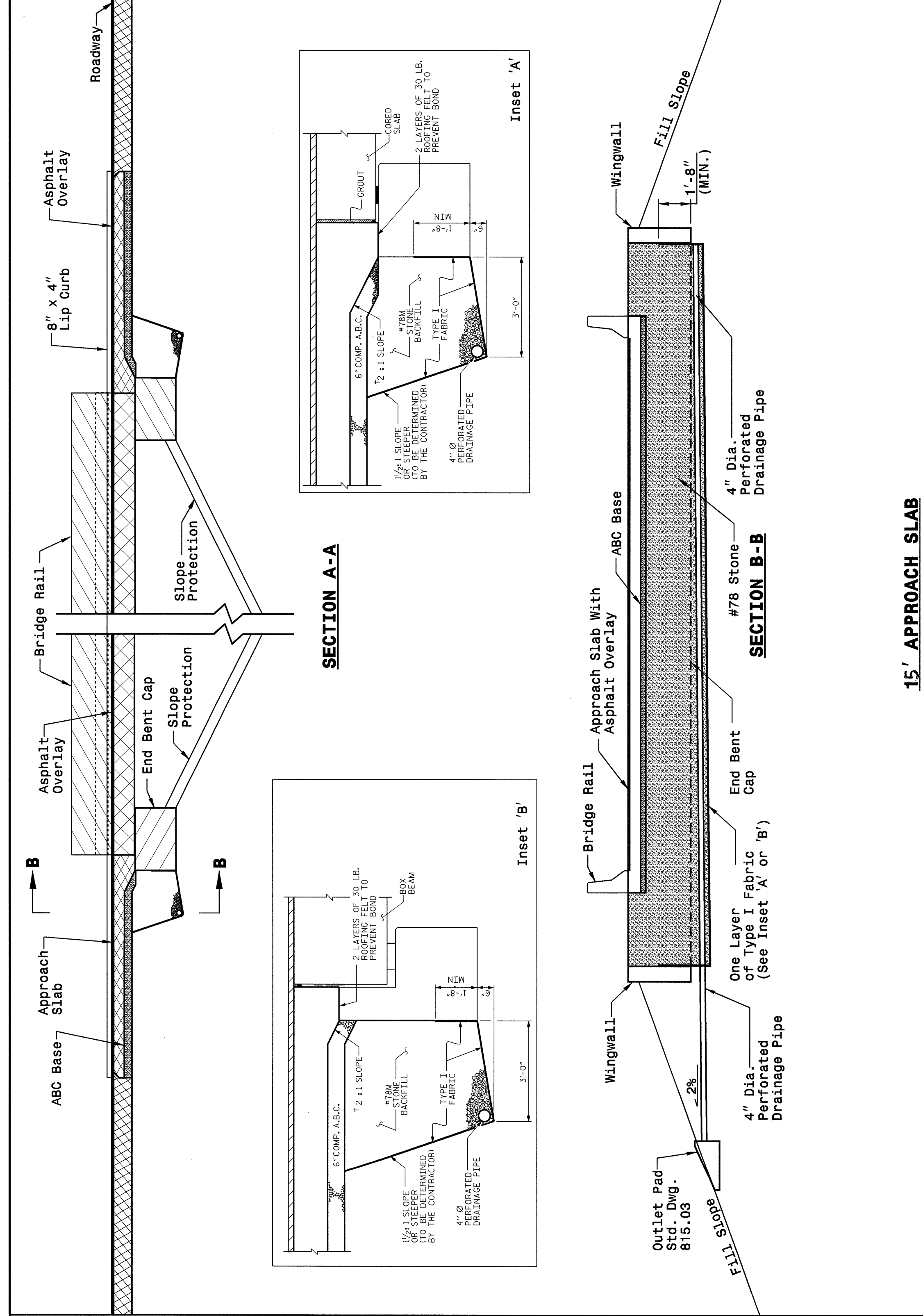
ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
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SHEET 1 OF 2
422D11

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
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ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11

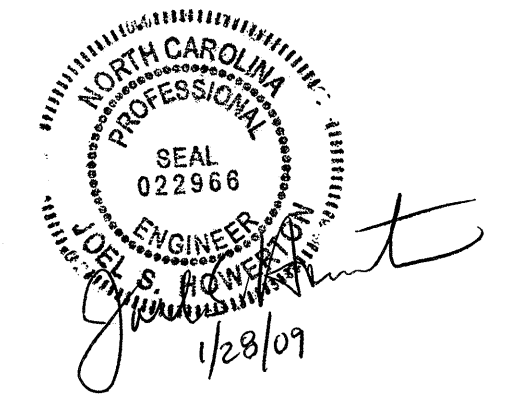


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

SHEET 2 OF 2
422D11

26 JUN 2008 15:32
s:\contracts\2008\spec\english\bridge approach fill.dgn
kkempf AT P5237485



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

BRIDGE APPROACH FILLS
CORED SLAB & BOX BEAM BRIDGES
SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
MODIFIED BY: DATE:
CHECKED BY: DATE: 4/27/09
FILE SPEC.: kkempf/english/bridge approach fills.dgn

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202099

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (14+88.59)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0195000000-E	265	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0343000000-E	310	36	LF	15" SIDE DRAIN PIPE
0366000000-E	310	108	LF	15" RC PIPE CULVERTS, CLASS III
0995000000-E	340	30	LF	PIPE REMOVAL
1121000000-E	520	310	TON	AGGREGATE BASE COURSE
1220000000-E	545	150	TON	INCIDENTAL STONE BASE
1489000000-E	610	450	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	520	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	54	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
1693000000-E	654	100	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	8	EA	RIGHT OF WAY MARKERS
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	110	LF	SHOULDER BERM GUTTER
2612000000-E	848	75	SY	6" CONCRETE DRIVEWAY
3030000000-E	862	500	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS

ItemNumber	Sec #	Quantity	Unit	Description
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3380000000-E	862	275	LF	TEMPORARY STEEL BM GUARDRAIL
3387000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** TEMPORARY (B-77)
3389100000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350 TEMPORARY
3635000000-E	876	12	TON	RIP RAP, CLASS II
3656000000-E	876	380	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4155000000-N	907	6	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	156	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	56	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	60	EA	DRUMS
4435000000-N	1135	30	EA	CONES
4445000000-E	1145	32	LF	BARRICADES (TYPE III)
4450000000-N	1150	2,000	HR	FLAGGER
4609000000-N	SP	270	DAY	GENERIC TRAFFIC CONTROL ITEM TEMPORARY TRAFFIC SIGNAL SYSTEM
4650000000-N	1251	101	EA	TEMPORARY RAISED PAVEMENT MARKERS
4810000000-E	1205	16,016	LF	PAINT PAVEMENT MARKING LINES (4")
4835000000-E	1205	40	LF	PAINT PAVEMENT MARKING LINES (24")
4850000000-E	1205	1,200	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4870000000-E	1205	20	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
4900000000-N	1251	13	EA	PERMANENT RAISED PAVEMENT MARKERS

ItemNumber	Sec #	Quantity	Unit	Description
6000000000-E	1605	2,150	LF	TEMPORARY SILT FENCE
6006000000-E	1610	200	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	170	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	170	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	4.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	100	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING
6029000000-E	SP	600	LF	SAFETY FENCE
6030000000-E	1630	570	CY	SILT EXCAVATION
6036000000-E	1631	2,600	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	30	SY	COIR FIBER MAT
6042000000-E	1632	310	LF	1/4" HARDWARE CLOTH
6071030000-E	SP	250	LF	COIR FIBER BAFFLES
6071050000-E	SP	5	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	5.5	ACR	SEEDING & MULCHING
6087000000-E	1660	3	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	75	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	1.75	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	5	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	27	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.3	ACR	REFORESTATION

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

★SUMMARY OF EARTHWORK
 IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT +%	BORROW	WASTE
-DETOUR-					
10+00.00 TO 13+93.46	87	0	197	110	0
14+58.45 TO 18+54.43	57	0	742	685	0
SUBTOTAL	144	0	939	795	0
-L-					
10+50.00 TO 14+53.59	449	0	348	0	101
15+23.59 TO 19+00.00	49	0	256	207	0
SUBTOTAL	498	0	604	207	101
DETOUR REMOVAL					
10+00.00 TO 13+93.46	176	0	138	0	38
14+58.45 TO 18+54.43	734	0	88	0	646
SUBTOTAL	910	0	226	0	684
TOTAL	1,552	0	1,769	1,002	785
WASTE TO BE USED IN LIEU OF BORROW				-101	-101
PROJECT TOTAL	1,552	0	1,769	901	684
UNCLASSIFIED STRUCTURE EXCAVATION TO BE USED IN LIEU OF BORROW (QUANTITY IS FROM STRUCTURE PLANS)				-106	
GRAND PROJECT TOTAL	1,552			795	684
EST. 5% TO REPLACE TOPSOIL ON BORROW PIT				40	
GRAND TOTALS	1,552			835	684
SAY	1,600			850	700

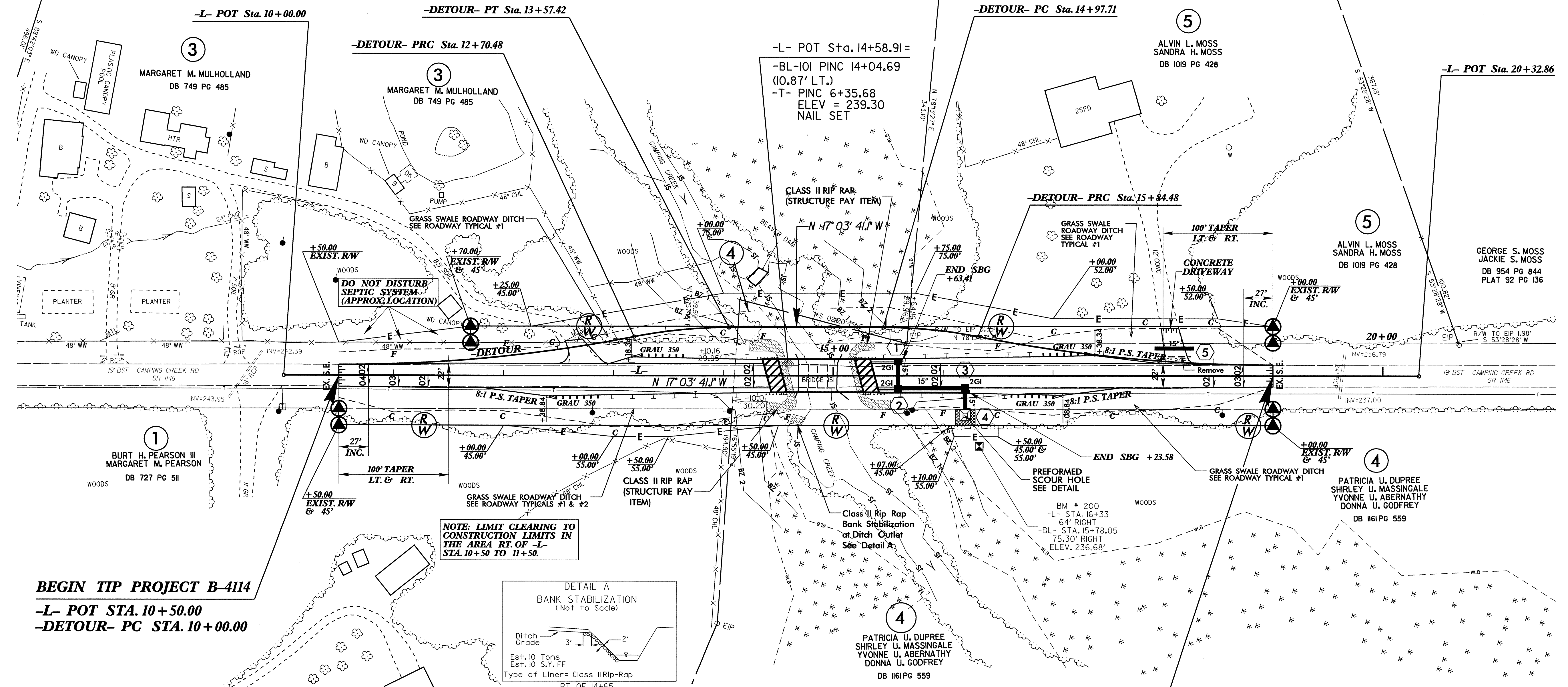
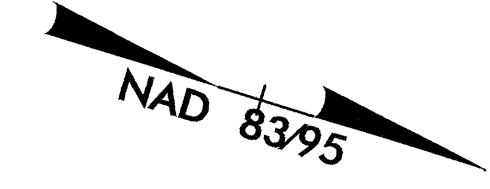
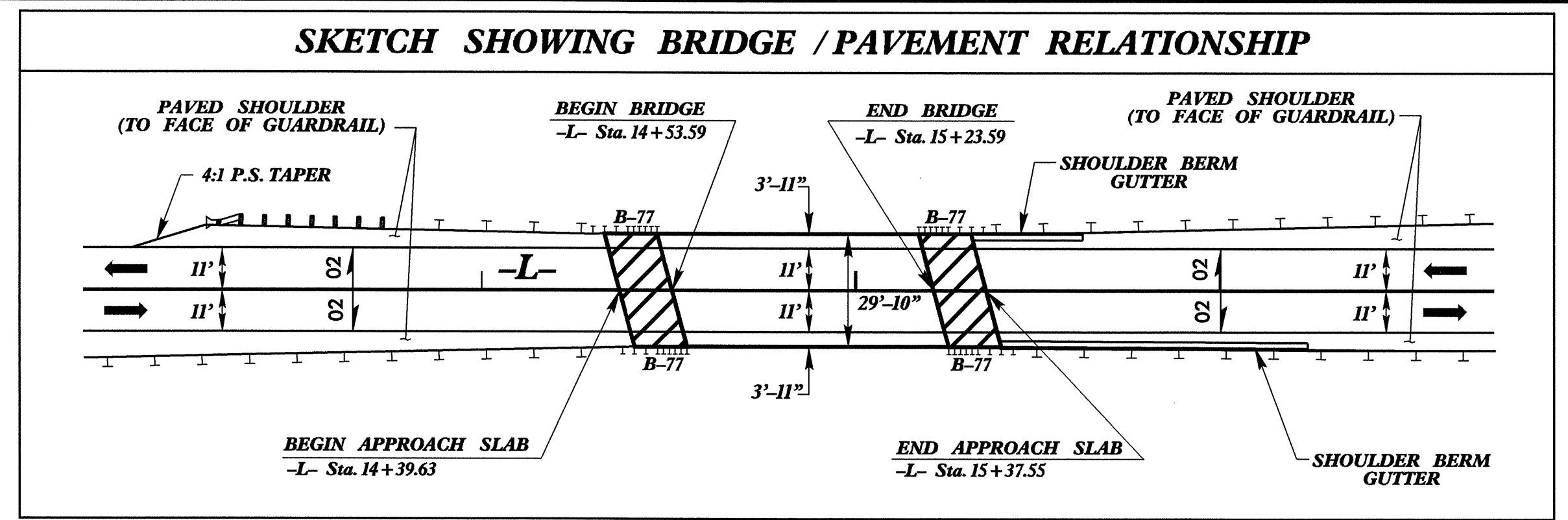
EST. UNDERCUT = 200 CU. YDS.

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.

★ASPHALT PAVEMENT REMOVAL AND BREAKING SUMMARY
 IN SQUARE YARDS

LINE	STATION TO STATION	LOCATION	REMOVAL	BREAK-UP
-L-	14+00.00 TO 14+68.00	EXISTING ROADBED	148	0
-L-	15+04.00 TO 15+75.00	EXISTING ROADBED	147	0
-DETOUR-	10+00.00 TO 11+80.00	TEMPORARY PAVEMENT	57	0
-DETOUR-	11+80.00 TO 13+90.00	TEMPORARY PAVEMENT	280	0
-DETOUR-	14+55.00 TO 16+77.00	TEMPORARY PAVEMENT	296	0
-DETOUR-	16+77.00 TO 18+54.43	TEMPORARY PAVEMENT	56	0
		TOTAL	984	0
		SAY	1,000	

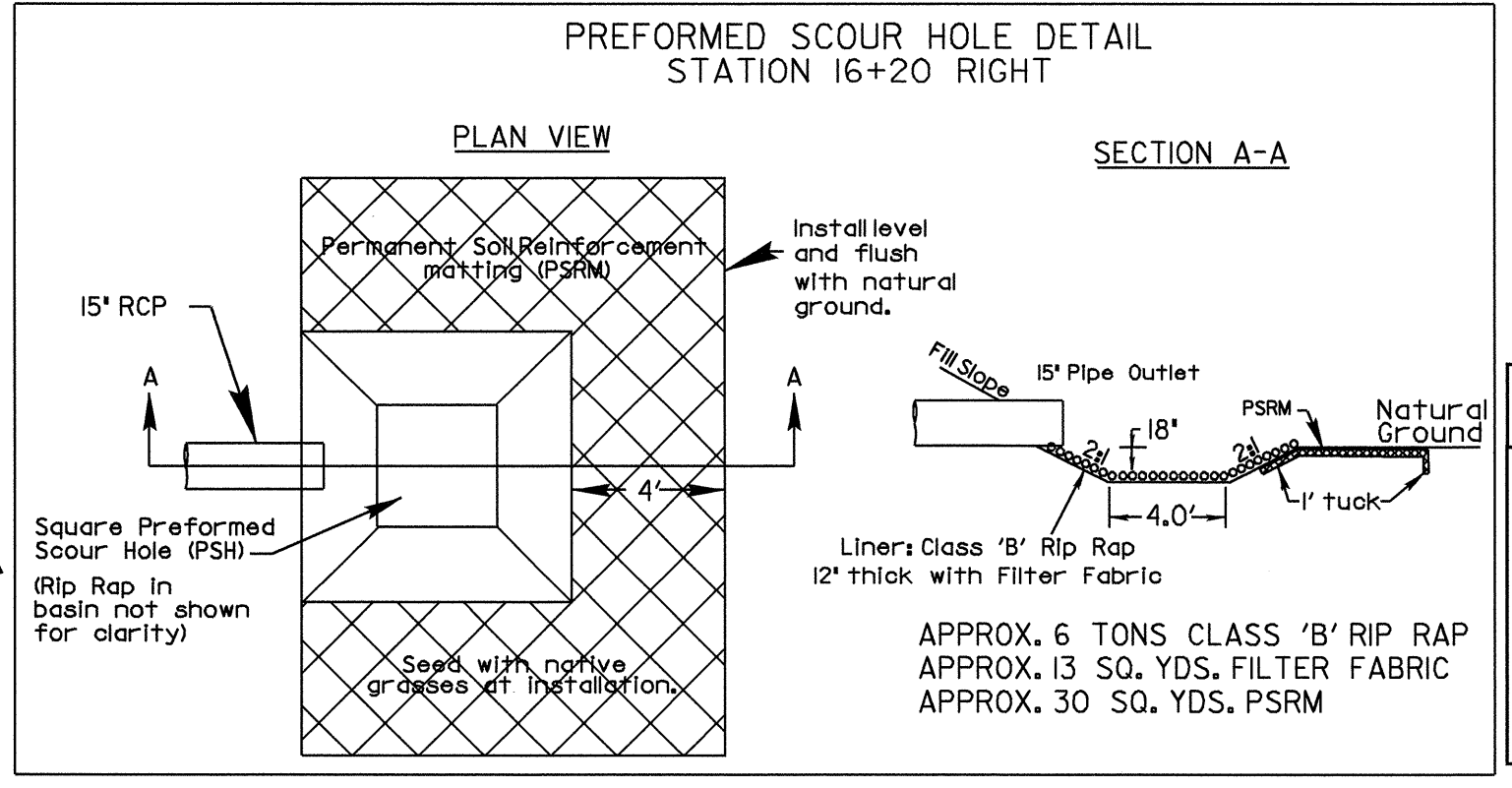
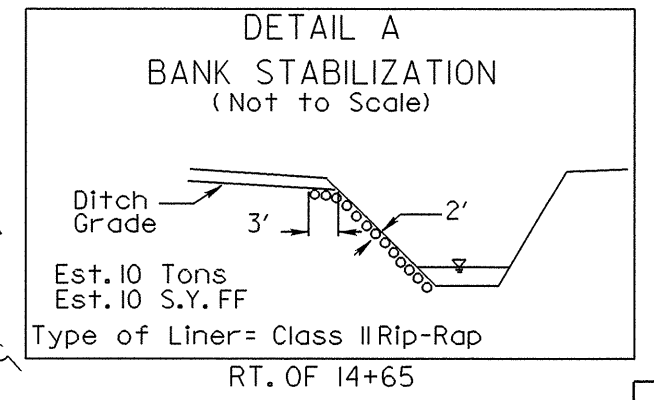
★ APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING".



BEGIN TIP PROJECT B-4114
-L- POT STA. 10+50.00
-DETOUR- PC STA. 10+00.00

END TIP PROJECT B-4114
-L- POT STA. 19+00.00
-DETOUR- PT STA. 18+54.43

-DETOUR-			
PI Sta 11+35.66	PI Sta 13+14.08	PI Sta 15+41.23	PI Sta 17+19.87
N 17° 03' 41.1" W (BACK)	Δ = 11° 04' 10.2" (RT)	Δ = 11° 02' 51.8" (RT)	N 17° 03' 41.1" W (AHEAD)
Δ = 11° 04' 10.2" (LT)	D = 12° 43' 56.6"	D = 12° 43' 56.6"	Δ = 11° 02' 51.8" (LT)
L = 4° 05' 33.2"	L = 86.94'	L = 86.77'	D = 4° 05' 33.2"
T = 270.48'	T = 43.61'	T = 43.52'	T = 269.95'
R = 135.66'	R = 450.00'	R = 450.00'	T = 135.39'
R = 1,400.00'	SE = 0.02	SE = 0.02	R = 1,400.00'
SE = 0.02	RO = SEE PLANS	RO = SEE PLANS	SE = 0.02
RO = SEE PLANS			RO = SEE PLANS



- NOTES:**
- 1.) FOR -L- PROFILE SEE SHEET 5
 - 2.) FOR -DETOUR- PLAN VIEW SEE SHEET 2-A
 - 3.) FOR -DETOUR- PROFILE SEE SHEET 5
 - 4.) ALL DRIVEWAY RADII ARE 10' UNLESS NOTED OTHERWISE ON PLANS.
 - 5.) FOR STRUCTURE PLANS SEE SHEETS S-1 THRU S-18

REVISIONS

8/17/99

17-DEC-2008 06:47
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DITCH LEGEND
 RIGHT DITCH -----
 LEFT DITCH -----

PROJECT REFERENCE NO. **B-4114** SHEET NO. **5**
 ROADWAY DESIGN ENGINEER
 HYDRAULICS ENGINEER

SEAL 033298
 JEFFREY L. TEAGUE
 ENGINEER
 12/17/08

SEAL 22100
 NORTH CAROLINA PROFESSIONAL ENGINEER
 12/17/08

