

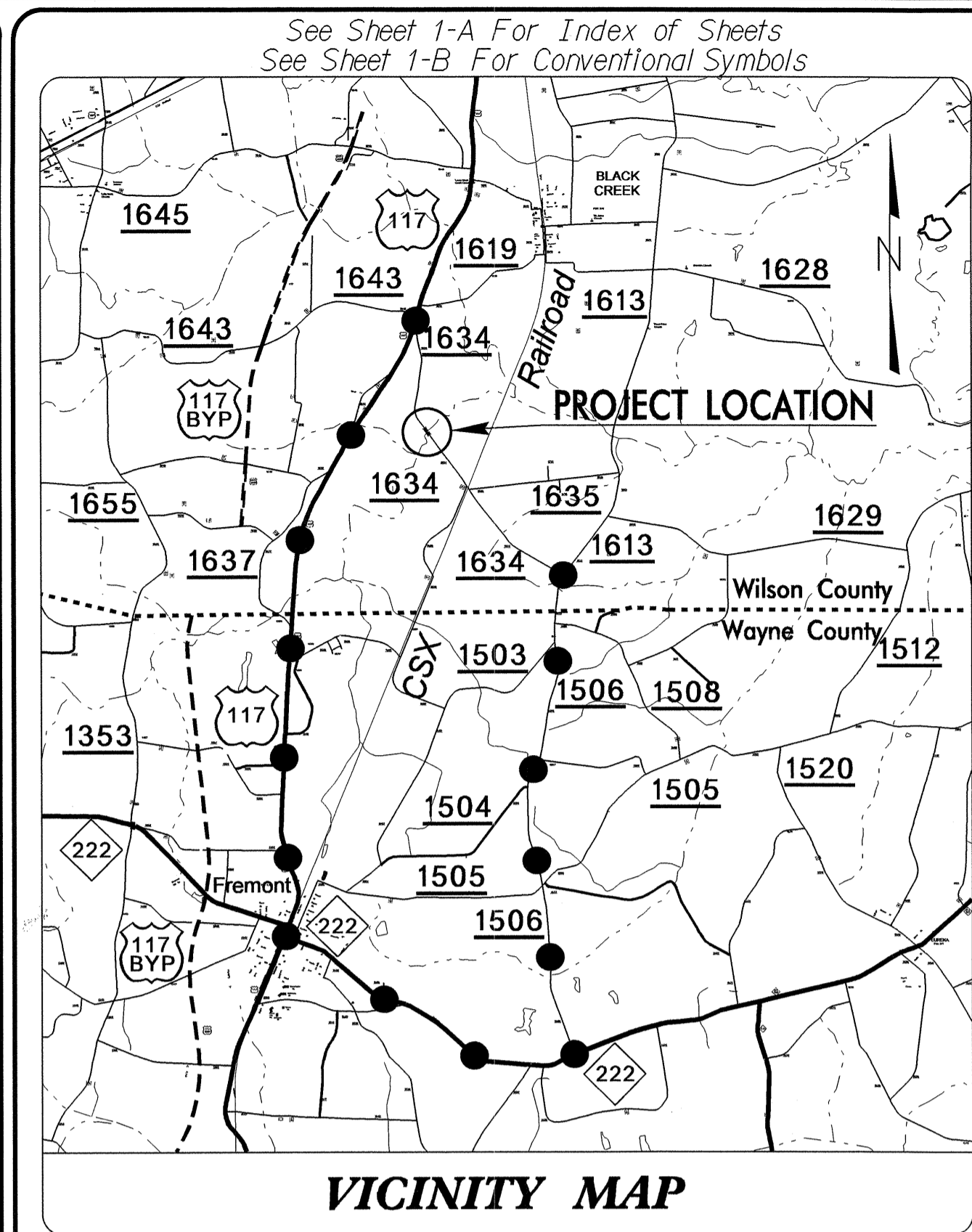
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4328	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33665.1.1	BRZ-1634(4)	PE	
33665.2.1	BRZ-1634(4)	RW, UTIL	
33665.3.1	BRZ-1634(4)	CONST.	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

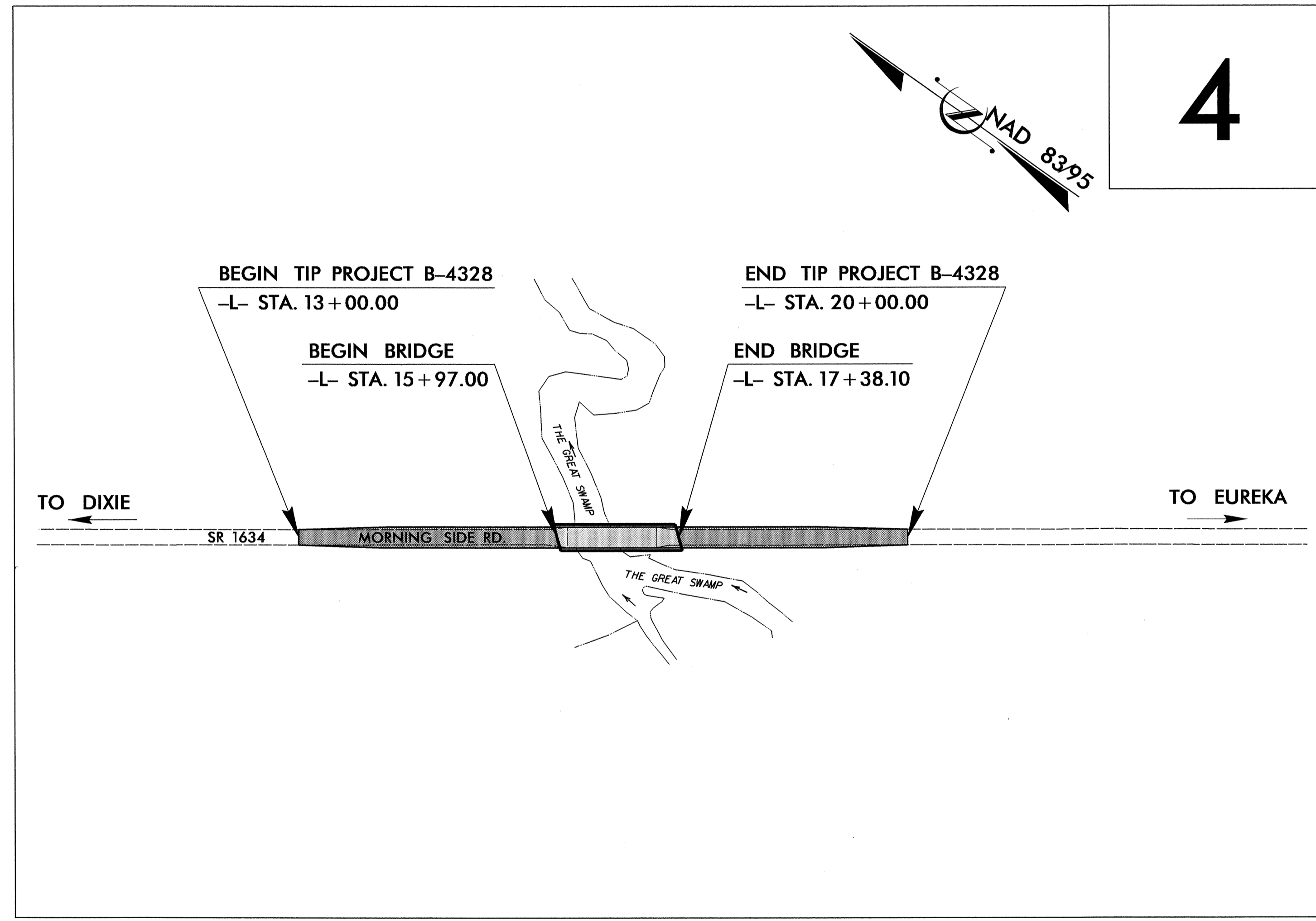
WILSON COUNTY

LOCATION: BRIDGE No. 3 OVER GREAT SWAMP ON SR 1634 (MORNING SIDE ROAD)

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

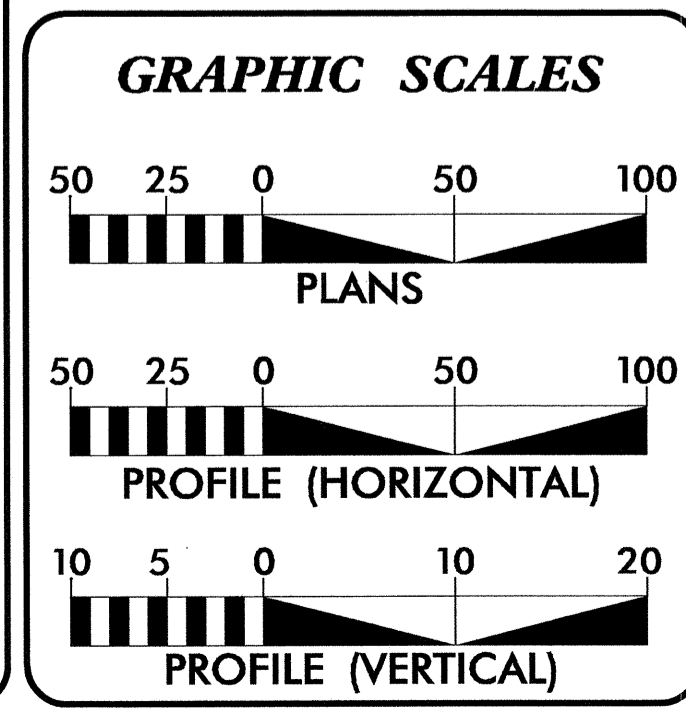


●●● OFF-SITE DETOUR ROUTE



TIP PROJECT: B-4328

CONTRACT: C202726



DESIGN DATA

ADT 2011 =	1090 VPD
ADT 2030 =	2000 VPD
DHV =	60 %
D =	13 %
T =	3 % *
V =	60 MPH
* TTST 1 %	DUAL 2 %
FUNC. CLASS =	LOCAL
SUB REGIONAL TIER	

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4328	=	0.106 MI
LENGTH STRUCTURE TIP PROJECT B-4328	=	0.027 MI
TOTAL LENGTH TIP PROJECT B-4328	=	0.133 MI

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

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
NOVEMBER 9, 2010

LETTING DATE:
NOVEMBER 15, 2011

JAMES A. SPEER, P.E.
PROJECT ENGINEER

NYA K. BOAYUE, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

PROFESSIONAL SEAL
NOVEMBER 15, 2011

ROADWAY DESIGN ENGINEER

PROFESSIONAL SEAL
NOVEMBER 15, 2011

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE HIGHWAY DESIGN ENGINEER

Ant McMillan P.E.

I:\AUG-2011\16:20...C202726\proj\B4328_rdy_tsh.dgn

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	□
Parcel/Sequence Number	⑫③
Existing Fence Line	—x—x—x—
Proposed Woven Wire Fence	—○—
Proposed Chain Link Fence	—□—
Proposed Barbed Wire Fence	—◇—
Existing Wetland Boundary	---WLB---
Proposed Wetland Boundary	---WLB---
Existing Endangered Animal Boundary	---EAB---
Existing Endangered Plant Boundary	---EPB---

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⊗
Foundation	▭
Area Outline	▭
Cemetery	⊕
Building	▭
School	▭
Church	⊕
Dam	▭

HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	▭
Jurisdictional Stream	---JS---
Buffer Zone 1	---BZ 1---
Buffer Zone 2	---BZ 2---
Flow Arrow	←
Disappearing Stream	→
Spring	○
Wetland	⊥
Proposed Lateral, Tail, Head Ditch	▭
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
Switch	□
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊕
Proposed Control of Access	⊕
Existing Easement Line	---E---
Proposed Temporary Construction Easement	---E---
Proposed Temporary Drainage Easement	---TDE---
Proposed Permanent Drainage Easement	---PDE---
Proposed Permanent Drainage / Utility Easement	---DUE---
Proposed Permanent Utility Easement	---PUE---
Proposed Temporary Utility Easement	---TUE---
Proposed Permanent Easement with Iron Pin and Cap Marker	◆

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	---C---
Proposed Slope Stakes Fill	---F---
Proposed Wheel Chair Ramp	⊕
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	▭

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	▭
Bridge Wing Wall, Head Wall and End Wall	▭
MINOR:	
Head and End Wall	▭
Pipe Culvert	▭
Footbridge	▭
Drainage Box: Catch Basin, DI or JB	▭
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	⊕
Proposed Joint Use Pole	⊕
Power Manhole	⊕
Power Line Tower	⊕
Power Transformer	⊕
UG 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	⊕
UG Telephone Cable Hand Hole	⊕
Recorded U/G Telephone Cable	-----
Designated U/G Telephone Cable (S.U.E.*)	-----
Recorded U/G Telephone Conduit	-----
Designated U/G Telephone Conduit (S.U.E.*)	-----
Recorded U/G Fiber Optics Cable	-----
Designated U/G Fiber Optics Cable (S.U.E.*)	-----

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊕
Water Hydrant	⊕
Recorded U/G Water Line	-----
Designated U/G Water Line (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Satellite Dish	⊕
TV Pedestal	⊕
TV Tower	⊕
UG TV Cable Hand Hole	⊕
Recorded U/G TV Cable	-----
Designated U/G TV Cable (S.U.E.*)	-----
Recorded U/G Fiber Optic Cable	-----
Designated U/G Fiber Optic Cable (S.U.E.*)	-----

GAS:

Gas Valve	⊕
Gas Meter	⊕
Recorded U/G Gas Line	-----
Designated U/G Gas Line (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

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

MISCELLANEOUS:

Utility Pole	●
Utility Pole with Base	⊕
Utility Located Object	○
Utility Traffic Signal Box	⊕
Utility Unknown U/G Line	-----
UG Tank; Water, Gas, Oil	▭
A/G Tank; Water, Gas, Oil	▭
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4328	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4328

BASELINE DATA

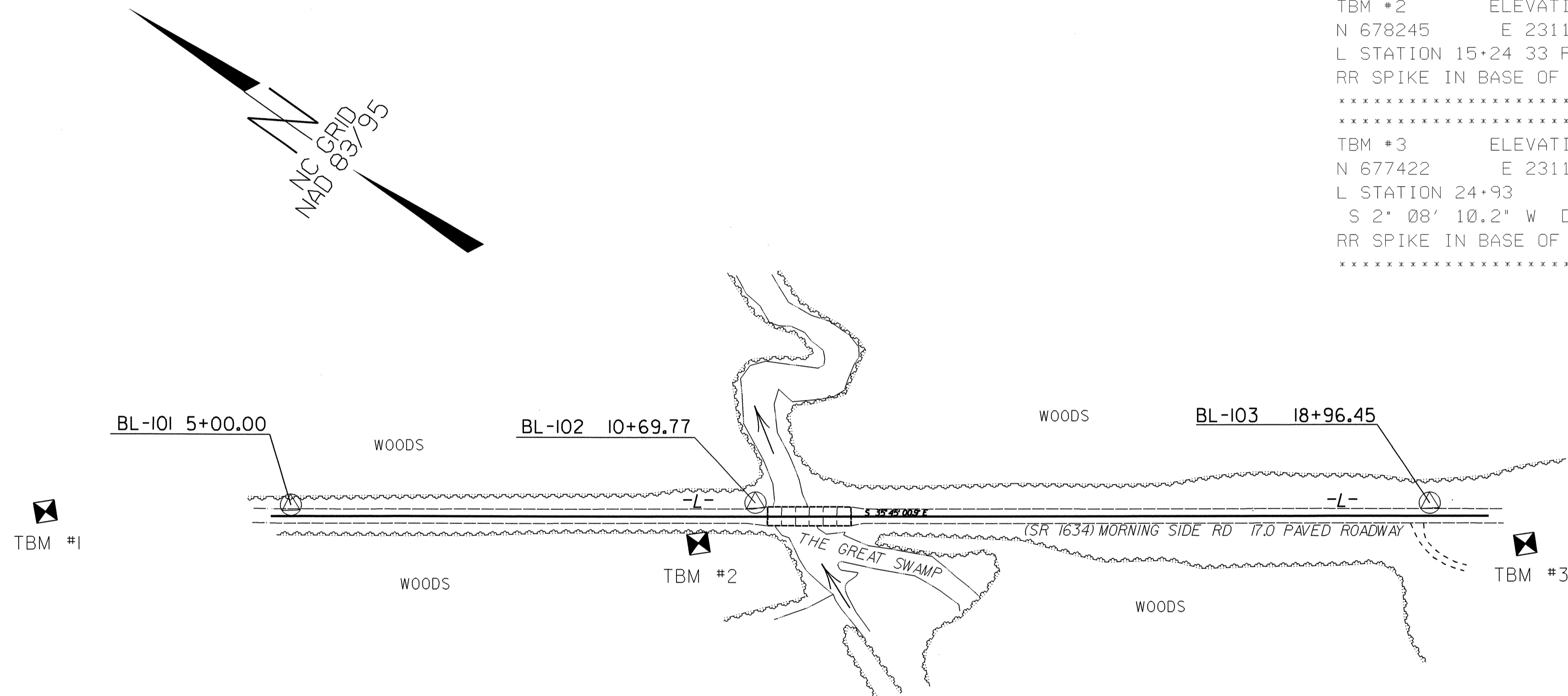
BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	678678.3250	2311153.5680	85.07	10+24.58	13.72 LT
102	BL-102	678217.9260	2311489.2350	84.07	15+94.34	17.15 LT
103	BL-103	677546.4830	2311971.4760	88.15	24+21.01	16.23 LT

BENCHMARK DATA

```

*****
TBM #1      ELEVATION = 86.78
N 678918    E 2310970
L STATION 10+00
N 34° 44' 33.0" W DIST 276.73
RR SPIKE IN BASE OF 30" OAK
*****
TBM #2      ELEVATION = 81.91
N 678245    E 2311408
L STATION 15+24 33 RIGHT
RR SPIKE IN BASE OF 20" SYCAMORE
*****
TBM #3      ELEVATION = 93.15
N 677422    E 2311998
L STATION 24+93
S 2° 08' 10.2" W DIST 56.74
RR SPIKE IN BASE OF POWER POLE
*****

```



NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/doh/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4328_LS_CONTROL_081121.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 SERVICE (OPUS)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4328-2" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 676953.994(ft) EASTING: 2312401.458(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99989306 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4328-2" TO -L- STATION 10+00.00 IS N 36°15'23.7" W 2153.16 FT. ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

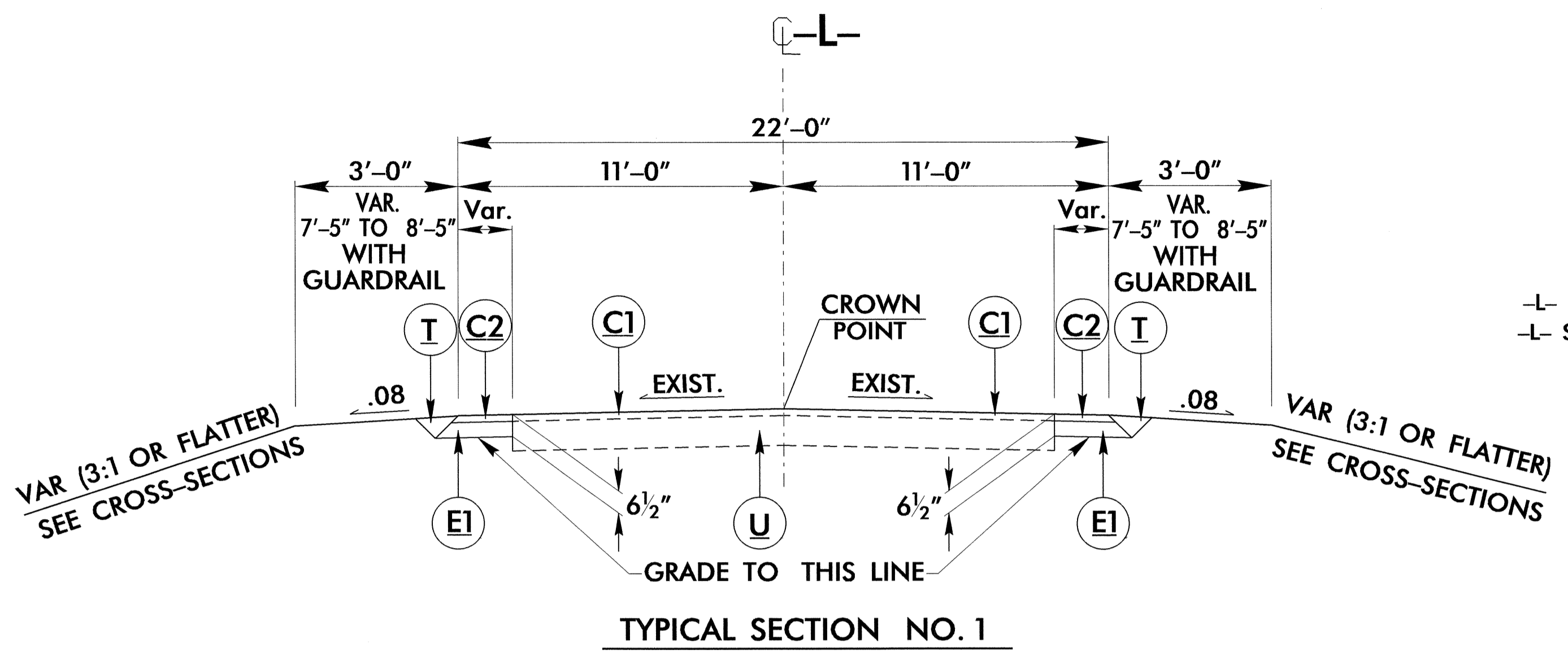
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6/2/99

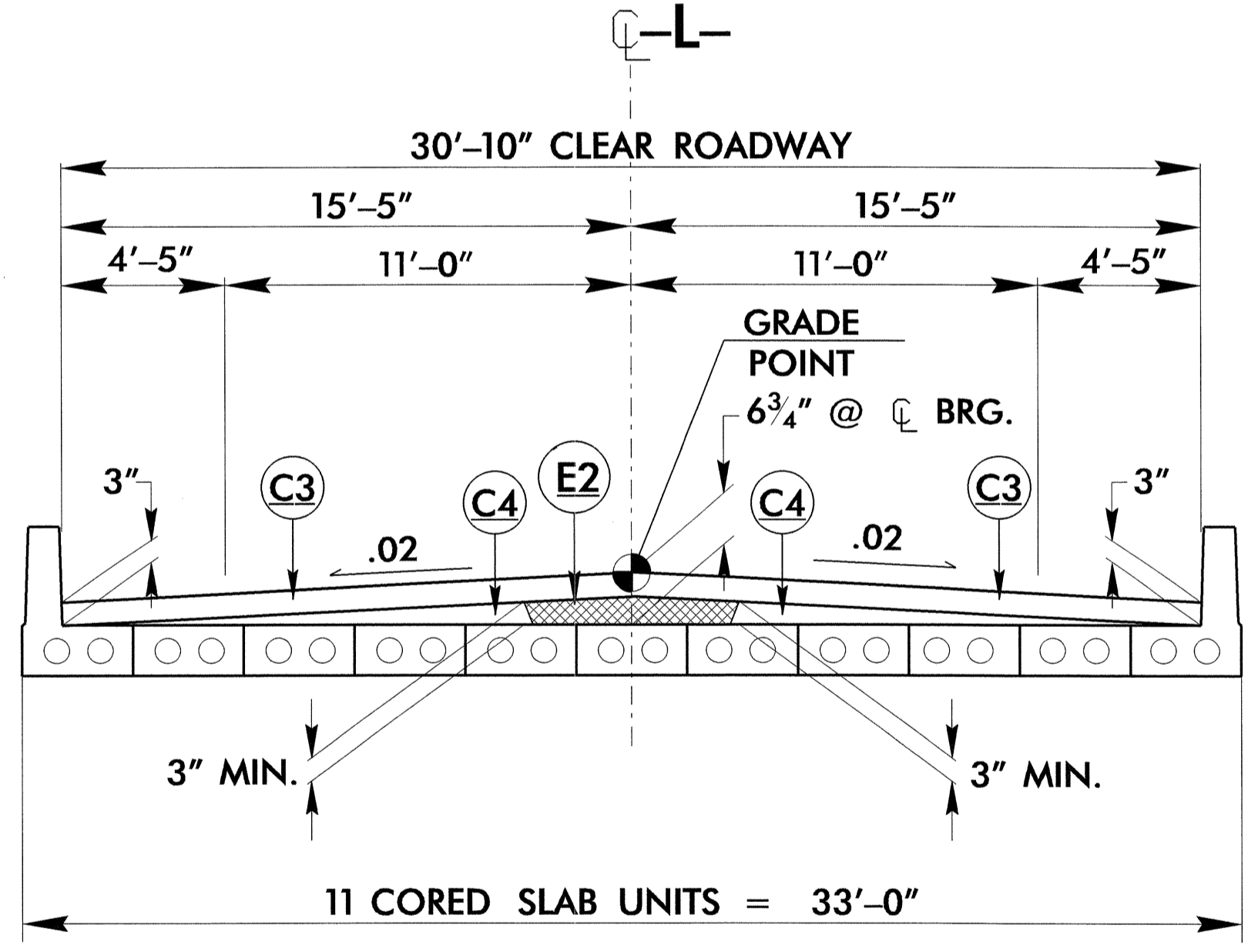
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.

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

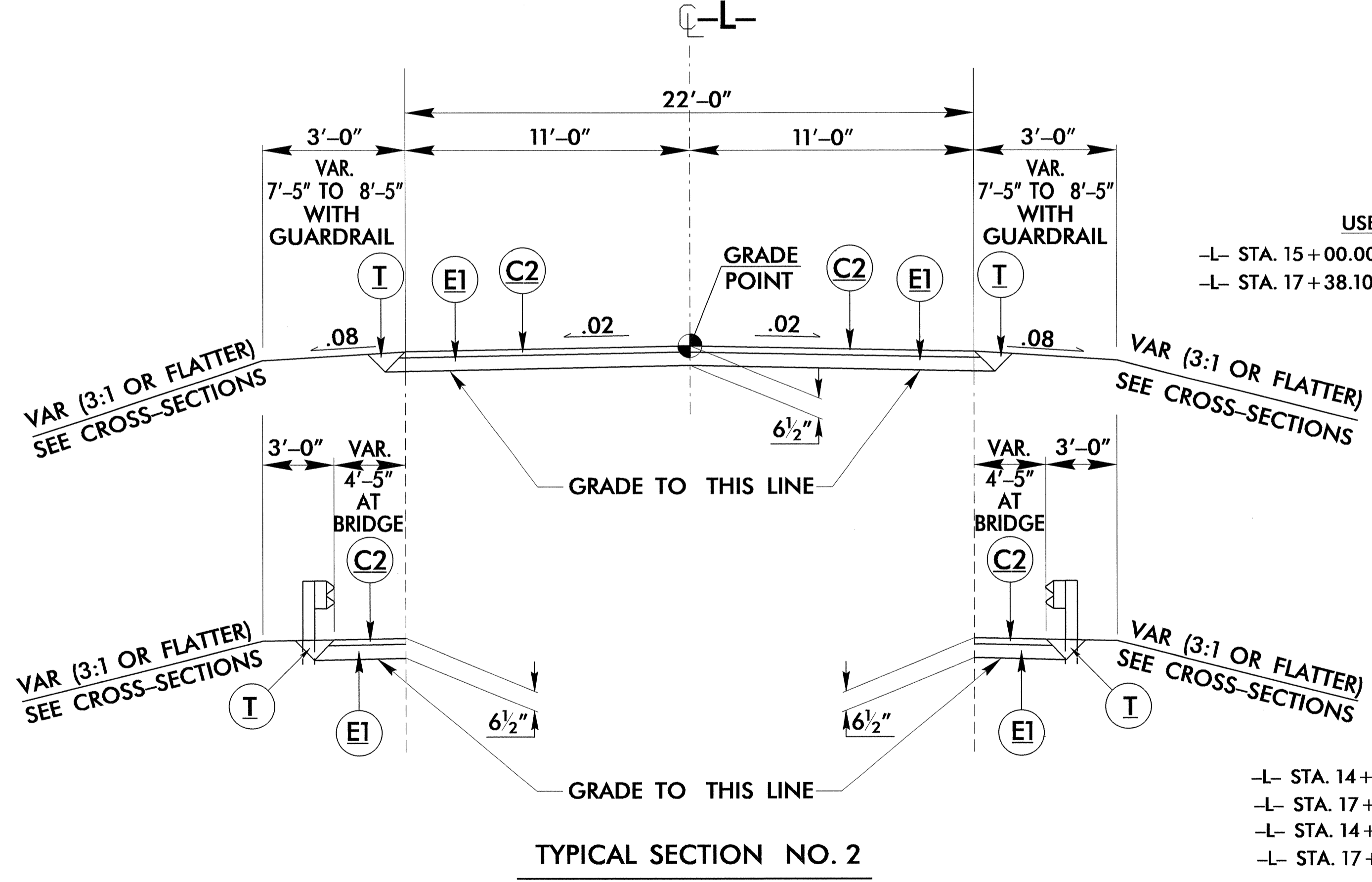
PROJECT REFERENCE NO. B-4328	SHEET NO. 2
ROADWAY DESIGN ENGINEER <i>[Signature]</i> SEAL 2011	PAVEMENT DESIGN ENGINEER <i>[Signature]</i> SEAL 22896



USE TYPICAL SECTION NO. 1
 -L- STA. 13+00.00 TO -L- STA. 15+00.00
 -L- STA. 18+00.00 TO -L- STA. 20+00.00



-L- STA. 15+97.00 TO -L- STA. 17+38.10



USE TYPICAL SECTION NO. 2
 -L- STA. 15+00.00 TO -L- STA. 15+97.00 (BEG. BRIDGE)
 -L- STA. 17+38.10 (END BRIDGE) TO -L- STA. 18+00.00

USE SECTION A-A (PAVED SHOULDERS)
 -L- STA. 14+68.26 TO -L- STA. 15+81.87 (LT)
 -L- STA. 17+44.87 TO -L- STA. 18+58.58 (LT)
 -L- STA. 14+76.52 TO -L- STA. 15+90.13 (RT)
 -L- STA. 17+53.13 TO -L- STA. 18+66.84 (RT)
 SEE SHEET 4

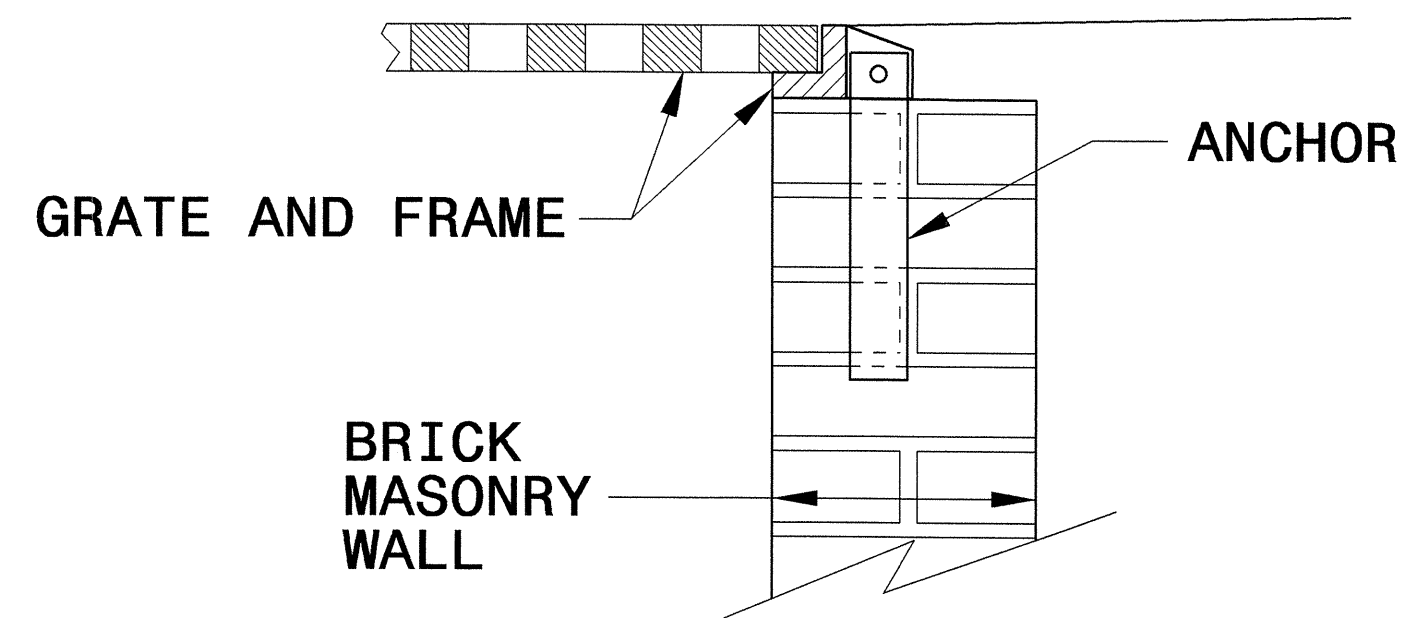
NOTE:
 INSTALL SHOULDER BERM GUTTER AS FOLLOWS:
 -L- STA. 15+60.00 TO -L- STA. 15+81.87 (LT)
 -L- STA. 17+44.87 TO -L- STA. 17+65.00 (LT)
 -L- STA. 15+60.00 TO -L- STA. 15+90.13 (RT)
 -L- STA. 17+53.13 TO -L- STA. 17+65.00 (RT)

03-AUG-2011 11:06
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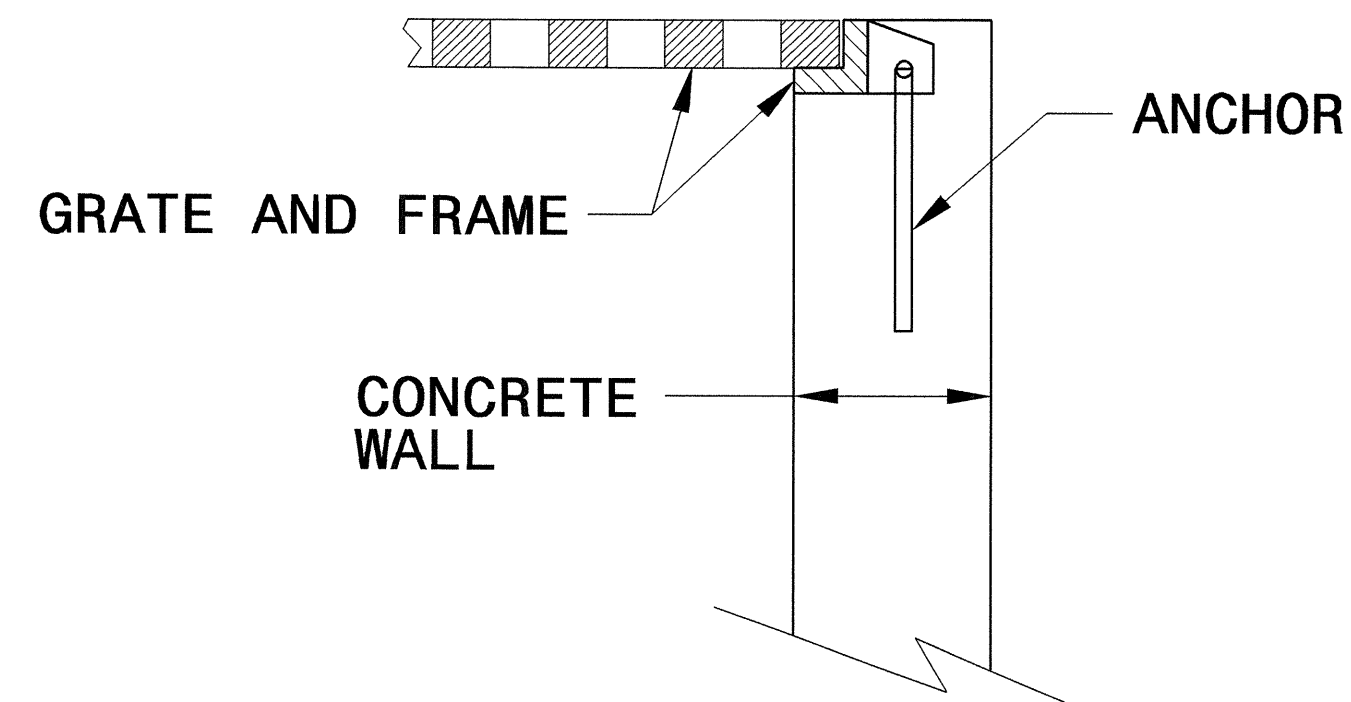
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

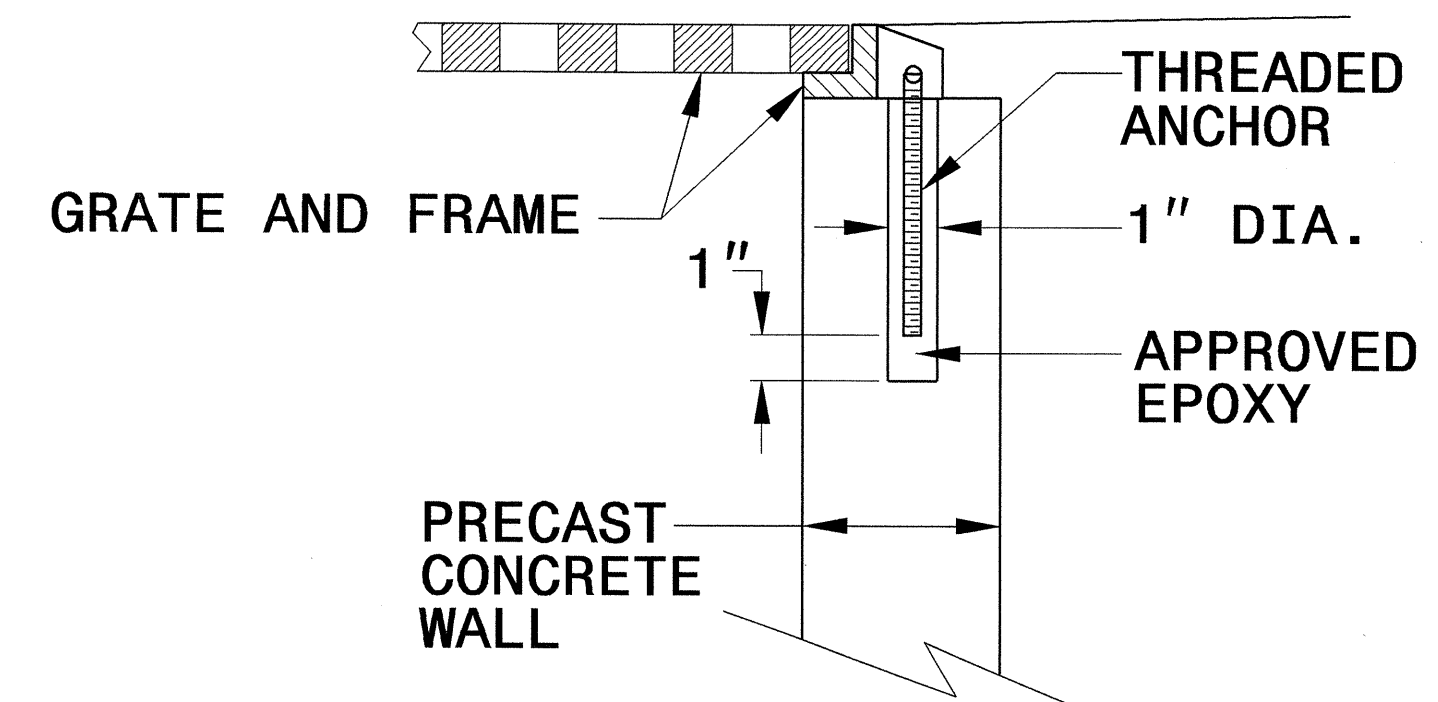
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



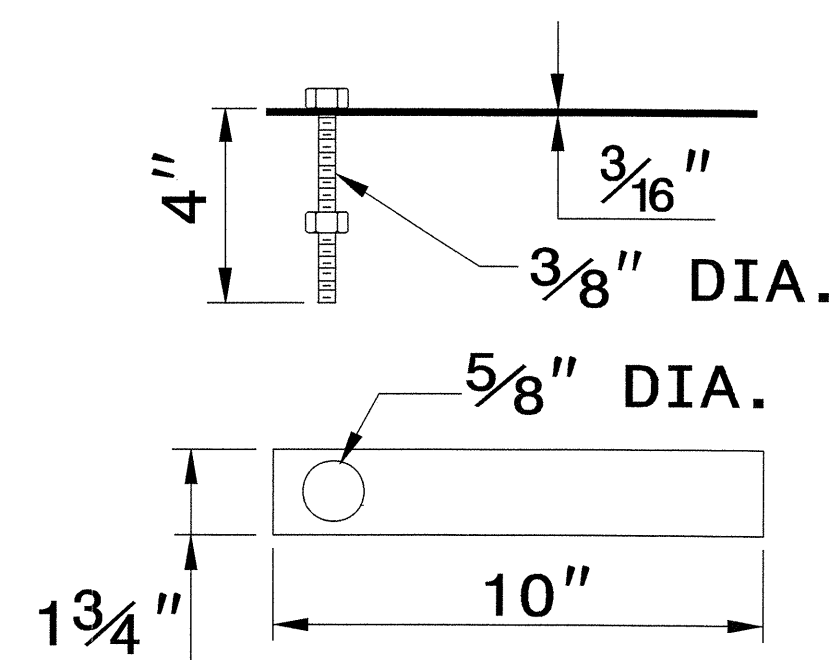
CONCRETE CONSTRUCTION



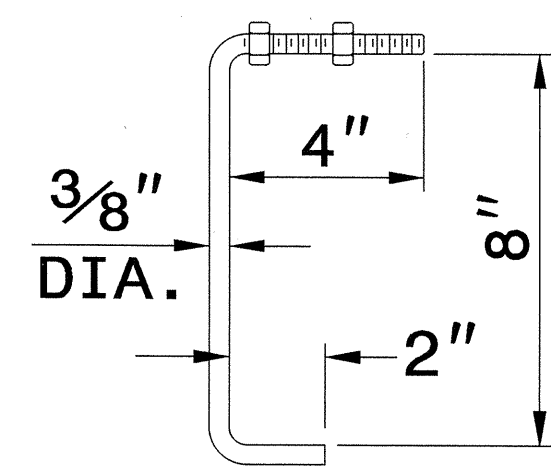
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

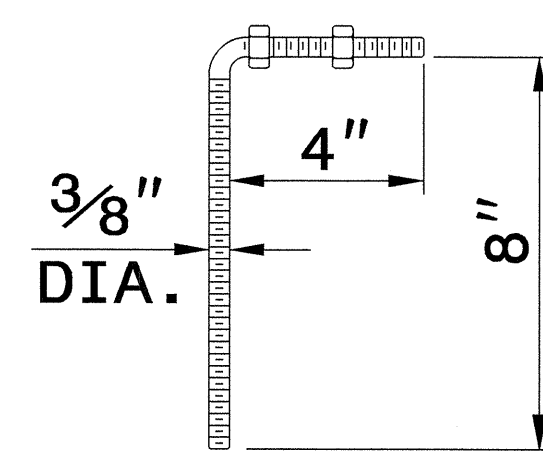
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



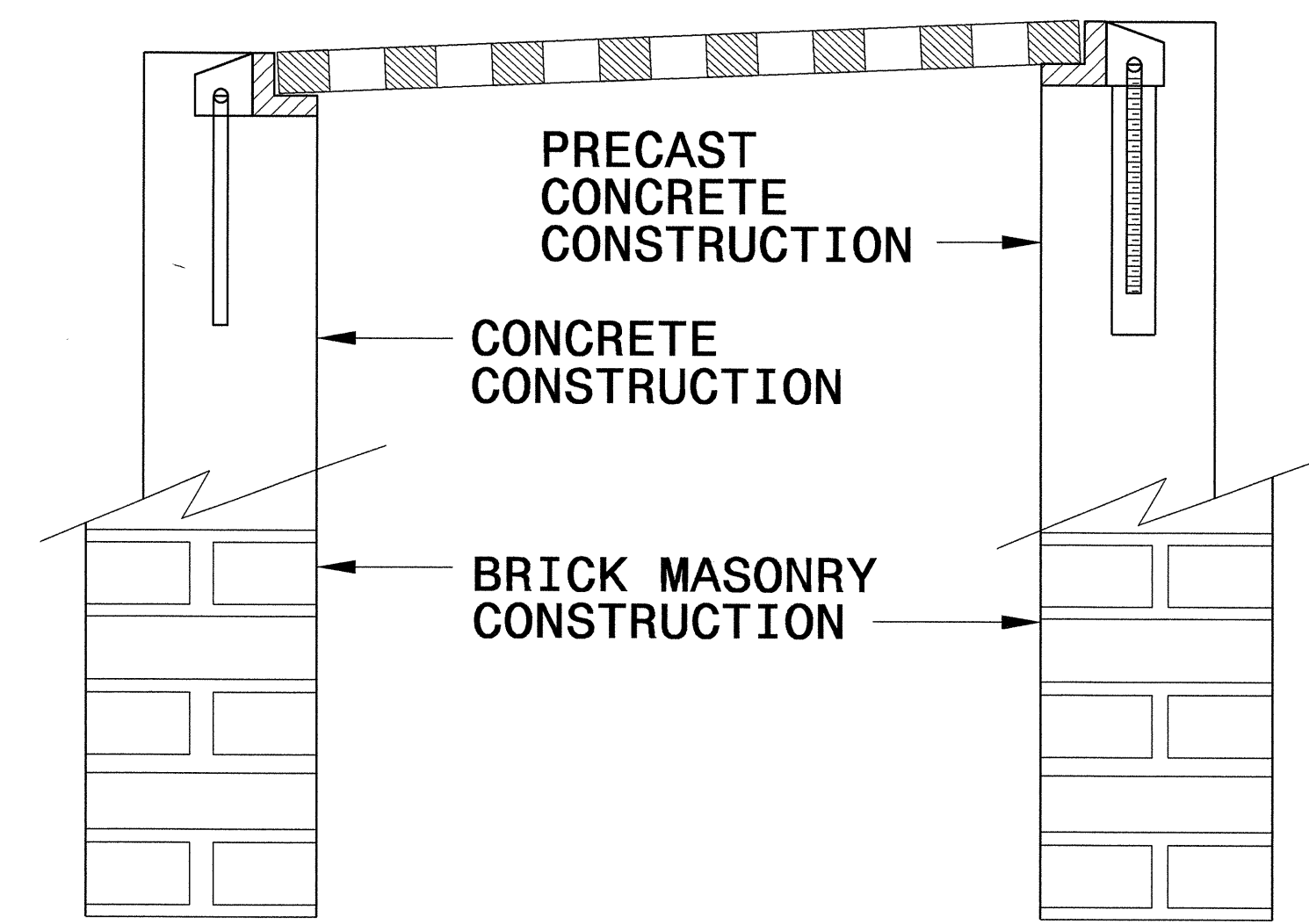
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR

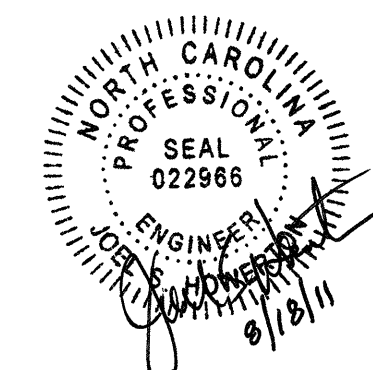


FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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.:

30-JUL-2009 08:48
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 Jhowerton AT P5237501

5/14/99

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

FLEXIBLE PIPE

SHEET 1 OF 3 300D01

GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

--- SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

TAKE CARE TO FULLY COMPACT HAUNCH ZONE OF PIPE BACKFILL.
 LOOSELY PLACED SELECT MATERIAL CLASS III OR CLASS II, TYPE 1 FOR PIPE BEDDING. LEAVE SECTION DIRECTLY BENEATH PIPE UNCOMPACTED AS PIPE SEATING AND BACKFILL WILL ACCOMPLISH COMPACTION.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 7-06

ENGLISH DETAIL DRAWING FOR METHOD OF PIPE INSTALLATION

RIGID PIPE

SHEET 2 OF 3 300D01

GENERAL NOTES:
 I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
 O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
 H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

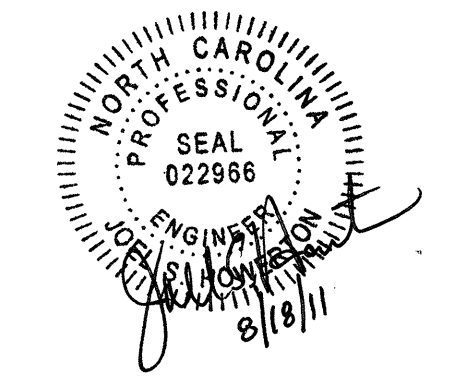
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

--- SPRINGLINE OF PIPE
 SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1, BELOW SPRINGLINE.
 APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.
 UNDISTURBED EARTH MATERIAL
 SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH ENGINEERING FABRIC AS DIRECTED BY THE ENGINEER.

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

SEE PLATE FOR TITLE

ORIGINAL BY: Kkempf DATE: 5-15-09
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 7/20/09
 FILE SPEC: eroward/stds/stdstodetails/30001/0300d01.dgn



30-Jul-2009 09:49
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 jhower-ton AT P5237501

5/14/99

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

7-06

ENGLISH DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION

FILL HEIGHT TABLES

SHEET 3 OF 3
300D01

FLEXIBLE PIPE

Diameter (Inches)	Minimum cover (Inches)	Round Corrugated Steel Pipe 2 2/3 x 1/2 corrugation **				
		(Ga)	16	14	12	10
12	12	204	256			
15	12	162	204			
18	12	135	169	239		
21	12	115	145	204		
24	12	100	126	178		
30	12	79	100	142		
36	12	65	83	117	152	
42	12	55	70	100	130	160
48	12	48	61	87	113	139
54	12		54	77	100	123
60	12			69	90	111
66	12				81	100
72	12				74	91
78	12					81
84	12					69

Diameter (Inches)	Minimum cover (Inches)	Round Corrugated Aluminum Pipe 2 2/3 x 1/2 corrugation **				
		(Ga)	16	14	12	10
12	12	123	155	218	281	344
15	12	98	123	174	224	275
18	12	81	102	144	187	228
21	12	69	87	123	160	195
24	12	60	76	108	139	171
27	12		67	95	123	151
30	12		60	85	111	136
36	12		50		92	113
42	12			60	78	96
48	12			52	68	84
54	12			46	50	74
60	12				50	62
66	12					51
72	12					41

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- CSP - AASHTO M36
- CAAP - AASHTO M196
- HDPE - AASHTO M294
- PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

RIGID PIPE

- RCP - * (Minimum fill) 1' for Class IV & CLASS V
2' for Class III & Class II
- * (Maximum fill) 10' - Class II pipe
20' - Class III pipe
30' - Class IV pipe
40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

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

7-06

ENGLISH DETAIL DRAWING FOR
METHOD OF PIPE INSTALLATION

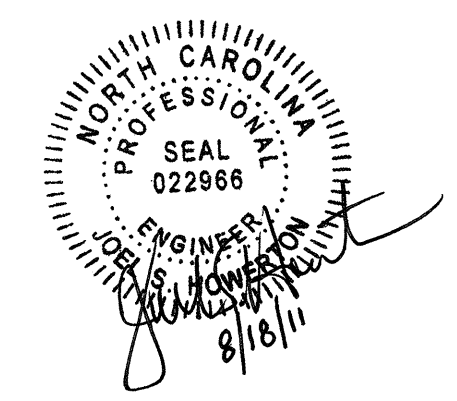
FILL HEIGHT TABLES

SHEET 3 OF 3
300D01

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

SEE PLATE FOR TITLE

ORIGINAL BY: K Kempf DATE: 5-15-09
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 7/30/09
 FILE SPEC: /ericward/stds/stdstodetail/30001/0300d01.dgn



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202726

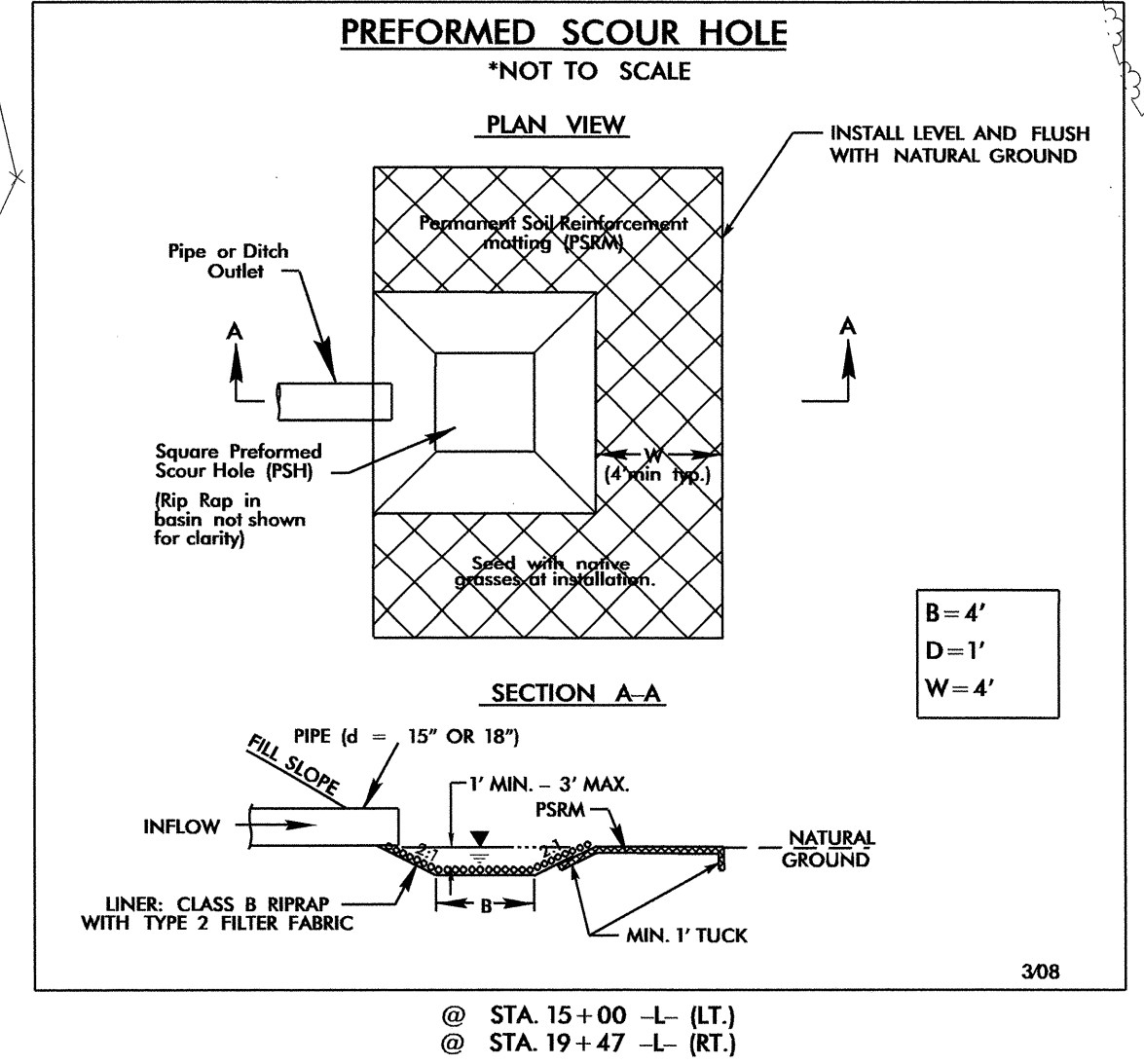
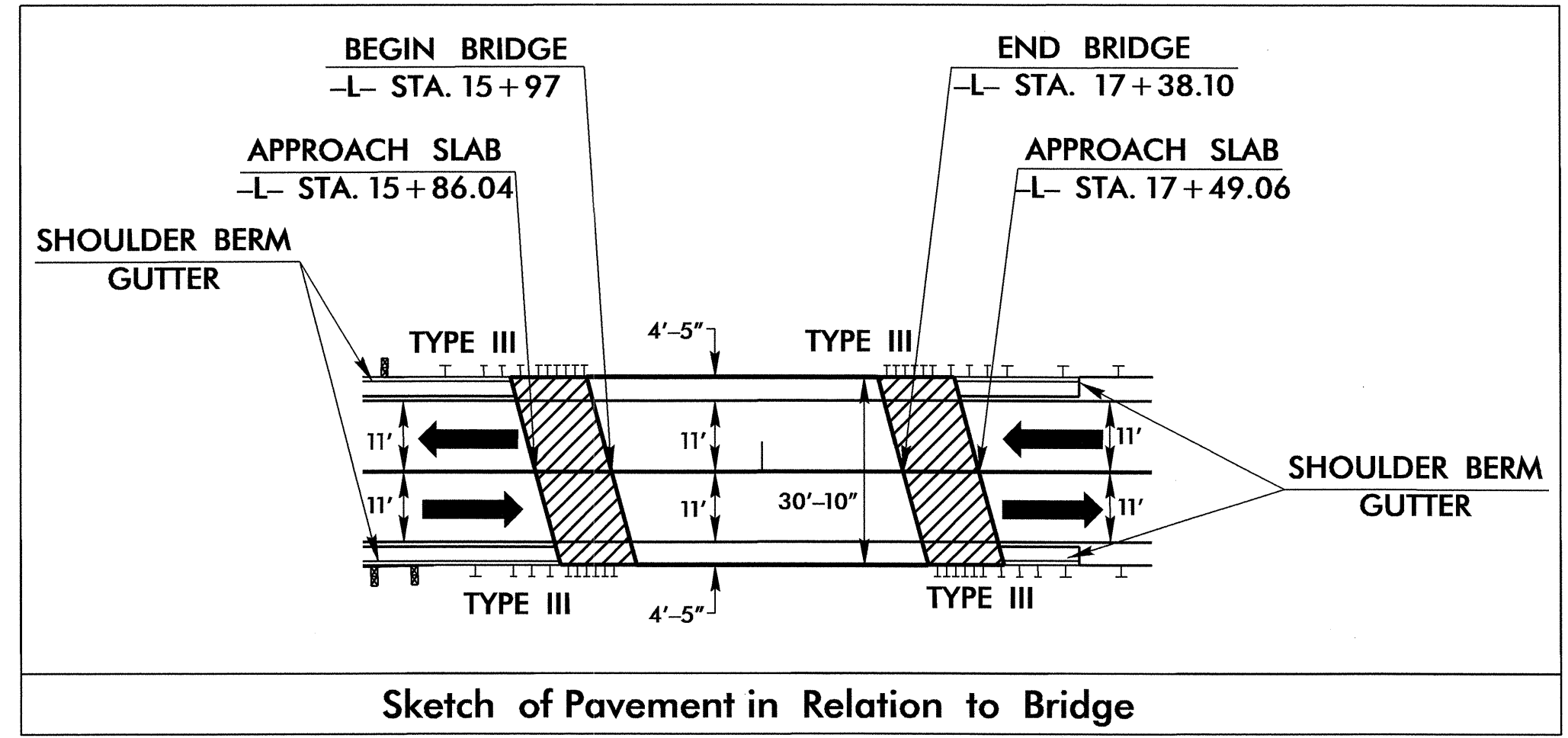
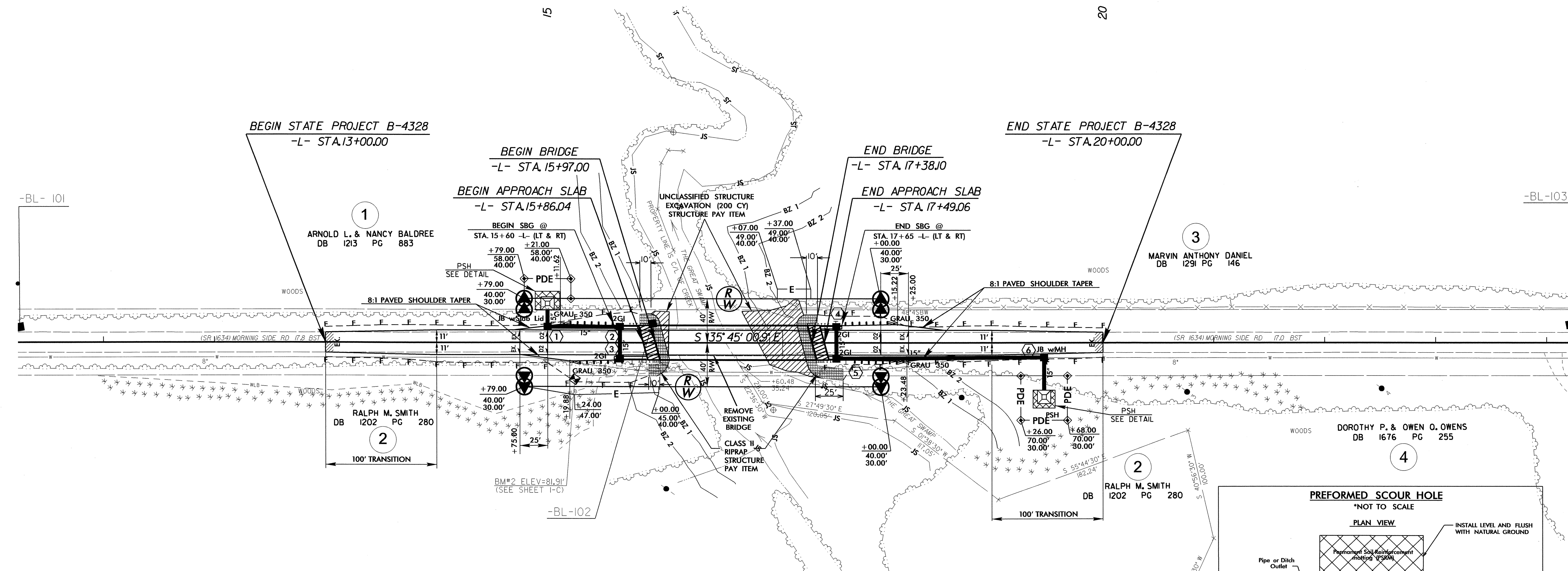
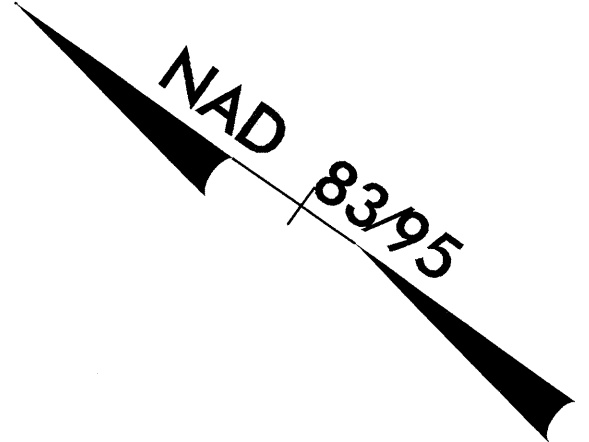
ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL STATION ***** (16+67.00-L)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
005700000-E	226	300	CY	UNDERCUT EXCAVATION
019500000-E	SP	300	CY	SELECT GRANULAR MATERIAL
019600000-E	270	300	SY	FABRIC FOR SOIL STABILIZATION
031800000-E	SP	67	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
032000000-E	SP	748	SY	FOUNDATION CONDITIONING FABRIC
033520000-E	SP	352	LF	15" DRAINAGE PIPE
122000000-E	545	40	TON	INCIDENTAL STONE BASE
148900000-E	610	190	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
152500000-E	610	280	TON	ASPHALT CONC SURFACE COURSE, TYPE SP9.5A
157500000-E	SP	30	TON	ASPHALT BINDER FOR PLANT MIX
200000000-N	806	8	EA	RIGHT OF WAY MARKERS
202200000-E	SP	22.4	CY	SUBDRAIN EXCAVATION
203300000-E	SP	16.8	CY	SUBDRAIN FINE AGGREGATE
204400000-E	SP	100	LF	6" PERFORATED SUBDRAIN PIPE
207000000-N	SP	1	EA	SUBDRAIN PIPE OUTLETS
207700000-E	SP	6	LF	6" OUTLET PIPE (SUBDRAINS)
228600000-N	840	6	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
239600000-N	840	1	EA	FRAME WITH COVER, STD 840.54
255600000-E	846	90	LF	SHOULDER BERM GUTTER
303000000-E	862	50	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS

ItemNumber	Sec #	Quantity	Unit	Description
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
365600000-E	876	460	SY	FILTER FABRIC FOR DRAINAGE
365900000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
440000000-E	1110	459	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	119	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	80	LF	BARRICADES (TYPE III)
481000000-E	1205	2,800	LF	PAINT PAVEMENT MARKING LINES (4")
532580000-E	1510	655	LF	8" WATER LINE
554600000-E	1515	2	EA	8" VALVE
580100000-E	1530	614	LF	ABANDON 8" UTILITY PIPE
587150000-E	1550	202	LF	TRENCHLESS INSTALLATION OF 8" IN SOIL
587151000-E	1550	203	LF	TRENCHLESS INSTALLATION OF 8" NOT IN SOIL
600000000-E	1605	1,700	LF	TEMPORARY SILT FENCE
600600000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	60	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	125	TON	SEDIMENT CONTROL STONE
601500000-E	1615	1	ACR	TEMPORARY MULCHING
601800000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED- ING
602400000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	4	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	400	LF	SAFETY FENCE
603000000-E	1630	80	CY	SILT EXCAVATION
603600000-E	1631	1,550	SY	MATTING FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
604200000-E	1632	550	LF	1/4" HARDWARE CLOTH
604800000-E	SP	375	SY	FLOATING TURBIDITY CURTAIN
607101000-E	SP	55	LF	WATTLE
607102000-E	SP	20	LB	POLYACRYLAMIDE (PAM)
608400000-E	1660	1	ACR	SEEDING & MULCHING
608700000-E	1660	0.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	0.5	TON	FERTILIZER TOPDRESSING
611450000-N	SP	10	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.1	ACR	REFORESTATION

8/17/99

PROJECT REFERENCE NO. B-4328	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER



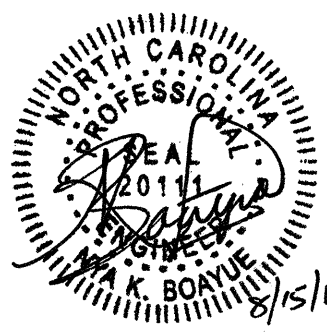
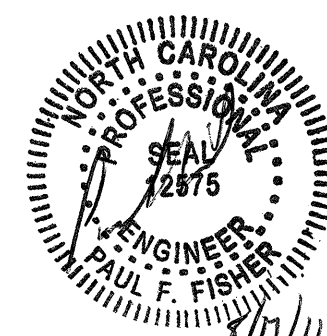
NOTE: SEE SHEET NO. 5 FOR -L- PROFILE
SEE SHEET S-1 THRU S-23 FOR STRUCTURE PLANS

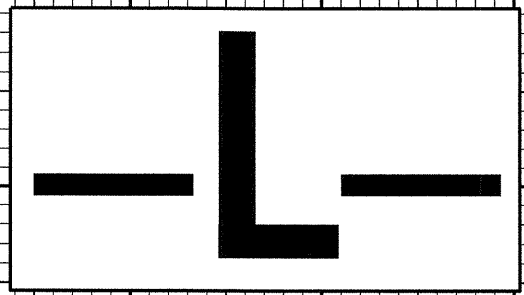
REVISIONS

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K. BORDOWICZ

5/14/99

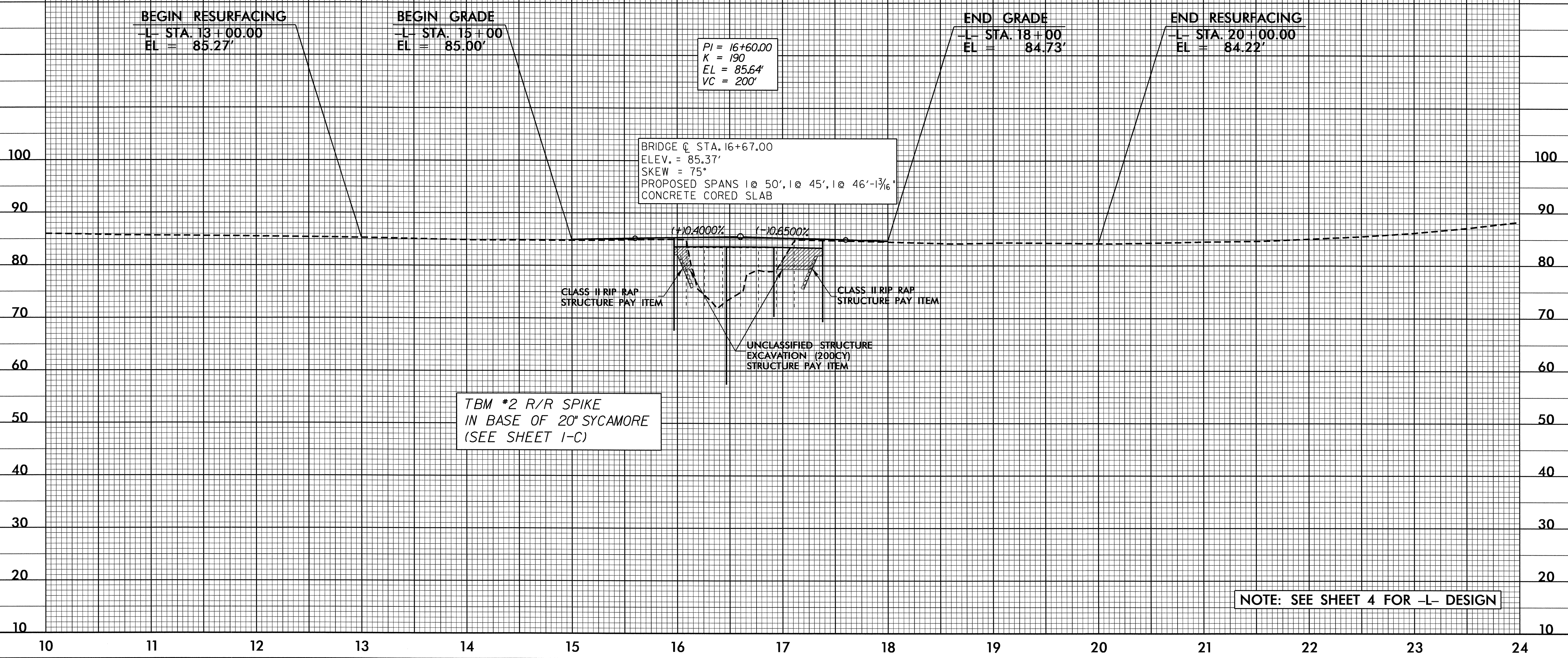
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PROJECT REFERENCE NO. B-4328	SHEET NO. 5
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 5000	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 84.8	FT
BASE DISCHARGE	= 7319	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 85.4	FT
OVERTOPPING DISCHARGE	= 5000 +/-	CFS
OVERTOPPING FREQUENCY	= 25	YRS
OVERTOPPING ELEVATION	= 84.8	FT
NORMAL WATER SURFACE ELEVATION	= 77 +/-	FT
DATE OF SURVEY	= 07/22/08	
W.S. ELEVATION AT DATE OF SURVEY	= 75.90	FT



NOTE: SEE SHEET 4 FOR -L- DESIGN