

09/08/09

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Symbology Sheet

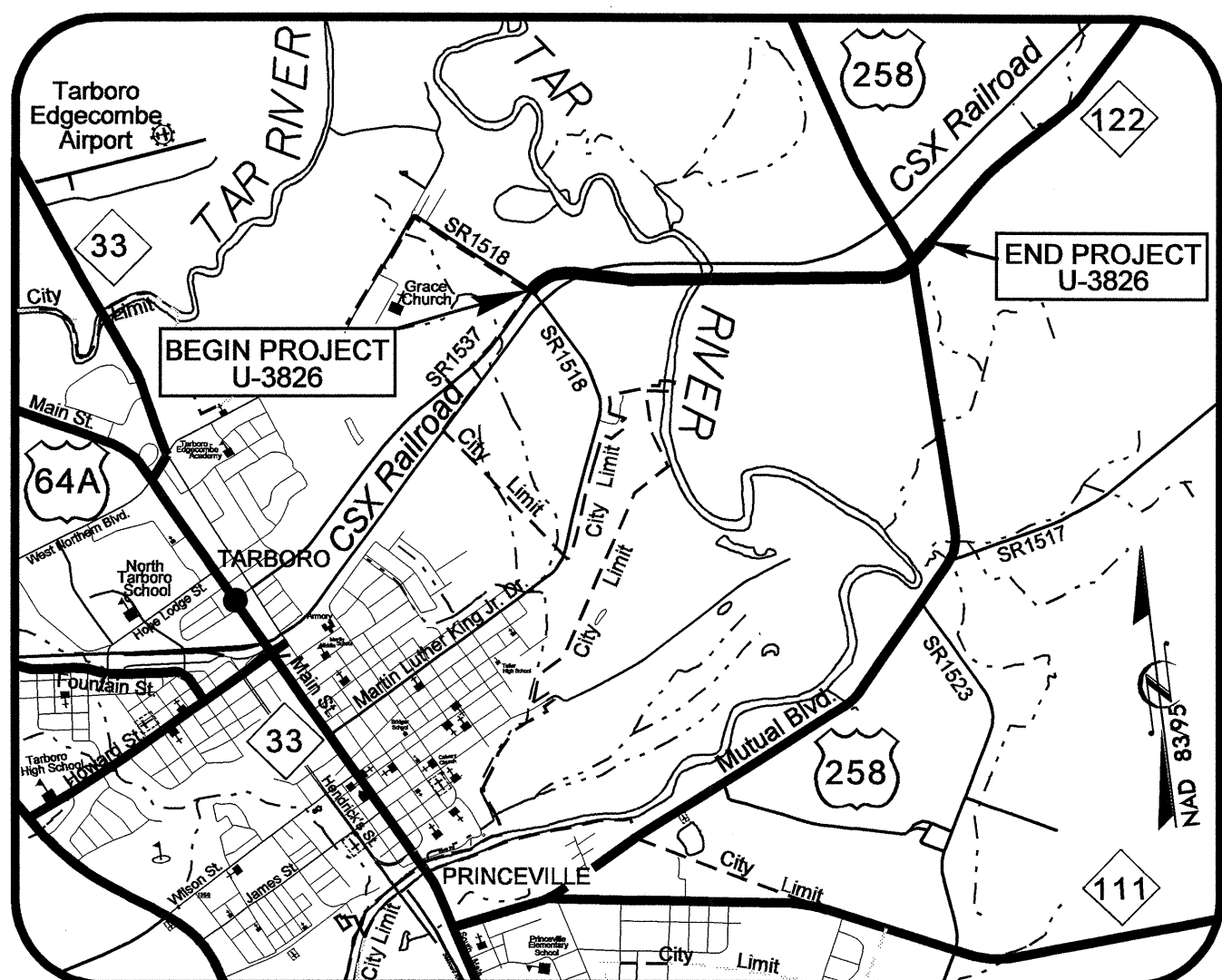
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**EDGECOMBE COUNTY**

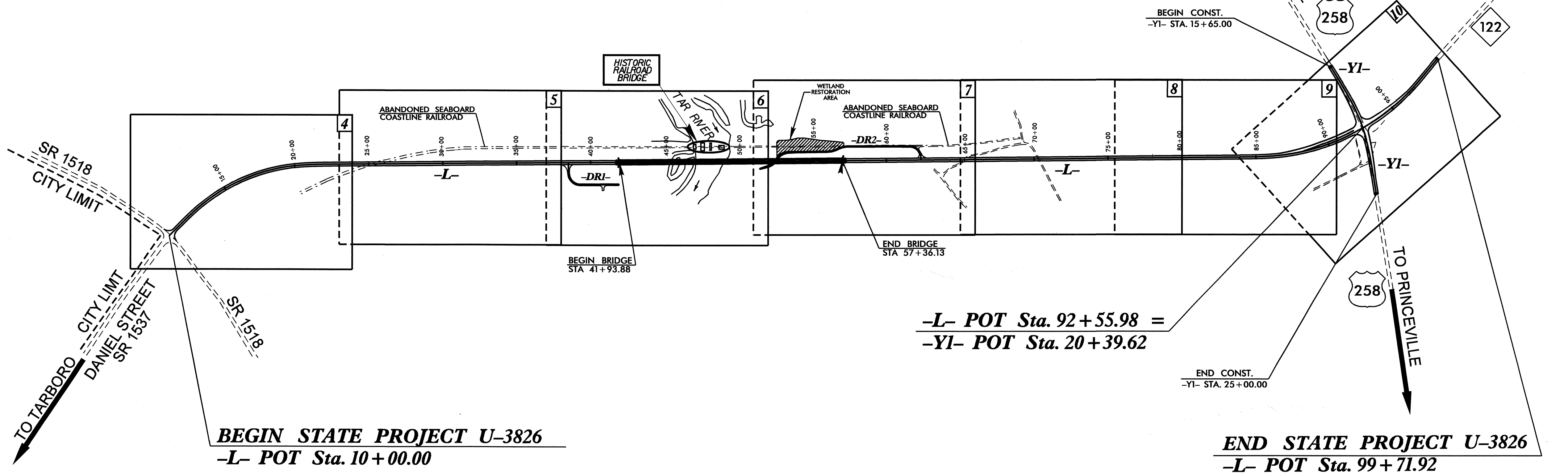
**LOCATION: SR 1537 (DANIEL STREET EXTENSION)  
FROM SR 1518 TO US 258 / NC 122.**

**TYPE OF WORK: GRADING, PAVING, DRAINAGE, STRUCTURE.**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	<b>U-3826</b>	<b>1</b>	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34983.1.1	STP-1537(2)	PE	
34983.2.2	STP-1537(2)	R / W / UTILITIES	
34983.3.2	STP-1537(5)	CONSTRUCTION	

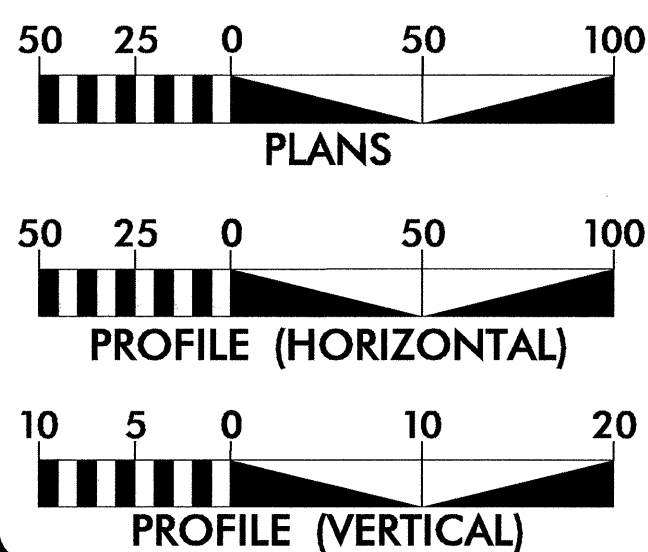


**VICINITY MAP**



**CONTRACT: C-202157**    **TIP PROJECT: U-3826**

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2009 = 4,000  
 ADT 2030 = 6,100  
 DHV = 12 %  
 D = 60 %  
 T = 11 % \*  
 V = 60 MPH  
 \* TTST 8%    DUAL 3%

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT U-3826 = 1.407 MILES  
 LENGTH STRUCTURE TIP PROJECT U-3826 = 0.292 MILES  
 TOTAL LENGTH TIP PROJECT No. U-3826 = 1.699 MILES

**FUNC CLASS = RURAL MAJOR COLLECTOR**

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**

1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:  
NOVEMBER 28, 2007

LETTING DATE:  
NOVEMBER 17, 2009

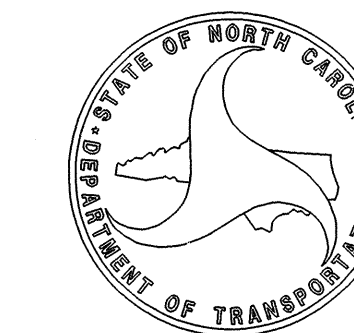
**JIMMY GOODNIGHT, PE**  
PROJECT ENGINEER

**STEVE KENDALL, PE**  
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

Signature: *[Signature]*  
**ROADWAY DESIGN ENGINEER**  
 Signature: *[Signature]*  
**STEVE KENDALL, PE**  
 8-27-09

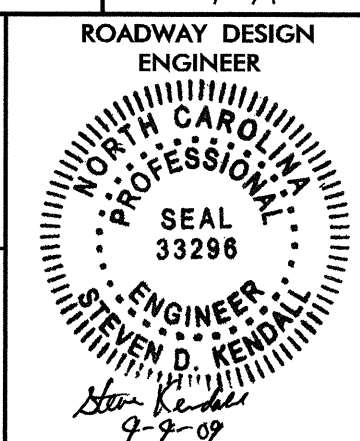
DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA



**STEVE D. KENDALL**  
P.E.  
STATE HIGHWAY DESIGN ENGINEER

24-AUG-2009 09:07  
F:\Roadway\proj\U3826\_rdy\_rsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS



**2006 ROADWAY ENGLISH  
STANDARD DRAWINGS**

**GENERAL NOTES**

**INDEX OF SHEETS**

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

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

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

STD.NO.	TITLE
<b>DIVISION 2 - EARTHWORK</b>	
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
225.06	Method of Obtaining Sight Distance at Intersections
<b>DIVISION 3 - PIPE CULVERTS</b>	
310.10	Driveway Pipe Construction
<b>DIVISION 4 - MAJOR STRUCTURES</b>	
422.10	REINFORCED BRIDGE APPROACH FILLS
<b>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</b>	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
<b>DIVISION 6 - SUBGRADE, BASES AND SHOULDERS</b>	
654.01	Pavement Repairs
<b>DIVISION 8 - INCIDENTALS</b>	
806.01	Concrete Right of Way Markers
806.02	Granite Right of Way Markers
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe, 90 Skew
838.02	Concrete Endwall and Sluice Gate
838.11	Brick Endwall for Single & Double Pipe Culv. - 15" thru 48" Pipe 90 Skew
838.80	Precast endwalls - 12" thru 72" Pipe, 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame & Grates - for use with Std. 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.45	Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
852.01	Concrete Islands
852.06	Method for Placement of Drop Inlets in Concrete Islands
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

**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 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 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.

**UNDERDRAINS:**  
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

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

**TEMPORARY SHORING:**  
SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

**END BENTS:**  
THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTIONS PRIOR TO SETTING OF THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

**UTILITIES:**  
  
Edgecombe /Martin EMC  
Carolina Telephone  
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED OTHERS, EXCEPT AS SHOWN ON THE PLANS.

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

SHEET No.	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
1-D	CENTERLINE COORDINATION LIST
2 & 2-B	TYPICAL SECTIONS, PAVEMENT SCHEDULE, AND WEDGING DETAILS
2-C	SKETCH SHOWING BRIDGE /PAVEMENT RELATIONSHIP, STRUCTURE TYPICAL SECTION
2-D	DETAIL OF ANCHORAGE FOR FRAMES, BRICK OR CONCRETE
2-E & 2-F	METHOD OF PIPE INSTALLATION
2-G	TEMPORARY DESIGN & PROFILE FOR TEMPNC122
2-H	BICYCLE SAFE STEEL FRAME & GRATES
3	SUMMARY OF QUANTITIES
3-A THRU 3-C	DRAINAGE SUMMARY SHEETS (48" & UNDER) GUARDRAIL SUMMARY SUMMARY OF EARTHWORK REMOVAL OF EXISTING ASPHALT PAVEMENT BREAKING OF EXISTING ASPHALT PAVEMENT FABRIC FOR DRAINAGE SUMMARY PLAIN CLASS 'B' RIP-RAP SUMMARY FABRIC FOR SOIL STABILIZATION
3-C	PARCEL INDEX
4 THRU 10	PLAN SHEETS
11 THRU 15	PROFILE SHEETS
TCP-1 THRU TCP-9	TRAFFIC CONTROL PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
EC-1 THRU EC-18	EROSION CONTROL PLANS
RF-1 THRU RF-2	REFORESTATION PLANS
SIGN-1 THRU SIGN-10	SIGNING & PAVEMENT MARKING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION INDEX OF SHEETS
X-1A	CROSS-SECTION SUMMARY SHEETS
X-2 THRU X-72	CROSS-SECTIONS
S-1 THRU S-50	BRIDGE STRUCTURE PLANS

8/17/09

09-SEP-2009 10:28  
P:\Roadway\proj\U3826\_r.dwg 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 U/G 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	-----
Proposed Temporary Construction Easement	-----
Proposed Temporary Drainage Easement	-----
Proposed Permanent Drainage Easement	-----
Proposed Permanent Utility Easement	-----

### ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	—C—
Proposed Slope Stakes Fill	—F—
Proposed Wheel Chair Ramp	⊕
Proposed Wheel Chair Ramp Curb Cut	⊕
Curb Cut for Future Wheel Chair Ramp	⊕
Existing Metal Guardrail	—T—
Proposed Guardrail	—T—
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	⊕
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:

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	⊕
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:

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

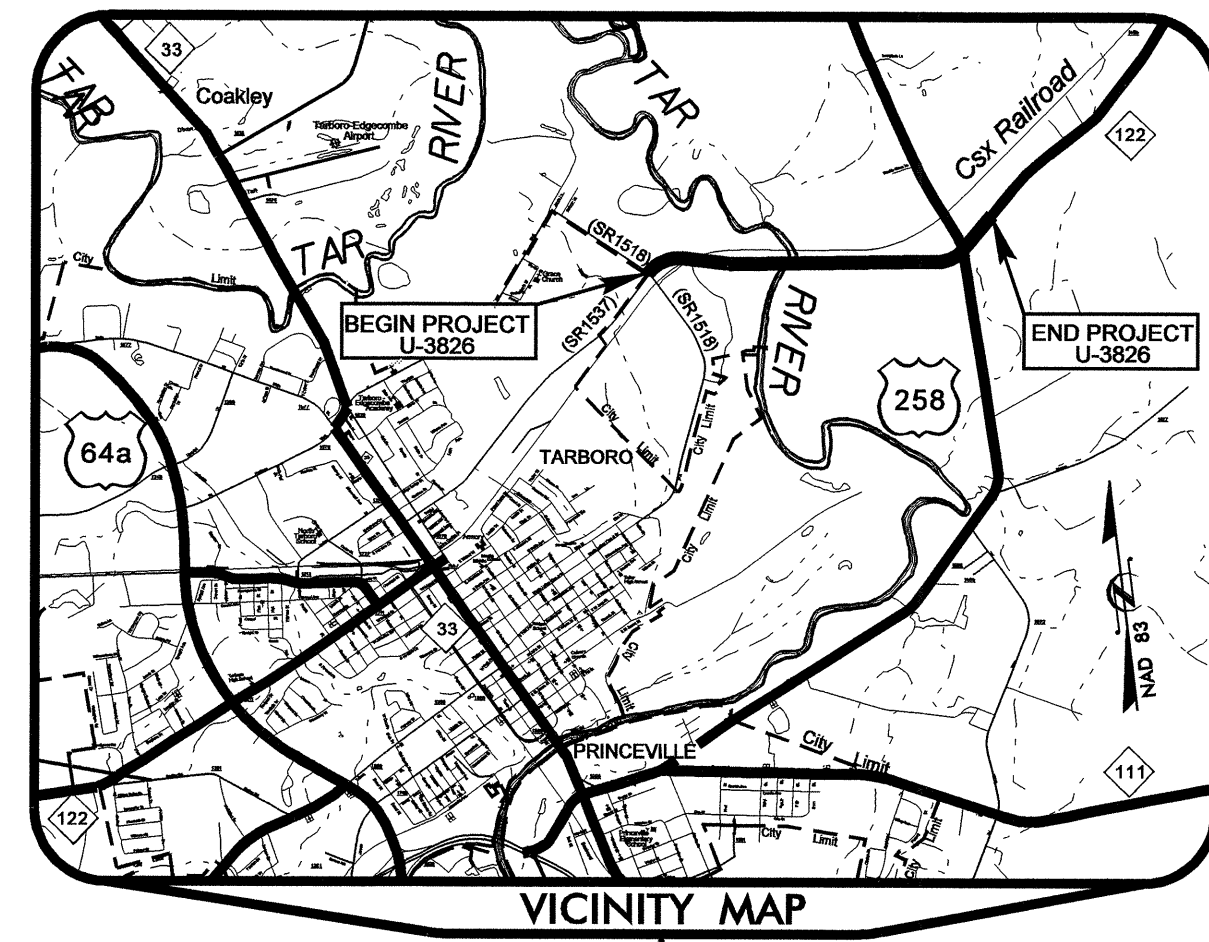
### SANITARY SEWER:

Sanitary Sewer Manhole	⊕
Sanitary Sewer Cleanout	⊕
U/G 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	-----
U/G Tank; Water, Gas, Oil	□
AG Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

# SURVEY CONTROL SHEET U-3826



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
BL20	(BL-20)	794756.4080	2437956.9900	42.12	OUTSIDE PROJECT LIMITS	
P3	(U3826-P3)	795349.2670	2438494.5850	44.93	10+30.81	44.83 LT
BL22	(BL-22)	795660.3430	2439526.1170	41.58	21+25.22	0.01 RT
BL23	(BL-23)	795610.5340	2439954.3040	46.86	25+56.30	1.63 RT
BL24	(BL-24)	795555.7270	2440438.8420	39.53	30+43.93	0.63 RT
BL25	(BL-25)	795519.5690	2440757.7450	42.50	33+64.87	0.06 RT
BL26	(BL-26)	795435.1430	2441542.4330	29.41	41+54.07	5.86 LT
BL27	(BL-27)	795370.5670	2442068.8980	31.83	46+84.46	1.96 LT
BL28	(BL-28)	795229.0590	2442346.6700	35.20	49+76.60	106.84 RT
BL29	(BL-29)	795343.7390	2442799.1130	34.18	54+12.95	58.86 LT
BL30	(BL-30)	795235.0490	2443512.1430	43.99	61+33.73	32.48 LT
BL31	(BL-31)	795143.4640	2444021.1950	52.17	66+49.92	0.25 RT
BL32	(BL-32)	794976.5810	2445493.6540	52.23	81+31.81	2.46 LT
BL33	(BL-33)	794965.0610	2446653.8830	50.74	92+76.69	87.60 RT
P8	(U3826-P8)	795483.5690	2447230.5750	49.39	100+32.12	17.62 RT

BY POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
P1	(U3826-P1)	796670.0190	2436917.4380	46.24	OUTSIDE PROJECT LIMITS	
BY41	(BY-41)	795879.0250	2437858.6470	41.99	10+06.15	16.24 LT
EOP3		795349.2670	2438494.5850	44.93	18+29.61	31.94 LT
BY42	(BY-42)	794641.4710	2438870.0730	42.51	26+25.38	15.64 RT

**-L- POT STA 99+51.09  
END STATE PROJECT U-3826**  
 LOCALIZED PROJECT COORDINATES  
 N= 795,440,7591  
 E= 2,447,159,5541

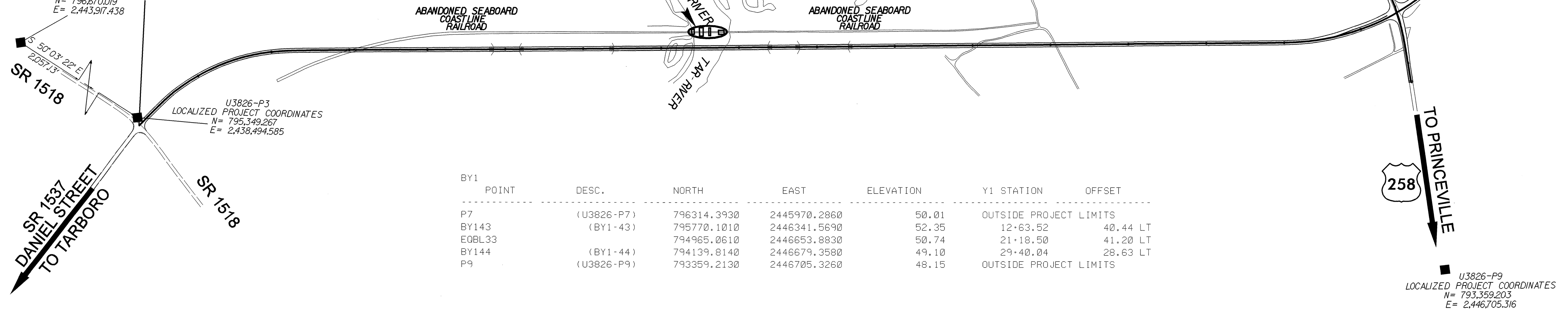
**-L- POT STA 10+00.00  
BEGIN STATE PROJECT U-3826**  
 LOCALIZED PROJECT COORDINATES  
 N= 795,295,0166  
 E= 2,438,498,5187

U3826-P1  
LOCALIZED PROJECT COORDINATES  
N= 796,670,019  
E= 2,443,317,438

U3826-P3  
LOCALIZED PROJECT COORDINATES  
N= 795,349,267  
E= 2,438,494,585

U3826-P8  
LOCALIZED PROJECT COORDINATES  
N= 795,483,569  
E= 2,447,230,575

U3826-P9  
LOCALIZED PROJECT COORDINATES  
N= 793,359,203  
E= 2,446,705,316



BY1 POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
P7	(U3826-P7)	796314.3930	2445970.2860	50.01	OUTSIDE PROJECT LIMITS	
BY143	(BY1-43)	795770.1010	2446341.5690	52.35	12+63.52	40.44 LT
EQBL33		794965.0610	2446653.8830	50.74	21+18.50	41.20 LT
BY144	(BY1-44)	794139.8140	2446679.3580	49.10	29+40.04	28.63 LT
P9	(U3826-P9)	793359.2130	2446705.3260	48.15	OUTSIDE PROJECT LIMITS	

.....  
 BM50 ELEVATION = 42.03  
 N 795087 E 2438133  
 BL STATION 8+63 92 LEFT  
 .....

.....  
 BM53 ELEVATION = 51.04  
 N 795308 E 2444292  
 BL STATION 72+04 194 LEFT  
 .....

.....  
 BM51 ELEVATION = 36.89  
 N 795478 E 2439961  
 BL STATION 28+30 131 RIGHT  
 .....

.....  
 BM54 ELEVATION = 49.79  
 N 795119 E 2446689  
 BL STATION 97+25 91 LEFT  
 .....

.....  
 BM52 ELEVATION = 39.61  
 N 795181 E 2442248  
 BL STATION 51+82 88 RIGHT  
 .....

**DATUM DESCRIPTION**  
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "U3826-P7"  
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 796,314.418(ft) EASTING: 2,445,970.282(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999942925  
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "U3826-P7" TO -L- STATION 10+00.00 IS  
 S 82° 13' 51.9" W 7,540.984  
 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/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
**U3826\_LS\_CONTROL\_061024.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

5/14/99  
 20-MAR-2008 09:00 U3826-1s-1c\_061024.dgn  
 88.81% NODATA





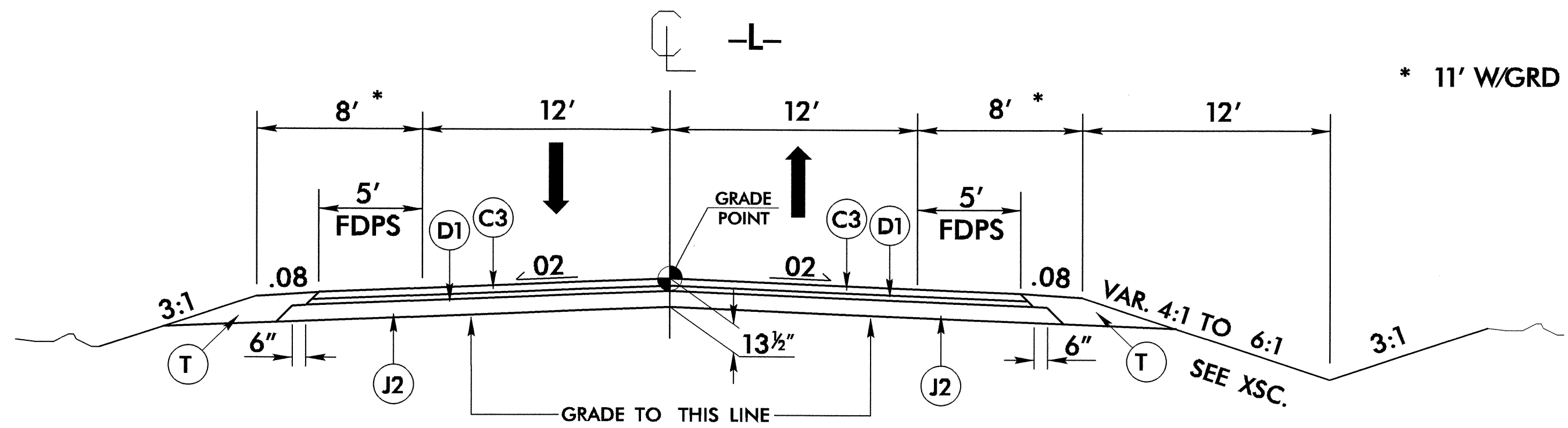
6/27/99

# PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

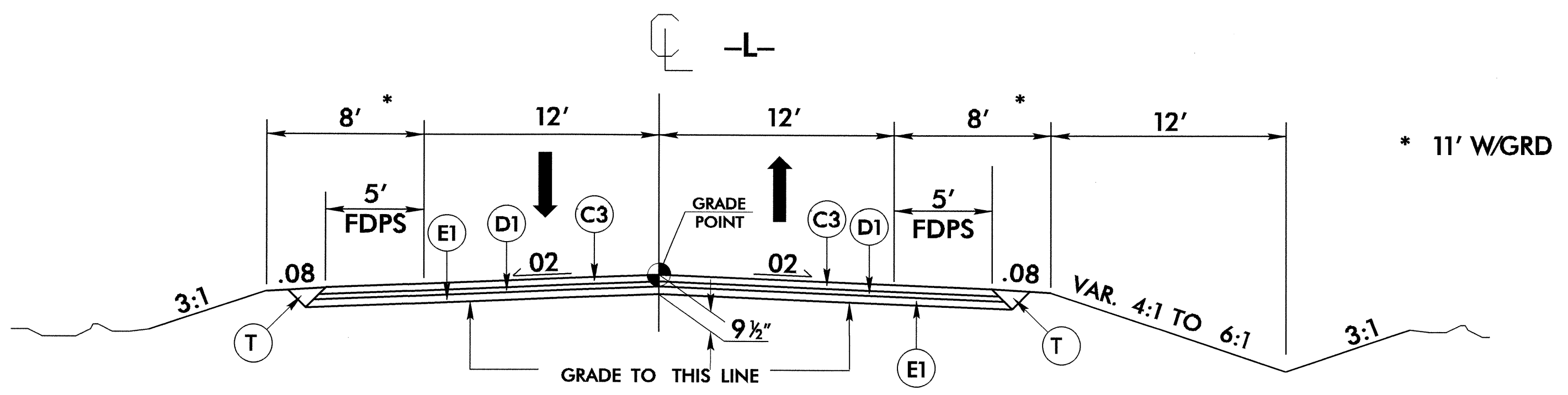
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.	E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
C2	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	J1	PROP. 6" AGGREGATE BASE COURSE.
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	J2	PROP. 8" AGGREGATE BASE COURSE.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	R	5" MONOLITHIC CONCRETE ISLAND.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	T	EARTH MATERIAL.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.	U	EXISTING PAVEMENT.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL SHT. 2-A)

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



**TYPICAL SECTION No. 1**

OR



**ALTERNATE PAVEMENT DESIGN**

( B25.0B )

PROJECT REFERENCE NO. <b>U-3826</b>	SHEET NO. <b>2</b>
ROADWAY DESIGN ENGINEER <b>STEVEN D. KENDRICK</b> SEAL 33296 8-25-99	PAVEMENT DESIGN ENGINEER <b>CHI CHEN</b> SEAL 1868 8/21/99

-L-

**USE IN CONJUNCTION WITH**  
-L- TYPICAL SECTION

-L- Sta. 88+23 to Sta. 91+93  
-L- Sta. 93+18 to Sta. 95+18

**DETAIL OF PAVED SHOULDER AT GUARDRAIL**  
(SEE PLAN SHEETS FOR LOCATION)

USE TYPICAL SECTION NO. 1

- L- Sta. 10+10.82 to Sta. 41+93.88 (BEGIN BRIDGE)
- L- Sta. 57+36.13 (END BRIDGE) to Sta. 95+04

USE TYPICAL SECTION "ALTERNATE PAVEMENT DESIGN"

- L- Sta. 10+10.82 to Sta. 41+93.88 (BEGIN BRIDGE)
- L- Sta. 57+36.13 (END BRIDGE) to Sta. 95+04

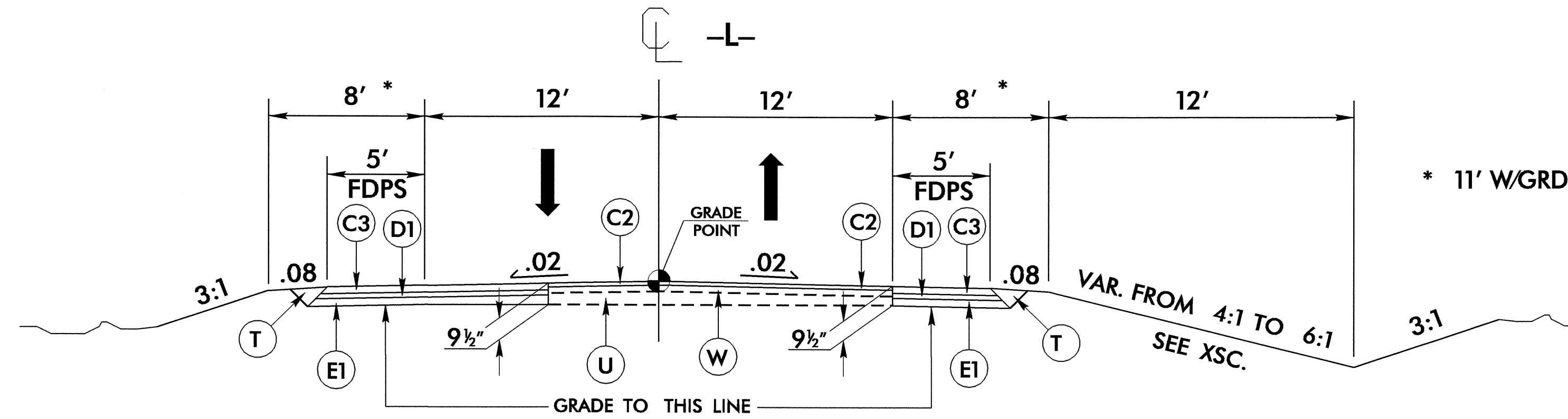
NOTE: TRANSITION FROM TYPICAL SECTION No. 1 TO TYPICAL SECTION 2 USING ALTERNATE 1 PAVEMENT DESIGN BEGIN -L- Sta. 95+04.

25-AUG-2009 14:26 P:\roadway\pco\U3826-rdy-tpy.dgn



PROJECT REFERENCE NO. U-3826		SHEET NO. 2-A	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEPHEN D. KENNEDY 8-24-07		PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 13388 DUN-CHI CHEE 8/26/09	
<b>PAVEMENT SCHEDULE</b>			
C1	1 1/4" SF9.5A		
C2	1 1/2" S9.5B		
C3	3" S9.5B		
C4	VAR. S9.5B		
D1	2 1/2" I19.0B		
D2	VAR. I19.0B		
E1	4" B25.0B		
E2	VAR. B25.0B		
J1	6" ABC		
T	EARTH MATERIAL.		
U	EXISTING PAVEMENT		
W	WEDGING		

NOTE: PAVEMENT DESIGN TO BE USED FOR TIE-IN CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.

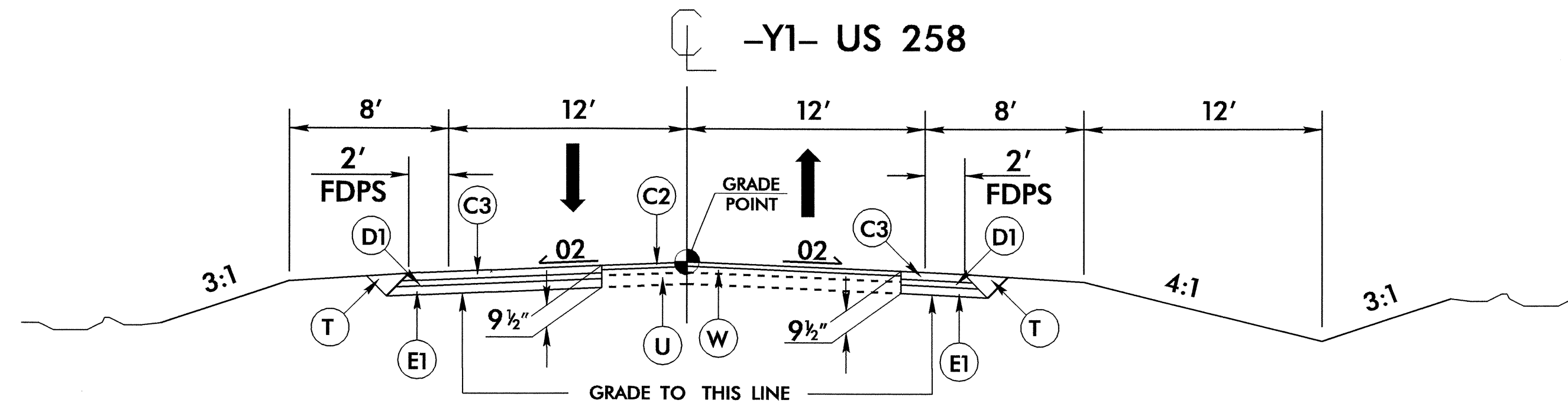


**TYPICAL SECTION No. 2**

USE TYPICAL SECTION NO. 2

-L- Sta. 95+04 to Sta. 99+71.92

NOTE: RESURFACE SR 1518 AND SR 1537 AS SHOWN ON SHEET No. 4 USING C2

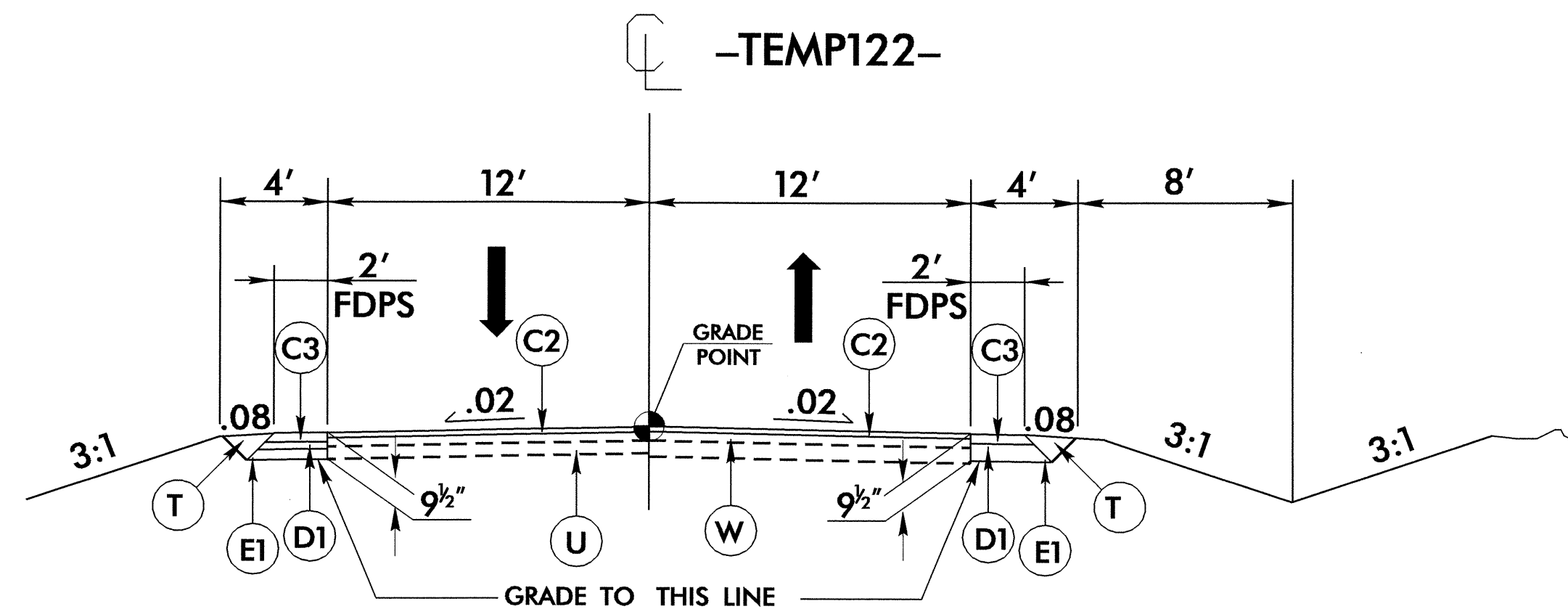


**TYPICAL SECTION No. 3**

USE TYPICAL SECTION NO. 3

-Y1- Sta. 15+65 to Sta. 25+00

NOTE: PAVEMENT DESIGN TO BE USED FOR TIE-IN CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.



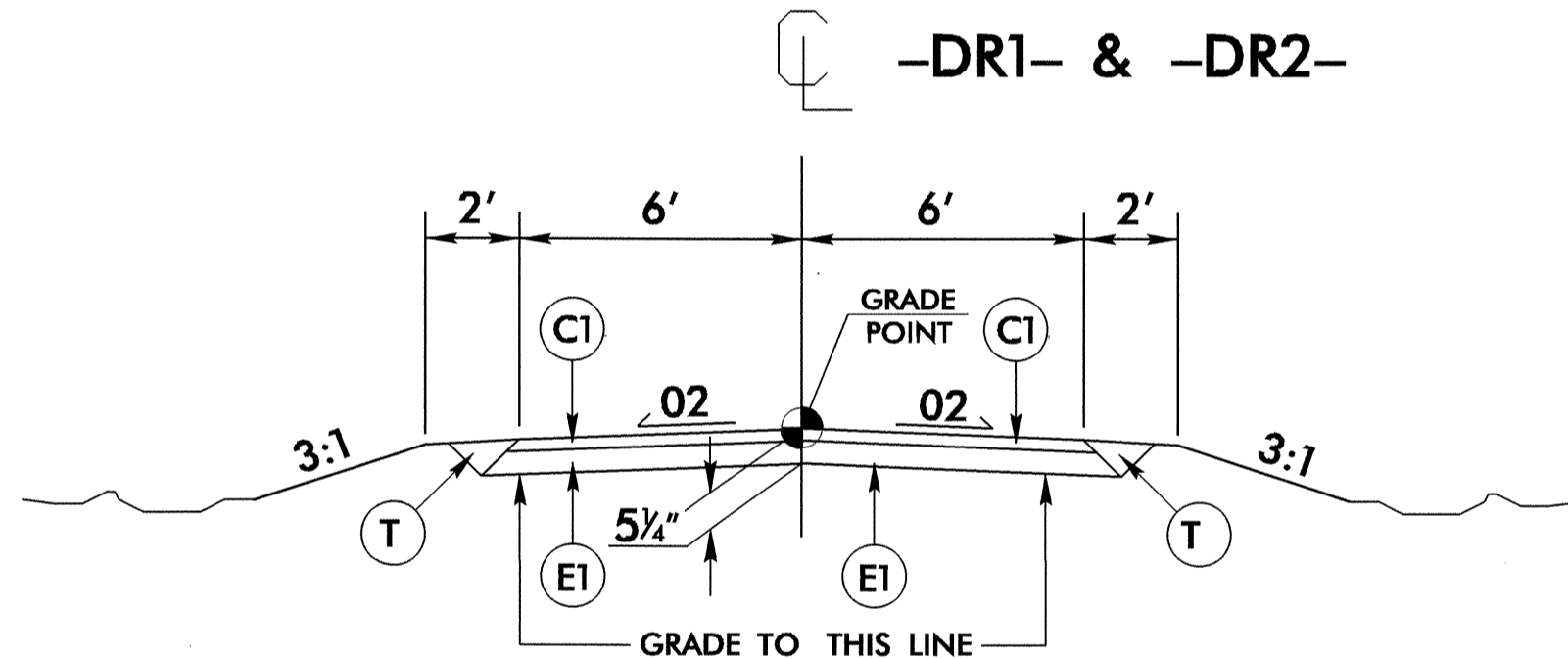
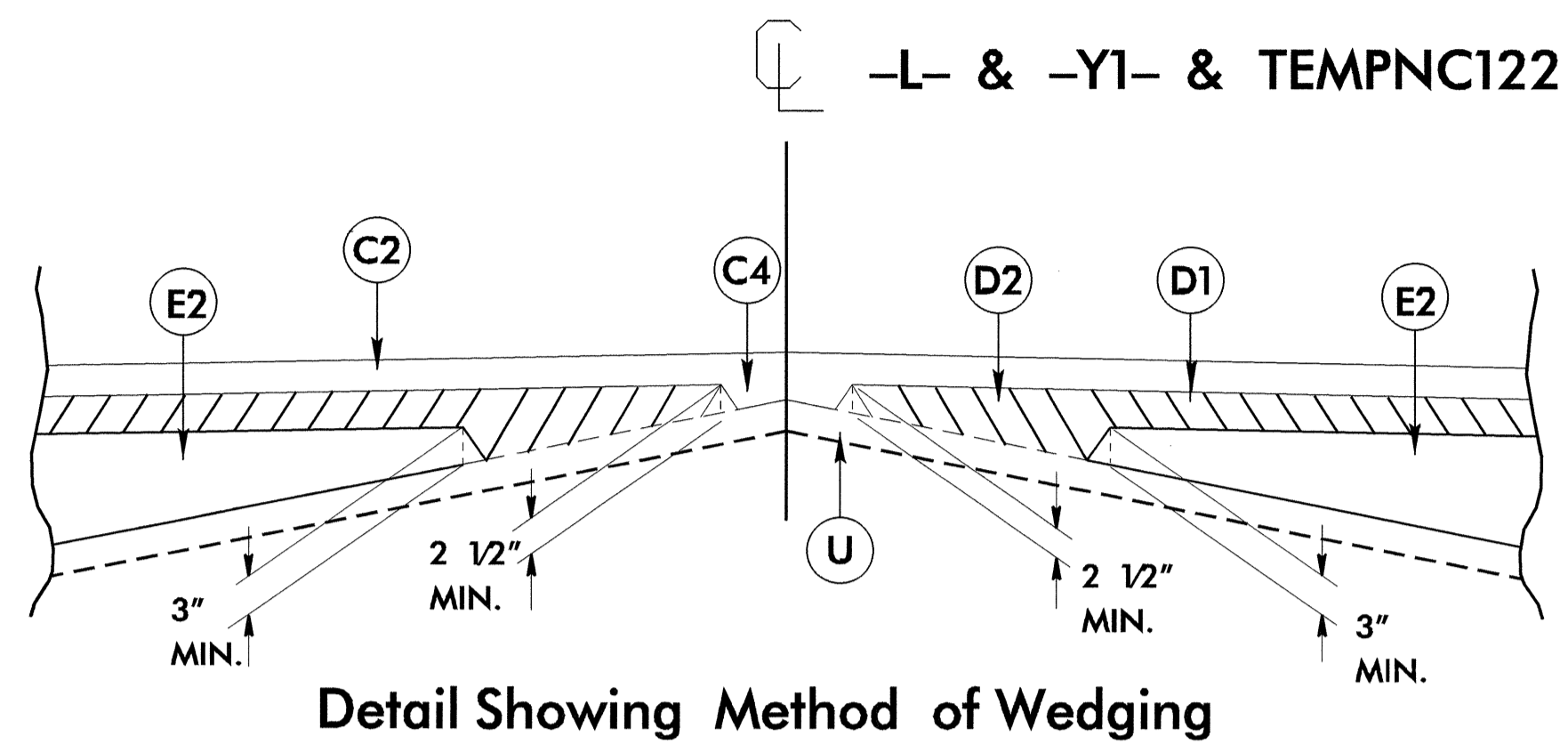
**TYPICAL SECTION No. 4**

USE TYPICAL SECTION NO. 4

-L- Sta. 10+24.14 to Sta. 17+51.45

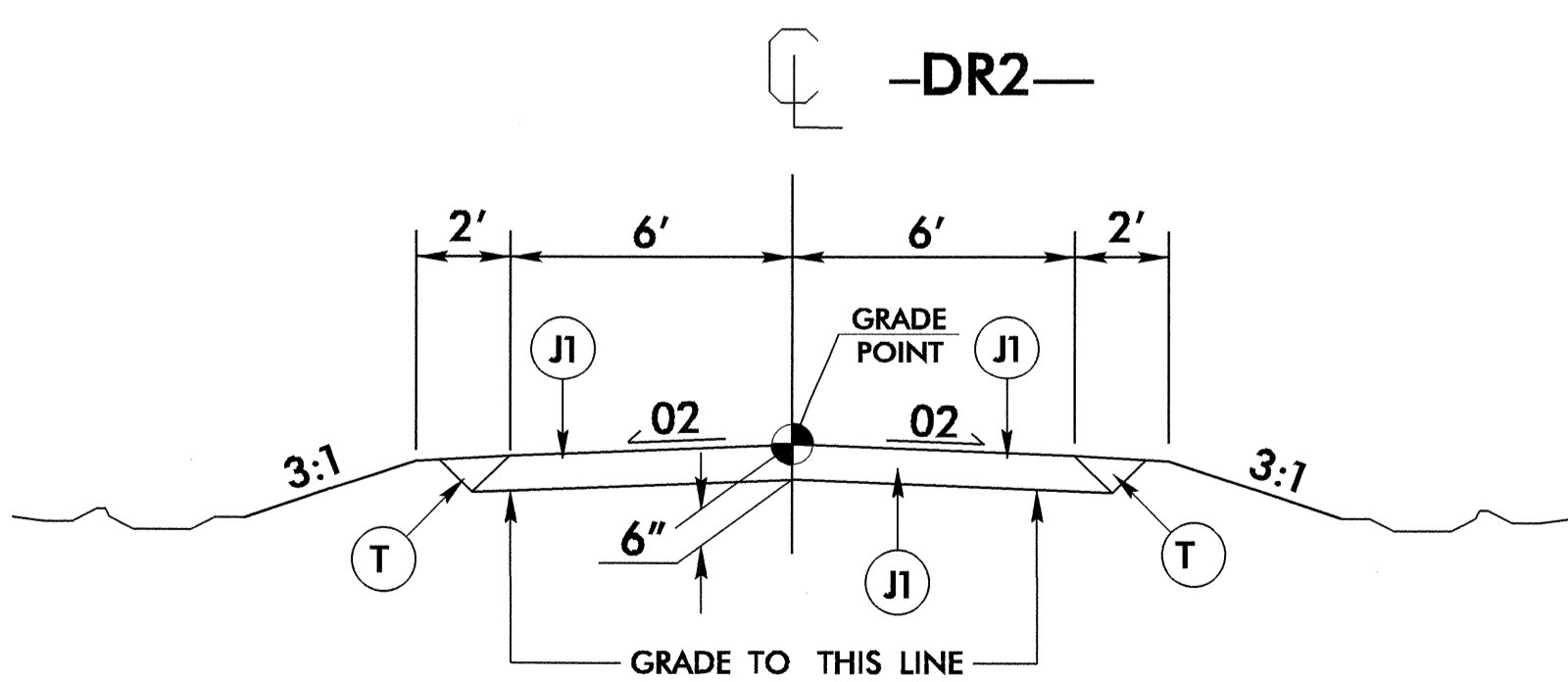
6/2/09

PROJECT REFERENCE NO. U-3826		SHEET NO. 2-B	
ROADWAY DESIGN ENGINEER SEAL 33296 S. D. Kendall 8-25-09		PAVEMENT DESIGN ENGINEER SEAL 13398 DON CHI CHEN 8/26/09	
<b>PAVEMENT SCHEDULE</b>			
C1	1 1/4" SF9.5A		
C2	1 1/2" S9.5B		
C3	3" S9.5B		
C4	VAR. S9.5B		
D1	2 1/2" I19.0B		
D2	VAR. I19.0B		
E1	4" B25.0B		
E2	VAR. B25.0B		
J1	6" ABC		
T	EARTH MATERIAL.		
U	EXISTING PAVEMENT		
W	WEDGING		



USE TYPICAL SECTION NO. 5  
 -DR1- Sta. 10+12 to Sta. 14+57.66  
 -DR2- Sta. 12+75 to Sta. 17+20.60

**TYPICAL SECTION No. 5**



USE TYPICAL SECTION NO. 6  
 -DR2- Sta. 5+42.80 to Sta. 12+75

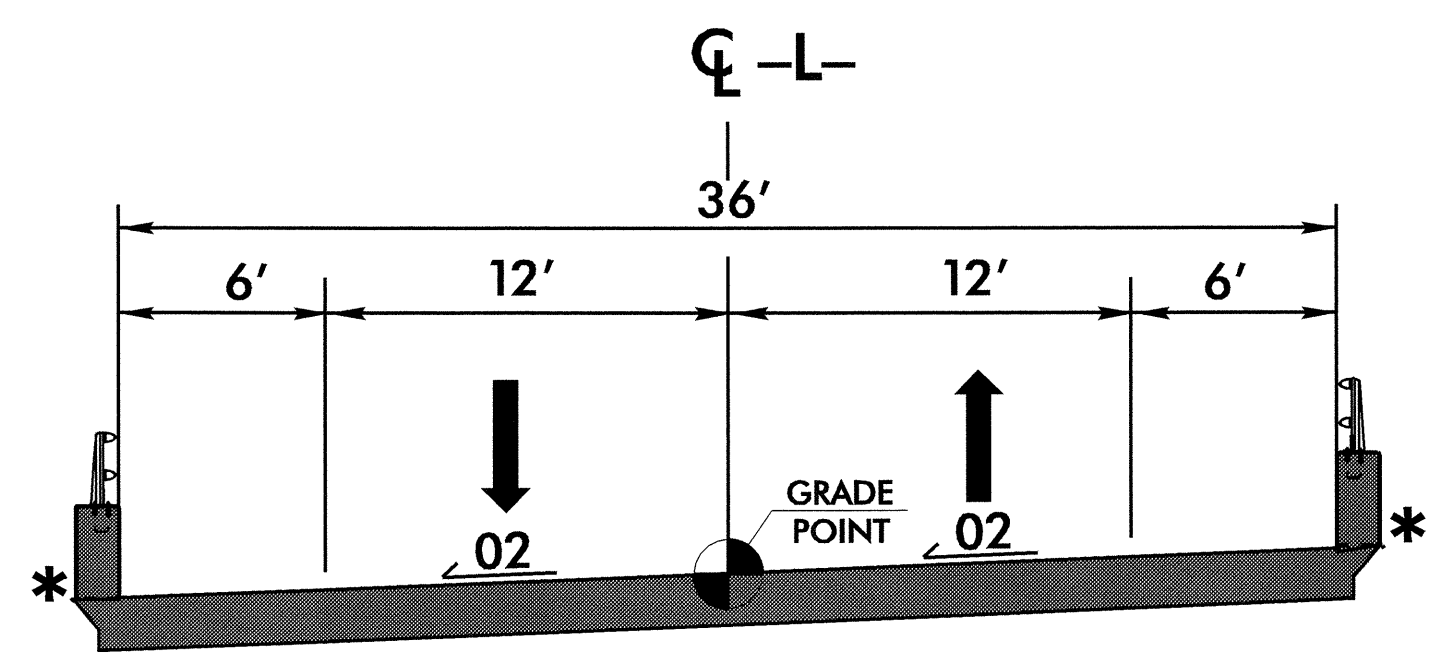
**TYPICAL SECTION No. 6**

25-AUG-2009 15:12  
 C:\pwork\2009\U3826\_rdy-tyr.dgn  
 33296



DESIGN DATA -L-		
ADT 2009	=	4,000
ADT 2030	=	6,100
DHV	=	12%
D	=	60%
T	=	11% *
V	=	60 mph
* TTST = 8%      DUAL = 3%		
FUNC CLASS-RURAL MAJOR COLLECTOR		

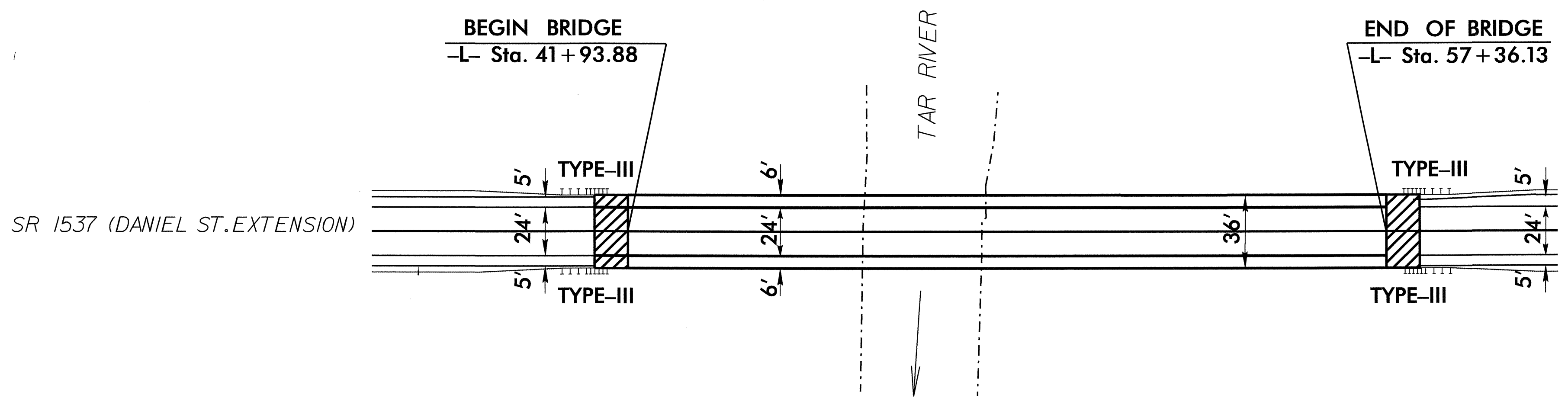
### STRUCTURE TYPICAL SECTIONS



\* BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT

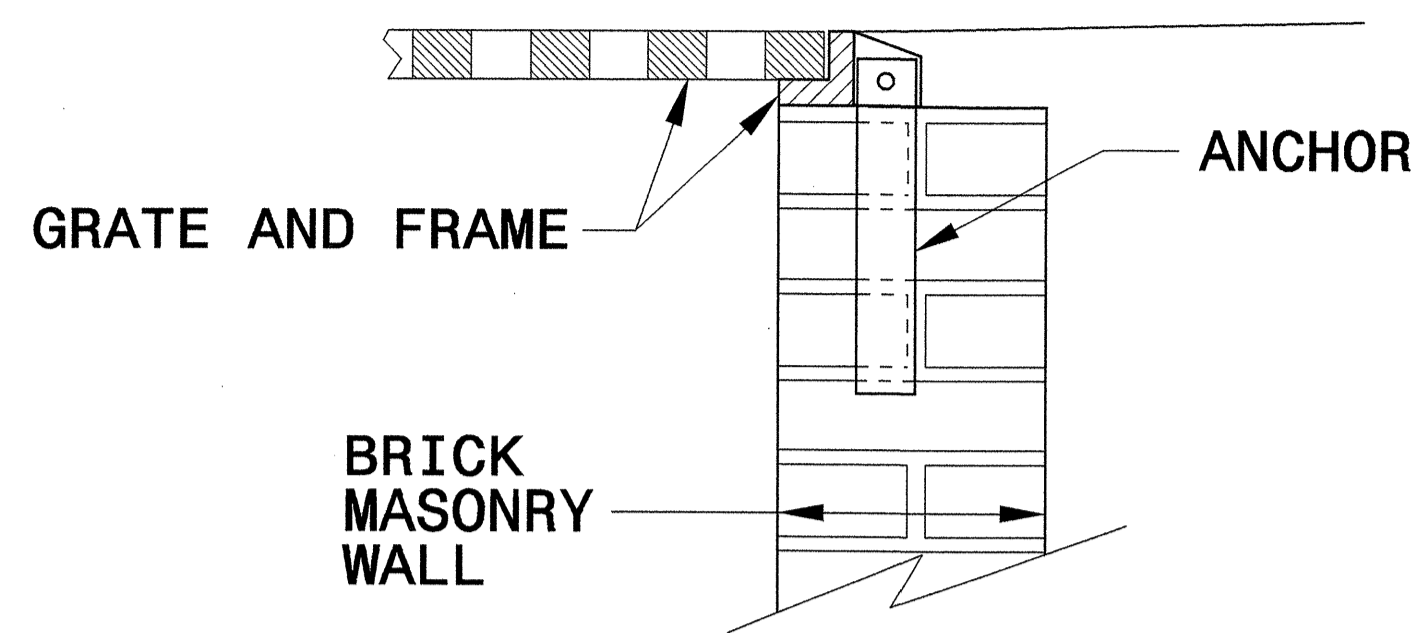
-L- Sta. 41 + 93.88 to Sta. 57 + 36.13

### SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

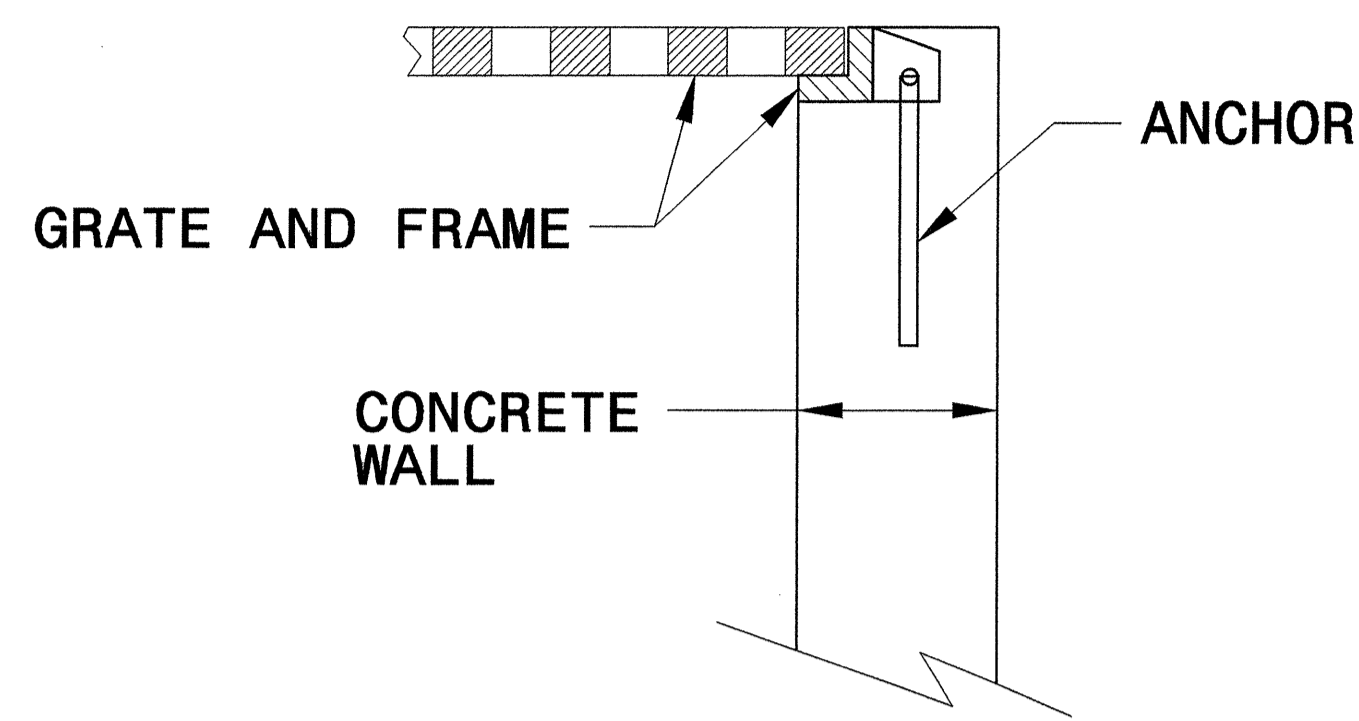


STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

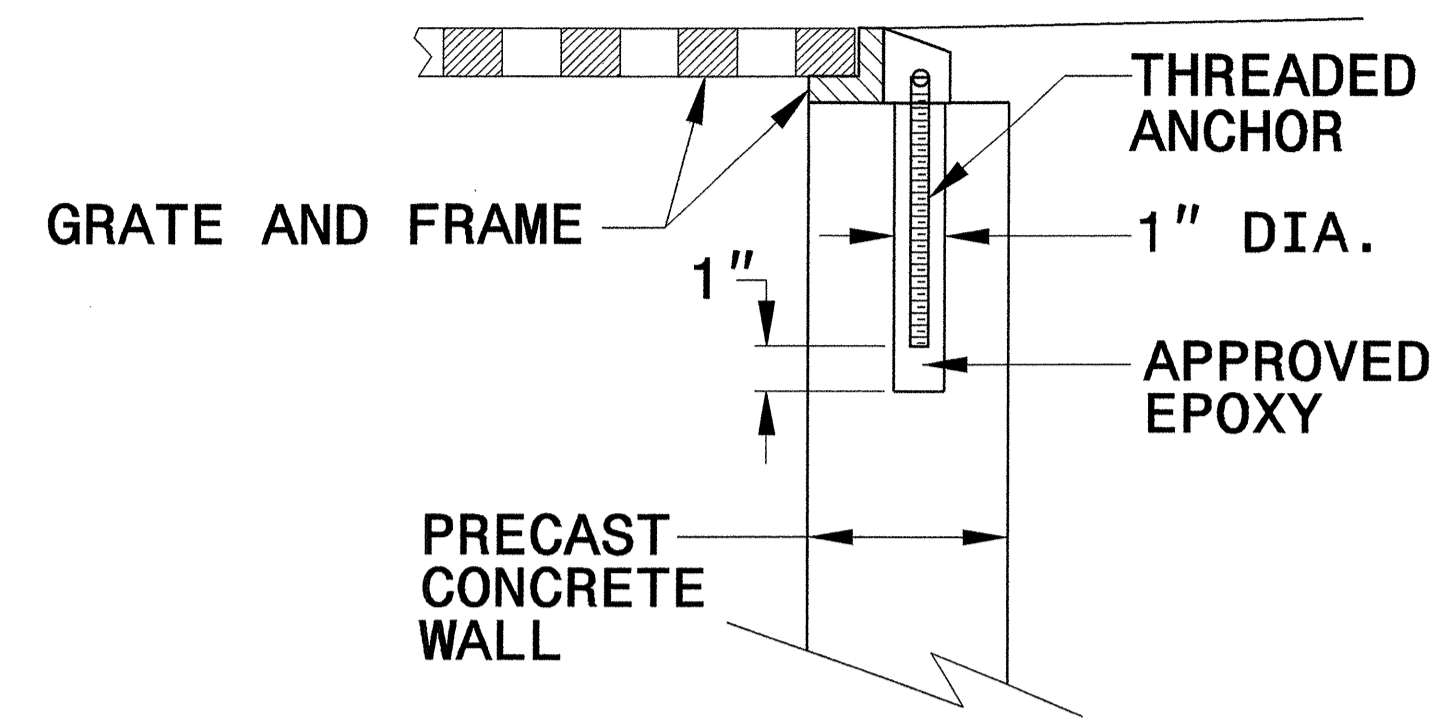
ENGLISH DETAIL DRAWING FOR  
**ANCHORAGE FOR FRAMES**  
BRICK/CONCRETE/PRECAST CONCRETE



**BRICK MASONRY CONSTRUCTION**



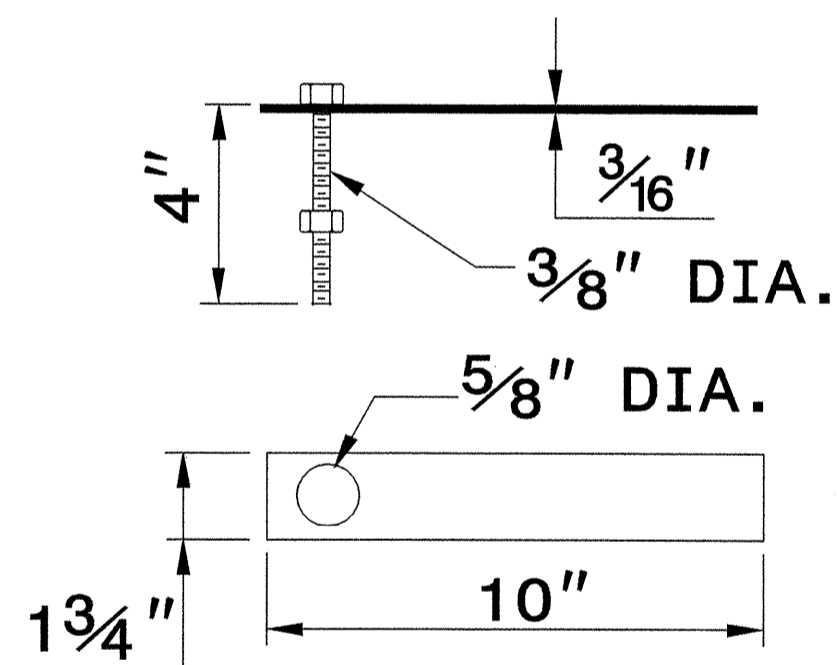
**CONCRETE CONSTRUCTION**



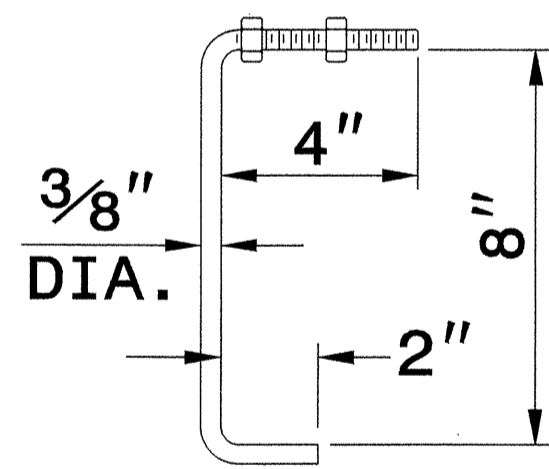
**PRECAST CONCRETE CONSTRUCTION**

**DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET**

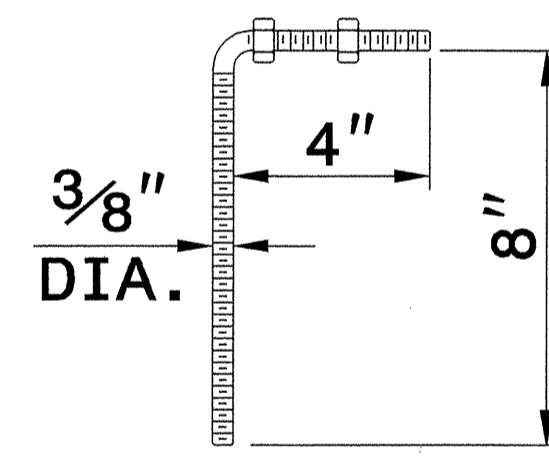
NOTE:  
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



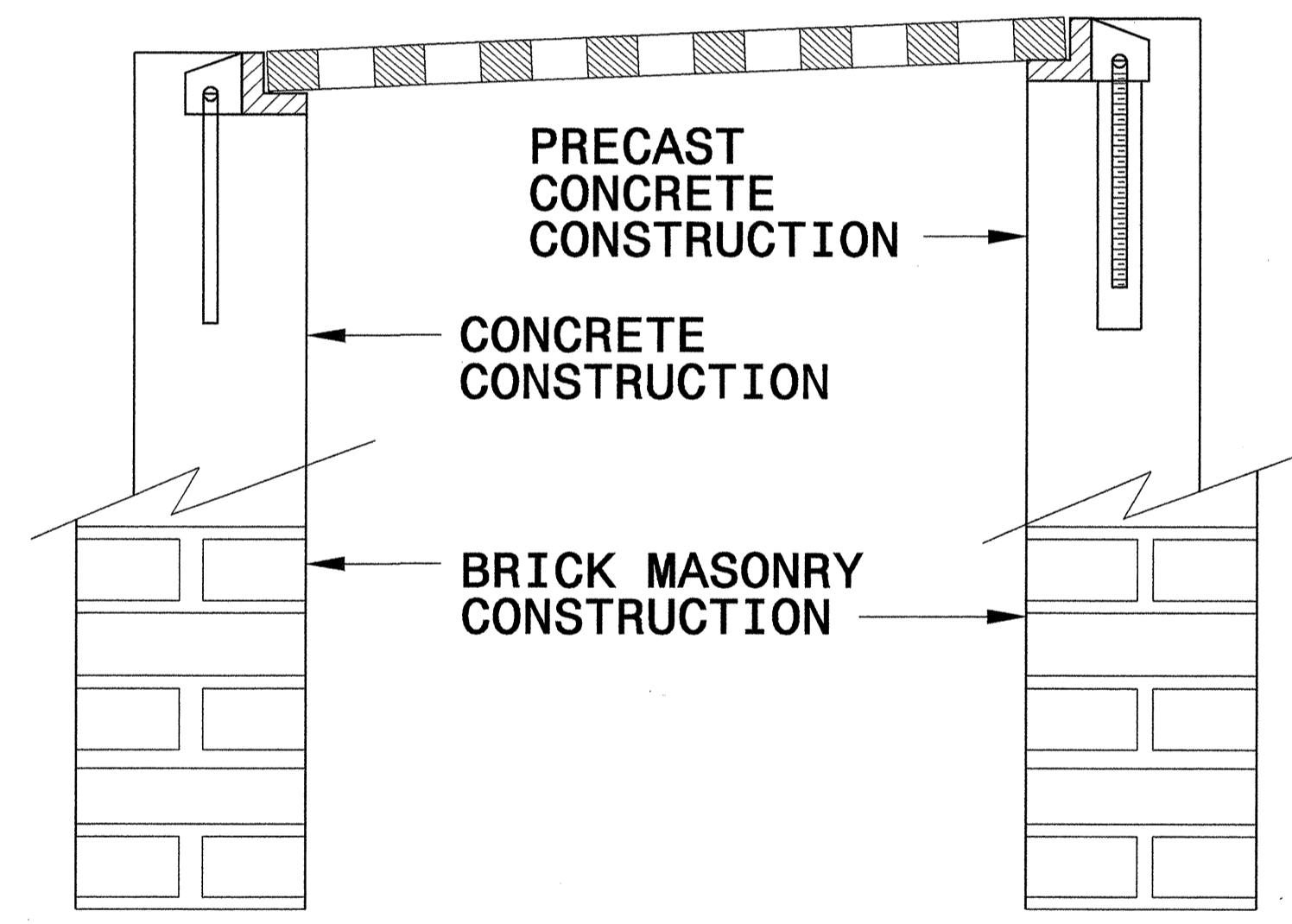
**MASONRY ANCHOR**  
3/8" DIA. BOLT WITH PLATE



**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**

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

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

*Professional Engineer Seal*  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 022966  
J. R. S. HOWARD  
9/26/09

**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: *[Signature]* DATE: 4/13/08  
FILE SPEC.:

\*\*\*\*\*  
SECTION 20 - CONSTRUCTION  
SUBSECTION 20.01 - CURBS AND GUTTERS  
\*\*\*\*\*



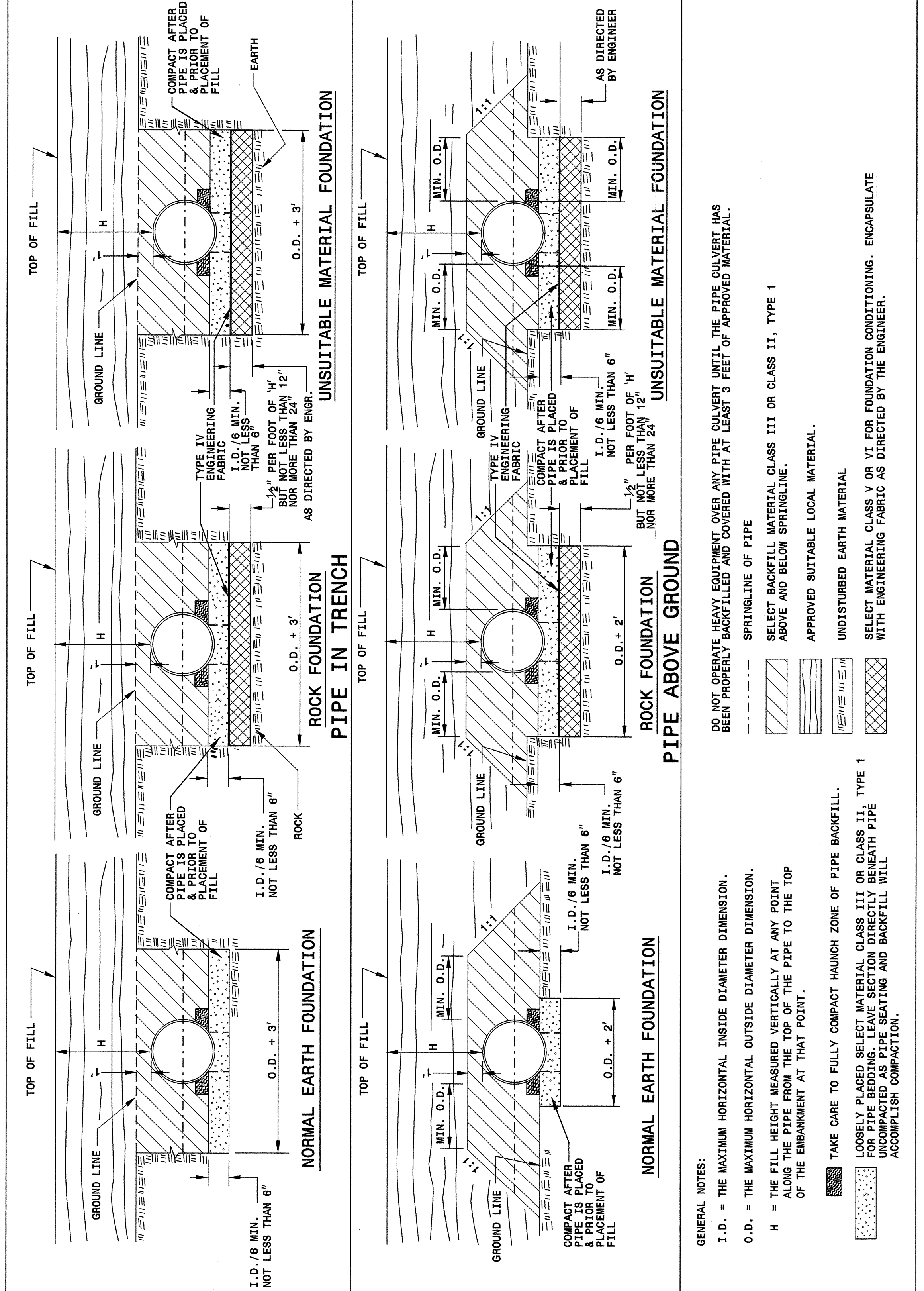
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

7-06

ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**

FLEXIBLE PIPE

SHEET 1 OF 3  
**300D01**



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.

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 TO ALLOW FOR SETTLING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SPRINGLINE OF PIPE

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.

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.

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, TYPE 1 ABOVE AND BELOW SPRINGLINE.

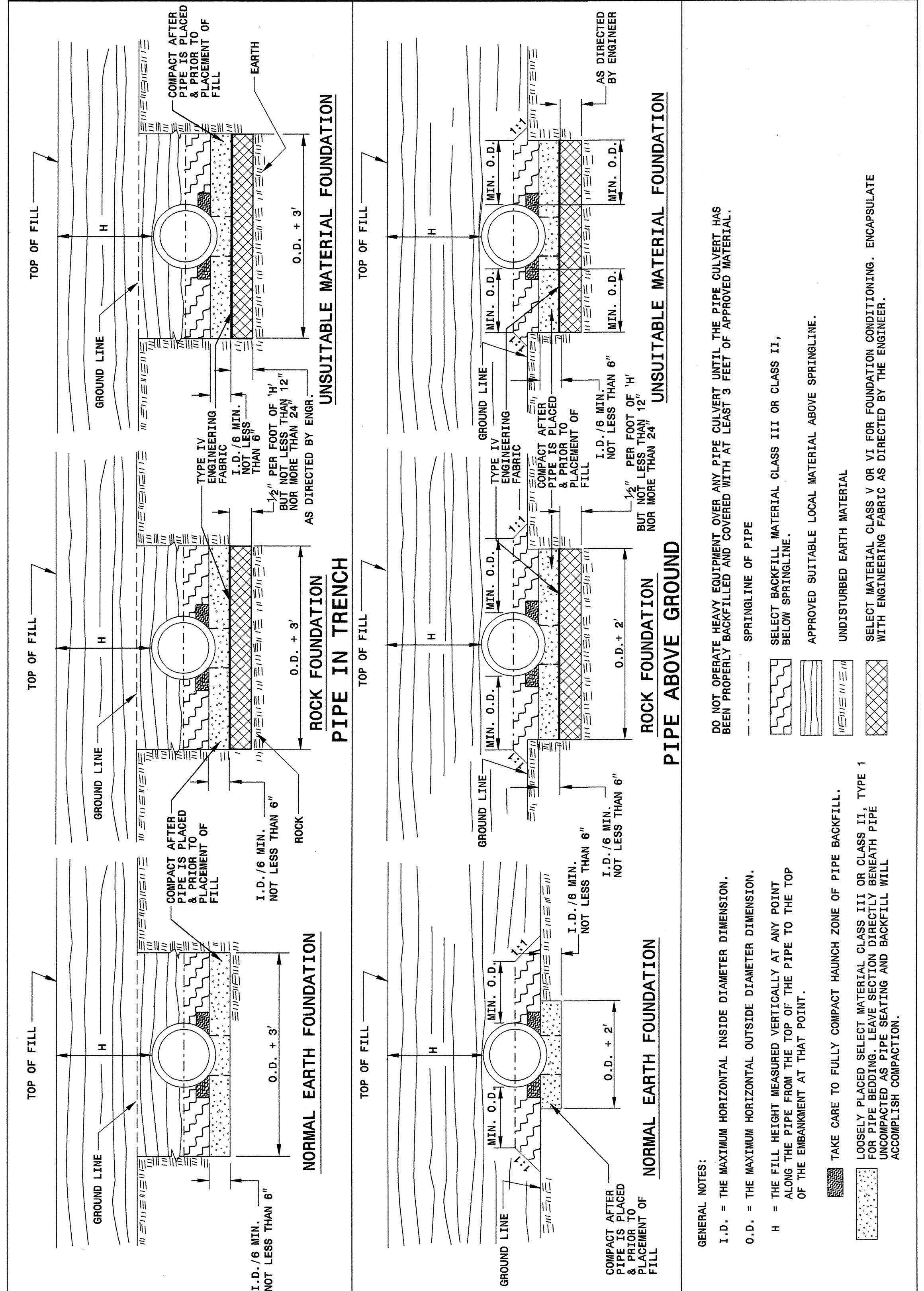
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

7-06

ENGLISH DETAIL DRAWING FOR  
**METHOD OF PIPE INSTALLATION**

RIGID PIPE

SHEET 2 OF 3  
**300D01**



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.

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 TO ALLOW FOR SETTLING AND BACKFILL WILL ACCOMPLISH COMPACTION.

SPRINGLINE OF PIPE

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.

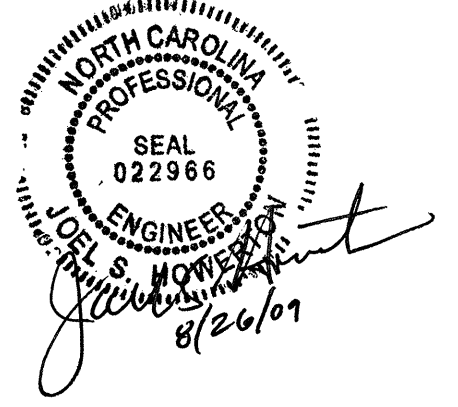
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.

**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 / ericward/stds/stdsdetails/30001/0300d01.dgn



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**

Round Corrugated Steel Pipe 2 2/3 x 1/2 corrugation **					
Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			8
		16	14	12	
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
48	12	48	61	87	113
54	12	42	54	77	100
60	12		69		90
66	12				81
72	12				74
78	12				69
84	12				69

Round Corrugated Aluminum Pipe 2 2/3 x 1/2 corrugation **					
Diameter (inches)	Minimum cover (inches)	Maximum Height of Cover (feet)			8
		16	14	12	
12	12	123	155	218	281
15	12	98	123	174	224
18	12	81	102	144	187
21	12	69	87	123	160
24	12	60	76	108	139
27	12	67	95	123	151
30	12	60	85	111	136
36	12	50	71	92	113
42	12	60	78	96	113
48	12	52	68	88	84
54	12	46	60	74	74
60	12	50	50	62	62
66	12	51	51	51	51
72	12	41	41	41	41

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

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- GSP - 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**

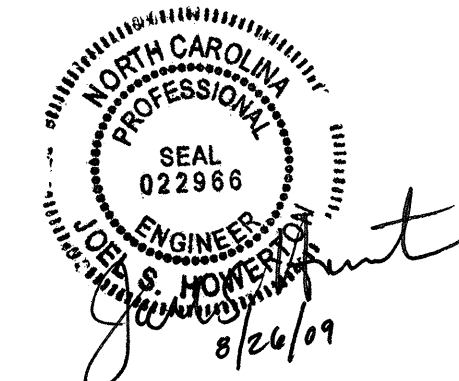
FILL HEIGHT TABLES

SHEET 3 OF 3  
**300D01**

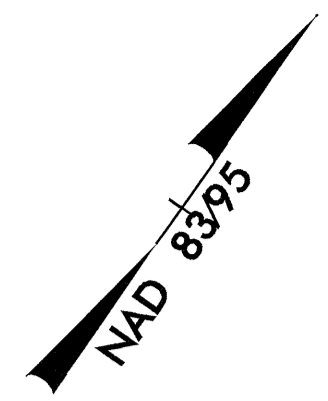
**PROJECT SERVICES UNIT  
 STANDARDS AND SPECIAL DESIGN**  
 Office 919-250-4128 FAX 919-250-4119

**SEE PLATE FOR TITLE**

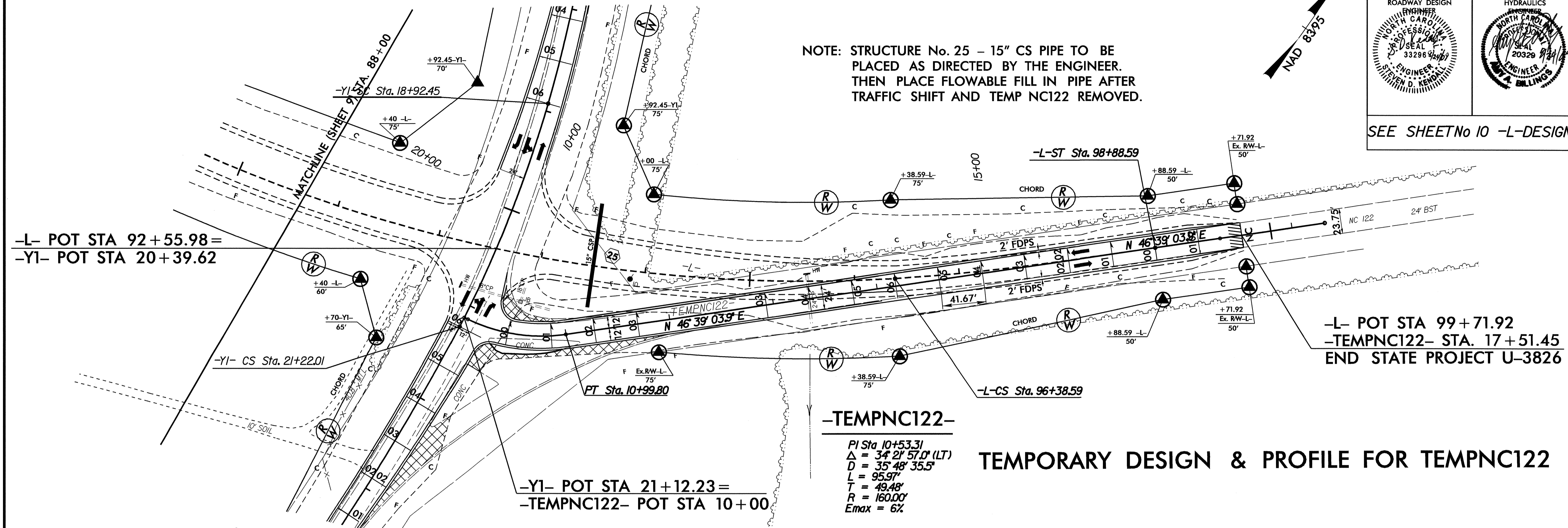
ORIGINAL BY: KKempf DATE: 5-15-09  
 MODIFIED BY: *[Signature]* DATE: 7/30/09  
 CHECKED BY: *[Signature]* DATE: 7/30/09  
 FILE SPEC: ericward/stds/stdstodetails/30001/0300d01.dgn





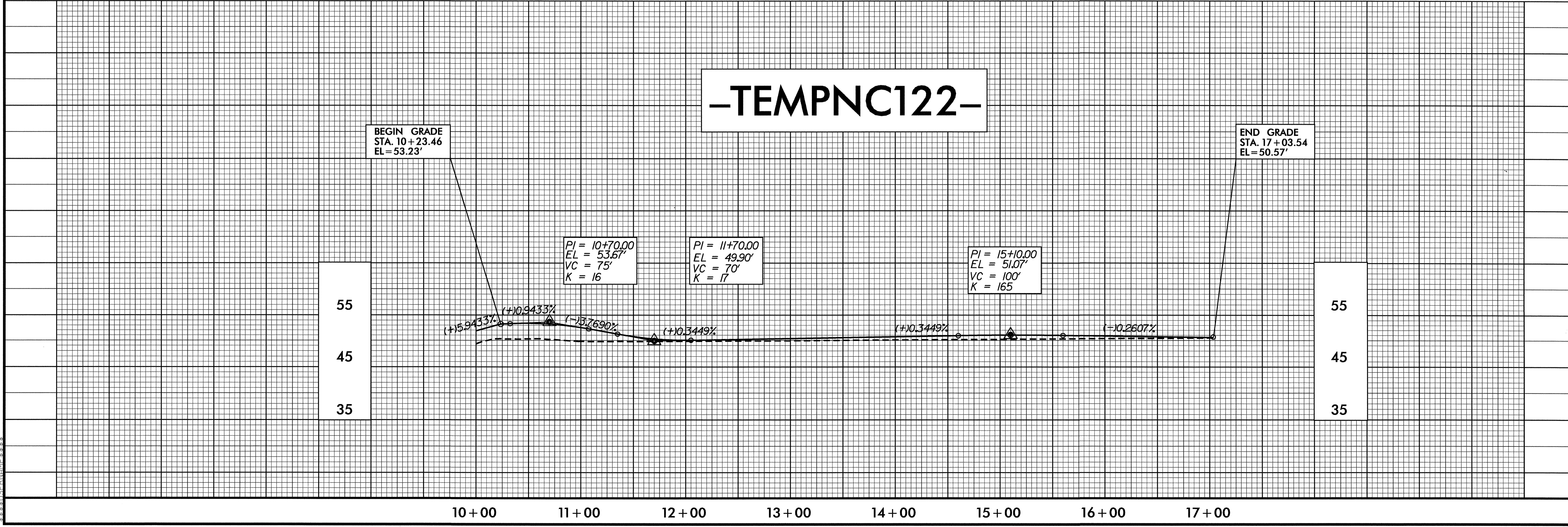


NOTE: STRUCTURE No. 25 - 15" CS PIPE TO BE PLACED AS DIRECTED BY THE ENGINEER. THEN PLACE FLOWABLE FILL IN PIPE AFTER TRAFFIC SHIFT AND TEMP NC122 REMOVED.

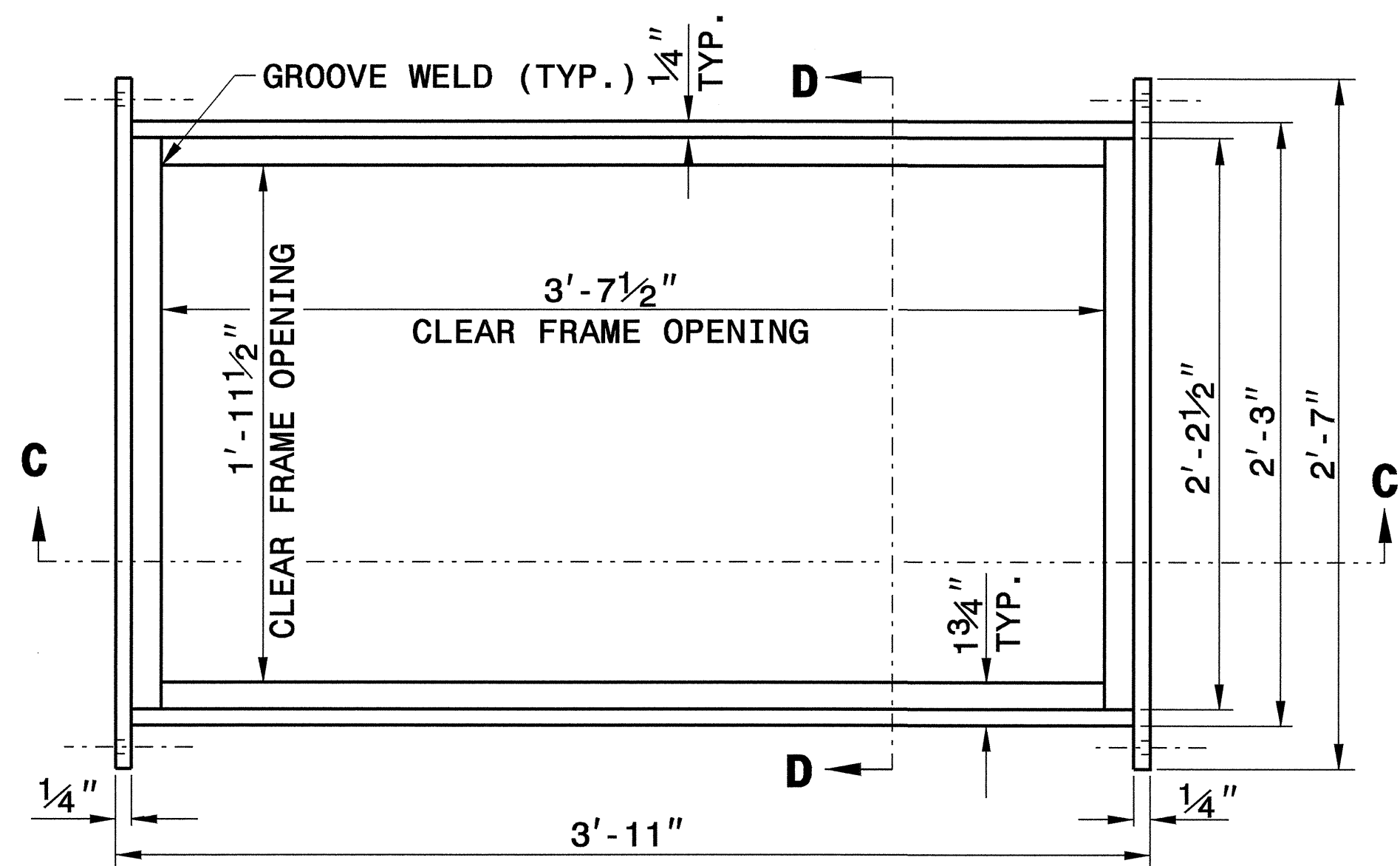


**-TEMPNC122-**  
 PI Sta 10+53.31  
 $\Delta = 34^\circ 21' 57.0\" (LT)$   
 $D = 35^\circ 48' 35.5\"$   
 $L = 95.97'$   
 $T = 49.48'$   
 $R = 160.00'$   
 $E_{max} = 6\%$

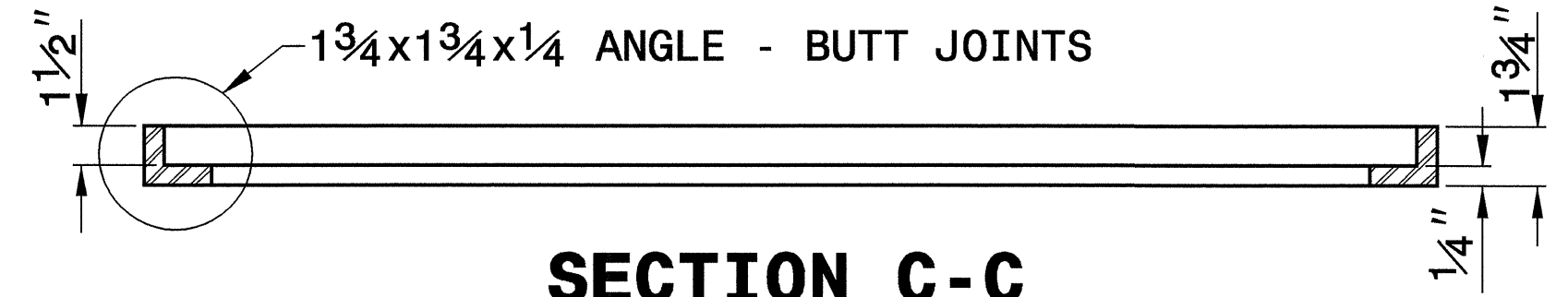
**TEMPORARY DESIGN & PROFILE FOR TEMPNC122**



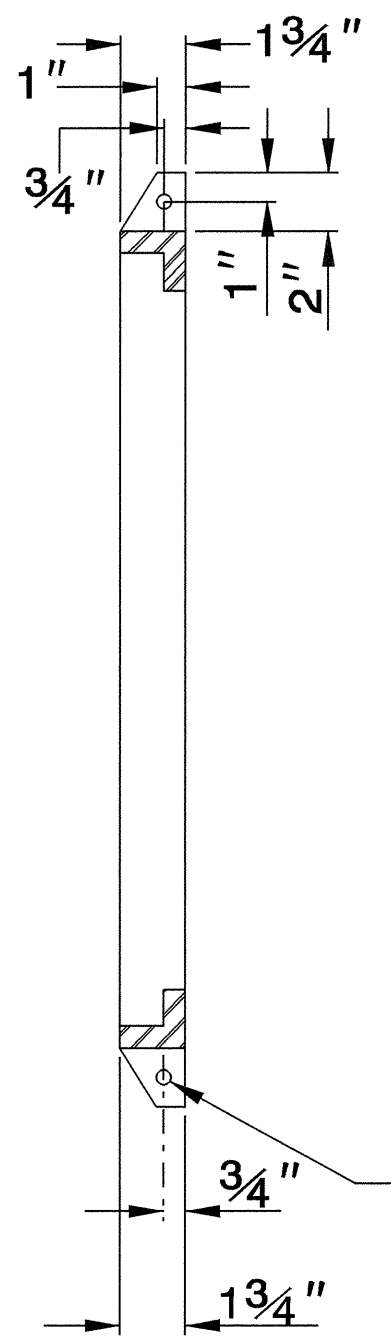




**PLAN VIEW**



**SECTION C-C  
FRAME**

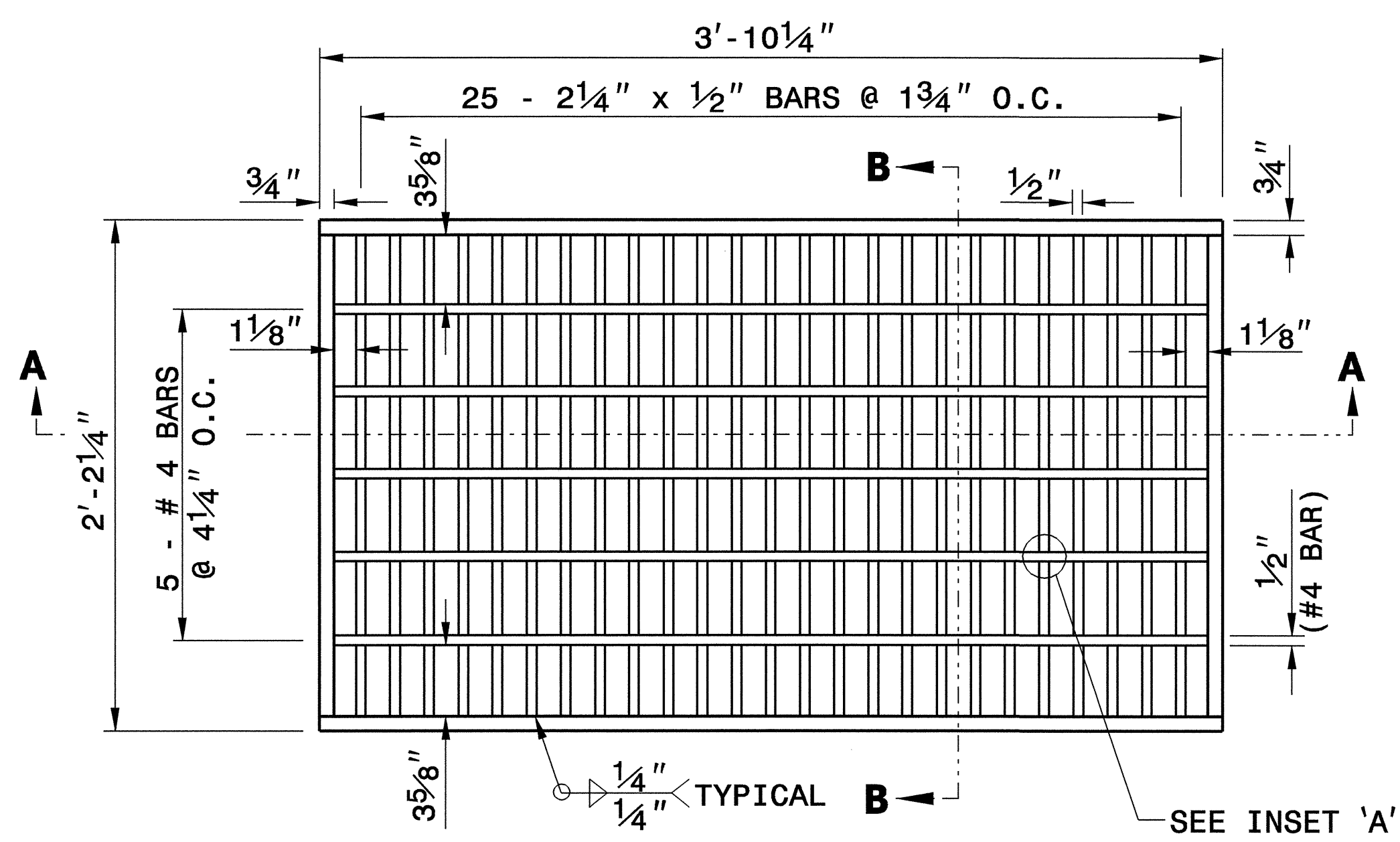


**SECTION 'D-D'**

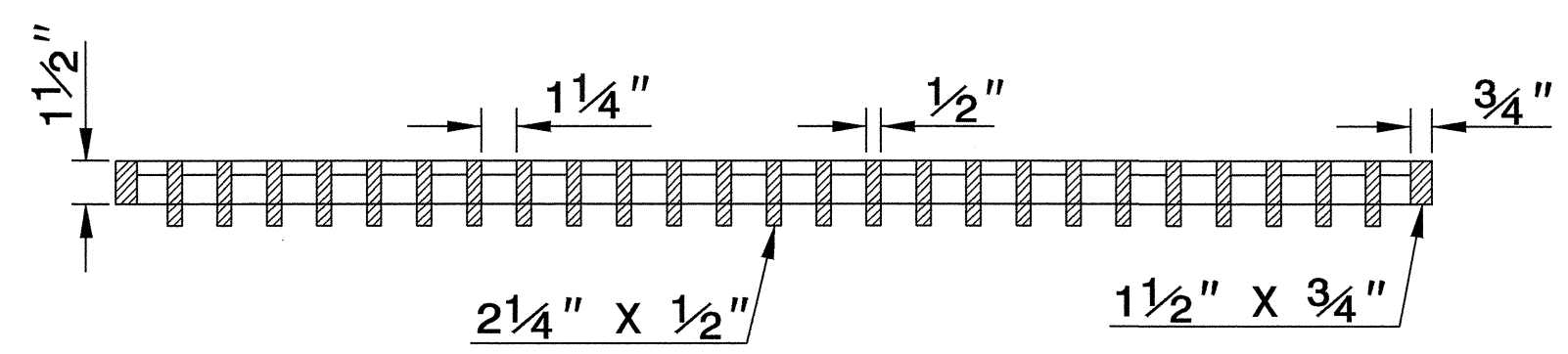
1/2" DIA. HOLE FOR  
3/8" DIA. CONCRETE  
ANCHOR (4 REQUIRED)  
(SEE STANDARD 840.25  
FOR FRAME ANCHORAGE)

**NOTES:**

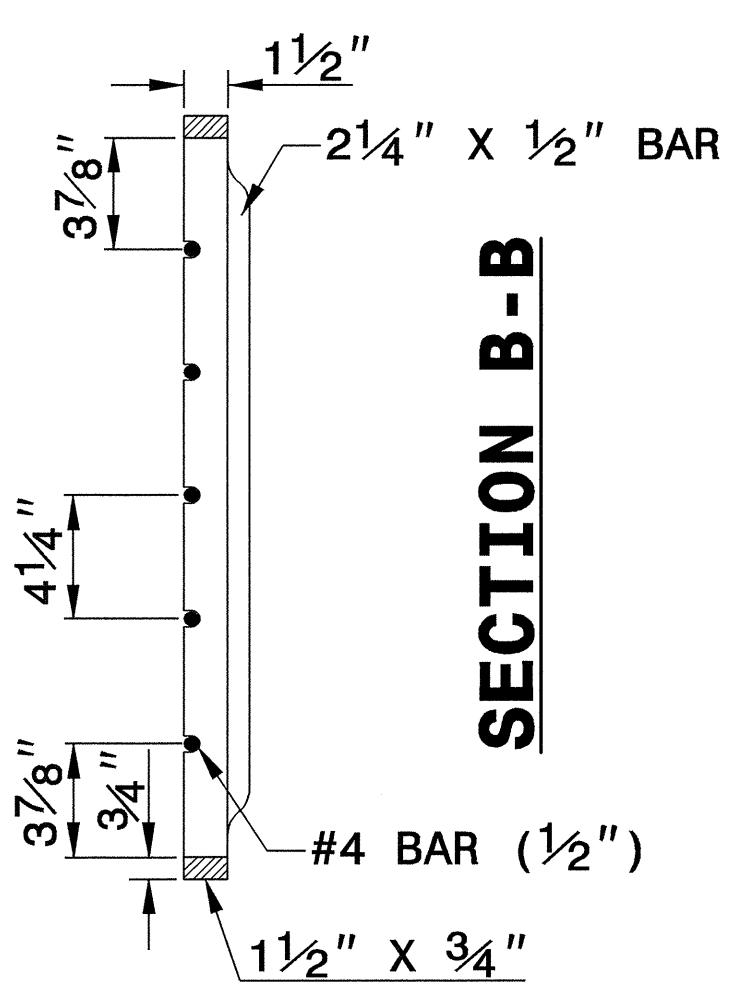
1. HOT DIP GALVANIZE FRAME AND GRATE IN ACCORDANCE WITH ASTM DESIGNATION A-123 AND AASHTO M-111.
2. GRATE SHOULD MEET HS-20 LOADING.
3. PROVIDE STEEL CONFORMING TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-36.
4. WELD IN ACCORDANCE WITH THE ANSI/AASHTO/AWS D1.5 WELDING CODE. SEAL WELD ALL CONNECTIONS ALONG TOP AND BOTTOM HORIZONTAL SEAMS OF CONNECTIONS IN ADDITION TO ANY REQUIRED STRUCTURAL WELDS.
5. SEE DETAIL DRAWING 840D25 FOR FRAME ANCHORAGE.



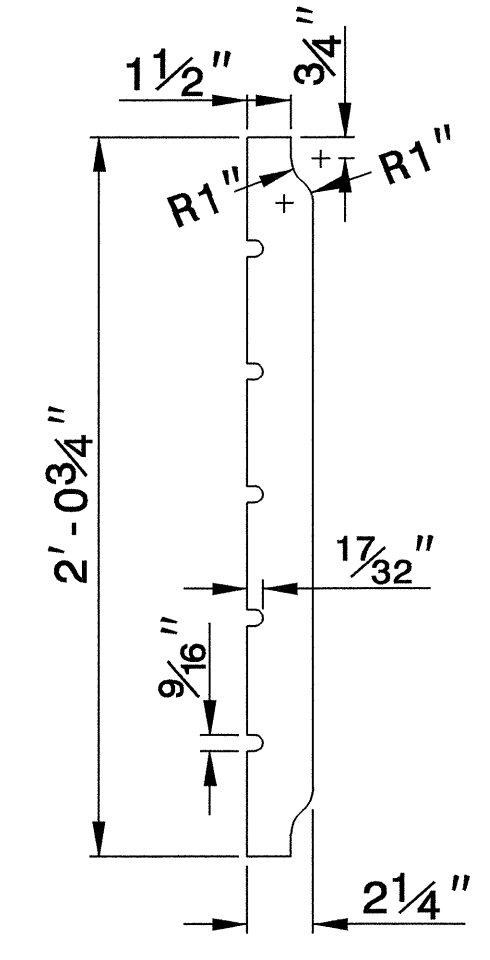
**PLAN VIEW**



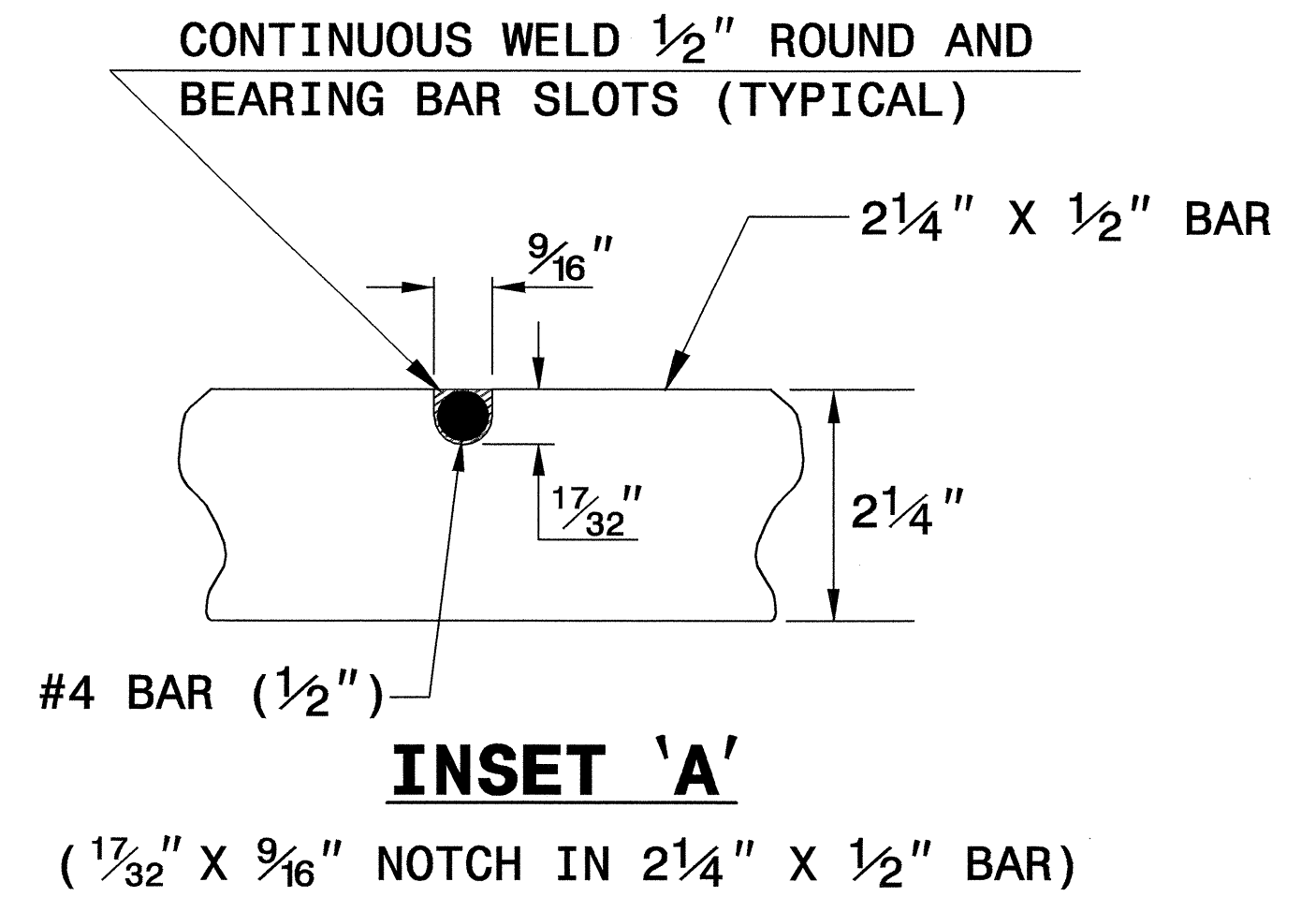
**SECTION A-A  
GRATE**



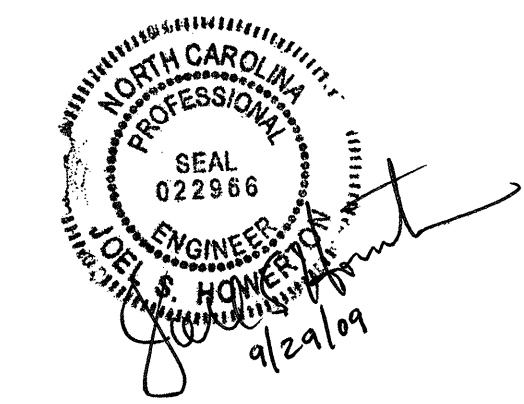
**SECTION B-B**



**DETAIL OF BEARING BAR**



19-AUG-2009 13:43  
 s:\contracts\contract9643\spec\detail\stand\details\stand\bicyclesafe.dgn  
 jhowerton A1 P5237501  
 5/14/99



REVISED 10-10-02  
FOR HS-20 LOADING

<b>PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN</b>	
Office 919-250-4128 FAX 919-250-4119	
<b>BICYCLE SAFE STEEL GRATE AND FRAME</b>	
ORIGINAL BY: E.E. WARD	DATE: 11-12-98
MODIFIED BY: E.E. WARD	DATE: 10-10-02
CHECKED BY: <i>Joel S. Homeny</i>	DATE: 8/19/09
FILE SPEC.: <i>usr/stand/details/bicyclesafe.dgn</i>	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**SUMMARY OF QUANTITIES**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202157

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
000100000-E	200	Lump Sum		CLEARING & GRUBBING .. ACRE(S)
000800000-E	200	2	ACR	SUPPLEMENTARY CLEARING & GRUBBING
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (49+65.00-L-)
003600000-E	225	1,900	CY	UNDERCUT EXCAVATION
013400000-E	240	9,600	CY	DRAINAGE DITCH EXCAVATION
015600000-E	250	1,200	SY	REMOVAL OF EXISTING ASPHALT PAVEMENT
017700000-E	250	700	SY	BREAKING OF EXISTING ASPHALT PAVEMENT
019200000-N	260	10	HR	PROOF ROLLING
019400000-E	SP	400	CY	SELECT GRANULAR MATERIAL, CLASS III
019600000-E	270	400	SY	FABRIC FOR SOIL STABILIZATION
031800000-E	300	220	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
032000000-E	SP	670	5Y	FOUNDATION CONDITIONING FABRIC
034400000-E	310	140	LF	18" SIDE DRAIN PIPE
036600000-E	310	228	LF	15" RC PIPE CULVERTS, CLASS III
037800000-E	310	232	LF	24" RC PIPE CULVERTS, CLASS III
039000000-E	310	360	LF	36" RC PIPE CULVERTS, CLASS III
070800000-E	310	100	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
071400000-E	310	116	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
080700000-E	310	4	EA	18" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
098600000-E	SP	72	LF	GENERIC PIPE ITEM 16" DUCTILE IRON PIPE
099500000-E	340	152	LF	PIPE REMOVAL
101100000-N	500	Lump Sum		FINE GRADING
111000000-E	510	500	TON	STABILIZER AGGREGATE
122000000-E	545	100	TON	INCIDENTAL STONE BASE
149800000-E	610	5,100	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B
151900000-E	610	6,150	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
152500000-E	610	110	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
169300000-E	654	55	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	63	EA	RIGHT OF WAY MARKERS
202200000-E	815	67.2	CY	SUBDRAIN EXCAVATION
203300000-E	815	33.6	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
205500000-E	815	6	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
206600000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
220900000-E	838	13	CY	ENDWALLS
227500000-E	SP	20	CY	FLOWABLE FILL
228600000-N	840	7	EA	MASONRY DRAINAGE STRUCTURES
236400000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.16
245100000-N	852	3	EA	CONCRETE TRANSITIONAL SECTION FOR DROP INLETS
246200000-E	SP	2	EA	*** SLUICE GATE (25")
247300000-N	SP	4	EA	GENERIC DRAINAGE ITEM BICYCLE SAFE STEEL GRATE AND FRAME
247400000-N	SP	Lump Sum		GENERIC DRAINAGE ITEM HAZARDOUS SPILL BASIN
255600000-E	846	210	LF	SHOULDER BERM GUTTER
265500000-E	852	260	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)
303000000-E	862	3,212.5	LF	STEEL BM GUARDRAIL

ItemNumber	Sec #	Quantity	Unit	Description
304500000-E	862	125	LF	STEEL BM GUARDRAIL, SHOP CURVED
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
319500000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
362800000-E	876	35	TON	RIP RAP, CLASS 1
364900000-E	876	525	TON	RIP RAP, CLASS B
365600000-E	876	2,960	SY	FILTER FABRIC FOR DRAINAGE
407200000-E	903	851	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	6	EA	SIGN ERECTION, TYPE D
410200000-N	904	48	EA	SIGN ERECTION, TYPE E
410800000-N	904	11	EA	SIGN ERECTION, TYPE F
415500000-N	907	2	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	306	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	288	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	117	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
443000000-N	1130	50	EA	DRUMS
444500000-E	1145	120	LF	BARRICADES (TYPE III)
445000000-N	1150	320	HR	FLAGGER
451000000-N	SP	40	HR	LAW ENFORCEMENT
465000000-N	1251	30	EA	TEMPORARY RAISED PAVEMENT MARKERS
469500000-E	1205	40	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
472500000-E	1205	14	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
481000000-E	1205	80,650	LF	PAINT PAVEMENT MARKING LINES (4")
483500000-E	1205	60	LF	PAINT PAVEMENT MARKING LINES (24")
484500000-N	1205	20	EA	PAINT PAVEMENT MARKING SYMBOL
484700000-E	1205	39,888	LF	POLYUREA PAVEMENT MARKING LINES (4", *****) (STANDARD GLASS BEADS)
600000000-E	1605	13,000	LF	TEMPORARY SILT FENCE
600600000-E	1610	1,180	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	1,810	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	885	TON	SEDIMENT CONTROL STONE
601500000-E	1615	58	ACR	TEMPORARY MULCHING
601800000-E	1620	1,100	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	5.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	10,030	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	29	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	2,340	LF	SAFETY FENCE
603000000-E	1630	9,230	CY	SILT EXCAVATION
603600000-E	1631	12,000	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	90	SY	COIR FIBER MAT
603800000-E	SP	400	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	550	LF	1/4" HARDWARE CLOTH
6071010000-E	SP	230	LF	WATTLE
6071020000-E	SP	114	LB	POLYACRYLAMIDE (PAM)
6071030000-E	SP	2,470	LF	COIR FIBER BAFFLES
6071050000-E	SP	9	EA	*** SKIMMER (1-1/2")
6071050000-E	SP	1	EA	*** SKIMMER (2")
608400000-E	1660	45	ACR	SEEDING & MULCHING
608700000-E	1660	49.5	ACR	MOWING
609000000-E	1661	450	LB	SEED FOR REPAIR SEEDING

ItemNumber	Sec #	Quantity	Unit	Description
609300000-E	1661	1.75	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	1,000	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	29.75	TON	FERTILIZER TOPDRESSING
611450000-N	SP	100	MHR	SPECIALIZED HAND MOWING
611700000-N	SP	36	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.1	ACR	REFORESTATION
612900000-E	1670	0.864	ACR	WETLAND REFORESTATION
613500000-E	SP	0.864	ACR	GENERIC EROSION CONTROL ITEM DISKING
613500000-E	SP	0.864	ACR	GENERIC EROSION CONTROL ITEM RIPPING
613800000-E	SP	1,500	CY	GENERIC EROSION CONTROL ITEM BORROW PIT DEWATERING BASIN

\*\*\*\*\* BEGIN SCHEDULE AA \*\*\*\*\*  
\*\*\*\*\* (2 ALTERNATES) \*\*\*\*\*

002200000-E	225	28,300	CY	UNCLASSIFIED EXCAVATION
AA1				
010600000-E	230	177,700	CY	BORROW EXCAVATION
AA1				
112100000-E	520	14,000	TON	AGGREGATE BASE COURSE
AA1				
148900000-E	610	3,400	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
AA1				
156000000-E	620	763	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
AA1				
*** OR ***				
002200000-E	225	27,100	CY	UNCLASSIFIED EXCAVATION
AA2				
010600000-E	230	180,700	CY	BORROW EXCAVATION
AA2				
112100000-E	520	400	TON	AGGREGATE BASE COURSE
AA2				
148900000-E	610	10,100	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
AA2				
156000000-E	620	1,051	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
AA2				

\*\*\*\*\* END SCHEDULE AA \*\*\*\*\*  
\*\*\*\*\* BEGIN SCHEDULE AB \*\*\*\*\*  
\*\*\*\*\* (3 ALTERNATES) \*\*\*\*\*

037200000-E	310	736	LF	18" RC PIPE CULVERTS, CLASS III
AB1				

\*\*\* OR \*\*\*

ItemNumber	Sec #	Quantity	Unit	Description
037200000-E	310	580	LF	18" RC PIPE CULVERTS, CLASS III
AB2				
053600000-E	SP	156	LF	**** HDPE PIPE CULVERTS (18")
AB2				
*** OR ***				
037200000-E	310	580	LF	18" RC PIPE CULVERTS, CLASS III
AB3				
054000000-E	SP	156	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (18", 0.064")
AB3				

\*\*\*\*\* END SCHEDULE AB \*\*\*\*\*

5/28/99

17-AUG-2009 16:08  
133680581003826-r-dj-sum.dgn





DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA  
**EARTHWORK SUMMARY**  
 IN CUBIC YARDS  
**AGGREGATE BASE COURSE DESIGN**

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
<b>SUMMARY No. 1</b>					
-L- Sta. 10 + 08.76 to Sta. 38 + 00.00	4,459	532	91,845	87,386	532
<b>SUMMARY No. 1 TOTAL</b>	4,459	532	91,845	87,386	532
<b>SUMMARY No. 2</b>					
-L- Sta. 38 + 00.00 to Sta. 41 + 93.88	0	0	48,481	48,481	0
-DR 1- Sta. 10 + 12.00 to Sta. 14 + 57.68	0	0	8,375	8,375	0
<b>SUMMARY No. 2 TOTAL</b>	0	0	56,856	56,856	0
<b>SUMMARY No. 3</b>					
-L- Sta. 57 + 36.13 to Sta. 87 + 00.00	7,065	1,196	34,254	27,189	1,196
-DR 2- Sta. 5 + 42.80 to Sta. 17 + 20.60	12,977	0	2,171	0	10,806
RAILROAD REMOVAL					
<b>SUMMARY No. 3 TOTAL</b>	20,042	1,196	36,425	27,189	12,002
<b>SUMMARY No. 4</b>					
-L- Sta. 87 + 00 to Sta. 99 + 71.92	3,046	0	4,694	1,648	0
-YI- Sta. 15 + 65.00 to Sta. 25 + 00.00	253	0	1,542	1,289	0
<b>SUMMARY No. 4 TOTAL</b>	3,299	0	6,236	2,937	0
<b>SUMMARY No. 5</b>					
-TEMPNC122- Sta. 10 + 25.00 to Sta. 17 + 51.45	5	0	1,053	1,048	0
<b>SUMMARY No. 5 TOTAL</b>	5	0	1,053	1,048	0
<b>SUMMARY No. 6</b>					
REMOVAL -TEMPNC122- Sta. 10 + 25.00 to Sta. 17 + 51.45	400	0	0	0	400
<b>SUMMARY No. 6 TOTAL</b>	400	0	0	0	400
<b>SUMMARIES TOTAL</b>	28,205	1,728	192,415	175,416	12,934
SHOULDER MATERIAL	0	0	4,500	4,500	0
WASTE IN LIEU OF BORROW	0	0	0	-10,806	-10,806
ADDITIONAL UNDERCUT PER GEO. LETTER - 10/17/2007	0	100	0	0	0
<b>PROJECT TOTAL</b>	28,205	1,828	196,915	169,110	2,128
5% TO REPLACE TOPSOIL AT BORROW PITS	0	0	0	8,456	0
<b>PROJECT GRAND TOTAL</b>	28,205	1,828	196,915	177,566	2,128
<b>SAY</b>	28,300	1,900		177,700	

**EARTHWORK TOTALS FOR ALTERNATE PAV'T DESIGN**

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
<b>SUMMARIES TOTAL</b>	28,205	1,728	192,415	175,416	12,934
ADJ. FOR ALT. PAV'T DESIGN	-1,226		6,156	6,156	-1,226
ADDITIONAL UNDERCUT PER GEO. LETTER - 10/17/2007		100			
WASTE IN LIEU OF BORROW				-9,580	-9,580
<b>PROJECT TOTAL</b>	26,979	1,828	198,571	171,992	2,128
5% TO REPLACE TOPSOIL AT BORROW PITS				8,600	
<b>PROJECT GRAND TOTAL</b>	26,979	1,828	198,571	180,591	2,128
<b>SAY</b>	27,100	1,900		180,700	
DRAINAGE DITCH EXCAVATION	9,600				

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.

DIVISION OF HIGHWAYS  
 STATE OF NORTH CAROLINA

**BREAKING  
 ASPHALT PAVEMENT**

LOCATION	Sq. Yds.
-L- Sta. 94+40 to 97+00 CL.	425.56
-Y1- Sta. 18+25 to 23+00 CL.	261.67
TOTAL	687.23
SAY	700

**REMOVAL  
 ASPHALT PAVEMENT**

LOCATION	Sq. Yds.
-L- Sta. 92+25 to 96+65 RT.	1,118.44
TOTAL	1,118.44
SAY	1,200

**PARCEL INDEX**

PARCEL NUMBER	SHEET NUMBER	PROPERTY OWNER NAME
1	4	REB PROPERTIES INC.
3	4 & 5	ELLIOT GIBSON
4	4, 5 & 6	GEORGE F. YORK
5	6, 7 & 8	RED IRON, LLC
5A	8, 9, & 10	ANNE BOONE SHELTON URQUHART
6	6, 7, 8	GEORGE H. JOHNSON, Jr.
7	8	SEABOARD COASTLINE RAILROAD
8	10	RIVERSIDE FARM, LLC.

**FABRIC FOR  
 SOIL STABILIZATION**

LOCATION	Sq. Yds.
-L- Sta. 11+30 to Sta. 16+40 CL.	100
-L- Sta. 57+80 to Sta. 59+15 CL.	200
-L- Sta. 69+45 to Sta. 71+25 CL.	100
TOTAL	400

**FILTER FABRIC  
 FOR DRAINAGE**

LOCATION	Sq. Yds.
-L- Sta. 34+00 RT.	10
-L- Sta. 39+15 RT.	10
-L- Sta. 40+00 RT.	10
-L- Sta. 41+64.5 LT.	10
-L- Sta. 41+75 RT.	10
-L- Sta. 58+31 LT.	10
-L- Sta. 59+50 LT.	10
-L- Sta. 61+85 RT.	28
-L- Sta. 71+15 LT.	28
-Y1- Sta. 19+50 RT.	14
-Y1- Sta. 21+00 RT.	11
-L- Sta. 34+50 to Sta. 36+50 RT.	210
-L- Sta. 34+00 to Sta. 42+00 LT.	565
-L- Sta. 57+25 to Sta. 58+25 LT.	100
-L- Sta. 57+30 to Sta. 60+00 RT.	120
FOR EROSION CONTROL	1,810
TOTAL	2,956
SAY	2,960

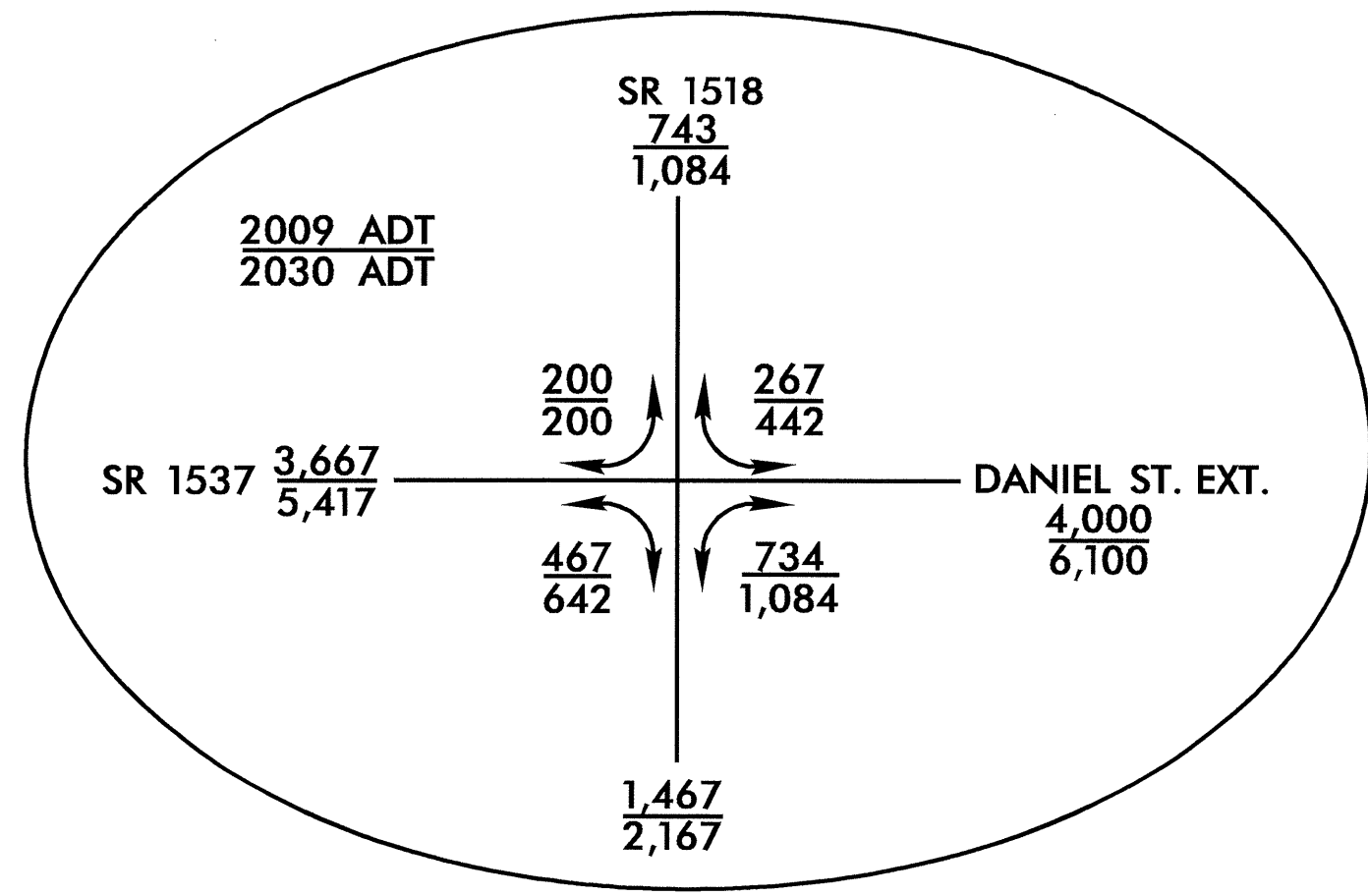
**PLAIN RIP-RAP  
 CLASS 'B'**

LOCATION	TONS
-L- Sta. 34+00 to Sta. 42+00 LT.	255
-L- Sta. 38+00 LT.	3
-L- Sta. 41+65 LT.	3
-L- Sta. 57+20 to Sta. 58+85 LT.	45
-L- Sta. 58+35 LT.	3
-L- Sta. 59+49 LT.	3
-L- Sta. 34+00 RT.	3
-L- Sta. 34+50 to Sta. 36+50 RT.	95
-L- Sta. 39+15 RT.	3
-L- Sta. 40+00 RT.	3
-L- Sta. 41+70 RT.	3
-L- Sta. 57+40 to Sta. 59+92 RT.	54
-L- Sta. 61+80 RT.	11
-L- Sta. 70+18 RT.	11
-Y1- 19+50 RT.	5
-Y1- 21+00 RT.	3
TOTAL	503
SAY	525

5/9/06

25-AUG-2009 09:53  
 r:\p00\proj\p00\13826\_rdy\_sum.dgn





**-L-**

PIs Sta 12+17.19 $\theta_s = 5' 56'' 15.0''$ $L_s = 250.00'$ $LT = 166.76'$ $ST = 83.42'$	PI Sta 16+61.66 $\Delta = 33' 20'' 32.1''$ (RT) $D = 4' 45'' 00.0''$ $L = 701.94'$ $T = 361.22'$ $R = 1,206.23'$ $E_{max} = 6\%$	PIs Sta 20+85.79 $\theta_s = 5' 56'' 15.0''$ $L_s = 250.00'$ $LT = 166.76'$ $ST = 83.42'$
---	--	---

**-EY-**

PI Sta 18+66.46 $\Delta = 21' 10'' 28.6''$ (RT) $D = 5' 30'' 00.0''$ $L = 384.99'$ $T = 194.72'$ $R = 1,041.74'$	PI Sta 21+82.13 $\Delta = 1' 19'' 45.9''$ (LT) $D = 0' 31'' 48.4''$ $L = 250.78'$ $T = 125.39'$ $R = 10,808.07'$
---	---

①  
REB PROPERTIES INC  
DB 1421 PG 69  
PC 8 SLIDE 146

①  
REB PROPERTIES INC  
DB 1421 PG 69  
PC 8 SLIDE 146

③  
ELLIOT GIBSON  
DB 1437 PG 138  
PC 8 SLIDE 213

NAD 8395

**-L- POT STA 10+00.00  
BEGIN STATE PROJECT U-3826**

**-EY- PC Sta. 16+71.75**

**-L-SC Sta. 13+00.43**

**-BL- P3 =  
-L- STA 10+30.81  
(44.83 RT)**

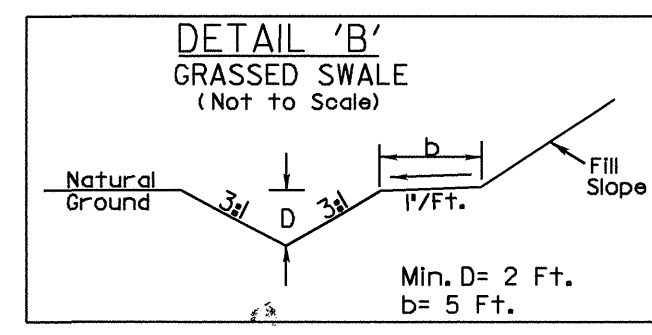
**-L-TS Sta. 10+50.43**

**-L-POT Sta. 10+00.00**

W.S. CLARK FARMS  
DB 1027 PG 226

W.S. CLARK FARMS  
DB 1027 PG 226

**-EY- PRC Sta. 20+56.74**



FROM STA. 22+00 TO STA. 34+00 -L- (RT)  
FROM STA. 22+00 TO STA. 26+00 -L- (LT)

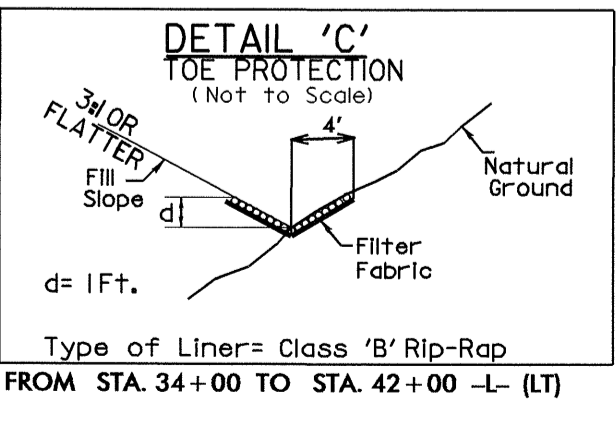
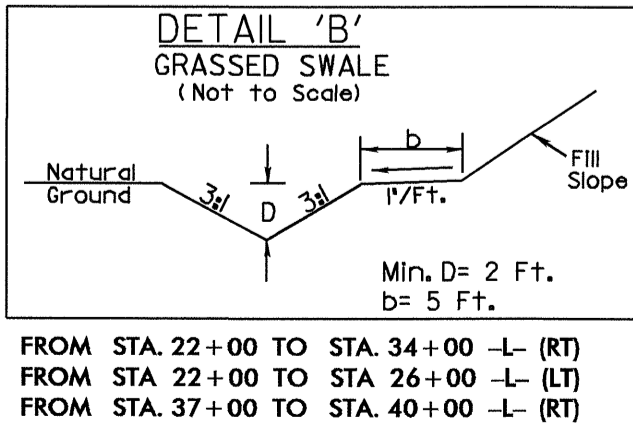
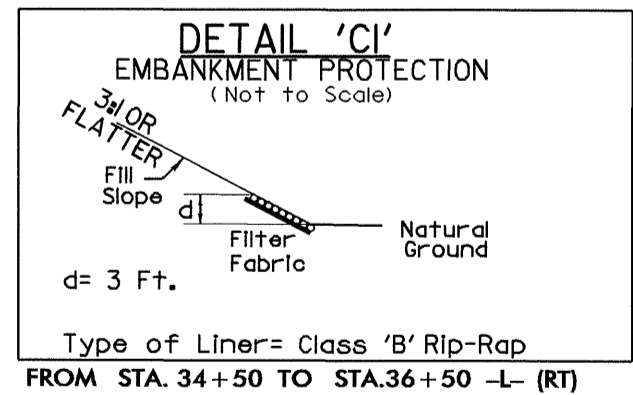
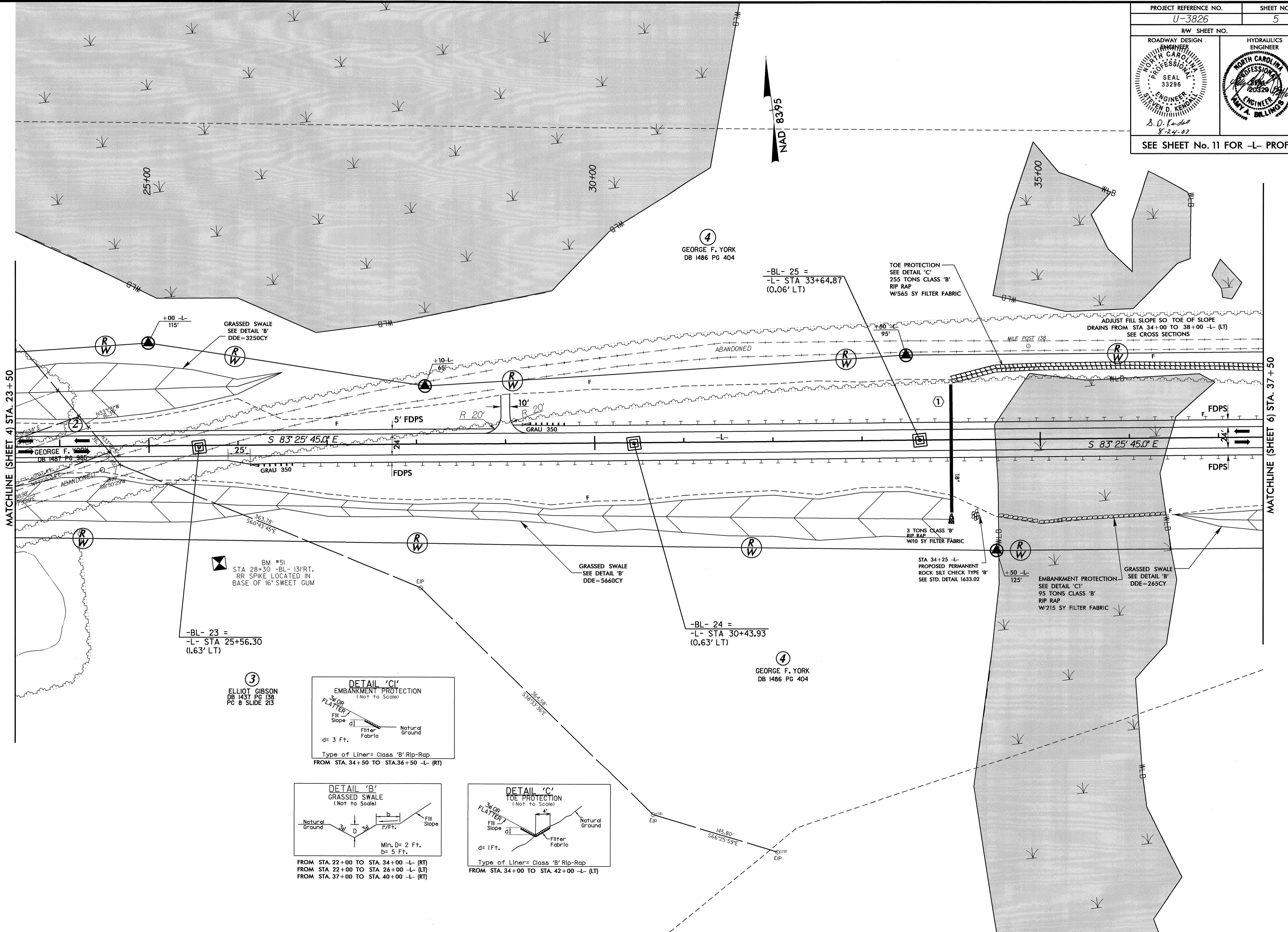
MATCHLINE (SHEET 5) STA. 23 + 50

8/17/09  
20-AUG-2009 09:41  
R:\Roadway\Projects\U-3826\Drawings\Sheet04.dgn



8/17/99

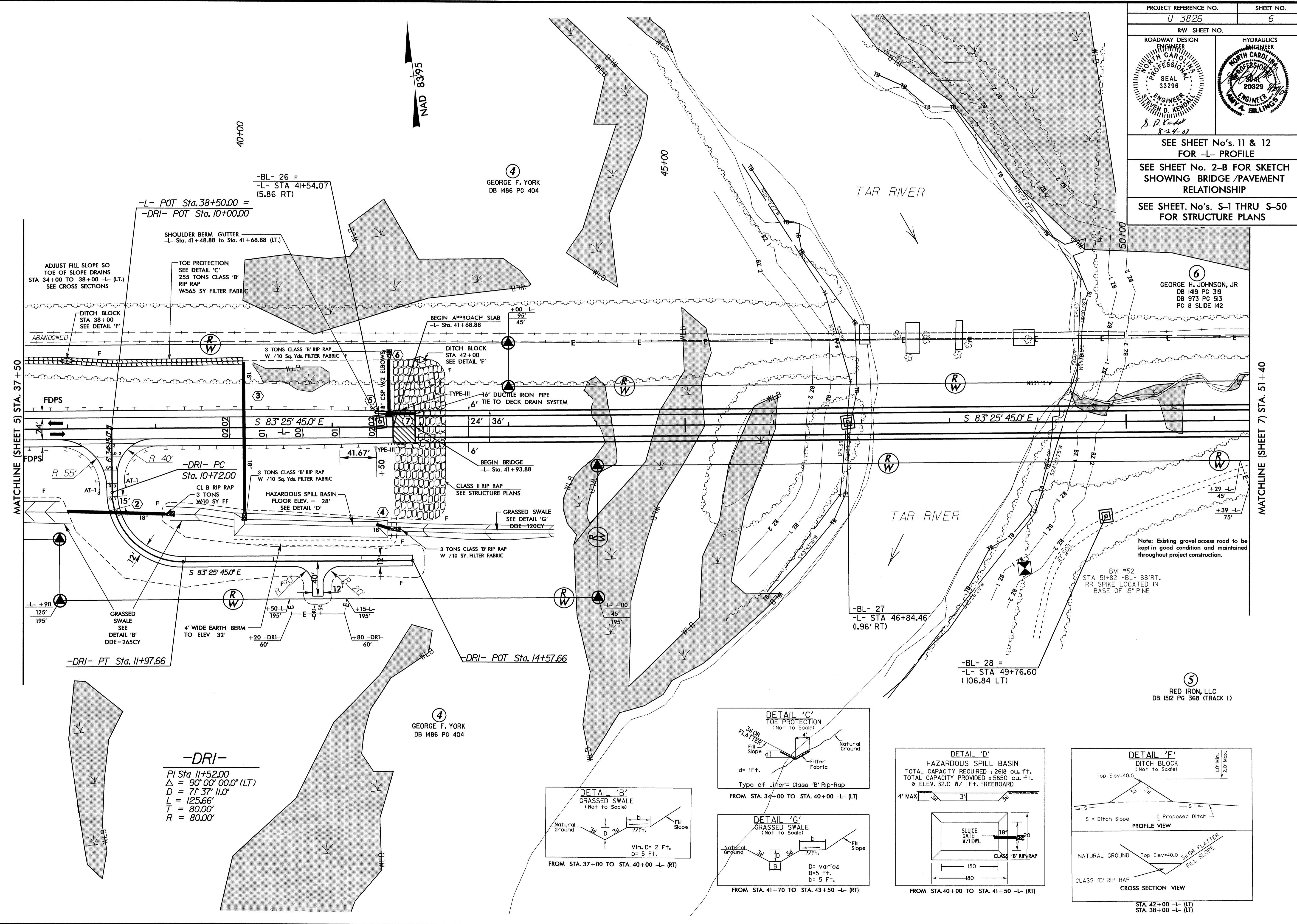
PROJECT REFERENCE NO. U-3826	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL 8.24.07	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 MAY L. BILLINGS
SEE SHEET No. 11 FOR -L- PROFILE	



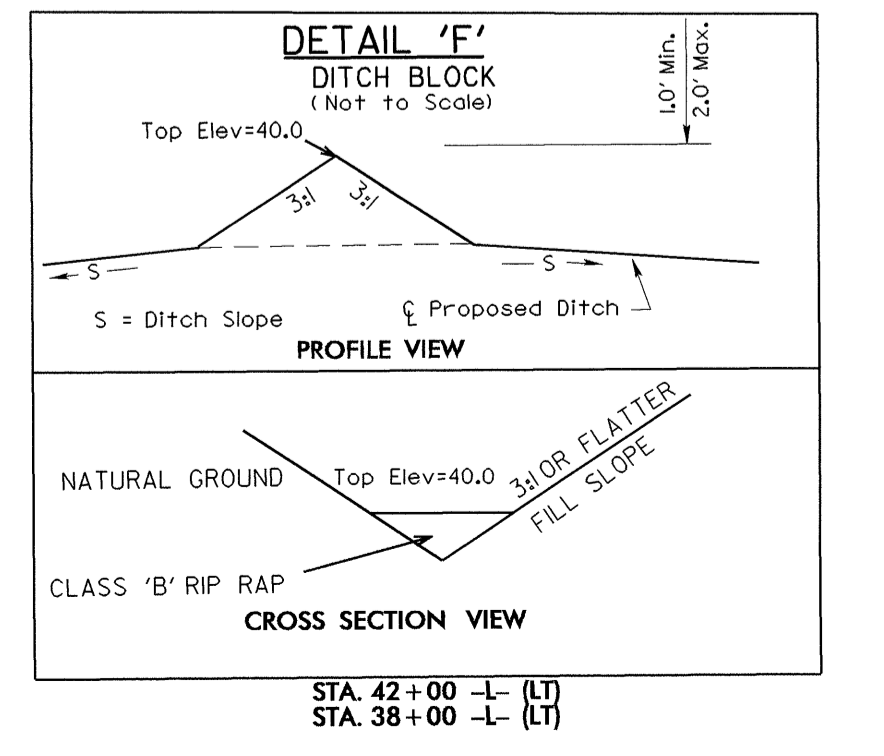
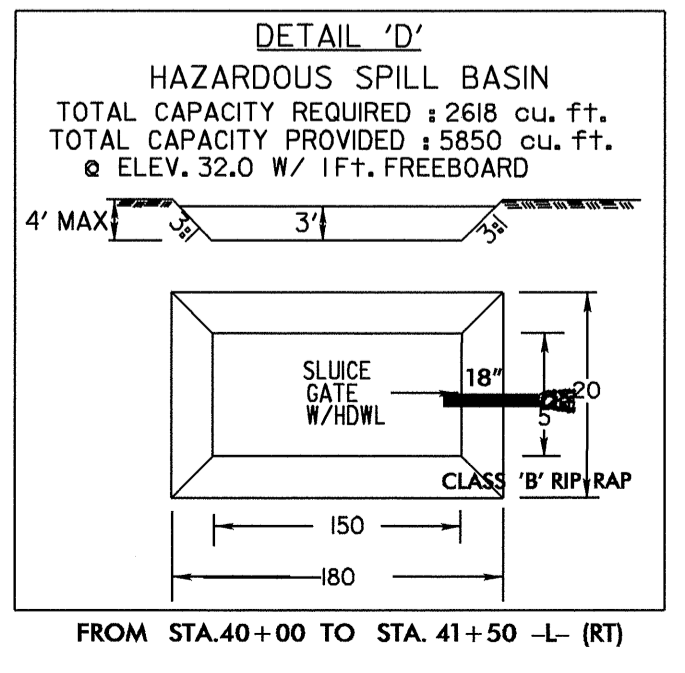
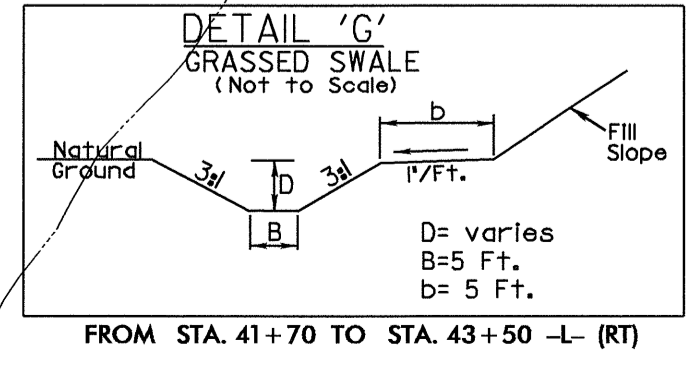
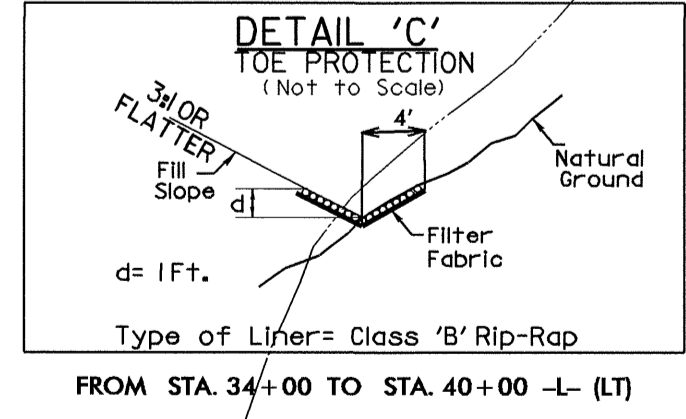
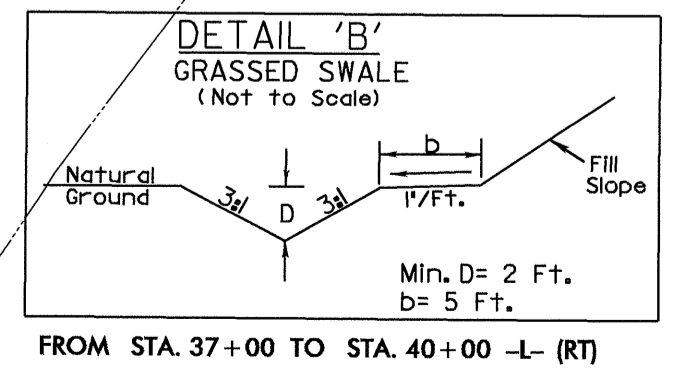
20-AUG-2009 09:41  
R:\ROADWAY\PROJECTS\U-3826\DWG\8-17-99\8-17-99.dgn



PROJECT REFERENCE NO. U-3826	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL 8-24-02	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 W. A. BILLINGS
SEE SHEET No's. 11 & 12 FOR -L- PROFILE	
SEE SHEET No. 2-B FOR SKETCH SHOWING BRIDGE /PAVEMENT RELATIONSHIP	
SEE SHEET No's. S-1 THRU S-50 FOR STRUCTURE PLANS	



**-DRI-**  
 PI Sta 11+52.00  
 $\Delta = 90^{\circ} 00' 00.0''$  (LT)  
 $D = 71' 37.110''$   
 $L = 125.66'$   
 $T = 80.00'$   
 $R = 80.00'$



Note: Existing gravel access road to be kept in good condition and maintained throughout project construction.

BM #52  
 STA 51+82 -BL- 88' RT.  
 RR SPIKE LOCATED IN  
 BASE OF 15' PINE

20-AUG-2009 10:54  
 R:\Roadway\Projects\06.dgn  
 8/17/09



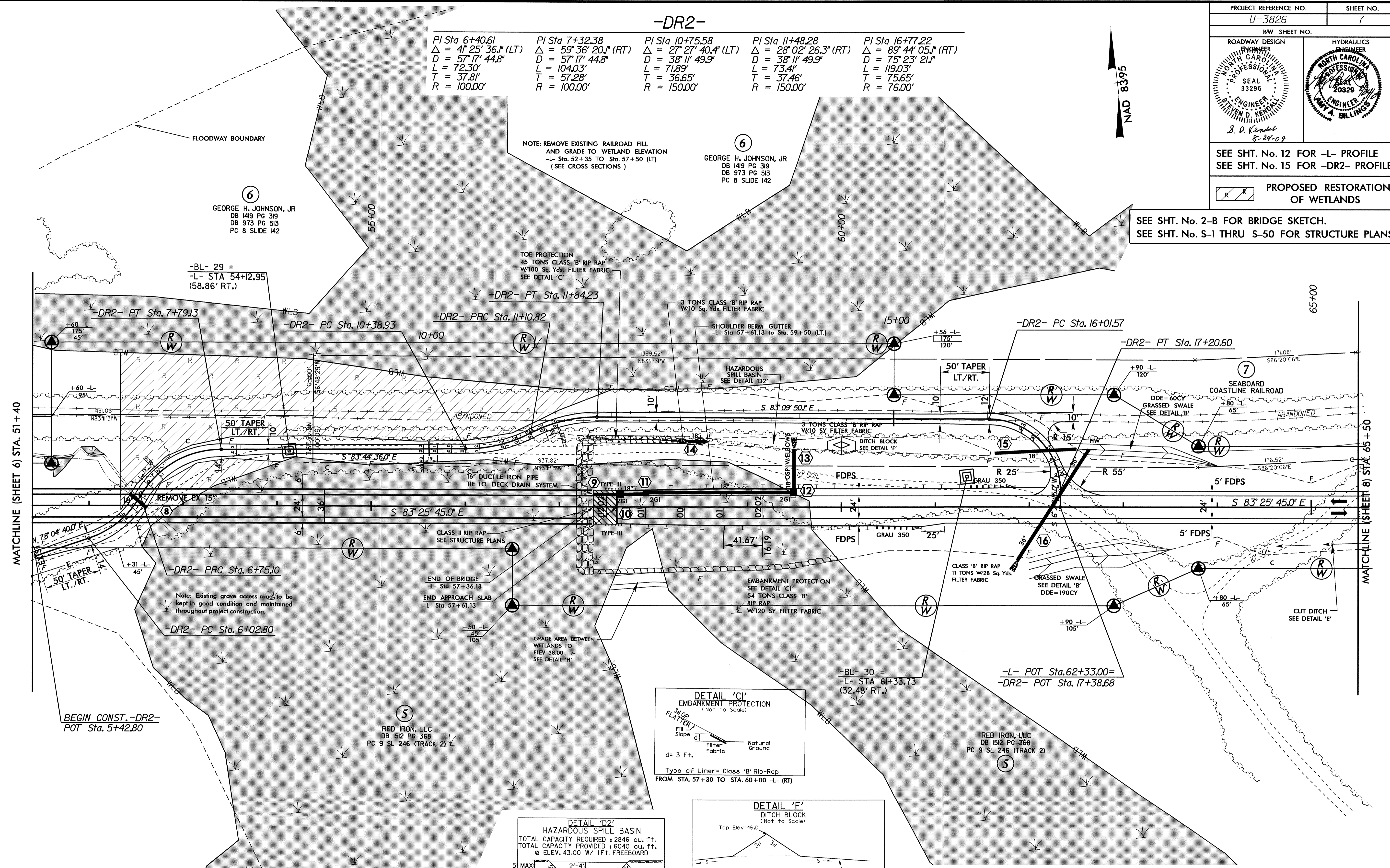
8/17/09

PROJECT REFERENCE NO. U-3826	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL 8-24-09	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 WYATT A. BILLINGS
SEE SHT. No. 12 FOR -L- PROFILE SEE SHT. No. 15 FOR -DR2- PROFILE	
PROPOSED RESTORATION OF WETLANDS	

**-DR2-**

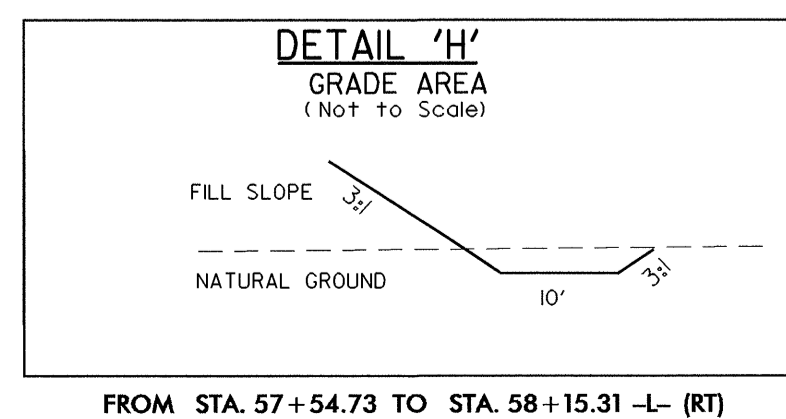
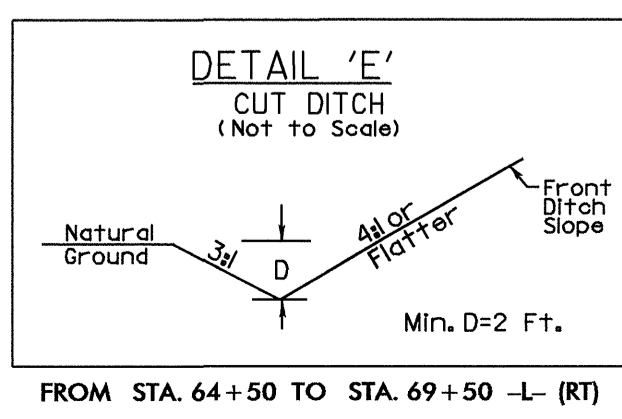
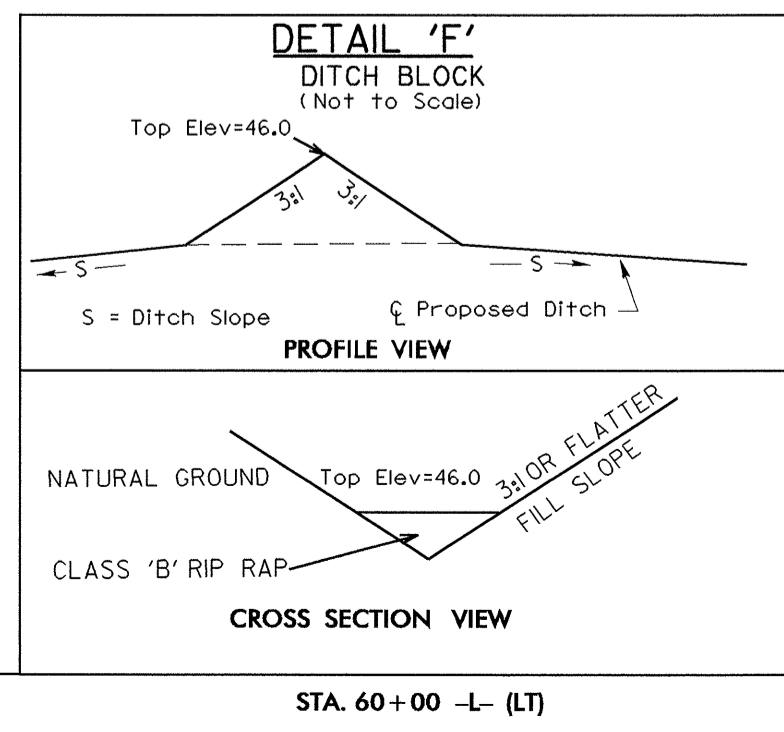
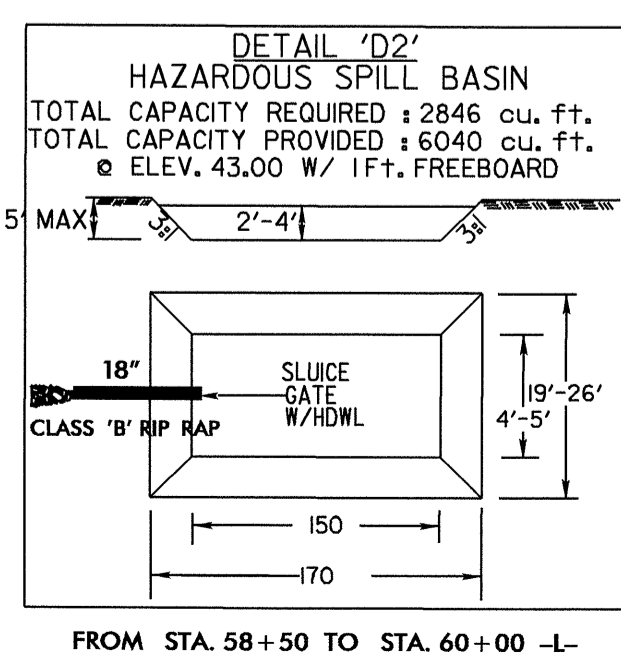
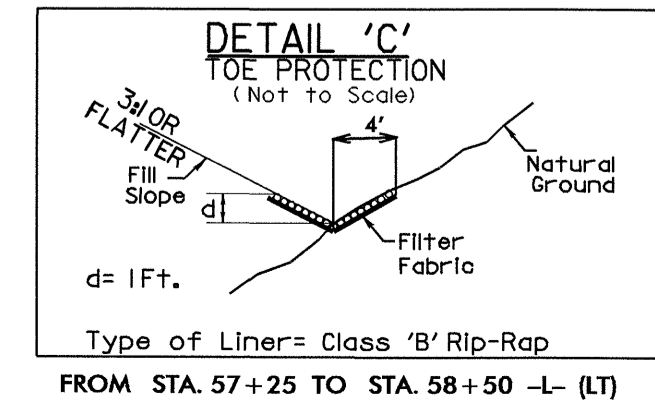
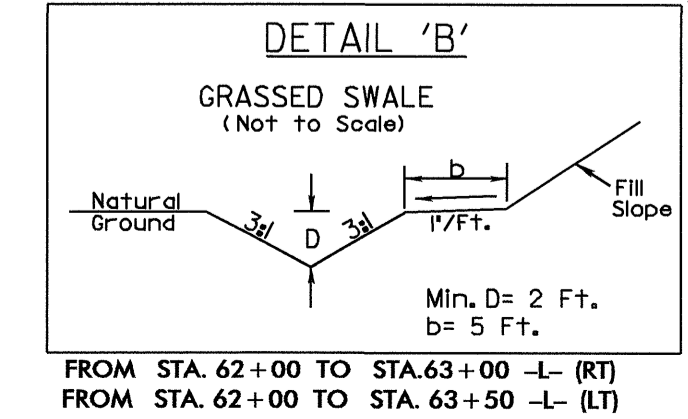
PI Sta 6+40.61 Δ = 41° 25' 36.1" (LT) D = 57' 17" 44.8" L = 72.30' T = 37.81' R = 100.00'	PI Sta 7+32.38 Δ = 59° 36' 20.1" (RT) D = 57' 17" 44.8" L = 104.03' T = 57.28' R = 100.00'	PI Sta 10+75.58 Δ = 27° 27' 40.4" (LT) D = 38' 11" 49.9" L = 71.89' T = 36.65' R = 150.00'	PI Sta 11+48.28 Δ = 28° 02' 26.3" (RT) D = 38' 11" 49.9" L = 73.41' T = 37.46' R = 150.00'	PI Sta 16+77.22 Δ = 89° 44' 05.1" (RT) D = 75' 23' 21.1" L = 119.03' T = 75.65' R = 76.00'
--	---	---	---	---

NOTE: REMOVE EXISTING RAILROAD FILL AND GRADE TO WETLAND ELEVATION  
-L- Sta. 52+35 TO Sta. 57+50 (LT)  
(SEE CROSS SECTIONS)



MATCHLINE (SHEET 6) STA. 51+40

MATCHLINE (SHEET 8) STA. 65+50

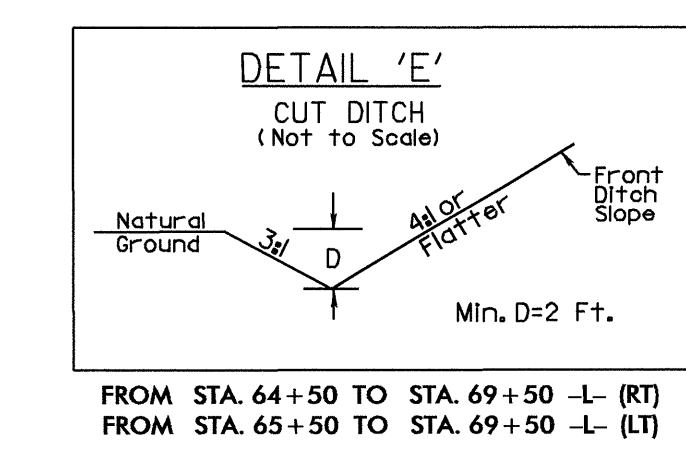
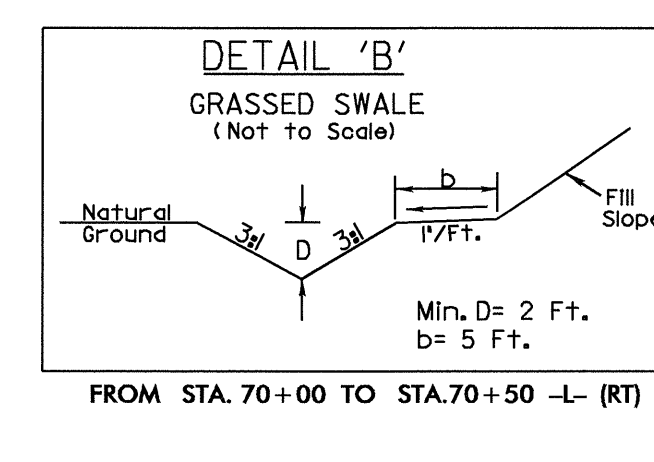
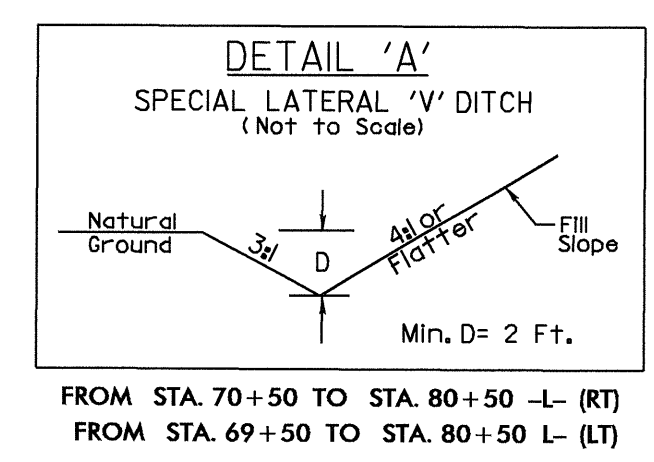
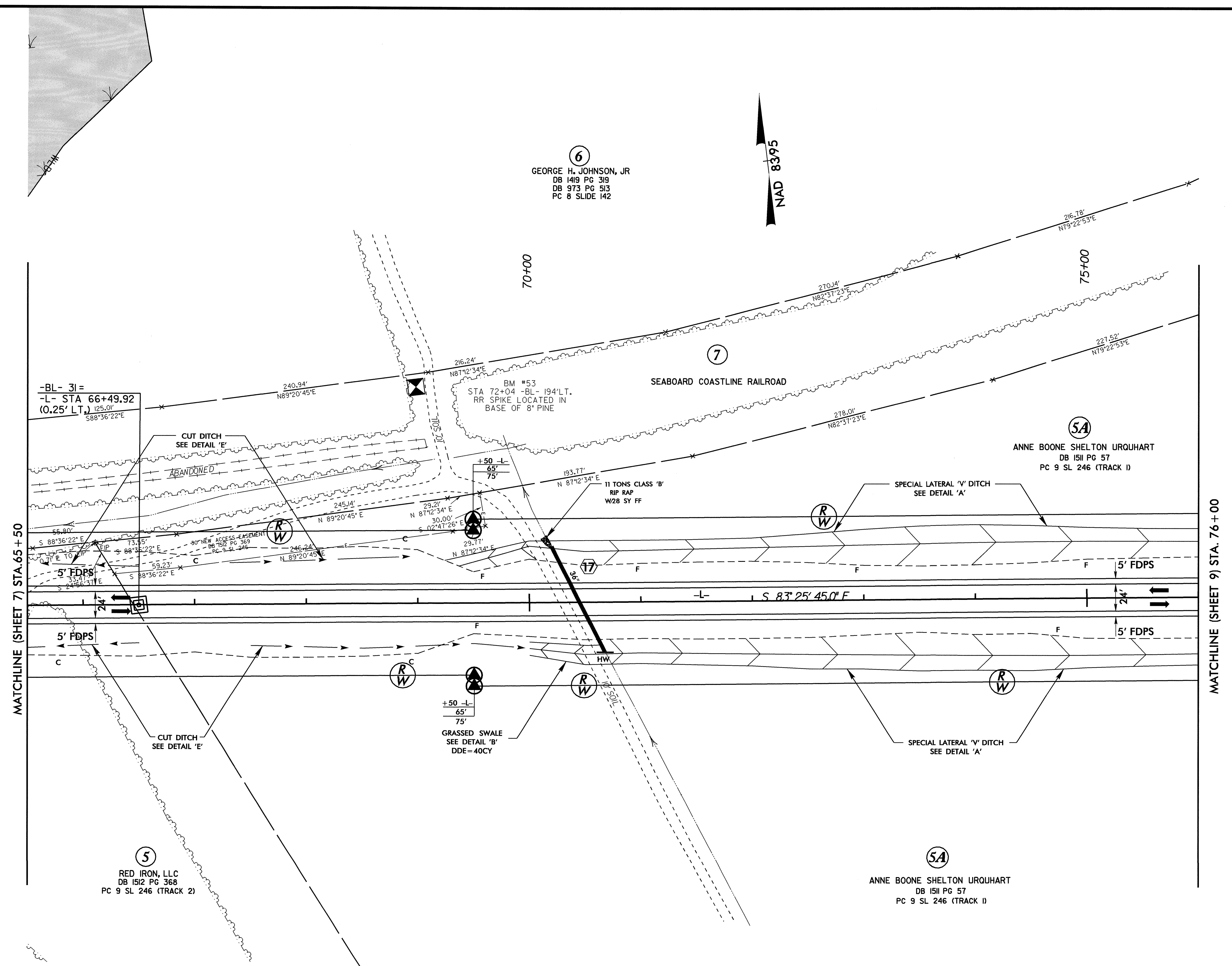


20-AUG-2009 10:54  
C:\Roadwork\Proj\U-3826\Drawings\DR2.dgn



PROJECT REFERENCE NO. U-3826	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KERDILL 8-24-07	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 MAY A. BILLINGS
SEE SHEET No's. 12 AND 13 FOR -L- PROFILE	

8/17/09

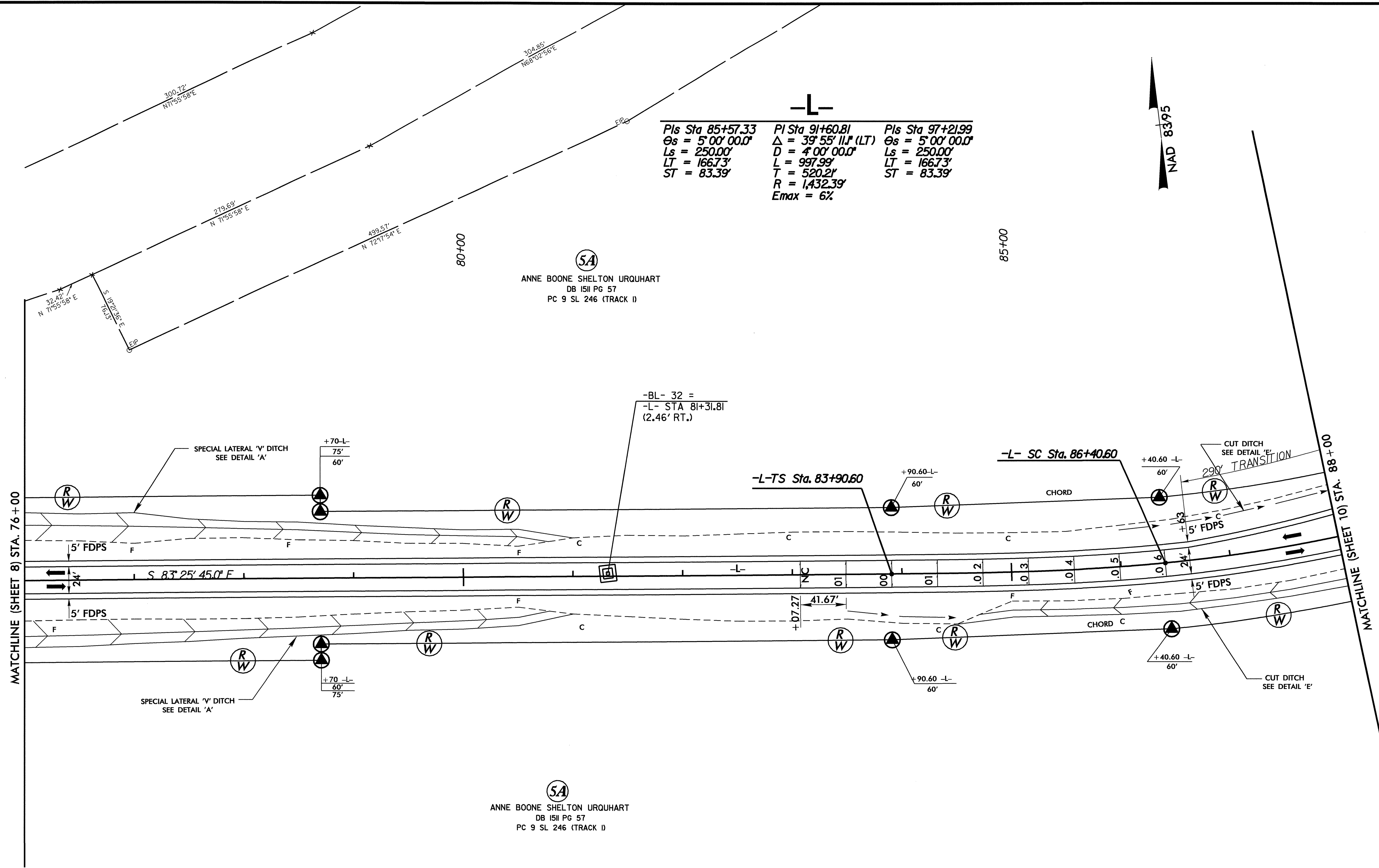


20-AUG-2009 09:41  
R:\ROOSELTAU\PROJECTS\080805.dgn  
USER:RSE



8/17/09

PROJECT REFERENCE NO. U-3826	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 W. A. BILLINGS
8. P. Kendall 8-24-09	
SEE SHEET No's. 13 FOR -L- PROFILE	



-L-

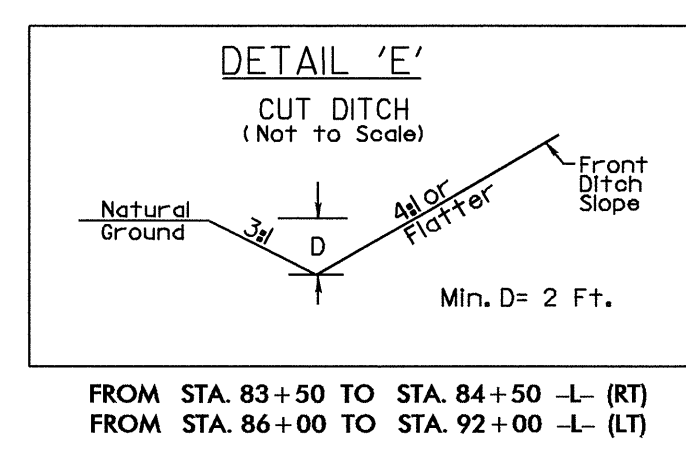
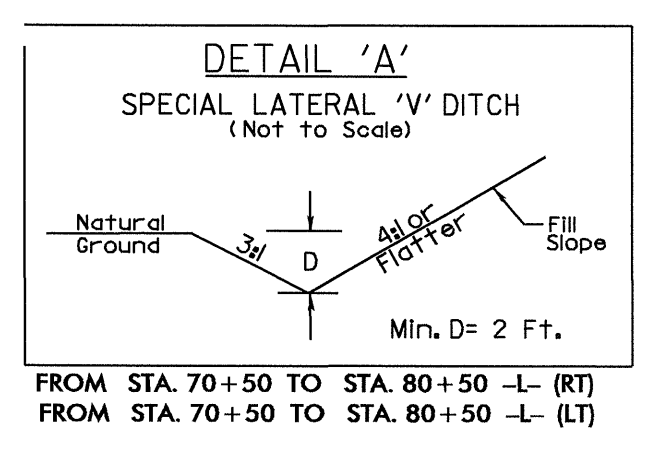
PI Sta 85+57.33 Os = 5' 00' 00.0" Ls = 250.00' LT = 166.73' ST = 83.39'	PI Sta 91+60.81 Δ = 39' 55' 11.1" (LT) D = 4' 00' 00.0" L = 997.99' T = 520.2r R = 1,432.39' Emax = 6%	PI Sta 97+21.99 Os = 5' 00' 00.0" Ls = 250.00' LT = 166.73' ST = 83.39'
---	--	---

(SA)  
ANNE BOONE SHELTON URQUHART  
DB ISII PG 57  
PC 9 SL 246 (TRACK I)

(SA)  
ANNE BOONE SHELTON URQUHART  
DB ISII PG 57  
PC 9 SL 246 (TRACK I)

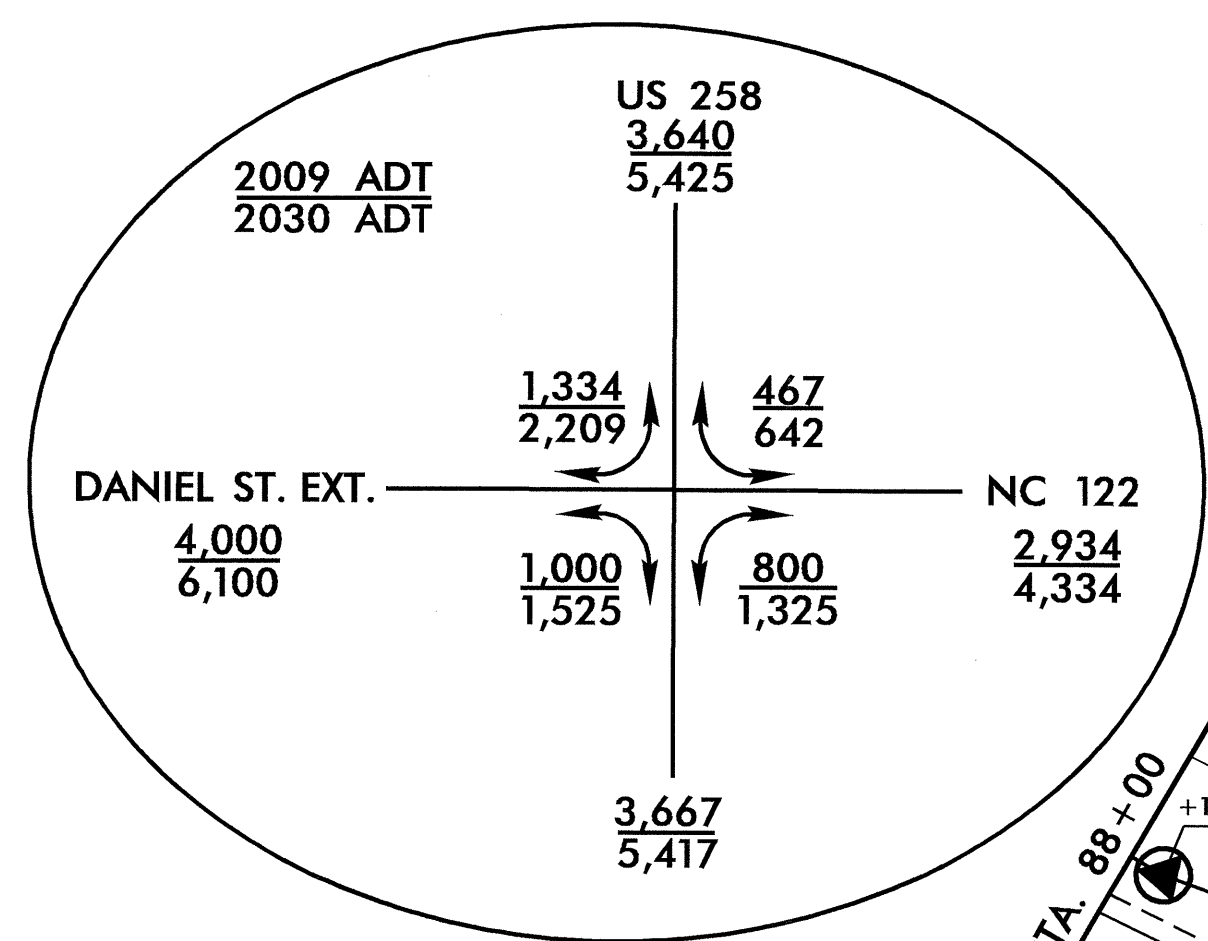
MATCHLINE (SHEET 8) STA. 76+00

MATCHLINE (SHEET 10) STA. 88+00



20-AUG-2009 09:41  
 R:\Roadwork\Proc\1\psh09.dgn  
 \$\$\$\$USERNMTE\$\$\$\$

PROJECT REFERENCE NO. U-3826	SHEET NO. 10
RW SHEET NO.	
ROADWAY DESIGN ENGINEER SEAL 33296 NORTH CAROLINA PROFESSIONAL ENGINEER SEVEN D. KENDALL 8.17.10-04 8-24-09	HYDRAULICS ENGINEER SEAL 20329 NORTH CAROLINA PROFESSIONAL ENGINEER M.A. BILLINGS
SEE SHEET No's 13 AND 14 FOR -L- PROFILE	
SEE SHEET No. 14 FOR -YI- PROFILE	
	PAVEMENT REMOVAL
	MONOLITHIC ISLAND



-L- POT Sta. 92+55.98 =  
-YI- POT Sta. 20+39.62

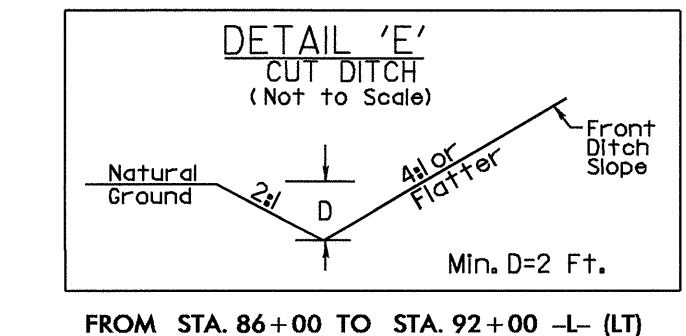
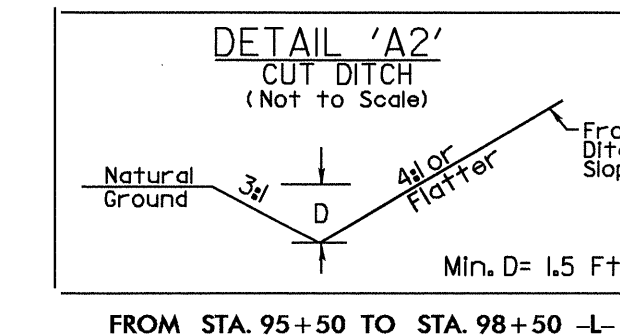
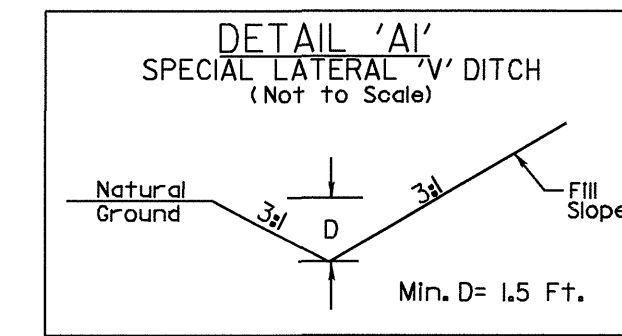
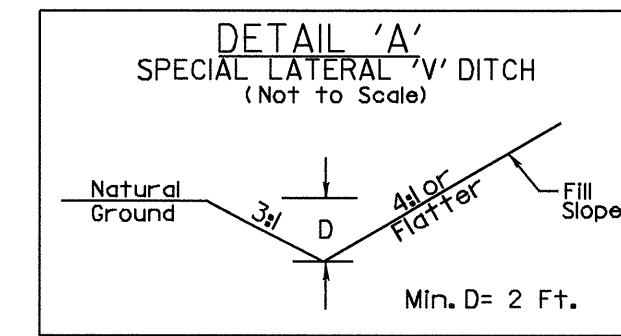
END STATE PROJECT U-3826  
-L- POT Sta. 99+71.92

**-L-**

Pls Sta 85+57.33 Os = 5° 00' 00.0"	Pls Sta 91+60.81 Δ = 39° 55' 11.1" (LT) D = 4° 00' 00.0"	Pls Sta 97+21.99 Os = 5° 00' 00.0"
Ls = 250.00'	L = 997.99'	Ls = 250.00'
LT = 166.73'	T = 520.21'	LT = 166.73'
ST = 83.39'	R = 1,432.39'	ST = 83.39'
Emax = 6%		

**-YI-**

Pls Sta 18+09.21 Os = 5° 56' 14.9"	Pls Sta 20+07.58 Δ = 10° 54' 13.9" (RT) D = 4° 45' 00.0"	Pls Sta 22+05.43 Os = 5° 56' 14.9"
Ls = 250.00'	L = 229.56'	Ls = 250.00'
LT = 166.76'	T = 115.13'	LT = 166.76'
ST = 83.42'	R = 1,206.23'	ST = 83.42'
Emax = 6%		



FROM STA. 85+00 TO STA. 92+00 -L- (RT)  
FROM STA. 93+00 TO STA. 95+50 -L- (RT)  
FROM STA. 16+00 TO STA. 19+50 -YI- (RT)  
FROM STA. 17+50 TO STA. 19+50 -YI- (LT)  
FROM STA. 93+50 TO STA. 95+50 -L- (LT)  
FROM STA. 22+50 TO STA. 23+50 -YI- (LT)

FROM STA. 95+50 TO STA. 98+50 -L- (RT)

FROM STA. 95+50 TO STA. 98+50 -L- (LT)

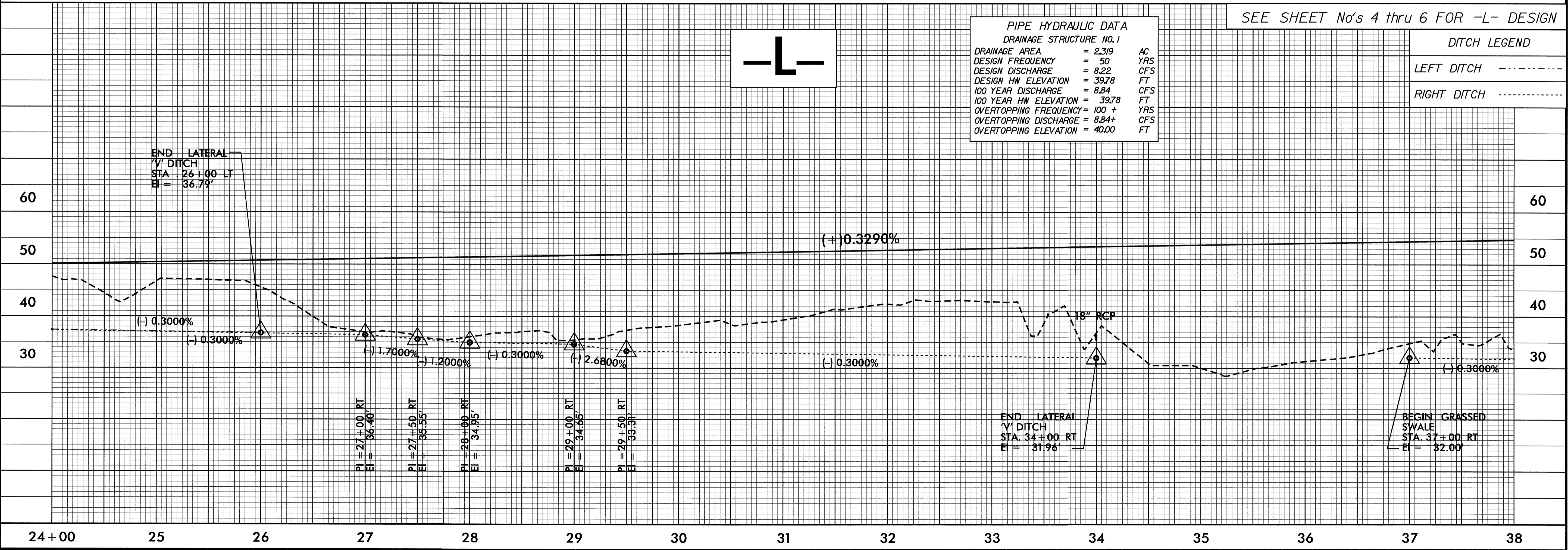
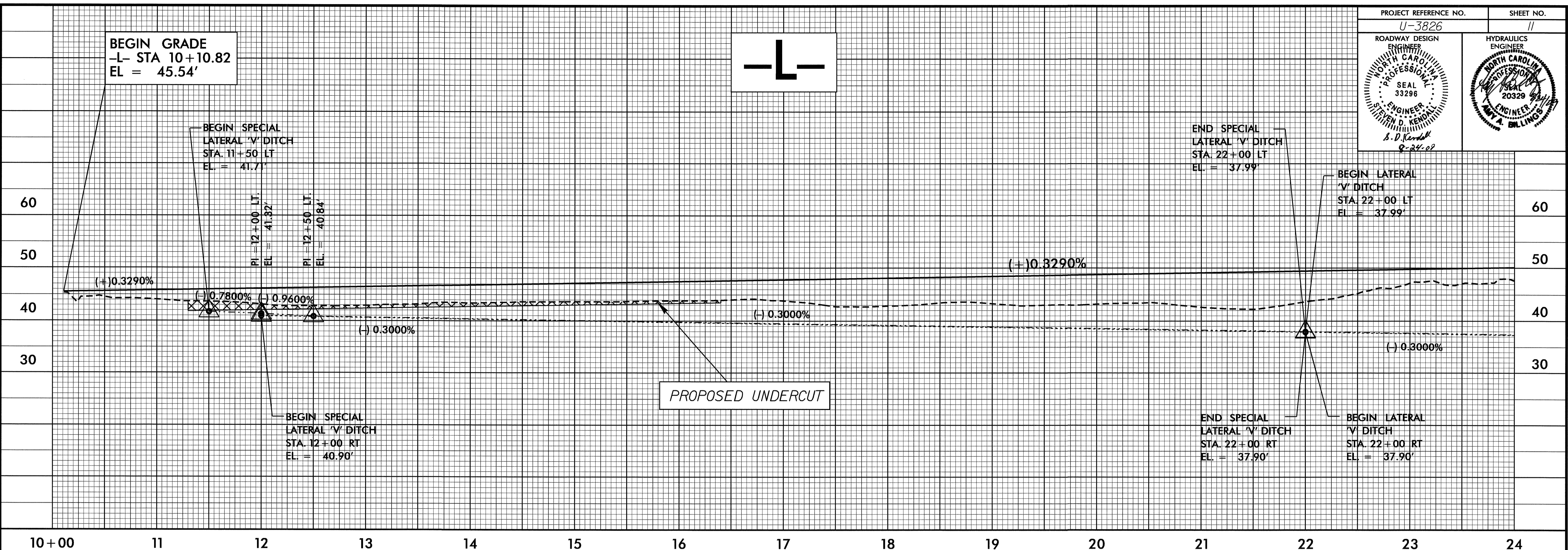
FROM STA. 86+00 TO STA. 92+00 -L- (LT)  
FROM STA. 24+00 TO STA. 24+50 -YI- (LT)  
FROM STA. 21+00 TO STA. 25+00 -YI- (RT)  
FROM STA. 24+00 TO STA. 24+50 -YI- (LT)

20-AUG-2009 13:51 R:\Roadway\PC\10\psh10.dgn



5/28/99

PROJECT REFERENCE NO. U-3826	SHEET NO. 11
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 S. D. KENDALL 8-24-02	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20329 W. A. BILLINGS



P:\PR-2009\1158\3826.rdy.plt.dgn

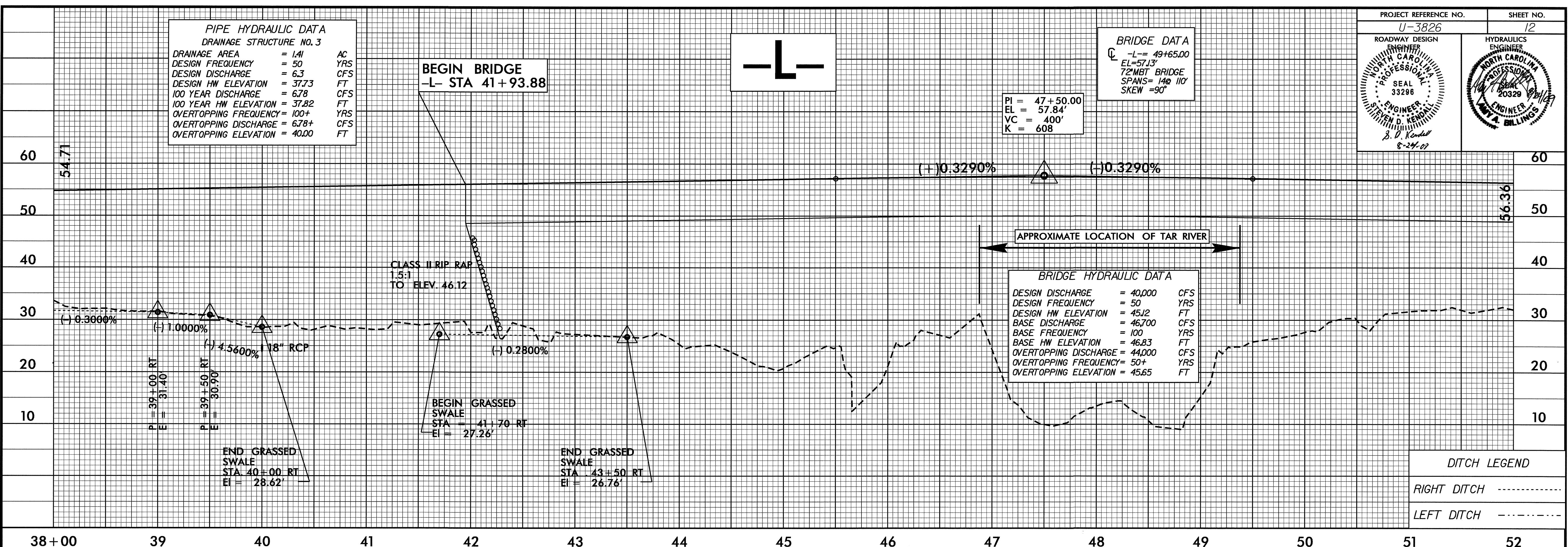


5/28/99

PIPE HYDRAULIC DATA	
DRAINAGE STRUCTURE NO. 3	
DRAINAGE AREA	= 1.41 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 6.3 CFS
DESIGN HW ELEVATION	= 37.73 FT
100 YEAR DISCHARGE	= 6.78 CFS
100 YEAR HW ELEVATION	= 37.82 FT
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING DISCHARGE	= 6.78+ CFS
OVERTOPPING ELEVATION	= 40.00 FT

BRIDGE DATA	
-L-	= 49+65.00
EL	= 57.13'
72" MBT BRIDGE	
SPANS	= 140 110'
SKEW	= 90°

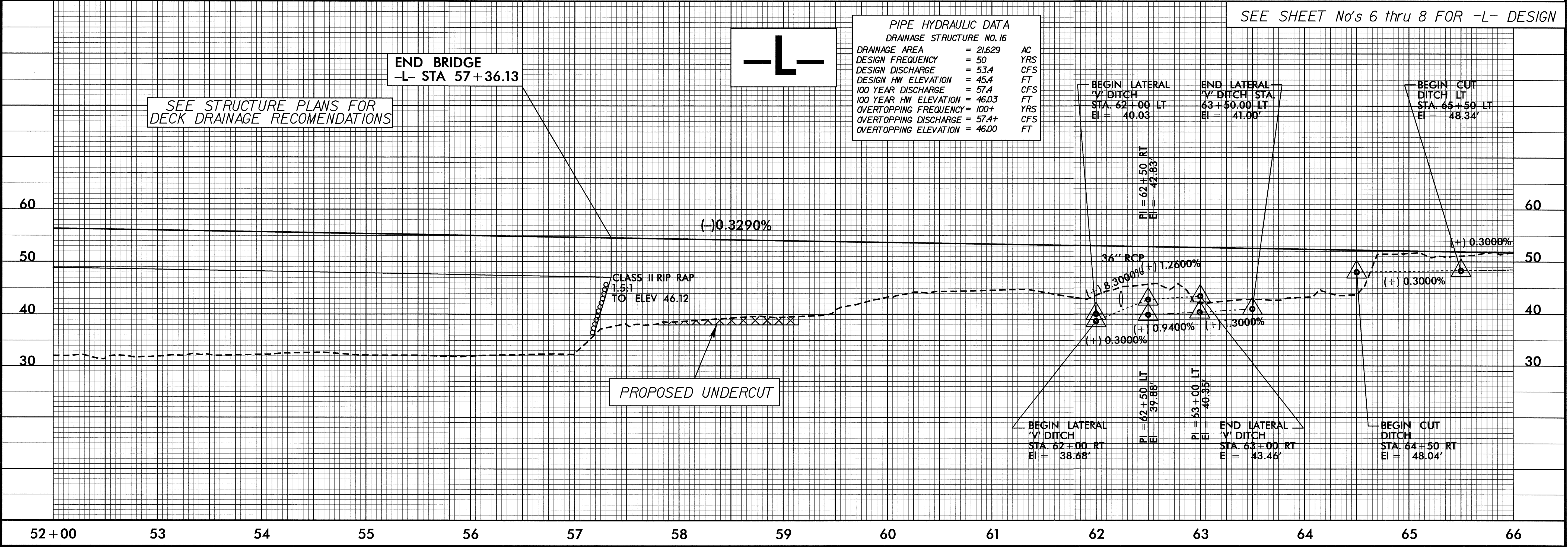
PROJECT REFERENCE NO. U-3826	SHEET NO. 12
ROADWAY DESIGN SEAL 33296 ENGINEER J. D. Kendall 5-24-07	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER 20329 W. A. BILLINGS



BRIDGE HYDRAULIC DATA	
DESIGN DISCHARGE	= 40,000 CFS
DESIGN FREQUENCY	= 50 YRS
DESIGN HW ELEVATION	= 45.12 FT
BASE DISCHARGE	= 46,700 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 46.83 FT
OVERTOPPING DISCHARGE	= 44,000 CFS
OVERTOPPING FREQUENCY	= 50+ YRS
OVERTOPPING ELEVATION	= 45.65 FT

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

14-APR-2009 14:41  
P:\Roadway\Projects\U3826\rdy-p1.dgn



PIPE HYDRAULIC DATA	
DRAINAGE STRUCTURE NO. 16	
DRAINAGE AREA	= 21.629 AC
DESIGN FREQUENCY	= 50 YRS
DESIGN DISCHARGE	= 53.4 CFS
DESIGN HW ELEVATION	= 45.4 FT
100 YEAR DISCHARGE	= 57.4 CFS
100 YEAR HW ELEVATION	= 46.03 FT
OVERTOPPING FREQUENCY	= 100+ YRS
OVERTOPPING DISCHARGE	= 57.4+ CFS
OVERTOPPING ELEVATION	= 46.00 FT

BEGIN LATERAL V' DITCH STA. 62+00 LT EI = 40.03	END LATERAL V' DITCH STA. 63+50.00 LT EI = 41.00'	BEGIN CUT DITCH LT STA. 65+50 LT EI = 48.34'
---	---	--

BEGIN LATERAL V' DITCH STA. 62+00 RT EI = 38.68'	END LATERAL V' DITCH STA. 63+00 RT EI = 43.46'	BEGIN CUT DITCH STA. 64+50 RT EI = 48.04'
--	--	---

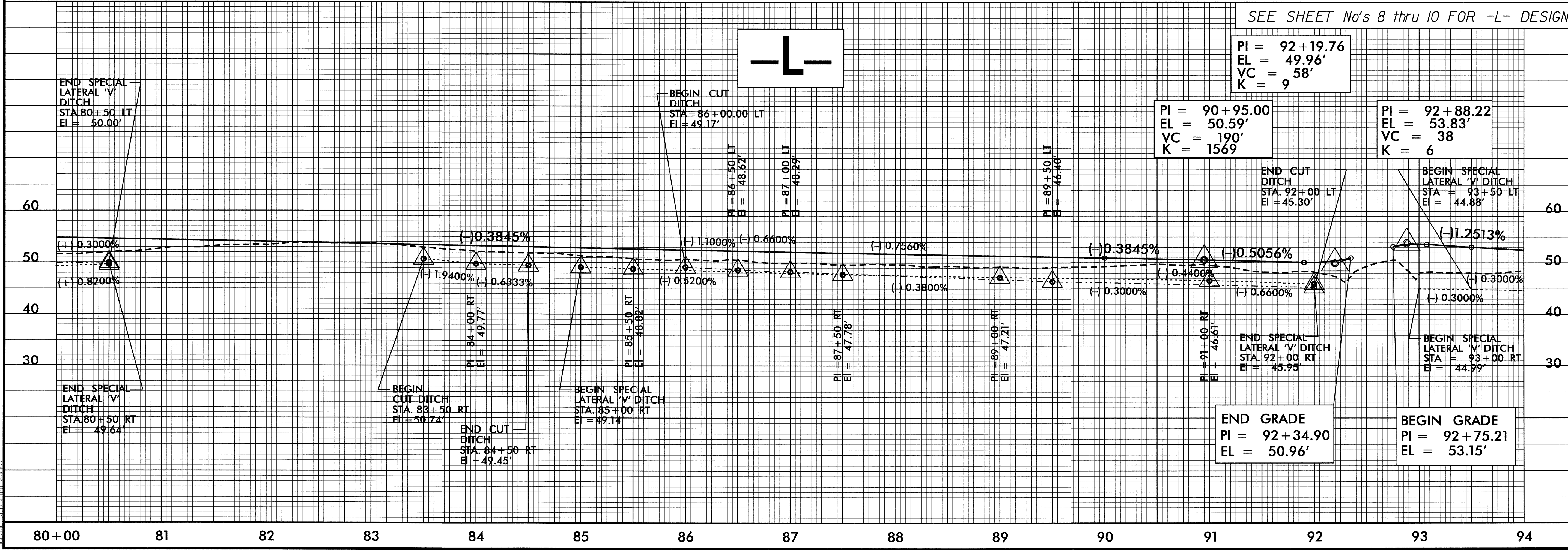
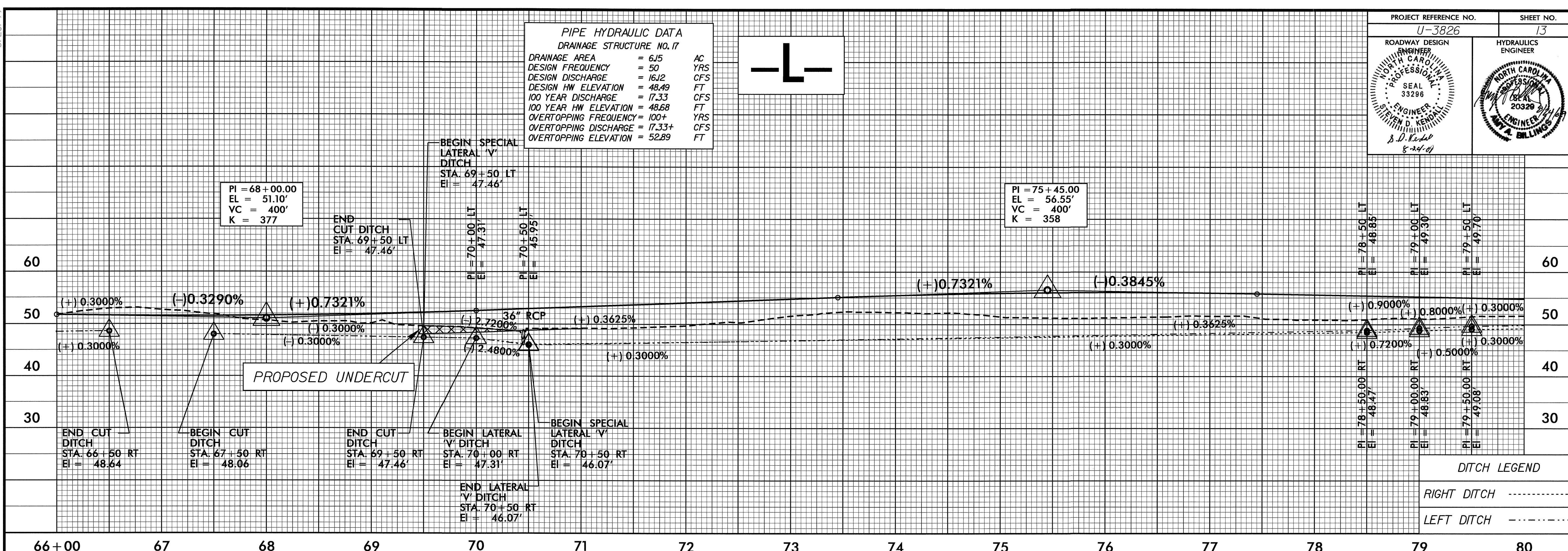
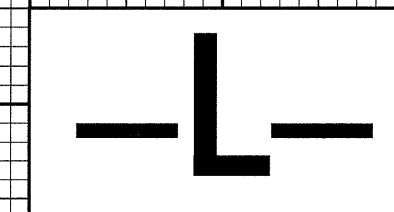


5/28/99

PROJECT REFERENCE NO. U-3826	SHEET NO. 13
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL 8-22-01	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20320 W. A. BILLINGS 8-22-01

**PIPE HYDRAULIC DATA**  
DRAINAGE STRUCTURE NO. 17

DRAINAGE AREA	= 6.15	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 16.12	CFS
DESIGN HW ELEVATION	= 48.49	FT
100 YEAR DISCHARGE	= 17.33	CFS
100 YEAR HW ELEVATION	= 48.68	FT
OVERTOPPING FREQUENCY	= 100+	YRS
OVERTOPPING DISCHARGE	= 17.33+	CFS
OVERTOPPING ELEVATION	= 52.89	FT



20-AUG-2008 16:33  
F:\work\2008\pco\U3826.rdy.pfl.dgn  
33296



5/28/99

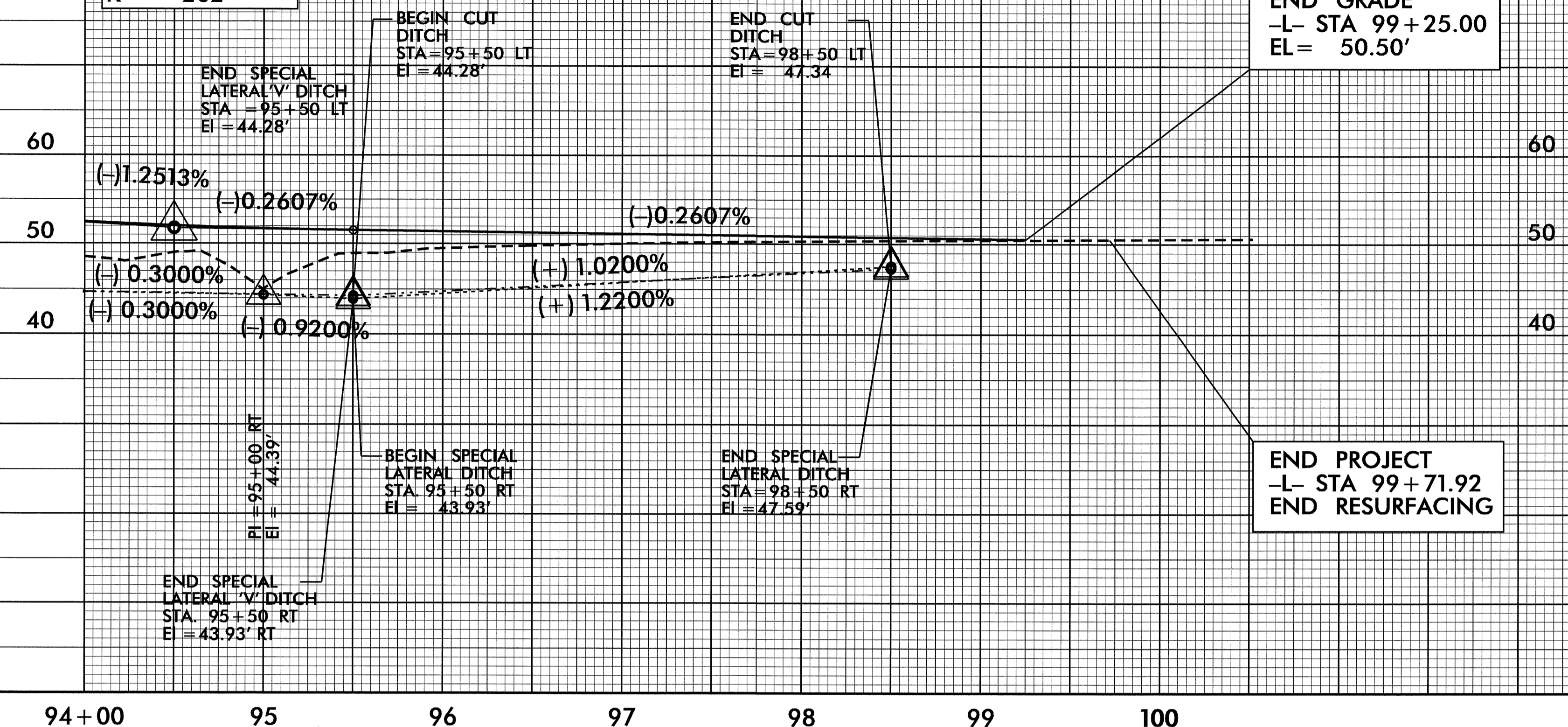
PROJECT REFERENCE NO. U-3826	SHEET NO. 14
ROADWAY DESIGN ENGINEER SEAL 33298 STEVEN D. KENDALL 8-24-09	HYDRAULICS ENGINEER SEAL 20320 ANTHONY A. BILLINGS 8-24-09

PI = 94+50.00  
EL = 51.81'  
VC = 200'  
K = 202

**-L-**

END GRADE  
-L- STA 99+25.00  
EL = 50.50'

END PROJECT  
-L- STA 99+71.92  
END RESURFACING



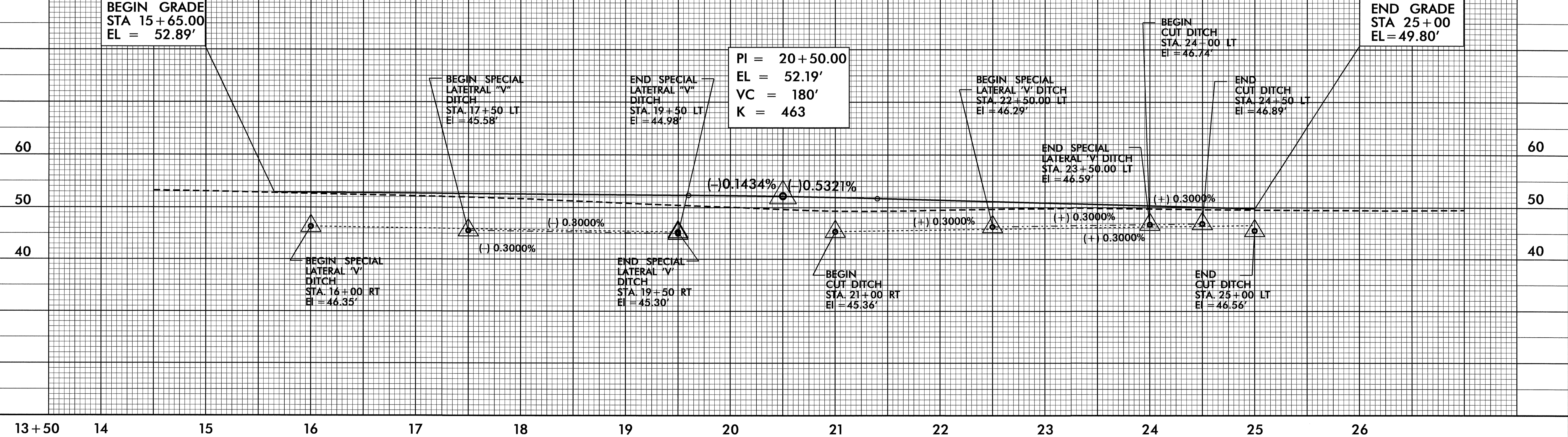
DITCH LEGEND  
RIGHT DITCH - - - - -  
LEFT DITCH - - - - -

**-Y1-**

BEGIN GRADE  
STA 15+65.00  
EL = 52.89'

PI = 20+50.00  
EL = 52.19'  
VC = 180'  
K = 463

END GRADE  
STA 25+00  
EL = 49.80'



0:\APP-2009\1134  
R:\Roadway\Proj\U3826.rdy\_of1.dgn  
5/28/99 11:34 AM



5/28/99

PROJECT REFERENCE NO. U-3826	SHEET NO. 15
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 33296 STEVEN D. KENDALL ENGINEER 8-24-07	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 20328 9-24-99 JAY A. BILLINGS ENGINEER

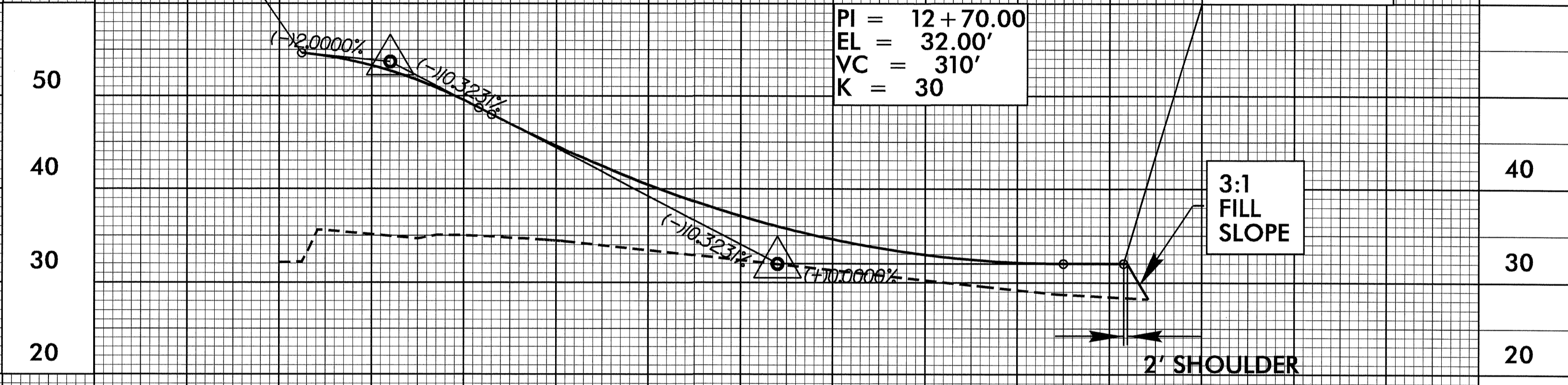
# -DR1-

BEGIN GRADE  
STA 10+12  
EL = 54.64'

PI = 10+60  
EL = 53.68'  
VC = 96'  
K = 12

PI = 12+70.00  
EL = 32.00'  
VC = 310'  
K = 30

END GRADE  
STA 14+57.66  
EL = 32.00'



SEE SHEET No 6 FOR -DR1- DESIGN

10 11 12 13 14

# -DR2-

BEGIN GRADE  
Sta. 5+42.80  
EL = 32.70'

PI = 6+70.00  
EL = 31.71'  
VC = 100'  
K = 32

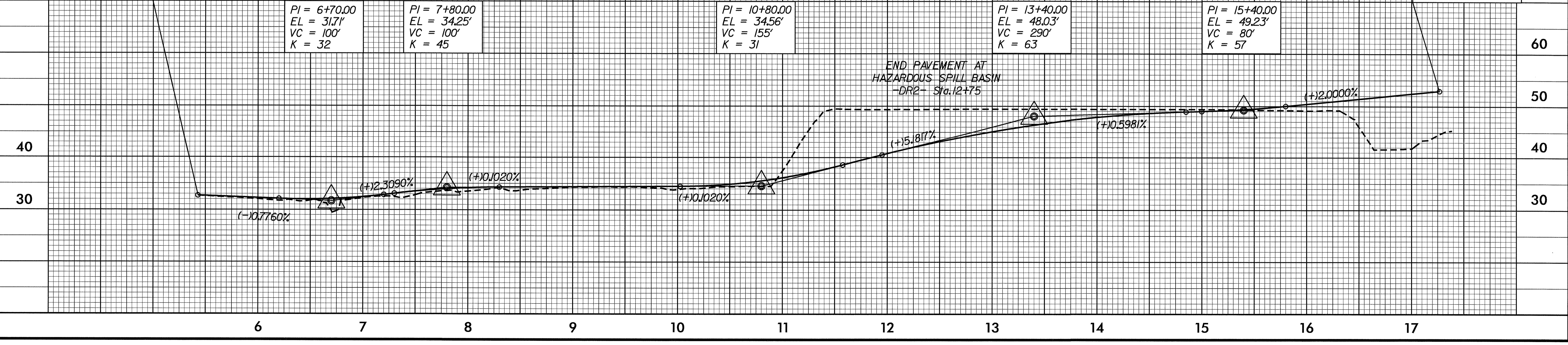
PI = 7+80.00  
EL = 34.25'  
VC = 100'  
K = 45

PI = 10+80.00  
EL = 34.56'  
VC = 155'  
K = 31

PI = 13+40.00  
EL = 48.03'  
VC = 290'  
K = 63

PI = 15+40.00  
EL = 49.23'  
VC = 80'  
K = 57

END GRADE  
STA 17+26.68  
EL = 52.96'



SEE SHEET No 7 FOR -DR2- DESIGN

6 7 8 9 10 11 12 13 14 15 16 17

01-APR-2009 11:33  
P:\Roadwork\Proj\U3826\_rdy.pl.dgn