

09/08/99

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

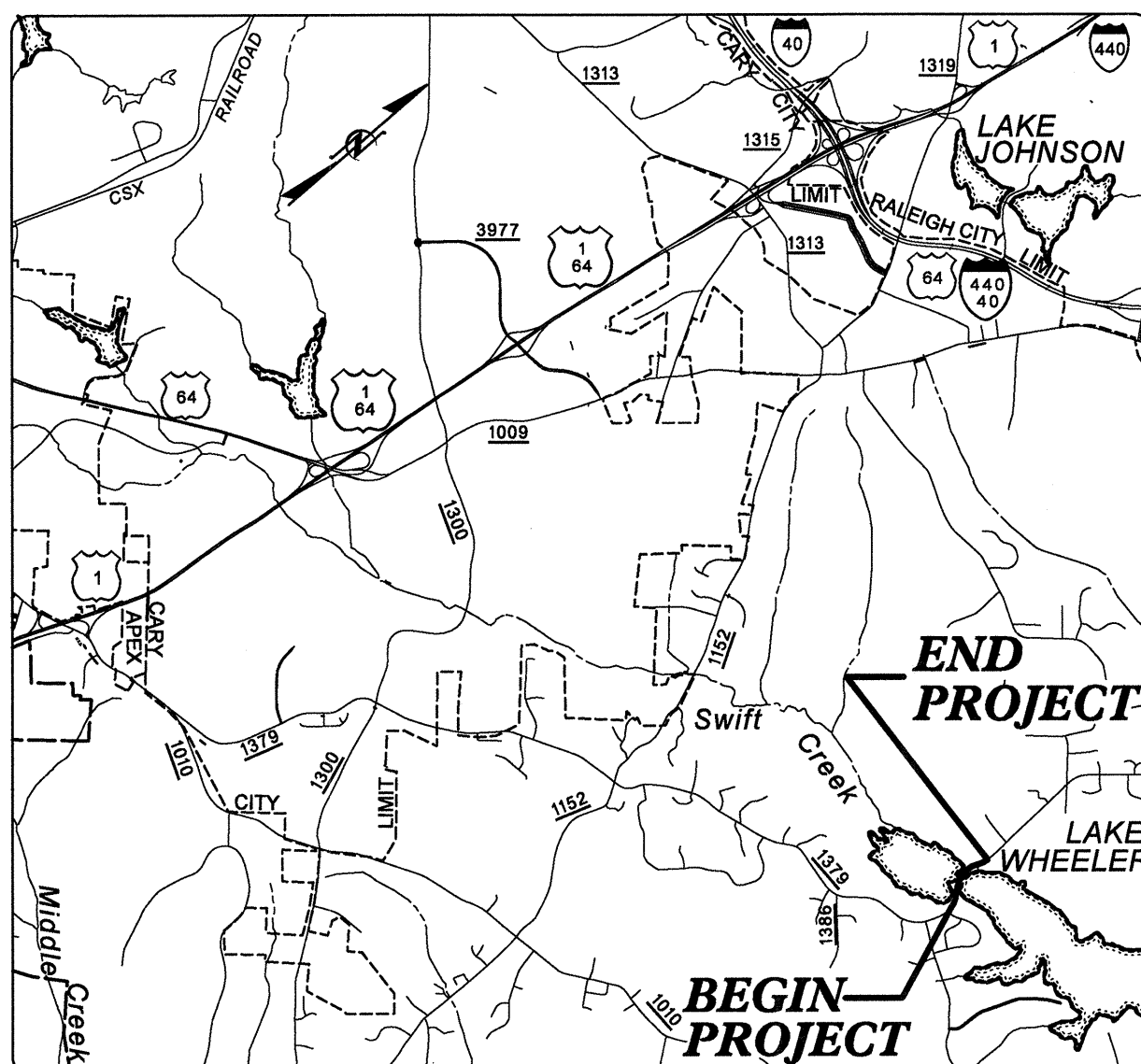
WAKE COUNTY

LOCATION: BRIDGE NO. 311 OVER LAKE WHEELER (SWIFT CREEK)  
ON SR 1379 (PENNY ROAD)

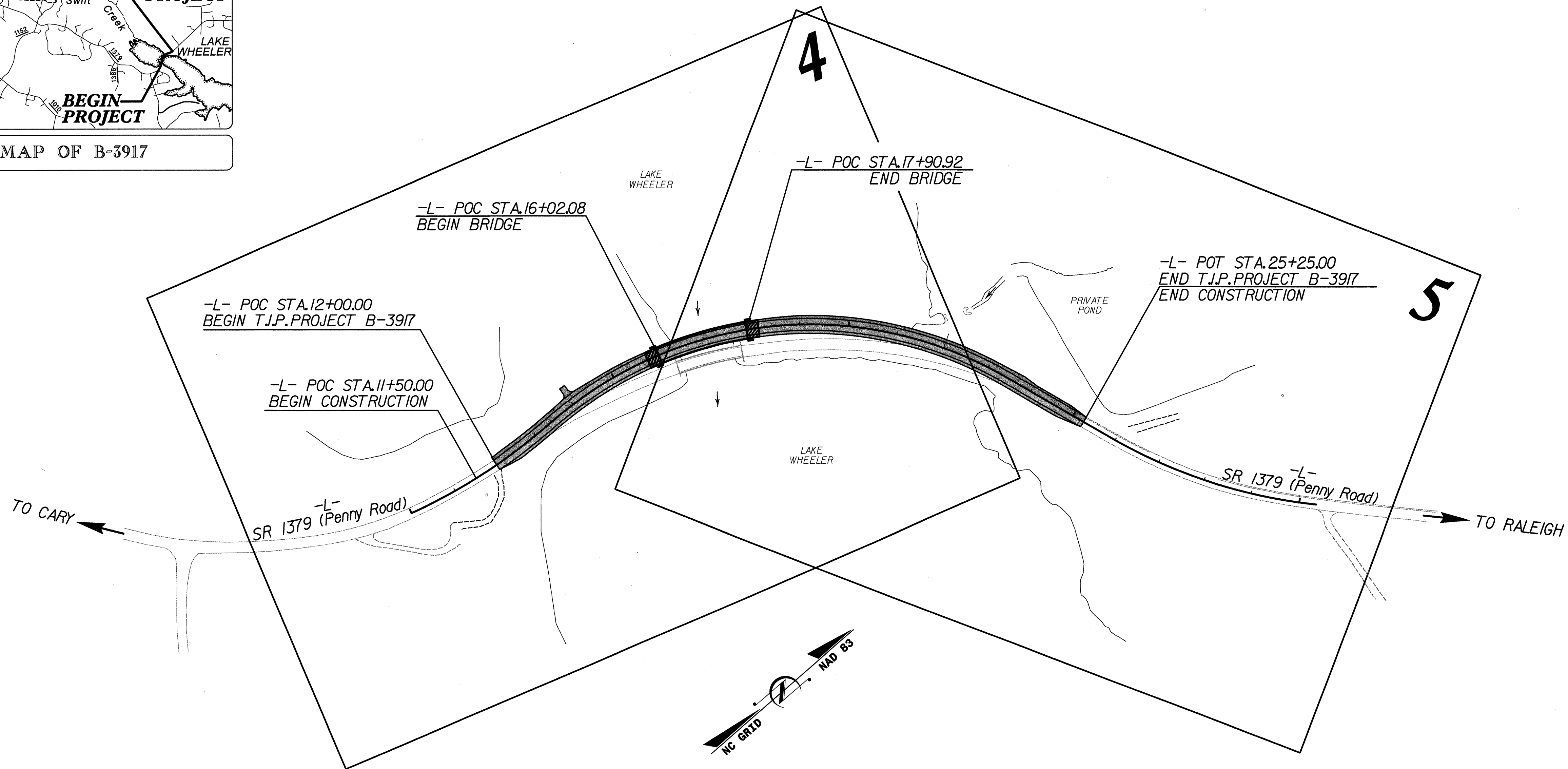
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3917	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33351.1.1	BRZ-1379(1)	PE	
33351.2.1	BRZ-1379(1)	RW,UTIL	
33351.3.1	BRZ-1379(3)	CONST.	

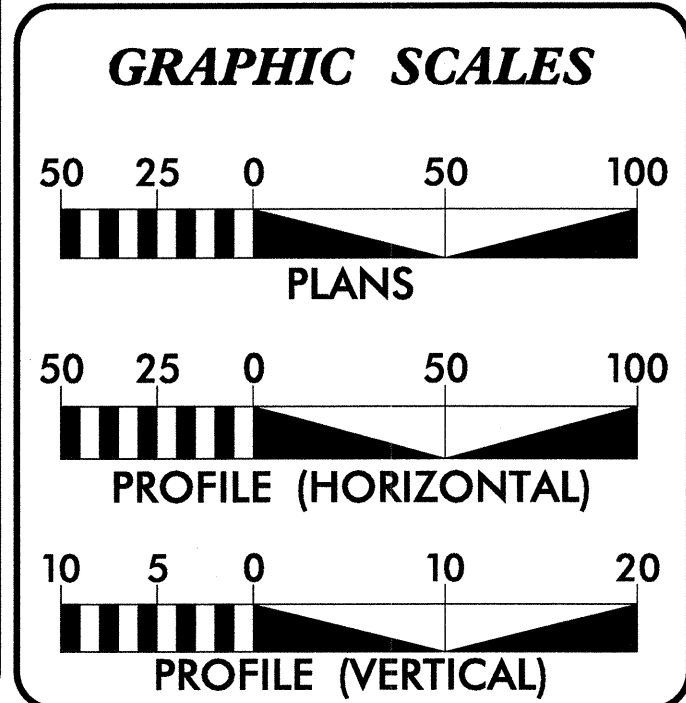
TIP PROJECT: B-3917



VICINITY MAP OF B-3917



PROJECT: C201619



**DESIGN DATA**

ADT 2005 = 6,149
ADT 2027 = 14,185
DHV = 10%
D = 60%
T = 5%
TTST 2% DUAL 3%
V = 50 mph
FUNC CLASS = LOCAL

\* DESIGN EXCEPTIONS FOR STOPPING SIGHT DISTANCE AND SHOULDER WIDTH ARE REQUIRED

**PROJECT LENGTH**

LENGTH ROADWAY T.I.P. PROJECT B-3917	=	0.215 MILES
LENGTH STRUCTURES T.I.P. PROJECT B-3917	=	0.036 MILES
TOTAL LENGTH OF T.I.P. PROJECT B-3917	=	0.251 MILES

**EarthTech**  
A Tyco International Ltd. Company  
701 Corporate Center Drive, Suite 475  
Raleigh, NC 27607  
(919) 854-6200 - (919) 854-6259(FAX)

2006 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
DECEMBER 30, 2005

**LETTING DATE:**  
SEPTEMBER 18, 2007

NEIL J. DEAN, P.E.  
EARTH TECH PROJECT MANAGER

DOUG TAYLOR, P.E.  
NCDOT PROJECT ENGINEER

DAVIDIAN BYRD  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

WILLIAM RHETT BUTLER II  
ROADWAY DESIGN ENGINEER

NEIL J. DEAN, P.E.  
06/29/07

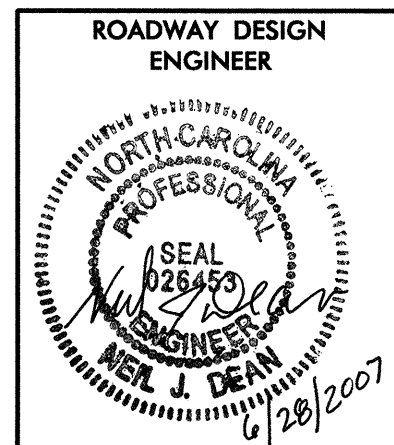
NEIL J. DEAN, P.E.  
06/29/07

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**

ART McMILLAN, P.E.  
STATE HIGHWAY DESIGN ENGINEER

6/28/2007 R:\Roadway\Proj\b3917\_rdy\_tsh.dgn neil.dean

3/15/06



SHEET NUMBER	INDEX OF SHEETS	SHEET
1	TITLE SHEET	
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF ROADWAY STANDARD DRAWINGS	
1B	CONVENTIONAL SYMBOLS	
1C	SURVEY CONTROL SHEET	
2-2A	TYPICAL SECTIONS, PAVEMENTS SCHEDULE	
2B	TEMPORARY PAVEMENT WIDENING DETAIL	
2C	ROCK EMBANKMENT ROCK PLATING DETAIL	
2D	TEMPORARY SHORING DETAIL	
2E	MODIFIED CONCRETE FLUME DETAIL	
2F	ANCHORAGE FOR FRAMES	
3	SUMMARY OF QUANTITIES	
3A	LIST OF PIPE, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)	
3B	SUMMARY OF EARTHWORK, SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL, GUARDRAIL SUMMARY, AND SUMMARY OF SHOULDER BERM GUTTER	
3C	PARCEL INDEX SHEET	
4-5	PLAN SHEETS	
6	PROFILE SHEET	
TCP-1 THRU TCP-10	TRAFFIC CONTROL PLANS	
PM-1	PAVEMENT MARKING PLANS	
EC-1 THRU EC-7	EROSION CONTROL PLANS	
RF-1	REFORESTATION DETAIL SHEET	
SIGN-1 THRU SIGN-4	SIGNING PLANS	
UD-1 THRU UD-3	UTILITIES BY OTHERS PLANS	
X-1	CROSS SECTION SUMMARY SHEET	
X-2 THRU X-11	CROSS SECTIONS	
S-1 THRU S-36	STRUCTURE PLANS	

GENERAL NOTES:

2006 SPECIFICATIONS  
EFFECTIVE: 07-18-06  
REVISED: 07-18-06

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

GRADE LINE:  
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

SIDE ROADS:

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

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

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE BELL SOUTH, PROGRESS ENERGY, AND TIME WARNER CABLE  
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

2006 ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Super-elevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Super-elevated Curve - Method I
DIVISION 8 - INCIDENTALS	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.24	Frames and Narrow Slot Sag Grates
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.02	Drop Inlet Installation in Expressway Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets

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	Ⓜ
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	○
Swamp Marsh	⊕
Proposed Lateral, Tail, Head Ditch	—FLOW—
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 Utility Easement	—PUE—

### 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—T—T—
Proposed Guardrail	—T—T—T—
Existing Cable Guiderail	—T—T—T—
Proposed Cable Guiderail	—T—T—T—
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	⌋ CONC WW ⌋
MINOR:	
Head and End Wall	▭
Pipe Culvert	_____
Footbridge	—>—
Drainage Box: Catch Basin, DI or JB	▭
Paved Ditch Gutter	_____
Storm Sewer Manhole	⊙
Storm Sewer	—S—

### 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	—P—
Designated U/G Power Line (S.U.E.*)	—P—

### 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	—T—
Designated U/G Telephone Cable (S.U.E.*)	—T—
Recorded U/G Telephone Conduit	—TC—
Designated U/G Telephone Conduit (S.U.E.*)	—TC—
Recorded U/G Fiber Optics Cable	—T FO—
Designated U/G Fiber Optics Cable (S.U.E.*)	—T FO—

### WATER:

Water Manhole	⊙
Water Meter	⊕
Water Valve	⊗
Water Hydrant	⊕
Recorded U/G Water Line	—W—
Designated U/G Water Line (S.U.E.*)	—W—
Above Ground Water Line	—A/G Water—

### TV:

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

### GAS:

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

### SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊕
U/G Sanitary Sewer Line	—SS—
Above Ground Sanitary Sewer	—A/G Sanitary Sewer—
Recorded SS Forced Main Line	—FSS—
Designated SS Forced Main Line (S.U.E.*)	—FSS—

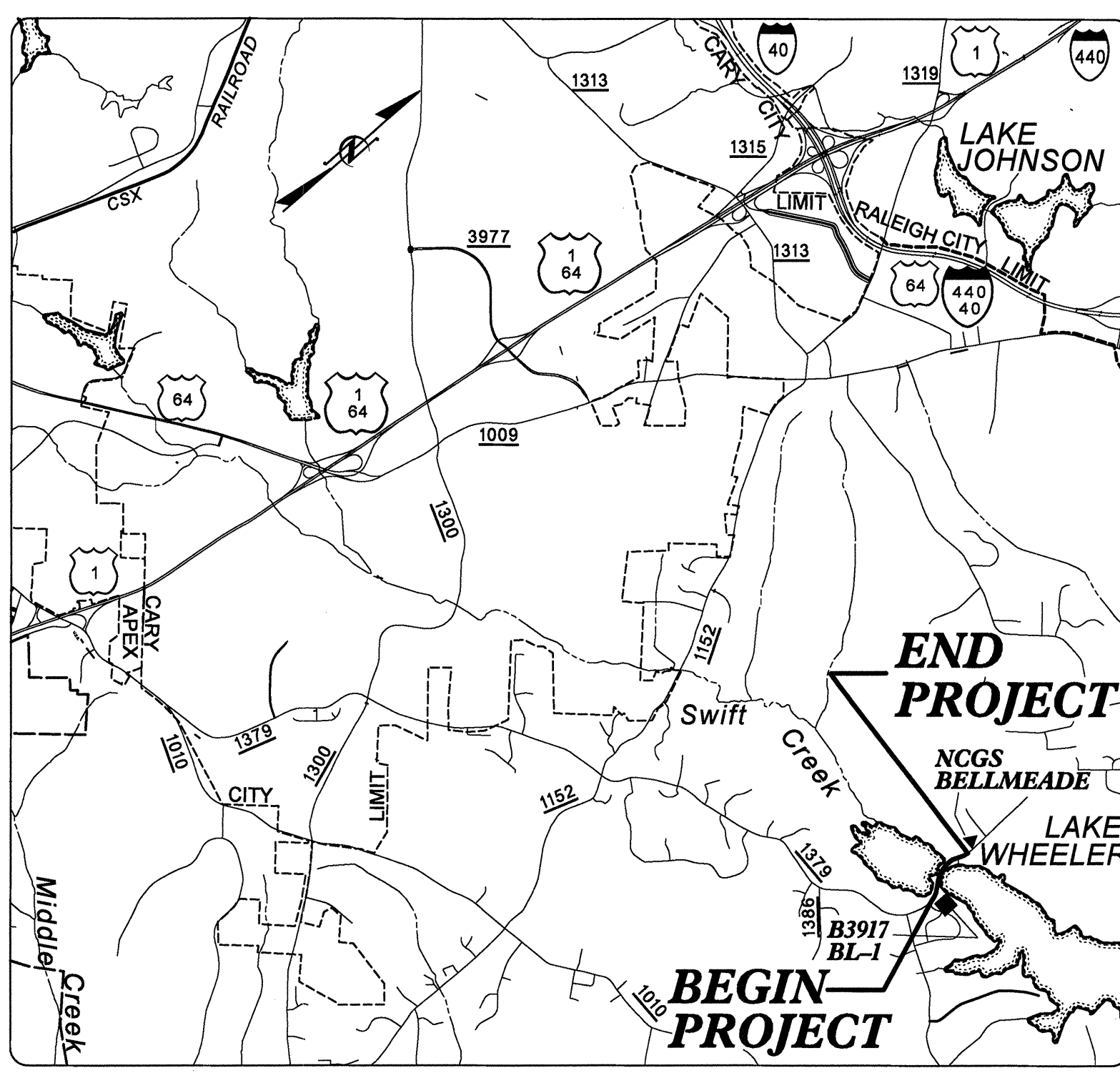
### MISCELLANEOUS:

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

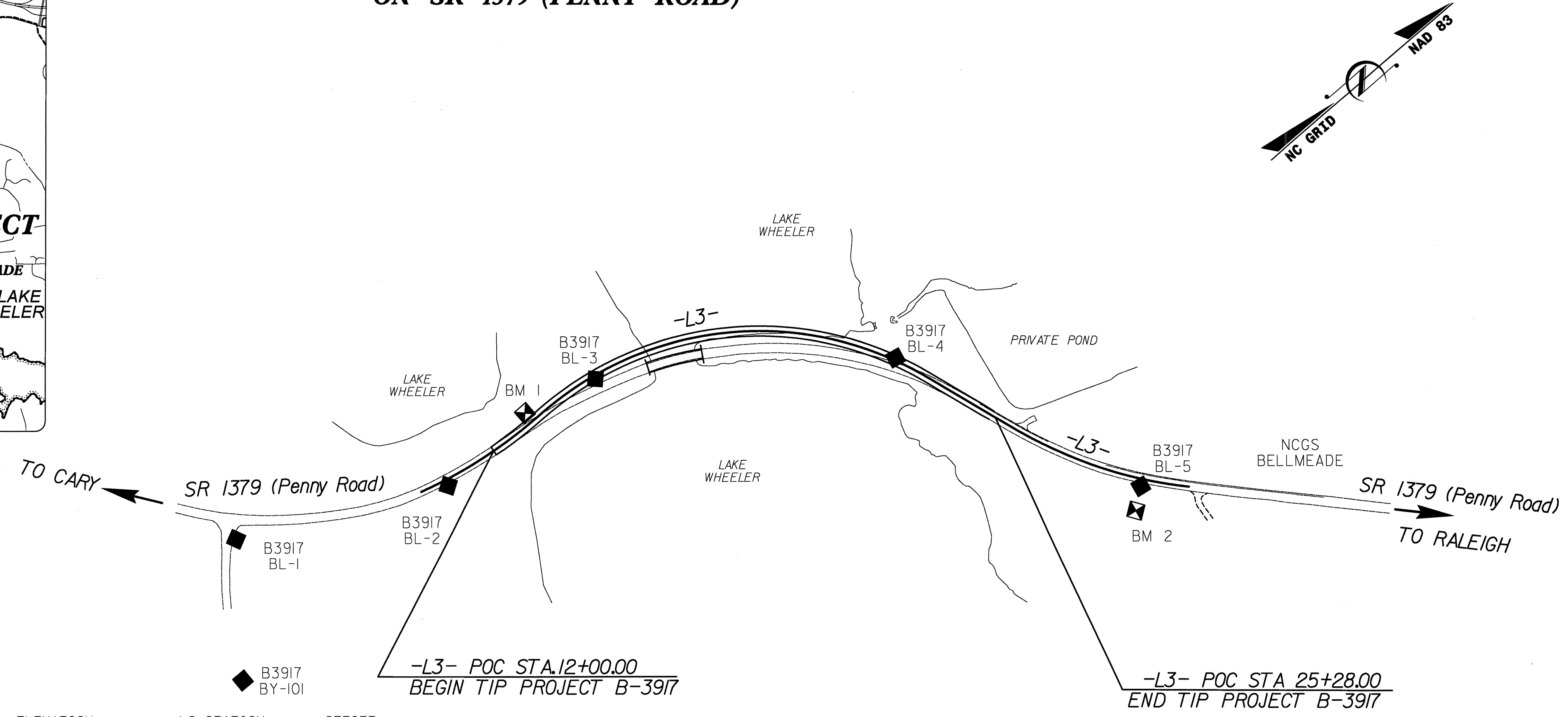
# SURVEY CONTROL SHEET B-3917

## WAKE COUNTY

**LOCATION: BRIDGE NO. 311 OVER LAKE WHEELER (SWIFT CREEK)  
ON SR 1379 (PENNY ROAD)**



VICINITY MAP NO SCALE



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L3 STATION	OFFSET
1		BL-1	708848.1090	2082095.7480	348.23	OUTSIDE PROJECT LIMITS	
2		BL-2	709317.2700	2082334.5360	319.97	10+64.40	14.93 RT
3		BL-3	709752.7320	2082373.0620	295.89	15+01.25	8.20 RT
4		BL-4	710332.9940	2082808.3770	289.11	22+55.20	5.84 LT
5		BL-5	710581.8150	2083427.2160	313.44	29+20.99	17.36 RT
92		NCGS *BELLMEADE	710933.2900	2083739.1600	336.81	OUTSIDE PROJECT LIMITS	
BY	POINT	DESC.	NORTH	EAST	ELEVATION	L3 STATION	OFFSET
1		BL-1	708848.1090	2082095.7480	348.23	OUTSIDE PROJECT LIMITS	
101		BY-101	708641.0130	2082358.9540	354.62	OUTSIDE PROJECT LIMITS	

.....  
 BM 1 ELEVATION = 304.14  
 N 709571 E 2082324  
 L3 STATION 13+17 27 LEFT  
 BENCHLITE IN TREE  
 .....

.....  
 BM 2 ELEVATION = 315.63  
 N 710535 E 2083463  
 L3 STATION 29+21 76 RIGHT  
 BENCHLITE IN TREE  
 .....

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "BELLMEADE"

WITH NAD 83 STATE PLANE GRID COORDINATES OF  
 NORTHING: 710933.2894(ft) EASTING: 2083739.1658(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT  
 (GROUND TO GRID) IS: 0.99989502

THE N.C. LAMBERT GRID BEARING AND  
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM  
 "BELLMEADE" TO -L3- STATION 12+00 IS  
 2033.47'

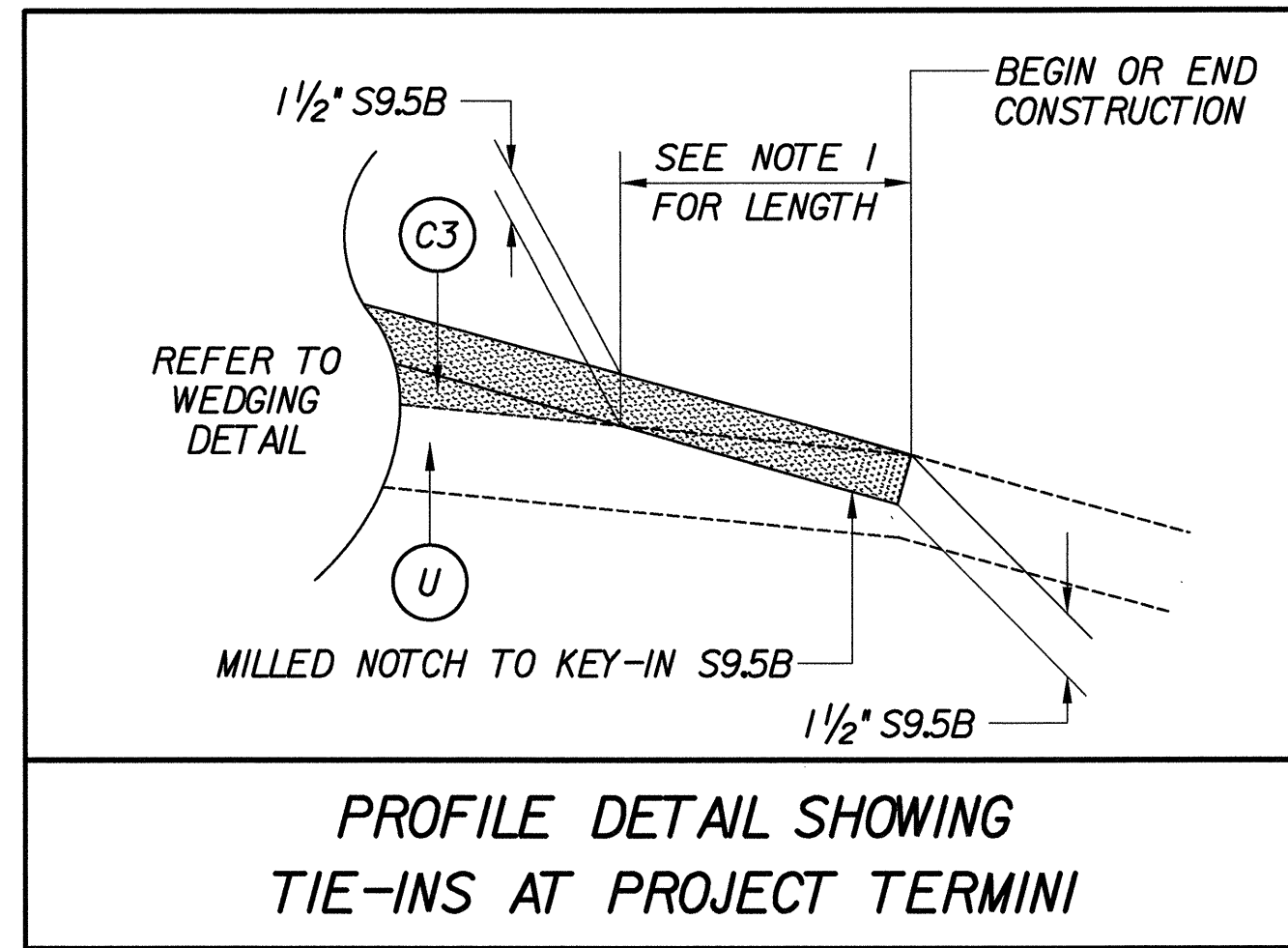
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES  
 VERTICAL DATUM USED IS NGVD 29

- NOTES:**
- THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCTHIGHWAYLOCATIONPROJECT/](http://www.doh.dot.state.nc.us/preconstructhighwaylocationproject/)  
 THE FILES TO BE FOUND ARE AS FOLLOWS:  
 B3917\_ls\_control\_051019.txt
- SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.
- ▲ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.  
 PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM EXISTING HARN MONUMENTATION  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

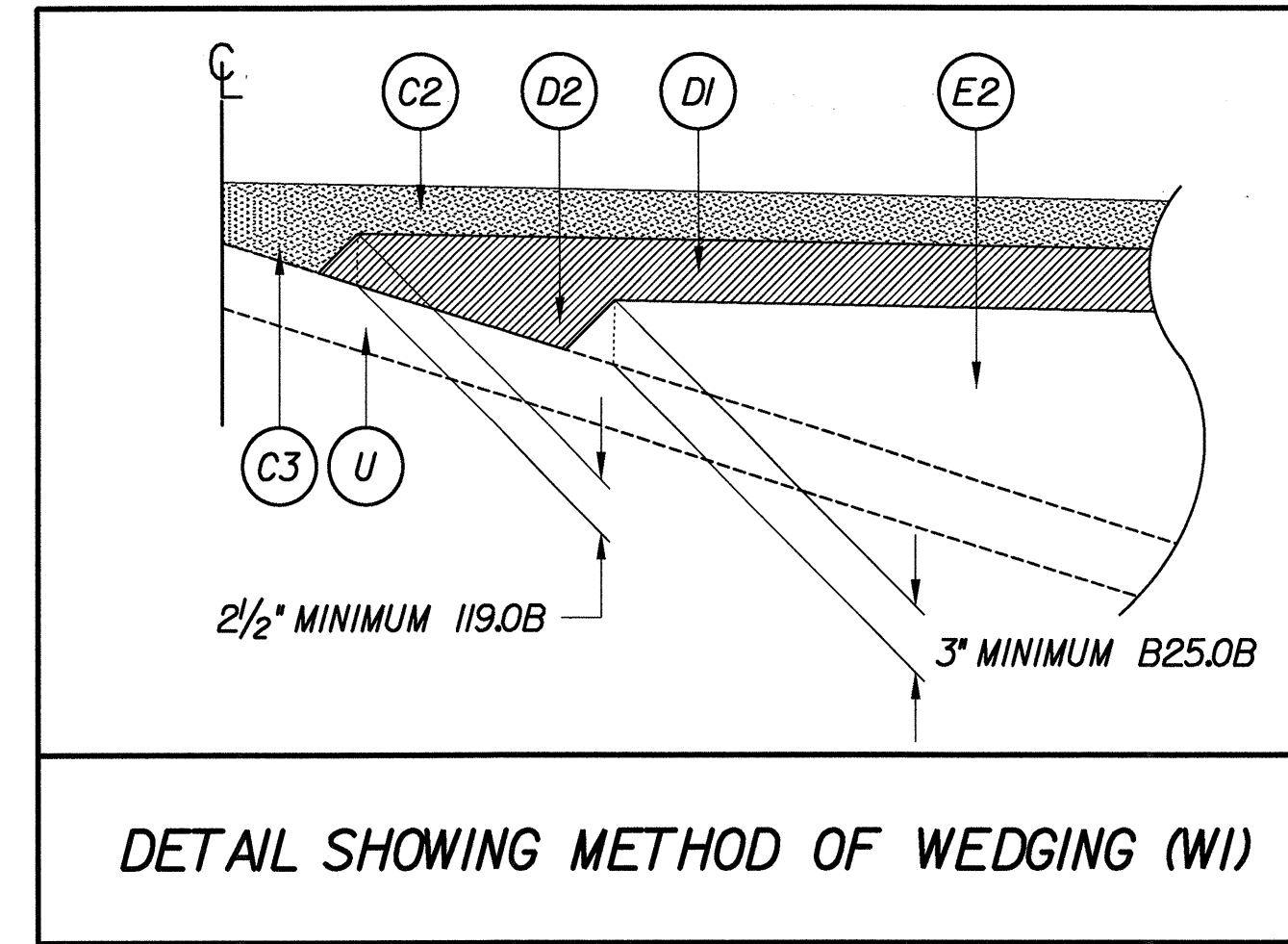
**NOTE: DRAWING NOT TO SCALE**

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. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	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 LESS THAN 1 1/2" IN DEPTH OR GREATER THAN 2" IN DEPTH.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
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 2 1/2" IN DEPTH OR GREATER THAN 4" 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.
W	VARIABLE DEPTH ASPHALT PAVEMENT SEE STANDARD WEDGING DETAIL

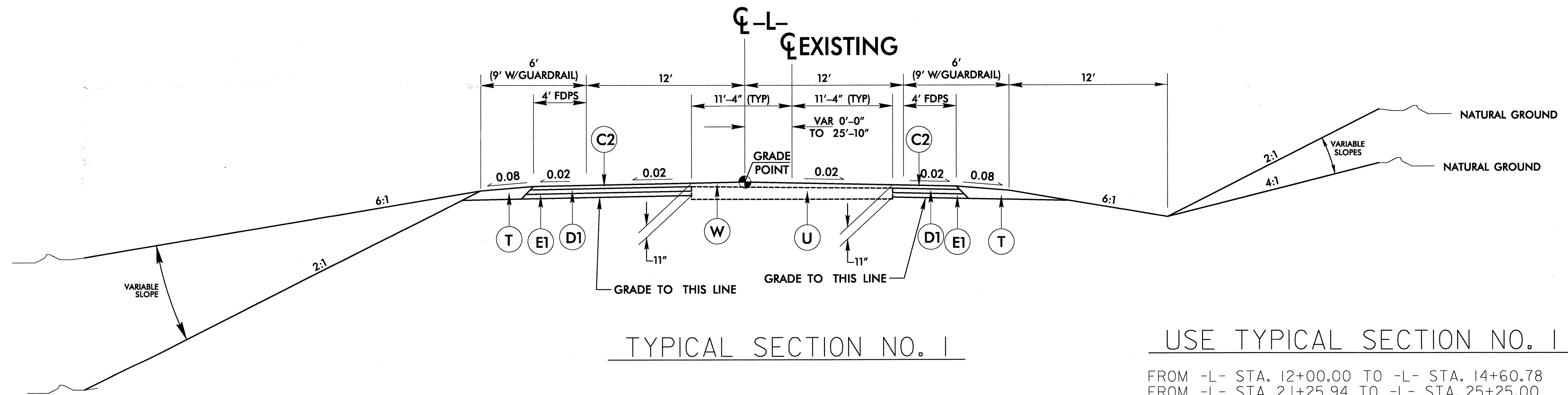
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



NOTE 1: MILL NOTCH TO KEY IN S9.5B FROM  
-L- STA.12+00.00 TO -L- STA.12+25.00, AND  
FROM -L- STA.25+00.00 TO -L- STA.25+25.00



REVISIONS



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

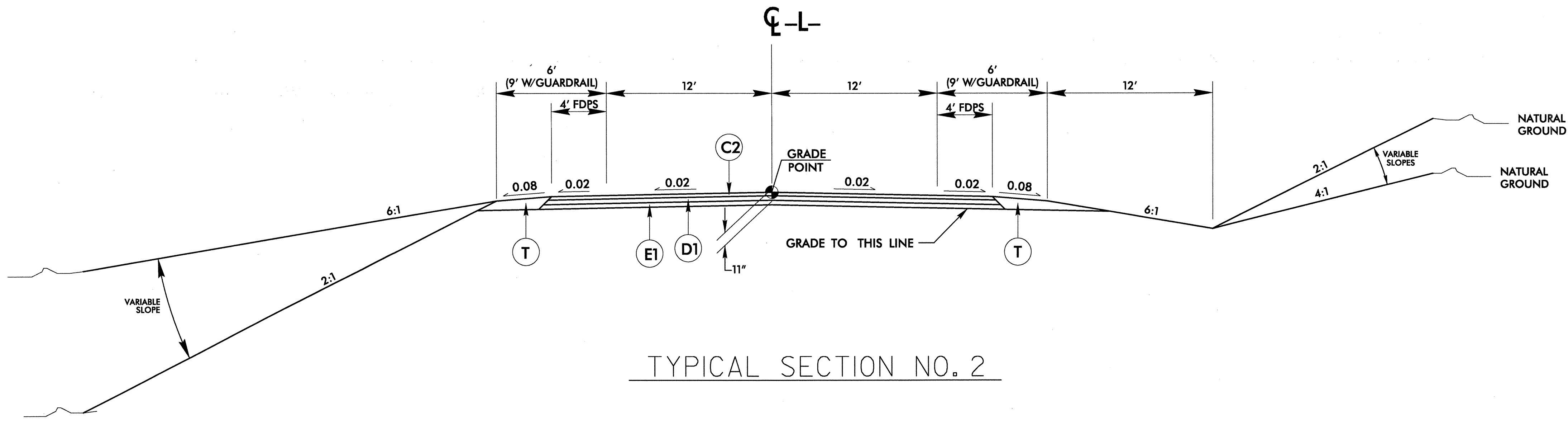
FROM -L- STA. 12+00.00 TO -L- STA. 14+60.78  
FROM -L- STA. 21+25.94 TO -L- STA. 25+25.00

SEE PLANS FOR LOCATIONS OF TAPERS

NOTE: IN LOCATIONS WITH GUARDRAIL, EXTEND PAVED SHOULDER TO THE FACE OF GUARDRAIL (SEE PLANS)

DATE: 7/13/2007  
TIME: 2:26:05 PM

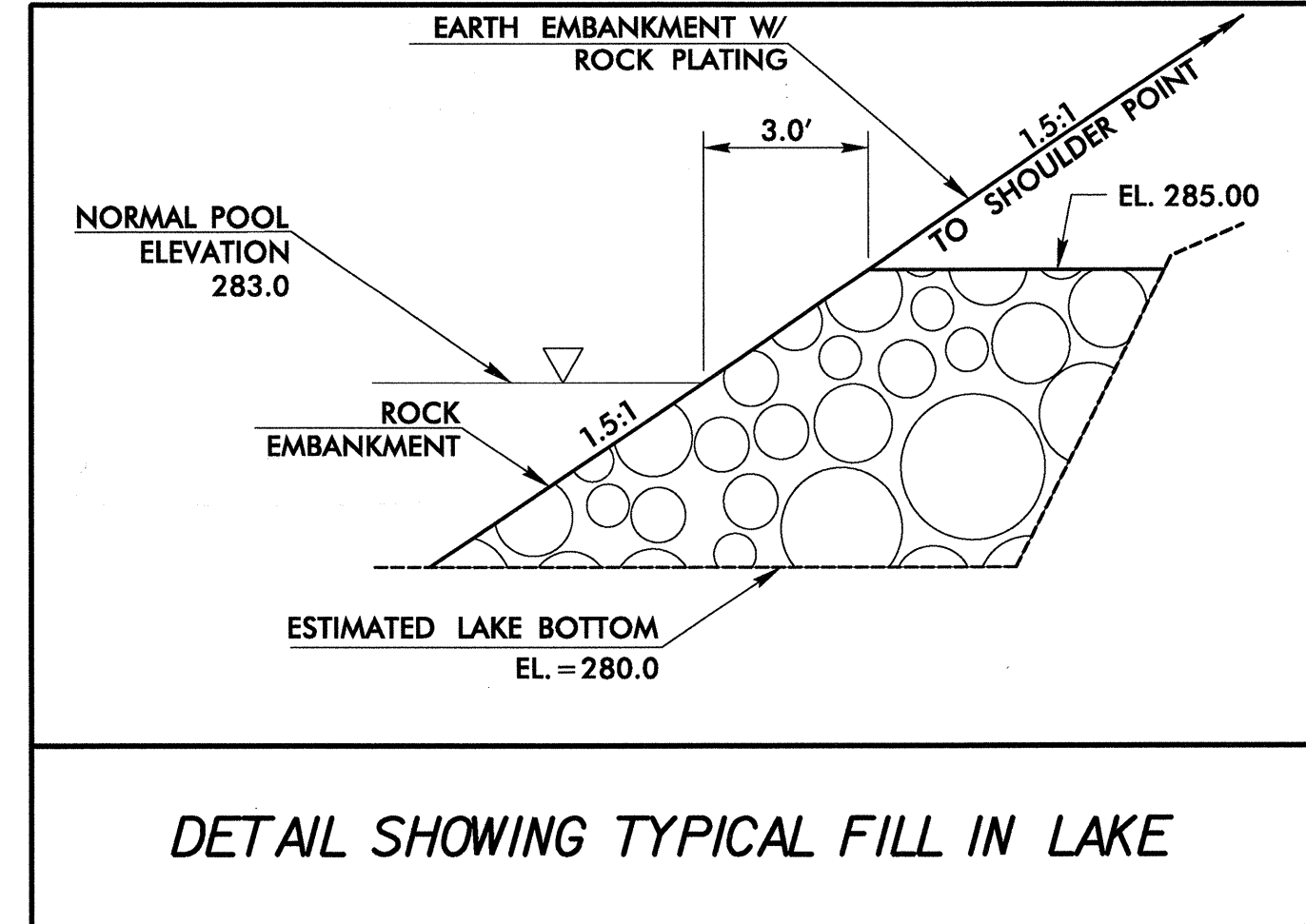
USER: nll/ann  
C:\pav\pav\w\w\23317\_rdy\_jpav.dgn  
SCALE: 1/8\"/>



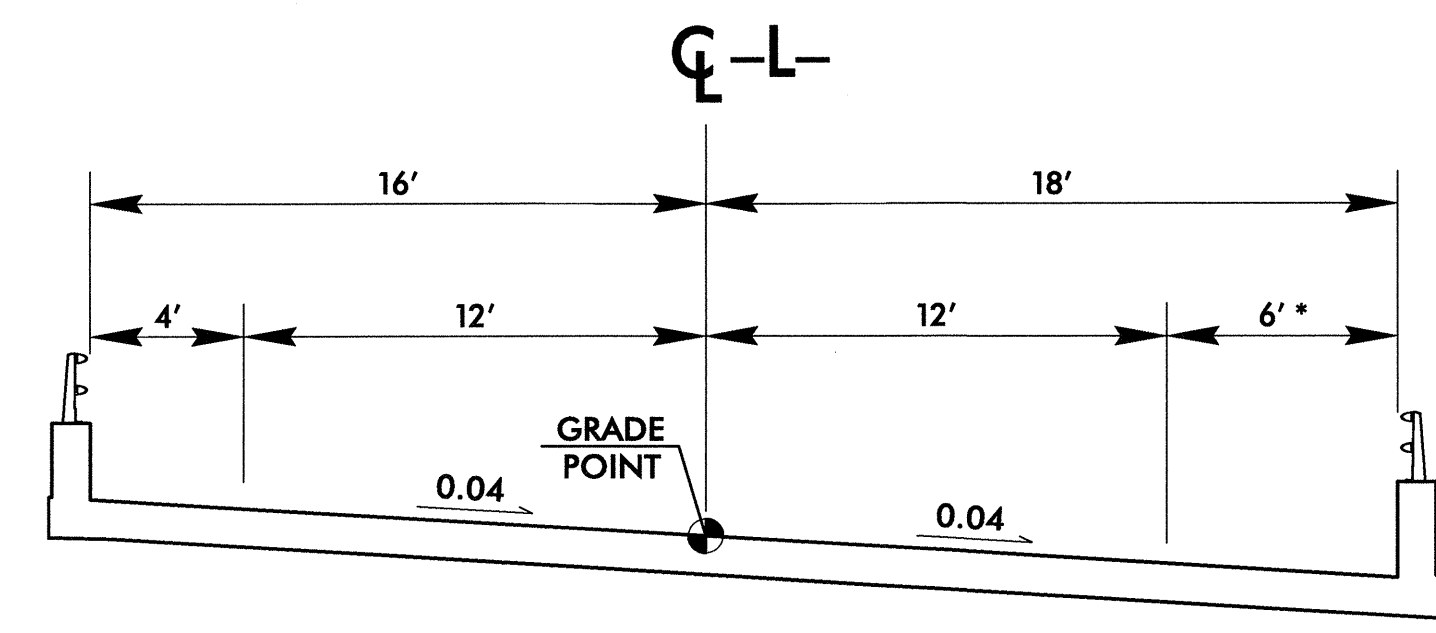
TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

FROM -L- STA. 14+60.78 TO -L- STA 16+02.08 (BEGIN BRIDGE)  
FROM -L- STA. 17+90.92 (END BRIDGE) TO -L- STA. 21+25.94  
NOTE: IN LOCATIONS WITH GUARDRAIL, EXTEND PAVED SHOULDER TO THE FACE OF GUARDRAIL (SEE PLANS)



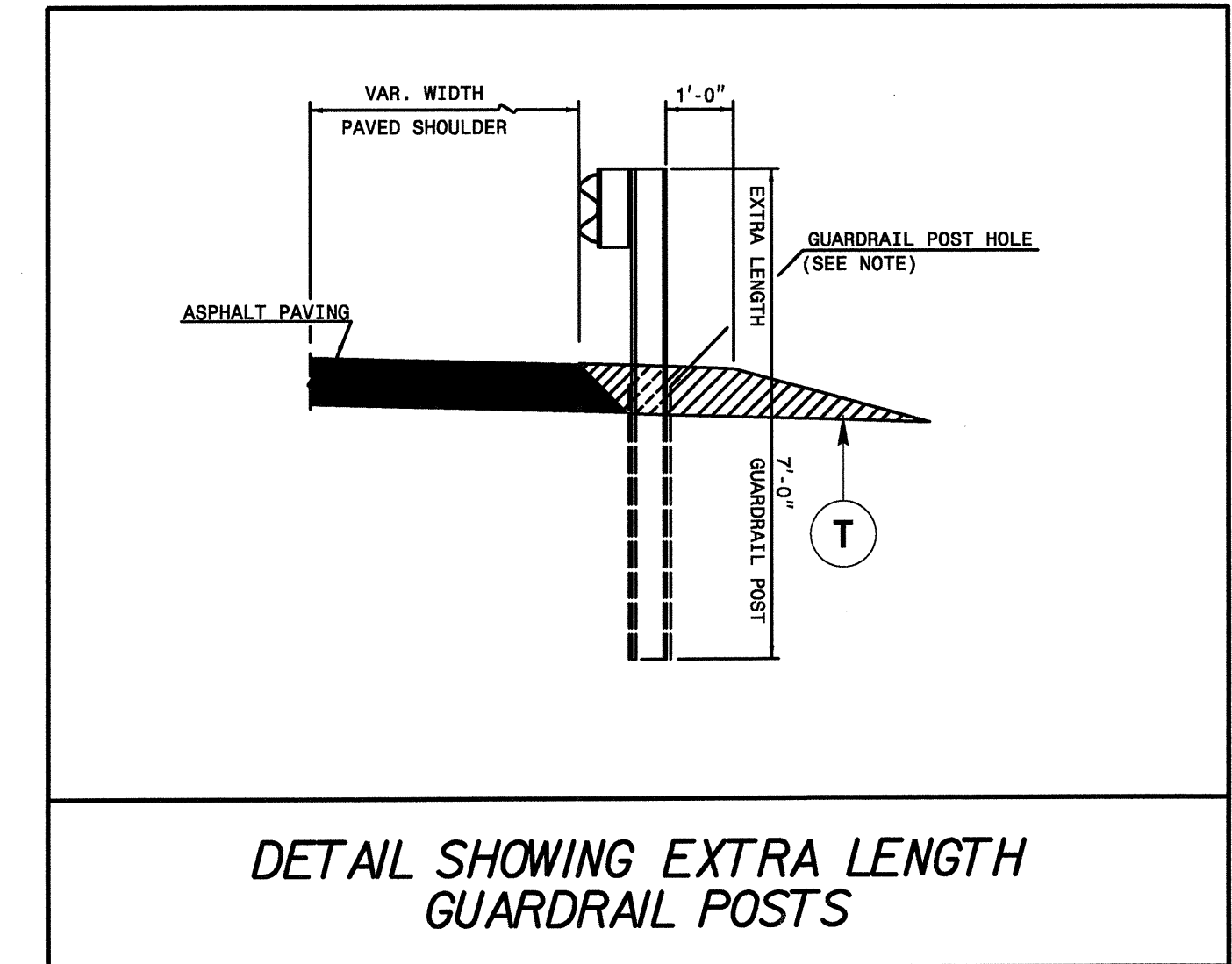
DETAIL SHOWING TYPICAL FILL IN LAKE



TYPICAL SECTION NO. 3

FROM -L- STA. 16+02.08 (BEGIN BRIDGE) TO STA. 17+90.92 (END BRIDGE)

\* BRIDGE OFFSET INCREASED TO IMPROVE HORIZONTAL STOPPING SIGHT DISTANCE



DETAIL SHOWING EXTRA LENGTH GUARDRAIL POSTS


FROM -L- STA. 15+92 +/- TO -L- STA 16+02.08 (BEGIN BRIDGE) (RIGHT SIDE)  
FROM -L- STA. 17+90.92 (END BRIDGE) TO -L- STA. 18+01 +/- (RIGHT SIDE)

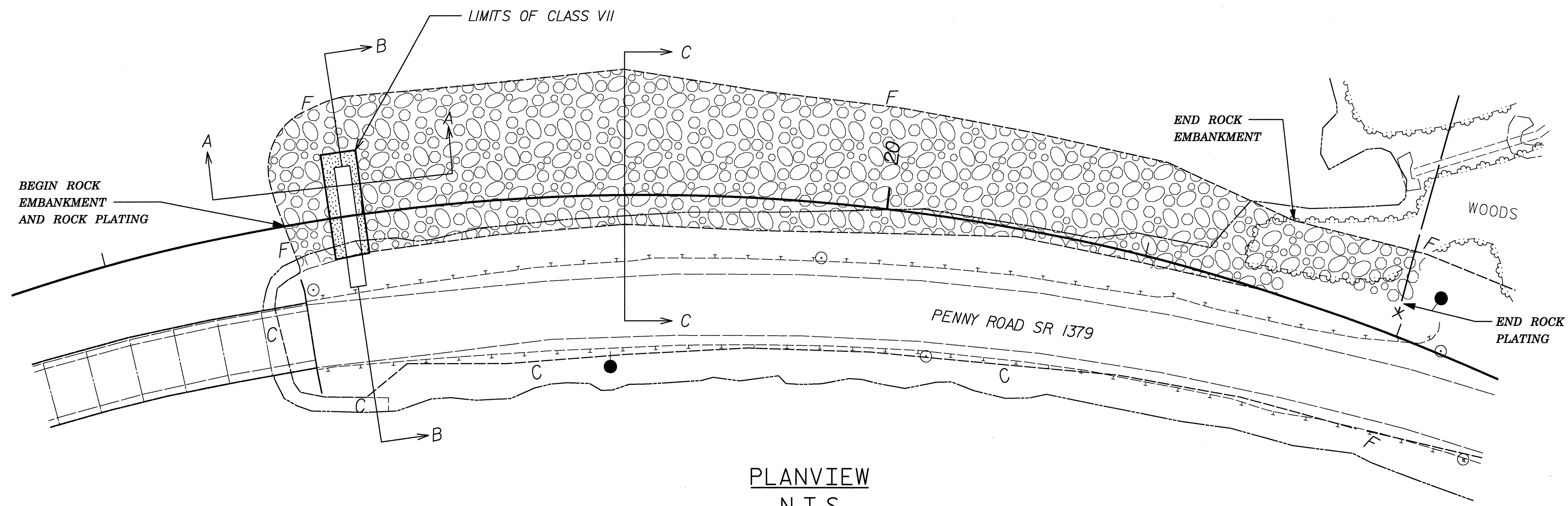
PAVEMENT SCHEDULE	
C1	1 1/4" SF9.5BA
C2	3" S9.5B
C3	VAR. DEPTH S9.5B,
D1	4" I19.0B
D2	VAR. DEPTH I19.0B
E1	4" B25.0B
E2	VAR. DEPTH B25.0B,
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

REVISIONS

DATE: 7/13/07  
TIME: 2:56:03 PM  
USER: mlchen  
DIR: \pavement\proj\3917\_r01\pavgen  
FILE: 286603.dwg



<b>PROJECT REFERENCE NO.</b>	<b>SHEET</b>
33351.3.1(B-3917)	2-C
GEOTECHNICAL ENGINEER  ERIC N. WILLIAMS SIGNATURE DATE 1/3/07	



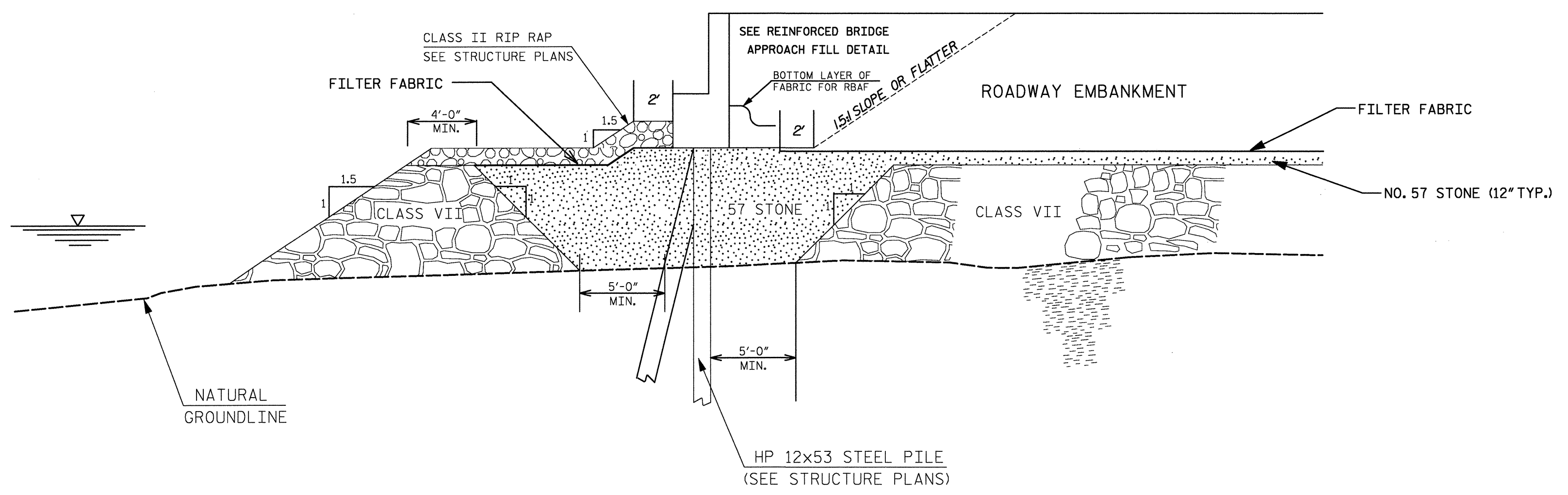
PLANVIEW  
N.T.S

**ROCK EMBANKMENT**  
17+70 TO 21+50 -L-

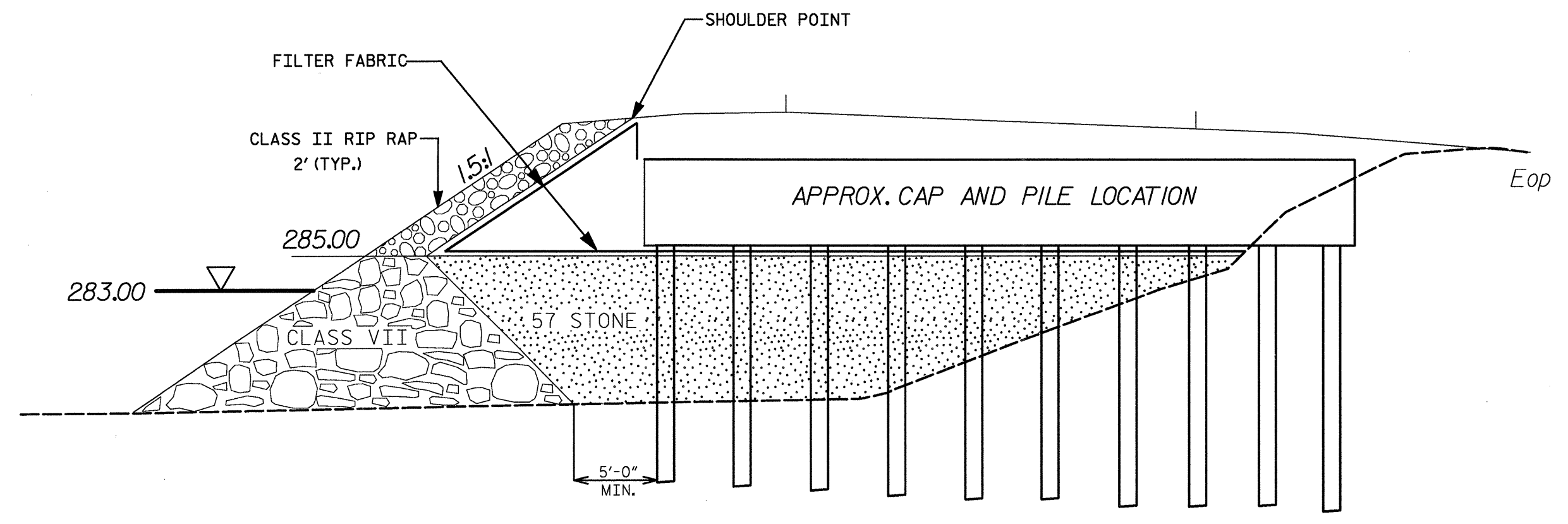
<b>ESTIMATED QUANTITIES</b>	
SELECT MATERIAL, CLASS VII.....	4450 TONS
SELECT MATERIAL, CLASS VI (NO. 57 STONE).....	1850 TONS
FILTER FABRIC FOR DRAINAGE.....	1700 SY

**ROCK PLATING**  
17+70 TO 22+00 -L-

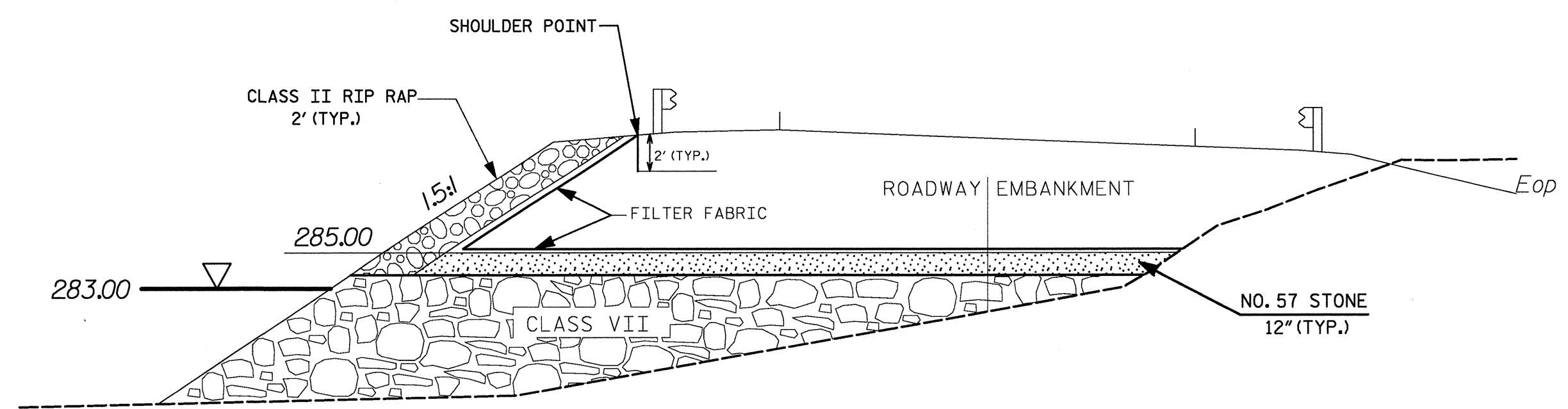
<b>ESTIMATED QUANTITIES</b>	
PLAIN RIP RAP, CLASS II.....	550 TONS
FILTER FABRIC FOR DRAINAGE.....	700 SY



SECTION A-A  
N.T.S



SECTION B-B  
N.T.S



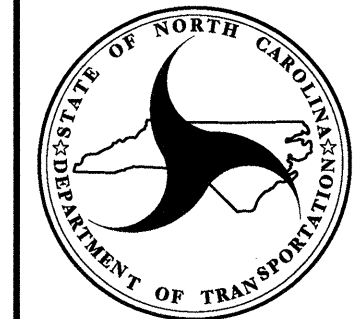
SECTION C-C  
N.T.S

- NOTES ON PLANS:**
- \* CONSTRUCT ROCK EMBANKMENT TO ELEVATION 285.00 AND ACCORDING TO THE SPECIAL PROVISION FOR ROCK EMBANKMENT.
  - \* CONSTRUCT ROCK PLATING FROM ELEVATION 285.00 TO THE SHOULDER POINT AND ACCORDING TO THE SPECIAL PROVISION FOR ROCK PLATING.

PREPARED BY: T.T. WALKER	DATE: 05/06
REVIEWED BY: E.N. WILLIAMS	DATE: 05/06

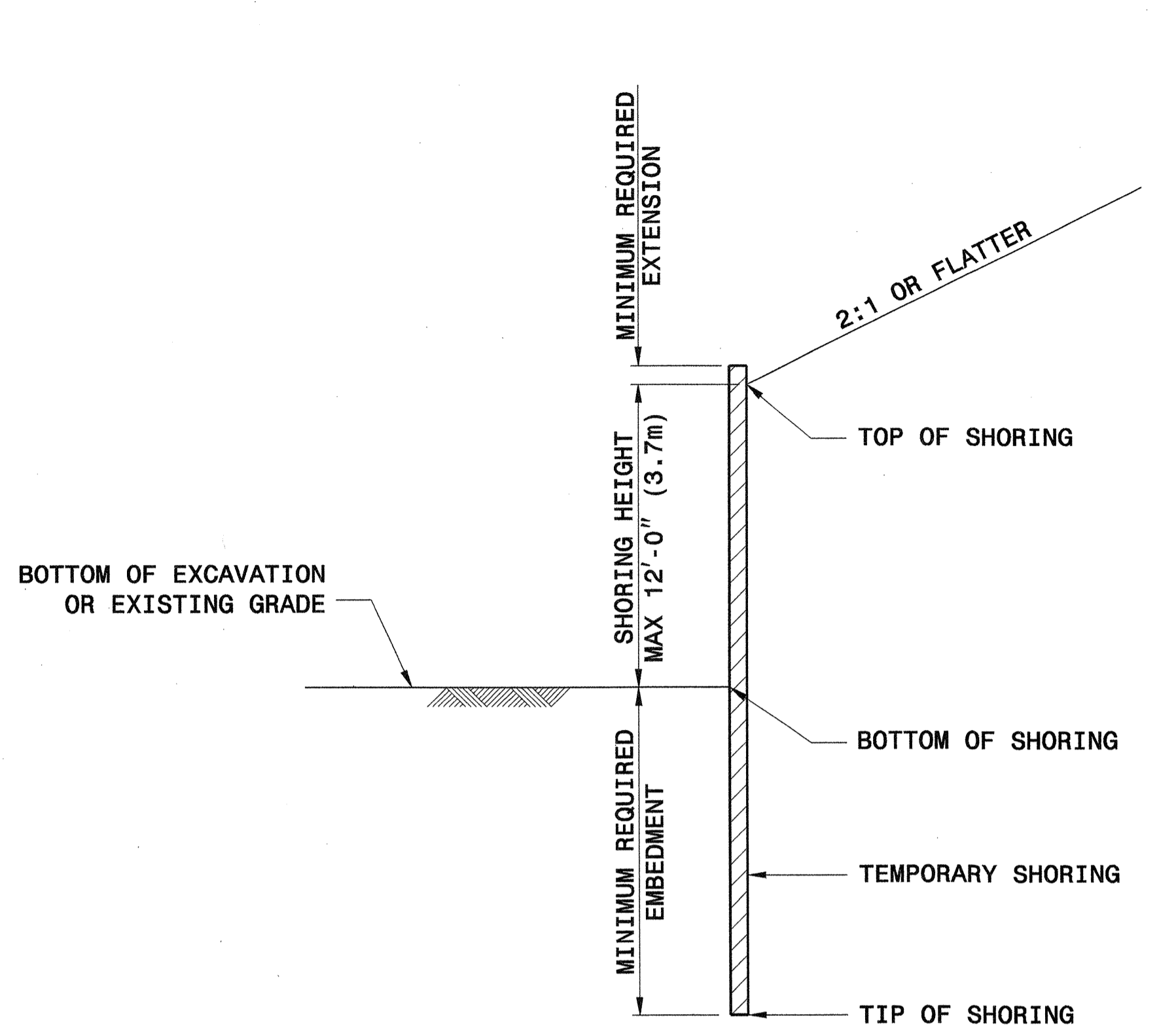
**GEOTECHNICAL ENGINEERING UNIT**  
 EASTERN REGIONAL OFFICE  
 WESTERN REGIONAL OFFICE

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

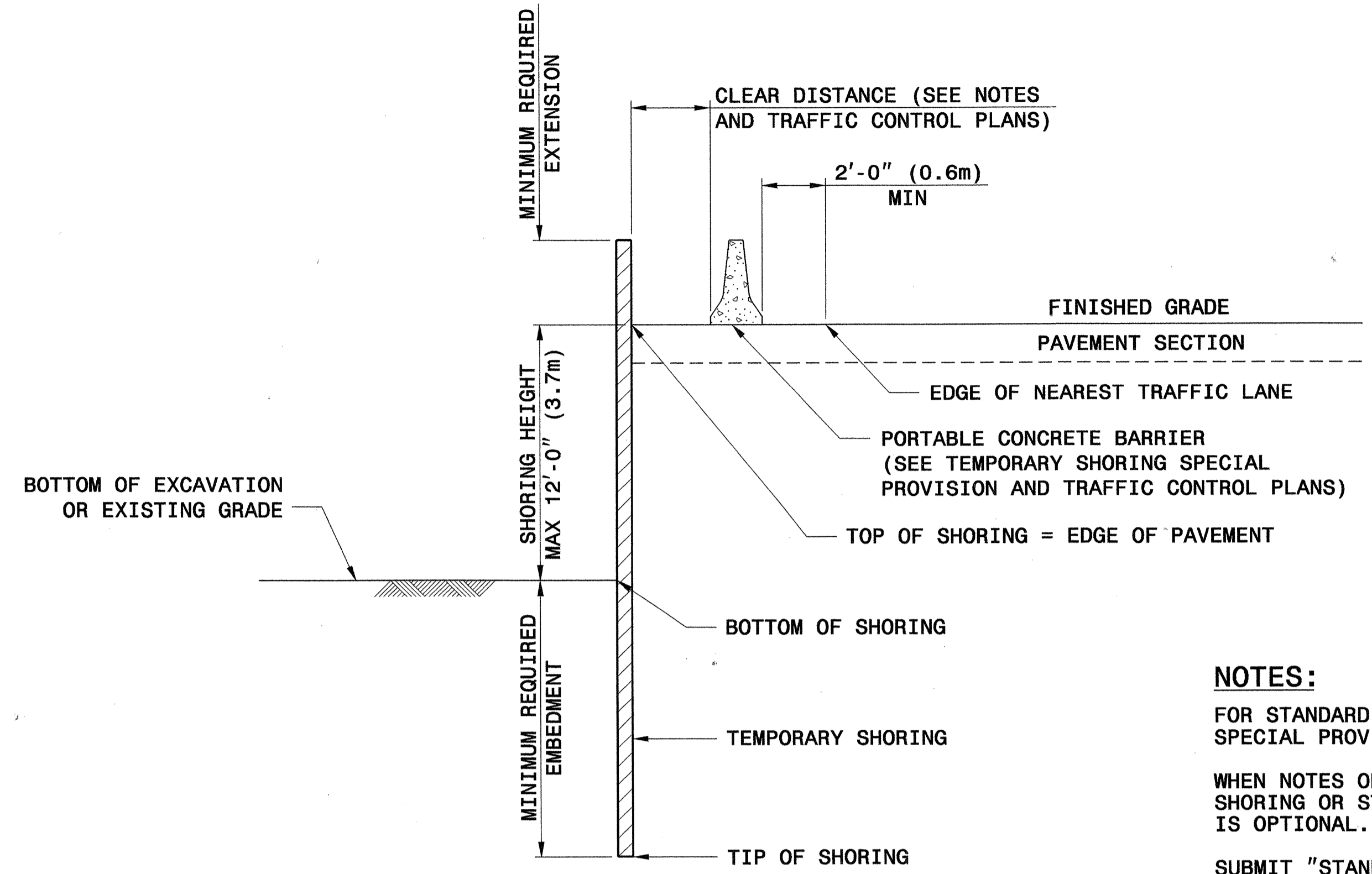


<b>ROCK EMBANKMENT ROCK PLATING DETAIL</b>					
<b>REVISIONS</b>					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		





**SLOPE CASE**



**SURCHARGE CASE**

**NOTES:**

FOR STANDARD TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.  
 WHEN NOTES ON PLANS DO NOT PROHIBIT STANDARD TEMPORARY SHORING OR STANDARD SHORING, STANDARD TEMPORARY SHORING IS OPTIONAL.

SUBMIT "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 14 DAYS BEFORE BEGINNING SHORING CONSTRUCTION. UP TO THREE LOCATIONS MAY BE INCLUDED ON EACH SELECTION FORM.

STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING CONDITIONS:

- 1) MAXIMUM SHORING HEIGHT IS 12'-0" (3.7m).
- 2) TRAFFIC SURCHARGE IS 240 PSF (11.5 KPA) MAXIMUM OR BACKSLOPE IS 2:1 (H:V) OR FLATTER.
- 3) BOTTOM OF EXCAVATION OR EXISTING GRADE IN FRONT OF SHORING IS 6:1 (H:V) SLOPE OR FLATTER.
- 4) H PILE SPACING IS 6'-0" (1.8m).
- 5) H PILE EMBEDMENT DEPTHS ARE FOR DRIVEN PILES.
- 6) TIMBER LAGGING IS A MINIMUM OF 3" (75mm) THICK.

STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:  
 TOTAL UNIT WEIGHT = 120 PCF (18.8 KN/M<sup>3</sup>)  
 FRICTION ANGLE = 30 DEGREES  
 COHESION = 0 PSF (0 KPA)  
 GROUNDWATER IS ASSUMED TO BE BELOW BOTTOM OF SHORING.

DO NOT USE STANDARD TEMPORARY SHORING WHEN THE ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE OR GROUNDWATER IS ABOVE THE BOTTOM OF SHORING.

DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS PRESENT WITHIN THE EMBEDMENT DEPTH.

VERIFY GROUNDWATER ELEVATION BEFORE BEGINNING SHORING CONSTRUCTION.

IF THE CLEAR DISTANCE AVAILABLE IS LESS THAN THE MINIMUM REQUIRED IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS, SET THE BARRIER AGAINST THE TRAFFIC SIDE OF THE SHORING AND USE THE "SURCHARGE CASE WITH TRAFFIC IMPACT".

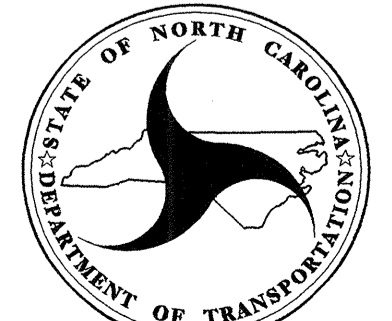
AT THE CONTRACTOR'S OPTION, H PILE EMBEDMENT DEPTHS FOR PILES SET IN DRILLED HOLES MAY BE REDUCED BY 25%. FOR PILE EXCAVATION, SEE TEMPORARY SHORING SPECIAL PROVISION.

CONTROL DRAINAGE DURING CONSTRUCTION IN THE VICINITY OF THE SHORING. COLLECT AND DIRECT RUNOFF AWAY FROM SHORING.

CONTACT THE ENGINEER IF MINIMUM REQUIRED EMBEDMENT IS NOT ACHIEVED.

GROUNDWATER CONDITION	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT						SURCHARGE CASE WITH TRAFFIC IMPACT					
	SHORING HEIGHT FT (m)	SHEET PILES		H PILES WITH TIMBER LAGGING			MINIMUM REQUIRED EMBEDMENT FT (m)	SHEET PILES		H PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT FT (m)	MINIMUM REQUIRED SECTION MODULUS IN <sup>3</sup> /FT (cm <sup>3</sup> /m)	MINIMUM REQUIRED EMBEDMENT FT (m)				MINIMUM REQUIRED SECTION MODULUS IN <sup>3</sup> /FT (cm <sup>3</sup> /m)	MINIMUM REQUIRED EMBEDMENT FT (m)			
				HP 10x42 (HP 250x62)	HP 12x53 (HP 310x79)	HP 14x73 (HP 360x108)			HP 10x42 (HP 250x62)	HP 12x53 (HP 310x79)	HP 14x73 (HP 360x108)	
GROUNDWATER ELEVATION BELOW TIP OF SHORING	< 6 (1.8)	7.5 (2.3)	3.0 (161)	8.0 (2.4)	8.0 (2.4)	8.0 (2.4)	11.0 (3.4)	10.0 (538)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)	
	7 (2.1)	8.5 (2.6)	4.5 (242)	9.5 (2.9)	9.5 (2.9)	9.5 (2.9)	12.0 (3.7)	12.0 (645)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)	
	8 (2.4)	10.0 (3.0)	6.5 (349)	10.5 (3.2)	10.5 (3.2)	10.5 (3.2)	12.5 (3.8)	14.0 (753)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)	
	9 (2.7)	11.0 (3.4)	9.5 (511)	--	12.0 (3.7)	12.0 (3.7)	13.5 (4.1)	16.5 (887)	--	12.5 (3.8)	12.5 (3.8)	
	10 (3.0)	12.5 (3.8)	13.0 (699)	--	--	13.5 (4.1)	14.0 (4.3)	19.5 (1048)	--	13.5 (4.1)	13.5 (4.1)	
	11 (3.4)	13.5 (4.1)	17.0 (914)	--	--	14.5 (4.4)	15.0 (4.6)	22.5 (1210)	--	--	14.5 (4.4)	
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND TIP OF SHORING	< 6 (1.8)	11.5 (3.5)	4.5 (242)	11.5 (3.5)	11.5 (3.5)	11.5 (3.5)	16.0 (4.9)	12.0 (645)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)	
	7 (2.1)	13.0 (4.0)	7.0 (376)	13.0 (4.0)	13.0 (4.0)	13.0 (4.0)	17.0 (5.2)	14.5 (780)	14.5 (4.4)	14.5 (4.4)	14.5 (4.4)	
	8 (2.4)	15.0 (4.6)	10.0 (538)	--	15.0 (4.6)	15.0 (4.6)	18.0 (5.5)	17.0 (914)	--	15.5 (4.7)	15.5 (4.7)	
	9 (2.7)	17.0 (5.2)	14.0 (753)	--	17.0 (5.2)	17.0 (5.2)	19.0 (5.8)	20.0 (1075)	--	17.0 (5.2)	17.0 (5.2)	
	10 (3.0)	18.5 (5.6)	19.5 (1048)	--	--	18.5 (5.6)	20.0 (6.1)	23.5 (1263)	--	--	18.5 (5.6)	
	11 (3.4)	20.5 (6.3)	26.0 (1398)	--	--	--	21.0 (6.4)	28.0 (1505)	--	--	20.0 (6.1)	
	12 (3.7)	22.5 (6.9)	33.0 (1774)	--	--	--	22.0 (6.7)	33.0 (1774)	--	--	21.5 (6.6)	

NOTE: MINIMUM REQUIRED EXTENSION IS 6" (150mm) FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" (800 mm) FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".



**GEOTECHNICAL ENGINEERING UNIT**  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

STANDARD DRAWING NO. 1801.01

**STANDARD TEMPORARY SHORING**

DATE: 2-20-07

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

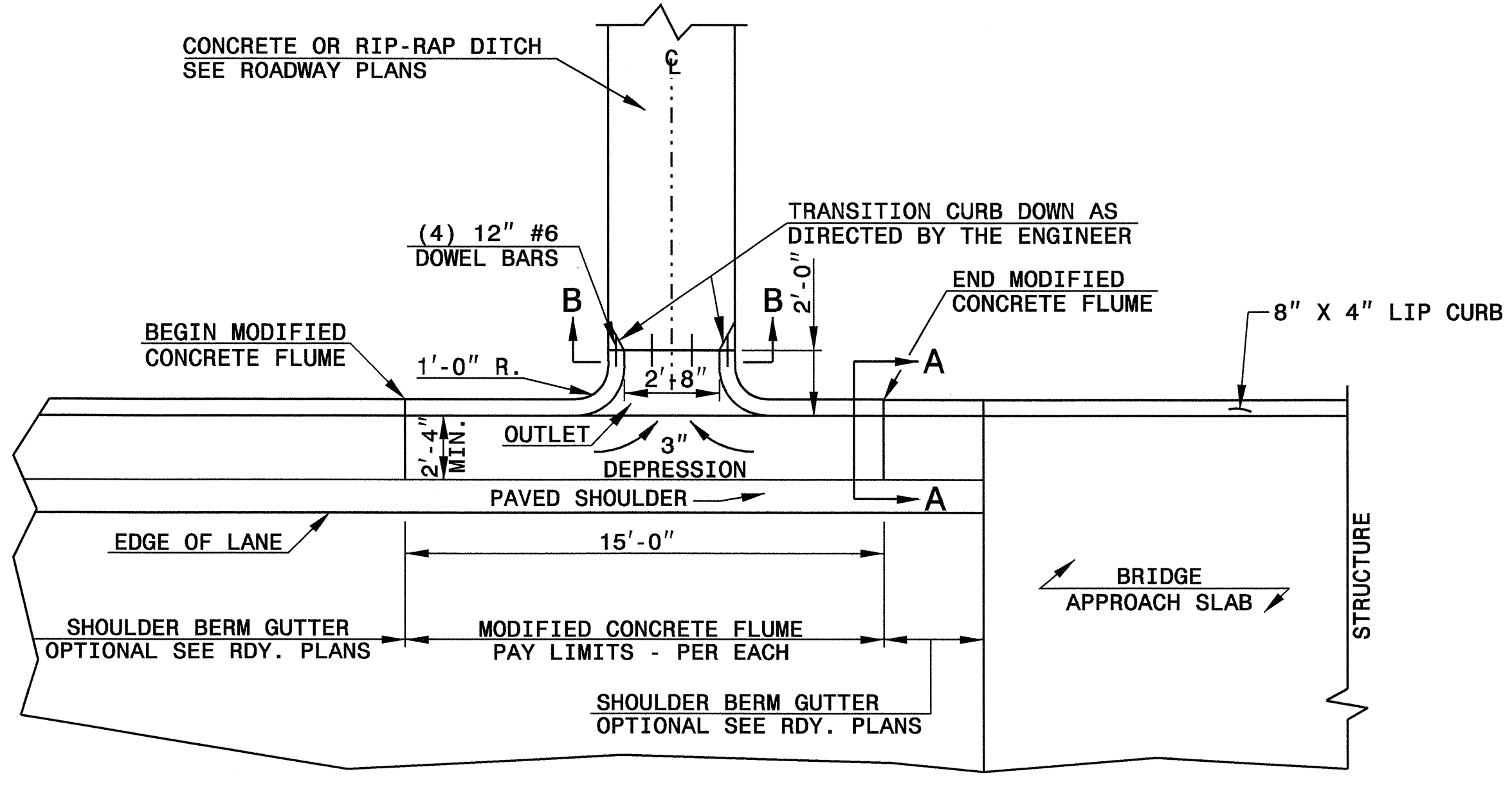
ENGLISH DETAIL DRAWING FOR  
**MODIFIED CONCRETE FLUME**  
WITH CONCRETE OR RIP-RAP DITCH

SHEET 1 OF 1  
MODFLMDTCH

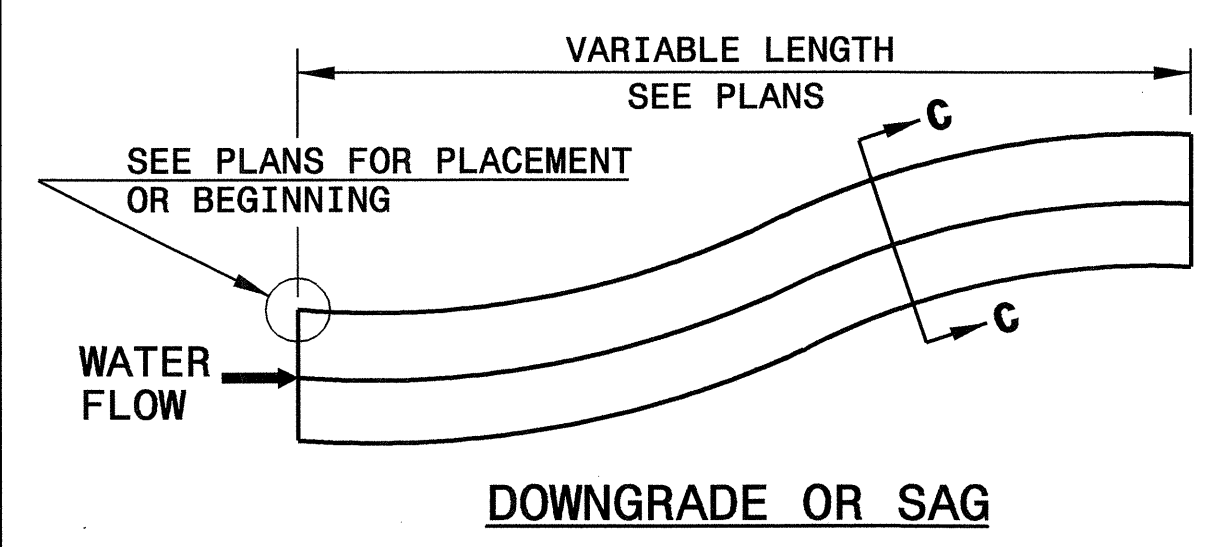
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR  
**MODIFIED CONCRETE FLUME**  
WITH CONCRETE OR RIP-RAP DITCH

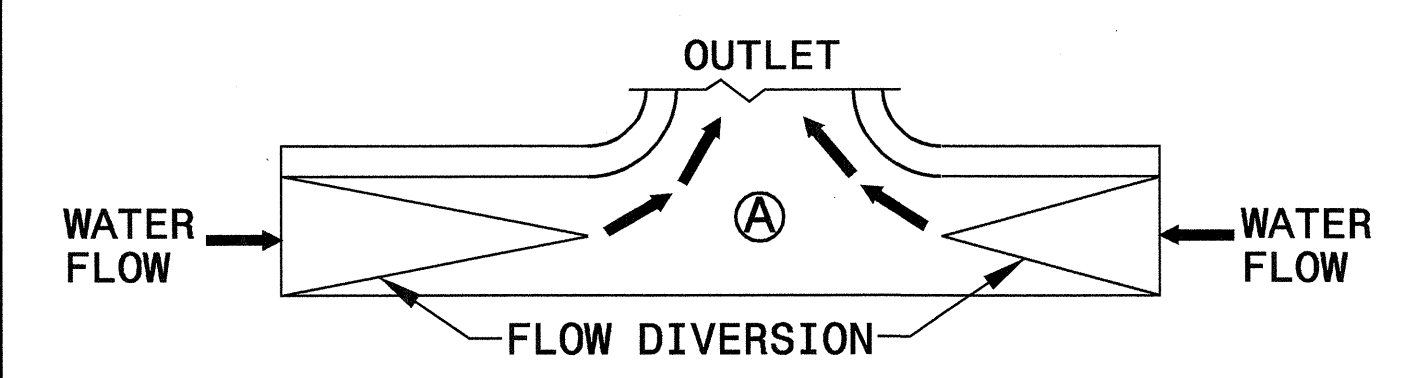
SHEET 1 OF 1  
MODFLMDTCH



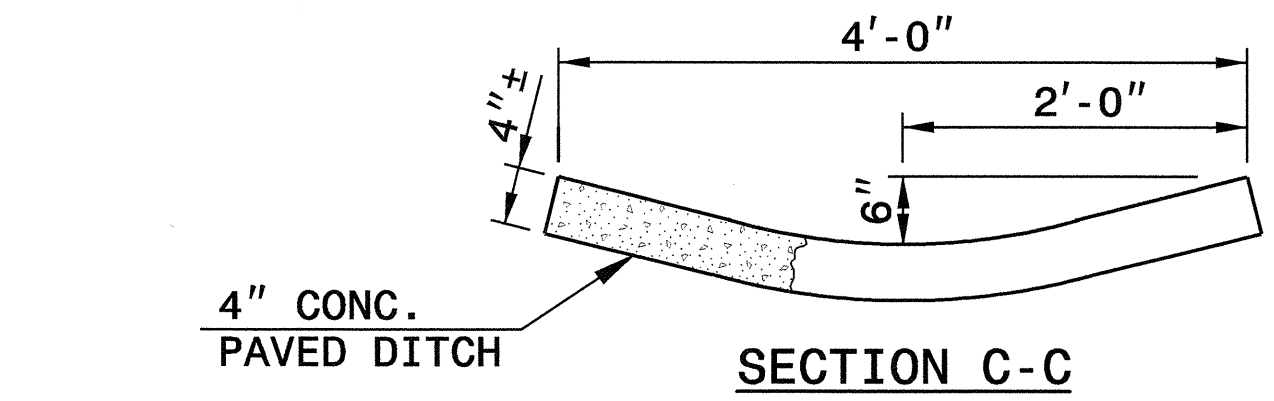
PLAN VIEW



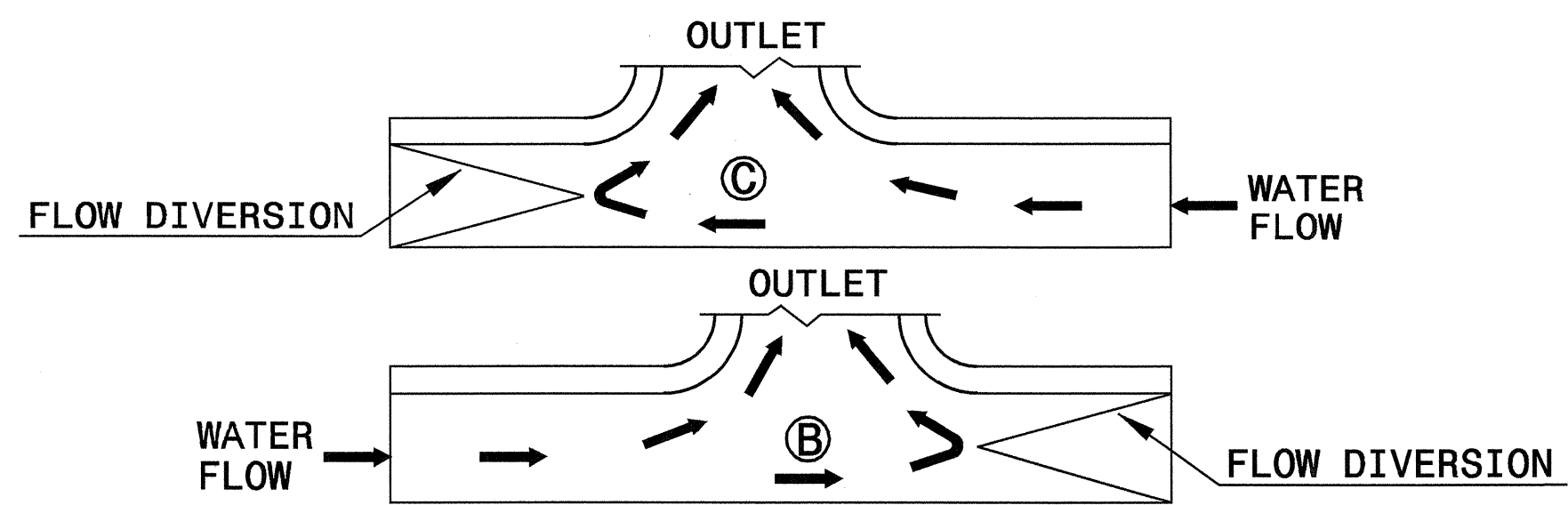
DOWNGRADE OR SAG



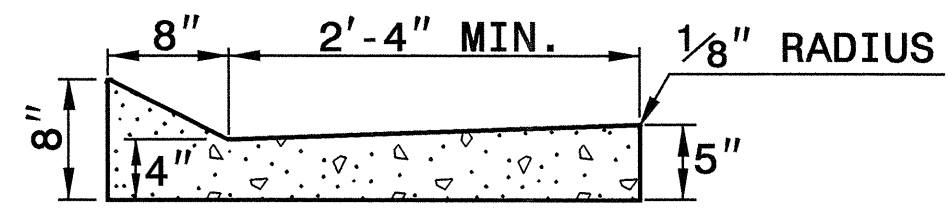
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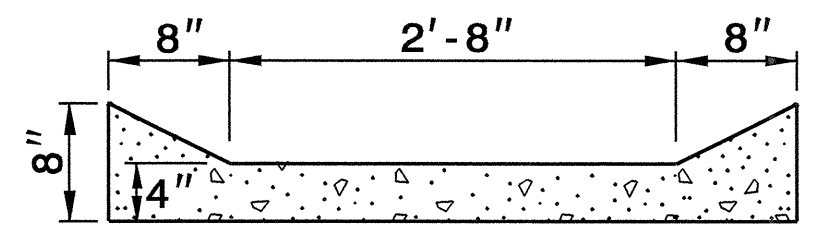
SECTION C-C



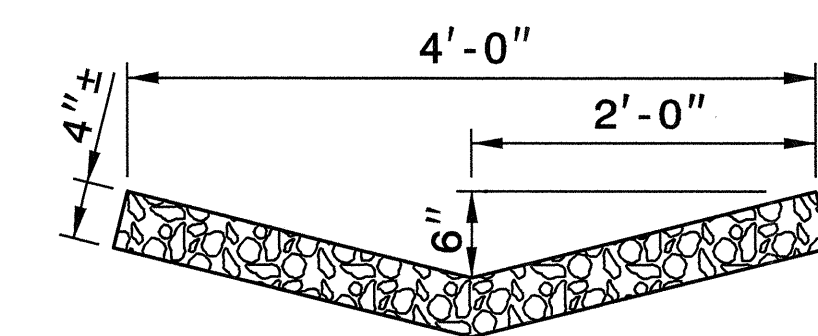
FLOW DIVERSION EXAMPLES



SECTION A-A



SECTION B-B



RIP-RAP LINED DITCH

NOTES:

- CONSTRUCT MODIFIED CONCRETE FLUME AND SHOULDER BERM GUTTER IN ACCORDANCE WITH THIS DETAIL.
- CONSTRUCT CONCRETE DITCH IN ACCORDANCE WITH STD. DWG. NO. 850.01.
- CONSTRUCT RIP RAP LINED DITCH IN ACCORDANCE WITH THIS DETAIL, IF CALLED FOR IN PLANS.
- CONCRETE OR RIP RAP LINED DITCH SHALL BE THE TYPE AND LENGTH SPECIFIED BY THE ROADWAY PLANS. THE DITCH SHALL TERMINATE AS SHOWN ON THE PLANS. IF NO TERMINATION IS INDICATED PLACE RIP-RAP AT THE END OF THE DITCH AS INDICATED BY STD. DWG. 876.02 FOR AN 18" PIPE. TRANSITIONS FROM THE DITCH TO TERMINATION SHALL BE AS DIRECTED BY THE ENGINEER.
- MODIFICATIONS SHALL BE AS DICTATED BY SITE CONDITIONS AND DIRECTED BY THE ENGINEER.



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

**SEE PLATE FOR TITLE**

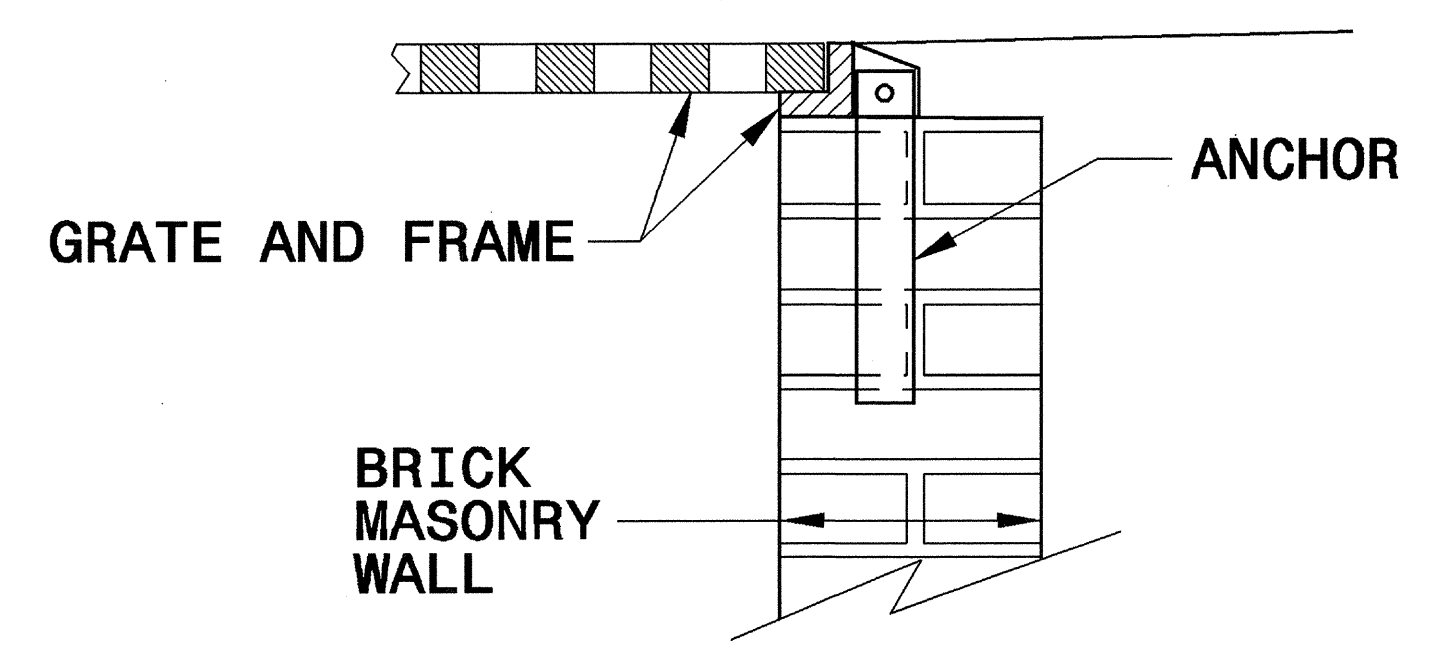
ORIGINAL BY: E.E. Ward DATE: Apr. 2002  
 MODIFIED BY: E.E. Ward DATE: July 2004  
 CHECKED BY: *Joel S. Howerton* DATE: 3/1/06  
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Q:\MAR\_2006\_08\47 S:\Contracts\Special Details\review\d\usr\details\stand\modifiedflume.dgn ericward AT P522293

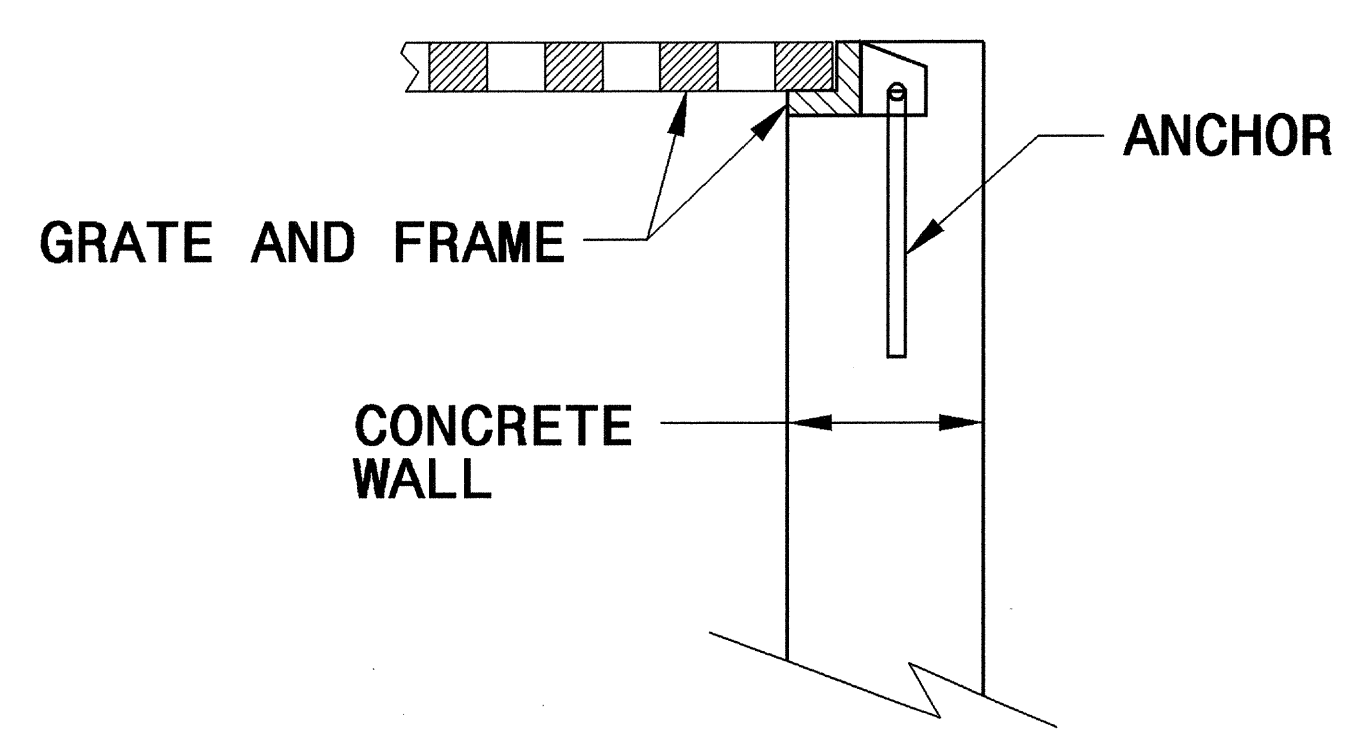
STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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

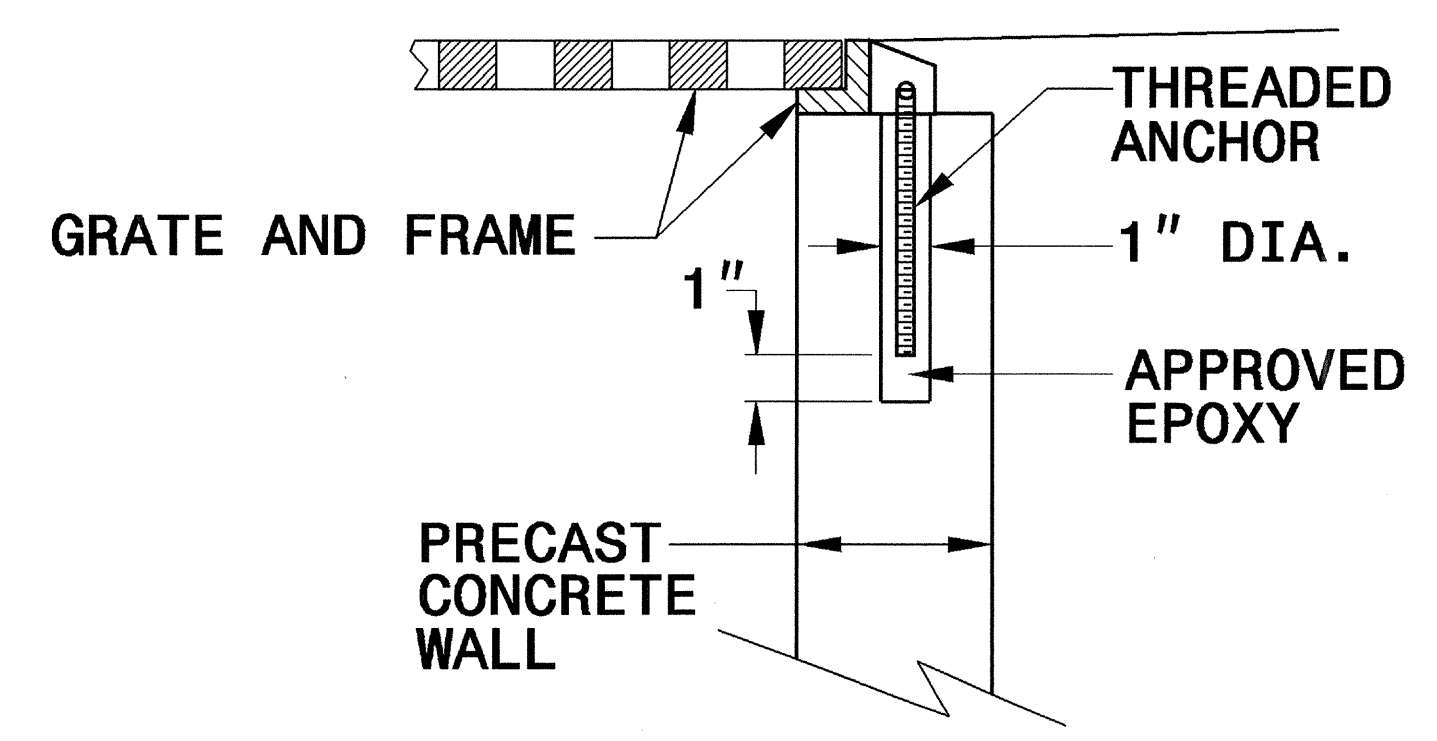
SHEET 1 OF 1  
**840D25**



**BRICK MASONRY  
CONSTRUCTION**



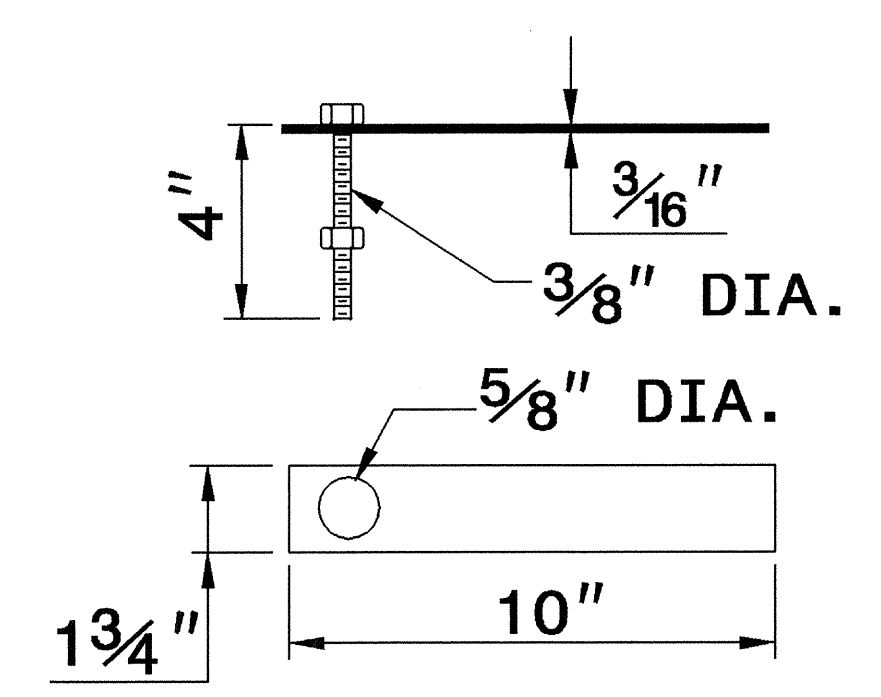
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CONSTRUCTION**



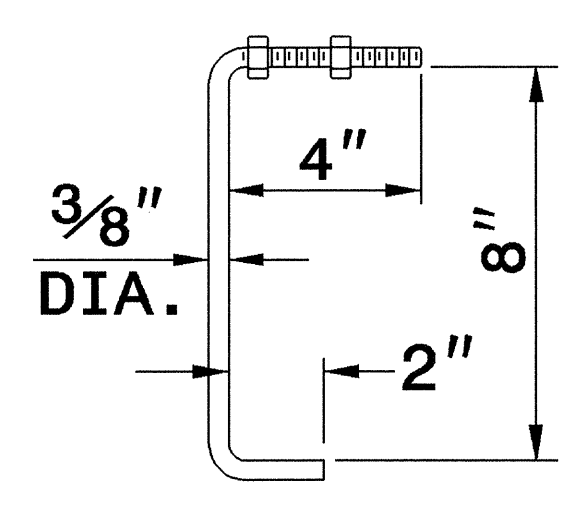
**PRECAST CONCRETE  
CONSTRUCTION**

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

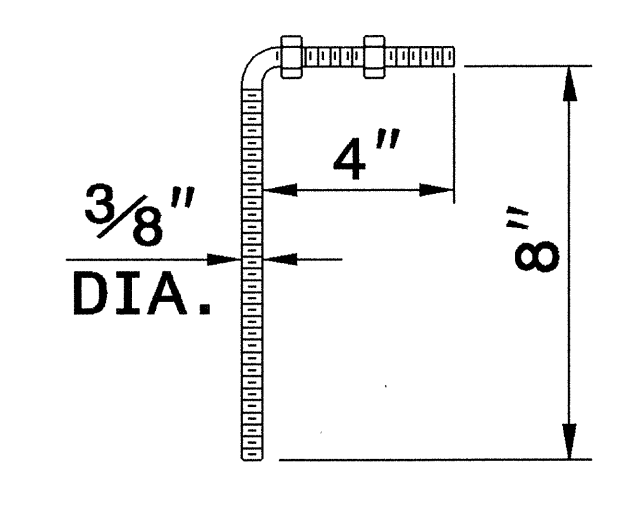
NOTE:  
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL  
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



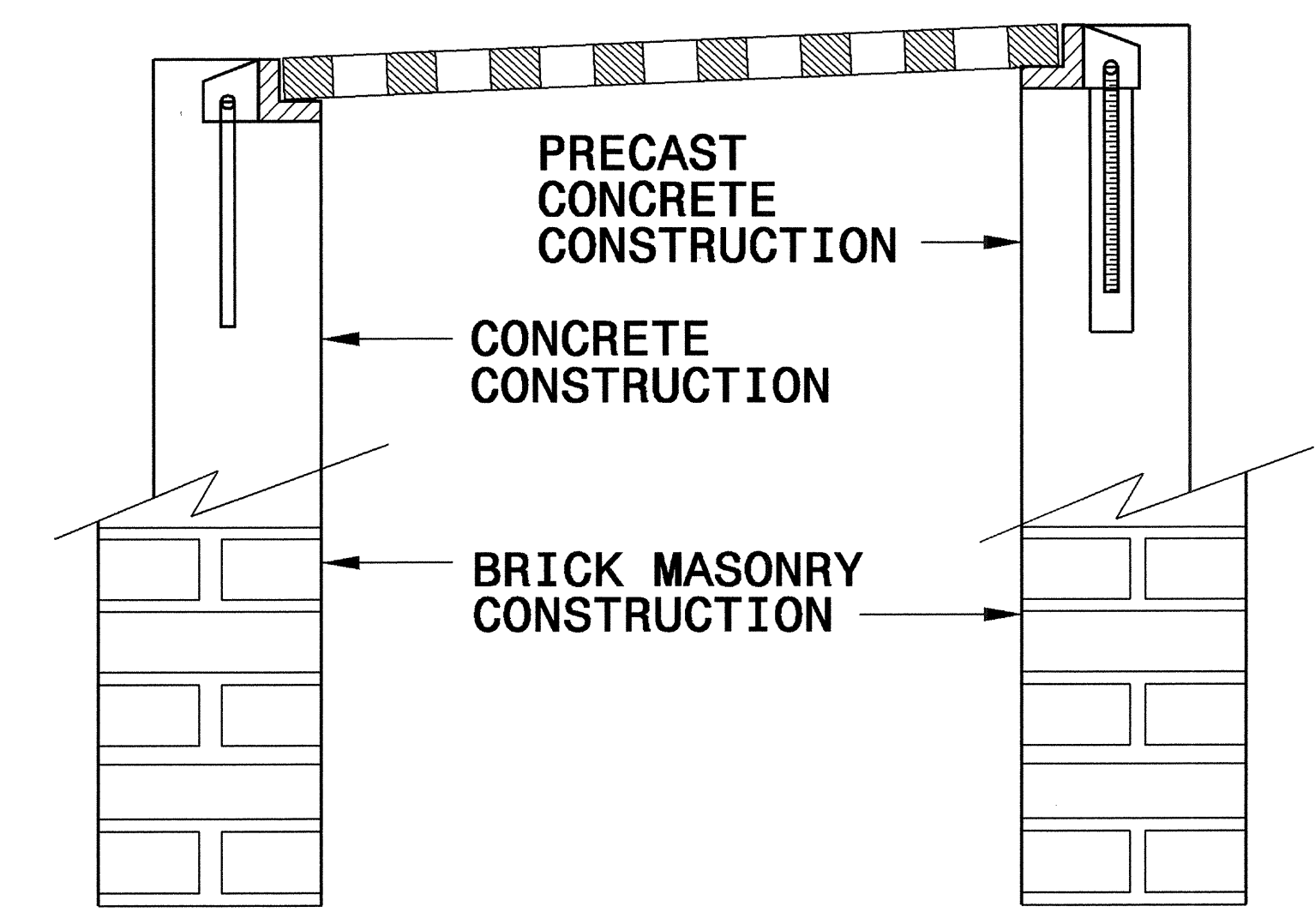
**MASONRY ANCHOR**  
3/8" DIA. BOLT WITH PLATE



**CONCRETE ANCHOR**  
3/8" DIA. BENT BAR



**PRECAST  
CONCRETE ANCHOR**  
3/8" DIA. BENT BAR



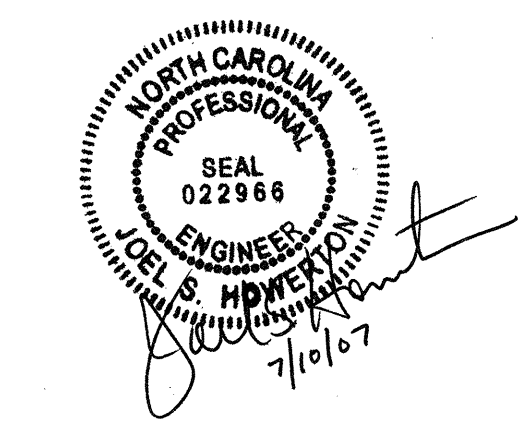
**FRAME AND GRATE INSTALLATION  
FOR NORMAL CROWN AND  
SUPERELEVATED SECTIONS**

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**

27-SEP-2006 08:59  
S:\comproct\840D25\stds\06\stds to Special Details\840D25 Anchorage for Frames\0840d25.dgn  
Drawing



PROJECT SERVICES UNIT STANDARDS AND SPECIAL DESIGN Office 919-250-4128 FAX 919-250-4119	
<b>SEE PLATE FOR TITLE</b>	
ORIGINAL BY: 2006 STD 840.25	DATE: 07/18/06
MODIFIED BY: E.E. WARD	DATE: 9/25/06
CHECKED BY:	DATE:
FILE SPEC.:	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201619

ItemNumber	Sec #	Quantity	Unit	Description
000010000-N	800	Lump Sum		MOBILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (16+96.50)
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	200	CY	UNDERCUT EXCAVATION
006300000-N	SP	Lump Sum		GRADING
008000000-E	SP	100	TON	CLASS IV SUBGRADE STABILIZATION
010600000-E	230	6,500	CY	BORROW EXCAVATION
019500000-E	265	100	CY	SELECT GRANULAR MATERIAL
019600000-E	270	100	SY	FABRIC FOR SOIL STABILIZATION
019900000-E	SP	418	SF	TEMPORARY SHORING
025500000-E	SP	1,850	TON	GENERIC GRADING ITEM SELECT MATERIAL, CLASS VI
025500000-E	SP	4,450	TON	GENERIC GRADING ITEM SELECT MATERIAL, CLASS VII
031800000-E	300	35	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
036600000-E	310	328	LF	15" RC PIPE CULVERTS, CLASS III
122000000-E	545	25	TON	INCIDENTAL STONE BASE
133000000-E	607	130	SY	INCIDENTAL MILLING
148900000-E	610	790	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
149800000-E	610	860	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
151900000-E	610	660	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
152500000-E	610	10	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
156000000-E	620	115	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
169300000-E	654	25	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
200000000-N	806	5	EA	RIGHT OF WAY MARKERS
202200000-E	815	45	CY	SUBDRAIN EXCAVATION
203300000-E	815	34	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)
228600000-N	840	5	EA	MASONRY DRAINAGE STRUCTURES
235420000-N	840	1	EA	FRAME WITH GRATE, STD 840.24
235500000-N	840	4	EA	FRAME WITH GRATE, STD 840.29
255600000-E	846	250	LF	SHOULDER BERM GUTTER
257000000-N	SP	1	EA	MODIFIED CONCRETE FLUME
257700000-E	846	170	LF	CONCRETE EXPRESSWAY GUTTER
303000000-E	862	1,712.5	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	6	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
336000000-E	863	1,680	LF	REMOVE EXISTING GUARDRAIL
363500000-E	876	1,350	TON	RIP RAP, CLASS II
364900000-E	876	10	TON	RIP RAP, CLASS B
365600000-E	876	3,630	SY	FILTER FABRIC FOR DRAINAGE
365900000-N	SP	1	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
402500000-E	901	15.3	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)
402500000-E	901	15	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
407200000-E	903	132	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
409600000-N	904	2	EA	SIGN ERECTION, TYPE D

ItemNumber	Sec #	Quantity	Unit	Description
410200000-N	904	3	EA	SIGN ERECTION, TYPE E
411610000-N	904	2	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
415500000-N	907	12	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
440000000-E	1110	603	SF	WORK ZONE SIGNS (STATIONARY)
440500000-E	1110	112	SF	WORK ZONE SIGNS (PORTABLE)
441000000-E	1110	169	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
442200000-N	1120	20	DAY	CHANGEABLE MESSAGE SIGN (SHORT TERM)
443000000-N	1130	30	EA	DRUMS
443500000-N	1135	15	EA	CONES
444500000-E	1145	128	LF	BARRICADES (TYPE III)
445000000-N	1150	1,680	HR	FLAGGER
446500000-N	1160	2	EA	TEMPORARY CRASH CUSHIONS
447000000-N	1160	2	EA	RESET TEMPORARY CRASH CUSHIONS
448000000-N	1165	1	EA	TMIA
448500000-E	1170	720	LF	PORTABLE CONCRETE BARRIER
449500000-E	1170	240	LF	PORTABLE CONCRETE BARRIER (DRAINAGE)
450000000-E	1170	225	LF	RESET PORTABLE CONCRETE BARRIER
450600000-E	1170	75	LF	RESET PORTABLE CONCRETE BARRIER (DRAINAGE)
451600000-N	1180	30	EA	SKINNY DRUM
465000000-N	1251	17	EA	TEMPORARY RAISED PAVEMENT MARKERS
468500000-E	1205	2,272	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
468600000-E	1205	2,272	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
477000000-E	1205	756	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (II)
477000000-E	1205	756	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (IV)
481000000-E	1205	9,088	LF	PAINT PAVEMENT MARKING LINES (4")
490000000-N	1251	17	EA	PERMANENT RAISED PAVEMENT MARKERS
600000000-E	1605	1,200	LF	TEMPORARY SILT FENCE
600600000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	90	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	340	TON	SEDIMENT CONTROL STONE
601500000-E	1615	4	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602900000-E	SP	1,700	LF	SAFETY FENCE
603000000-E	1630	320	CY	SILT EXCAVATION
603600000-E	1631	775	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	10	SY	COIR FIBER MAT
603800000-E	SP	2,770	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	120	LF	1/4" HARDWARE CLOTH
604800000-E	SP	3,800	SY	FLOATING TURBIDITY CURTAIN
607000000-N	SP	12	EA	SPECIAL STILLING BASINS
607103000-E	SP	130	LF	COIR FIBER BAFFLES
607105000-E	SP	1	EA	*** SKIMMER (2")
608400000-E	1660	4	ACR	SEEDING & MULCHING
608700000-E	1660	2.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	100	LB	SEED FOR SUPPLEMENTAL SEEDING

ItemNumber	Sec #	Quantity	Unit	Description
610800000-E	1665	3	TON	FERTILIZER TOPDRESSING
611400000-N	SP	4.5	HR	SPECIALIZED HAND MOWING
611700000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.1	ACR	REFORESTATION

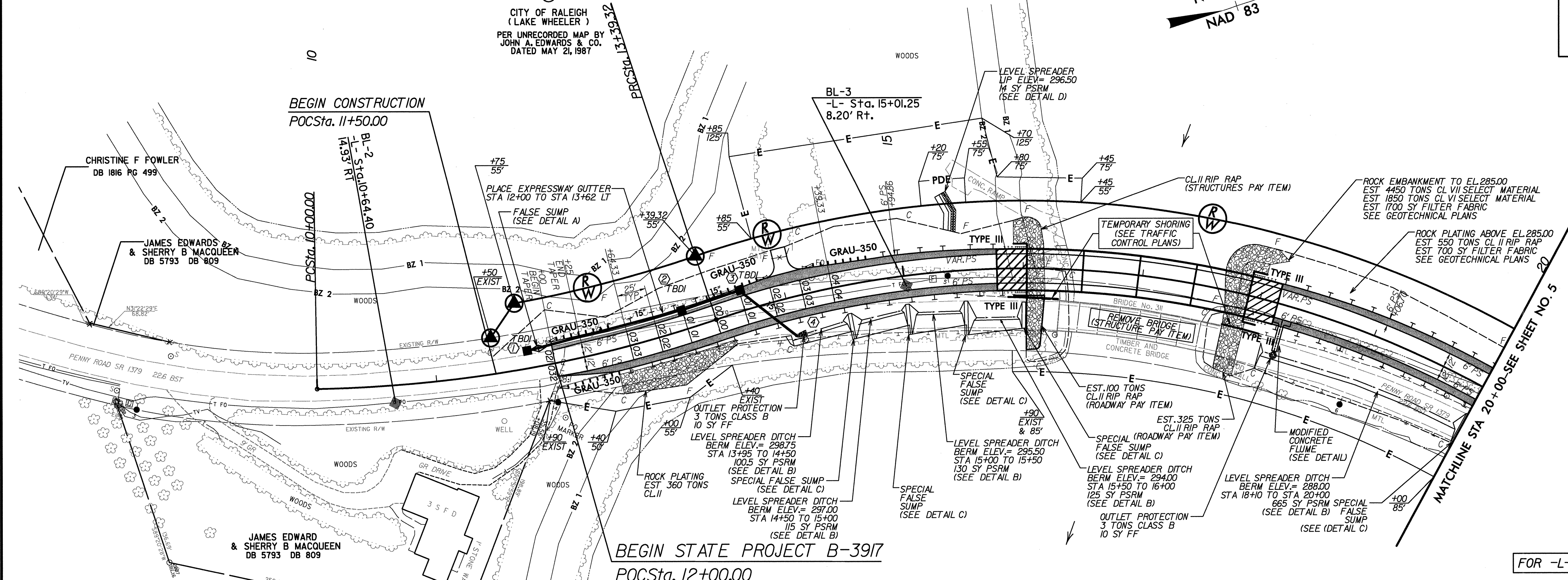
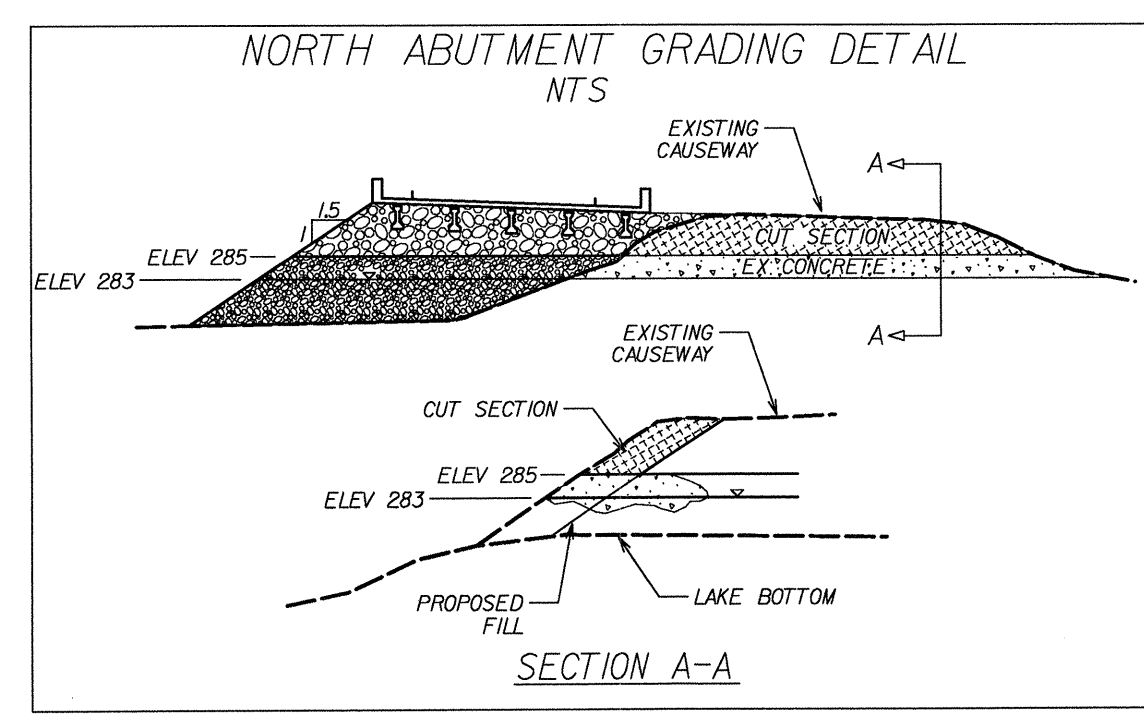
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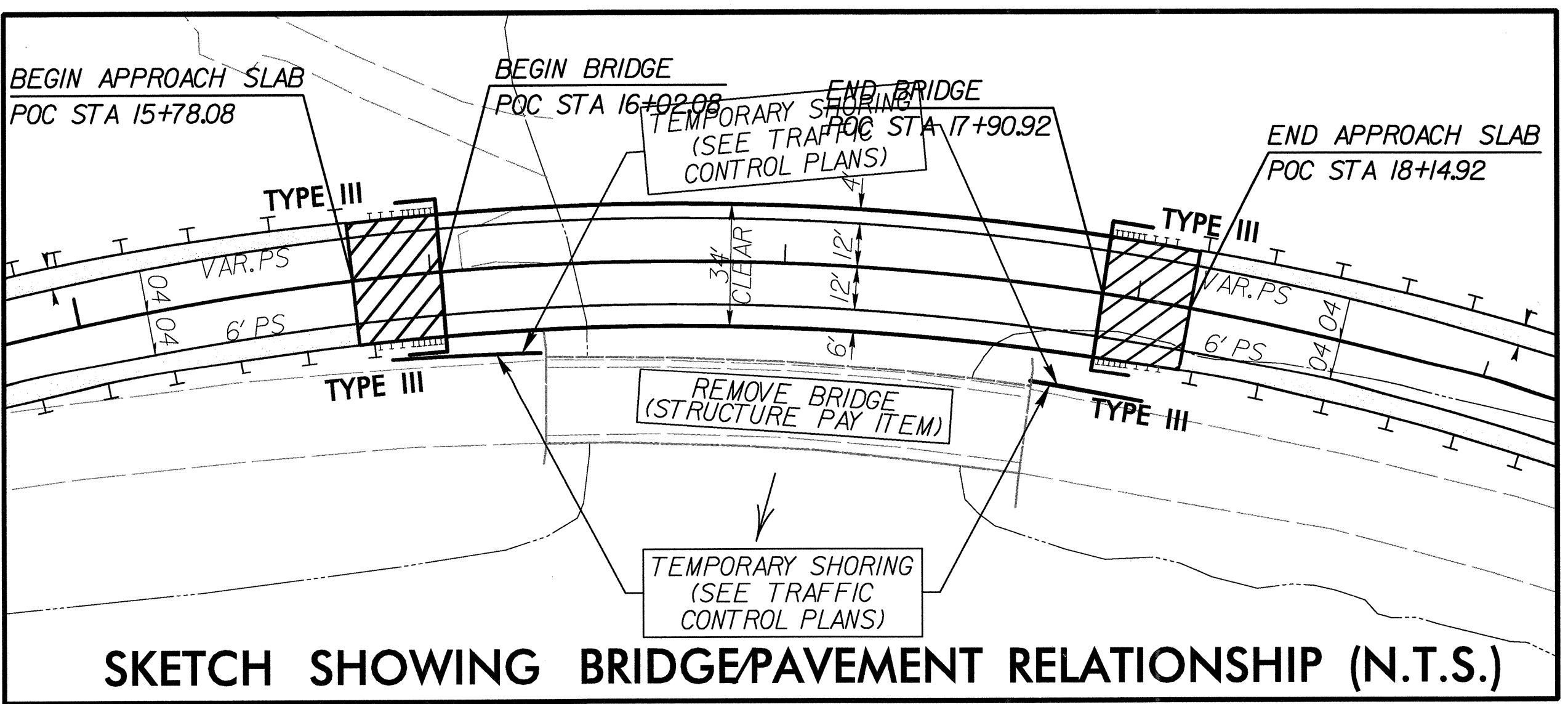
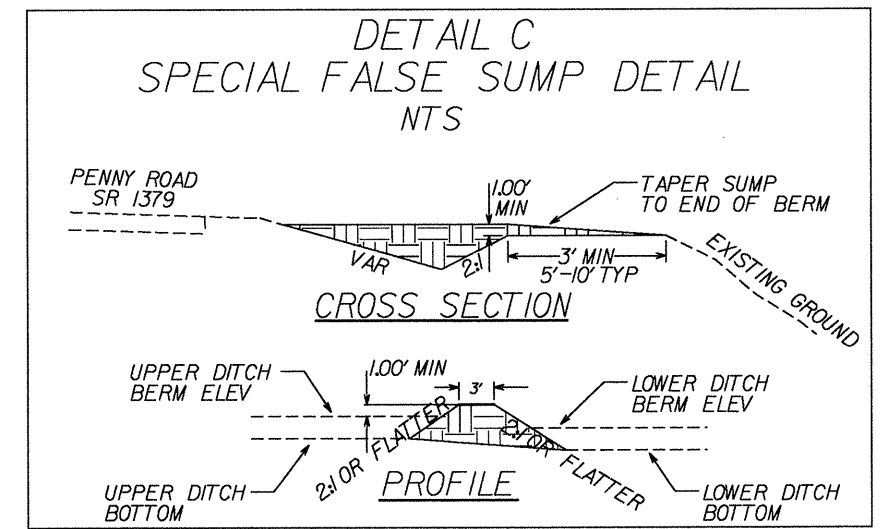
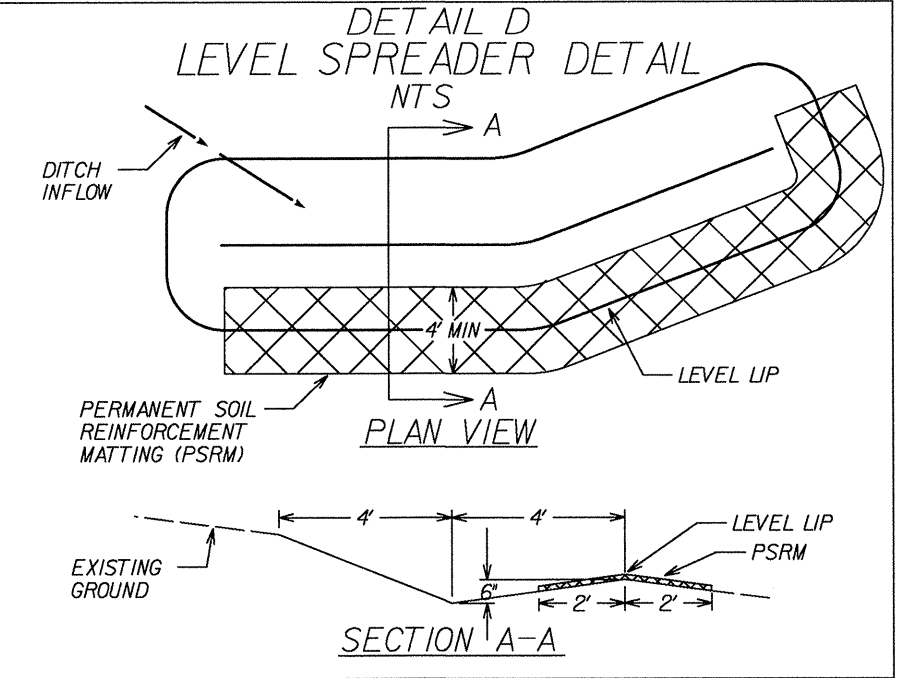
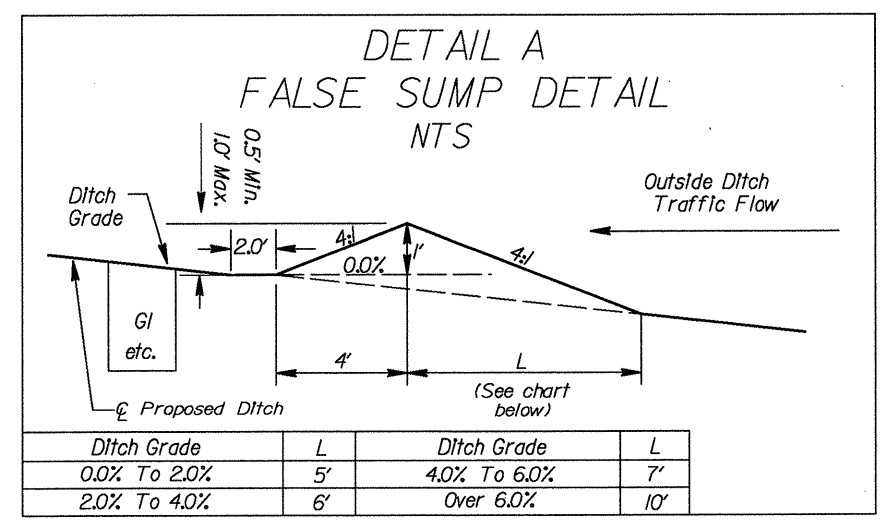
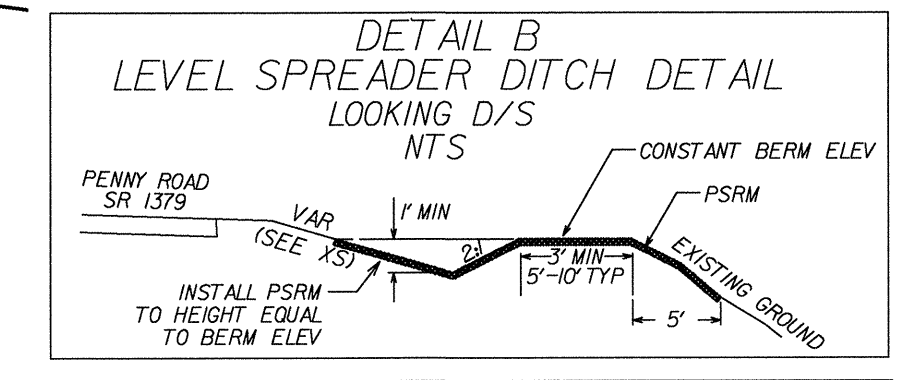


PROJECT REFERENCE NO. B-3917	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NEIL J. DEAN 6/28/2007	HYDRAULICS ENGINEER R. R. BUTLER 6/28/2007
Prepared in the Office of: <b>EarthTech</b> 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	
GRAPHIC SCALE 50 25 0 50 100 PLANS	



PI Sta 11+71.02  
 $\Delta = 17' 40" 27.8" (LT)$   
 $D = 5' 12" 31.3"$   
 $L = 339.32'$   
 $T = 171.02'$   
 $R = 1,000.00'$   
 $e = \text{SEE PLANS}$   
 $R.O. = \text{SEE PLANS}$

PI Sta 19+19.22  
 $\Delta = 71' 52" 28.8" (RT)$   
 $D = 7' 09" 43.1"$   
 $L = 1,003.56'$   
 $T = 579.90'$   
 $R = 800.00'$   
 $e = \text{SEE PLANS}$   
 $R.O. = \text{SEE PLANS}$



FOR -L- PROFILE, SEE SHEET 6

SEE SHEETS S-1 THRU S-36 FOR STRUCTURE PLANS

①  
 CITY OF RALEIGH (LAKE WHEELER)  
 PER UNRECORDED MAP BY JOHN A. EDWARDS & CO. DATED MAY 21, 1987

②  
 CITY OF RALEIGH (LAKE WHEELER)  
 PER UNRECORDED MAP BY JOHN A. EDWARDS & CO. DATED MAY 21, 1987

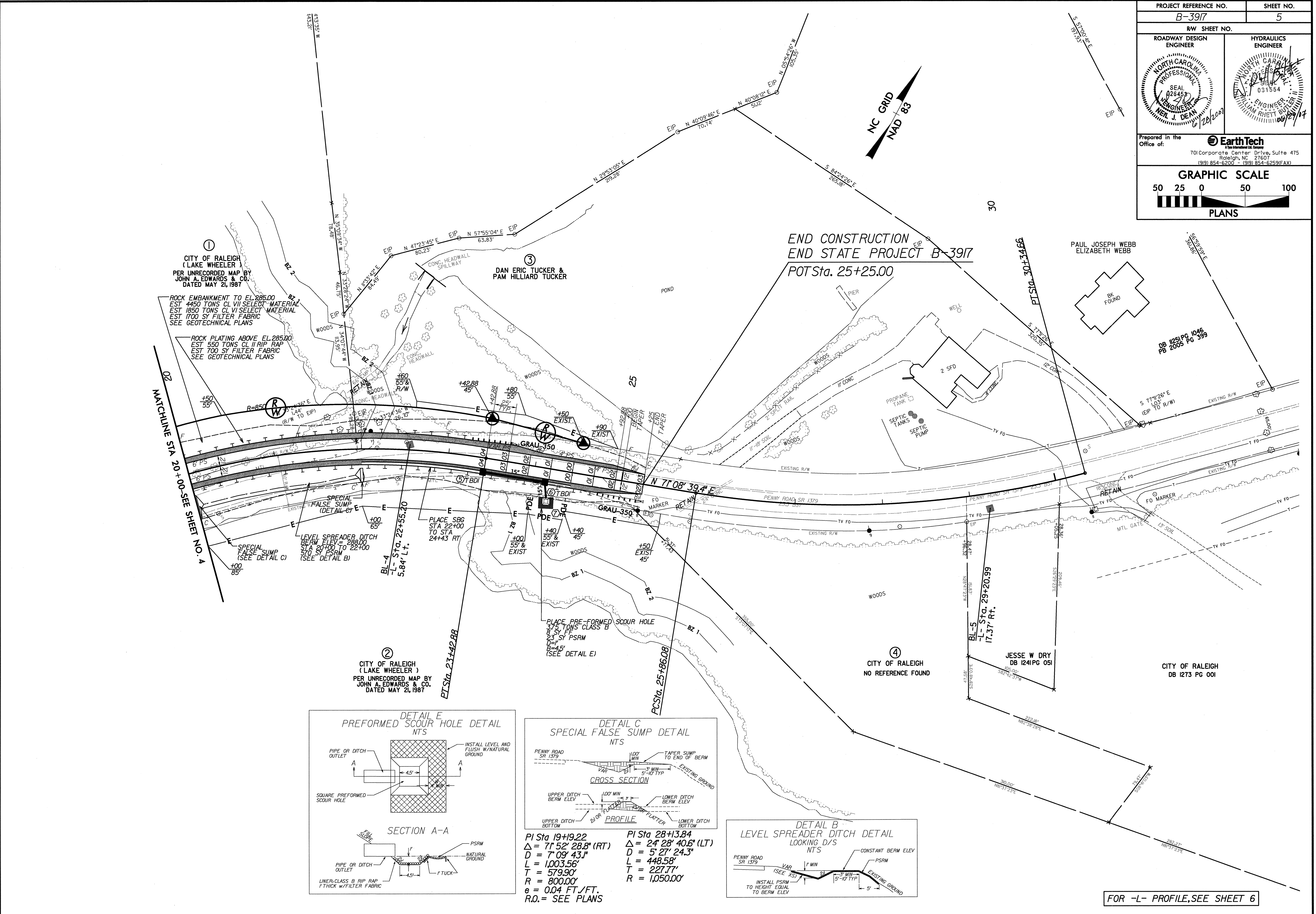
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PROJECT REFERENCE NO. B-3917		SHEET NO. 5	
RW SHEET NO.			
ROADWAY DESIGN ENGINEER NEIL J. DEAN 6/28/2007		HYDRAULICS ENGINEER WILLIAM R. BRETHERTON 6/28/2007	
Prepared in the Office of: <b>EarthTech</b> A Tetra International LLC Company 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)			
GRAPHIC SCALE 50 25 0 50 100 PLANS			

REVISIONS  
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 PLOT: 6/28/2007 12:40 PM



① CITY OF RALEIGH (LAKE WHEELER)  
 PER UNRECORDED MAP BY JOHN A. EDWARDS & CO. DATED MAY 21, 1987  
 ROCK EMBANKMENT TO EL 285.00  
 EST 4450 TONS CL VII SELECT MATERIAL  
 EST 1850 TONS CL VI SELECT MATERIAL  
 EST 1700 SY FILTER FABRIC  
 SEE GEOTECHNICAL PLANS  
 ROCK PLATING ABOVE EL 285.00  
 EST 550 TONS CL II RIP RAP  
 EST 700 SY FILTER FABRIC  
 SEE GEOTECHNICAL PLANS

③ DAN ERIC TUCKER & PAM HILLIARD TUCKER  
 POND

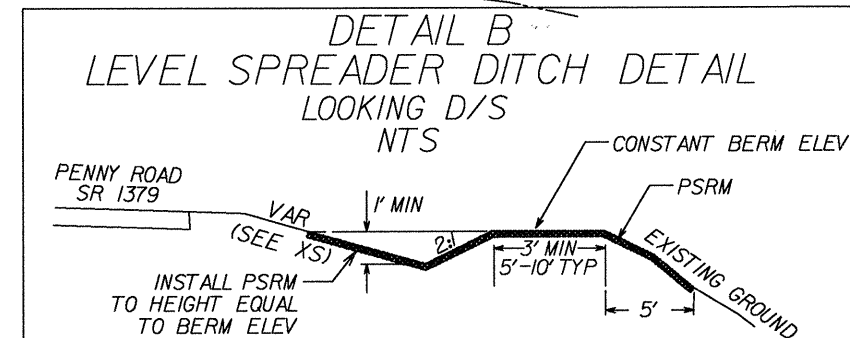
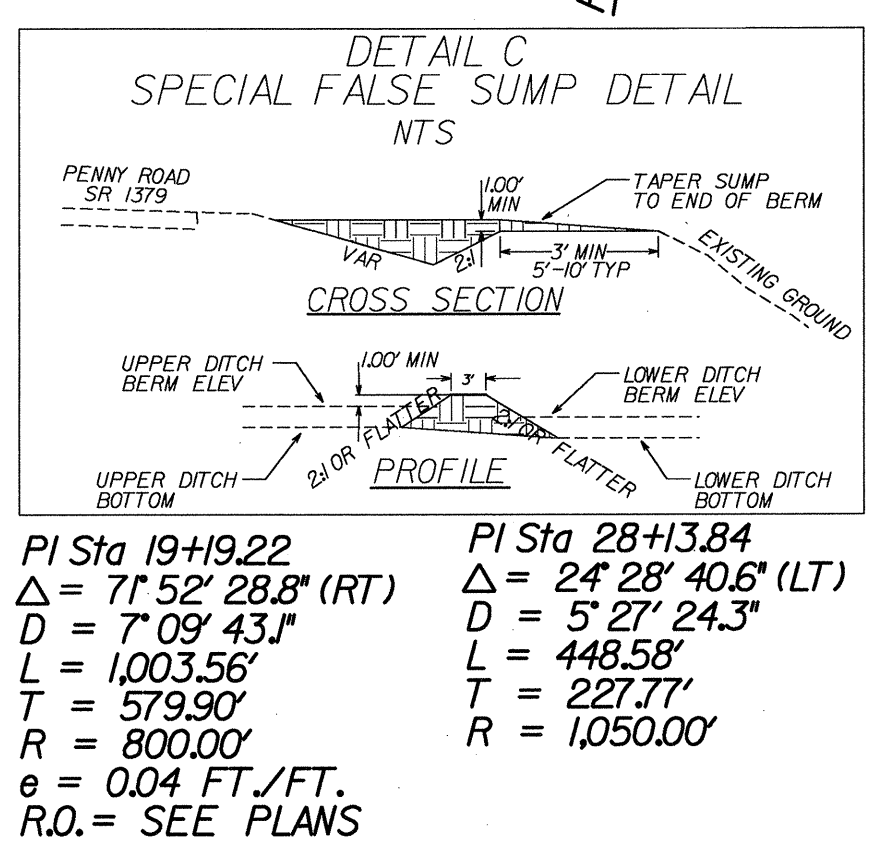
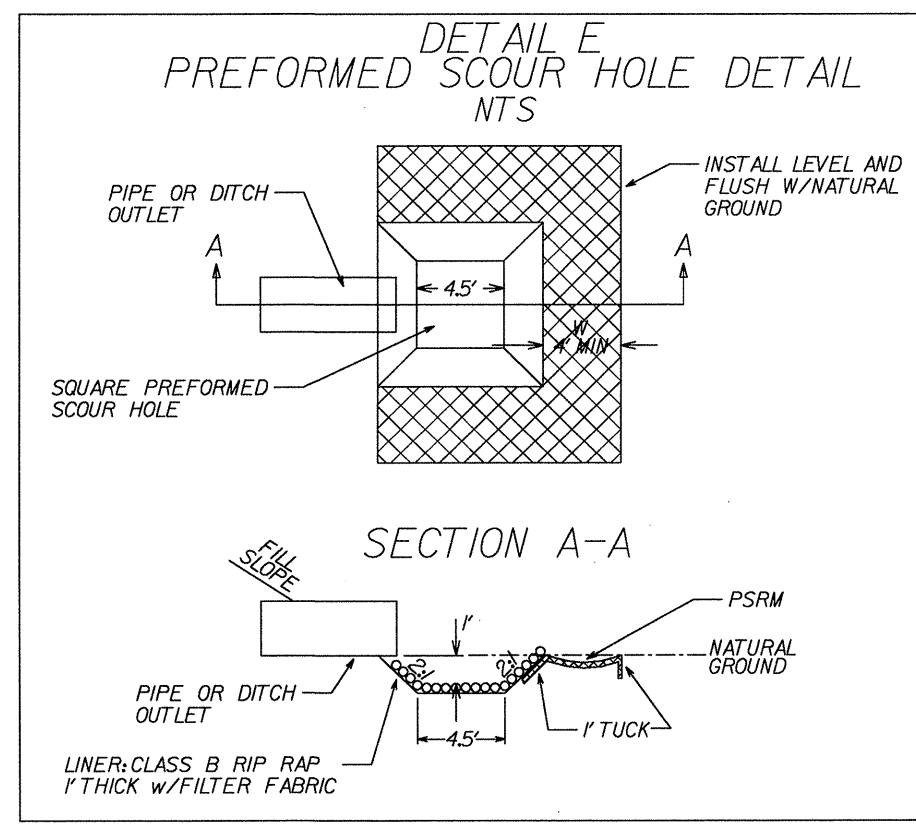
END CONSTRUCTION  
 END STATE PROJECT B-3917  
 POT Sta. 25+25.00

PAUL JOSEPH WEBB  
 ELIZABETH WEBB  
 BK FOUND

DB 1251 PG 1045  
 PB 2005 PG 399

④ CITY OF RALEIGH  
 NO REFERENCE FOUND

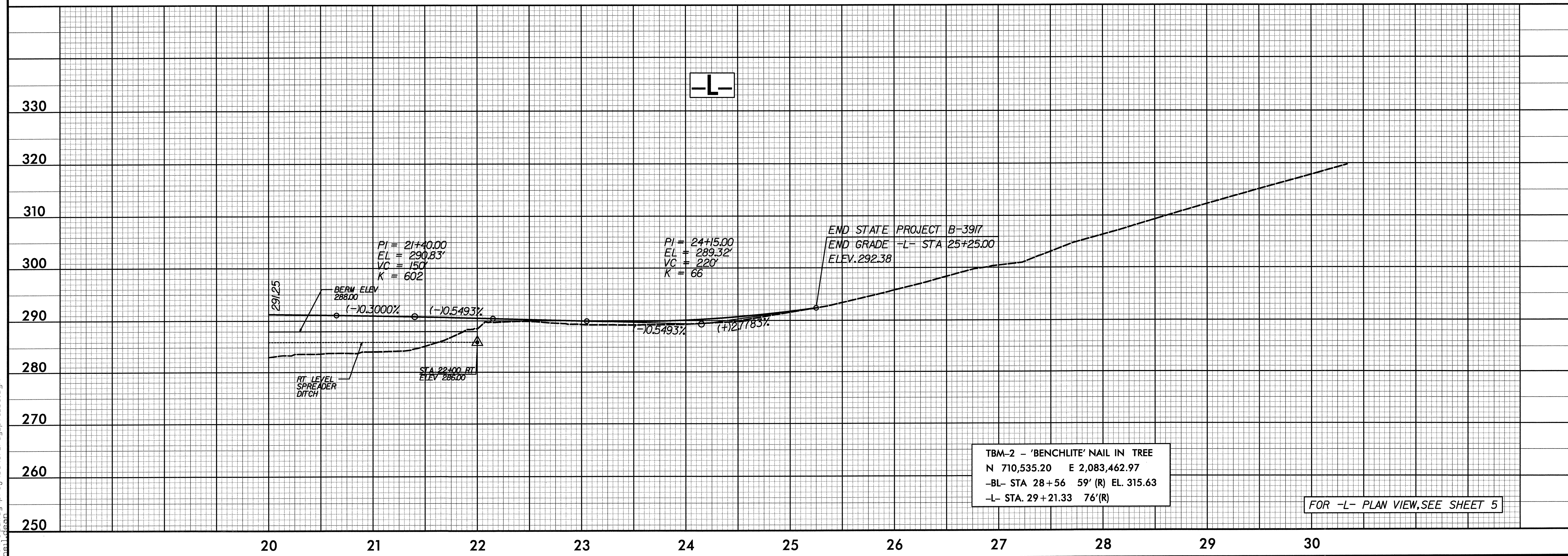
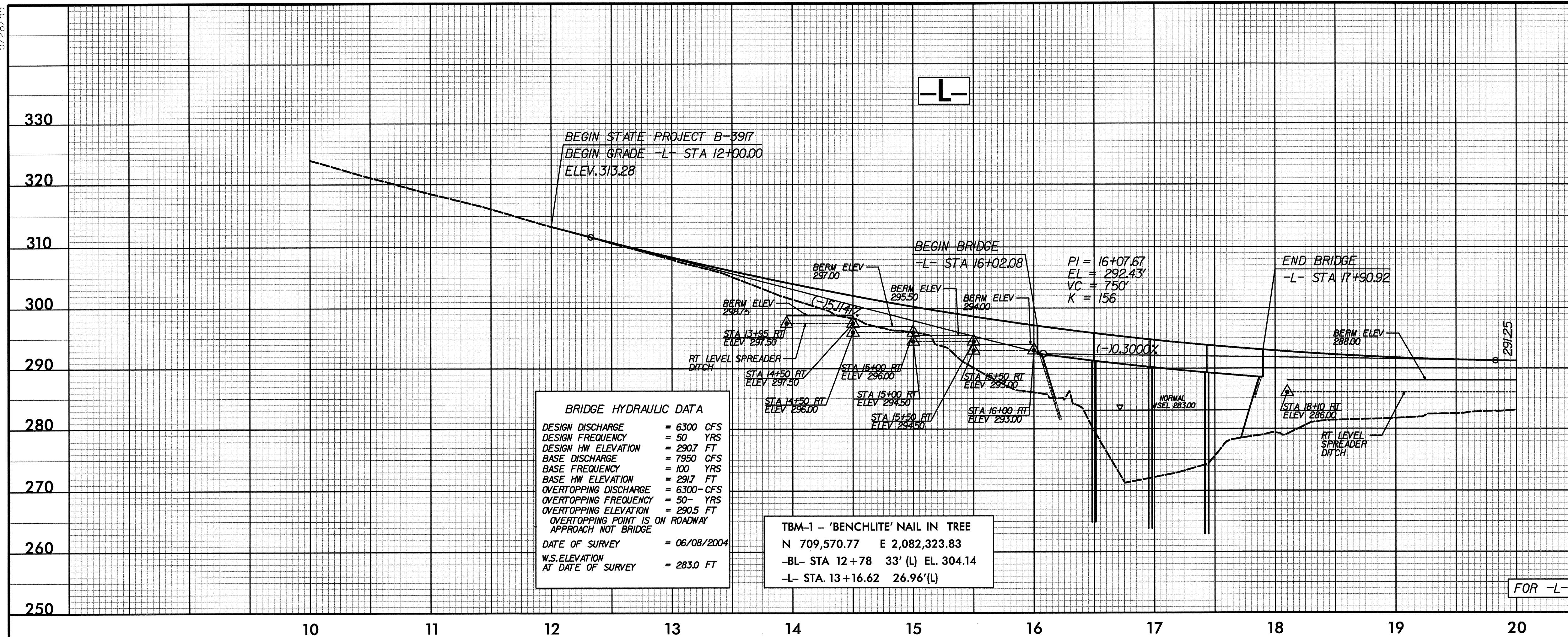
CITY OF RALEIGH  
 DB 1273 PG 001



FOR -L- PROFILE, SEE SHEET 6

5/28/99

PROJECT REFERENCE NO. B-3917	SHEET NO. 6
ROADWAY DESIGN ENGINEER [Signature]	HYDRAULICS ENGINEER [Signature]
SEAL 02843 NORTH CAROLINA PROFESSIONAL ENGINEER WEL J. DEAN 6/28/2007	SEAL 03154 NORTH CAROLINA PROFESSIONAL ENGINEER WILLIAM RHETT BULLER 6/27/07



6/28/2007 11:41:00 roadway-pro-j\3917\_rdy-p1\_06.dgn