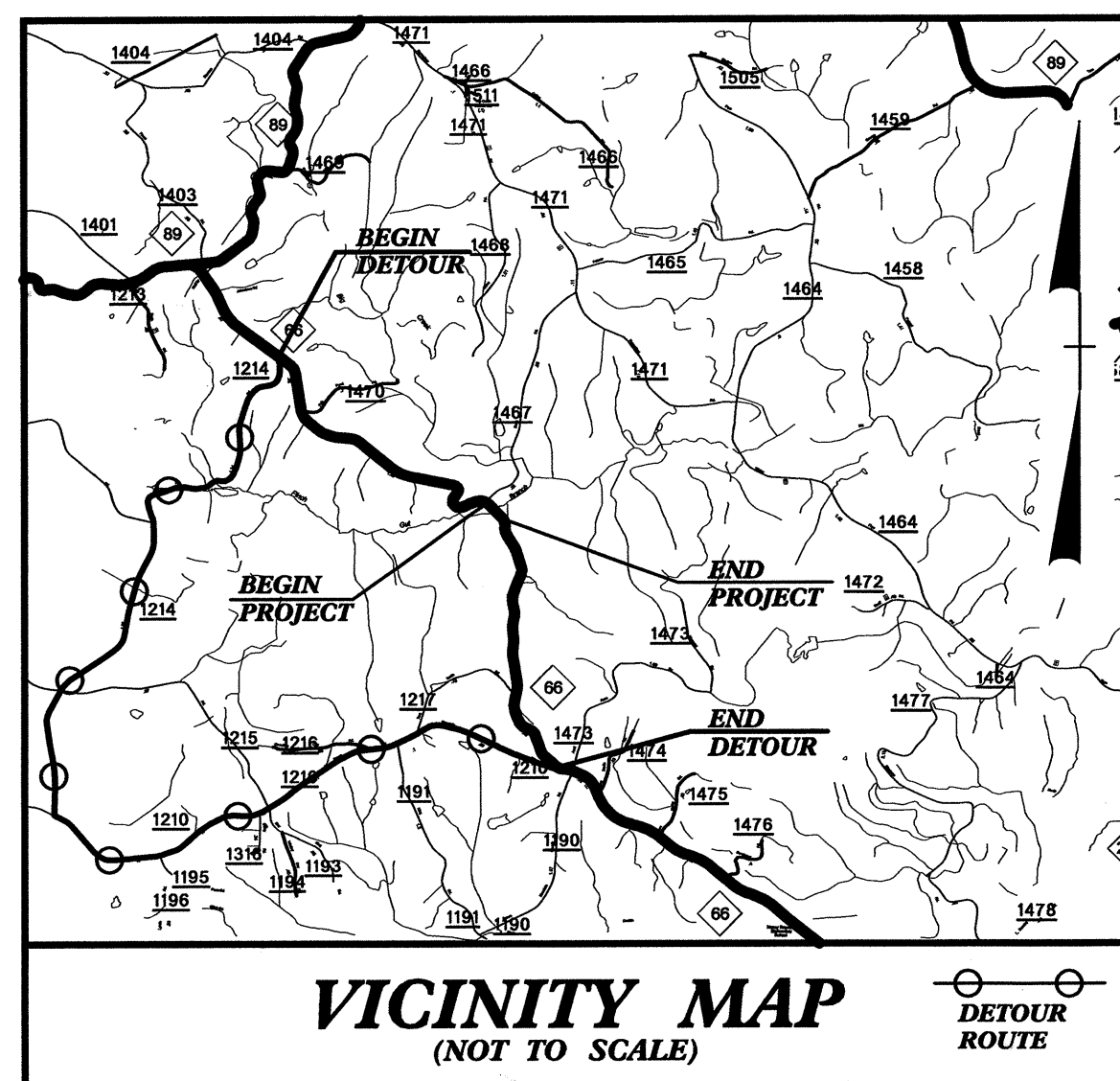


TIP PROJECT: B-4282

CONTRACT: C201774

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

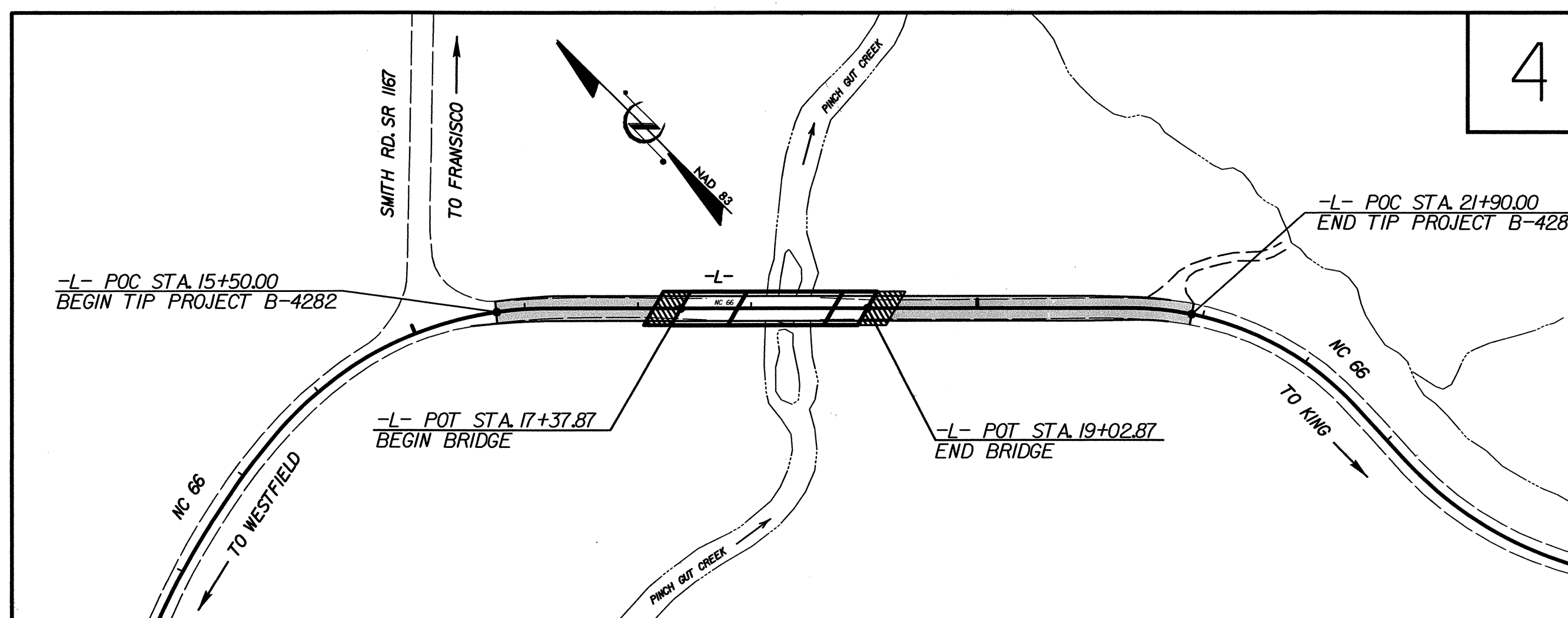


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
STOKES COUNTY

**LOCATION: BRIDGE NO. 54 OVER PINCH GUT CREEK
AND APPROACHES ON NC 66**

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

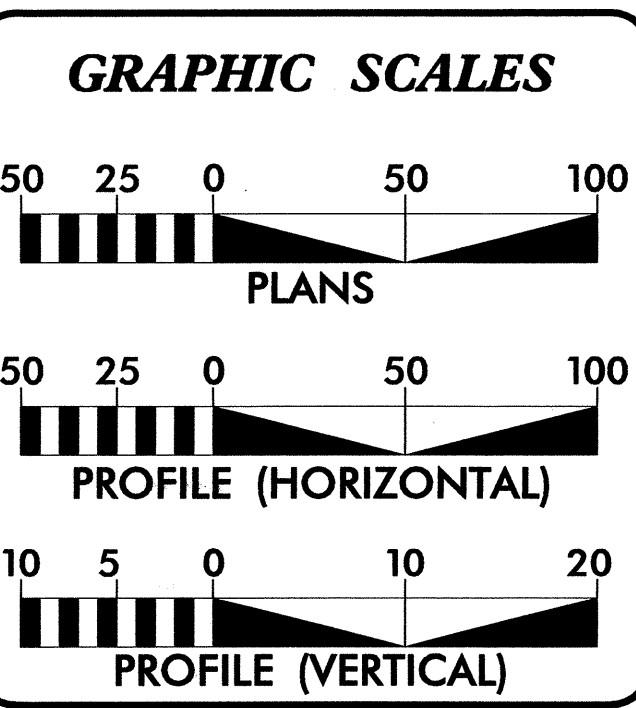
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4282	1	
WBS NO.	F.A. PROJ. NO.	DESCRIPTION	
33622.1.1	BRSTP-0066(1)	P.E.	
33622.2.2	BRSTP-0066(1)	RW, UTIL	
33622.3.2	BRSTP-0066(1)	CONST	



MULKEY
ENGINEERS & CONSULTANTS

PO BOX 33127
RALEIGH, N.C. 27636
(919) 851-1912
(919) 851-1918 (FAX)
WWW.MULKEYINC.COM

NCDOT CONTACT : CATHY HOUSER, PE
PROJECT ENGINEER - ROADWAY DESIGN



DESIGN DATA

ADT 2008 = 354
ADT 2028 = 532
DHV = 12 %
D = 60 %
T = 3 % *
V = 60 MPH

FUNCTION. = RURAL
CLASS. = COLLECTOR

* (TTST 1% + DUALS 2%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4282 = 0.090 MI
LENGTH STRUCTURE TIP PROJECT B-4282 = 0.031 MI
TOTAL LENGTH TIP PROJECT B-4282 = 0.121 MI

Prepared in the Office of:
MULKEY ENGINEERS & CONSULTANTS
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPTEMBER 15, 2006

LETTING DATE:
FEBRUARY 19, 2008

TIM S. HAYES, PE
PROJECT ENGINEER

JOHNNY R. BANKS
PROJECT MANAGER

HYDRAULICS ENGINEER

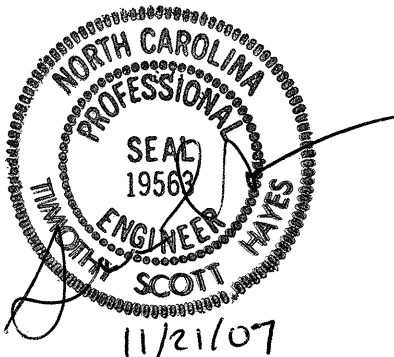
SEAL 31977
11-15-07
K. B. off P.E.

ROADWAY DESIGN ENGINEER

SEAL 19563
11/14/07
ART McMillan P.E.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

ART McMILLAN, P.E.
STATE HIGHWAY DESIGN ENGINEER



Index of Sheets, General Notes, and List of Standards

<p>Sheet #</p> <p>1</p> <p>1-A</p> <p>1-B</p> <p>1-C</p> <p>2</p> <p>2A</p> <p>3</p> <p>3-A</p> <p>3-B</p> <p>4</p> <p>TCP-1 thru TCP-3</p> <p>EC-1 thru EC-4</p> <p>RF-1</p> <p>Sign-1 thru Sign-4</p> <p>EW-Volume-1</p> <p>X-1 thru X-7</p> <p>S-1 thru S-26</p>	<p>Description</p> <p>Title Sheet</p> <p>Index of Sheets, General Notes, and List of Standards</p> <p>Conventional Symbols</p> <p>Survey Control Sheet</p> <p>Pavement Schedule, Wedging Detail, and Typical Sections</p> <p>Anchorage for Frames</p> <p>Summary of Quantities</p> <p>List of Pipe, Endwalls, Etc. (For Pipes 48" & Under), Guardrail Summary</p> <p>Summary of Earthwork in Cubic Yards, Summary of Pavement Removal</p> <p>Plan and Profile</p> <p>Traffic Control Plans</p> <p>Erosion Control Plans</p> <p>Reforestation Plans</p> <p>Signing Plans</p> <p>Cross-Section Summary Sheet</p> <p>Cross-Sections</p> <p>Structure Plans</p>	<p>GENERAL NOTES:</p> <p style="margin-left: 20px;">2006 SPECIFICATIONS EFFECTIVE: 07-18-06 REVISED: 07-18-06</p> <p>GRADING AND SURFACING OR RESURFACING AND WIDENING:</p> <p style="margin-left: 20px;">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 OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.</p> <p>CLEARING:</p> <p style="margin-left: 20px;">CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.</p> <p>SUPERELEVATION:</p> <p style="margin-left: 20px;">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 TYPICAL SECTIONS.</p> <p>SHOULDER CONSTRUCTION:</p> <p style="margin-left: 20px;">ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.</p> <p>SIDE ROADS:</p> <p style="margin-left: 20px;">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.</p> <p>BERM DITCHES:</p> <p style="margin-left: 20px;">BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.</p> <p>GUARDRAIL:</p> <p style="margin-left: 20px;">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.</p> <p>TEMPORARY SHORING:</p> <p style="margin-left: 20px;">SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.</p> <p>SUBSURFACE PLANS:</p> <p style="margin-left: 20px;">NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.</p> <p>END BENTS:</p> <p style="margin-left: 20px;">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.</p> <p>UTILITIES:</p> <p style="margin-left: 20px;">UTILITY OWNERS ON THIS PROJECT ARE Duke Power & Surry Telephone</p> <p>RIGHT-OF-WAY MARKERS:</p> <p style="margin-left: 20px;">ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.</p>	<p>EFF. 07-18-06 REV. 01-02-07</p>
		<p>2006 ROADWAY ENGLISH STANDARD DRAWINGS</p> <p>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:</p> <p>STD. NO. TITLE</p> <p>DIVISION 2 - EARTHWORK</p> <p>200.03 Method of Clearing - Method III</p> <p>225.02 Guide for Grading Subgrade - Secondary and Local</p> <p>225.04 Method of Obtaining Superelevation - Two Lane Pavement</p> <p>240.01 Guide for Berm Ditch Construction</p> <p>DIVISION 3 - PIPE CULVERTS</p> <p>300.01 Method of Pipe Installation - Method 'A'</p> <p>310.10 Driveway Pipe Construction</p> <p>DIVISION 4 - MAJOR STRUCTURES</p> <p>422.10 Reinforced Bridge Approach Fills</p> <p>DIVISION 5 - SUBGRADE, BASES AND SHOULDERS</p> <p>560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I</p> <p>DIVISION 8 - INCIDENTALS</p> <p>806.01 Concrete Right-of-Way Marker</p> <p>806.02 Granite Right-of-Way Marker</p> <p>840.18 Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe</p> <p>840.24 Frames and Narrow Slot Sag Grates</p> <p>840.27 Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe</p> <p>840.29 Frames and Narrow Slot Flat Grates</p> <p>840.35 Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates</p> <p>840.45 Precast Drainage Structure</p> <p>840.46 Traffic Bearing Precast Drainage Structure</p> <p>846.01 Concrete Curb, Gutter and Curb & Gutter</p> <p>846.04 Drop Inlet Installation in Shoulder Berm Gutter</p> <p>840.66 Drainage Structure Steps</p> <p>862.01 Guardrail Placement</p> <p>862.02 Guardrail Installation</p> <p>862.03 Structure Anchor Units</p> <p>862.04 Anchoring End of Guardrail - B-77 and B-83 Anchor Units</p> <p>876.02 Guide for Rip Rap at Pipe Outlets</p> <p>876.04 Drainage Ditches with Class 'B' Rip Rap</p>	

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MULKEY
ENGINEERS & CONSULTANTS
PO Box 28127
Raleigh, NC 27626
919 851-1913
919 851-1915 (FAX)
WWW.MULKEYING.COM

PROJECT REFERENCE NO.	SHEET NO.
B-4282	1-B
RW SHEET NO.	

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	②③
Existing Fence Line	—x—x—x—
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---MLB---
Proposed Wetland Boundary	MLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	○
Well	W
Small Mine	✕
Foundation	□
Area Outline	□
Cemetery	+
Building	□
School	□
Church	□
Dam	—

HYDROLOGY:

Stream or Body of Water	_____
Hydro, Pool or Reservoir	□
Jurisdictional Stream	—JS—
Buffer Zone 1	—BZ 1—
Buffer Zone 2	—BZ 2—
Flow Arrow	←
Disappearing Stream	—>
Spring	○
Wetland	↓
Proposed Lateral, Tail, Head Ditch	—
False Sump	◇

RAILROADS:

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

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	_____
Proposed Right of Way Line	_____
Proposed Right of Way Line with Iron Pin and Cap Marker	_____
Proposed Right of Way Line with Concrete or Granite Marker	_____
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	E
Proposed Temporary Construction Easement	E
Proposed Temporary Drainage Easement	TDE
Proposed Permanent Drainage Easement	PDE
Proposed Permanent 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	WCR
Curb Cut for Future Wheel Chair Ramp	CCFR
Existing Metal Guardrail	—T—
Proposed Guardrail	—T—
Existing Cable Guiderail	—P—
Proposed Cable Guiderail	—P—
Equality Symbol	⊙
Pavement Removal	⊗

VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	—
Woods Line	—
Orchard	○
Vineyard	□

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	_____
Footbridge	_____
Drainage Box: Catch Basin, DI or JB	CB
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	PH
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	PH
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	PH
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:

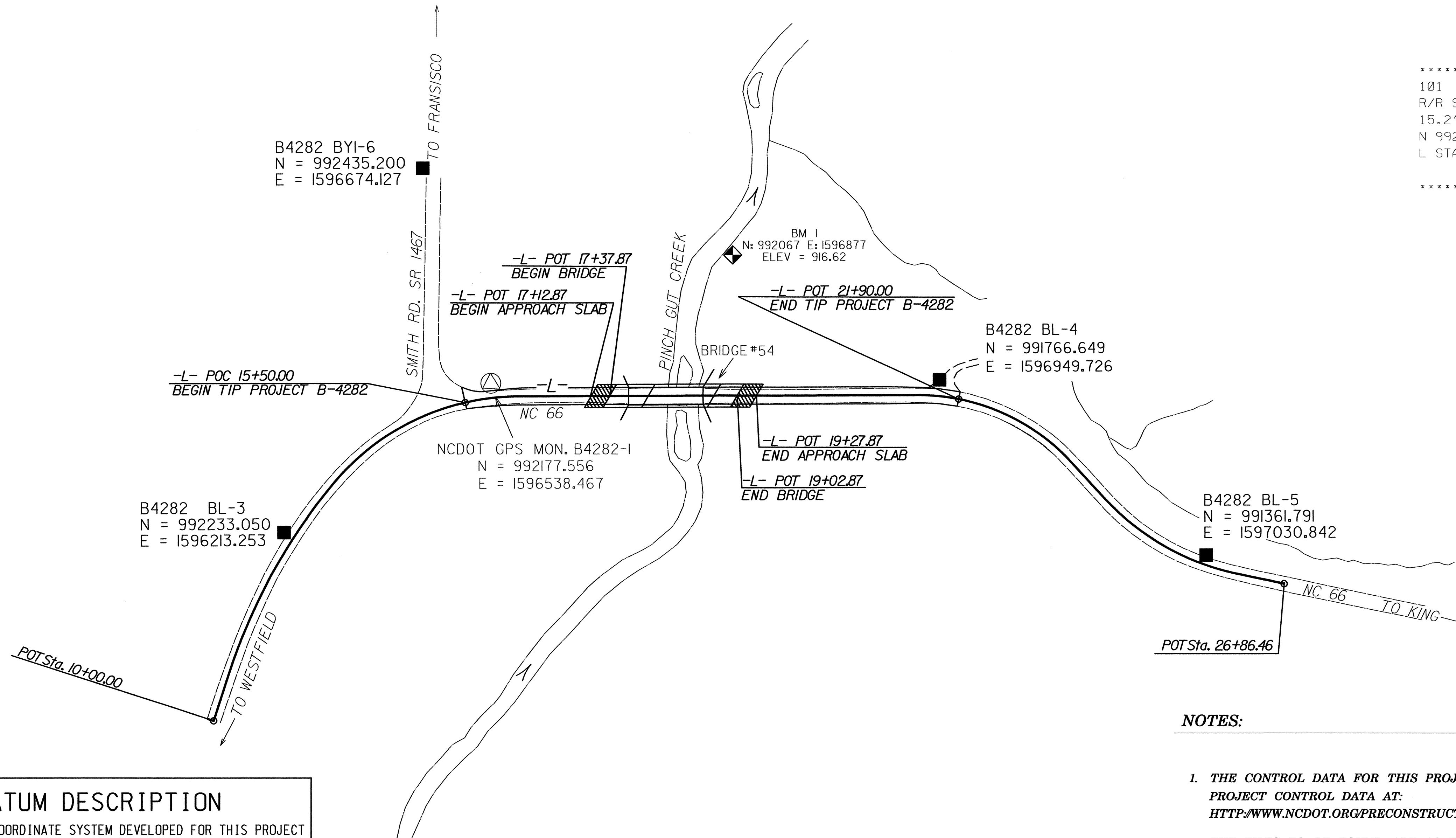
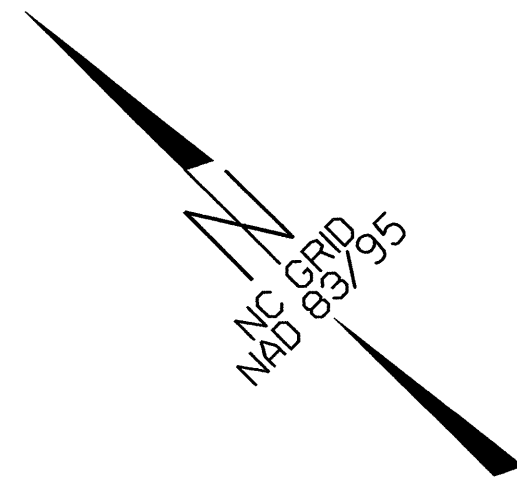
Utility Pole	●
Utility Pole with Base	□
Utility Located Object	○
Utility Traffic Signal Box	⊗
Utility Unknown U/G Line	—UNL—
U/G Tank; Water, Gas, Oil	□
A/G Tank; Water, Gas, Oil	□
U/G Test Hole (S.U.E.*)	⊙
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B4282

NCDOT GPS MON. B4282-2
 N = 992652.760
 E = 1597135.903

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	992233.0500	1596213.2530	934.42	12+58.17	14.08 LT
1	B4281-1	992177.5560	1596538.4670	926.76	15+85.76	18.98 LT
4	BL-4	991766.6490	1596949.7260	928.94	21+63.09	21.07 LT
5	BL-5	991361.7910	1597030.8420	944.33	25+77.99	12.31 LT

BY1 POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
6	BY1-6	992435.2000	1596674.1270	930.72	15+57.02	307.17 LT
1	B4281-1	992177.5560	1596538.4670	926.76	15+85.76	18.98 LT



 101 ELEVATION = 916.62
 R/R SPIKE SET IN NORTHERN ROOT OF A
 15.2' DIAMETER SYCAMORE
 N 992067 E 1596877
 L STATION 19+00.66 180' LEFT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4282-1"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 992177.556(±) EASTING: 1596538.467(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
 (GROUND TO GRID) IS: 1.00005911

THE N.C. LAMBERT GRID BEARING AND
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "B4282-1" TO -L- STATION 10+00.00 IS
 S 84°51'23.47 W" 564.70

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

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.NCDOT.ORG/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.ncdot.org/preconstruct/highway/location/project/)
 THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4282_LS_CONTROL_050719.TXT

SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

- ⊙ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.
- PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
- NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
- SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE

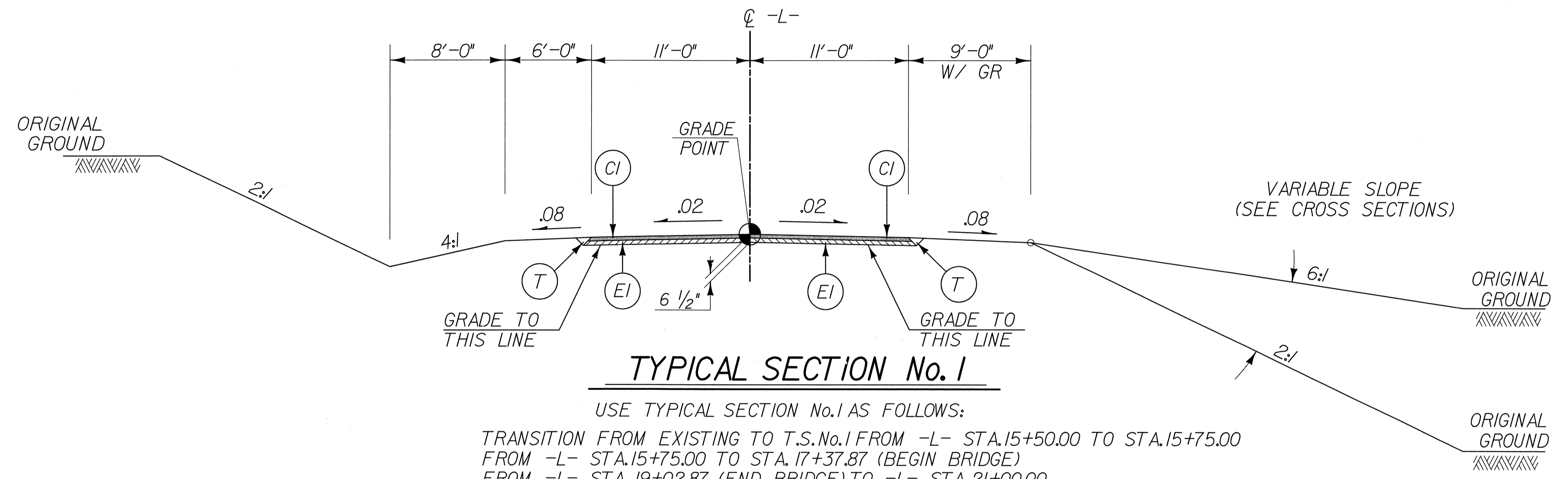
6/2/99

I:\2007\Roadway\Incoming\NCDOT\B-4282_Survey_Control_Sheets\07_21_05\B4282_1s_1c_050719.dgn

PAVEMENT SCHEDULE

CI	PROPOSED APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YARD IN EACH OF TWO LAYERS.
DI	PROPOSED VARIABLE DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 119.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YARD, PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" OR GREATER THAN 4" IN DEPTH.
EI	PROPOSED APPROXIMATE 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B AT AN AVERAGE RATE OF 456 LBS. PER SQ. YARD.
T	EARTH MATERIAL

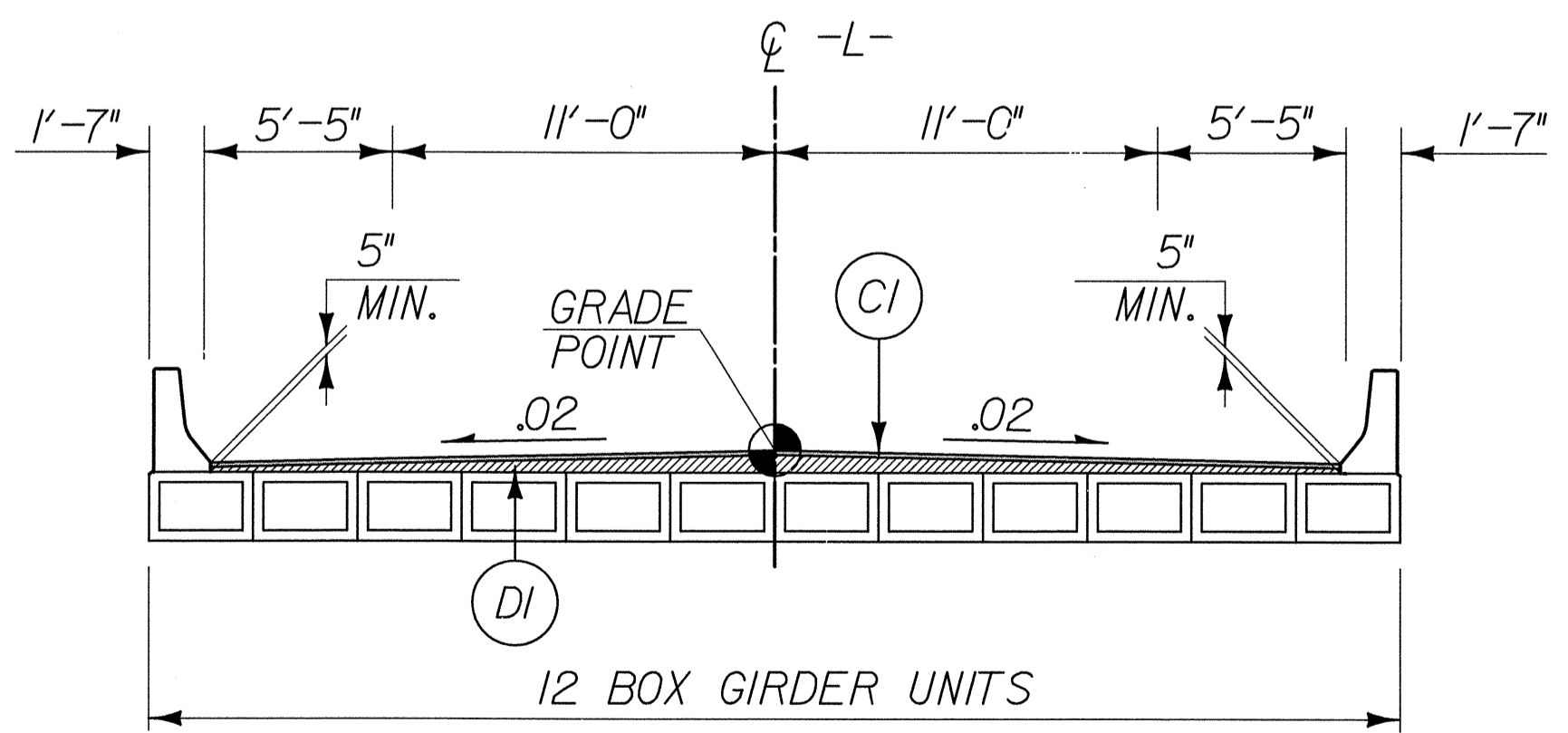
NOTE: ALL PAVEMENT EDGE SLOPES ARE 1:1 UNLESS OTHERWISE SHOWN.



TYPICAL SECTION No. 1

USE TYPICAL SECTION No. 1 AS FOLLOWS:

TRANSITION FROM EXISTING TO T.S. No. 1 FROM -L- STA. 15+50.00 TO STA. 15+75.00
 FROM -L- STA. 15+75.00 TO STA. 17+37.87 (BEGIN BRIDGE)
 FROM -L- STA. 19+02.87 (END BRIDGE) TO -L- STA. 21+00.00
 TRANSITION FROM T.S. No. 1 TO EXISTING FROM -L- STA. 21+00.00 TO STA. 21+90.00



TYPICAL SECTION No. 2

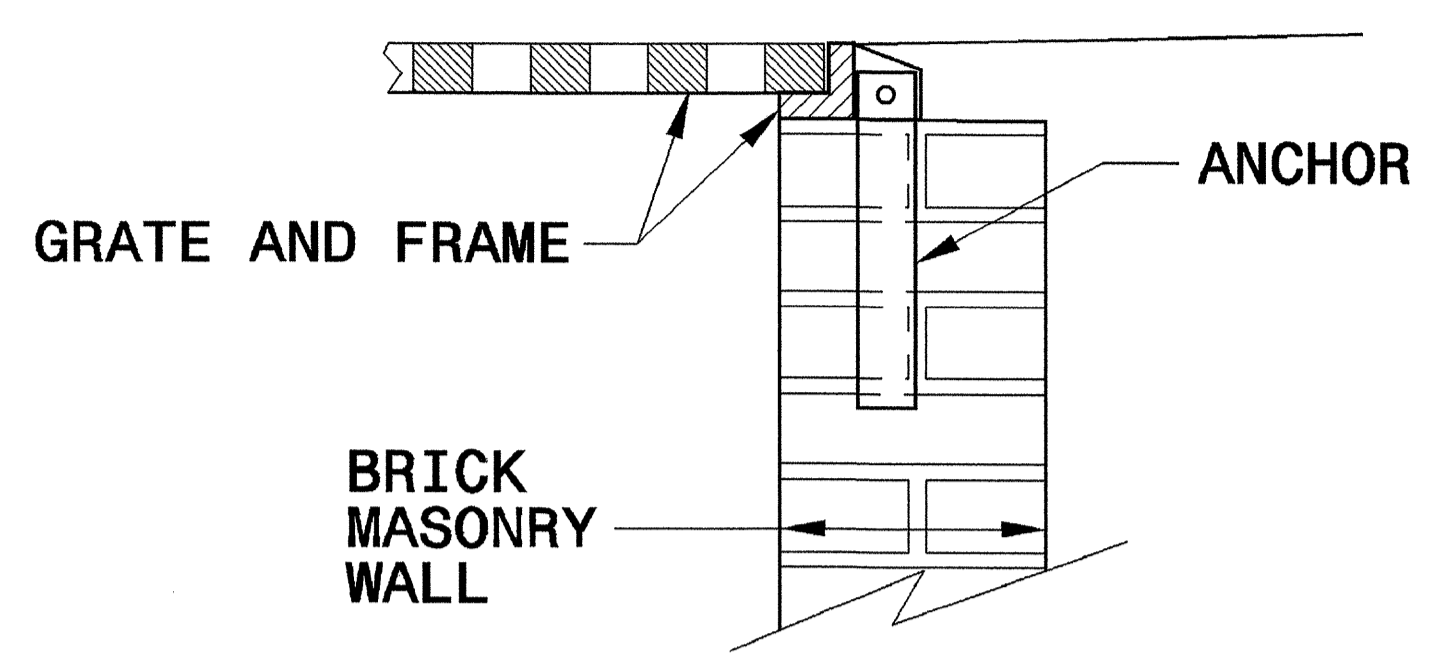
USE TYPICAL SECTION No. 2 AS FOLLOWS:

FROM -L- STA. 17+37.87 (BEGIN BRIDGE) TO -L- STA. (END 19+02.87 (END BRIDGE))
 NOTE: OFFSET INCREASED TO 5'-5" TO ACCOUNT FOR SPREAD

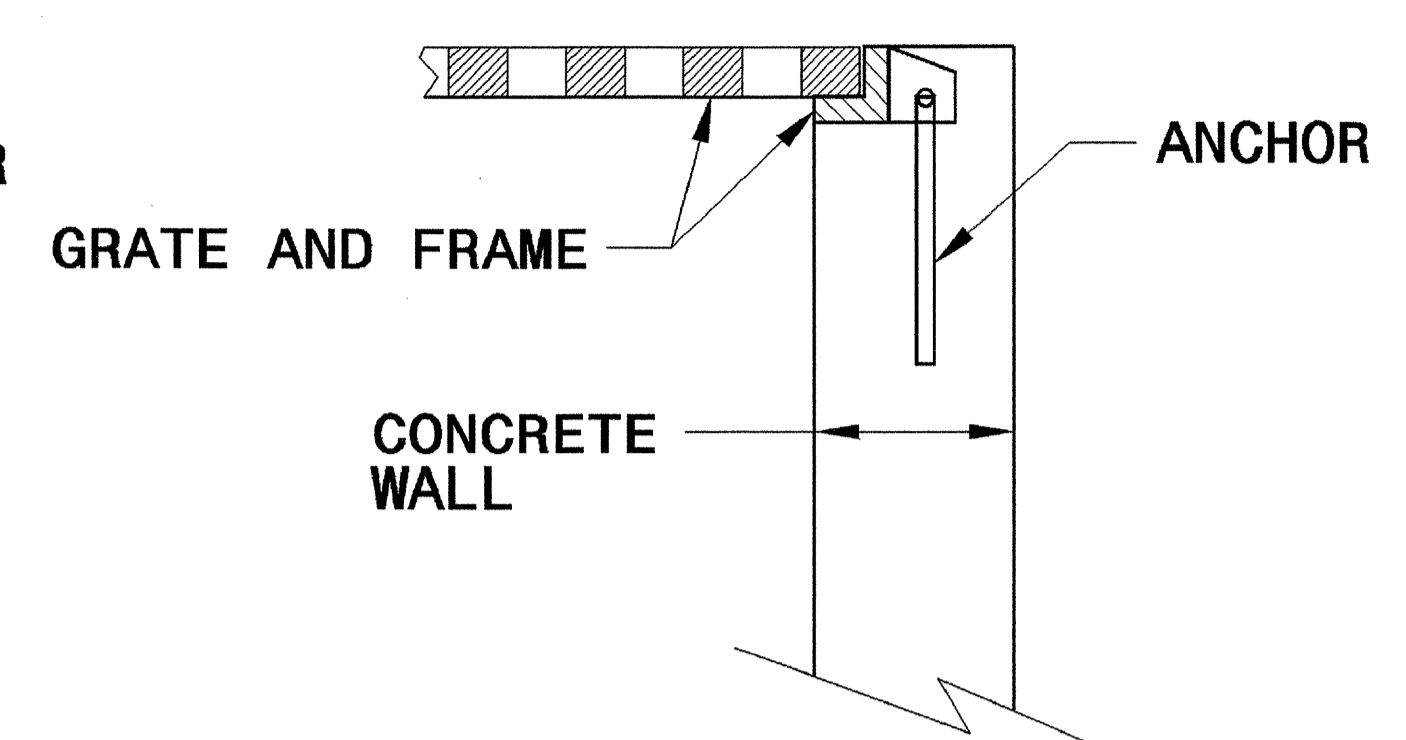
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

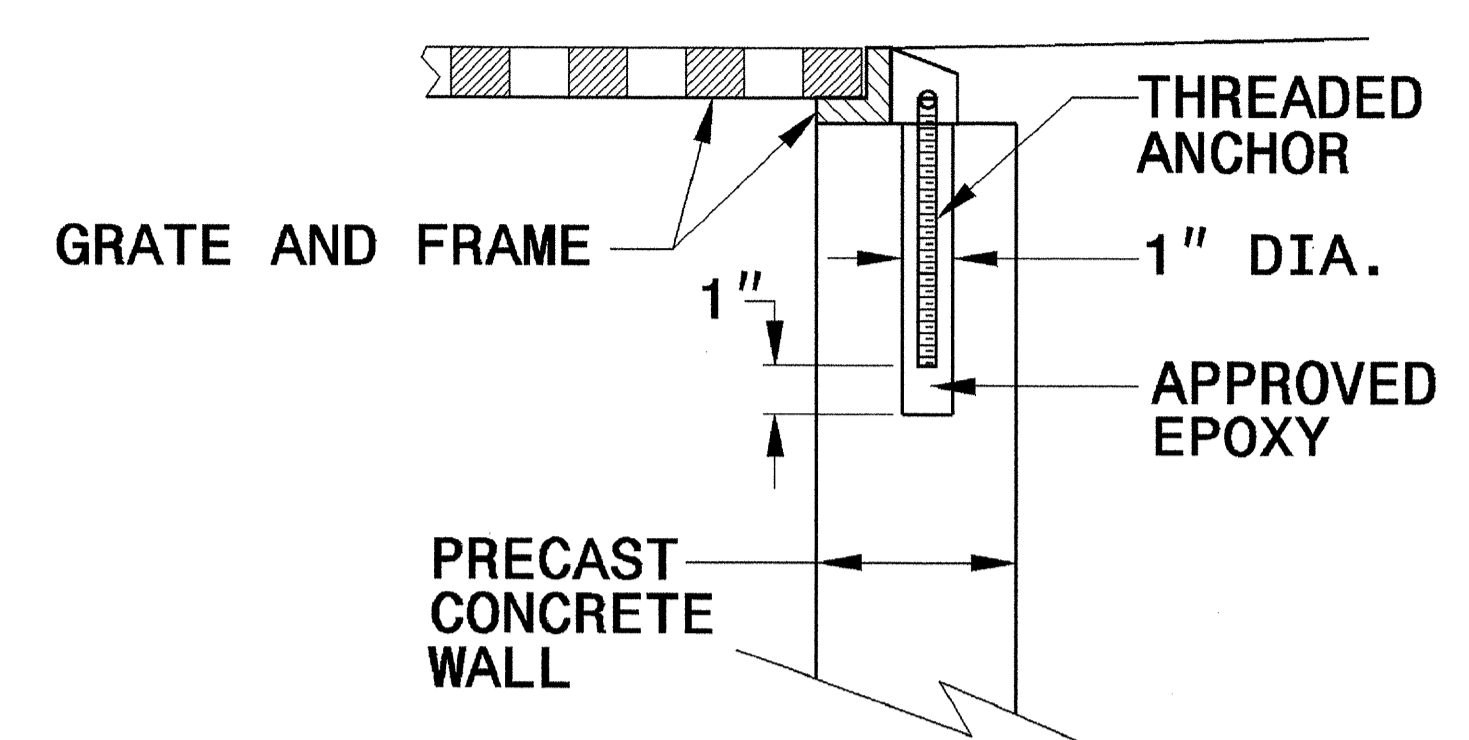
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



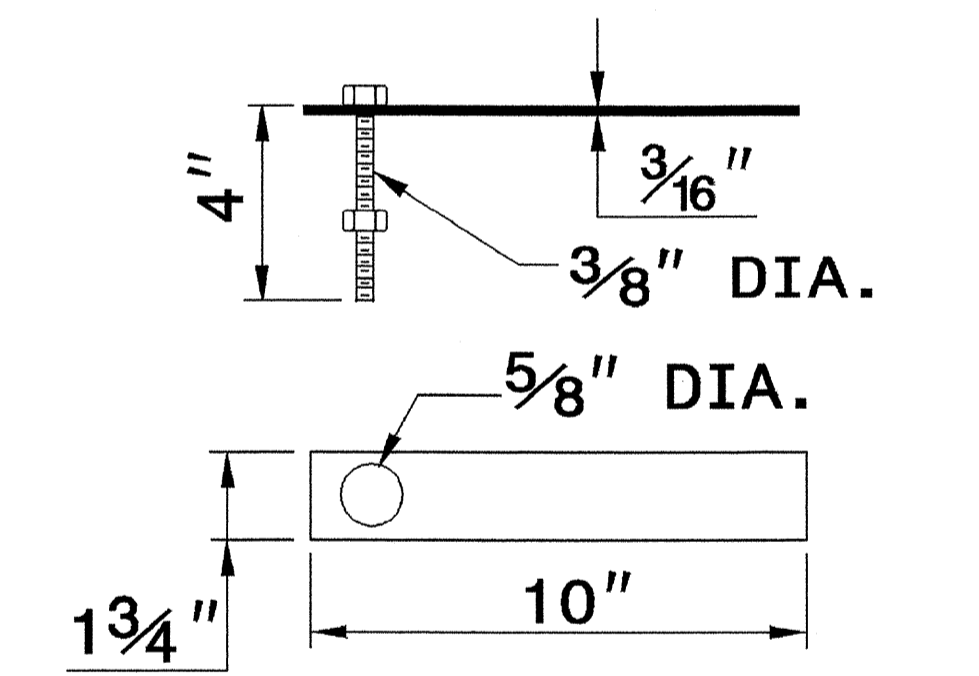
CONCRETE CONSTRUCTION



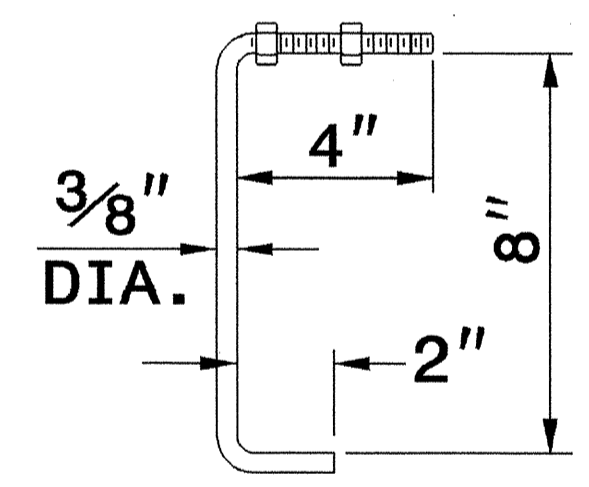
PRECAST CONCRETE CONSTRUCTION

DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

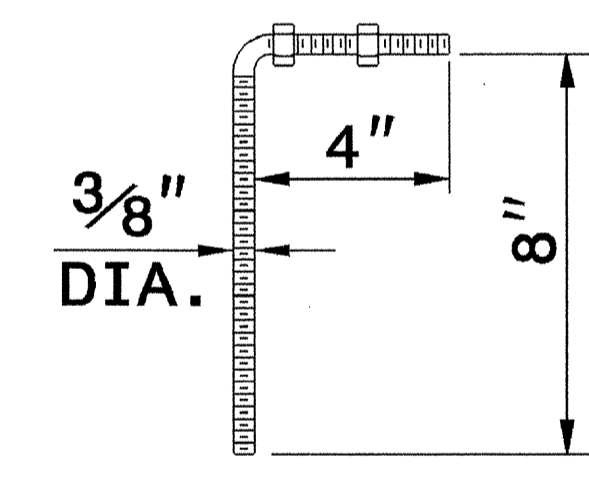
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



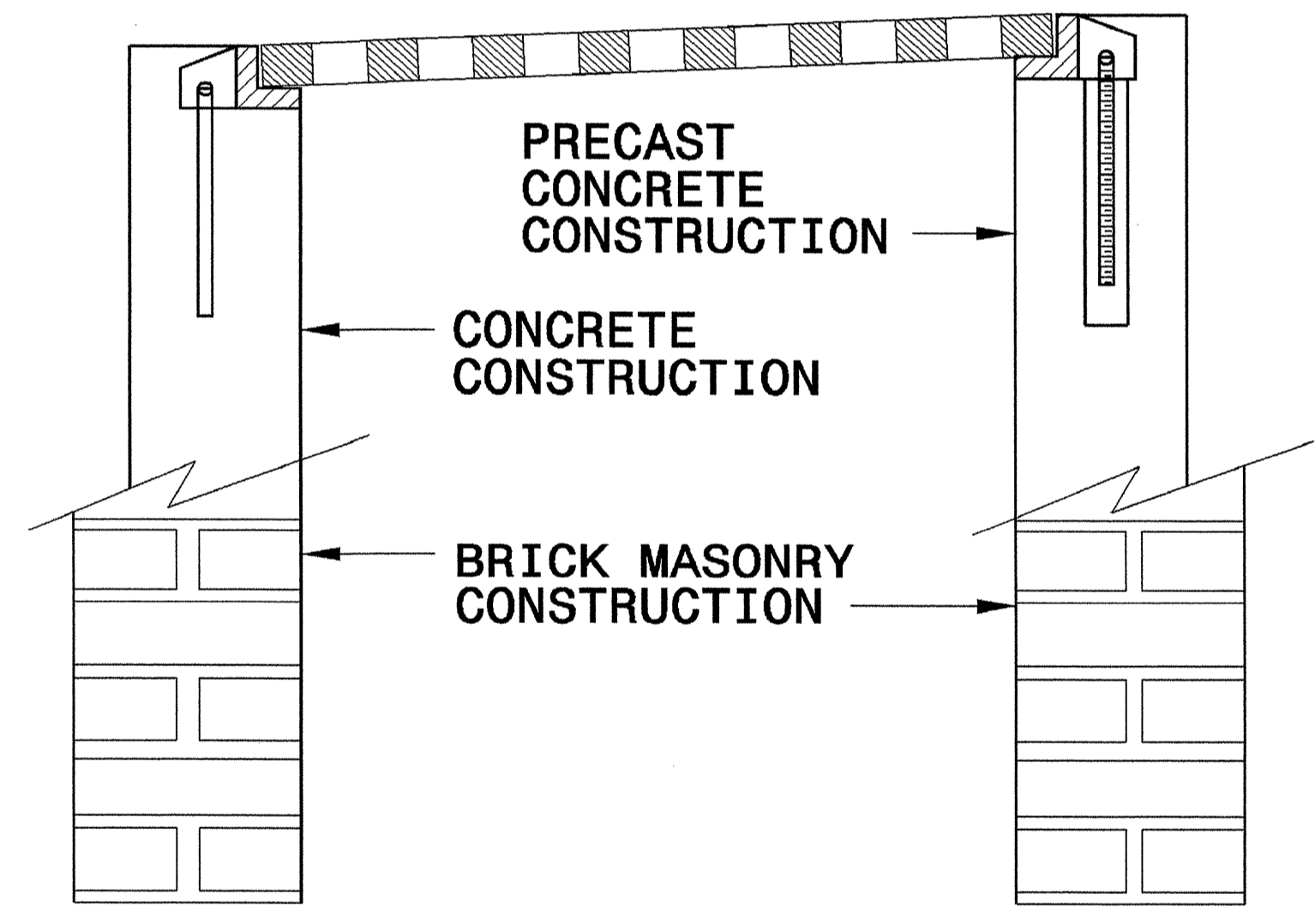
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



CONCRETE ANCHOR
3/8" DIA. BENT BAR



PRECAST CONCRETE ANCHOR
3/8" DIA. BENT BAR



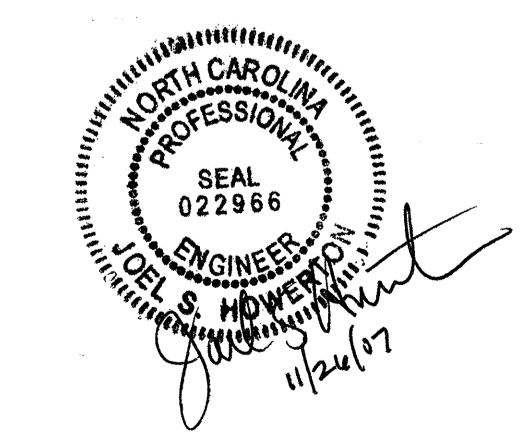
FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS

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

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

SHEET 1 OF 1
840D25

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



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

SEE PLATE FOR TITLE

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

Summary of Quantities

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201774

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (18+20.37)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	350	CY	UNDERCUT EXCAVATION
0134000000-E	240	21	CY	DRAINAGE DITCH EXCAVATION
0141000000-E	240	100	LF	BERM DITCH CONSTRUCTION
0195000000-E	265	500	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	29	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
0343000000-E	310	68	LF	15" SIDE DRAIN PIPE
0708000000-E	310	200	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	10	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
1220000000-E	545	30	TON	INCIDENTAL STONE BASE
1489000000-E	610	240	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	155	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I119.0B
1525000000-E	610	225	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	33	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
2000000000-N	806	8	EA	RIGHT OF WAY MARKERS
2286000000-N	840	5	EA	MASONRY DRAINAGE STRUCTURES
2366000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.24
2367000000-N	840	4	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	105	LF	SHOULDER BERM GUTTER

ItemNumber	Sec #	Quantity	Unit	Description
3030000000-E	862	375	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3649000000-E	876	160	TON	RIP RAP, CLASS B
3656000000-E	876	1,210	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4025000000-E	901	9	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)
4025000000-E	901	12.5	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (E)
4072000000-E	903	62	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	1	EA	SIGN ERECTION, TYPE D
4102000000-N	904	2	EA	SIGN ERECTION, TYPE E
4155000000-N	907	7	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	375	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	151	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4650000000-N	1251	16	EA	TEMPORARY RAISED PAVEMENT MARKERS
4685000000-E	1205	1,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
4686000000-E	1205	1,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
4770000000-E	1205	660	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (TYPE 3)
4850000000-E	1205	200	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
4900000000-N	1251	5	EA	PERMANENT RAISED PAVEMENT MARKERS
4905000000-N	1253	12	EA	SNOWPLOWABLE PAVEMENT MARKERS

ItemNumber	Sec #	Quantity	Unit	Description
6000000000-E	1605	475	LF	TEMPORARY SILT FENCE
6006000000-E	1610	90	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	90	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	350	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	4	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	275	LF	SAFETY FENCE
6030000000-E	1630	450	CY	SILT EXCAVATION
6036000000-E	1631	375	SY	MATting FOR EROSION CONTROL
6037000000-E	SP	25	SY	COIR FIBER MAT
6042000000-E	1632	150	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	12	EA	SPECIAL STILLING BASINS
6071030000-E	SP	130	LF	COIR FIBER BAFFLES
6071050000-E	SP	4	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	1	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.5	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION

COMPUTED BY: J.B. DATE: 02 /06
 CHECKED BY: T.H. DATE: 02 /06

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS



PROJECT REFERENCE NO. B-4282 SHEET NO. 3-B
 RW SHEET NO.

SUMMARY OF EARTHWORK
 IN CUBIC YARDS

SURVEY LINE	STATION	STATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBANKMENT + %	BORROW	WASTE
-L-	15+50.00	17+37.87	6		389	383	0
BRIDGE							
SUBTOTAL			6		389	383	0
BRIDGE							
-L-	19+02.87	21+90.00	363		1,049	686	0
SUBTOTAL			363		1,049	686	0
TEMPORARY EARTH BERM					17	17	
LOSS DUE TO CLEARING AND GRUBBING			-65			65	
TEMPORARY EARTH BERM REMOVAL			14				14
PROJECT TOTALS			318		1,455	1,151	14
EST. 5% FOR REPLACING TOP SOIL ON BORROW						58	
GRAND TOTAL			318			1,209	14
SAY			350			1,250	14

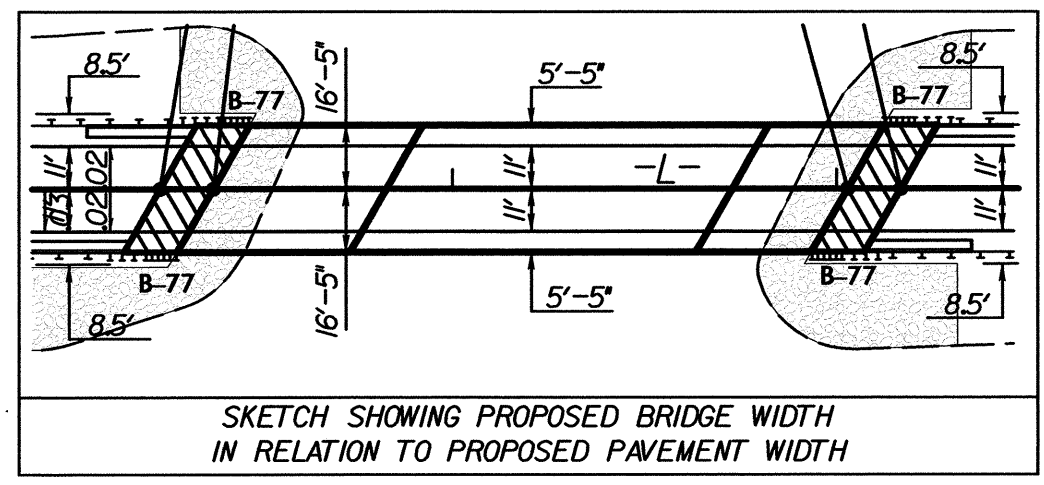
UNDERCUT EXCAVATION (CONTINGENCY) = 350 CY
 DDE EXCAVATION = 21 CY

NOTE: APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "GRADING". (SEE PROJECT SPECIAL PROVISIONS.)

NOTE: EARTHWORK QUANTITIES ARE CALCULATED BY THE ROADWAY DESIGN UNIT. THESE EARTHWORK QUANTITIES ARE BASED IN PART ON SUBSURFACE DATA PROVIDED BY THE GEOTECHNICAL ENGINEERING UNIT.

SUMMARY OF PAVEMENT REMOVAL
 IN SQUARE YARDS

LOCATION	ASPHALT REMOVAL	ASPHALT BREAK UP	CONCRETE REMOVAL	CONCRETE BREAK UP
-L- 15+50 TO 17+62	436.67			
-L- 18+58 TO 21+90	621.07			
TOTAL	1,057.74			
SAY	1,090			



B4282 GPS-1 PINC 8+29.91=
-BYI- POT 7+91.18
-L- POC 15+85.76
18.98' LT.

-L- POC 15+50.00
BEGIN TIP PROJECT B-4282

WILLIAM S. HUSZTEK
AND WIFE
LUCILLE S. HUSZTEK
DB 197 PG 574

-L- PCC 13+42.74

-BL- 3 POT 5+00.00
-L- POC 12+58.17
14.08' LT.

WILLIAM S. HUSZTEK
AND WIFE
LUCILLE S. HUSZTEK
DB 197 PG 574

WILLIAM S. HUSZTEK
AND WIFE
LUCILLE S. HUSZTEK
DB 197 PG 574

-L- POT 17+37.87
BEGIN BRIDGE

-L- POT 17+24.02
BEGIN APPROACH SLAB

-L- POT 19+16.72
END APPROACH SLAB

-L- POT 19+02.87
END BRIDGE

BM 1
N: 992067 E: 1596877
-BL- STA 11+46 163' LT.
ELEV = 916.62

CAROLE A. LEMPER
AND
DEBRA R. POMPEO
DB 367 PG 1148

-BL- 4 PINC 14+11.27
-L- POC 21+63.09
21.07' LT.

-L- POC 21+90.00
END TIP PROJECT B-4282

-L- PT 23+60.27

-L- PC 24+21.84

-BL- 5 POT 18+24.18
-L- POC 25+77.99
12.31' LT.

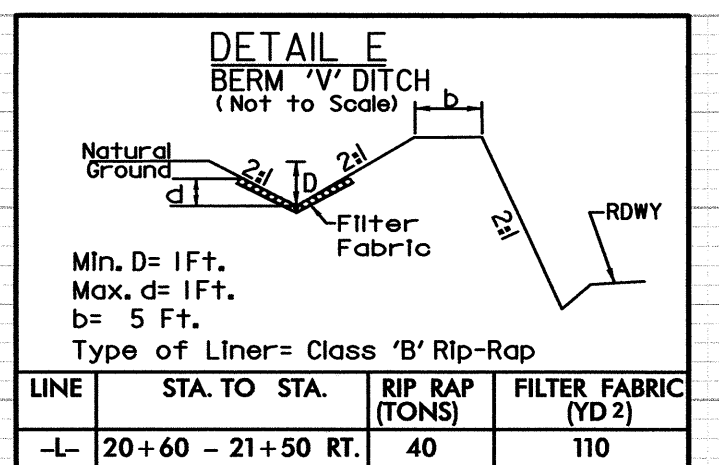
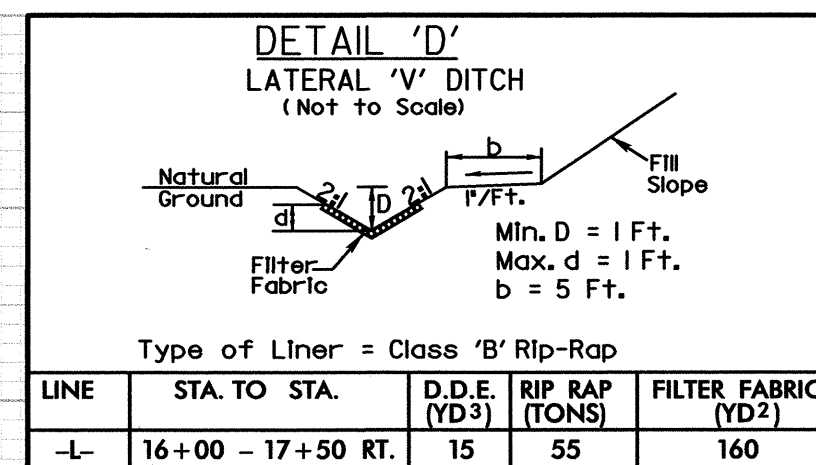
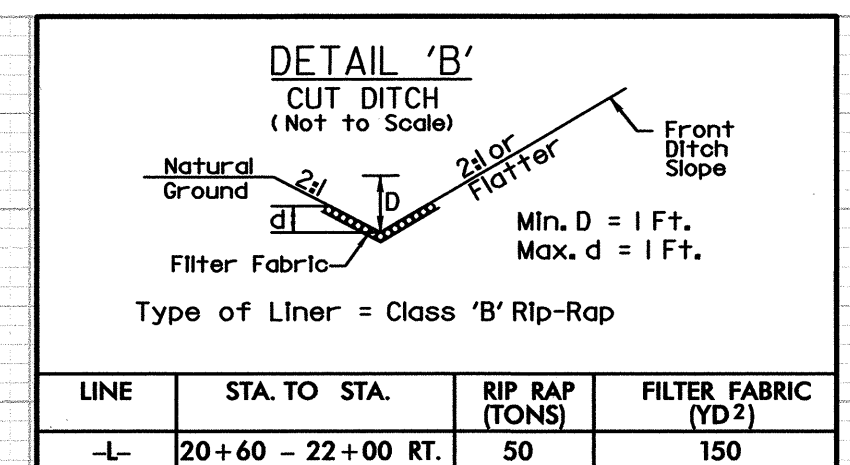
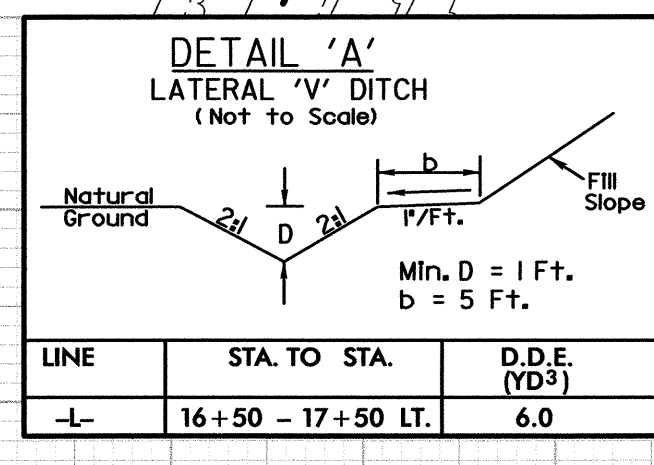
NOTE:
1. EXISTING END BENT NO. 1
TO BE REMOVED.
2. CONTRACTOR TO DRILL
THROUGH EXISTING FOOTING
OF END BENT NO. 2.

PI Sta 12+04.79
Δ = 2' 28" 26.5" (RT)
D = 7' 4" 26.6"
L = 279.22'
T = 141.27'
R = 745.00'
Se = 0.06
D.S. = 45 mph

PI Sta 14+91.11
Δ = 50' 26" 31.0" (RT)
D = 18' 11" 20.9"
L = 277.32'
T = 148.37'
R = 315.00'
Se = 0.06
D.S. = 30 mph

PI Sta 22+55.22
Δ = 47' 30" 17.8" (RT)
D = 21' 13" 14.4"
L = 223.86'
T = 118.82'
R = 270.00'
Se = 0.06
D.S. = 25 mph

PI Sta 25+27.92
Δ = 35' 38" 32.6" (LT)
D = 17' 2" 44.5"
L = 205.29'
T = 106.09'
R = 330.00'
Se = 0.06
D.S. = 30 mph



BM #1 -BL- STA. 11+46 163' LT
RAILROAD SPIKE SET IN NORTHERN ROOT
OF A 15.2" DIA. SYCAMORE, LEFT OF -L- IN
THE SE QUADRANT OF BRIDGE.
ELEV. = 916.62'

BLEND TO
EXISTING

-L- STA. 15+50.00
BEGIN TIP PROJECT B-4282
EL = 927.64

-L- STA. 15+75.00
BEGIN GRADE
EL = 927.86 (2 1/2')

PI = 16+22.00
EL = 928.00'
VC = 94.00
K = 123
D.S. = 55 mph

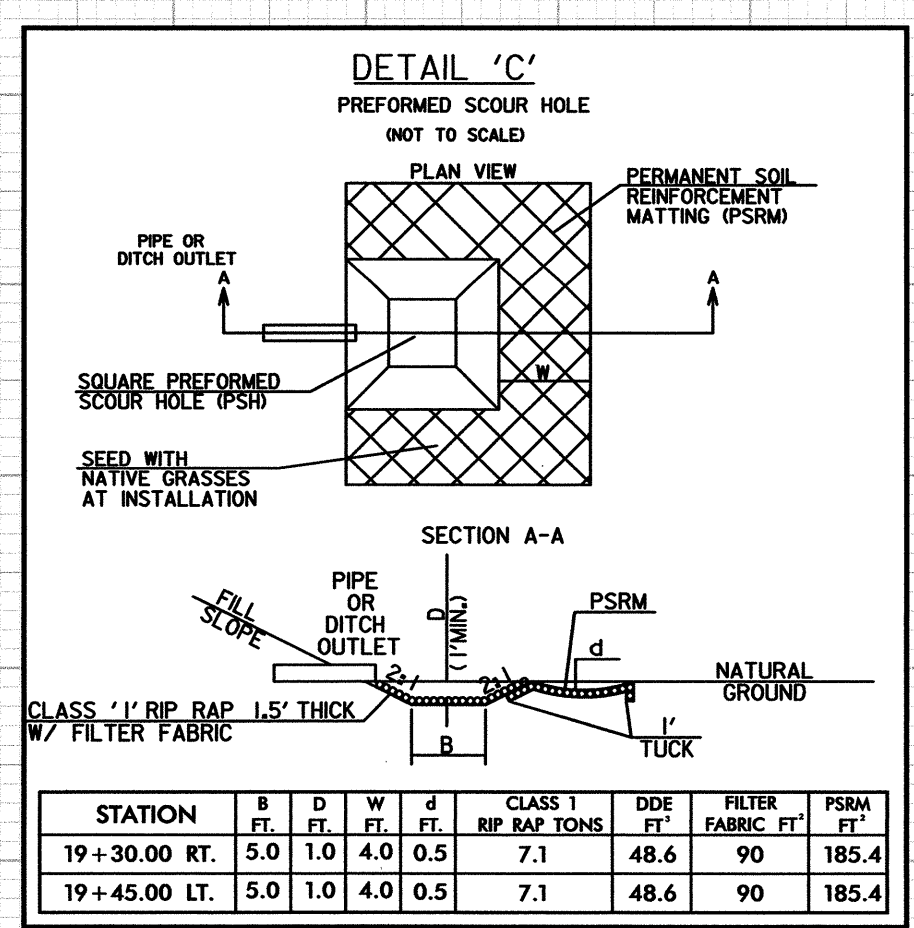
PI = 18+00.00
EL = 929.90'
VC = 180.00
K = 124
D.S. = 55 mph

PI = 20+40.00
EL = 928.96'
VC = 200.00
K = 116
D.S. = 55 mph

BLEND TO
EXISTING

-L- STA. 21+45.00
END GRADE
EL = 930.36 (12 1/2')

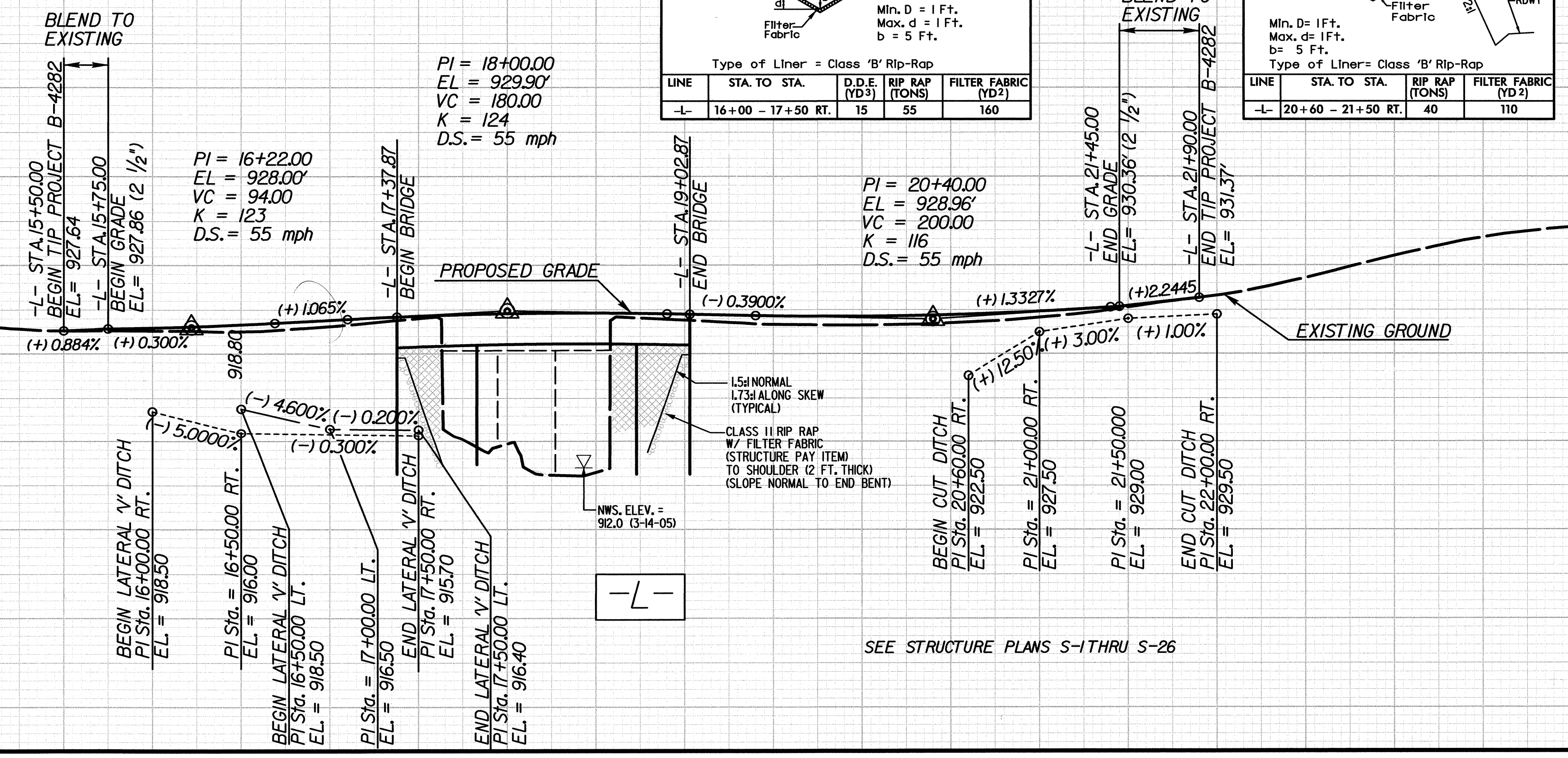
-L- STA. 21+90.00
END TIP PROJECT B-4282
EL = 931.37



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE = 2800 CFS
DESIGN FREQUENCY = 50 YRS
DESIGN HW ELEVATION = 926.8 FT
BASE DISCHARGE = 3400 CFS
BASE FREQUENCY = 100 YRS
BASE HW ELEVATION = 928.1 FT
OVERTOPPING DISCHARGE = 3205 CFS
OVERTOPPING FREQUENCY = 100-YRS
OVERTOPPING ELEVATION = 927.6 FT

DATE OF SURVEY = 3/14/05
W.S. ELEVATION AT DATE OF SURVEY = 912.0 FT



SEE STRUCTURE PLANS S-1 THRU S-26

REVISIONS

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