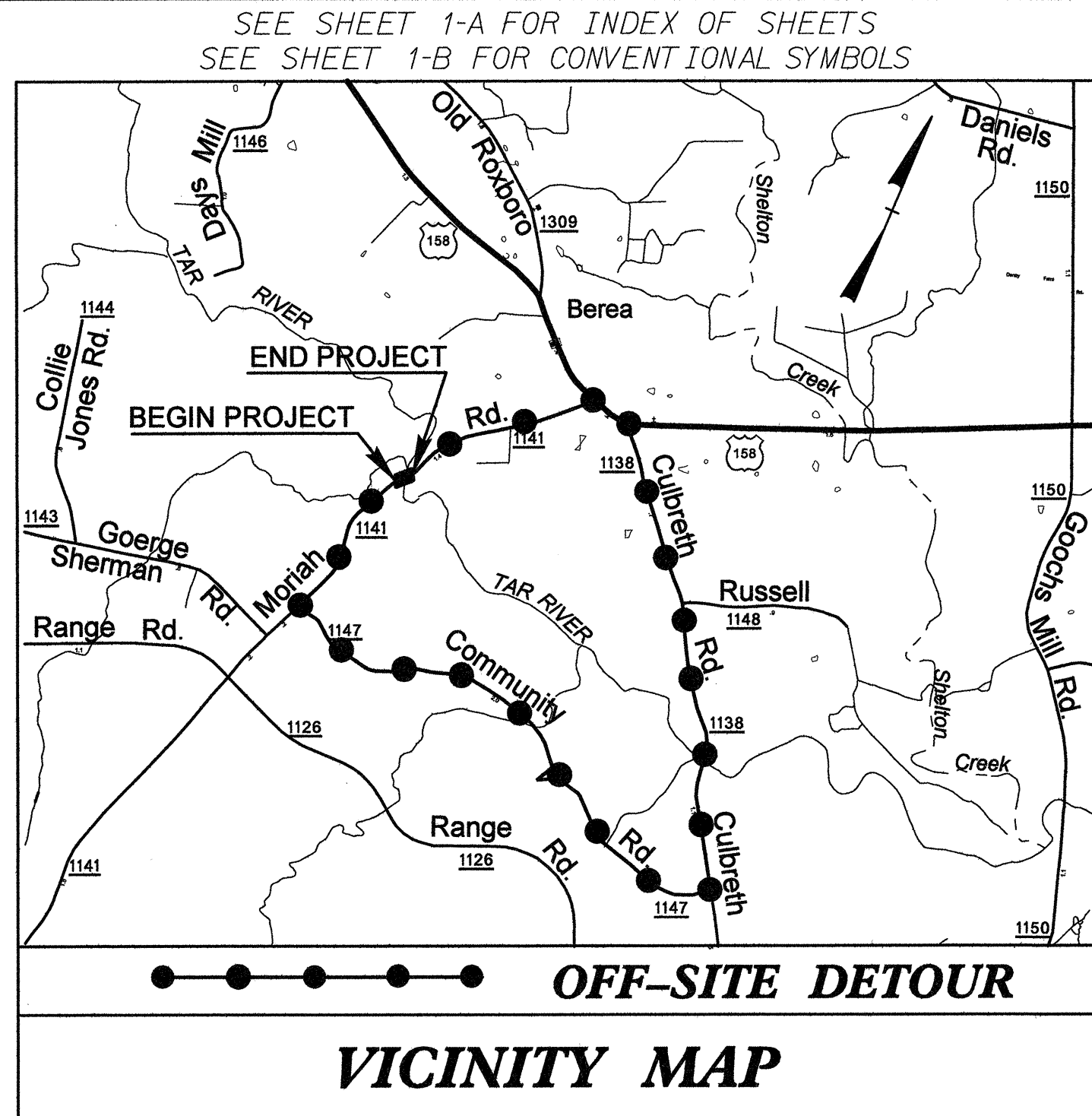


TIP PROJECT: B-4124

CONTRACT: C201585

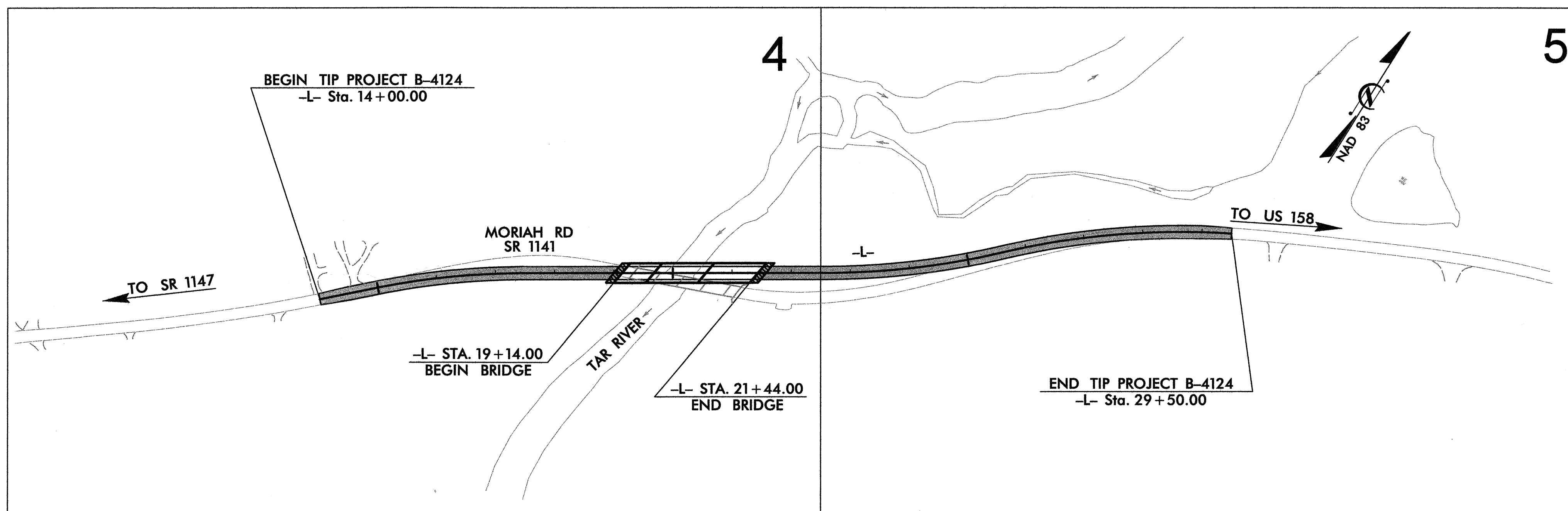


STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**GRANVILLE COUNTY**

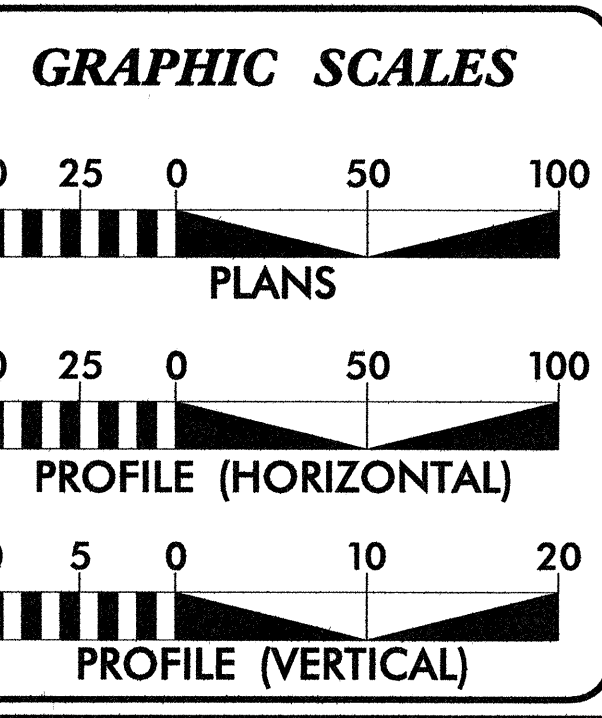
**LOCATION: BRIDGE NO. 84 ON SR 1141 OVER TAR RIVER**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4124	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33477.1.1	BRZ-1141(10)	PE	
33477.2.1	BRZ-1141(10)	ROW/UTL	
33477.3.1	BRZ-1141(15)	CONST	



NCDOT CONTACT: CATHY HOUSER, PE, ENGINEERING COORDINATION, ROADWAY DESIGN UNIT



**DESIGN DATA**

ADT 2008 = 917  
ADT 2028 = 1250  
DHV = 14 %  
D = 55 %  
T = 3 % \*  
V = 60 MPH  
\* TTST 1 % DUAL 2 %

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4124 = 0.250 MILES  
LENGTH STRUCTURES TIP PROJECT B-4124 = 0.044 MILES  
TOTAL LENGTH OF TIP PROJECT B-4124 = 0.294 MILES

Prepared in the Office of:  
GIBSON ENGINEERS, PC  
PO BOX 700  
FUQUAY VARINA, N.C. 27526  
PHONE 919-552-2253  
FAX 919-552-2254

**GIBSON ENGINEERS, PC**

2006 STANDARD SPECIFICATIONS

**RIGHT OF WAY DATE:**  
FEBRUARY 17, 2006

**LETTING DATE:**  
FEBRUARY 19, 2008

**GLEND A. M. GIBSON, PE**  
PROJECT ENGINEER

**MICHAEL PEKAREK, PE**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

*K. B. Ayo* 11-13-07 P.E.

**ROADWAY DESIGN ENGINEER**

*Michael Pekarek*

Seal for Kevin B. Alford, PE, N.C. 31977

Seal for Michael Pekarek, PE, N.C. 27391

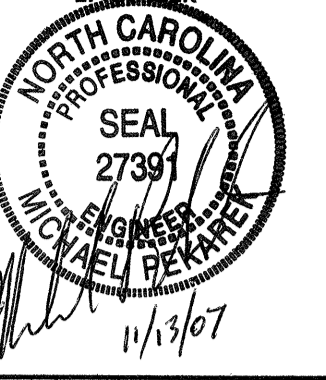
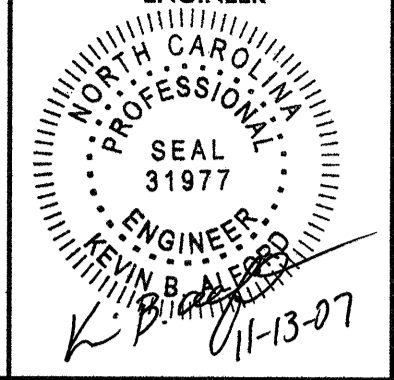

**DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA**

Seal of the State of North Carolina

**ant millan** P.E.  
STATE HIGHWAY DESIGN ENGINEER

10/25/2007 8:34:43 AM p:\roadway\proj\b4124\_r.dwg tsh.dgn

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT REFERENCE B-4124	SHEET NO. I-A
ROADWAY DESIGN ENGINEER 	HYDRAULICS ENGINEER 
Prepared in the Office of: 	

**GENERAL NOTES:** 2006 SPECIFICATIONS  
EFFECTIVE: 07-18-06  
REVISED: 07-18-06

**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 AT LOCATIONS DIRECTED BY THE ENGINEER.

**DRIVEWAYS:**

DRIVEWAYS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON PLANS OR AS 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.

**SUBSURFACE PLANS:**

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

**END BENTS:**

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

**UTILITIES:**

UTILITY OWNERS ON THIS PROJECT ARE Carolina Power & Light, and Carolina Telephone & Telegraph.

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 ENGLISH 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
<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
<b>DIVISION 3 - PIPE CULVERTS</b>	
300.01	Method of Pipe Installation - Method 'A'
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 8 - INCIDENTALS</b>	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads - for Shoulder Drain Installation
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drainage Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchoring End of Guardrail - B-77 and B-83 Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES AND LIST OF STANDARDS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	TYPICAL SECTIONS, AND PAVEMENT SCHEDULE
2-A	ANCHORAGE FOR FRAMES DETAIL
3	SUMMARY OF QUANTITIES
3-A	EARTHWORK, PAVEMENT REMOVAL, AND GUARDRAIL SUMMARIES
3-B	DRAINAGE SUMMARY
3-C	PARCEL INDEX SHEET
4-5	PLAN SHEETS
6	PROFILE SHEET
TCP-1 THRU TCP-4	TRAFFIC CONTROL PLANS
EC-1 THRU EC-7	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-4	SIGNING PLANS
UO-1 THRU UO-	UTILITIES BY OTHERS PLANS
X-1A	CROSS SECTION SUMMARY SHEET
X-1 THRU X-9	CROSS SECTIONS
S-1 THRU S-35	STRUCTURE PLANS

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	○ EIP
Property Corner	→
Property Monument	□ EGM
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	-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	○ S
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	○ MILEPOST 35
Switch	□ 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
Proposed Wheel Chair Ramp Curb Cut	○ WCC
Curb Cut for Future Wheel Chair Ramp	○ CCFR
Existing Metal Guardrail	—
Proposed Guardrail	—
Existing Cable Guiderail	—
Proposed Cable Guiderail	—
Equality Symbol	⊕
Pavement Removal	⊗

## VEGETATION:

Single Tree	○
Single Shrub	○
Hedge	~
Woods Line	~
Orchard	⊕
Vineyard	□ 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	□
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	— ?UTL —
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.

3/15/06  
 9/10/2007 12:59:21 PM  
 r:\roadway\proj\B4124\_rdy\_sum.dgn  
 bphillips

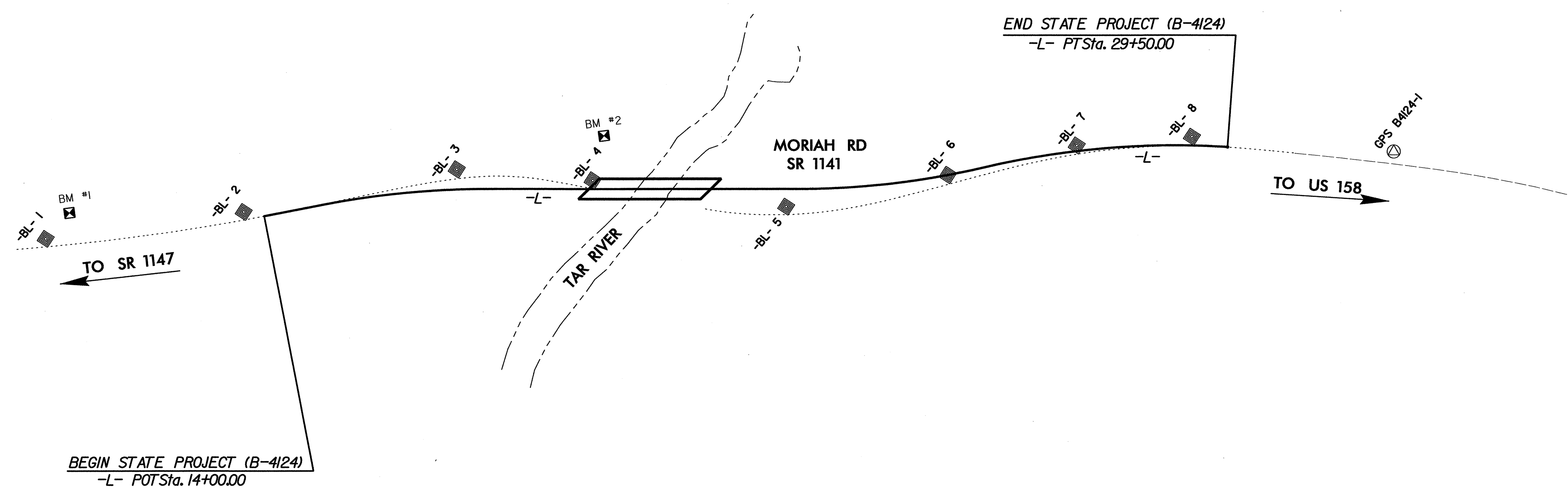
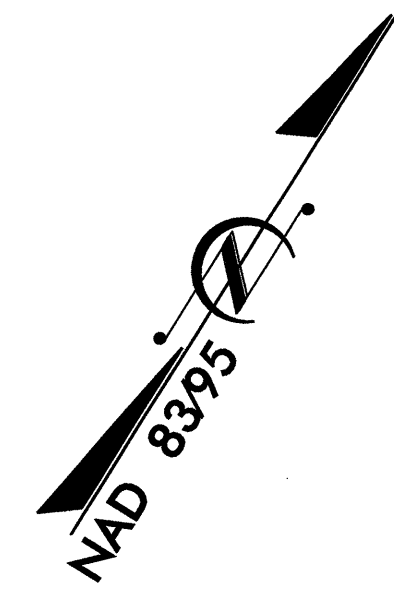
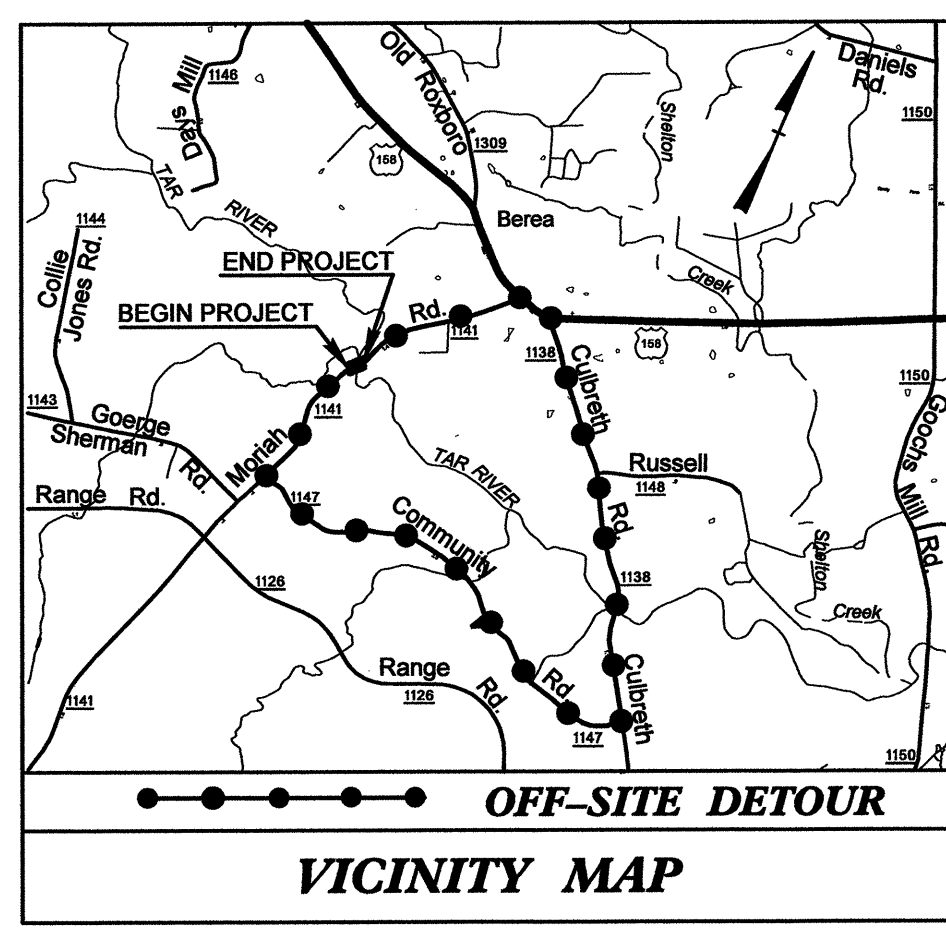
# SURVEY CONTROL SHEET B-4124

## GRANVILLE COUNTY

### BRIDGE NO. 84 ON SR 1141 OVER TAR RIVER

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES

B-4124



.....

BM1	ELEVATION = 432.87
N 931529	E 2072689
L STATION 10+90	51 LEFT

.....

BM2	ELEVATION = 417.45
N 932099	E 2073339
L STATION 19+47	85 LEFT

.....

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1		931473.6169	2072679.5628	439.08	10+47.56	13.37 LT
2	BL-2		931682.6208	2072921.9542	439.19	13+68.93	12.81 LT
3	BL-3		931925.4484	2073170.6827	432.84	17+12.51	31.87 LT
4	BL-4		932029.5206	2073362.3727	424.87	19+28.90	13.75 LT
5	BL-5		932162.8423	2073645.0431	426.67	22+38.53	28.78 RT
6	BL-6		932346.3617	2073834.0651	427.67	24+98.39	0.05 LT
7	BL-7		932498.3341	2073981.4992	432.99	27+09.47	8.94 LT
8	BL-8		932610.5470	2074128.3526	440.12	28+92.80	13.97 LT

**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4124-1"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 932767.0779(ft) EASTING: 2074411.4614(ft)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT  
 (GROUND TO GRID) IS: 1.00002631  
 THE N.C. LAMBERT GRID BEARING AND  
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM  
 "GPS B4124-1" TO L- STATION 14+00 IS S 53°40'23.2" W, 1810.04'

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

**NOTES:**

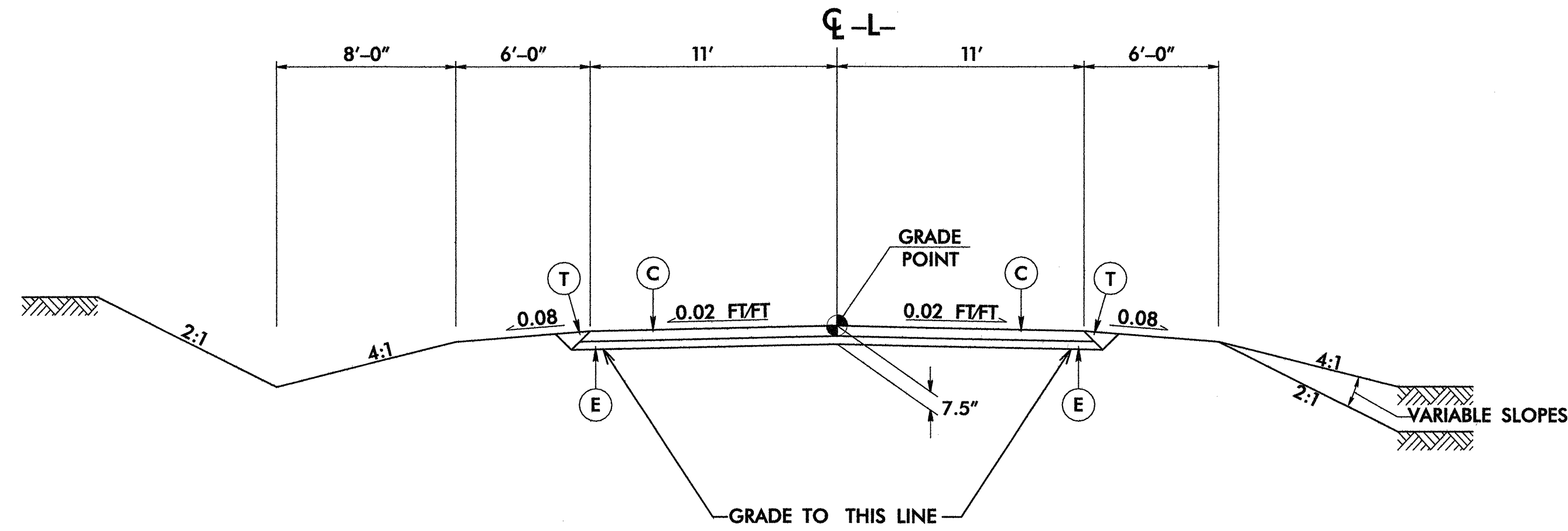
THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:  
[HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/B4124\\_LS\\_CONTROL\\_0503023.TXT](http://www.ncdot.org/doh/preconstruct/highway/location/project/B4124_LS_CONTROL_0503023.TXT)

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.

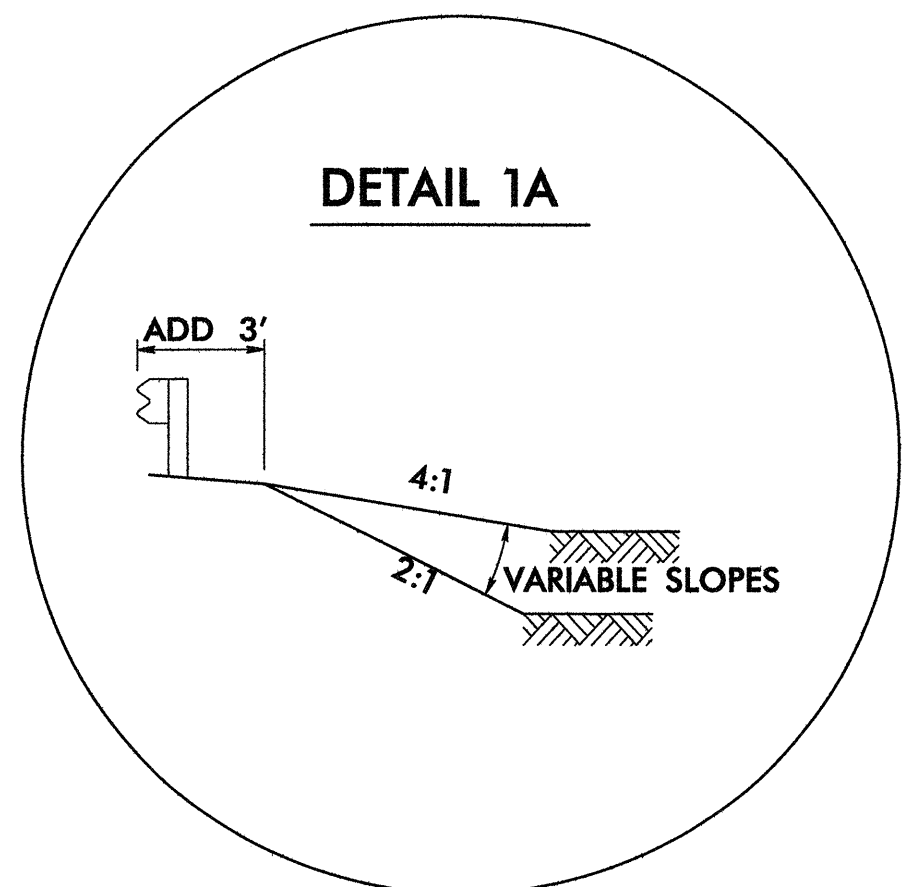
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.  
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)  
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

NOTE: DRAWING NOT TO SCALE



**TYPICAL SECTION NO. 1**

**USE TYPICAL SECTION NO. 1:**  
 -L- STA 14+00.00 TO 19+14.00 (BEG. BRIDGE)  
 -L- STA 21+44.00 (END BRIDGE) TO 29+50.00  
**NOTE: FOR VARIABLE SLOPES SEE CROSS SECTIONS.**



**DETAIL 1A**  
**USE AT GUARDRAIL LOCATIONS FROM FACE OF PROPOSED GUARDRAIL**

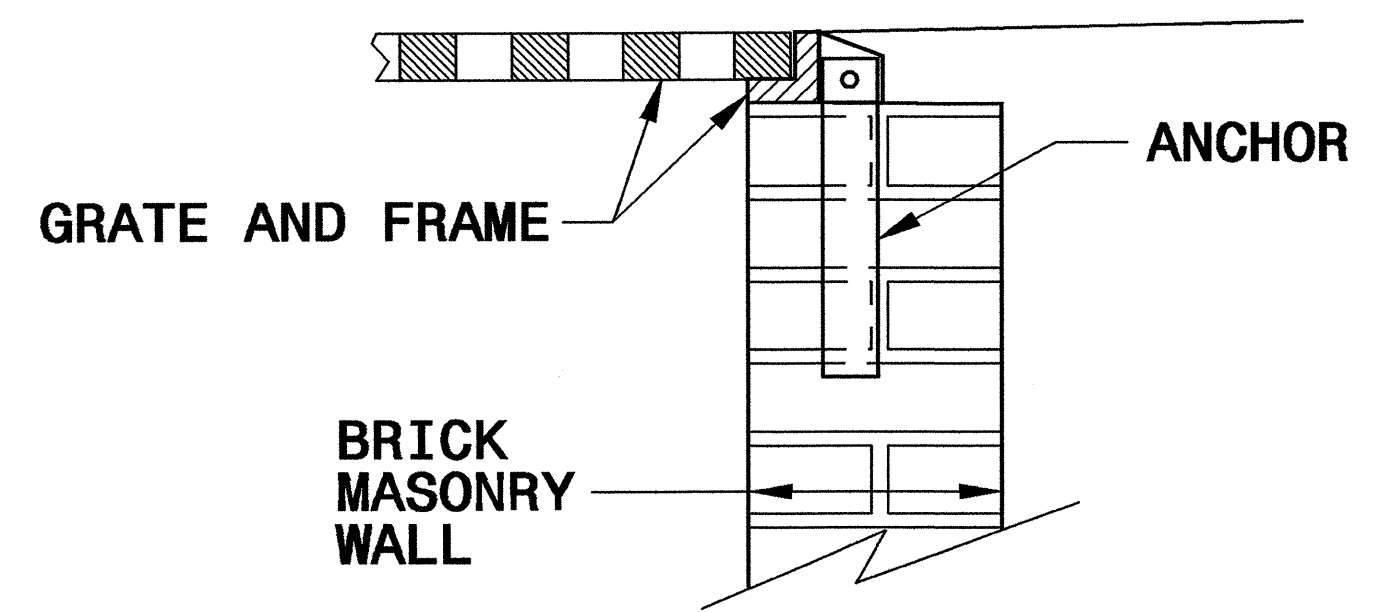
PAVEMENT SCHEDULE	
C	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
E	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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

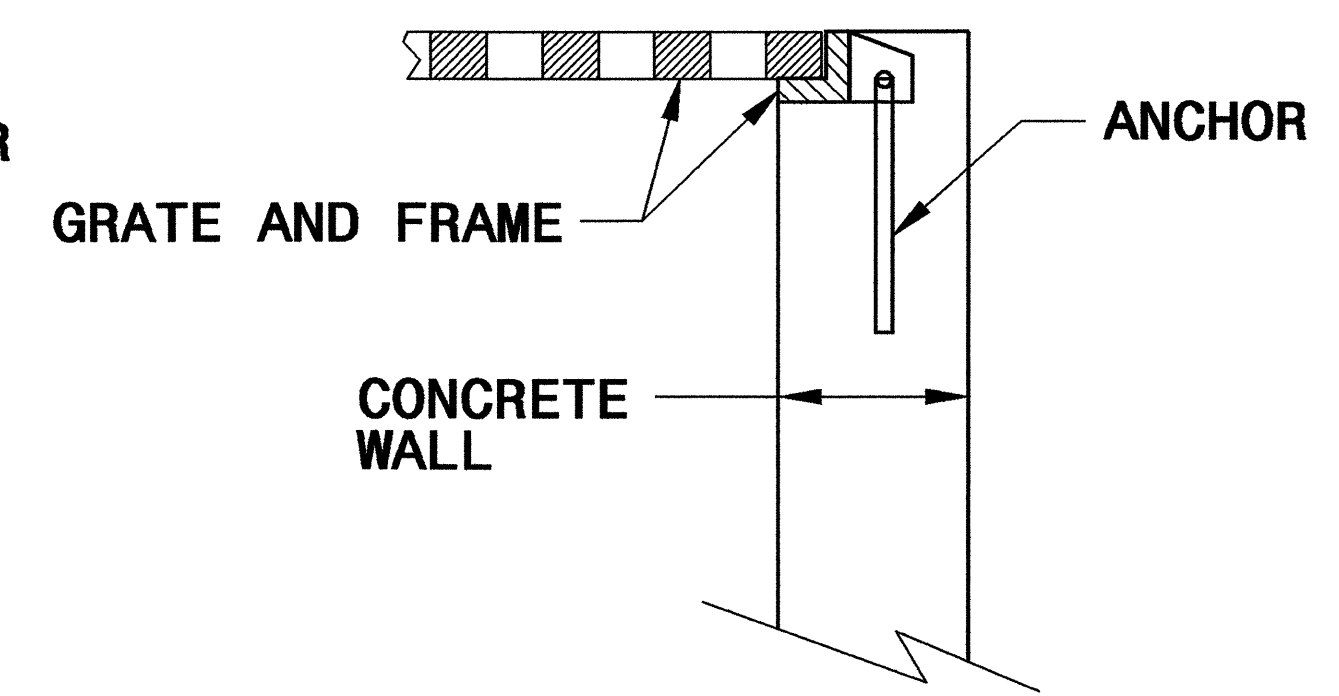
STATE OF  
NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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

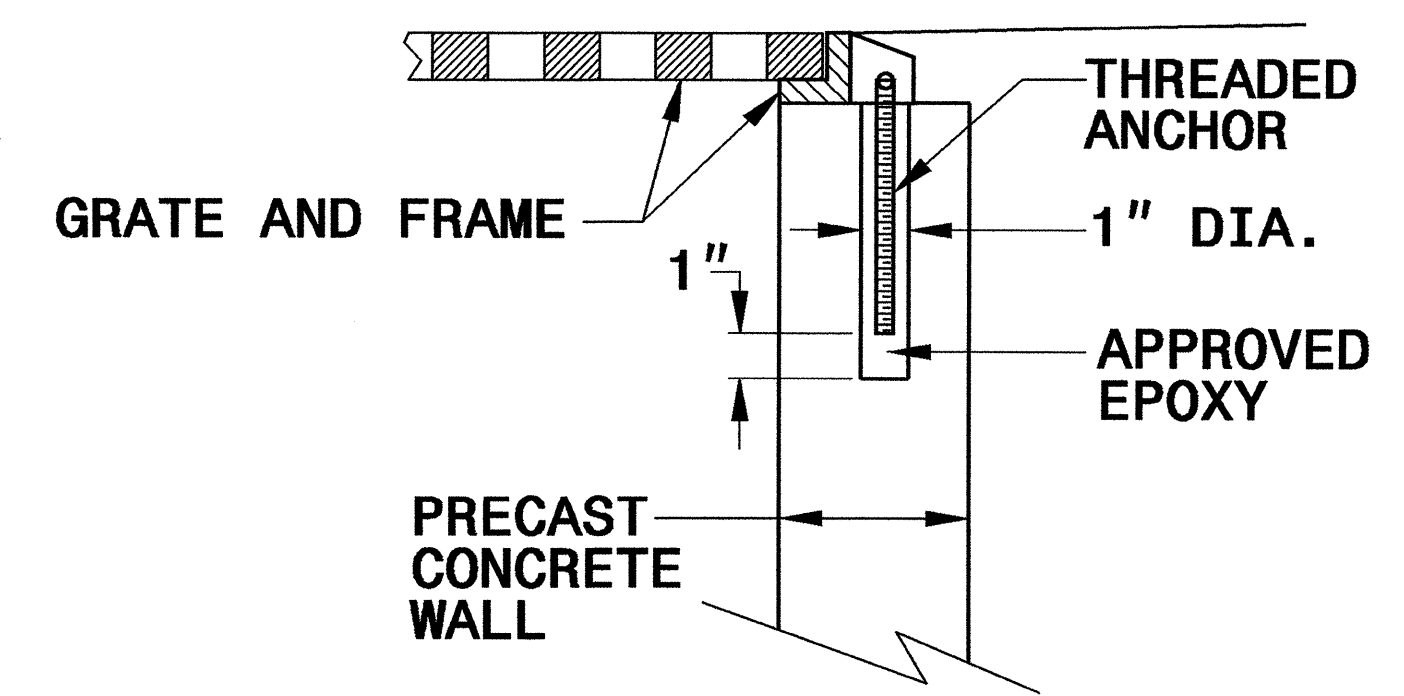
SHEET 1 OF 1  
**840D25**



**BRICK MASONRY  
CONSTRUCTION**



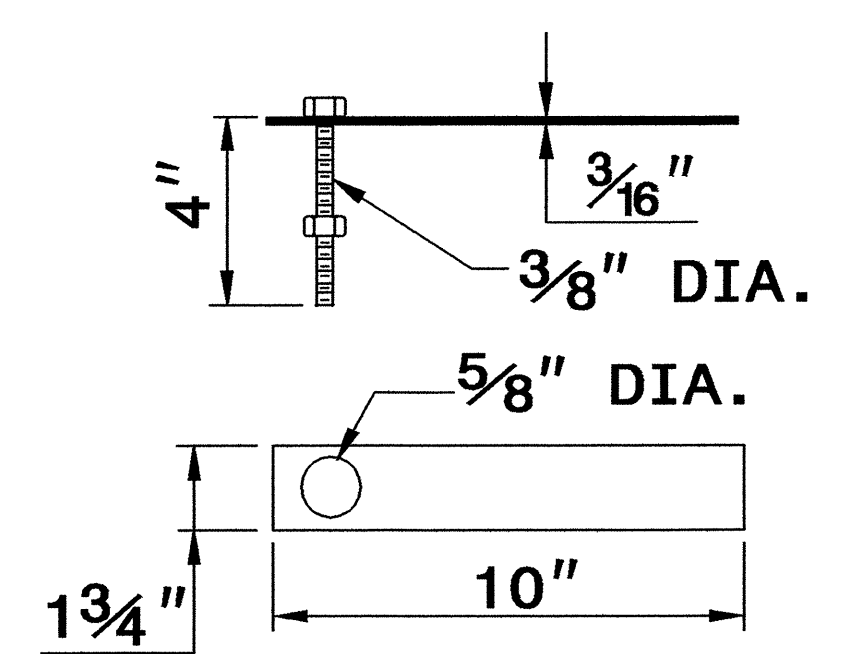
**CONCRETE  
CONSTRUCTION**



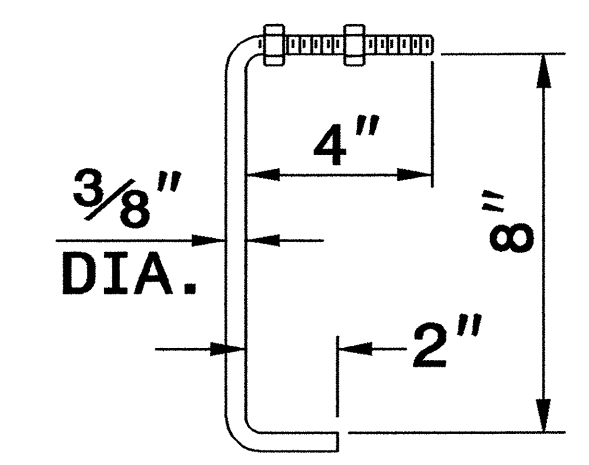
**PRECAST CONCRETE  
CONSTRUCTION**

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

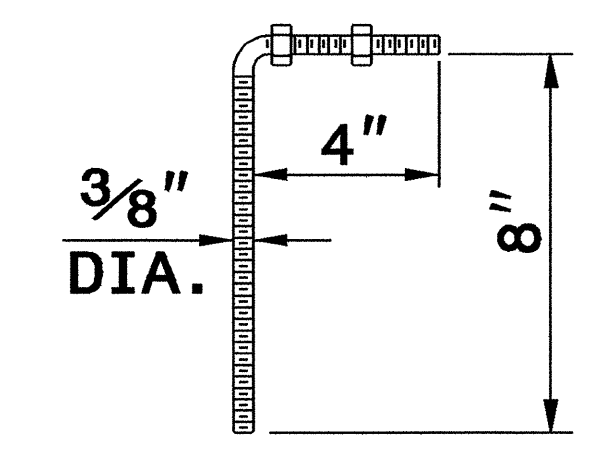
NOTE:  
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL  
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



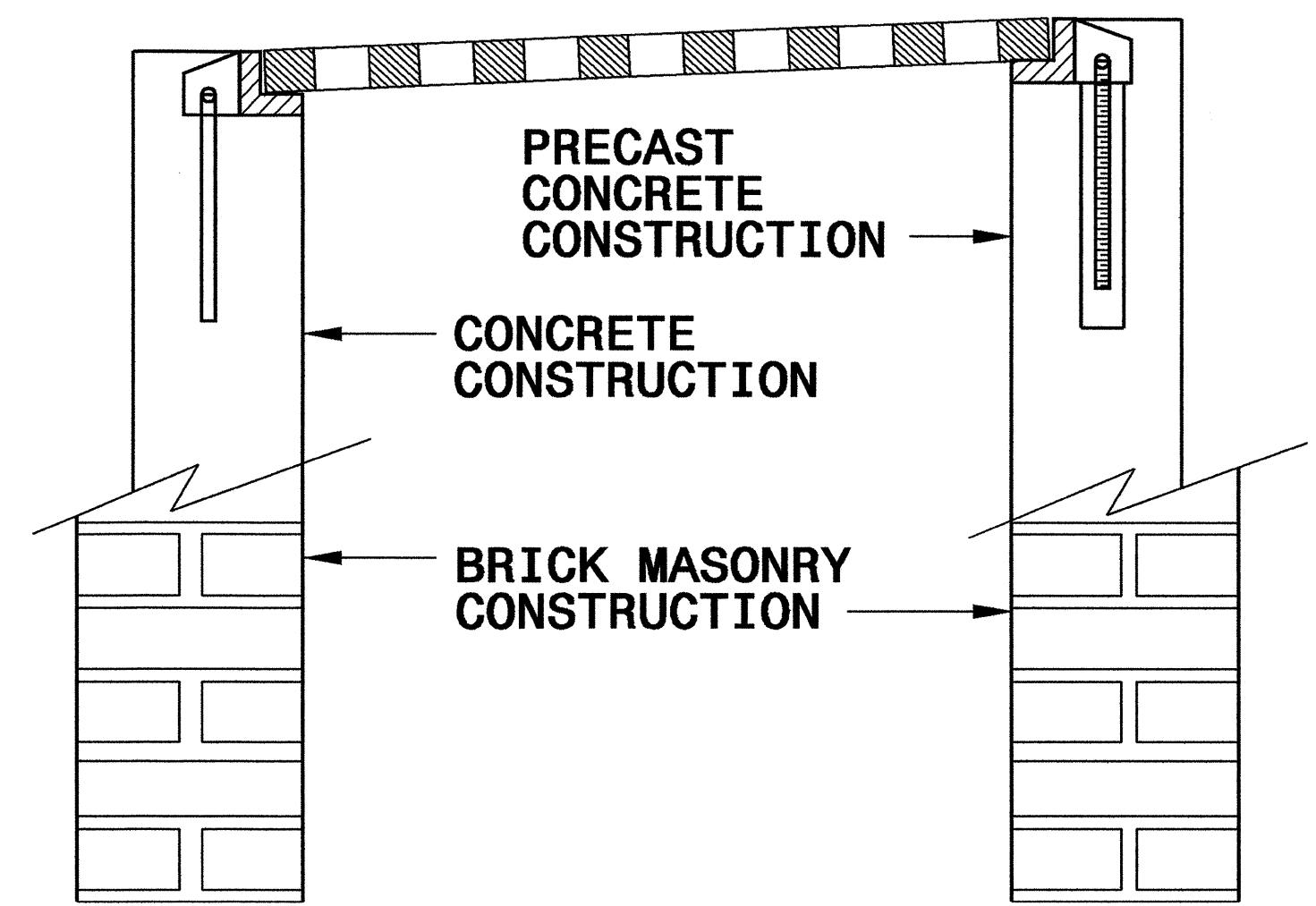
**MASONRY ANCHOR**  
3/8" DIA. BOLT WITH PLATE



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



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



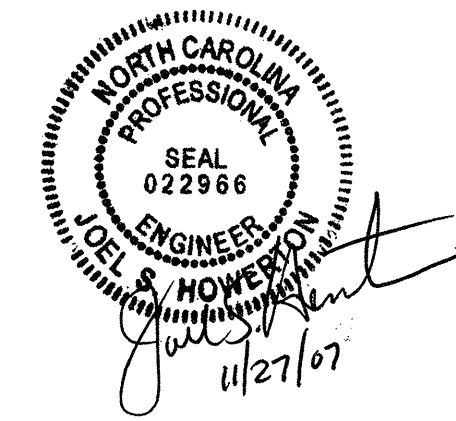
**FRAME AND GRATE INSTALLATION  
FOR NORMAL CROWN AND  
SUPERELEVATED SECTIONS**

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 S:\Contracts\ContractData\Special Details\ericward\stds\06\Stds to Special Details\840D25 Anchorage For Frames\0840d25.dgn .ericward AT PS222293



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

**SEE PLATE FOR TITLE**

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

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS SUMMARY OF QUANTITIES

PROJECT REFERENCE B-4124	SHEET NO. 3
ROADWAY DESIGN ENGINEER	
Prepared in the Office of:  GIBSON ENGINEERS, PC	

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201585

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (20+29.000)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0080000000-E	SP	100	TON	CLASS IV SUBGRADE STABILIZA- TION
0134000000-E	240	459	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	100	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	40	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
0343000000-E	310	24	LF	15" SIDE DRAIN PIPE
0344000000-E	310	24	LF	18" SIDE DRAIN PIPE
0366000000-E	310	52	LF	15" RC PIPE CULVERTS, CLASS III
0372000000-E	310	188	LF	18" RC PIPE CULVERTS, CLASS III
0708000000-E	310	44	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0714000000-E	310	32	LF	18" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
0806000000-E	310	2	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
0807000000-E	310	2	EA	18" BIT COAT CS PIPE ELBOWS, T YPE B 0.064" THICK
0995000000-E	340	40	LF	PIPE REMOVAL
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1489000000-E	610	1,092	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	690	TON	ASPHALT CONC SURFACE COURSE, TYPE SP9.5A
1560000000-E	620	95	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22

ItemNumber	Sec #	Quantity	Unit	Description
2000000000-N	806	21	EA	RIGHT OF WAY MARKERS
2022000000-E	815	23	CY	SUBDRAIN EXCAVATION
2033000000-E	815	17	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
2055000000-E	815	3	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
2066000000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
2286000000-N	840	6	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	6	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	630	LF	SHOULDER BERM GUTTER
3030000000-E	862	1,062.5	LF	STEEL BM GUARDRAIL
3045000000-E	862	50	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	3	EA	ADDITIONAL GUARDRAIL POSTS
3195000000-N	862	1	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3270000000-N	SP	3	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3360000000-E	863	490	LF	REMOVE EXISTING GUARDRAIL
3649000000-E	876	4	TON	RIP RAP, CLASS B
3656000000-E	876	544	SY	FILTER FABRIC FOR DRAINAGE
3659000000-N	SP	2	EA	PREFORMED SCOUR HOLES WITH LEVEL SPREADER APRON
4025000000-E	901	13.6	SF	CONTRACTOR FURNISHED, TYPE *** SIGN (D)
4072000000-E	903	33	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4155000000-N	907	12	EA	DISPOSAL OF SIGN SYSTEM, U- CHANNEL
4400000000-E	1110	394	SF	WORK ZONE SIGNS (STATIONARY)

ItemNumber	Sec #	Quantity	Unit	Description
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	10	EA	DRUMS
4435000000-N	1135	10	EA	CONES
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
4810000000-E	1205	12,400	LF	PAINT PAVEMENT MARKING LINES (4")
4900000000-N	1251	25	EA	PERMANENT RAISED PAVEMENT MARKERS
6000000000-E	1605	1,490	LF	TEMPORARY SILT FENCE
6006000000-E	1610	105	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	395	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	510	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	3	ACR	TEMPORARY MULCHING
6018000000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.5	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	115	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
6029000000-E	SP	350	LF	SAFETY FENCE
6030000000-E	1630	1,690	CY	SILT EXCAVATION
6036000000-E	1631	1,450	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	10	SY	COIR FIBER MAT
6038000000-E	SP	80	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	560	LF	1/4" HARDWARE CLOTH
6070000000-N	SP	8	EA	SPECIAL STILLING BASINS
6071030000-E	SP	280	LF	COIR FIBER BAFFLES
6071050000-E	SP	1	EA	*** SKIMMER (1-1/2")
6084000000-E	1660	3.5	ACR	SEEDING & MULCHING
6087000000-E	1660	2	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	75	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	2.5	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	27	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.5	ACR	REFORESTATION

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

## STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

### SUMMARY OF EARTHWORK

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
14+00.00	19+14.00	430	5,318	4,931	43
21+44.00	29+50.00	1,706	2,942	1,407	171
<b>PROJECT TOTALS:</b>		2136	8260	6338	214
LOSS DUE TO CLEARING & GRUBBING		-170		170	
EST. 5% TO REPLACE TOPSOIL IN BORROW PITS				325	
<b>GRAND TOTALS:</b>		1966		6833	214
<b>SAY:</b>		2065		7175	

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.

DDE 459 CY  
 EST. UNDERCUT 200 CY  
 SELECT GRANULAR MATERIAL 100 CY  
 CLASS IV SUBGRADE STABILIZATION 100 TONS

### SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station	Station	LOC LT/RT/CL	SY
L	14+00.00	19+33.45	CL	1119
L	21+08.63	29+50.00	CL	1829
			TOTAL:	2948
<b>SAY:</b>				2975

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL  
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.  
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.  
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.  
 G = GATING IMPACT ATTENUATOR TYPE 350  
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

### GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH			WARRANT POINT		"N" DIST FROM E.O.L.	TOTAL SHLDR WIDTH	FLARE LENGTH		W		ANCHORS				IMP. ATTEN. TYPE 350			REMOVE EXISTING GRDRAIL	REMARKS	
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPR. END	TRAIL. END			APPR. END	TRAIL. END	APPR. END	TRAIL. END	B-77	GRAU 350	AT-1	EA	G	NG				
-L-	16+83.28	19+00.15	RT	200.0	50		19+00.15		5.5	9	187.5		0.5			1		1					130	
-L-	16+75.00	19+27.85	LT	262.5			19+27.85	18+00.00	5.5	9		25		0.5		1	1						145	
-L-	21+57.85	28+25.00	LT	675.00			27+00.00	21+57.85	5.5	9	25		0.5			1	1						145	
-L-	21+30.16	22+70.01	RT	139.85				21+30.16	5.5	9		68.75		0.5		1	1						70	
<b>SUBTOTAL</b>				1277.4	50											4	3							
<b>ANCHOR DEDUCTIONS</b>				225																				
<b>TOTAL</b>				1052.4	50											4	3	1					490	
<b>SAY</b>				1062.5	50																		225	

(SAY 3 ADDITIONAL GUARDRAIL POSTS)

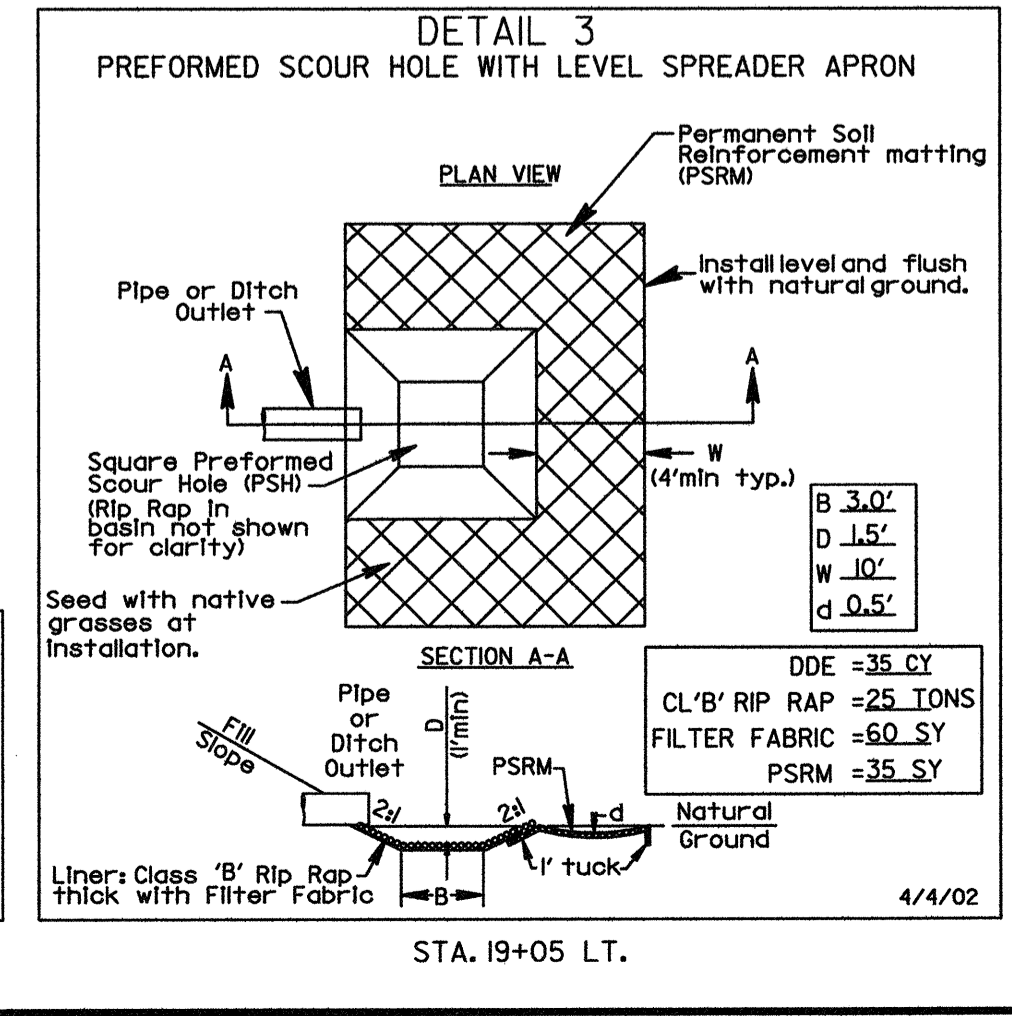
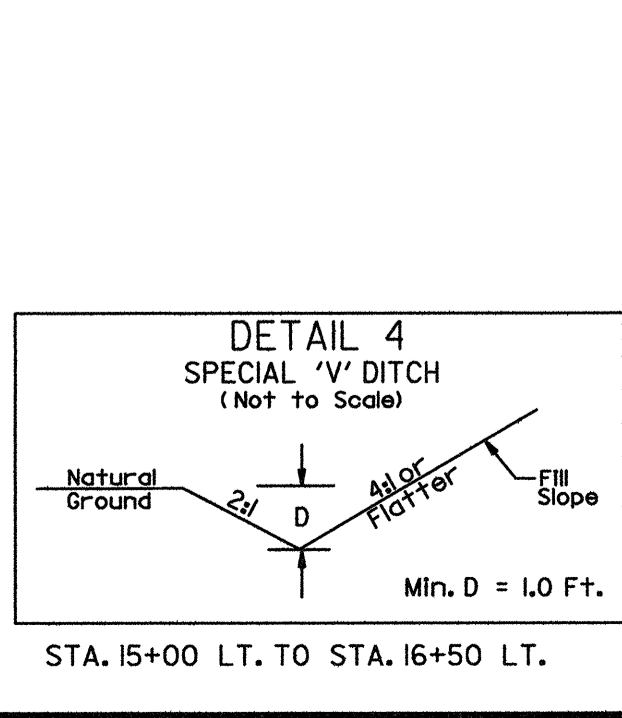
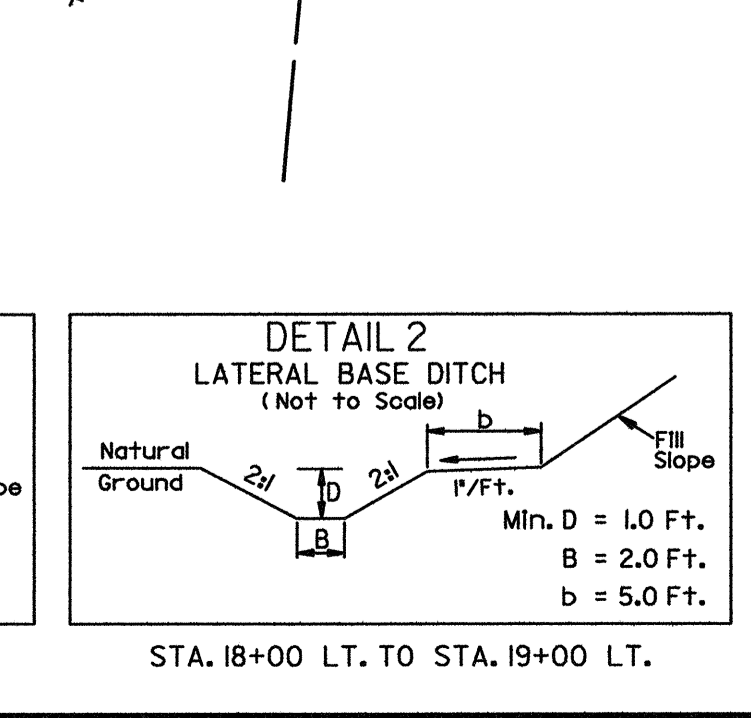
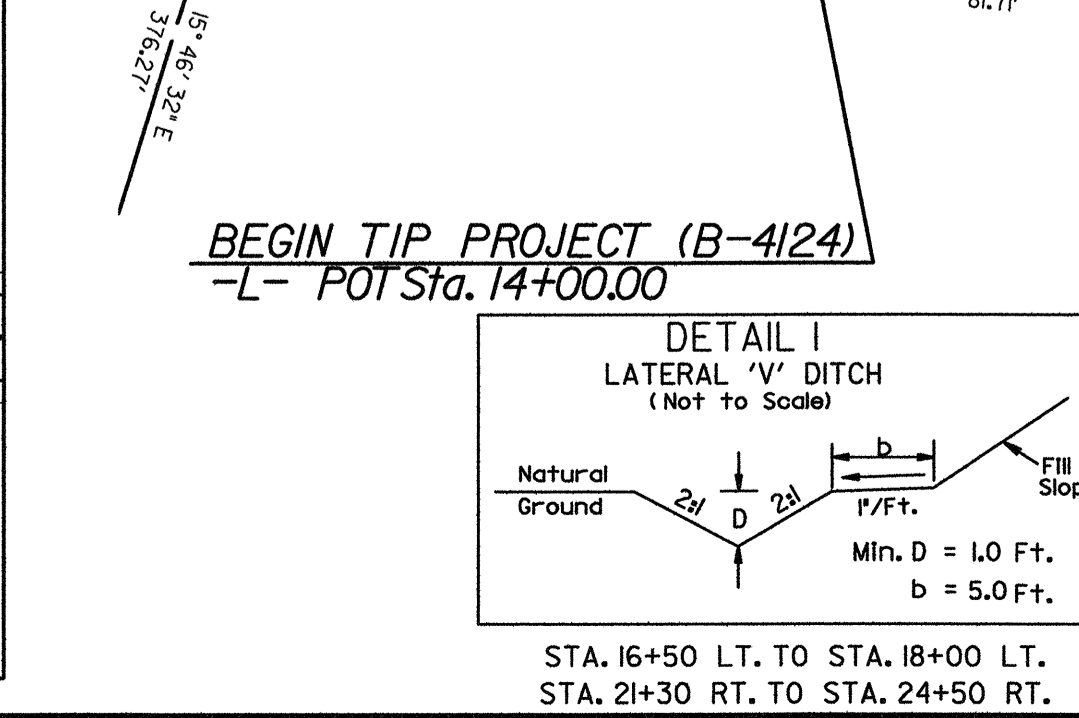
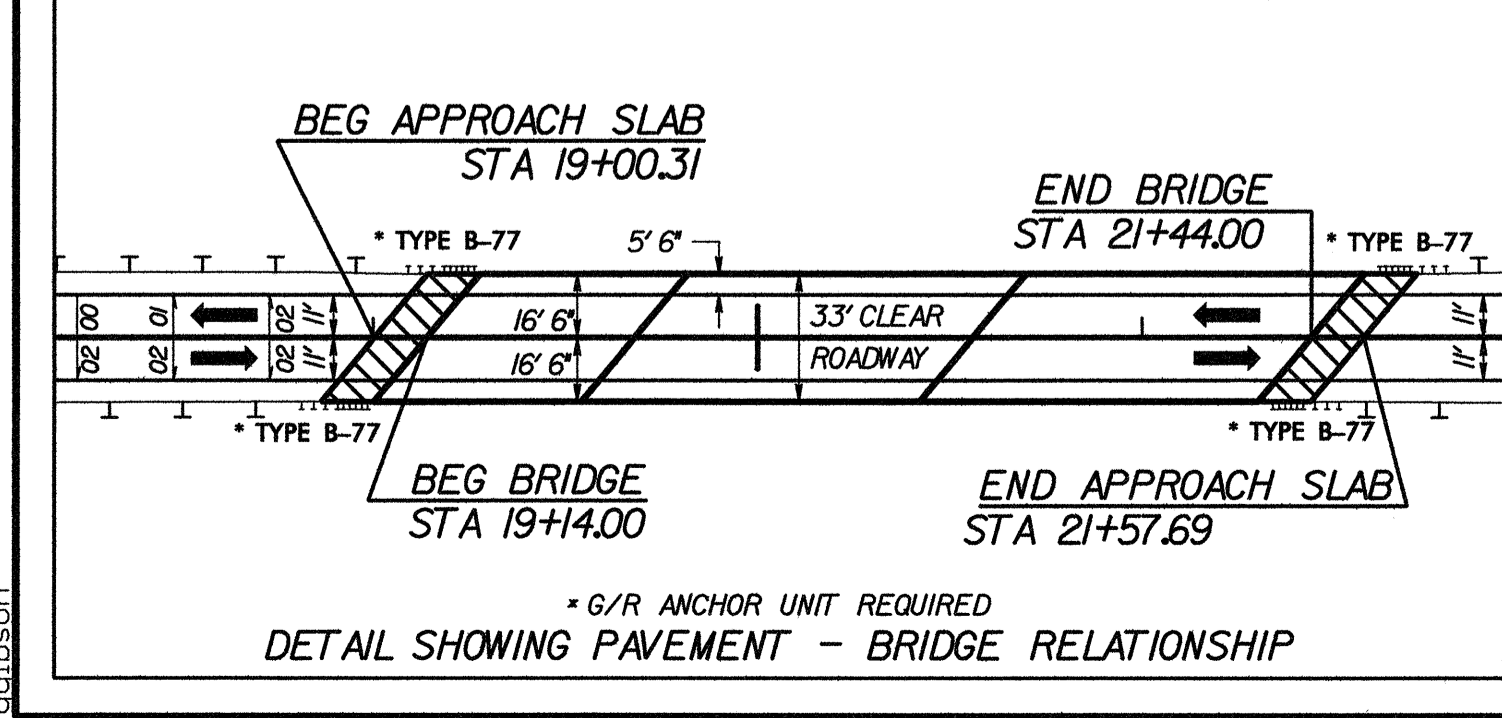
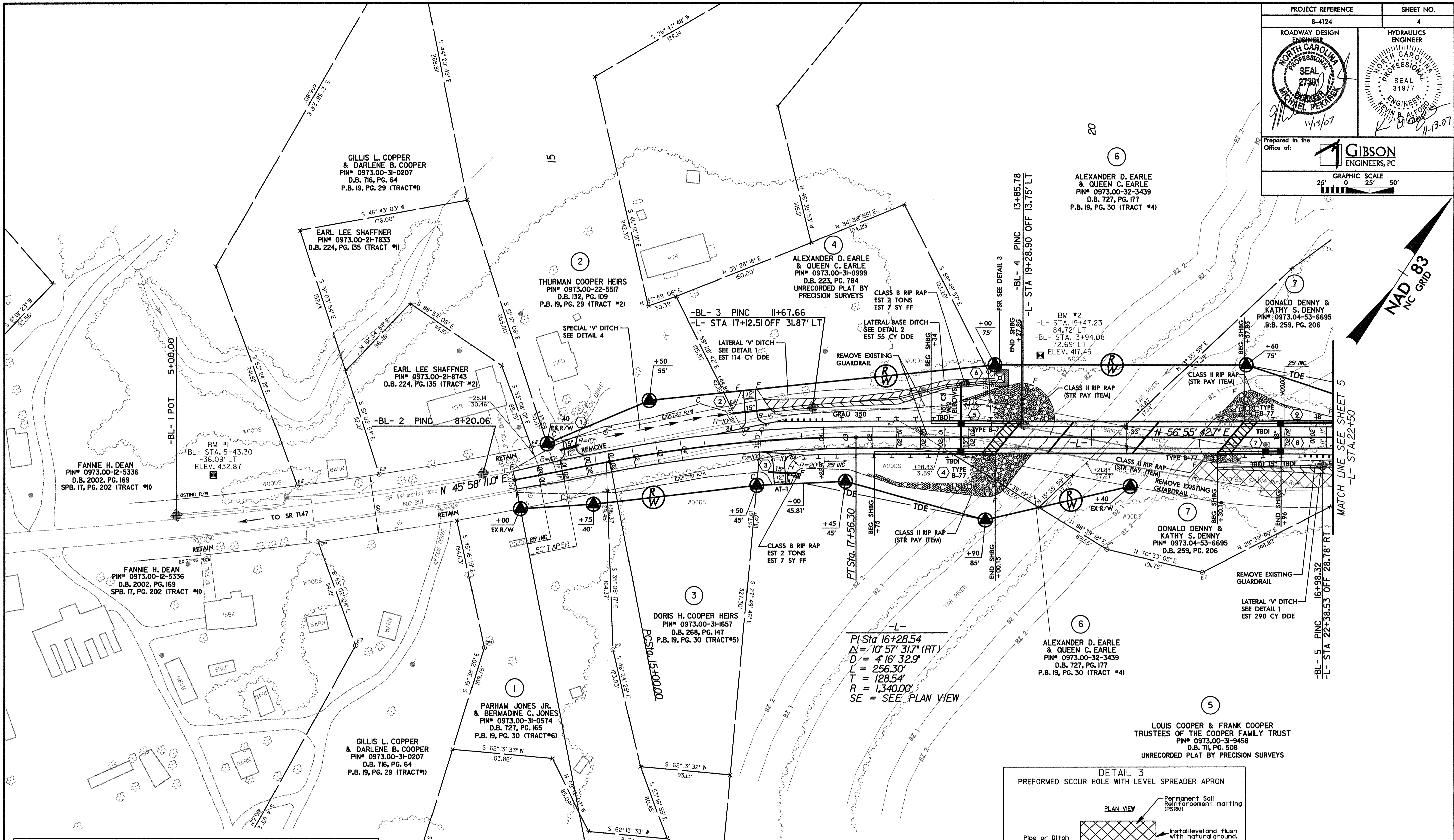




STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
**PARCEL INDEX SHEET**

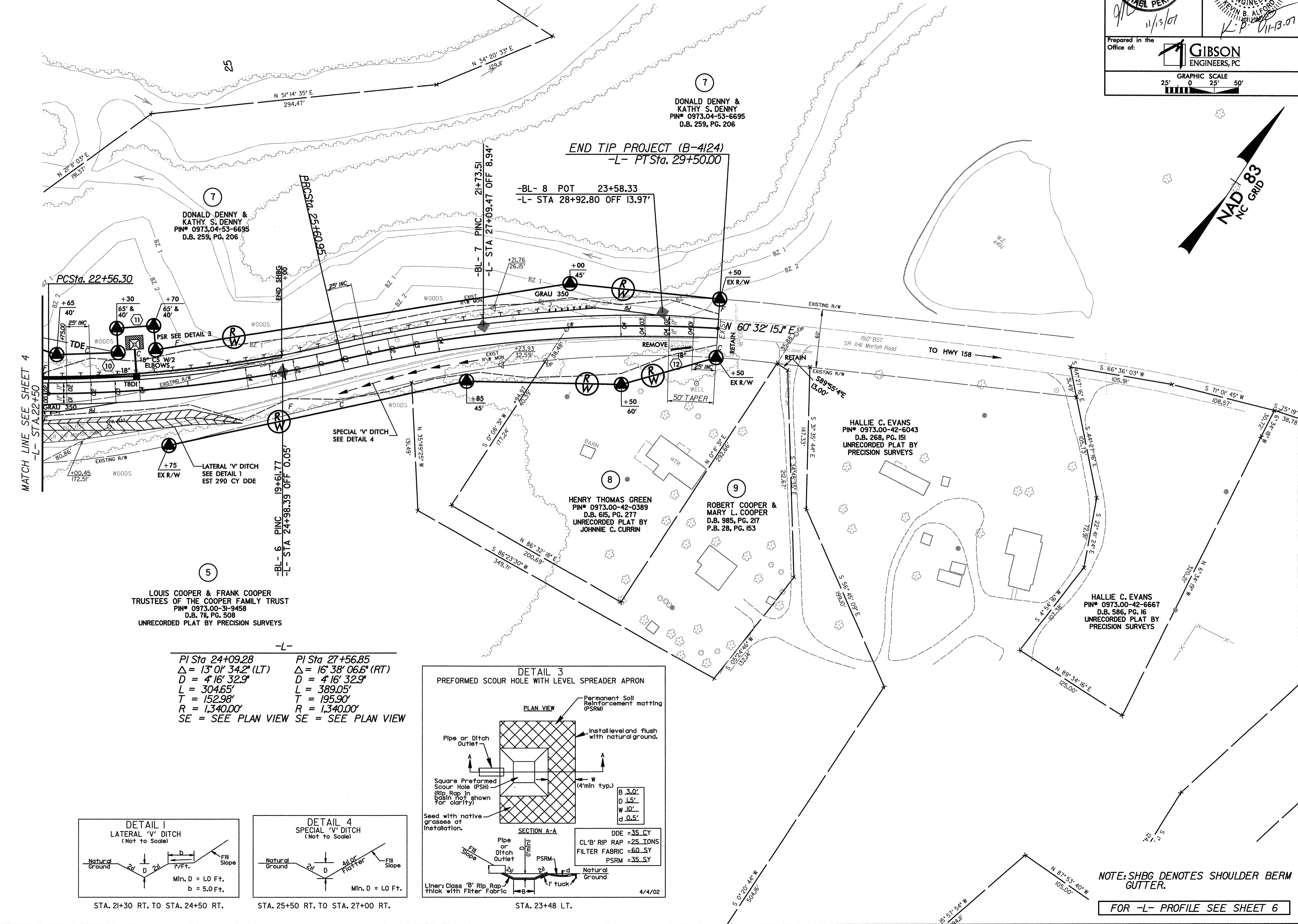
PROJ. REFERENCE NO.	SHEET NO.
B-4124	3-C

PARCEL No.	SHEET No.	PROPERTY OWNER NAME
1	4	Parham Jones Jr. and Bermadine C. Jones
2	4	Thurman Cooper Heirs
3	4	Doris H. Cooper Heirs
4	4	Alexander D. Earle and Queen C. Earle
5	4,5	Louis Cooper and Frank Cooper Trustees of the Cooper Family Trust
6	4	Alexander D. Earle and Queen C. Earle
7	4,5	Donald Denny and Kathy S. Denny
8	5	Henry Thomas Green
9	5	Robert Cooper & Mary L. Cooper



**NOTES:**  
TAPER SHOULDERS PARALLEL TO GUARDRAIL 3' OFFSET BETWEEN FACE OF GUARDRAIL AND SHOULDER POINT.  
SHBG DENOTES SHOULDER BERM GUTTER.  
FOR -L- PROFILE SEE SHEET 6  
FOR STRUCTURE PLANS SEE SHEET S-1 THRU S-35

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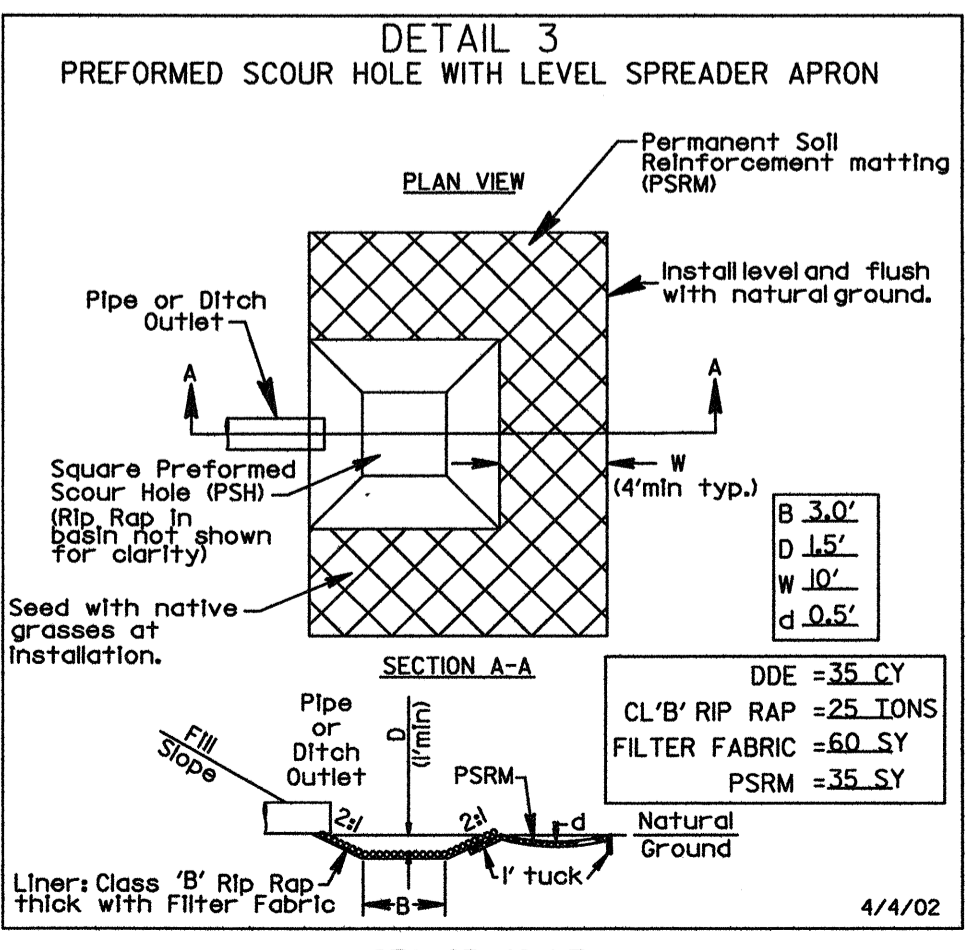
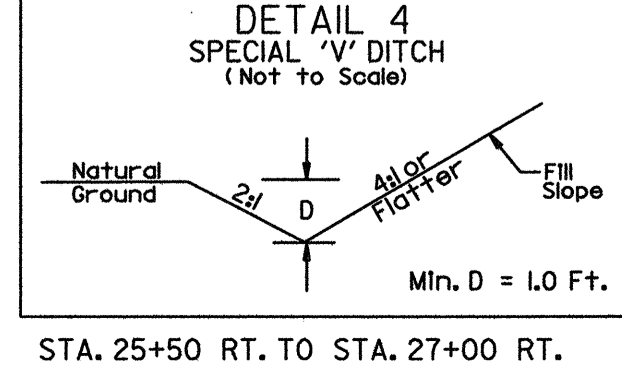
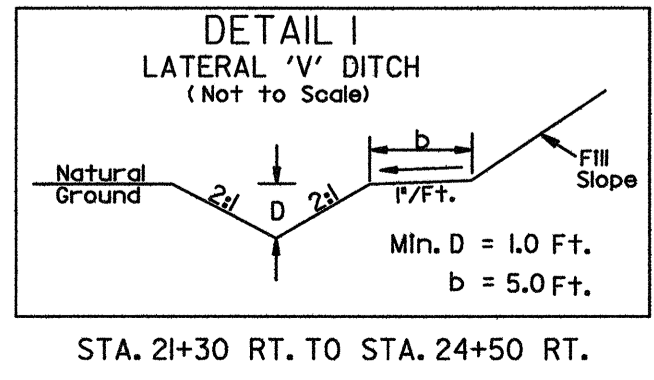


MATCH LINE SEE SHEET 4  
-L- STA 22+50

5  
LOUIS COOPER & FRANK COOPER  
TRUSTEES OF THE COOPER FAMILY TRUST  
PIN# 0973.00-31-9458  
D.B. 711, PG. 508  
UNRECORDED PLAT BY PRECISION SURVEYS

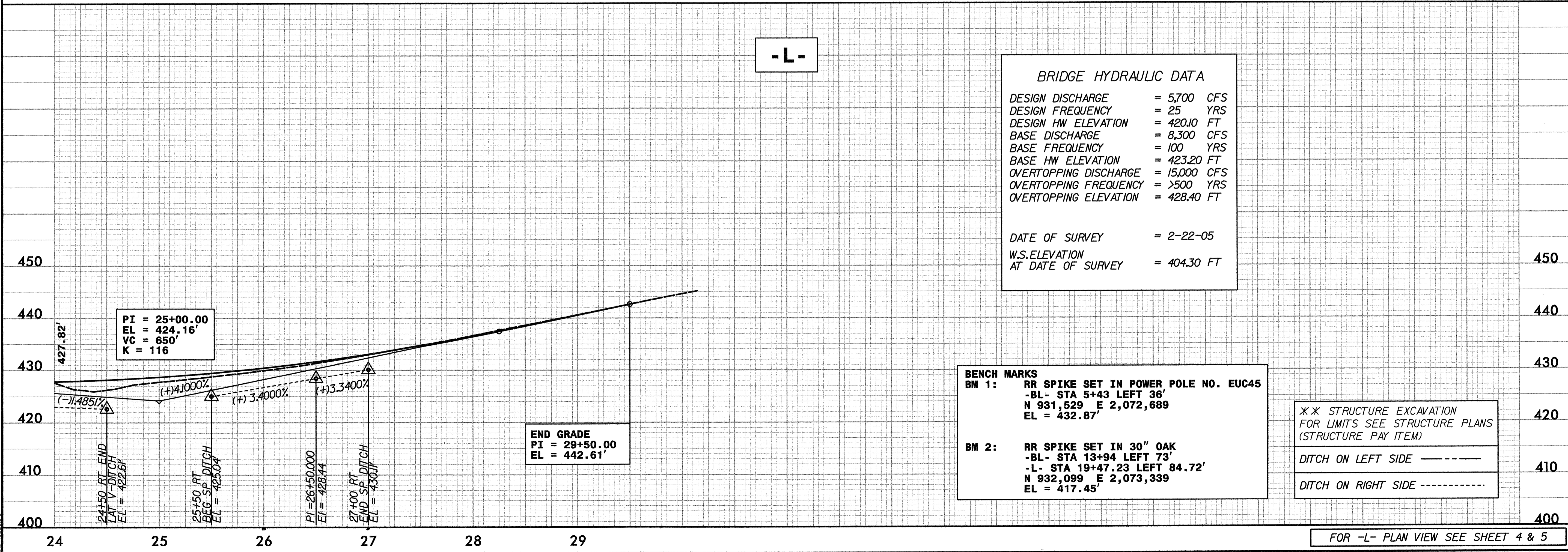
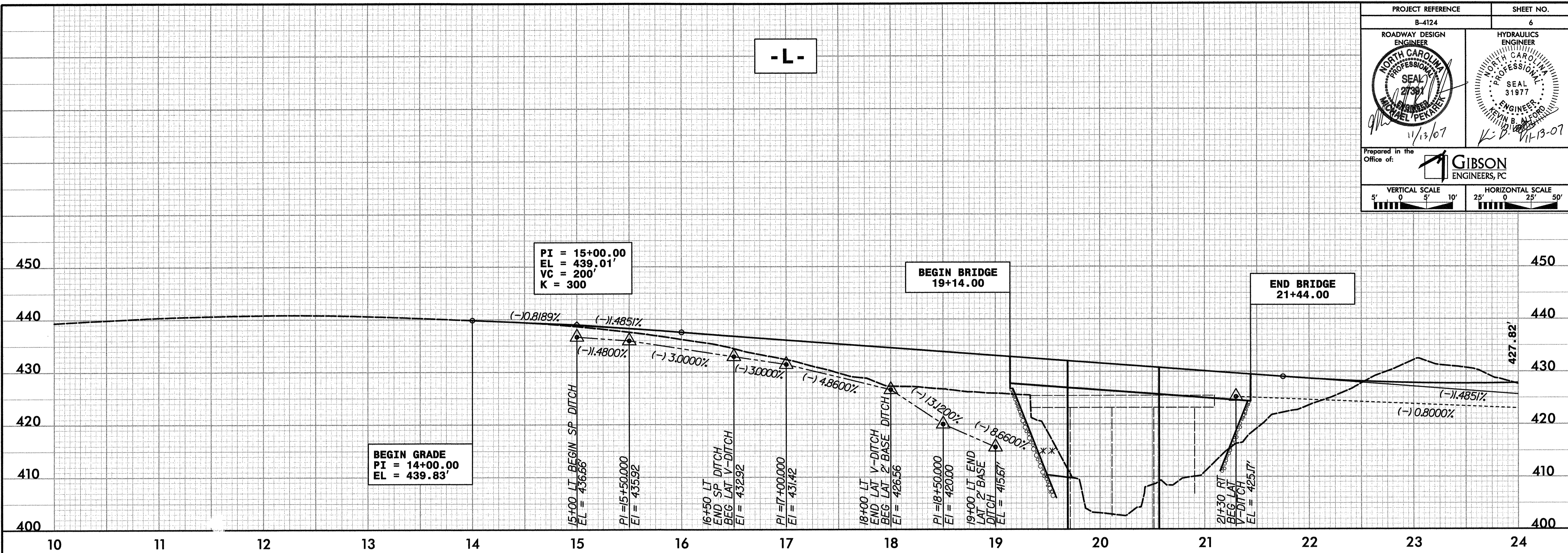
-L-  

PI Sta 24+09.28	PI Sta 27+56.85
$\Delta = 13^{\circ} 01' 34.2''$ (LT)	$\Delta = 16^{\circ} 38' 06.6''$ (RT)
D = 4' 16" 32.9"	D = 4' 16" 32.9"
L = 304.65'	L = 389.05'
T = 152.98'	T = 195.90'
R = 1,340.00'	R = 1,340.00'
SE = SEE PLAN VIEW	SE = SEE PLAN VIEW



NOTE: SHBG DENOTES SHOULDER BERM GUTTER.

FOR -L- PROFILE SEE SHEET 6



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