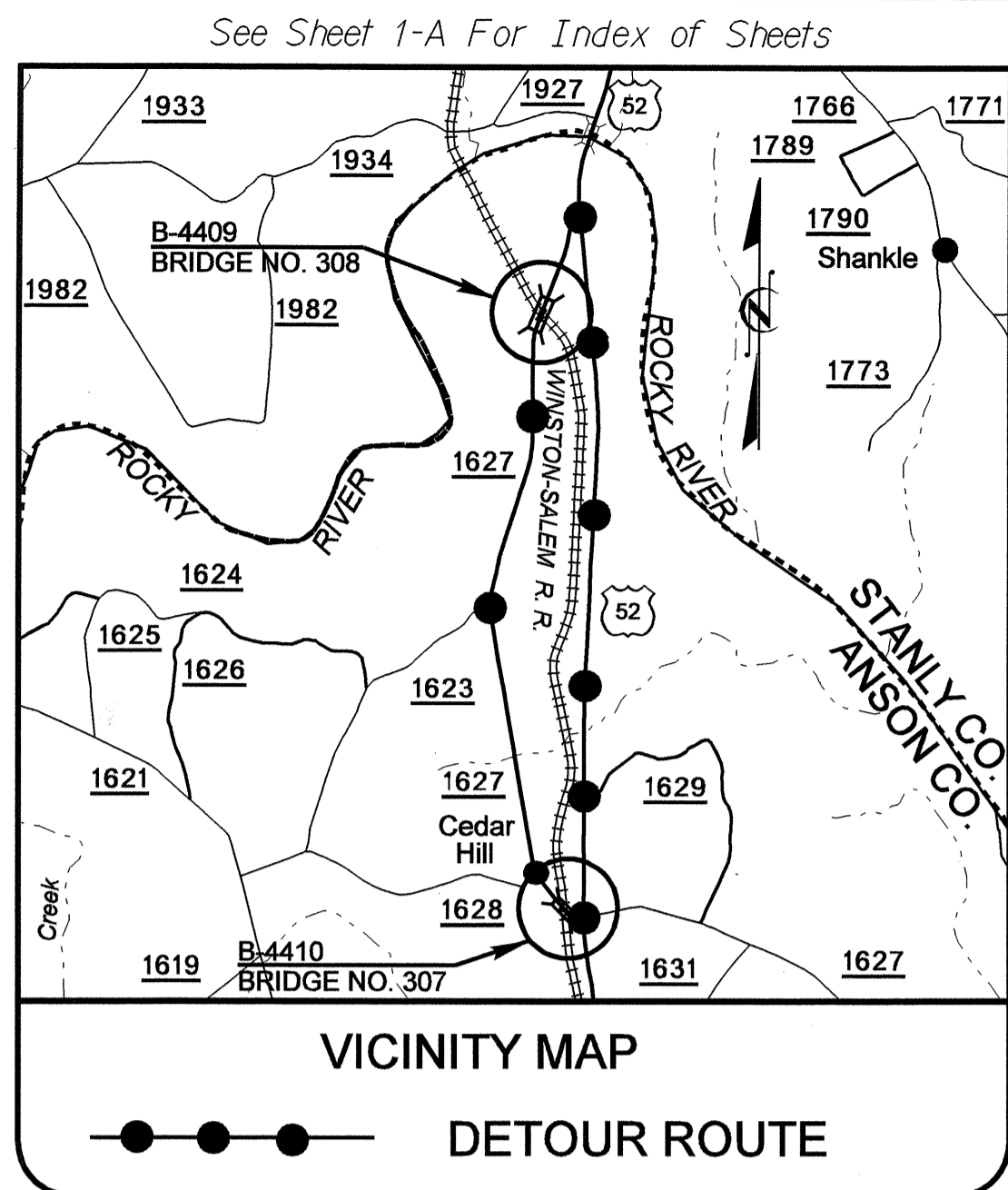


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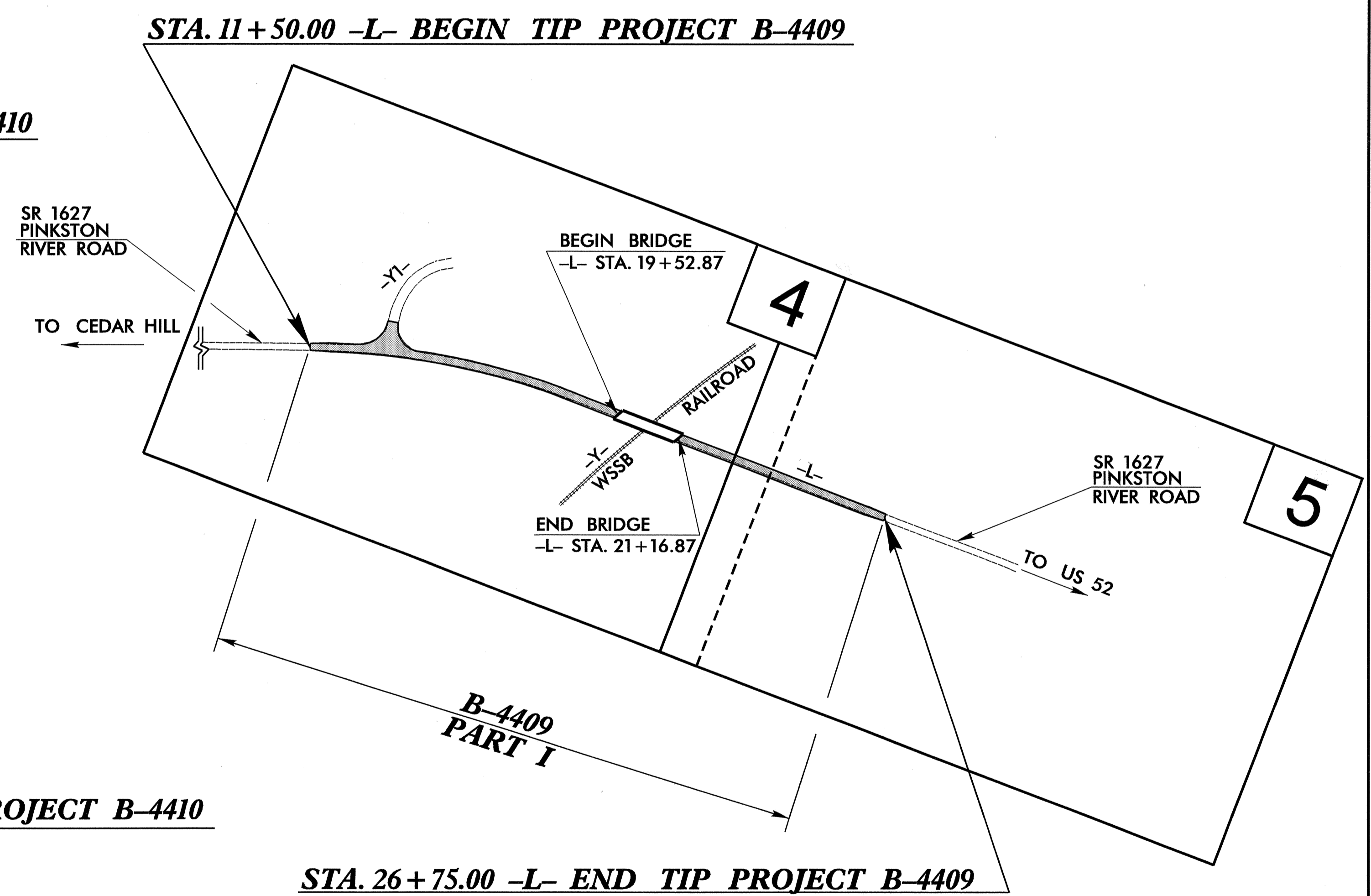
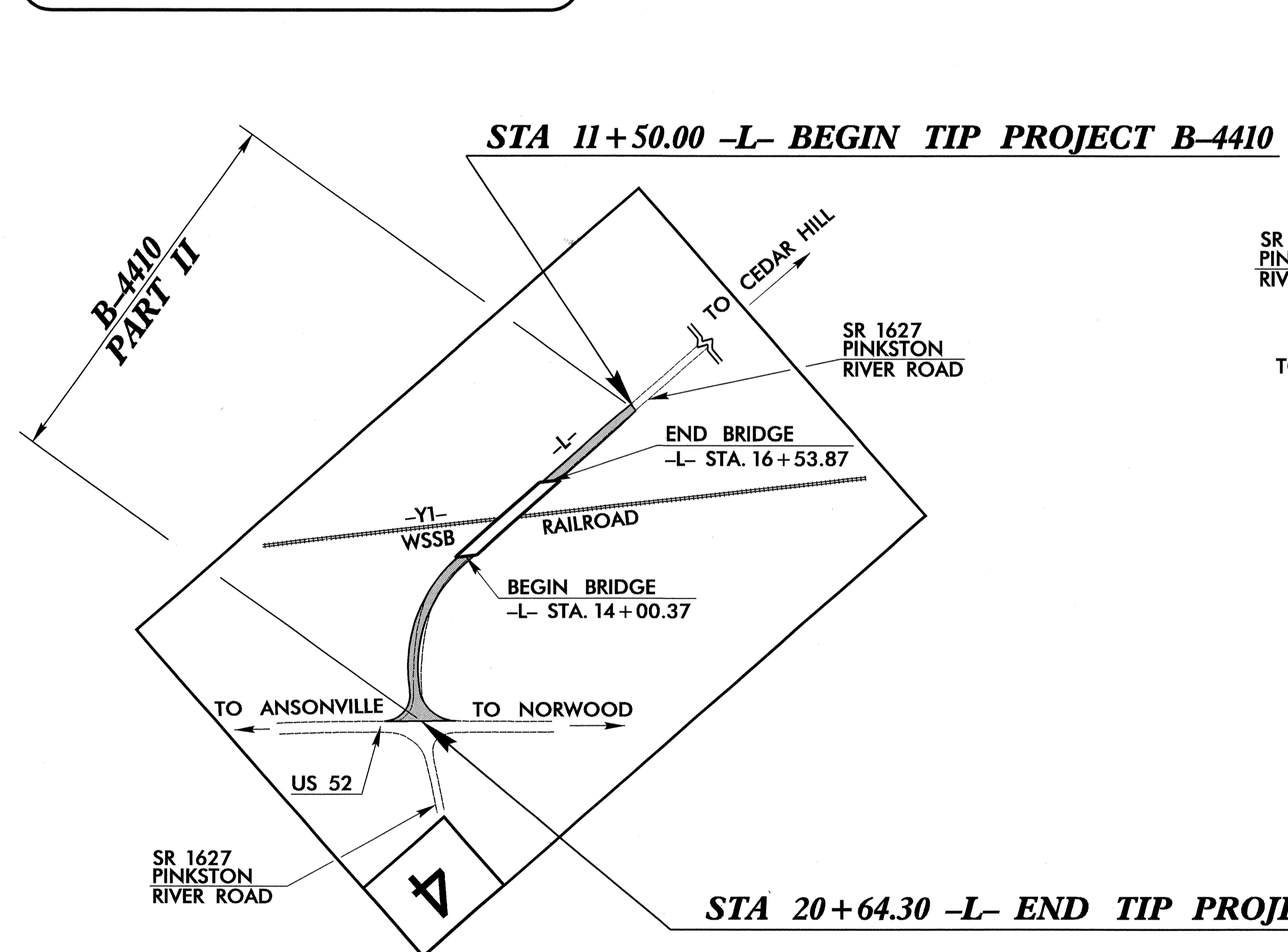
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ANSON COUNTY

**LOCATION: BRIDGE NO. 307 & 308 OVER THE WINSTON-SALEM
SOUTHBOUND RAILROAD ON SR 1627 (PINKSTON RIVER ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4409/B-4410	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33687.1.1	BRZ-1627(3)	B-4409 (PE)	
33687.3.1	BRZ-1627(3)	B-4409 (RW & UTIL)	
33688.1.1	BRZ-1627(4)	B-4410 (PE)	
33688.2.1	BRZ-1627(4)	B-4410 (RW & UTIL)	
33687.2.STI	STM-1627(9)	B-4409 (CONST)	
33688.3.STI	STM-1627(8)	B-4410 (CONST)	



PROJECT LENGTH	
LENGTH ROADWAY TIP PROJECTS B-4409 /B-4410	= 0.383 MILES
LENGTH STRUCTURE TIP PROJECTS B-4409 /B4410	= 0.079 MILES
TOTAL LENGTH TIP PROJECTS B-4409 /B-4410	= 0.462 MILES

Prepared In the Office of:
DIVISION OF HIGHWAYS
 1000 Birch Ridge Dr., Raleigh NC, 27610
 2006 STANDARD SPECIFICATIONS

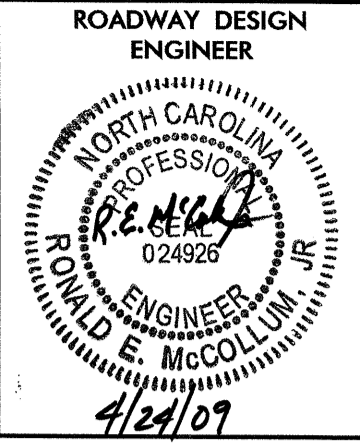
RIGHT OF WAY DATE: (B-4409) JULY 16, 2007
RIGHT OF WAY DATE: (B-4410) JULY 16, 2007
LETTING DATE: JULY 21, 2009

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

art millan P.E.
STATE HIGHWAY DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARD DRAWINGS



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

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET (B-4409/B-4410)
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
2	CONVENTIONAL SYMBOLS
3	SUMMARY OF QUANTITIES
PART I	
1	TITLE SHEET (B-4409)
1-C THRU 1-E	SURVEY CONTROL SHEETS
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DETAIL FOR ANCHORAGE FOR FRAMES
2-C	DETAIL FOR BRIDGE APPROACH FILLS SUB REGIONAL TIER
3-A THRU 3-B	LIST OF PIPES, SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL AND BREAKING OF ASPHALT PAVEMENT, SHOULDER BERM GUTTER SUMMARY, AND RIP RAP & DDE SUMMARY
3-C	PARCEL INDEX SHEET
4 THRU 5	PLAN SHEETS
6	PROFILE SHEET
TCP-1 THRU TCP-7	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS (B-4409)
EC-1 THRU EC-7	EROSION CONTROL PLANS
UO-1 THRU UO-3	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-7	CROSS-SECTIONS
S-1 THRU S-35	STRUCTURE PLANS
PART II	
1	TITLE SHEET (B-4410)
1-C THRU 1-E	SURVEY CONTROL SHEETS
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DETAIL FOR ANCHORAGE FOR FRAMES
2-C	DETAIL FOR BRIDGE APPROACH FILLS SUB REGIONAL TIER
3-A THRU 3-B	LIST OF PIPES, SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL AND BREAKING OF ASPHALT PAVEMENT, SHOULDER BERM GUTTER SUMMARY, AND RIP RAP & DDE SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-6	CROSS-SECTIONS
S-36 THRU S-70	STRUCTURE PLANS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-30-08

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 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 PEE DEE EMC, WIND STREAM,

TOWN OF ANSONVILLE

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

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

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
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.29	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	Drop Inlet 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

8/17/99

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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	□ ECM
Parcel/Sequence Number	⑩ 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	○ R/W
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite Marker	○ R/W ▽
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Permanent Easement with Iron Pin and Cap Marker	◇

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	○ WCR
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	○ S
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	-TUL-
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.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202154

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION	204400000-E	815	400	LF	6" PERFORATED SUBDRAIN PIPE	481000000-E	1205	16,072	LF	PAINT PAVEMENT MARKING LINES (4")
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING	205500000-E	815	12	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS	483500000-E	1205	96	LF	PAINT PAVEMENT MARKING LINES (24")
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (15+21.87)	206600000-N	815	2	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET	490000000-N	1251	40	EA	PERMANENT RAISED PAVEMENT MARKERS
003000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ***** (20+31.37)	207700000-E	815	12	LF	6" OUTLET PIPE (SUBDRAINS)	523520000-E	1510	100	LF	2" WATER LINE
003600000-E	225	200	CY	UNDERCUT EXCAVATION	228600000-N	840	6	EA	MASONRY DRAINAGE STRUCTURES	560600000-E	1515	1	EA	2" BLOW OFF
004300000-N	226	Lump Sum		GRADING	230800000-E	840	3.1	LF	MASONRY DRAINAGE STRUCTURES	582540000-E	1540	100	LF	6" ENCASMENT PIPE
005000000-E	226	2	ACR	SUPPLEMENTARY CLEARING & GRUB-BING	236700000-N	840	6	EA	FRAME WITH TWO GRATES, STD 840.29	687140000-E	1550	50	LF	TRENCHLESS INSTALLATION OF 6" IN 90°
013400000-E	240	687	CY	DRAINAGE DITCH EXCAVATION	255600000-E	846	770	LF	SHOULDER BERM GUTTER	687140000-E	1550	50	LF	TRENCHLESS INSTALLATION OF 6" IN 90°
019500000-E	265	500	CY	SELECT GRANULAR MATERIAL	303000000-E	862	1,437.5	LF	STEEL BM GUARDRAIL	600000000-E	1605	3,980	LF	TEMPORARY SILT FENCE
019600000-E	270	500	SY	FABRIC FOR SOIL STABILIZATION	315000000-N	862	10	EA	ADDITIONAL GUARDRAIL POSTS	600600000-E	1610	360	TON	STONE FOR EROSION CONTROL, CLASS A
031800000-E	300	37	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	327000000-N	SP	8	EA	GUARDRAIL ANCHOR UNITS, TYPE 350	600900000-E	1610	515	TON	STONE FOR EROSION CONTROL, CLASS B
034300000-E	310	40	LF	15" SIDE DRAIN PIPE	331700000-N	862	8	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77	601200000-E	1610	245	TON	SEDIMENT CONTROL STONE
070800000-E	310	176	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK	362800000-E	876	284	TON	RIP RAP, CLASS I	601500000-E	1615	8.5	ACR	TEMPORARY MULCHING
080600000-E	310	8	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK	364900000-E	876	8	TON	RIP RAP, CLASS B	601800000-E	1620	250	LB	SEED FOR TEMPORARY SEEDING
099500000-E	340	57	LF	PIPE REMOVAL	365600000-E	876	1,088	SY	FILTER FABRIC FOR DRAINAGE	602100000-E	1620	3	TON	FERTILIZER FOR TEMPORARY SEEDING
122000000-E	545	500	TON	INCIDENTAL STONE BASE	407200000-E	903	81	LF	SUPPORTS, 3-LB STEEL U-CHANNEL	602400000-E	1622	865	LF	TEMPORARY SLOPE DRAINS
129700000-E	607	75	SY	MILLING ASPHALT PAVEMENT, **** DEPTH (1-1/2")	410200000-N	904	9	EA	SIGN ERECTION, TYPE E	602700000-N	1622	7	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
148900000-E	610	1,320	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B	415500000-N	907	11	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	603000000-E	1630	1,090	CY	SILT EXCAVATION
152500000-E	610	940	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A	440000000-E	1110	428	SF	WORK ZONE SIGNS (STATIONARY)	603600000-E	1631	5,150	SY	MATting FOR EROSION CONTROL
156000000-E	620	119	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	440500000-E	1110	208	SF	WORK ZONE SIGNS (PORTABLE)	603700000-E	SP	35	SY	COIR FIBER MAT
169300000-E	654	150	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	441000000-E	1110	219	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)	604200000-E	1632	240	LF	1/4" HARDWARE CLOTH
202200000-E	815	90	CY	SUBDRAIN EXCAVATION	443000000-N	1130	40	EA	DRUMS	607103000-E	SP	600	LF	COIR FIBER BAFFLES
203300000-E	815	68	CY	SUBDRAIN FINE AGGREGATE	444500000-E	1145	128	LF	BARRICADES (TYPE III)	607105000-E	SP	4	EA	*** SKIMMER (1-1/2")
					445500000-N	1150	16	MD	FLAGGER	608400000-E	1660	10	ACR	SEEDING & MULCHING
					477000000-E	1205	1,668	LF	COLD APPLIED PLASTIC PAVEMENT MARKING LINES, TYPE ** (4") (I)	608700000-E	1660	4.5	ACR	MOWING
										609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
										609300000-E	1661	0.5	TON	FERTILIZER FOR REPAIR SEEDING
										609600000-E	1662	175	LB	SEED FOR SUPPLEMENTAL SEEDING
										610800000-E	1665	4.75	TON	FERTILIZER TOPDRESSING
										611400000-N	SP	10	HR	SPECIALIZED HAND MOWING
										611700000-N	SP	24	EA	RESPONSE FOR EROSION CONTROL

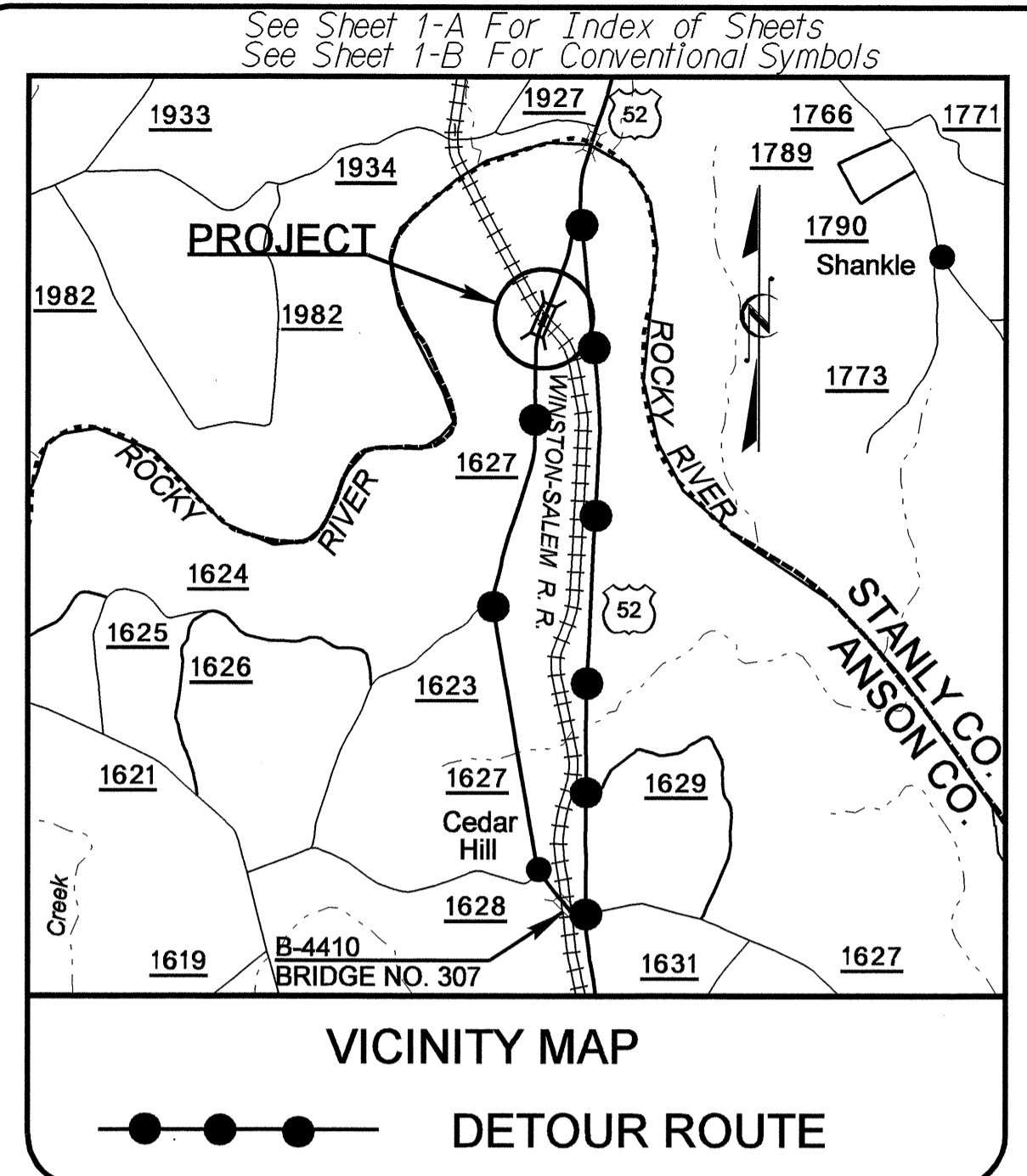
***** BEGIN SCHEDULE AA *****				
(3 ALTERNATES) *****				
036600000-E	310	124	LF	15" RC PIPE CULVERTS, CLASS III
AA1				
*** OR ***				
036600000-E	310	68	LF	15" RC PIPE CULVERTS, CLASS III
AA2				
053600000-E	SP	56	LF	**** HDPE PIPE CULVERTS (15")
AA2				
*** OR ***				
036600000-E	310	68	LF	15" RC PIPE CULVERTS, CLASS III
AA3				
054000000-E	SP	56	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (15", 0.064")
AA3				
***** END SCHEDULE AA *****				

5/28/09

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09/08/09

TIP PROJECT: B-4409



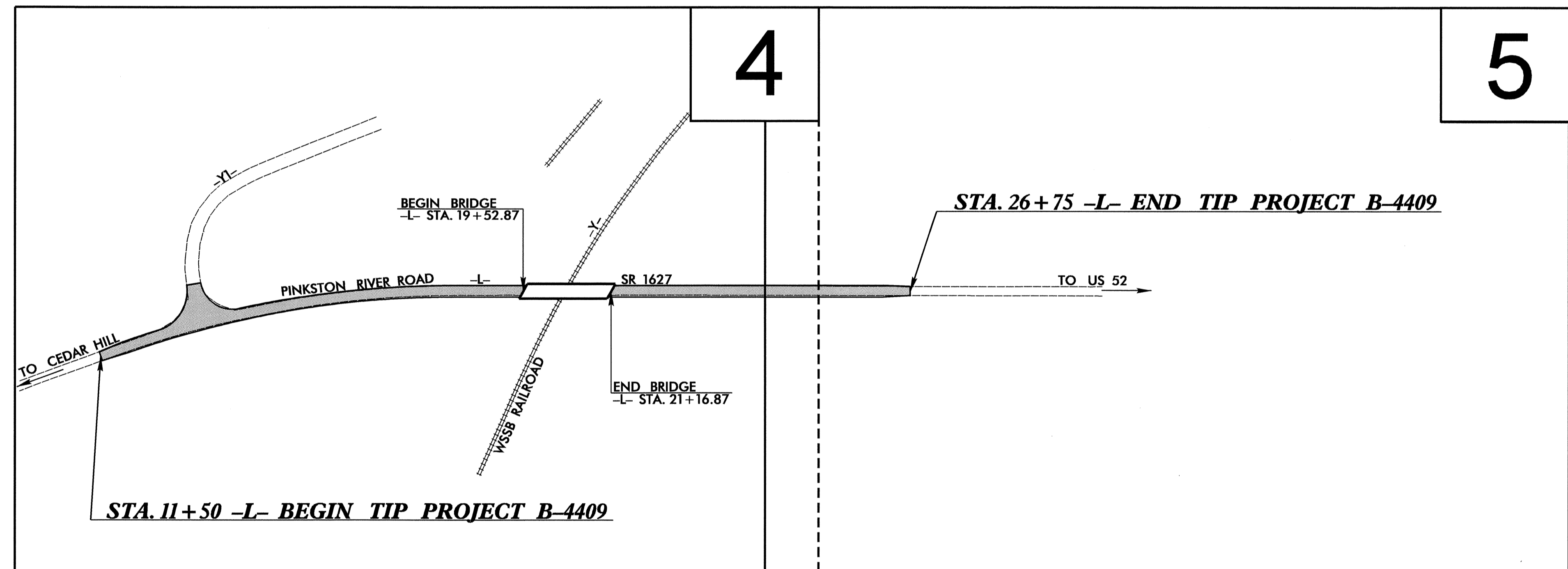
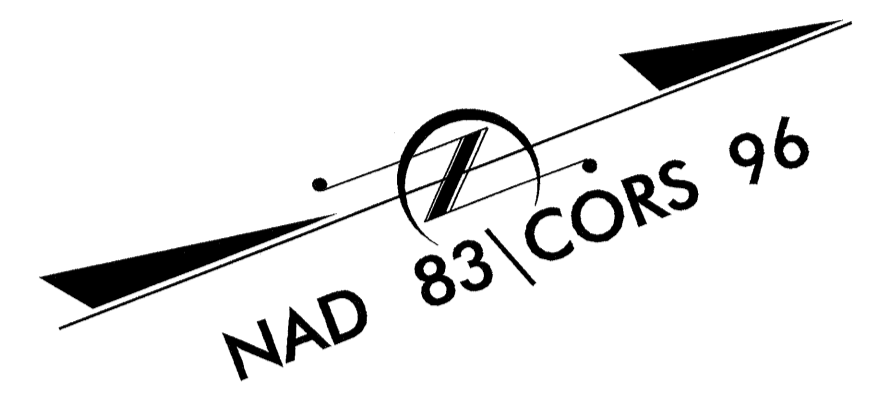
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ANSON COUNTY

LOCATION: BRIDGE NO. 308 OVER THE WINSTON-SALEM SOUTH-BOUND RAILROAD ON SR 1627 (PINKSTON RIVER ROAD)

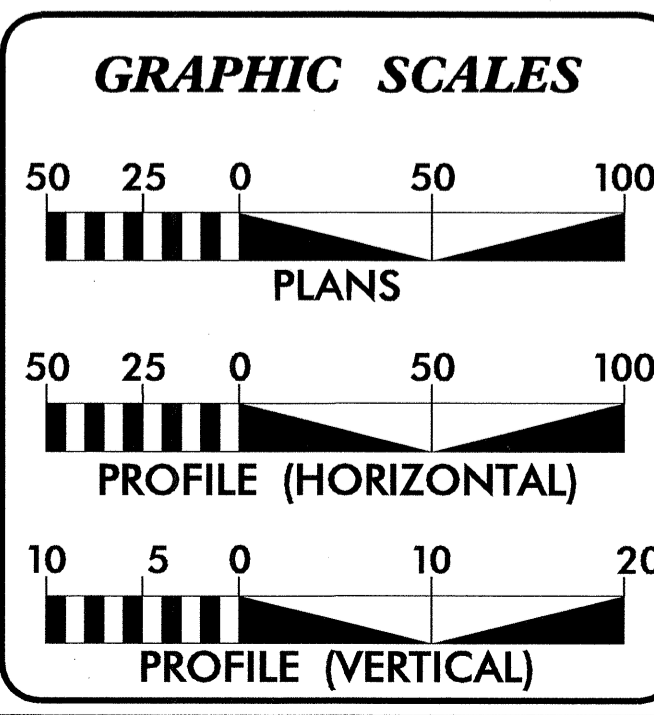
TYPE OF WORK: GRADING, PAVING, DRAINAGE, AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4409	1	
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
33687.1.1	BRZ-1627(3)	PE	
33687.3.1	BRZ-1627(3)	RW & UTIL	
33687.2.STI	STM-1627(9)	CONST	



PART I

CONTRACT:



DESIGN DATA

ADT 2009 =	567
ADT 2029 =	789
DHV =	10 %
D =	60 %
T =	4 % *
V =	60 MPH
* TTST 2	DUAL 2
FUNC. CLASS =	RURAL LOCAL

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4409	=	0.258 MILES
LENGTH STRUCTURE TIP PROJECT B-4409	=	0.031 MILES
TOTAL LENGTH TIP PROJECT B-4409	=	0.289 MILES

Prepared In the Office of:

DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 16, 2007	GARY LOVERING, P.E. PROJECT ENGINEER
LETTING DATE: JULY 21, 2009	RON McCOLLUM, P.E. PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

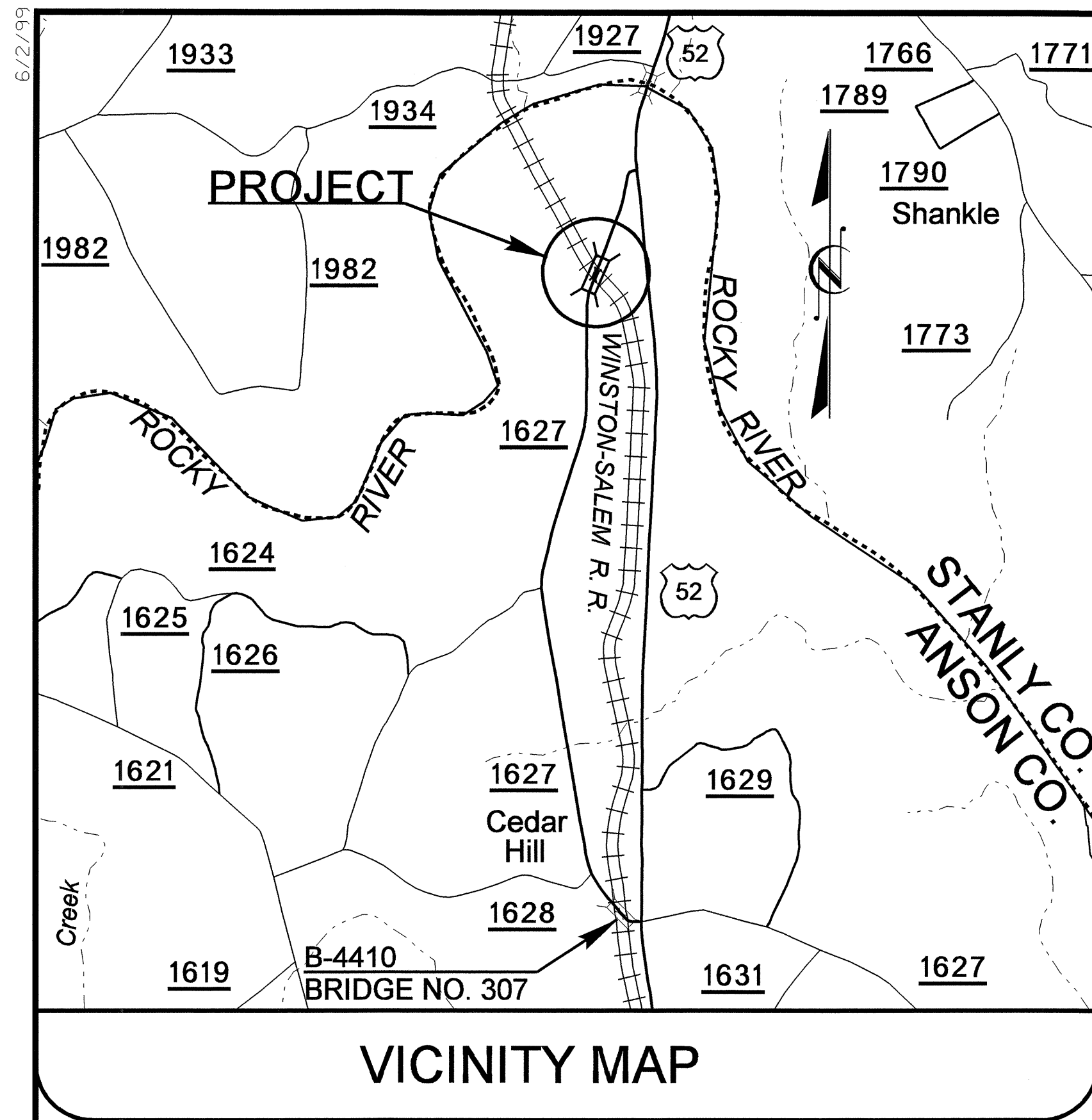
ROADWAY DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

at miller P.E.
STATE HIGHWAY DESIGN ENGINEER

22-APR-2009 14:48
C:\p06\dwg\proj\01\B-4409_rdy_tsh.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

SURVEY CONTROL SHEET B-4409



VICINITY MAP

NOTES:

1. THE SITE CALIBRATION SHOWN IS BASED UPON A NETWORK TIED TO COORDINATES OBTAINED FROM THE NGS ONLINE POSITIONING SERVICE (OPUS) (NAD83-CORS96). THIS CALIBRATION WILL ALLOW THE END USER TO WORK WITHIN THE SAME COORDINATE SYSTEM WHEN USING RTK (REAL TIME KINEMATIC) GPS AND A LOCAL BASE STATION. IF ANOTHER SYSTEM SUCH AS VRS (VIRTUAL REFERENCE STATION) IS USED, ADDITIONAL FIELD TIES MAY BE NEEDED TO REDUCE POSSIBLE ERRORS, OR BIASES.

2. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTP://WWW.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project/)

THE FILES TO BE FOUND ARE AS FOLLOWS:

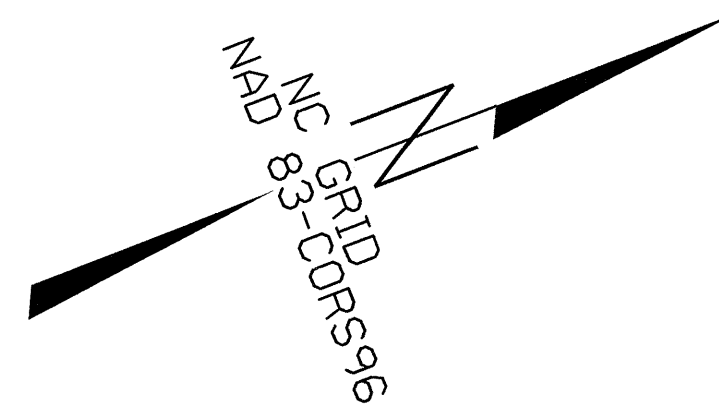
- B4409_LS_GPSCALIB_061121.HTML
- B4409_LS_WGS84_061121.TXT
- B4409_LS_LOCAL_061121.TXT
- B4409_LS_CONTROL_070219.TXT

THE WGS84 AND LOCAL FILES ARE COMMA DELIMITED AND CAN BE USED TO REPRODUCE THE SITE CALIBRATION FOR THE END USER'S GPS EQUIPMENT. 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.

SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.



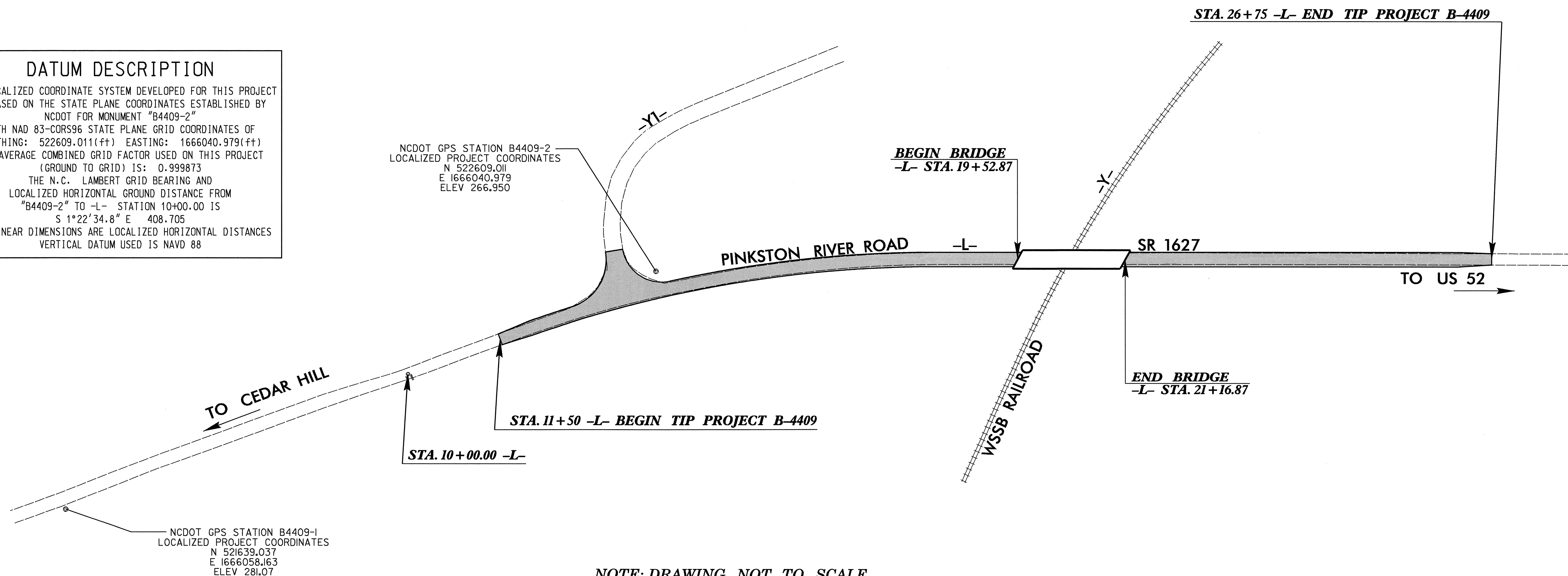
DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4409-2"

WITH NAD 83-CORS96 STATE PLANE GRID COORDINATES OF
 NORTHING: 522609.011(±) EASTING: 1666040.979(±)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999873

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4409-2" TO -L- STATION 10+00.00 IS
 S 1°22'34.8" E 408.705

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



NOTE: DRAWING NOT TO SCALE

SURVEY CONTROL SHEET B-4409

PROJECT REFERENCE NO.	SHEET NO.
B-4409	1-D
Location and Surveys	

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		B4409-1	521639.0370	1666050.1630	281.07	OUTSIDE PROJECT LIMITS	
3		BL-3	522078.3560	1666033.5920	274.09	OUTSIDE PROJECT LIMITS	
2		B4409-2	522609.0110	1666040.9790	266.95	14+05.21	30.21 LT
4		BL-4	523147.8210	1666210.3810	272.11	19+65.71	17.60 LT
5		BL-5	523210.8000	1666231.3220	245.95	20+32.02	20.65 LT
6		BL-6	523267.5700	1666256.7580	272.24	20+94.13	17.27 LT
7		BL-7	523637.2510	1666399.4400	266.15	24+90.38	16.69 LT
8		BL-8	524143.7010	1666597.1410	264.71	30+34.05	13.81 LT

BY	POINT	DESC.	NORTH	EAST	ELEVATION	Y STATION	OFFSET
9		BY-9	523483.0350	1666044.0740	244.11	10+16.13	9.83 RT
E05		BL-5	523210.8000	1666231.3220	245.95	13+45.28	9.54 RT
10		BY-10	522939.4800	1666487.0280	245.25	17+17.31	9.96 RT

```

*****
BM1      ELEVATION = 271.81
N 522314      E 1665992
L STATION 11+13 60 LEFT
RR SPIKE IN POWER POLE
*****
BM2      ELEVATION = 271.77
N 523281      E 1666317
L STATION 21+28 34 RIGHT
RR SPIKE IN 20 IN OAK/RIVER BIRCH
*****
BM3      ELEVATION = 263.10
N 523980      E 1666603
L STATION 28+83 51 RIGHT
RR SPIKE IN 24 IN PINE
*****
    
```

NOTES:

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THE FILES TO BE FOUND ARE AS FOLLOWS:

- B4409_LS_GPSCALIB_061121.HTML
- B4409_LS_WGS84_061121.TXT
- B4409_LS_LOCAL_061121.TXT
- B4409_LS_CONTROL_070219.TXT

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⊙ 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.
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

DATUM DESCRIPTION

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 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "B4409-2" TO -L- STATION 10+00.00 IS
 S 1°22'34.8" E 408.705
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

SURVEY CONTROL SHEET B-4409

PROJECT REFERENCE NO. B-4409	SHEET NO. 1-E
Location and Surveys	

GPS CALIBRATION REPORT
PROJECT : B4409 CALIB

TIP NUMBER B-4409
 USER NAME TBLowDER DATE & TIME 11:25:36 AM 11/21/2006
 COORDINATE SYSTEM US STATE PLANE 1983 ZONE NORTH CAROLINA 3200
 HORIZONTAL DATUM NAD 1983 (CONUS)
 VERTICAL DATUM NAVD-88 GEOID MODEL GEOID03 (CONUS) NC SUB GRID
 COORDINATE UNITS US SURVEY FEET
 DISTANCE UNITS US SURVEY FEET
 HEIGHT UNITS US SURVEY FEET

LOCAL SITE INFORMATION
 LOCALIZED AROUND B4409-2
 LATITUDE N/A
 LONGITUDE N/A
 SITE SCALE FACTOR N/A
 HEIGHT N/A

DATUM TRANSFORMATION PARAMETERS

METHODTHREE PARAMETER
 TRANSLATION ALONG X AXIS 14.061SFT
 TRANSLATION ALONG Y AXIS -80.704SFT
 TRANSLATION ALONG Z AXIS 57.669SFT

UPDATED DEFAULT PROJECTION (TRANSVERSE MERCATOR) DEFINITION

UPDATED DEFAULT PROJECTION NOT REQUESTED

HORIZONTAL ADJUSTMENT PARAMETERS

NORTHING COORDINATE OF ROTATION CENTER 522608.947SFT
 EASTING COORDINATE OF ROTATION CENTER 1666040.979SFT
 ROTATION ABOUT THE CENTER POINT 0.00'00"
 TRANSLATION NORTH 0.064SFT
 TRANSLATION EAST 0.000SFT
 SCALE FACTOR 1.00013302

VERTICAL ADJUSTMENT PARAMETERS

NORTHING COORDINATE OF ORIGIN POINT 522609.011SFT
 EASTING COORDINATE OF ORIGIN POINT 1666040.979SFT
 VERTICAL SEPARATION AT ORIGIN 0.172SFT
 SLOPE NORTH 16.444PPM
 SLOPE EAST -0.291PPM

GEOID MODEL DEFINITION

GEOID03 (CONUS) NC SUB GRID

RESIDUAL DIFFERENCES BETWEEN GPS (WGS84) AND LOCAL COORDINATES

SUMMARY

	MAXIMUM ERROR	ROOT MEAN SQUARE ERROR	POINT
HORIZONTAL	0.000SFT	0.000	B4409-2 GPS
VERTICAL	0.000SFT	0.000	B4409-2 GPS
THREE-DIMENSIONAL	0.000SFT	0.000	B4409-2 GPS

POINT RESIDUALS

WGS84 COORDINATES	CALCULATED POINT FOR DISPLAY ONLY	LOCAL COORDINATES
POINT B4409-2 GPS LATITUDE 35°10'50.87950"N LONGITUDE 80°07'03.64531"W HEIGHT 166.762SFT	NORTHING 522609.011SFT EASTING 1666040.979SFT ELEVATION 266.950SFT HORZ ERROR 0.000SFT VERT ERROR 0.000SFT 3D ERROR 0.000SFT	POINT B4409-2 NORTHING 522609.011SFT EASTING 1666040.979SFT ELEVATION 266.950SFT UTILIZED HORZ AND VERT QUALITY SURVEY QUALITY
POINT B4409-1 GPS LATITUDE 35°10'41.28858"N LONGITUDE 80°07'03.30675"W HEIGHT 180.892SFT	NORTHING 521639.037SFT EASTING 1666058.163SFT ELEVATION 281.070SFT HORZ ERROR 0.000SFT VERT ERROR 0.000SFT 3D ERROR 0.000SFT	POINT B4409-1 NORTHING 521639.037SFT EASTING 1666058.163SFT ELEVATION 281.070SFT UTILIZED HORZ AND VERT QUALITY SURVEY QUALITY

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DATUM DESCRIPTION

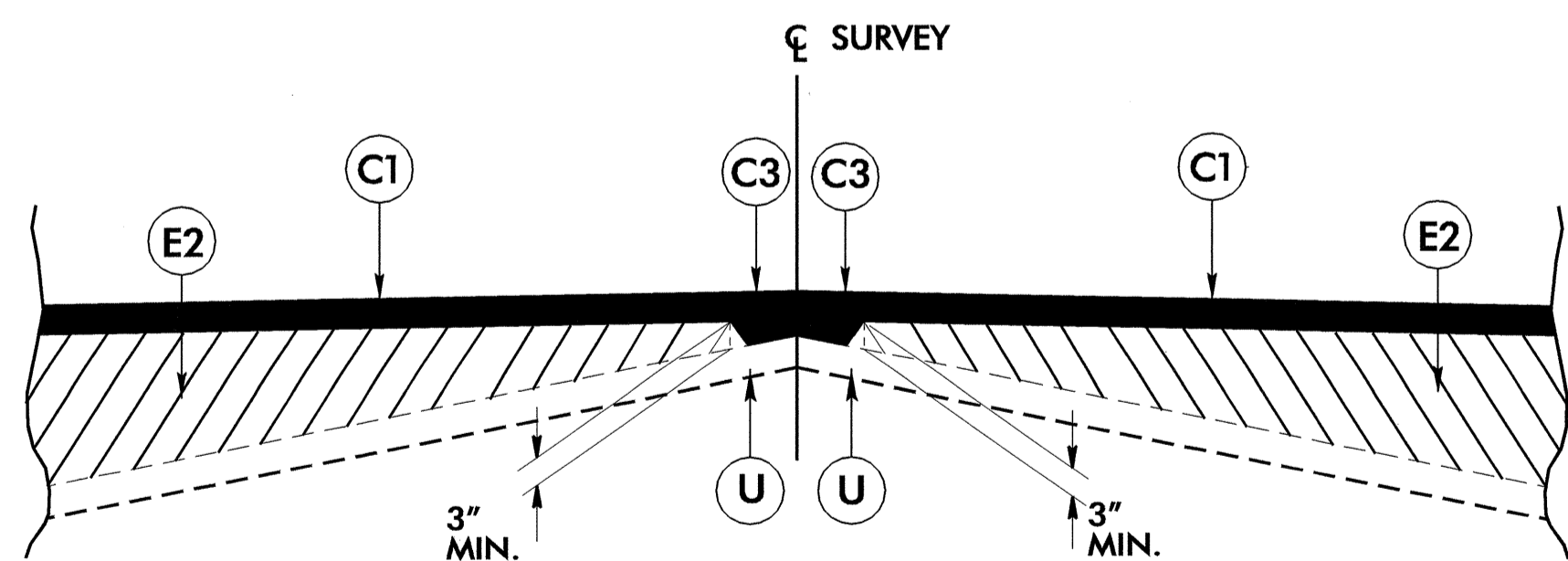
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4409-2"
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 VERTICAL DATUM USED IS NAVD 88

6/2/09

**PAVEMENT SCHEDULE
FINAL DESIGN**

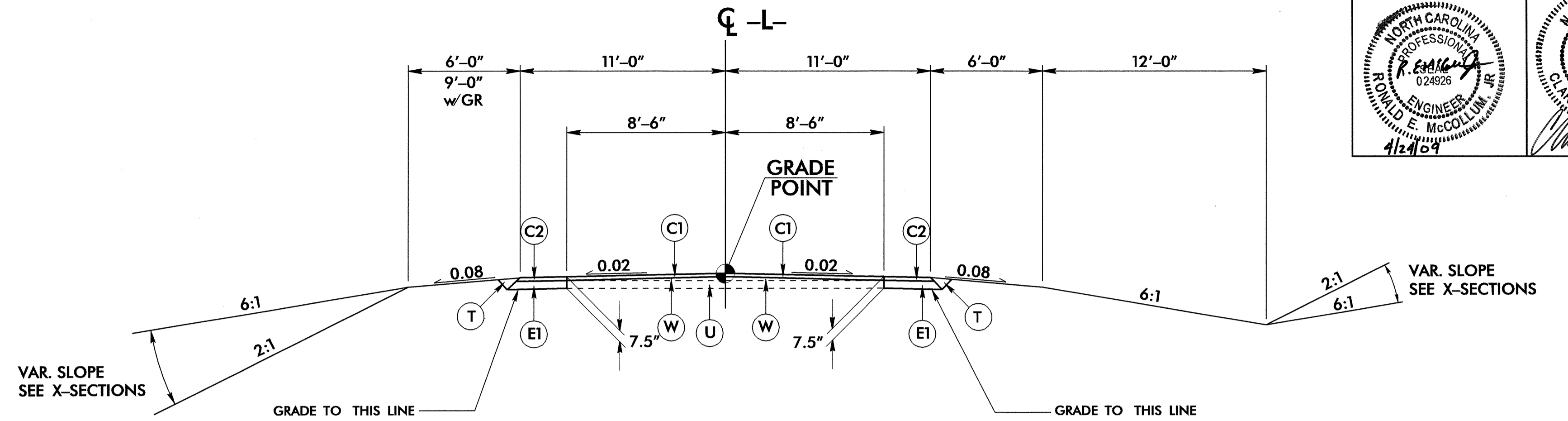
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 4½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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



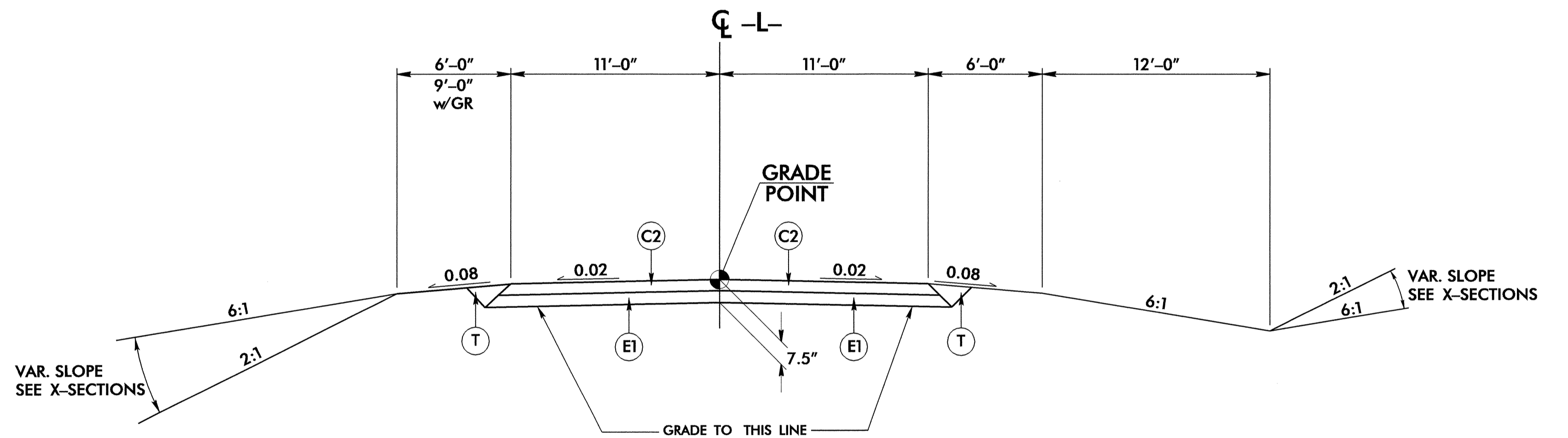
Wedging Detail

PROJECT REFERENCE NO. B-4409	SHEET NO. 2
ROADWAY DESIGN ENGINEER R. COLLIER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22896 4/24/09	PAVEMENT DESIGN ENGINEER CLARK S. MORRISON NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22896 4/24/09



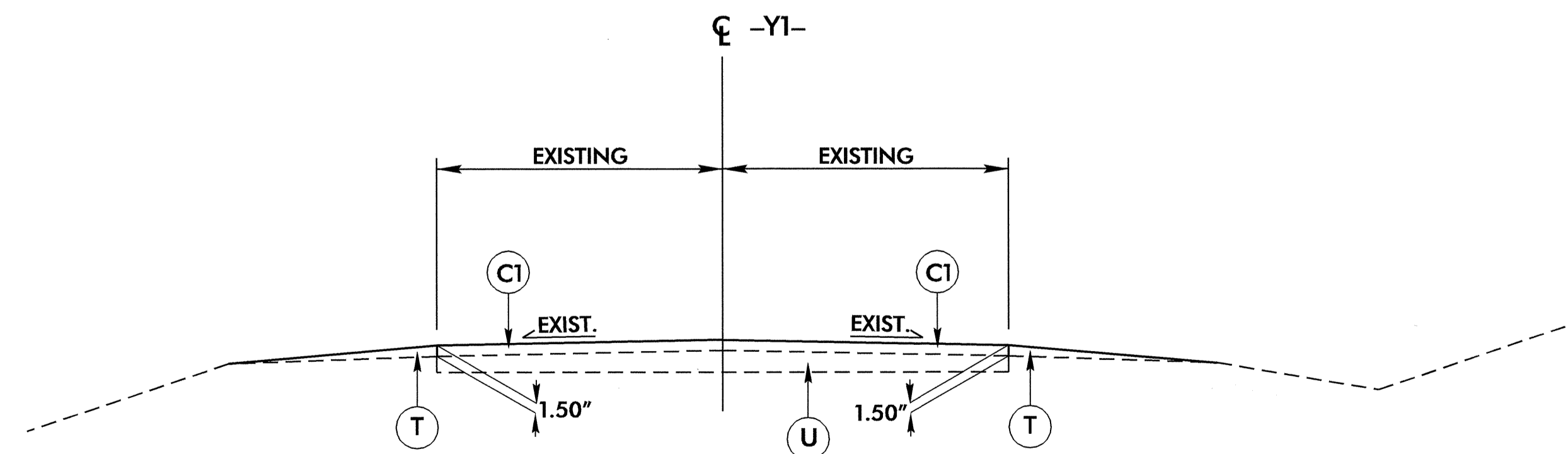
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1
-L- STA. 11+50 TO -L- STA. 13+70
-L- STA. 26+00 TO -L- STA. 26+75



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2
-L- STA. 13+70 TO -L- STA. 19+52.87 (BEGIN BRIDGE)
-L- STA. 21+16.87 (END BRIDGE) TO -L- STA. 26+00




TYPICAL SECTION NO. 3

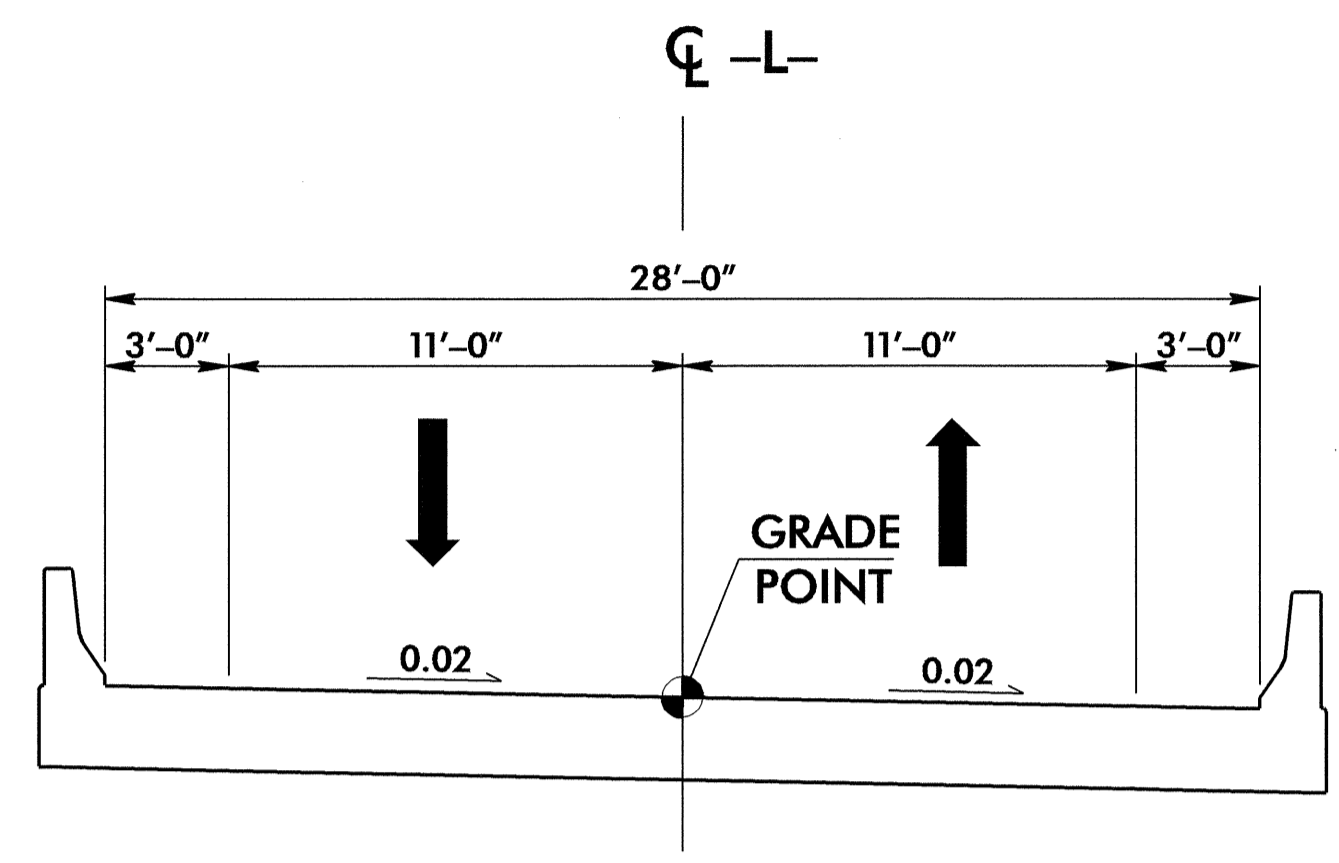
USE TYPICAL SECTION NO. 3
-Y1- STA. 15+08.19 TO -Y1- STA. 15+73.25

07-APR-2009 14:07
C:\APR-2009\1407_64409_r.dwg - fup.dgn
\$\$\$\$\$DATE\$\$\$\$\$

6/2/99

PROJECT REFERENCE NO. B-4409	SHEET NO. 2-A
ROADWAY DESIGN ENGINEER	
	
4/24/09	

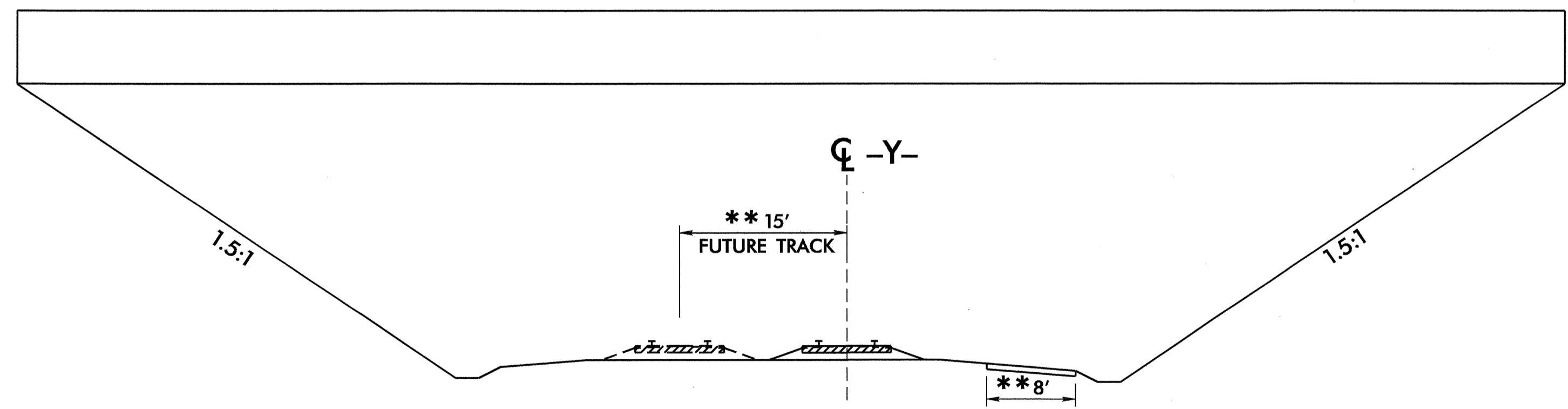
MINIMUM VERTICAL CLEARANCE = 23'-6"



TYPICAL SECTION ON STRUCTURE

USE TYPICAL SECTION ON STRUCTURE

-L- STA. 19+52.87 TO -L- STA. 21+16.87



TYPICAL SECTION UNDER STRUCTURE

** 8' EQUIPMENT ROAD AND FUTURE TRACK FOR DETERMINING SPAN LENGTH ONLY. TO BE CONSTRUCTED BY RAILROAD.

20-APR-2009 09:42 4409_rdy_tjg.dgn

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

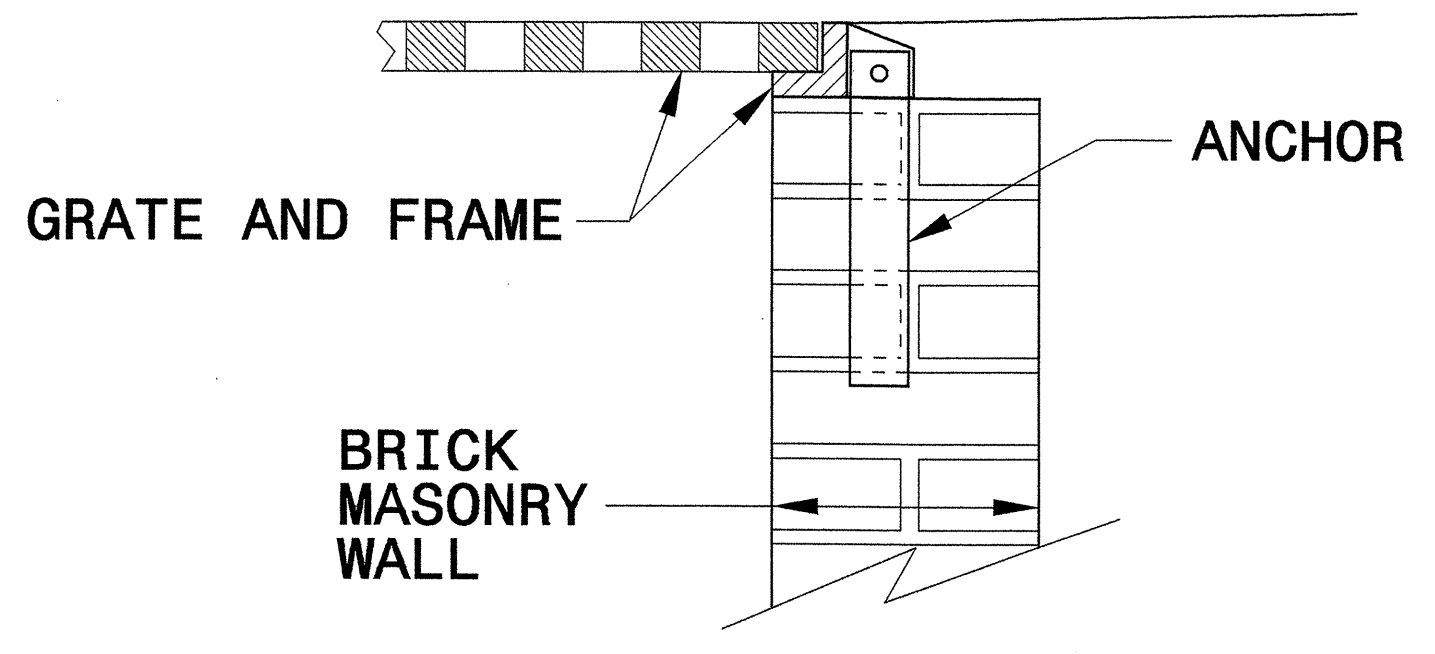
ENGLISH DETAIL DRAWING FOR
ANCHORAGE FOR FRAMES
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1
840D25

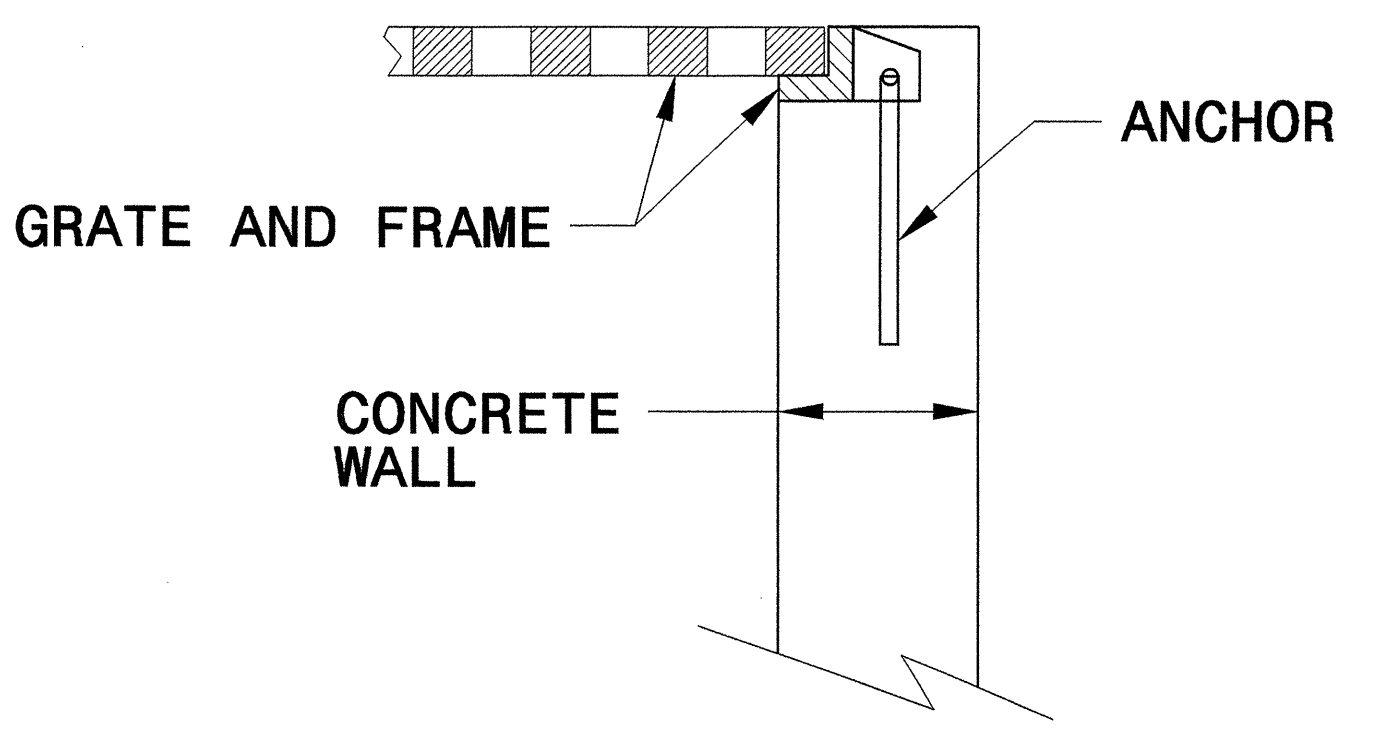
STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

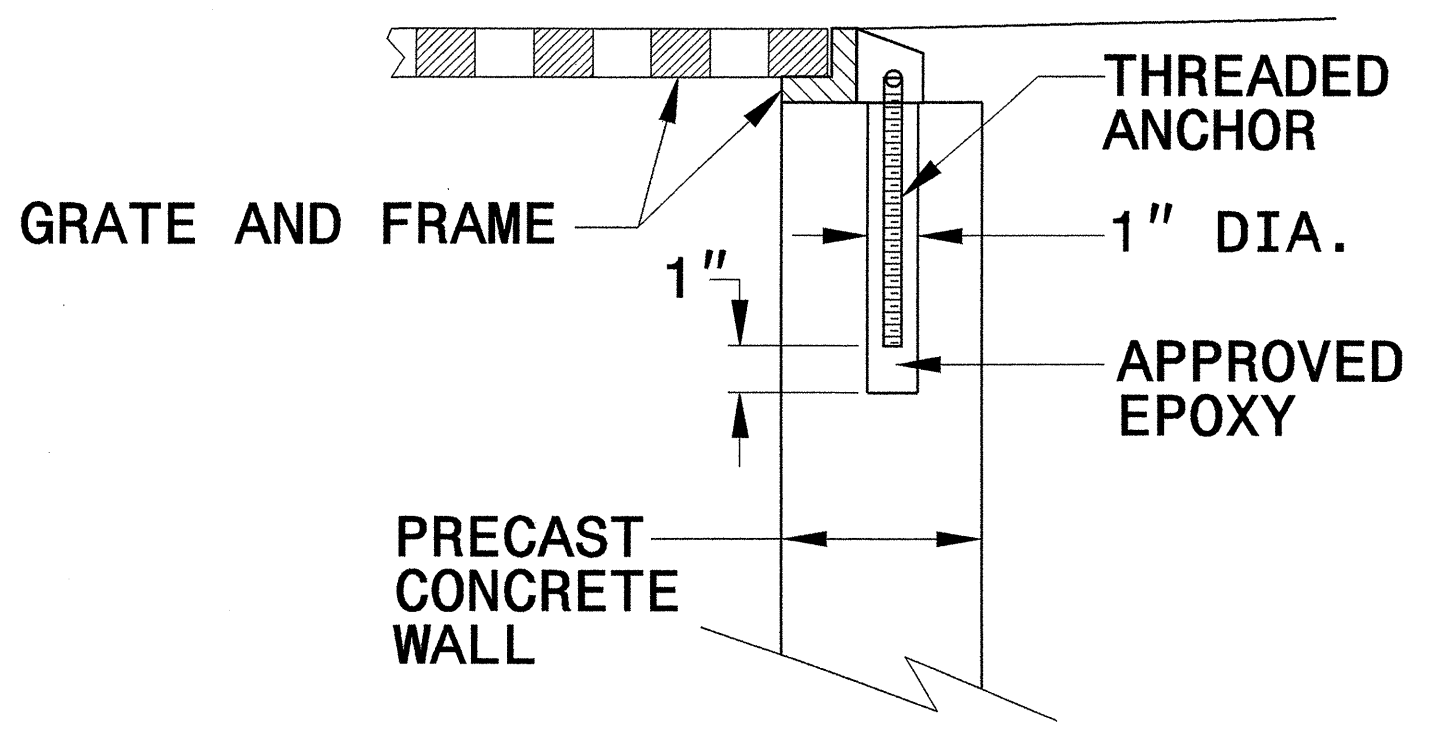
SHEET 1 OF 1
840D25



**BRICK MASONRY
CONSTRUCTION**



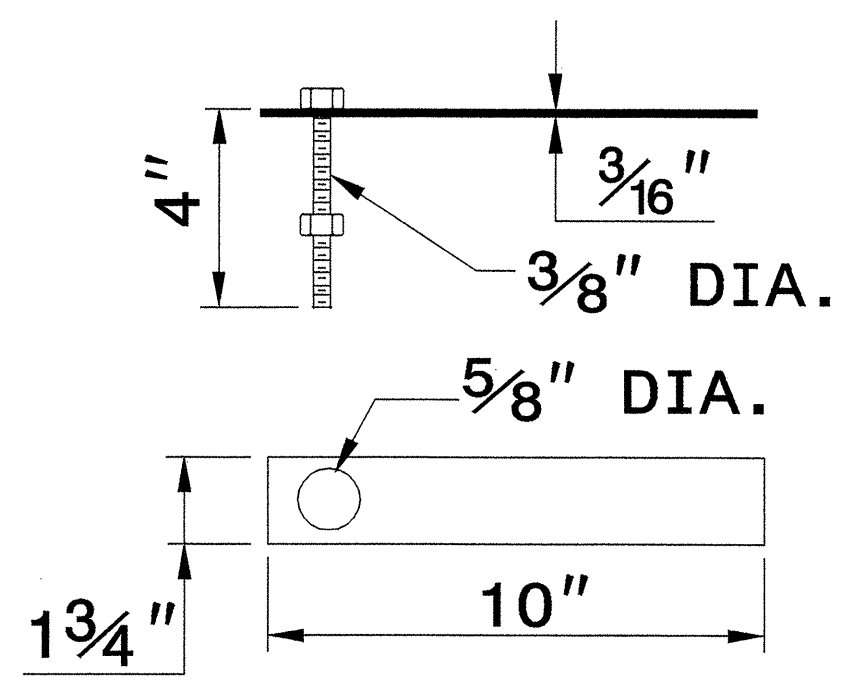
**CONCRETE
CONSTRUCTION**



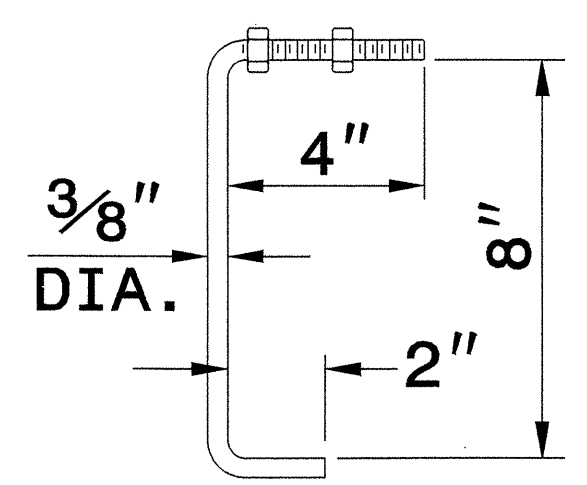
**PRECAST CONCRETE
CONSTRUCTION**

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

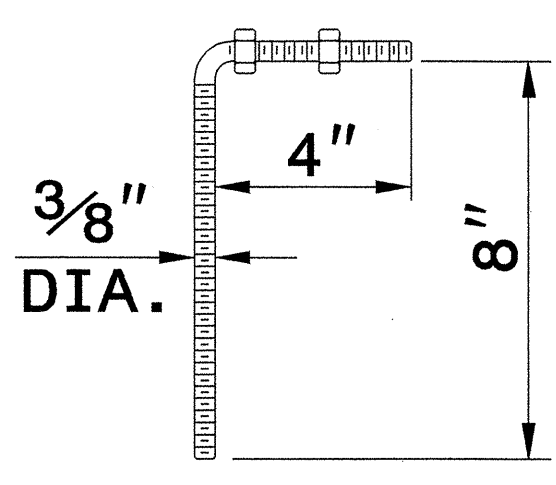
NOTE:
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL
OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



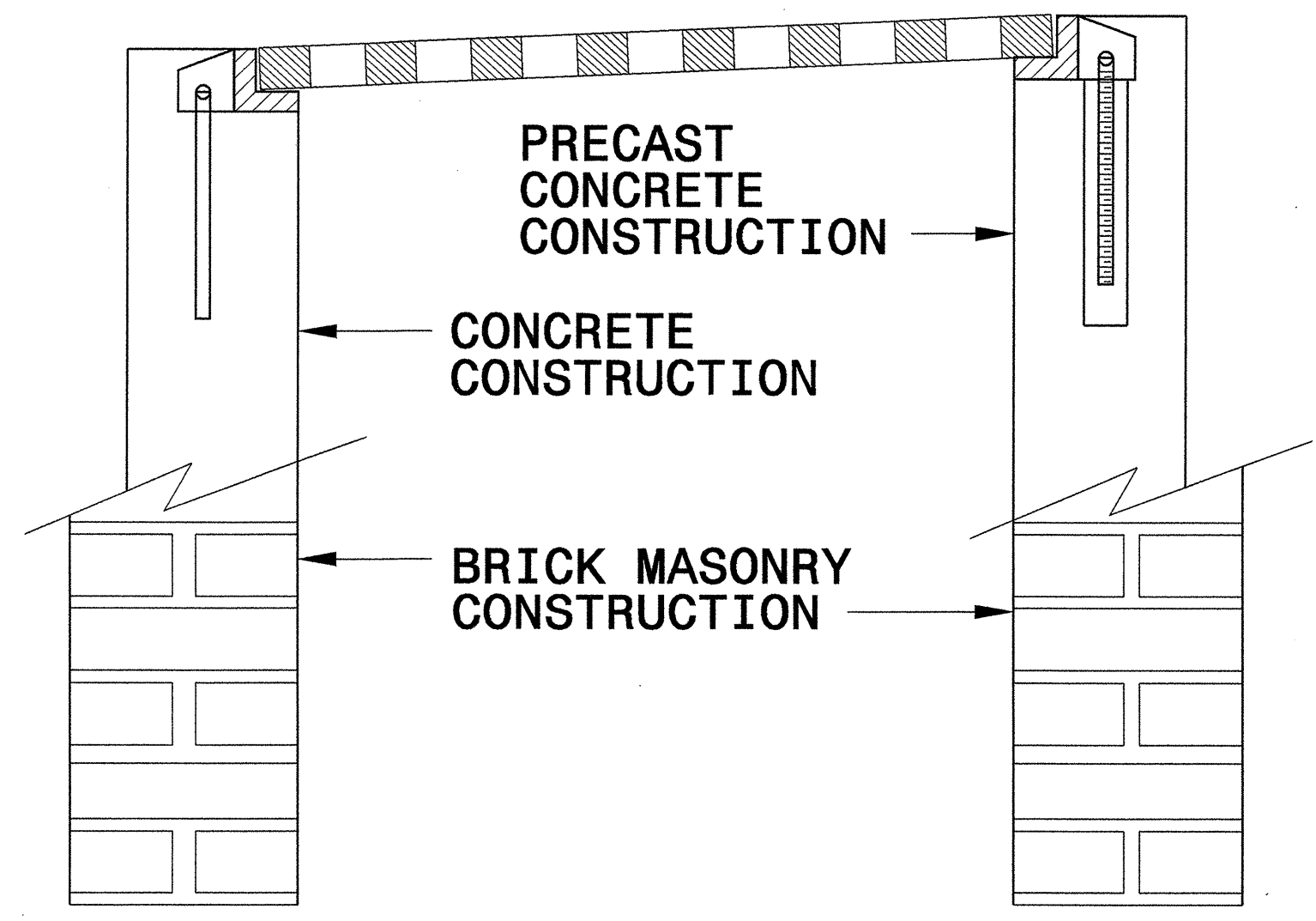
MASONRY ANCHOR
3/8" DIA. BOLT WITH PLATE



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**



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. F. WARD DATE: 9/25/06
CHECKED BY: J. S. HOWES DATE: 11/13/08
FILE SPEC.: J

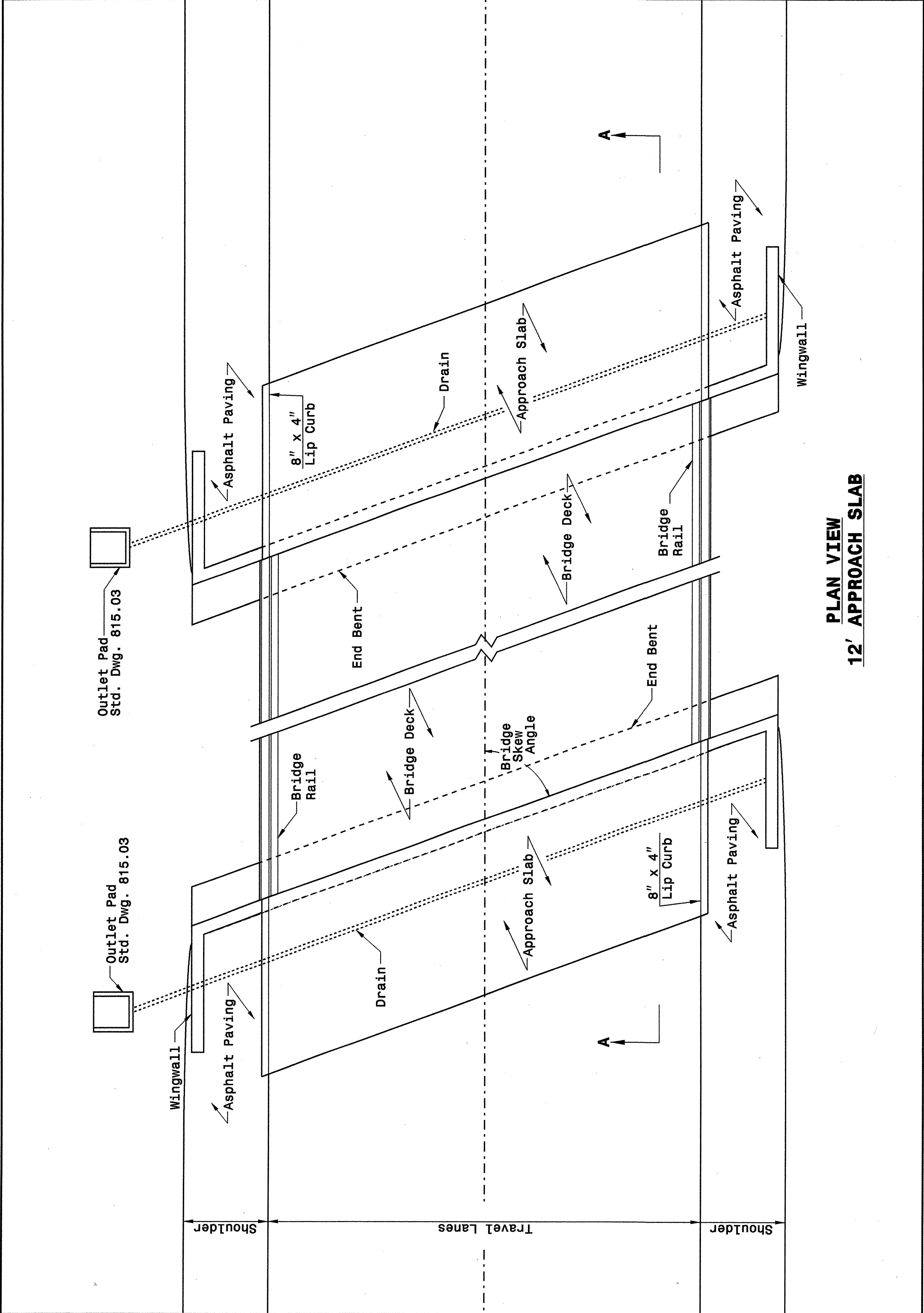
SYSTEMS
DGN
USER NAME

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS

SUB REGIONAL TIER

SHEET 1 OF 2
422D11



PLAN VIEW
12' APPROACH SLAB

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS

SUB REGIONAL TIER

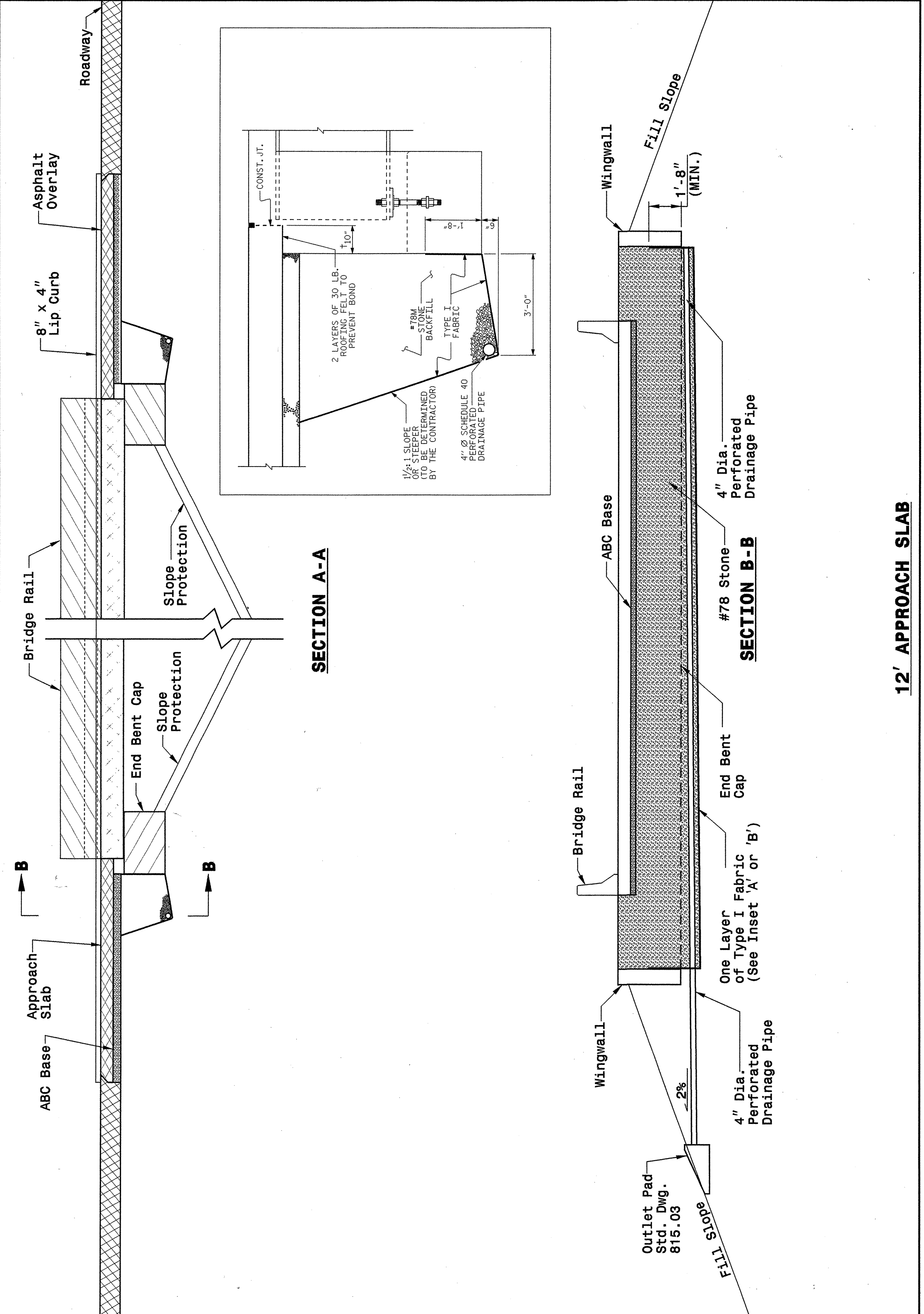
SHEET 1 OF 2
422D11

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS

SUB REGIONAL TIER

SHEET 2 OF 2
422D11



SECTION A-A

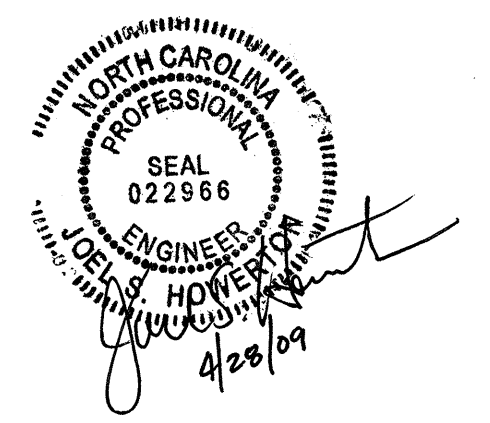
SECTION B-B

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

ENGLISH DETAIL DRAWING FOR
BRIDGE APPROACH FILLS

SUB REGIONAL TIER

SHEET 2 OF 2
422D11



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

BRIDGE APPROACH FILLS

SUB REGIONAL TIER

ORIGINAL BY: K. A. Kempf DATE: 6-10-08
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: kkempf/english/bridge approach fills.dgn

\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$\$\$\$USERNAME\$\$\$\$\$
 \$\$\$\$\$\$\$\$\$\$\$

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, BREAKING OF EXISTING PAVEMENT AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID AT THE LUMP SUM PRICE FOR "GRADING".

**SUMMARY OF SHOULDER
 BERM GUTTER**

LINE	STATION TO STATION	LOCATION	LENGTH FT.
-L-	15+26.45 TO 19+34.24	RT	407.79
-L-	21+19.96 TO 23+20.00	RT	200.04
PROJECT TOTAL			607.83
SAY TOTAL B-4409			610
SAY TOTAL B-4410			160
GRAND TOTAL			770

**SUMMARY OF REMOVAL OR BREAKING OF
 EXISTING ASPHALT PAVEMENT**

STATION TO STATION	LOCATION	ASPHALT REMOVAL AREA S.Y.	ASPHALT BREAK-UP AREA S.Y.
-L- STA.13+70.00 TO -L- STA.19+13.37	CL		1173
-L- STA.21+58.37 TO -L- STA.24+50.00	CL		565
-L- STA.19+13.37 TO -L- STA.19+66.36	CL	108	
-L- STA.20+79.24 TO -L- STA.21+58.37	CL	152	
-L- STA.24+50.00 TO -L- STA.26+00.00	CL	289	
PROJECT TOTAL		549	1738
SAY TOTAL B-4409		550	1740
SAY TOTAL B-4410		800	210
GRAND TOTAL		1350	1950

**SUMMARY OF EARTHWORK
 IN CUBIC YARDS**

LOCATION	TOTAL UNCLASS. EXCAV.	UNDERCUT	EMBANKMENT + %	BORROW	TOTAL WASTE
-L- 11+50.00 TO 19+52.87 (BEG. BRIDGE)	145		8848	8703	
-L- 21+16.87 (END BRIDGE) TO 26+75.00	199		3397	3198	
PROJECT SUBTOTALS		344	12245	11901	
LOSS DUE TO CLEARING & GRUBBING		-175		175	
PROJECT SUBTOTALS		169		12076	
EST. 5% TO REPLACE TOPSOIL ON BORROW PIT				604	
PROJECT TOTAL		169	12245	12680	
SAY TOTAL B-4409		170		12700	
SAY TOTAL B-4410		650	1819	1230	
GRAND TOTAL		820		13930	

B-4409 UNDERCUT EXCAVATION = 100 CY
 B-4410 UNDERCUT EXCAVATION = 100 CY

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 HYDRAULIC
 RIP RAP & DDE QUANTITIES**

CHAIN	STATION	STATION	LOCATION	RIP RAP CLASS (TONS)				FF (SY)	DDE (CY)	DETAIL	COMMENT
				I	II	A	B				
-L-	15+27.51		RT				2	7			AT OUTLET, W/DITCH, 15" PIPE
-L-	15+00	17+25	RT					349	B		PROP. LATERAL 'BASE' DITCH
-L-	17+25	19+75	RT	284				504	C		PROP. LATERAL 'BASE' DITCH
-L-	19+28.45		RT				2	7			AT OUTLET, W/DITCH, 15" PIPE
-L-	21+26.89		RT				1	5			AT OUTLET, WO DITCH, 15" PIPE
-L-	22+96.67		RT				1	5			AT OUTLET, WO DITCH, 15" PIPE
PROJECT TOTAL B-4409				284			6	528	687		
PROJECT TOTAL B-4410							2	10			
GRAND TOTAL				284			8	538	687		

ABBREVIATIONS

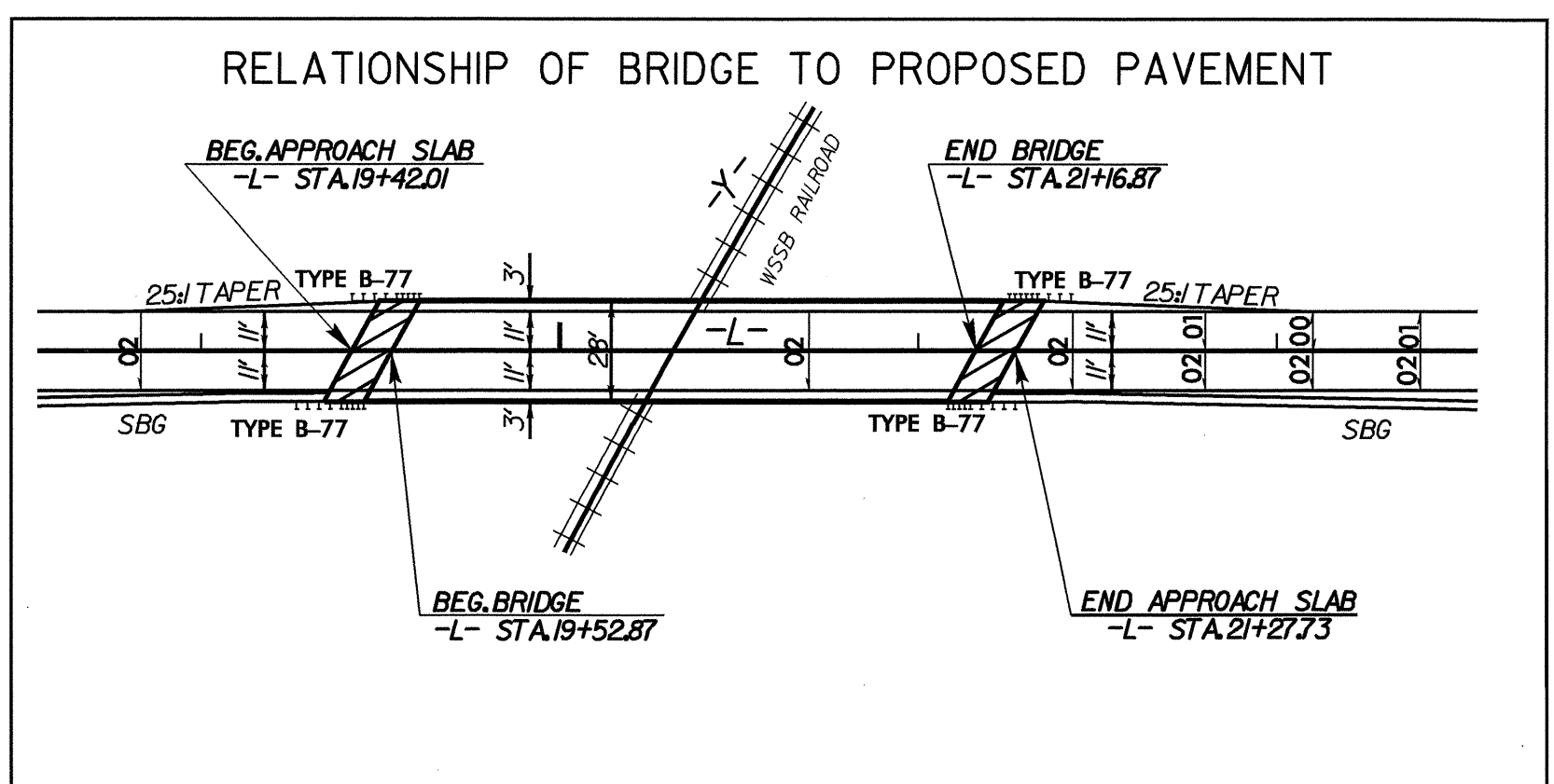
CY CUBIC YARD
 DDE DRAINAGE DITCH EXCAVATION
 FF FILTER FABRIC
 RR RIP RAP
 SY SQUARE YARD

6/28/07

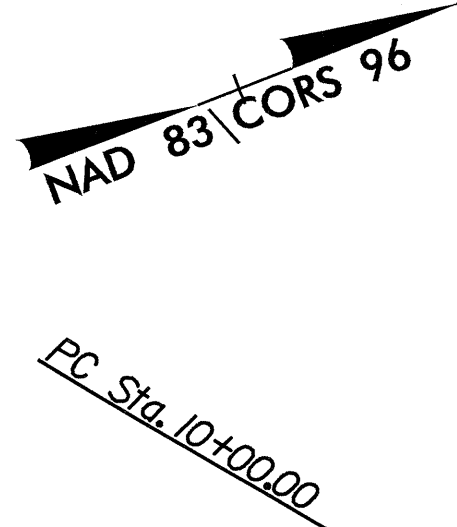
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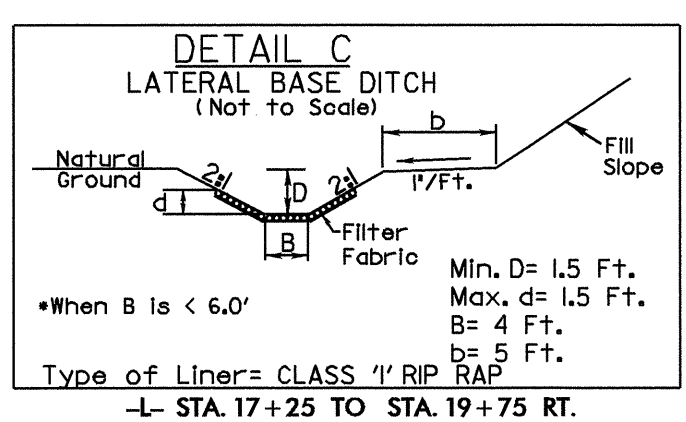
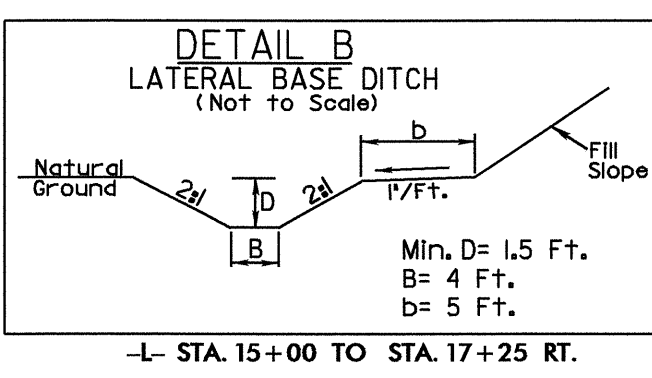
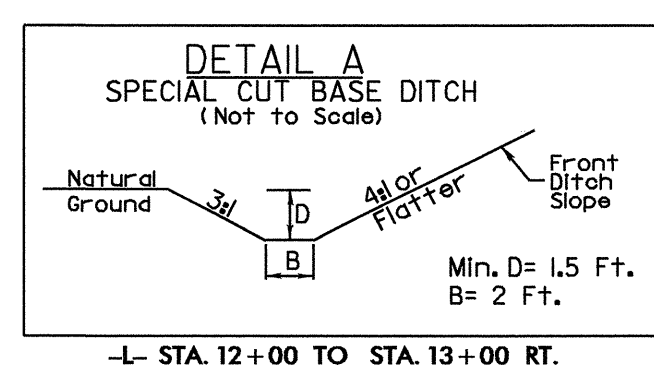
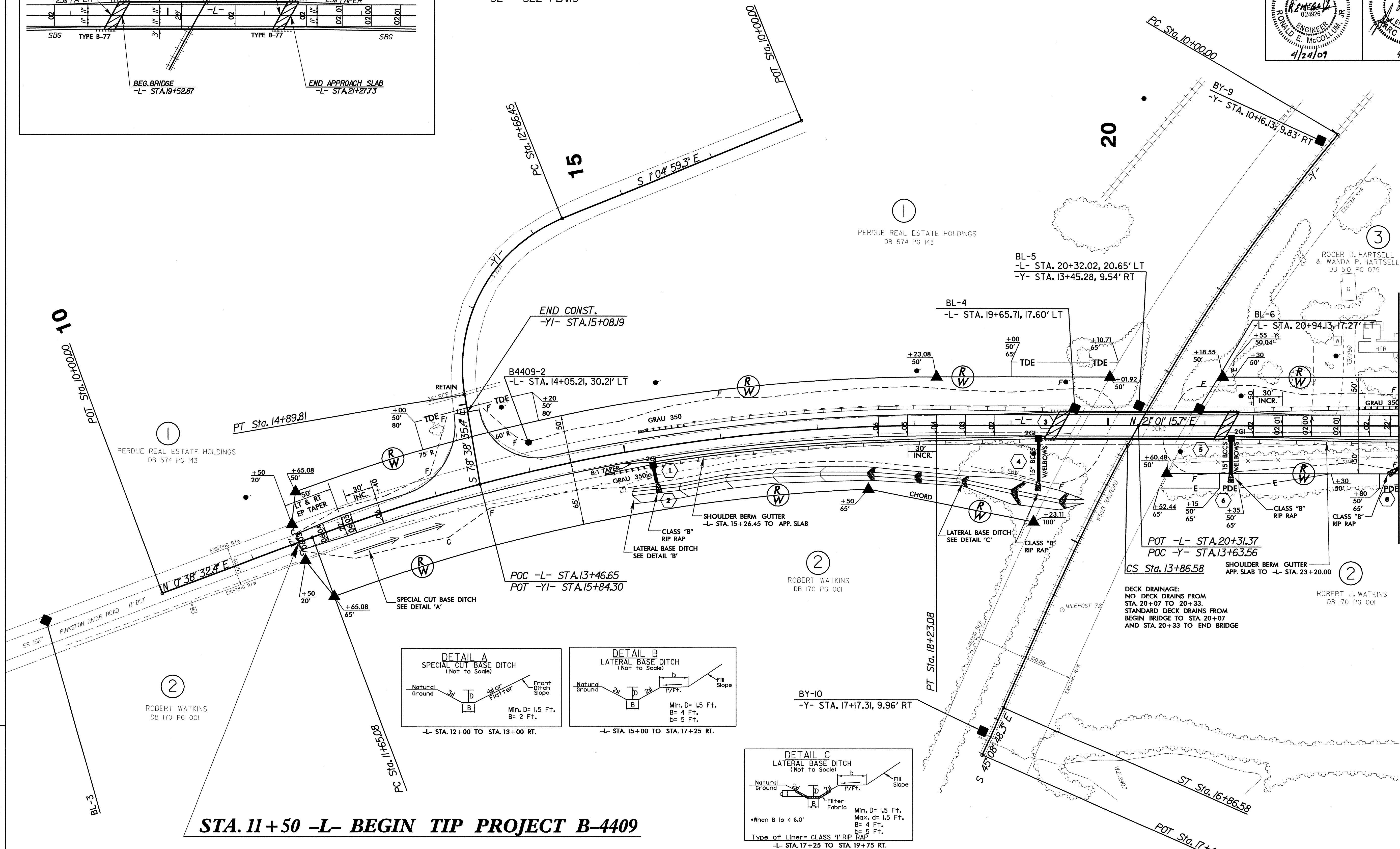
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RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER TOMMIE E. MCCOLLUM 4/24/09	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER MARC T. SHOWN 4-23-09



-L-	-Y-	-YI-
PI Sta 14+97.59	PI Sta 11+93.95	PIs Sta 14+86.64
$\Delta = 20^\circ 22' 43.3''$ (RT)	$\Delta = 11^\circ 35' 45.6''$ (LT)	$\Theta_s = 4^\circ 29' 58.1''$
$D = 3^\circ 05' 49.4''$	$D = 2^\circ 59' 58.8''$	$L_s = 300.00'$
$L = 658.00'$	$L = 386.58'$	$LT = 200.06'$
$T = 332.5'$	$T = 193.95'$	$ST = 100.06'$
$R = 1,850.00'$	$R = 1,910.08'$	
SE = SEE PLANS		



REVISIONS



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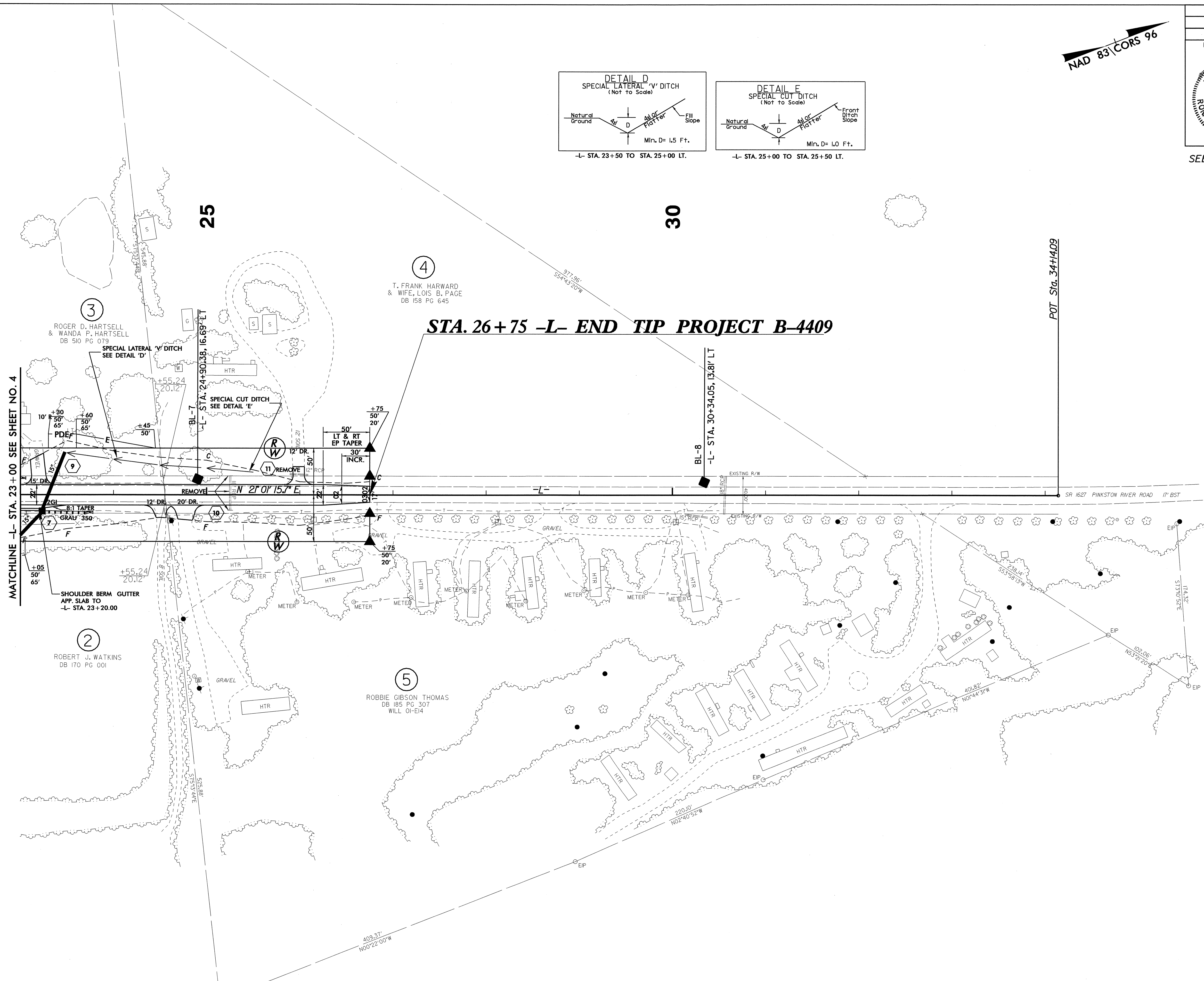
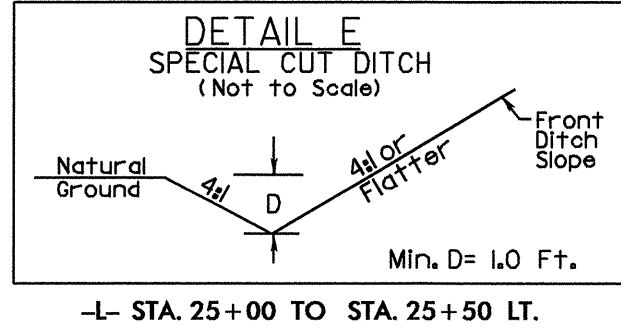
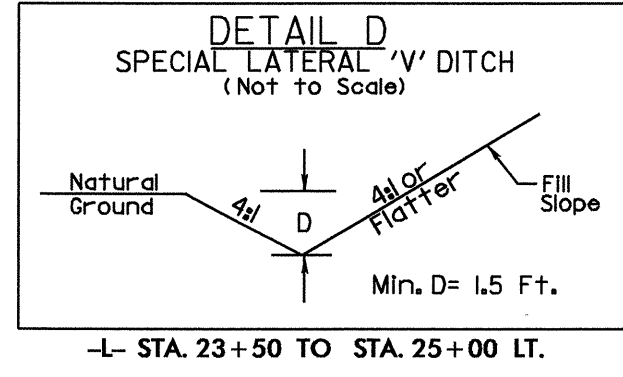
SEE SHEET 6 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-35 FOR STRUCTURE PLANS

BRIDGE APPROACH SLAB

8/17/99

PROJECT REFERENCE NO. B-4409	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER ROUNLD E. MCCOLLUM 4/23/09	HYDRAULICS ENGINEER MARC T. SHOWN 4-23-09

NAD 83 COR 96



STA. 26+75 -L- END TIP PROJECT B-4409

MATCHLINE -L- STA. 23+00 SEE SHEET NO. 4

POT Sta. 34+14.09

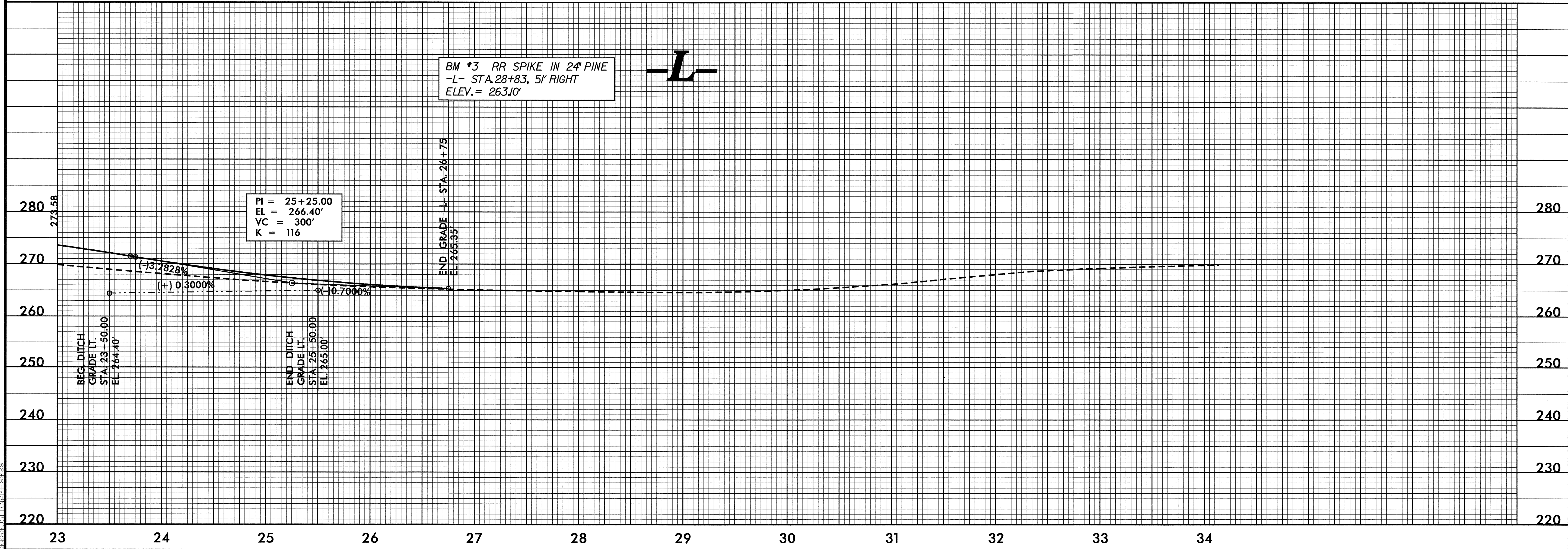
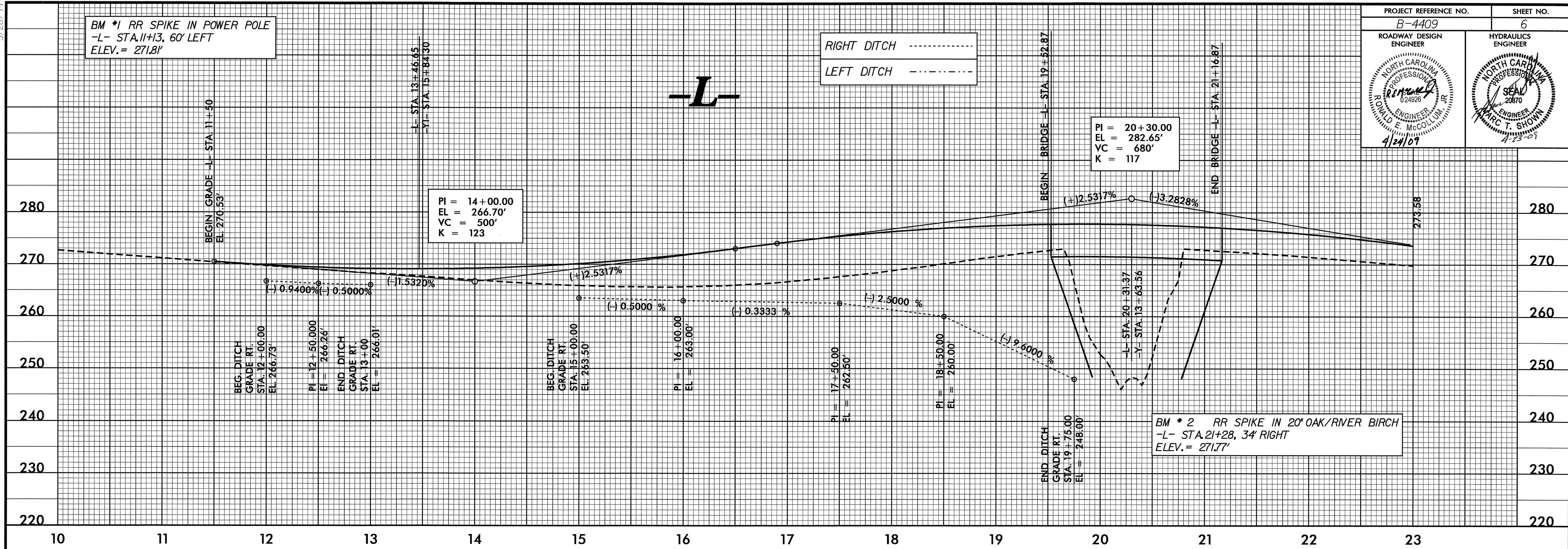
REVISIONS

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SEE SHEET 6 FOR -L- PROFILE

5/28/99

PROJECT REFERENCE NO. B-4409	SHEET NO. 6
ROADWAY DESIGN ENGINEER WILD E. McCOLLUM	HYDRAULICS ENGINEER MARC T. SHOWN



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