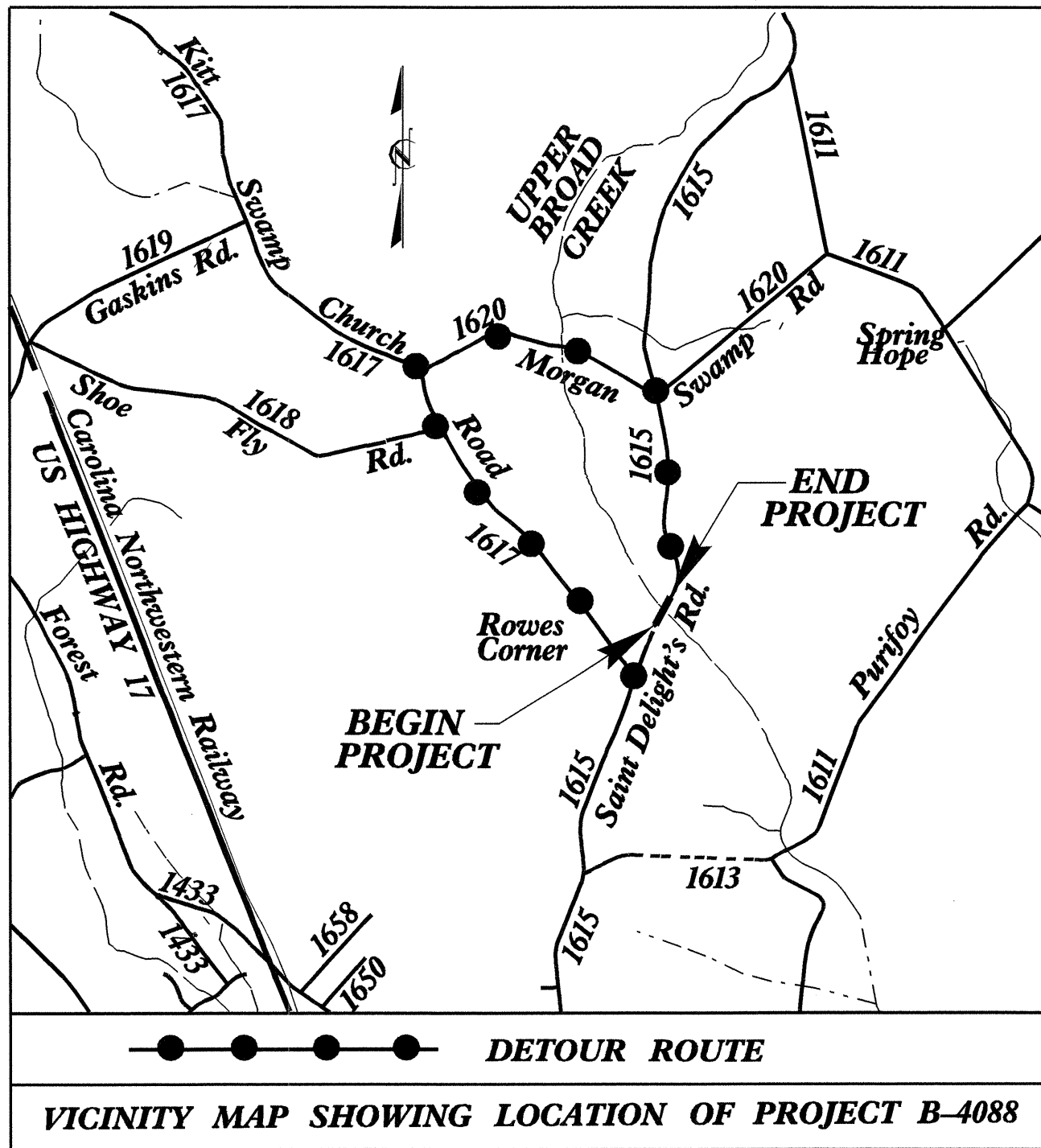


**CONTRACT: C201620 TIP PROJECT: B-4088**

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



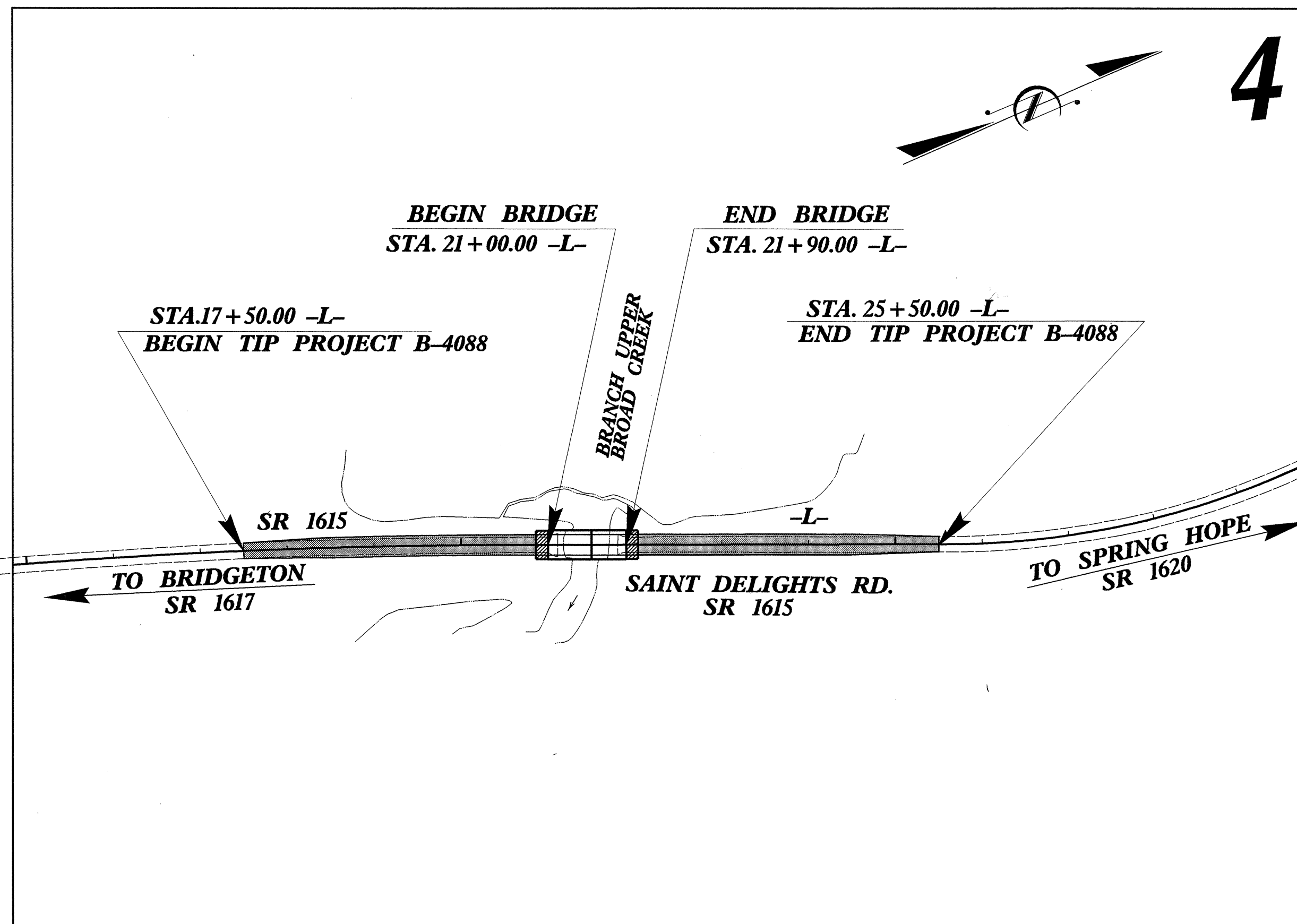
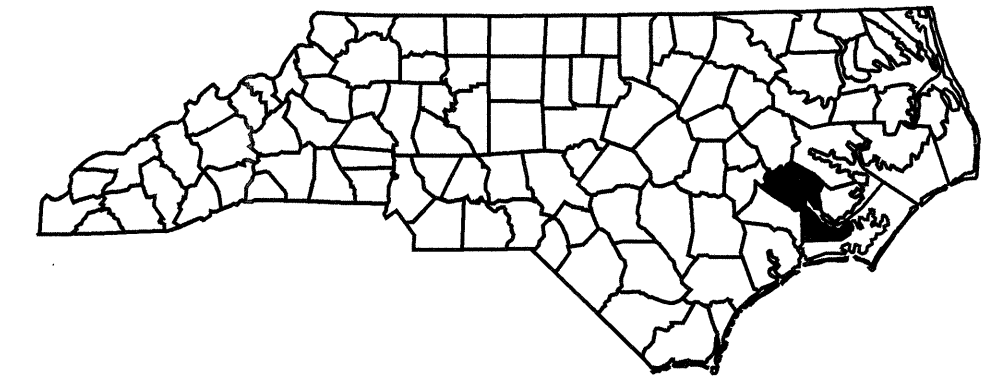
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**CRAVEN COUNTY**

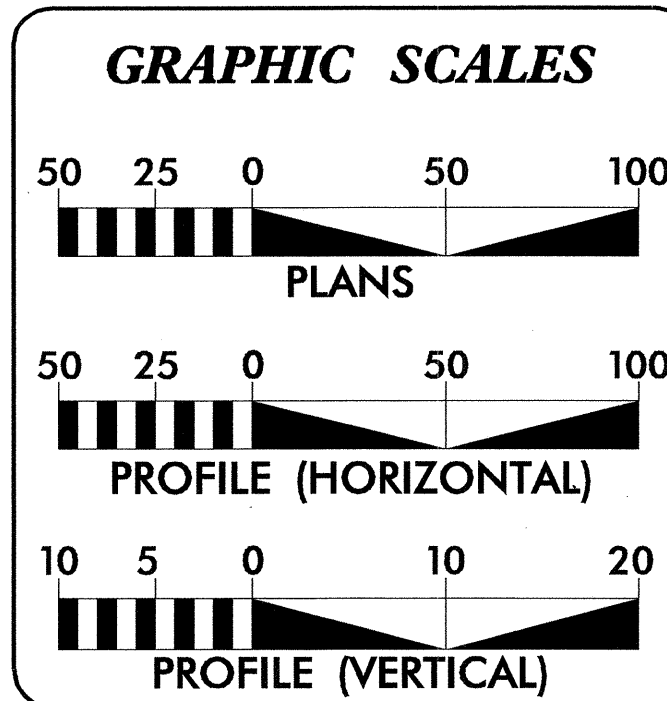
**LOCATION: BRIDGE NO 74 OVER BRANCH UPPER BROAD CREEK ON SR 1615**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4088	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33446.1.1	BRSTP-1615(2)	PE	
33446.2.1	BRSTP-1615(2)	ROW, UTIL	
33446.3.1	BRSTP-1615(2)	CONSTR	



THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.  
DESIGN EXCEPTION REQUIRED FOR THE BRIDGE WIDTH AND SHOULDER WIDTH.



**DESIGN DATA**

2007 = 1750  
2027 = 2700  
DHV = 11 %  
D = 65 %  
T = 3 % \*  
V = 60 MPH  
\* TTST 1 DUAL 2  
CLASS = RURAL COLLECTOR

**PROJECT LENGTH**

Length of Roadway TIP PROJECT B-4088 = 0.135 MI  
Length of Structure TIP PROJECT B-4088 = 0.017 MI  
Total Length of TIP PROJECT B-4088 = 0.152 MI

Prepared in the Office of:  
**DIVISION OF HIGHWAYS**  
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: December 16, 2005

LETTING DATE: April 17, 2007

TONY HOUSER, PE  
PROJECT ENGINEER

LEE ANN MOORE  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**

PROFESSIONAL SEAL 19865  
WILLIAM S. ZERMAN, JR.

SIGNATURE: [Signature] 2-5-07

**TRANSPORTATION DESIGN ENGINEER**

PROFESSIONAL SEAL 18494  
ANTHONY AARON HOUSER

SIGNATURE: [Signature] 2-5-2007

**DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED  
DIVISION ADMINISTRATOR

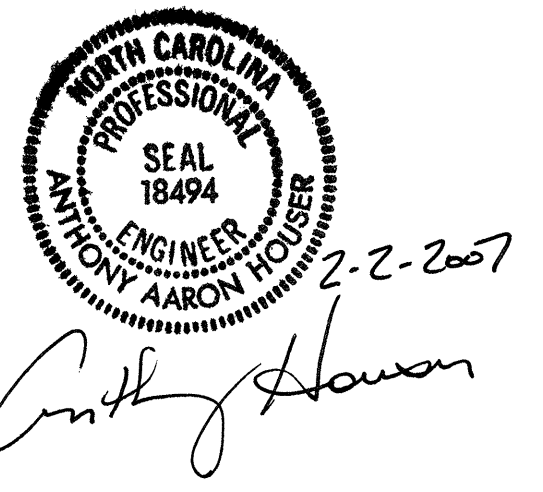
DATE

02-FEB-2007 14:50  
 r:\p00dwy\proj\B4088\_rdy\_tsh.dgn  
 \$\$\$USERNAME\$\$\$

PROJECT : 33446.3.1 B-4088 C201620  
Craven County

GENERAL NOTES: 2006 SPECIFICATIONS

EFFECTIVE: 01-15-02  
REVISED: 05-14-03



INDEX OF SHEETS

SHEET NUMBERS	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, PAVEMENT SCHEDULE AND WEDGING DETAIL
2A	ANCHORAGE FOR FRAMES
3	SUMMARY OF QUANTITIES
3A	SUMMARIES OF DRAINAGE QUANTITIES, GUARDRAIL, EARTHWORK, AND BREAKING & REMOVAL EXISTING ASPHALT PAVEMENT,
4	PLAN SHEETS
5	PROFILE SHEETS
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
EC-1 THRU EC-3	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
UC-1 THRU UC-3	UTILITIES CONSTRUCTION PLANS
UO-1	UTILITIES BY OTHERS PLANS
X-A	CROSS-SECTIONS EARTHWORK SUMMARY
X-1 THRU X-5	CROSS-SECTIONS
S-1 Thru S-24	Structures Plans

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.

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.

UNDERDRAINS:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 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 FIRST CRAVEN SANITARY DISTRICT

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 STANDARD DRAWINGS

EFF. 07-18-06

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
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
422.10	Reinforced Bridge Approach Fills
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
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
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
876.02	Guide for Rip Rap at Pipe Outlets

10/25/05

Note: Not to Scale

\*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

Table listing symbols for boundaries and property: State Line, County Line, Township Line, City Line, Reservation Line, Property Line, Existing Iron Pin, Property Corner, Property Monument, Parcel/Sequence Number, Existing Fence Line, Proposed Woven Wire Fence, Proposed Chain Link Fence, Proposed Barbed Wire Fence, Existing Wetland Boundary, Proposed Wetland Boundary, Existing Endangered Animal Boundary, Existing Endangered Plant Boundary.

BUILDINGS AND OTHER CULTURE:

Table listing symbols for buildings and other culture: Gas Pump Vent or U/G Tank Cap, Sign, Well, Small Mine, Foundation, Area Outline, Cemetery, Building, School, Church, Dam.

HYDROLOGY:

Table listing symbols for hydrology: Stream or Body of Water, Hydro, Pool or Reservoir, Jurisdictional Stream, Buffer Zone 1, Buffer Zone 2, Flow Arrow, Disappearing Stream, Spring, Swamp Marsh, Proposed Lateral, Tail, Head Ditch, False Sump.

RAILROADS:

Table listing symbols for railroads: Standard Gauge, RR Signal Milepost, Switch, RR Abandoned, RR Dismantled.

RIGHT OF WAY:

Table listing symbols for right of way: Baseline Control Point, Existing Right of Way Marker, Existing Right of Way Line, Proposed Right of Way Line, Proposed Right of Way Line with Iron Pin and Cap Marker, Proposed Right of Way Line with Concrete or Granite Marker, Existing Control of Access, Proposed Control of Access, Existing Easement Line, Proposed Temporary Construction Easement, Proposed Temporary Drainage Easement, Proposed Permanent Drainage Easement, Proposed Permanent Utility Easement.

ROADS AND RELATED FEATURES:

Table listing symbols for roads and related features: Existing Edge of Pavement, Existing Curb, Proposed Slope Stakes Cut, Proposed Slope Stakes Fill, Proposed Wheel Chair Ramp, Curb Cut for Future Wheel Chair Ramp, Existing Metal Guardrail, Proposed Guardrail, Existing Cable Guiderail, Proposed Cable Guiderail, Equality Symbol, Pavement Removal.

VEGETATION:

Table listing symbols for vegetation: Single Tree, Single Shrub, Hedge, Woods Line, Orchard, Vineyard.

EXISTING STRUCTURES:

Table listing symbols for existing structures: MAJOR: Bridge, Tunnel or Box Culvert, Bridge Wing Wall, Head Wall and End Wall; MINOR: Head and End Wall, Pipe Culvert, Footbridge, Drainage Box: Catch Basin, DI or JB, Paved Ditch Gutter, Storm Sewer Manhole, Storm Sewer.

UTILITIES:

Table listing symbols for utilities: POWER: Existing Power Pole, Proposed Power Pole, Existing Joint Use Pole, Proposed Joint Use Pole, Power Manhole, Power Line Tower, Power Transformer, U/G Power Cable Hand Hole, H-Frame Pole, Recorded U/G Power Line, Designated U/G Power Line (S.U.E.\*); TELEPHONE: Existing Telephone Pole, Proposed Telephone Pole, Telephone Manhole, Telephone Booth, Telephone Pedestal, Telephone Cell Tower, U/G Telephone Cable Hand Hole, Recorded U/G Telephone Cable, Designated U/G Telephone Cable (S.U.E.\*), Recorded U/G Telephone Conduit, Designated U/G Telephone Conduit (S.U.E.\*), Recorded U/G Fiber Optics Cable, Designated U/G Fiber Optics Cable (S.U.E.\*).

WATER:

Table listing symbols for water: Water Manhole, Water Meter, Water Valve, Water Hydrant, Recorded U/G Water Line, Designated U/G Water Line (S.U.E.\*), Above Ground Water Line.

TV:

Table listing symbols for TV: TV Satellite Dish, TV Pedestal, TV Tower, U/G TV Cable Hand Hole, Recorded U/G TV Cable, Designated U/G TV Cable (S.U.E.\*), Recorded U/G Fiber Optic Cable, Designated U/G Fiber Optic Cable (S.U.E.\*).

GAS:

Table listing symbols for gas: Gas Valve, Gas Meter, Recorded U/G Gas Line, Designated U/G Gas Line (S.U.E.\*), Above Ground Gas Line.

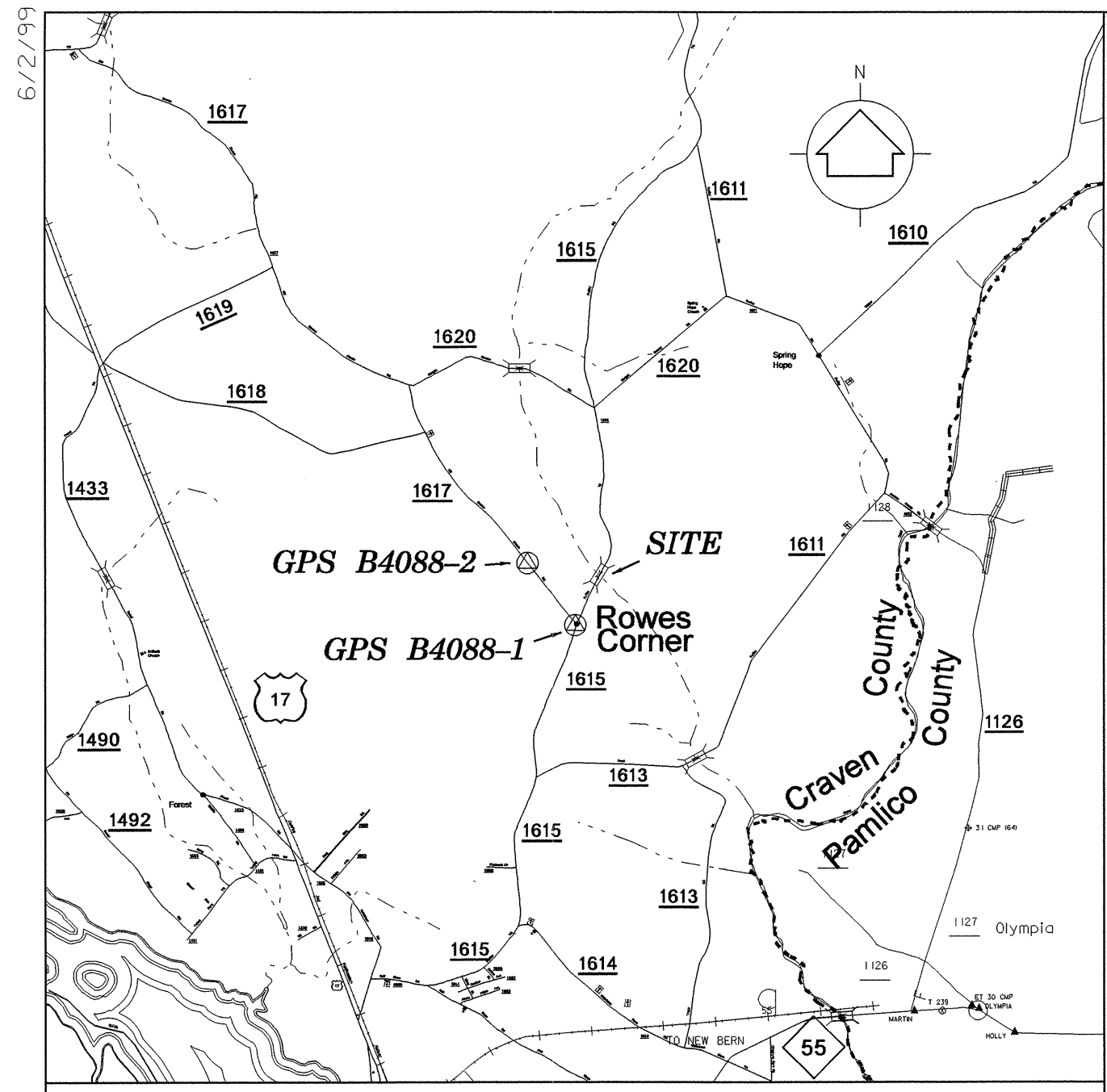
SANITARY SEWER:

Table listing symbols for sanitary sewer: Sanitary Sewer Manhole, Sanitary Sewer Cleanout, U/G Sanitary Sewer Line, Above Ground Sanitary Sewer, Recorded SS Forced Main Line, Designated SS Forced Main Line (S.U.E.\*).

MISCELLANEOUS:

Table listing symbols for miscellaneous: Utility Pole, Utility Pole with Base, Utility Located Object, Utility Traffic Signal Box, Utility Unknown U/G Line, U/G Tank; Water, Gas, Oil, A/G Tank; Water, Gas, Oil, U/G Test Hole (S.U.E.\*), Abandoned According to Utility Records, End of Information.

# SURVEY CONTROL SHEET B-4088



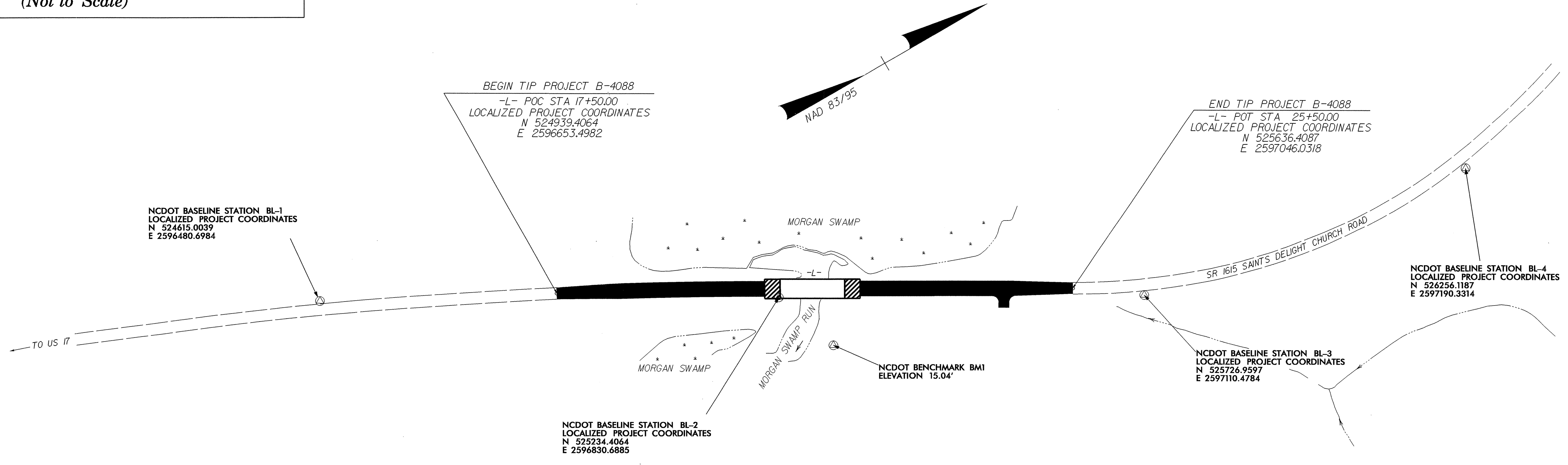
**VICINITY MAP**  
(Not to Scale)

**CONTROL DATA**

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	524615.0039	2596480.6984	21.10	13+82.97	13.09 LT
2	BL-2	525234.4064	2596830.6885	17.53	20+94.15	13.38 RT
3	BL-3	525726.9597	2597110.4784	19.09	26+59.17	15.94 RT
4	BL-4	526256.1187	2597190.3314	24.21	31+91.79	17.86 RT

**BENCHMARK DATA**

BMI ELEVATION = 15.04  
 N 525271 E 2596937  
 L STATION 21+78 87 RIGHT  
 RR SPIKE SET IN 20" HARDWOOD



**DATUM DESCRIPTION**

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4088-1"  
 WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF  
 NORTHING: 523693.7000(1) EASTING: 2596085.6900(1)  
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT  
 (GROUND TO GRID) IS: 0.999878250  
 THE N.C. LAMBERT GRID BEARING AND  
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM  
 "B4088-1" TO -L- STATION 17+50.00 IS  
 N 24°30'14.7" E 1369.01  
 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.DOH.DOT.STATE.NC.US/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT](http://www.doh.dot.state.nc.us/preconstruct/highway/location/project)  
 File: b4088\_ls\_control\_041013.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)

**NOTE: DRAWING NOT TO SCALE**

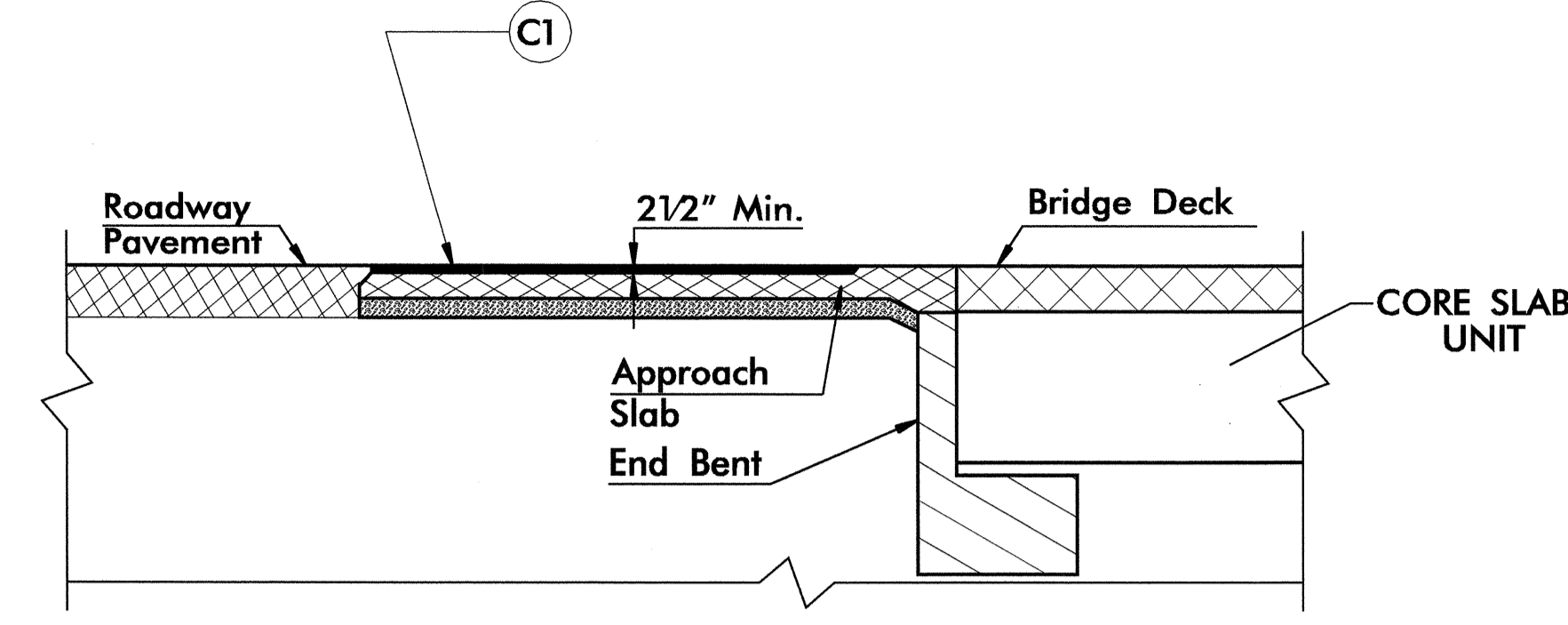
03-JAN-2007 09:42 4088-r.dwg 1c\_041013.dgn  
 4,888 SURVEY CONTROL SHEET

6/2/99  
 02-FEB-2007 15:16  
 P:\Roadwork\proj\4088.rdy\_tup.dgn  
 \$\$\$USER\$\$\$

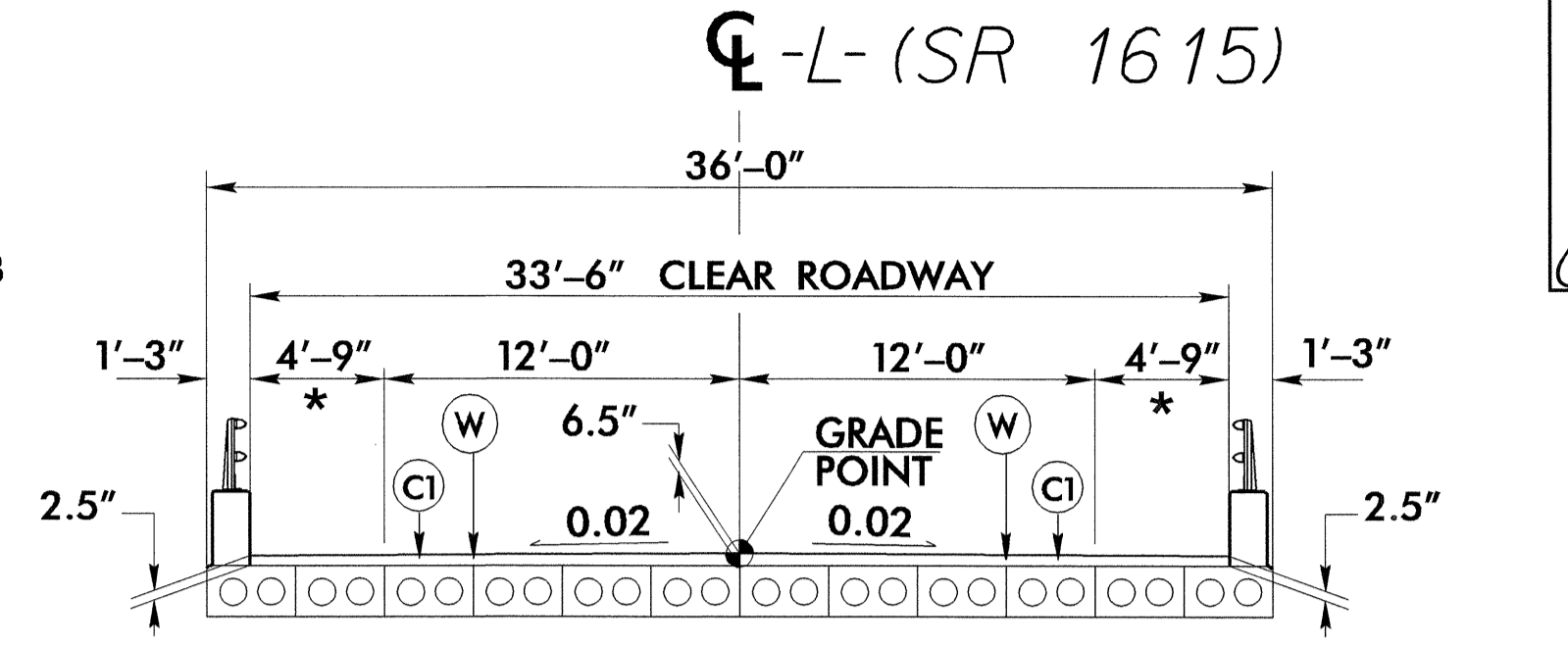
PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1 1/4" IN DEPTH OR GREATER THAN 1 1/2" IN DEPTH.
E1	PROP. APPROX. 4 1/2" 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 5 1/2" IN DEPTH.
R	SHOULDER BERM & GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE WEDGING DETAIL)

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

**\*DESIGN EXCEPTION REQUIRED FOR THE BRIDGE WIDTH AND SHOULDER WIDTH.**

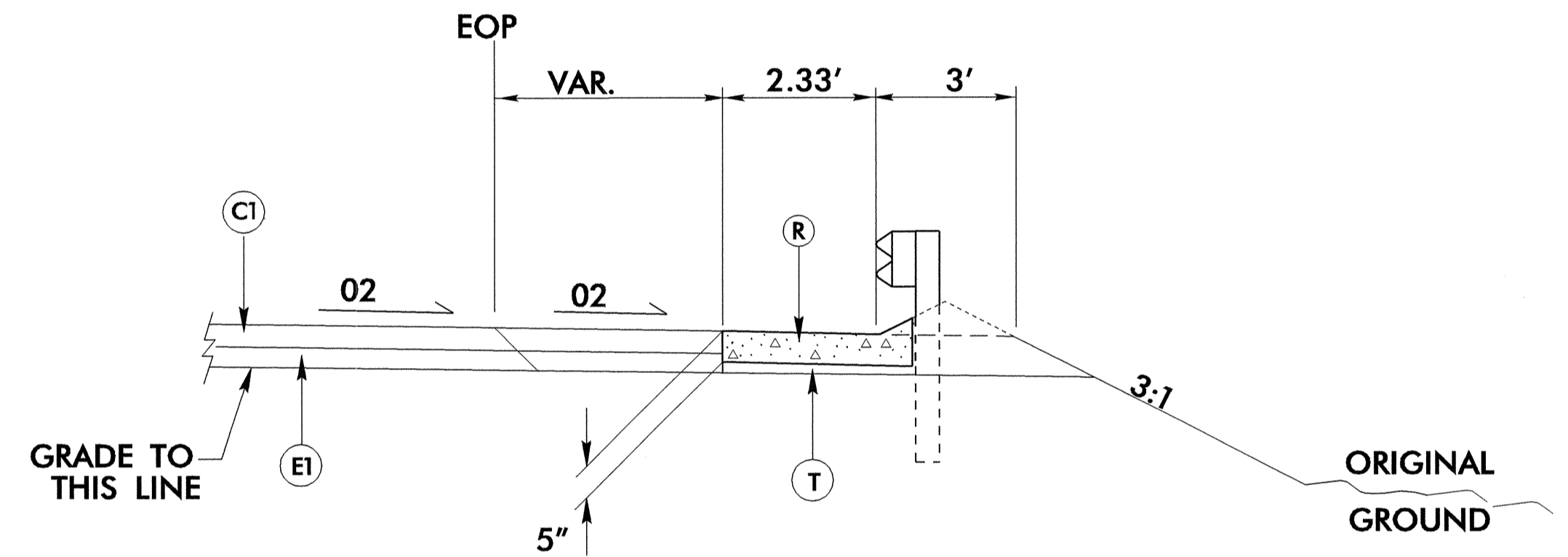


**DETAIL OF ASPHALT WEARING SURFACE ON APPROACH SLAB**



**TYPICAL SECTION ON STRUCTURE**

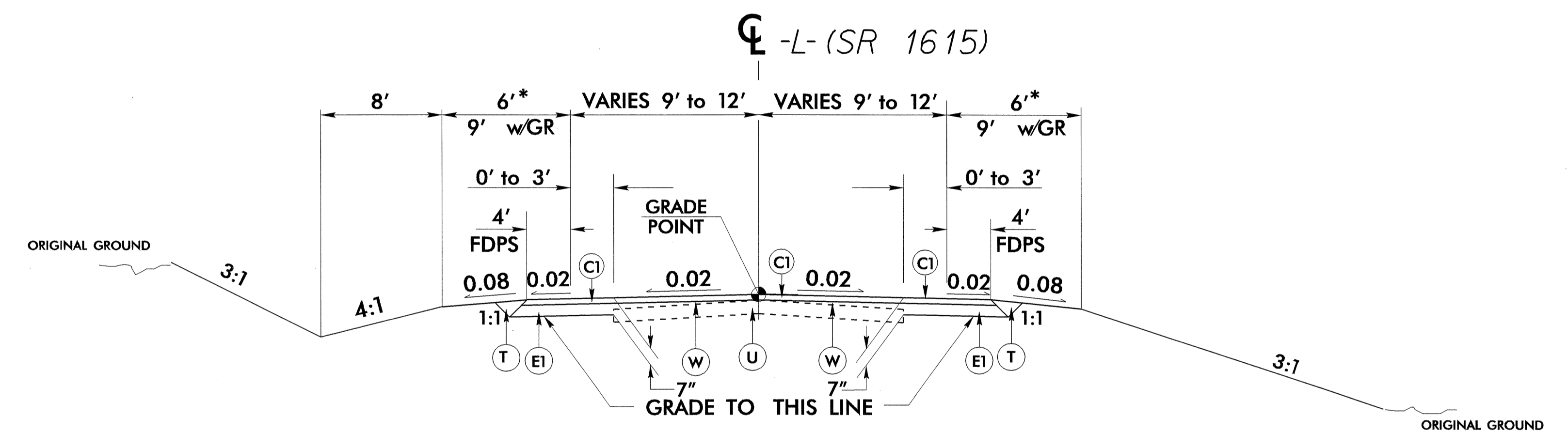
USE STRUCTURE TYPICAL SECTION FOR THE FOLLOWING:  
 -L- STA 21+00.00 TO STA 21+90.00  
 (Use Bicycle Safe Two-Bar Metal Rail)  
 \* USED 4'-9" OFFSETS TO THE BRIDGE RAIL DUE TO HYDRAULIC SPREAD.



**Detail Showing Paved Shoulder in Relation to Guardrail**

USE SHOULDER BERM GUTTER FOR THE FOLLOWING :

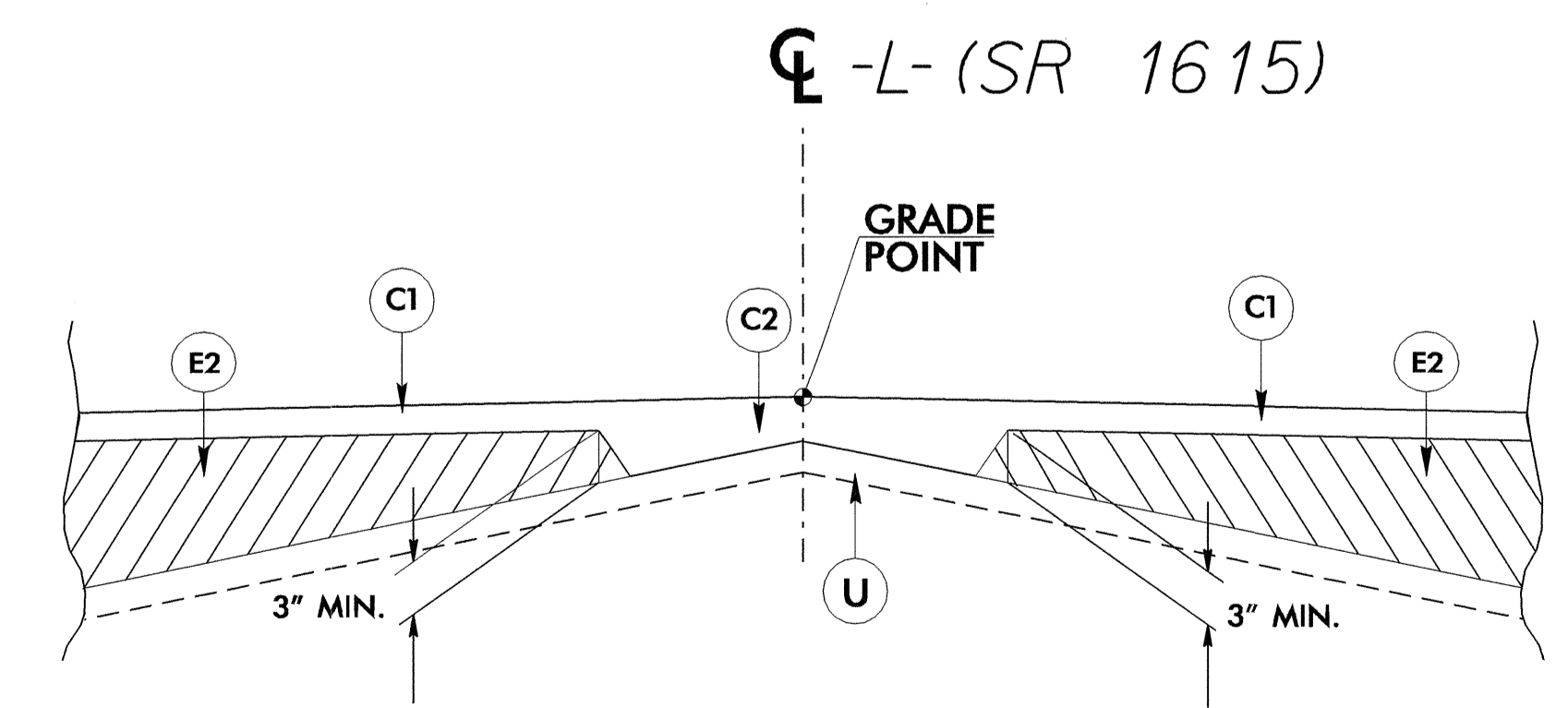
LT. SHOULDER: -L- STA. 22+04.00 (APPROACH SLAB) TO -L- STA. 22+25.00  
 RT. SHOULDER: -L- STA. 22+04.00 (APPROACH SLAB) TO -L- STA. 22+25.00



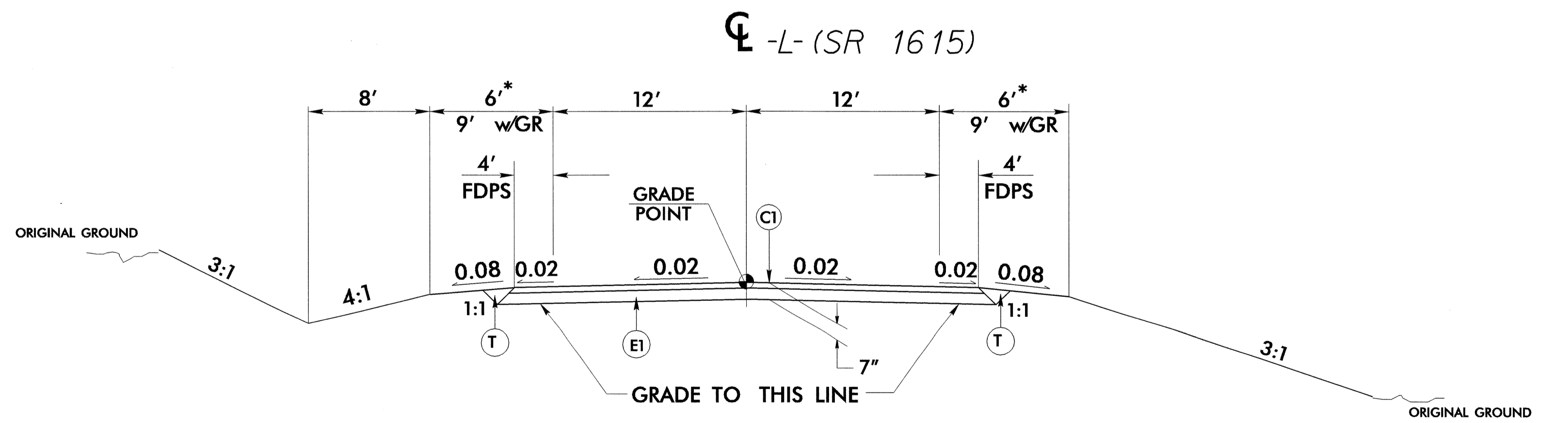
**TYPICAL SECTION NO. 1**

\* USED 6' SHOULDER TO MINIMIZE IMPACTS TO WETLANDS

USE TYPICAL SECTION NO. 1 FOR THE FOLLOWING:  
 -L- STA 17+50.00 TO -L- STA 20+00.00  
 -L- STA 23+00.00 TO -L- STA 25+50.00



**DETAIL SHOWING METHOD OF WEDGING**



**TYPICAL SECTION NO. 2**

\* USED 6' SHOULDER TO MINIMIZE IMPACTS TO WETLANDS

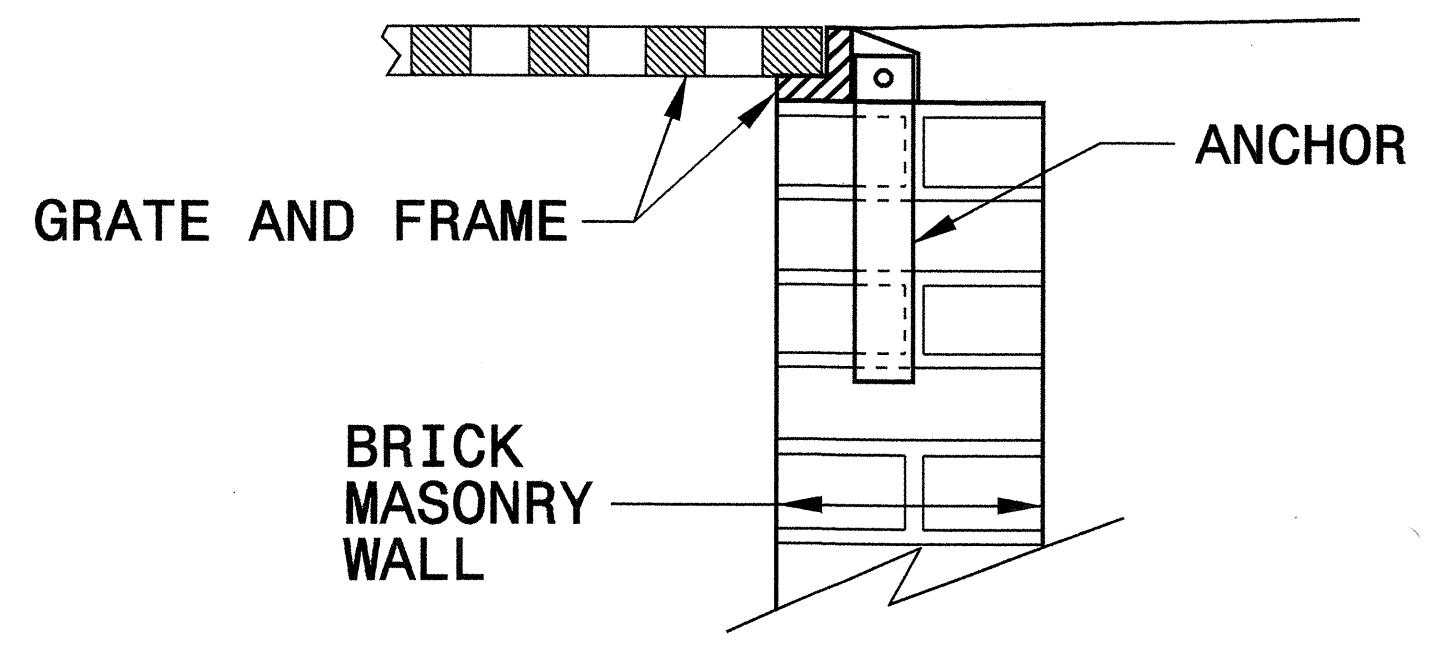
USE TYPICAL SECTION NO. 2 FOR THE FOLLOWING:  
 -L- STA 20+00.00 TO -L- STA 21+00.00 (BEG. BRIDGE)  
 -L- STA 21+90.00 (END BRIDGE) TO -L- STA 23+00.00

PROJECT REFERENCE NO. B-4088	SHEET NO. 2
ROADWAY DESIGN ENGINEER ANTHONY AARON HOUSER 2-5-2007	PAVEMENT DESIGN ENGINEER ANTHONY AARON HOUSER 2/5/07

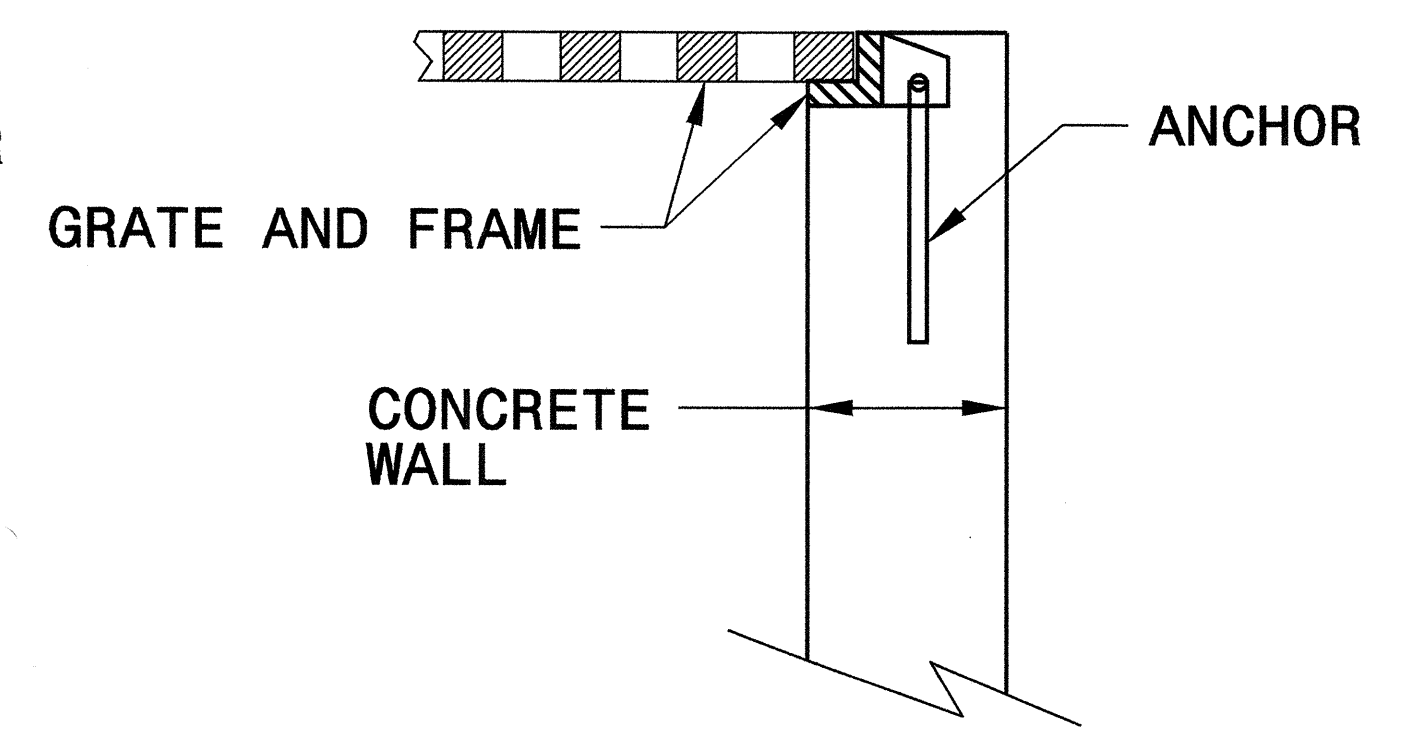
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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

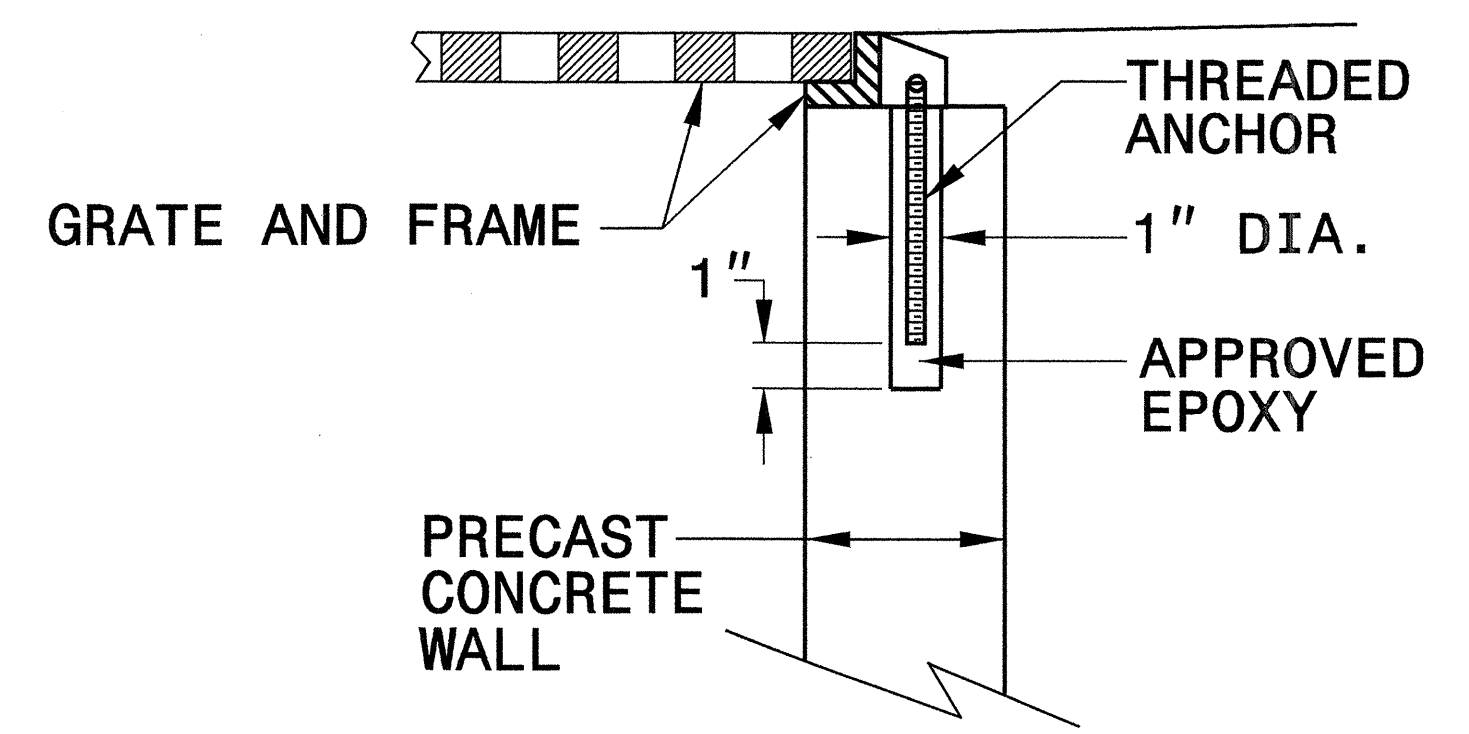
SHEET 1 OF 1  
**840D25**



**BRICK MASONRY CONSTRUCTION**



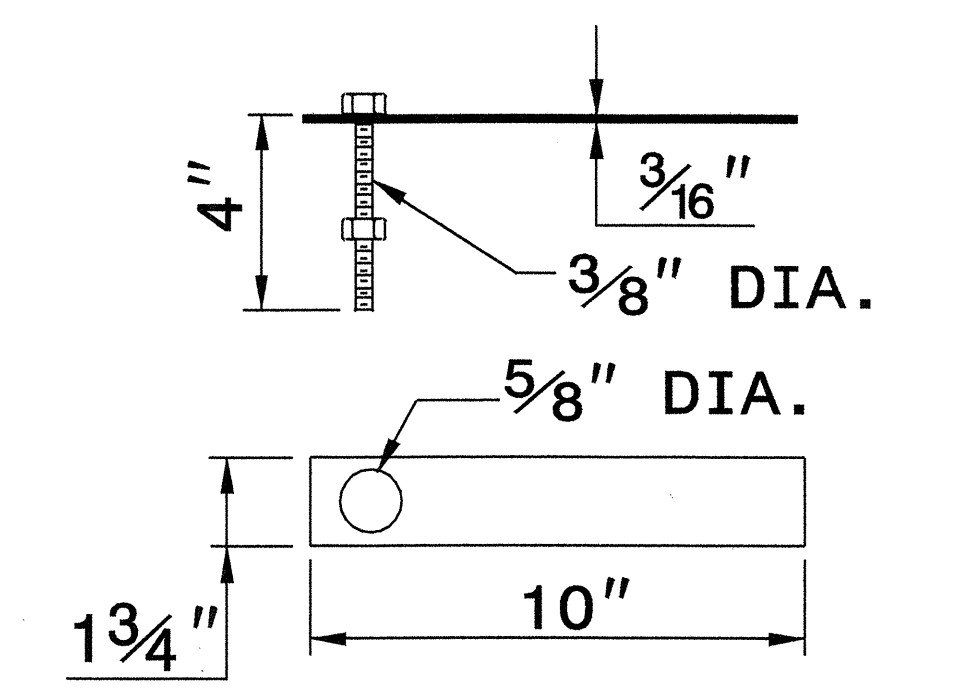
**CONCRETE CONSTRUCTION**



**PRECAST CONCRETE CONSTRUCTION**

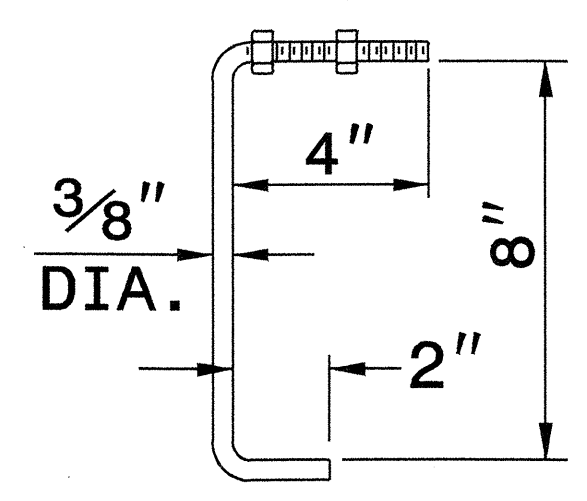
**DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET**

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



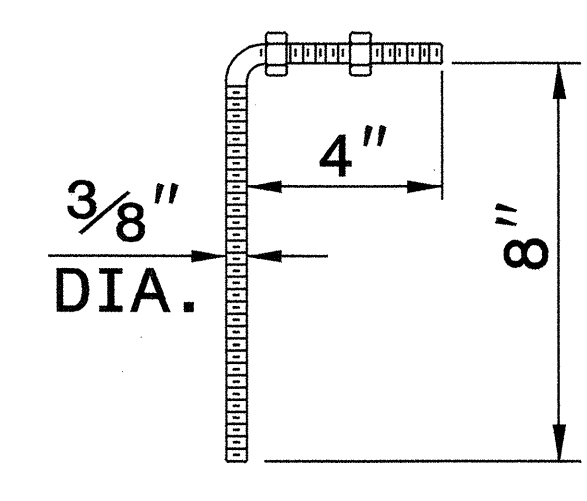
**MASONRY ANCHOR**

3/8" DIA. BOLT WITH PLATE



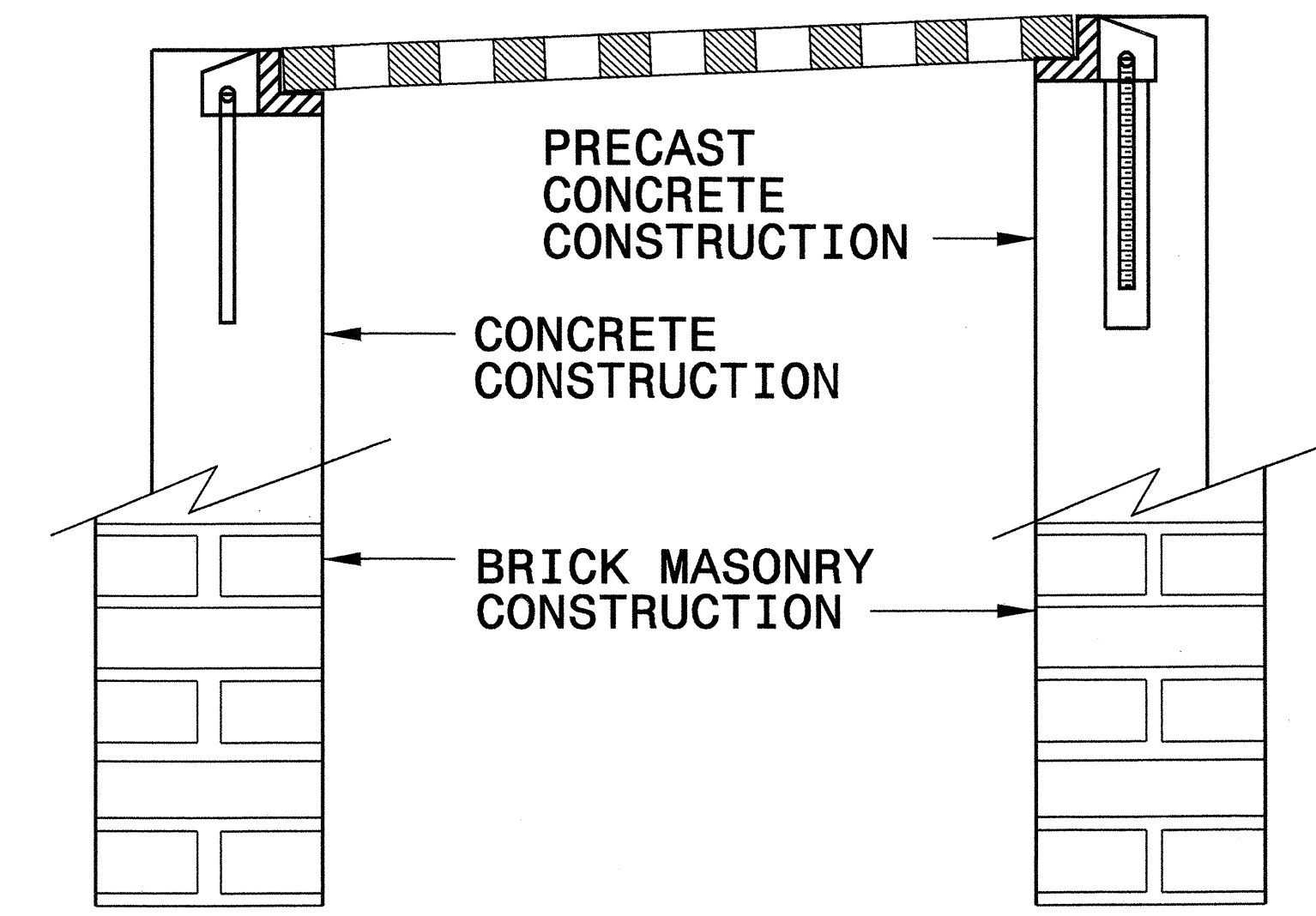
**CONCRETE ANCHOR**

3/8" DIA. BENT BAR



**PRECAST CONCRETE ANCHOR**

3/8" DIA. BENT BAR

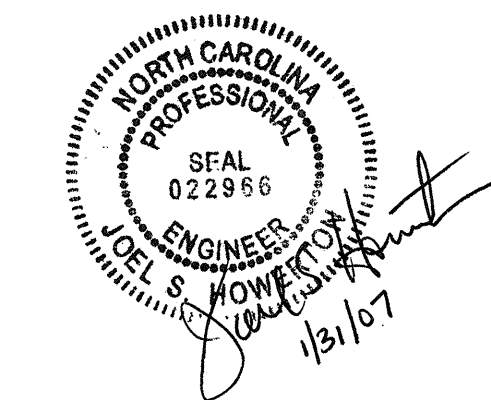


**FRAME AND GRATE INSTALLATION FOR NORMAL CROWN AND SUPERELEVATED SECTIONS**

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**



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

**SEE PLATE FOR TITLE**

ORIGINAL BY: 2006 STD 840.25 DATE: 07/18/06  
MODIFIED BY: E.E. WARD DATE: 9/25/06  
CHECKED BY: [Signature] DATE: 9/27/06  
FILE SPEC.:

27-SEP-2006 09:01 C:\projects\Special Details\stds\06\stds to Special Details\840D25 Anchorage for Frames\0840D25.dgn

# SUMMARY OF QUANTITIES

**STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201620**

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (STA 21+45 -L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB- BING
0057000000-E	226	200	CY	UNDERCUT EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	100	SY	FABRIC FOR SOIL STABILIZATION
0318000000-E	300	60	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRS
0345000000-E	310	24	LF	24" SIDE DRAIN PIPE
1220000000-E	545	100	TON	INCIDENTAL STONE BASE
1489000000-E	610	580	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	500	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1560000000-E	620	60	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
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	2	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	42	LF	SHOULDER BERM GUTTER
3030000000-E	862	675	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III

ItemNumber	Sec #	Quantity	Unit	Description
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	3	TON	RIP RAP, CLASS B
3656000000-E	876	185	SY	FILTER FABRIC FOR DRAINAGE
4400000000-E	1110	355	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	96	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	5	EA	DRUMS
4435000000-N	1135	36	EA	CONES
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4450000000-N	1150	80	HR	FLAGGER
4810000000-E	1205	6,400	LF	PAINT PAVEMENT MARKING LINES (4")
4900000000-N	1251	10	EA	PERMANENT RAISED PAVEMENT MARKERS
5325600000-E	1510	498	LF	6" WATER LINE
5540000000-E	1515	2	EA	6" VALVE
5649000000-N	1515	2	EA	RECONNECT WATER METER
5912000000-N	SP	Lump Sum		GENERIC UTILITY ITEM PIER ADJUSTMENTS
6000000000-E	1605	1,175	LF	TEMPORARY SILT FENCE
6006000000-E	1610	50	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	20	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	50	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEED- ING
6024000000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
6027000000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS

ItemNumber	Sec #	Quantity	Unit	Description
6029000000-E	SP	200	LF	SAFETY FENCE
6030000000-E	1630	20	CY	SILT EXCAVATION
6036000000-E	1631	175	SY	MATTING FOR EROSION CONTROL
6042000000-E	1632	225	LF	1/4" HARDWARE CLOTH
6084000000-E	1660	1.5	ACR	SEEDING & MULCHING
6087000000-E	1660	1	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	1	TON	FERTILIZER TOPDRESSING
6114000000-N	SP	2	HR	SPECIALIZED HAND MOWING
6117000000-N	SP	8	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION
***** BEGIN SCHEDULE AA ***** ***** (3 ALTERNATES) *****				
0372000000-E AA1	310	48	LF	18" RC PIPE CULVERTS, CLASS III
*** OR ***				
0372000000-E AA2	310	32	LF	18" RC PIPE CULVERTS, CLASS III
0536000000-E AA2	SP	16	LF	**** HDPE PIPE CULVERTS (18")
*** OR ***				
0372000000-E AA3	310	32	LF	18" RC PIPE CULVERTS, CLASS III
0540000000-E AA3	SP	16	LF	**** ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, **** THICK (18", 0.064")
***** END SCHEDULE AA *****				

6/21/00

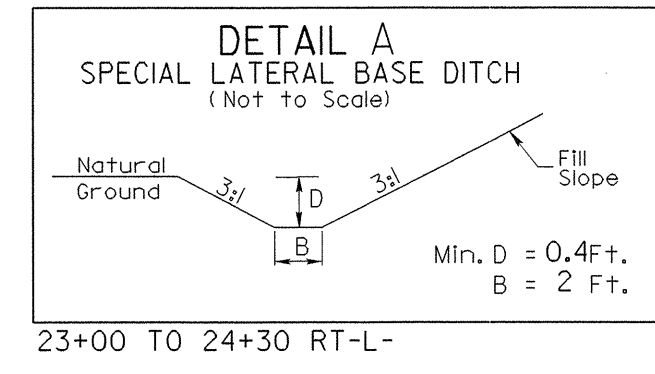
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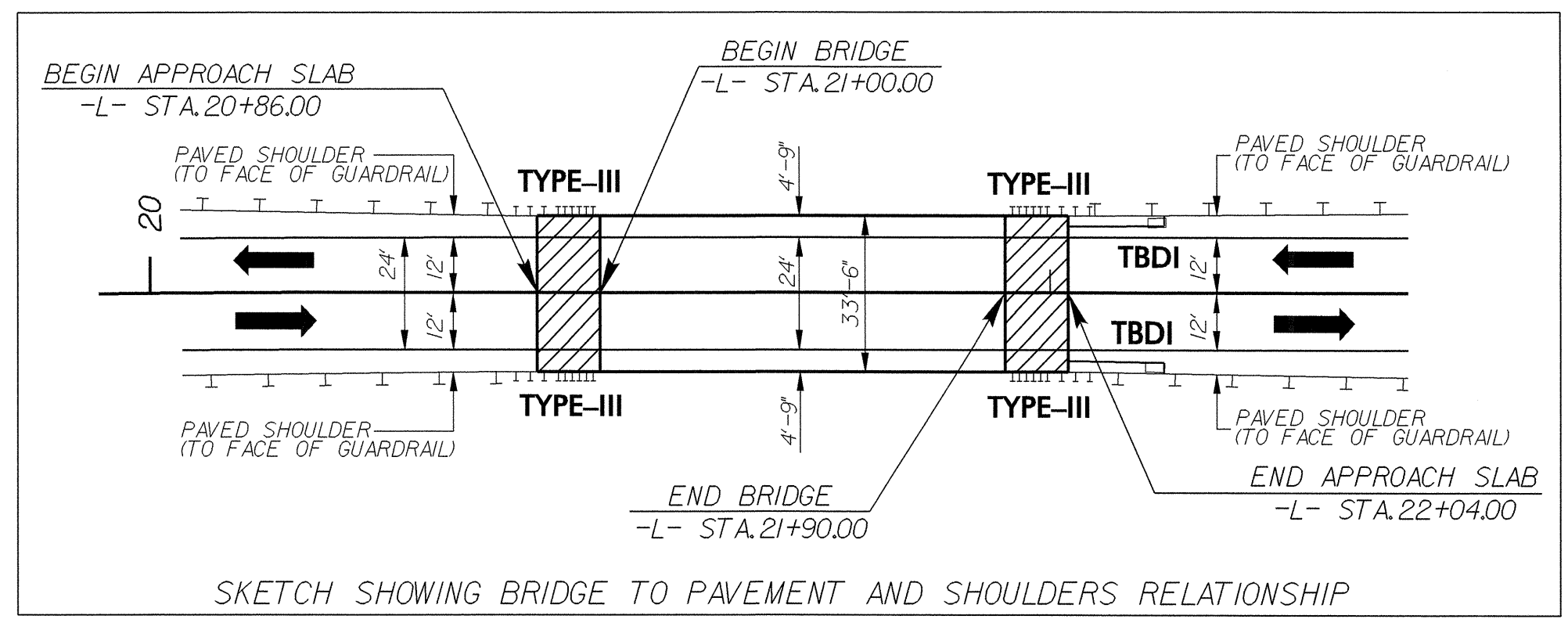


8/17/99

# DESIGN EXCEPTION REQUIRED FOR THE BRIDGE WIDTH AND SHOULDER WIDTH



PI Sta 15+43.16    PI Sta 29+93.67  
 $\Delta = 8^{\circ} 05' 18.0''$  (RT)     $\Delta = 47^{\circ} 56' 56.0''$  (LT)  
 $D = 0^{\circ} 46' 47.6''$      $D = 5^{\circ} 52' 23.5''$   
 $L = 1,037.10'$      $L = 816.40'$   
 $T = 519.41'$      $T = 433.82'$   
 $R = 7,346.55'$      $R = 975.54'$   
 RO = SEE PLANS    RO = SEE PLANS  
 SE = 0.02    SE = SEE PLANS

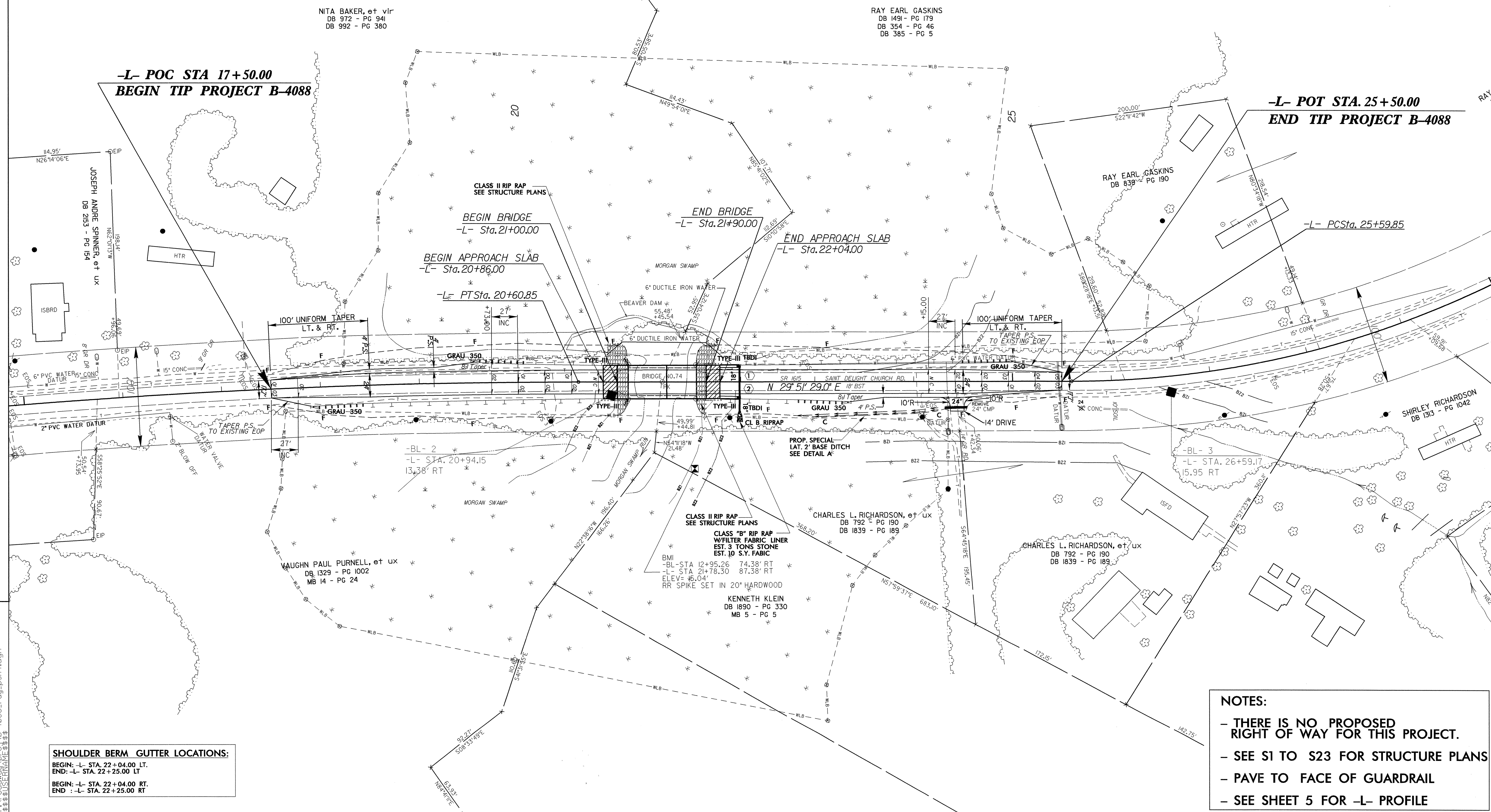


PROJECT REFERENCE NO. B-4088	SHEET NO. 4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 18494 ANTHONY AARON HOUSER 2-5-2007	HYDRAULICS PROFESSIONAL SEAL 19865 WILLIAM S. ZEIMAN 2-5-2007

REVISIONS

-L- POC STA 17+50.00  
BEGIN TIP PROJECT B-4088

-L- POT STA. 25+50.00  
END TIP PROJECT B-4088



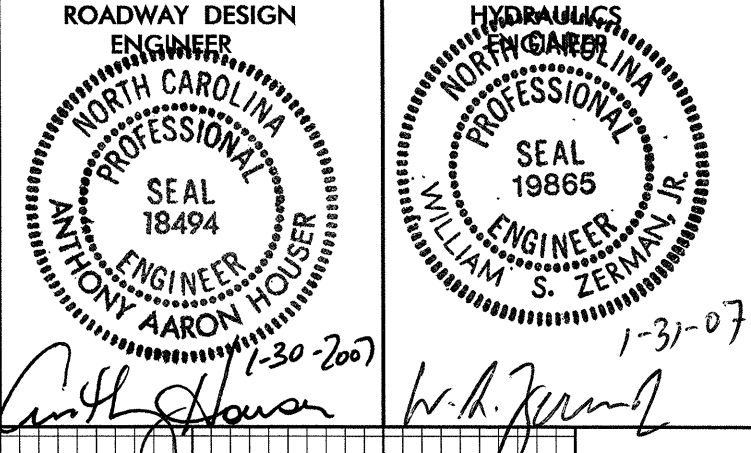
**SHOULDER BERM GUTTER LOCATIONS:**  
 BEGIN: -L- STA. 22+04.00 LT.  
 END: -L- STA. 22+25.00 LT  
 BEGIN: -L- STA. 22+04.00 RT.  
 END : -L- STA. 22+25.00 RT

**NOTES:**

- THERE IS NO PROPOSED RIGHT OF WAY FOR THIS PROJECT.
- SEE S1 TO S23 FOR STRUCTURE PLANS
- PAVE TO FACE OF GUARDRAIL
- SEE SHEET 5 FOR -L- PROFILE

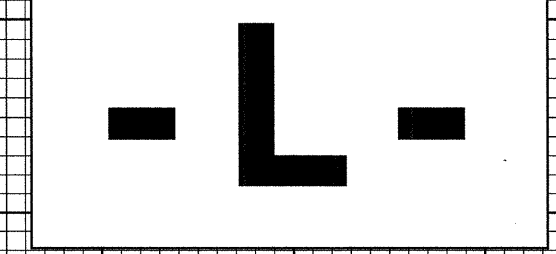
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5/28/99



**STRUCTURE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1000 CFS
DESIGN FREQUENCY	= 25 YRS
DESIGN HW ELEVATION	= 16.3 FT
BASE DISCHARGE	= 1600 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 17.7 FT
OVERTOPPING DISCHARGE	= 2230 CFS
OVERTOPPING FREQUENCY	= 200 YRS
OVERTOPPING ELEVATION	= 18.2 FT



STATION = 21+45-L-  
 ELEVATION = 18.82'  
 SKEW = 90 DEGREES  
 SPANS: 105', 1040'  
 TYPE STRUCTURE: 21in CORED SLAB

**BEGIN GRADE**  
 -L- STA 17+50.00  
 ELEVATION 18.62

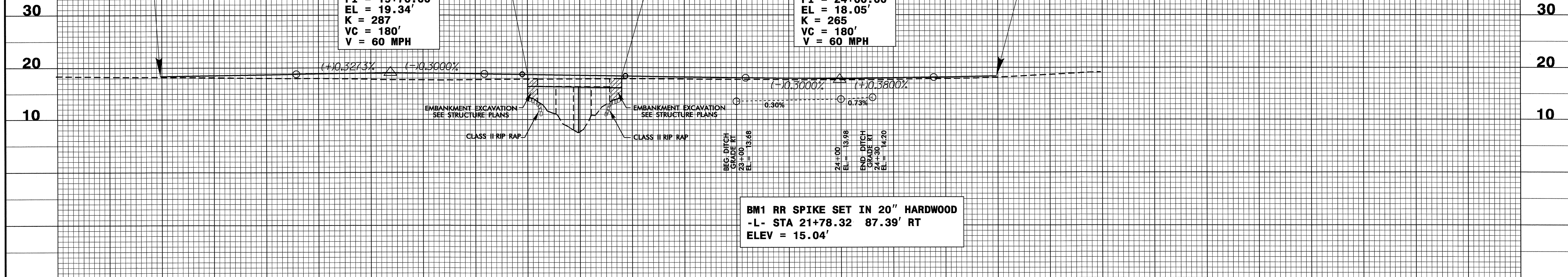
**BEGIN BRIDGE**  
 -L- STA 21+00.00

**END BRIDGE**  
 -L- STA 21+90.00

**END GRADE**  
 -L- STA 25+50.00  
 ELEVATION 18.62

PI = 19+70.00  
 EL = 19.34'  
 K = 287  
 VC = 180'  
 V = 60 MPH

PI = 24+00.00  
 EL = 18.05'  
 K = 265  
 VC = 180'  
 V = 60 MPH



SEE SHEET 4 FOR -L- ALIGNMENT

17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00

**BM1 RR SPIKE SET IN 20" HARDWOOD**  
 -L- STA 21+78.32 87.39' RT  
 ELEV = 15.04'