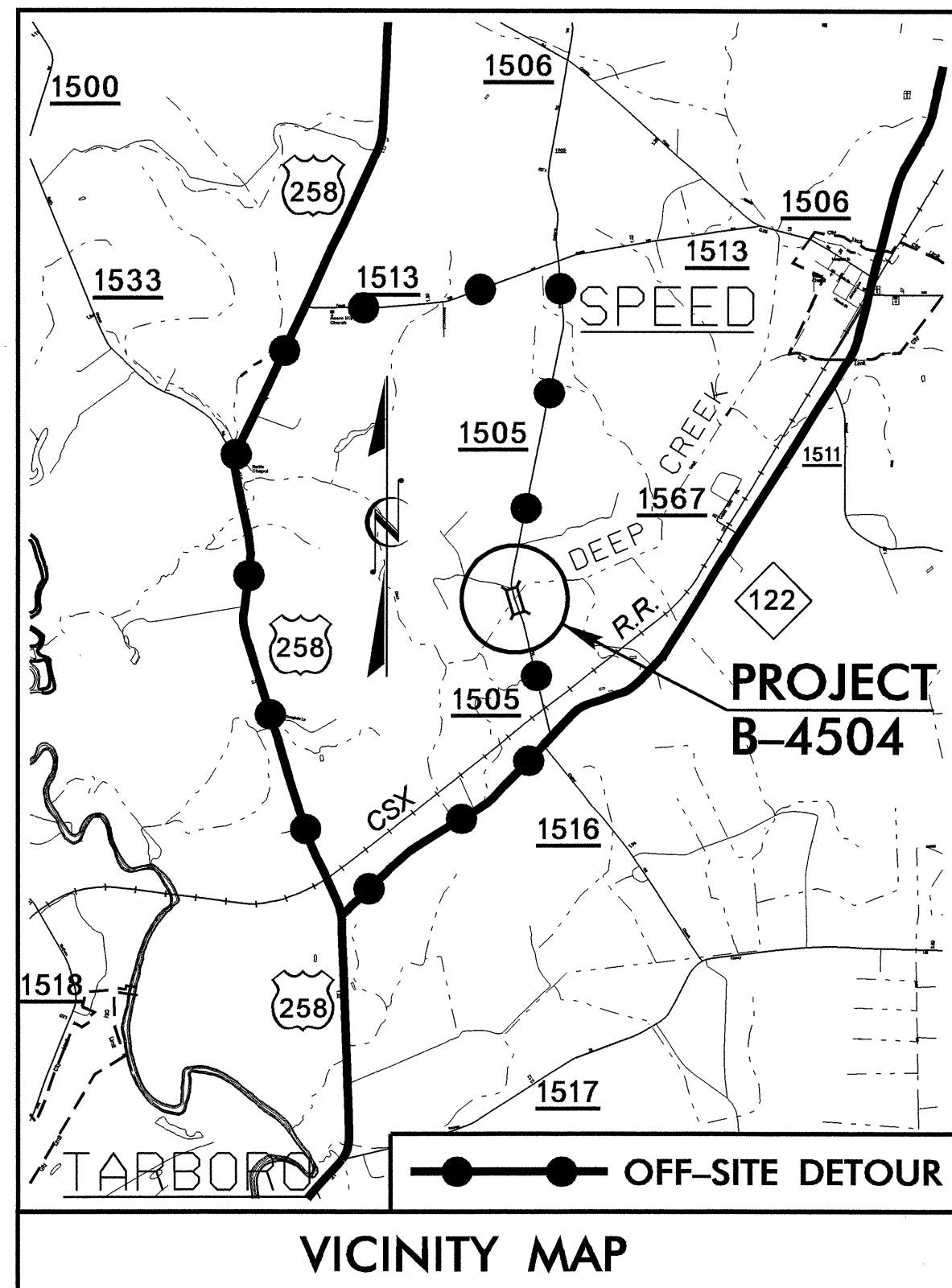


09/08/09

See Sheet 1-A For Index of Sheets



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**EDGECOMBE COUNTY**

**LOCATION: BRIDGE NO. 52 OVER DEEP CREEK AND APPROACHES ON SR 1505 (DICKENS ROAD)**

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

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4504	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33735.1.1	BRZ-1505(3)	P.E.	
33735.2.1	BRZ-1505(3)	RW & UTIL	
33735.3.1	BRZ-1505(3)	CONSTR.	



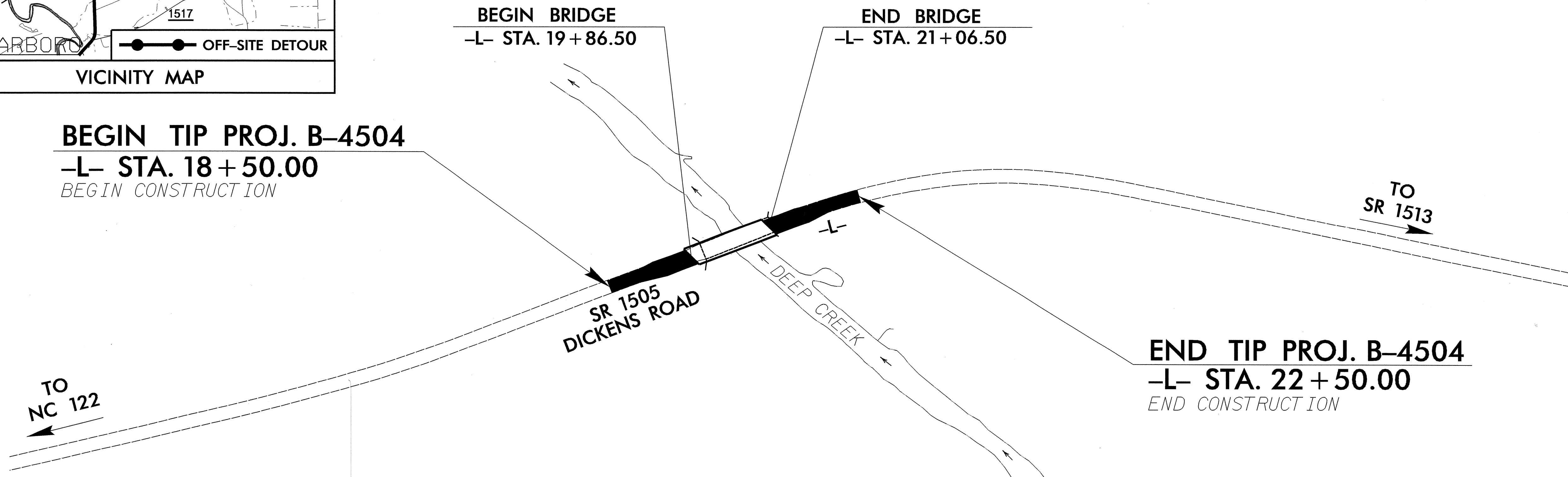
**TIP PROJECT: B-4504**

**CONTRACT: C202097**

**BEGIN TIP PROJ. B-4504**  
-L- STA. 18 + 50.00  
*BEGIN CONSTRUCTION*

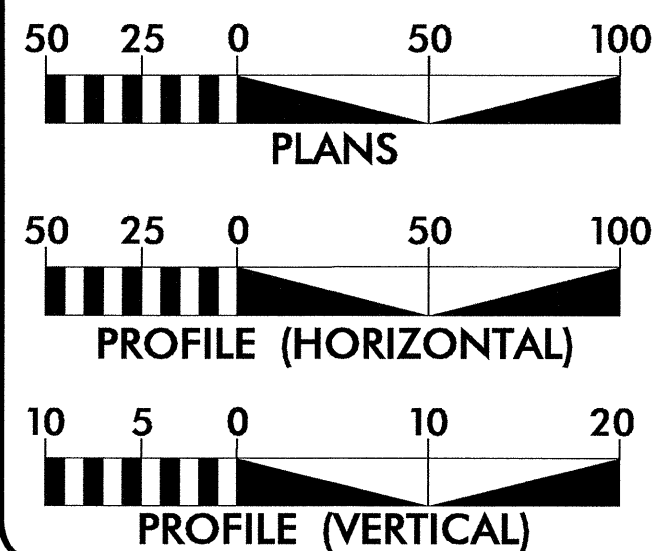
**BEGIN BRIDGE**  
-L- STA. 19 + 86.50

**END BRIDGE**  
-L- STA. 21 + 06.50



**END TIP PROJ. B-4504**  
-L- STA. 22 + 50.00  
*END CONSTRUCTION*

**GRAPHIC SCALES**



**DESIGN DATA**

ADT 2008 = 237  
ADT 2030 = 400  
DHV = 10 %  
D = 60 %  
T = 3 % \*  
V = 45 MPH  
\* TTST 1% + DUAL 2%  
FUNC CLASS=RURAL LOCAL

**PROJECT LENGTH**

LENGTH ROADWAY TIP PROJECT B-4504 = 0.053 MILE  
LENGTH STRUCTURE TIP PROJECT B-4504 = 0.023 MILE  
TOTAL LENGTH OF TIP PROJECT B-4504 = 0.076 MILE

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

2006 STANDARD SPECIFICATIONS

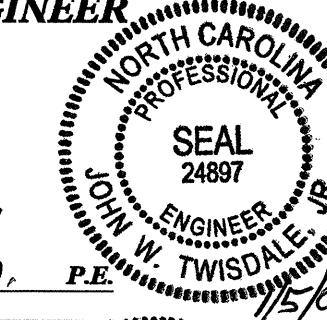
**RIGHT OF WAY DATE:**  
MARCH 31, 2008

**LETTING DATE:**  
MARCH 17, 2009

**ROGER D. THOMAS, PE**  
PROJECT ENGINEER

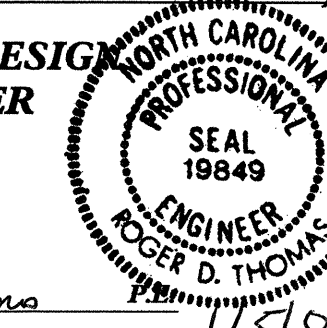
**SAMUEL L. ST. CLAIR**  
PROJECT DESIGN ENGINEER

**HYDRAULICS ENGINEER**



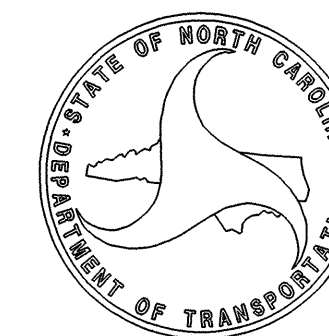
*John W. Twisdale, Jr.*  
SIGNATURE

**ROADWAY DESIGN ENGINEER**



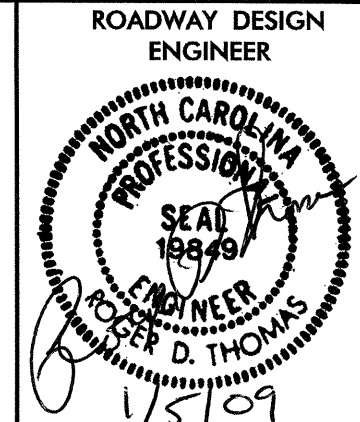
*Roger D. Thomas*  
SIGNATURE

**DIVISION OF HIGHWAYS  
STATE OF NORTH CAROLINA**



*Out Millan*  
STATE HIGHWAY DESIGN ENGINEER

05-JAN-2009 10:41  
r:\roadway\proj\b4504\_rdy\_tsh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$



SHEET NUMBER	INDEX OF SHEETS SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-A	DETAIL FOR ANCHORAGE FOR FRAMES
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES, SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, SHOULDER BERM GUTTER SUMMARY, AND ASPHALT PAVEMENT REMOVAL SUMMARY
4	PLAN AND PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-3	EROSION CONTROL PLANS
RF-1	REFORESTATION PLANS
SIGN-1 THRU SIGN-3	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-0	CROSS-SECTION SUMMARY
X-1 THRU X-3	CROSS-SECTIONS
S-1 THRU S-20	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.

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 EMBARO (Telephone)  
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  
EFF. 07-18-06  
REV. 01-02-07

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'
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	
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
840.00	Concrete Base Pad for Drainage Structures
840.29	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
876.02	Guide for Rip Rap at Pipe Outlets

Note: Not to Scale

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

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# CONVENTIONAL PLAN SHEET SYMBOLS

### BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	□
Parcel/Sequence Number	(23)
Existing Fence Line	—x—x—x—
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
Existing Wetland Boundary	---MLB---
Proposed Wetland Boundary	MLB
Existing Endangered Animal Boundary	EAB
Existing Endangered Plant Boundary	EPB

### BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	○
Sign	⊙
Well	⊙
Small Mine	⊗
Foundation	□
Area Outline	□
Cemetery	⊕
Building	□
School	⊕
Church	⊕
Dam	⊕

### HYDROLOGY:

Stream or Body of Water	-----
Hydro, Pool or Reservoir	-----
Jurisdictional Stream	---JS---
Buffer Zone 1	BZ 1
Buffer Zone 2	BZ 2
Flow Arrow	←
Disappearing Stream	-----
Spring	○
Swamp Marsh	-----
Proposed Lateral, Tail, Head Ditch	-----
False Sump	-----

### RAILROADS:

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

### RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	-----
Proposed Right of Way Line with Iron Pin and Cap Marker	-----
Proposed Right of Way Line with Concrete or Granite Marker	-----
Existing Control of Access	⊙
Proposed Control of Access	⊙
Existing Easement Line	-----
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	-----

### 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:

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:

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:

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:

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

### 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:

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

## SURVEY CONTROL SHEET B-4504

### CONTROL DATA

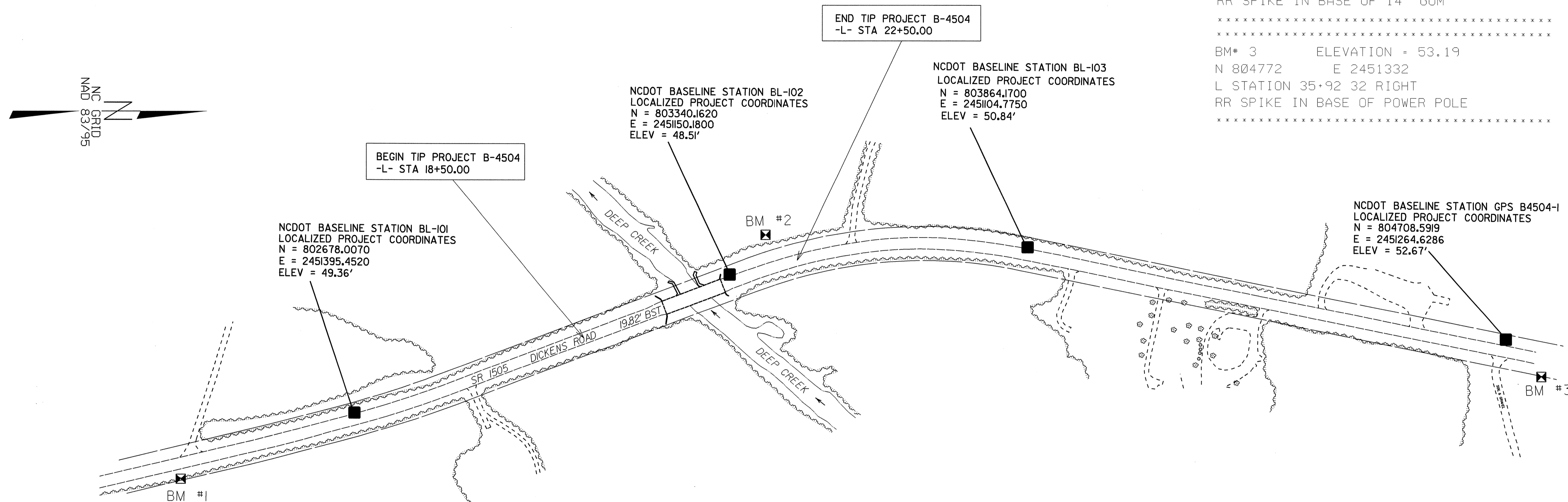
BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	802678.0070	2451395.4520	49.36	14+23.01	13.51 LT
102	BL-102	803340.1620	2451150.1800	48.51	21+30.55	16.50 LT
103	BL-103	803864.1700	2451104.7750	50.84	26+56.51	11.86 LT
1	GPS B4504-1	804708.5919	2451264.6286	52.67	35+15.93	22.18 LT

### BENCHMARK DATA

```

*****
BM#1      ELEVATION = 54.32
N 802375  E 2451513
L STATION 11+00 27 RIGHT
RR SPIKE IN BASE OF 10" GUM
*****
BM# 2     ELEVATION = 47.10
N 803402  E 2451082
L STATION 22+09 59 LEFT
RR SPIKE IN BASE OF 14" GUM
*****
BM# 3     ELEVATION = 53.19
N 804772  E 2451332
L STATION 35+92 32 RIGHT
RR SPIKE IN BASE OF POWER POLE
*****

```



### 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](http://www.ncdot.org/doh/preconstruct/highway/location/project)  
 FILE : B4504\_LS\_CONTROL\_061121.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.  
 CONTROL NETWORK FOR B4504 ESTABLISHED FROM NGS ONLINE POSITIONING USER SERVICE (OPUS)

**NOTE: DRAWING NOT TO SCALE**

### DATUM DESCRIPTION

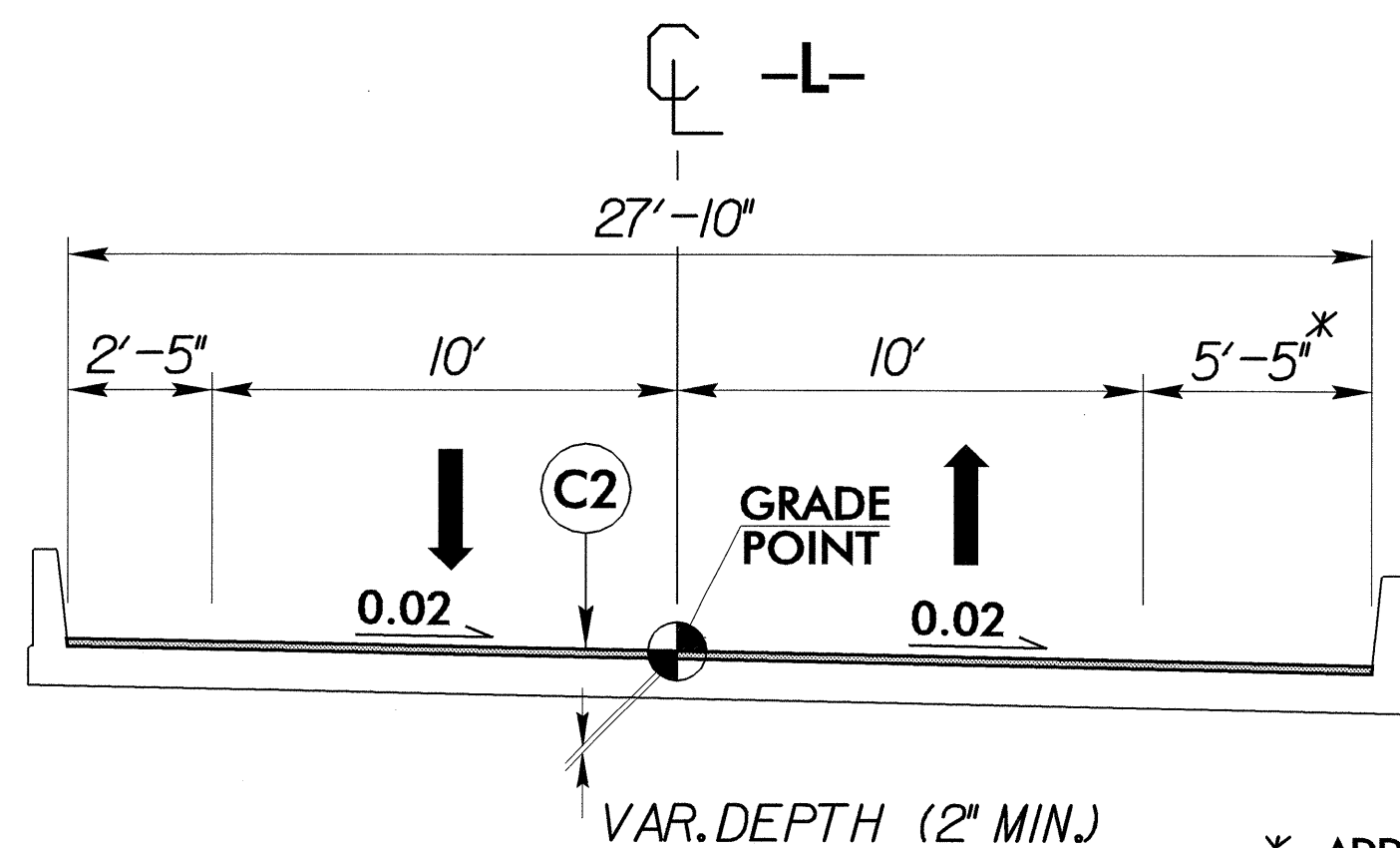
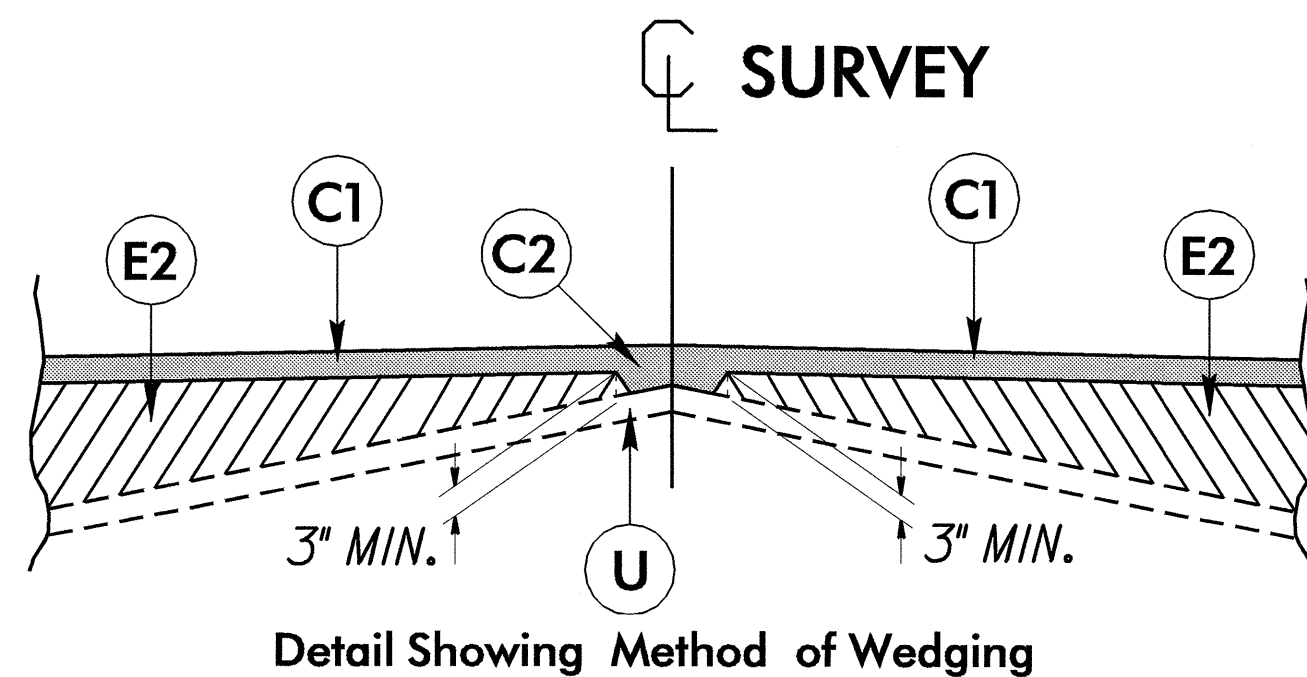
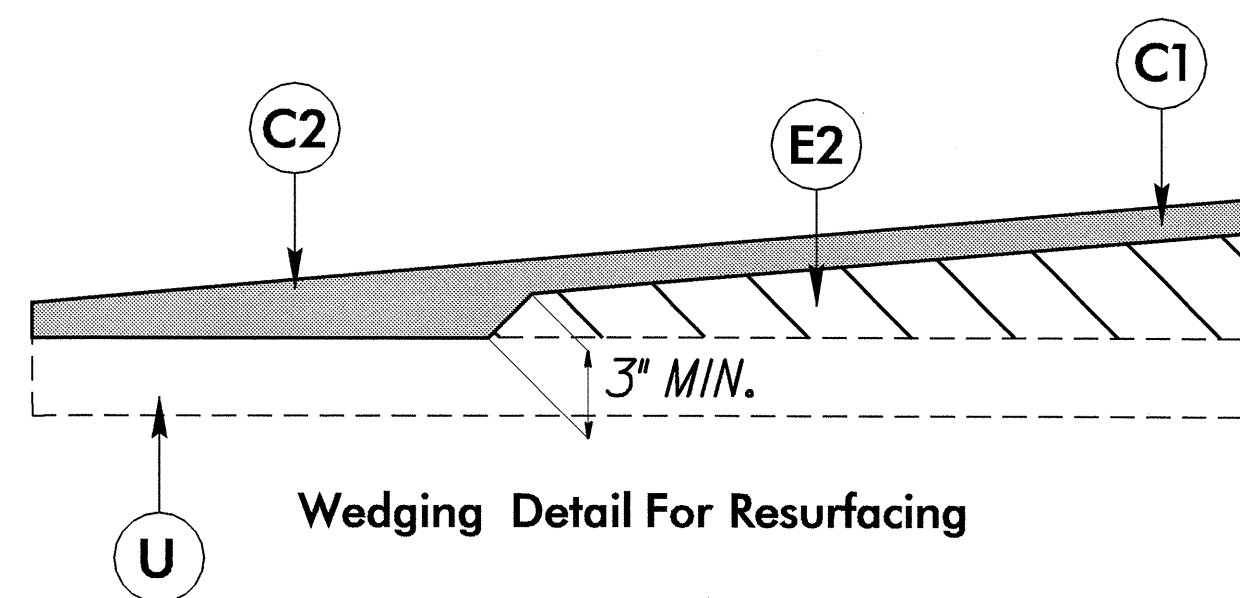
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS B4504-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 804708.594(ft) EASTING: 2451264.629(ft) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99995033 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS B4504-1" TO -L- STATION 17+50.00 IS S 01°11'11" E 1718.91' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

6/2/99

# PAVEMENT SCHEDULE

C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL
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 TO EXCEED 1½" IN DEPTH.	U	EXISTING PAVEMENT
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)
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 GREATER THAN 5½" IN DEPTH OR LESS THAN 3" IN DEPTH.		

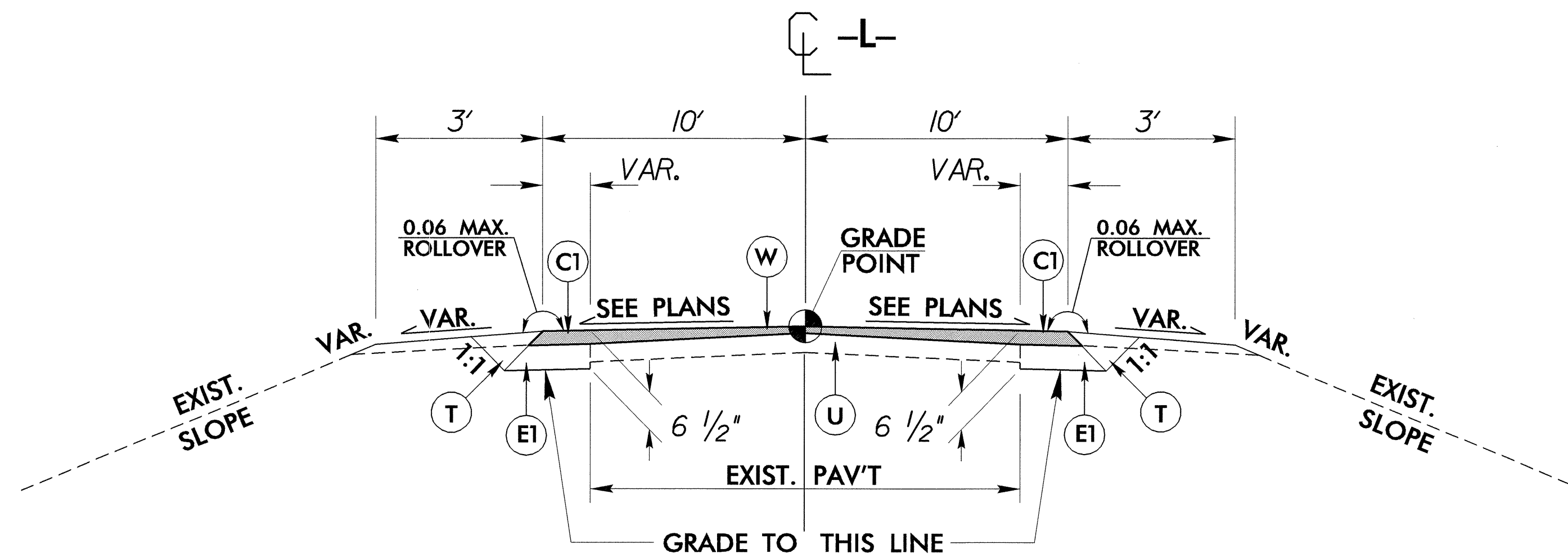
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



**TYPICAL SECTION ON STRUCTURE INCLUDES ASPHALT WEARING SURFACE**

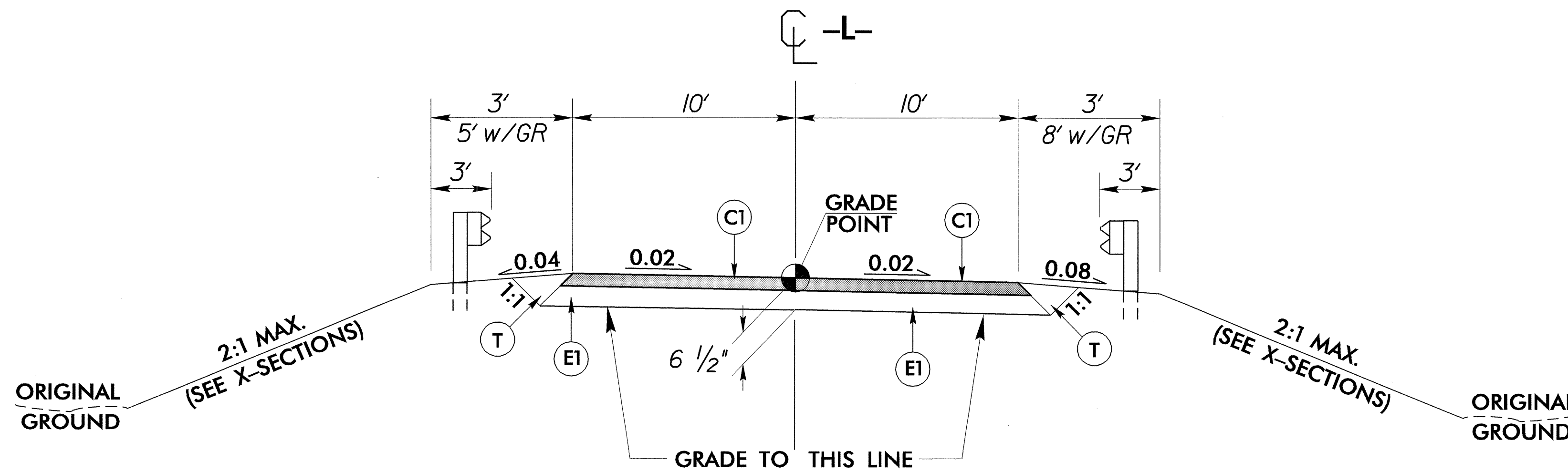
FROM -L- STA. 19+86.50 TO 21+06.50

\* ADDITIONAL WIDTH NEEDED TO ACCOMMODATE HYDRAULIC SPREAD



**USE TYPICAL SECTION NO. 1**

FROM -L- STA. 18+50.00 TO -L- STA. 19+00.00  
FROM -L- STA. 22+00.00 TO -L- STA. 22+50.00



**TYPICAL SECTION NO. 2**

**USE TYPICAL SECTION NO. 2**

FROM -L- STA. 19+00.00 TO -L- STA. 19+86.50 (BEGIN BRIDGE)  
FROM -L- STA. 21+06.50 (END BRIDGE) TO -L- STA. 22+00.00

PROJECT REFERENCE NO. B-4504	SHEET NO. 2
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19649 POOR D. THOMAS 11/5/09	PAVEMENT DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22896 CLARK S. MORRISON 11/5/09

05-JAN-2009 08:59 R:\PROJECTS\4504\_rdy\_typ.dgn

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

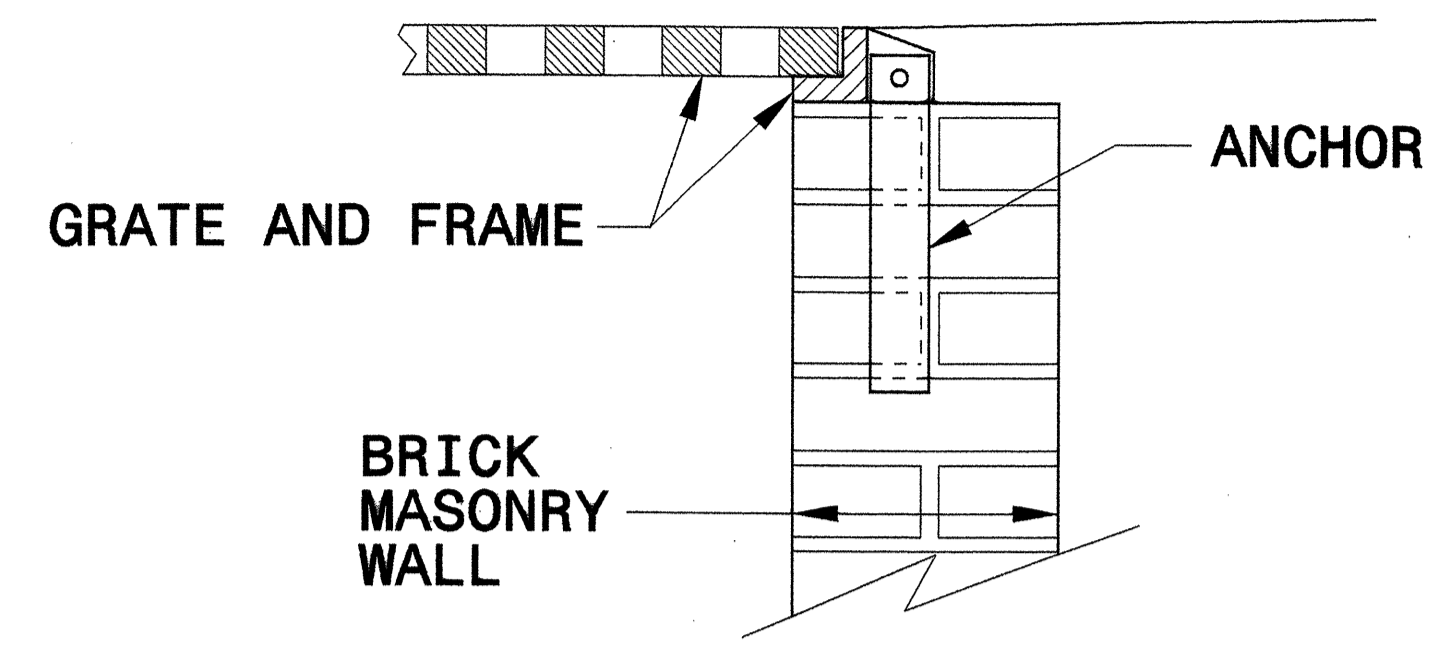
ENGLISH DETAIL DRAWING FOR  
**ANCHORAGE FOR FRAMES**  
BRICK/CONCRETE/PRECAST CONCRETE

SHEET 1 OF 1  
**840D25**

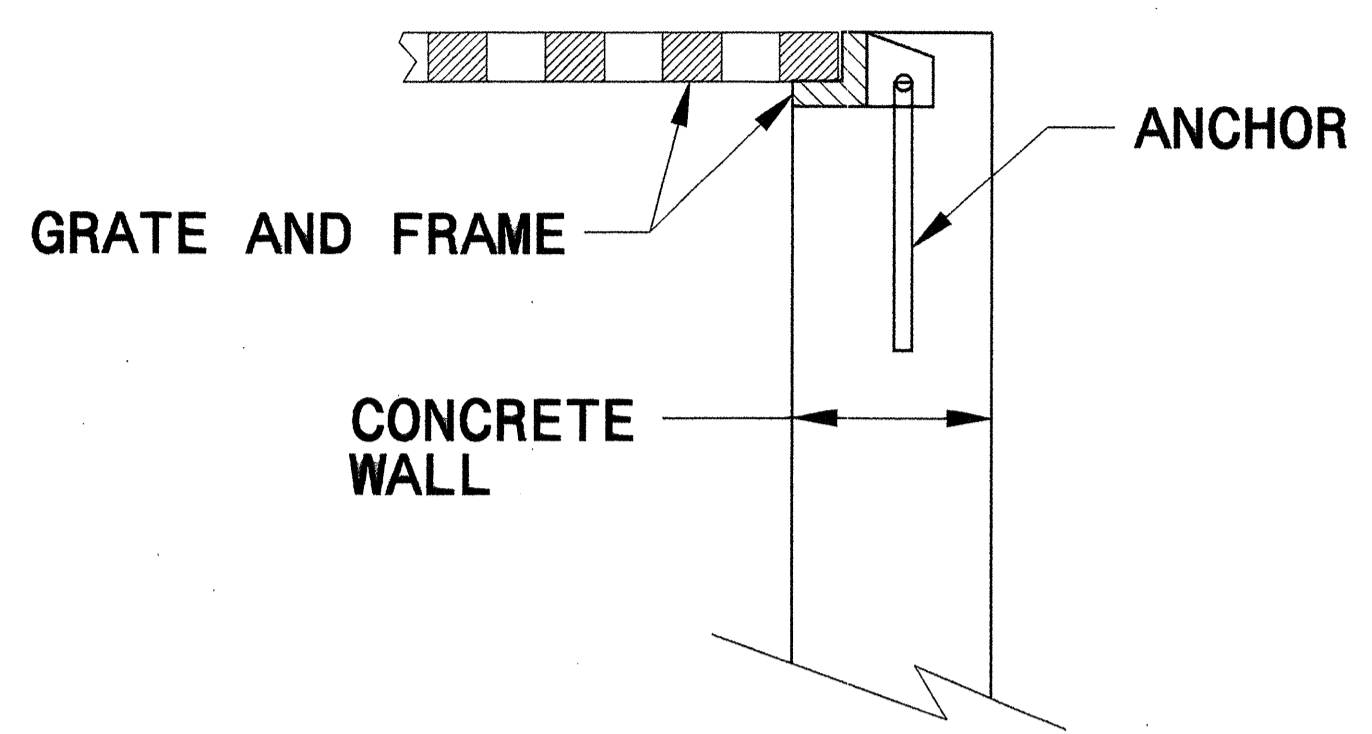
STATE OF NORTH CAROLINA  
DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
RALEIGH, N.C.

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

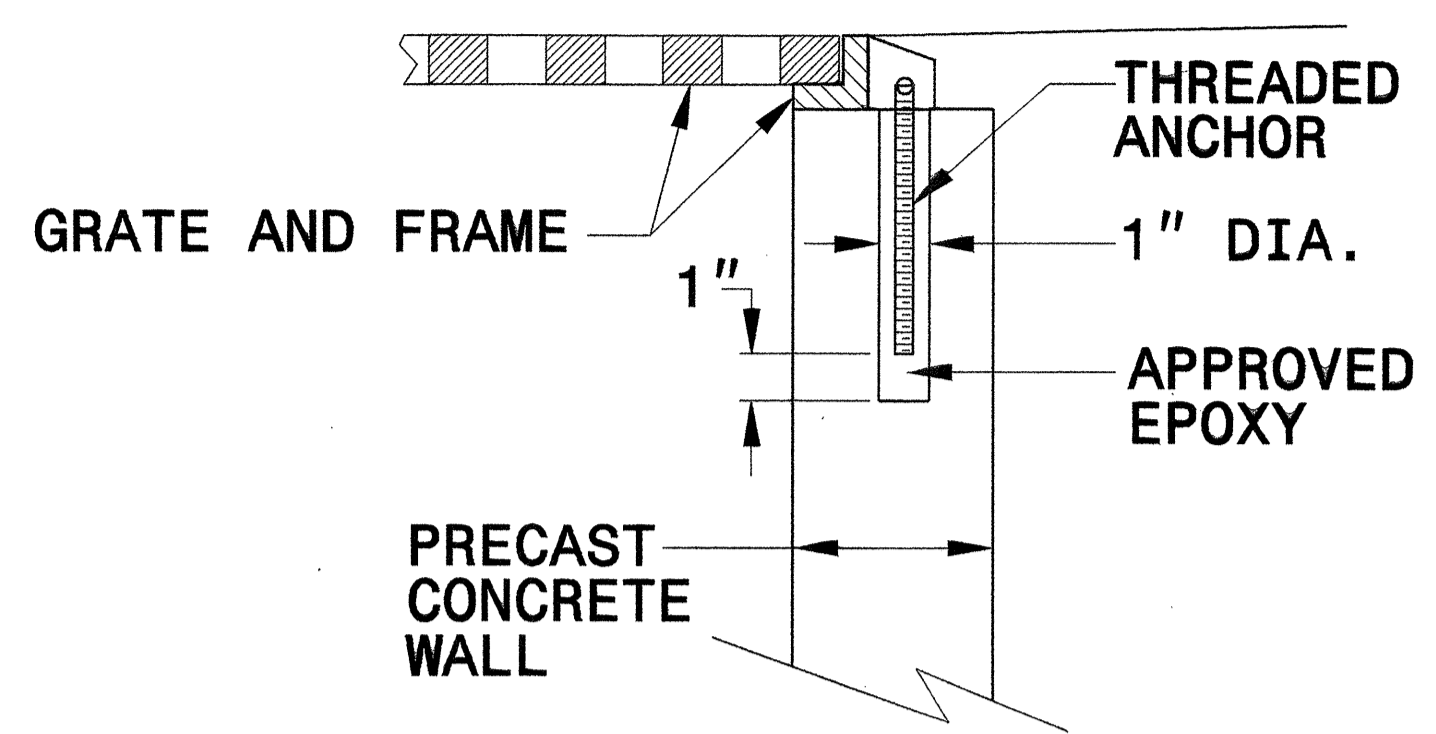
SHEET 1 OF 1  
**840D25**



**BRICK MASONRY CONSTRUCTION**



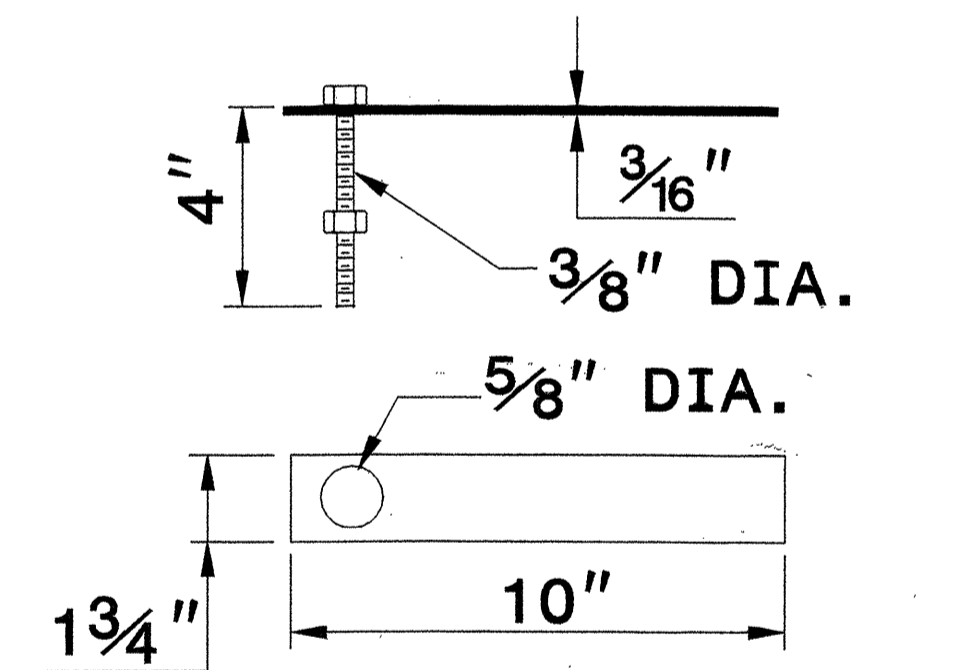
**CONCRETE CONSTRUCTION**



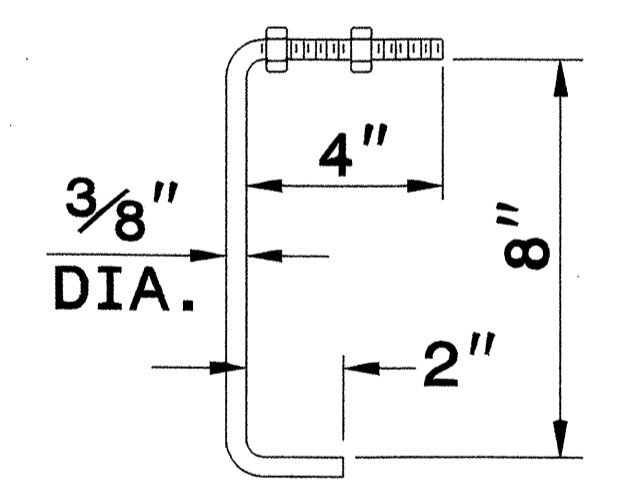
**PRECAST CONCRETE CONSTRUCTION**

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

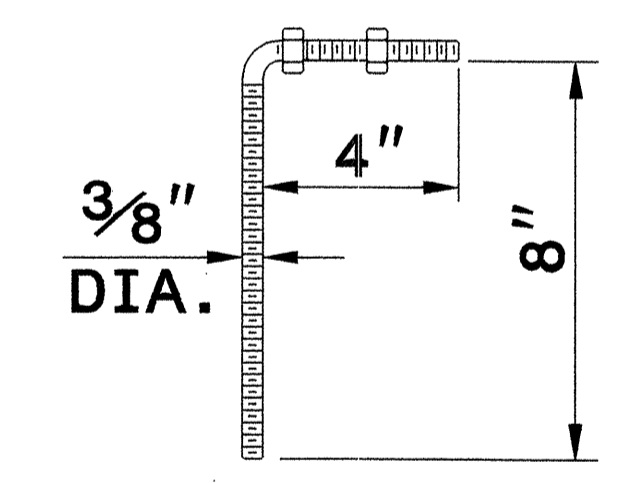
NOTE:  
CONSTRUCT GRATED DROP INLET TO COINCIDE WITH NORMAL OR SUPERELEVATED SHOULDER OR PAVEMENT SLOPE.



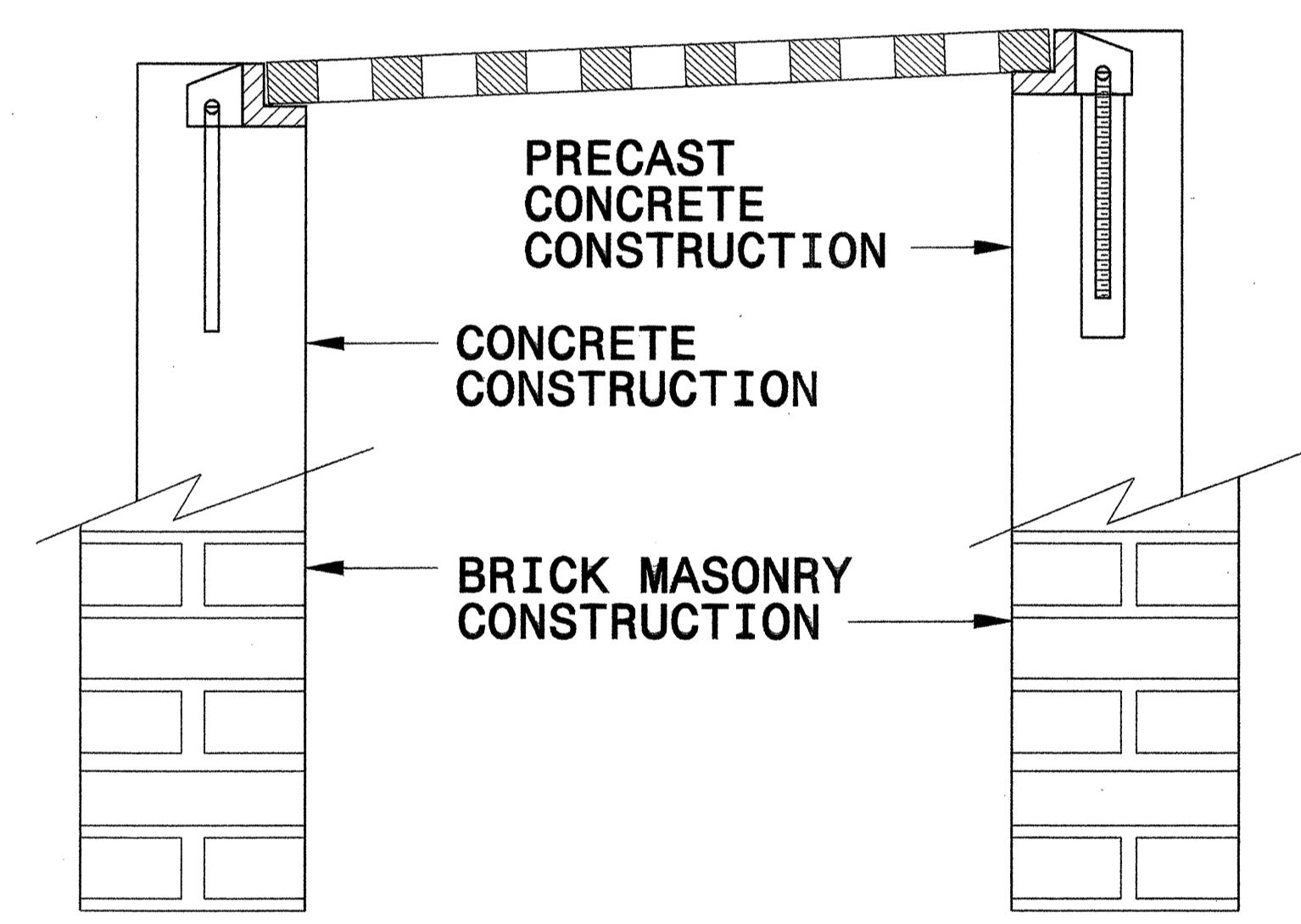
**MASONRY ANCHOR**  
3/8" DIA. BOLT WITH PLATE



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

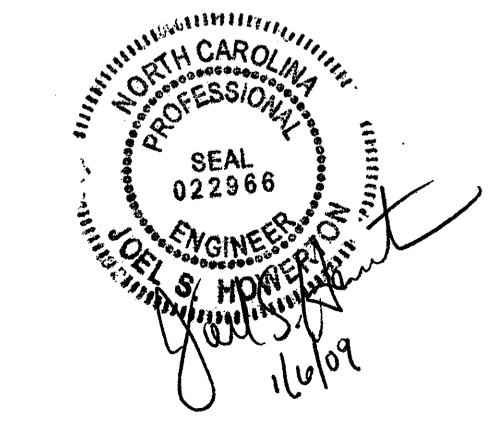


**PRECAST CONCRETE ANCHOR**  
3/8" DIA. BENT BAR



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

\*\*\*\*\*  
SYTIME  
\*\*\*\*\*



**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.: \_\_\_\_\_

5/28/99

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS  
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C202097

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (20+46.50)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
005700000-E	226	200	CY	UNDERCUT EXCAVATION
019500000-E	265	300	CY	SELECT GRANULAR MATERIAL
019600000-E	270	300	SY	FABRIC FOR SOIL STABILIZATION
031800000-E	300	5	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STIRS
122000000-E	545	200	TON	INCIDENTAL STONE BASE
148900000-E	610	80	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
152500000-E	610	165	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
156000000-E	620	15	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
200000000-N	806	9	EA	RIGHT OF WAY MARKERS
202200000-E	815	23	CY	SUBDRAIN EXCAVATION
203300000-E	815	17	CY	SUBDRAIN FINE AGGREGATE
204400000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
205500000-E	815	3	EA	6" SUBDRAIN PIPE WYES, TEES, & ELBOWS
206600000-N	815	1	EA	CONCRETE PAD FOR SUBDRAIN PIPE OUTLET
207700000-E	815	6	LF	6" OUTLET PIPE (SUBDRAINS)
228600000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	140	LF	SHOULDER BERM GUTTER
303000000-E	862	175	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS

ItemNumber	Sec #	Quantity	Unit	Description
316500000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE ***** (TL-2)
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
364900000-E	876	2	TON	RIP RAP, CLASS B
365600000-E	876	240	SY	FILTER FABRIC FOR DRAINAGE
407200000-E	903	33	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
410200000-N	904	4	EA	SIGN ERECTION, TYPE E
415500000-N	907	5	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
415800000-N	907	2	EA	DISPOSAL OF SIGN SYSTEM, WOOD
440000000-E	1110	160	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	96	LF	BARRICADES (TYPE III)
481000000-E	1205	3,520	LF	PAINT PAVEMENT MARKING LINES (4")
490000000-N	1251	7	EA	PERMANENT RAISED PAVEMENT MARKERS
600000000-E	1605	610	LF	TEMPORARY SILT FENCE
600600000-E	1610	120	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	190	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	70	TON	SEDIMENT CONTROL STONE
601500000-E	1615	1.5	ACR	TEMPORARY MULCHING
601800000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	0.25	TON	FERTILIZER FOR TEMPORARY SEEDING
602400000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
602700000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
602900000-E	SP	450	LF	SAFETY FENCE
603000000-E	1630	270	CY	SILT EXCAVATION
603600000-E	1631	310	SY	MATTING FOR EROSION CONTROL

ItemNumber	Sec #	Quantity	Unit	Description
604200000-E	1632	80	LF	1/4" HARDWARE CLOTH
608400000-E	1660	4.5	ACR	SEEDING & MULCHING
608700000-E	1660	0.5	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
611400000-N	SP	5	HR	SPECIALIZED HAND MOWING
611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL
612300000-E	1670	0.25	ACR	REFORESTATION

***** BEGIN SCHEDULE AA *****				
***** (3 ALTERNATES) *****				
036600000-E	310	40	LF	15" RC PIPE CULVERTS, CLASS III
AA1				
*** OR ***				
053600000-E	SP	40	LF	15" HDPE PIPE CULVERTS (15")
AA2				
*** OR ***				
054000000-E	SP	40	LF	15" ALUMINIZED CORRUGATED STEEL PIPE CULVERTS, ***** THICK (15", 0.064") (0.064")
AA3				
***** END SCHEDULE AA *****				

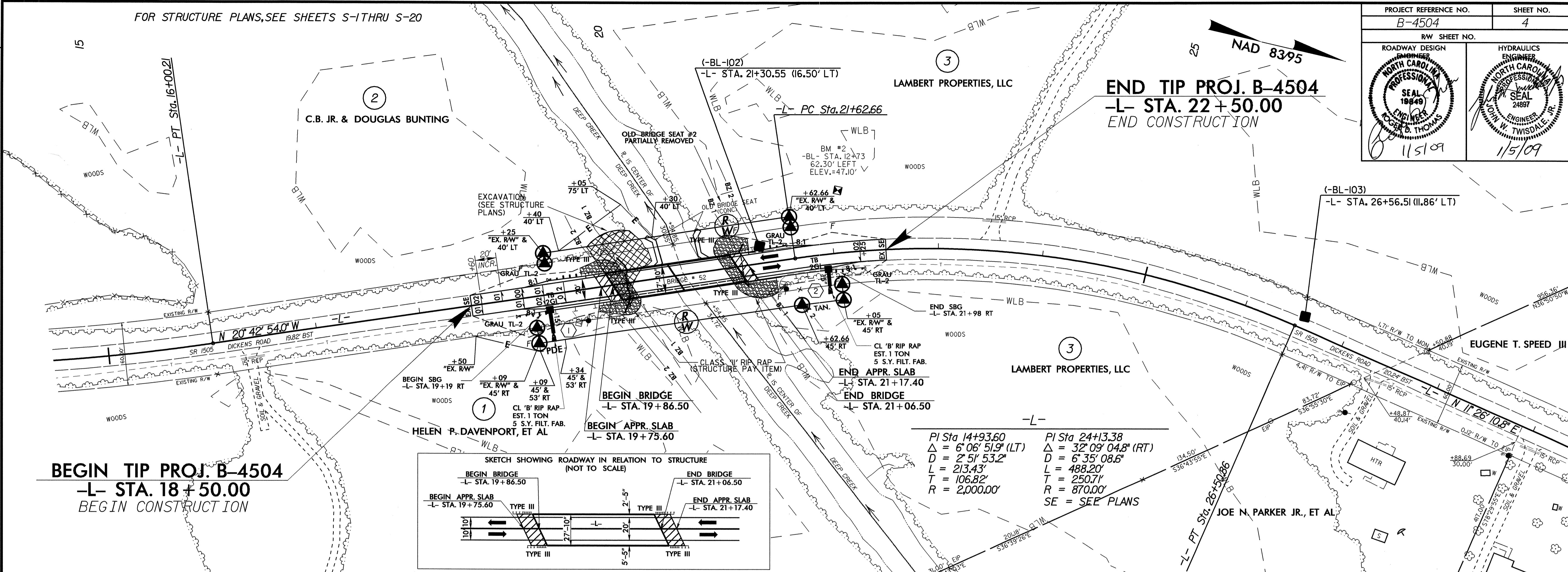




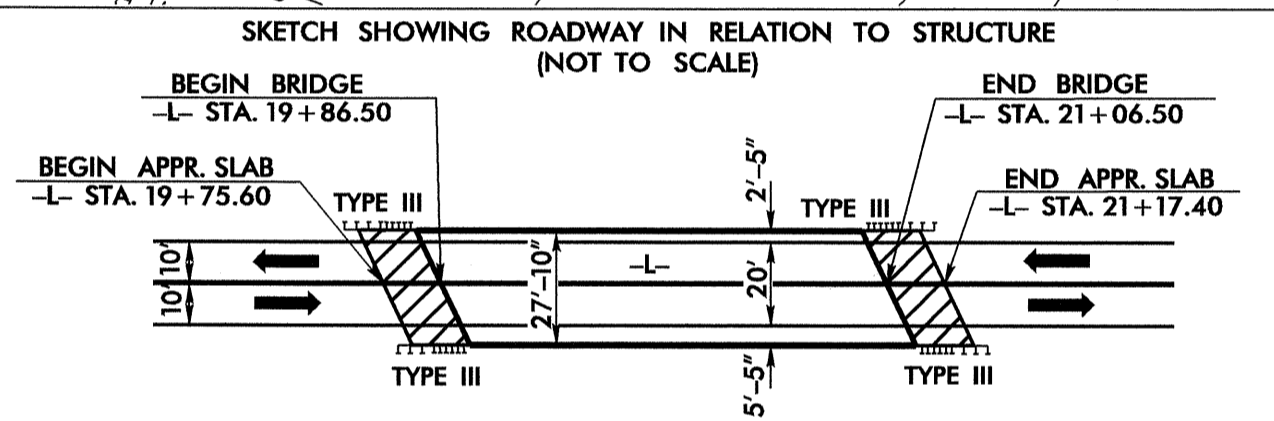
FOR STRUCTURE PLANS, SEE SHEETS S-1 THRU S-20

PROJECT REFERENCE NO. B-4504	SHEET NO. 4
ROADWAY DESIGN ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 19849 COOPER & THOMAS 11/5/09	HYDRAULICS ENGINEER NORTH CAROLINA PROFESSIONAL SEAL 24897 W. TWISDALE, JR. 11/5/09

**END TIP PROJ. B-4504**  
-L- STA. 22 + 50.00  
END CONSTRUCTION



**BEGIN TIP PROJ. B-4504**  
-L- STA. 18 + 50.00  
BEGIN CONSTRUCTION

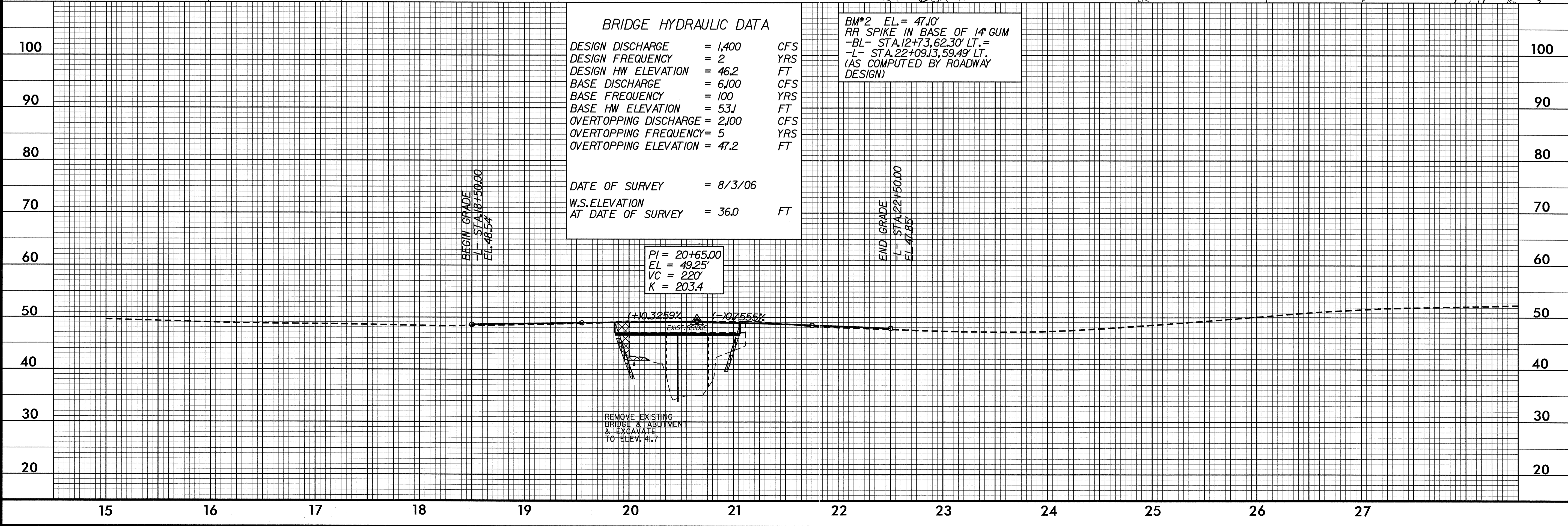


**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 1,400	CFS
DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 46.2	FT
BASE DISCHARGE	= 6,100	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 53.1	FT
OVERTOPPING DISCHARGE	= 2,100	CFS
OVERTOPPING FREQUENCY	= 5	YRS
OVERTOPPING ELEVATION	= 47.2	FT

DATE OF SURVEY = 8/3/06  
W.S. ELEVATION AT DATE OF SURVEY = 36.0 FT

BM\*2 EL. = 47.10'  
RR SPIKE IN BASE OF 14" GUM  
-BL- STA. 12+73.62.30' LT. =  
-L- STA. 22+09.13.59.49' LT.  
(AS COMPUTED BY ROADWAY DESIGN)



REMOVE EXISTING BRIDGE & ABUTMENT & EXCAVATE TO ELEV. 41.7

REVISIONS

8/17/09

05-JAN-2009 08:59  
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