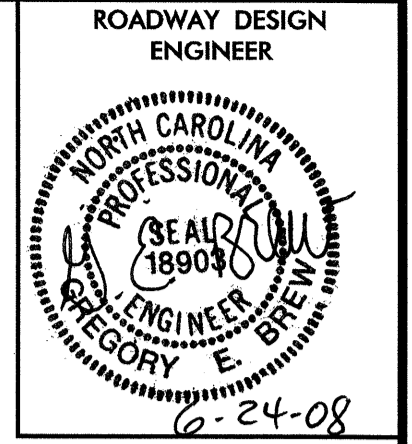


8/17/99



SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2	TYPICAL SECTIONS
2-A	ANCHORAGE FOR FRAMES DETAIL
3	SUMMARY OF QUANTITIES
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	GUARDRAIL SUMMARY
3-C	SUMMARY OF EARTHWORK AND SHOULDER BERM GUTTER SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TCP-1 THRU TCP-3	TRAFFIC CONTROL PLANS
SD-1	SPECIAL SIGN DESIGN
EC-1 THRU EC-5	EROSION CONTROL PLANS
UD-1 THRU UD- 2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-3	CROSS-SECTIONS
S-1 THRU S-19	STRUCTURE PLANS

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

**GRADE LINE:
GRADING AND SURFACING:**
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

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.

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.

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 ROADWAY 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.
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 OTHERS.

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	
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
876.04	Drainage Ditches with Class 'B' Rip Rap

16 JUN 2008 10:52 AM b-4649_rdy_sht1a.dgn

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, Wetland, 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, 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:

Table listing symbols for 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.

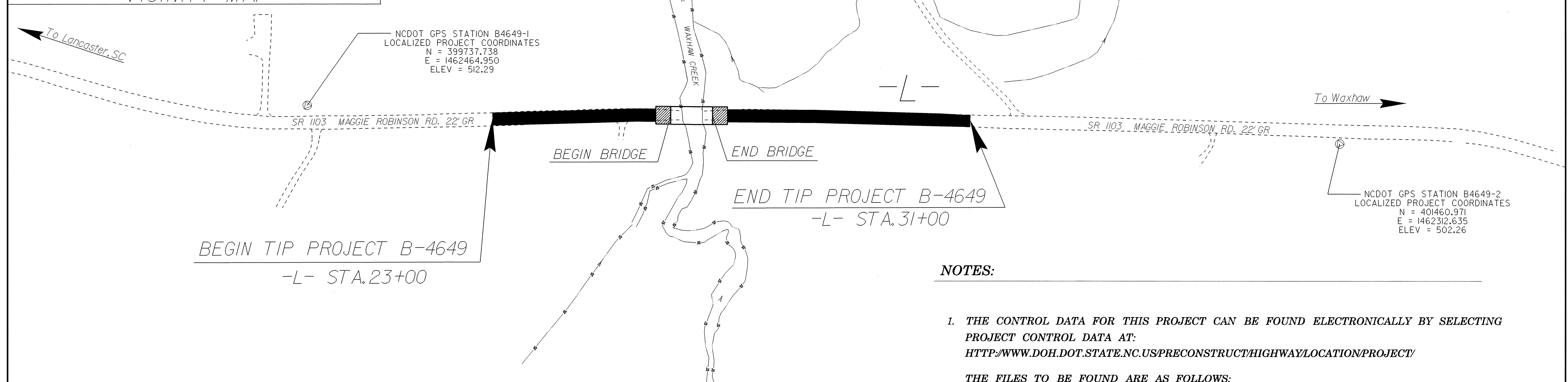
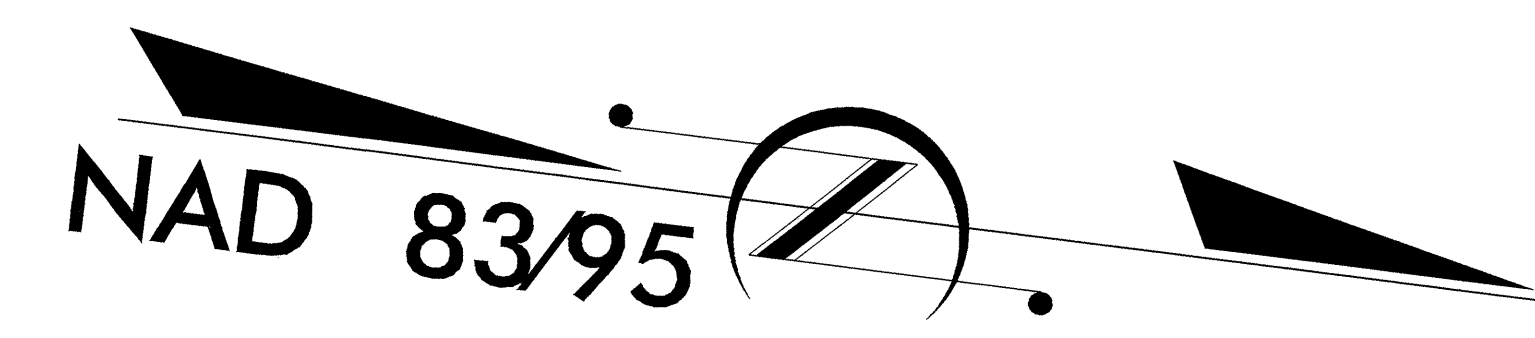
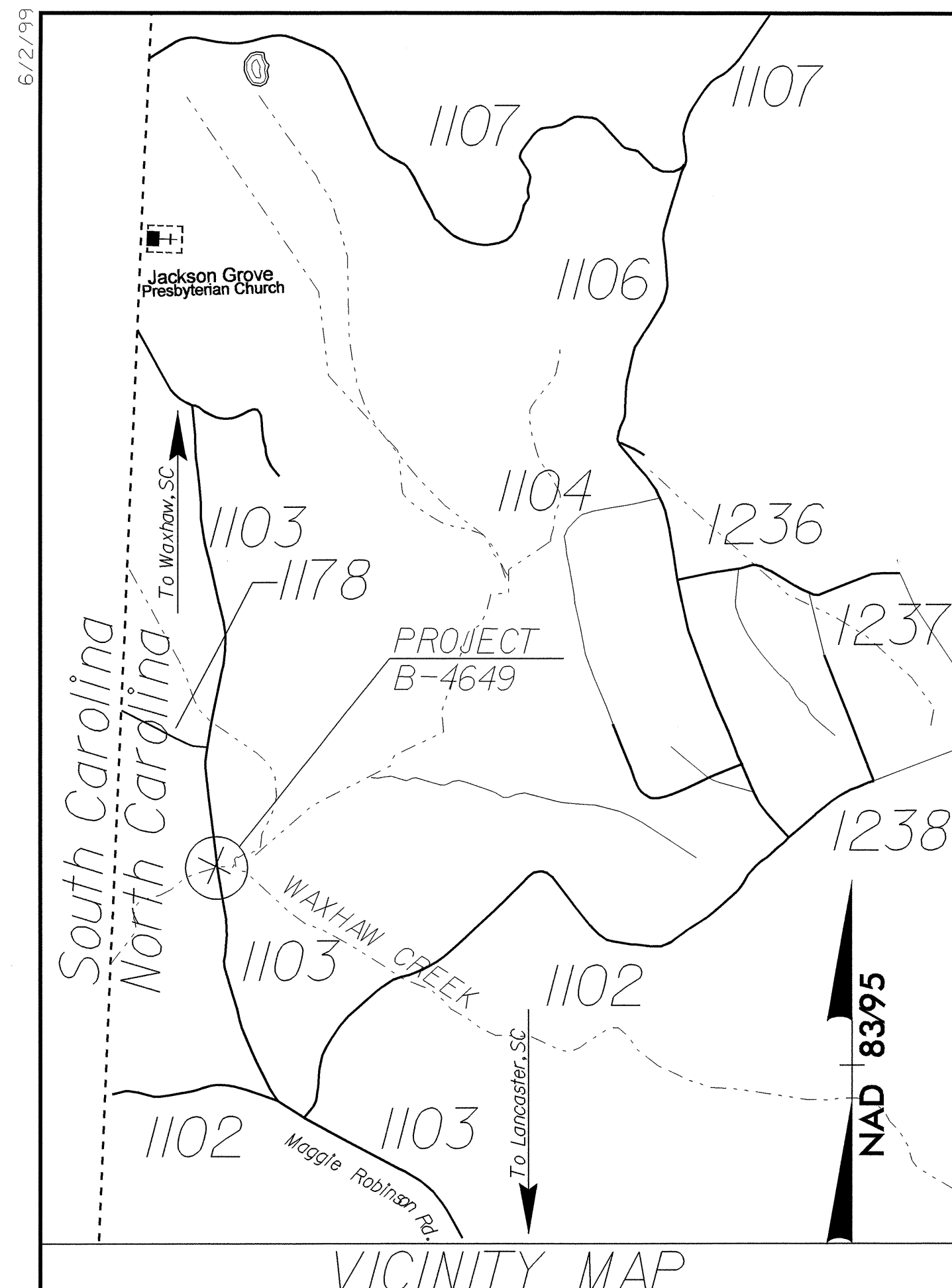
SANITARY SEWER:

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-4649



NOTES:

1. 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:
B4649_LS_CONTROL_051201.TXT
B4649_LS_BASELINE_050718.TXT

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

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

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 "B4649-1"

WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF
NORTHING: 399737.7380(±) EASTING: 1462464.9500(±)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998790

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4649-1" TO -L- STATION 10+00.00 IS
S 5°08'19" E 974.889

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

06-DEC-2005 08:03 649_1s_1c_051201.dgn

SURVEY CONTROL SHEET B-4649

BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
13	BL-13		398909.2750	1462500.2510	553.21	11+50.95	15.08 LT
12	BL-12		399206.1230	1462438.7980	548.22	14+49.82	20.59 LT
10	BL-10		399519.7470	1462517.6890	529.51	17+68.20	16.16 RT
1	B4649-1		399737.7380	1462464.9500	512.29	19+89.30	30.94 LT
11	BL-11		400406.4010	1462407.9430	490.96	26+60.18	9.69 RT
2	B4649-2		401460.9710	1462312.6350	502.26	37+19.27	20.44 RT

T0	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
22	T-22		400296.4080	1462216.3080	487.81	25+73.47	193.55 LT
21	T-21		400340.9670	1462305.6520	487.72	26+07.22	99.58 LT
E011	BL-11		400406.4010	1462407.9430	490.96	26+60.18	9.69 RT
23	T-23		400414.0380	1462491.5430	486.23	26+57.93	93.61 RT
24	T-24		400402.0920	1462568.3830	485.55	26+37.04	168.51 RT

```

*****
BM1      ELEVATION = 552.64
N 399037      E 1462453
L STATION 8+05 1378 LEFT
RR SPIKE IN POWER POLE
*****
BM2      ELEVATION = 491.60
N 400325      E 1462385
L STATION 6+58 57 RIGHT
RR SPIKE IN TEL POLE
*****
BM3      ELEVATION = 500.08
N 401205      E 1462352
L STATION 7+38 801 LEFT
RR SPIKE IN POWER POLE
*****

```

NOTES:

1. 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:
 B4649_LS_CONTROL_051201.TXT
 B4649_LS_BASELINE_050718.TXT

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

⊕ INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.

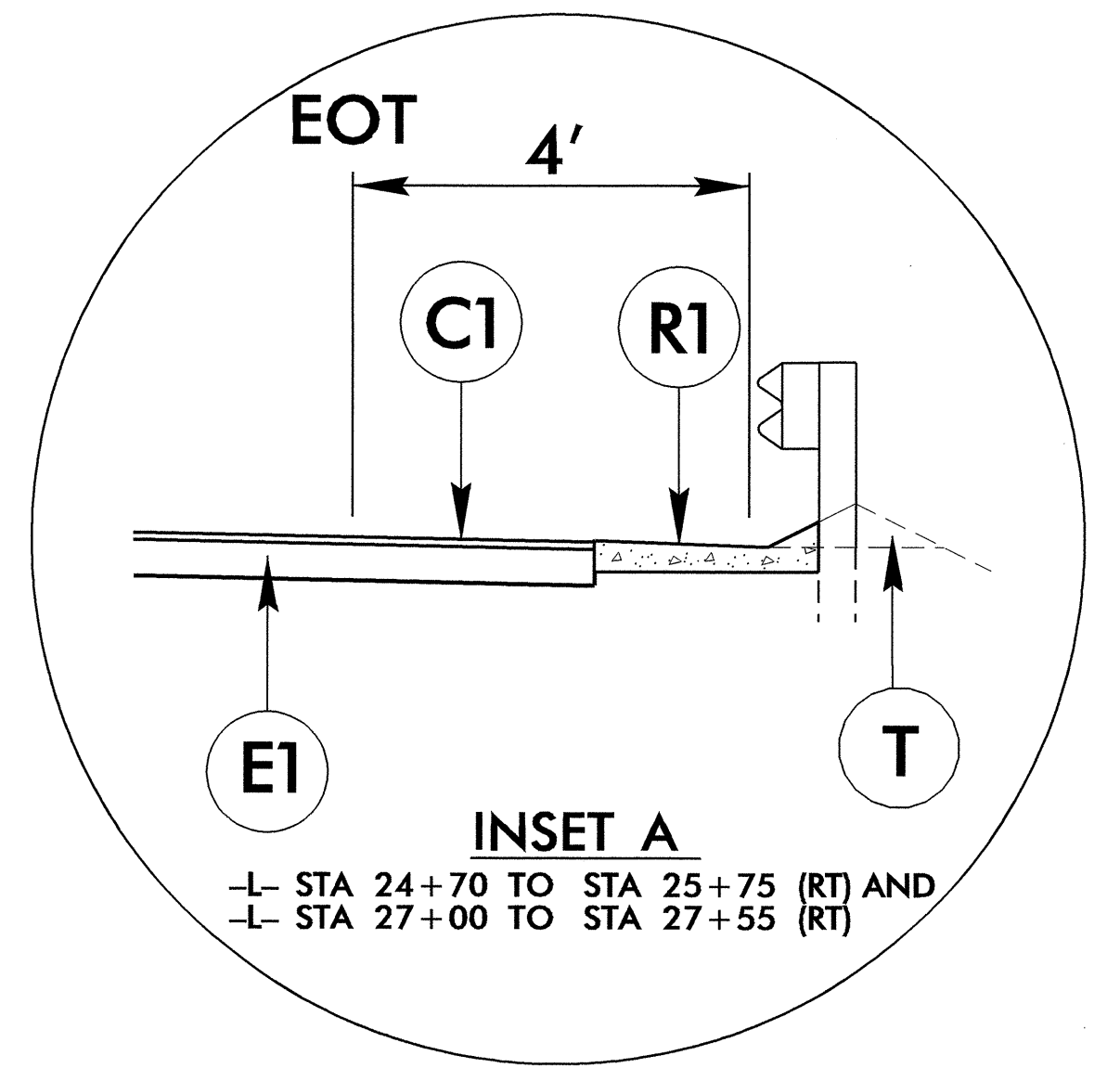
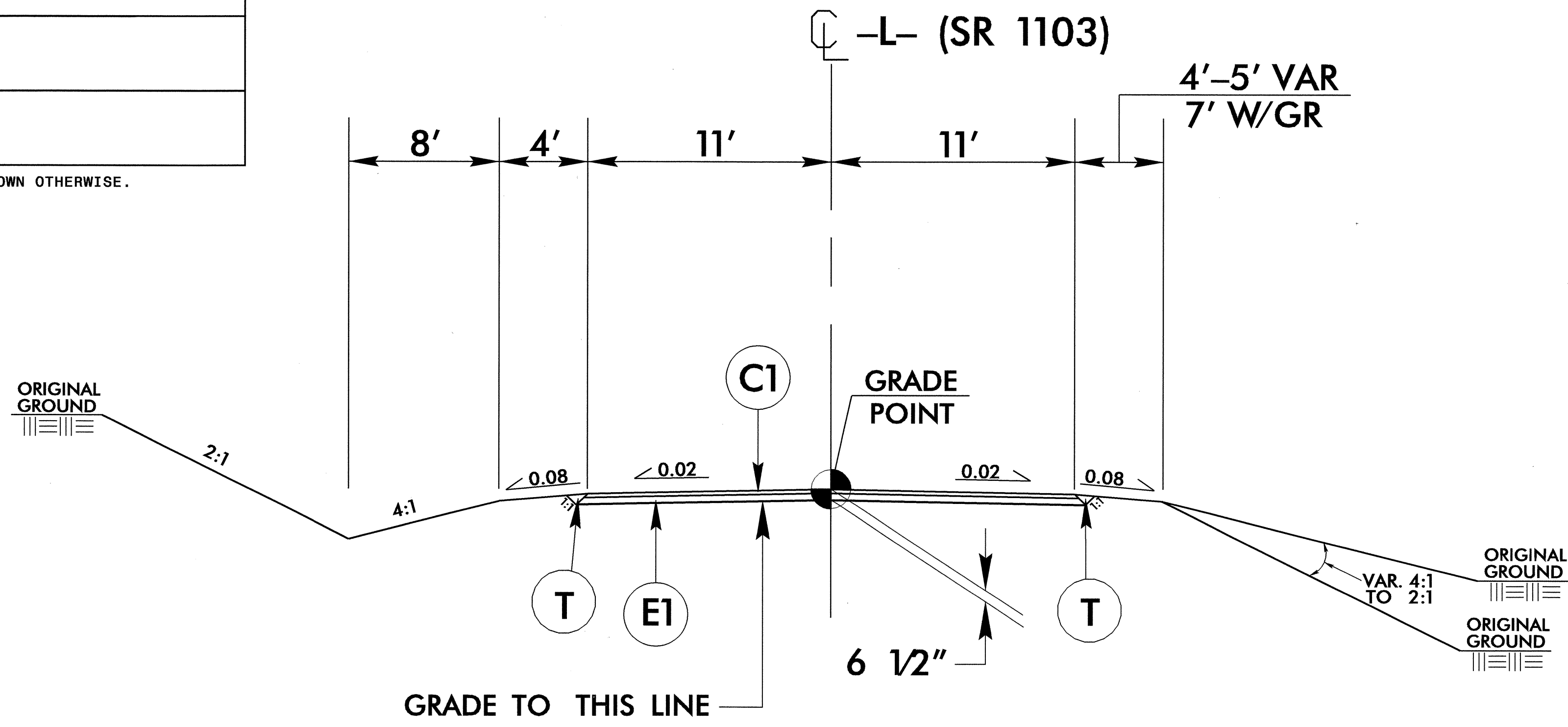
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
 NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4649-1"
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 NORTHING: 399737.7380(FT) EASTING: 1462464.9500(FT)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
 (GROUND TO GRID) IS: 0.9998790
 THE N.C. LAMBERT GRID BEARING AND
 LOCALIZED HORIZONTAL GROUND DISTANCE FROM
 "B4649-1" TO -L- STATION 10+00.00 IS
 S 5°08'19" E 974.889
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

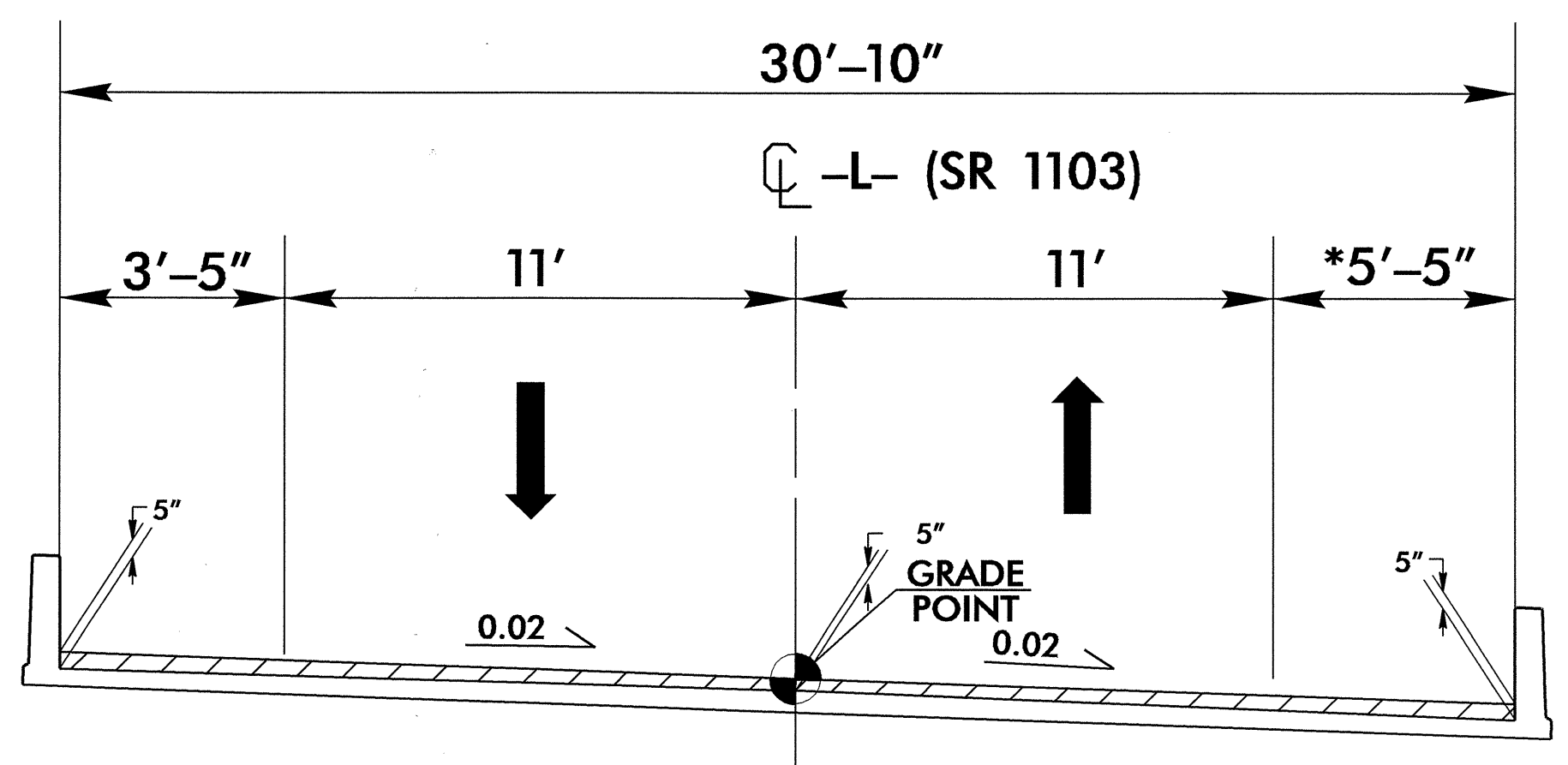
FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 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 5.5" IN DEPTH.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL.

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



TYPICAL SECTION NO. 1

-L- STA. 22+50.00 TO -L- STA. 25+90.00 (BEGIN BRIDGE)
-L- STA. 26+85.00 (END BRIDGE) TO -L- STA. 31+00.00



TYPICAL SECTION ON BRIDGE

-L- STA. 25+90.00 (BEGIN BRIDGE) TO 26+85.00(END BRIDGE)
* EXTRA WIDTH NEEDED FOR DRAINAGE

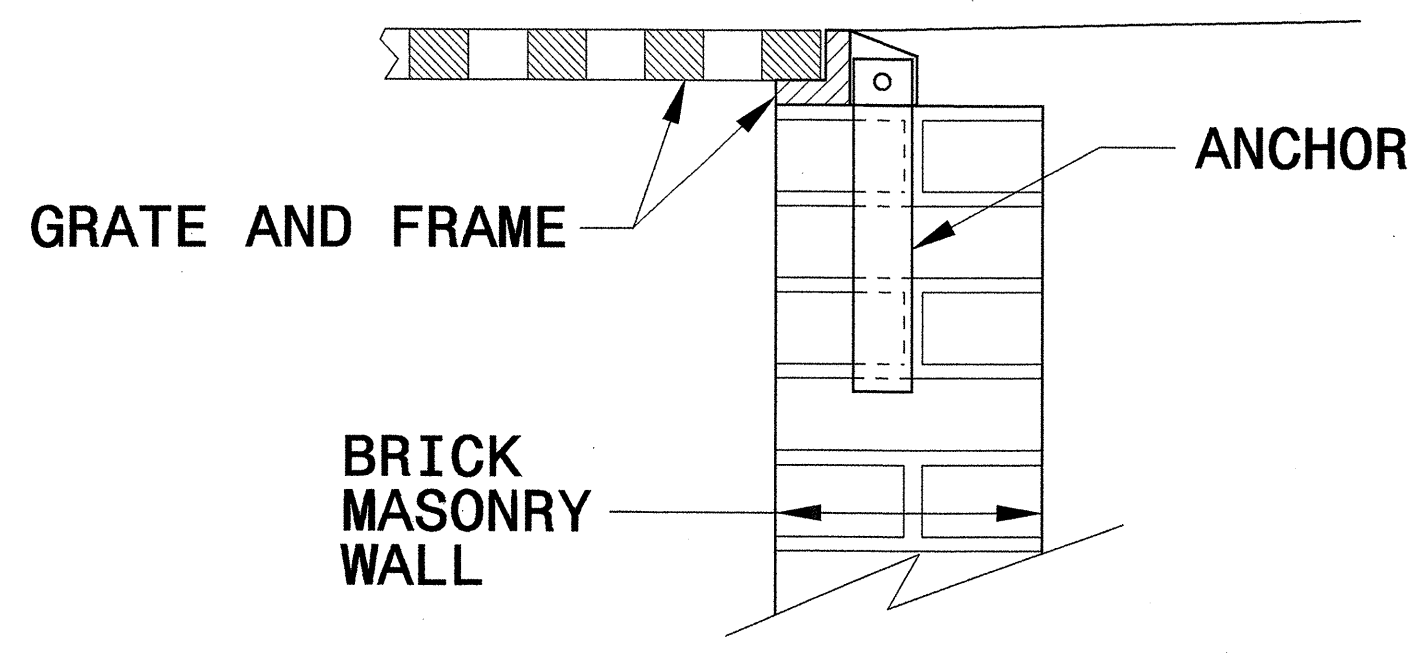
* PAVE STRUCTURE WITH SURFACE COURSE
NOTE: VARIABLE HEIGHT RAILS TO INSURE UNIFORM TOP ELEVATION

6/2/08 23-JUN-2008 13:45 P:\rockwell\proj\B-4649-rdy-tp.dgn

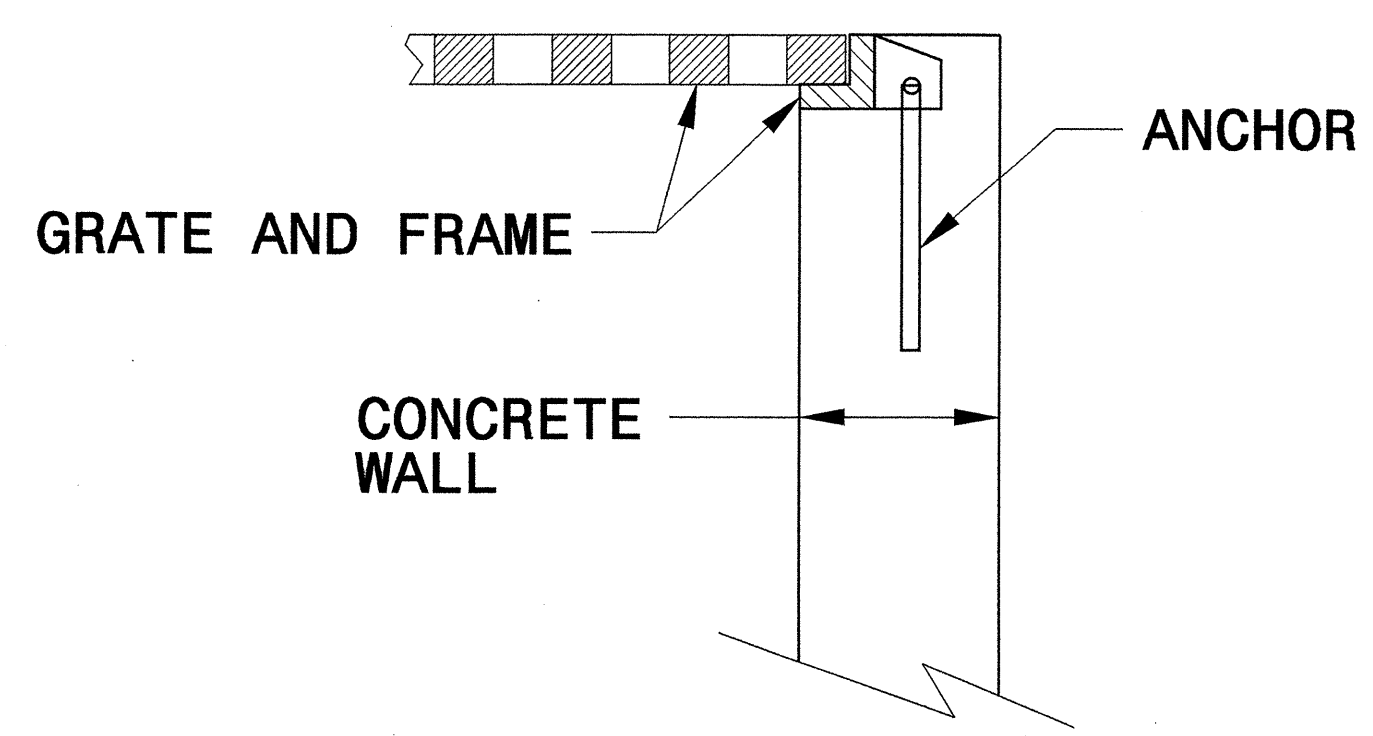
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

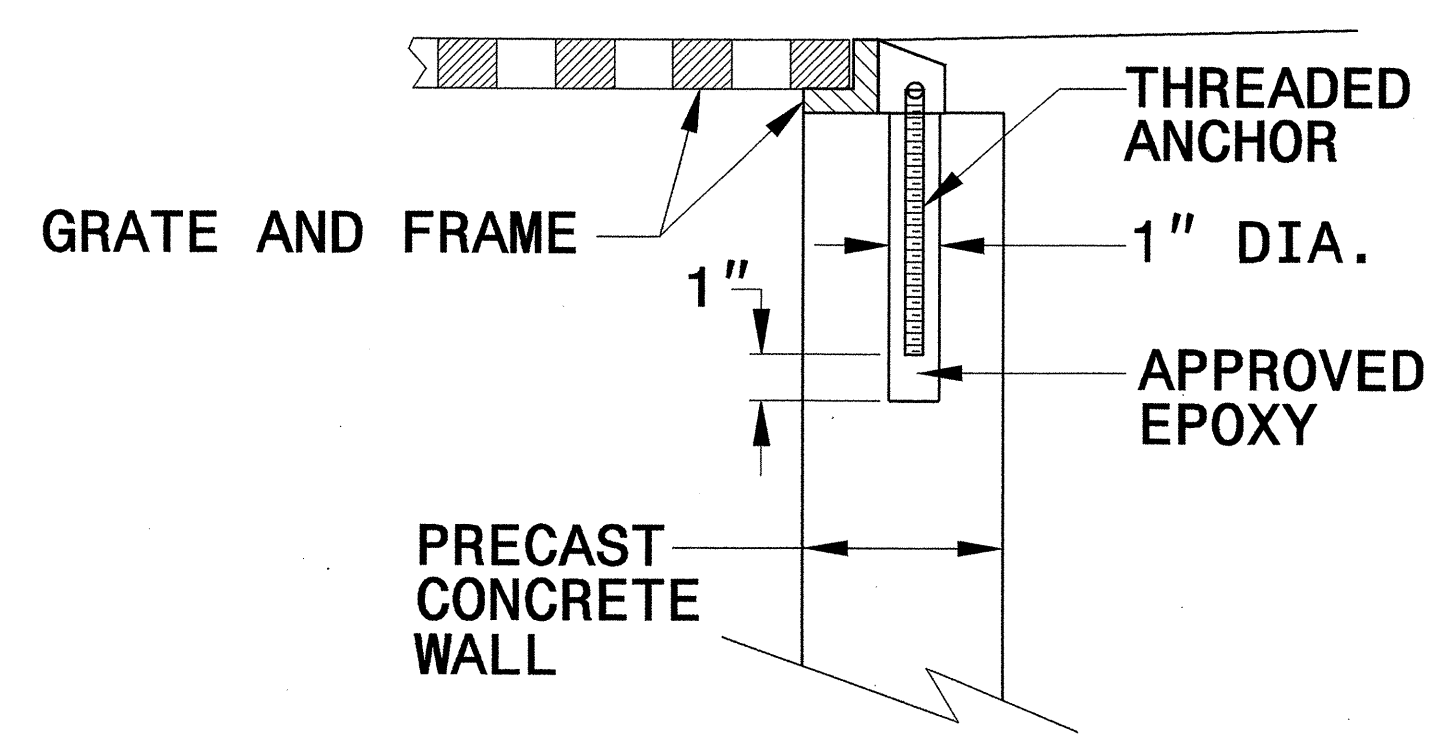
SHEET 1 OF 1
840D25



BRICK MASONRY CONSTRUCTION



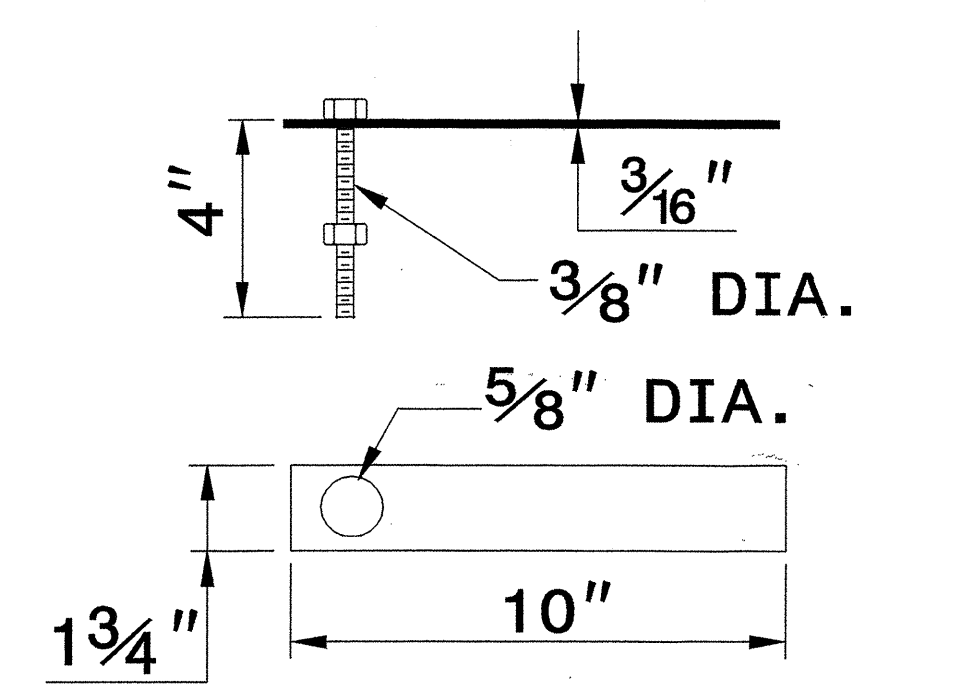
CONCRETE CONSTRUCTION



PRECAST CONCRETE CONSTRUCTION

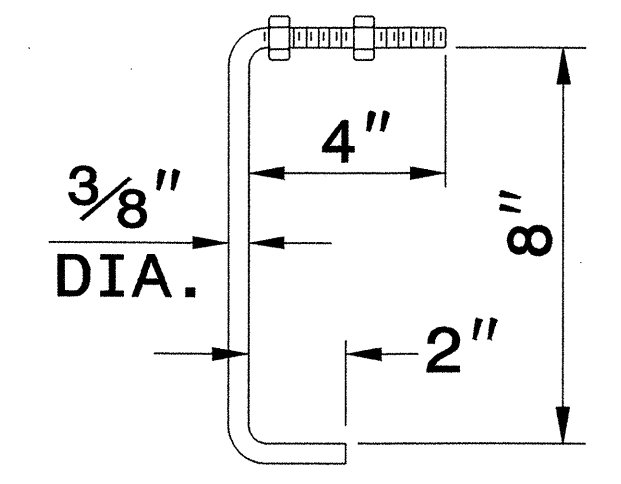
DETAIL SHOWING ANCHORAGE OF FRAME FOR GRATED DROP INLET

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



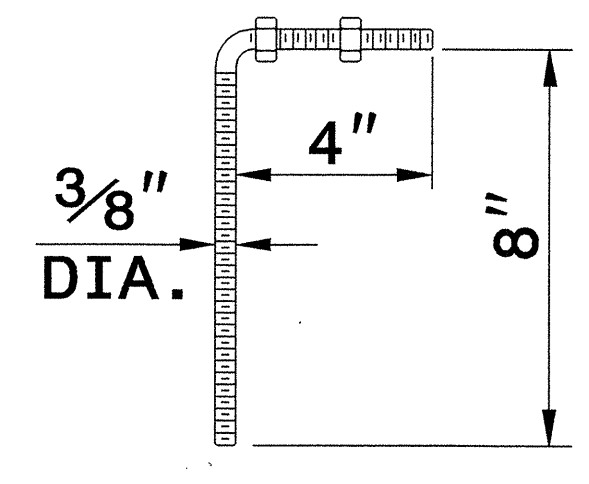
MASONRY ANCHOR

3/8" DIA. BOLT WITH PLATE



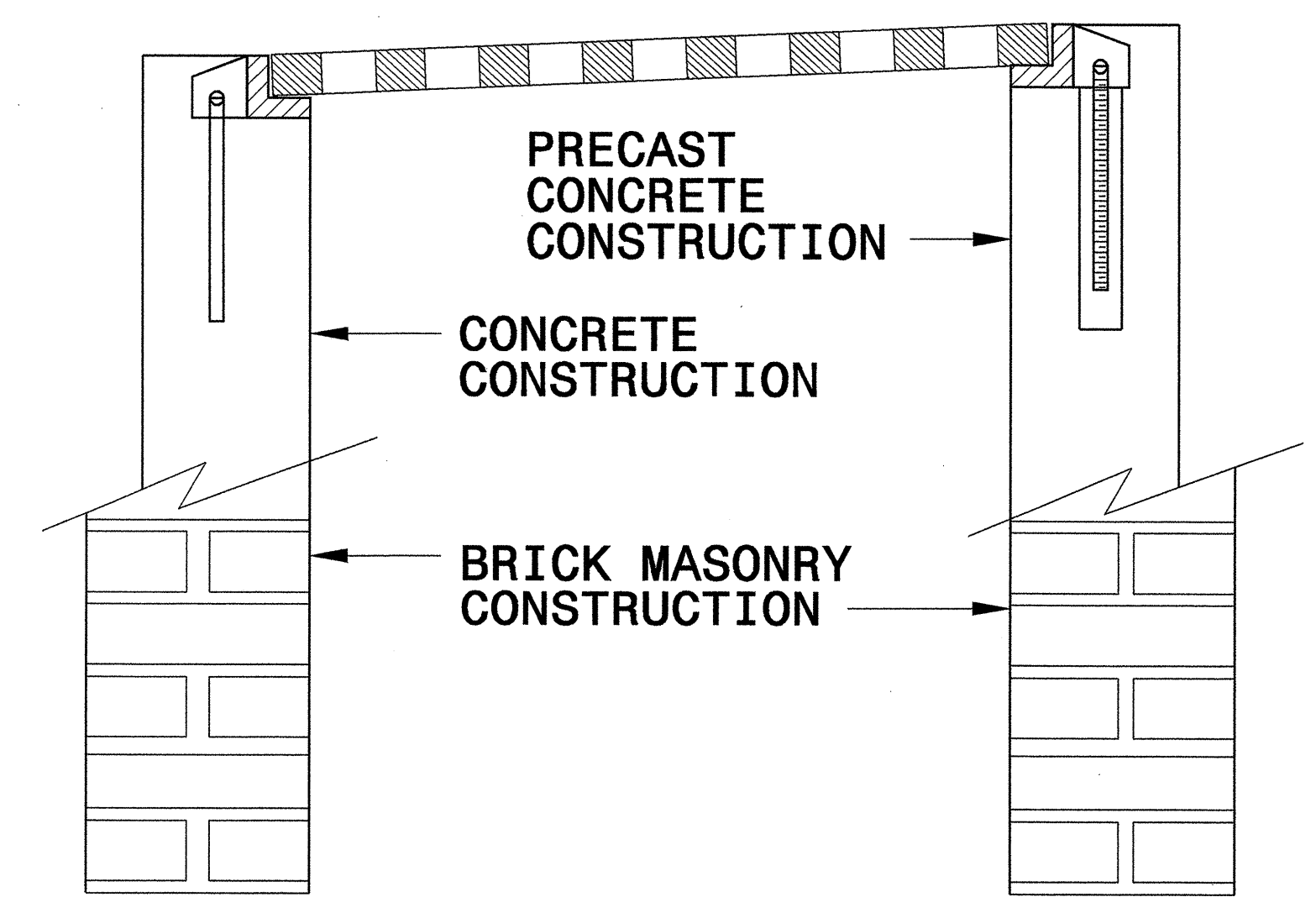
CONCRETE ANCHOR

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

*****SYSTEMS*****
*****DESIGN*****
*****SUPERVISOR*****



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

SEE PLATE FOR TITLE

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201930

ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION
000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
002900000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (26+37.50)
004300000-N	226	Lump Sum		GRADING
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
005700000-E	226	200	CY	UNDERCUT EXCAVATION
013400000-E	240	43	CY	DRAINAGE DITCH EXCAVATION
019500000-E	265	200	CY	SELECT GRANULAR MATERIAL
031800000-E	300	5	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS
070800000-E	310	36	LF	15" BIT COAT CS PIPE CULVERTS, TYPE B 0.064" THICK
080600000-E	310	4	EA	15" BIT COAT CS PIPE ELBOWS, TYPE B 0.064" THICK
099500000-E	340	20	LF	PIPE REMOVAL
122000000-E	545	50	TON	INCIDENTAL STONE BASE
148900000-E	610	430	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
152500000-E	610	355	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
156000000-E	620	45	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22
228600000-N	840	2	EA	MASONRY DRAINAGE STRUCTURES
236700000-N	840	2	EA	FRAME WITH TWO GRATES, STD 840.29
255600000-E	846	160	LF	SHOULDER BERM GUTTER
303000000-E	862	600	LF	STEEL BM GUARDRAIL
315000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
321500000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
327000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
364900000-E	876	30	TON	RIP RAP, CLASS B

ItemNumber	Sec #	Quantity	Unit	Description
365600000-E	876	255	SY	FILTER FABRIC FOR DRAINAGE
440000000-E	1110	303	SF	WORK ZONE SIGNS (STATIONARY)
441000000-E	1110	57	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
444500000-E	1145	64	LF	BARRICADES (TYPE III)
481000000-E	1205	7,000	LF	PAINT PAVEMENT MARKING LINES (4")
600000000-E	1605	520	LF	TEMPORARY SILT FENCE
600600000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A
600900000-E	1610	100	TON	STONE FOR EROSION CONTROL, CLASS B
601200000-E	1610	30	TON	SEDIMENT CONTROL STONE
601500000-E	1615	3	ACR	TEMPORARY MULCHING
601800000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
602100000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING
602900000-E	SP	330	LF	SAFETY FENCE
603000000-E	1630	670	CY	SILT EXCAVATION
603600000-E	1631	1,300	SY	MATTING FOR EROSION CONTROL
603700000-E	SP	25	SY	COIR FIBER MAT
603800000-E	SP	150	SY	PERMANENT SOIL REINFORCEMENT MAT
604200000-E	1632	40	LF	1/4" HARDWARE CLOTH
607103000-E	SP	265	LF	COIR FIBER BAFFLES
607105000-E	SP	4	EA	*** SKIMMER (1-1/2")
608400000-E	1660	3.5	ACR	SEEDING & MULCHING
608700000-E	1660	2	ACR	MOWING
609000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
609600000-E	1662	75	LB	SEED FOR SUPPLEMENTAL SEEDING
610800000-E	1665	2.25	TON	FERTILIZER TOPDRESSING

ItemNumber	Sec #	Quantity	Unit	Description
611400000-N	SP	2	HR	SPECIALIZED HAND MOWING
611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

5/28/99
14-MAY-2008 10:26
C:\PROJECTS\2008\14-4649-rdy-sum.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
SUMMARY 1					
-L- 22 + 50.00 TO 25 + 50.00 (BEGIN BRIDGE)	125		304	179	
-L- 27 + 00.00 (END BRIDGE) TO 31 + 00.00	186		1,016	830	
Project Subtotal	311		1,320	1,009	
Loss due to C & G	-50			50	
Project Totals	261			1,059	
Est. 5% To Replace Topsoil on Borrow Pit				53	
Grand Total	261		1,320	1,112	
Say	265			1,120	
Estimated Undercut	200 C.Y.				
D.D.E. = 43 C.Y.					

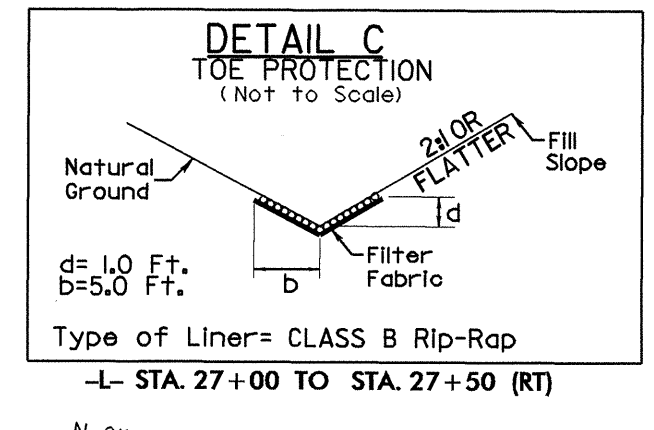
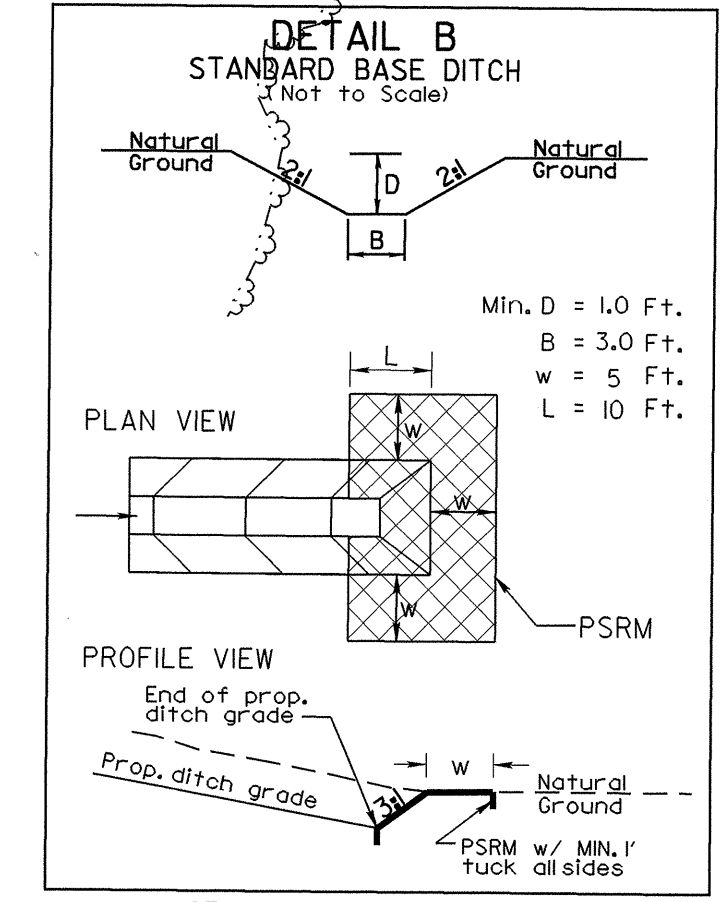
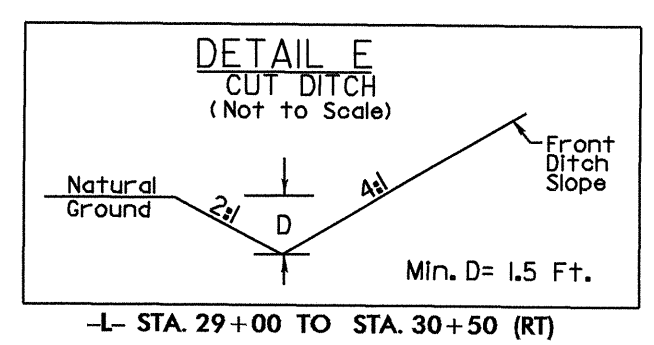
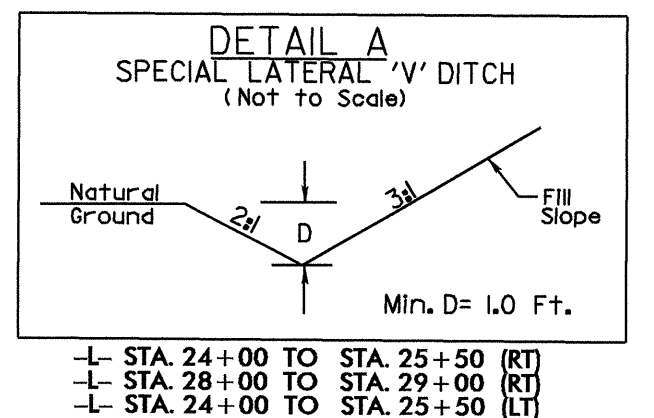
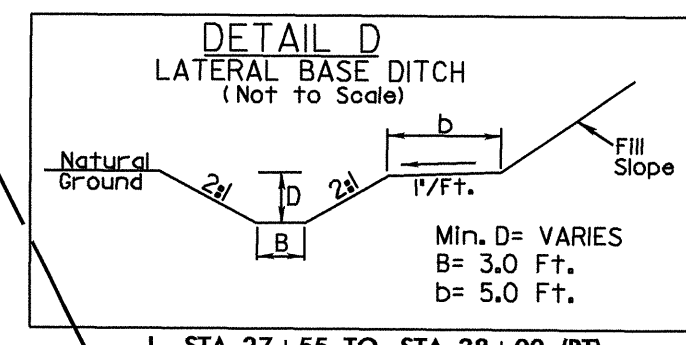
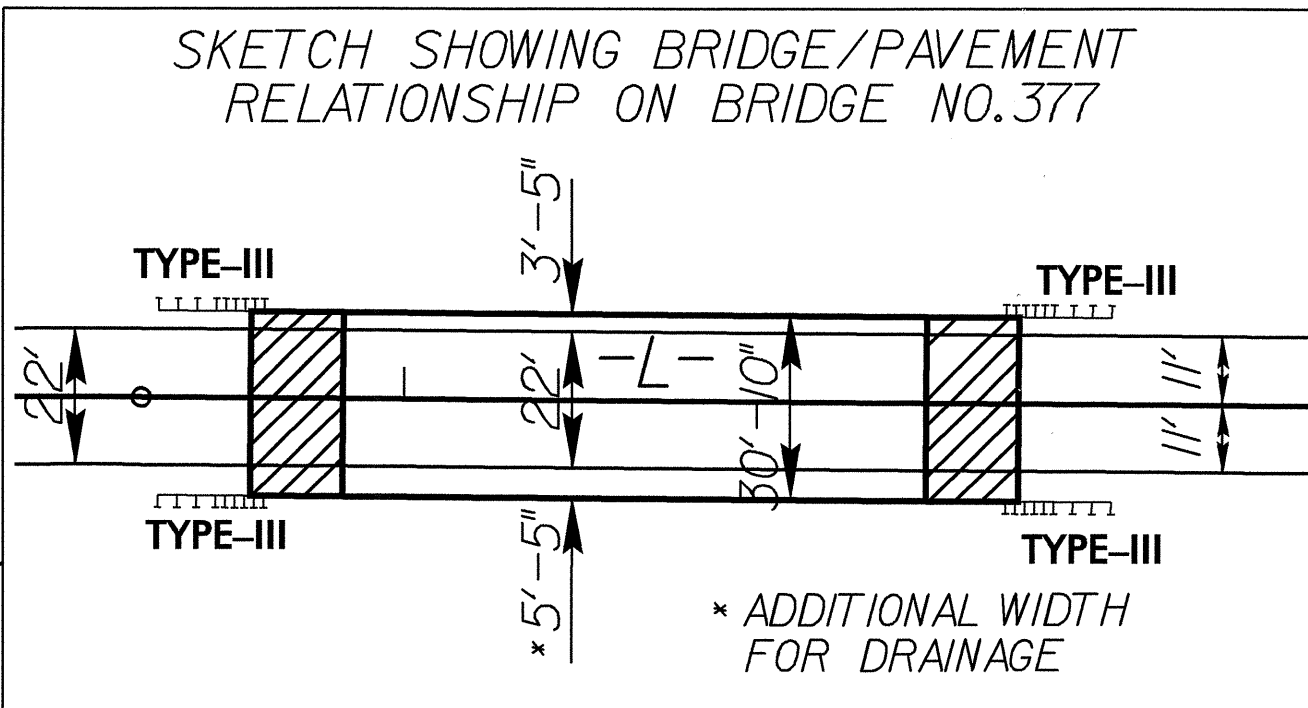
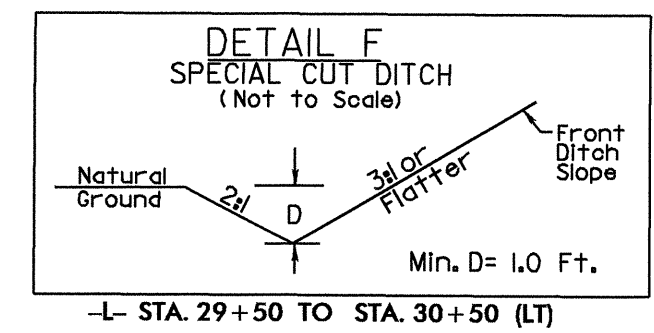
APPROXIMATE QUANTITIES ONLY.
UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING,
CLEARING AND GRUBBING WILL BE PAID FOR AT THE LUMP SUM PRICE FOR "GRADING".

NOTE: Earthwork quantities are calculated by the Roadway Design Unit.
These earthwork quantities are based in part on subsurface data
provided by the Geotechnical Engineering Unit.

SUMMARY OF SHOULDER BERM GUTTER

STATION - STATION	LOCATION	LENGTH (LF)
-L- STA. 24 + 70.00 TO 25 + 75.00	RT	105.00
-L- STA. 27 + 00.00 TO 27 + 55.00	RT	55.00
	TOTAL	160.00
	SAY	160.00

SEE SHEET 5 FOR PROFILE OF -L-
 SEE SHEETS S-1 THRU S-18 FOR STRUCTURE PLANS



PI Sta	Δ	D	L	T	R
18+45.09	17° 57' 08.7" (LT)	5' 00' 00.0"	359.05'	181.0'	1,146.00'
25+36.37	2° 00' 17.2" (RT)	4' 48' 53.2"	41.64'	20.82'	1,190.00'
28+41.85	1° 12' 45.8" (RT)	4' 48' 53.2"	25.19'	12.59'	1,190.00'

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REVISIONS

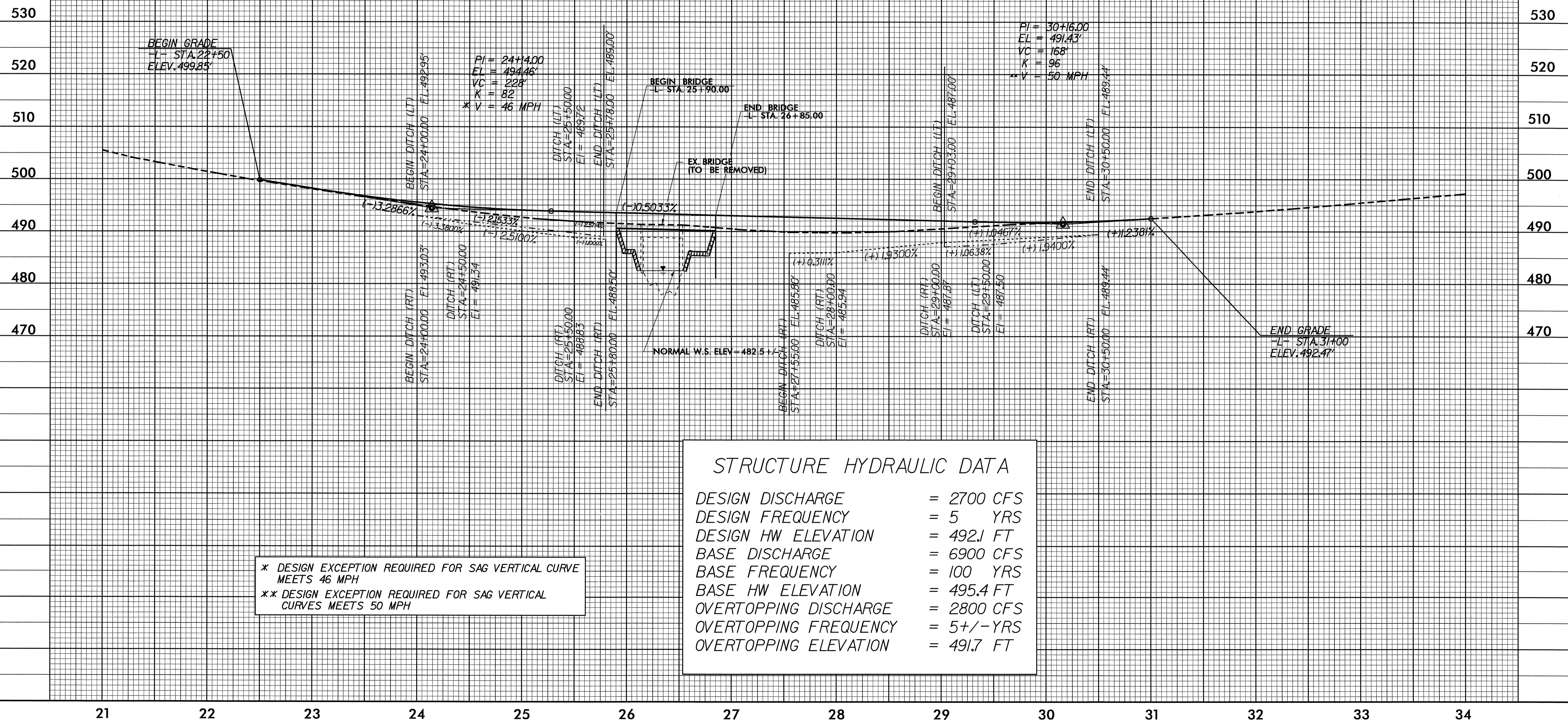
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PROJECT REFERENCE NO. B-4649	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

BM #2 -L- STA 19+43 29' LEFT, ELV. 491.60'

SEE SHEETS 4 FOR PLAN OF -L-



* DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE MEETS 46 MPH
 ** DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVES MEETS 50 MPH

STRUCTURE HYDRAULIC DATA	
DESIGN DISCHARGE	= 2700 CFS
DESIGN FREQUENCY	= 5 YRS
DESIGN HW ELEVATION	= 492.1 FT
BASE DISCHARGE	= 6900 CFS
BASE FREQUENCY	= 100 YRS
BASE HW ELEVATION	= 495.4 FT
OVERTOPPING DISCHARGE	= 2800 CFS
OVERTOPPING FREQUENCY	= 5+/- YRS
OVERTOPPING ELEVATION	= 491.7 FT