

SEE SHEET 1-A FOR INDEX OF SHEETS
 SEE SHEET 1-B FOR SYMBOLGY SHEET
 SEE SHEET 1-C FOR SURVEY CONTROL SHEET

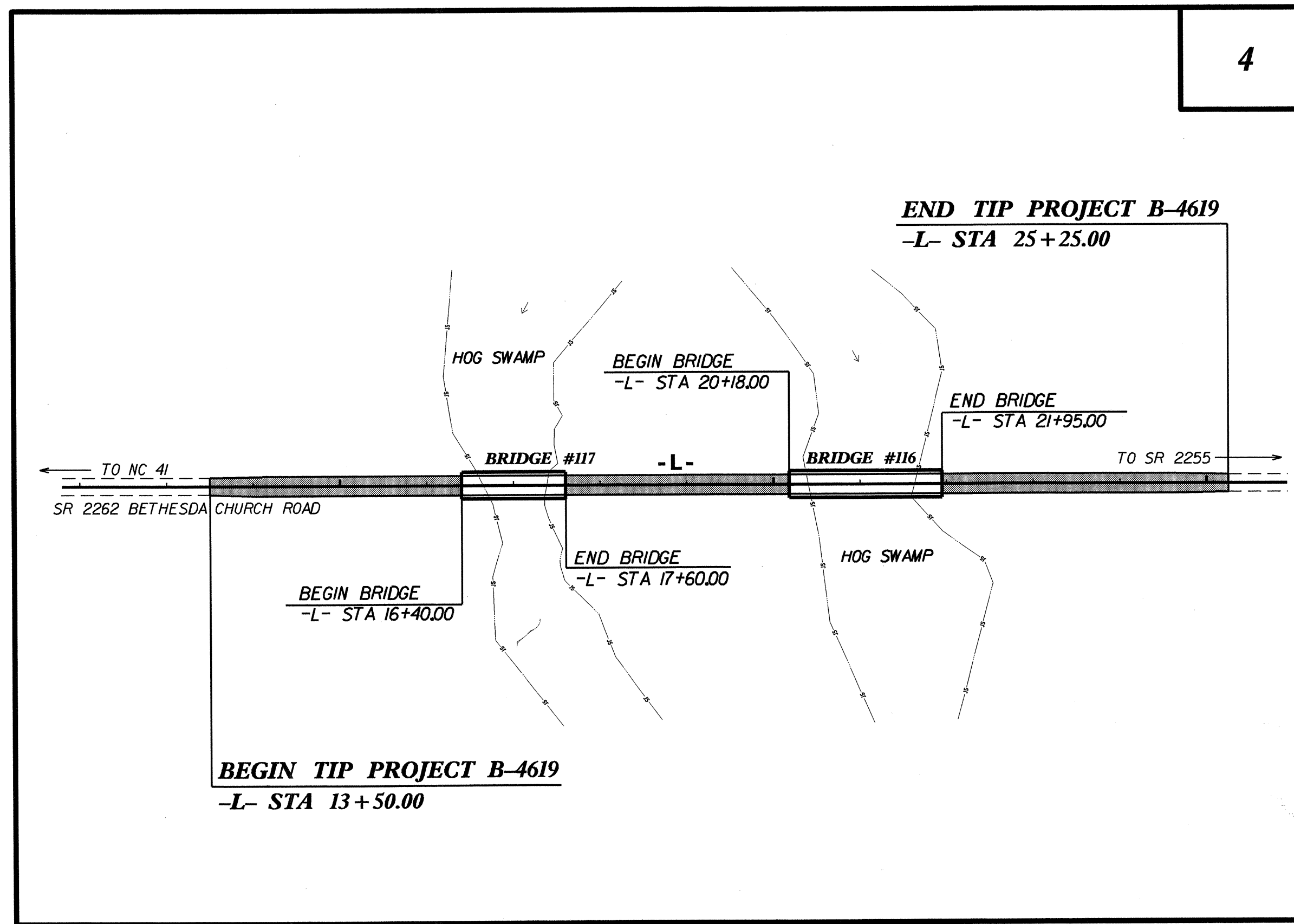
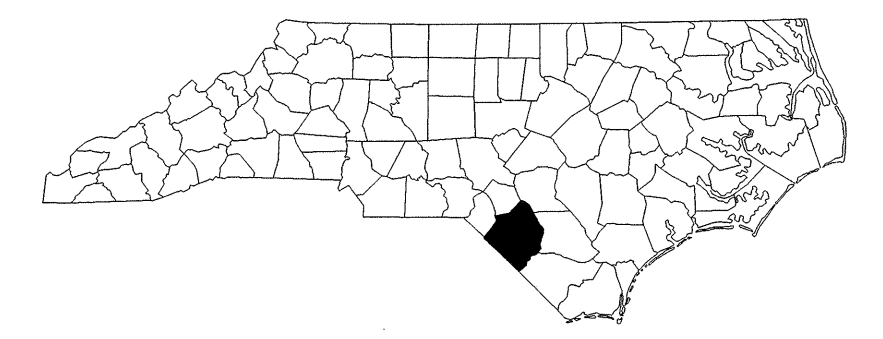
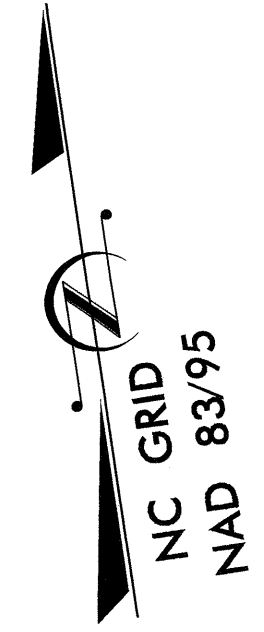
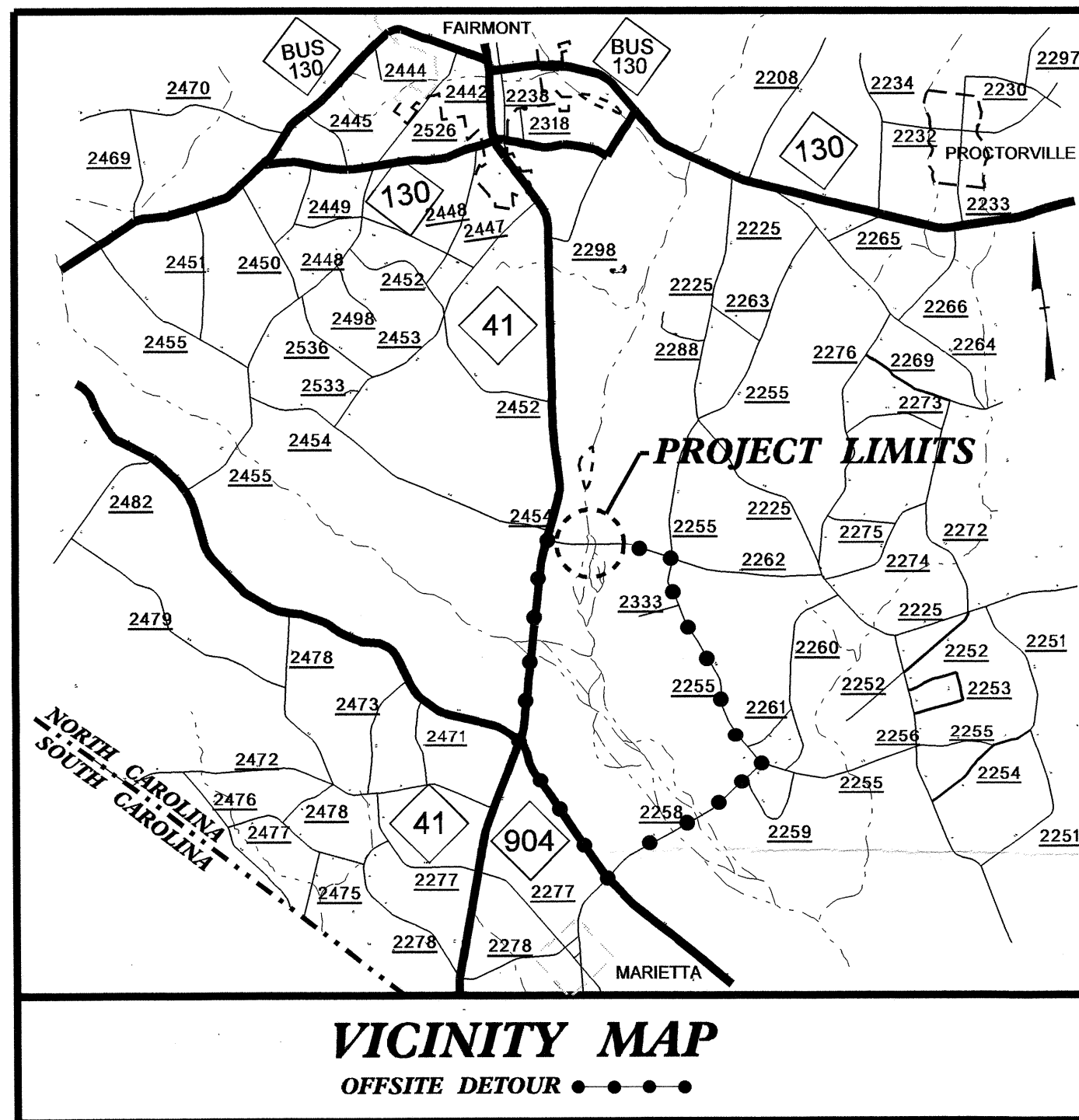
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

ROBESON COUNTY

LOCATION: BRIDGES NO. 116 AND 117 OVER HOG SWAMP
 ON SR 2262 (BETHESDA CHURCH ROAD)

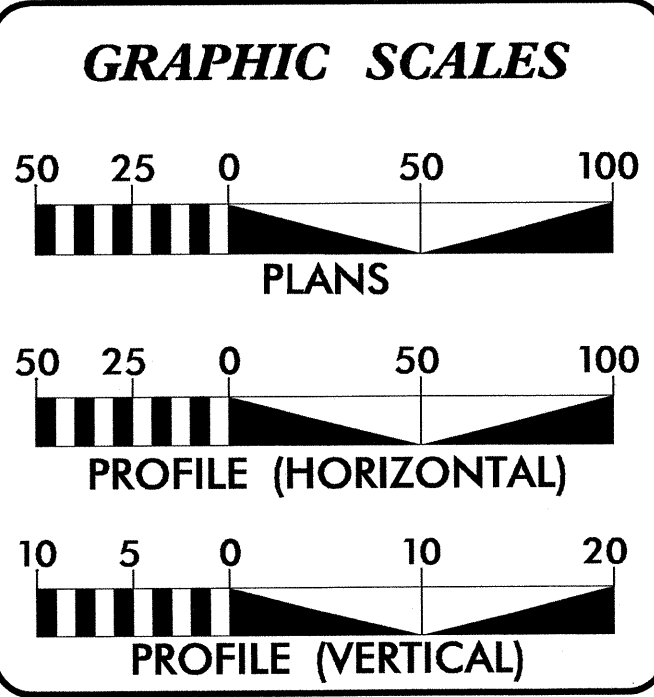
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURES

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4619	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
33800.1.1	BRZ-2262(1)	P.E.	
33800.2.1	BRZ-2262(1)	RW & UTIL.	
33800.3.1	BRZ-2262(1)	CONST.	



TIP PROJECT: B-4619

CONTRACT: C203208



DESIGN DATA

ADT 2013 =	1259
ADT 2033 =	1778
DHV =	10 %
D =	60 %
T =	3 % *
V =	60 MPH

* (TTST 1% + DUAL 2%)
 FUNC. CLASS. = RURAL LOCAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY PROJECT B-4619	=	0.167 MI
LENGTH OF STRUCTURE PROJECT B-4619	=	0.056 MI
LENGTH OF TOTAL PROJECT B-4619	=	0.223 MI

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JULY 23, 2012

LETTING DATE: JULY 16, 2013

GARY LOVERING, PE
 PROJECT ENGINEER

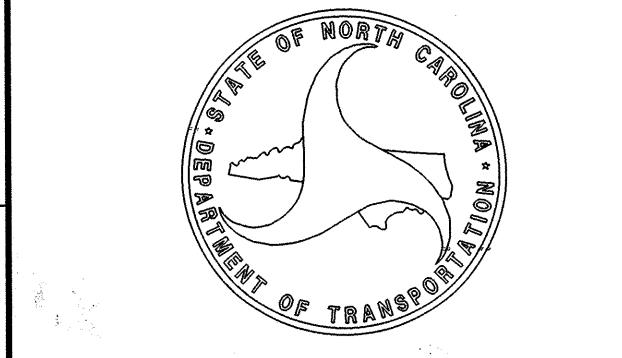
SUSAN C. LANCASTER, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

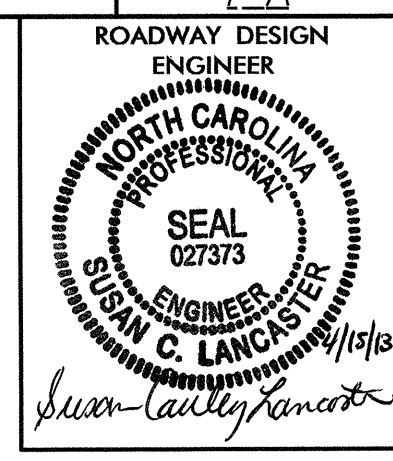
LINDA M. JOHNS
 ENGINEER
 SEAL 33246
 STATE OF NORTH CAROLINA

ROADWAY DESIGN ENGINEER

SUSAN C. LANCASTER
 ENGINEER
 SEAL 021373
 STATE OF NORTH CAROLINA



08-APR-2013 10:47 P:\Roadway\Drawings\B4619_rdy_tsh.dgn \$\$\$\$USERNAME\$\$\$\$



INDEX OF SHEETS

SHEET NUMBER	SHEET	2012 ROADWAY ENGLISH STANDARD DRAWINGS
1	TITLE SHEET	
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS	The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:
1-B	CONVENTIONAL SYMBOLS	STD.NO. TITLE
1-C	SURVEY CONTROL SHEETS	DIVISION 2 - EARTHWORK
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS	200.03 Method of Clearing - Method III
2-A	STRUCTURE ANCHOR UNIT	225.02 Guide for Grading Subgrade - Secondary and Local
3	SUMMARY OF QUANTITIES	225.04 Method of Obtaining Superelevation - Two Lane Pavement
3-A	SUMMARY OF DRAINAGE QUANTITIES	DIVISION 3 - PIPE CULVERTS
3-B	SUMMARIES OF EARTHWORK, GUARDRAIL, PAVEMENT REMOVAL, AND SHOULDER BERM GUTTER	300.01 Method of Pipe Installation
4	PLAN SHEET	DIVISION 4 - MAJOR STRUCTURES
5	PROFILE SHEET	422.10 Reinforced Bridge Approach Fills
TMP-1 THROUGH TMP-3	TRANSPORTATION MANAGEMENT PLANS	DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
PMP-1 THROUGH PMP-2	PAVEMENT MARKING PLANS	560.01 Method of Shoulder Construction - High Side of Superelevated Curve - Method I
EC-1 THROUGH EC-5	EROSION CONTROL PLANS	DIVISION 6 - ASPHALT BASES AND PAVEMENTS
UO-1 THROUGH UO-2	UTILITIES BY OTHER PLANS	654.01 Pavement Repairs
X-1A	CROSS SECTION SUMMARY SHEET	DIVISION 8 - INCIDENTALS
X-1 THROUGH X-5	CROSS-SECTIONS	840.00 Concrete Base Pad for Drainage Structures
S-1 THROUGH S-48	STRUCTURE PLANS	840.25 Anchorage for Frames - Brick or Concrete or Precast
		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 (Details in Lieu of Standard Drawing, see sheet 2-A)
		876.02 Guide for Rip Rap at Pipe Outlets

EFF. 01-17-2012
REV. 10-30-2012

GENERAL NOTES: 2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

GRADING AND SURFACING OR RESURFACING AND WIDENING:
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
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

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:
POWER - LUMBEE RIVER EMC
TELEPHONE - AT&T OF NC
CATV - CAROLINA PARTNERS
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.

8/17/99
E:\PR-2013\10-46\B4619_Rev1_Sheet_1A.dgn

Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

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	□ EOM
Parcel/Sequence Number	⑫③
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-
Known Soil Contamination: Area or Site	☠ ☠
Potential Soil Contamination: Area or Site	?? ??

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or UG 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	○
Wetland	⚡
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 RW Marker	○
Proposed Control of Access Line with Concrete CA Marker	○
Existing Control of Access	○
Proposed Control of Access	○
Existing Easement Line	-E-
Proposed Temporary Construction Easement	-E-
Proposed Temporary Drainage Easement	-TDE-
Proposed Permanent Drainage Easement	-PDE-
Proposed Permanent Drainage / Utility Easement	-DUE-
Proposed Permanent Utility Easement	-PUE-
Proposed Temporary Utility Easement	-TUE-
Proposed Aerial Utility Easement	-AUE-
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 Curb Ramp	○
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	CONC
Bridge Wing Wall, Head Wall and End Wall	CONC WW
MINOR:	
Head and End Wall	CONC HW
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	CB
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊕
Storm Sewer	-S-

UTILITIES:

POWER:	
Existing Power Pole	●
Proposed Power Pole	○
Existing Joint Use Pole	●
Proposed Joint Use Pole	○
Power Manhole	⊕
Power Line Tower	⊗
Power Transformer	⊗
UG Power Cable Hand Hole	○
H-Frame Pole	●
Recorded UG Power Line	-P-
Designated UG Power Line (S.U.E.*)	-P-

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Booth	□
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
UG Telephone Cable Hand Hole	○
Recorded UG Telephone Cable	-T-
Designated UG Telephone Cable (S.U.E.*)	-T-
Recorded UG Telephone Conduit	-TC-
Designated UG Telephone Conduit (S.U.E.*)	-TC-
Recorded UG Fiber Optics Cable	-T FO-
Designated UG Fiber Optics Cable (S.U.E.*)	-T FO-

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	-A/G Water-

TV:

TV Satellite Dish	☼
TV Pedestal	⊕
TV Tower	⊗
UG 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	⊕
UG 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	-?U/L-
UG Tank; Water, Gas, Oil	□
Underground Storage Tank, Approx. Loc.	⊕
A/G Tank; Water, Gas, Oil	□
Geoenvironmental Boring	⊕
UG Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.

SURVEY CONTROL SHEET B-4619



BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	B4619 BL-1	246217.1096	1966427.6687	86.15'	10+26.74	16.62 RT
2	B4619 BL-2	246115.6154	1967148.3783	81.17'	17+54.56	14.67 RT
3	B4619 BL-3	246052.7923	1967577.5695	80.74'	21+88.32	15.88 RT
4	B4619 BL-4	245967.4506	1968171.0014	80.83'	27+87.86	16.03 RT

ROW MARKER IRON PIN AND CAP-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	16+00.00	50.00	246102.6097	1966990.3715
L	16+00.00	30.00	246122.4067	1966993.2133
L	16+00.00	-30.00	246181.7980	1967001.7388
L	23+00.00	-50.00	246102.1312	1967697.4781
L	23+00.00	-30.00	246082.3341	1967694.6363
L	23+00.00	30.00	246022.9429	1967686.1108
L	23+00.00	50.00	246003.1458	1967683.2690
L	16+00.00	-50.00	246201.5950	1967004.5806

ROW MARKER PERMANENT EASEMENT-E				
ALIGN	STATION	OFFSET	NORTH	EAST
L	12+10.00	-65.00	246271.8584	1966620.6691
L	12+10.00	-30.00	246237.2135	1966615.8959
L	23+00.00	-65.00	246116.9790	1967699.6095
L	25+25.00	-50.00	246070.1607	1967920.1951
L	25+25.00	-30.00	246050.3636	1967917.3533

L			
TYPE	STATION	NORTH	EAST
POT	10+00.00	246237.3571	1966403.5639
POT	28+42.73	245975.5220	1968227.5924

.....
 BM1 ELEVATION = 81.72'
 N 246057 E 1967357
 L STATION 19+70 43 RIGHT
 RR SPIKE IN BASE OF 18 INCH GUM TREE

END TIP PROJECT B-4619
-L- STA 25+25.00

NCDOT GPS STATION (B4619-2)
 LOCALIZED PROJECT COORDINATES
 N=246293.1820
 E=1966000.3889
 ELEV=98.87'

NCDOT BASELINE STATION (B4619 BL-2)
 LOCALIZED PROJECT COORDINATES
 N=246115.6154
 E=1967148.3783
 ELEV=81.17'

NCDOT BASELINE STATION (B4619 BL-4)
 LOCALIZED PROJECT COORDINATES
 N=245967.4506
 E=1968171.0014
 ELEV=80.83'

NCDOT BASELINE STATION (B4619 BL-1)
 LOCALIZED PROJECT COORDINATES
 N=246217.1096
 E=1966427.6687
 ELEV=86.15'

NCDOT BASELINE STATION (B4619 BL-3)
 LOCALIZED PROJECT COORDINATES
 N=246052.7923
 E=1967577.5695
 ELEV=80.74'

BM #1
 -BL- Sta 14+43
 28' RIGHT =
 -L- STA 19+69.55, 42.91' RT
 ELEV 81.72'

BEGIN TIP PROJECT B-4619
-L- STA 13+50.00

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4619-2"
 WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
 NORTHING: 246293.1820(ft) EASTING: 1966000.3889(ft)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: .999975810
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4619-2" TO -L- STATION 13+50.00 IS
 S 81°59'05" E 757.0192'
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

NOTES:

1. THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:
[HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION/PAGES/DEFAULT.ASPX](https://connect.ncdot.gov/resources/location/pages/default.aspx)

THE FILES TO BE FOUND ARE AS FOLLOWS:
 B4619_LS_CONTROL_090115.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 EXISTING HARN MONUMENTATION
 SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

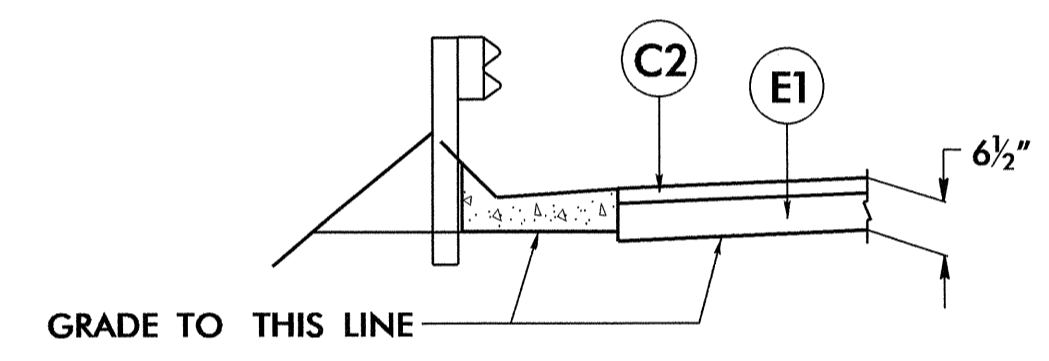
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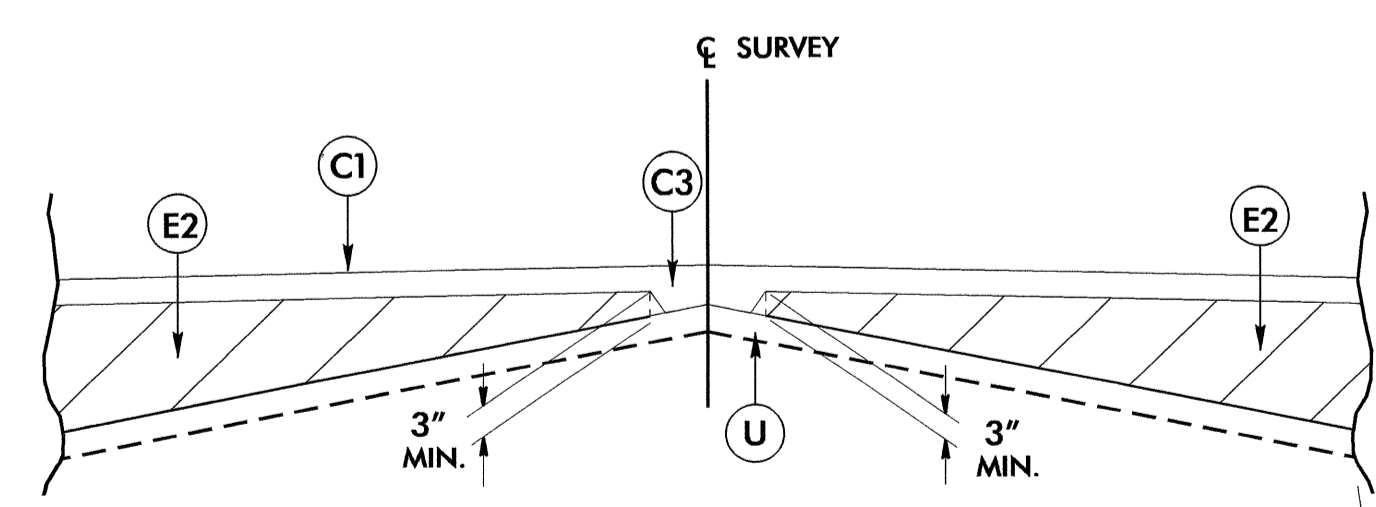
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PAVEMENT SCHEDULE FINAL PAVEMENT DESIGN	
C1	PROP. APPROX. 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD.
C2	PROP. APPROX. 2 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
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 1 1/2" 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 1/2" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE DETAIL SHOWING METHOD OF WEDGING)

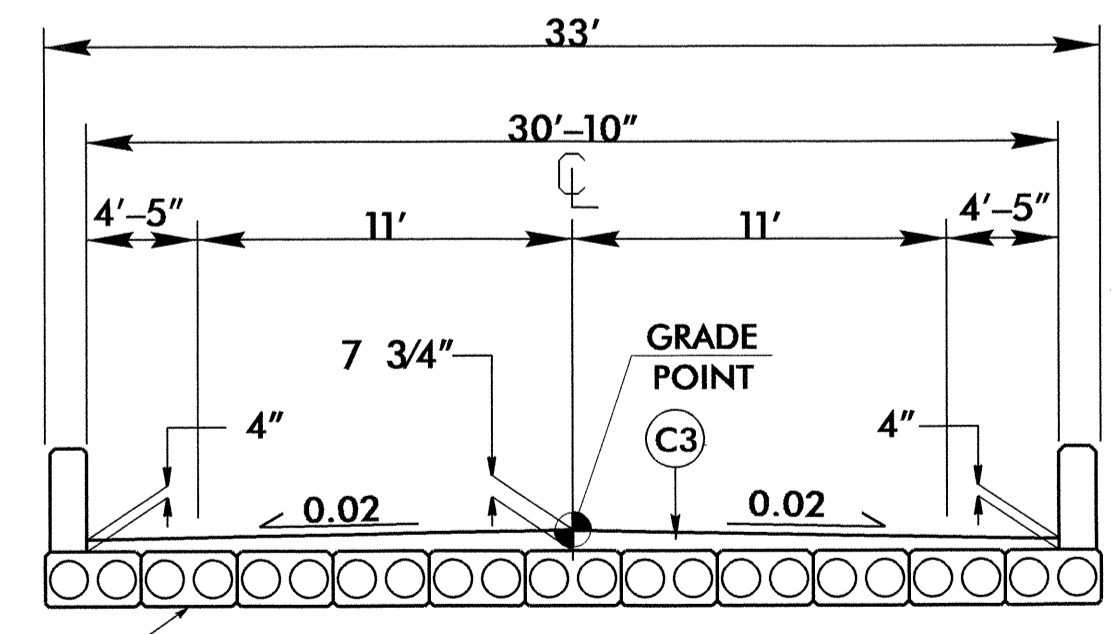
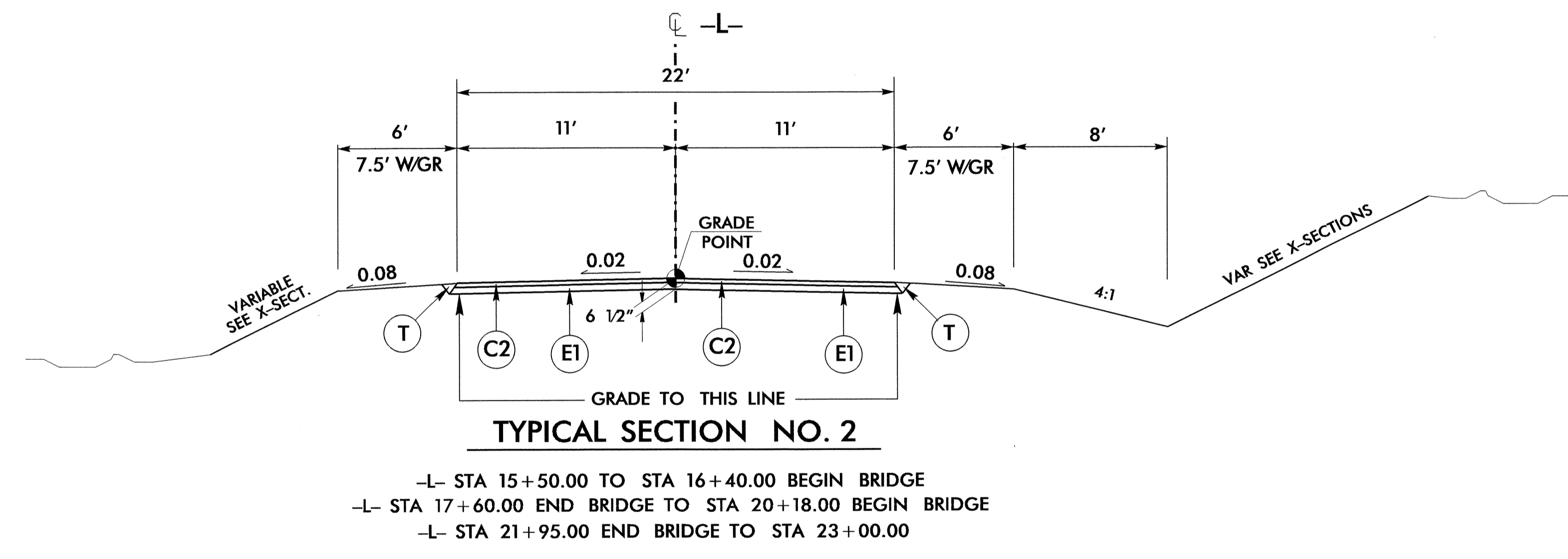
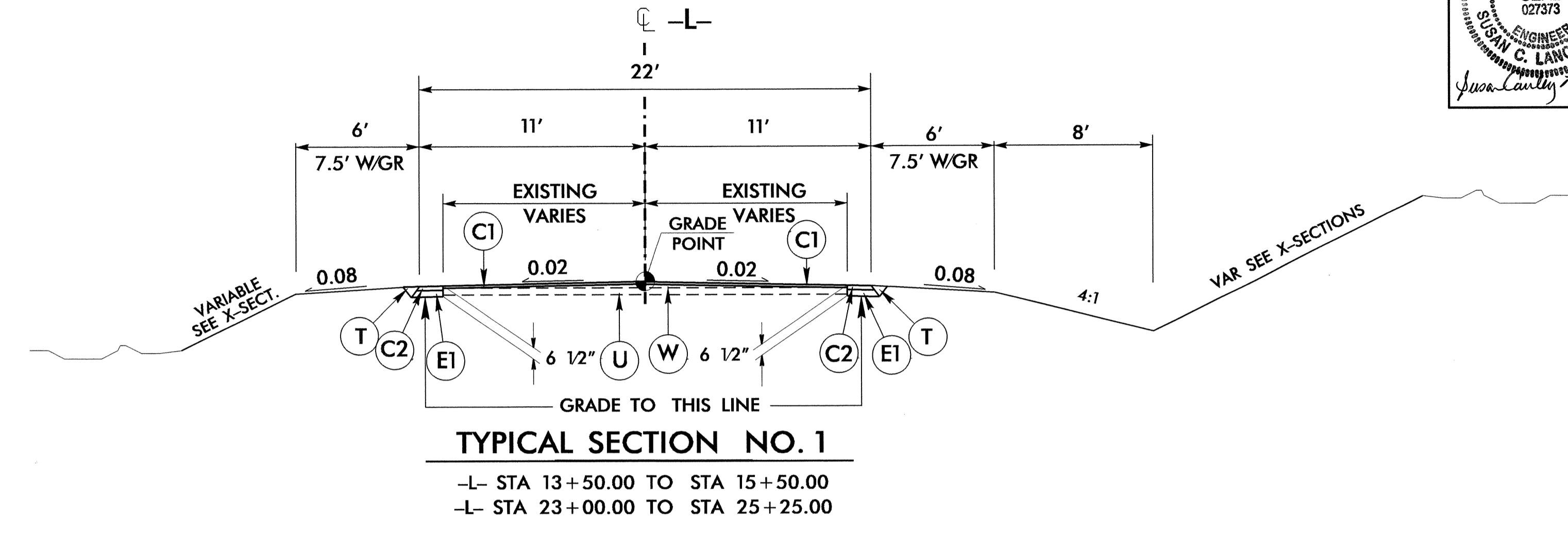
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



DETAIL SHOWING SHOULDER BERM GUTTER ON TOP OF SUBGRADE
 -L- STA. 16+14 TO STA. 16+29 (LT & RT)
 -L- STA. 17+71 TO STA. 20+07 (LT & RT)
 -L- STA. 22+06 TO STA. 22+21 (LT & RT)



Detail Showing Method of Wedging



PROPOSED CORED SLAB BRIDGE
SEE STRUCTURE PLANS

BRIDGE TYPICAL

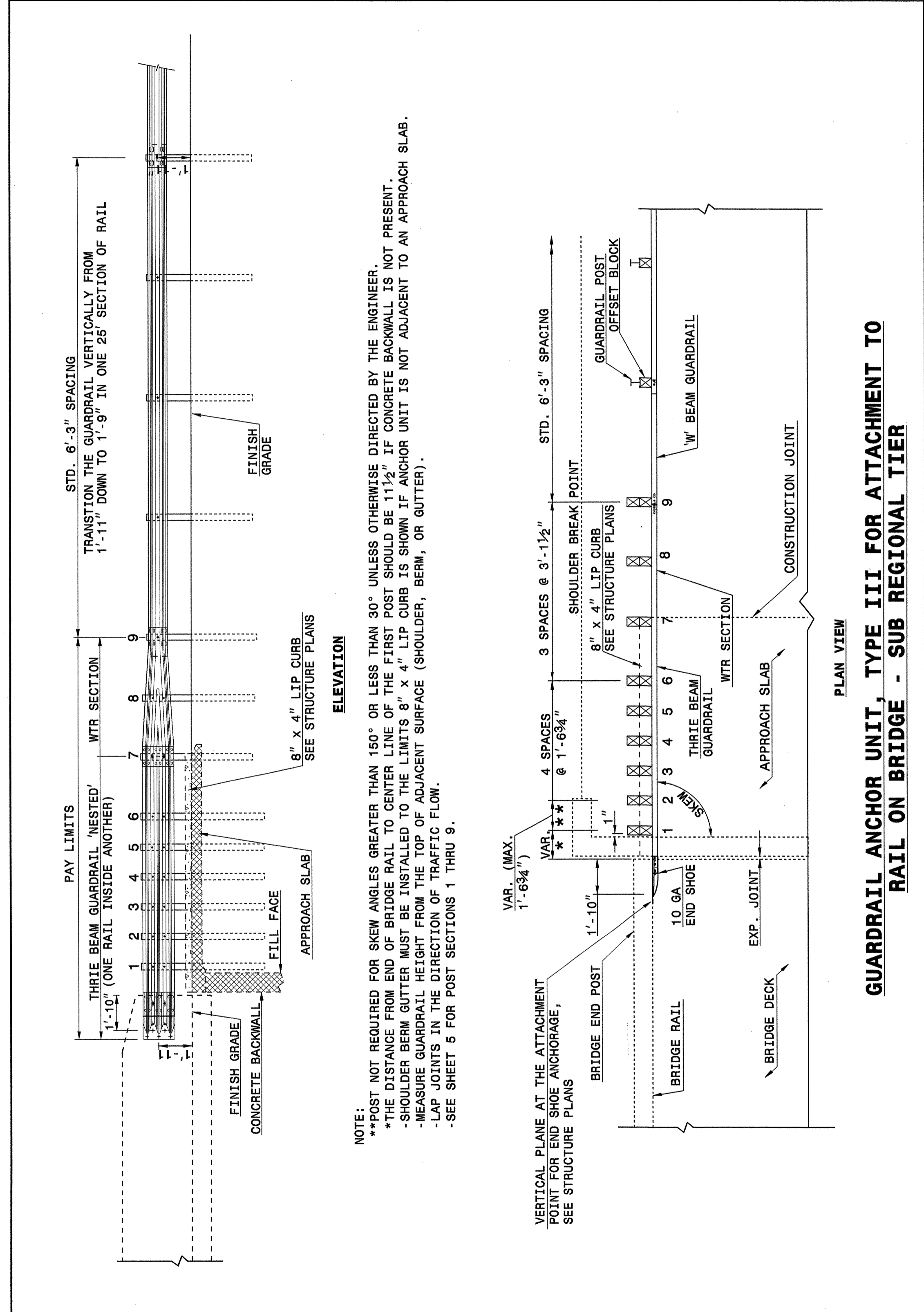
BRIDGE #117 -L- STA 16+40.00 TO STA 17+60.00
 BRIDGE #116 -L- STA 20+18.00 TO STA 21+95.00

6/22/99
08-APP-2013 1016
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7 862d03



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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

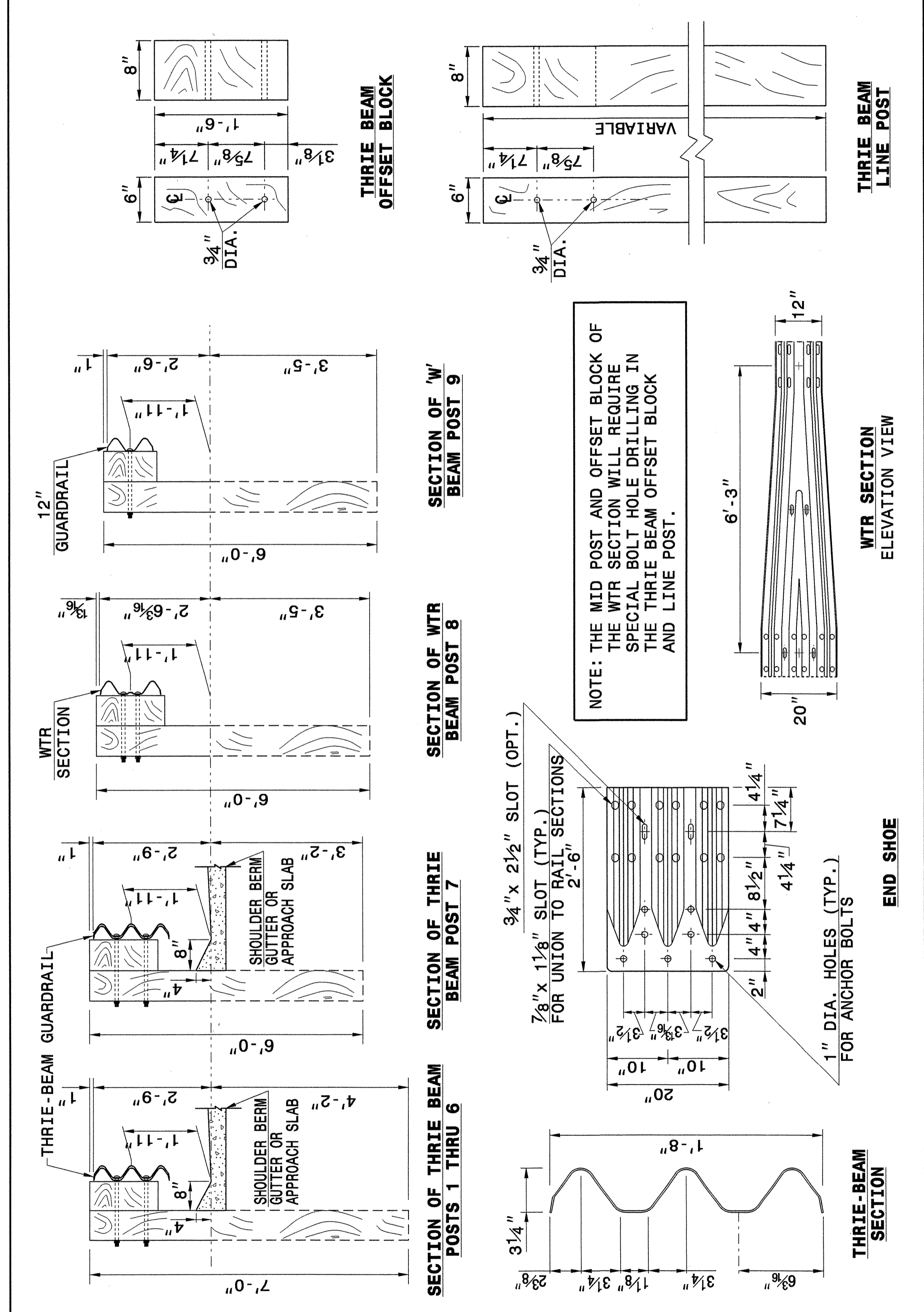
SHEET 2 OF 7 862d03

NOTE:
 **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11 1/2" IF CONCRETE BACKWALL IS NOT PRESENT.
 -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
 -MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
 -LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
 -SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

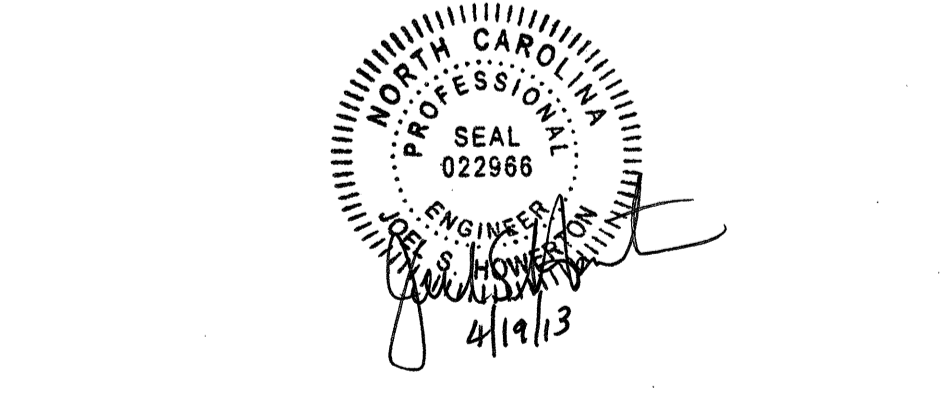
SHEET 3 OF 7 862d03



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

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III

SHEET 3 OF 7 862d03



CONTRACT STANDARDS AND DEVELOPMENT UNIT
 Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE: 11/13/12
 FILE SPEC.:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203208

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0000400000-N	801	Lump Sum		CONSTRUCTION SURVEYING
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (17+01.00)
0029000000-N	SP	Lump Sum		REINFORCED BRIDGE APPROACH FILL, STATION ***** (21+06.50)
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	200	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZA- TION
0318000000-E	300	20	TON	FOUNDATION CONDITIONING MATE- RIAL, MINOR STRUCTURES
0320000000-E	300	50	SY	FOUNDATION CONDITIONING GEO- TEXTILE
0335200000-E	305	128	LF	15" DRAINAGE PIPE
1220000000-E	545	40	TON	INCIDENTAL STONE BASE
1489000000-E	610	430	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	660	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	65	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	10	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2286000000-N	840	8	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	8	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	535	LF	SHOULDER DERM GUTTER
3030000000-E	862	500	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	8	EA	GUARDRAIL ANCHOR UNITS, TYPE III

SUMMARY OF QUANTITIES - B-4619

ItemNumber	Sec #	Quantity	Unit	Description
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	10	TON	RIP RAP, CLASS B
3656000000-E	876	495	SY	GEOTEXTILE FOR DRAINAGE
4400000000-E	1110	397	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	80	LF	BARRICADES (TYPE III)
4810000000-E	1205	9,440	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	3,160	LF	TEMPORARY SILT FENCE
6066000000-E	1610	225	TON	STONE FOR EROSION CONTROL, CLASS A
6090000000-E	1610	15	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	130	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1	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	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	1,500	LF	SAFETY FENCE
6030000000-E	1630	100	CY	SILT EXCAVATION
6036000000-E	1631	2,400	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	525	SY	COIR FIBER MAT
6042000000-E	1632	600	LF	1/4" HARDWARE CLOTH
6071012000-E	SP	135	LF	COIR FIBER WATTLE
6084000000-E	1660	1	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	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

ItemNumber	Sec #	Quantity	Unit	Description
6108000000-E	1665	0.75	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

RD261594

COMPUTED BY: M.J. DUVAL DATE: FEB. 12, 2009
CHECKED BY: H. NGUYEN DATE: APRIL 8, 2013

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

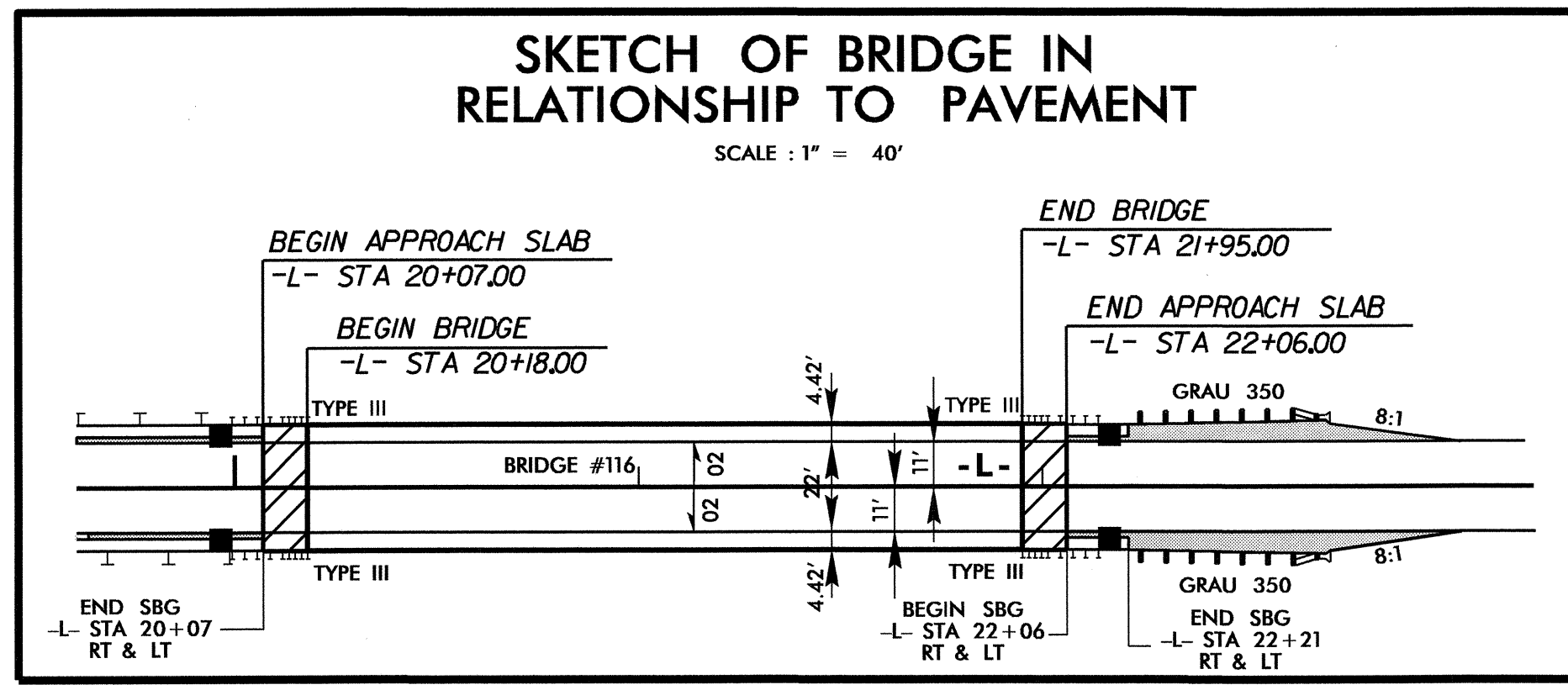
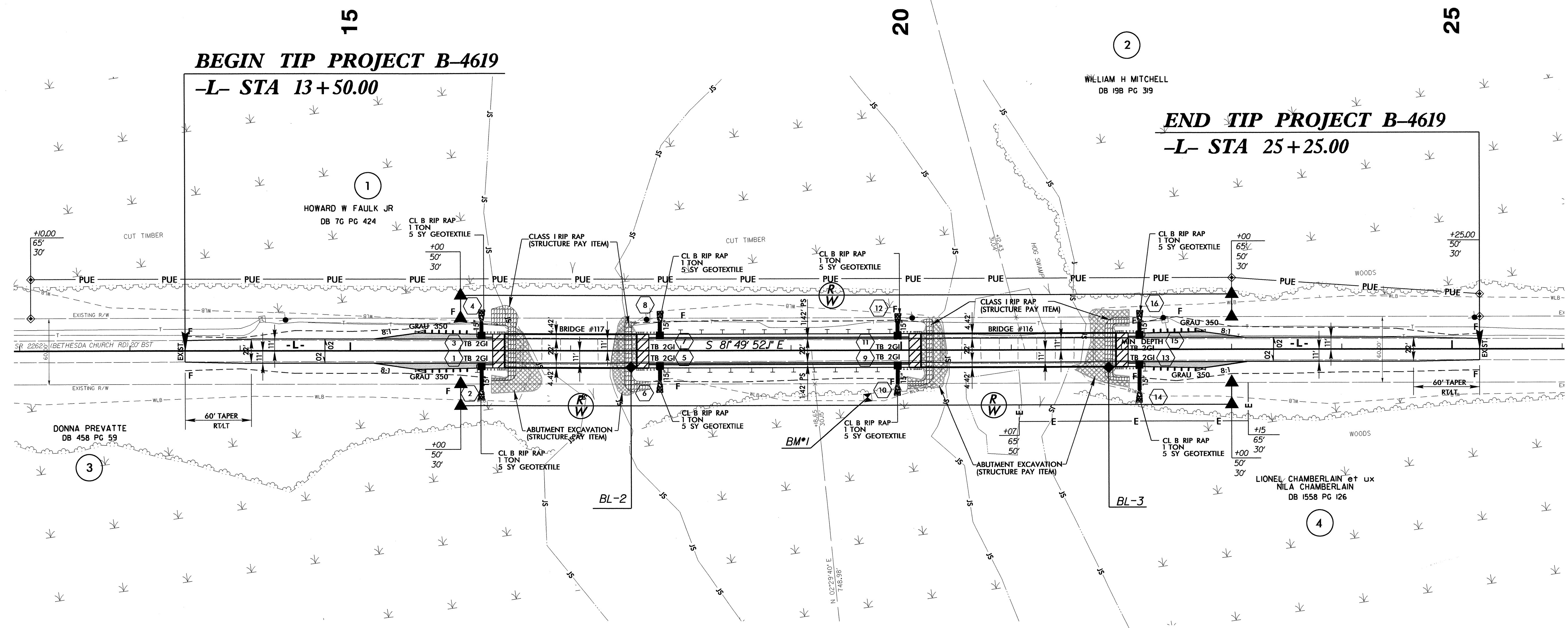
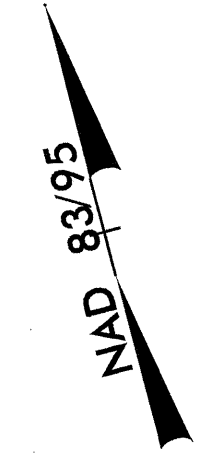
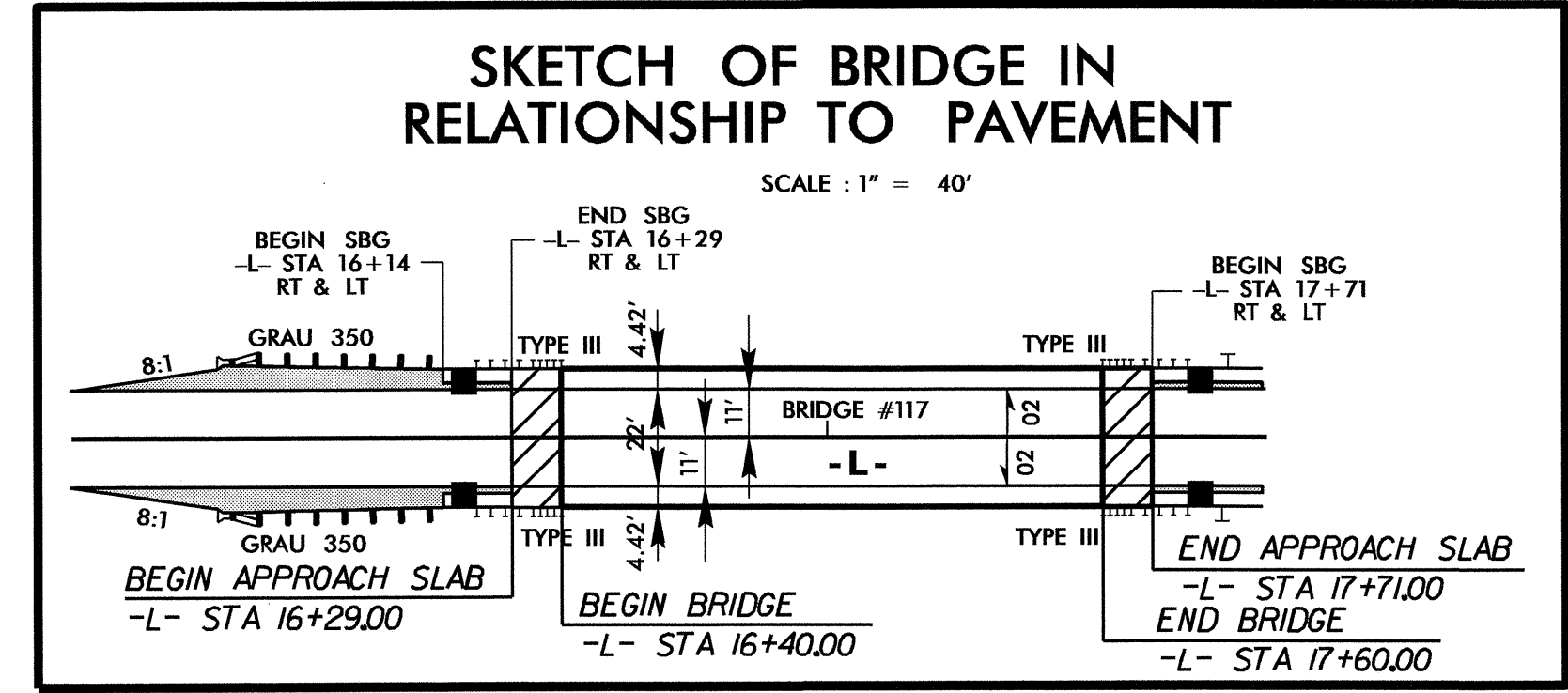
PROJECT NO. SHEET NO.
B-4619 3A

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout.
See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

Table with columns for Station, Location, Structure No., Top Invert, Invert, Slope Critical, Drainage Pipe, C.S. Pipe, R.C. Pipe Class III, R.C. Pipe Class IV, Endwalls, Quantities, Frame/Grates, Concrete Section, and Abbreviations. Includes a 'SHEET TOTALS' row at the bottom.

ABBREVIATIONS
C.B. CATCH BASIN
N.D.I. NARROW DROP INLET
D.I. DROP INLET
G.D.I. GRATED DROP INLET (NARROW SLOT)
J.B. JUNCTION BOX
M.H. MANHOLE
T.B.D.I. TRAFFIC BEARING DROP INLET
T.B.J.B. TRAFFIC BEARING JUNCTION BOX



PAVED SHOULDER

FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE PLANS, SEE SHEETS S-1 TO S-48

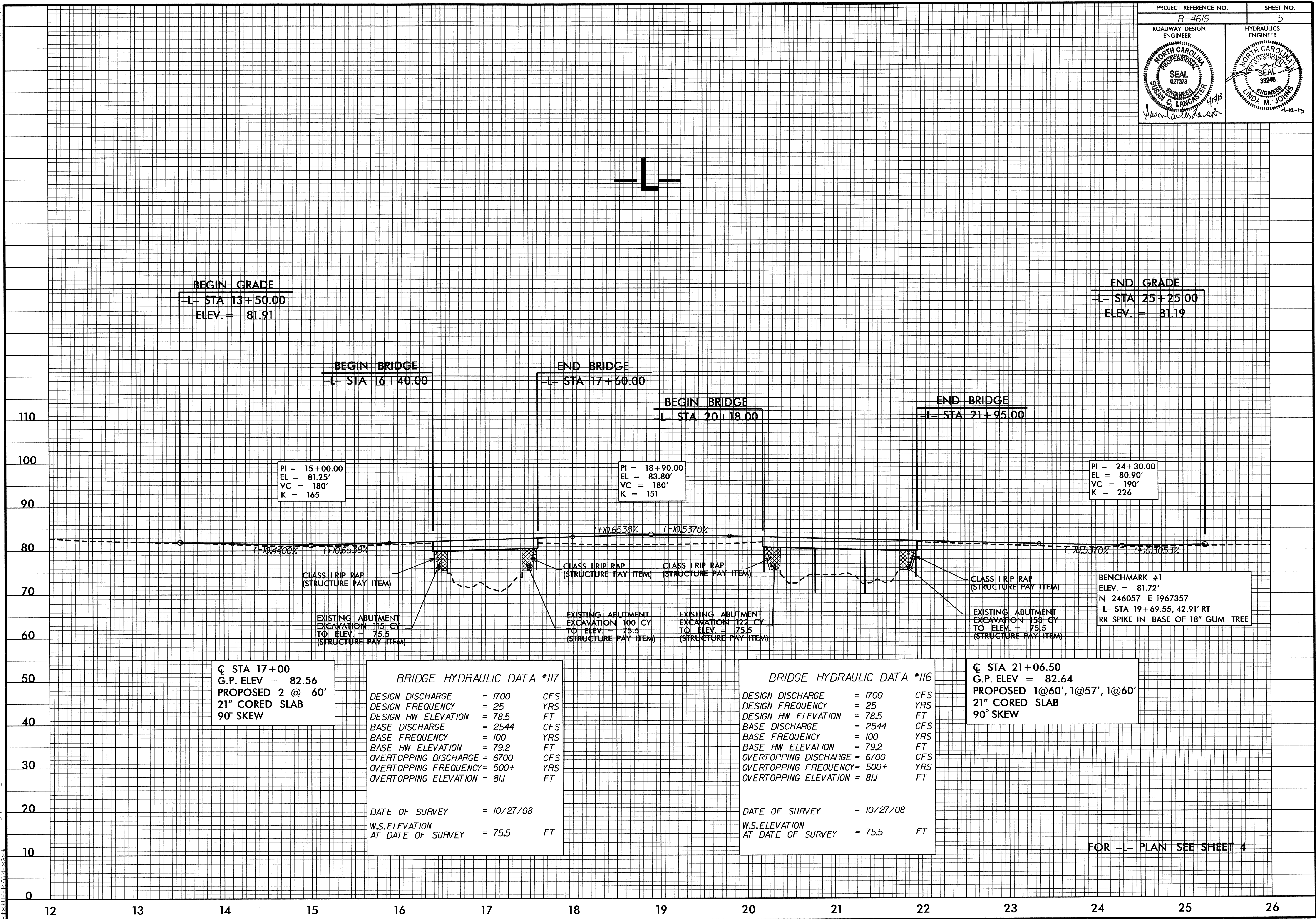
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REVISIONS

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5/14/09

PROJECT REFERENCE NO. B-4619	SHEET NO. 5
ROADWAY DESIGN ENGINEER SUSAN C. LANCASTER NORTH CAROLINA PROFESSIONAL SEAL 027373	HYDRAULICS ENGINEER LINDA M. JOHNS NORTH CAROLINA PROFESSIONAL SEAL 33246



BEGIN GRADE
L- STA 13+50.00
ELEV. = 81.91

END GRADE
L- STA 25+25.00
ELEV. = 81.19

BEGIN BRIDGE
L- STA 16+40.00

END BRIDGE
L- STA 17+60.00

BEGIN BRIDGE
L- STA 20+18.00

END BRIDGE
L- STA 21+95.00

PI = 15+00.00
EL = 81.25'
VC = 180'
K = 165

PI = 18+90.00
EL = 83.80'
VC = 180'
K = 151

PI = 24+30.00
EL = 80.90'
VC = 190'
K = 226

☐ STA 17+00
G.P. ELEV = 82.56
PROPOSED 2 @ 60'
21" CORED SLAB
90° SKEW

BRIDGE HYDRAULIC DATA #117

DESIGN DISCHARGE	= 1700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 78.5	FT
BASE DISCHARGE	= 2544	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 79.2	FT
OVERTOPPING DISCHARGE	= 6700	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 81J	FT

DATE OF SURVEY = 10/27/08
W.S. ELEVATION AT DATE OF SURVEY = 75.5 FT

BRIDGE HYDRAULIC DATA #116

DESIGN DISCHARGE	= 1700	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 78.5	FT
BASE DISCHARGE	= 2544	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 79.2	FT
OVERTOPPING DISCHARGE	= 6700	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 81J	FT

DATE OF SURVEY = 10/27/08
W.S. ELEVATION AT DATE OF SURVEY = 75.5 FT

☐ STA 21+06.50
G.P. ELEV = 82.64
PROPOSED 1@60', 1@57', 1@60'
21" CORED SLAB
90° SKEW

BENCHMARK #1
ELEV. = 81.72'
N 246057 E 1967357
L- STA 19+69.55, 42.91' RT
RR SPIKE IN BASE OF 18" GUM TREE

FOR L- PLAN SEE SHEET 4

18-APR-2013 8:46 AM B:\4619_rdy.plt_5.dgn