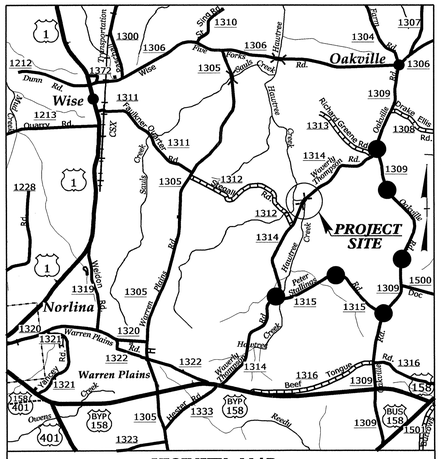
09/08/99

TIP PROJECT: B-4666

CONTRACT: C203294

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



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

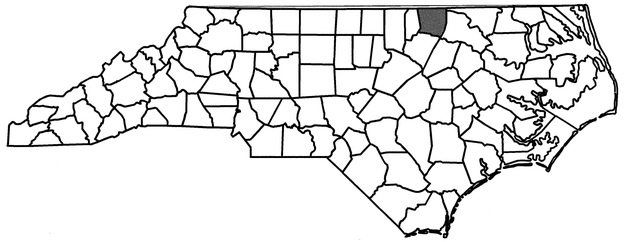
WARREN COUNTY

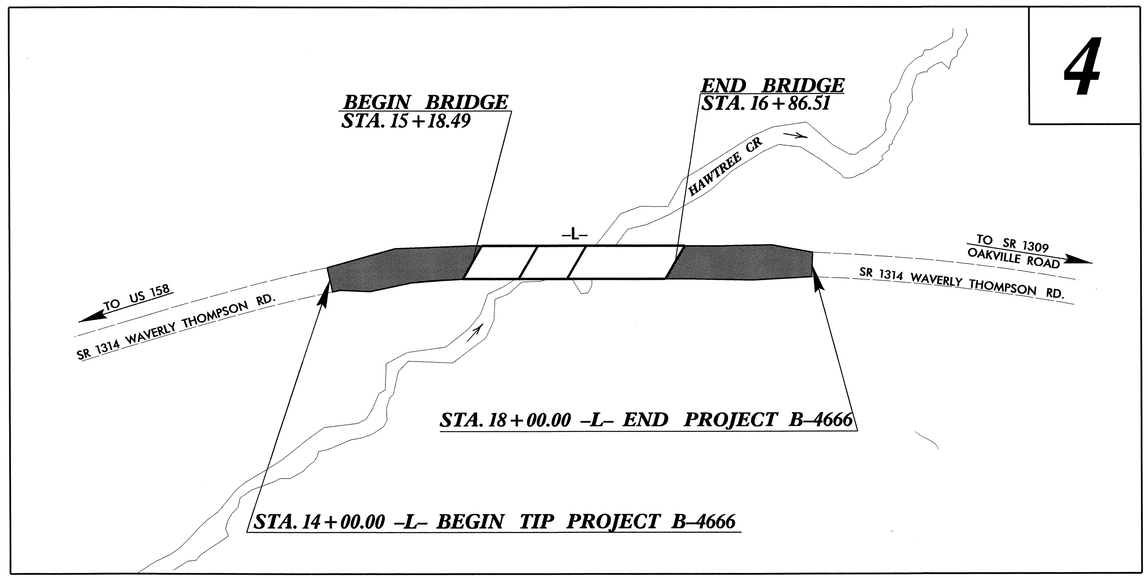
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4666	1	

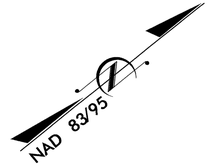
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38459.1.1	BRZ-1314(4)	P.E.
38459.2.1	BRZ-1314(4)	RW/UTIL
38459.3.FD1	BRZ-1314(4)	CONST.

LOCATION: BRIDGE NO. 80 OVER HAWTREE CREEK ON SR 1314 (WAVERLY THOMPSON ROAD)

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







DESIGN EXCEPTION REQUIRED FOR DESIGN SPEED OF 30 MPH.

GRAPHIC SCALES

PLANS: 50 25 0 50 100
PROFILE (HORIZONTAL): 50 25 0 50 100
PROFILE (VERTICAL): 10 5 0 10 20

DESIGN DATA

ADT 2014 = 410
ADT 2034 = 650
K = 13 %
D = 60 %
T = 3 % *
V = 60 MPH
*(TTST 1% + DUAL 2%)
FUNC CLASS = RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4666 = 0.044 MILE
LENGTH STRUCTURE TIP PROJECT B-4666 = 0.032 MILE
TOTAL LENGTH OF TIP PROJECT B-4666 = 0.076 MILE

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: JANUARY 15, 2013

LETTING DATE: JANUARY 21, 2014

G. E. BREW, PE
PROJECT ENGINEER

THAD F. DUNCAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33184 ENGINEER JEFFREY W. MEADOR

SIGNATURE: 10-23-2013

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN

SIGNATURE: Thad F. Duncan 10/23/13

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4666	1-A

ROADWAY DESIGN ENGINEER

10/23/13

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 25477 THAD F. DUNCAN

INDEX OF SHEETS

SHEET NUMBER	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 AND TYPICAL SECTIONS
2-A	STRUCTURE ANCHOR UNITS
~~3~~	~~SUMMARY OF QUANTITIES~~
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, AND SUMMARY OF SUBSURFACE DRAINAGE
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-4	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-4	CROSS-SECTIONS
S-1 THRU S-25	STRUCTURE PLANS

GENERAL NOTES:

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

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
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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE CENTURYLINK-TELEPHONE AND FIBER OPTIC.

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.

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 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
DIVISION 4 - MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
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
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
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 as March 2013 Letting)
876.02	Guide for Rip Rap at Pipe Outlets

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
B-4666	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- 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 U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- 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 — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

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

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4666	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4666

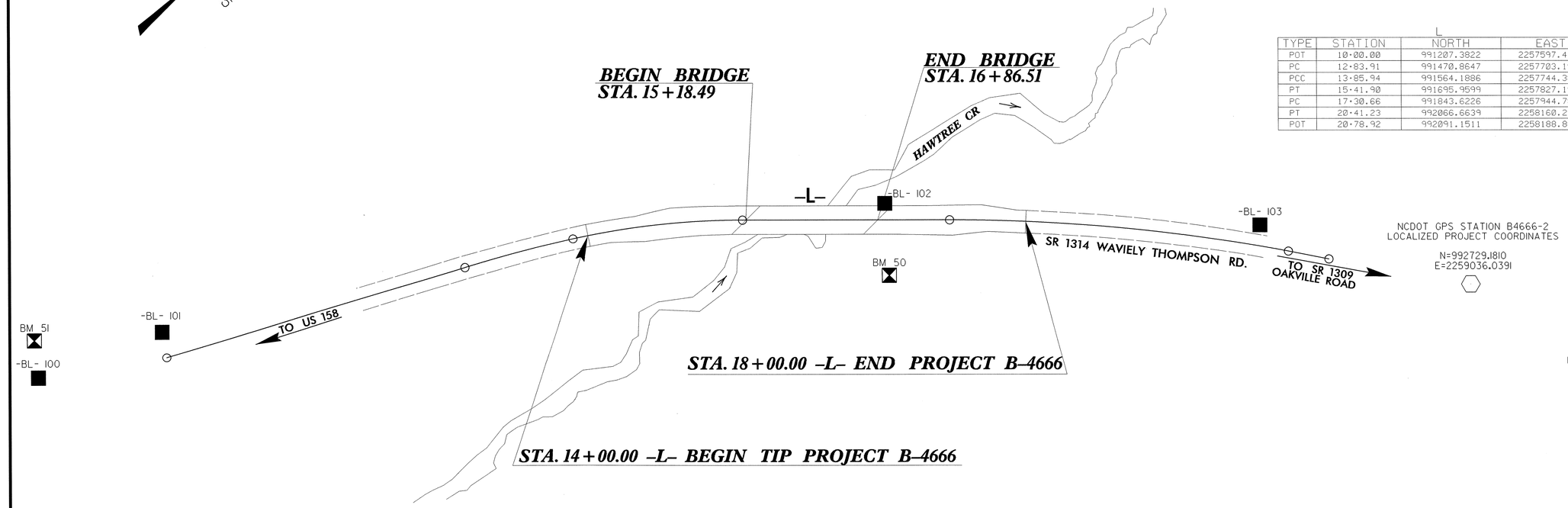
NC GRID
NAD 83/95

ROW MARKER CONCRETE OR GRANITE

ALIGN	STATION	OFFSET	NORTH	EAST
L	14+30.00	-45.00	991625.3085	2257725.5553
L	14+30.00	-29.88	991617.8912	2257738.7342
L	14+65.00	30.08	991617.2501	2257808.1378
L	14+65.00	45.00	991609.2928	2257820.7561
L	15+45.00	-45.00	991726.4180	2257793.9277
L	15+45.00	45.00	991670.3541	2257864.3325
L	17+65.00	45.00	991841.4890	2258001.0598
L	17+65.00	30.04	991851.0539	2257989.5558
L	18+00.00	-45.00	991926.4365	2257955.1475
L	18+00.00	-29.90	991916.5325	2257966.5506

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	991207.3822	2257597.4413
PC	12+83.91	991470.8647	2257703.1906
PCC	13+85.94	991564.1886	2257744.3841
PT	15+41.90	991695.9599	2257827.1981
PC	17+30.66	991843.6226	2257944.7833
PT	20+41.23	992066.6639	2258160.2150
POT	20+78.92	992091.1511	2258188.8665



NCDOT GPS STATION B4666-2
LOCALIZED PROJECT COORDINATES

N=992729.1810
E=2259036.0391

NCDOT GPS STATION B4666-1
LOCALIZED PROJECT COORDINATES

N=993221.0039
E=2259709.5748

CONTROL DATA

BASELINE

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
100	BL-100	990538.9139	2257308.3105	281.04	OUTSIDE PROJECT LIMITS	
101	BL-101	991215.7708	2257580.9600	252.54	10+01.65	18.42 LT
102	BL-102	991806.8595	2257896.1249	248.29	16+71.59	15.16 LT
103	BL-103	992262.3809	2258365.6584	266.03	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

```
****************************************
50       ELEVATION = 243.32
N 991769       E 2257950
L STATION 16+76.00 51 RIGHT
R/R SPIKE SET IN 14 INCH MAPLE
****************************************
****************************************
51       ELEVATION = 288.23
N 990558       E 2257290
L STATION 10+00.00
   S 25°20'4.52" W  DIST    718.48
R/R SPIKE SET IN 20 INCH PINE
****************************************
```

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4666-2" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 992729.1810(ft) EASTING: 2259036.0391(ft) ELEVATION: 296.10(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00009149
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4666-2" TO -L- STATION 14+00.00 IS S 48°07'24.0" W 1726.36'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT: HTTPS://CONNECT.NCDOT.GOV/RESOURCES/LOCATION B4666_ls_control.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)

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ls_lc_control.sss

PROJECT REFERENCE NO.	SHEET NO.
B-4666	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

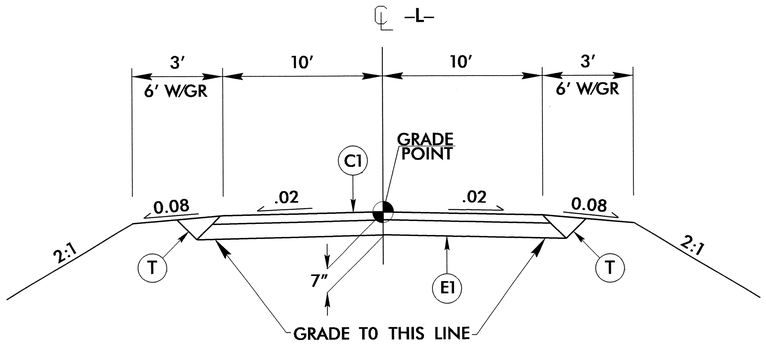
NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN 10/23/13

NORTH CAROLINA PROFESSIONAL SEAL 039815 ENGINEER LATONYA T. NEWMAN OCTOBER 22 2013

PAVEMENT SCHEDULE
(FINAL PAVEMENT DESIGN)

C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. APPROX. 3¾" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF THREE LAYERS.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
T	EARTH MATERIAL.

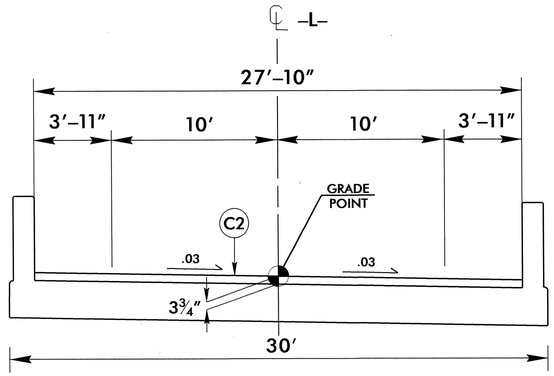
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 14+00.00 TO STA. 15+18.49 (BEGIN BRIDGE)
-L- STA. 16+86.51 (END BRIDGE) TO STA. 18+00.00



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA. 15+18.49 (BEGIN BRIDGE) TO STA. 16+86.51 (END BRIDGE)

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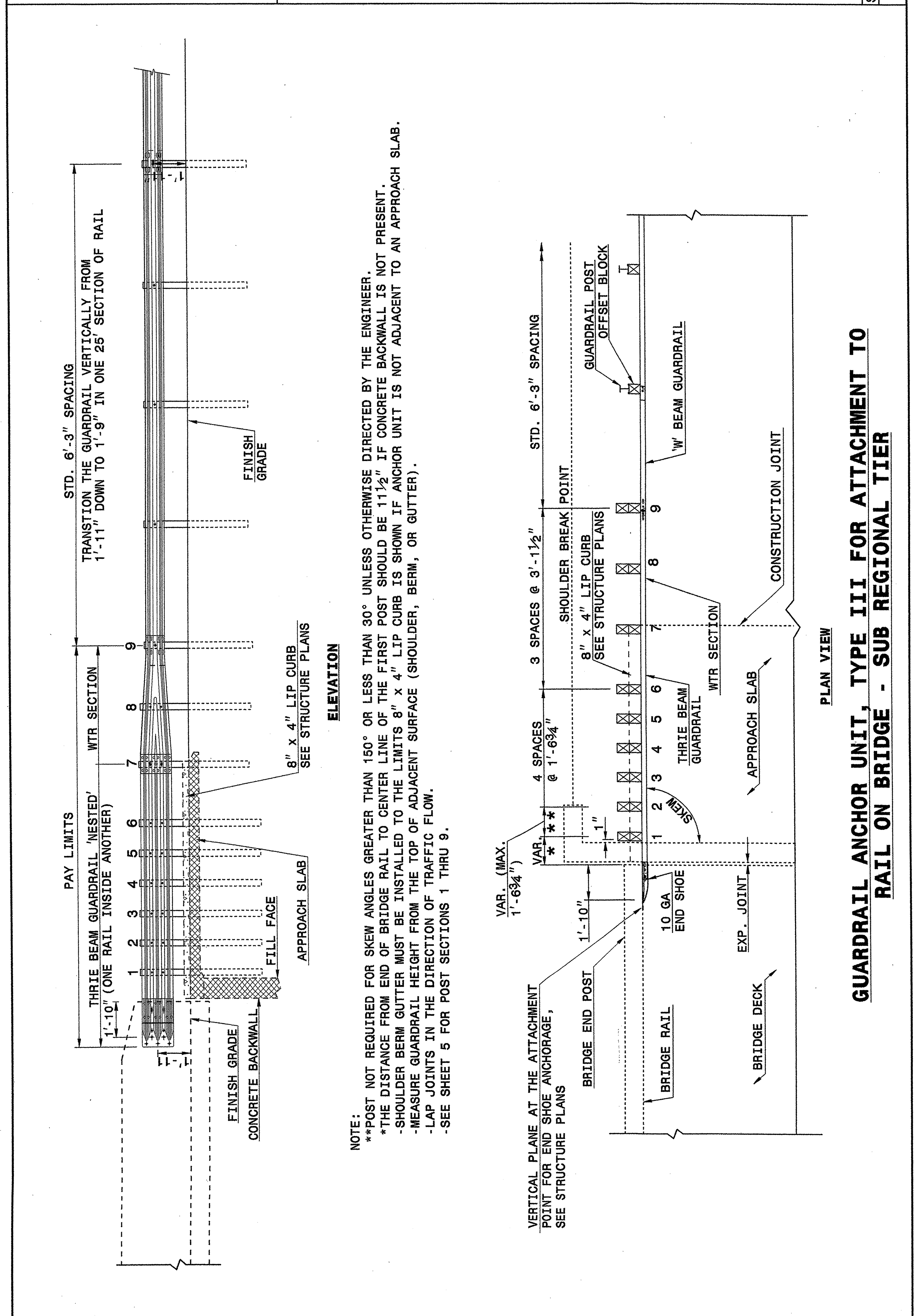
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNITS GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER
SHEET 2 OF 7 862d03

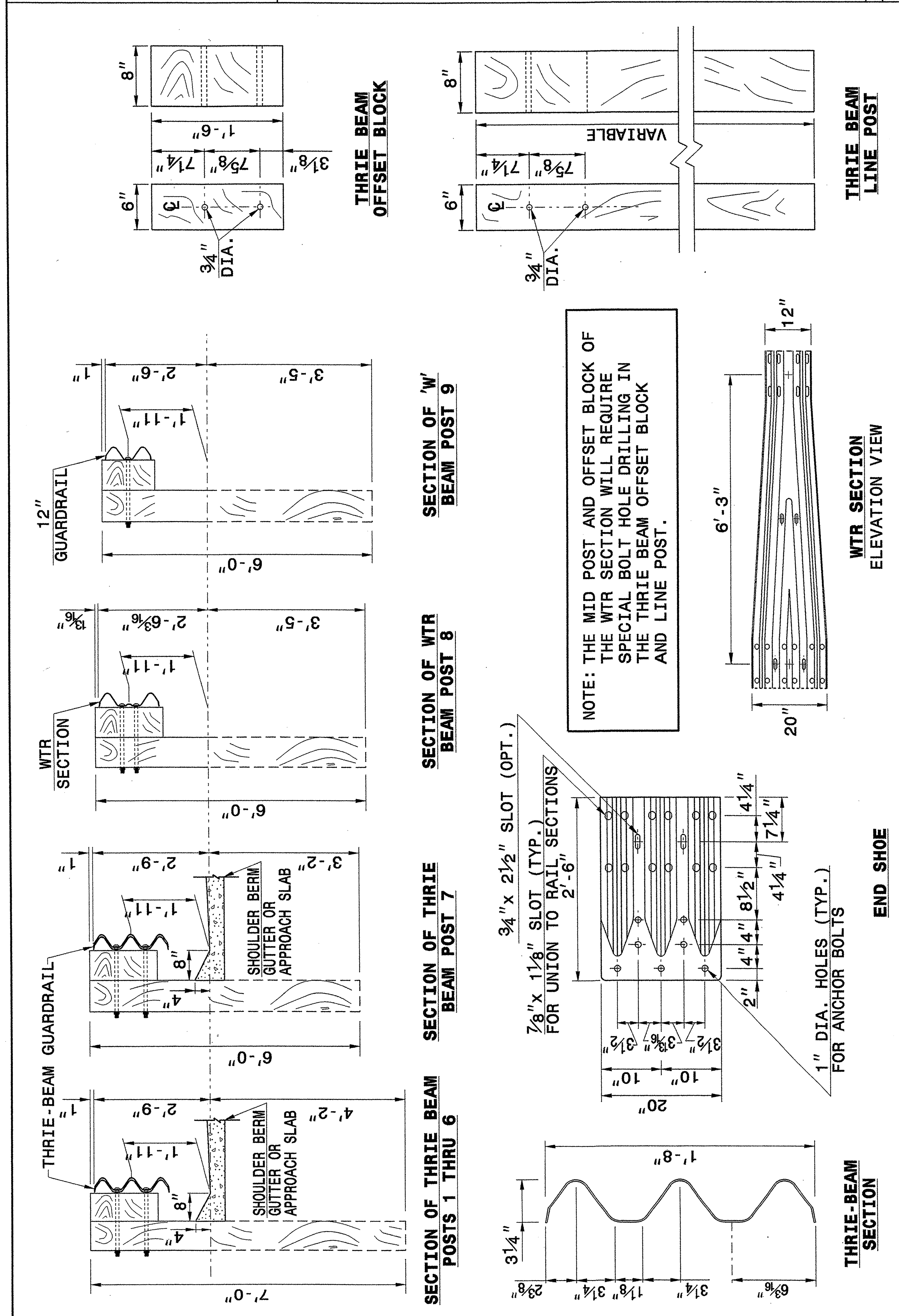


STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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**

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**

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOEL S. HOWERTON 10/24/13

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: Joel S. Hunt DATE: 11/13/12
FILE SPEC.:

$$$$$$SYSTIME$$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$
$$$$USERNAME$$$$

COMPUTED BY:	RWB	DATE:	8/1/2012
CHECKED BY:	TFD	DATE:	9/1/2012

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4666	3-A

RD248776

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)

STATION (SIZE / THICKNESS OR GAUGE)	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
-L- 14+75	RT	401		247.2'															
-L- 14+75	RT	401	402	244.2'	243.8'				12.0'										
SHEET TOTALS									12.0'										

STATION	C.S. PIPE 12" (.064)	15" (.064)	18" (.064)	24" (.064)	30" (.079)	36" (.079)	42" (.109)	48" (.109)	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
-L- 14+75																								
-L- 14+75																								
SHEET TOTALS																								

STATION	** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	T.B.D.I. STD. 840.35	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	PIPE REMOVAL LIN. FT.	REMARKS
-L- 14+75						1									1	1		
-L- 14+75																		
SHEET TOTALS						1									1	1		

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(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

CSD265813,10/3/2013,S:\Records\Plot_Rooms\Plotter_room_A\Print_Jobs\10-03-13\RBrannan\combopsh.xls

COMPUTED BY:	RWB	DATE:	8/1/2012
CHECKED BY:	TFD	DATE:	8/1/2012

PROJECT NO.	SHEET NO.
B-4666	3-B

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
-L-					
14+00.00	15+18.49	34	35	1	
16+86.51	18+00.00	20	71	51	
SUBTOTAL:		54	106	52	
TOTAL:		54	106	52	
EST. 5% TO REPLACE BORROW PIT:				3	
GRAND TOTAL:		54	106	55	
SAY:		60 CY		60 CY	

ESTIMATED 300 CY OF UNDERCUT AS PER GEOTECH. RECOMMENDATION

SUMMARY OF EXISTING PAVEMENT REMOVAL

IN SQUARE YARDS

LINE	STATION	STATION	LOC LT/RT/CL	AREA SY
REMOVAL OF EXISTING PAVEMENT				
-L-	14+00.00	15+55.00	CL	345
-L-	16+35.00	18+00.00	CL	366
			TOTAL:	711
			SAY:	715 SY

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	LOC LT/RT/CL	DRAIN TYPE* UD/BD/SD	LF
CONTINGENCY			UD	100
			TOTAL	100 LF

*UD = UNDERDRAIN
*BD = BLIND DRAIN
*SD = SUBSURFACE DRAIN

APPROXIMATE QUANTITIES ONLY. UNCLASSIFIED EXCAVATION, BORROW EXCAVATION, FINE GRADING, CLEARING AND GRUBBING, AND REMOVAL OF EXISTING PAVEMENT WILL BE PAID FOR AT THE CONTRACT 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.

"N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL
TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
G = GATING IMPACT ATTENUATOR TYPE 350
NG = NON-GATING IMPACT ATTENUATOR TYPE 350

GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH STRAIGHT	LENGTH TEMP STRAIGHT	LENGTH SHOP CURVED	LENGTH TEMP SHOP CURVED	WARRANT POINT APPR. END	WARRANT POINT TRAIL. END	"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLARE LENGTH APPR. END	FLARE LENGTH TRAIL. END	W APPR. END	W TRAIL. END	ANCHORS GRAU 350	ANCHORS M-350	ANCHORS TYPE III		GUARDRAIL REMOVAL	ADDITIONAL GUARDRAIL POSTS	REMARKS
-L-	14+51.88	15+26.88	LT.	75.00'				15+26.88		VAR	6					1		1				
-L-	14+22.74	15+10.24	RT.	87.50'					15+10.24	VAR	6	37.5					1	1				
-L-	16+78.47	17+53.47	RT.	75.00'				16+78.47		VAR	6					1		1				
-L-	16+94.55	17+69.55	LT.	75.00'					16+94.55	VAR	6	50				1		1				
SUBTOTAL:				312.50'												3	1	4			5	
LESS ANCHORS DEDUCTIONS:																						
GRAU 350	3	@	50.00'	150.00'																		
M-350	1	@	37.50'	37.50'																		
TYPE III	4	@	18.75'	75.00'																		
ANCHOR TOTALS:				262.50'																		
GRAND TOTAL:				50.00'												3	1	4			5	
SAY:				50.00'												3	1	4			5	

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4666	4
RW SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN

10/23/13

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33184 ENGINEER JEFFREY W. MEADOR

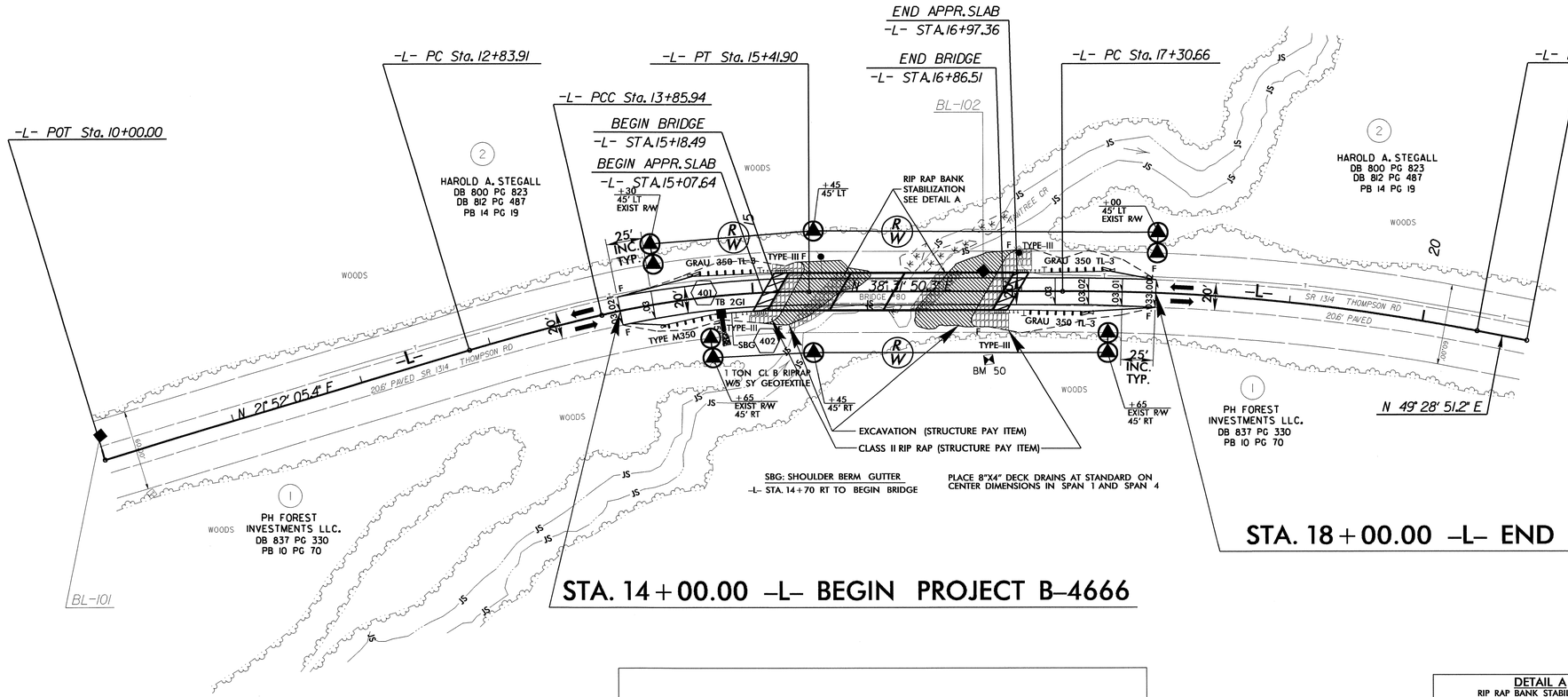
10-25-2013

-L-

PI Sta 13+34.95	PI Sta 14+64.24	PI Sta 18+86.42
Δ = 3° 53' 50.2" (RT)	Δ = 12° 45' 54.6" (RT)	Δ = 10° 57' 00.9" (RT)
D = 3° 49' 11.0"	D = 8° 11' 06.4"	D = 3° 31' 33.2"
L = 102.03'	L = 155.96'	L = 310.57'
T = 51.04'	T = 78.30'	T = 155.76'
R = 1,500.00'	*R = 700.00'	R = 1,625.00'
	SE = SEE PLANS	SE = SEE PLANS
	RO = SEE PLANS	RO = SEE PLANS

*DESIGN SPEED EXCEPTION REQUIRED FOR 30 MPH.

NAD 83/95

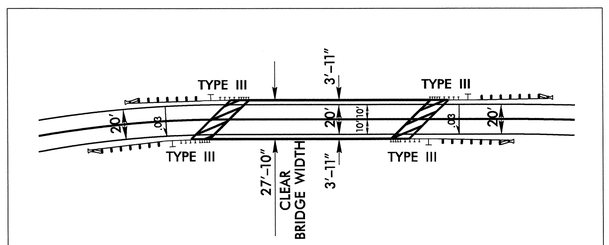


SBG: SHOULDER BERM GUTTER
-L- STA. 14+70 RT TO BEGIN BRIDGE

PLACE 8"X4" DECK DRAINS AT STANDARD ON CENTER DIMENSIONS IN SPAN 1 AND SPAN 4

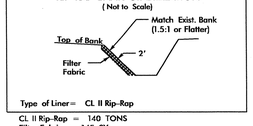
STA. 14+00.00 -L- BEGIN PROJECT B-4666

STA. 18+00.00 -L- END PROJECT B-4666



SKETCH SHOWING BRIDGE IN RELATIONSHIP TO PAVEMENT

DETAIL A
RIP RAP BANK STABILIZATION
(Not to Scale)



Type of Liner = CL II Rip-Rap

CL II Rip-Rap = 140 TONS
Filter Fabric = 145 SY

FOR -L- PROFILE SEE SHEET 5
FOR STRUCTURE SEE SHEET S1 TO S25

22-OCT-2013 10:28
R:\Roadway\Proj\B4666_rdy_psh_04.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4666	5

ROADWAY DESIGN ENGINEER

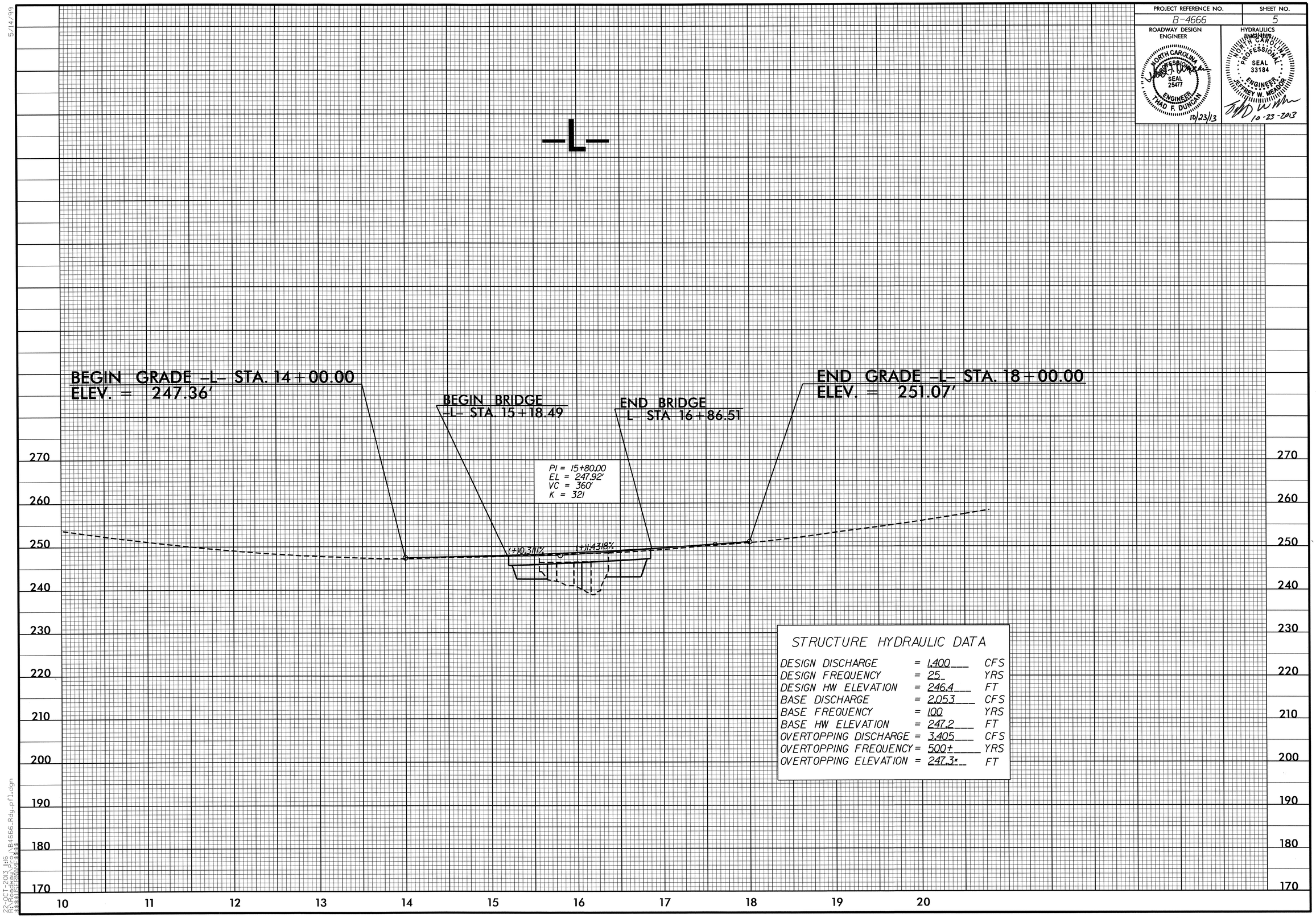
NORTH CAROLINA PROFESSIONAL SEAL 25477 ENGINEER THAD F. DUNCAN

10/23/13

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33184 ENGINEER JEFFREY W. MEADOR

10-23-2013



STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	=	1,400	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	246.4	FT
BASE DISCHARGE	=	2,053	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	247.2	FT
OVERTOPPING DISCHARGE	=	3,405	CFS
OVERTOPPING FREQUENCY	=	500+	YRS
OVERTOPPING ELEVATION	=	247.3*	FT

5/14/99

22-OCT-2013 11:16
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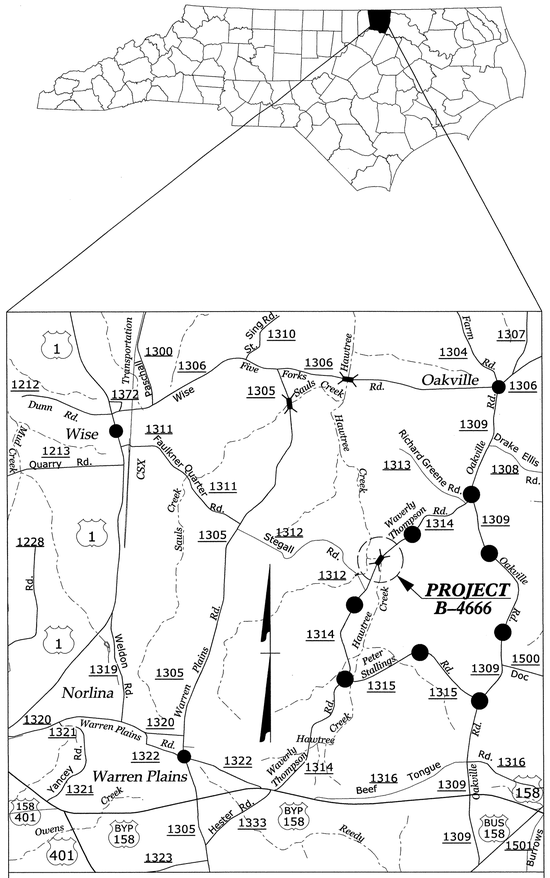
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

WARREN COUNTY



VICINITY MAP

OFF-SITE DETOUR

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND PHASING)
TMP-2	OFF-SITE DETOUR AND BARRICADE PLACEMENT
TMP-3	SPECIAL SIGN DESIGN

SHEET NO.
TMP-1

B-4666

TIP PROJECT:

WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. — STATE TRAFFIC MANAGEMENT ENGINEER
JOSEPH ISHAK, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
MICHAEL STEELMAN — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
DURWOOD KENNEDY, P.E. — TRAFFIC CONTROL DESIGN ENGINEER

DIVISION OF HIGHWAYS * STATE OF NORTH CAROLINA * DEPARTMENT OF TRANSPORTATION * WORK ZONE TRAFFIC CONTROL

APPROVED: _____
DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK
9-04-2013

8/20/2013
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User:drkennedy1

PROJ. REFERENCE NO.	SHEET NO.
B-4666	TMP-1A

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.03	TEMPORARY ROAD CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUM
1145.01	BARRICADES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- USER DEFINED (IF NEEDED)
- USER DEFINED (IF NEEDED)

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

——EXISTING LINES
——TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- TEMPORARY CRASH CUSHION
- FLASHING ARROW BOARD
- FLAGGER
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

- CRYSTAL/CRYSTAL
- CRYSTAL/RED
- YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

PAVEMENT MARKING SYMBOLS

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK
4/21/2013

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

ROADWAY STANDARD DRAWINGS & LEGEND

8/20/2013
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User:drkennedy

PROJ. REFERENCE NO.	SHEET NO.
B-4666	TMP-1B

MANAGEMENT STRATEGIES

DURING REPLACEMENT OF THE EXISTING BRIDGE No.80 OVER HAWTREE CREEK, SR-1314 (WAVERLY THOMPSON RD.) WILL BE CLOSED TO THROUGH TRAFFIC. THE WAVERLY THOMPSON ROAD TRAFFIC WILL BE DETOURED OFF-SITE.

PHASING

STEP 1:
PROVIDE AND MAINTAIN CHANGEABLE MESSAGE SIGNS AT EACH END OF SR-1314 (WAVERLY THOMPSON RD.) OR AS DIRECTED BY THE ENGINEER FOR FOURTEEN (14) CALENDAR DAYS PRIOR TO ROAD CLOSURE, AS SHOWN ON SHEET TMP-2.

USING ROADWAY STANDARD DRAWING (RSD) 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND TMP-3, MAY BEGIN INSTALLATION OF ROAD CLOSURE AND DETOUR SIGNS. COVER SIGNS UNTIL READY TO CLOSE THE ROAD.

STEP 2:
USING RSD 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND TMP-3, INSTALL / UNCOVER ROAD CLOSURE AND DETOUR SIGNS. PLACE TYPE III BARRICADES TO CLOSE SR-1314 TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFF-SITE. CHANGEABLE MESSAGE SIGNS MAY BE REMOVED.

STEP 3:
AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:

SEE ROADWAY AND STRUCTURE PLANS.

- REMOVE EXISTING STRUCTURE No.80, AND CONSTRUCT THE PROPOSED STRUCTURE.

- CONSTRUCT PROPOSED ROADWAY UP THROUGH THE FINAL LAYER OF SURFACE COURSE FROM -L- STA.14+00+/- TO -L- STA.18+00+/-. USING FINAL PAVEMENT MARKING PLAN, PLACE FINAL PAVEMENT MARKINGS AND MARKERS FROM -L- STA.14+00+/- TO -L- STA.18+00+/-, AND TIE INTO EXISTING PAVEMENT MARKINGS.

STEP 4:
REMOVE ALL ROAD CLOSURE SIGNING / DEVICES AND DETOUR SIGNS.
OPEN SR-1314 (WAVERLY THOMPSON ROAD) TO PROPOSED TRAFFIC PATTERN.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) PROVIDE PERMANENT SIGNING.

C) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRANSPORTATION MANAGEMENT PLAN.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRANSPORTATION MANAGEMENT PLAN.

D) COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

COVER OR REMOVE ALL SIGNS REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

E) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

F) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

G) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS SHOWN IN THE PAVEMENT MARKING PLAN.

H) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK
4/21/2013

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRANSPORTATION OPERATIONS PLAN

8/20/2013
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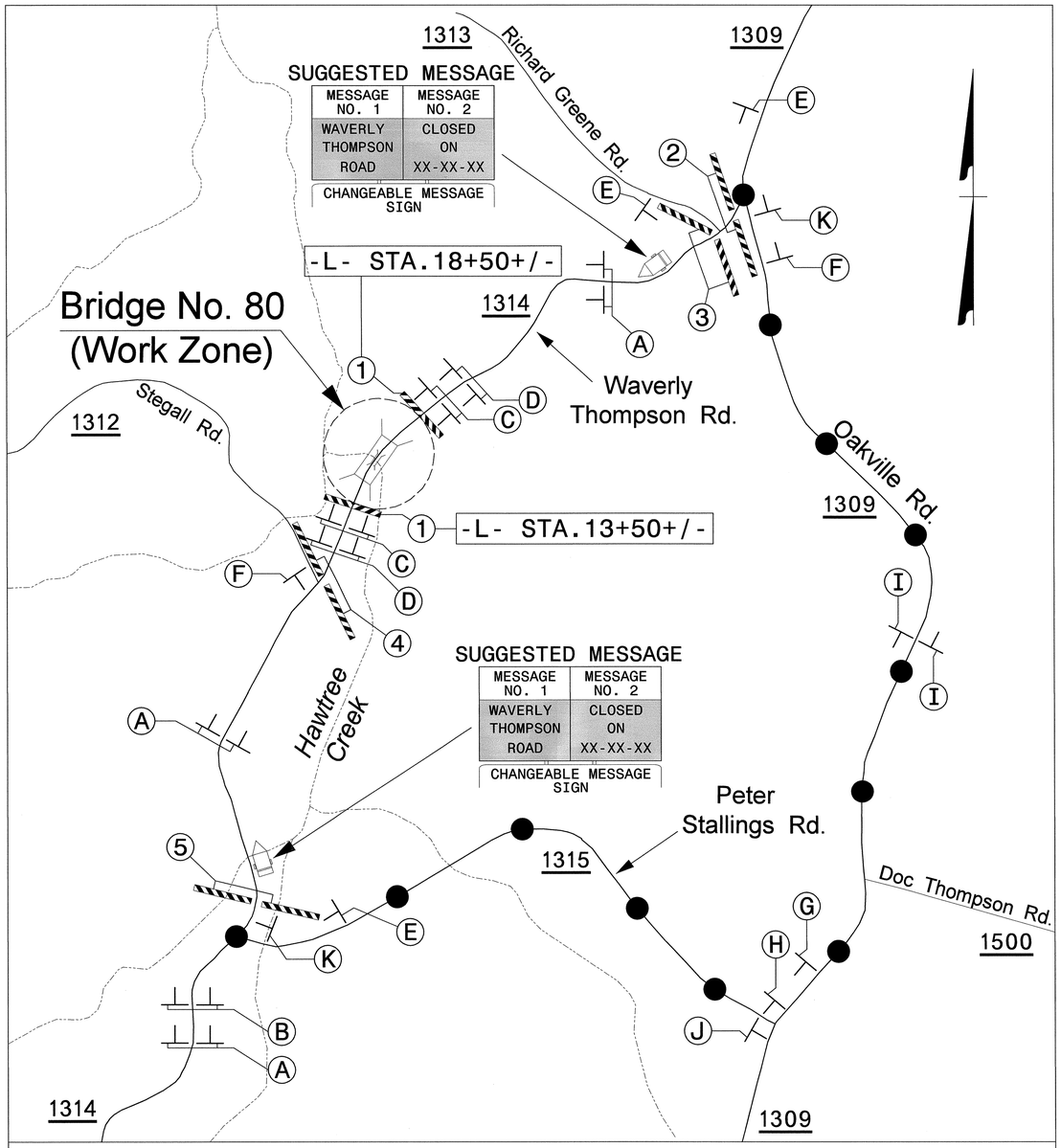
User:drKennedyJ

PROJ. REFERENCE NO.	SHEET NO.
B-4666	TMP-2

VICINITY MAP: WARREN COUNTY



NOTES:

1. REFER TO SHEET TMP-3 FOR SPECIAL SIGN DESIGN.
2. REFER TO RSD 1101.03, SHEET 1 OF 9, FOR ROAD CLOSURE SIGN DISTANCES AND APPLICABLE NOTES.
3. INSTALL DETOUR SIGNS AS DIRECTED BY THE ENGINEER.
4. LOCATE AND INSTALL CMS TO BE LEVEL AS DIRECTED BY THE ENGINEER.
5. CMS(s) SHALL BE USED TO PROVIDE (14) DAYS ADVANCE WARNING OF ROAD CLOSURE. CMS(s) SHOULD BE REMOVED AFTER ROAD IS CLOSED, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

OFF-SITE DETOUR ROUTE =

OFF-SITE DETOUR ROUTE:
FROM SR-1314 TO SR-1309 TO SR-1315 BACK TO SR-1314

(A) ROAD CLOSED AHEAD — W20-3, 48″ x 48″

(B) DETOUR AHEAD — W20-2, 48″ x 48″

(C) ROAD CLOSED 500 FT — W20-3, 48″ x 48″

(D) ROAD CLOSED 1000 FT — W20-3, 48″ x 48″

(E) ROAD CLOSED AHEAD — W20-3, 48″ x 48″ / NEXT RIGHT — SP-4R, 42″ x 12″

(F) ROAD CLOSED AHEAD — W20-3, 48″ x 48″ / NEXT LEFT — SP-4L, 42″ x 12″

(G) WAVERLY THOMPSON RD — SPECIAL, 42″ x 18″ / DETOUR — M4-8, 24″ x 12″ / M5-1 (R), 21″ x 15″

(H) WAVERLY THOMPSON RD — SPECIAL, 42″ x 18″ / DETOUR — M4-8, 24″ x 12″ / M6-1, 21″ x 15″

(I) WAVERLY THOMPSON RD — SPECIAL, 42″ x 18″ / DETOUR — M4-8, 24″ x 12″ / M6-3, 21″ x 15″

(J) WAVERLY THOMPSON RD — SPECIAL, 42″ x 18″ / DETOUR — M4-8, 24″ x 12″ / M6-1, 21″ x 15″

(K) WAVERLY THOMPSON RD — SPECIAL, 42″ x 18″ / END DETOUR — M4-8 A, 24″ x 18″

(1) R11-2, 48″ x 30″ — ROAD CLOSED — TYPE III BARRICADE(S)

(2) R11-3, 60″ x 30″ — ROAD CLOSED 1 MILES AHEAD LOCAL TRAFFIC ONLY / DETOUR — M4-10L, 48″ x 18″ — TYPE III BARRICADE

(3) R11-3, 60″ x 30″ — ROAD CLOSED 1 MILES AHEAD LOCAL TRAFFIC ONLY — TYPE III BARRICADE

(4) R11-4, 60″ x 30″ — ROAD CLOSED TO THRU TRAFFIC — TYPE III BARRICADE

(5) R11-3, 60″ x 30″ — ROAD CLOSED 1 MILES AHEAD LOCAL TRAFFIC ONLY / DETOUR — M4-10R, 48″ x 18″ — TYPE III BARRICADE

APPROVED: _____ DATE: _____

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 028380 ENGINEER JOSEPH ISHAK — 5/21/2013

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION — WORK ZONE TRAFFIC CONTROL

OFF-SITE DETOUR AND BARRICADE PLACEMENT

8/20/2013
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User:drkennedy

PROJ. REFERENCE NO.	SHEET NO.
B-4666	TMP-3

SIGN NUMBER: WORKZONE
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3′-6″
HEIGHT: 1′-6″
TOTAL AREA: 5.3 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.38″
WIDTH: 0.5″
RADII: 1.5″

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

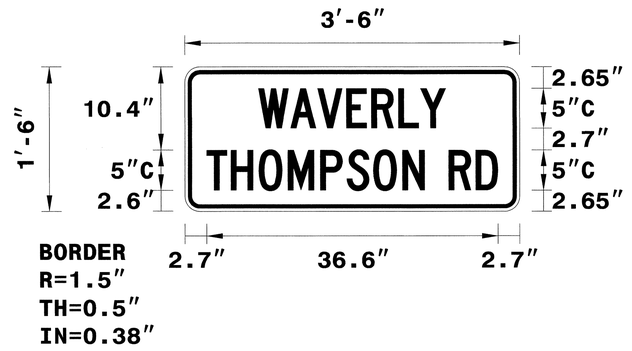
SYMBOL	X	Y	WID	HT

MAT'L: 0.080″ (2.0 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border shall be direct applied black non-reflective sheeting.
2. Background shall be NC GRADE B fluoresent orange retroreflective sheeting.

DESIGN BY: S.JOHNS
PROJECT ID: B-4666
CHECKED BY: S.KUNZ
DIV: 5
DATE: Jul 08, 2013



Spacing Factor is 0.7 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		W	A	V	E	R	L	Y																			C 2000
	9.2	4	3.4	3.6	3.1	3.4	2.8	3.2	9.2																		23.5
		T	H	O	M	P	S	O	N		R	D															C 2000
	2.7	3	3.5	3.7	4.1	3.3	3.3	3.6	2.8	3	3.4	2.8	2.7														36.6

FILENAME: B-4666_WZSgn Design

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: [signature] DATE: 8/21/13

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W KING

DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

SPECIAL
SIGN DESIGN

8/20/2013
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User:arkennedy1

T.I.P.: B-4666

CONTRACT: C203294

TIP NO.	SHEET NO.
B-4666	PMP-1

APPROVED: RLWK

DATE: 10/2/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN

WARREN COUNTY

LOCATION: BRIDGE No. 80 OVER HAWTREE CREEK ON SR 1314 (WAIVELY THOMPSON ROAD)

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - 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:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
PAINT (4")	
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
ALL	PAINT	NONE

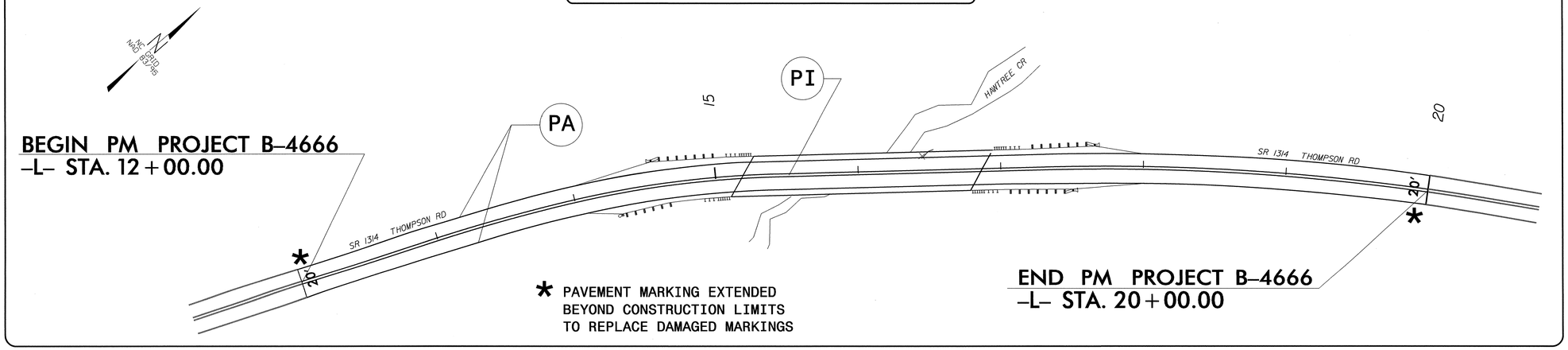
B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

PAVEMENT MARKING DETAIL



* PAVEMENT MARKING EXTENDED BEYOND CONSTRUCTION LIMITS TO REPLACE DAMAGED MARKINGS

PLAN PREPARED BY: N.C.D.O.T. SIGNING AND DELINEATION UNIT

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL ENGINEER

STACEY W. JOHNS — SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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P:\TIPProjects\B4666\Traffic\Signing\CADD\PMP\Pavement Marking Seed 4-30-13.dgn
sjohns AI TE27491

TIP PROJECT: B-4666

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4666	EC-1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

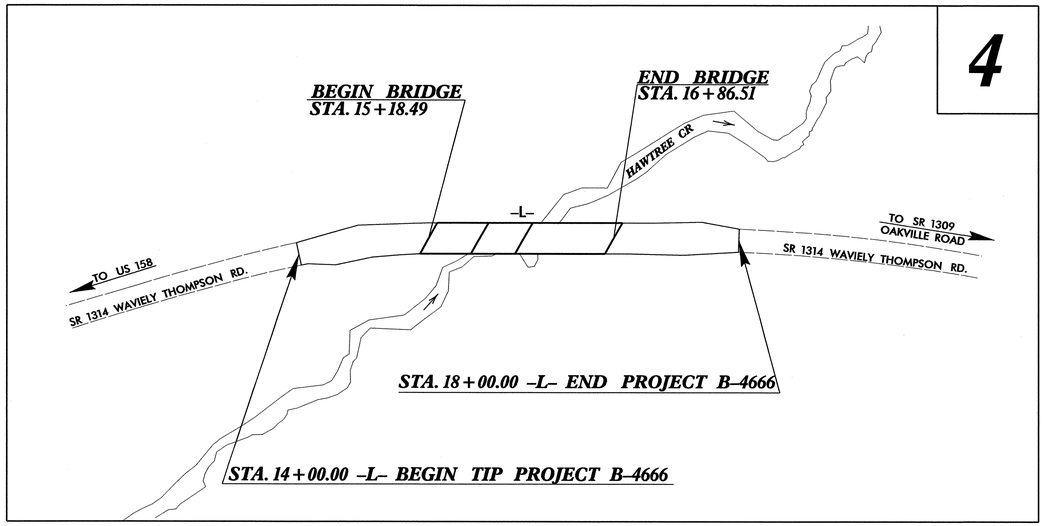
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WARREN COUNTY

LOCATION: BRIDGE NO. 80 OVER HAWTREE CREEK ON SR 1314 (WAVERLY THOMPSON ROAD)

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

NAD 83/95



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	TSD
1630.05	Temporary Diversion	TD
1605.01	Temporary Silt Fence	
1606.01	Special Sediment Control Fence	
1622.01	Temporary Berms and Slope Drains	
1630.02	Silt Basin Type B	
1633.01	Temporary Rock Silt Check Type-A	
	Temporary Rock Silt Check Type-A with Matting and Polyacrylamide (PAM)	
1633.02	Temporary Rock Silt Check Type-B	
	Wattle / Coir Fiber Wattle	EW CFW
	Wattle / Coir Fiber Wattle with Polyacrylamide (PAM)	
1634.01	Temporary Rock Sediment Dam Type-A	
1634.02	Temporary Rock Sediment Dam Type-B	
1635.01	Rock Pipe Inlet Sediment Trap Type-A	
1635.02	Rock Pipe Inlet Sediment Trap Type-B	
1630.04	Stilling Basin	
1630.06	Special Stilling Basin	
	Rock Inlet Sediment Trap:	
1632.01	Type A	A
1632.02	Type B	B
1632.03	Type C	C
	Skimmer Basin	
	Tiered Skimmer Basin	
	Infiltration Basin	

THIS PROJECT CONTAINS EROSION CONTROL PLANS FOR CLEARING AND GRUBBING PHASE OF CONSTRUCTION.

GRAPHIC SCALE

0
PLANS
0
PROFILE (HORIZONTAL)
0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH THE REGULATIONS SET FORTH BY THE NCG-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.

Prepared In the Office of:

ROADSIDE ENVIRONMENTAL UNIT
1 South Wilmington St.
Raleigh, NC 27611

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

The following roadway english standards as appear in "Roadway Standard Drawings"- Roadway Design Unit - N. C. Department of Transportation - Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

1604.01	Railroad Erosion Control Detail	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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Rick Chandler
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PROJECT REFERENCE NO.	SHEET NO.
B-4666	EC-2
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

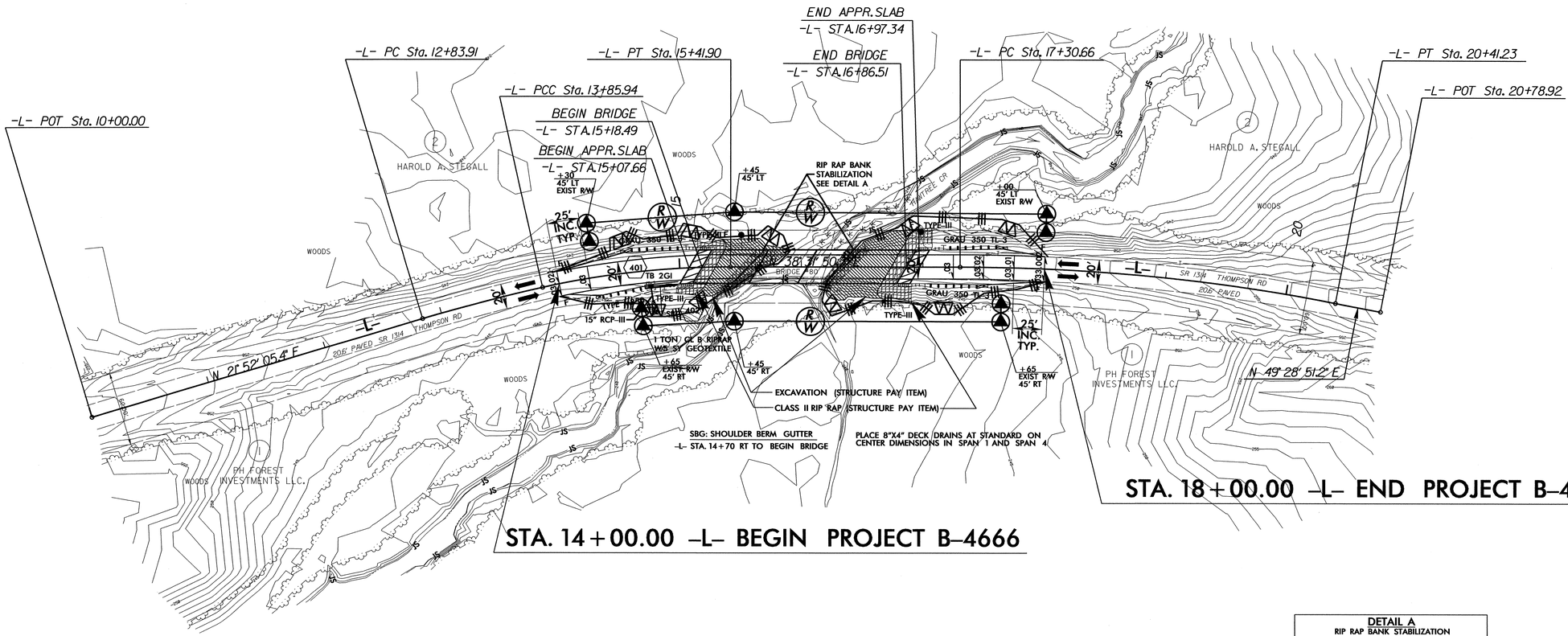
SITE DESCRIPTION	*STABILIZATION TIME*	*TIMEFRAME EXCEPTIONS*
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

8/17/99

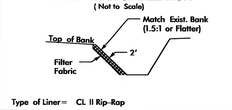
PROJECT REFERENCE NO.	SHEET NO.
B-4666	EC-3/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/95

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.



DETAIL A
RIP RAP BANK STABILIZATION
(Not to Scale)



Type of Liner = CL II Rip-Rap
CL II Rip-Rap = 140 TONS
Filter Fabric = 145 SY

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

27-SEP-2013 08:05
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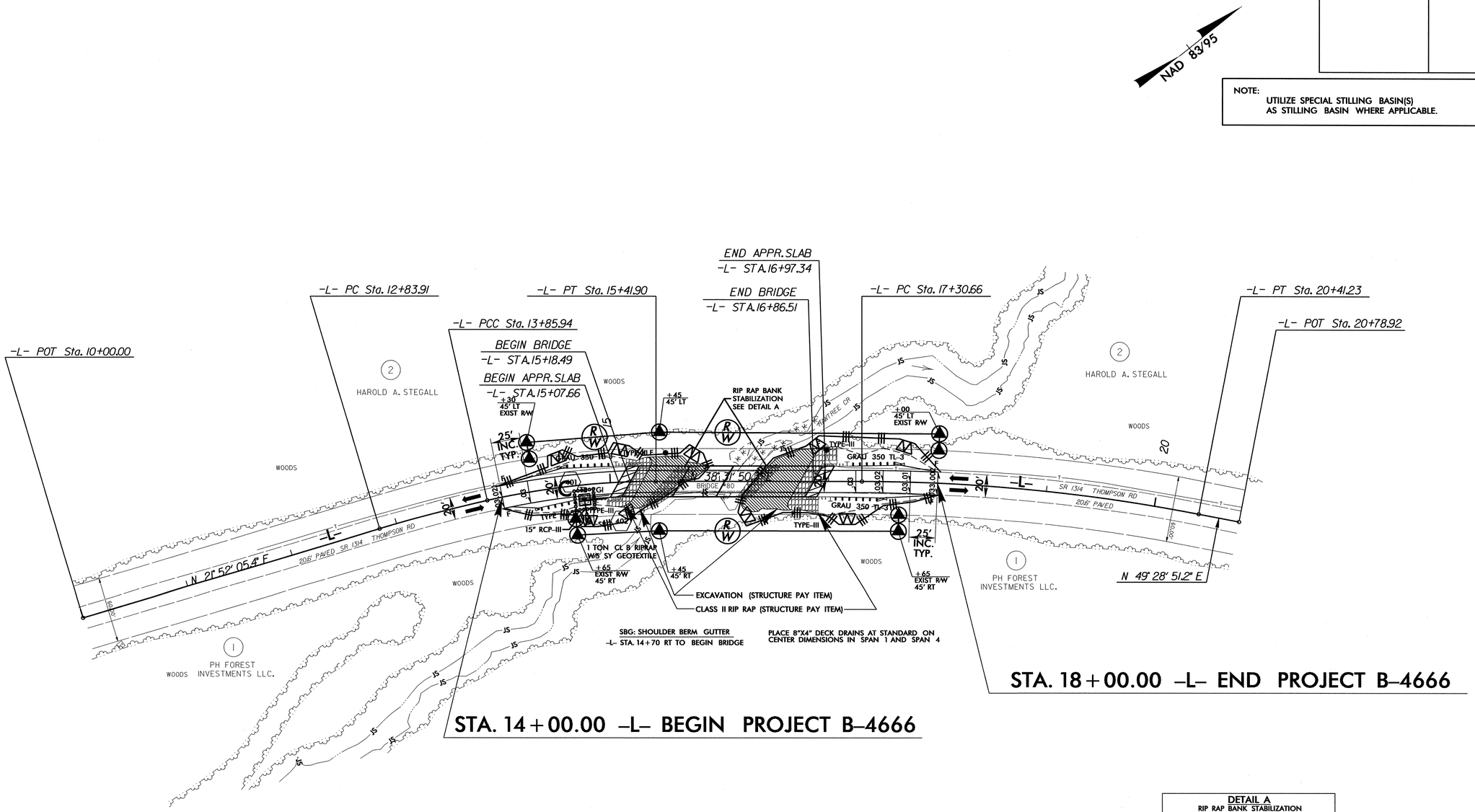
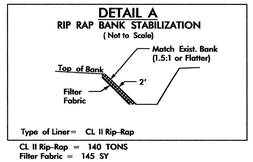
PROJECT REFERENCE NO.	SHEET NO.
B-4666	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NOTE:
UTILIZE SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.





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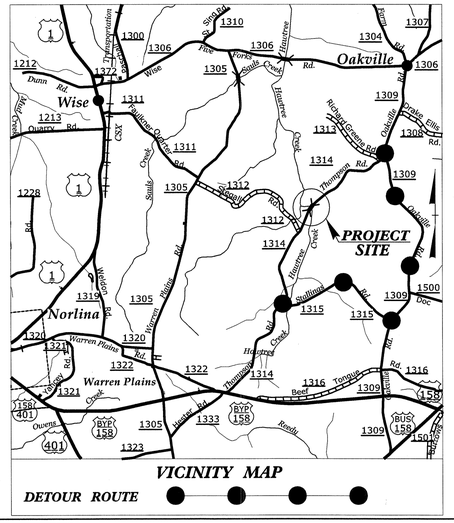
wichandler1 AT RENV247778

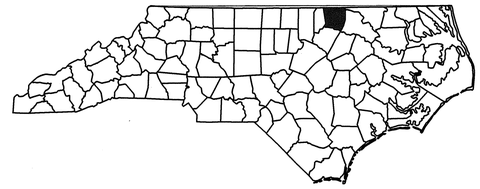
TIP PROJECT: B–4666



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

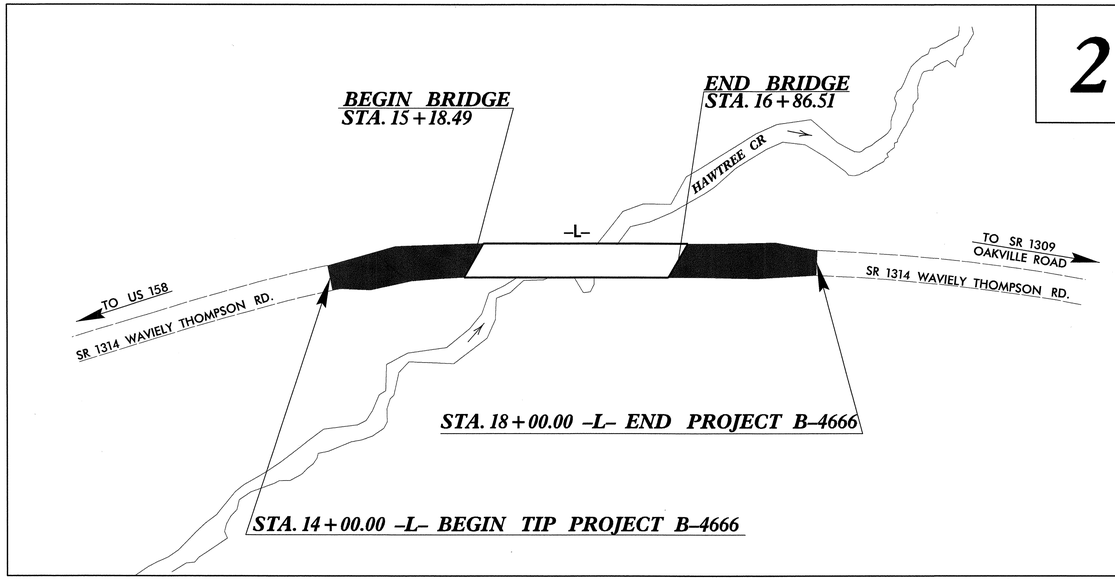
UTILITIES BY OTHERS PLANS
WARREN COUNTY

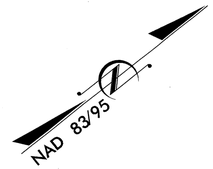
T.I.P. NO.	SHEET NO.
B–4666	UO–1



LOCATION: BRIDGE # 80 OVER HAWTREE CREEK ON SR 1314 (WAVIELY THOMPSON ROAD)

TYPE OF WORK: UNDERGROUND TELEPHONE & FIBER OPTIC



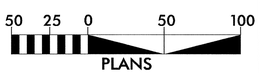


PLANS PREPARED BY:

RK&K

RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE, SUITE 350
RALEIGH, NORTH CAROLINA 27609
NC LICENSE NO. F–0112
1–888–521–4455 OR 919–878–9560

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.	*DESCRIPTION*
UO–1	*TITLE SHEET*
UO–1 THRU UO–2	*UTILITY BY OTHERS PLAN SHEETS*

UTILITY OWNERS ON PROJECT

CenturyLink *(1) CENTURYLINK – TELEPHONE & FIBER OPTIC*

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING

1555 MAIL SERVICES CENTER
RALEIGH NC 27699–1555
PHONE (919) 707–6690
FAX (919) 250–4151

Roger Worthington, P.E.	*UTILITIES SECTION ENGINEER*
Steve McKee, P.E.	*UTILITIES SQUAD LEADER PROJECT ENGINEER*
John Nigro, P.E.	*UTILITIES PROJECT DESIGNER*

PROJECT REFERENCE NO.	SHEET NO.
B-4666	UO-2

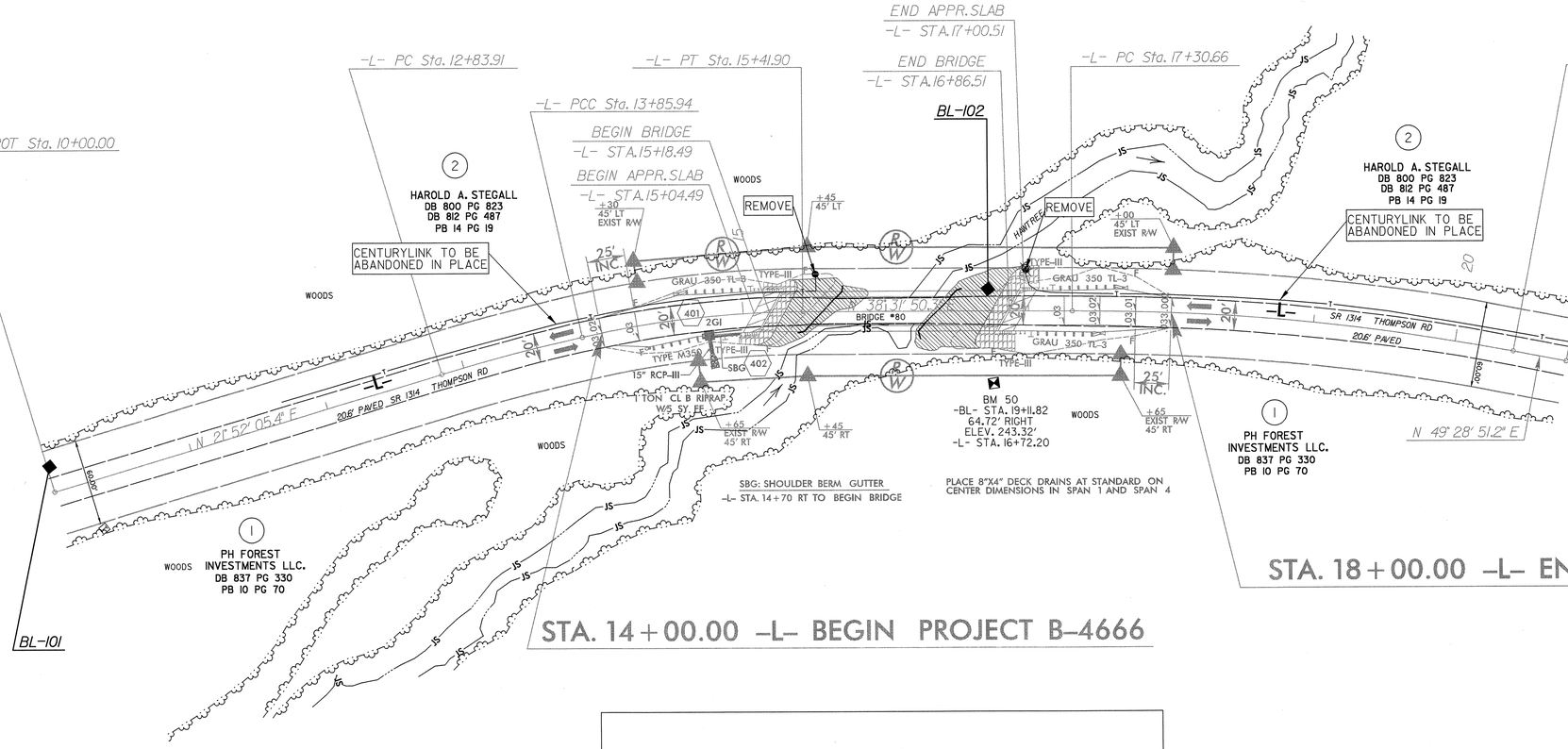
UTILITIES BY OTHERS

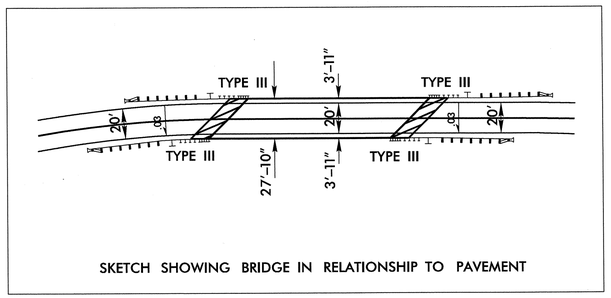
NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

-L-

PI Sta 13+34.95	PI Sta 14+64.24	PI Sta 18+86.42
Δ = 3° 53' 50.2" (RT)	Δ = 12° 45' 54.6" (RT)	Δ = 10° 57' 00.9" (RT)
D = 3° 49' 11.0"	D = 8° 11' 06.4"	D = 3° 31' 33.2"
L = 102.03'	L = 155.96'	L = 310.57'
T = 51.04'	T = 78.30'	T = 155.76'
R = 1,500.00'	R = 700.00'	R = 1,625.00'
	SE = SEE PLANS	SE = SEE PLANS
	RO = SEE PLANS	RO = SEE PLANS

NAD 83/95





SKETCH SHOWING BRIDGE IN RELATIONSHIP TO PAVEMENT

NOTES:

1. CENTURYLINK IS ABANDONING IN PLACE THE TELEPHONE CABLES AND ARE TO REMOVE REMAINING POLES AND ABOVE GROUND EQUIPMENT. CENTURYLINK WILL NOT BE INSTALLING ANY NEW FACILITIES WITH IN PROJECT LIMITS.

UTILITY OWNERS ON PROJECT

CENTURYLINK – TELEPHONE

PLANS PREPARED BY :
RK&K
RUMMEL, KLEPPER & KAHL, LLP
900 RIDGEFIELD DRIVE SUITE 350
RALEIGH, NORTH CAROLINA 27609-3960
NC LICENSE NO. F-0112 • (919) 878-9560

CSD265613,10/10/2013,S:\Records\Plot_Rooms\Plotter_Room_A\Print_Jobs\10-10-13\RBlanmanEarthwork XSC Volume Summary.xls

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJ. REFERENCE NO.	SHEET NO.
B-4666	X-1A

Approximate quantities only. Unclassified excavation, borrow excavation, fine grading, clearing and grubbing, and removal of existing pavement will be paid for at the lump sum price for "Grading".

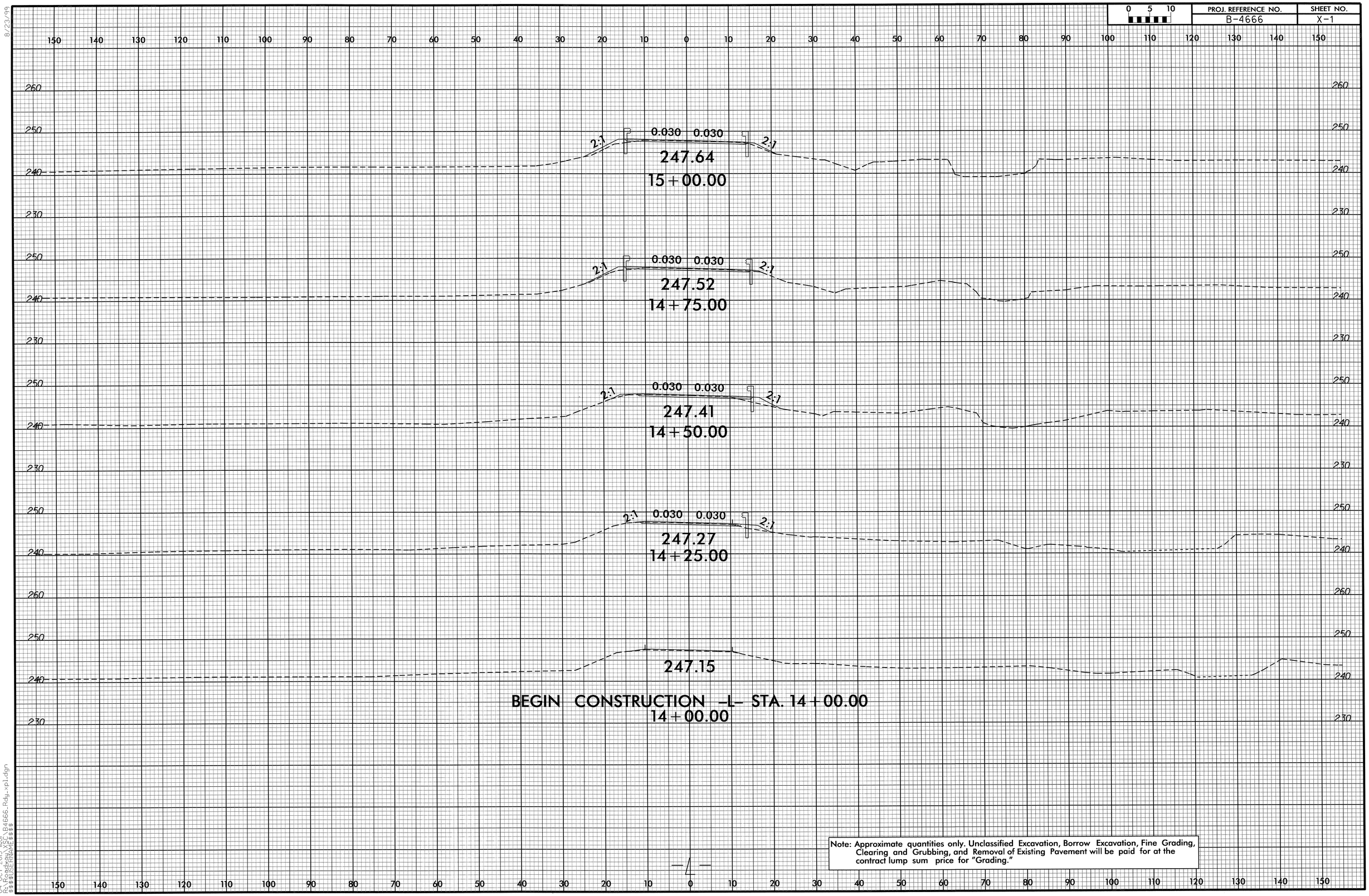
CROSS-SECTION SUMMARY

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
14+00.00	0	0
14+25.00	3	2
14+50.00	7	6
14+75.00	8	7
15+00.00	9	7
15+18.49	7	7

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
16+86.51	0	0
17+00.00	2	9
17+25.00	4	16
17+30.66	1	4
17+50.00	4	14
17+75.00	6	13
18+00.00	3	3

PROJ. REFERENCE NO.	SHEET NO.
B-4666	X-1



Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Fine Grading, Clearing and Grubbing, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

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04-OCT-2013 11:01
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8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4666	X-2

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260 250 240 230

0.030 0.030

240.60
16+00.00

0.030 0.030

241.98
15+75.00

0.030 0.030

248.00
15+50.00

0.030 0.030

247.97
15+45.00

0.030 0.030

247.95
15+41.90

BEGIN BRIDGE –L– STA. 15+18.49

0.030 0.030

247.81
15+25.00

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
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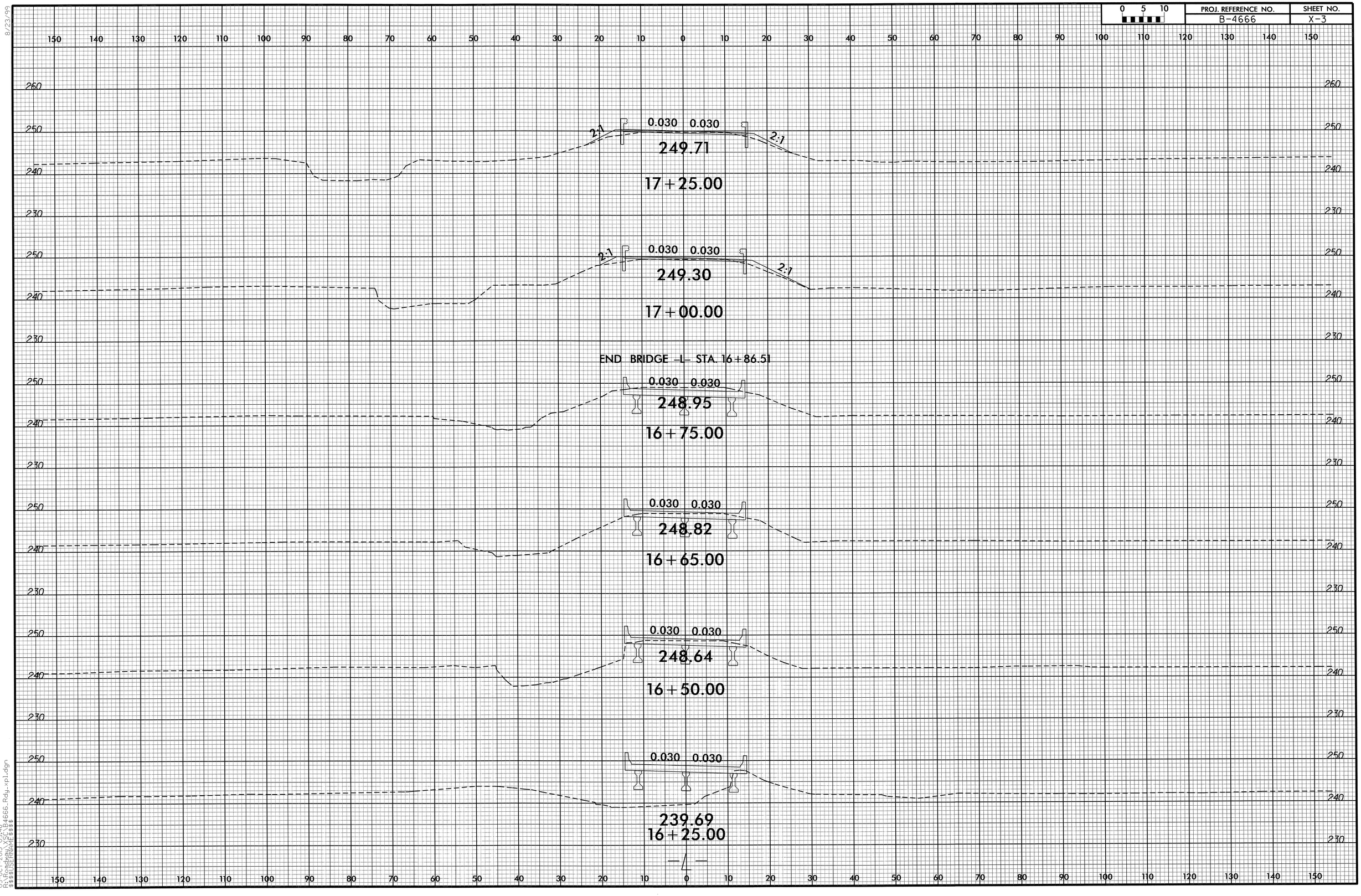

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PROJ. REFERENCE NO.	SHEET NO.
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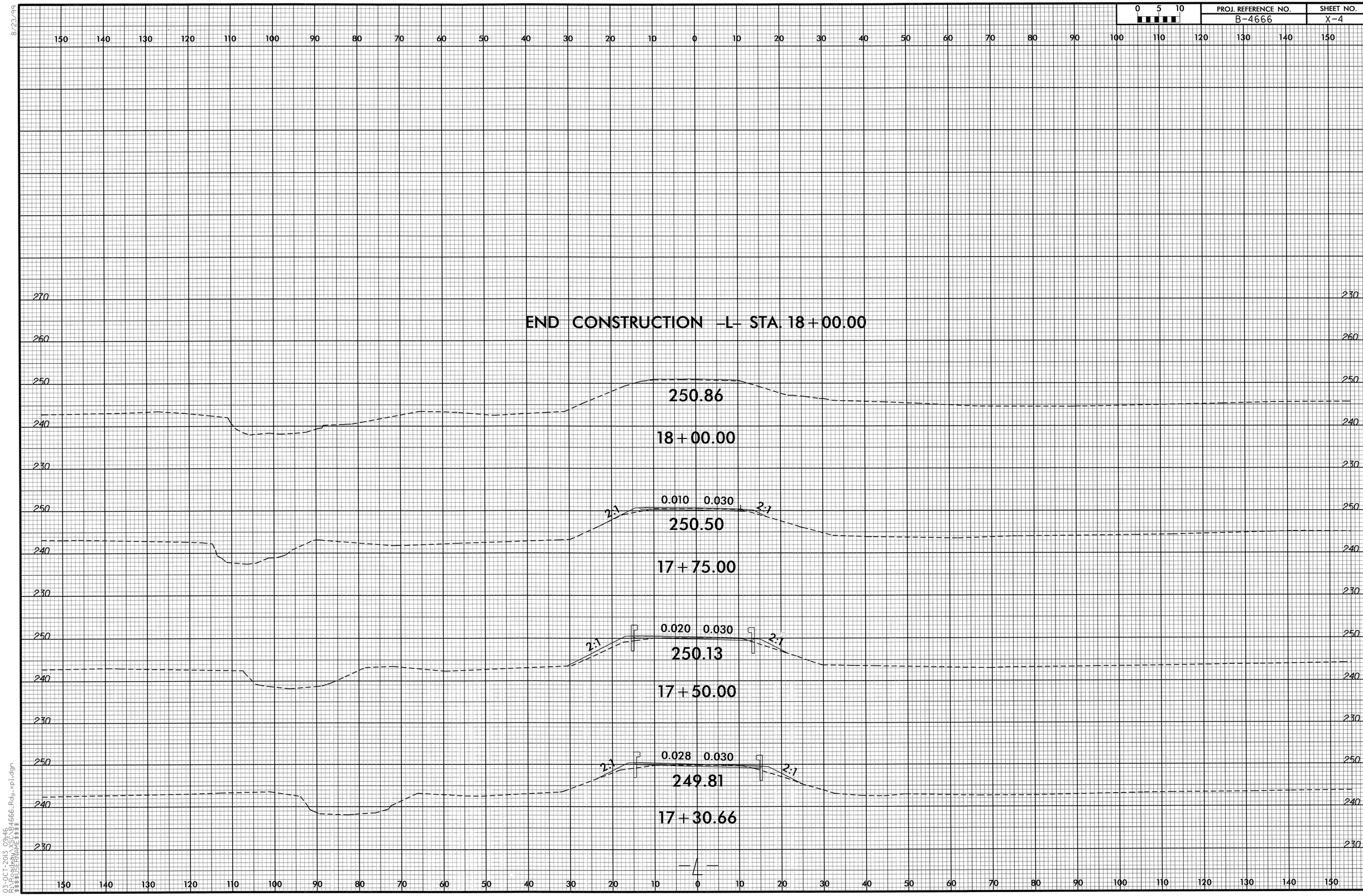

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