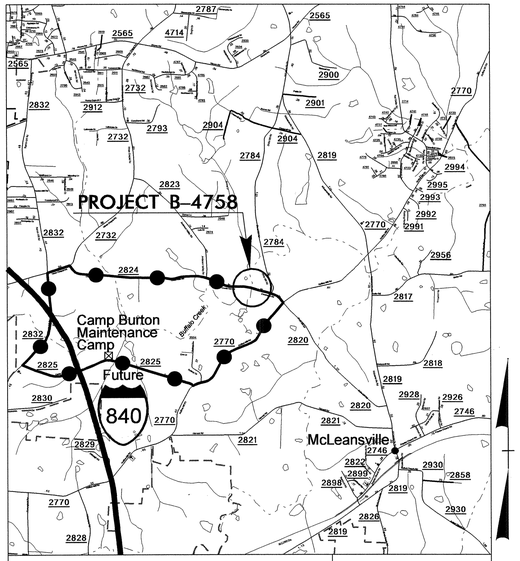
09/08/99

TIP PROJECT: B–4758

CONTRACT: C203363

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



VICINITY MAP — DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

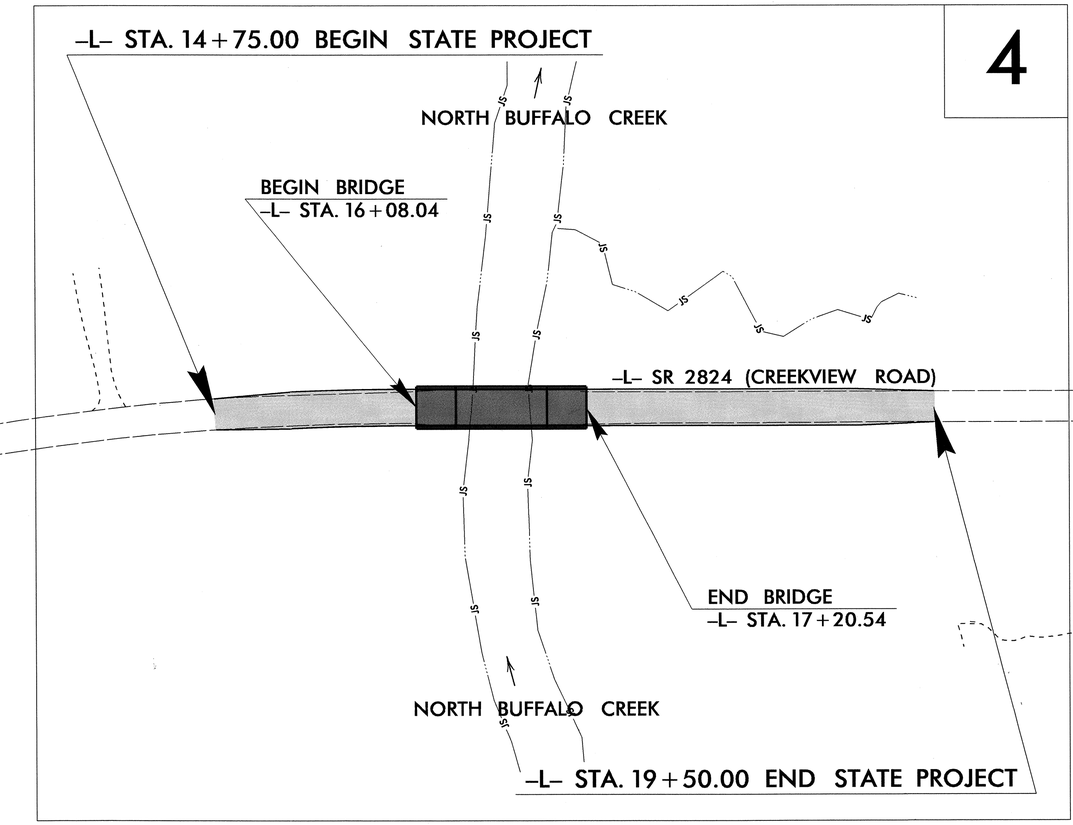
GUILFORD COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B–4758	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38530.1.1	BRZ–2824(5)	PE
38530.2.1	BRZ–2824(5)	R/W & UTILITIES
38530.3.FD1	BRZ–2824(5)	CONST.

LOCATION: ***BRIDGE NO. 159 OVER NORTH BUFFALO CREEK ON SR 2824 (CREEKVIEW ROAD)***

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



NAD 83/ NSRS 2007

DESIGN EXCEPTION FOR SAG VERTICAL CURVE AND ASSOCIATED NIGHTTIME STOPPING SIGHT DISTANCE.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2014	=	3375
ADT 2030	=	7200
DHV	=	11 %
D	=	55 %
T	=	16 % *
V	=	50 MPH

* TTST 3% DUAL 13%
FUNC. CLASS. = RURAL LOCAL
"SUB–REGIONAL TIER"

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B–4758 = 0.069 MILES
LENGTH STRUCTURE TIP PROJECT B–4758 = 0.021 MILES
TOTAL LENGTH OF TIP PROJECT B–4758 = 0.090 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: MARCH 1, 2013

LETTING DATE: MARCH 18, 2014

JAMES A. SPEER, PE
PROJECT ENGINEER

DANIEL W. GARDNER JR., PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 31025 ENGINEER KAREN H. GULLEDGE P.E.
SIGNATURE: 12/11/13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33871 ENGINEER DANIEL W. GARDNER JR. P.E.
SIGNATURE: 12/11/13

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

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PROJECT REFERENCE NO.	SHEET NO.
B-4758	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33871 ENGINEER DANIEL W. GARDNER, JR.

12/11/13

Daniel W. Gardner Jr.

8/17/99

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL PLAN SHEET SYMBOLS
1-C	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2-A	GUARDRAIL ANCHOR UNIT, TYPE III DETAIL
3-A	DRAINAGE SUMMARY, GUARDRAIL SUMMARY, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION, AND SHOULDER BERM GUTTER SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-2	TRANSPORTATION MANAGEMENT PLANS
SD-1	SIGN DETAIL
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-2	SIGNING PLANS
PMP-1	PAVEMENT MARKING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-7	CROSS-SECTIONS
S-1 THRU S-21	STRUCTURE PLANS

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 II.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04. USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01

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

Duke Energy

AT&T

Time Warner Cable

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	
200.02	Method of Clearing - Method II
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
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

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04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4758	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

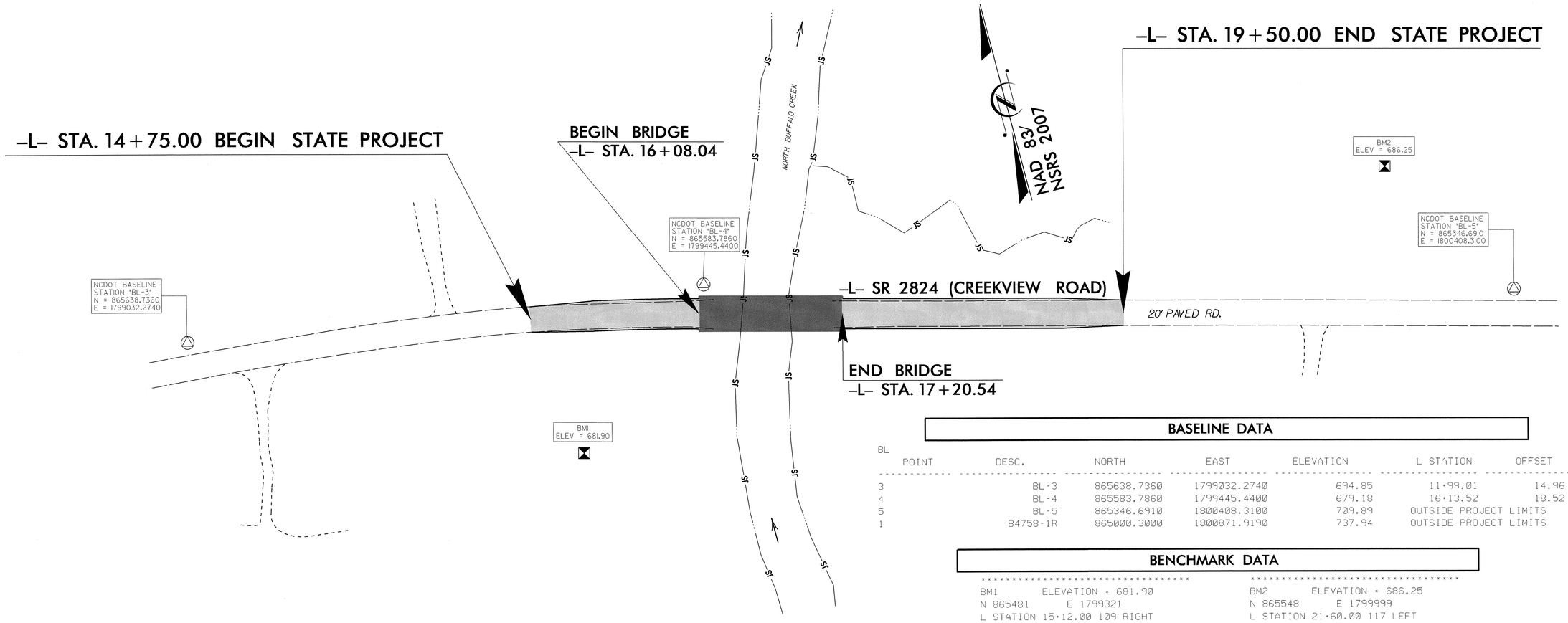
MISCELLANEOUS:

- 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.

12/01/2005

PROJECT REFERENCE NO.	SHEET NO.
B-4758	1-C
Location and Surveys	

B-4758 SURVEY CONTROL SHEET



BASELINE DATA

BL POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	865638.7360	1799032.2740	694.85	11+99.01	14.96 LT
4	BL-4	865583.7860	1799445.4400	679.18	16+13.52	18.52 LT
5	BL-5	865346.6910	1800408.3100	709.89	OUTSIDE PROJECT LIMITS	
1	B4758-1R	865000.3000	1800871.9190	737.94	OUTSIDE PROJECT LIMITS	

BENCHMARK DATA

BM1 ELEVATION = 681.90
N 865481 E 1799321
L STATION 15+12.00 109 RIGHT
R/R SPIKE IN ROOT OF 18" BEECH

BM2 ELEVATION = 686.25
N 865548 E 1799999
L STATION 21+60.00 117 LEFT
R/R SPIKE IN ROOT OF 36" POPLAR

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	14+75.00	-30.00	865624.2490	1799310.6737
L	14+75.00	-40.00	865634.0999	1799312.3940
L	14+75.00	30.00	865565.1435	1799300.3518
L	14+75.00	40.00	865555.2926	1799298.6315
L	16+08.06	40.00	865528.3251	1799425.9706
L	16+08.06	-40.00	865605.9459	1799445.3359
L	19+50.00	-40.00	865523.1729	1799777.1108
L	19+50.00	-30.00	865513.4703	1799774.6901
L	19+50.00	40.00	865445.5519	1799757.7462
L	19+50.00	30.00	865455.2545	1799760.1669

PDE MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	17+60.00	50.00	865481.8419	1799570.9758
L	17+60.00	40.00	865491.5445	1799573.3965
L	17+88.00	40.00	865484.7667	1799600.5638
L	17+88.00	50.00	865475.0641	1799598.1431

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	865637.8108	1798832.7076
PC	12+84.54	865617.7977	1799116.5380
PT	16+08.06	865567.1355	1799435.6533
POT	22+08.64	865421.7555	1800018.3724

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/

   THE FILES TO BE FOUND ARE AS FOLLOWS:

   B4758_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 FROM EXISTING NCGS MONUMENTATION.

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4758-1R" WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF NORTHING: 865000.300(ft) EASTING: 1800871.919(ft) ELEVATION: 737.94(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9999581663
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4758-1R" TO -L- STATION 14+75.00 IS N 69° 13' 12" W 1,675.39'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4758	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33871 ENGINEER DANIEL W. GARDNER

12/11/13

PAVEMENT DESIGN ENGINEER

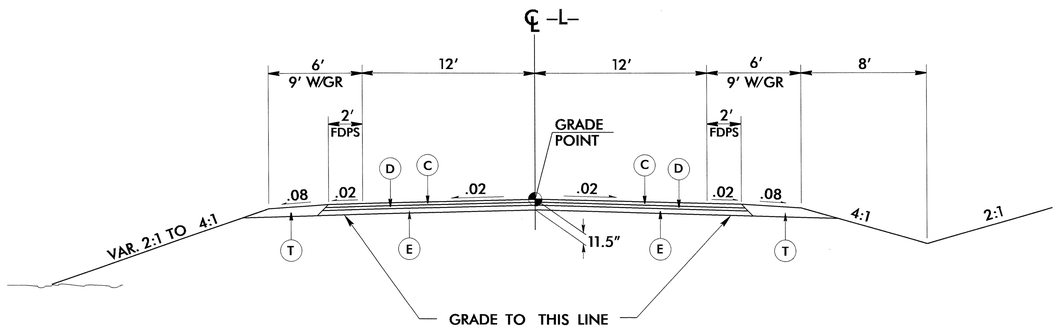
NORTH CAROLINA PROFESSIONAL SEAL 039814 ENGINEERING LARRY T. LEWIS

December 11th 2013

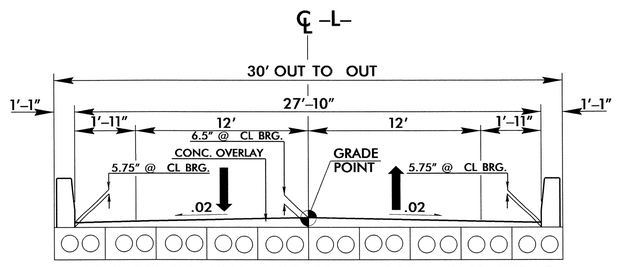
PAVEMENT SCHEDULE

C	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD IN EACH OF TWO LAYERS.
D	PROP. APPROX. 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
E	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
T	EARTH MATERIAL

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



TYPICAL SECTION NO. 1



DETAIL FOR WEARING SURFACE ON CORED SLAB BRIDGE

TYPICAL SECTION NO. 2

NOTE: TRANSITION FROM EXISTING PAVEMENT WIDTH TO TYPICAL SECTION NO. 1 –L– STA 14+75.00 TO STA 15+25.00

USE TYPICAL SECTION NO. 1 AS FOLLOWS

–L– STA 15+25.00 TO STA 16+08.04 (BEGIN BRIDGE)
–L– STA 17+20.54 (END BRIDGE) TO STA 19+00.00

NOTE: TRANSITION FROM TYPICAL SECTION NO. 1 TO EXISTING PAVEMENT WIDTH –L– STA 19+00.00 TO STA. 19+50.00

USE TYPICAL SECTION NO. 2 AS FOLLOWS

–L– STA. 16+08.04 (BEGIN BRIDGE) TO STA. 17+20.54 (END BRIDGE)

NOTE: SPAN "A" AND SPAN "C" ARE 21" CORED SLAB.
SPAN "B" IS 24" CORED SLAB.

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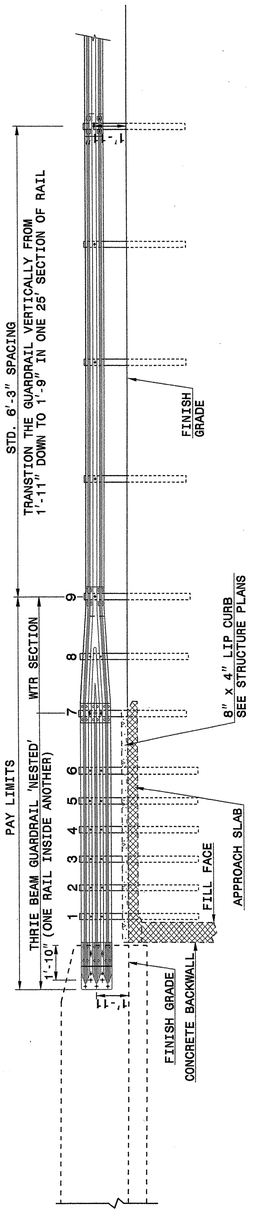

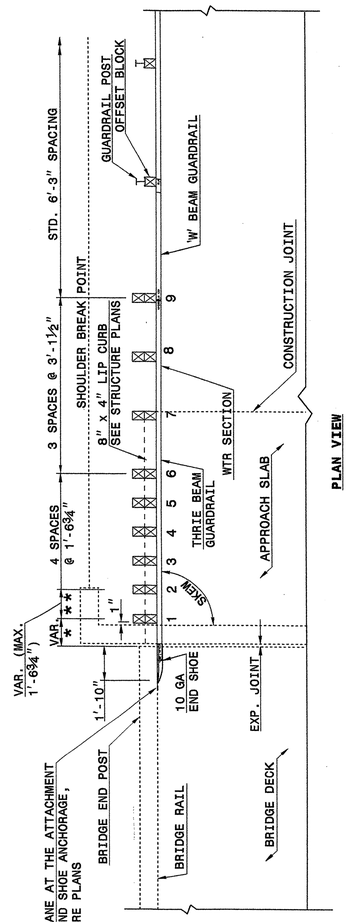

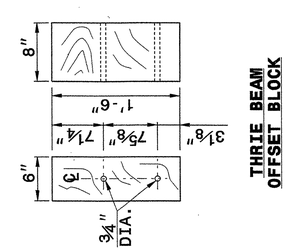

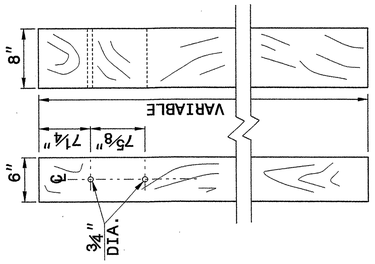

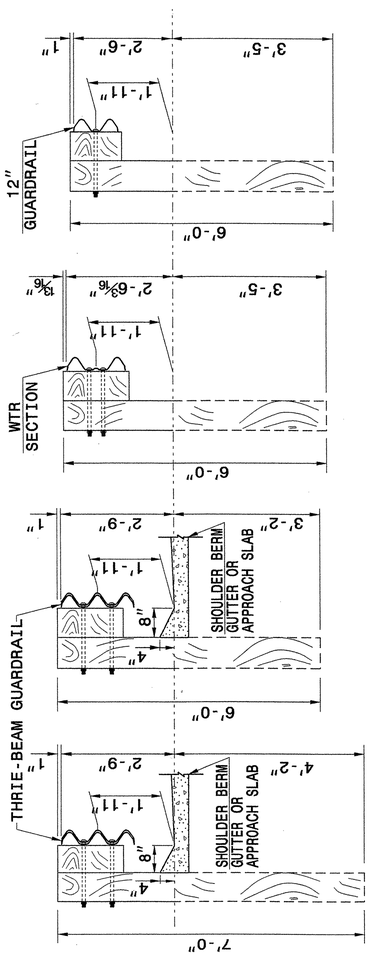

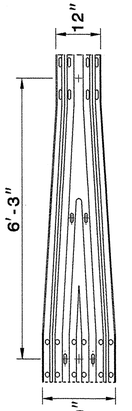

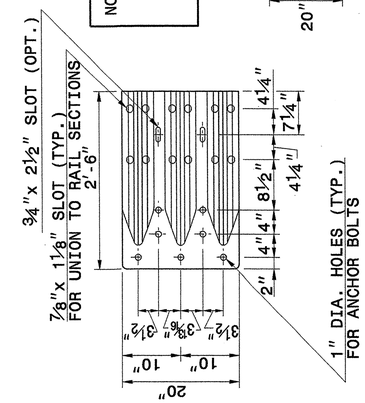

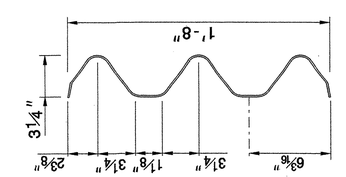

PROJECT REFERENCE NO.	SHEET NO.
B-4758	2-A

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

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 11½" 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 FOR ATTACHMENT TO
RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

NOTE: THE MID POST AND OFFSET BLOCK OF THE WTR SECTION WILL REQUIRE SPECIAL BOLT HOLE DRILLING IN THE THRIE BEAM OFFSET BLOCK AND LINE POST.

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

SEAL 022966
J. S. HOWERTON
12/16/13

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: DATE: 11/13/12
FILE SPEC.:

6/21/00

COMPUTED BY: MTP DATE: 11/15/2011
CHECKED BY: TAH DATE: 2/6/2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4758	3-A

SUB–REGIONAL
LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

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

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO.		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC)												C.S. PIPE						
SIZE								12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	12"	15"	18"	24"	36"	42"	48"
THICKNESS OR GAUGE		FROM	TO																	.064	.064	.064	.064	.079	.109	.109
–L– STA 17+74	LT.	0401		679.68																						
		0401	0402		677.76	676.93																				
–L– STA 17+74	RT.	0402		679.68																						
	RT.	0402	0403		675.80	675.60																				
PROJECT TOTALS																										

STATION	R.C. PIPE (CLASS III)							R.C. PIPE (CLASS IV)								**" R. C. PIPE (CLASS V)	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	**" R. C. PIPE CULVERTS, CONTRACTOR DESIGN PIPE	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS.		QUANTITIES FOR DRAINAGE STRUCTURES	* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. *FT.		C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE				CONCRETE TRANSITIONAL SECTION		G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.D.I. STD. 840.35	PREFORMED SCOUR HOLE								REMARKS
SIZE	15"	18"	24"	30"	36"	42"	48"	12"	15"	18"	24"	30"	36"	42"	48"						R.C.P.	C.S.P.	PER EACH (0' THRU 5.0')	A 5.0' THRU 10.0'	B 10.0' AND ABOVE		E	F	G		CATCH BASIN	DROP INLET											
–L– STA 17+74																							1										1	1									
	28																																										
–L– STA 17+74																							1										1	1									
	20																																		1								
PROJECT TOTALS	48																						2										2	2	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.)	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

"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

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS									IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	GRAU 350	TYPE III								EA	G	NG				
–L–	15+33.04	16+08.04	LT.	75.00				15+33.04	1.9167	9		56.25		1.125	1	1														
–L–	15+33.04	16+08.04	RT.	75.00			15+33.04		1.9167	9	56.25		1.125		1	1														
–L–	17+20.54	18+45.54	LT.	125.00			18+45.54		1.9167	9	106.25		2.125		1	1														
–L–	17+20.54	18+45.54	RT.	125.00				18+45.54	1.9167	9		106.25		2.125	1	1														
			TOTALS	400											4	4														
		LESS DEDUCTION FOR ANCHORS																												
		GRAU–350 4 @ 50.00'		–200																										
		TYPE III 4 @ 18.75'		–75																										
			PROJECT TOTALS	125											4	4														
ADDITIONAL GUARDRAIL POSTS = 5 EA.			SAY	150																										

SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	EMBANK. +%	BORROW	WASTE
SUMMARY NO. 1					
–L– STA 14+75.00	–L– STA 16+08.04	191	28		163
SUMMARY NO. 1 TOTALS		191	28		163
SUMMARY NO. 2					
–L– STA 17+20.54	–L– STA 19+50.00	199	125		74
SUMMARY NO. 2 TOTALS		199	125		74
SUMMARY TOTALS		390	153		237
PROJECT TOTALS		390	153		237
GRAND TOTALS		390	153		237
SAY		415			
SHOULDER BORROW=130 CY					
EST. UNDERCUT CONTINGENCY=200 CY					
SELECT GRANULAR MATERIAL=200 CY					

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.

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

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
–L–	14+75.00	16+21.81	CL	329.95
–L–	17+17.32	19+50.00	CL	527.17
			TOTAL:	857.11
			SAY:	900

SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION

LINE	STATION	STATION	AGGREGATE TYPE* ASU/AST	AGGREGATE THICKNESS INCHES	SHALLOW UNDERCUT CY	CLASS IV SUBGRADE STABILIZATION TONS	GEOTEXTILE FOR SOIL STABILIZATION SY	STABILIZER AGGREGATE TONS	CLASS IV AGGREGATE STABILIZATION TONS
CONTINGENCY	(GEOTECH)						200		
CONTINGENCY	(ROADSIDE)						100		
				TOTAL CY/TONS/SY:			300 SY		

*ASU = AGGREGATE SUBGRADE
*AST = AGGREGATE STABILIZATION

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LENGTH
–L– LT	17+44.54	17+90.00	45.46
–L– RT	17+44.54	17+90.00	45.46
		TOTAL:	90.92
		SAY:	100

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PROJECT REFERENCE NO.	SHEET NO.
B-4758	4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33871 ENGINEER DANIEL W. GARDNER, JR. 12/11/13	NORTH CAROLINA PROFESSIONAL SEAL 31025 ENGINEER KAREN H. GULLEDGE 12/11/13

NOTE: SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-21 FOR STRUCTURE PLANS

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4758	5

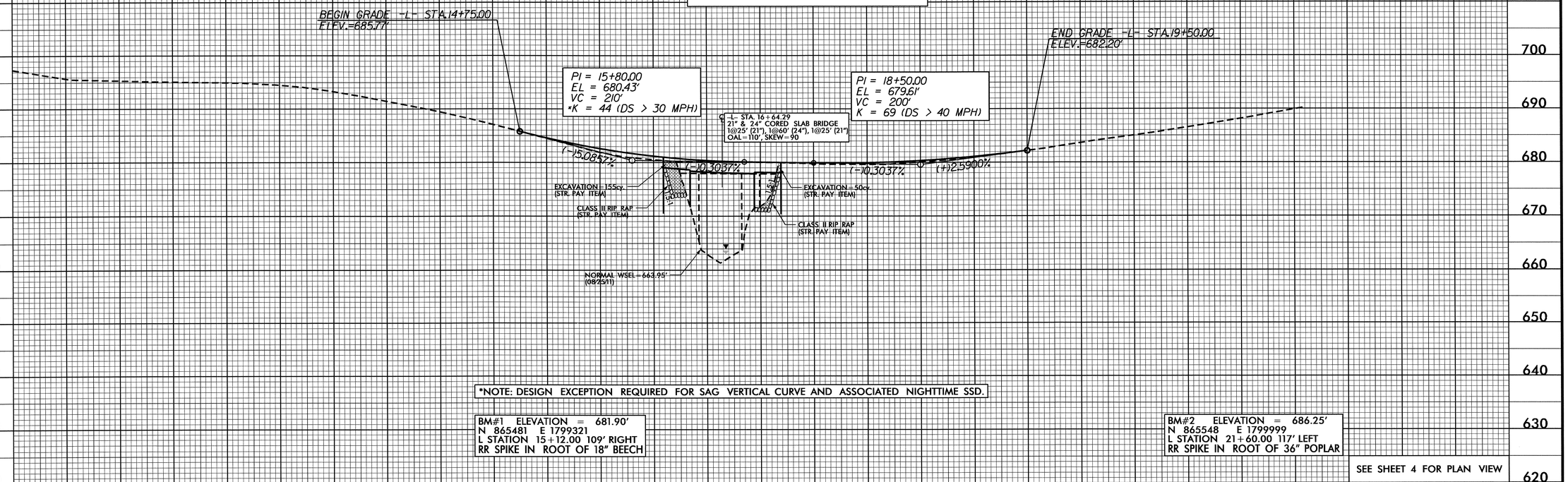
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33871 ENGINEER DANIEL W. GARDNER JR.
12/11/13
Daniel W. Gardner Jr

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 31025 ENGINEER KAREN H. GULLEDGE
12/11/13
Karen H. Gulledge

-L-

BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 5900	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 679.3	FT
BASE DISCHARGE	= 7000	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 683.7	FT
OVERTOPPING DISCHARGE	= 5408	CFS
OVERTOPPING FREQUENCY	= 10+	YRS
OVERTOPPING ELEVATION	= 679.6	FT
DATE OF SURVEY	= 8/25/11	
W.S.ELEVATION AT DATE OF SURVEY	= 663.95	FT



*NOTE: DESIGN EXCEPTION REQUIRED FOR SAG VERTICAL CURVE AND ASSOCIATED NIGHTTIME SSD.

BM#1 ELEVATION = 681.90'
N 865481 E 1799321
L STATION 15+12.00 109' RIGHT
RR SPIKE IN ROOT OF 18" BEECH

BM#2 ELEVATION = 686.25'
N 865548 E 1799999
L STATION 21+60.00 117' LEFT
RR SPIKE IN ROOT OF 36" POPLAR

SEE SHEET 4 FOR PLAN VIEW

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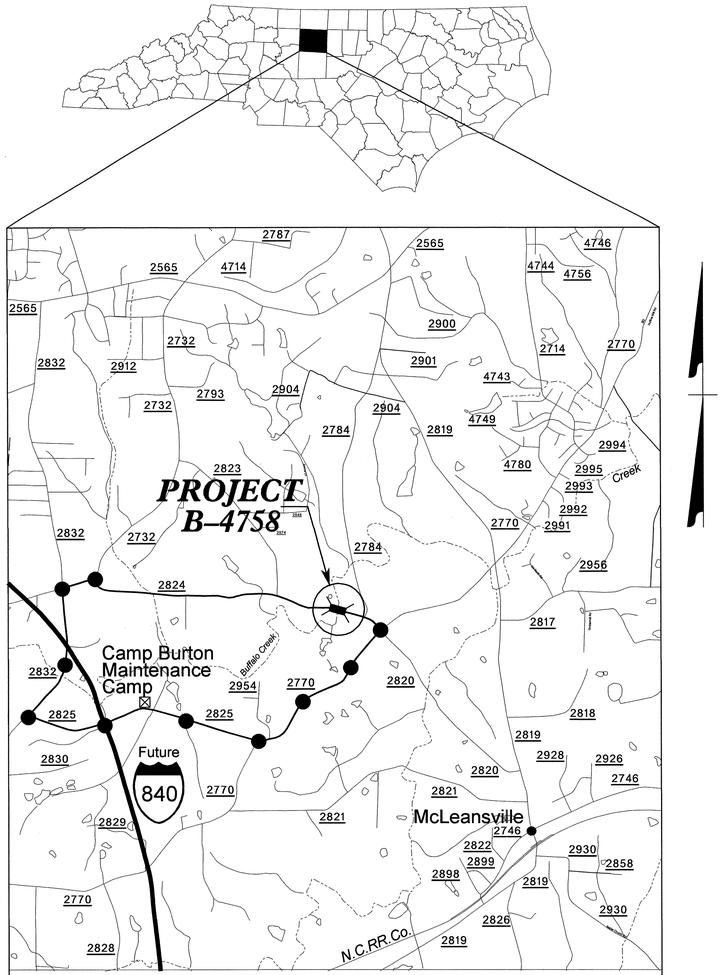
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

GUILFORD COUNTY



PROJECT VICINITY MAP

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET 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	OFFSITE DETOUR ROUTE AND BARRICADE PLACEMENT
SD-1	SPECIAL SIGN DESIGN

SHEET NO.
TMP-1

B-4758

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
J. ISHAK, P.E. TRAFFIC CONTROL PROJECT ENGINEER
B. SCHOENBAUER, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
G. MAZE TRAFFIC CONTROL DESIGN ENGINEER

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

APPROVED: Ben Schoenbauer
DATE: November 25, 2013

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHOENBAUER

11/21/2013
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PROJ. REFERENCE NO.	SHEET NO.
B-4758	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
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- FLASHING ARROW PANEL (TYPE C)
- FLAGGER
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

APPROVED: Ben Johnstone DATE: 11/25/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER HERMANN PAUL SCHOENINGER

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

ROADWAY STANDARD DRAWINGS & LEGEND

11/21/2013
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PROJ. REFERENCE NO.	SHEET NO.
B-4758	TMP-1B

MANAGEMENT STRATEGIES

DURING REPLACEMENT OF THE EXISTING BRIDGE No.159 OVER NORTH BUFFALO CREEK, SR 2824 (CREEKVIEW RD.) WILL BE CLOSED TO THROUGH TRAFFIC. THE CREEKVIEW RD. TRAFFIC WILL BE MAINTAINED ON THE FOLLOWING OFFSITE DETOUR ROUTE: FROM SR 2824 TO SR 2770 (HUFFINE MILL RD.) TO SR 2825 (CAMP BURTON RD.) TO SR 2832 (RANKIN MILL RD.) TO SR 2732 (HINES CHAPEL RD.).

ACCESS TO ALL RESIDENCES MUST BE MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS.

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 TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

B) PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

C) 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.

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

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

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

LOCAL NOTES

CONTRACTOR SHALL COORDINATE WITH THE U-2525B RESIDENT ENGINEER AND CONTRACTOR PRIOR TO INSTALLATION OF DETOUR SIGNS AND CLOSURE OF CREEKVIEW RD

PHASING

CONTRACTOR SHALL COORDINATE WITH THE U-2525B RESIDENT ENGINEER AND CONTRACTOR PRIOR TO INSTALLATION OF DETOUR SIGNS AND CLOSURE OF CREEKVIEW RD

MAINTAIN ACCESS TO ALL RESIDENCES AT ALL TIMES WITHIN THE PROJECT LIMITS

STEP 1:
USING RSD 1101.03, SHEET 1 OF 9, SHEETS TMP-2 AND SD-1, INSTALL DETOUR SIGNS, PLACE TYPE III BARRICADES TO CLOSE SR 2824 (CREEKVIEW RD.) TO THROUGH TRAFFIC, AND DETOUR TRAFFIC OFFSITE.

STEP 2:
AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:
(SEE ROADWAY AND STRUCTURE PLANS).

1) REMOVE EXISTING STRUCTURE No.159, AND CONSTRUCT THE PROPOSED STRUCTURE FROM -L- STA.16+08+/- TO -L- STA.17+20+/-.

2) CONSTRUCT PROPOSED ROADWAY UP TO AND INCLUDING FINAL LAYER OF SURFACE COURSE FROM -L- STA.14+75+/- TO -L- STA.16+08+/- AND FROM -L- STA.17+20+/- TO -L- STA.19+50+/-, AND TIE TO EXISTING.

3) USING FINAL PAVEMENT MARKING SCHEDULE, PLACE FINAL PAVEMENT MARKINGS AMD MARKERS FROM -L- STA.14+75+/- TO -L- STA.19+50+/-, AND TIE TO EXISTING PAVEMENT MARKINGS.

STEP 3:
REMOVE ALL WORK ZONE TRAFFIC CONTROL DEVICES AND DETOUR SIGNING. OPEN SR 2824 (CREEKVIEW RD.) TO PROPOSED TRAFFIC PATTERN.

APPROVED: Ben Schoenbaum DATE: 11/25/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHOENBAUM

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

TRANSPORTATION OPERATION PLAN

11/21/2013
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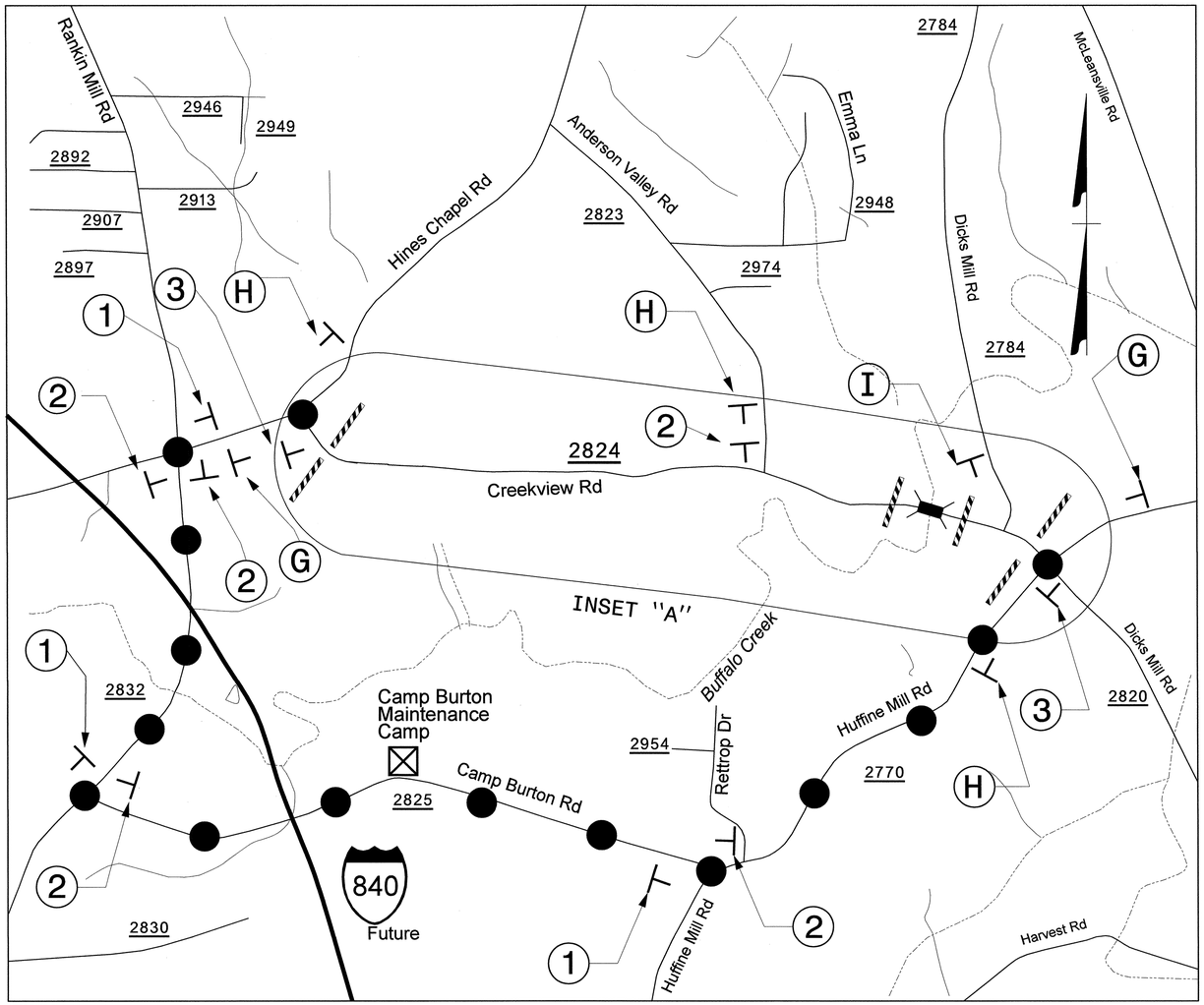
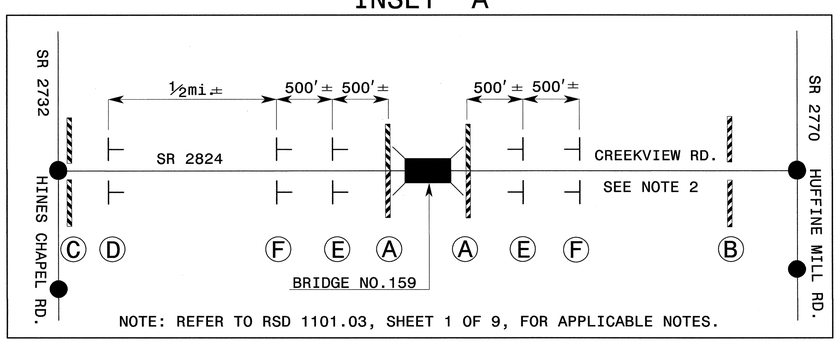
User:rgmaze

PROJ. REFERENCE NO.	SHEET NO.
B-4758	TMP-2

VICINITY MAP: GUILFORD COUNTY

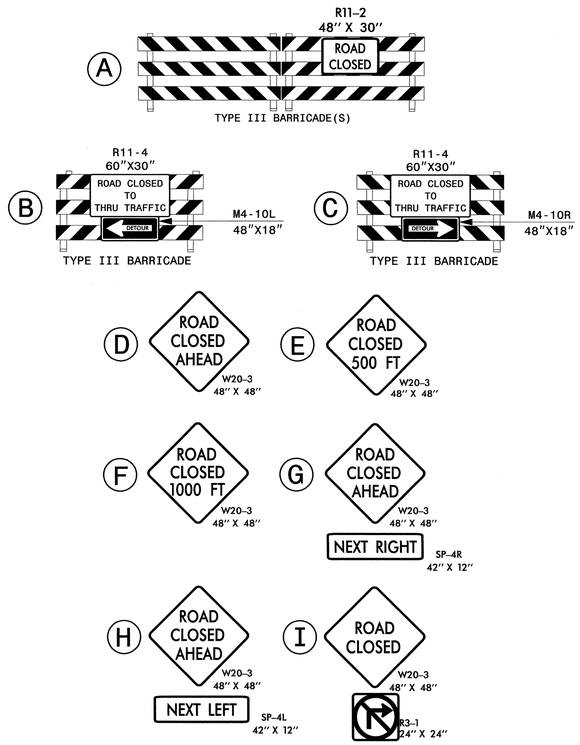


INSET "A"



OFFSITE DETOUR

CONTRACTOR SHALL COORDINATE WITH THE U-2525B RESIDENT ENGINEER AND CONTRACTOR PRIOR TO INSTALLATION OF DETOUR SIGNS AND CLOSURE OF CREEKVIEW RD.



NOTES:
1. SEE SHEET SD-1 FOR THE SPECIAL SIGN DESIGN.
2. ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.

APPROVED: Bruce Robertson DATE: 11/25/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHOMBURG

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

OFFSITE DETOUR ROUTE AND BARRICADE PLACEMENT

11/21/2013
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User:gmaze

PROJ. REFERENCE NO.	SHEET NO.
B-4758	SD-1

SIGN NUMBER: TC
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3'-6"
HEIGHT: 1'-0"
TOTAL AREA: 3.5 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

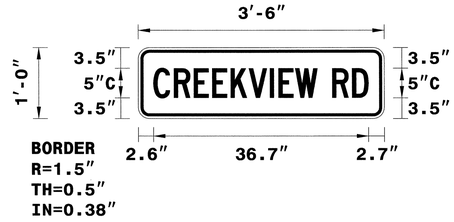
SYMBOL	X	Y	WID	HT

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-4758
CHECKED BY: S.KUNZ
DIV: 7
DATE: May 13, 2013



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

Series/Size
Text Length
C 2000
36.7

		C	R	E	E	K	V	I	E	W		R	D														
	2.6	3.5	3.4	3.1	3.1	3.1	3.6	1.5	2.9	3.8	2.5	3.4	2.8	2.7													

FILENAME: B-4758_workzoneSign

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: _____ DATE: 5/17/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

WORK ZONE SIGNS

SCALE:	NONE
DATE:	5/13/13
DWG. BY:	SWJ
DESIGN BY:	SWJ
REVIEWED BY:	SBK

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

REVISIONS

CADD FILE

5/17/2013
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User:gmaze

TIP PROJECT: B-4758

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4758	EC-1	

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

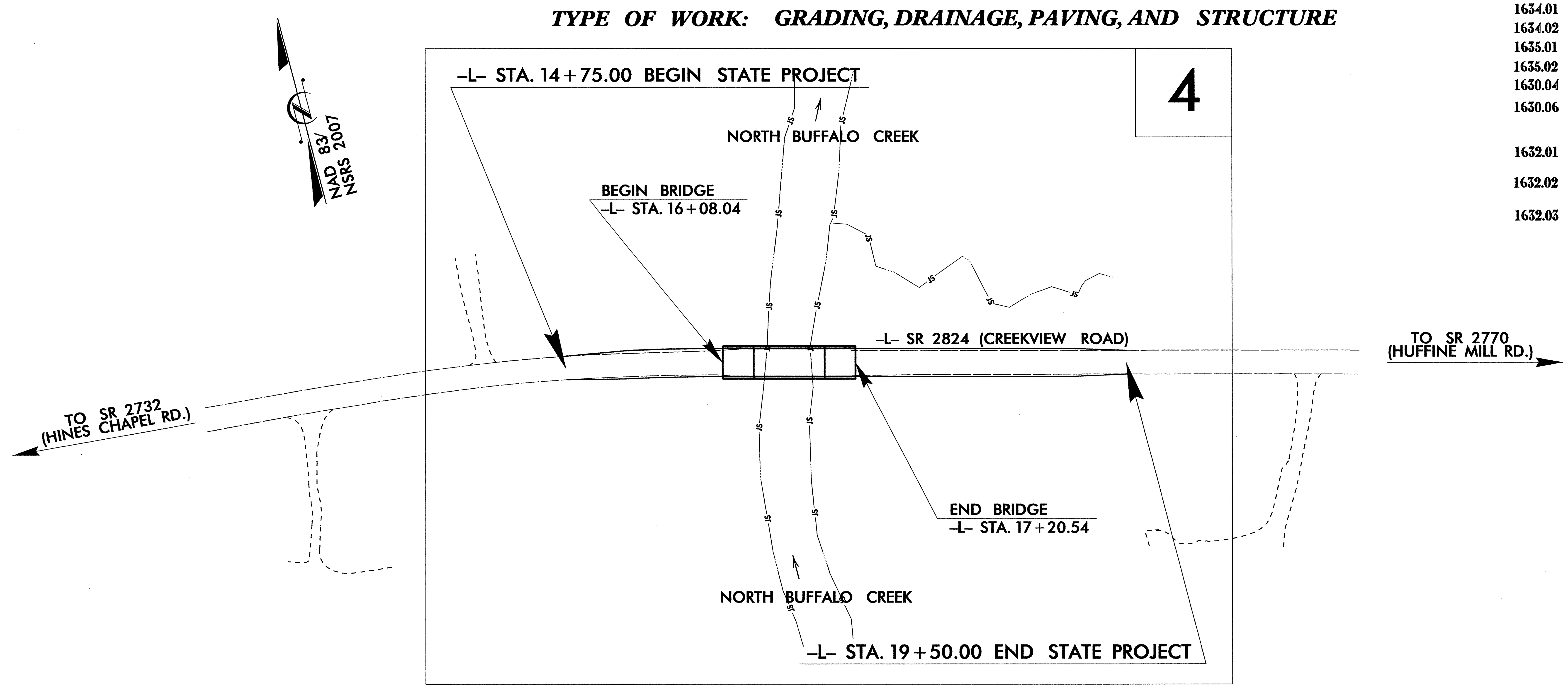
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

GUILFORD COUNTY

LOCATION: BRIDGE NO. 159 OVER NORTH BUFFALO CREEK ON SR 2824 (CREEKVIEW ROAD)

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



EROSION AND SEDIMENT CONTROL MEASURES

Std. #	Description	Symbol
1630.03	Temporary Silt Ditch	
1630.05	Temporary Diversion	
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	
	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.

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

Refer To E. C. Special Provisions for Special Considerations.

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

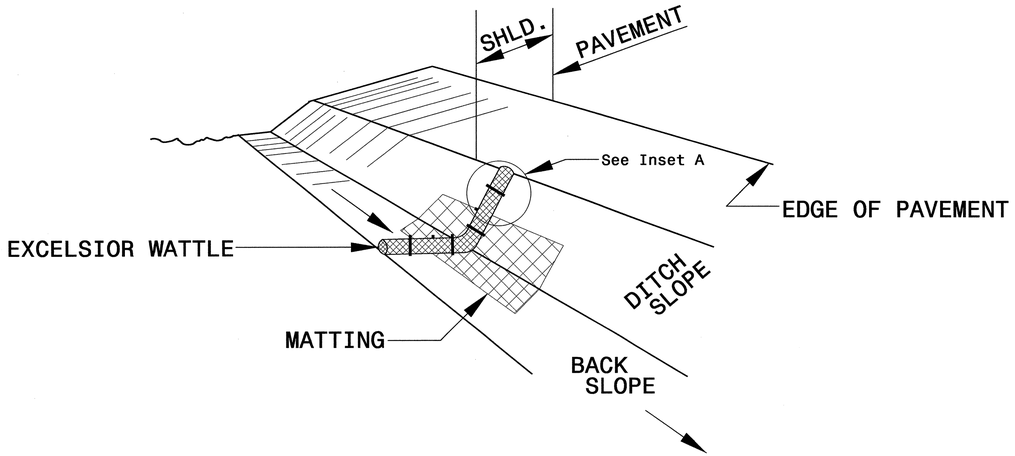
Roadway Standard Drawings

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.

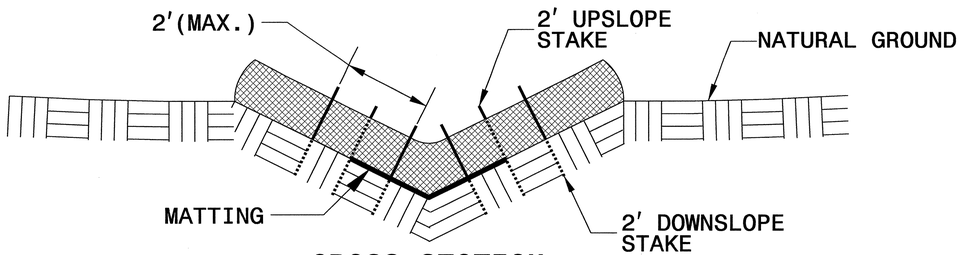
1604.01	Railroad Erosion Control Detail
1605.01	Temporary Silt Fence
1606.01	Special Sediment Control Fence
1607.01	Gravel Construction Entrance
1622.01	Temporary Berms and Slope Drains
1630.01	Riser Basin
1630.02	Silt Basin Type B
1630.03	Temporary Silt Ditch
1630.04	Stilling Basin
1630.05	Temporary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

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

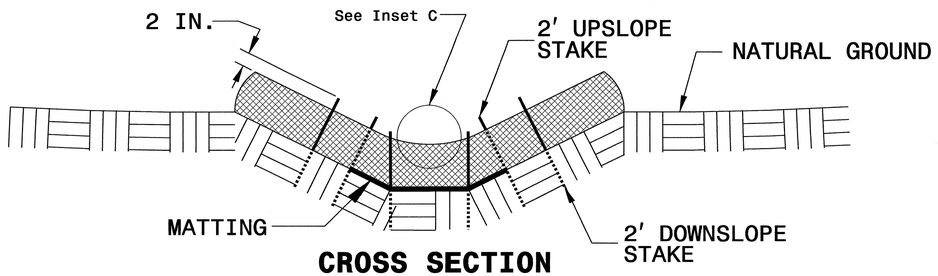
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.

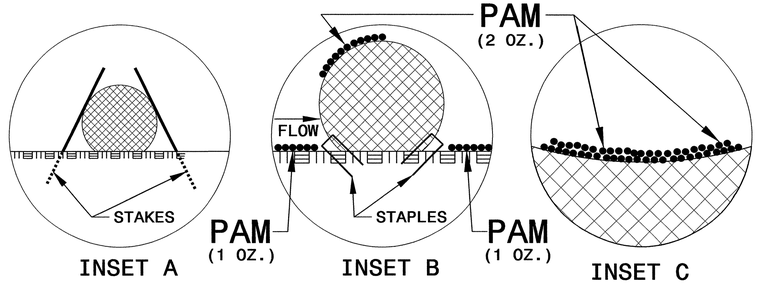
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

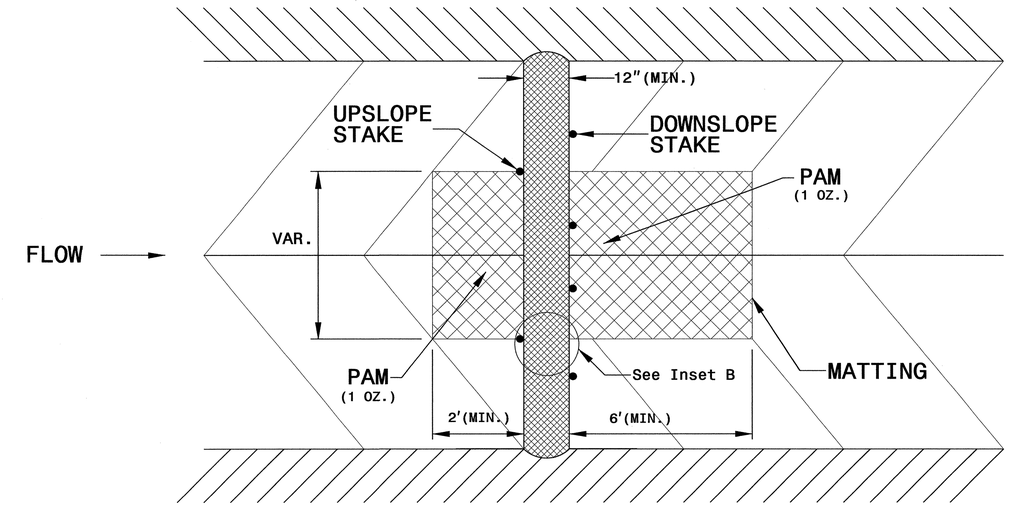
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH WATTLE.

INITIALLY APPLY 2 OUNCES OF ANIONIC OR NEUTRALLY CHARGED PAM OVER WATTLE WHERE WATER WILL FLOW AND 1 OUNCE OF PAM ON MATTING ON EACH SIDE OF WATTLE. REAPPLY PAM AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.50 IN.

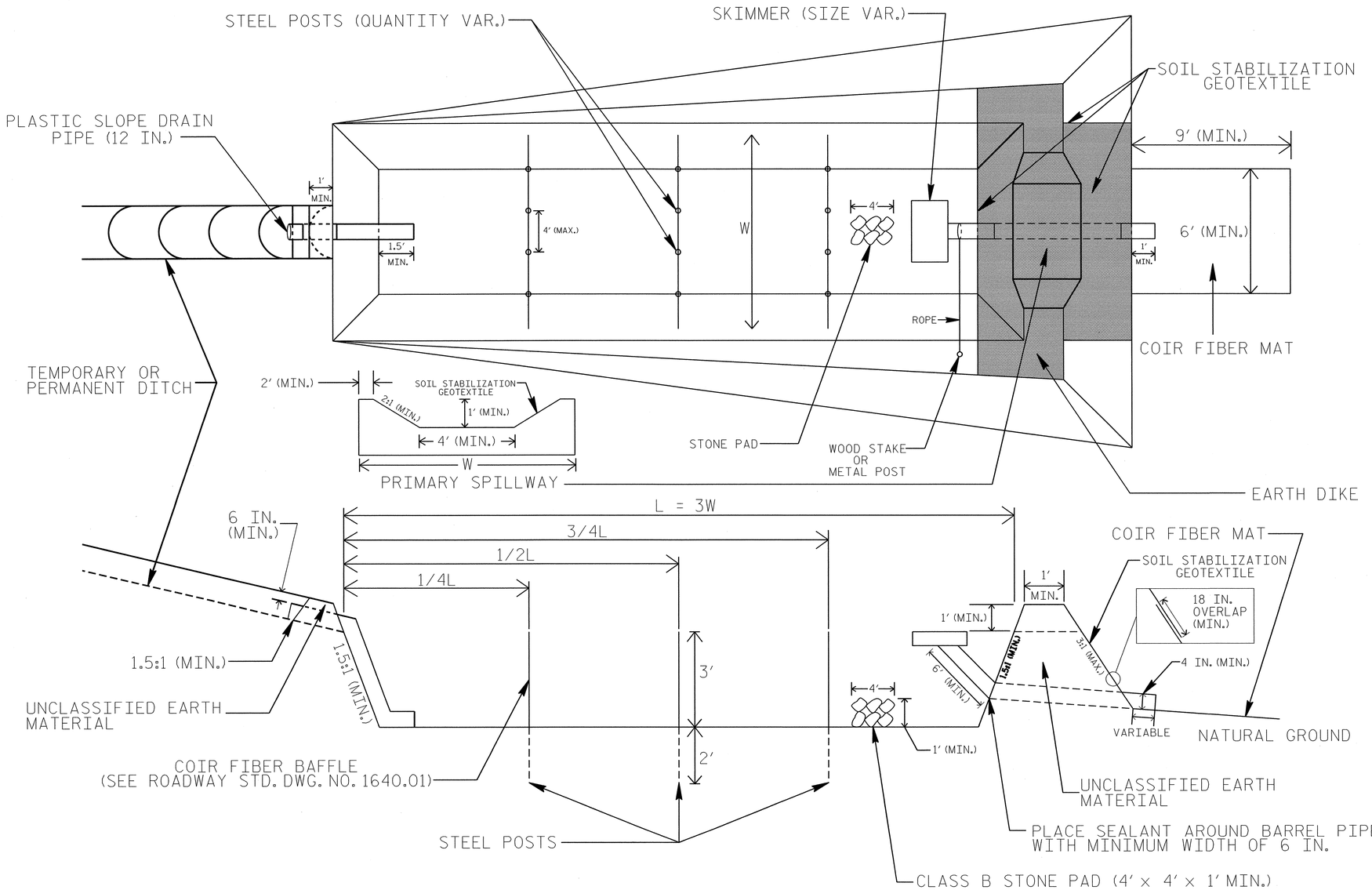




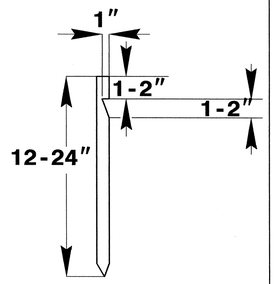
TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

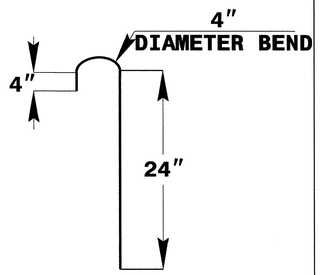
SKIMMER BASIN WITH BAFFLES DETAIL



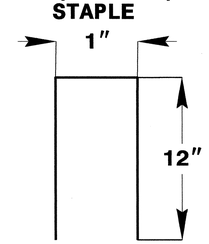
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

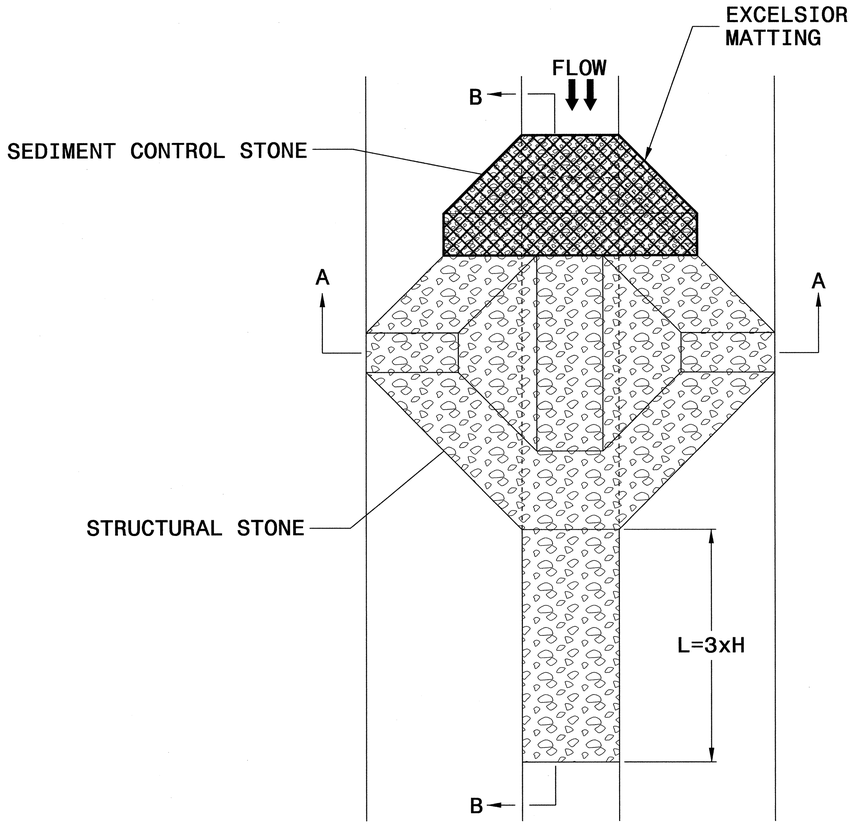
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES.
2. LIMIT EARTH DIKE HEIGHT TO 5 FT.
3. FOR BASIN DEPTH OF 3 FT., THE MINIMUM BASIN WIDTH SHALL BE 9 FT.
4. DETERMINE PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

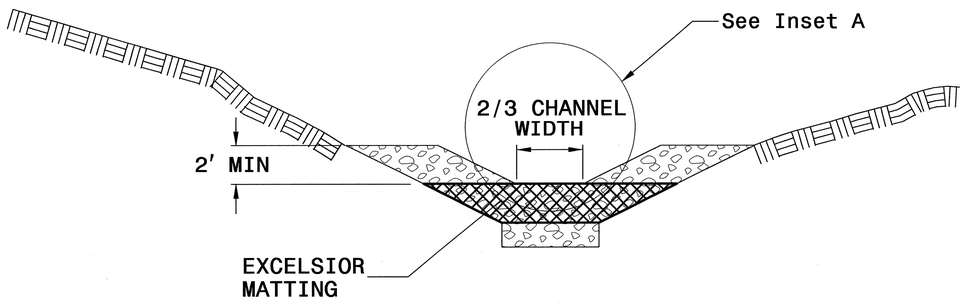
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TEMPORARY ROCK SILT CHECK TYPE 'A' WITH EXCELSIOR MATTING AND POLYACRYLAMIDE (PAM)



PLAN



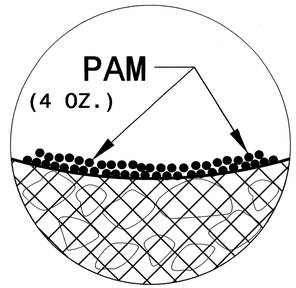
SECTION A-A

NOTES

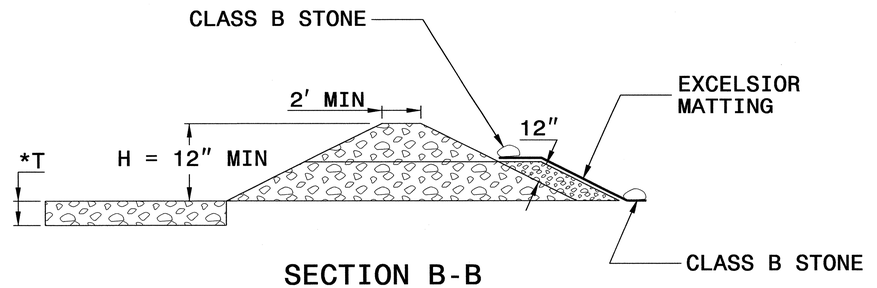
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

PRIOR TO POLYACRYLAMIDE (PAM) APPLICATION, OBTAIN A SOIL SAMPLE FROM PROJECT LOCATION, AND FROM OFFSITE MATERIAL, AND ANALYZE FOR APPROPRIATE PAM FLOCCULANT TO BE APPLIED TO EACH ROCK SILT CHECK.

INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION B-B

*T = 12" MIN., 18" MAX.

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	18+25	19+25	RT	70
				SUBTOTAL	70
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					1,650
				TOTAL	1,720
				SAY	1,750

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	15+00	15+75	RT	80
4	-L-	15+00	15+75	LT	80
4	-L-	19+00	19+25	LT	20
				SUBTOTAL	180
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	180
				SAY	200

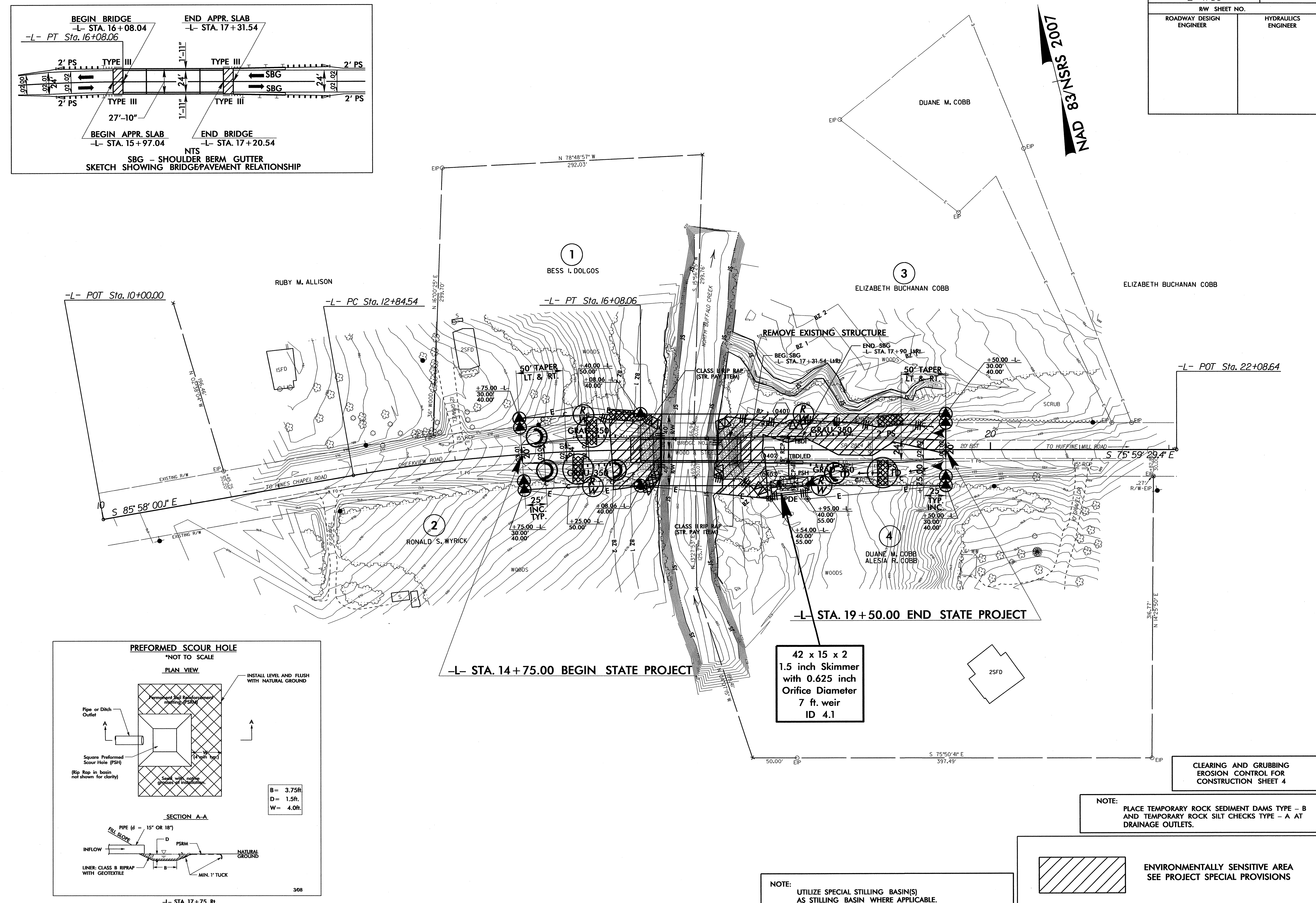
PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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.

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



BEGIN BRIDGE -L- STA. 16+08.04
END APPR. SLAB -L- STA. 17+31.54
-L- PT Sta. 16+08.06
BEGIN APPR. SLAB -L- STA. 15+97.04
END BRIDGE -L- STA. 17+20.54
NTS
SBG - SHOULDER BERM GUTTER
SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP
NAD 83/NSRS 2007
DUANE M. COBB
BESS I. DOLGOS
RUBY M. ALLISON
ELIZABETH BUCHANAN COBB
RONALD S. WYRICK
DUANE M. COBB
ALESIA R. COBB
-L- POT Sta. 10+00.00
-L- PC Sta. 12+84.54
-L- PT Sta. 16+08.06
-L- POT Sta. 22+08.64
REMOVE EXISTING STRUCTURE
50' TAPER LT. & RT.
S 85°58'00.1" E
S 75°59'29.4" E
-L- STA. 14+75.00 BEGIN STATE PROJECT
-L- STA. 19+50.00 END STATE PROJECT
42 x 15 x 2
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
7 ft. weir
ID 4.1
PREFORMED SCOUR HOLE
*NOT TO SCALE
PLAN VIEW
INSTALL LEVEL AND FLUSH WITH NATURAL GROUND
Pipe or Ditch Outlet
Square Preformed Scour Hole (PSH)
(Rip Rap in basin not shown for clarity)
B= 3.75ft.
D= 1.5ft.
W= 4.0ft.
SECTION A-A
PIPE (d = 15" OR 18")
INFLOW
LINER: CLASS B RIPRAP WITH GEOTEXTILE
MIN. 1' TUCK
NATURAL GROUND

-L- STA. 17+75 Rt.

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.

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

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

8/17/99

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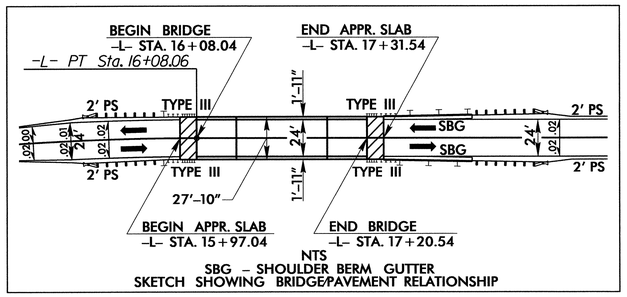
8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4758	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



NTS

SBG - SHOULDER BERM GUTTER

SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NAD 83/NSRS 2007

DUANE M. COBB

EIP

N 78°48'57" W
292.03'

1
BESS I. DOLGOS

RUBY M. ALLISON

ELIZABETH BUCHANAN COBB

3
ELIZABETH BUCHANAN COBB

-L- POT Sta. 10+00.00

-L- PC Sta. 12+84.54

-L- PT Sta. 16+08.06

-L- POT Sta. 22+08.64

N 16°30'25" E
299.10'

S 15°56'25" W
299.76'

NORTH BUFFALO CREEK

2SFD

1SFD

WOODS

REMOVE EXISTING STRUCTURE

BEG. SBG
-L- STA. 17+31.54 Lt/Rt.

END SBG
-L- STA. 17+90 Lt/Rt.

50' TAPER
LT. & RT.

+40.00 -L-
50.00'
+08.06 -L-
40.00'

+75.00 -L-
30.00'
40.00'

+50.00 -L-
30.00'
40.00'

CLASS II RIP RAP
(STR. PAY ITEM)

SCRUB

GRAU 350

GRAU 350

GRAU 350

2' PS

SR 2824

20' BST

TO HUFFINE MILL ROAD

S 75°59'29.4" E

BRIDGE NO.1
WOOD & STEEL

TO PSH

PDE

+95.00 -L-
40.00'
55.00'

+54.00 -L-
40.00'
55.00'

25'
INC.
TYP.

+75.00 -L-
30.00'
40.00'

+25.00 -L-
50.00'

+08.06 -L-
40.00'

CLASS II RIP RAP
(STR. PAY ITEM)

N 13°27'55" E
125.27'

+50.00 -L-
30.00'
40.00'

25'
TYP.
INC.

15" RCP

482.77'
N 14°25'50" E

.27' R/W-EIP

316.77'
N 14°25'50" E

S 85°58'00.1" E

EXISTING R/W

TO HINES CHAPEL ROAD

CREEKVIEW ROAD

T FO

GRAVEL

15" RCP

EXISTING R/W

4
DUANE M. COBB
ALESIA R. COBB

WOODS

-L- STA. 14+75.00 BEGIN STATE PROJECT

-L- STA. 19+50.00 END STATE PROJECT

42 x 15 x 2
1.5 inch Skimmer
with 0.625 inch
Orifice Diameter
7 ft. weir
ID 4.1

N 04°01'15" W
198.46'

S 75°50'41" E
397.49'

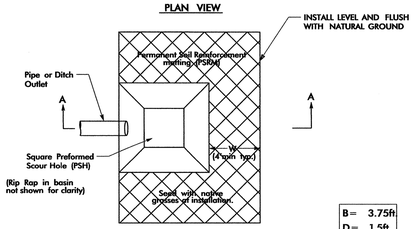
50.00'

EIP

PREFORMED SCOUR HOLE

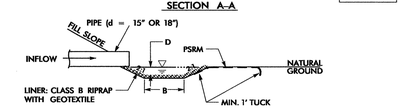
*NOT TO SCALE

PLAN VIEW



B = 3.75ft
D = 1.5ft.
W = 4.0ft.

SECTION A-A



308

-L- STA. 17+75 Rt.

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

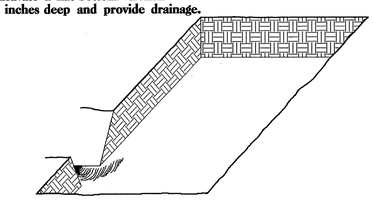
PROJECT REFERENCE NO.	SHEET NO.
B-4758	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

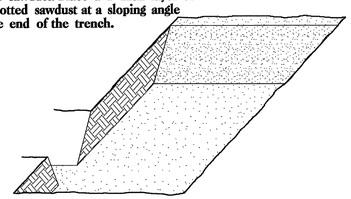
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

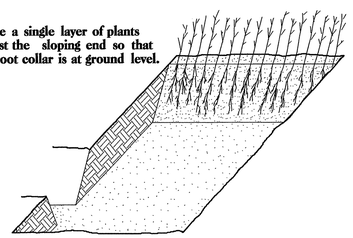
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



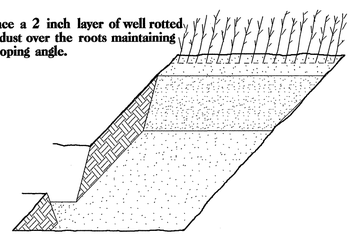
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

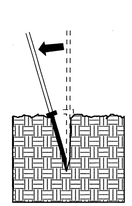


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

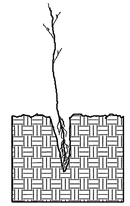


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

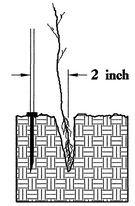
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



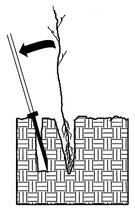
1. Insert planting bar as shown and pull handle toward planter.



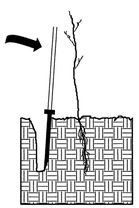
2. Remove planting bar and place seedling at correct depth.



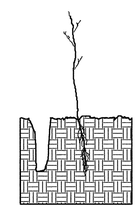
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

REFORESTATION

☐ TREE REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

30% PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	12 in – 18 in BR
30% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR
40% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

T.I.P.: B-4758

CONTRACT: C203363

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-4758	SIGN-1

APPROVED: _____

DATE: 11/26/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

SIGNING PLAN

GUILFORD COUNTY

LOCATION: BRIDGE NO. 159 OVER NORTH BUFFALO CREEK ON SR 2824 (CREEKVIEW ROAD)

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	70	L.F.
4096000000	904	SIGN ERECTION, TYPE D	2	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	6	EA.

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
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

. SIGNS FURNISHED BY STATE

. ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.

. SIGNING PLANS DO NOT INCLUDE TEMPORARY CONSTRUCTION SIGNING. SEE TRAFFIC CONTROL PLANS

. WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER

. ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.

. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.

. SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SIGN NUMBER: 301, 302
TYPE: D
QUANTITY: 2
SIGN WIDTH: 3'-0"
HEIGHT: 3'-0"
TOTAL AREA: 9.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

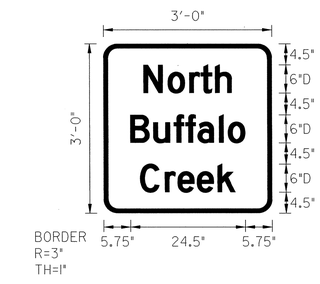
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

1. Legend and border(except those that are colored black) shall be direct applied Grade C sheeting.
2. Background shall be Grade C reflective sheeting.

DESIGN BY: S.JOHNS
PROJECT ID: B-4758
CHECKED BY: S.KUNZ
DIV: 7
DATE: Oct 09, 2013



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
		N	o	r	t	h																					D 2000
	8.6	5.2	4.6	2.5	3.1	3.5	8.6																				18.8
		B	u	f	f	a	l	o																			D 2000
	5.7	4.9	4.4	2.5	2.6	4.6	1.9	3.7	5.7																		24.5
		C	r	e	e	k																					D 2000
	7.8	5.3	2.8	4.1	4.4	3.8	7.8																				20.4

FILENAME: B-4758_Sgn_1

NORTH CAROLINA D.O.T. SIGN DETAIL

PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

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

SUSAN B. KUNZ — SIGNING & DELINEATION REGIONAL ENGINEER

STACEY W. JOHNS — SIGNING & DELINEATION DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

25-NOV-2013 10:40
P:\TIP-Projects\B4758\Traffic\Signing\CADD\Signing Layout Plans\Bridgeseed.dgn
sjohns

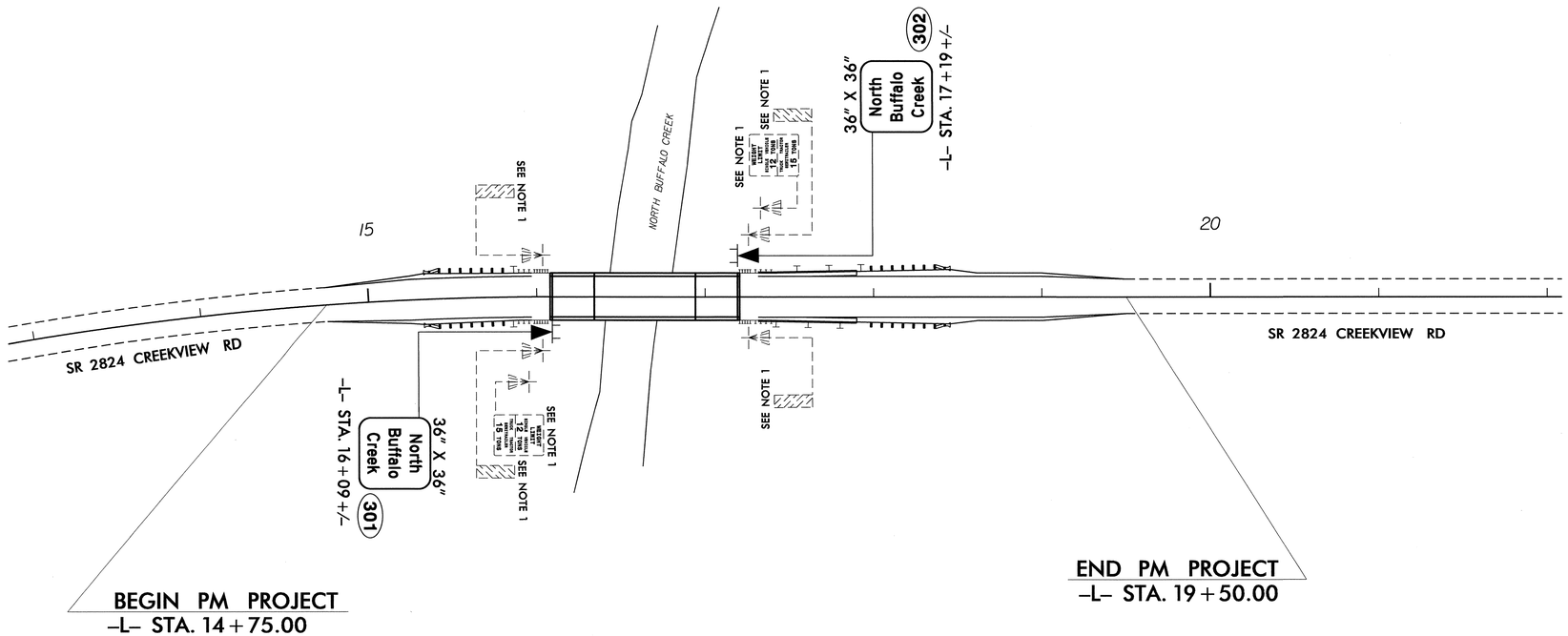
TIP NO.	SHEET NO.
B-4758	SIGN-2

APPROVED: _____

DATE: 11/26/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING



SIGN DETAIL SHEET

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sjohns

T.I.P.: B-4758

CONTRACT: C203363

TIP NO.	SHEET NO.
B-4758	PMP-1

APPROVED:

DATE: 11/26/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN

GUILFORD COUNTY

LOCATION: BRIDGE NO. 159 OVER NORTH BUFFALO CREEK ON SR 2824 (CREEKVIEW 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
THERMOPLASTIC(4", 120 MILS)	
TI	YELLOW DOUBLE CENTER
THERMOPLASTIC(4", 90 MILS)	
TA	WHITE EDGELINE

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:

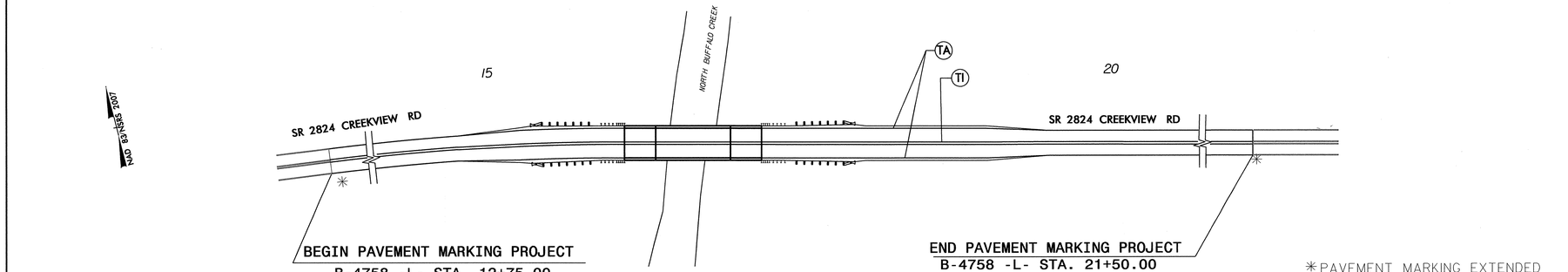
ROAD NAME	MARKING	MARKER
CREEKVIEW ROAD	THERMOPLASTIC	NONE

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

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

F) 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 DESIGN ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

25-NOV-2013 10:43
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sjohns

09/08/99

TIP PROJECT: B-4758

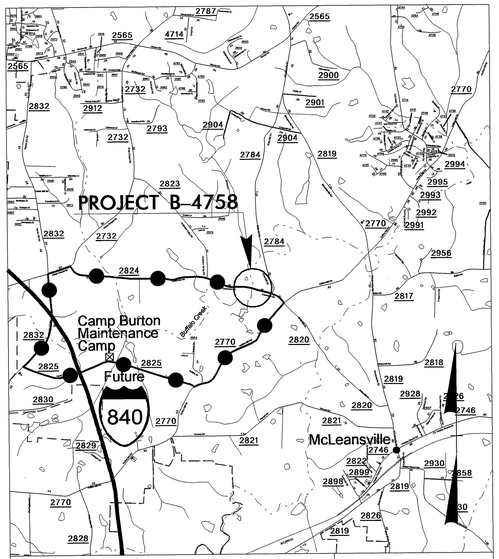
T.I.P. NO.	SHEET NO.
B-4758	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
GUILFORD COUNTY

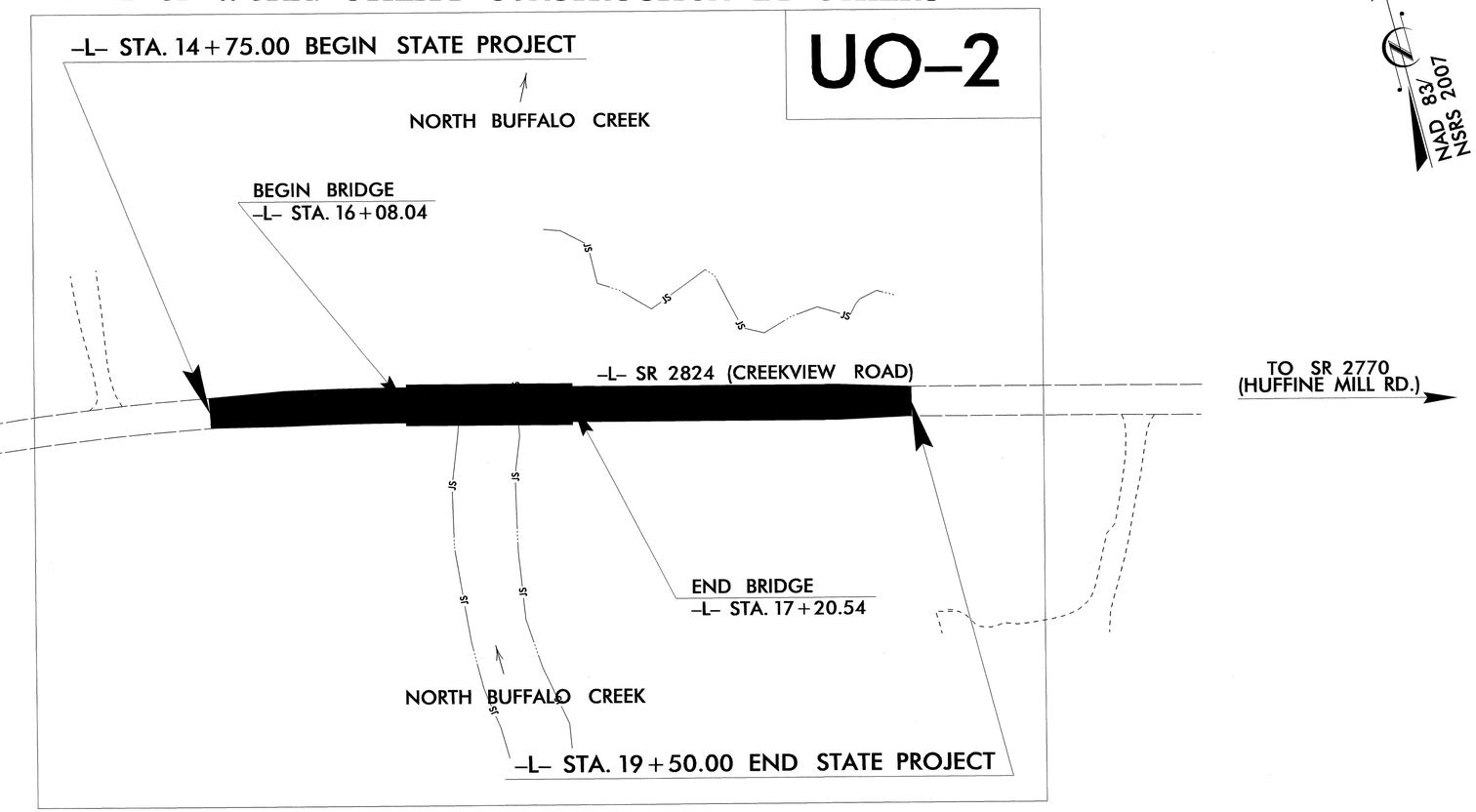
LOCATION: BRIDGE NO. 159 OVER NORTH BUFFALO CREEK ON SR 2824 (CREEKVIEW)

TYPE OF WORK: UTILITY CONSTRUCTION BY OTHERS



VICINITY MAP — DETOUR ROUTE

UO-2



NAD 83/ NSRS 2007

GRAPHIC SCALES

PLANS: 50 25 0 50 100

PROFILE (HORIZONTAL): 50 25 0 50 100

PROFILE (VERTICAL): 10 5 0 10 20

INDEX OF SHEETS

SHEET NO.	*DESCRIPTION*
UO-1	*TITLE SHEET*
UO-2	*UTILITY BY OTHERS PLAN SHEET*

UTILITY OWNERS ON PROJECT

(A) POWER DISTRIBUTION - DUKE ENERGY
(B) TELEPHONE - A T & T
(C) CABLE TV - TIME WARNER CABLE

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 707-6690
FAX (919) 250-4151

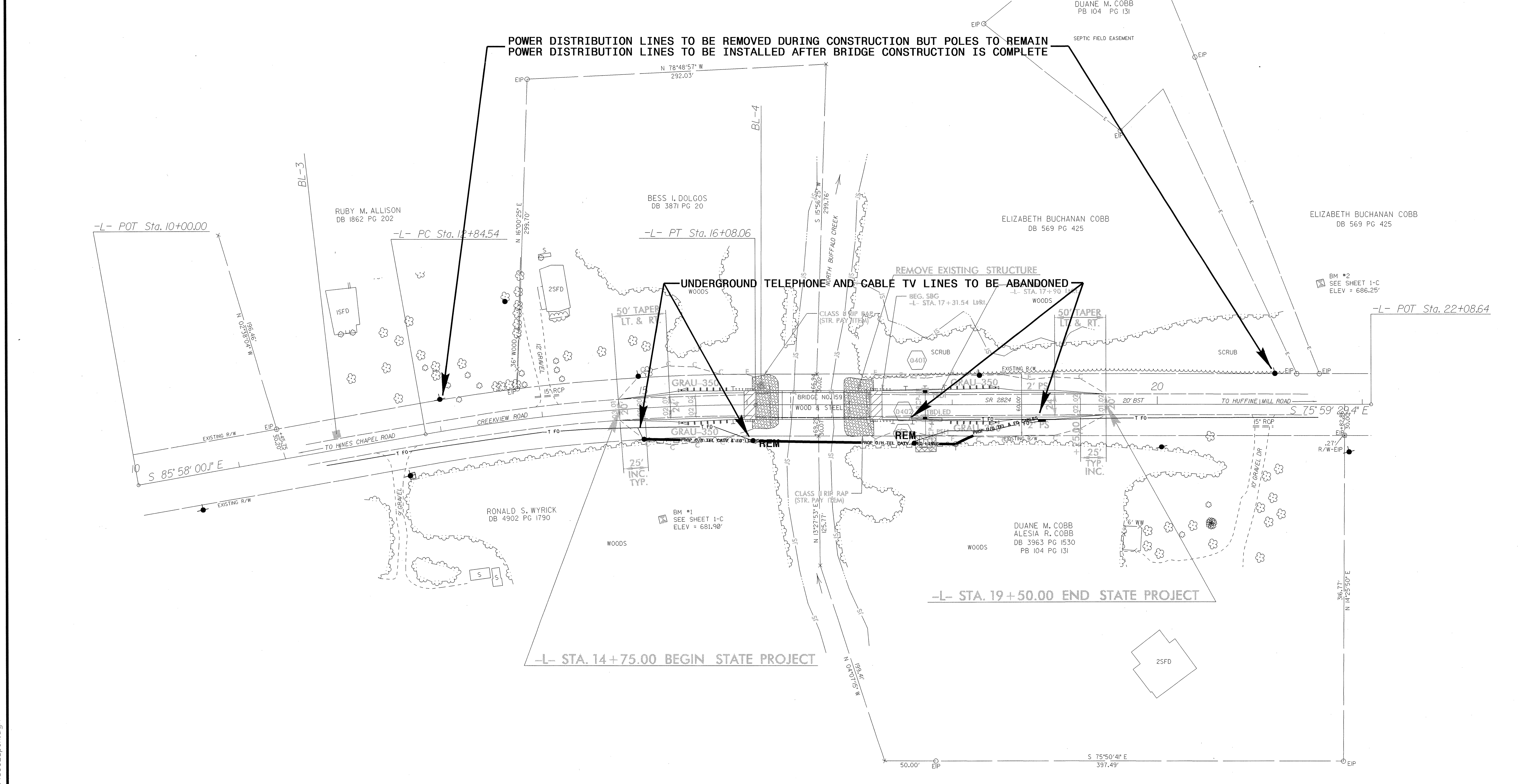
Roger Worthington, P.E. — *UTILITIES SECTION ENGINEER*
Steve McKee, P.E. — *UTILITIES SQUAD LEADER PROJECT ENGINEER*
John Nigro, P.E. — *UTILITIES PROJECT DESIGNER*

PROJECT REFERENCE NO.	SHEET NO.
B-4758	UO-2

UTILITIES BY OTHERS

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

-L-
PI Sta 14+46.71
Δ = 9° 58' 30.7" (RT)
D = 3° 05' 00.0"
L = 323.52'
T = 162.17'
R = 1,858.24'
SE = SEE PLANS



POWER DISTRIBUTION LINES TO BE REMOVED DURING CONSTRUCTION BUT POLES TO REMAIN
POWER DISTRIBUTION LINES TO BE INSTALLED AFTER BRIDGE CONSTRUCTION IS COMPLETE
UNDERGROUND TELEPHONE AND CABLE TV LINES TO BE ABANDONED
REM
REM
-L- POT Sta. 10+00.00
-L- PC Sta. 12+84.54
-L- PT Sta. 16+08.06
-L- POT Sta. 22+08.64
RUBY M. ALLISON
DB 1862 PG 202
BESS I. DOLGOS
DB 3871 PG 20
ELIZABETH BUCHANAN COBB
DB 569 PG 425
DUANE M. COBB
PB 104 PG 131
SEPTIC FIELD EASEMENT
RONALD S. WYRICK
DB 4902 PG 1790
DUANE M. COBB
ALESIA R. COBB
DB 3963 PG 1530
PB 104 PG 131
BM #1
SEE SHEET 1-C
ELEV = 681.90'
BM #2
SEE SHEET 1-C
ELEV = 686.25'
N 78°48'57" W
292.03'
S 75°50'4" E
397.49'
REMOVE EXISTING STRUCTURE
BRIDGE NO. 159
WOOD & STEEL
SR 2824
CREEKVIEW ROAD
TO HINES CHAPEL ROAD
TO HUFFINE MILL ROAD
NORTH BUFFALO CREEK
S 85° 58' 00.1" E
S 75° 59' 29.4" E
50' TAPER LT. & RT.
25' INC. TYP.
GRAU-350
CLASS II RIP RAP (STR. PAY ITEM)
CLASS I RIP RAP (STR. PAY ITEM)
WOODS
SCRUB
EXISTING R/W
BL-3
BL-4
2SFD
1SFD
-L- STA. 14+75.00 BEGIN STATE PROJECT
-L- STA. 19+50.00 END STATE PROJECT

5/14/99

14-NOV-2013 06:39
tilities\Engineering\UBO\Proj\B4758_Ut_4_U02_psh.dgn

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

PROJ. REFERENCE NO.	SHEET NO.
B-4758	X-1

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

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
14+75.00	0	0
15+00.00	26	0
15+25.00	65	0
15+50.00	61	1
15+75.00	29	5
16+00.00	9	12
16+08.04	1	5
17+20.54	0	0
17+25.00	4	8
17+50.00	20	25
17+75.00	17	13
18+00.00	15	20
18+25.00	16	17
17+50.00	19	13
18+75.00	25	7
19+00.00	31	1
19+25.00	35	0
19+50.00	17	0

PROJ. REFERENCE NO.	SHEET NO.
B-4758	X-2

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

PROJ. REFERENCE NO.	SHEET NO.
B-4758	X-3

8/23/99

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8/23/99

06-NOV-2013 15:09
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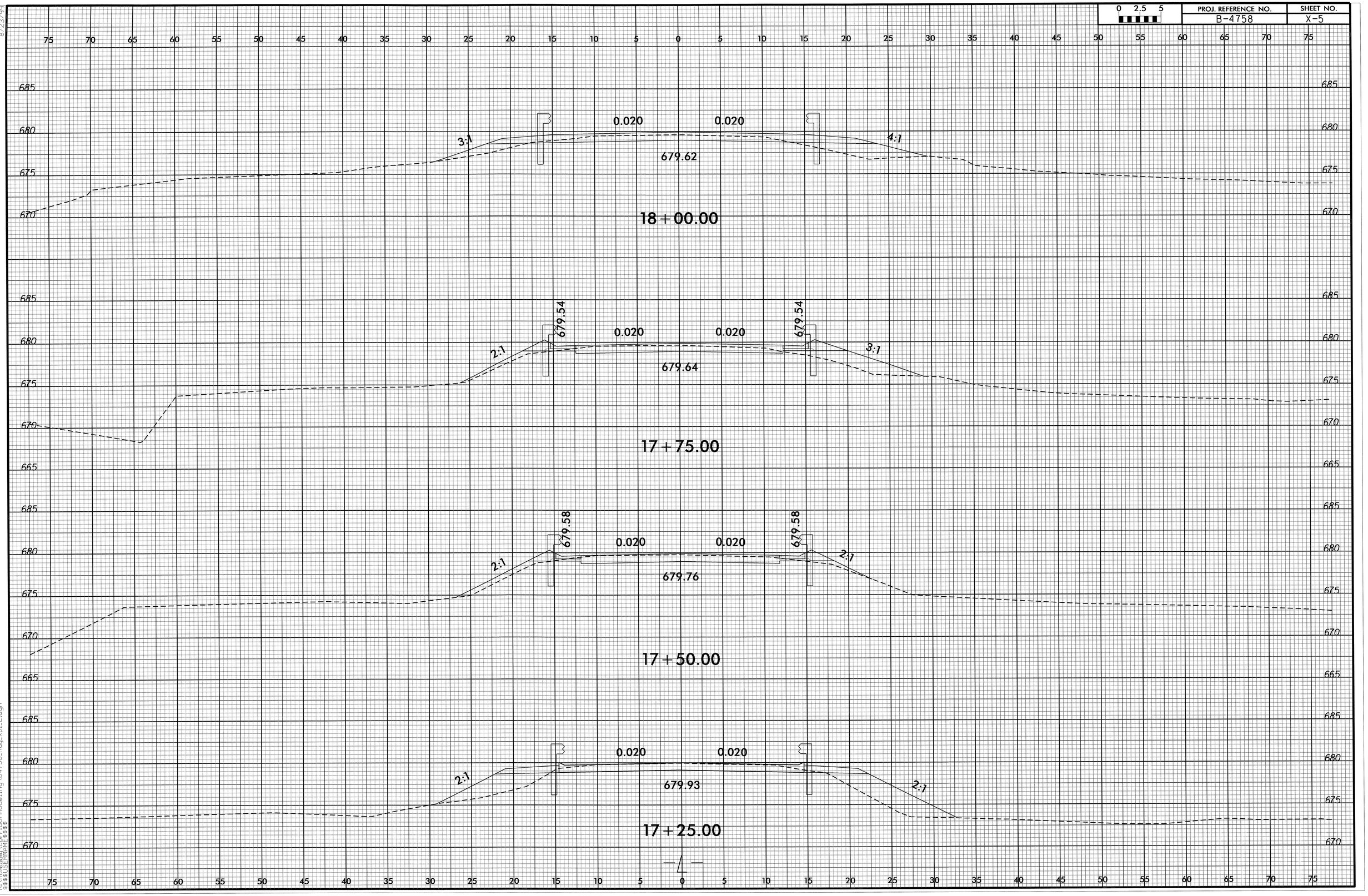

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8/23/99

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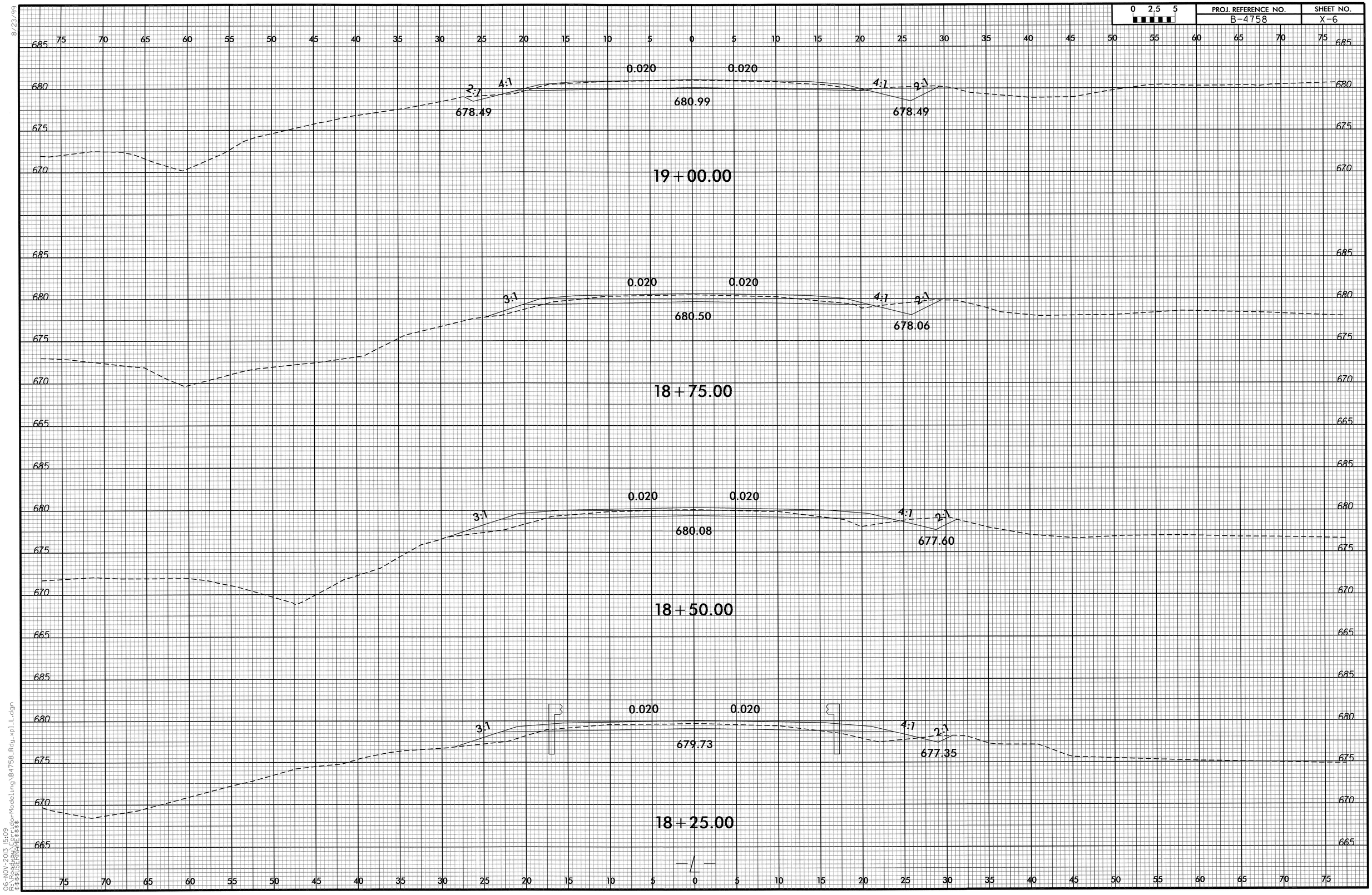

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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4758	X-7

682.89

19+75.00

EXIST. EXIST.

682.20

19+50.00

2:1 4.47:1

0.020

0.020

5.26:1 2:1

679.56

681.55

680.05

19+25.00