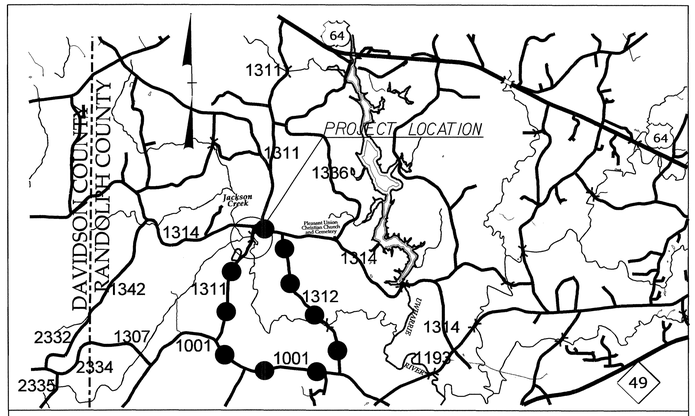
09/08/99

TIP PROJECT: B-4799

CONTRACT: C203250

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



VICINITY MAP

OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

RANDOLPH COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4799	1	

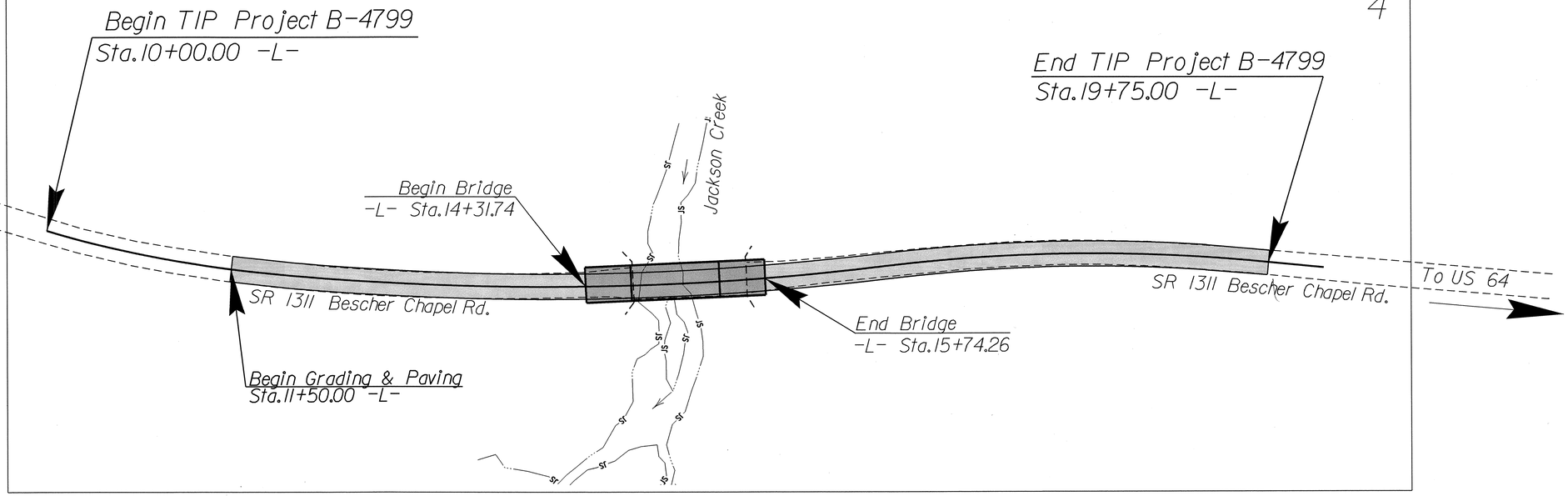
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38569.1.1	BRZ-1311(8)	P.E.
38569.2.1	BRZ-1311(8)	R/W, UTL.
38569.3.FD1	BRZ-1311(8)	CONSTRUCTION

LOCATION: ***Bridge #37 over Jackson Creek on SR 1311 (Bescher Chapel Road)***

TYPE OF WORK: ***Grading, Drainage, Paving, and Structure***

NAD 83/CORS 96

4



Design Exception Required for Sag Vertical Curve K Factors & Nighttime Vertical Curve SSD

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 2013 = 550 vpd
ADT 2035 = 900 vpd
DHV = 10 %
D = 60 %
T = 11 % *
V = 40 MPH

* TTST 3% DUAL 8%

SUBREGIONAL TIER

PROJECT LENGTH

Length Roadway TIP Project B-4799 = 0.158 Miles
Length Bridge TIP Project B-4799 = 0.027 Miles
Total Length TIP Project B-4799 = 0.185 Miles

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: August 1, 2012

LETTING DATE: October 15, 2013

James Speer, PE
PROJECT ENGINEER

John Lansford, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 032815 ENGINEERING JASON D. LAWING

SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C LANSFORD 7/24/13

SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

03-JUL-2013 11:01
R:\Roadway_Proj\b4799_rdy_tsh.dgn
$$$$USERNAME$$$$

RD253041 7/3/2013 b4799_rdy_tsh ktbridgers RD_Oce860-34

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4799	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 036235 ENGINEER JOHN C LANSFORD

8/12/13

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
1-D	SURVEY CONTROL SHEET
2	PAVEMENT SCHEDULE. TYPICAL SECTIONS. AND WEDGING DETAIL
2-A	STRUCTURE ANCHOR UNITS
3	SUMMARY OF QUANTITIES
3A	SUB-REGIONAL & REGIONAL LIST OF PIPES. ETC. (FOR PIPES 48" & UNDER). SUMMARY OF EARTHWORK. PAVEMENT REMOVAL SUMMARY. SHOULDER BERM SUMMARY. SUMMARY OF SUB-SURFACE DRAINAGE. AND GUARDRAIL SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLANS
PM-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-5	PLAN FOR PROPOSED HIGHWAY EROSION CONTROL
SIGN-1 THRU SIGN-2	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY
X-2 THRU X-10	CROSS-SECTIONS
S-1 THRU S-22	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 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.

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 :
ENERGY UNITED POWER - POWER (DISTRIBUTION)
RANDOLPH TELEPHONE - TELEPHONE
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

ROCK

ROCK IS ANTICIPATED BETWEEN STA. 13+00 - 14+00 . BLASTING MAY BE REQUIRED FOR EXCAVATION ON THE PROJECT. SEE SECTION 220 OF THE STANDARD SPECIFICATIONS AND IF APPLICABLE. ROCK BLASTING PROVISION.

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

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
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
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
840.46	Traffic Bearing Precast Drainage Structure
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
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

12-AUG-2013 11:32
K:\Projects\B4799\roadway\b4799_rdy_tsh.dgn
$$$$USERNAME=$$$$

04/16/11

PROJECT REFERENCE NO.	SHEET NO.
B-4799	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.

PROJECT REFERENCE NO.	SHEET NO.
B-4799	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4799

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
101	BL-101	708284.8022	1699300.2163	515.09	10+33.39	16.57 RT
102	BL-102	708819.4368	1699395.7664	504.53	15+76.37	16.18 LT
103	BL-103	709411.0579	1699513.1515	552.41	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION = 504.27
N 708828 E 1699481
L STATION 15+93.00 68 RIGHT
RR-SPIKE IN BASE OF 14IN POPLAR TREE

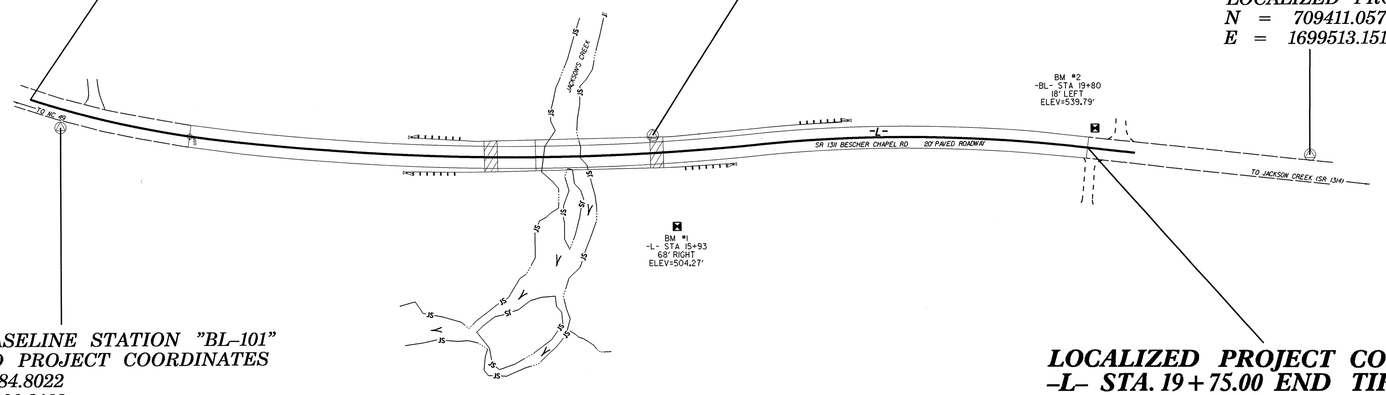
BM2 ELEVATION = 539.79
N 709221 E 1699457
L STATION 19+80.00 18 LEFT
RR-SPIKE IN BASE OF POWER POLE(DAVIDSON EMC 41502208)

NC GRID NAD 83/CORS96

LOCALIZED PROJECT COORDINATES
-L- STA. 10+00.00 BEGIN TIP PROJECT B-4799
N = 708261.8289
E = 1699270.5077

NCDOT BASELINE STATION "BL-102"
LOCALIZED PROJECT COORDINATES
N = 708819.4368
E = 1699395.7664

NCDOT BASELINE STATION "BL-103"
LOCALIZED PROJECT COORDINATES
N = 709411.0579
E = 1699513.1515



NCDOT BASELINE STATION "BL-101"
LOCALIZED PROJECT COORDINATES
N = 708284.8022
E = 1699300.2163

LOCALIZED PROJECT COORDINATES
-L- STA. 19+75.00 END TIP PROJECT B-4799
N = 709210.7284
E = 1699472.9928

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4799-1"
WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
NORTHING: 709687.2290(ft) EASTING: 1699583.8220(ft)
ELEVATION: 566.0100(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998086366
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4799-1" TO -L- STATION 10+00.00 IS
S 12°23'48.93" W 1459.425'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4799_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)

NOTE: DRAWING NOT TO SCALE

6/2/99

18-JUN-2013 13:51
R:\Roadway\Proj\b4799_ls_1c.dgn
$$$$USERNAME$$$$

RD253041 6/18/2013 b4799_ls_1c ktbridgers RD Qce860 34

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
B-4799	1D
Location and Surveys	

SURVEY CONTROL SHEET B-4799

FINAL

L

TYPE	STATION	NORTH	EAST
PC	10+00.00	708261.8289	1699270.5077
PCC	11+67.75	708417.4082	1699332.5627
PRC	16+69.61	708910.5964	1699419.9019
PT	19+63.22	709199.3936	1699469.7838
POT	20+18.94	709253.0030	1699484.9615

ROW MARKER IRON PIN AND CAP

ALIGN	STATION	OFFSET	NORTH	EAST
L	19+75.00	-30.00	709218.9806	1699444.1274
L	19+63.22	-30.00	709207.5659	1699440.9183
L	19+63.22	30.00	709191.2213	1699498.6492
L	19+75.00	30.00	709202.5561	1699501.8583
L	19+20.00	29.58	709150.4566	1699487.3549
L	19+20.00	40.00	709147.9300	1699497.4593
L	18+25.00	40.00	709057.7102	1699478.1261
L	17+65.00	-31.27	709009.6781	1699398.4567
L	16+00.00	64.00	708835.0580	1699477.9513
L	14+00.00	45.00	708635.0308	1699430.6106
L	13+00.00	30.55	708538.4691	1699395.7679
L	13+50.00	-73.00	708609.0489	1699305.2437
L	11+50.00	-50.00	708415.4122	1699279.7115
L	11+50.00	-30.00	708409.4157	1699298.7914
L	11+67.75	30.00	708408.9916	1699361.3579
L	10+00.00	30.00	708248.1172	1699297.1908
L	10+00.00	-30.00	708275.5405	1699243.8245

PERMANENT EASEMENT-E REBAR

ALIGN	STATION	OFFSET	NORTH	EAST
L	15+30.00	-62.04	708779.5117	1699344.9047
L	15+30.00	-72.00	708780.7695	1699335.0280
L	16+00.00	-64.00	708847.3830	1699350.5461
L	16+00.00	-54.03	708846.4227	1699360.4726
L	14+00.00	65.00	708631.3834	1699450.2752
L	11+86.00	-55.44	708450.0740	1699284.2819
L	10+00.00	-56.00	708288.3381	1699218.9202

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4799-1"
WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
NORTHING: 709687.2290(ft) EASTING: 1699583.8220(ft)
ELEVATION: 566.0100(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.9998086366
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4799-1" TO -L- STATION 11+50.00 IS
S 11°16'09.2" W 1312.106'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

1. *THE CONTROL DATA FOR THIS PROJECT CAN BE FOUND ELECTRONICALLY BY SELECTING PROJECT CONTROL DATA AT:*
HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

THE FILES TO BE FOUND ARE AS FOLLOWS:
B4799_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)

NOTE: DRAWING NOT TO SCALE

13-AUG-2013 10:38
\\Nc860-pw-01\b4799_ls_1d.dgn
$$$$USERNAME$$$$

RD253041 8/13/2013 b4799_ls_1d ktbridgers RD-Oce860-34

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4799	2
R/W SHEET NO.	

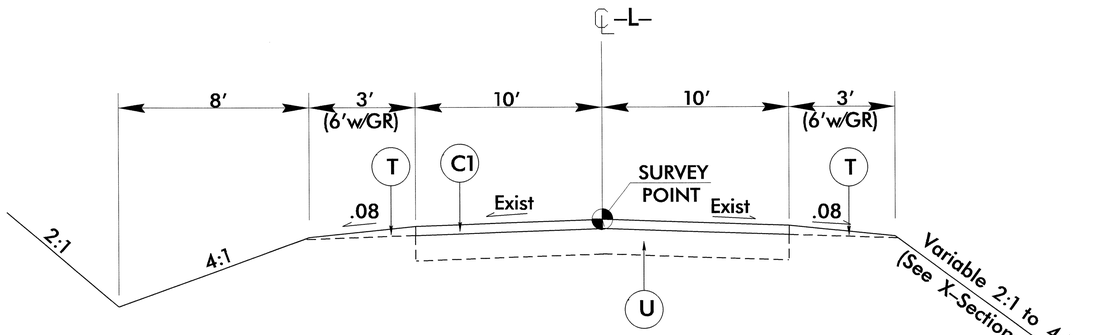
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 15235 ENGINEER JOHN C. LANSFORD
7/27/13

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22896 ENGINEER CLARK S. MORRISON
7/24/13

FINAL PAVEMENT DESIGN

C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
D1	PROP. APPROX. 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
R1	SHOULDER BERM GUTTER.
R2	SHOULDER BERM CURB.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL)

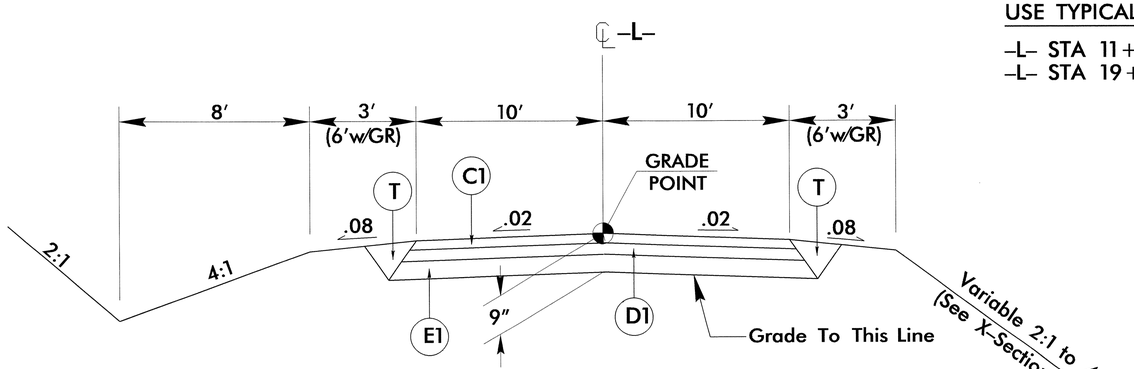
NOTE: ALL SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED



TYPICAL SECTION NO.1

USE TYPICAL SECTION NO.1

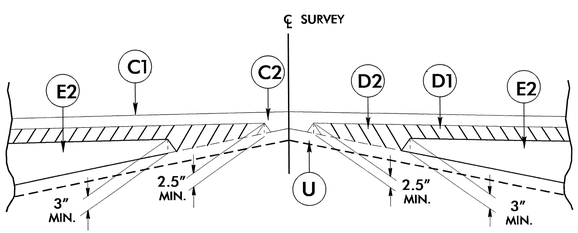
–L– STA 11+50.00 TO –L– STA 12+30.00
–L– STA 19+25.00 TO –L– STA 19+75.00



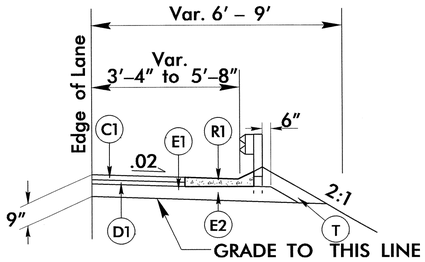
TYPICAL SECTION NO.2

USE TYPICAL SECTION NO.2

–L– STA 12+30.00 TO –L– STA 14+31.74 (BRIDGE)
–L– STA 15+74.26 (BRIDGE) TO –L– STA 19+25.00



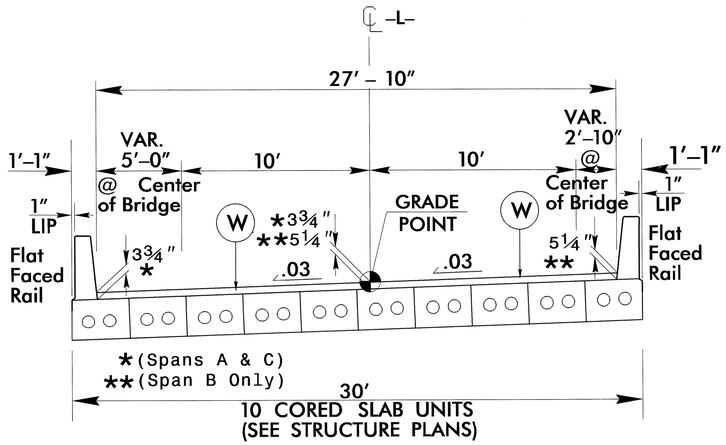
Detail Showing Method of Wedging



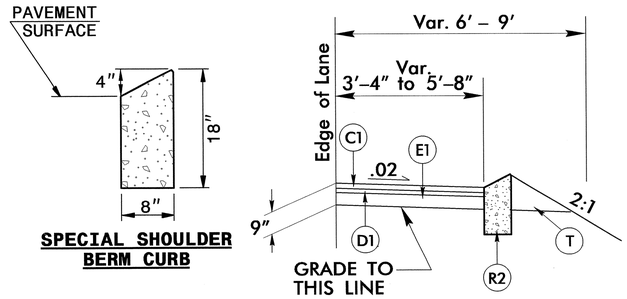
TYPICAL SECTION OF PAVED SHOULDER AND SHOULDER BERM GUTTER AT GUARDRAIL LOCATIONS

USE SHOULDER BERM GUTTER

LEFT –L– STA 14+00.00 TO BEGIN APPR. SLAB
LEFT END APPR. SLAB TO –L– STA 16+69.00



BRIDGE TYPICAL SECTION



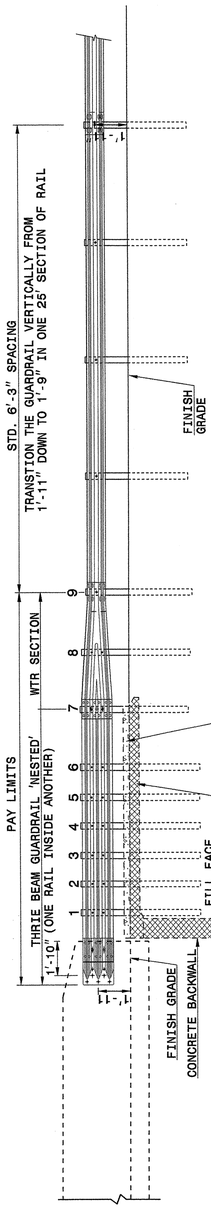
TYPICAL SECTION OF PAVED SHOULDER AND SPECIAL SHOULDER BERM CURB UNDER TYPE III ANCHORS

USE SHOULDER BERM CURB

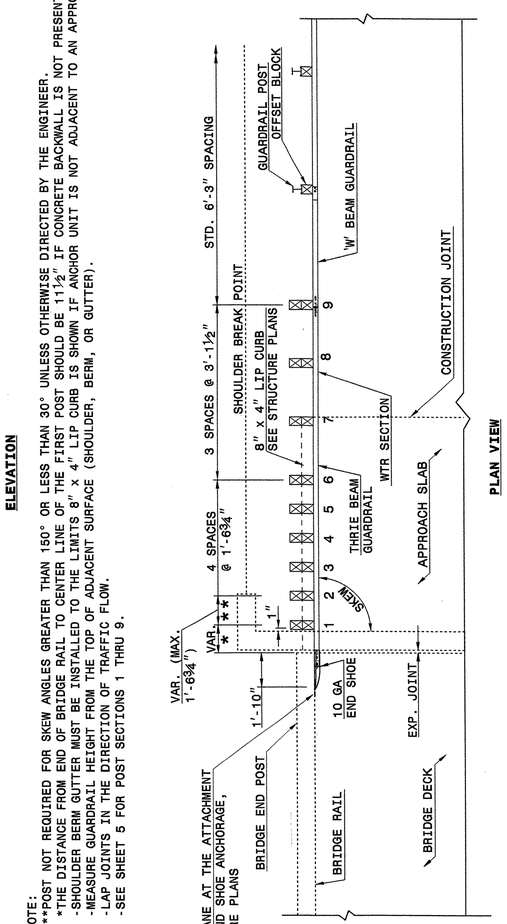
RT –L– STA 14+12.75 TO (STA. 14+20.73 BEGIN APPR. SLAB)
RT (END APPR. SLAB –L– STA. 15+85.27) TO STA. 15+93.25

26-JUL-2013 15:37
\\b4799_rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4799	2-A



ELEVATION



PLAN VIEW

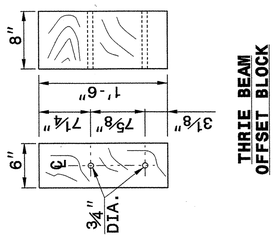
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

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 1'-11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.

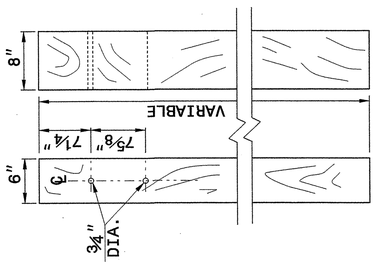
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

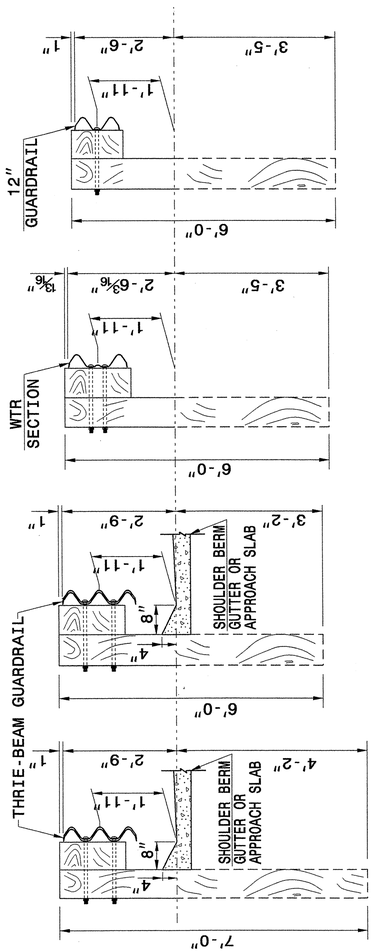
SHEET 3 OF 7
862d03



THRIE BEAM OFFSET BLOCK



THRIE BEAM LINE POST



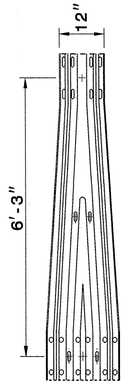
SECTION OF 'W' BEAM POST 9

SECTION OF WTR BEAM POST 8

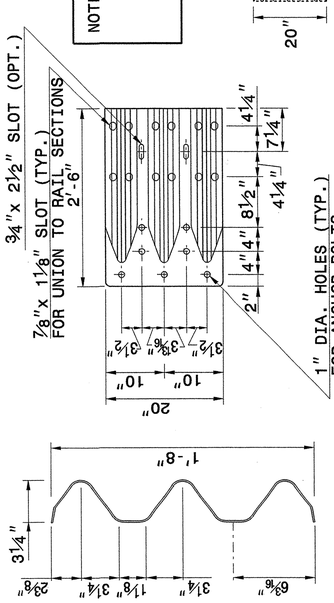
SECTION OF THRIE BEAM POST 7

SECTION OF THRIE BEAM POSTS 1 THRU 6

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.



WTR SECTION
ELEVATION VIEW



END SHOE

THRIE-BEAM SECTION

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOHN C. HOWERTON 7/30/13

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.:

$$$$SYSTIME$$$$
$$$$SIGNATURE$$$$
$$$$USERNAME$$$$

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
B-4799	3

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203250

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ******* (15+03)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	400	CY	UNDERCUT EXCAVATION
0134000000-E	240	190	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	400	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	500	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	10	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	20	SY	FOUNDATION CONDITIONING GEOTEXTILE
0366000000-E	310	28	LF	15" RC PIPE CULVERTS, CLASS III
0582000000-E	310	28	LF	15" CS PIPE CULVERTS, 0.064" THICK
0636000000-E	310	2	EA	**" CS PIPE ELBOWS, *****" THICK (15", 0.064")
1330000000-E	607	200	SY	INCIDENTAL MILLING
1489000000-E	610	350	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	243	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1525000000-E	610	315	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	49	TON	ASPHALT BINDER FOR PLANT MIX
2000000000-N	806	17	EA	RIGHT OF WAY MARKERS
2022000000-E	815	90	CY	SUBDRAIN EXCAVATION
2033000000-E	815	68	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	400	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	110	LF	SHOULDER BERM GUTTER
2752000000-E	SP	16	LF	GENERIC PAVING ITEM SPECIAL SHOULDER BERM CURB
3030000000-E	862	175	LF	STEEL BM GUARDRAIL
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3270000000-N	SP	4	EA	GUARDRAIL ANCHOR UNITS, TYPE 350
3649000000-E	876	220	TON	RIP RAP, CLASS B
3656000000-E	876	1,930	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	63	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4155000000-N	907	6	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	335	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	94	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	64	LF	BARRICADES (TYPE III)
4810000000-E	1205	7,800	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	675	LF	TEMPORARY SILT FENCE
6006000000-E	1610	150	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	190	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	395	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	3.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	150	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.5	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	200	LF	SAFETY FENCE
6030000000-E	1630	350	CY	SILT EXCAVATION
6036000000-E	1631	8,100	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	400	SY	COIR FIBER MAT
6042000000-E	1632	365	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	12	EA	SPECIAL STILLING BASINS
6071010000-E	SP	345	LF	WATTLE
6071020000-E	SP	145	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	155	LF	COIR FIBER BAFFLE
6071050000-E	SP	3	EA	** SKIMMER (1-1/2")
6084000000-E	1660	3.5	ACR	SEEDING & MULCHING
6087000000-E	1660	1.7	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	75	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	2.25	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

12-MAR-2013 13:58
R:\Roadway\Pro\b4799_rdy_sum.dgn
$$$$USERNAME$$$$

RD253041 3/12/2013 b4799_rdy_sum_sht3 ktbridgers RD-Oce860-34

6/21/00

COMPUTED BY: AEV DATE: 7/23/12
CHECKED BY: KTB DATE: 3/11/13

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, Borrow Excavation, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4799	3-A

SUMMARY OF EARTHWORK
IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	EMBT+%	BORROW	WASTE
–L– Sta. 11+50.00 to 14+31.74 (BRIDGE)	951	670		281
SUBTOTAL	951	670		281
–L– Sta. 15+74.26 (BRIDGE) to 19+75.00	163	2,693	2,530	
SUBTOTAL	163	2,693	2,530	
TOTALS	1,114	3,362	2,530	281
Loss Due to Clearing and Grubbing	–150		150	
Waste in Lieu of Borrow			–281	–281
Total	964		2,399	
5% for Borrow Pit			120	
Grand Total	964	3,363	2,519	
SAY	1,000		2,550	

Contingency Undercut = 400 CY
DDE = 190 CY

PAVEMENT REMOVAL SUMMARY
IN SQUARE YARDS

STATION TO STATION	ASPHALT REMOVAL	ASPHALT BREAKING	CONCRETE REMOVAL	CONCRETE BREAKING
13+30 to 14+21		197		
15+86 to 18+10		498		
12+30 to 13+30	222			
14+21 to 14+70	113			
15+60 to 15+86	63			
18+10 to 19+25	256			
TOTAL	654	695		
SAY	660	700		

SHOULDER BERM SUMMARY

STATION	STATION	LOCATION	SHOULDER BERM GUTTER	SPECIAL SHOULDER BERM CURB
14+00	APPROACH SLAB	LT	20′	
APPROACH SLAB	16+69	LT	83′	
14+12.75	APPROACH SLAB	RT		8′
APPROACH SLAB	15+93.25	RT		8′
TOTAL LF			103′	16′
SAY			110′	16′

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION LT/RT/CL	DRAIN TYPE* UD/BD/SD	LINEAR FEET
CONTINGENCY				UD	400′
				TOTAL LF	400′

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

SUB–REGIONAL & 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 / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM.	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	C.S. PIPE (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	30"	36"	42"	48"	CLASS III R.C. PIPE (UNLESS OTHERWISE NOTED) 12"	15"	18"	24"	30"	36"	42"	48"	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	CU. YDS. C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL. "B") PER EACH (0 THRU 5.0′)	LIN. FT. A 5.0′ THRU 10.0′	LIN. FT. 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	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	T.B.D.I. STD. 840.35	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
–L– 14+14	LT	401		509.8′	507.0′																																																
		401	402		507.0′	506.8′																				12′																											
–L– 14+00	LT	402		509.8′	506.8′																																															
		402	403		506.8′	506.5′																				16′																											
–L– 15+92	LT	404		512.2′	509.4′																																															
		404	405		509.4′	499.5′														28′																																	
PROJECT TOTAL																				28′						28′																											

"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 STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS XI MOD	XI	GRAU 350	M-350	TYPE III	CAT-1	VI MOD	BIC	AT-1	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
–L–	13+50.49	14+31.74 (BRIDGE)	LT	81.25′				14+31.74 (BRIDGE)	3′	6′	50′	62.5′	1′	1.25′			1		1											
–L–	13+50.49	14+31.74 (BRIDGE)	RT	81.25′			14+31.74 (BRIDGE)		3′	6′	68.75′	50′	1.37′	1′			1		1											
–L–	15+74.26 (BRIDGE)	16+55.51	RT	81.25′				15+74.26 (BRIDGE)	3′	6′	50′	62.5′	1′	1.25′			1		1											
–L–	15+74.26 (BRIDGE)	17+55.51	LT	181.25′			15+74.26 (BRIDGE)		3′	6′	162.5′	50′	3.25′	1′			1		1											
			TOTAL	425′													4		4											
			4 TYPE 350 @50′	–200′																										
			4 TYPE III @ 18.75′	–75′																										
			PROJECT TOTAL	150′													4		4											
			SAY	175′											ADDITIONAL GUARDRAIL POSTS: 5 EACH															

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

29-JUL-2013 09:03
C:\Projects\b4799_rdy_sum.dgn
USER: jlansford
$$$$ SCENARIO $$$$

5/14/99

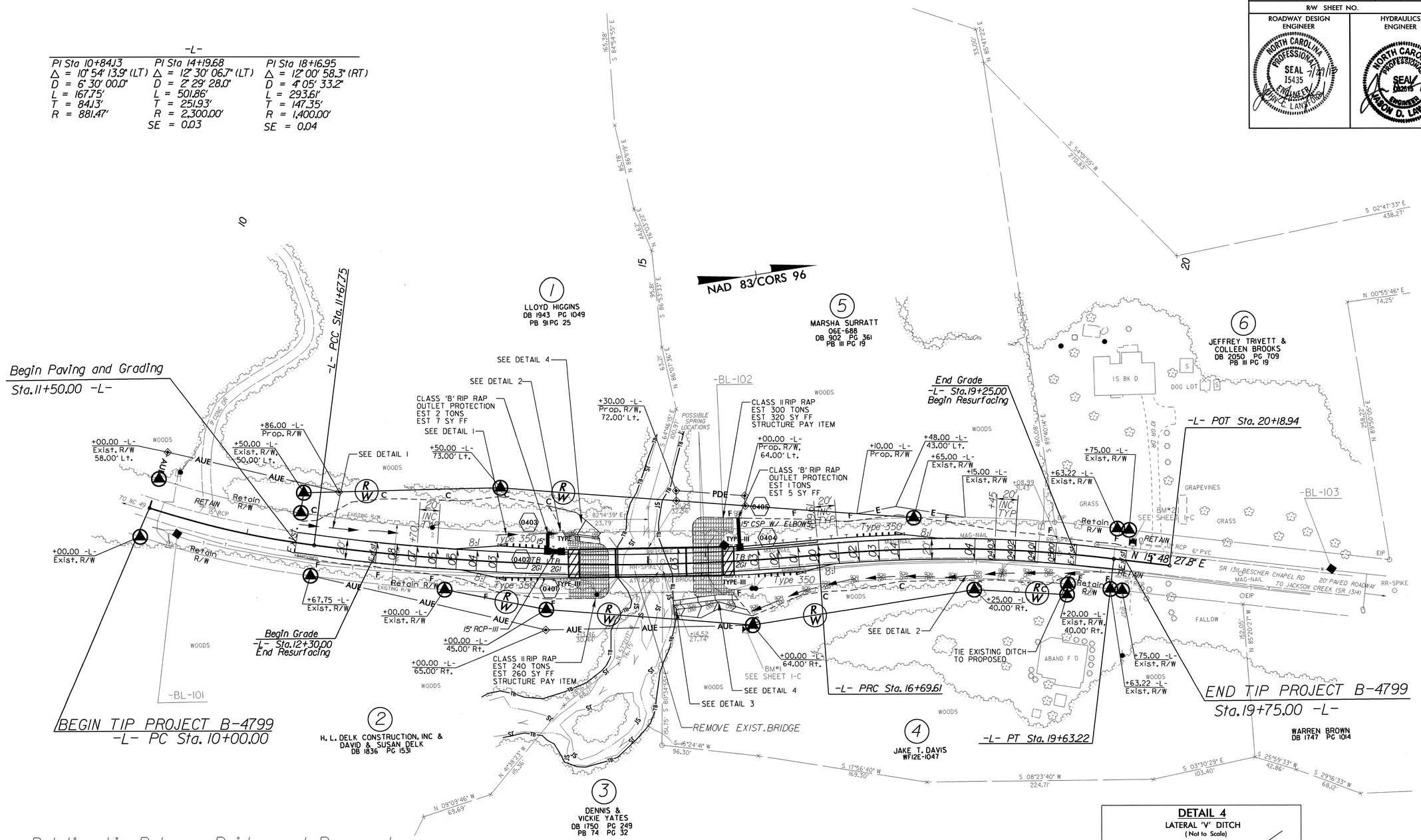
PROJECT REFERENCE NO.	SHEET NO.
B-4799	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C. LANGFORD — 7/1/13

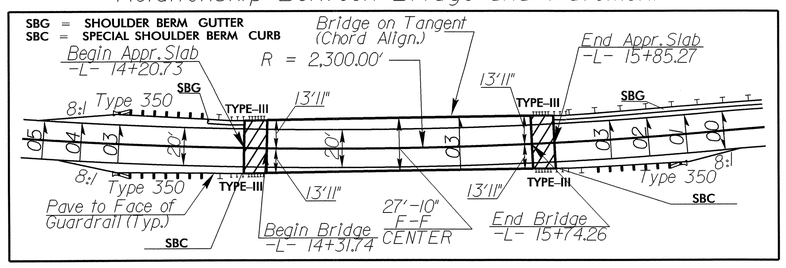
HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 032015 ENGINEER JASON D. LAWING — 8-8-13

-L-

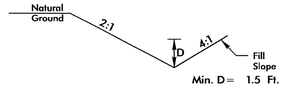
PI Sta 10+84.13	PI Sta 14+19.68	PI Sta 18+16.95
△ = 10° 54' 13.9" (LT)	△ = 12° 30' 06.7" (LT)	△ = 12° 00' 58.3" (RT)
D = 6° 30' 00.0"	D = 2° 29' 28.0"	D = 4° 05' 33.2"
L = 167.75'	L = 501.86'	L = 293.61'
T = 84.13'	T = 251.93'	T = 147.35'
R = 881.47'	R = 2,300.00'	R = 1,400.00'
	SE = 0.03	SE = 0.04



Relationship Between Bridge and Pavement



DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

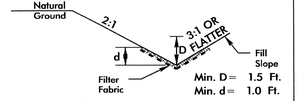


Min. D = 1.5 Ft.

Type of Liner = None

FROM STA. 11+50 TO STA. 12+50 -L- (LT)
FROM STA. 13+50 TO STA. 14+00 -L- (LT)

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

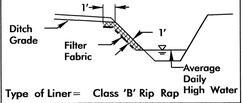


Min. D = 1.5 Ft.
Min. d = 1.0 Ft.

Type of Liner = Class 'B' Rip Rap

FROM STA. 14+00 TO STA. 14+20 -L- (LT)
RIP RAP 8 TONS, FILTER FABRIC 25 SY
FROM STA. 15+85 TO STA. 19+25 -L- (RT)
RIP RAP 142 TONS, FILTER FABRIC 422 SY

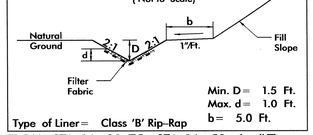
DETAIL 3
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'B' Rip Rap

STA. 15+24 -L- (RT)
RIP RAP 3 TONS, FILTER FABRIC 5 SY

DETAIL 4
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.0 Ft.
b = 5.0 Ft.

Type of Liner = Class 'B' Rip-Rap

FROM STA. 14+20 TO STA. 14+50 -L- (LT)
RIP RAP 19 TONS, FILTER FABRIC 58 SY, DDE 81 CY

FROM STA. 15+24 TO STA. 15+85 -L- (RT)
RIP RAP 21 TONS, FILTER FABRIC 64 SY, DDE 106 CY

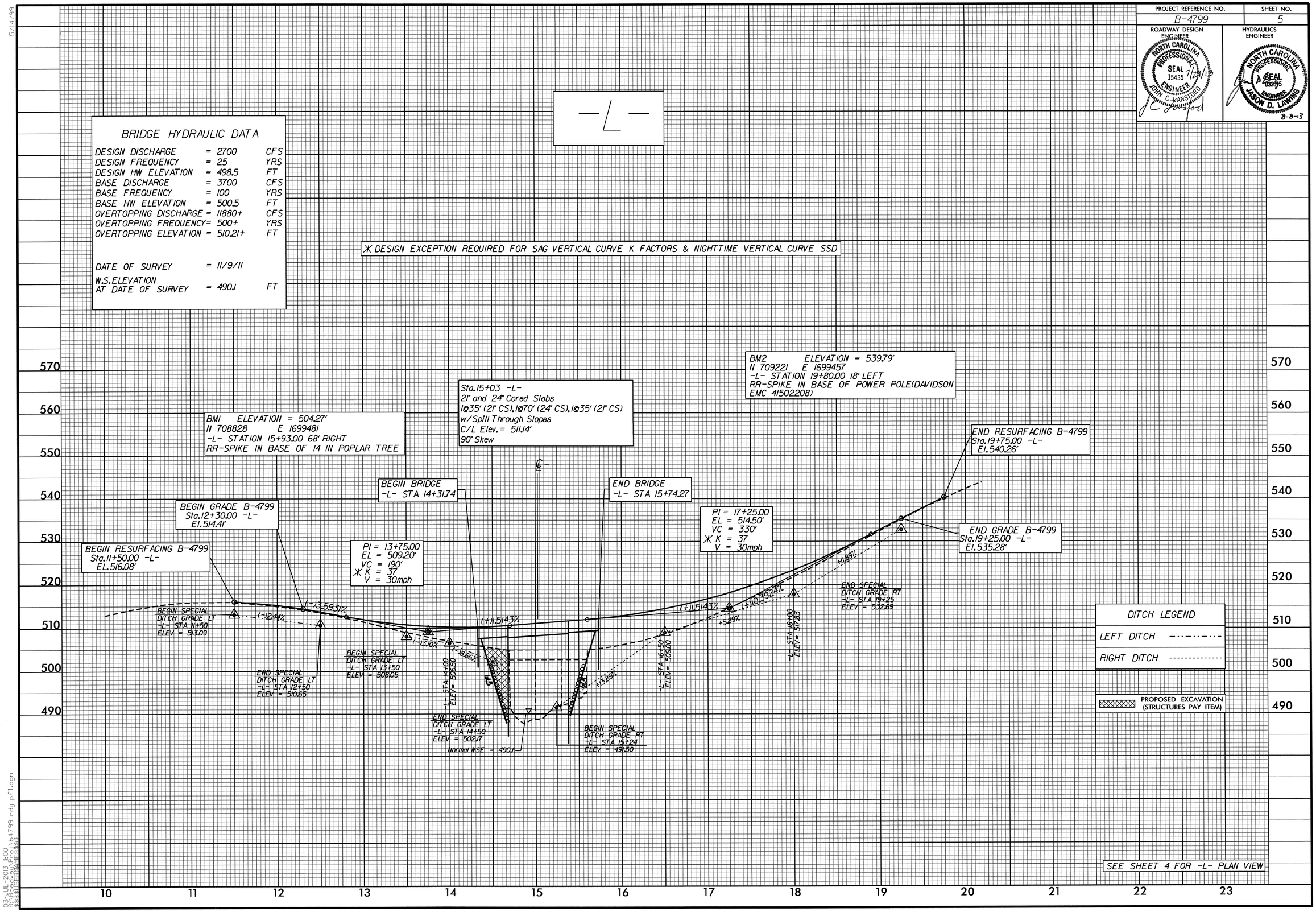
NOTES:
SEE SHEET 3-A FOR SHOULDER BERM SUMMARY
SEE SHEET 5 FOR -L- PROFILE
SEE SHEETS S-1 THRU S-22 FOR STRUCTURE PLANS

29-JUL-2013 09:02
R:\Roadway\Proj\b4799_rdy_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4799	5

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 15435 ENGINEER JOHN C. KANSFORD 7/29/13

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 032695 ENGINEER JASON D. LAWING 8-8-13



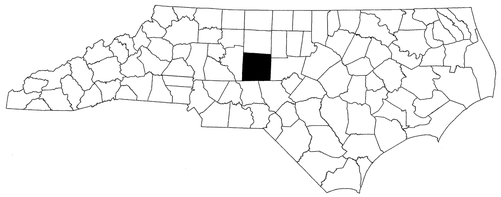
5/14/99

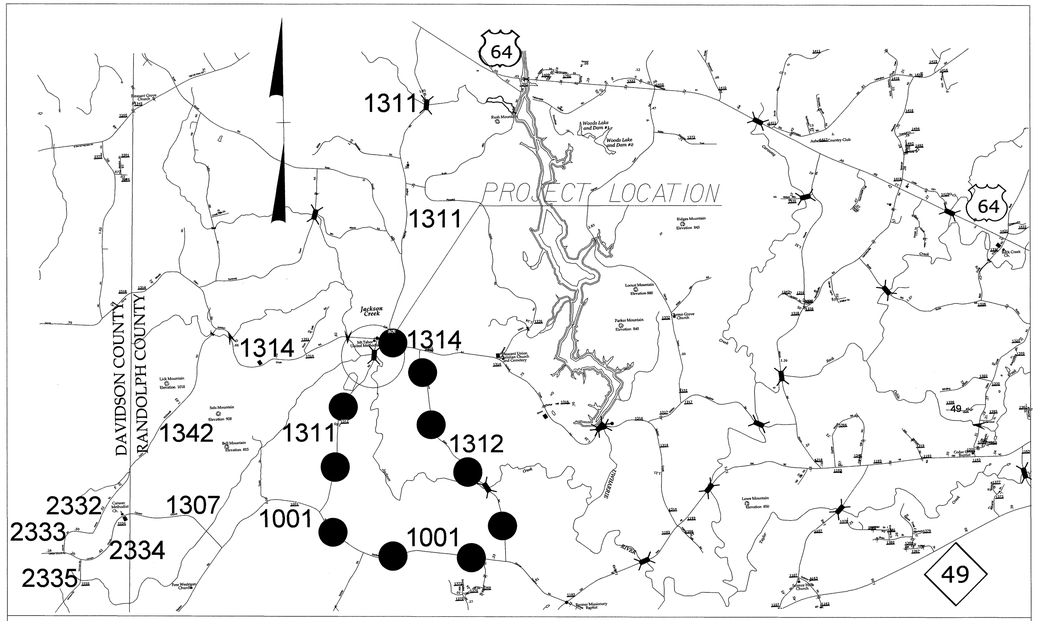
03-JUL-2013 11:00
R:\Roadway\Proj\b4799_rdy_pfl.dgn
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

RANDOLPH COUNTY





VICINITY MAP

OFFSITE DETOUR ROUTE

INDEX OF SHEETS

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

SHEET NO.
TMP-1

B-4799

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
S. HASSAN TRAFFIC CONTROL DESIGN ENGINEER

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

APPROVED: Ben Schoenbauer
DATE: June 10, 2013

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN RAUL SCHOENBAUER

6/3/2013
P:\TIPProjects-B\B4799\Traffic\TrafficControl\TCP\B-4799_TC_TMP_01.dgn
hsershassan

PROJ. REFERENCE NO.	SHEET NO.
B-4799	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
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- WORK AREA
- REMOVAL
- N/A
- N/A

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

SIGNALS

EXISTING PROPOSED TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

N/A

APPROVED: Eric Schoonhaven DATE: 6/10/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHOONHAVEN

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

ROADWAY STANDARD DRAWINGS & LEGEND

6/3/2013
P:\TIPProjects-B\B4799\Traffic\TrafficControl\TCP\B-4799_TC_TMP_01.dgn
Users\hsasan

PROJ. REFERENCE NO.	SHEET NO.
B-4799	TMP-1B

MANAGEMENT STRATEGIES

THE FOLLOWING LISTED STRATEGIES DERIVE FROM DETAILED DESIGN LEVEL ASSESSMENTS OF THE WORK ZONE IMPACTS CONDUCTED DURING THE DEVELOPMENTAL STAGES OF THIS TRANSPORTATION MANAGEMENT PLAN (TMP).

RECOMMEND MANAGEMENT STRATEGIES RELATIVE TO THIS TMP ARE AS FOLLOWS:

- FULL ROAD CLOSURE

  TRAFFIC TO BE MAINTAINED ON THE FOLLOWING OFF-SITE DETOUR ROUTE THROUGHOUT THE DURATION OF THIS PROJECT.

  SR 1001 (FARMER DENTON RD.), SR 1312 (GALLIMORE DAIRY RD.), AND SR 1314 (JACKSON CREEK RD.)

PHASING

STEP 1: USING ROADWAY STANDARD DRAWING 1101.03, SHEET 1 OF 9; SHEET TMP-2, AND SHEET TMP-3, INSTALL DETOUR SIGNS. PLACE TYPE III BARRICADES TO CLOSE SR 1311 (BESCHER CHAPEL RD.) TO THROUGH TRAFFIC, AND DETOUR TRAFFIC ONTO PROPOSED DETOUR ROUTE.

STEP 2: AWAY FROM TRAFFIC, COMPLETE THE FOLLOWING:

1) REMOVE EXISTING STRUCTURE NO. 37 AND CONSTRUCT PROPOSED STRUCTURE. SEE ROADWAY AND STRUCTURE PLANS.

2) CONSTRUCT PROPOSED ROADWAY UP TO AND INCLUDING THE FINAL SURFACE LAYER FROM STA. 10+70 +/- TO STA. 19+75 +/-. SEE ROADWAY PLANS.

3) PLACE FINAL PAVEMENT MARKINGS. SEE PAVEMENT MARKING PLANS.

STEP 3: REMOVE ALL TRAFFIC CONTROL DEVICES AND OPEN SR 1311 (BESCHER CHAPEL RD.) TO FINAL 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 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.

APPROVED: [signature] DATE: 6/20/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHORBAUER

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

TRANSPORTATION OPERATIONS PLAN

6/19/2013
P:\TIP\Projects-B\B4799\Traffic\TrafficControl\TCP\B-4799_TC_TMP_01.dgn
User:rsroscoe

PROJ. REFERENCE NO.	SHEET NO.
B-4799	TMP-2

SIGN NUMBER: SP12253
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3′-0″
HEIGHT: 1′-6″
TOTAL AREA: 4.5 Sq.Ft.

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

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

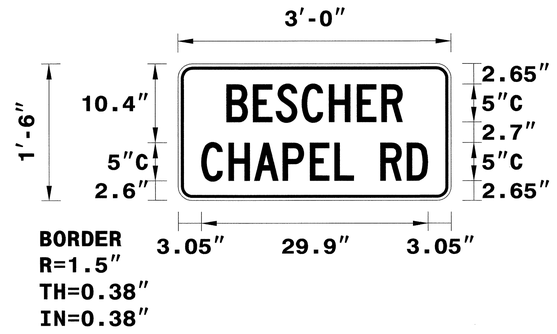
SYMBOL	X	Y	WID	HT

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: SJOHNS
PROJECT ID: B-4799
CHECKED BY: SBKUNZ
DIV: 8
DATE: Jul 18, 2012



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																										Series/Size Text Length
		B	E	S	C	H	E	R																		C 2000
	6.4	3.5	3	3.4	3.6	3.7	3.2	2.8	6.4																	23.2
		C	H	A	P	E	L		R	D																C 2000
	3.1	3.6	3.4	3.8	3.6	3.2	2.6	3.5	3.5	2.8	3.1															29.9

FILENAME: b-4799SgnDesigns

NORTH CAROLINA D.O.T. SIGN DETAIL

APPROVED: _____ DATE: 6/17/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

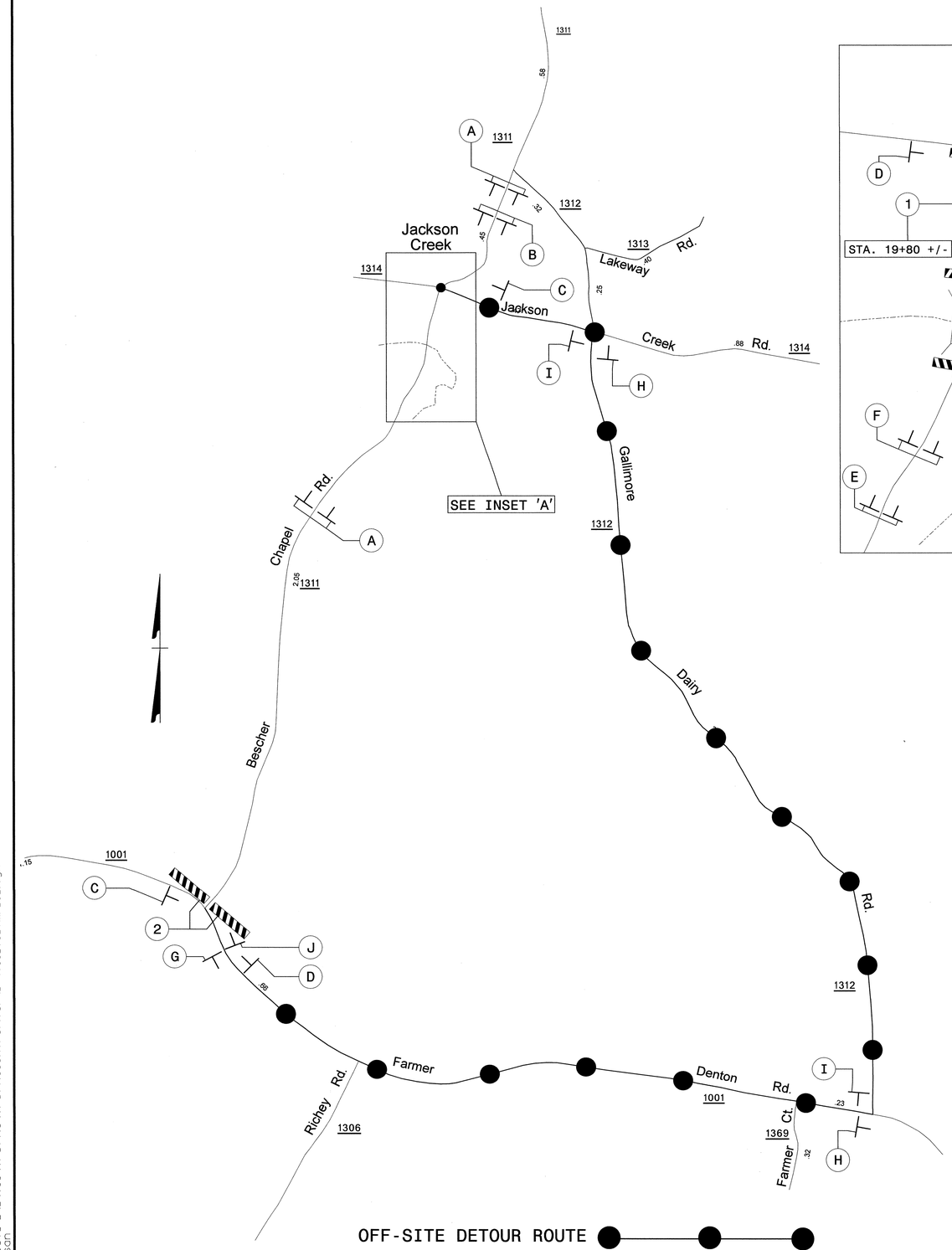
DIVISION OF HIGHWAYS · STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION · WORK ZONE TRAFFIC CONTROL

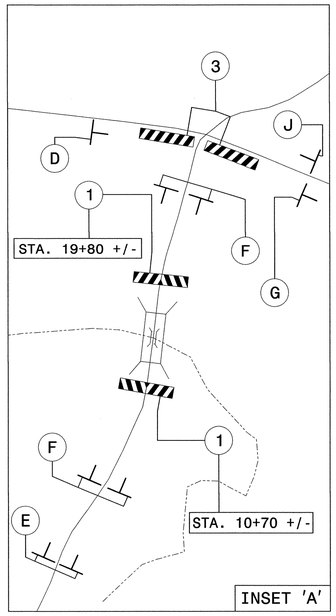
SPECIAL SIGN DESIGN

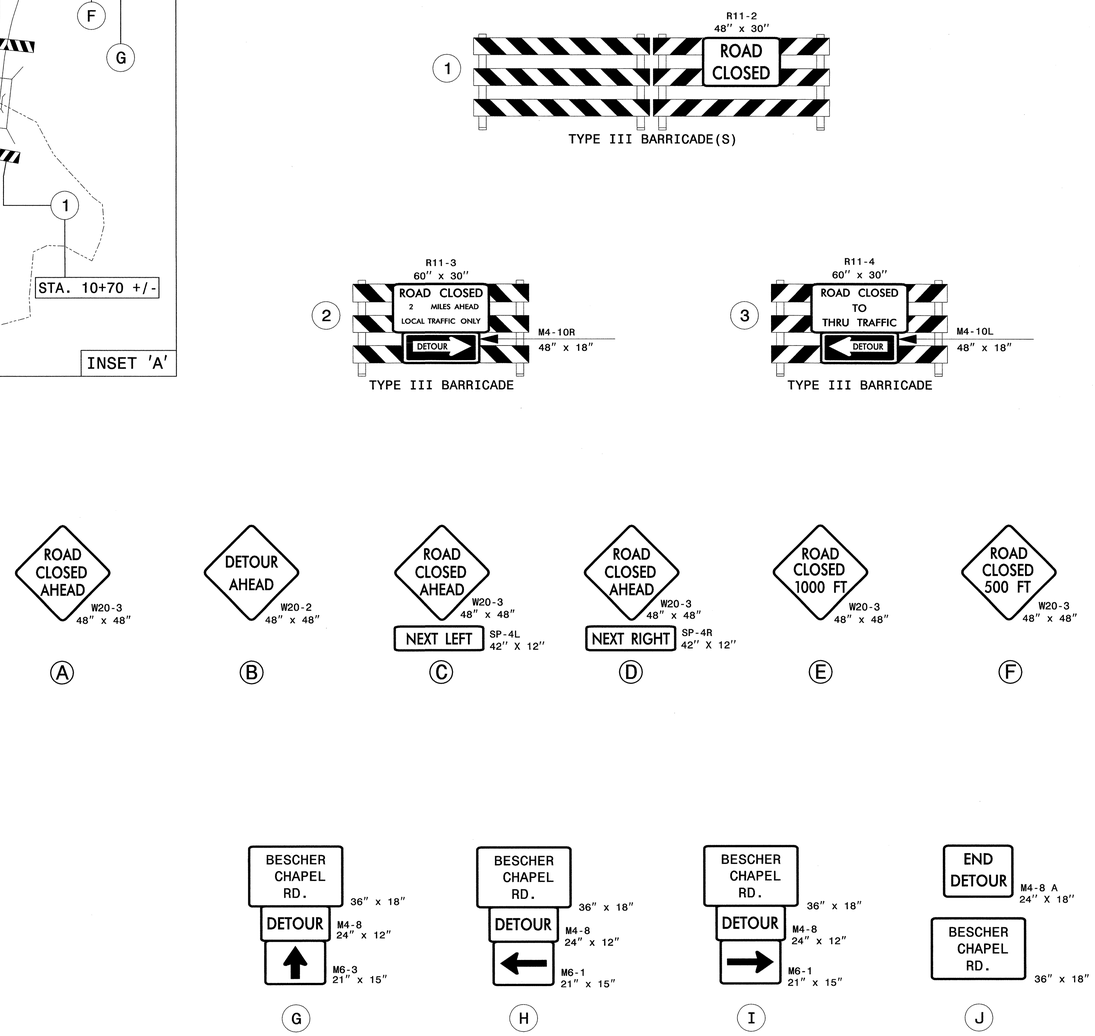
6/3/2013
P:\TIPProjects-B\B4799\Traffic\TrafficControl\TCP\B-4799_TC_TMP_01.dgn
User:rshoson

PROJ. REFERENCE NO.	SHEET NO.
B-4799	TMP-3

NOTES:
1. SEE SHEET TMP-2 FOR SIGN DESIGN.
2. REFER TO 1101.03, SHEET 1 OF 9, FOR ROAD CLOSURE SIGN DISTANCES.
3. INSTALL DETOUR SIGNS AS DIRECTED BY THE ENGINEER.







APPROVED: Ben Schoenbauer DATE: 6/10/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 35496 ENGINEER BENJAMIN PAUL SCHOENBAUER

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

OFFSITE DETOUR AND BARRICADE PLACEMENT

6/3/2013
P:\TIPProjects-B\B4799\Traffic\TrafficControl\TCP\B-4799_TC_TMP_02.dgn
User:shassan

TIP NO.	SHEET NO.
B-4799	PMP-1

APPROVED: [signature]
DATE: 6/27/13

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
RANDOLPH COUNTY

LOCATION: Bridge #37 over Jackson Creek on SR 1311 (Bescher Chapel Road)

T.I.P.: B-4799

CONTRACT: C203250

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")
PI	YELLOW DOUBLE CENTER
PA	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
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.

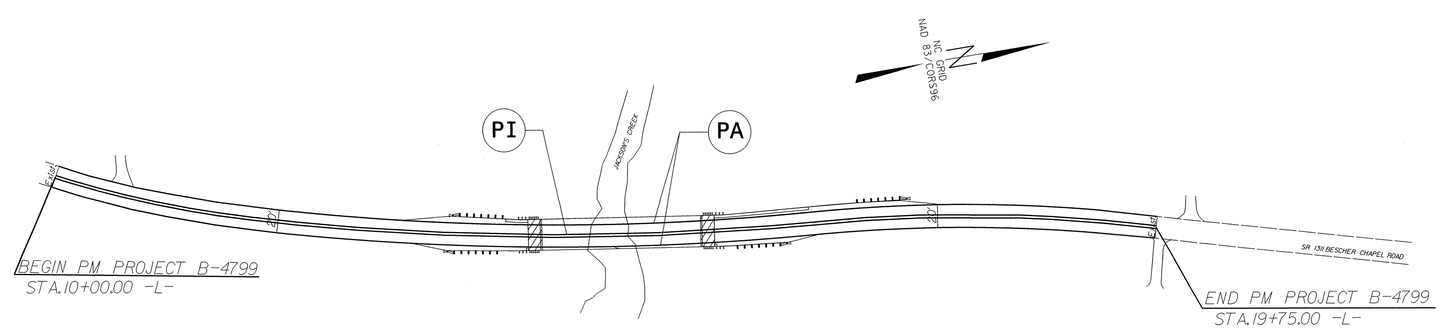
C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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.

F) MARKERS ARE TO BE PLACED ACCORDING TO THE ROADWAY STANDARD DRAWINGS.

PAVEMENT MARKING DETAIL



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

27-JUN-2013 15:18
P:\TIPProjects-B\B4799\Traffic\Signing\CADD\PMP\PMPSHT1.dgn
sjohns AT TE247957

TIP PROJECT: B-4799

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4799	EC-1	

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

NAD 83/CORS 96

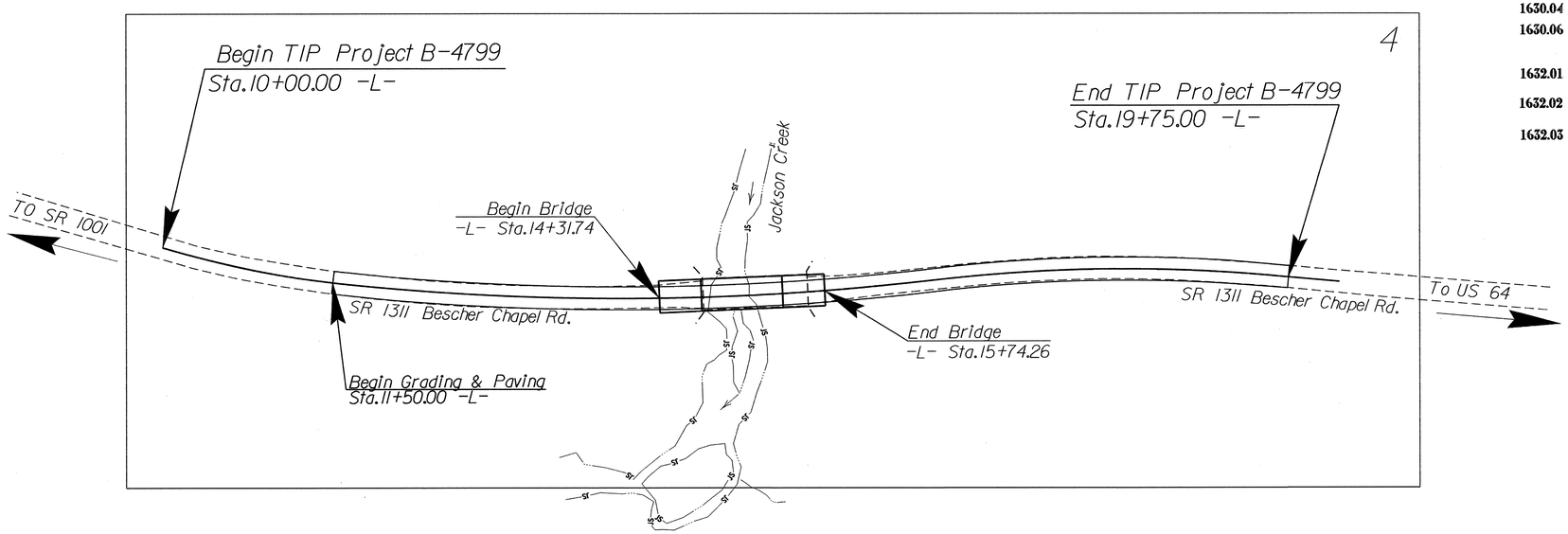
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

RANDOLPH COUNTY

LOCATION: Bridge #37 over Jackson Creek on SR 1311 (Bescher Chapel Road)

TYPE OF WORK: Grading, Drainage, Paving, and Structure



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

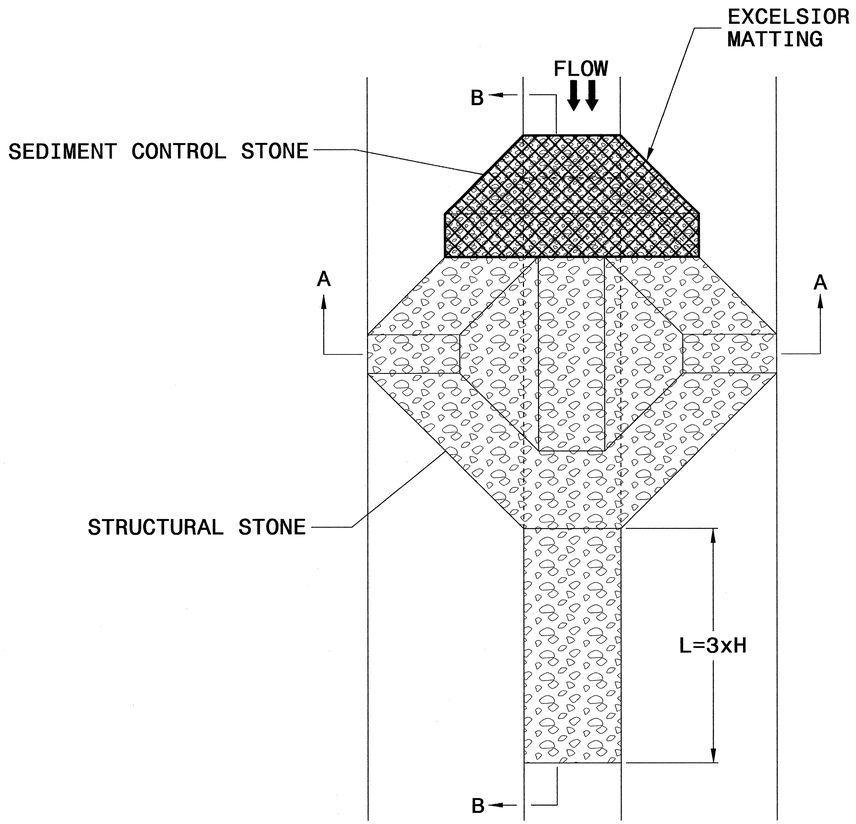
The following roadway english standards as appear in "Roadway Standard Drawings"– Roadway Design Unit – N. C. Department of Transportation – Raleigh, N. C., dated January 2012 and the latest revison thereto are applicable to this project and by reference hereby are considered a part of these plans.

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		

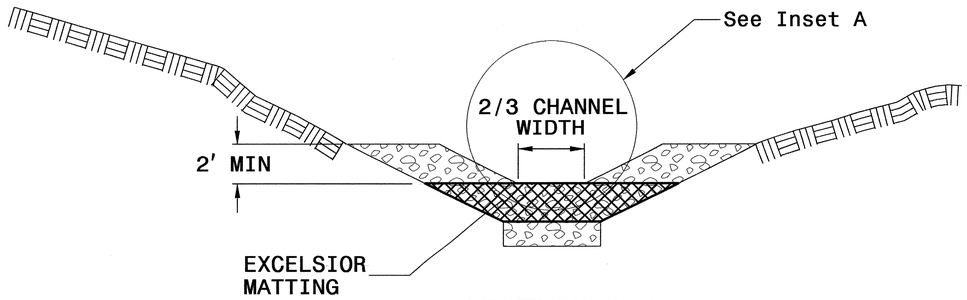
08-JUL-2013 07:19
R:\Environmental\Design\B-4799_EC_tsh.dgn
wjchandler: A1 REN\247778

PROJECT REFERENCE NO.	SHEET NO.
B-4799	EC-2
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



PLAN



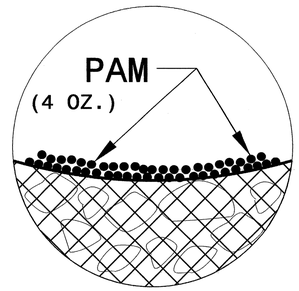
SECTION A-A

NOTES

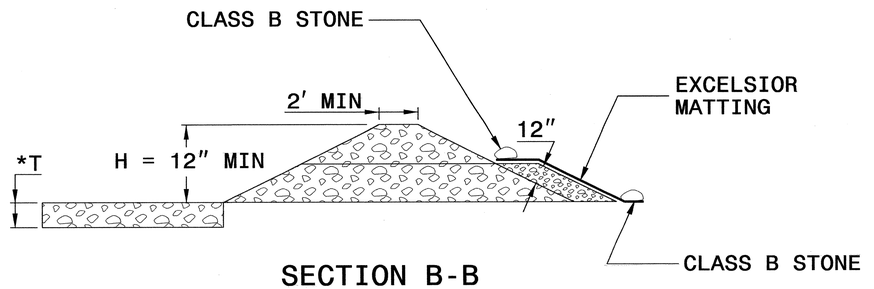
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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



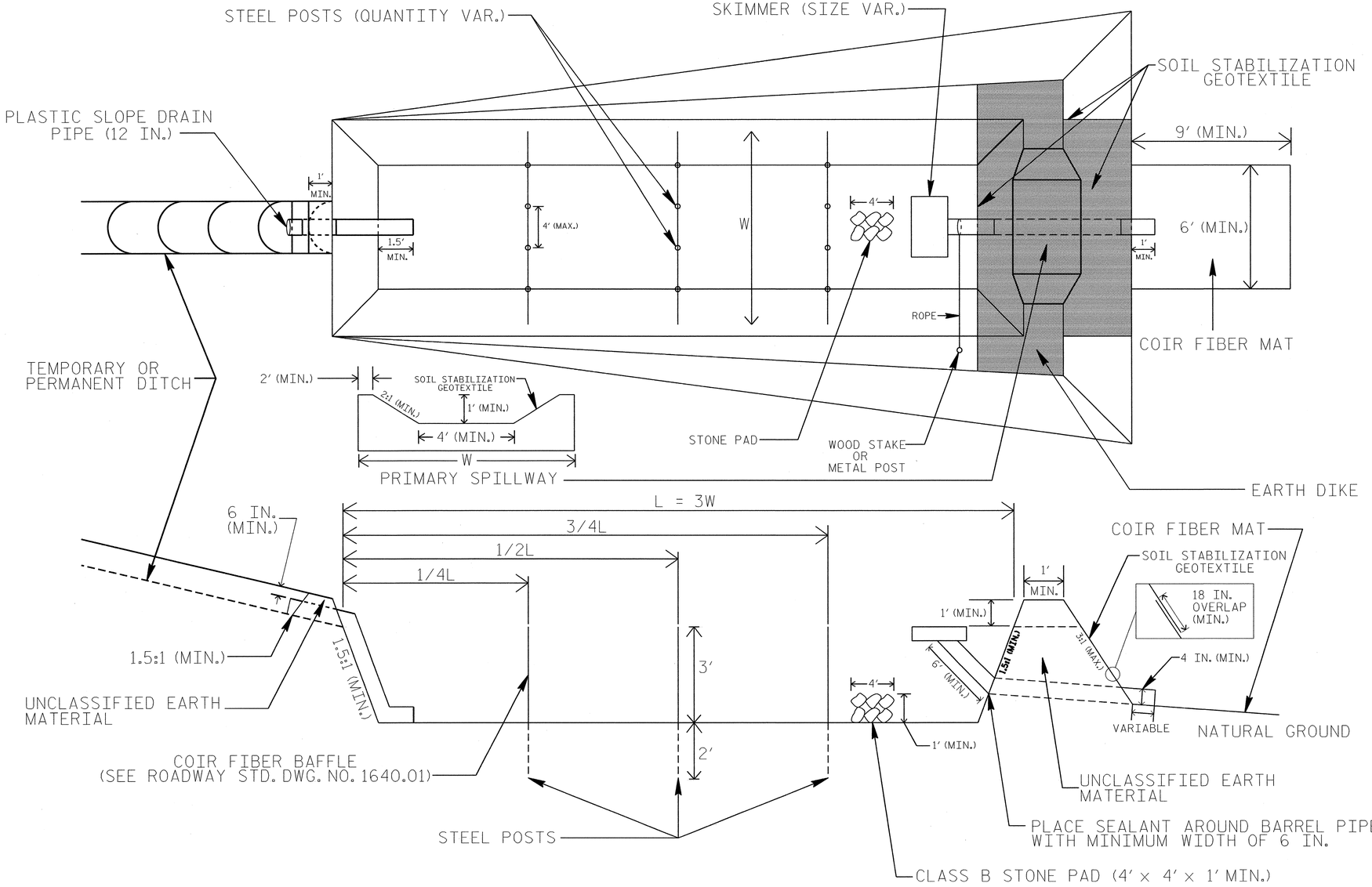
SECTION B-B

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

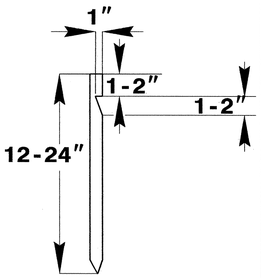
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4799	EC-2A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

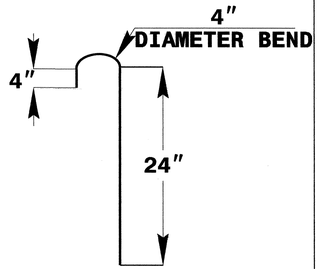
SKIMMER BASIN WITH BAFFLES DETAIL



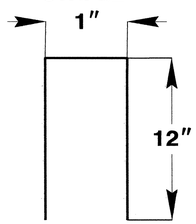
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

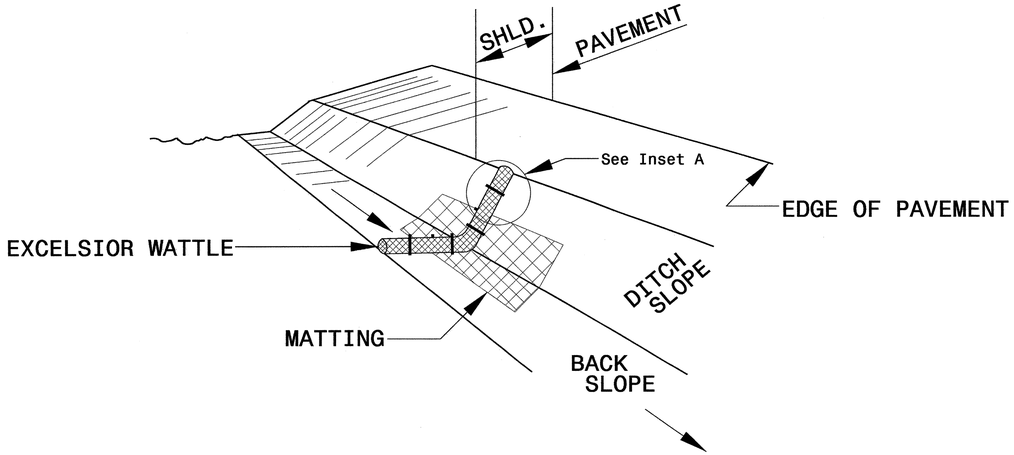
NOTES

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.).

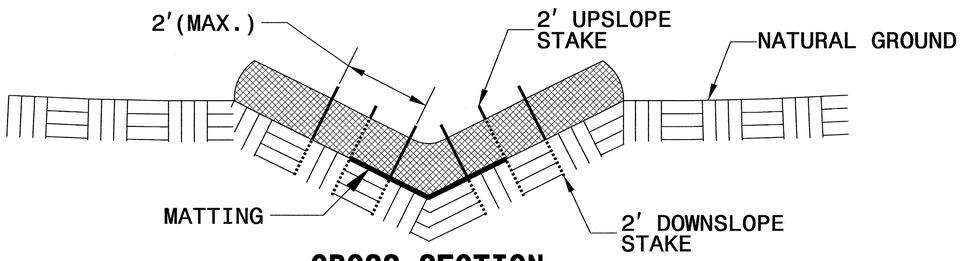
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4799	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

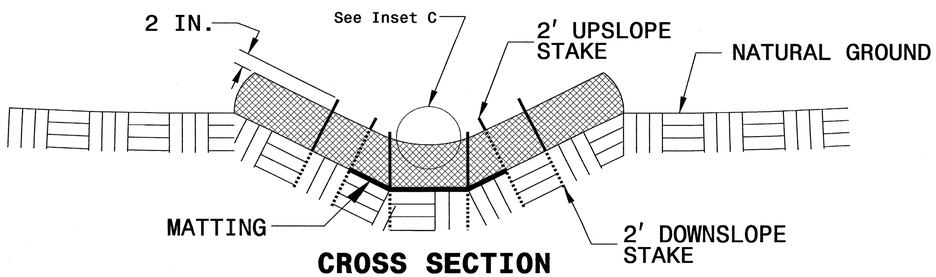
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

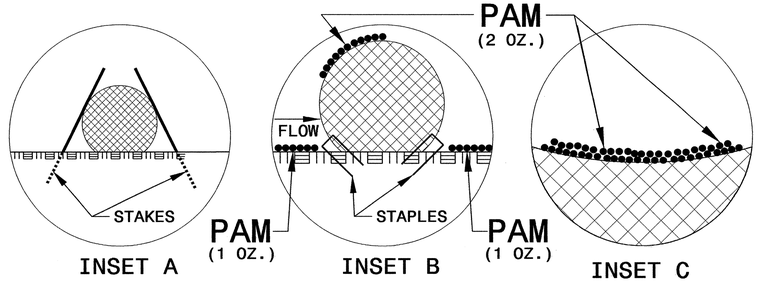
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

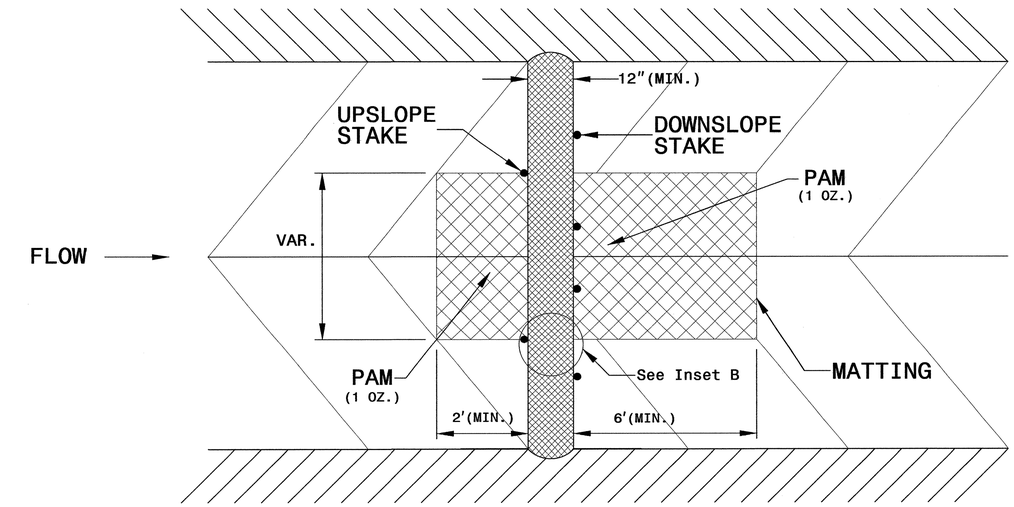
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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-4799	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-	11+67.75	14+00	LT	245
				SUBTOTAL	245
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					7830
				TOTAL	8075
				SAY	8100

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)

PROJECT REFERENCE NO.	SHEET NO.
B-4799	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.

5/14/99

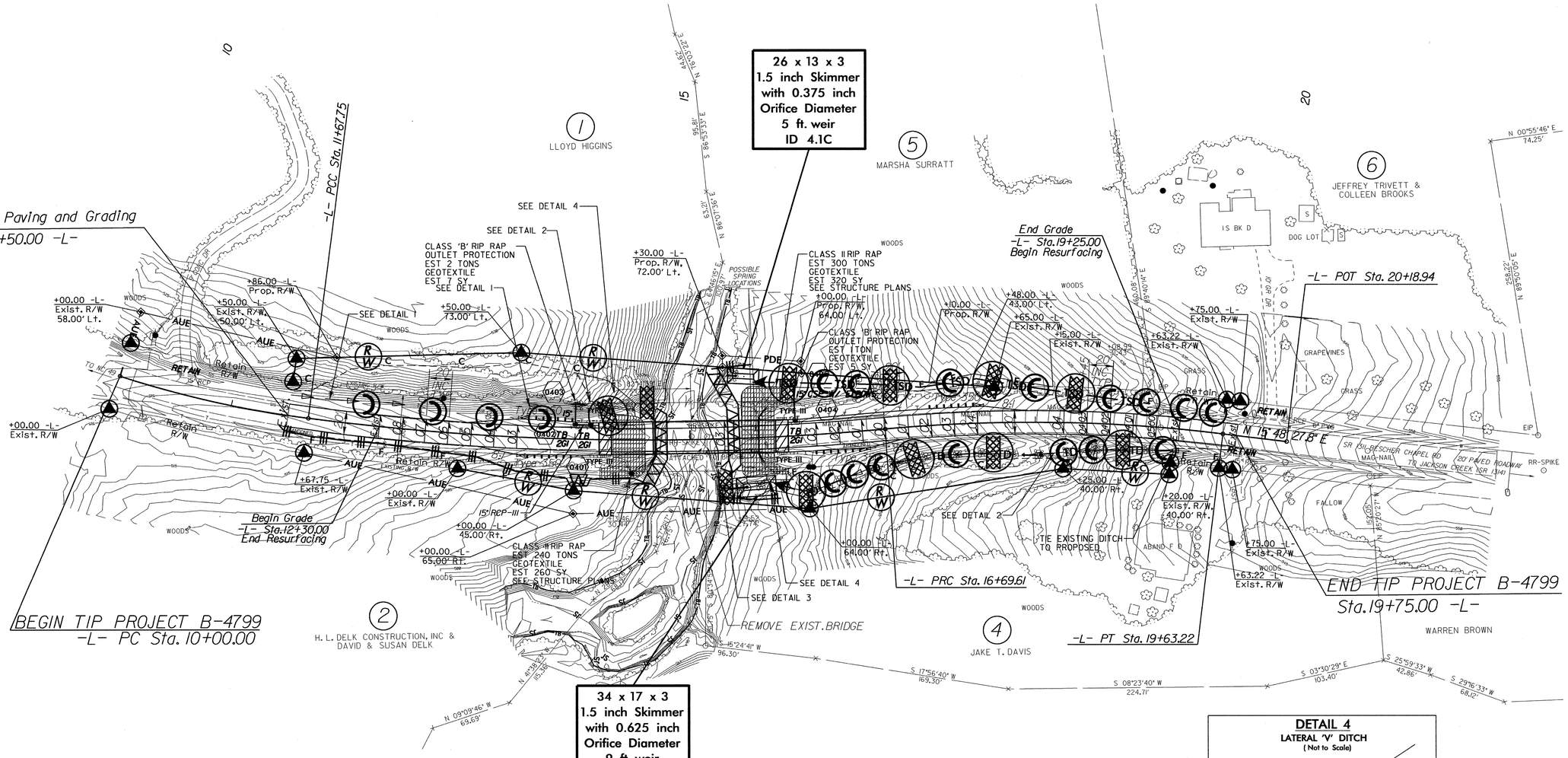
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

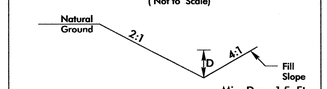
NOTE:
UTILIZE TEMPORARY SEDIMENT BASIN OR SPECIAL STILLING BASIN(S) AS STILLING BASIN WHERE APPLICABLE.

PROJECT REFERENCE NO.	SHEET NO.
B-4799	EC-4/CONST.4
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NAD 83/CORS 96



DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

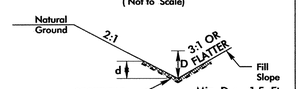


Min. D= 1.5 Ft.

Type of Liner= None

FROM STA. 11+50 TO STA. 12+50 -L- (LT)
FROM STA. 13+50 TO STA. 14+00 -L- (LT)

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



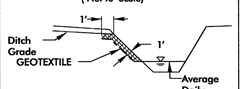
Min. D= 1.5 Ft.
Min. d= 1.0 Ft.

Type of Liner= Class 'B' Rip Rap

FROM STA. 14+00 TO STA. 14+20 -L- (LT)
CL 'B' RIP RAP 8 TONS, GEOTEXTILE 25 SY

FROM STA. 15+85 TO STA. 19+25 -L- (RT)
CL 'B' RIP RAP 142 TONS, GEOTEXTILE 422 SY

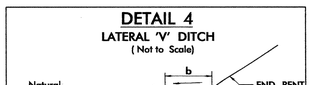
DETAIL 3
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class 'B' Rip Rap

STA. 15+24 -L- (RT)
CL 'B' RIP RAP 3 TONS, GEOTEXTILE 5 SY

DETAIL 4
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.5 Ft.
Max. d= 1.0 Ft.
b= 5.0 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 14+20 TO STA. 14+50 -L- (LT)
CL 'B' RIP RAP 19 TONS, GEOTEXTILE 58 SY, DDE 83 CY

FROM STA. 15+24 TO STA. 15+85 -L- (RT)
CL 'B' RIP RAP 21 TONS, GEOTEXTILE 64 SY, DDE 104 CY

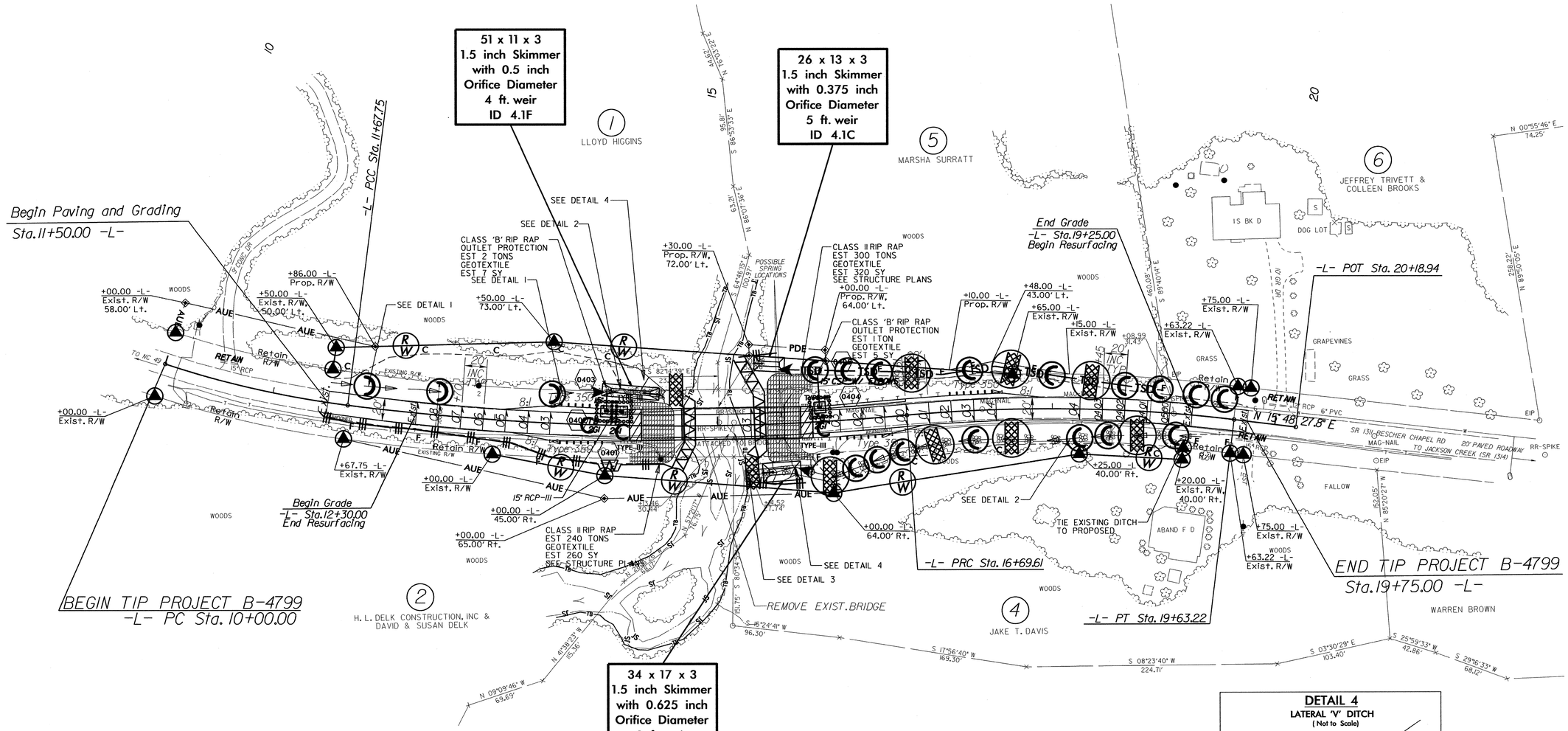
01-JUL-2013 11:03
R:\Environmental\Design\B-4799_EC_psh.dgn
"johnpar" AT REN\247776

5/14/99

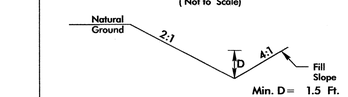
PROJECT REFERENCE NO.	SHEET NO.
B-4799	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

NAD 83/CORS 96



DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

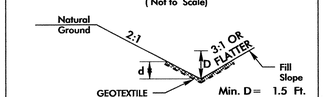


Min. D= 1.5 Ft.

Type of Liner= None

FROM STA. 11+50 TO STA. 12+50 -L- (LT)
FROM STA. 13+50 TO STA. 14+00 -L- (LT)

DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)

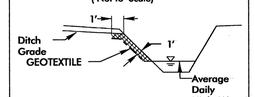


Min. D= 1.5 Ft.
Min. d= 1.0 Ft.

Type of Liner= Class 'B' Rip Rap

FROM STA. 14+00 TO STA. 14+20 -L- (LT)
CL 'B' RIP RAP 8 TONS, GEOTEXTILE 25 SY
FROM STA. 15+85 TO STA. 19+25 -L- (RT)
CL 'B' RIP RAP 142 TONS, GEOTEXTILE 422 SY

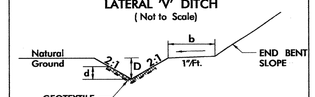
DETAIL 3
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class 'B' Rip Rap

STA. 15+24 -L- (RT)
CL 'B' RIP RAP 3 TONS, GEOTEXTILE 5 SY

DETAIL 4
LATERAL 'V' DITCH
(Not to Scale)



Min. D= 1.5 Ft.
Max. d= 1.0 Ft.
b= 5.0 Ft.

Type of Liner= Class 'B' Rip-Rap

FROM STA. 14+20 TO STA. 14+50 -L- (LT)
CL 'B' RIP RAP 19 TONS, GEOTEXTILE 58 SY, DDE 83 CY

FROM STA. 15+24 TO STA. 15+85 -L- (RT)
CL 'B' RIP RAP 21 TONS, GEOTEXTILE 64 SY, DDE 104 CY

01-JUL-2013 11:04
R:\Environmental\Design\B-4799_EC.psh.dgn
wjohnson1 on WINDOWS7PC

TIP NO.	SHEET NO.
B-4799	SIGN-1

APPROVED: [signature]
DATE: 6/27/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SIGNING PLAN
RANDOLPH COUNTY

LOCATION: Bridge #37 over Jackson Creek on SR 1311 (Bescher Chapel Road)

T.I.P.: B-4799

CONTRACT: C203250

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	63	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: 1
SIGN WIDTH: 3'-6"
HEIGHT: 2'-0"
TOTAL AREA: 7.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 3"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

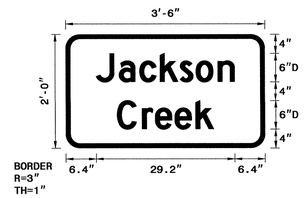
SYMBOL	X	Y	WID	HT

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-4799
CHECKED BY: S.KUNZ
DIV: 8
DATE: Mar 26, 2013



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

									Series/Size Text Length
	J	a	c	k	s	o	n		D 2000
6.4	4.9	4.3	4.3	4.2	3.4	4.6	3.5	6.4	29.2
	C	r	e	e	k				D 2000
10.8	5.3	2.8	4.1	4.4	3.8	10.8			20.4

FILENAME: b-4799SgnDesigns

NORTH CAROLINA D.O.T. SIGN DETAIL

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

PROJECT NOTES

1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, SIGN DESIGN, & NOTES
SIGN-2	SIGN DETAIL SHEET

27-JUN-2013 15:16
P:\TIPProjects-B\B4799\Traffic\Signing\CADD\Signing Layout Plans\TitlesheetB-4799.dgn
sjohns AT TE247957

TIP NO.	SHEET NO.
B-4799	SIGN-2

APPROVED: _____

DATE: 6/27/13

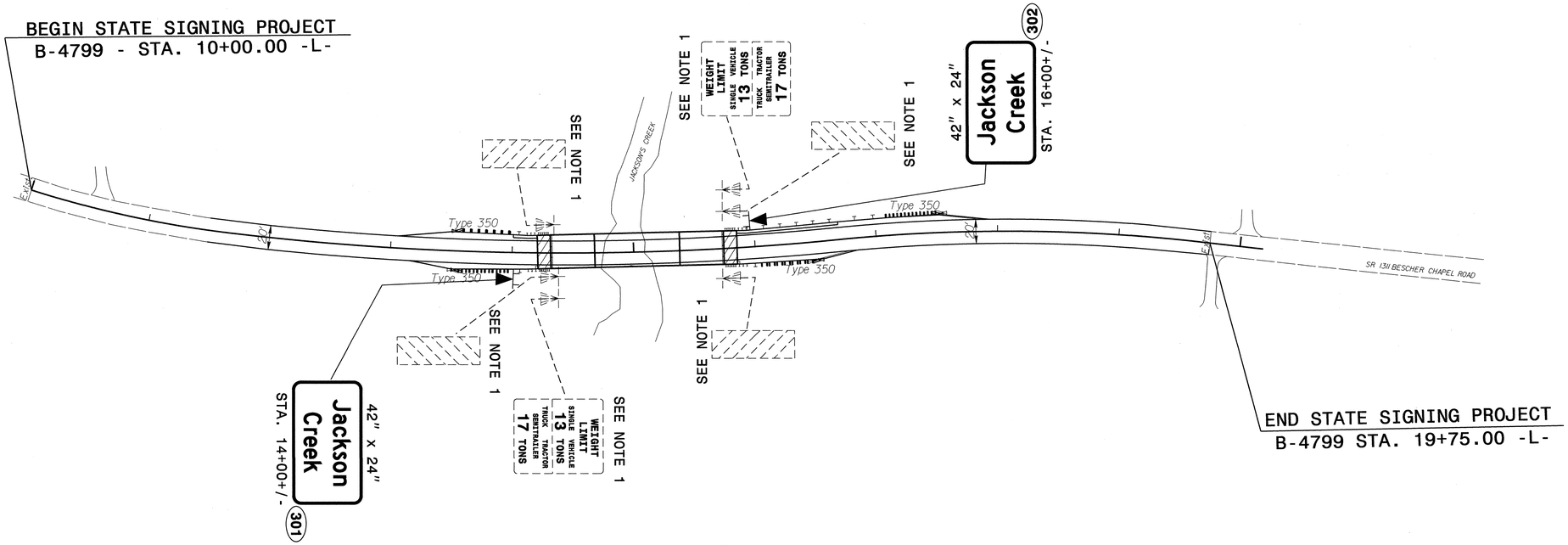
SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

NAD 83/CORS96 NC GRID

10 15 20

BEGIN STATE SIGNING PROJECT
B-4799 - STA. 10+00.00 -L-



END STATE SIGNING PROJECT
B-4799 STA. 19+75.00 -L-

PAY ITEM NOTES

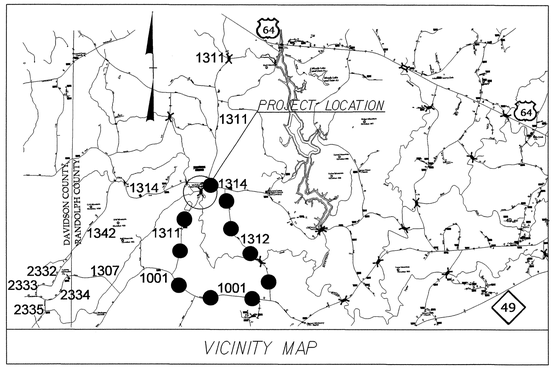
1	DISPOSAL OF SIGN SYSTEM, U-CHANNEL

SIGN DETAIL SHEET

27-JUN-2013 15:17
R:\Projects\B-4799\Traffic\Signing\CADD\Signing Layout Plans\B-4799_Sgn_SGN.dgn
sjohns

09/08/98

TIP PROJECT: B-4799



VICINITY MAP

OFFSITE DETOUR ROUTE

T.I.P. NO.	SHEET NO.
B-4799	UO-1

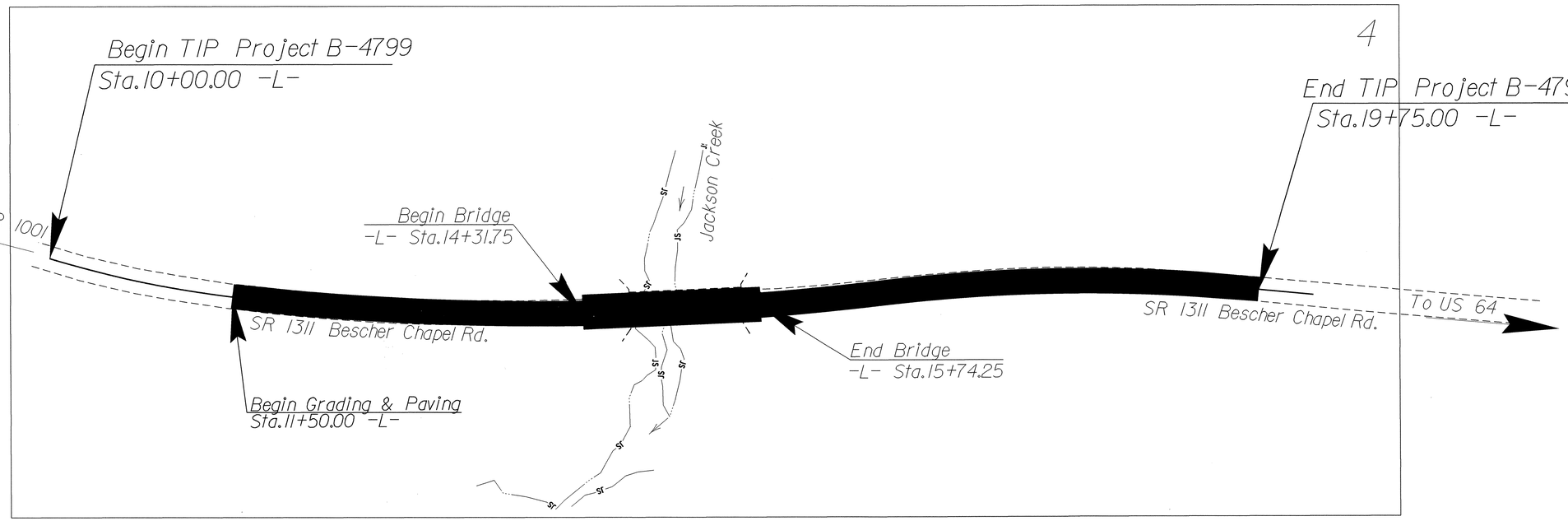
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
RANDOLPH COUNTY

LOCATION: BRIDGE #37 ON SR 1311 (BESCHER CHAPEL ROAD) OVER JACKSON CREEK

NAD 83/CORS 96

TYPE OF WORK: UTILITIES BY OTHER



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

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

UTILITY OWNERS ON PROJECT

(A) ENERGY UNITED POWER – POWER DISTRIBUTION
(B) RANDOLPH TELEPHONE – TELEPHONE

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING
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 A. NIGRO,P.E. *UTILITIES PROJECT DESIGNER*

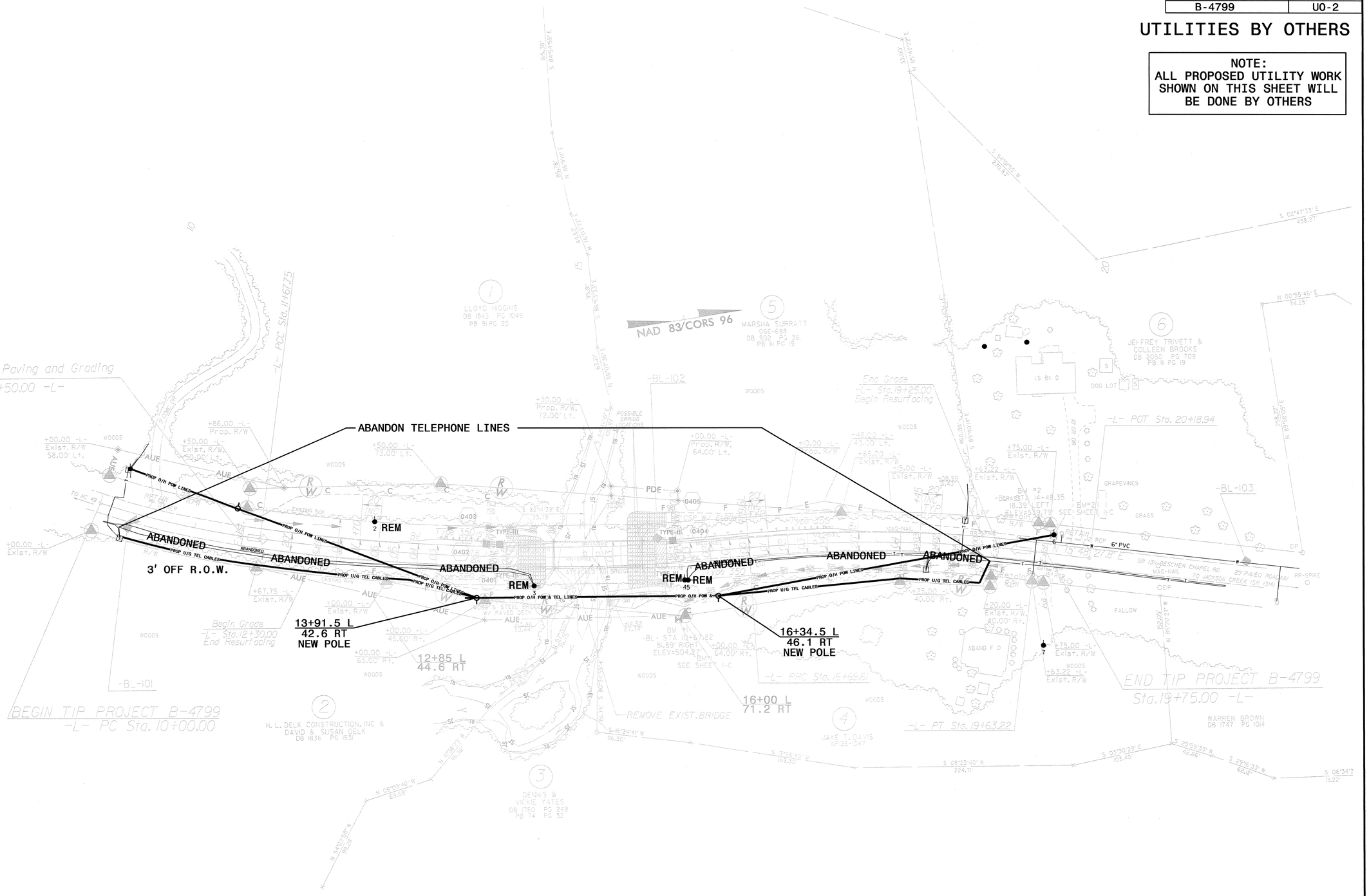
26-JUN-2013 12:05
R:\Utilities\Rdy_Utl\Proj\B4799_Ut_Title_U01_psh.dgn
$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4799	U0-2

UTILITIES BY OTHERS

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



R:\Utilities\Projects\B4799_Ut_4_U02_psh.dgn
26-JUN-2013 14:24
$$$$USERNAME$$$$

CSD265813;7/3/2013;S:\Records\Plot_Rooms\Plotter_room_A\Print_Jobs\07-03-13\KBridges\b-4799xsc_ew_volumes.xls

PROJ. REFERENCE NO.	SHEET NO.
B-4799	X-1

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

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

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+50.00	0	0
11+67.75	1	1
12+00.00	17	4
12+30.00	49	5
12+50.00	49	4
13+00.00	110	20
13+16.31	43	13
13+50.00	180	68
14+00.00	360	223
14+20.00	142	133
14+31.75	0	87
BEGIN BRIDGE -L- STA. 14+31.74		
END BRIDGE -L- STA. 15+74.26		
15+74.25	0	0
15+85.00	0	181
16+00.00	8	252
16+50.00	20	707
16+69.61	7	206
17+00.00	21	256
17+50.00	30	323
18+00.00	12	203
18+50.00	22	82
19+00.00	34	26
19+25.00	9	5
19+50.00	0	2
19+63.22	0	1
19+75.00	0	0

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-2

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

530 525 520 515 510 505

2:1 4:1 511.87 Exist. Exist. 514.97 4:1

12+00.00

530 525 520 515 510 505

2:1 4:1 512.65 Exist. Exist. 515.61 4:1

11+67.75

530 525 520 515 510 505

515.87

11+50.00

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

12-MAR-2013 13:58
R:\Roadway\Corridor Modeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

RD253041 3/12/2013 b4799_rdy_cm_xpl ktbridgers RD-Oce860-34

PROJ. REFERENCE NO.	SHEET NO.
B-4799	X-3

8/23/99

23-JUL-2013 08:58
R:\Roadway\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

RD261647 7/23/2013 b4799_rdy_cm_xpl jlansford RD-Oce860-34

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-4

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

530 525 520 515 510 505 500

2:1

4:1

508.05

0.030

0.030

509.04

2:1

13+50.00

2:1

4:1

508.74

0.047

0.047

510.66

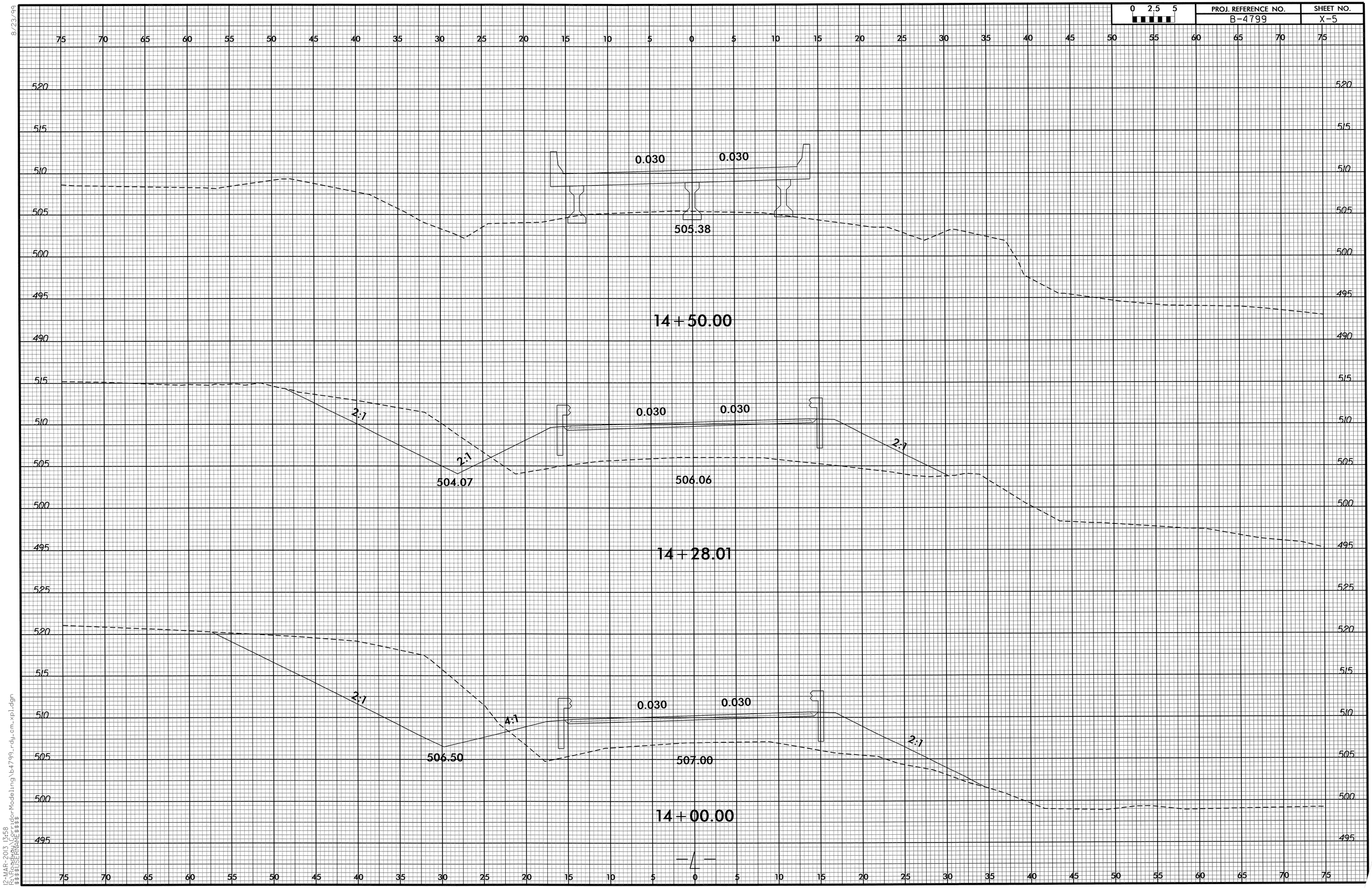
3:1

13+16.31

12-MAR-2013 13:58
R:\Roadway\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

RD253041 3/12/2013 b4799_rdy_cm_xpl2 ktbridgers RD-Oce860-34

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-5



8/23/99

12-MAR-2013 13:58
R:\Roadway\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

RD253041 3/12/2013 b4799_rdy_cm_xpl3 ktbridgers RD-Oce860-34

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-6

0.030 0.030

505.10

15 + 68.00

2:1 2:1

497.61

0.030 0.030

495.11

493.60

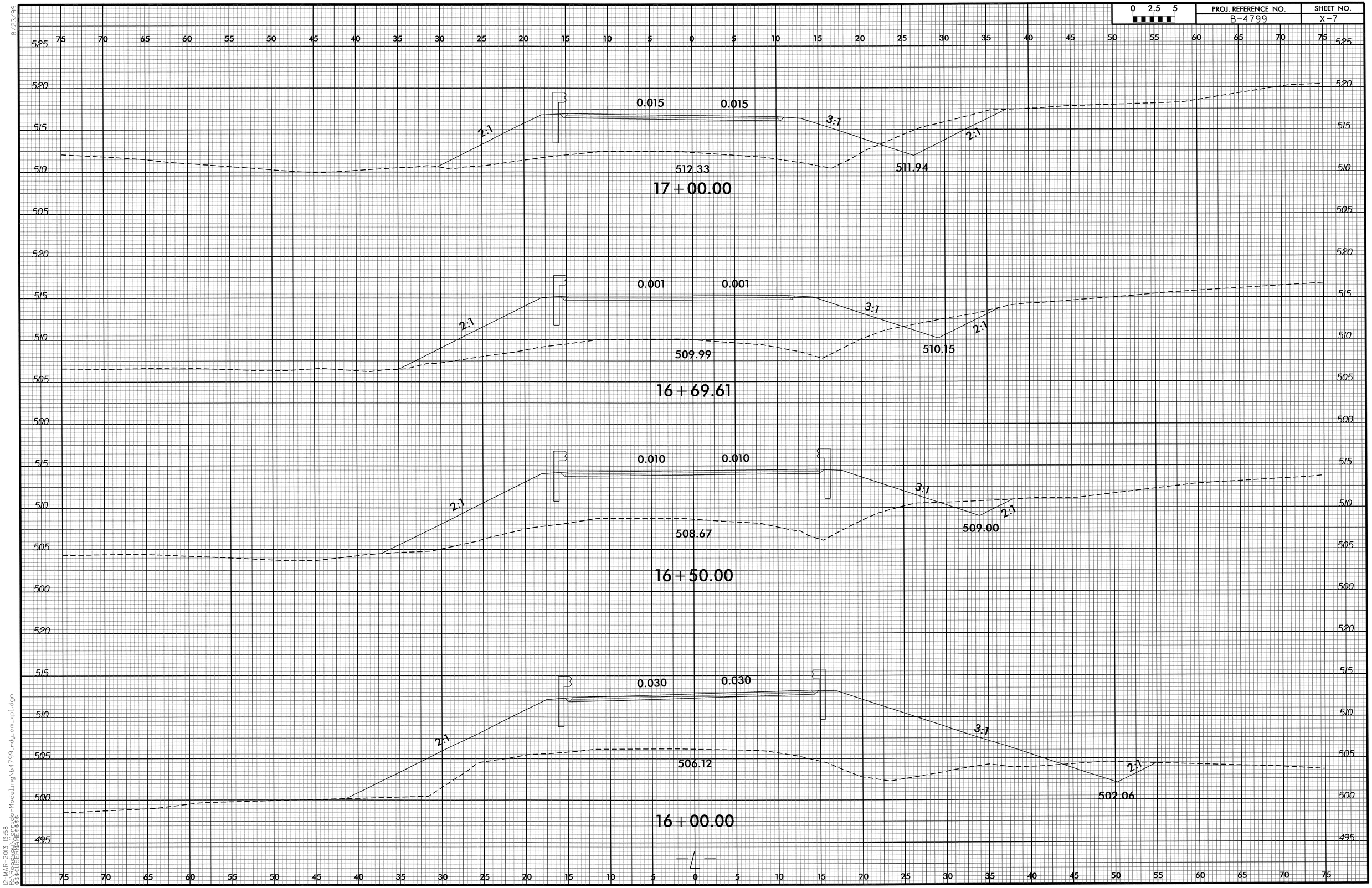
15 + 50.00

0.030 0.030

488.86

15 + 00.00

12-MAR-2013 13:58
R:\Roadway\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$



8/23/99
12-MAR-2013 13:58
R:\Roadway\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-8

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

540 535 530 525 520 515 510

3:1 0.002 0.047 3:1 2:1

532.43

529.72

19+00.00

3:1 0.027 0.040 3:1 2:1

527.03

523.77

18+50.00

3:1 0.040 0.040 3:1 2:1

521.81

517.83

18+00.00

3:1 0.040 0.040 3:1 2:1

516.91

514.89

17+50.00

12-MAR-2013 13:58
R:\Projects\CorridorModeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-9

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

555
550
545
540
535
530
525

2:1 Exist. Exist. 4:1

537.67

19 + 50.00

550
545
540
535
530
525
520
515

3:1 Exist. Exist. 3:1

535.07

19 + 25.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

12-MAR-2013 13:58
R:\Roadway\Corridor Modeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$

RD253041 3/12/2013 b4799_rdy_cm_xpl7 ktbridgers RD-Oce860-34

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4799	X-10

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

555 550 545 540 535 530 525 520 515

540.05

19+75.00

555 550 545 540 535 530 525 520 515

2:1 Exist. Exist. 4:1

539.00

19+63.22

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

12-MAR-2013 13:58
R:\Roadway\Corridor Modeling\b4799_rdy_cm_xpl.dgn
$$$$USERNAME$$$$