See Sheet 1-A For Index of Sheets

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

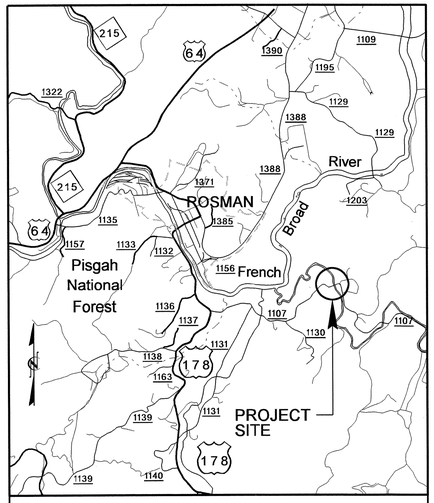
TRANSYLVANIA COUNTY

LOCATION: BRIDGE 85 AND APPROACHES ON SR 1107 OVER EAST FORK FRENCH BROAD RIVER

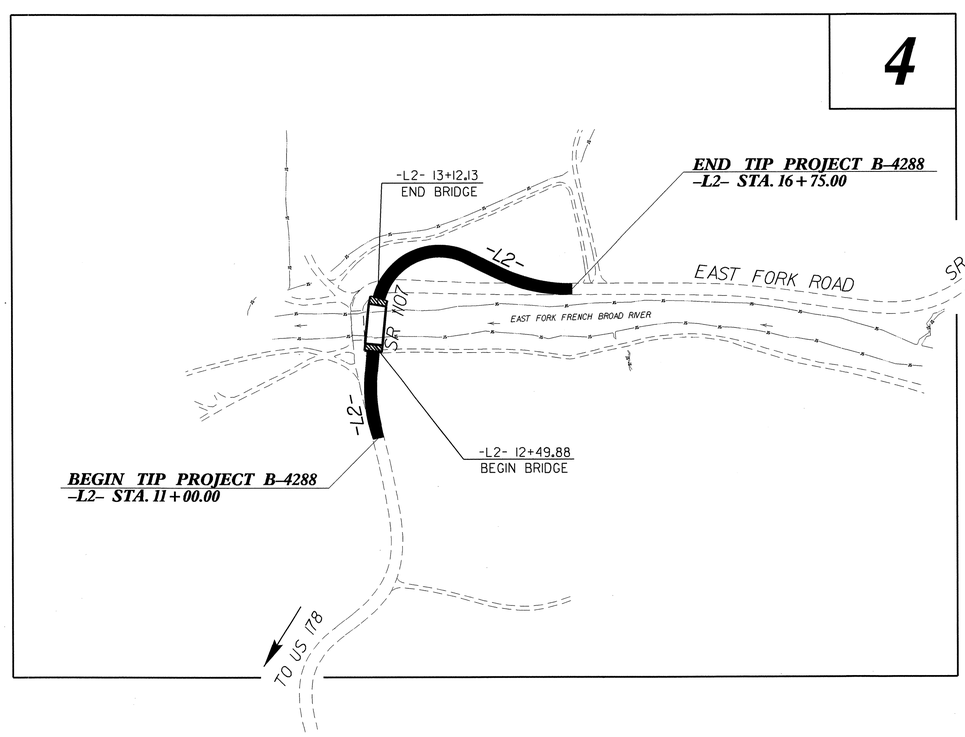
TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4288	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
33627.1.1	BRZ-1107(9)	PE
33627.2.1	BRZ-1107(9)	R/W & UTIL
33627.3.FD1	BRZ-1107(9)	CONSTRUCTION



VICINITY MAP



TIP PROJECT: B-4288

CONTRACT: C202778

09/08/99

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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 = 715
ADT 2034 = 1075
K = 10 %
D = 60 %
T = 5 % *
**V = 20 MPH
* TTST 1% DUAL 4%

RURAL MINOR COLLECTOR
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4288 = 0.097 MILES

LENGTH OF STRUCTURE TIP PROJECT B-4288 = 0.012 MILES

TOTAL LENGTH OF TIP PROJECT B-4288 = 0.109 MILES

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 06, 2013

LETTING DATE:
APRIL 15, 2014

G.E. BREW, PE
PROJECT ENGINEER

I.T. YOUNIS
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 19721 ENGINEER WILLIAM H. ELAM
SIGNATURE: P.E.

ROADWAY DESIGN ENGINEER
1-16-14
NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW
SIGNATURE: P.E.

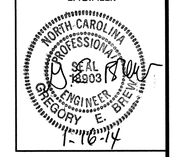
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

STATE OF NORTH CAROLINA

8/17/99

PROJECT REFERENCE NO.	SHEET NO.
B-4288	1-A

ROADWAY DESIGN ENGINEER



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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	CENTERLINE COORDINATE LIST
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	STANDARD TEMPORARY SHORING DETAIL
3-A	SUMMARY OF DRAINAGE QUANTITIES
3-B	SUMMARY OF EARTHWORK, GUARDRAIL SUMMARY, AND SUMMARY OF ASPHALT PAVEMENT REMOVAL
3-C	SUMMARY OF SUBSURFACE DRAINAGE AND SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-7	TRANSPORTATION MANAGEMENT PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL
SIGN-1 THRU SIGN-2	SIGNING PLANS
UO-1 THRU UO-2	UTILITY BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-8	CROSS-SECTIONS
S-1 THRU S-26	STRUCTURE PLANS

GENERAL NOTES

GENERAL NOTES: 2012 SPECIFICATIONS

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

SIDE ROADS:
THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

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 NOT SHOWN ON THE PLANS WILL BE PAID FOR AT THE CONTRACT PRICE FOR "TEMPORARY SHORING".

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:
COMPORIUM COMMUNICATIONS - TELEPHONE/CATV

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

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

LIST OF STANDARD DRAWINGS

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
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
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
422.11	Reinforced Bridge Approach Fills - Sub Regional Tier
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
815.03	Pipe Underdrain and Blind Drain
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.02	Guide for Rip Rap at Pipe Outlets

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PROJECT REFERENCE NO.	SHEET NO.
B-4288	1-B

Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
33627.1.1	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4288
-FINAL-

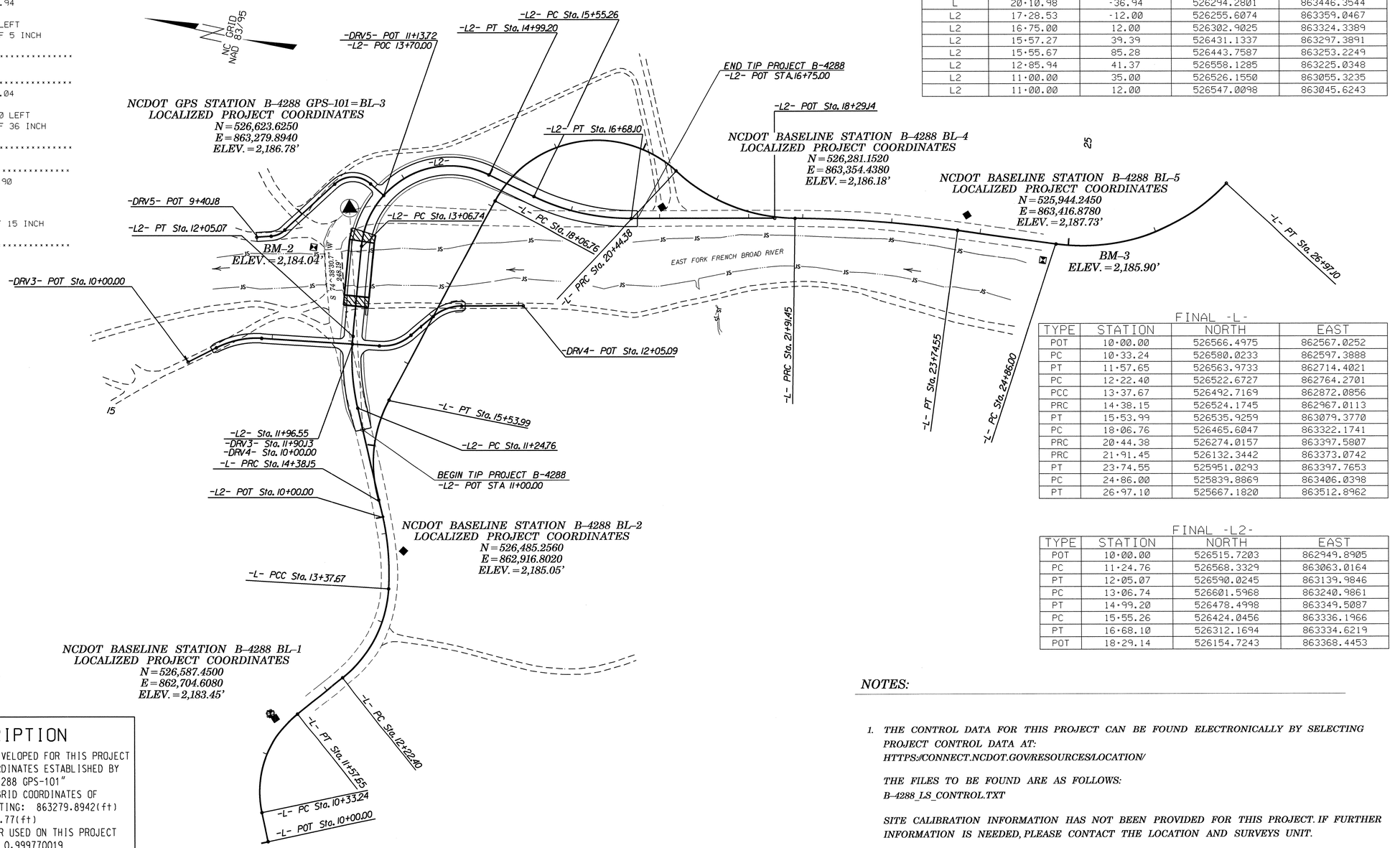
BL

POINT	DESC.	NORTH	EAST	ELEVATION	L2 STATION	OFFSET
1	BL-1	526587.4500	862704.6080	2183.45	15+46.51	652.33 RT
2	BL-2	526485.2560	862916.8020	2185.05	15+70.17	423.13 RT
3	GPS-101	526623.6250	863279.8940	2186.78	13+40.44	24.46 LT
4	BL-4	526281.1520	863354.4380	2186.18	17+02.59	12.86 LT
5	BL-5	525944.2450	863416.8780	2187.73	OUTSIDE PROJECT LIMITS	

BM1 ELEVATION = 2182.94
N 526594 E 862708
-BL- STATION 5+00.78 7.28 LEFT
8 INCH SPIKE SET IN BASE OF 5 INCH WALNUT

BM2 ELEVATION = 2184.04
N 526654 E 863228
-BL- STATION 10+86.82 46.60 LEFT
8 INCH SPIKE SET IN BASE OF 36 INCH WHITE OAK

BM3 ELEVATION = 2185.90
N 525851 E 863385
-BL- STATION 18+17.22
S 18°37'10.44" 98.88'
8 INCH SPIKE SET IN BASE OF 15 INCH LOCUST



-FINAL- ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L2	11+00.00	-36.02	526590.5512	863025.3741
L2	12+44.87	-48.64	526642.8784	863173.9859
L2	13+02.85	-55.62	526656.4130	863230.7945
L2	13+23.14	-107.75	526709.7375	863262.7452
L2	13+70.00	-68.00	526648.1600	863335.6359
L2	14+25.00	-45.00	526572.0472	863379.4633
L2	15+03.48	-58.48	526460.4541	863405.2993
L	19+00.00	-43.00	526434.3385	863431.4997
L	19+75.00	-42.00	526339.8360	863458.0062
L	20+10.98	-36.94	526294.2801	863446.3544
L2	17+28.53	-12.00	526255.6074	863359.0467
L2	16+75.00	12.00	526302.9025	863324.3389
L2	15+57.27	39.39	526431.1337	863297.3891
L2	15+55.67	85.28	526443.7587	863253.2249
L2	12+85.94	41.37	526558.1285	863225.0348
L2	11+00.00	35.00	526526.1550	863055.3235
L2	11+00.00	12.00	526547.0098	863045.6243

FINAL -L-

TYPE	STATION	NORTH	EAST
POT	10+00.00	526566.4975	862567.0252
PC	10+33.24	526580.0233	862597.3888
PT	11+57.65	526563.9733	862714.4021
PC	12+22.40	526522.6727	862764.2701
PCC	13+37.67	526492.7169	862872.0856
PRC	14+38.15	526524.1745	862967.0113
PT	15+53.99	526535.9259	863079.3770
PC	18+06.76	526465.6047	863322.1741
PRC	20+44.38	526274.0157	863397.5807
PRC	21+91.45	526132.3442	863373.0742
PT	23+74.55	525951.0293	863397.7653
PC	24+86.00	525839.8869	863406.0398
PT	26+97.10	525667.1820	863512.8962

FINAL -L2-

TYPE	STATION	NORTH	EAST
POT	10+00.00	526515.7203	862949.8905
PC	11+24.76	526568.3329	863063.0164
PT	12+05.07	526590.0245	863139.9846
PC	13+06.74	526601.5968	863240.9861
PT	14+99.20	526478.4998	863349.5087
PC	15+55.26	526424.0456	863336.1966
PT	16+68.10	526312.1694	863334.6219
POT	18+29.14	526154.7243	863368.4453

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B4288 GPS-101" WITH NAD 83/95 STATE PLANE GRID COORDINATES OF NORTHING: 526623.6252(ft) EASTING: 863279.8942(ft) ELEVATION: 2186.77(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999770019
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B4288 GPS-101" TO -L2- STATION 11+00.00 IS S 74°38'30.5 W 248.19
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTE: DRAWING NOT TO SCALE

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS: B-4288_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.

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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CENTERLINE COORDINATE LIST

Point #	Chain	Station	Northing(Y)	Easting(X)
1	L2	10+00.00	526515.7203	862949.8905
2	L2	11+00.00	526557.8906	863040.5639
3	L2	12+00.00	526589.3959	863134.9505
4	L2	13+00.00	526600.8301	863234.2943
5	L2	14+00.00	526570.5737	863325.3858
6	L2	15+00.00	526477.7218	863349.3185
7	L2	16+00.00	526379.8657	863329.5071
8	L2	17+00.00	526280.9806	863341.3221

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PROJECT REFERENCE NO.	SHEET NO.
B-4288	2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 12903 ENGINEER GREGORY E. BRETT
1-16-14

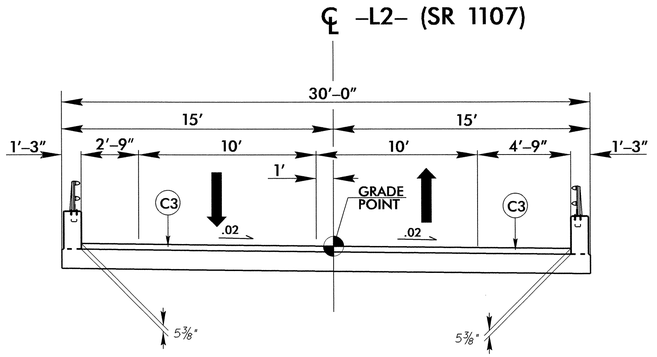
PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22966 ENGINEER CLARK S. MORRISON
11/24/14

FINAL PAVEMENT SCHEDULE

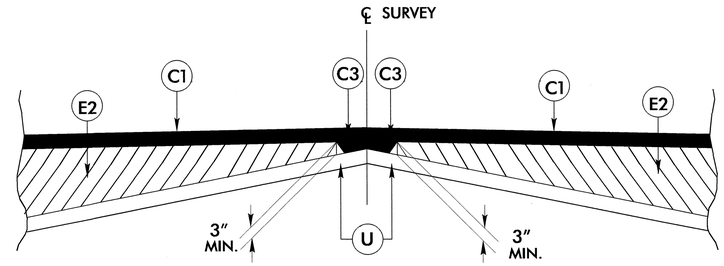
C1	PROP. APPROX. 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD.
C2	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.50 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 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.
J	6" AGGREGATE BASE COURSE.
P	PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YD.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT.

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

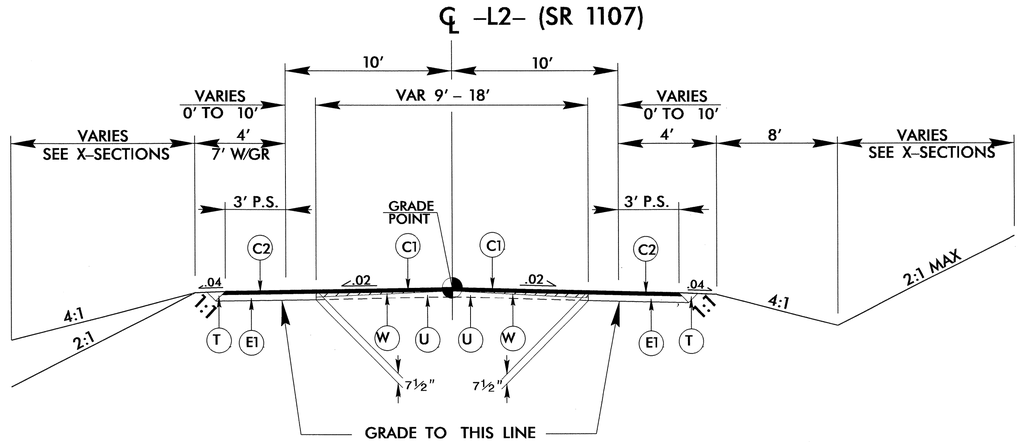


TYPICAL SECTION ON STRUCTURE

–L2– STA. 12+49.88 TO 13+12.13



Detail Showing Method of Wedging



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

–L2– STA. 11+00.00 TO 11+25.00, TRANSITION FROM EXIST. TO T.S. 1

–L2– STA. 11+25.00 TO 12+00.00

–L2– STA. 16+00.00 TO 16+75.00

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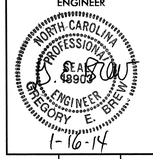
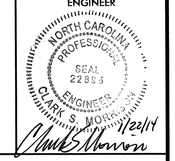
PROJECT REFERENCE NO.	SHEET NO.
B-4288	2-A

ROADWAY DESIGN ENGINEER

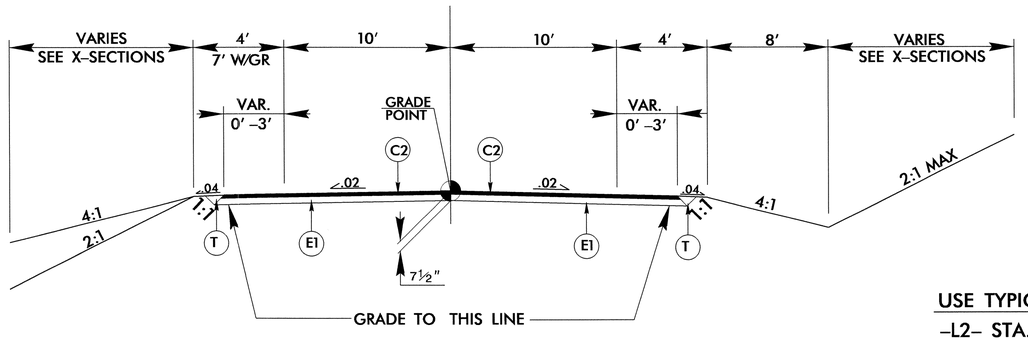


PAVEMENT DESIGN ENGINEER



C1	1¼" SF9.5A
C2	2½" SF9.5A
C3	VAR. SF9.5A
E1	5" B25.0B
E2	VAR. B25.0B
J	6" ABC.
P	PRIME COAT
R1	SHOULDER BERM GUTTER.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	WEDGING

℄ –L2– (SR 1107)



USE TYPICAL SECTION NO. 2

–L2– STA. 12+00.00 TO 12+49.88 (BEG. BRIDGE)

–L2– STA. 13+12.13 (END BRIDGE) TO 16+00.00

TYPICAL SECTION NO. 2

℄ –DRV3– & –DRV4– & –DRV5–

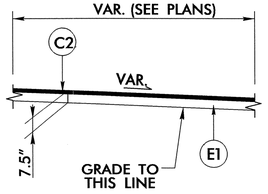
USE TYPICAL SECTION NO. 3

–DRV3– STA. 10+30.00 TO 11+80.13

–DRV4– STA. 10+10.00 TO 11+40.00

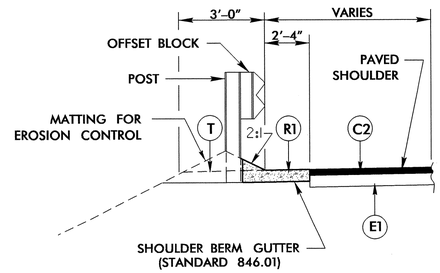
* –DRV5– STA. 9+70.00 TO 10+85.12

TYPICAL SECTION NO. 3



ROADWAY
USE FOR TEMPORARY TIE–IN

REMARKS
SEE TMP FOR LOCATION



DETAIL SHOWING SHOULDER BERM GUTTER

USE WITH TYPICAL SECTION NO. 2

–L2– STA. 12+30.00 TO 12+38.88 RIGHT

06-JAN-2014 14:52
R:\Roadway Proj\b4288_rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET
B-4288	2-B

GEOTECHNICAL ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 022246 ENGINEER SCOTT A HIDDEN

Scott A. Hidden 7/22/13
SIGNATURE DATE

ENGINEER

SIGNATURE DATE

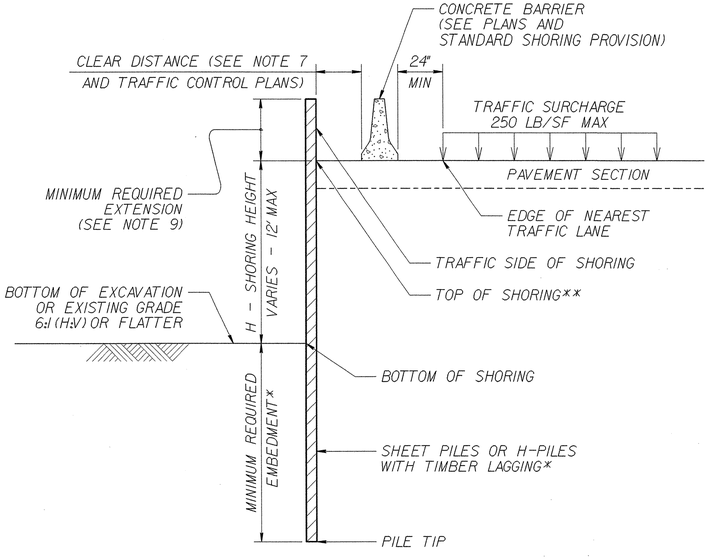
GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT					SURCHARGE CASE WITH TRAFFIC IMPACT				
		SHEET PILES		H-PILES WITH TIMBER LAGGING			SHEET PILES		H-PILES WITH TIMBER LAGGING		
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN^3/FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)			MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN^3/FT)	MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)		
				HP 10x42	HP 12x53	HP 14x73			HP 10x42	HP 12x53	HP 14x73
GROUNDWATER ELEVATION BEWTEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5
	8	15.0	10.0	--	15.0	15.0	18.0	17.0	--	15.5	15.5
	9	17.0	14.0	--	17.0	17.0	19.0	20.0	--	17.0	17.0
	10	18.5	19.5	--	--	18.5	20.0	23.5	--	--	18.5
	11	20.5	26.0	--	--	--	21.0	28.0	--	--	20.0
	12	22.5	33.0	--	--	--	22.0	33.0	--	--	21.5
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5
	9	11.0	9.5	--	12.0	12.0	13.5	16.5	--	12.5	12.5
	10	12.5	13.0	--	--	13.5	14.0	19.5	--	13.5	13.5
	11	13.5	17.0	--	--	14.5	15.0	22.5	--	--	14.5
	12	15.0	21.5	--	--	16.0	16.0	25.5	--	--	15.5

MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

***DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "--".**

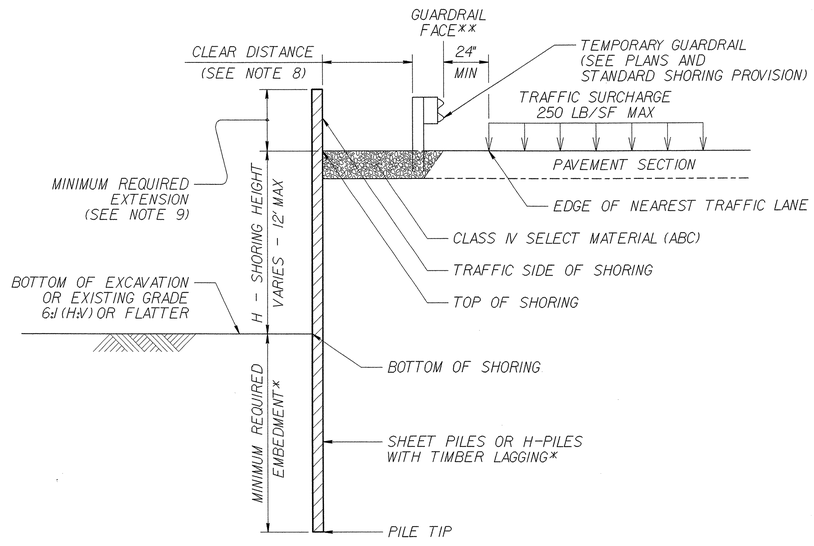
NOTES:

1. AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
2. FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
3. STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
   UNIT WEIGHT, γ = 120 LB/CF
   FRICTION ANGLE, ϕ = 30 DEGREES
   COHESION, c = 0 LB/SF
4. DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
5. DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
6. USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
7. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
8. AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
9. MINIMUM REQUIRED EXTENSION IS 6" FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32" FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
10. MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
11. SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM: connect.ncdot.gov/resources/Geological/Pages/Geotech_Forms_Details.aspx
12. CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.



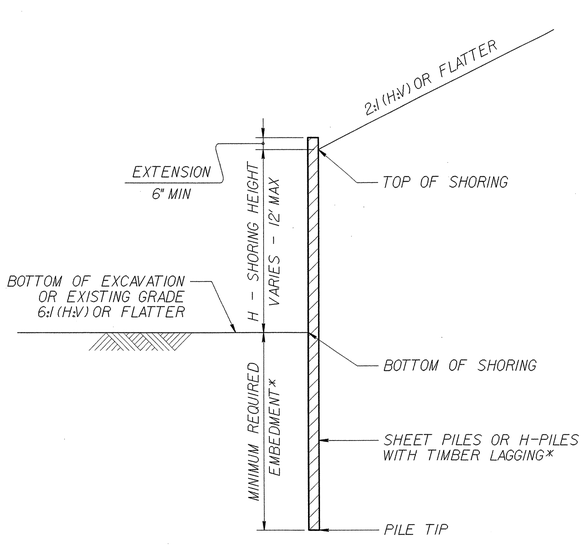
CONCRETE BARRIER

****TOP OF SHORING = EDGE OF PAVEMENT**



TEMPORARY GUARDRAIL

****GUARDRAIL FACE = EDGE OF PAVEMENT**



STANDARD TEMPORARY SHORING

(SLOPE CASE)

***SEE TABLE ABOVE.**

STANDARD TEMPORARY SHORING

(SURCHARGE CASE)

***SEE TABLE ABOVE.**

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL ENGINEERING UNIT

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

STANDARD DRAWING NO. 1801.01

STANDARD TEMPORARY SHORING

DATE: 11-19-13

COMPUTED BY:	TRH	DATE:	12/19/2013
CHECKED BY:	IY	DATE:	12/19/2013

PROJECT NO.	SHEET NO.
B-4288	3-A

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

R0261649

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

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

STATION	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) 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
								THICKNESS OR GAUGE											
-L2-																			
11+97	RT	403																	
12+35	RT	401		2186.1															
12+35	RT	401	402		2183.2	2182.8			16										
PROJECT TOTALS									16										

STATION	C.S. PIPE 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE	.064	.064	.064	.064	.079	.079	.109	.109																
-L2-																								
11+97																								
12+35																								
12+35																								
PROJECT TOTALS																								

STATION	*** R.C. PIPE (CLASS V)	**** RC PIPE CULVERTS, CONTRACTOR DESIGN	***** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS	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	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	G.D.I. FRAME WITH TWO GRATES STD. 840.29	T.B.D.I. STD. 840.35
-L2-																			
11+97					20														
12+35							1										1	1	
12+35																			
PROJECT TOTALS					20		1										1	1	

STATION	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
-L2-					
11+97					
12+35					
12+35					OUTLET
PROJECT TOTAL					

ABBREVIATIONS

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

COMPUTED BY: TRH 12/19/2013
CHECKED BY: IY 12/19/2013

PROJECT NO.	SHEET NO.
B-4288	3-B

RD223184

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

CUBIC YARDS

Station to Station		Uncl. Exc. C.Y.	Embank. +% C.Y.	Borrow C.Y.	Waste C.Y.
SUMMARY NO. 1					
PHASE 1					
-L2- 11+00.00	12+49.88	79	13		66
-L2- 13+12.13	16+75.00	65	481	416	
-DRV3- 10+50.00	11+50.00	5	20	15	
-DRV4- 10+50.00	11+25.00	9	12	3	
-DRV5- 09+70.00	11+00.00	9	90	81	
PHASE 2					
-L2- 13+12.13	16+00.00	437			437
SUMMARY NO. 1 TOTALS		604	616	515	503
PROJECT SUB TOTAL		604	616	515	503
LOSS DUE TO CLEARING & GRUBBING		-1		1	
WASTE IN LIEU OF BORROW				-66	-66
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				23	
GRAND TOTALS		603		473	437
SAY		625		500	

CLASS IV SUBGRADE STABILIZATION = 125 TONS
ESTIMATED SHALLOW UNDERCUT = 130 CY
ESTIMATED UNDERCUT = 100 CY
ESTIMATED SELECT GRANULAR MATERIAL = 100 CY

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

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

SUMMARY OF ASPHALT PAVEMENT REMOVAL

LINE	Station to Station	LOC LT/RT/CL	Asphalt Removal SQ. YDS.
-L2-	11+46 to 12+56	LT	147.10
-L2-	12+99 to 16+62	LT/RT	636.79
	PROJECT TOTAL		783.89
		SAY	790.00

GUARDRAIL SUMMARY

"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

LINE	BEG. STA.	END STA.	LOC.	LENGTH (FT.) STRAIGHT	LENGTH (FT.) SHOP CURVED	LENGTH (FT.) DOUBLE FACED	WARRANT POINT APPR. END	WARRANT POINT TRAIL. END	"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLARE LENGTH APPR. END	FLARE LENGTH TRAIL. END	W APPR. END	W TRAIL. END	ANCHORS GRAU 350-TL-2	ANCHORS TYPE III	ANCHORS TEMP. GRAU 350-TL-2	IMP. ATTEN. TYPE 350 EA	IMP. ATTEN. TYPE 350 G	IMP. ATTEN. TYPE 350 NG	REMOVE EXISTING GUARDRAIL	REMARKS
-L2-	12+06.13	12+49.88	LT	43.75				12+49.88	4'	7'		25'		1'	1	1						Guardrail length shortened due to Drive
-L2-	12+06.13	12+49.88	RT	43.75			12+49.88		4'	7'	25'		1'		1	1						Guardrail length shortened due to Drive
-L2-	13+12.13	13+55.88	LT	43.75			13+12.13		4'	7'	25'		1'		1	1						Guardrail length shortened due to Drive
-L2-	13+12.13	13+62.13	RT	50				13+12.13	4'	7'		25'		1'	1	1						
		SUBTOTALS		181.25											4	4						SUBTOTALS
DEDUCTION FOR ANCHOR UNITS		(4 GRAU 350 TL-2 @25')		-100																		
		(4 TYPE III @18.75')		-75																		
		PROJECT TOTAL		6.25											4	4						PROJECT TOTAL
			SAY	12.5																		
TEMPORARY GUARDRAIL																						
-L2-	12+06.00	13+56.00	LT	150.0							25'	25'	1'	1'			2					SEE STRUCTURE & TMP PLANS FOR LOCATION
DEDUCTION FOR ANCHOR UNITS		(2 GRAU 350 TL-2 @25')		-50																		
		PROJECT TOTAL		100.0													2					
ADDITIONAL GUARDRAIL POSTS= 5 EA																						

COMPUTED BY: TRH	DATE: 12/12/13
CHECKED BY: IY	DATE: 12/17/13

PROJECT NO.	SHEET NO.
B-4288	3-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF SUBSURFACE DRAINAGE

LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF
CONTINGENCY				UD	100
				TOTAL LF:	100

*UD = Underdrain
*BD = Blind Drain
*SD = Subsurface Drain

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			AST		130	125	100		
ESTIMATED FOR EROSION CONTROL							100		
			TOTAL CY/TONS/SY:		130	125	200	0	0

*ASU = Aggregate Subgrade
*AST = Aggregate Stabilization

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4288	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW

1-15-14

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 19721 ENGINEER WILLIAM ELAM

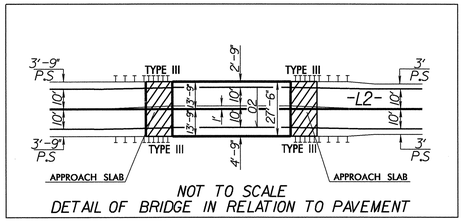
1-15-14

SEE SHEETS S-1 THRU S-26 FOR STRUCTURE PLANS

FOR TEMPORARY SHORING & TEMPORARY GUARDRAIL LOCATIONS, SEE TRANSPORTATION MANAGEMENT PLANS

SEE SHEET 5 FOR PROFILES OF –L2–, –DRV3–, –DRV4–, –DRV5–

NOTE:
PROPOSED BRIDGE TO BE PHASED CONSTRUCTED UTILIZING EXISTING BRIDGE FOR MAINTENANCE OF TRAFFIC. SEE TRAFFIC MANAGEMENT PLANS



NOT TO SCALE
DETAIL OF BRIDGE IN RELATION TO PAVEMENT

-DRV5-

PI Sta 9+65.30	PI Sta 10+77.08
Δ = 39° 03' 37.3" (LT)	Δ = 84° 33' 12.0" (RT)
D = 229° 10' 59.2"	D = 190° 59' 09.4"
L = 17.04'	L = 44.27'
T = 8.87'	T = 27.28'
R = 25.00'	R = 30.00'

-L2-

PI Sta 14+50.28	PI Sta 16+12.66
Δ = 110° 16' 24.5" (RT)	Δ = 25° 51' 42.0" (LT)
D = 57° 17' 44.8"	D = 22° 55' 05.9"
L = 192.46'	L = 112.84'
T = 143.54'	T = 57.40'
R = 100.00'	R = 250.00'
e = SEE PLAN	e = SEE PLAN

-DRV3-

PI Sta 10+62.39
Δ = 30° 08' 24.6" (RT)
D = 57° 17' 44.8"
L = 52.60'
T = 26.93'
R = 100.00'

-L2-

PI Sta 11+65.27
Δ = 18° 24' 21.6" (RT)
D = 22° 55' 05.9"
L = 80.31'
T = 40.50'
R = 250.00'
e = SEE PLAN

-L-

PI Sta 11+02.74
Δ = 63° 38' 33.4" (RT)
D = 51° 09' 25.0"
L = 124.41'
T = 69.50'
R = 112.00'

-L-

PI Sta 12+83.69	PI Sta 13+88.40	PI Sta 14+99.13	PI Sta 19+75.35	PI Sta 21+21.42	PI Sta 22+83.11
Δ = 48° 12' 28.2" (LT)	Δ = 19° 31' 01.1" (LT)	Δ = 44° 14' 45.2" (RT)	Δ = 104° 43' 37.4" (RT)	Δ = 42° 07' 52.7" (LT)	Δ = 6° 59' 38.4" (RT)
D = 41° 49' 18.3"	D = 19° 25' 20.3"	D = 38° 11' 49.9"	D = 44° 04' 25.2"	D = 28° 38' 52.4"	D = 3° 49' 11.0"
L = 115.27'	L = 100.49'	L = 115.84'	L = 237.62'	L = 147.07'	L = 183.10'
T = 61.29'	T = 50.74'	T = 60.98'	T = 168.59'	T = 77.04'	T = 91.66'
R = 137.00'	R = 295.00'	R = 150.00'	R = 130.00'	R = 200.00'	R = 1,500.00'

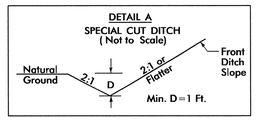
-L-

PI Sta 26+00.47
Δ = 54° 58' 35.4" (LT)
D = 26° 02' 36.7"
L = 211.09'
T = 114.47'
R = 220.00'

-DRV4-

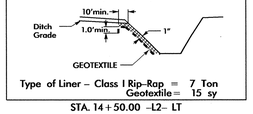
PI Sta 10+50.44	PI Sta 11+19.39
Δ = 43° 46' 42.6" (LT)	Δ = 39° 57' 05.0" (RT)
D = 114° 35' 29.6"	D = 114° 35' 29.6"
L = 38.20'	L = 34.86'
T = 20.09'	T = 18.17'
R = 50.00'	R = 50.00'

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 11+25 TO STA. 11+85 –L2– RT
FROM STA. 12+05 TO STA. 12+50 –L2– RT
FROM STA. 13+15 TO STA. 13+75 –L2– RT
FROM STA. 12+10 TO STA. 12+50 –L2– LT
FROM STA. 13+08 TO STA. 13+50 –L2– LT
FROM STA. 14+50 TO STA. 16+50 –L2– LT

DETAIL B
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner – Class I Rip-Rap = 7 Ton
Geotextile = 15 sy
STA. 14+50.00 –L2– LT

THE WICKWIRE FARM, LLC (5)
D.B. 194 PG. 64
D.B. 225 PG. 236
D.B. 258 PG. 897
D.B. 485 P.G. 851
PLAT FILE #8 - SLIDE #62

HOWARD REESE
D.B.174 PG.615

ROBERT GILLESPIE (3Z)
D.B.185 PG.311

BETTY J. KING (4)
D.B. 542 PG.758
FILE #10 - SLIDE #714

ROBERT GILLESPIE
D.B.185 PG.311

BETTY LANDRETH, et al (2)
D.B. 455 PG. 81

FRANCES G. WALDROP (1Z)
D.B.120 PG.274

FRANCES G. WALDROP
D.B.120 PG.274

D.B.205 PG.731 FILE #5 - SLIDE #145 REBA G. KING

UTILITIES
HAYWOOD ELECTRIC SERVICE
300 N HAYWOOD ST.
WAYNESVILLE, NC 28786
(828) 452-2334
CITIZENS TELEPHONE CO
225 E. MAIN ST.
BREVARD NC 28712
(828) 884-9011
(828) 884-2111
SYLVAN VALLEY CABLE TV
PO BOX 1177
BREVARD NC 28712
(828) 884-2671

-DRV5- PC 10+49.81
-DRV5- PT 9+73.47
-DRV5- POT 11+13.72
-L2- POC 13+70.00
-DRV5- PT 10+94.08
-L2- POC 13+23.05
END APPROACH SLAB
BEGIN CONSTRUCTION
-DRV5- POC 9+70
-DRV5- PC 9+56.43
-DRV5- POT 9+40.18
-L2- PT Sta. 12+05.07
-DRV3- PT Sta. 10+88.06
-DRV3- PC Sta. 10+35.46
-DRV3- POT Sta. 10+00.00
-L2- PC Sta. 15+55.26
-L2- PT Sta. 14+99.20
-L2- PT Sta. 16+68.10
END TIP PROJECT B-4288
-L2- POT STA.16+75.00
-L- PRC 20+44.38
-L2- POT Sta. 18+29.14
-L- PRC 21+91.45
-L- PC 24+86.00
-L- PT 23+74.55
-L- PC 18+06.76
-L2- PC Sta. 13+06.74
-DRV4- PC Sta. 10+30.35
-DRV4- POT Sta. 12+05.09
-DRV4- POT 11+40
END CONSTRUCTION
-DRV4- PT Sta. 11+36.08
-DRV4- PC Sta. 11+01.21
-DRV4- PT Sta. 10+68.55
-L- PT Sta. 15+53.99
-L2- PC Sta. 11+24.76
-L2- POT 12+49.88
BEGIN BRIDGE
-L2- POT 12+38.88
BEGIN APPROACH SLAB
-L2- Sta. 11+96.55
-DRV3- Sta. 11+90.13
-DRV4- Sta. 10+00.00
BEGIN TIP PROJECT B-4288
-L2- POT STA 11+00.00
-L2- POT Sta. 10+00.00
-L- PRC 14+38.15
-L- PCC 13+37.67
-L- PC 12+22.40
-L- PT 11+57.65
-L2- PT Sta. 14+99.20
-L2- PC Sta. 15+55.26
-L2- POC 13+12.13
END BRIDGE
BEGIN CONSTRUCTION
-DRV3- POT 10+30

REMOVE BRIDGE & PLACE CLASS II RIP RAP @ 1.5:1 TO TOB SEE STRUCTURE PLANS

SPECIAL CUT DITCH SEE DETAIL A
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL 'A'
EXCAVATE TO APPROXIMATE ELEV. = 2185.0'
EXCAVATE TO APPROXIMATE ELEV. = 2184.5' SEE CROSS-SECTIONS
GRADE TO DRAIN
CLASS II RIP RAPS SEE STRUCTURE PLANS
CLASS B RIP RAP EST. 2 TONS
EST. GD 7 SY
GRAU 350 TL-2
LANDSCAPE TIMBERS
GRAPE VINES
PIPE NOT LOCATED

BM #2
-BL- STA 10+86.82
46.60 LEFT
ELEV.2184.04

BM #1
-BL- STA 5+00.78
7.28 LEFT
ELEV.2182.94

BM #3
OUT OF CHAIN -BL-
ELEV.2185.90

-BL-1
-BL-2
-BL-3
-BL-4
-BL-5

END TIP PROJECT B-4288
-L2- POT STA.16+75.00

NAD 83/95

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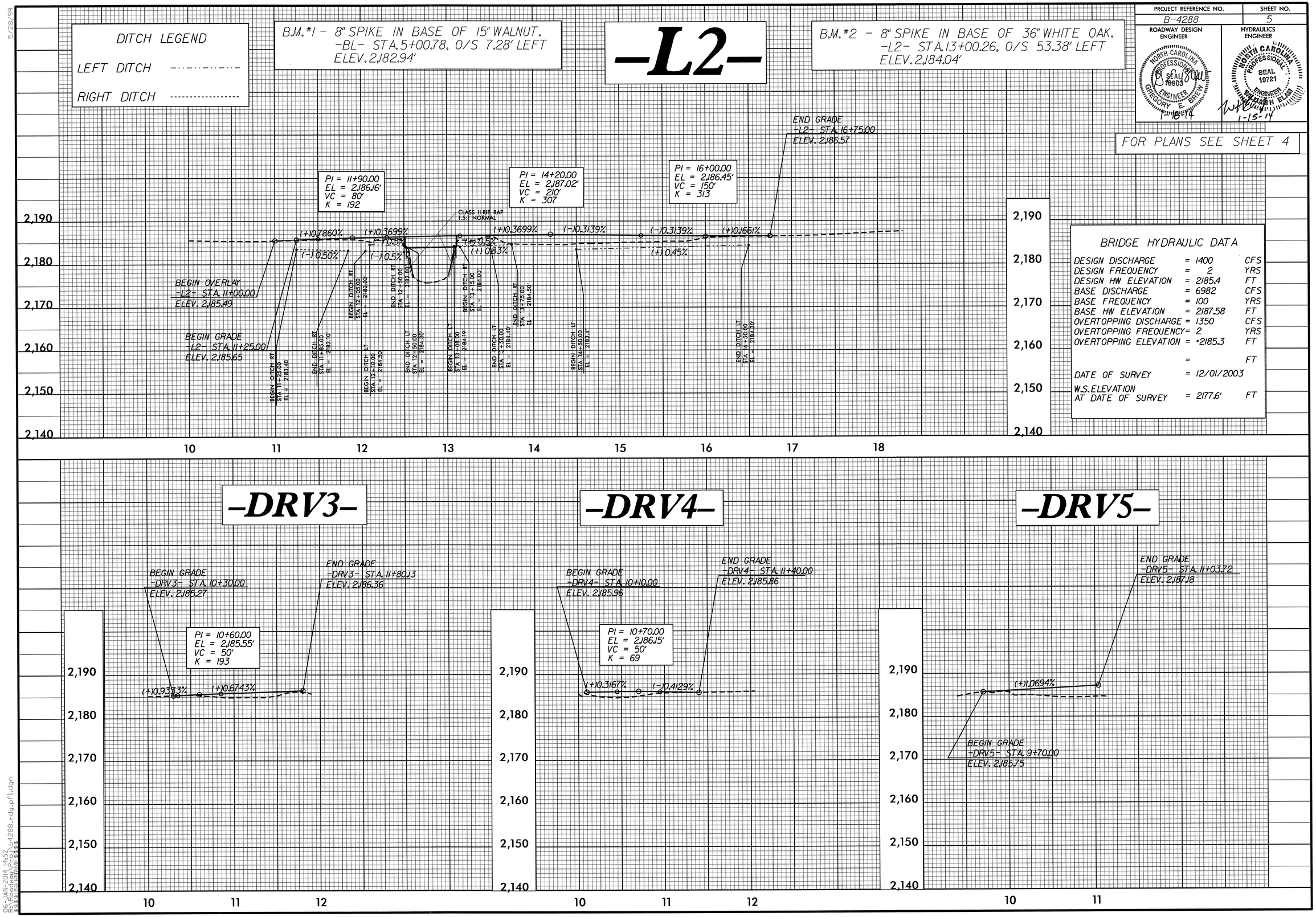
PROJECT REFERENCE NO.	SHEET NO.
B-4288	5

ROADWAY DESIGN ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 18903 ENGINEER GREGORY E. BREW — 1-16-14

HYDRAULICS ENGINEER — NORTH CAROLINA PROFESSIONAL SEAL 19721 ENGINEER WILHAM ELAM — 1-15-14

FOR PLANS SEE SHEET 4



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	= 1400	CFS
DESIGN FREQUENCY	= 2	YRS
DESIGN HW ELEVATION	= 2185.4	FT
BASE DISCHARGE	= 6982	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 2187.58	FT
OVERTOPPING DISCHARGE	= 1350	CFS
OVERTOPPING FREQUENCY	= 2	YRS
OVERTOPPING ELEVATION	= ×2185.3	FT
	=	FT
DATE OF SURVEY	= 12/01/2003	
W.S. ELEVATION AT DATE OF SURVEY	= 2177.6'	FT

5/28/99

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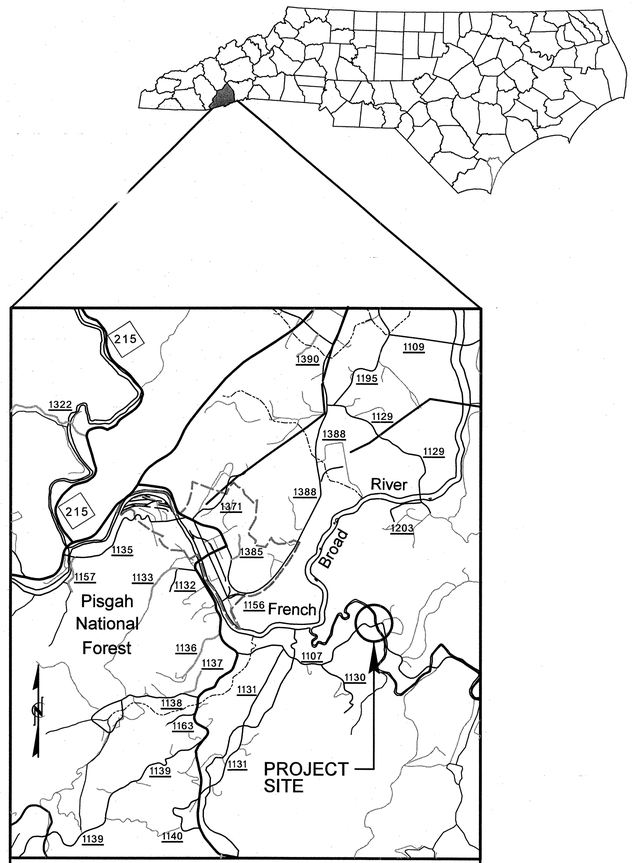
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

TRANSYLVANIA COUNTY



VICINITY MAP

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

LOCATION: BRIDGE 85 AND APPROACHES ON SR 1107
OVER EAST FORK FRENCH BROAD RIVER

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	GENERAL NOTES
TMP-2	SHORING NOTES
TMP-3	PHASING
TMP-4	PHASE I DETAIL
TMP-5	PHASE II DETAIL
TMP-6	PHASE III DETAIL
TMP-7	CUT SECTIONS

SHEET NO.
TMP-1

B-4288

TIP PROJECT:

HNTB
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

R. B. EARLY, PE — *TRAFFIC CONTROL PROJECT ENGINEER*
R. B. EARLY, PE — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
J. A. PHILLIPS — *TRAFFIC CONTROL DESIGN ENGINEER*

APPROVED: Rhonda B. Early
DATE: 12.19.13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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*
G. L. GETTIER, P.E. — *EASTERN TRAFFIC CONTROL ENGINEER*
J. W. WOOLARD, P.E. — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*

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

REVISIONS

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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
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.06	WARNING SIGNS FOR BLASTING ZONES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1170.01	POSITIVE PROTECTION
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	PAVEMENT MARKER - INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS - PERMANENT AND TEMPORARY
1261.01	GUARDRAIL & BARRIER DELINEATOR - INSTALLATION SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- EXIST. PVMT.
- NORTH ARROW
- PROPOSED PVMT.
- TEMP. SHORING (LOCATION PURPOSES ONLY)
- WORK AREA
- REMOVAL
- WEDGE / WIDEN

SIGNALS

EXISTING — PROPOSED — TEMPORARY

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

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

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

PAVEMENT MARKING SYMBOLS

- PAVEMENT MARKING SYMBOLS

TEMPORARY PAVEMENT MARKING

SYMBOL	DESCRIPTION	PAY ITEM
	PAVEMENT MARKING LINES	
		PAINT (4")
PA	WHITE EDGELINE	
PI	YELLOW DOUBLE CENTER LINE	
		PAINT (24")
P2	WHITE STOP BAR	
	PAVEMENT MARKERS	
		TEMPORARY RAISED
MH	YELLOW & YELLOW	
MM	CRYSTAL & CRYSTAL	

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: [signature] DATE: 12-19-13

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION MANAGEMENT PLAN

ROADWAY STANDARD DRAWINGS & LEGENDS

REVISIONS

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VERIFY:

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PROJ. REFERENCE NO.	SHEET NO.
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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.

TIME RESTRICTIONS

A) DO NOT STOP TRAFFIC AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS	DURATION AND OPERATION
-L2- (SR 1107)	- NONE-	20 MINUTES FOR SHIFTING TRAFFIC

LANE AND SHOULDER CLOSURE REQUIREMENTS

B) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

F) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

G) DO NOT INSTALL MORE THAN 1700' OF LANE CLOSURE ON -L2- (SR 1107) MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE, IN ANY ONE DIRECTION, ON -L2- (SR 1107).

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

J) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 200 FT IN ADVANCE OF THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

K) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

L) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

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

N) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) 200 FT IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

O) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRANSPORTATION MANAGEMENT PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRANSPORTATION MANAGEMENT PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW, BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

P) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

Q) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

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

S) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

T) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
1. -L2- (SR 1107, EAST FORK RD)	PAINT	TEMPORARY RAISED

U) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

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

W) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

MISCELLANEOUS

X) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) 200 FT AND 200 FT RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

APPROVED: Rhonda B. Early DATE: 1-8-14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION MANAGEMENT PLAN

GENERAL NOTES

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

REVISIONS

8/17/99

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TEMPORARY SHORING DATA

SHORING LOCATION NO. 1

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L2-, STA 12+35 ±8.5 FT LT, TO STATION -L2-, STA 12+56 ±12.8 FT LT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUND-WATER ELEVATION:

UNIT WEIGHT (γ) = 120 LB/CF
FRICTION ANGLE (ϕ) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 2178 FT ±

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L2-, STA 12+35 ±8.5 FT LT, TO STATION -L2-, STA 12+56 ±12.8 FT LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L2-, STA 12+35 ±8.5 FT LT, TO STATION -L2-, STA 12+56 ±12.8 FT LT. MAY NOT PENETRATE BELOW ELEVATION 2165 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR*S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L2-, STA 12+35 ±8.5 FT LT, TO STATION -L2-, STA 12+56 ±12.8 FT LT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L2-, STA 12+35 ±8.5 FT LT, TO STATION -L2-, STA 12+56 ±12.8 FT LT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

SHORING LOCATION NO. 2

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

BEFORE BEGINNING TEMPORARY SHORING DESIGN OR CONSTRUCTION, SURVEY EXISTING GROUND ELEVATIONS IN THE VICINITY OF SHORING LOCATIONS TO DETERMINE ACTUAL SHORING HEIGHTS.

DESIGN TEMPORARY SHORING FROM STATION -L2-, STA 13+05 ±12.3 FT LT, TO STATION -L2-, STA 13+20 ±20.6 FT RT. FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUND-WATER ELEVATION:

UNIT WEIGHT (g) = 120 LB/CF
FRICTION ANGLE (f) = 30 DEGREES
COHESION (c) = 0 LB/SF
GROUNDWATER ELEVATION = 2178 FT ±

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION -L2-, STA 13+05 ±12.3 FT LT, TO STATION -L2-, STA 13+20 ±20.6 FT RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILING FOR TEMPORARY SHORING FROM STATION -L2-, STA 13+05 ±12.3 FT LT, TO STATION -L2-, STA 13+20 ±20.6 FT RT MAY NOT PENETRATE BELOW ELEVATION 2167 FT DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

AT THE CONTRACTOR*S OPTION, USE STANDARD TEMPORARY SHORING FOR TEMPORARY SHORING FROM STATION -L2-, STA 13+05 ±12.3 FT LT, TO STATION -L2-, STA 13+20 ±20.6 FT RT. SEE STANDARD DRAWING NO. 1801.01 FOR STANDARD TEMPORARY SHORING.

IT MAY BE PREFERRED TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION -L2-, STA 13+05 ±12.3 FT LT, TO STATION -L2-, STA 13+20 ±20.6 FT RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

THE TEMPORARY SHORING NOTES SHOWN ON THIS SHEET WERE PROVIDED THROUGH SEALED DOCUMENTS FROM THE GEOTECHNICAL ENGINEERING UNIT. THE DOCUMENTS WERE SUBMITTED TO THE WZTC SECTION ON DECEMBER 18, 2013 AND SEALED BY PROFESSIONAL ENGINEER, SHANE C. CLARK, P.E., LICENSE # 29869.

APPROVED: _____ DATE: 12-19-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION MANAGEMENT PLAN

TEMPORARY SHORING NOTES

HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

8/17/99

REVISIONS

QA/QC STAGE:

REVIEW:

CONCUR:

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PROJ. REFERENCE NO.	SHEET NO.
B-4288	TMP-3

PHASING

NOTES:

REPLACE MARKINGS AND RETURN TRAFFIC TO THE CURRENT TRAFFIC PATTERN AT THE END OF EACH WORK PERIOD UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

MAINTAIN VEHICULAR ACCESS TO ALL RESIDENCES AND BUSINESSES DURING THE LIFE OF THE CONTRACT UNLESS OTHERWISE NOTED IN THE PHASING OR DIRECTED BY THE ENGINEER.

COMPLETE ANY PROPOSED WIDENING IN SUCH A MANNER THAT PONDING OF WATER WILL NOT OCCUR IN THE TRAVEL LANE. THIS MAY REQUIRE A COMBINATION OF INSTALLATION OF PROPOSED PIPES, TEMPORARY PIPES, STEEL PLATES, AND TEMPORARY MEDIAN AND OUTSIDE DITCHES.

PAVE PROPOSED CONSTRUCTION, UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE, IN ALL PHASES UNTIL STATED TO INSTALL FINAL LAYER IN THE PHASING.

THE TERM RSD DENOTES "ROADWAY STANDARD DRAWING".

PHASE I (SEE TMP-4)

STEP 1: INSTALL WORK ZONE ADVANCE WARNING SIGNS ON -L2- (SR 1107 / EAST FORK RD), ACCORDING TO RSD 1101.01.

STEP 2: USING FLAGGERS AS NEEDED, CONSTRUCT AND OPEN THE FOLLOWING RELOCATED DRIVEWAYS AND REMOVE ABANDONED ACCESS POINTS:
* -DRV3-
* -DRV4-
* -DRV5-

USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, COMPLETE THE FOLLOWING UP TO BUT NOT INCLUDING FINAL LAYER OF SURFACE COURSE:
* WEDGE AND WIDEN -L2- FROM STA 11+00+/- TO STA 12+20+/- (WEDGE EXISTING AS NEEDED TO MAINTAIN A SMOOTH GRADE.)
* CONSTRUCT -L2- FROM STA 13+65+/- TO STA 15+50+/- (TEMPORARY TIE MAY BE NEEDED TO PROVIDE SMOOTH TIE TO EXISTING AT 13+65+/-.)
* WEDGE AND WIDEN -L2 FROM STA 15+50+/- TO STA 16+75+/- (WEDGE EXISTING AS NEEDED TO MAINTIAN SMOOTH GRADE.

STEP 3: INSTALL WATER FILLED BARRIER (WFB) FROM STA 12+22+/- TO EXISTING BRIDGE WITH A MINIMUM OF 2' OFFSET FROM PROPOSED TRAVEL. TAPER WFB FROM 2' OFFSET AT BRIDGE TO EXISTING EDGE OF PAVEMENT NEAR 12+22+/-. (SEE SHEET TMP-5.)

STEP 4: INSTALL TEMPORARY SIGNS, PORTABLE SIGNALS AND TEMPORARY PAVEMENT MARKING AS SHOWN IN PHASE II (SHEET TMP-5) AND SHIFT TRAFFIC TO NEW PATTERN.

PHASE II (SEE TMP-5)

STEP 1: AWAY FROM TRAFFIC, INSTALL SHORING #1 & SHORING #2 AND CONSTRUCT RIGHT SIDE OF PROPOSED -L2- BRIDGE. (SEE SHEET TMP-2 FOR SHORING NOTES AND STRUCTURE PLANS FOR DETAILS.)

AWAY FROM TRAFFIC, REMOVE ABANDONED PAVEMENT FROM -L2- STA 13+65+/- TO STA 16+50+/-.

STEP 2: AWAY FROM TRAFFIC, INSTALL AS MUCH AS POSSIBLE OF TEMPORARY GUARDRAIL (SEE SHEET TMP-6). USE TMA'S FOR A MAXIMUM OF 72 HOURS TO PROTECT END OF BARRIER UNTIL INSTALLATION IS COMPLETED IN PHASE III, STEP 1.

STEP 3: STOPPING TRAFFIC AS NEEDED, CONSTRUCT TIE FROM -L2- PROPOSED BRIDGE TO STA 13+65+/-. (REFER TO TIME RESTRICTIONS IN GENERAL NOTES.)

STEP 4: INSTALL TEMPORARY PAVEMENT MARKING, ADJUST TEMPORARY SIGNS AND DEVICES AS NEEDED, AND SHIFT TRAFFIC TO NEW PATTERN AS SHOWN IN PHASE III (SHEET TMP-6).

PHASE III (SEE TMP-6)

STEP 1: REMOVE WFB & COMPLETE INSTALLATION OF TEMPORARY GUARDRAIL AND ANCHORS FROM -L2- STA 12+32+/- TO STA 13+31+/-.

AWAY FROM TRAFFIC, REMOVE ABANDONED BRIDGE AND COMPLETE REMAINDER OF PROPOSED -L2- BRIDGE. REMOVE SHORING #1 AND SHORING #2.

AWAY FROM TRAFFIC, REMOVE ABANDONED PAVEMENT.

STEP 2: AWAY FROM TRAFFIC, CONSTRUCT THE FOLLOWING UP TO BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE:
* -L2- FROM STA 12+20+/- TO BRIDGE (STA 12+50+/-)
* -L2- FROM BRIDGE (STA 13+12+/-) TO STA 13+55+/-

STEP 3: USING FLAGGERS TO STOP TRAFFIC AS NEEDED, REMOVE TEMPORARY GUARDRAIL AND ANCHORS.

STEP 4: USING RSD 1101.02 (SHEET 1 OF 15) AS NEEDED, PLACE FINAL LAYER OF SURFACE COURSE, FINAL PAVEMENT MARKINGS AND MARKERS AND OPEN -L2- TO TWO-LANE, TWO-WAY TRAFFIC. REMOVE PORTABLE SIGNALS.

REVISIONS

8/17/99

QA/QC STAGE:
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CONCUR:
REVISE:
VERIFY:

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APPROVED: Rhonda B. Early DATE: 1-8-14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

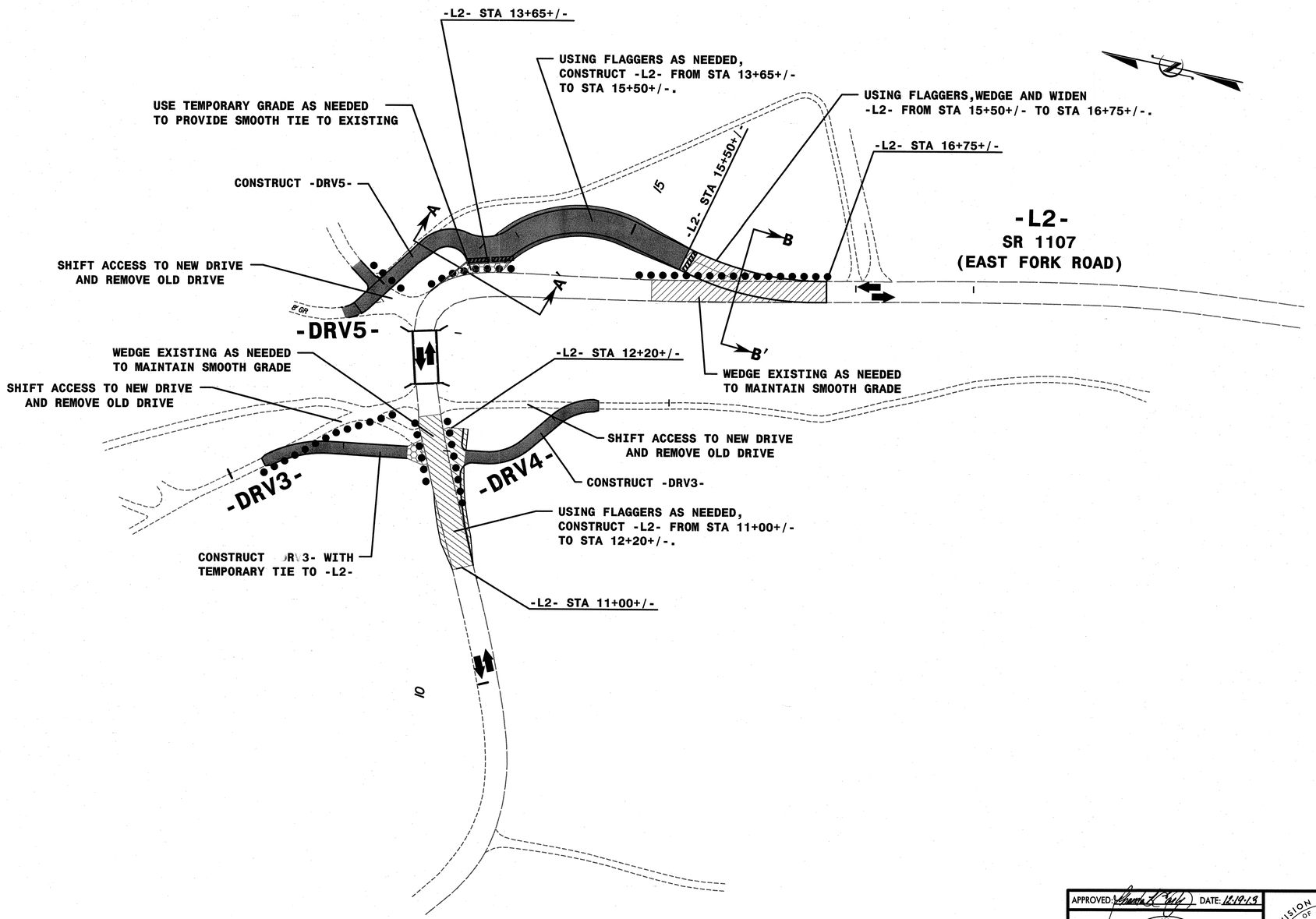
HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

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

TRANSPORTATION MANAGEMENT PLAN

PHASING

PROJ. REFERENCE NO.	SHEET NO.
B-4288	TMP-4



REFER TO SHEETS TMP-7 FOR CUT SECTION(S).

HNTB NORTH CAROLINA, P.C.
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Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: [signature] DATE: 12-19-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION MANAGEMENT PLAN

PHASE I

REVISIONS

8/17/99

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PROJ. REFERENCE NO.	SHEET NO.
B-4288	TMP-5

(1) EST QUANTITY = 80 SF+/-

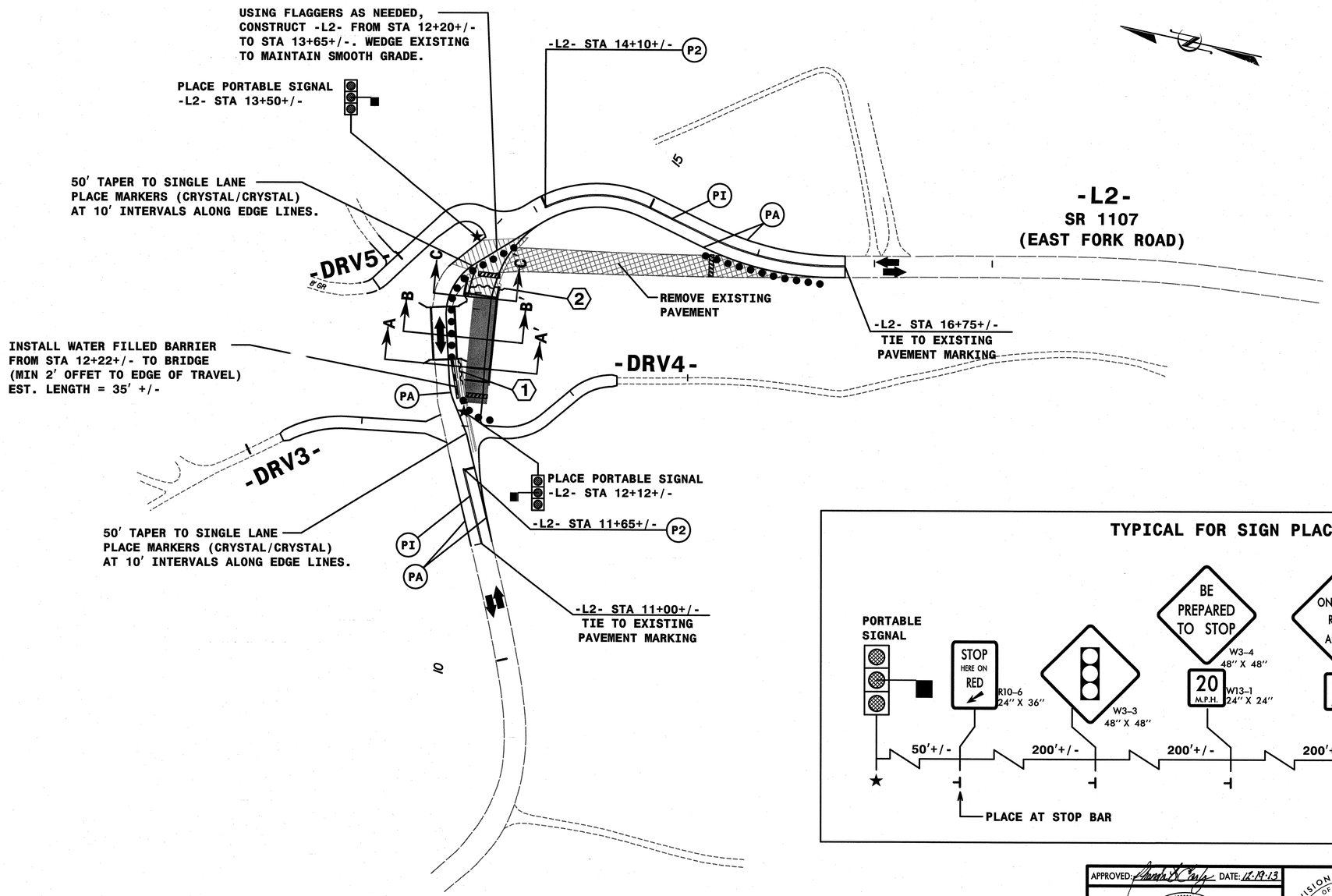
TEMPORARY SHORING
FROM -L2- STA 12+35+/-, 8.5' LT
TO -L2- STA 12+56+/-, 12.8' LT

(SEE SHEET TMP-2 FOR
TEMPORARY SHORING NOTES)

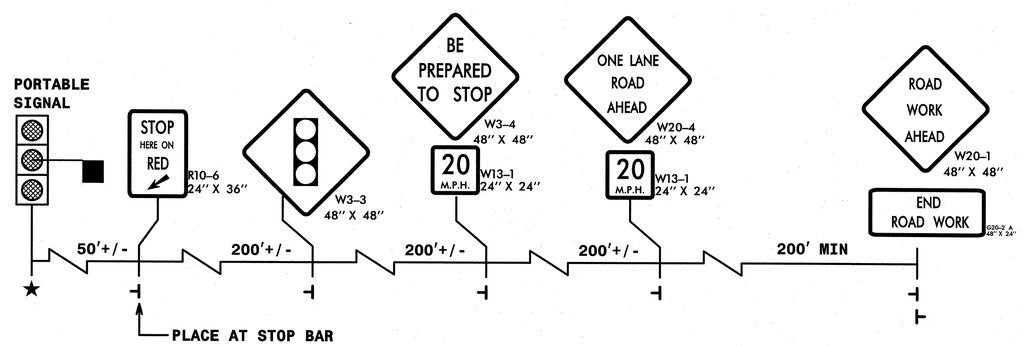
(2) EST QUANTITY = 126 SF

TEMPORARY SHORING
FROM -L2- STA 13+05+/-, 12.3' LT
TO -L2- STA 13+16+/-, 12.3' LT
TO -L2- STA 13+20+/-, 6.3' LT
TO -L2- STA 13+20+/-, 20.6' RT

(SEE SHEET TMP-2 FOR
TEMPORARY SHORING NOTES)



TYPICAL FOR SIGN PLACEMENT



REFER TO SHEETS TMP-7 FOR CUT SECTION(S).

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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: [signature] DATE: 12-19-13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION MANAGEMENT PLAN

PHASE II

REVISIONS

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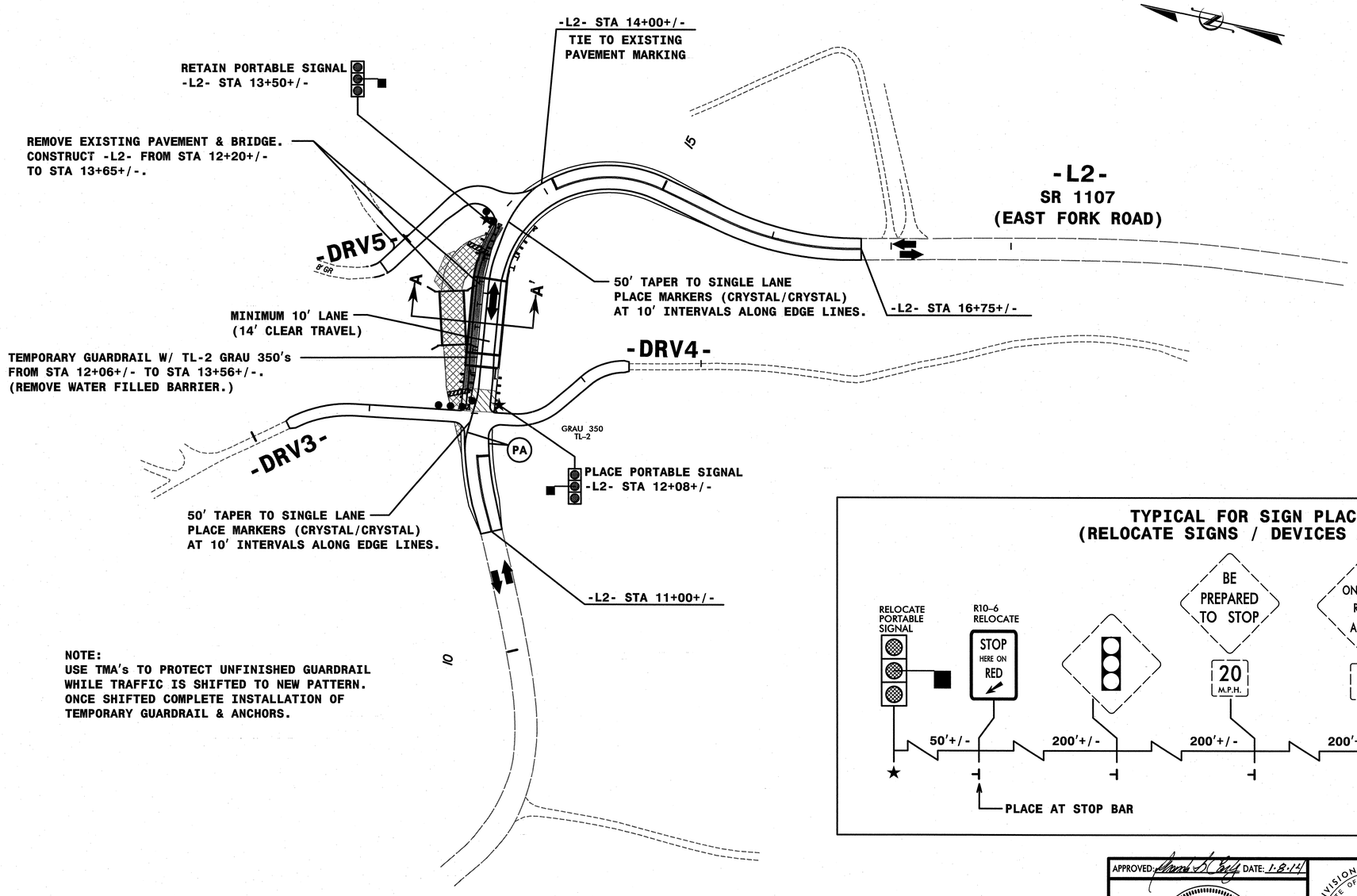
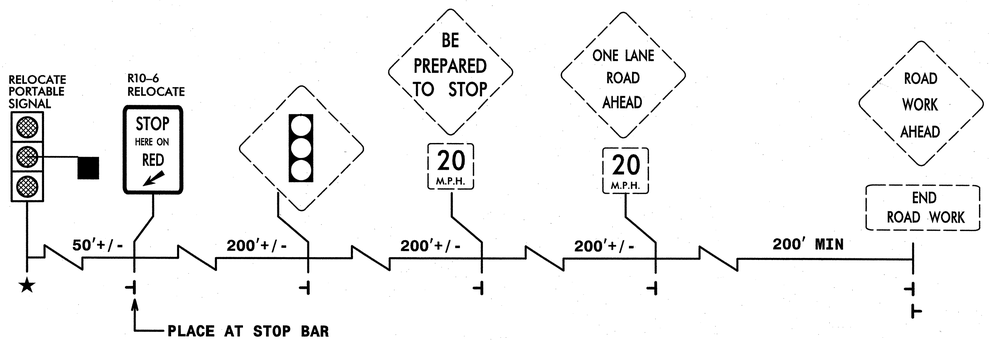
PROJ. REFERENCE NO.	SHEET NO.
B-4288	TMP-6



NOTE:
USE TMA's TO PROTECT UNFINISHED GUARDRAIL WHILE TRAFFIC IS SHIFTED TO NEW PATTERN. ONCE SHIFTED COMPLETE INSTALLATION OF TEMPORARY GUARDRAIL & ANCHORS.

REFER TO SHEETS TMP-7 FOR CUT SECTION(S).

TYPICAL FOR SIGN PLACEMENT
(RELOCATE SIGNS / DEVICES AS NEEDED)



APPROVED: DATE: 1-8-14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

HNTB

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343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

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

TRANSPORTATION MANAGEMENT PLAN

PHASE III

8/17/99

REVISIONS

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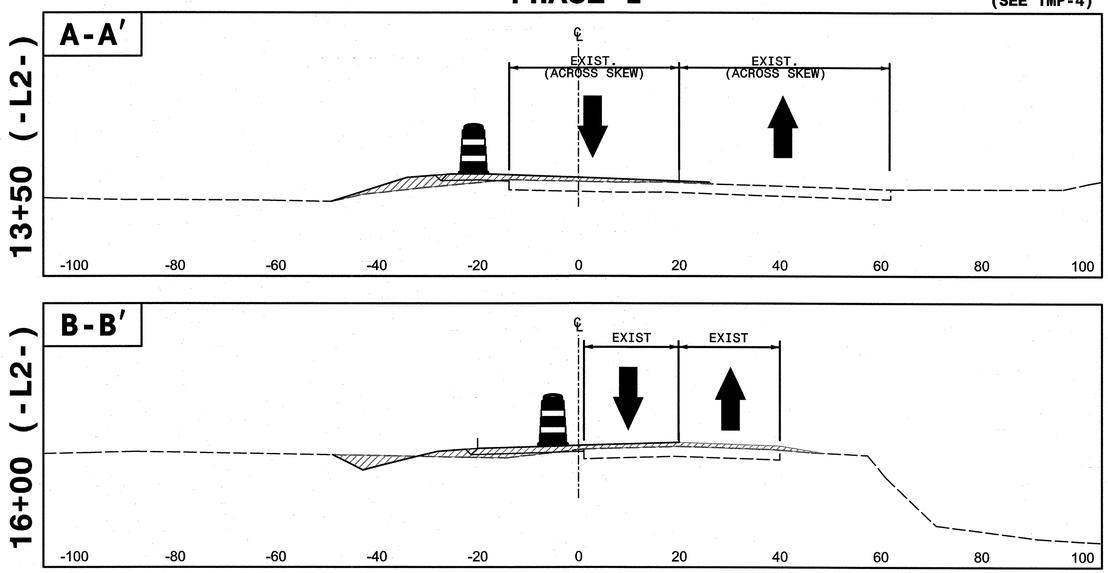
PROJ. REFERENCE NO.	SHEET NO.
B-4288	TMP-7

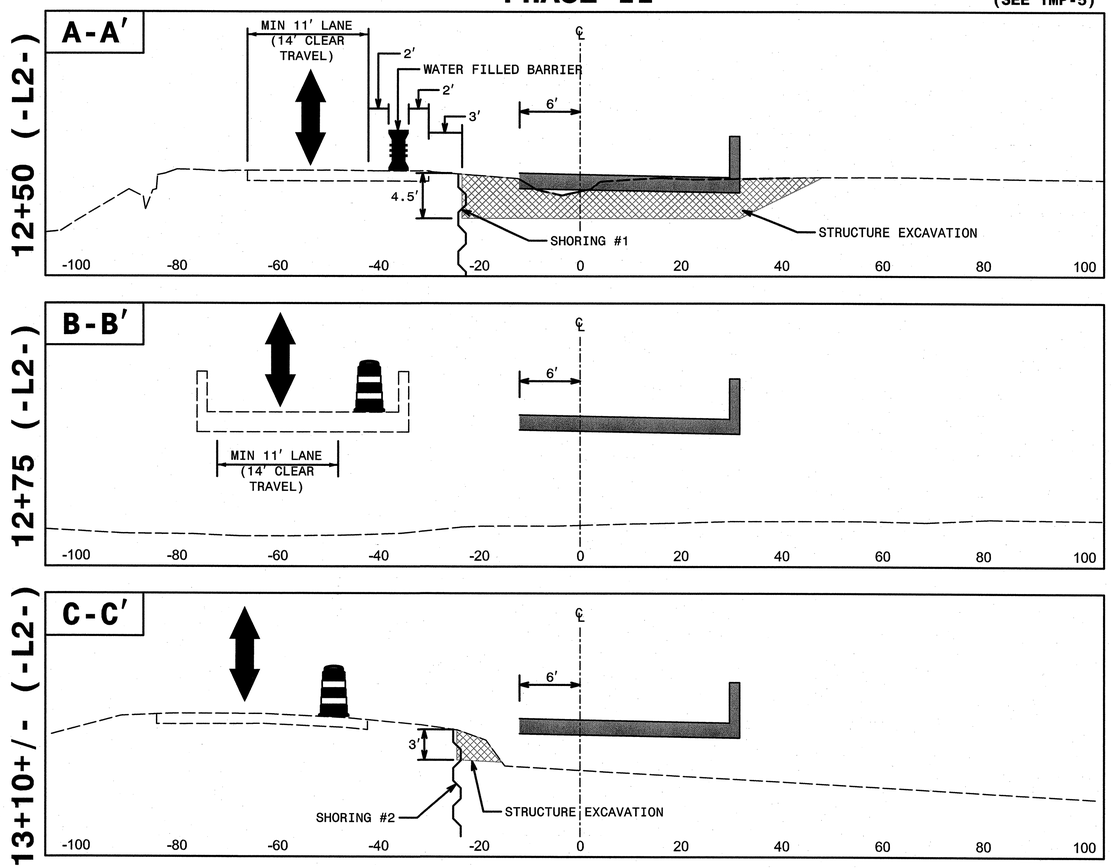
PHASE I

(SEE TMP-4)



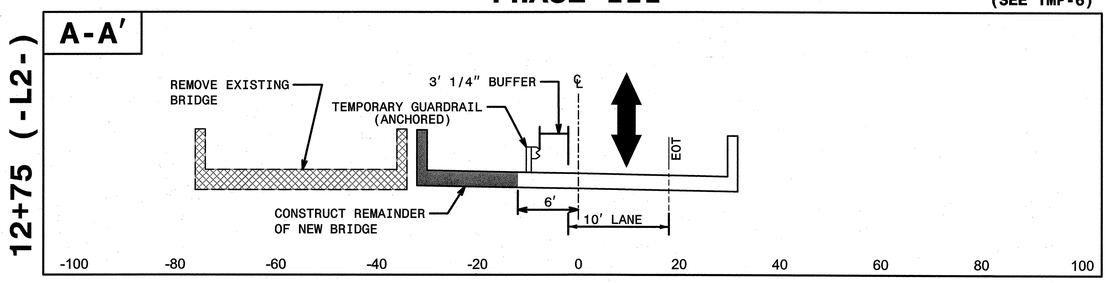
PHASE II

(SEE TMP-5)



PHASE III

(SEE TMP-6)



REVISIONS

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HNTB

HNTB NORTH CAROLINA, P.C.
343 E. Six Forks Road, Suite 200
Raleigh, North Carolina 27609
NC License No: C-1554

APPROVED: Rhonda B. Early DATE: 1-8-14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 023521 ENGINEER RHONDA B. EARLY

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

TRANSPORTATION
MANAGEMENT PLAN

CUT SECTIONS

T.I.P.: B-4288

CONTRACT: C202778

TIP NO.	SHEET NO.
B-4288	PMP-1

APPROVED: RWK

DATE: 1/7/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN

TRANSYLVANIA COUNTY

LOCATION: BRIDGE No. 85 AND APPROACHES ON SR 1107 OVER EAST FORK FRENCH BROAD RIVER

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
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1253.01	RAISED PAVEMENT MARKERS - SNOWPLOWABLE
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

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
-L2- EAST FORK RD.	PAINT	SNOWPLOWABLE

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

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

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

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

PAVEMENT MARKING SCHEDULE

SYMB	DESCRIPTION
	FINAL PAVEMENT MARKINGS
	PAINT(4")
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER
	MARKERS
	SNOWPLOWABLE RAISED PAVEMENT MARKERS
ME	YELLOW & YELLOW

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2	PAVEMENT MARKING DETAIL

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

K. L. JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

D. H. BEARD — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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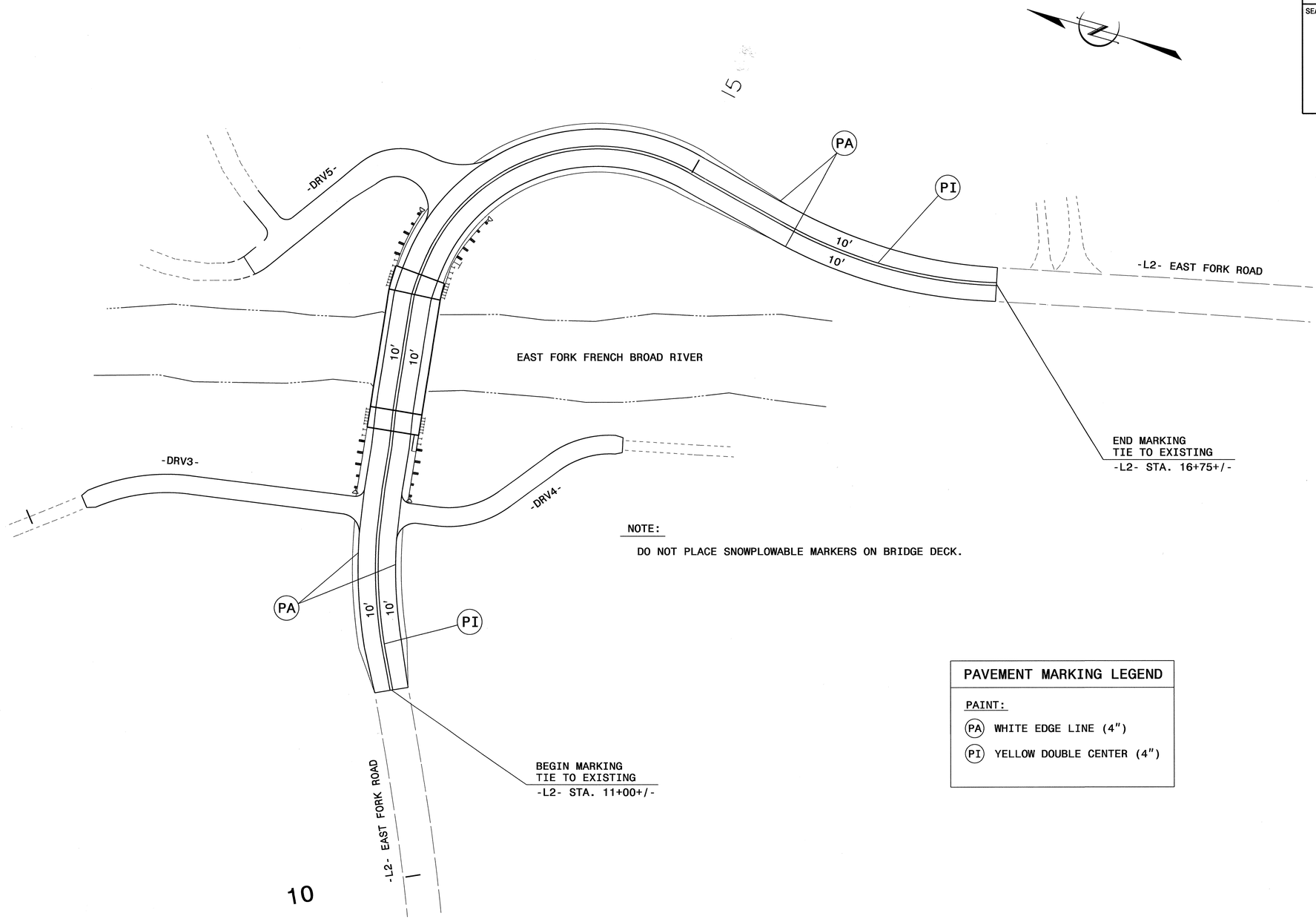
TIP NO.	SHEET NO.
B-4288	PMP-2

APPROVED: _____

DATE: 11/7/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING



NOTE:

DO NOT PLACE SNOWPLOWABLE MARKERS ON BRIDGE DECK.

PAVEMENT MARKING LEGEND
PAINT:
(PA) WHITE EDGE LINE (4")
(PI) YELLOW DOUBLE CENTER (4")

PAVEMENT MARKING DETAIL

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TIP PROJECT: B-4288

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4288	EC-1	

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

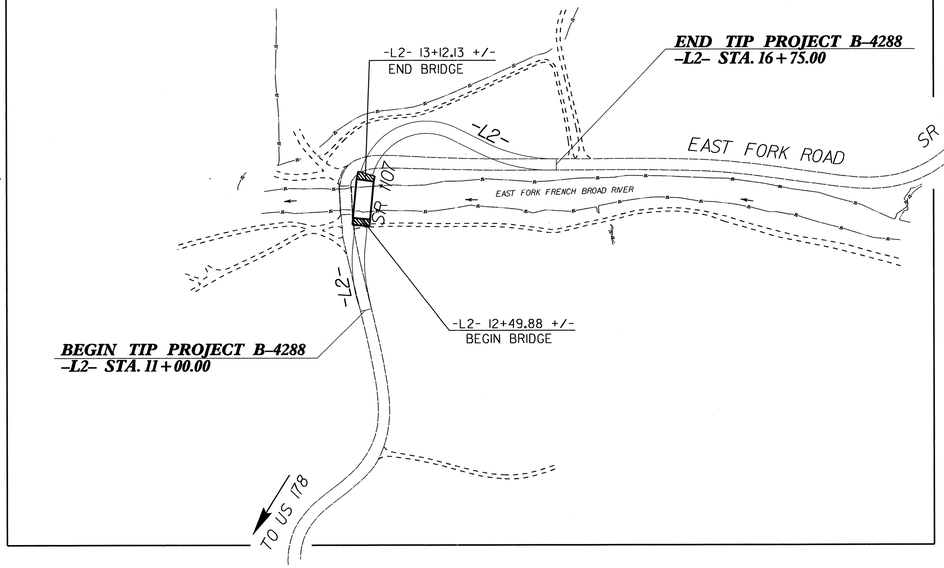
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LOCATION: BRIDGE 85 AND APPROACHES ON SR 1107 OVER EAST FORK FRENCH BROAD RIVER

TYPE OF WORK: GRADING, DRAINAGE, PAVING AND STRUCTURE

4



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.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

303(d) IMPAIRED WATER(S) EXIST ON THIS PROJECT

303(d) Impaired Water Zone(s) Exist
From Sta. Begin
to Sta. End
Refer To E. C. Special Provisions for Special Considerations.

HIGH QUALITY WATER(S) EXIST ON THIS PROJECT

High Quality Water Zone(s) Exist
From Sta. Begin
to Sta. End
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	1632.01	Rock Inlet Sediment Trap Type A
1605.01	Temporary Silt Fence	1632.02	Rock Inlet Sediment Trap Type B
1606.01	Special Sediment Control Fence	1632.03	Rock Inlet Sediment Trap Type C
1607.01	Gravel Construction Entrance	1633.01	Temporary Rock Silt Check Type A
1622.01	Temporary Berms and Slope Drains	1633.02	Temporary Rock Silt Check Type B
1630.01	Riser Basin	1634.01	Temporary Rock Sediment Dam Type A
1630.02	Silt Basin Type B	1634.02	Temporary Rock Sediment Dam Type B
1630.03	Temporary Silt Ditch	1635.01	Rock Pipe Inlet Sediment Trap Type A
1630.04	Stilling Basin	1635.02	Rock Pipe Inlet Sediment Trap Type B
1630.05	Temporary Diversion	1640.01	Coir Fiber Baffle
1630.06	Special Stilling Basin	1645.01	Temporary Stream Crossing
1631.01	Matting Installation		

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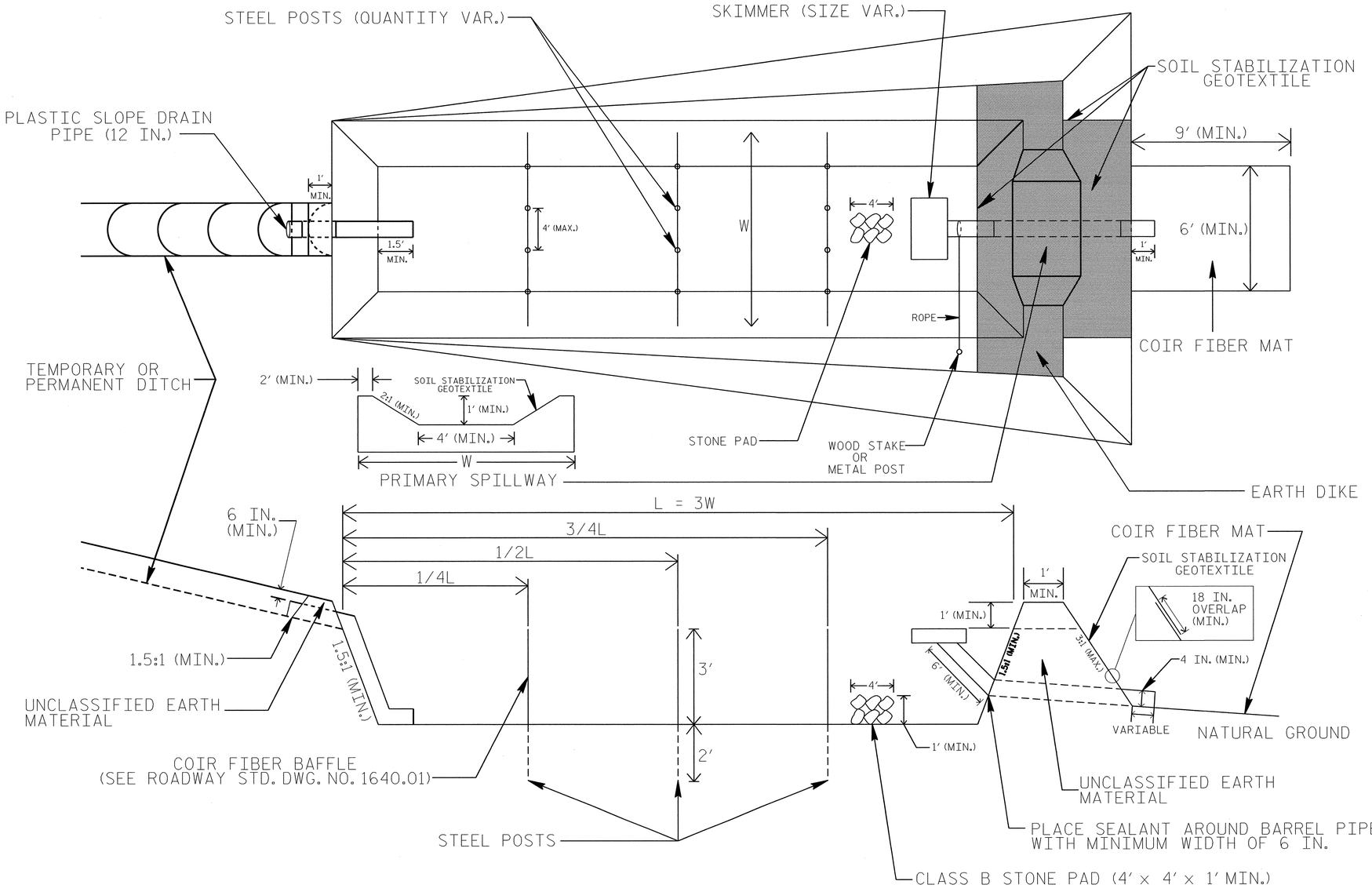
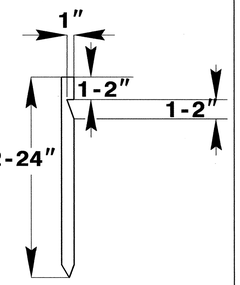
PROJECT REFERENCE NO.	SHEET NO.
B-4288	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

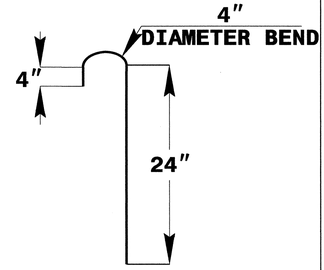
SKIMMER BASIN WITH BAFFLES DETAIL



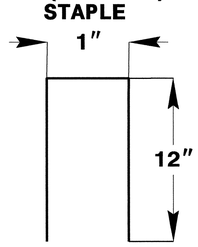
2" x 2" (nominal) WOODEN STAKE



#10 STEEL REINFORCEMENT BAR



1" (nominal) STAPLE



COIR FIBER MAT ANCHOR OPTIONS

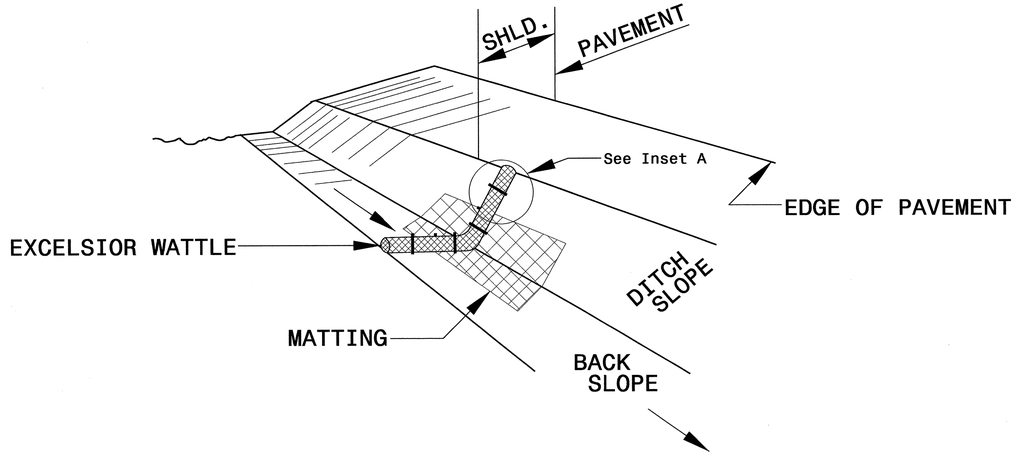
NOTES

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.).

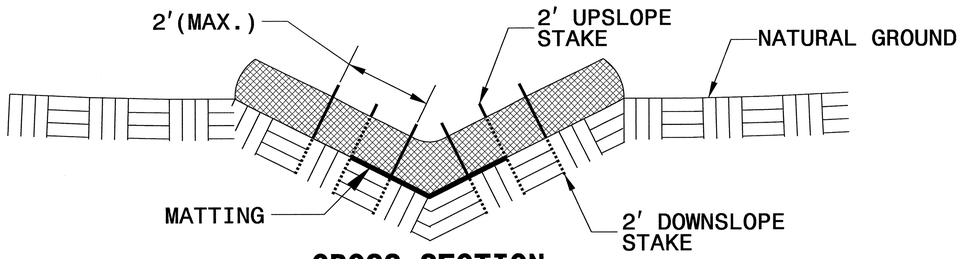
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4288	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

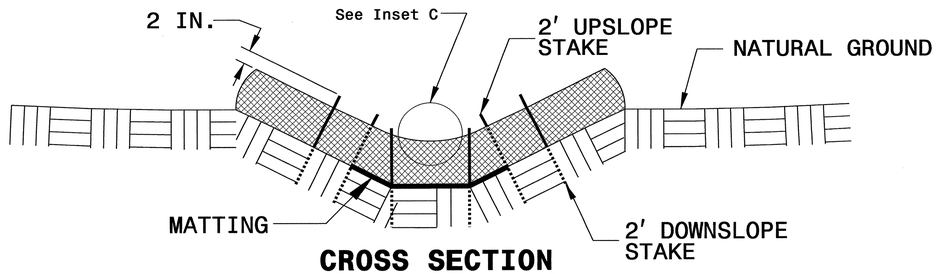
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



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.

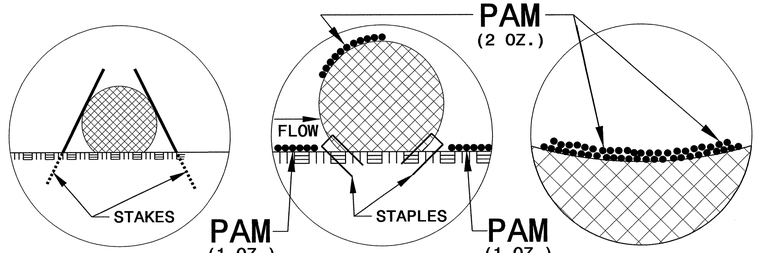
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

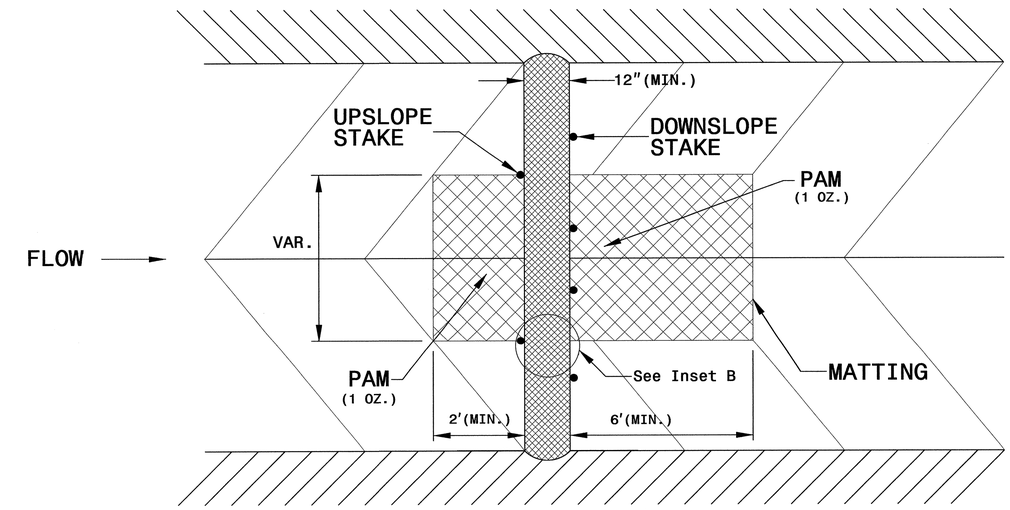
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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-4288	EC-3
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-4288	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L2-	12+10	12+50	LT	45
				SUBTOTAL	45
	ADDITIONAL	PSRM TO BE		INSTALLED	0
				TOTAL	45
				SAY	50

PERMANENT SOIL REINFORCEMENT MAT

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

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4288	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

ENVIRONMENTALLY SENSITIVE AREA SEE PROJECT SPECIAL PROVISIONS

NAD 83

HOWARD REESE
D.B.174 PG.615

4 BETTY J. KING
D.B. 542 PG.758
FILE #10 - SLIDE #714

5 THE WICKWIRE FARM, LLC
D.B. 194 PG. 64
D.B. 225 PG. 236
D.B. 258 PG. 897
D.B. 485 P.G. 851
PLAT FILE #8 - SLIDE #62

3 ROBERT GILLESPIE
D.B.185 PG.311

1Z FRANCES G. WALDROP
D.B.120 PG.274

1 FRANCES G. WALDROP
D.B.120 PG.274

2 ROBERT GILLESPIE
D.B.185 PG.311

3Z ROBERT GILLESPIE
D.B.185 PG.311

-DRV5-
PI Sta 9+65.30
△ = 39° 03' 37.3" (LT)
D = 229° 10' 59.2"
L = 17.04'
T = 8.87'
R = 25.00'

PI Sta 10+77.08
△ = 84° 33' 12.0" (RT)
D = 190° 59' 09.4"
L = 44.27'
T = 27.28'
R = 30.00'

-DRV3-
PI Sta 10+62.39
△ = 30° 08' 24.6" (RT)
D = 57° 17' 44.8"
L = 52.60'
T = 26.93'
R = 100.00'

-L2-
PI Sta 11+65.27
△ = 18° 24' 21.6" (RT)
D = 22° 55' 05.9"
L = 80.31'
T = 40.50'
R = 250.00'
e = SEE PLAN

-DRV4-
PI Sta 10+50.44
△ = 43° 46' 42.6" (LT)
D = 114° 35' 29.6"
L = 38.20'
T = 20.09'
R = 50.00'

PI Sta 11+19.39
△ = 39° 57' 05.0" (RT)
D = 114° 35' 29.6"
L = 34.86'
T = 18.17'
R = 50.00'

-L2- PC Sta. 15+55.26
-L2- PT Sta. 14+99.20
-DRV5- POT 11+13.72
-L2- POC 13+70.00
-DRV5- PT 10+94.08
-L2- POC 13+23.13
END APPROACH SLAB
-DRV5- PC 10+49.81
-DRV5- PT 9+73.47
BEGIN CONSTRUCTION
-DRV5- POC 9+70
-DRV5- PC 9+56.43
-DRV5- POT 9+40.18
-L2- PT Sta. 12+05.07
-DRV3- PT Sta. 10+88.06
-DRV3- PC Sta. 10+35.46
-DRV3- POT Sta. 10+00.00
-L2- POC 13+12.13
END BRIDGE
-L2- PT Sta. 16+68.10
END TIP PROJECT B-4288
-L2- POT STA 16+75.00
-L2- POT Sta. 18+29.14
-DRV4- PC Sta. 10+30.35
-DRV4- POT Sta. 12+05.09
-DRV4- POT 11+40
END CONSTRUCTION
-DRV4- PT Sta. 11+36.08
-DRV4- PC Sta. 11+01.21
-DRV4- PT Sta. 10+68.55
-L2- POT 12+49.88
BEGIN BRIDGE
-L2- POT 12+38.88
BEGIN APPROACH SLAB
-L2- PC Sta. 11+24.76
-L2- Sta. 11+96.55
-DRV3- Sta. 11+90.13
-DRV4- Sta. 10+00.00
-DRV3- POT 10+30
BEGIN CONSTRUCTION
BEGIN TIP PROJECT B-4288
-L2- POT STA 11+00.00
-L2- POT Sta. 10+00.00

-BL-3 11+24.08 PINC=
-L- STA. 17+22.9
140.02 RT.

-BL- BM #2
STA 10+86.82
46.60 LEFT
ELEV.=2184.04

-BL-5 18+17.22 POT=
-L- STA. 23+82.74
18.56 RT.

-BL-2 7+35.52 PINC=
-L- STA. 13+78.55
17.04 LT.

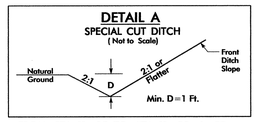
-BL-1 5+00.00 POT
-L- STA. 4+37.50
13.86' RT.

BM #1
-BL- STA 5+00.78
7.28 LEFT
ELEV.2182.94

BM #2
OUT OF CHAIN -BL-
ELEV.2185.90

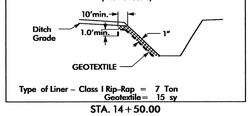
EXCAVATE TO APPROXIMATE ELEV. = 2185.0'
REMOVE BRIDGE & PLACE CLASS II RIP RAP @ 1.5:1 TO TOE SEE STRUCTURE PLANS
EXCAVATE TO APPROXIMATE ELEV. = 2184.5' SEE CROSS SECTIONS
SPECIAL CUT DITCH SEE DETAIL A
SPECIAL CUT DITCH SEE DETAIL B
SPECIAL CUT DITCH SEE DETAIL 'A'
SPECIAL CUT DITCH SEE DETAIL 'A'
SPECIAL CUT DITCH SEE STRUCTURE PLANS
GRADE TO DRAIN
GRAU 350 TL-2
GRAU 350 TL-2
GRAU 350 TL-2
CLASS II RIP RAP EST. 2 TONS EST. GD- 7 SY.
CLASS B RIP RAP EST. 2 TONS EST. GD- 7 SY.
LANDSCAPE TIMBERS
DRIVEWAY
UTILITIES
HAYWOOD ELECTRIC SERVICE
300 N HAYWOOD ST.
WAYNESVILLE, NC 28786
(828) 452-2234
CITIZENS TELEPHONE CO
225 E. MAIN ST
BREVARD NC 28712
(828) 884-9011
(828) 884-211
SYLVAN VALLEY CABLE TV
PO BOX 177
BREVARD NC 28712
(828) 884-2671

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 11+25 TO STA. 11+85 -L- RT
FROM STA. 12+05 TO STA. 12+50 -L- RT
FROM STA. 13+15 TO STA. 13+75 -L- RT
FROM STA. 12+10 TO STA. 12+50 -L- LT
FROM STA. 13+08 TO STA. 13+50 -L- LT
FROM STA. 14+50 TO STA. 16+50 -L- LT

DETAIL B
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner – Class I Rip-Rap = 7 Ton
Geotextile = 15 sy
STA. 14+50.00

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

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
B-4288	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

HOWARD REESE
D.B.174 PG.615

S10°54'54"W 314.50'

S58°36'23"E 169.1'

22 x 9 x 3
1.5 inch Skimmer
with 0.250 inch
Orifice Diameter
4 ft. weir
ID 4.3

39 x 10 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.2

NAD 83

4
BETTY J. KING
D.B. 542 PG.758
FILE #10 - SLIDE #714

-DRV5-
PI Sta 9+65.30
△ = 39° 03' 37.3" (LT)
D = 229° 10' 59.2"
L = 17.04'
T = 8.87'
R = 25.00'

PI Sta 10+77.08
△ = 84° 33' 12.0" (RT)
D = 190° 59' 09.4"
L = 44.27'
T = 27.28'
R = 30.00'

5
THE WICKWIRE FARM, LLC
D.B. 194 PG. 64
D.B. 225 PG. 236
D.B. 258 PG. 897
D.B. 485 P.G. 851
PLAT FILE #8 - SLIDE #62

-BL-3 11+24.08 PINC=
-L- STA. 17+22.19
140.02 RT.

-DRV5- PC 10+49.81
-DRV5- PT 9+73.47
-DRV5- POT 11+13.72
-L2- POC 13+70.00
-DRV5- PT 10+94.08
-L2- POC 13+23.13
END APPROACH SLAB
-L2- POC 13+12.13
END BRIDGE
BEGIN CONSTRUCTION
-DRV5- POC 9+70
-DRV5- PC 9+56.43
-DRV5- POT 9+40.18
-L2- PT Sta. 12+05.07
-DRV3- PT Sta. 10+88.06
-DRV3- PC Sta. 10+35.46
-DRV3- POT Sta. 10+00.00

-L2- PC Sta. 15+55.26
-L2- PT Sta. 14+99.20
-L2- PT Sta. 16+68.10
-L2- POT Sta. 18+29.14

ROBERT GILLESPIE
D.B.185 PG.311

END TIP PROJECT B-4288
-L2- POT STA.16+75.00

-BL-5 18+17.22 POT=
-L- STA. 23+82.74
18.56 RT.

EXCAVATE TO APPROXIMATE ELEV. = 2185.0'

REMOVE BRIDGE & PLACE CLASS II RIP RAP @ 1.5:1 TO TOE SEE STRUCTURE PLANS

SPECIAL CUT DITCH SEE DETAIL A

SPECIAL CUT DITCH SEE DETAIL B

SPECIAL CUT DITCH SEE DETAIL 'A'

GRADE TO DRAIN

BM #2
-BL- STA 10+88.82
45.60 LEFT
ELEV.2184.04

EXCAVATE TO APPROXIMATE ELEV. = 2184.5'
SEE CROSS-SECTIONS

TSD = TS

S 13° 44' 14.2" W

S 12° 07' 27.8" E

75' TRANSITION

SR 1101 EAST FORK ROAD
18' BST

MAINTAINED EXISTING R/W

D.B.205 PG.731 FILE #5 - SLIDE #145 REBA G. KING

S 15° 46' 52.8" E

N 83° 27' 49.7" E

S 12° 18' 57.2" E

S 52° 16' 02.3" E

S 38° 37' 44.4" E

S 8° 29' 19.6" E

N 65° 03' 28.1" E

EAST FORK FRENCH BROAD RIVER

-DRV4- PC Sta. 10+30.35
-DRV4- POT Sta. 12+05.09
-DRV4- POT 11+40
END CONSTRUCTION
-DRV4- PT Sta. 11+36.08
-DRV4- PC Sta. 11+01.21
-DRV4- PT Sta. 10+68.55

-L2- POT 12+49.88
BEGIN BRIDGE
-L2- POT 12+38.88
BEGIN APPROACH SLAB
-L2- PC Sta. 11+24.76

-L2- Sta. 11+96.55
-DRV3- Sta. 11+90.13
-DRV4- Sta. 10+00.00

BEGIN TIP PROJECT B-4288
-L2- POT STA 11+00.00

-L2- POT Sta. 10+00.00

-BL-2 7+35.52 PINC=
-L- STA. 13+78.55
17.04 LT.

-BL-1 5+00.00 POT
-L- STA. 11+37.50
13.86' RT.

BM #1
-BL- STA 5+00.78
7.28 LEFT
ELEV.2182.94

BM #3
OUT OF CHAIN -BL-
ELEV.2185.90

PIPE NOT LOCATED

-DRV3-
PI Sta 10+62.39
△ = 30° 08' 24.6" (RT)
D = 57° 17' 44.8"
L = 52.60'
T = 26.93'
R = 100.00'

-L2-
PI Sta 11+65.27
△ = 18° 24' 21.6" (RT)
D = 22° 55' 05.9"
L = 80.31'
T = 40.50'
R = 250.00'
e = SEE PLAN

-DRV4-
PI Sta 10+50.44
△ = 43° 46' 42.6" (LT)
D = 114° 35' 29.6"
L = 38.20'
T = 20.09'
R = 50.00'

PI Sta 11+19.39
△ = 39° 57' 05.0" (RT)
D = 114° 35' 29.6"
L = 34.86'
T = 18.17'
R = 50.00'

24 x 11 x 3
1.5 inch Skimmer
with 0.250 inch
Orifice Diameter
4 ft. weir
ID 4.1

IS BLK D

LANDSCAPE TIMBERS

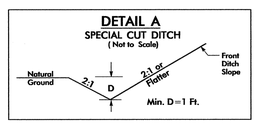
GRAPE VINES

UTILITIES
HAYWOOD ELECTRIC SERVICE
300 N HAYWOOD ST.
WAYNESVILLE, NC 28786
(828) 452-2234
CITIZENS TELEPHONE CO
225 E. MAIN ST
BREVARD NC 28712
(828) 884-9011
(828) 884-2111
SYLVAN VALLEY CABLE TV
PO BOX 1177
BREVARD NC 28712
(828) 884-2671

12 FRANCES G. WALDROP
D.B.120 PG.274

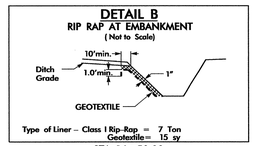
FRANCES G. WALDROP
D.B.120 PG.274

DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



FROM STA. 11+25 TO STA. 11+85 -L- RT
FROM STA. 12+05 TO STA. 12+50 -L- RT
FROM STA. 13+15 TO STA. 13+75 -L- RT
FROM STA. 12+10 TO STA. 12+50 -L- LT
FROM STA. 13+08 TO STA. 13+50 -L- LT
FROM STA. 14+50 TO STA. 16+50 -L- LT

DETAIL B
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner – Class I Rip-Rap = 7 Ton
Geotextile = 15 sy
STA. 14+50.00

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

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nc_ECD

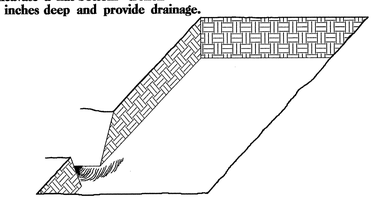
PROJECT REFERENCE NO.	SHEET NO.
B-4288	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

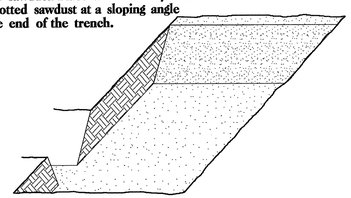
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

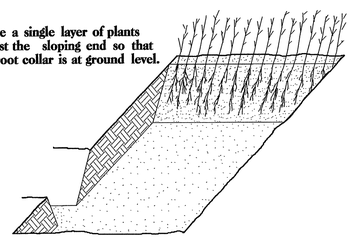
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



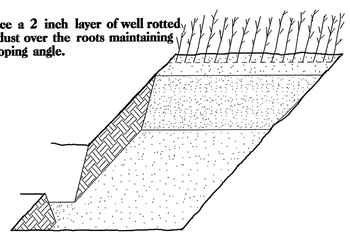
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

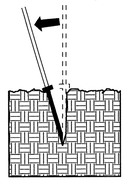


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

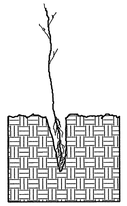


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

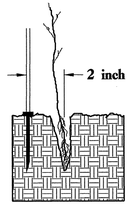
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



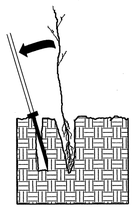
1. Insert planting bar as shown and pull handle toward planter.



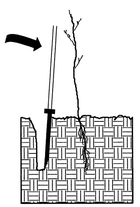
2. Remove planting bar and place seedling at correct depth.



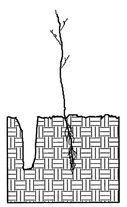
3. Insert planting bar 2 inches toward planter from seedling.



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:

34% BETULA NIGRA	RIVER BIRCH	12 in – 18 in BR
33% LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in – 18 in BR
33% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in – 18 in BR

REFORESTATION DETAIL SHEET

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

T.I.P.: B-4288

CONTRACT: C202778

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-4288	SIGN-1

APPROVED: [signature] 1/7/14

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

SIGNING PLAN
TRANSYLVANIA COUNTY

LOCATION: BRIDGE No. 85 AND APPROACHES ON SR 1107 OVER EAST FORK FRENCH BROAD RIVER

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	160	L.F.
4102000000	904	SIGN ERECTION, TYPE E	11	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	1	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	13	EA.
4192000000	907	DISPOSAL OF SUPPORT, U-CHANNEL	1	EA.

GENERAL NOTES

. SIGNS FURNISHED BY STATE
. 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.
. WHEN EXISTING SIGNS ARE REMOVED AND INSTALLED ON NEW SUPPORTS, THE RE-ERECTION SHALL IMMEDIATELY FOLLOW THE REMOVAL.
. THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
. SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

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

PAY ITEM NOTES

1	RELOCATE SIGN, TYPE E
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	DISPOSAL OF SUPPORT, U-CHANNEL

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET
SIGN-2	SIGN DETAIL SHEET & "E" SHEET

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

K. L. JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

D. H. BEARD — SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION

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dhbeard ATTE265832

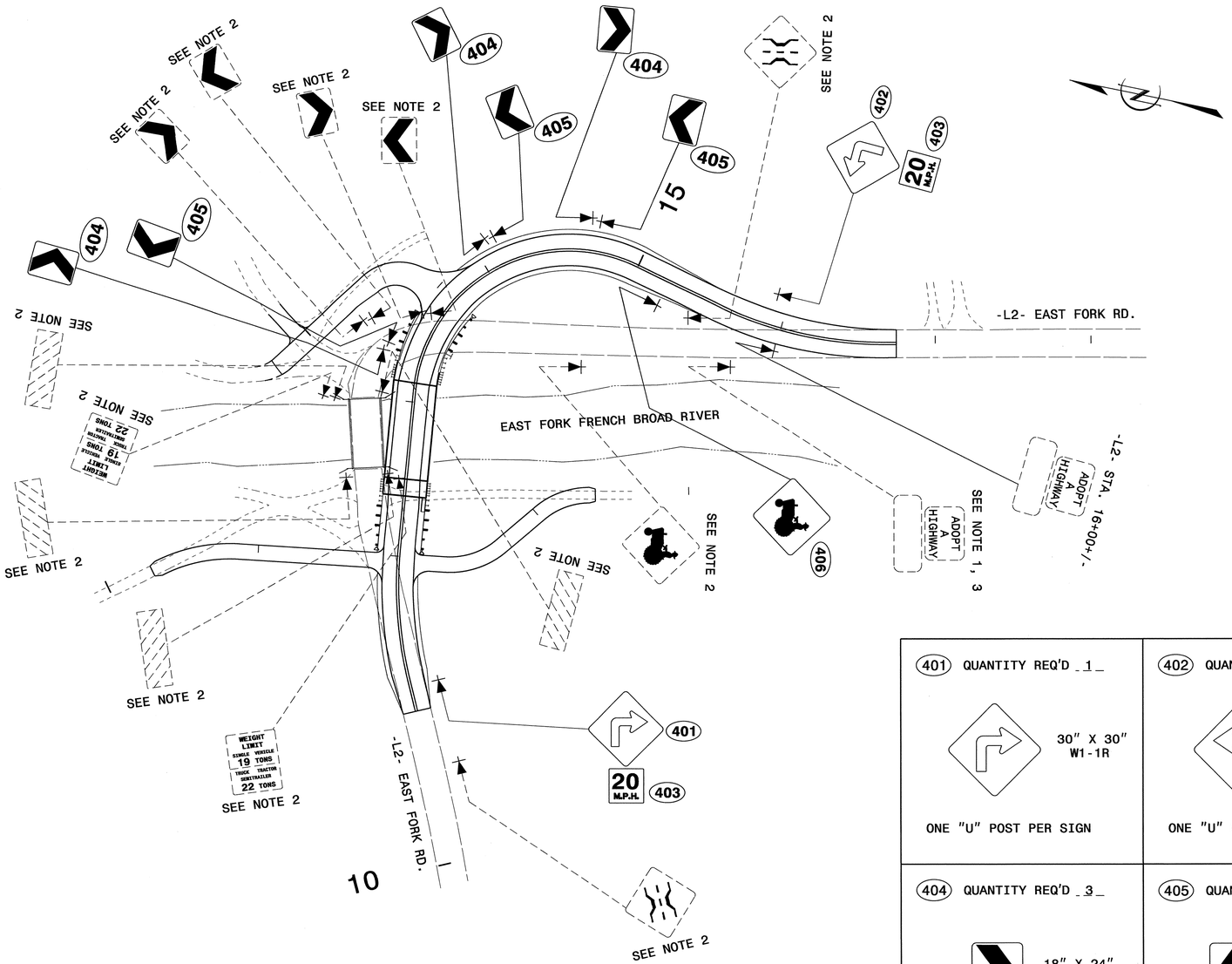
TIP NO.	SHEET NO.
B-4288	SIGN-2

APPROVED: [signature]

DATE: 1/7/14

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING



401 QUANTITY REQ'D 1	402 QUANTITY REQ'D 1	403 QUANTITY REQ'D 2
30" X 30" W1-1R	30" X 30" W1-1L	20 M.P.H. 18" X 18" W13-1P
ONE "U" POST PER SIGN	ONE "U" POST PER SIGN	MOUNT BELOW SIGNS 401 & 402
404 QUANTITY REQ'D 3	405 QUANTITY REQ'D 3	406 QUANTITY REQ'D 1
18" X 24" W1-8R	18" X 24" W1-8L	30" X 30" W11-5
ONE "U" POST PER SIGN	ONE "U" POST PER SIGN	ONE "U" POST PER SIGN

PAY ITEM NOTES

1	RELOCATE SIGN, TYPE E
2	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
3	DISPOSAL OF SUPPORT, U-CHANNEL

SIGN DETAIL SHEET & "E" SIGNS

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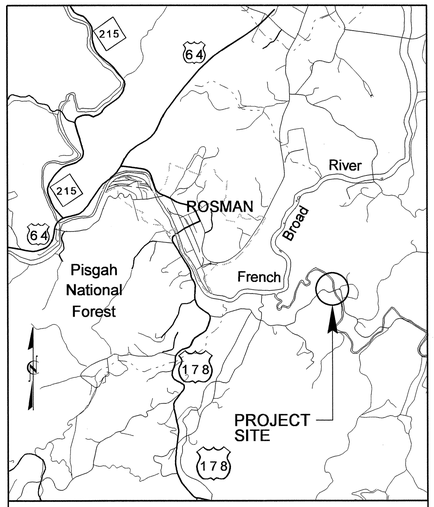
dhbeard AT TE265832

TIP PROJECT: B-4288



VICINITY MAP

THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4288	UO-1

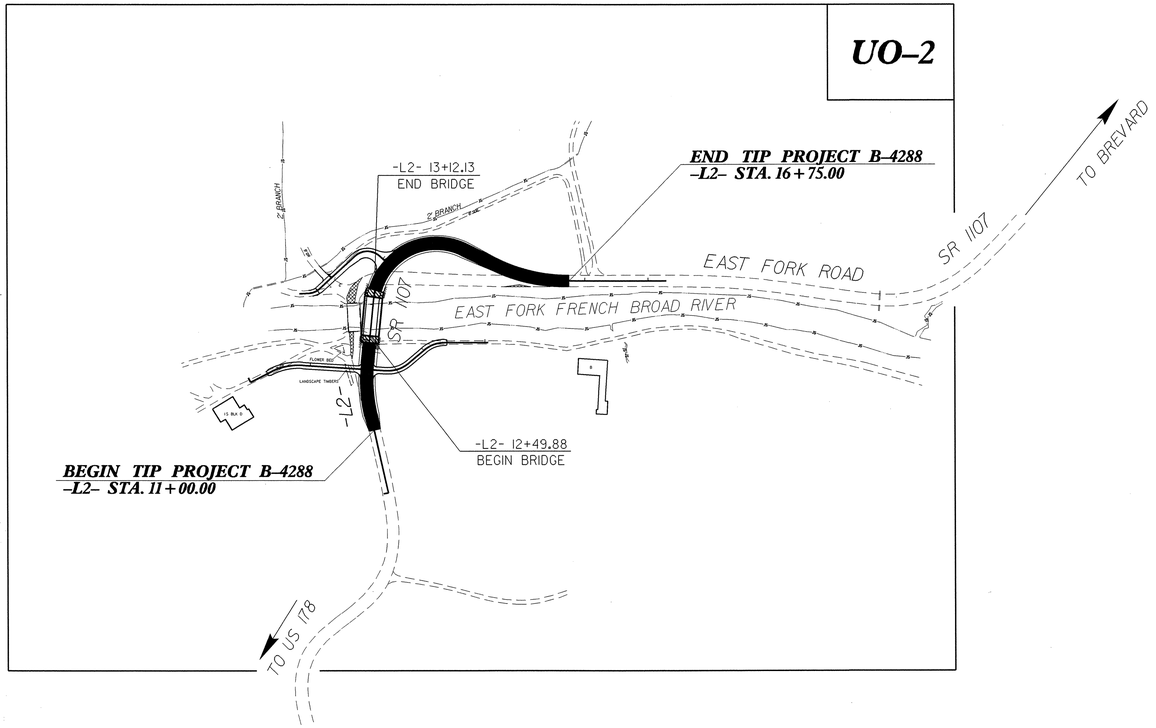
UTILITIES BY OTHERS PLANS
TRANSYLVANIA COUNTY

NAD 83

LOCATION: BRIDGE 85 AND APPROACHES ON SR 1107 OVER EAST FORK FRENCH BROAD RIVER

TYPE OF WORK: ABANDONMENT OF TELEPHONE / CATV

UO-2



GRAPHIC SCALES

50 25 0 25 50
PLANS

50 25 0 25 50
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

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

UTILITY OWNER ON PROJECT

(1) COMPORIUM – TELECOMMUNICATIONS

PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION
1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. – UTILITIES SECTION ENGINEER
Carl A. Barclay, P.E. – UTILITIES SQUAD LEADER PROJECT ENGINEER
James E. Swinson – UTILITIES PROJECT DESIGNER

30-DEC-2013 12:00
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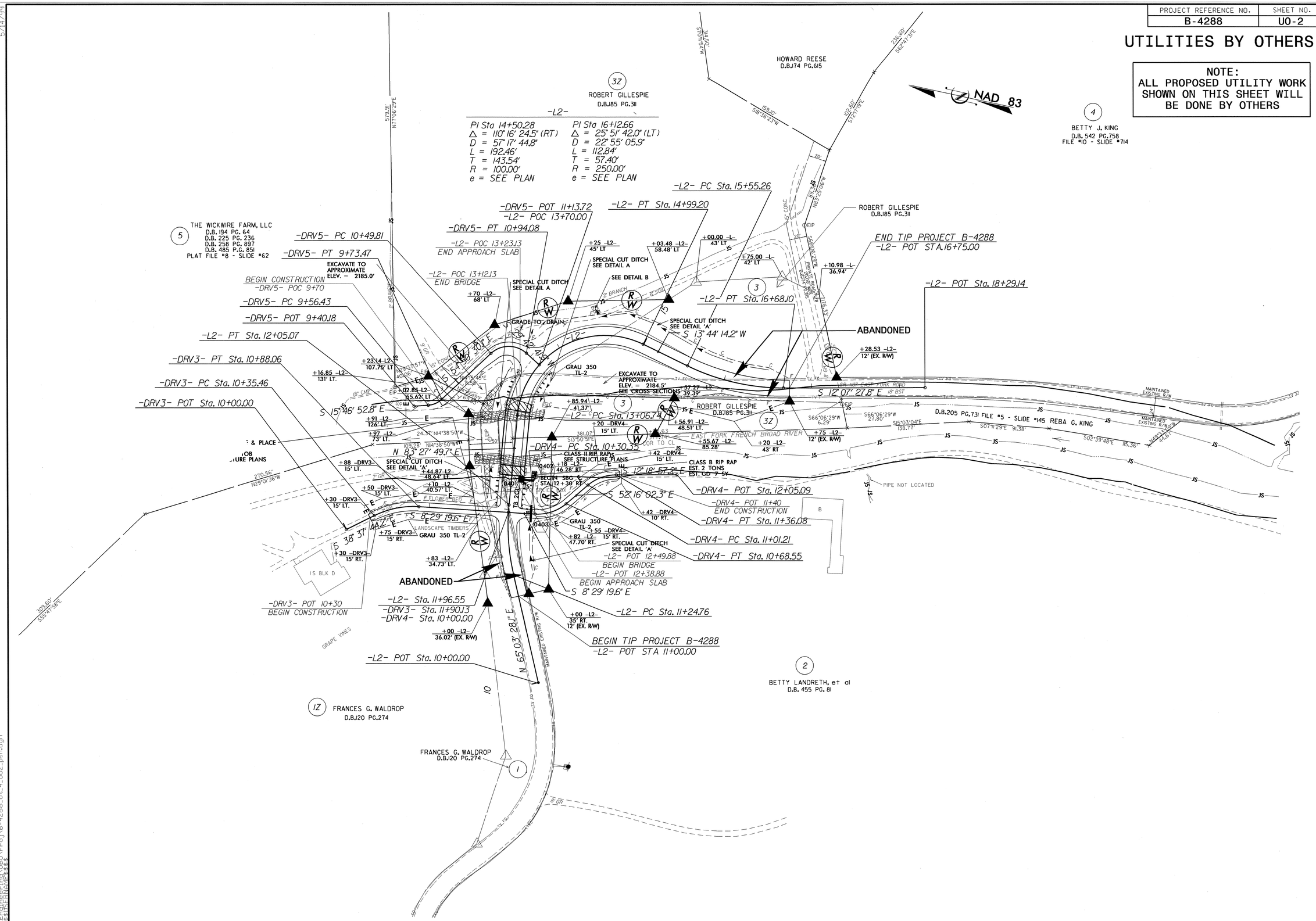
PROJECT REFERENCE NO.	SHEET NO.
B-4288	U0-2

UTILITIES BY OTHERS

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



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PROJ. REFERENCE NO.	SHEET NO.
B-4288	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

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

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L2 PHASE 1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+00.00	0	0
11+25.00	3	1
11+50.00	8	2
11+75.00	10	2
12+00.00	12	2
12+25.00	20	2
12+49.88	26	2

Station L2 PHASE 1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+12.13	0	0
13+25.00	5	8
13+50.00	8	12
13+75.00	3	29
14+00.00	0	54
14+25.00	0	59
14+50.00	0	57
14+75.00	2	52
15+00.00	5	44
15+25.00	6	36
15+50.00	7	29
15+75.00	7	19
16+00.00	7	10
16+25.00	6	5
16+50.00	6	3
16+75.00	3	1

Station L2 PHASE 2	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+12.13	0	0
13+25.00	3	0
13+50.00	49	0
13+75.00	89	0
14+00.00	64	0
14+25.00	38	0
14+50.00	35	0
14+75.00	34	0
15+00.00	35	0
15+25.00	34	0
15+50.00	30	0
15+75.00	20	0
16+00.00	6	0

Station Drv3	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+30.00	0	0
10+50.00	2	0
10+75.00	3	0
11+00.00	0	3
11+25.00	0	7

Station Drv3	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+50.00	0	7

Station Drv4	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+50.00	0	0
10+75.00	0	8
11+00.00	2	2
11+25.00	5	0
11+40.00	2	0

Station Drv5	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
9+70.00	0	0
10+00.00	5	0
10+25.00	4	7
10+50.00	0	20
10+75.00	0	32
11+00.00	0	19

8/23/99

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2190 / 2180

DRV3 0.020 0.020 4:1 2:1
2185.53
2183.1
12+00.00

4:1 0.020 0.020 4:1 2:1
2185.71
2183.150
11+75.00

4:1 0.003 0.020 4:1 2:1
2185.69
2183.275
11+50.00

4:1 EXIST EXIST 4:1 2:1
2185.55
2183.40
11+25.00

EXIST EXIST
2185.39
11+00.00

2185.30
10+75.00

2185.33
10+50.00

2185.40
10+25.00

2185.52
10+00.00

-12-

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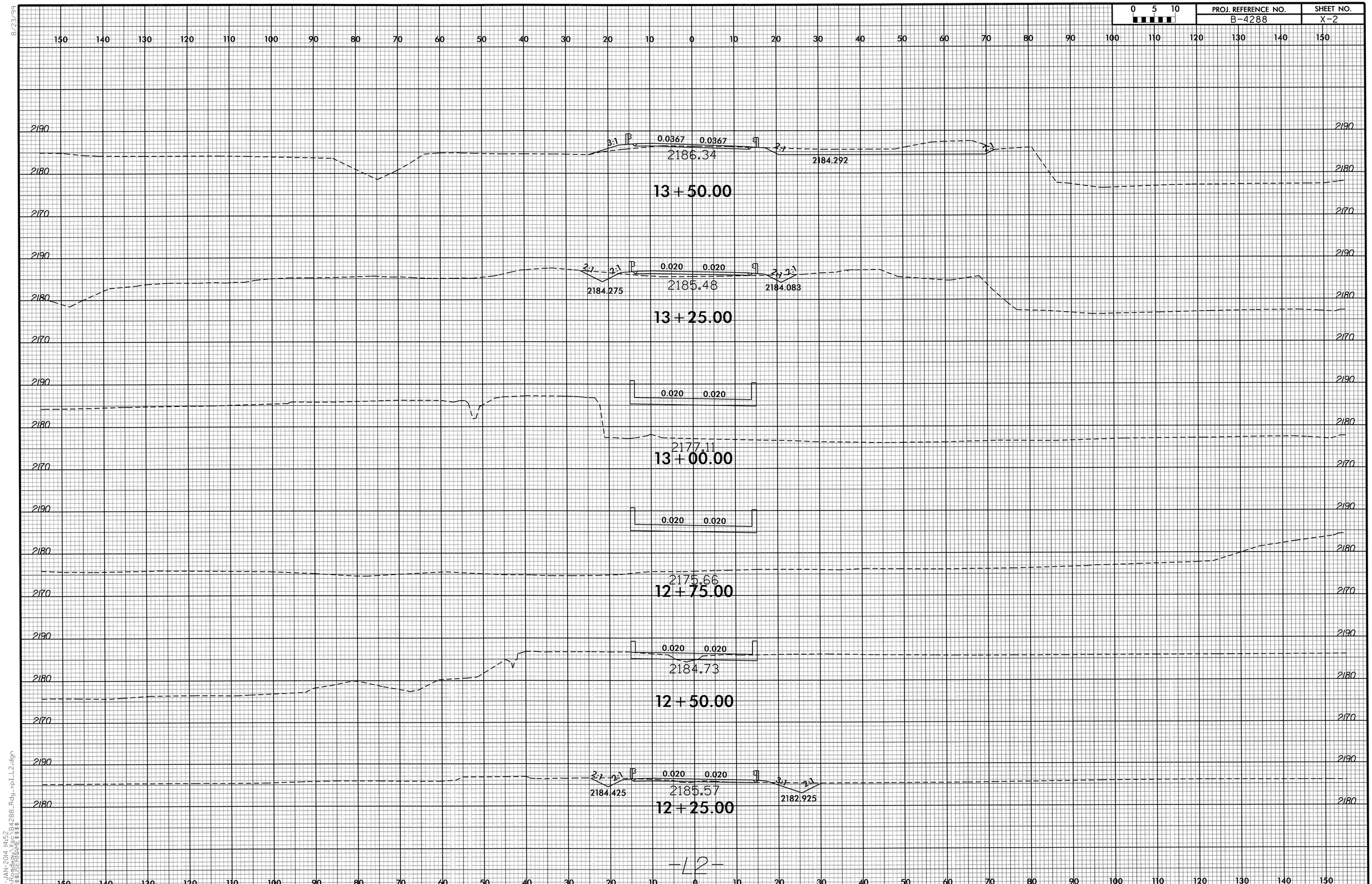

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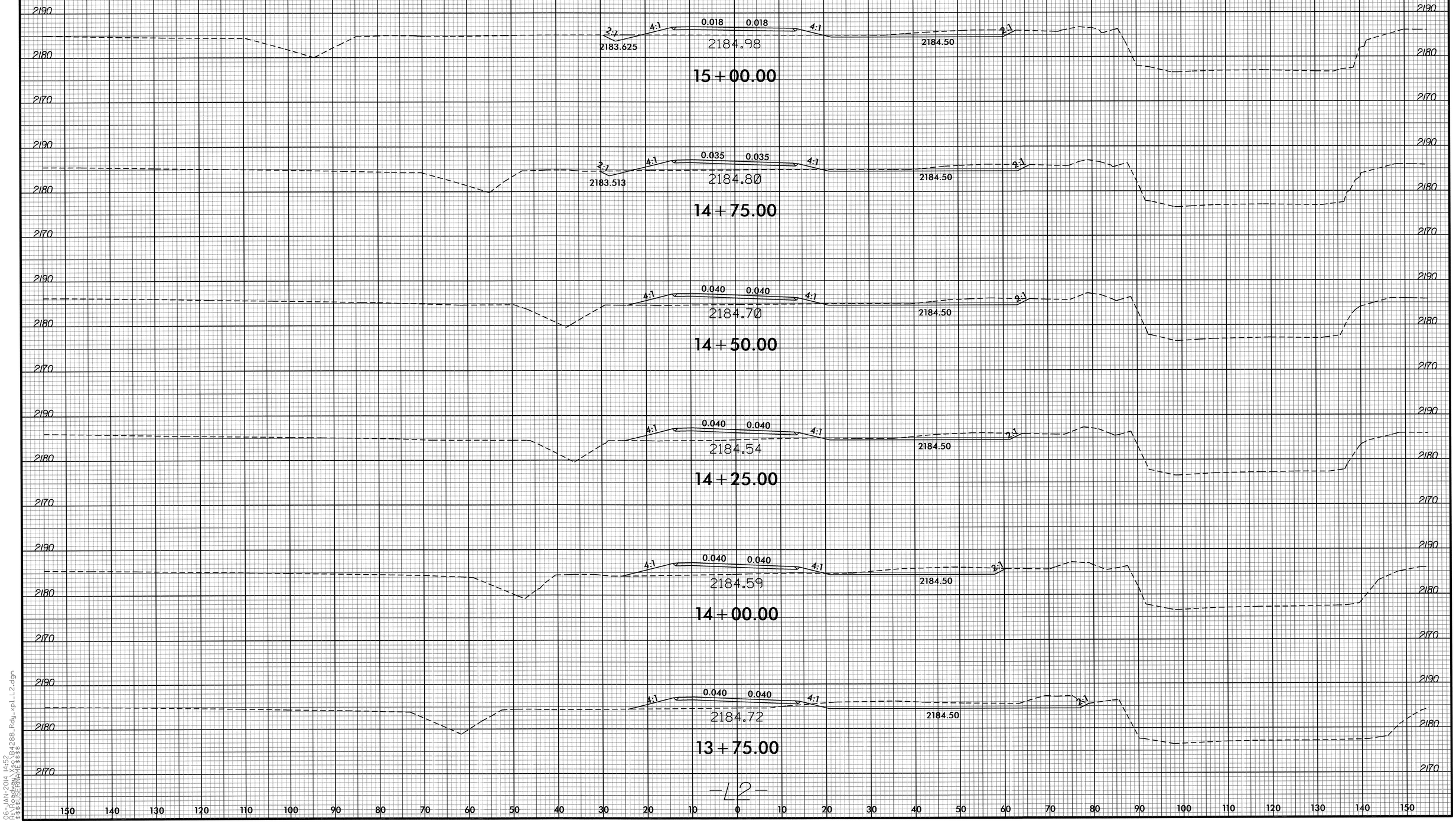

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2190 2180 2170

2:1 4:1 0.030 0.003 3.4:1
2184.30 2186.44

16+50.00

2:1 4:1 0.030 0.013 4:1
2184.188 2186.36

16+25.00

2:1 4:1 0.030 0.030 4:1
2184.075 2186.11

16+00.00

2:1 4:1 0.030 0.030 4:1 2:1
2183.963 2185.24 2184.75

15+75.00

2:1 4:1 0.015 0.015 4:1 2:1
2183.85 2185.23 2184.63

15+50.00

2:1 4:1 0.001 0.001 4:1 2:1
2183.738 2185.06 2184.53

15+25.00

-L2-

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8/23/99

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2186.84

17+50.00

2186.66

17+25.00

2186.54

17+00.00

EXIST EXIST

2186.47

16+75.00

-L2-

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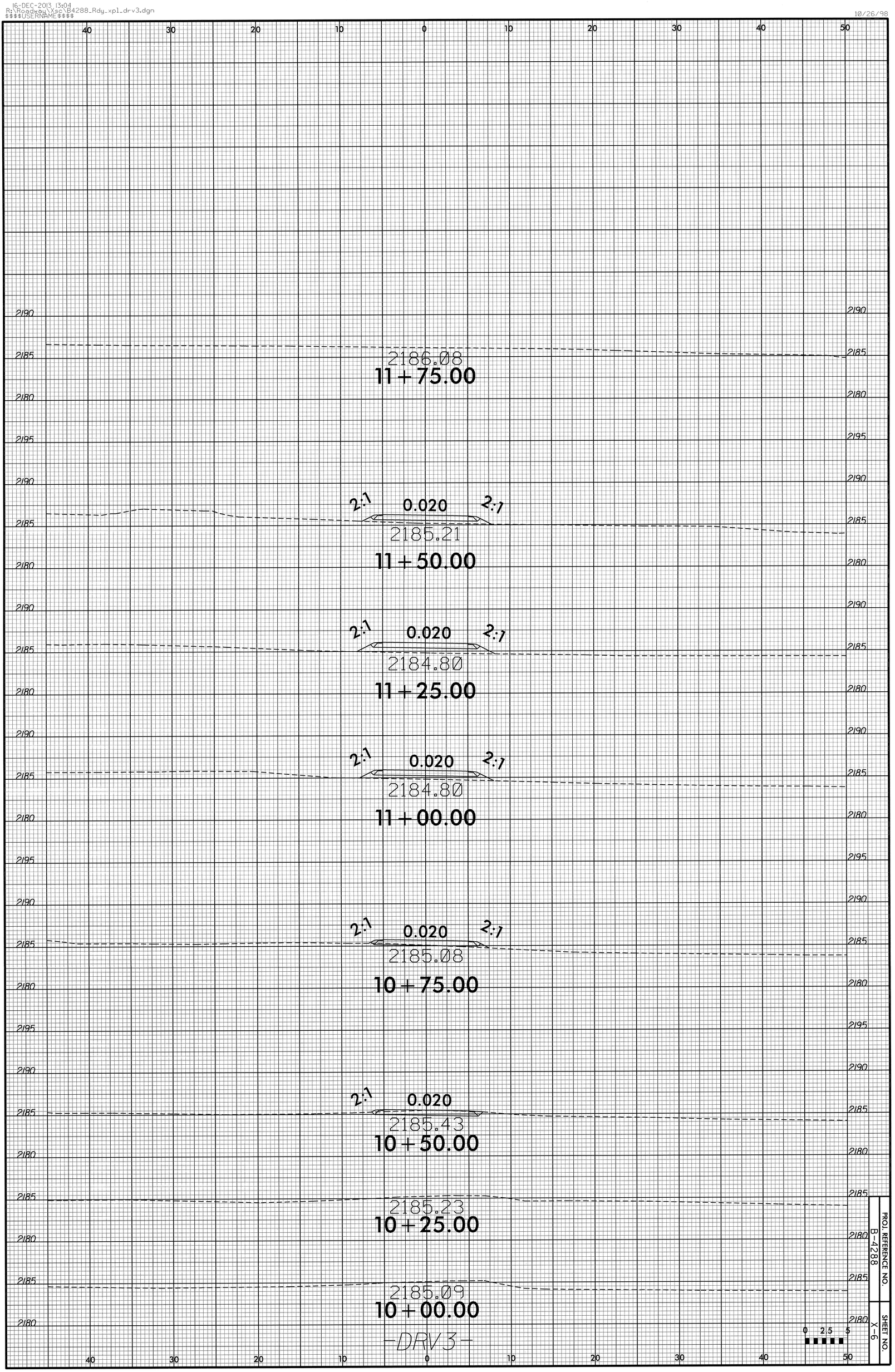

PROJ. REFERENCE NO. B-4288

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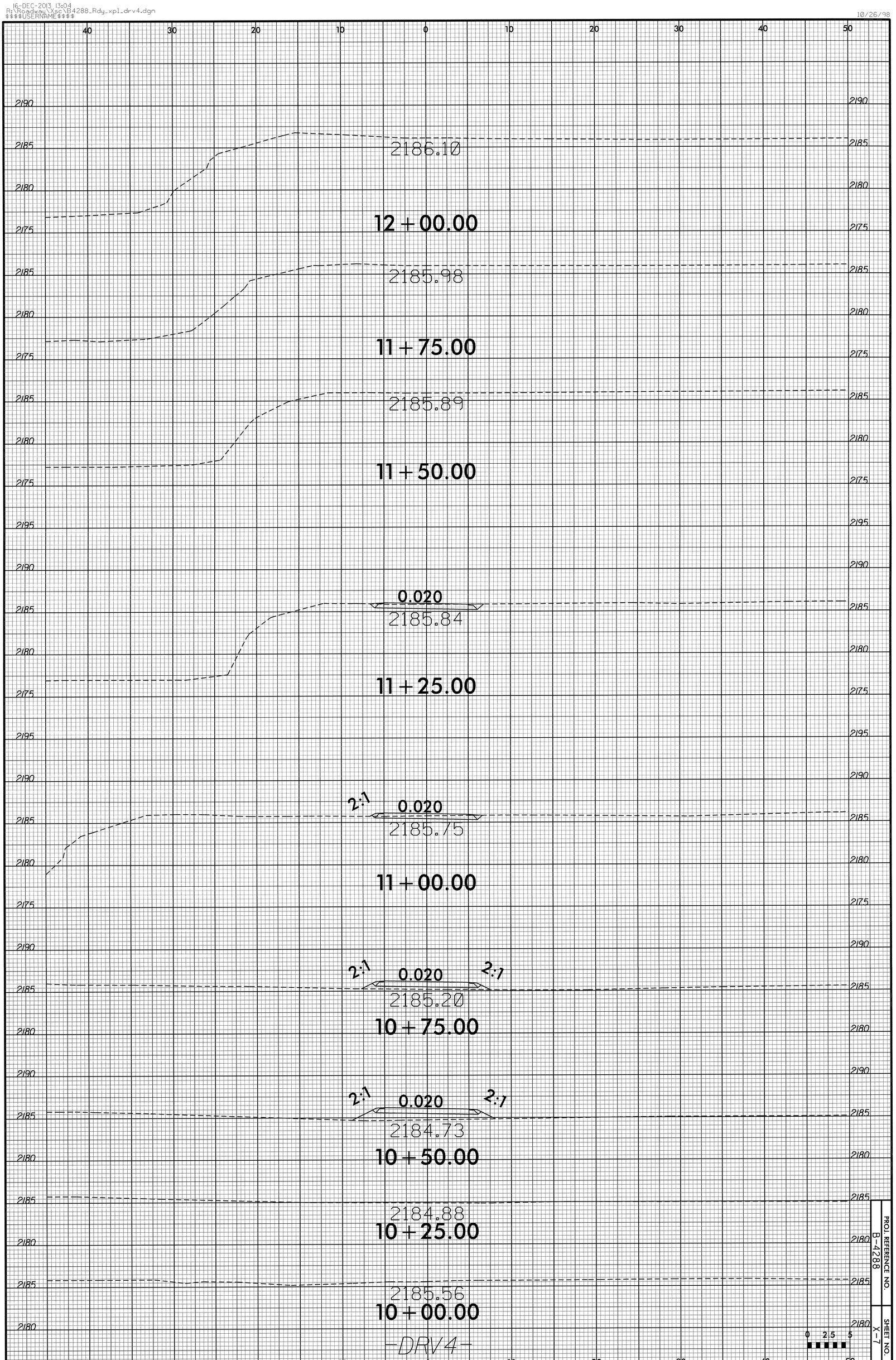
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2185
2180
2175
2186.10
12+00.00
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2195
0.020
2185.84
11+25.00
2:1
0.020
2185.75
11+00.00
2:1
0.020
2:1
2185.20
10+75.00
2:1
0.020
2:1
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2185.56
10+00.00
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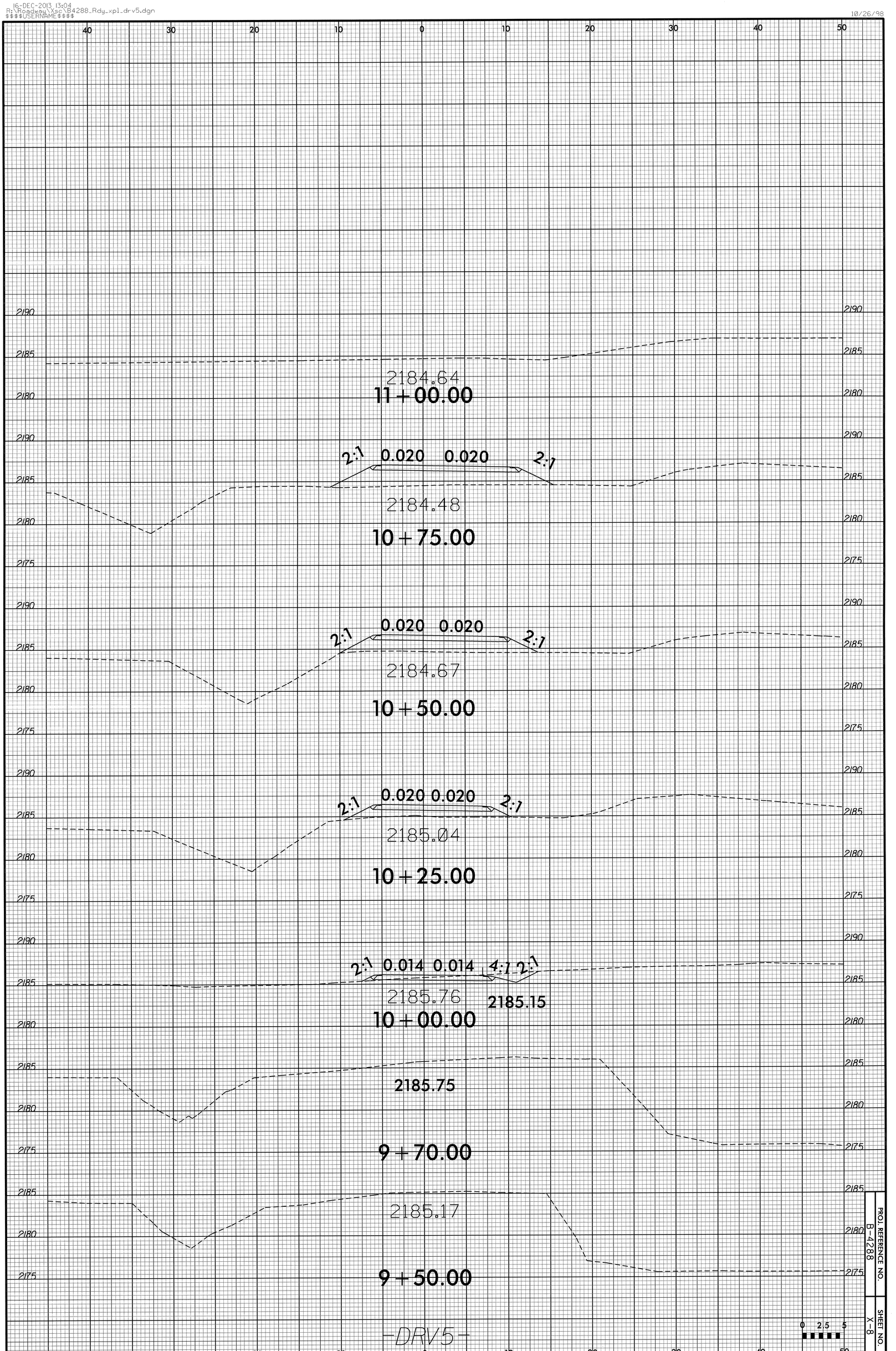
10/26/98



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SHEET NO. X-8