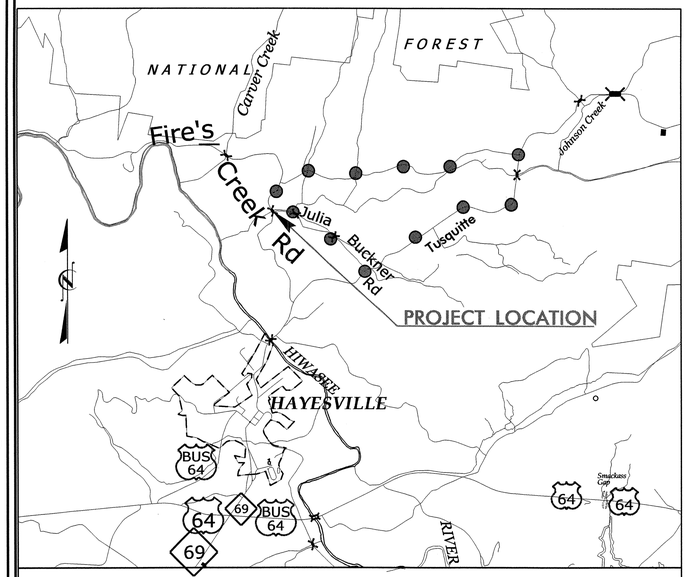
TIP PROJECT: B-4734

CONTRACT: C203308

See Sheet 1-A For Index of Sheets



VICINITY MAP ●—●—● OFFSITE DETOUR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLAY COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4734	1	

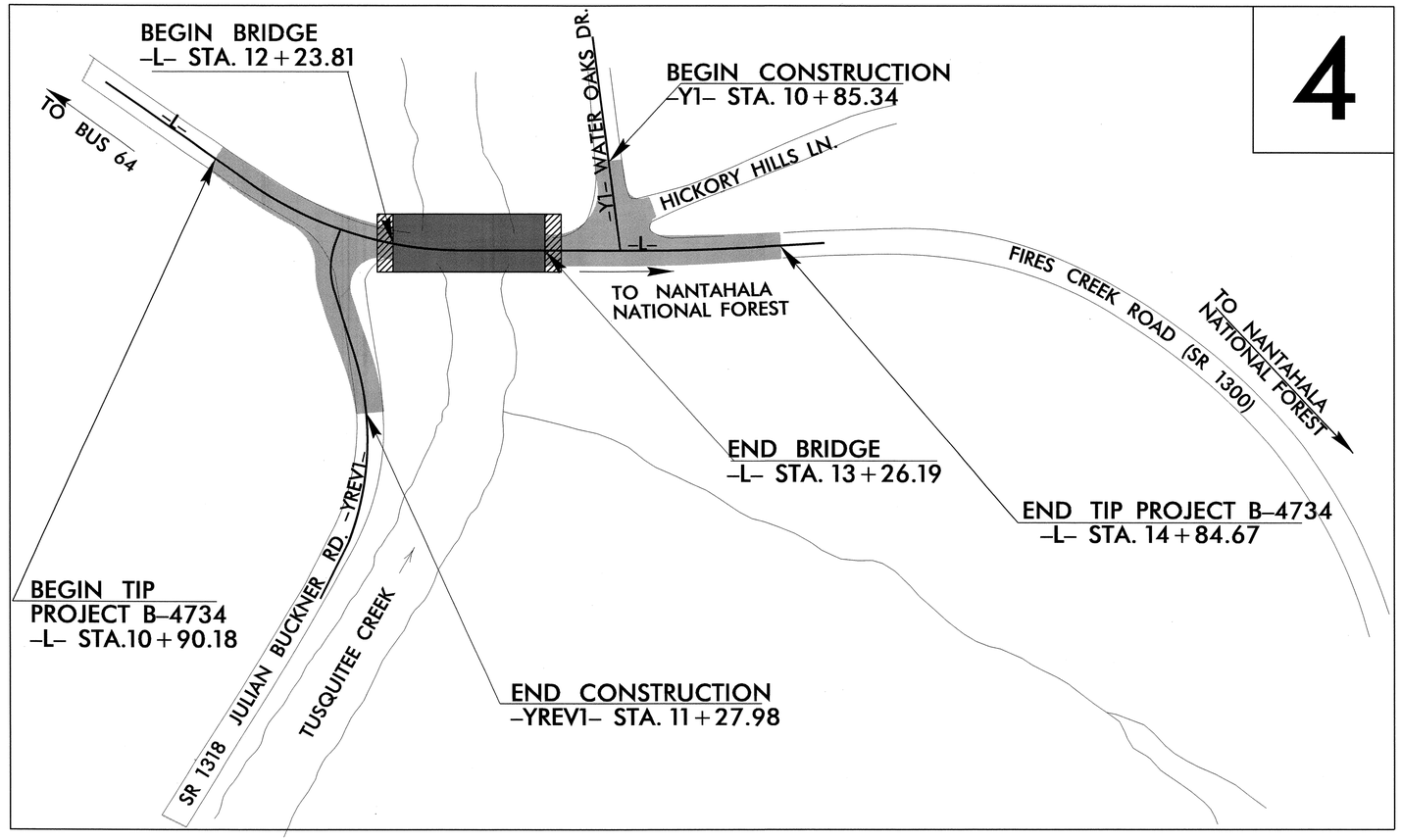
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38507.1.1	BRZ-1300(8)	PE
38507.2.1	BRZ-1300(8)	R/W & UTILITIES
38507.3.FD1	BRZ-1300(8)	CONST.

NAD 83/95

LOCATION: REPLACEMENT OF BRIDGE NO. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK

TYPE OF WORK: DRAINAGE, GRADING, PAVING AND STRUCTURE

4



THIS IS NOT A CONTROL OF ACCESS PROJECT.

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 2010 = 500
ADT 2035 = 900
DHV = 10 %
D = 60 %
T = 5 % *
V = 40 MPH
* TTST = 2% DUAL 3%
FUNC CLASS =
LOCAL RURAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-4734 = 0.056 MI.
LENGTH STRUCTURE TIP PROJECT B-4734 = 0.019 MI.

TOTAL LENGTH TIP PROJECT B-4734 = 0.075 MI.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 31, 2012

LETTING DATE:
AUGUST 20, 2013

B. DOUG TAYLOR, PE
ASSIST. STATE ROADWAY DESIGN ENGINEER

NATHAN N. ADIMA, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 026480 ENGINEER LARRY D. ROBINSON, JR.
SIGNATURE: 5-31-13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADIMA
5/22/13 P.E.
SIGNATURE:

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION

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PROJECT REFERENCE NO.	SHEET NO.
B-4734	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADAMS

5/29/13

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
2 – 2B	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
2C	DETAIL OF STRUCTURE ANCHOR UNITS
3	SUMMARY OF QUANTITIES
3A – 3B	SUMMARY OF DRAINAGE QUANTITIES SUMMARY OF GUARDRAIL, EARTHWORK SUMMARY, ASPHALT PAVEMENT REMOVAL SUMMARY, SHOULDER BERM SUMMARY, AND SUBSURFACE DRAINAGE SUMMARY
4	PLAN SHEET
5	PROFILE SHEET
TMP-1 THRU TMP-4	TRANSPORTATION MANAGEMENT PLANS
PMP-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
RF-1	REFORESTATION DETAIL SHEET
SIGN-1 THRU SIGN-2	SIGNING PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTIONS SUMMARY SHEETS
X-2 THRU X-11	CROSS-SECTIONS
S-1 THRU S-20	STRUCTURE PLANS

GENERAL NOTES: 2012 SPECIFICATIONS

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

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

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 WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE BLUE RIDGE MOUNTAIN EMC-POWER DISTRIBUTION
FRONTIER COMMUNICATIONS-TELEPHONE
ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch – N. C. Department of Transportation – Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 – EARTHWORK	
200.02	Method of Clearing – Method II
225.02	Guide for Grading Subgrade – Secondary and Local
225.04	Method of Obtaining Superelevation – Two Lane Pavement
DIVISION 3 – PIPE CULVERTS	
300.01	Method of Pipe Installation
310.02	Parallel Pipe End Section – Precast Concrete Section for 15" to 24" Pipe
DIVISION 4 – MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills – Sub Regional Tier
DIVISION 5 – SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction – High Side of Superelevated Curve – Method I
DIVISION 6 – ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 – INCIDENTALS	
815.03	Pipe Underdrain and Blind Drain
840.00	Concrete Base Pad for Drainage Structures
840.25	Anchorage for Frames – Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.34	Traffic Bearing Junction Box – for Use with Pipes 42" and Under
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units (Details in Lieu of Standard Drawing as March 2013 Letting)
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

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PROJECT REFERENCE NO.	SHEET NO.
B-4734	1-B

04/16/11

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 Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

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

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
B-4734	1C
Location and Surveys	

SURVEY CONTROL SHEET B-4734
-FINAL-

-FINAL- ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
YREV1	10+42.39	33.39	515421.4840	559466.4306
YREV1	11+27.98	22.56	515482.8783	559519.1959
YREV1	11+27.98	-27.45	515525.1210	559492.4273
YREV1	11+00.00	-71.97	515539.9754	559437.8192
YREV1	10+87.41	-76.78	515531.7893	559421.7405

-FINAL- ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+90.18	-12.16	515335.8365	559388.4098
L	10+90.18	-25.00	515337.6013	559375.7018
L	11+18.79	-25.00	515365.9391	559379.6371
L	12+71.02	-25.00	515498.9730	559357.2845
L	13+29.24	-25.00	515550.8600	559330.8674
L	14+10.17	-48.90	515611.6591	559273.0361
L	14+19.61	-25.00	515630.8625	559289.9211
L	14+84.67	-25.00	515686.5900	559258.2023
L	14+84.67	-11.95	515693.1648	559269.4751
L	14+84.67	12.05	515705.2562	559290.2066
L	14+84.67	25.00	515711.7806	559301.3930
L	13+99.80	25.00	515636.4224	559343.4125
L	12+71.02	25.00	515521.6585	559401.8420
L	11+32.09	10.69	515374.8112	559416.5294

-FINAL- ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
Y1	10+72.61	10.09	515555.3862	559277.1370
Y1	10+73.18	-13.96	515575.5662	559264.0350

FINAL -L-

TYPE	STATION	NORTH	EAST
POT	10+00.00	515244.8397	559388.0597
PC	11+18.79	515362.5002	559404.3995
PT	12+71.02	515510.3157	559379.5633
PC	13+99.80	515625.0772	559321.1350
PT	14+56.88	515675.1780	559293.7996
POT	15+14.67	515725.0970	559264.6850

FINAL -YREV1-

TYPE	STATION	NORTH	EAST
POT	10+00.00	515430.5037	559404.5056
PC	10+09.06	515431.4644	559413.5109
PT	10+42.39	515445.3877	559443.1174
PC	10+87.41	515476.8200	559475.3459
PT	12+16.71	515531.0463	559590.1251
POT	12+59.45	515531.0461	559632.8690

FINAL -Y1-

TYPE	STATION	NORTH	EAST
POT	10+00.00	515522.7406	559211.4978
POT	11+45.34	515604.7615	559331.4783

BL

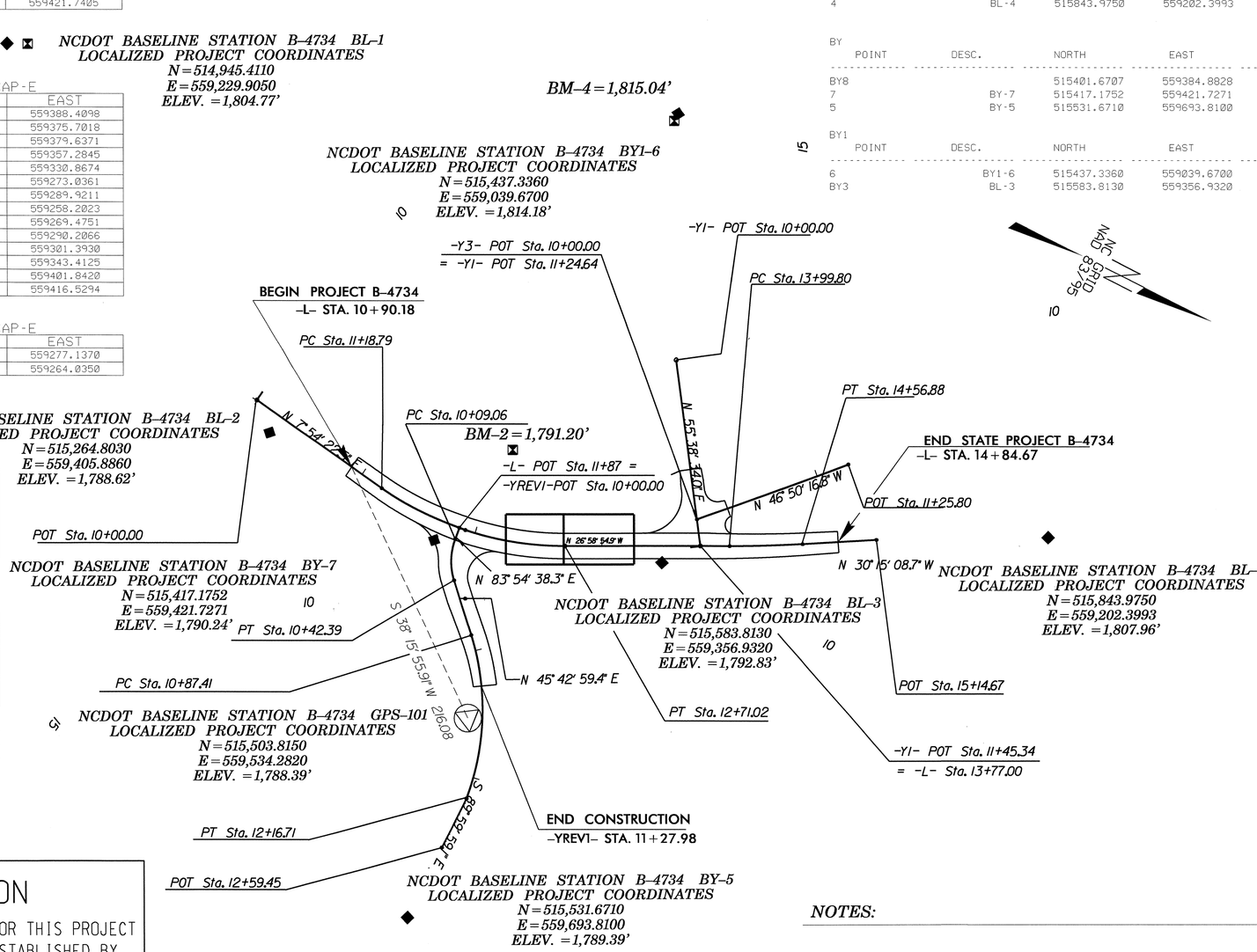
POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	BL-1	514945.4110	559229.9050	1804.77	OUTSIDE PROJECT LIMITS	
2	BL-2	515264.8030	559405.8860	1788.62	10+22.23	14.91 RT
3	BL-3	515583.8130	559356.9320	1792.83	13+46.78	13.18 RT
4	BL-4	515843.9750	559202.3993	1807.96	OUTSIDE PROJECT LIMITS	

BY

POINT	DESC.	NORTH	EAST	ELEVATION	YREV1 STATION	OFFSET
BY8		515401.6707	559384.8828	UNKNOWN	OUTSIDE PROJECT LIMITS	
7	BY-7	515417.1752	559421.7271	1790.24	10+14.15	15.42 RT
5	BY-5	515531.6710	559693.8100	1789.39	OUTSIDE PROJECT LIMITS	

BY1

POINT	DESC.	NORTH	EAST	ELEVATION	Y1 STATION	OFFSET
6	BY1-6	515437.3360	559039.6700	1814.18	OUTSIDE PROJECT LIMITS	
BY3	BL-3	515583.8130	559356.9320	1792.83	OUTSIDE PROJECT LIMITS	



BM1 ELEVATION - 1802.36
N 514960 E 559223
BL STATION 5+09.00 13 LEFT
RR SPIKE IN 15" WALNUT

BM2 ELEVATION - 1791.20
N 515440 E 559332
BL STATION 10+49.00 47 LEFT
RR SPIKE IN 30" POPLAR

BM3 ELEVATION - 1820.42
N 516158 E 559344
BL STATION 14+90.00
N 24°18'7.13" E DIST 344.29
RR SPIKE IN DOUBLE CHERRY

BM4 ELEVATION - 1815.04
N 515437 E 559046
BY1 STATION 5+06.00 3 RIGHT
RR SPIKE IN POWER POLE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "GPS 101"
WITH NAD 83/95 STATE PLANE GRID COORDINATES OF
NORTHING: 515503.8150(ft) EASTING: 559534.2820(ft)
ELEVATION: 1788.393(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 99979658
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS 101" TO -L- STATION 10+90.18 IS
S 38 15 55.91 W 216.08
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

GEOID : GEOID 03
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:
TIP B-4734_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.

6/2/99

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PROJECT REFERENCE NO.	SHEET NO.
B-4734	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

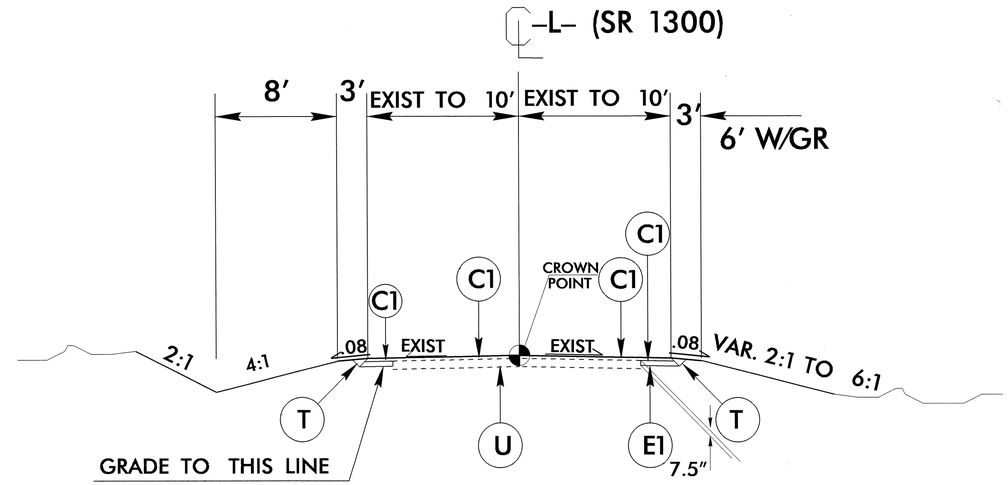
NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADINA 6/11/13

NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER VINAY K. VENUGOPAL 6/11/13

PAVEMENT SCHEDULE

C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
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.
T	EARTH MATERIAL
U	EXISTING PAVEMENT TO BE RETAINED.
W	ASPHALT WEDGING (SEE DETAIL)

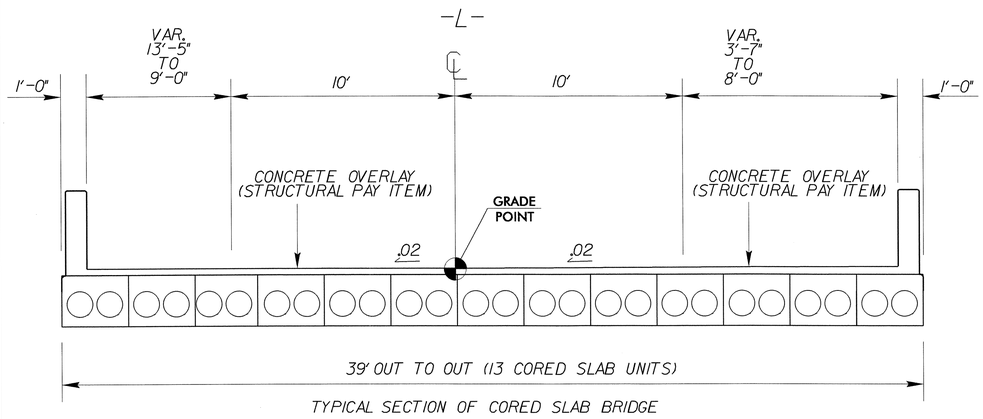
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



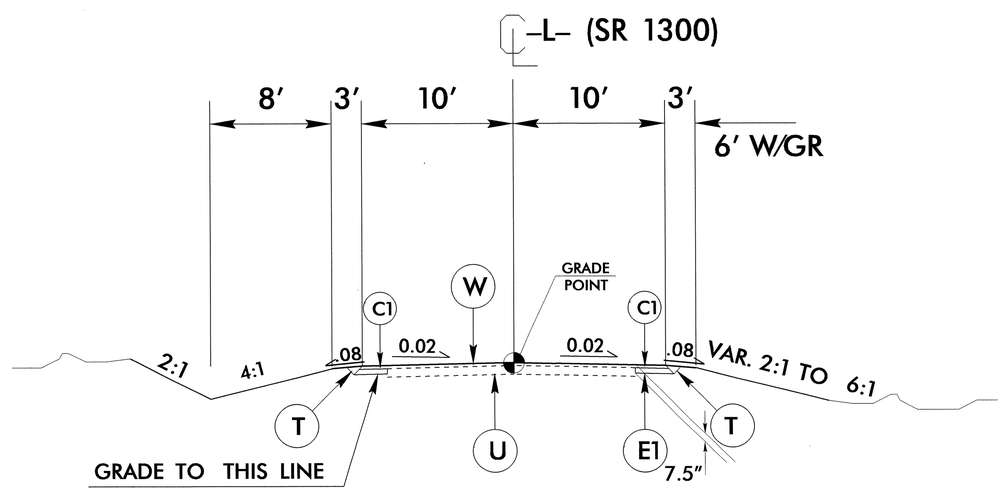
TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1

-L- STA. 10+90.18 TO STA. 11+79.67
-L- STA.14+68.00 TO STA. 14+84.67



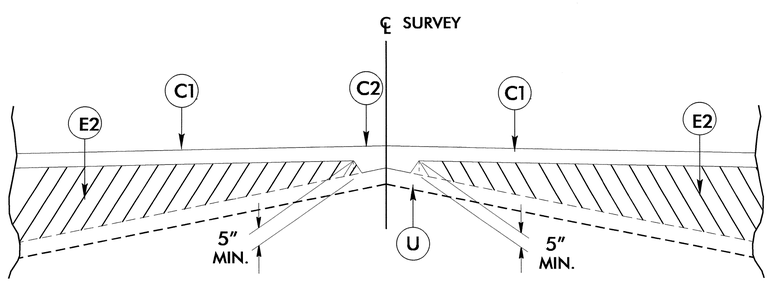
-L- STA.12+23.81 (BEGIN BRIDGE)
TO -L- STA. 13+26.19 (END BRIDGE)



TYPICAL SECTION NO. 2

USE TYPICAL SECTION NO. 2

-L- STA.13+70.00 TO STA. 14+68.00



Detail Showing Method of Wedging

-L- STA.13+70.00 TO STA. 14+68.00

6/2/99
11-JUN-2013 10:17
R:\Roadway\Proj\B4734_Rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4734	2A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

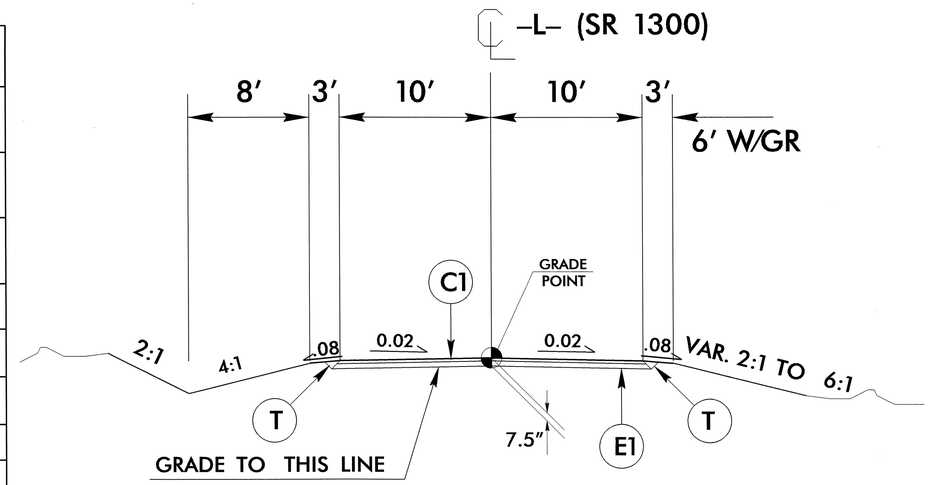
NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADAMS 5/22/13

NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER ANTONIO BERMUDO MAY 22nd 2013

PAVEMENT SCHEDULE

C1	2.5" SF9.5A,
C2	VAR. DEPTH SF9.5A,
E1	5" B25.0B,
E2	VAR. DEPTH B25.0B.
R1	SHOULDER BERM GUTTER
T	EARTH MATERIAL
U	EXISTING PAVEMENT TO BE RETAINED.
W	ASPHALT WEDGING (SEE DETAIL)

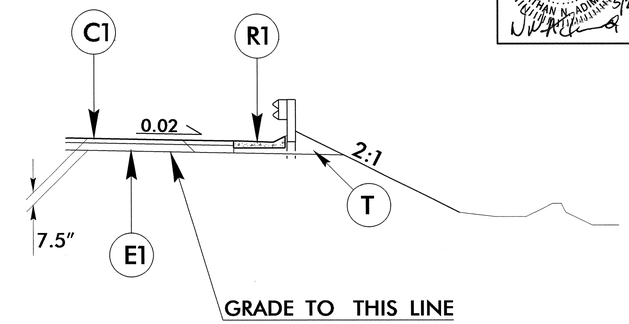
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 3

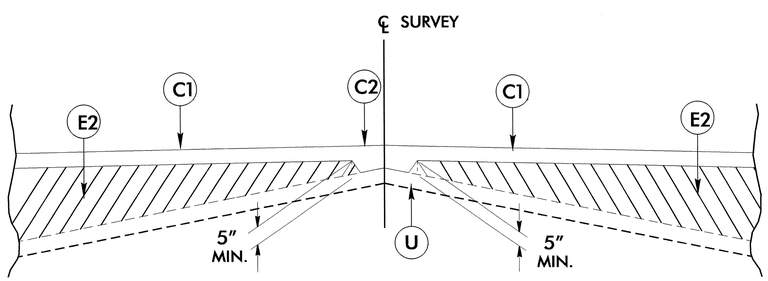
USE TYPICAL SECTION NO. 3

-L- STA.11+79.67 TO STA. 12+23.81 (BEGIN BRIDGE)
-L- STA. 13+26.19 (END BRIDGE) TO 13+70.00



Detail Showing Shoulder Berm Gutter in Relationship to the Pavement and Guardrail

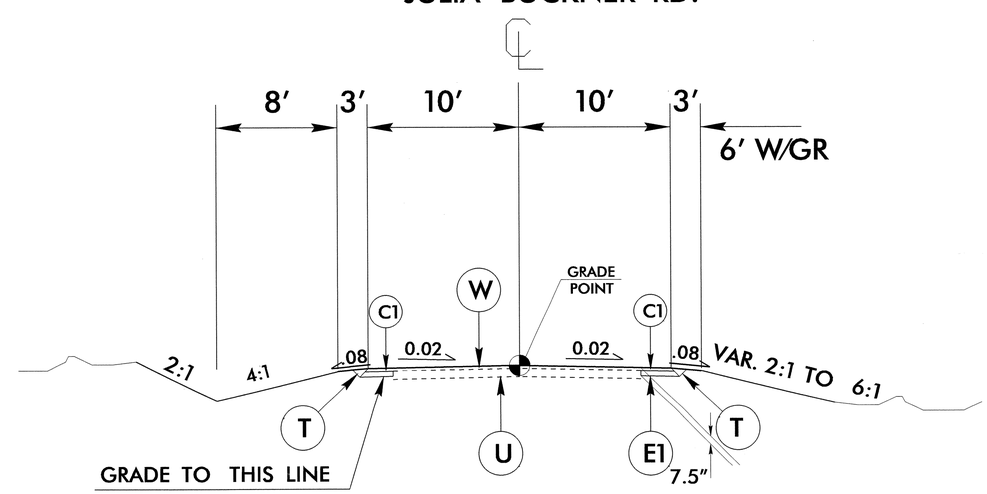
-L- STA.11+94.47 TO STA. 12+09.23 LT
-L- STA.13+37.19 TO STA. 13+66.44 RT
-YREV1- STA.10+25.44 TO STA. 10+48.86 LT
-L- STA.13+37.19 TO STA. 13+44.00 RT
-Y1- STA.10+93.32 TO STA. 11+19.95 RT



Detail Showing Method of Wedging

-YREV1- STA. 10+09.94 TO STA. 11+27.98

-YREV1- (SR 1318)
JULIA BUCKNER RD.



TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4

-YREV1- STA. 10+09.94 TO 11+27.98

22-MAY-2013 08:13
R:\Roadway\Proj\B4734_Rdy_typ.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4734	2B

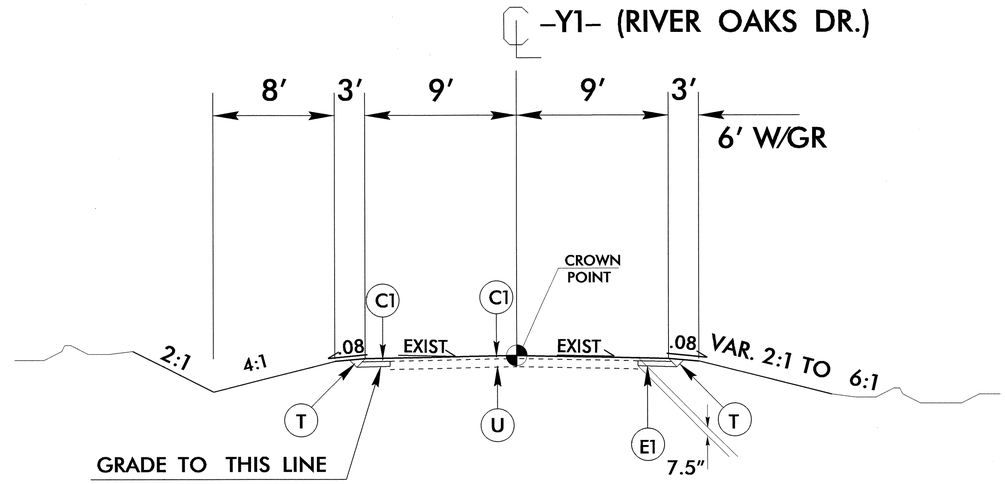
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADAMS
5/29/13

PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER LATONYA L. MEANS
MAY 28th 2013

PAVEMENT SCHEDULE

C1	2.5" SF9.5A,
C2	VAR. DEPTH SF9.5A,
E1	5" B25.0B,
E2	VAR. DEPTH B25.0B.
T	EARTH MATERIAL
U	EXISTING PAVEMENT TO BE RETAINED.
W	ASPHALT WEDGING (SEE DETAIL)

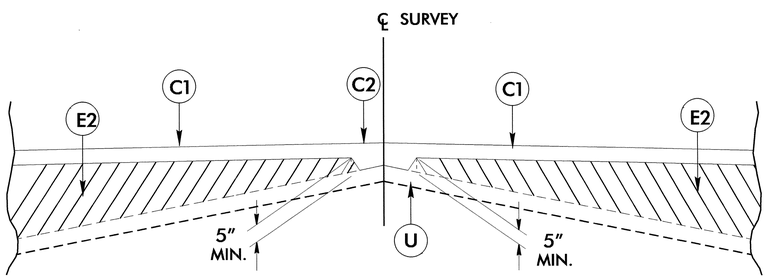
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO. 5

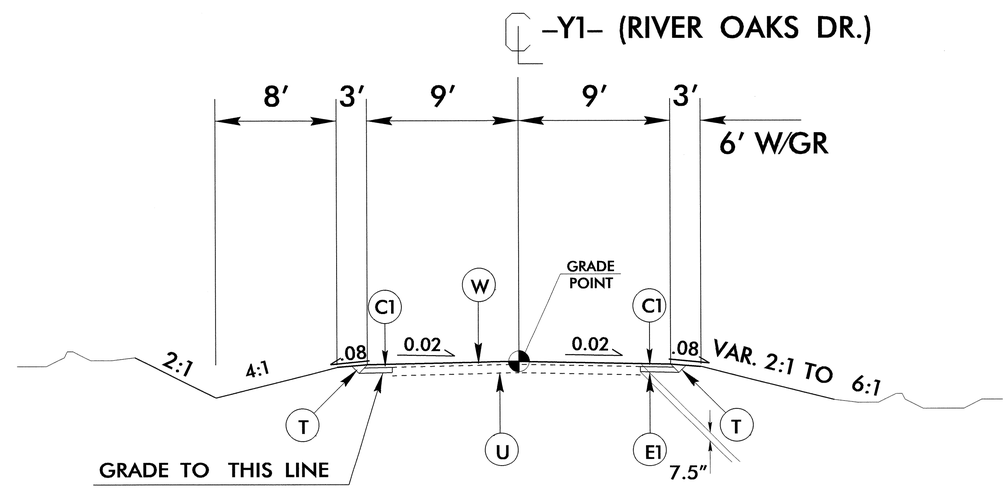
USE TYPICAL SECTION NO. 5

-Y1- STA. 10+85.34 TO STA. 10+95.33



Detail Showing Method of Wedging

-Y1- STA.10+95.33 TO STA. 11+35.25



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5

-Y1- STA. 10+95.33 TO STA. 11+35.25

6/2/99

28-MAY-2013 10:26
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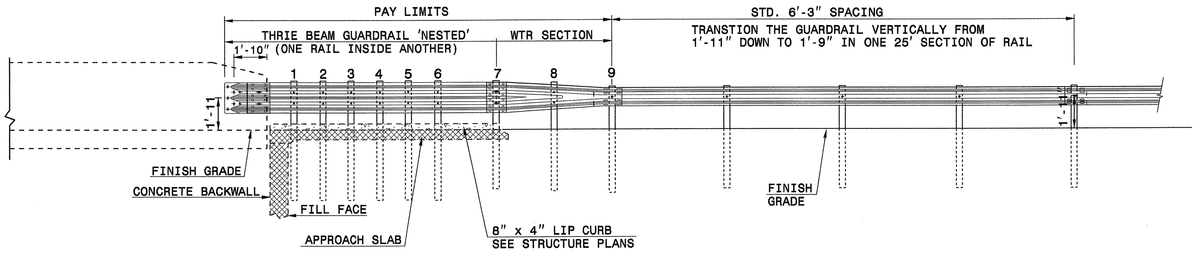
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

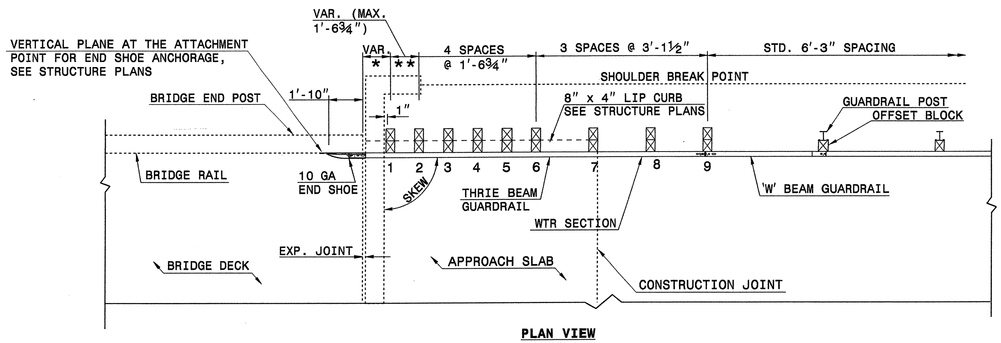
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03



ELEVATION

NOTE:
**POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
*THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
-SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 8" x 4" LIP CURB IS SHOWN IF ANCHOR UNIT IS NOT ADJACENT TO AN APPROACH SLAB.
-MEASURE GUARDRAIL HEIGHT FROM THE TOP OF ADJACENT SURFACE (SHOULDER, BERM, OR GUTTER).
-LAP JOINTS IN THE DIRECTION OF TRAFFIC FLOW.
-SEE SHEET 5 FOR POST SECTIONS 1 THRU 9.



PLAN VIEW

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

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

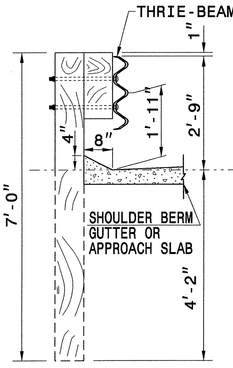
ENGLISH DETAIL DRAWING FOR
STRUCTURE ANCHOR UNITS
GUARDRAIL ANCHOR UNIT, TYPE III FOR ATTACHMENT TO RAIL ON BRIDGE - SUB REGIONAL TIER

SHEET 2 OF 7
862d03

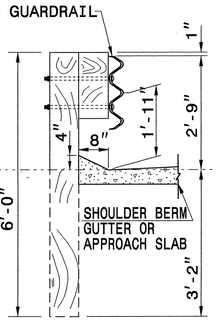
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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

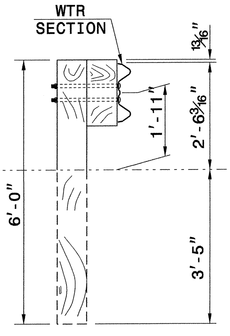
SHEET 3 OF 7
862d03



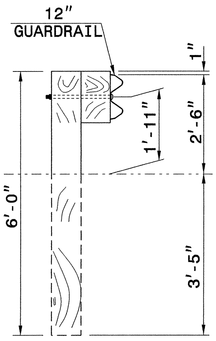
SECTION OF THRIE BEAM POSTS 1 THRU 6



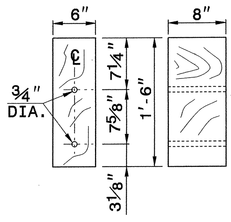
SECTION OF THRIE BEAM POST 7



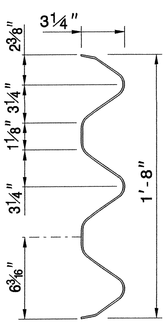
SECTION OF WTR BEAM POST 8



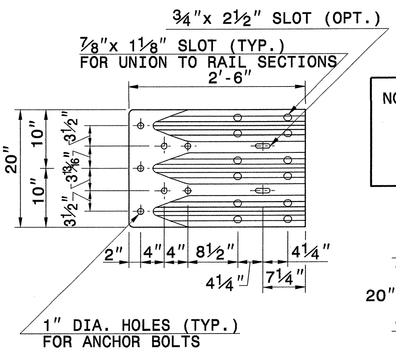
SECTION OF 'W' BEAM POST 9



THRIE BEAM OFFSET BLOCK

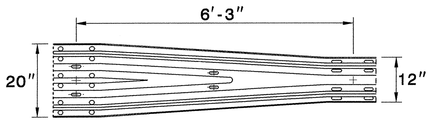


THRIE-BEAM SECTION

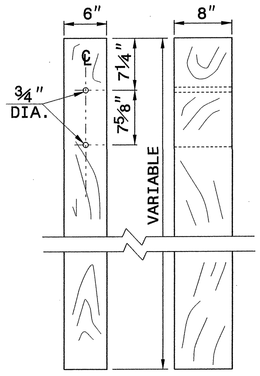


END SHOE

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



WTR SECTION
ELEVATION VIEW



THRIE BEAM LINE POST

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

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

SHEET 3 OF 7
862d03

SEE TITLE BLOCK

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

ORIGINAL BY: J. HOMERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/3/12
FILE SPEC:

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER

PROJECT REFERENCE NO. B-4734
SHEET NO. 2-C

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203308

SUMMARY OF QUANTITIES - B-4734

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ******* (12+75.00-L-)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUB-BING
0057000000-E	226	150	CY	UNDERCUT EXCAVATION
0134000000-E	240	90	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	300	SY	GEOTEXTILE FOR SOIL STABILIZA-TION
0318000000-E	300	30	TON	FOUNDATION CONDITIONING MATE-RIAL, MINOR STRUCTURES
0320000000-E	300	90	SY	FOUNDATION CONDITIONING GEO-TEXTILE
0335300000-E	305	40	LF	18" DRAINAGE PIPE
0335400000-E	305	36	LF	24" DRAINAGE PIPE
0335850000-E	305	2	EA	**" DRAINAGE PIPE ELBOWS (18")
0335850000-E	305	2	EA	**" DRAINAGE PIPE ELBOWS (24")
0448200000-E	310	72	LF	15" RC PIPE CULVERTS, CLASS IV
0448400000-E	310	76	LF	24" RC PIPE CULVERTS, CLASS IV
0448500000-E	310	52	LF	30" RC PIPE CULVERTS, CLASS IV
0453000000-E	310	1	EA	**" PIPE END SECTION (24")
0995000000-E	340	161	LF	PIPE REMOVAL
1099500000-E	505	50	CY	SHALLOW UNDERCUT
1099700000-E	505	95	TON	CLASS IV SUBGRADE STABILIZA-TION
1220000000-E	545	20	TON	INCIDENTAL STONE BASE
1330000000-E	607	90	SY	INCIDENTAL MILLING
1489000000-E	610	120	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1525000000-E	610	200	TON	ASPHALT CONC SURFACE COURSE, TYPE SF9.5A
1575000000-E	620	25	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	10	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2022000000-E	815	45	CY	SUBDRAIN EXCAVATION
2033000000-E	815	34	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	200	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	3	EA	MASONRY DRAINAGE STRUCTURES
2308000000-E	840	0.4	LF	MASONRY DRAINAGE STRUCTURES
2355000000-N	840	1	EA	FRAME WITH GRATE, STD 840.29
2396000000-N	840	2	EA	FRAME WITH COVER, STD 840.54
2556000000-E	846	123	LF	SHOULDER BERM GUTTER
3030000000-E	862	75	LF	STEEL BM GUARDRAIL
3045000000-E	862	50	LF	STEEL BM GUARDRAIL, SHOP CURVED
3150000000-N	862	5	EA	ADDITIONAL GUARDRAIL POSTS
3165000000-N	SP	2	EA	GUARDRAIL ANCHOR UNITS, TYPE ********** (350 TL-2)
3195000000-N	862	2	EA	GUARDRAIL ANCHOR UNITS, TYPE AT-1
3215000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE III
3649000000-E	876	17	TON	RIP RAP, CLASS B
3656000000-E	876	1,250	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	91	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4096000000-N	904	2	EA	SIGN ERECTION, TYPE D
4102000000-N	904	2	EA	SIGN ERECTION, TYPE E
4155000000-N	907	7	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	690	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	144	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	178	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4430000000-N	1130	10	EA	DRUMS
4435000000-N	1135	10	EA	CONES
4445000000-E	1145	120	LF	BARRICADES (TYPE III)
4450000000-N	1150	960	HR	FLAGGER
4516000000-N	1180	16	EA	SKINNY DRUM
4810000000-E	1205	5,506	LF	PAINT PAVEMENT MARKING LINES (4")
4835000000-E	1205	32	LF	PAINT PAVEMENT MARKING LINES (24")
6000000000-E	1605	800	LF	TEMPORARY SILT FENCE
6006000000-E	1610	440	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	55	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	210	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	0.5	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEED-ING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	300	LF	SAFETY FENCE
6030000000-E	1630	150	CY	SILT EXCAVATION
6036000000-E	1631	1,150	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	160	SY	COIR FIBER MAT
6038000000-E	SP	25	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	270	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	6	EA	SPECIAL STILLING BASINS
6071012000-E	SP	75	LF	COIR FIBER WATTLE
6071020000-E	SP	25	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	100	LF	COIR FIBER BAFFLE
6071050000-E	SP	1	EA	**" SKIMMER (1-1/2")
6084000000-E	1660	0.5	ACR	SEEDING & MULCHING
6087000000-E	1660	0.2	ACR	MOWING
6090000000-E	1661	50	LB	SEED FOR REPAIR SEEDING
6093000000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
6096000000-E	1662	50	LB	SEED FOR SUPPLEMENTAL SEEDING
6108000000-E	1665	0.25	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL
6123000000-E	1670	0.1	ACR	REFORESTATION

COMPUTED BY: BV DATE: 6/11/2012

CHECKED BY: JDL DATE: 6/11/2012

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROJECT NO.	SHEET NO.
B-4734	3-A

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) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
12+04 -L-	LT	405		1791.4	1788.6														
12+04 -L-	LT	405	408		1788.6	1785.7	0.04												
10+50-YREV1-	RT	407	408		1786.5	1784.5	0.09												
10+58 -YREV1-	CL	408		1789.9	1784.5														
10+58 -YREV1-	LT	408	406		1784.5	1784.2	0.01												
10+50.84-Y3-	LT	404	402		1799.4	1789.9	0.23			40						X			
14+25-L-	LT	403		1796.3	1794.3														
14+25-L-	LT	403	402		1794.3	1789.9	0.13				33					X			
13+90-L-	LT	402		1794.8	1789.9														
13+90-L-	LT	402	401		1789.9	1789.0	0.01												
SHEET TOTALS										40	33								
SAY										40	36								

STATION	C.S. PIPE 12" (.064)	15" (.064)	18" (.064)	24" (.064)	30" (.079)	36" (.079)	42" (.109)	48" (.109)	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
12+04 -L-																								
12+04 -L-																		69						
10+50-YREV1-																					22			
10+58 -YREV1-																								
10+58 -YREV1-																					28			
10+50.84-Y3-																								
14+25-L-																								
14+25-L-																								
13+90-L-																								
13+90-L-																				75				
SHEET TOTALS																		69		75	50			
SAY																		72		76	52			

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 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. FRAME WITH GRATE STD. 840.20	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	TRAFFIC BEARING G.D.I. STD. 840.35	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	TRAFFIC BEARING J.B. STD. 840.34	M.H. FRAME AND COVER STD. 840.54	PARALLEL PIPE END SECTION STD. 310.02	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
12+04 -L-								1																		1	1								
12+04 -L-																																			
10+50-YREV1-																																		42	
10+58 -YREV1-								1	0.4																			1	1						
10+58 -YREV1-																																			
10+50.84-Y3-																															2 @ 18"			29	
14+25-L-																														1					
14+25-L-																															2 @ 24"				
13+90-L-								1																				1	1						
13+90-L-																																		90	
SHEET TOTALS								3	0.4																	1	1	2	2	1	2 @ 18"			161	
SAY								3	0.4																	1	1	2	2	1	2 @ 24"			161	

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: NNA	DATE 5/7/2013
CHECKED BY: EM	DATE: 5/07/2013

PROJECT NO.	SHEET NO.
B-4734	3-B

RD261581

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK IN CUBIC YARDS

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
-L- 11+00 TO 12+23.81		2	48	46	0
-L- 13+26..19 TO 14+75		3	75	72	0
-YREV1- 10+00 TO 11+27.98		142	39	0	103
Y1- 10+50 TO 11+35		106	3	0	103
SUBTOTALS:		253	165	118	206
PROJECT TOTALS:		253	165	118	206
LOSS DUE TO CLEAR & GRUB:		-13		0	-13
WASTE IN LIEU OF BORROW:				-118	-118
SHOULDER BORROW:					
PROJECT TOTALS:		240	165	0	75
GRAND TOTALS:		240			
SAY:		250			
DRAINAGE DITCH EXCAVATION		90	CY		
SHALLOW UNDERCUT		50	CY	Contingency Item	
UNDERCUT EXCAVATION		150	CY	Contingency Item	
CLASS IV SUBGRADE STABILIZATION		95	TONS	Contingency Item	
SELECT GRANULAR MATERIAL		100	CY	Contingency Item	

SUMMARY OF SUBSURFACE DRAINAGE

LINE	STATION	STATION	LOCATION	DRAIN TYPE	LF
CONTINGENCY				UD	200

UD = UNDER DRAIN
BD = BLIND DRAIN
SD = SUBSURFACE DRAIN

SUMMARY OF SHOULDER BERM GUTTER

LINE	STATION	STATION	LOCATION	LF
-L-	11+94.47	12+09.23	LT	14.8
-L-	13+37.19	13+66.44	RT	29.3
-YREV1-	10+25.44	10+48.86	LT	31.3
-L-	13+37.19	13+44.00	RT	6.8
-Y1-	10+93.32	11+19.95	RT	40.6
			TOTAL	122.7
			SAY	123

SUMMARY OF EXISTING ASPHALT PAVEMENT REMOVAL

LINE	Station	Station	LOC	SY
L	11+80	12+24	LT,RT	88.28
L	13+26	13+70	LT,RT	87.62
			TOTAL	175.9
			SAY:	180

Note: Approximate quantities only. Unclassified excavation fine grading, clearing and grubbing and removal of existing 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.

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

GUARDRAIL SUMMARY

LINE	BEG. STA.	END STA.	LOC.	LENGTH STRAIGHT	LENGTH SHOP CURVED		LENGTH DOUBLE FACED	WARRANT POINT APPR. END	WARRANT POINT TRAIL. END	"N" DIST. FROM E.O.L.	TOTAL SHLDR WIDTH	FLAIR LENGTH APPR. END	FLAIR LENGTH TRAIL. END	W APPR. END	W TRAIL. END	ANCHORS XI MOD	ANCHORS XI	ANCHORS GRAU 350(TL-2)	ANCHORS TYPE-III	ANCHORS XII	ANCHORS CAT-1	ANCHORS AT-1	IMP. ATTEN. TYPE 350 EA	IMP. ATTEN. TYPE 350 G	IMP. ATTEN. TYPE 350 NG	REMOVE EXISTING GRDRAIL	REMARKS
-L-	11+63.63	12+19.25	LT	56.25					Bridge	6			25'					1	1								
-L-	13+26.19	13+44.94	LT	18.75				Bridge		3									1								
-L-	12+10.22	12+27.14	RT	18.75				Bridge		6									1								
-L-	13+26.19	14+00.00	RT	81.25					Bridge	6			25'					1									
-YREV1-	10+31.77	10+53.63	LT	6.25	19					6												1					
-Y1-	10+88.16	11+17.02	RT	31.25	20.2					6												1					
TOTAL				212.5	39.2													2	4			2					
			SAY		50		GRAU-350 (TL-2), 2 @ 25			= 50																	
							TYPE III, 4 @ 18.75			= 75																	
							AT-1, 2 @ 6.25			= 12.5																	
							TOTAL DEDUCTIONS			137.5																	
			TOTAL	212.5																							
			LESS ANCHORS	137.5																							
			TOTAL GR. LENGTH	75																							
			SAY	75																							

ADDITIONAL GUARDRAIL POST = 5

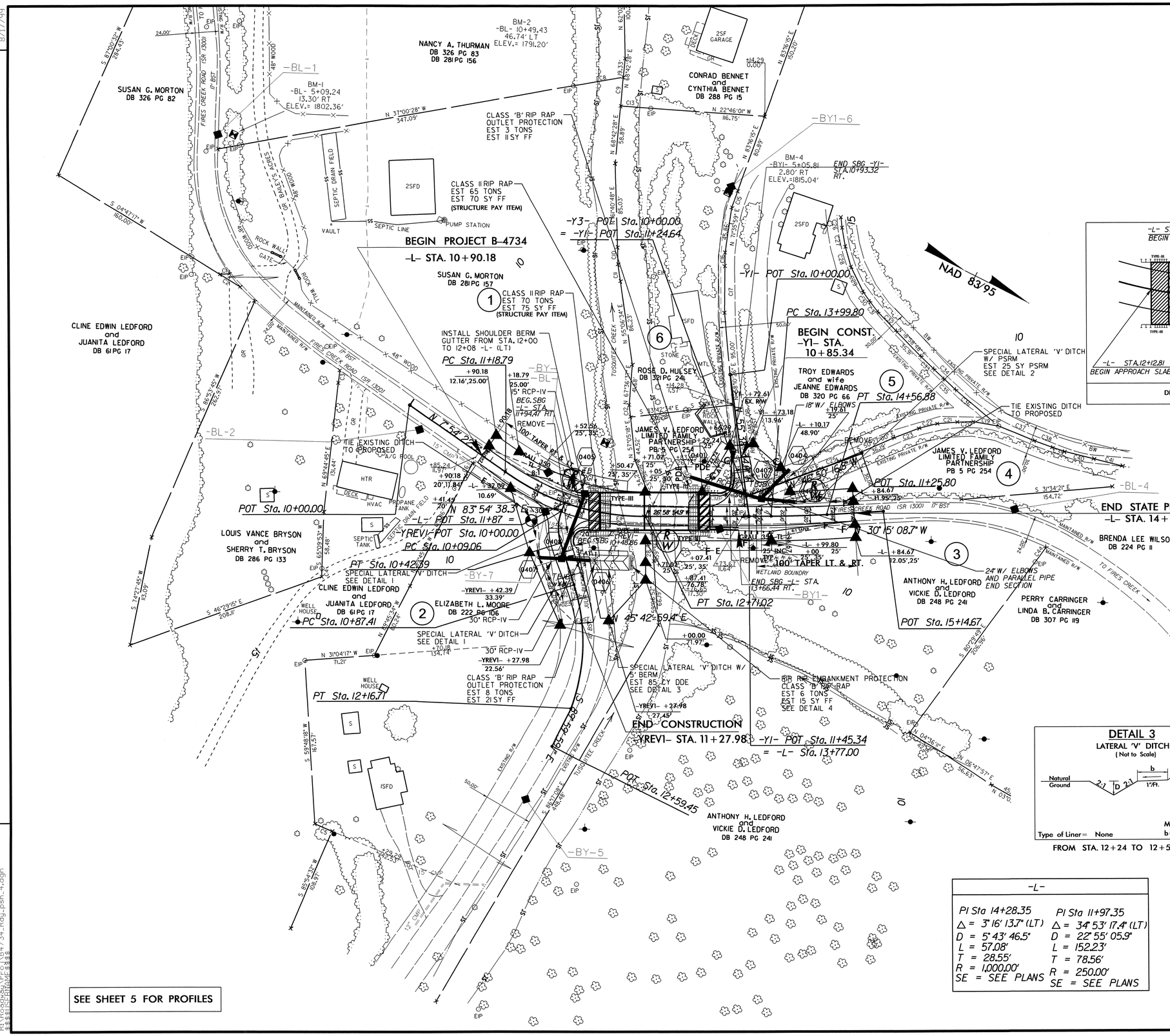
PROJECT REFERENCE NO.	SHEET NO.
B-4734	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADIMA — 5/29/13

NORTH CAROLINA PROFESSIONAL SEAL 026480 ENGINEER ARRY D. ROBINSON, JR. — 5-31-13

REVISIONS

8/17/99



SEE SHEET 5 FOR PROFILES

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PROJECT REFERENCE NO.	SHEET NO.
B-4734	5

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 033136 ENGINEER NATHAN N. ADIMA
5/21/13

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 026480 ENGINEER HARRY D. ROBINSON, JR.
5-31-13

-L- (SR 1300)

-YREV1- (SR 1318)

-Y1- (RIVER OAKS DR.)

STRUCTURE HYDRAULIC DATA
1 @ 45' (21" CORED SLAB)
1 @ 55' (21" CORED SLAB)

DESIGN DISCHARGE	=	6000	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1791.7	FT
BASE DISCHARGE	=	8400	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1793.28	FT
OVERTOPPING DISCHARGE	=	3800	CFS
OVERTOPPING FREQUENCY	=	10+	YRS
OVERTOPPING ELEVATION	=	1789.2	FT

PIPE HYDRAULIC DATA
30" RCP

DRAINAGE AREA	=	12.7	AC
DESIGN FREQUENCY	=	10	YRS
DESIGN DISCHARGE	=	27	CFS
DESIGN HW ELEVATION	=	1789.0	FT
100 YEAR DISCHARGE	=	38	CFS
100 YEAR HW ELEVATION	=	1789.2	FT
OVERTOPPING DISCHARGE	=	19	CFS
OVERTOPPING FREQUENCY	=	<10	YRS
OVERTOPPING ELEVATION	=	1788.6	FT

BEGIN CONSTRUCTION
-L- STA. 10+90.18
EL. 1789.49

BEGIN GRADE
-L- STA. 11+79.67
EL. 1791.17

BEGIN BRIDGE
-L- STA. 12+23.81

END GRADE
-L- STA. 14+68.00
EL. 1797.00

END CONSTRUCTION
-L- STA. 14+84.67
EL. 1797.77

END APPROACH SLAB
-L- STA. 13+37.19

BEGIN GRADE
-YREV1- STA. 10+09.94
EL. = 1,791.62

PI = 12+77.67
EL = 1,793.37'
VC = 95'
K = 79
V = 45 MPH

PI = 13+95.00
EL = 1,794.60'
VC = 136'
K = 61
V = 35 MPH

PI = 10+20.00
EL = 1,791.42'
L = 11'
K = 5

PI = 10+77.00
EL = 1,789.00'
L = 94'
K = 26
V = 25 MPH

END GRADE -YREV1-
STA. 11+27.98
EL. = 1,788.70

MIN. RESURF. & WIDENING

MIN. RESURF. & WIDENING

(+)2.2449% (+)1.0483% (+)3.2877% (+)5.00% (+)2.64% (+)1.0483% (-)12.33% (-)10.50% (-)1.9881% (-)14.2456% (-)12.84% (-)0.5944%

BEGIN SPECIAL DITCH GRADE LT
-L- STA 14+25.00
ELEV = 1794.26

END SPECIAL DITCH GRADE LT
-L- STA 14+75.00
ELEV = 1796.17

DITCH GRADE LT
-L- STA 14+50.00
ELEV = 1794.92

30" RCP

END SPECIAL DITCH GRADE RT
-YREV1- STA 10+50.00
ELEV = 1786.50

BEGIN SPECIAL DITCH GRADE RT
-L- STA 11+50
ELEV = 1787.56

END SPECIAL DITCH GRADE RT
-L- STA 11+65.00
ELEV = 1787.21

BEGIN SPECIAL DITCH GRADE RT
-L- STA 12+21.00
ELEV = 1784.18

END SPECIAL DITCH GRADE RT
-L- STA 12+57.00
ELEV = 1784.00

END BRIDGE
-L- STA. 13+26.19

CLASS II RIP RAP
(STRUCTURE PAY ITEM)

BEGIN SPECIAL DITCH GRADE RT
-YREV1- STA 10+25.00
ELEV = 1787.21

BEGIN APPROACH SLAB
-L- STA. 12+12.81

STRUCTURE UNCL. EXCAV.
(STRUCTURE PAY ITEM)

BEGIN GRADE
-Y1- STA. 10+95.33
EL. 1795.06

PI = 11+16.33
EL = 1,794.10'
VC = 31'
K = 5
V = 15 MPH

(-)4.5714% (+)1.6913%

BEGIN CONST.
-Y1- STA. 10+85.34
EL. 1795.48

END GRADE
-Y1- STA. 11+35.25
EL. 1794.42

SEE SHEET 4 FOR PLANS

1,800 1,790 1,780 1,770 1,820 1,810

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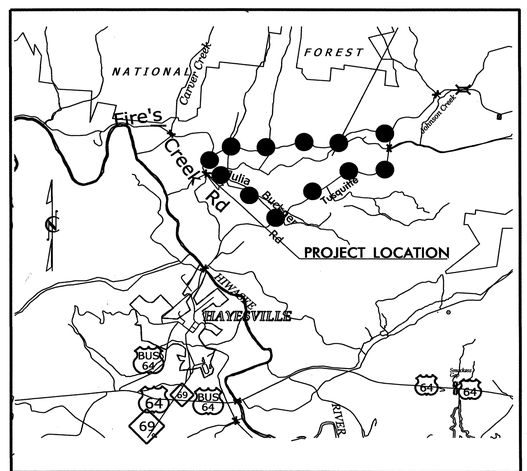
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

CLAY COUNTY



VICINITY MAP

OFF-SITE DETOUR ROUTE

LOCATION: REPLACE BRIDGE NO. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK.

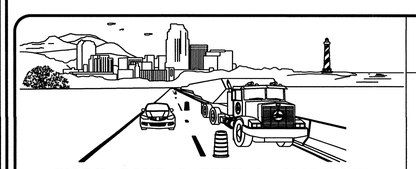
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, AND LEGEND
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, GENERAL NOTES AND LOCAL NOTES)
TMP-2	SPECIAL SIGN DESIGN(S)
TMP-3	TEMPORARY TRAFFIC CONTROL PHASING
TMP-4	TEMPORARY TRAFFIC CONTROL OFFSITE DETOUR DETAIL

SHEET NO.
TMP-1

B-4734

TIP PROJECT:



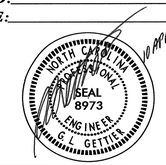
WORK ZONE SAFETY & MOBILITY
"from the MOUNTAINS to the COAST"

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

J. S. BOURNE, P.E. — STATE TRAFFIC MANAGEMENT ENGINEER
G. L. GETTIER, P.E. — TRAFFIC CONTROL PROJECT ENGINEER
J. W. GILSTRAP — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
S. N. GREEN — TRAFFIC CONTROL DESIGN ENGINEER

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

APPROVED:
DATE:
SEAL



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PROJ. REFERENCE NO.	SHEET NO.
B-4734	TMP-1A

ROADWAY STANDARD DRAWINGS

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

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
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
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS

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

PAVEMENT MARKINGS

- EXISTING LINES
- TEMPORARY LINES

TRAFFIC CONTROL DEVICES

- BARRICADE (TYPE III)
- CONE
- DRUM
- SKINNY DRUM
- TUBULAR MARKER
- FLAGGER

TEMPORARY SIGNING

- PORTABLE SIGN
- STATIONARY SIGN
- STATIONARY OR PORTABLE SIGN

PAVEMENT MARKERS

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

TEMPORARY PAVEMENT MARKING

4" PAINT

PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER

24" PAINT

P4	WHITE STOP BAR

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER 10 APR 13

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

ROADWAY STANDARD DRAWINGS & LEGEND

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PROJ. REFERENCE NO.	SHEET NO.
B-4734	TMP-1B

MANAGEMENT STRATEGIES

CONSTRUCTION

REMOVE AND REPLACE EXISTING STRUCTURE AND APPROACH ROADWAYS ALONG THE EXISTING ROADWAY ALIGNMENT AS SHOWN IN THE CONSTRUCTION PLANS.

TMP DESIGN PARAMETERS

ALL THRU TRAFFIC WILL BE DETOURED OFFSITE DURING THE CONSTRUCTION PERIOD.

THE OFFSITE DETOUR WILL INCLUDE SR 1319 & SR 1307. (SEE SHEET TMP-4).

LANE CLOSURES WILL BE UTILIZED TO CONSTRUCT THE INTERSECTION AT FIRES CREEK RD. (-L-, SR 1300), HICKORY HILLS LN. AND RIVER OAKS DR. (-Y1-).

TRAFFIC SHALL BE MAINTAINED TO THE INTERSECTION OF FIRES CREEK RD. (-L-, SR 1300), HICKORY HILLS LN. AND RIVER OAKS DR. (-Y1-).

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, OF 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 AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

A) 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.

B) 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.

C) 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.

WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 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.

D) 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.

E) 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.

F) PROVIDE TRAFFIC CONTROL FOR APPROPRIATE LANE CLOSURES FOR SURVEYING DONE BY THE DEPARTMENT.

PAVEMENT EDGE DROP OFF REQUIREMENTS

G) 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 A 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.

H) 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 AND A MINIMUM OF ONCE EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

J) 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.

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

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

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

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

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

TRAFFIC CONTROL DEVICES

N) 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.

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

PAVEMENT MARKINGS AND MARKERS

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

ROAD NAME	MARKING	MARKER
1. ALL ROADS	PAINT	NONE

Q) 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.

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

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

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIES

10 APR 13

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

TRANSPORTATION OPERATIONS & PROJECT NOTES

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PROJ. REFERENCE NO.	SHEET NO.
B-4734	TMP-2

SIGN NUMBER: SP13019
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 3'-0"
HEIGHT: 1'-6"
TOTAL AREA: 4.5 Sq.Ft.

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

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

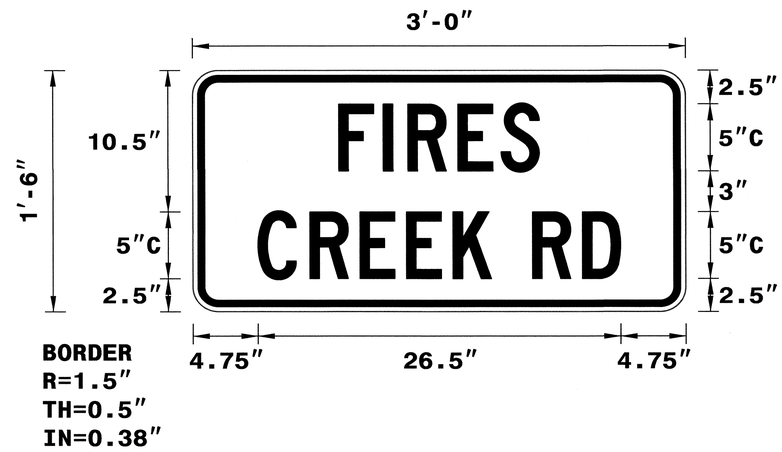
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: DHB
PROJECT ID: B-4734
CHECKED BY: KLJ
DIV: 14
DATE: Feb 11, 2013

USE NOTES: 1,2

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



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																										Series/Size Text Length
		F	I	R	E	S																				C 2000
	10.7	3.3	1.8	3.6	3.2	2.8	10.7																			14.7
		C	R	E	E	K		R	D																	C 2000
	4.8	3.8	3.6	3.4	3.4	2.8	3	3.7	2.8	4.8																26.5

FILENAME: Guidsign_English

NORTH CAROLINA D.O.T. SIGN DETAIL

THE SPECIAL SIGN DESIGNS SHOWN ON THIS SHEET WERE PROVIDED THROUGH A SEALED DOCUMENT FROM SIGNING AND DELINEATION. THE DOCUMENT WAS SUBMITTED TO THE WZTC SECTION ON FEBRUARY 25, 2013 AND SEALED BY A PROFESSIONAL ENGINEER, RONALD W. KING, LICENSE # 022959.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER

10 APR 13

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

SPECIAL SIGN DESIGN

10-APR-2013 10:40
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sngreen AT TE26587

PROJ. REFERENCE NO.	SHEET NO.
B-4734	TMP-3

PHASING

STEP 1: - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF FIRES CREEK RD (-L-, SR 1300) AND JULIA BUCKNER RD (-YREV1-, SR 1318). (SEE SHEET TCP-4).

- USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, CLOSE FIRES CREEK RD (-L-, SR 1300) FROM STATION 10+90 +/- -L- TO STATION 13+50 +/- -L- AND JULIAN BUCKNER RD (-YREV1-, SR 1318) AT STATION 14+50 +/- -YREV1- (FIRST DRIVEWAY) TO THRU TRAFFIC. (SEE SHEET TCP-4).

NOTE: INSTALL A PAIR OF STATIONARY SIGNS "ROAD CLOSED 500 FT." (W20-3) ON BOTH HICKORY HILLS LN AND RIVER OAKS DR (-Y1-) 500 FT. BEFORE INTERSECTION WITH FIRES CREEK RD (-L-, SR 1300).

NOTE: MAINTAIN ACCESS TO INTERSECTION OF FIRES CREEK RD (-L-, SR 1300), HICKORY HILLS LN AND RIVER OAKS DR (-Y1-) DURING CONSTRUCTION.

STEP 2: - REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE PROPOSED STRUCTURE, FIRES CREEK RD (-L-, SR 1300) AND JULIA BUCKNER RD. (-YREV1-, SR 1318), UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE FROM STATION 10+90 +/- -L- TO STATION 13+50 +/- -L- AND FROM STATION 10+00 +/- -YREV1- TO STATION 11+27 +/- -YREV1-. (SEE CONSTRUCTION PLANS).

- USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15, CONSTRUCT PROPOSED INTERSECTION OF FIRES CREEK RD (-L-, SR 1300) AND RIVER OAKS DR (-Y1-) FROM STATION 13+50 +/- -L- TO STATION 14+84 +/- -L-, FROM STATION 10+85 -Y1- TO STATION 11+45 +/- -Y1- AND HICKORY HILLS LN., UP TO, BUT NOT INCLUDING THE FINAL LAYER OF SURFACE COURSE. (SEE CONSTRUCTION PLANS).

NOTE: MAINTAIN ACCESS TO INTERSECTION OF FIRES CREEK RD (-L-, SR 1300), HICKORY HILLS LN AND RIVER OAKS DR (-Y1-) DURING CONSTRUCTION.

- PLACE TEMPORARY PAVEMENT MARKINGS (PAINT) ON FIRES CREEK RD (-L-, SR 1300) AND RIVER OAKS RD (-Y1-) FROM STATION 13+50 +/- -L- TO STATION 14+84 +/- -L-, FROM STATION 10+85 -Y1- TO STATION 11+45 +/- -Y1- AND HICKORY HILLS LN, FOR PROPOSED PATTERN AND OPEN TO TRAFFIC. (SEE CONSTRUCTION PLANS AND FINAL PAVEMENT MARKING PLANS).

STEP 3: - USING ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15, AS REQUIRED, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL PAVEMENT MARKINGS FROM STATION 10+90 +/- -L- TO STATION 14+84 +/- -L-, FROM STATION 10+00 +/- -YREV1- TO STATION 11+27 +/- -YREV1-, FROM STATION 10+85 +/- -Y1- TO STATION 11+45 +/- -Y1-, RIVER OAKS DR AND HICKORY HILLS LN. (SEE CONSTRUCTION PLANS AND FINAL PAVEMENT MARKING PLANS).

STEP 4: - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING AND DETOUR ROUTE SIGNING.

- OPEN TO FINAL TRAFFIC PATTERN.

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER 10 APR 13

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

TEMPORARY TRAFFIC CONTROL PHASING

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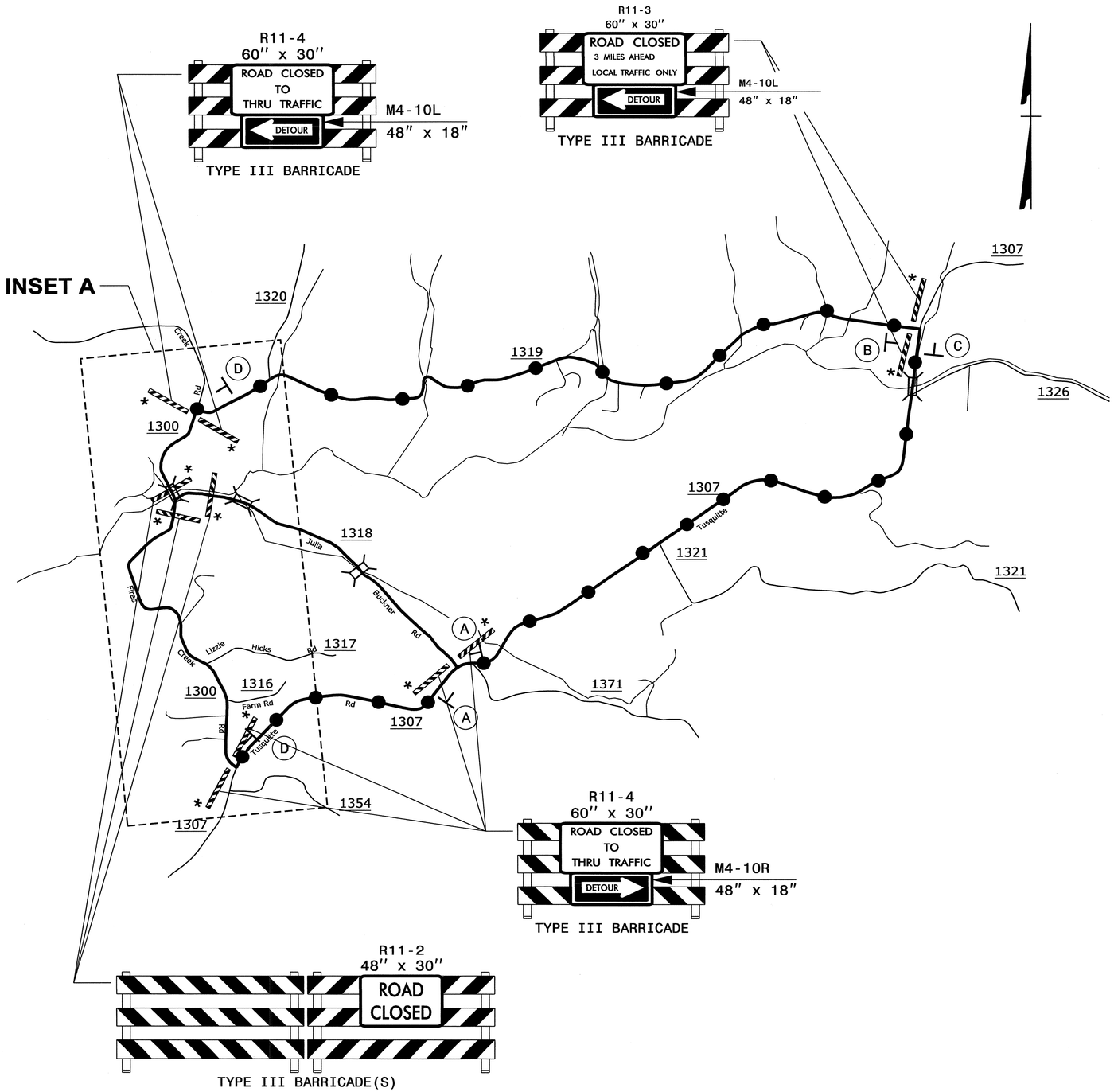
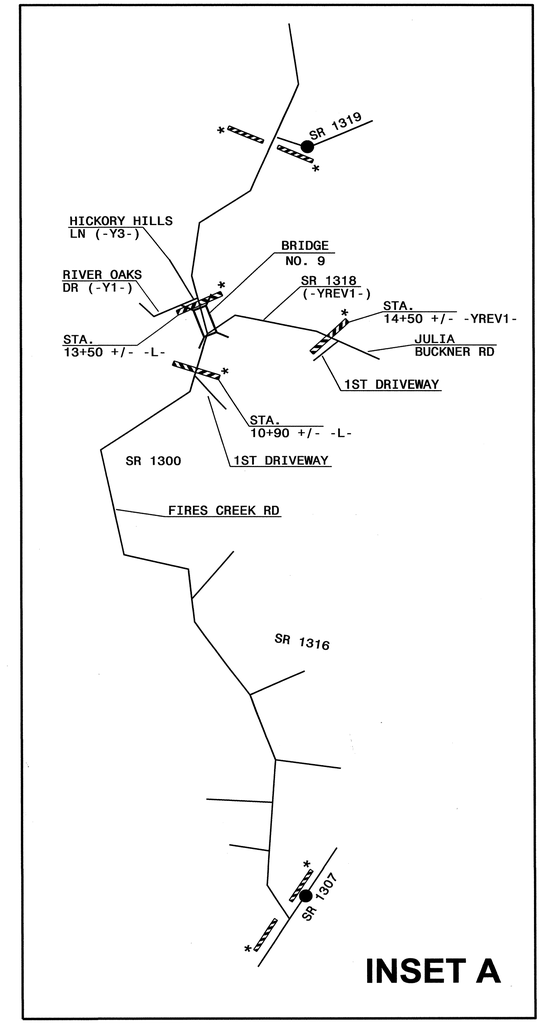
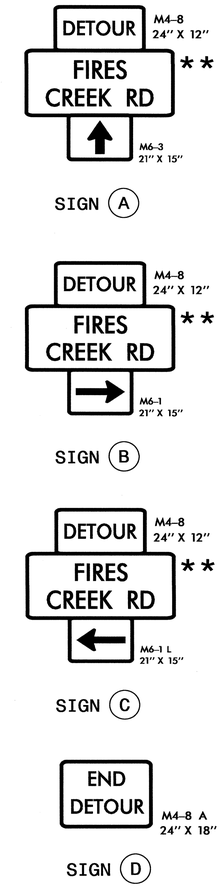
sngreen AT TE26587

PROJ. REFERENCE NO.	SHEET NO.
B-4734	TMP-4







NOTES:

- ALL DETOUR SIGN LOCATIONS ARE APPROXIMATE.
- ALL DETOUR SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE NOTED.

* SEE ROADWAY STANDARD DRAWING NO. 1101.03, SHEET 1 OF 9, FOR ADDITIONAL WORK ZONE SIGNS.

** SEE TMP-2A FOR SIGN DESIGN.

DATE:

APPROVED:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER

10 APR 13

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

TEMPORARY TRAFFIC CONTROL PHASING AND DETAIL

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sngreen AT TE26581

T.I.P.: B-4734

CONTRACT: C203308

TIP NO.	SHEET NO.
B-4734	PMP-1

APPROVED: RWK

DATE: 4/1/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
CLAY COUNTY

LOCATION: BRIDGE No. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK

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
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.12	PAVEMENT MARKINGS - BRIDGES
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

PAVEMENT MARKING SCHEDULE

SYMB	DESCRIPTION
	FINAL PAVEMENT MARKINGS
	PAINT (24")
P2	WHITE STOPBAR
	PAINT (4")
P8	2 FT. - 6 FT./SP WHITE MINISKIP
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER

INDEX

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

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
SR 1300 FIRES CREEK RD.	PAINT	NONE

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

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

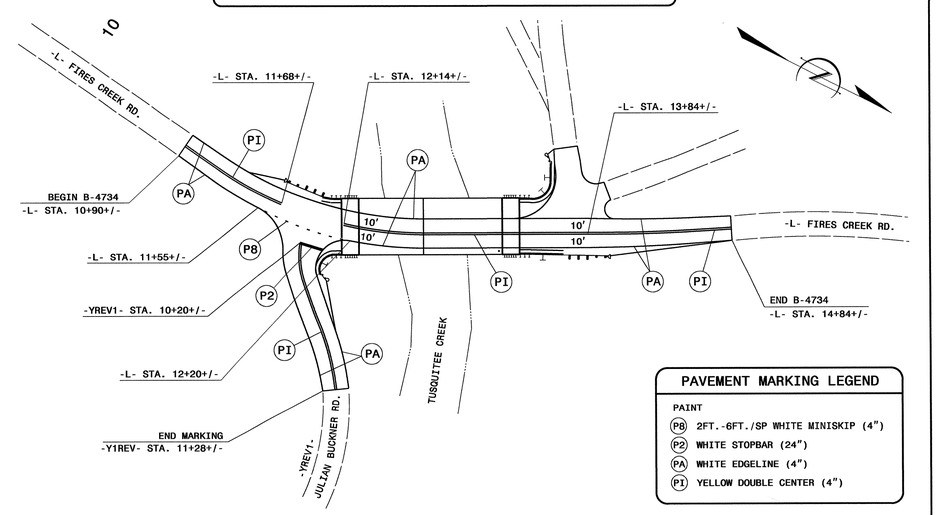
D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

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

F) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

G) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING PAINT PAVEMENT MARKING MATERIAL.

PAVEMENT MARKING DETAIL



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

KELVIN L. JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
DERRICK H. BEARD	SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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TIP PROJECT: B-4734

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4734	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

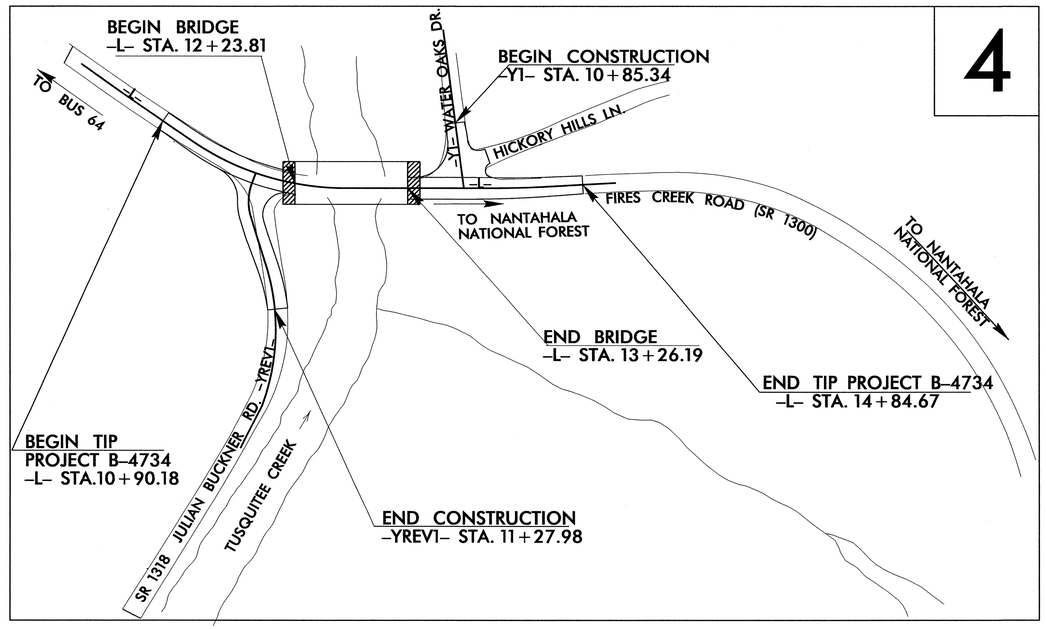
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

CLAY COUNTY

NAD 83/95

LOCATION: REPLACEMENT OF BRIDGE NO. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK

TYPE OF WORK: DRAINAGE, GRADING, PAVING AND STRUCTURE



EROSION AND SEDIMENT CONTROL MEASURES

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

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.

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

THIS PROJECT HAS BEEN DESIGNED TO SENSITIVE WATERSHED STANDARDS.

ENVIRONMENTALLY SENSITIVE AREA(S) EXIST ON THIS PROJECT

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

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared In the Office of:

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

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

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

1604.01	Railroad Erosion Control Detail	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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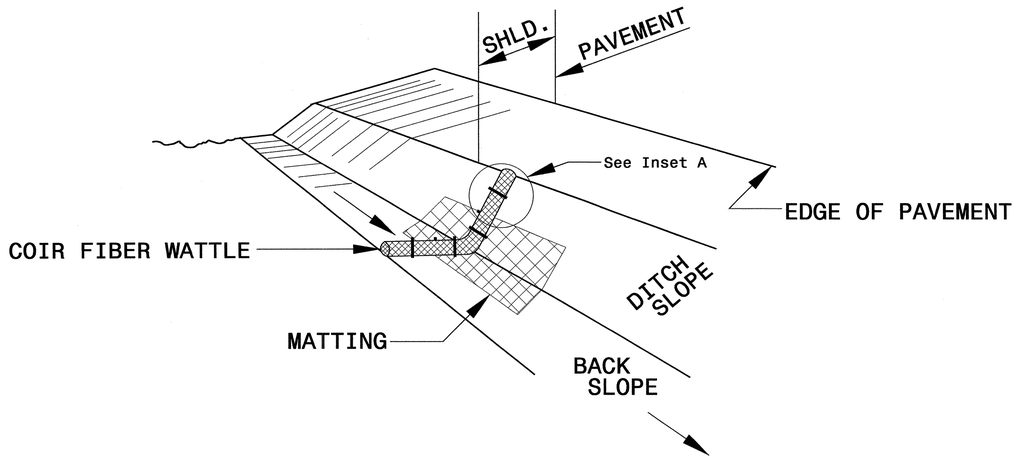
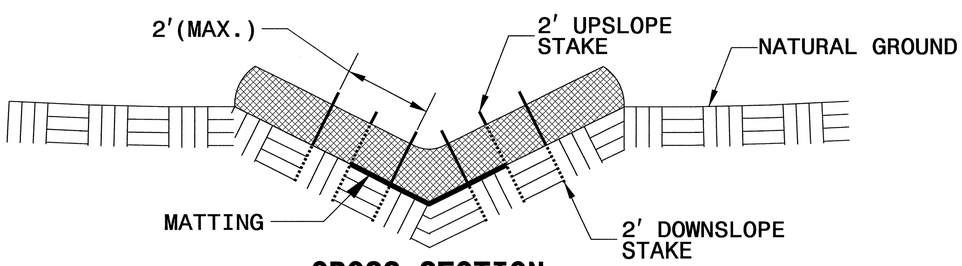
PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

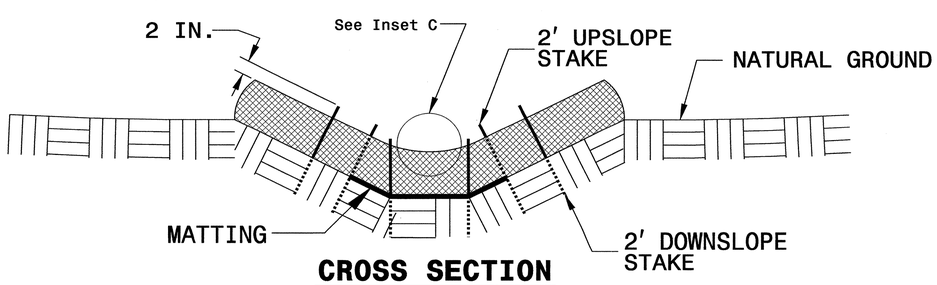
COIR FIBER WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) 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.

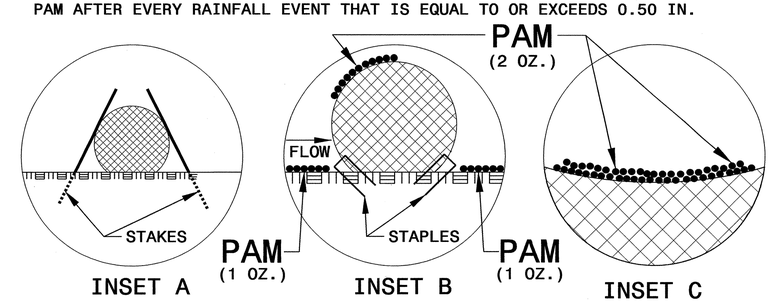
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

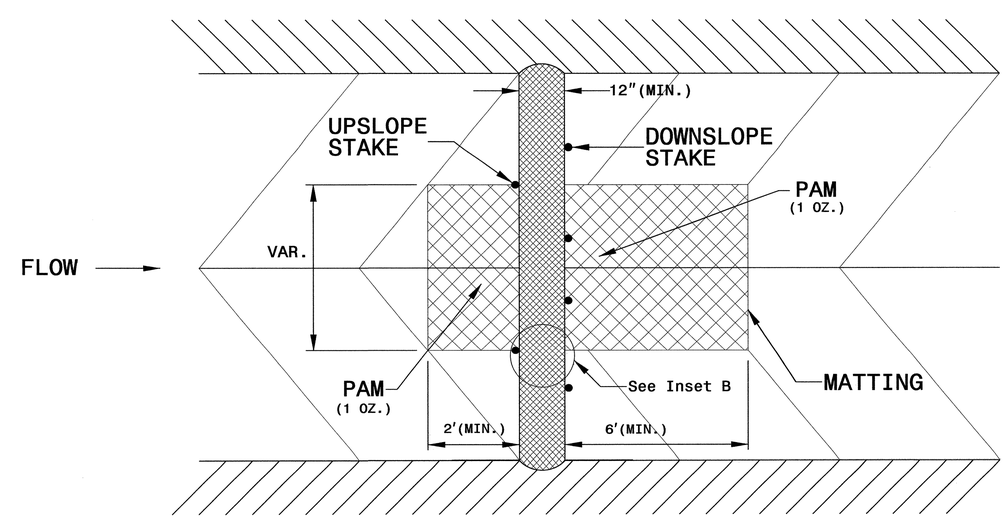
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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.

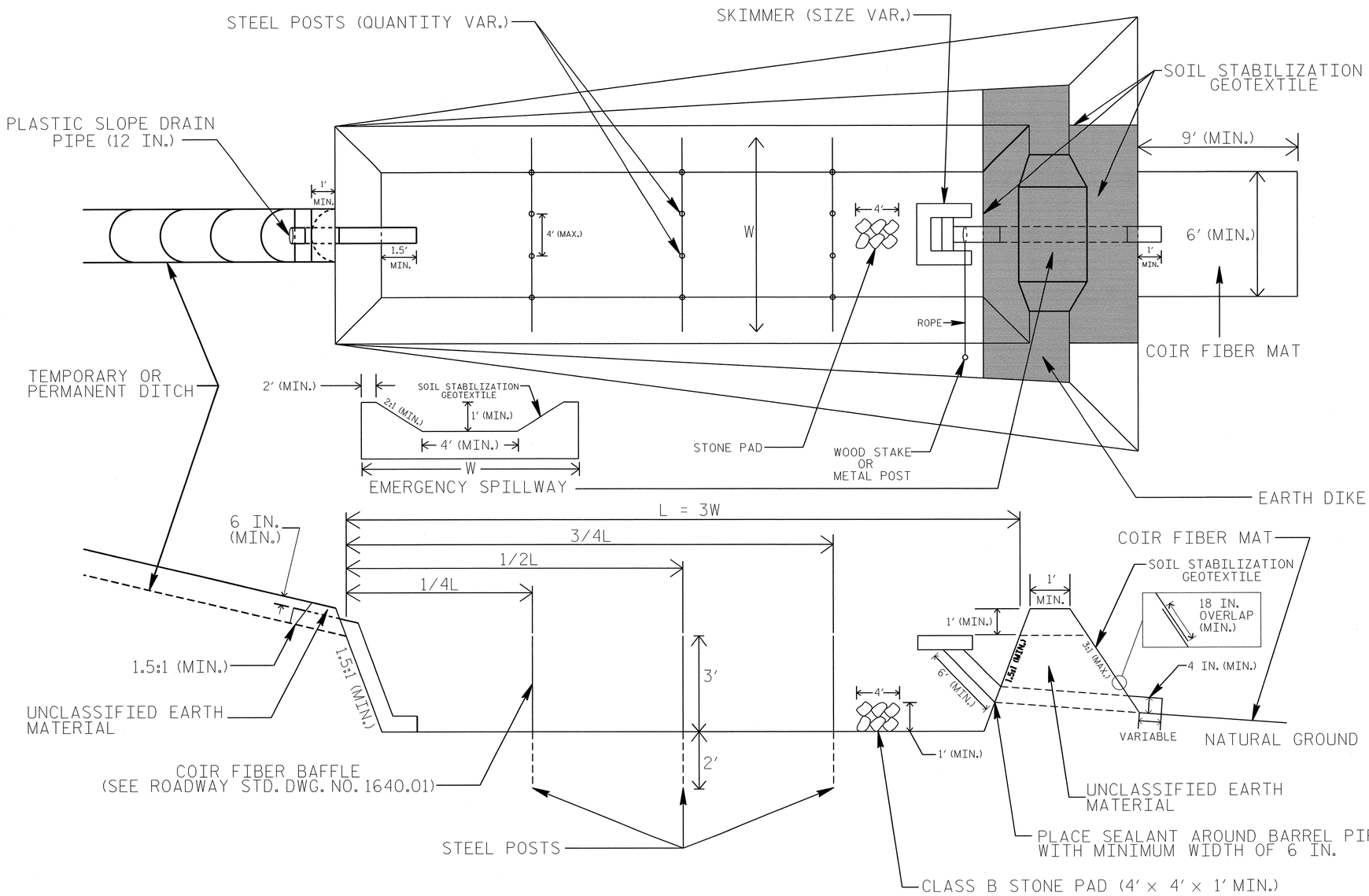


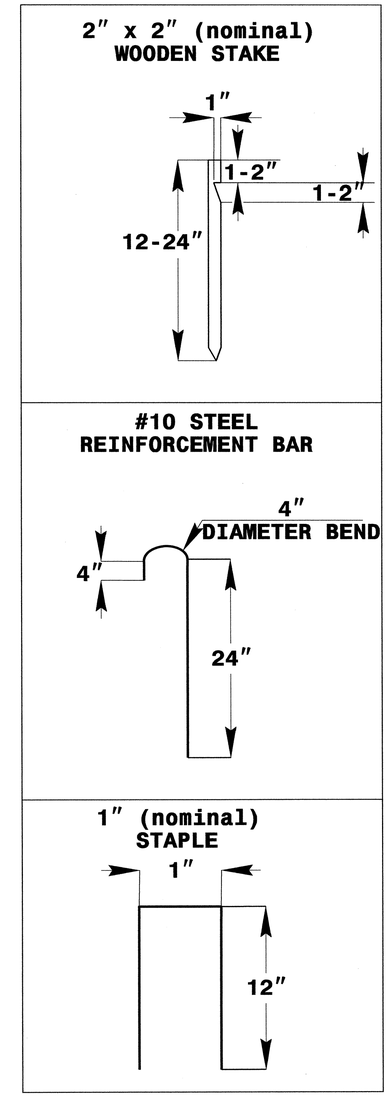


TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





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 EMERGENCY SPILLWAY WEIR LENGTH (FT.) USING Q/0.8, 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 EMERGENCY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

MATTING FOR EROSION CONTROL

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	13+34.67	14+56.88	RT	65
4	-L-	13+34.67	13+50	LT	10
4	-YREVI-	10+50	11+00	RT	25
4	-YREVI-	10+50	11+00	LT	25
				SUBTOTAL	125
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					975
				TOTAL	1100
				SAY	1150

MATTING FOR EROSION CONTROL

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

PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

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

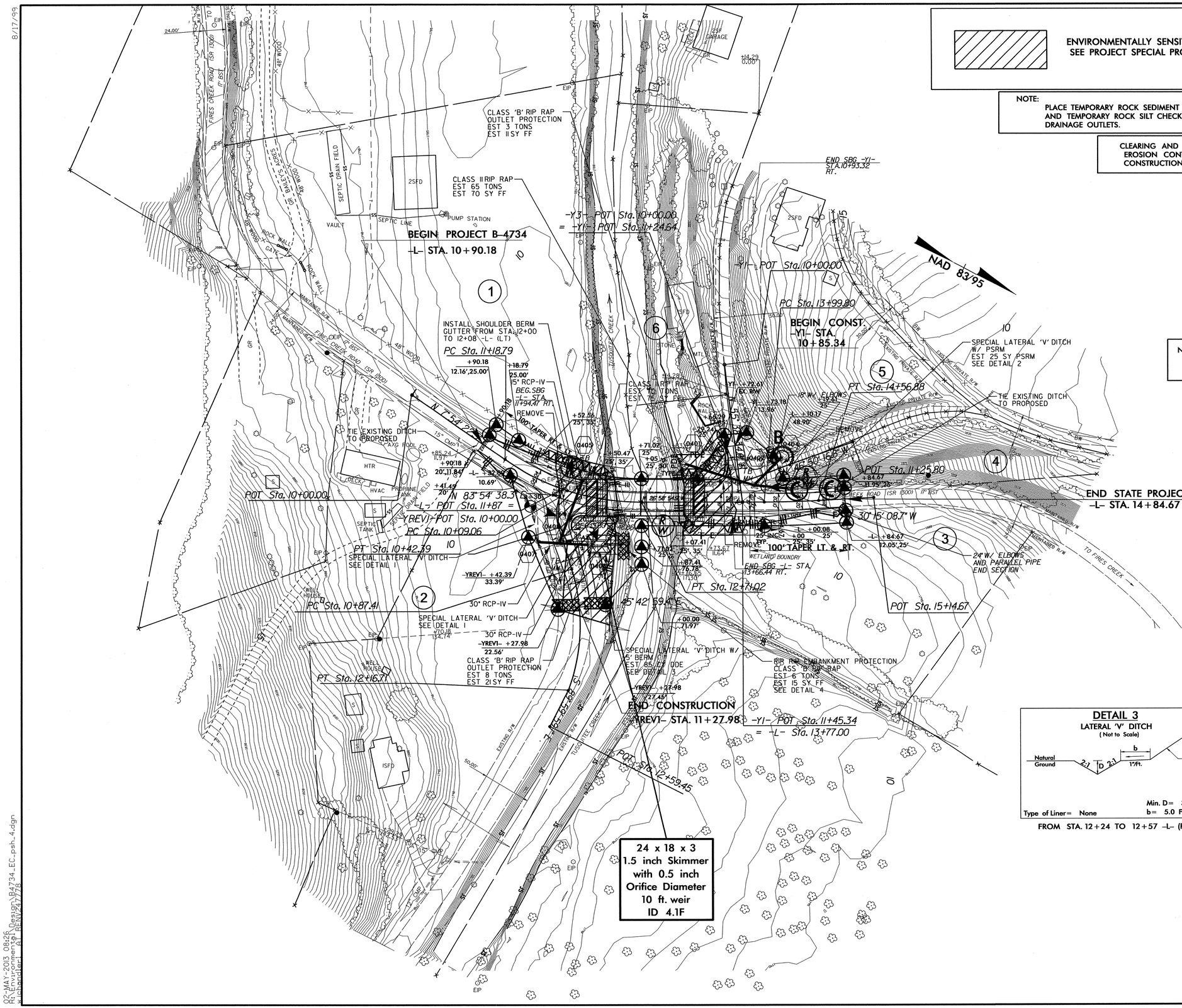
PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

ENVIRONMENTALLY SENSITIVE AREA
SEE PROJECT SPECIAL PROVISIONS

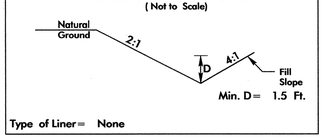
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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



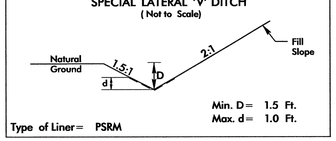
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Type of Liner = None

FROM STA. 11+50 -L- (RT) TO STA. 10+50 -YREV1- (RT)
FROM STA. 10+50 TO 11+00 -YREV1- (RT)

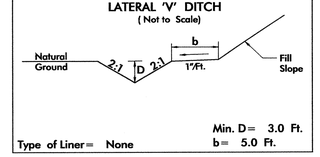
DETAIL 2
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.5 Ft.
Max. d = 1.0 Ft.
Type of Liner = PSRM

FROM STA. 14+25 TO STA. 14+75 -L- (LT)

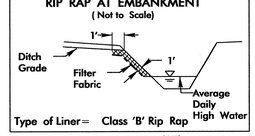
DETAIL 3
LATERAL 'V' DITCH
(Not to Scale)



Min. D = 3.0 Ft.
b = 5.0 Ft.
Type of Liner = None

FROM STA. 12+24 TO 12+57 -L- (RT)

DETAIL 4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'B' Rip Rap

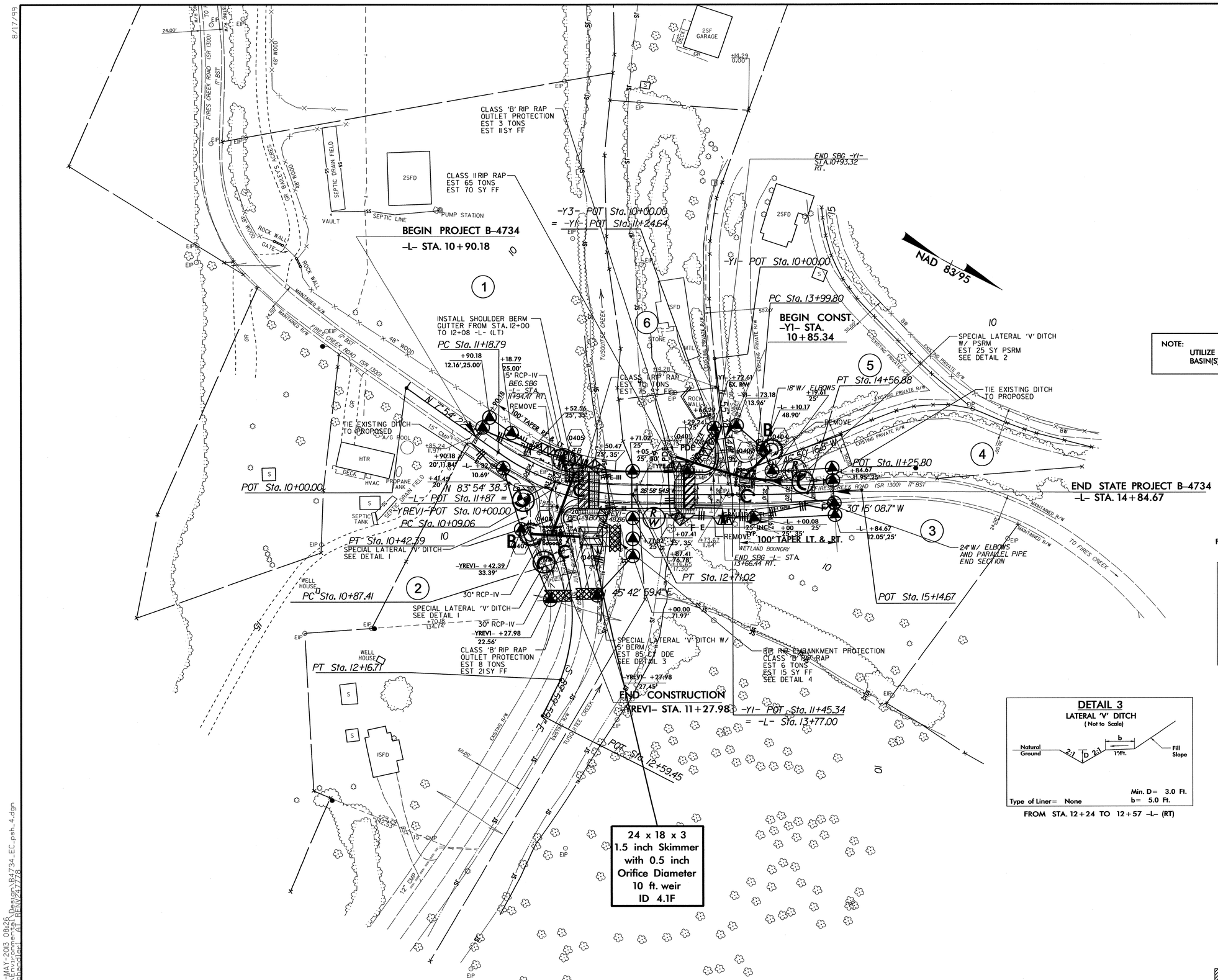
STA. 12+57 -L- (RT)

APPROACH SLAB

8/17/99

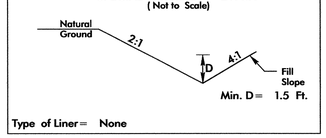
02-MAY-2013 08:26
R:\Environmental\Design\B4734_EC_psh_4.dgn
w\bhandler1 BT REV24778

PROJECT REFERENCE NO.	SHEET NO.
B-4734	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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

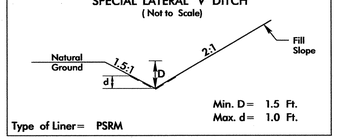
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Type of Liner = None

FROM STA. 11+50 -L- (RT) TO STA. 10+50 -YREV1- (RT)
FROM STA. 10+50 TO 11+00 -YREV1- (RT)

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



Type of Liner = PSRM

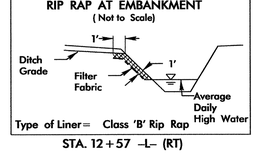
FROM STA. 14+25 TO STA. 14+75 -L- (LT)

DETAIL 3
LATERAL 'V' DITCH
(Not to Scale)

Type of Liner = None

FROM STA. 12+24 TO 12+57 -L- (RT)

DETAIL 4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'B' Rip Rap

STA. 12+57 -L- (RT)

APPROACH SLAB

8/17/99

02-MAY-2013 08:26
R:\Environmental\Design\B4734_EC_psh_4.dgn
$$chandler$$ AT TRNX24778

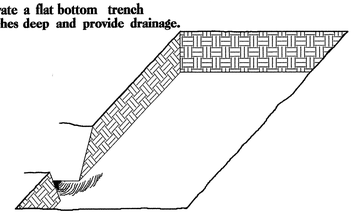
PROJECT REFERENCE NO.	SHEET NO.
B-4734	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

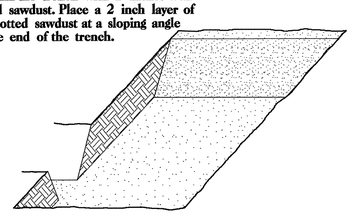
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

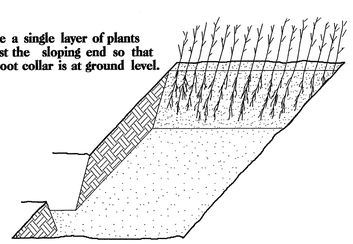
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



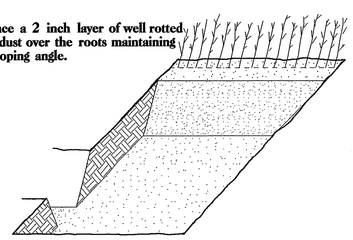
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



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

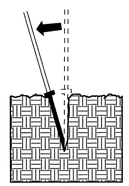


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

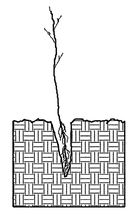


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

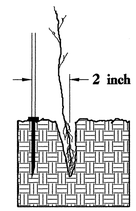
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



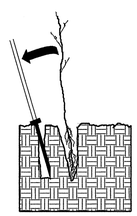
1. Insert planting bar as shown and pull handle toward planter.



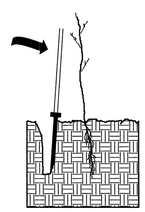
2. Remove planting bar and place seedling at correct depth.



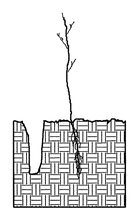
3. Insert planting bar 2 inches toward planter from seedling.



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:

40% BETULA NIGRA	RIVER BIRCH	12 in - 18 in BR
30% LIRIODENDRON TULIPIFERA	YELLOW POPLAR	12 in - 18 in BR
30% PRUNUS SEROTINA	BLACK CHERRY	12 in - 18 in BR

REFORESTATION DETAIL SHEET

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

T.I.P.: B-4734

CONTRACT: C203308

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-4734	SIGN-1

APPROVED: RLW
DATE: 4/1/13

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

SIGNING PLAN
CLAY COUNTY

LOCATION: REPLACEMENT OF BRIDGE No. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	91	L.F.
4096000000	904	SIGN ERECTION, TYPE D	2	EA.
4102000000	904	SIGN ERECTION, TYPE E	2	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	7	EA.

ROADWAY STANDARD DRAWING

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

STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

- SIGNS FURNISHED BY STATE
- ALL TYPE 'D' SIGNS SHALL BE MOUNTED ON TWO U-CHANNEL POSTS UNLESS OTHERWISE INDICATED ON THE PLANS.
- IF REMOVAL OR RELOCATION OF SIGNS ON PRIVATE STREET (NON-STATE MAINTAINED) IS REQUIRED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL INFORM THE ENGINEER. THE WORK WILL BE COMPLETED BY OTHERS.
- WHEN NOT STATIONED OR DIMENSIONED ON PLANS, ALL 'E' AND 'F' SIGNS SHALL BE FIELD LOCATED BY THE ENGINEER
- ALL EXISTING SIGNS ON "U" CHANNEL POST WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED ON PLANS.
- THE BACKGROUND FOR TYPE E & F SIGNS SHALL BE TYPE C REFLECTIVE SHEETING.
- SEE ROADWAY PLANS FOR GUARD/GUIDE RAIL DETAILS.

SIGN NUMBER: 301, 302
TYPE: D
QUANTITY: 2
SIGN WIDTH: 3'-6"
HEIGHT: 2'-0"
TOTAL AREA: 7.0 Sq.Ft.
BORDER TYPE: FLUSH
RECESS: 0"
WIDTH: 1"
RADII: 1.5"
NO. Z BARS:
LENGTH:

BACKG COLOR: Green
COPY COLOR: White

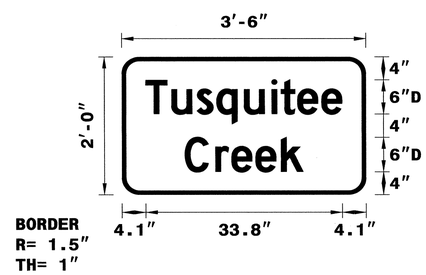
SYMBOL	X	Y	WID	HT

MAT'L: 0.125" (3.2 mm) ALUMINUM

USE NOTES: 1,2

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

DESIGN BY: DHB
PROJECT ID: B-4734
CHECKED BY: KLJ
DIV: 14
DATE: Mar 05, 2013



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

												Series/Size Text Length
	T	u	s	q	u	i	t	e	e			D 2000
	4.1	4.4	4.4	3.4	4.7	4.7	1.6	2.8	4.1	3.5	4.1	33.8
	C	r	e	e	k							D 2000
	10.8	5.3	2.8	4.1	4.4	3.8	10.8					20.4

FILENAME: Guidsign_English

NORTH CAROLINA D.O.T. SIGN DETAIL

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

KELVIN L. JORDAN	SIGNING & DELINEATION REGIONAL ENGINEER
DERRICK H. BEARD	SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

INDEX

SHEET NO.	DESCRIPTION
SIGN-1	TITLE SHEET, SIGN DESIGN
SIGN-2	EXISTING & PROPOSED SIGNS, E SIGNS

18-MAR-2013 11:33
\\DOT\Proj\TIPProjects-B\B4734\Traffic\Signing\CADD\Signing Layout Plans\Bridgeseed - Copy.dgn
dhbeard AT\E265832

TIP NO.	SHEET NO.
B-4734	SIGN-2

APPROVED: RWK
DATE: 4/1/13

SEAL

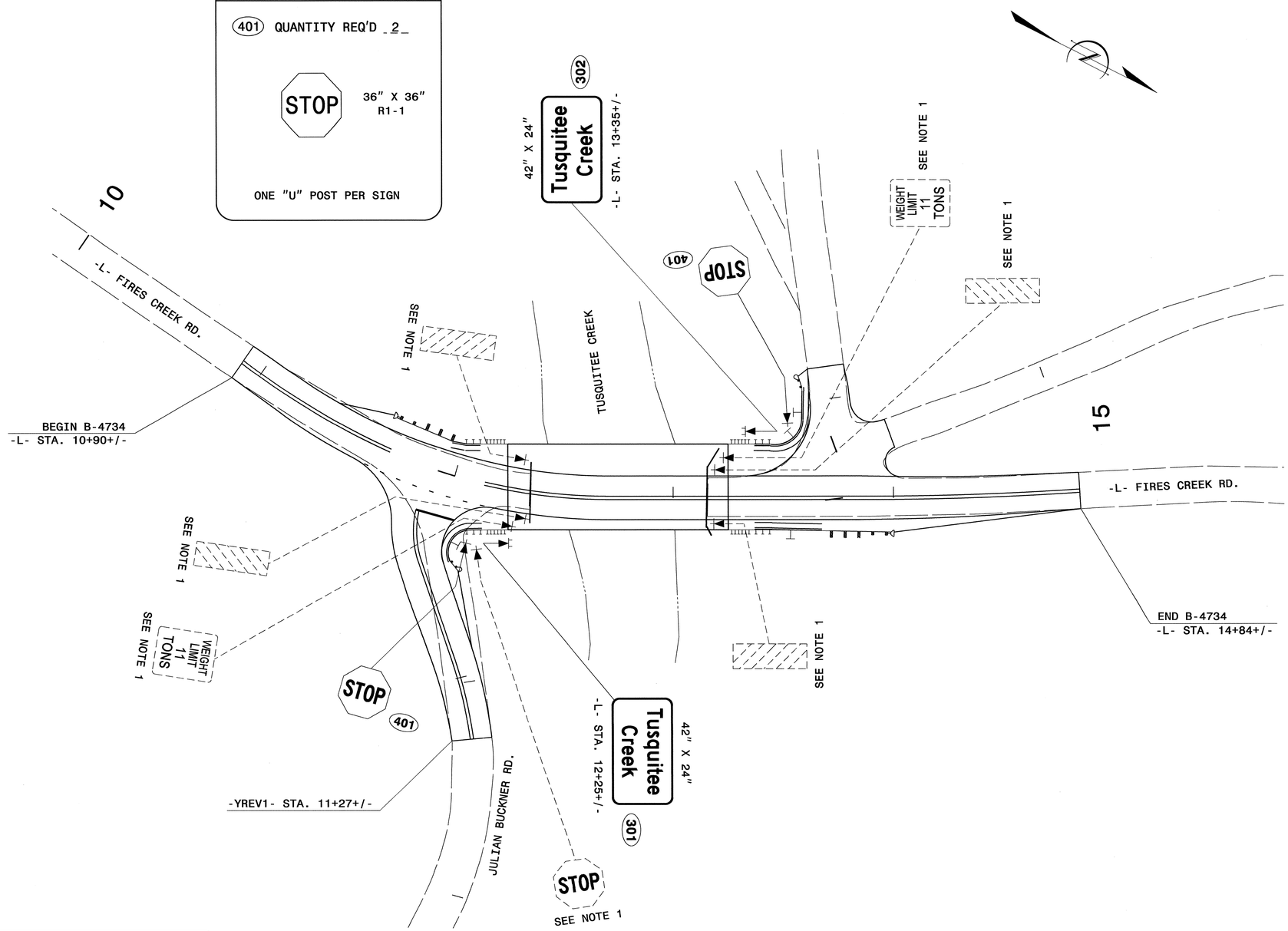
NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

TYPE "E" SIGNS

(401) QUANTITY REQ'D 2

STOP 36" X 36" R1-1

ONE "U" POST PER SIGN



PROJECT NOTES

1. DISPOSAL OF SIGN SYSTEM, U-CHANNEL

EXISTING & PROPOSED SIGNS, E SIGNS

18-MAR-2013 10:44
N:\Proj\Proj\TIPProjects-B\B4734\Traffic\Signing\CADD\Signing Layout Plans\Sign-2.dgn
dhbeard ATT_TE265832

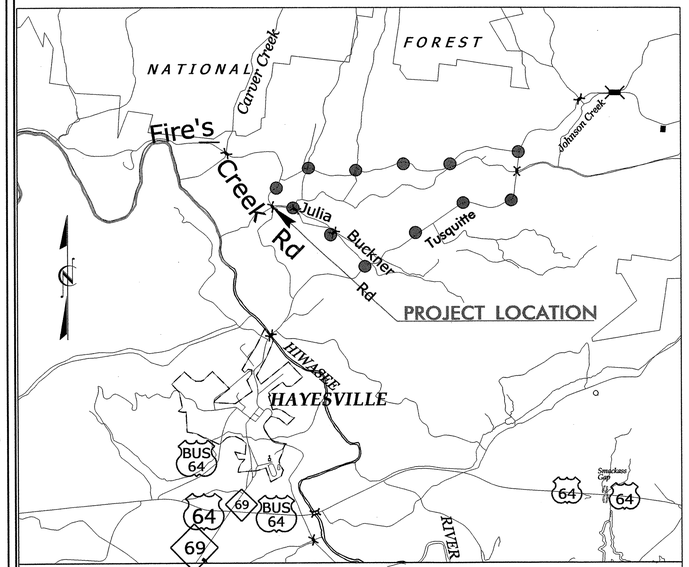
TIP PROJECT: B-4734

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4734	UO-1

UTILITIES BY OTHERS PLANS
CLAY COUNTY

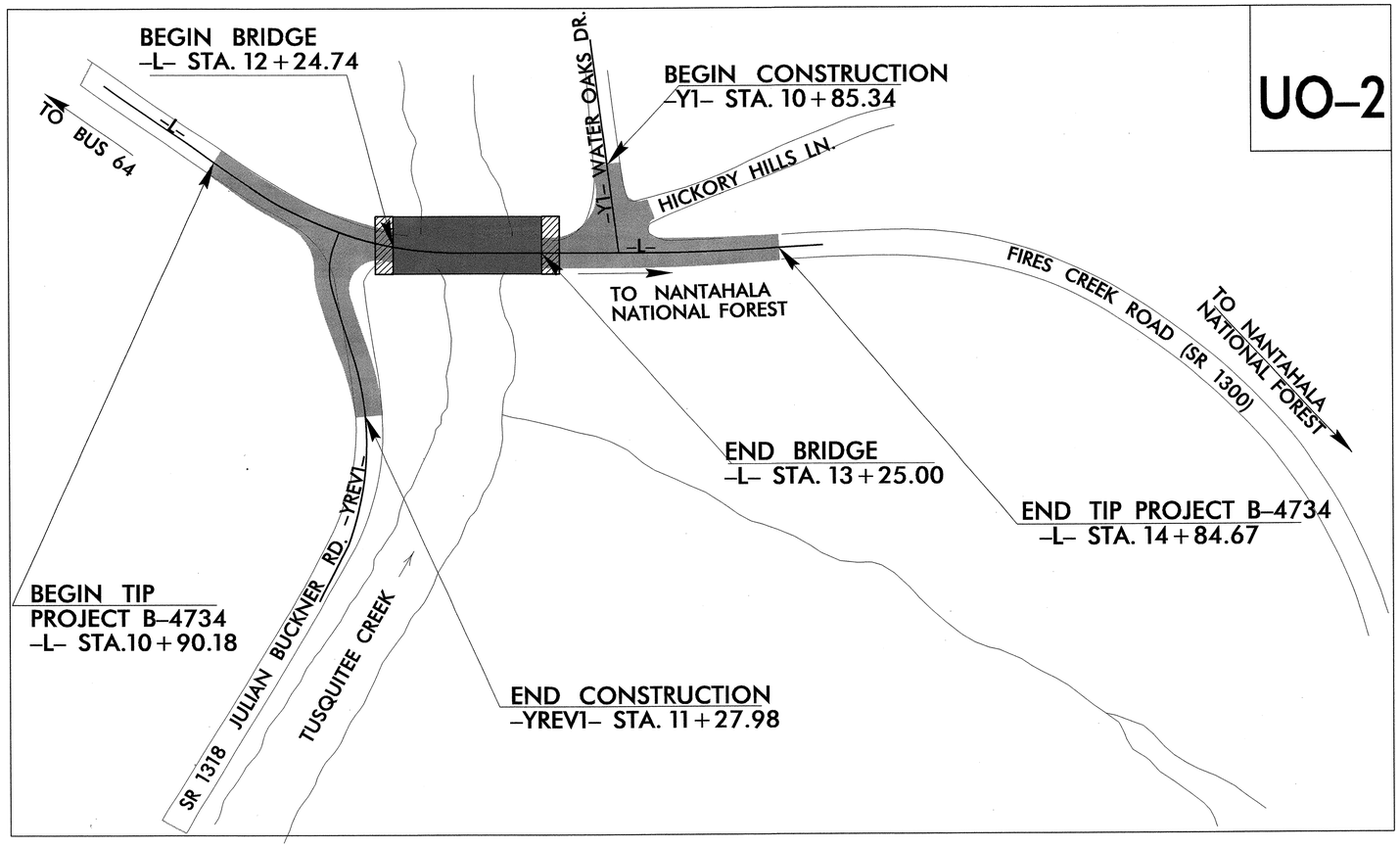
REPLACEMENT OF BRIDGE NO. 9 ON SR 1300 (FIRES CREEK ROAD) OVER TUSQUITEE CREEK



VICINITY MAP — OFFSITE DETOUR

NAD 83/95

UO-2



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

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

UTILITY OWNERS ON PROJECT

(1) BLUE RIDGE MOUNTAIN EMC (POWER)

(2) FRONTIER COMMUNICATIONS (TELEPHONE)

Cardno

CARDNO (NC), INC.
4020 OLD PINEVILLE ROAD
CHARLOTTE NC 28217
PHONE (704) 927-9700
FAX (704) 529-3272

Thomas J. Yocom, P.L.S. SENIOR PROJECT MANAGER

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

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

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

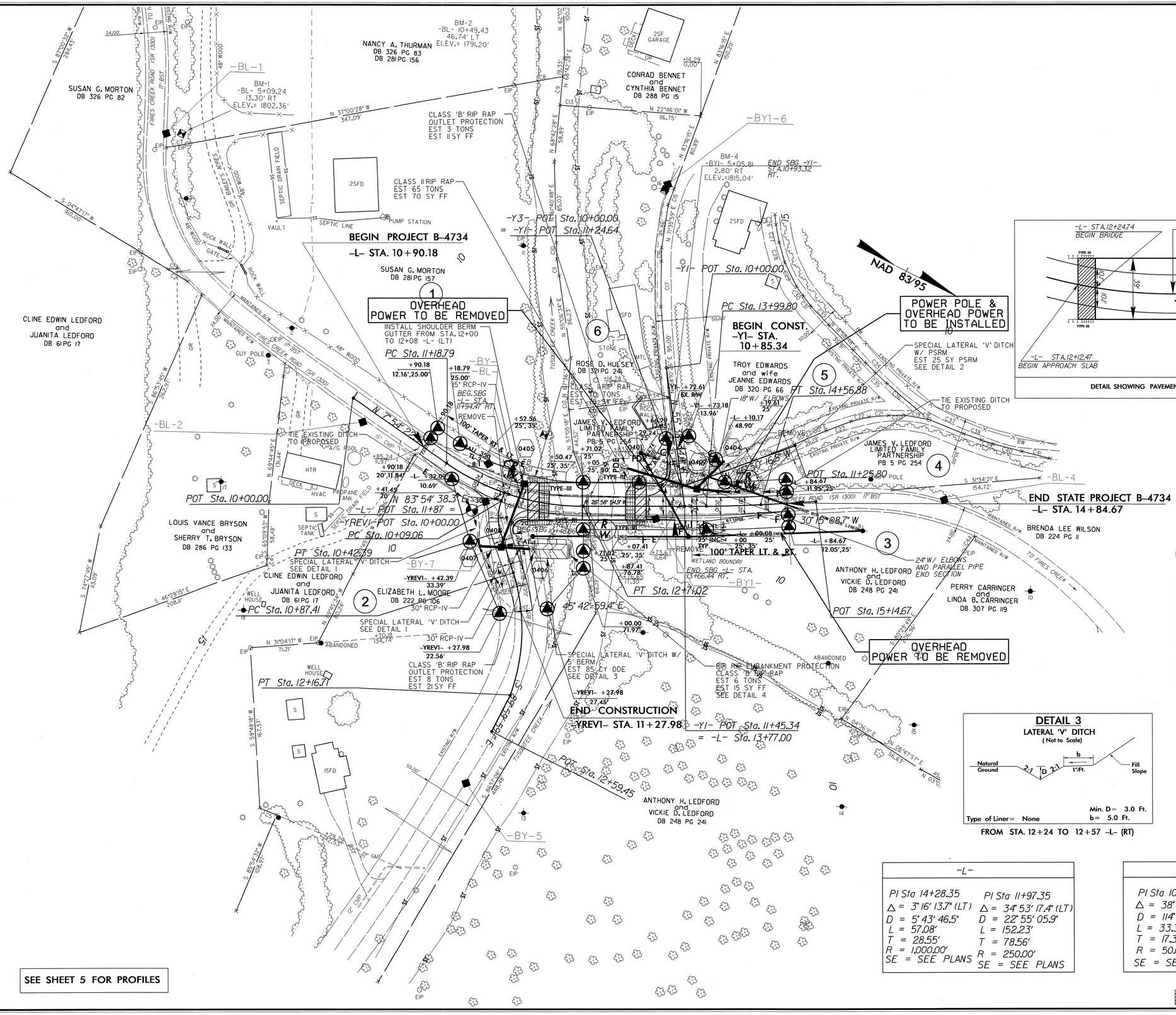
09/08/99
01-MAY-2013 08:40
R:\Utilities\Rdy_Ut\Proj\Cardno\B-4734_Ut_Title_U01_psh.dgn
$$$$USERNAME$$$$

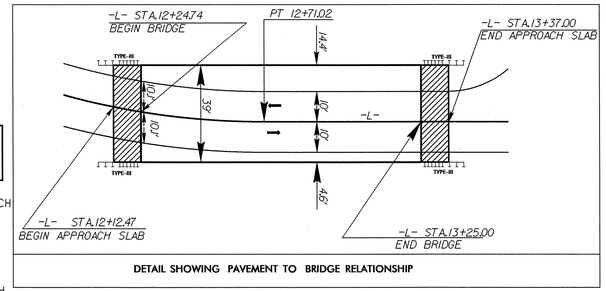
PROJECT REFERENCE	SHEET NO.
B-4734	U0-2

Cardno
Cardno (NC), Inc.
2040 Old Pineville Rd.
Charlotte, NC 28217
Phone: 704.927.9700 Fax: 704.529.3272

UTILITIES BY OTHERS

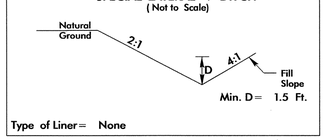
NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS





DETAIL SHOWING PAVEMENT TO BRIDGE RELATIONSHIP

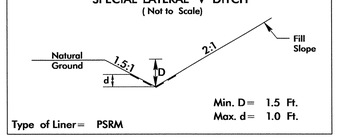
DETAIL 1
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Type of Liner = None

FROM STA. 11+50 -L- (RT) TO STA. 10+50 -YREV1- (RT)
FROM STA. 10+50 TO 11+00 -YREV1- (RT)

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



Type of Liner = PSRM

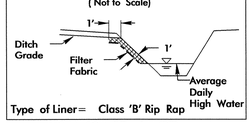
FROM STA. 14+25 TO STA. 14+75 -L- (LT)

DETAIL 3
LATERAL 'V' DITCH
(Not to Scale)

Type of Liner = None

FROM STA. 12+24 TO 12+57 -L- (RT)

DETAIL 4
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'B' Rip Rap

STA. 12+57 -L- (RT)

-L-	
PI Sta 14+28.35	PI Sta 11+97.35
Δ = 3° 16' 13.7" (LT)	Δ = 34° 53' 17.4" (LT)
D = 5° 43' 46.5"	D = 22° 55' 05.9"
L = 57.08'	L = 152.23'
T = 28.55'	T = 78.56'
R = 1,000.00'	R = 250.00'
SE = SEE PLANS	SE = SEE PLANS

-YREV1-	
PI Sta 10+26.37	PI Sta 11+54.53
Δ = 38° 11' 39.0" (LT)	Δ = 37° 59' 29.0" (RT)
D = 114° 35' 29.6"	D = 29° 22' 56.8"
L = 33.33'	L = 129.30'
T = 17.31'	T = 67.13'
R = 50.00'	R = 195.00'
SE = SEE PLANS	SE = SEE PLANS

APPROACH SLAB

5/14/99

08-MAY-2013 10:04
$$$$USER$$$$
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$$$$RNAME$$$$
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PROJ. REFERENCE NO.	SHEET NO.
B-4734	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+18.79	0	0
11+25.00	0	0
11+50.00	0	3
11+75.00	0	9
12+00.00	0	16
12+18.30	1	11
12+23.81	1	3

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
13+26.19	0	0
13+34.67	0	9
13+50.00	0	12
13+75.00	0	16
14+00.00	0	13
14+25.00	0	8
14+50.00	1	5
14+56.88	1	1
14+75.00	1	1

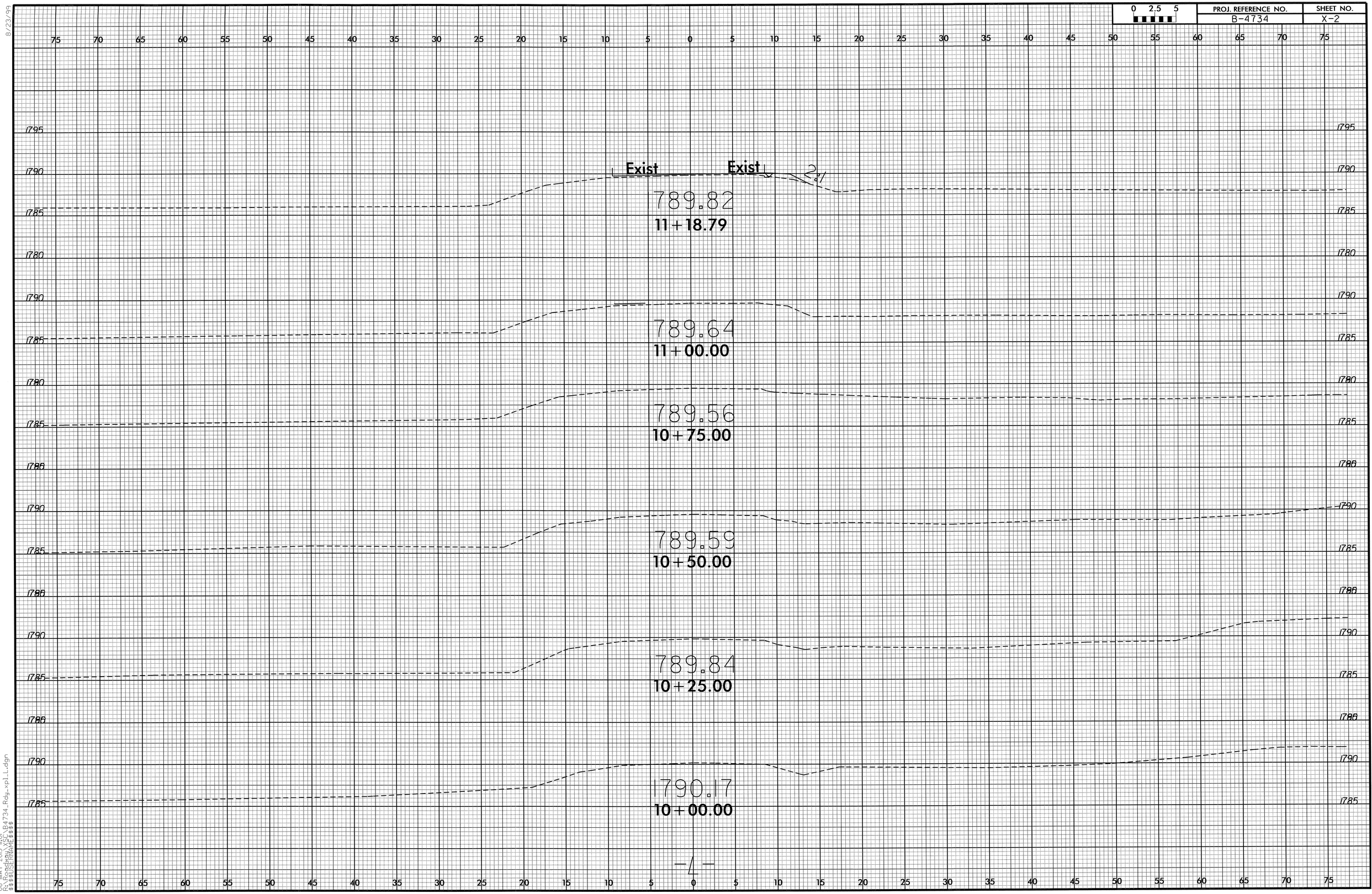
Station Yrev1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+25.00	0	0
10+50.00	28	17
10+75.00	30	12
11+00.00	38	4
11+25.00	46	1

Station Y1	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
10+95.00	0	0
11+00.00	13	1
11+10.00	31	1
11+30.00	62	1

INDEX OF CROSS SECTIONS

-L- 10+00 TO 14+75	X-2 TO X-8
-YREV1- 10+00 TO 11+25	X-9 TO X-10
-Y1- 11+00 TO 11+35.25	X-10

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4734	X-2



8/23/99

08-MAY-2013 11:01
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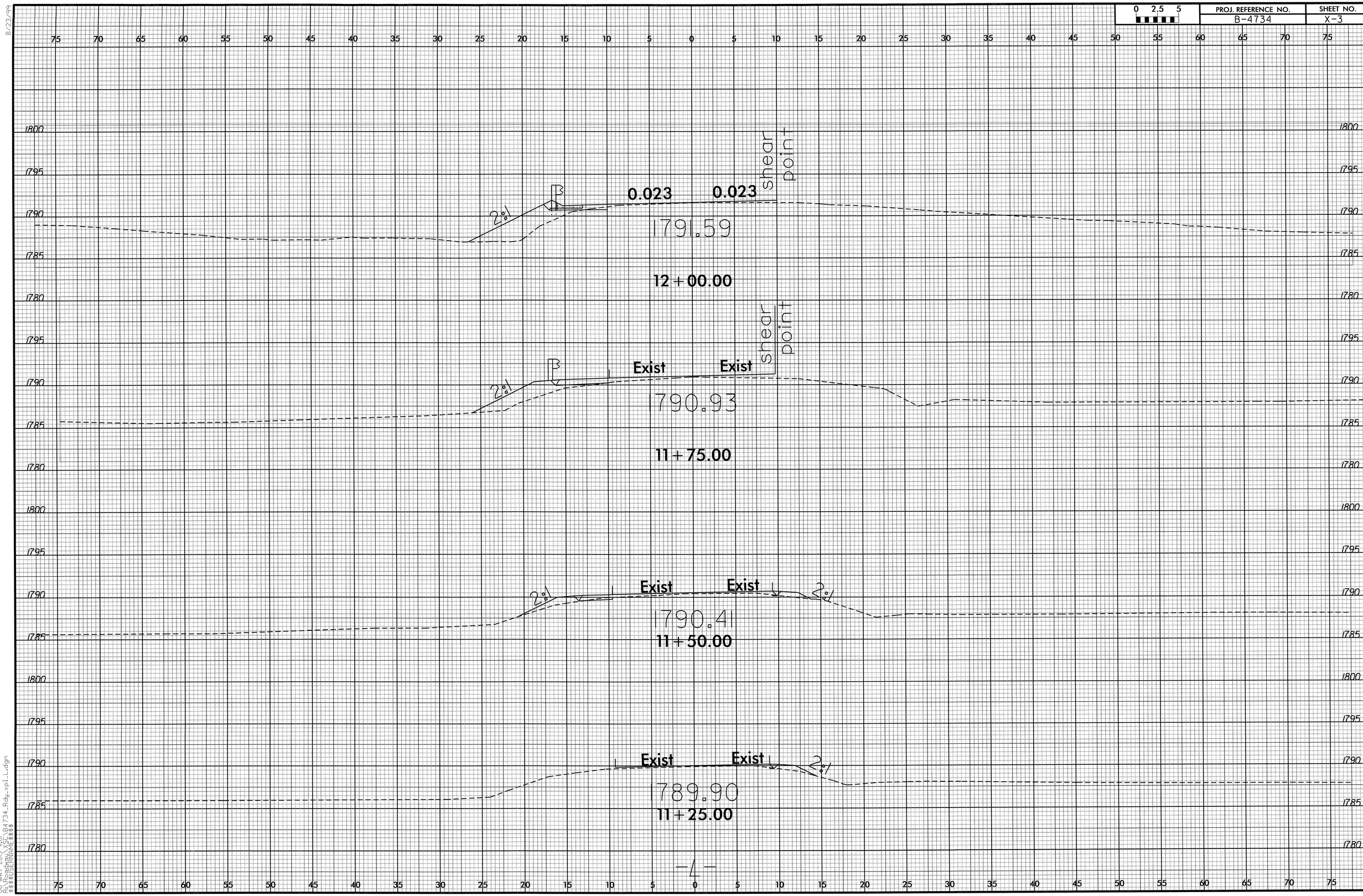
	B-4734	X-3



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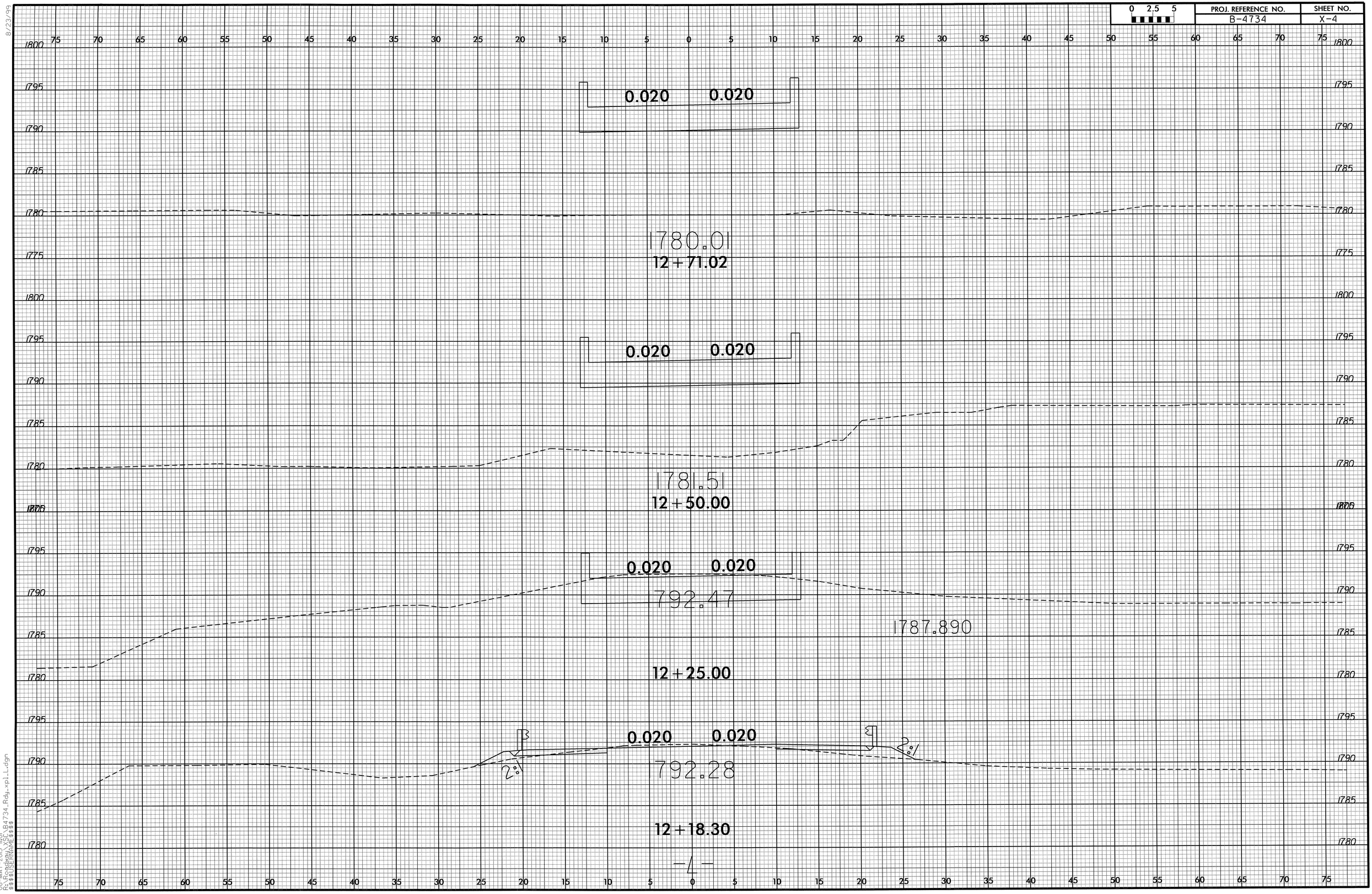

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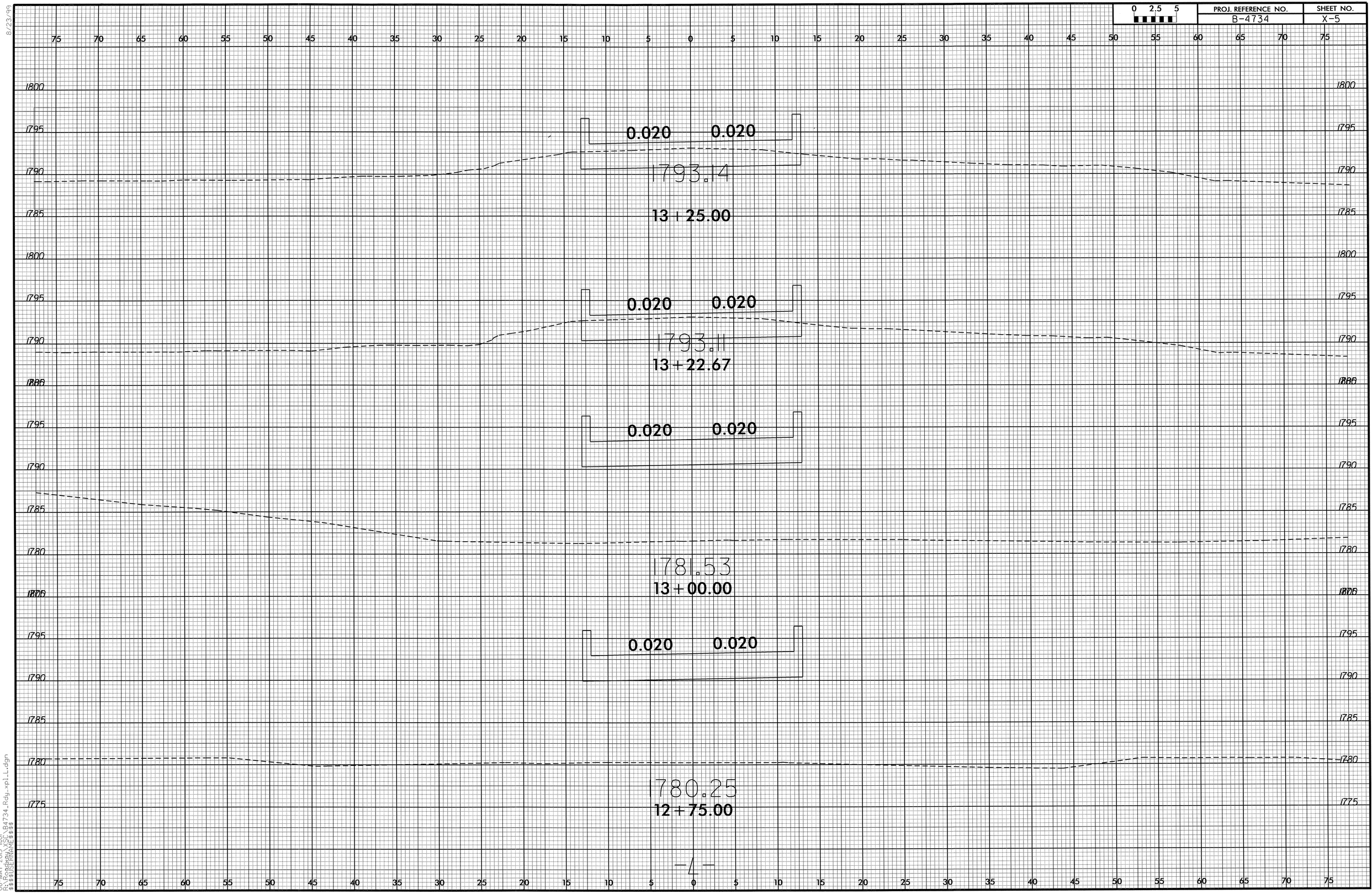

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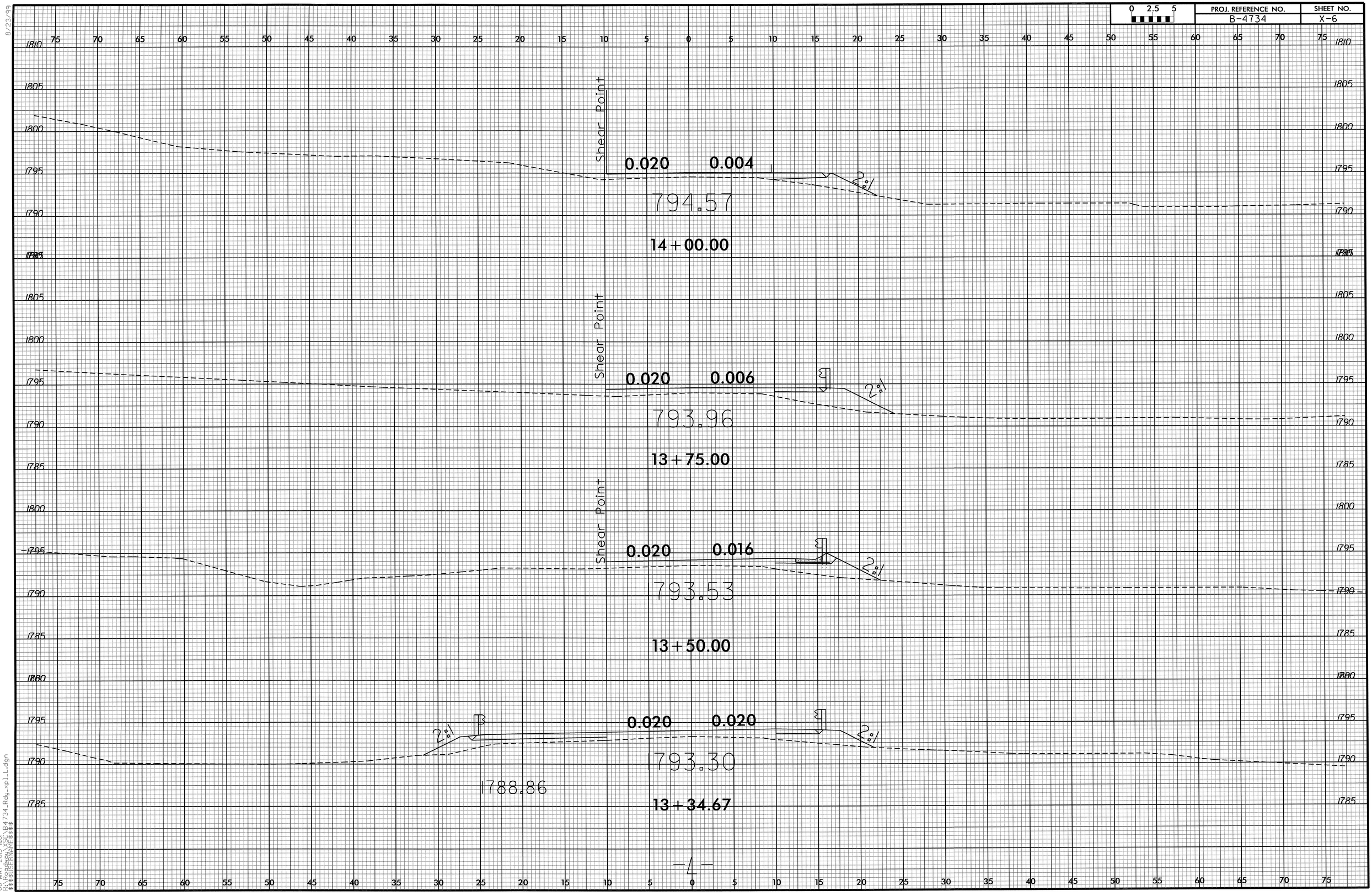

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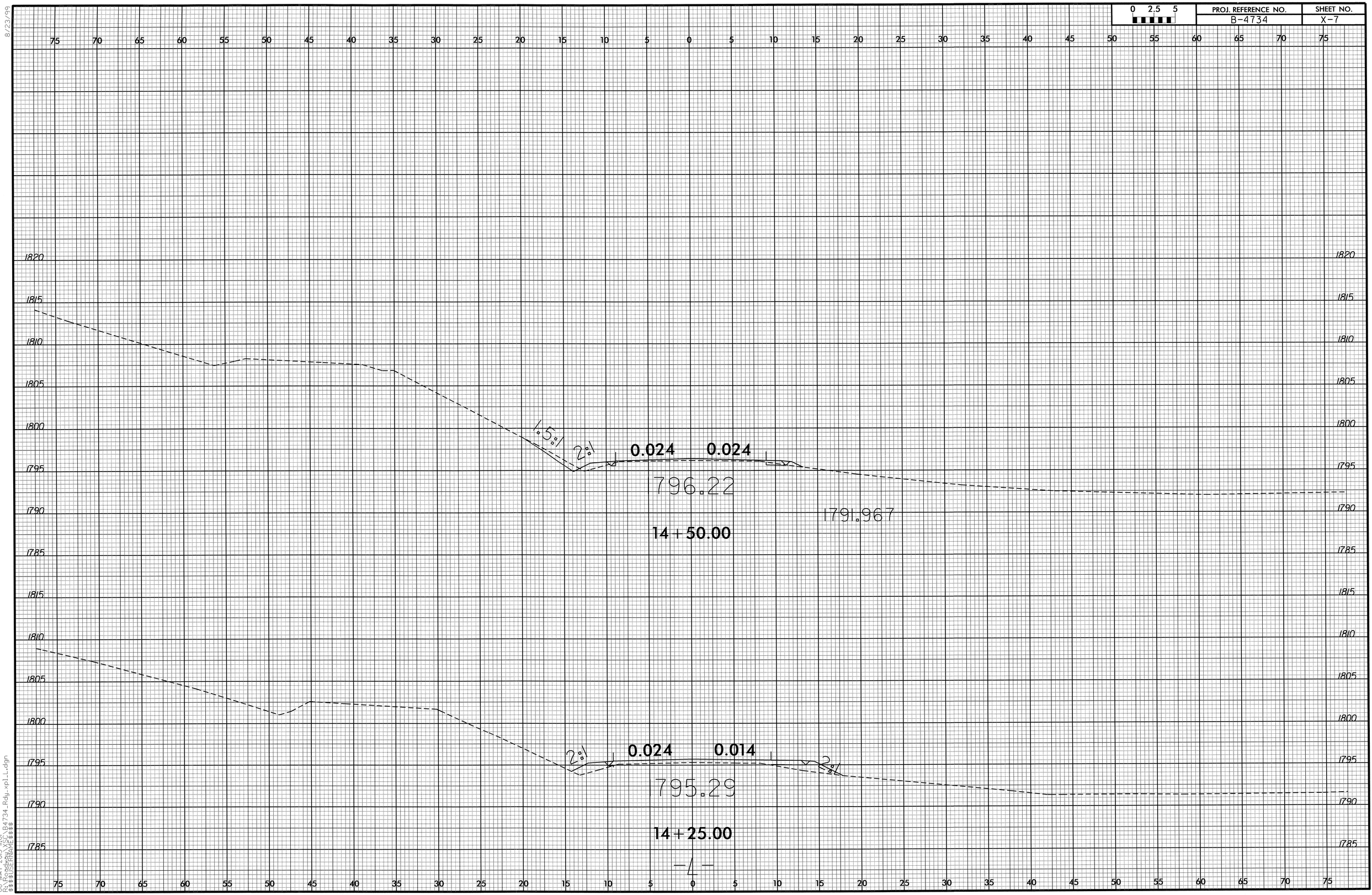

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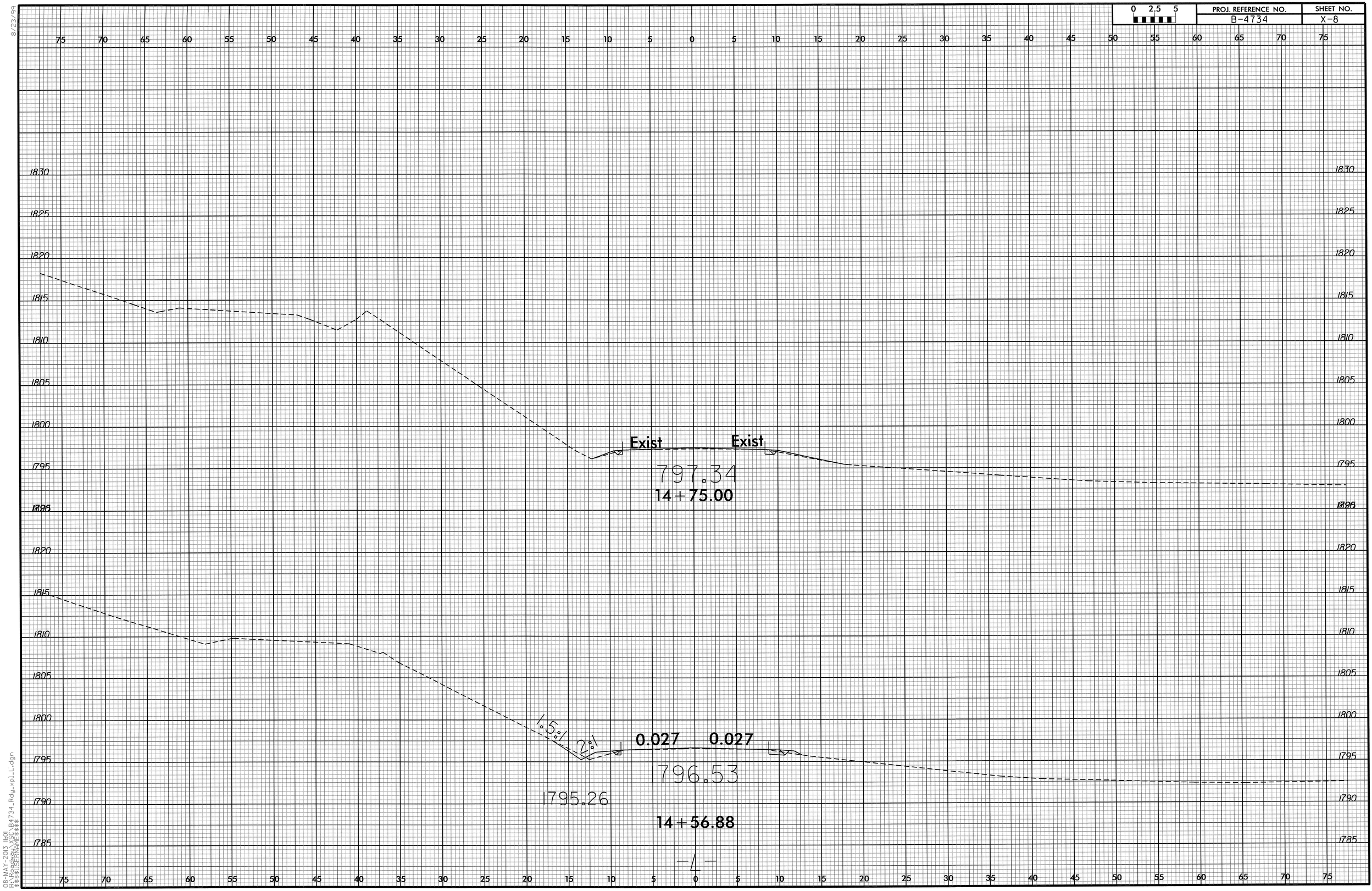

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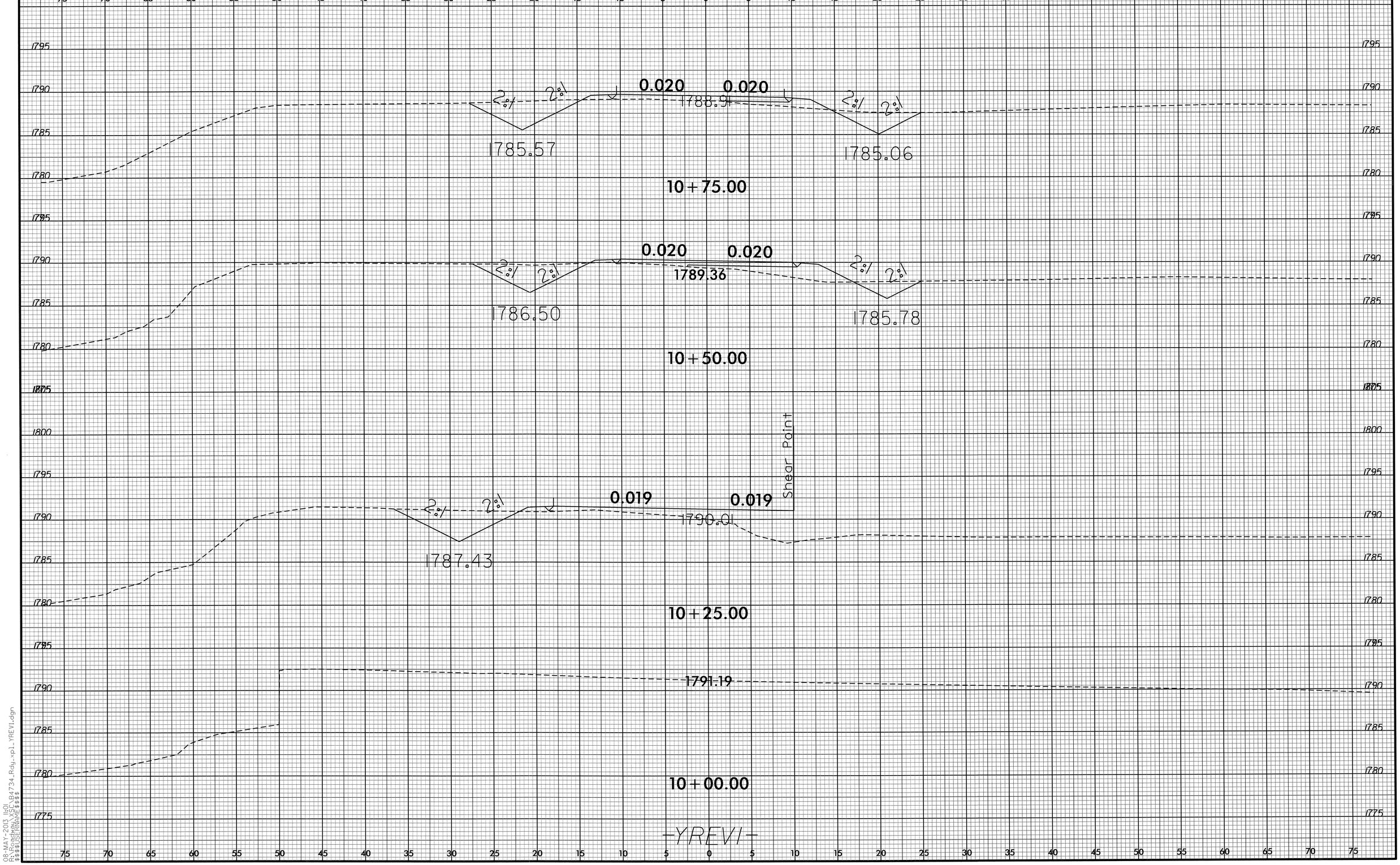

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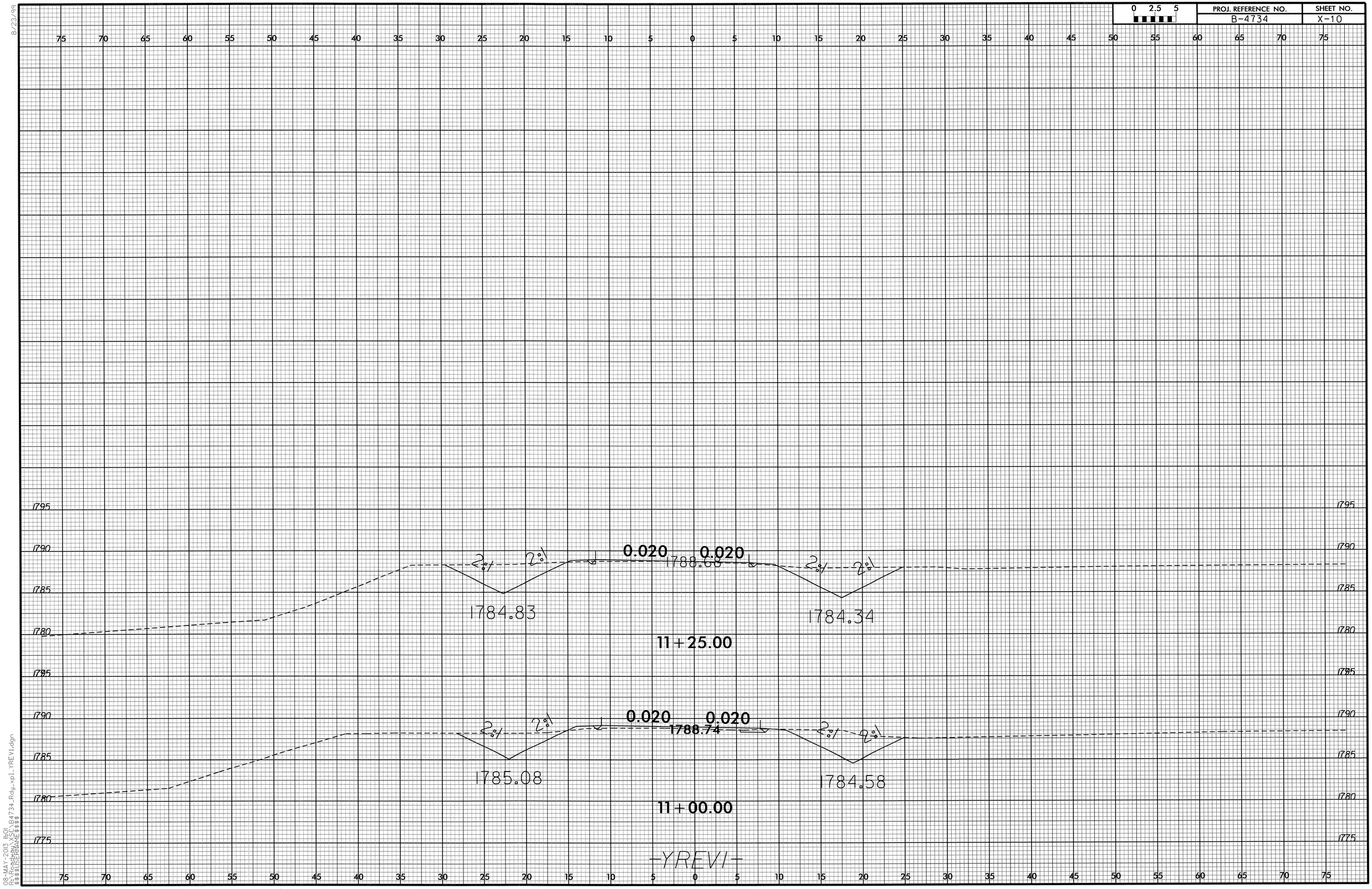

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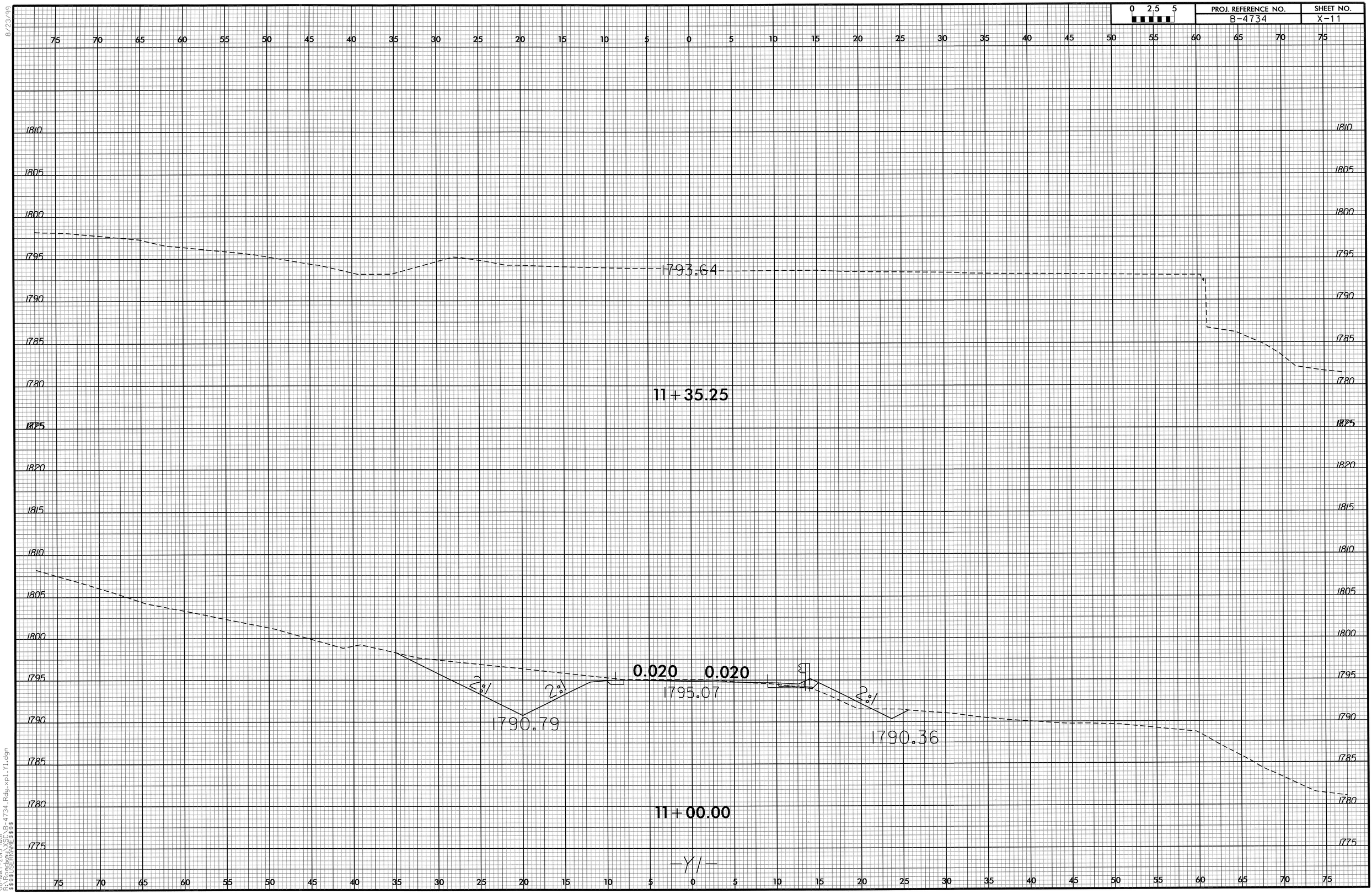

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