STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4846	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
38616.1.1	BRZ-2418 (1)	P.E.
38616.2.1	BRZ-2418 (1)	ROW & UTIL.
38616.3.FD1	BRZ-2418 (1)	CONST.

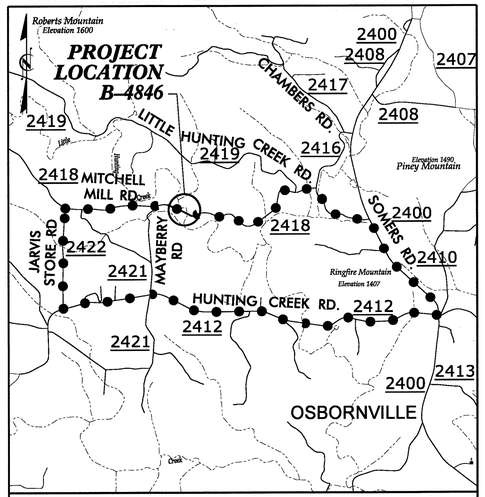
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols
See Sheet 1-C through 1-D For Survey Control

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WILKES COUNTY

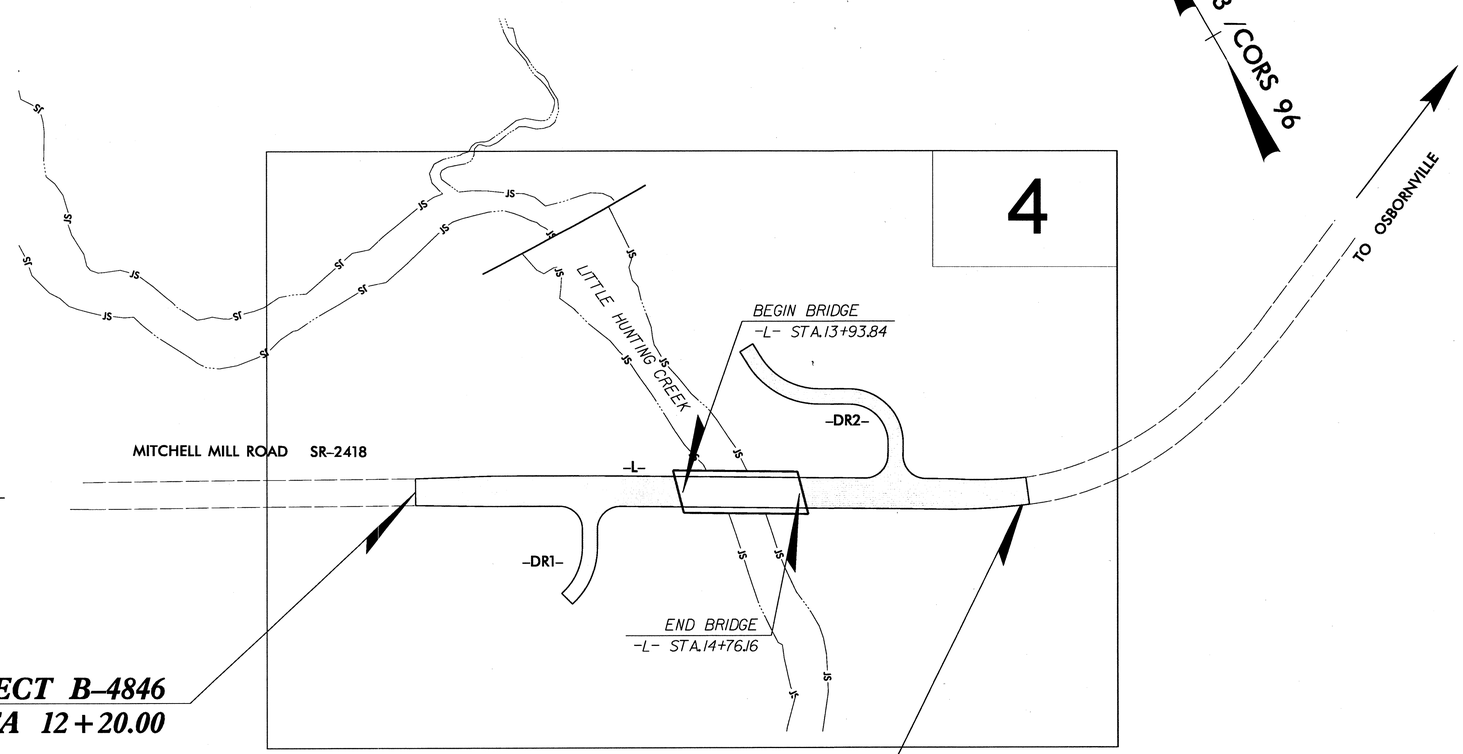
LOCATION: BRIDGE NO. 5 OVER LITTLE HUNTING CREEK ON SR 2418 (MITCHELL MILL ROAD)

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



VICINITY MAP

● ● ● ● ● **OFFSITE DETOUR**



BEGIN TIP PROJECT B-4846
-L- STA 12+20.00

END TIP PROJECT B-4846
-L- STA 16+25.00

** DESIGN EXCEPTION REQUIRED FOR MAXIMUM GRADE, MINIMUM HORIZONTAL CURVE RADIUS, SAG VERTICAL CURVE K, HORIZONTAL STOPPING SIGHT DISTANCE, AND VERTICAL STOPPING SIGHT DISTANCE

NCDOT Contact: Brenda Moore, PE
Roadway Design Project Engineer

TIP PROJECT: B-4846

CONTRACT: C203298

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 = 60
ADT 2034 = 97
DHV = 10 %
D = 60 %
T = 5 % *
V = 60 MPH **
* (TTST 2% + DUAL 3%)
FUNC CLASS = RURAL LOCAL
SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT B-4846	=	0.061 MI.
LENGTH OF STRUCTURE TIP PROJECT B-4846	=	0.016 MI.
TOTAL LENGTH OF TIP PROJECT B-4846	=	0.077 MI.

Prepared In the Offices of
DRMP, INC.
5950 FAIRVIEW ROAD, SUITE 320
CHARLOTTE, NORTH CAROLINA 28210
(704) 332-2289 NC LICENSE NO. C-2213

SUNGATE DESIGN GROUP, P.A.

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JANUARY 17, 2013

LETTING DATE:
JANUARY 21, 2014

JAMES E. BECK, P.E.
PROJECT ENGINEER

PHILLIP HUTCHERSON, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
SIGNATURE: P.E. 10/18/2013

ROADWAY DESIGN ENGINEER
SIGNATURE: P.E. 10/16/2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99
3:06:29 PM
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10/14/2013

PROJECT REFERENCE NO.	SHEET NO.
B-4846	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26615 ENGINEER JAMES E. BECK

10/16/2013

INDEX OF SHEETS FOR B-4846

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2-B	DRAINAGE DITCH AND EMBANKMENT DETAILS
2-C	STRUCTURE ANCHOR UNITS
~~3~~	~~SUMMARY OF QUANTITIES~~
3-A	SUMMARY OF EARTHWORK, PAVEMENT REMOVAL SUMMARY, SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT, SHOULDER BERM GUTTER SUMMARY, SPECIAL SHOULDER BERM CURB SUMMARY, GUARDRAIL SUMMARY
3-B	DRAINAGE SUMMARY SHEET
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
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1A	CROSS-SECTION SUMMARY SHEET
X-1 THRU X-13	CROSS-SECTIONS
S-1 THRU S-17	STRUCTURE PLANS

GENERAL NOTES:

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

GRADING AND SURFACING OR RESURFACING AND WIDENING:

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

CLEARING:

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

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 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 AND/OR STD. NO. 560.02

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

ENERGY UNITED ELECTRIC MEMBERSHIP CORP. AND WILKES TELECOM

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.

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

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
310.10	Driveway Pipe Construction
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
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.25	Anchorage for Frames - Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

8/17/99

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
B-4846	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
- 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
- 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:

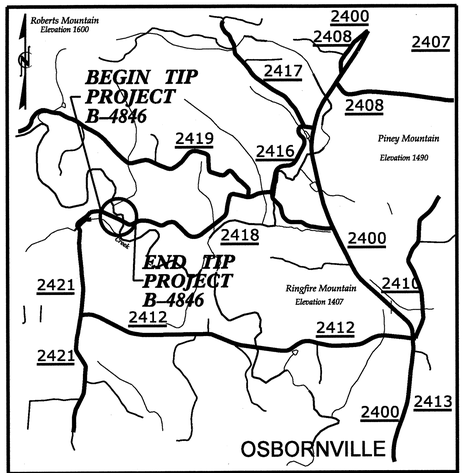
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

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-4846	1-C
Location and Surveys	

SURVEY CONTROL SHEET B-4846



VICINITY MAP

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1	GPS B4846-1	859028.4493	1428870.7282	1046.25	OUTSIDE PROJECT LIMITS	
3	BL-3	858804.5211	1429294.1095	1040.09	10+62.07	11.32 RT
4	BL-4	858648.2461	1429669.6400	1018.30	14+67.99	13.61 LT
2	GPS B4846-2	858534.9290	1429921.2587	1034.09	17+36.69	28.69 RT

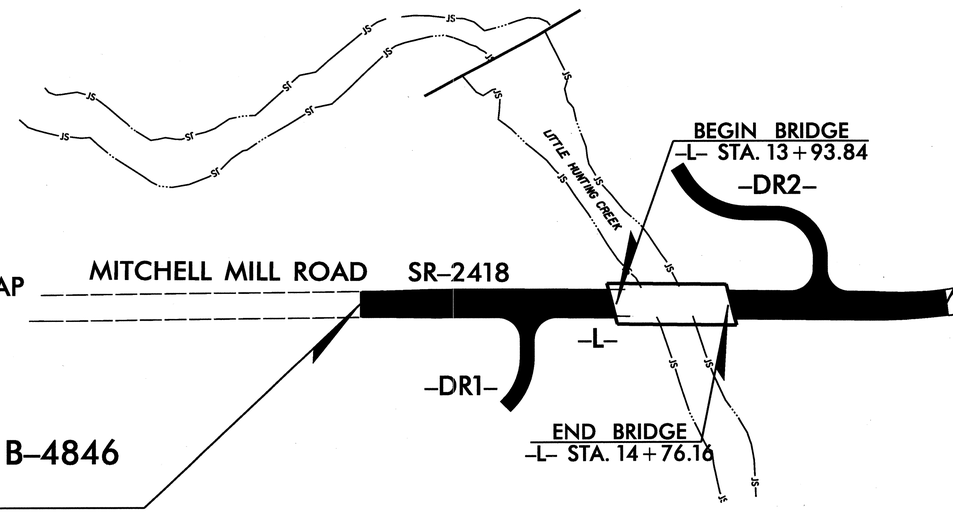
****
BM#1 ELEVATION = 1042.43
N 858902 E 1429265
L STATION 9+93.38 64 LEFT
R/R SPIKE SET IN 24" POPLAR
****

NAD 83 /CORS 96

END TIP PROJECT B-4846
-L- STA 16+25.00
N=858567.7562
E=1429804.7527

TO OSBORNVILLE

NC DOT GPS STATION B4846-1
LOCALIZED COORDINATES
N=859028.4493
E=1428870.7282



NC DOT GPS STATION B4846-2
LOCALIZED COORDINATES
N=858534.9290
E=1429921.2587

BEGIN TIP PROJECT B-4846
-L- STA 12+20.00
N=858746.2916
E=1429441.3525

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4846-1"
WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
NORTHING: 859028.4493(ft) EASTING: 1428870.7282(ft)
ELEVATION: 1046.2500(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99993616
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-4846-1" TO -L- STATION 12+20.00 IS
S 63°41'20" E 636.5729
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:*
   HTTP://WWW.NCDOT.ORG/DOH/PRECONSTRUCT/HIGHWAY/LOCATION/PROJECT/

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4846_LS_CONTROL_121120.HTML

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

◎ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

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12/14/2012

SURVEY CONTROL SHEET B-4846

L

TYPE	STATION	NORTH	EAST
PC	6+00.00	858995.2407	1428874.7668
PT	8+00.00	858928.2669	1429062.8225
PC	12+52.92	858732.0281	1429471.0220
PT	13+70.54	858680.0306	1429576.5221
PC	15+85.17	858583.2637	1429768.0984
PCC	16+17.73	858570.1865	1429797.9045
PCC	17+29.27	858561.3517	1429907.6484
PCC	17+67.63	858571.2962	1429944.6664
PT	18+31.63	858596.2425	1430003.5402
POT	19+06.63	858630.5568	1430070.2300

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	12+41.50	25.00	858714.4445	1429449.8977
L	13+15.00	37.00	858671.6624	1429510.4569
L	13+15.00	55.00	858655.5212	1429502.4905
L	13+20.00	-25.35	858725.3536	1429542.5552
L	13+20.00	-40.00	858738.4811	1429549.0479
L	14+00.00	55.00	858617.6556	1429578.0209
L	14+00.00	40.00	858631.0445	1429584.7837
L	15+00.00	-60.00	858675.2182	1429719.1291
L	15+00.00	-40.00	858657.3663	1429710.1119
L	15+35.00	40.00	858570.1786	1429705.2841
L	15+35.00	23.78	858584.6545	1429712.5960
L	15+75.00	-25.17	858610.3175	1429770.3717
L	15+75.00	-60.00	858641.4039	1429786.0737

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+90.00	-40.00	858706.9607	1429611.9264
L	14+87.00	-90.00	858707.8572	1429721.0511

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-4846-1"
WITH NAD 83/CORS 96 STATE PLANE GRID COORDINATES OF
NORTHING: 859028.4493(ft) EASTING: 1428870.7282(ft)
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LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"B-4846-1" TO -L- STATION 12+20.00 IS
S 63°41'20" E 636.5729
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

FINAL TABLES

NOTE: DRAWING NOT TO SCALE

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B4846_LS_CONTROL_121120.HTML

   SITE CALIBRATION INFORMATION HAS NOT BEEN PROVIDED FOR THIS PROJECT. IF FURTHER INFORMATION IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

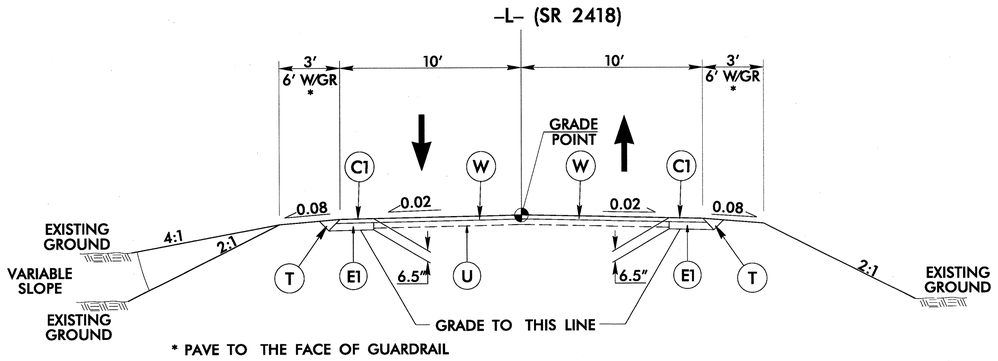
△ *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)
SEE GPS CALIBRATION SHEET FOR HORIZONTAL AND VERTICAL COORDINATE VALUES.

6/2/99
12-NOV-2013 08:20
H:\Projects\B4846\B4846_ls_1d.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4846	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26918 ENGINEER JAMES E. BECK 10/11/2013

NORTH CAROLINA PROFESSIONAL SEAL 033611 ENGINEER MATT HEYWARD OCTOBER 22nd 2013

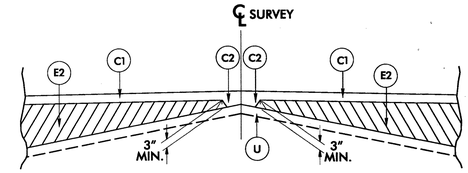


* PAVE TO THE FACE OF GUARDRAIL

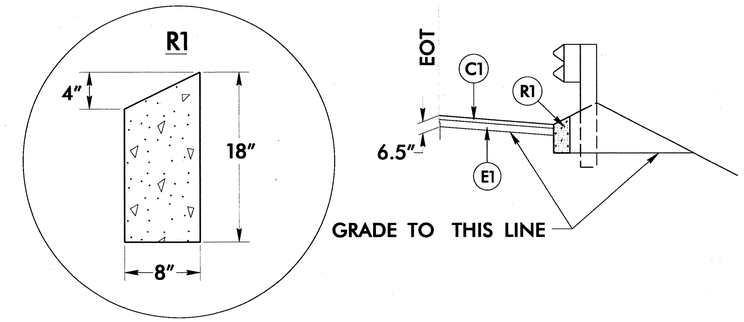
TYPICAL SECTION NO. 1

-L- STA 12+20.00 TO -L- STA 12+90.00
-L- STA 15+40.00 TO -L- STA 16+25.00

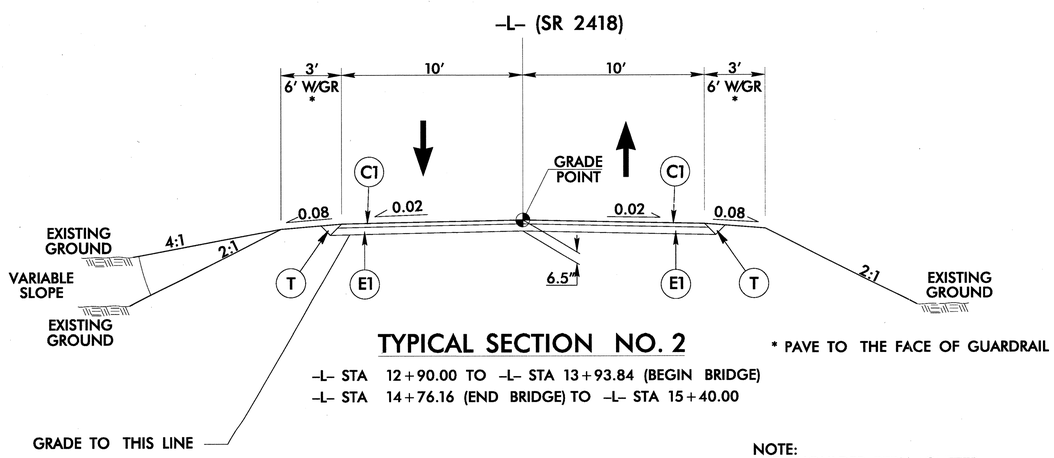
NOTE:
TRANSITION FROM EXISTING WIDTH TO TYPICAL
-L- STA. 12+20.00 TO 12+70.00
-L- STA. 15+75.00 TO 16+25.00



DETAIL SHOWING METHOD OF WEDGING (W)



DETAIL SHOWING SPECIAL SHOULDER BERM CURB



TYPICAL SECTION NO. 2

* PAVE TO THE FACE OF GUARDRAIL

-L- STA 12+90.00 TO -L- STA 13+93.84 (BEGIN BRIDGE)
-L- STA 14+76.16 (END BRIDGE) TO -L- STA 15+40.00

NOTE:
USE SHOULDER BERM GUTTER:
-L- STA. 13+55.00 TO 13+85.97 (BEGIN APPROACH SLAB) (RIGHT)
-L- STA. 13+55.00 TO 13+79.14 (BEGIN APPROACH SLAB) (LEFT)

USE SPECIAL SHOULDER BERM CURB:
-L- STA. 14+90.29 (END APPROACH SLAB) TO 14+98.64 (RIGHT)
-L- STA. 14+84.03 (END APPROACH SLAB) TO 14+91.18 (LEFT)

FINAL PAVEMENT SCHEDULE	
C1	PROP. APPROX. 2½" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS
C2	PROP. VARIABLE 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. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VARIABLE 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.
J1	PROP. 6" AGGREGATE BASE COURSE.
R1	SPECIAL SHOULDER BERM CURB.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL, SHEET NO. 2)

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

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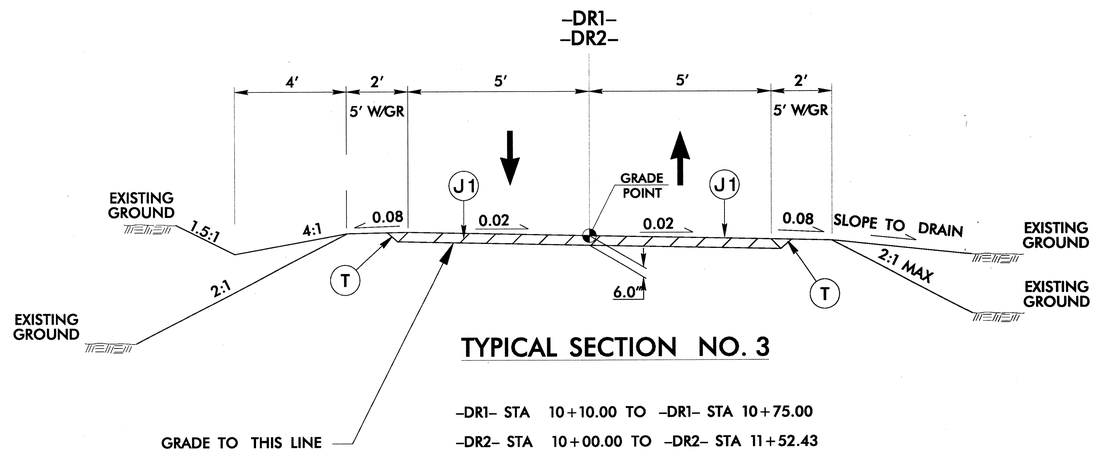
B4846_Bridge_Replacement\Roadway\Proj\B4846_rdy_typ.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-4846	2-A
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26876 ENGINEER JAMES E. BECK
10/16/2013

NORTH CAROLINA PROFESSIONAL SEAL 19989 ENGINEER TIMOTHY HEWARD
OCTOBER 22nd 2013

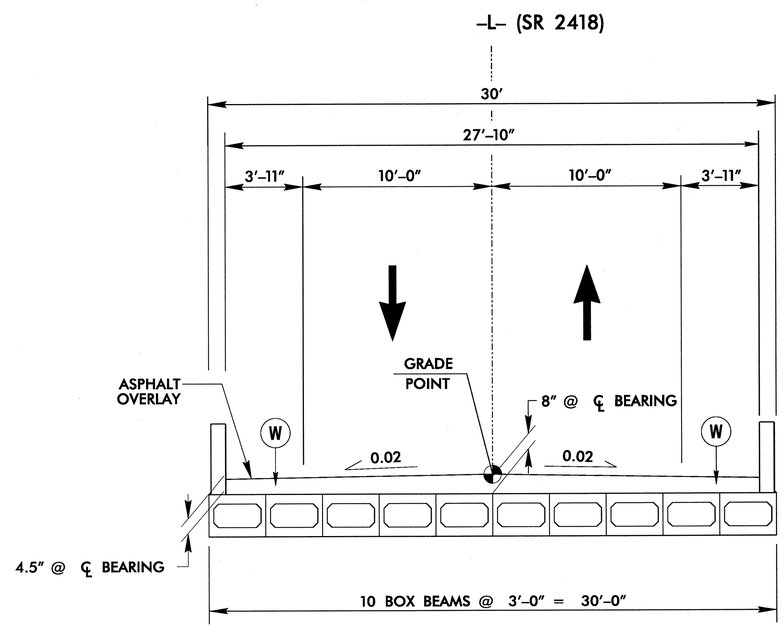
PAVEMENT SCHEDULE (FINAL PAVEMENT DESIGN)	
C1	2½" SF9.5A
C2	VAR. SF9.5A
E1	4" B25.0B
E2	VAR. B25.0B
J1	6" ABC
R1	SPECIAL SBC
T	EARTH MATERIAL
U	EXIST. PAVEMENT
W	WEDGING



TYPICAL SECTION NO. 3

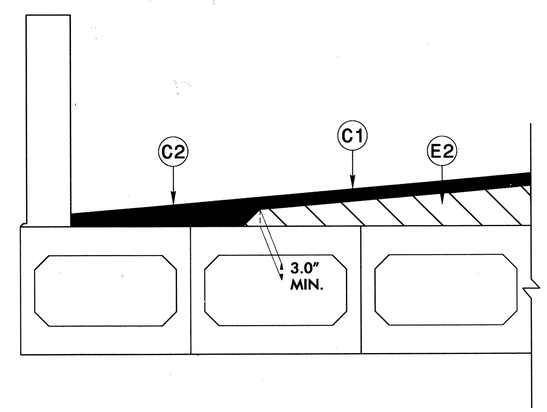
-DR1- STA 10+10.00 TO -DR1- STA 10+75.00

-DR2- STA 10+00.00 TO -DR2- STA 11+52.43



TYPICAL ON STRUCTURE

-L- STA 13+93.84 TO -L- STA 14+76.16



DETAIL SHOWING METHOD OF WEDGING (ON BRIDGE)

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10/14/2013

PROJECT REFERENCE NO.	SHEET NO.
B-4846	2-B
R/W SHEET NO.	

HYDRAULICS ENGINEER

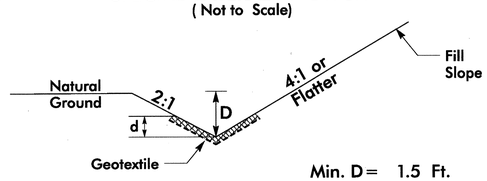
NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON

10/18/2013

SUNGATE DESIGN GROUP, P.A.

DRAINAGE DITCH AND EMBANKMENT DETAILS

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

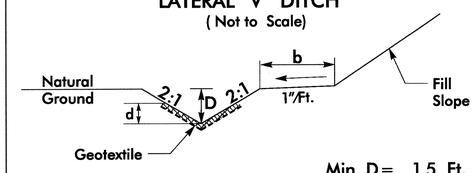


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.

Type of Liner = Class 'B' Rip-Rap

FROM STA. 12+25 TO STA. 13+20 –L– RT

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

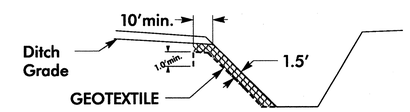


Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
b = 3.0 Ft.

Type of Liner = Class 'B' Rip-Rap

FROM STA. 13+55 TO STA. 14+00 –L– RT

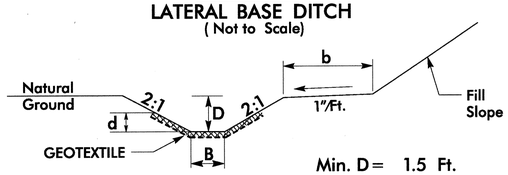
DETAIL 3
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'I' Rip-Rap
Geotextile Fabric, Type 2

FROM STA. 14+00 TO STA. 14+30 –L– RT

DETAIL 4
LATERAL BASE DITCH
(Not to Scale)



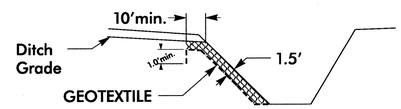
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2.0 Ft.
b = 3.0 Ft.

*When B is < 6.0'

Type of Liner = Class 'I' Rip-Rap

FROM STA. 14+55 TO STA. 15+10 –L– LT

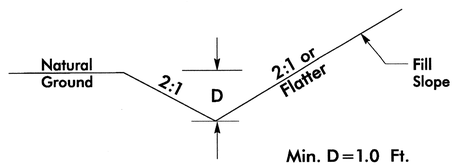
DETAIL 5
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'I' Rip-Rap
Geotextile Fabric, Type 2

FROM STA. 14+37 TO STA. 14+55 –L– LT

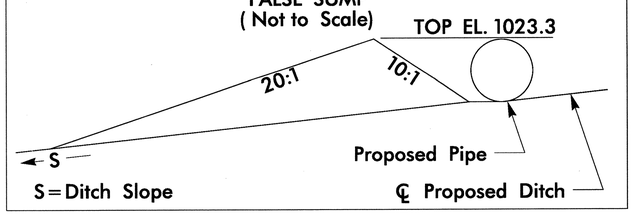
DETAIL 6
SPECIAL LATERAL 'V' DITCH
(Not to Scale)



Min. D = 1.0 Ft.

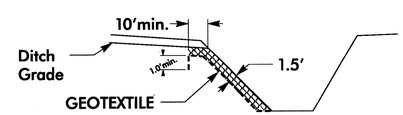
FROM STA. 10+32 TO STA. 10+75 –DR1– RT

DETAIL 7
FALSE SUMP
(Not to Scale)



STA. 11+35 –DR2– LT

DETAIL 8
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner = Class 'I' Rip-Rap
Geotextile Fabric, Type 2

STA. 10+25 –DR2– RT

REVISIONS

8/17/99

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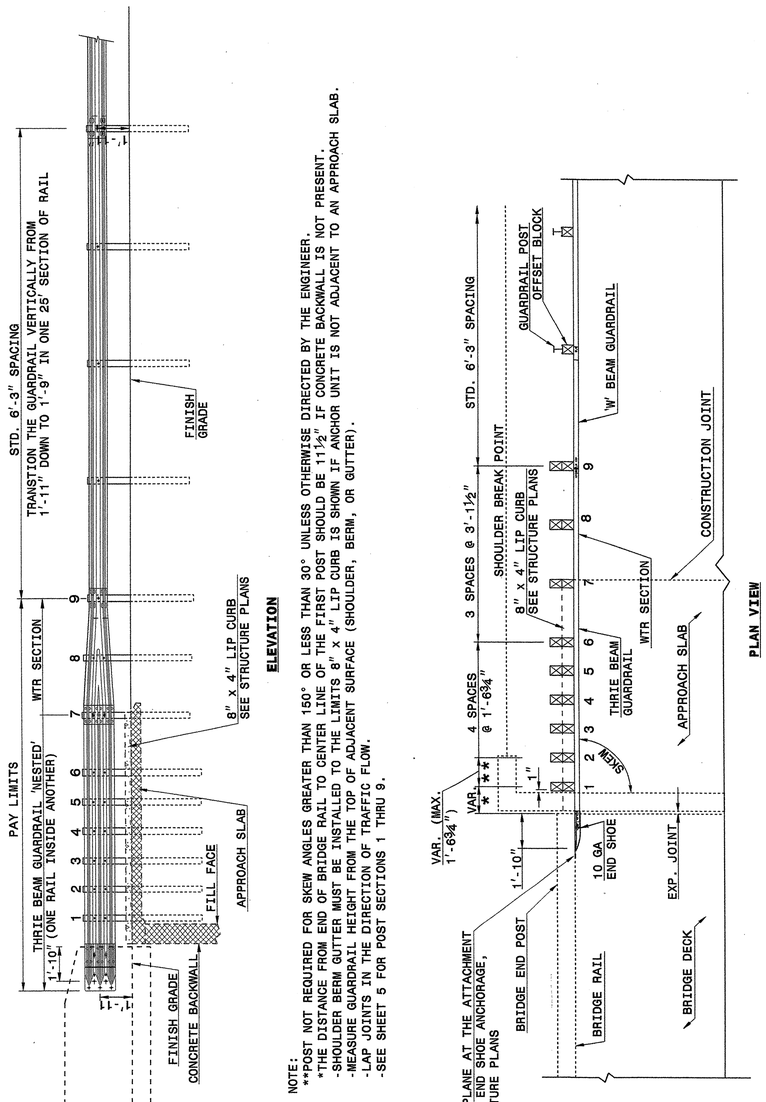
10/18/2013

PROJECT REFERENCE NO.	SHEET NO.
B-4846	2-C



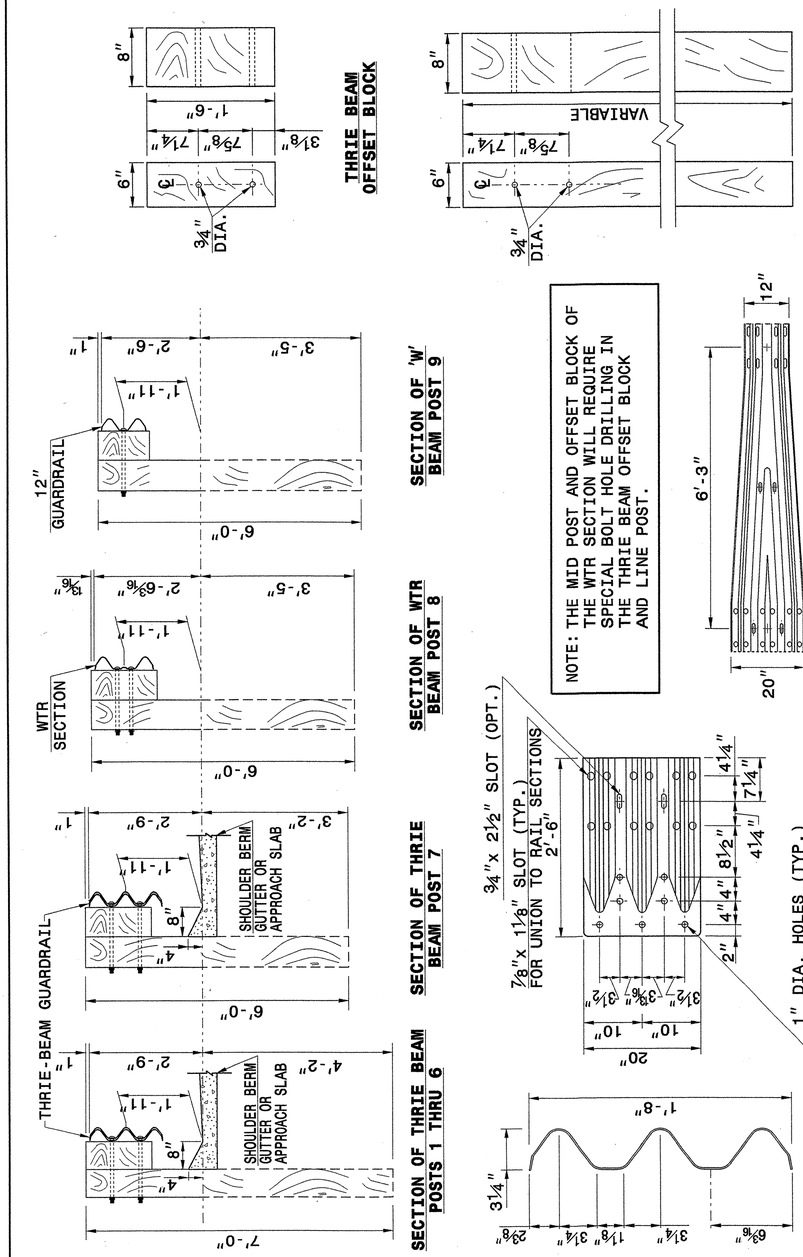
NOTE:
- **POST NOT REQUIRED FOR SKEW ANGLES GREATER THAN 150° OR LESS THAN 30° UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- *THE DISTANCE FROM END OF BRIDGE RAIL TO CENTER LINE OF THE FIRST POST SHOULD BE 11½" IF CONCRETE BACKWALL IS NOT PRESENT.
- -SHOULDER BERM GUTTER MUST BE INSTALLED TO THE LIMITS 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.

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

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER JOHN C. HOWERTON
10/22/13

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

SEE TITLE BLOCK

ORIGINAL BY: J HOWERTON DATE: 06-22-12
MODIFIED BY: DATE:
CHECKED BY: DATE: 11/13/12
FILE SPEC.:

$$$$$$$$CSTIME$$$$
$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$
$$$$$$$$CSFNAME$$$$

COMPUTED BY: PDH DATE: 10/23/2012
CHECKED BY: JEB DATE: 10/23/2012

12/06/07

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PROJECT REFERENCE NO.	SHEET NO.
B-4846	3-A

SUMMARY OF EARTHWORK
IN CUBIC YARDS

STATION	STATION	UNCL. EXCAV.	UNDERCUT	EMBANK. +%	BORROW	WASTE
-L- 12+20.00	-L- 13+93.84 (BEG. BRIDGE)	127		537	410	
-DR1- 10+10.00	-DR1- 10+75.00	7		124	117	0
SUBTOTALS:		134		661	527	0
-L- 14+76.16 (END BRIDGE)	-L- 16+25.00	18		198	180	
-DR2- 10+00.00	-DR2- 11+52.35	1164		7	0	1157
SUBTOTALS:		1182		205	180	1157
SUMMARIES SUBTOTAL:		1316		866	707	1157
LOSS DUE TO CLEARING AND GRUBBING		-55			55	
WASTE IN LIEU OF BORROW					-180	-180
PROJECT TOTALS:		1261		866	582	977
EST. 5% FOR REPLACING TOP SOIL ON BORROW PITS					29	
GRAND TOTALS:		1261		866	611	977
SAY:		1300			700	

EST. GRANULAR MATERIAL = 50 CY (CONTINGENCY FROM GEOTECHNICAL REPORT)
EST. GEOTEXTILE FOR SOIL STABILIZATION =220 CY (CONTINGENCY FROM GEOTECHNICAL REPORT)
EST. UNDERCUT = 100 CY (CONTINGENCY FROM GEOTECHNICAL REPORT)
EST. CLASS IV SUBGRADE STABILIZATION = 160 TONS (CONTINGENCY FROM GEOTECHNICAL REPORT)
EST. UNDERDRAIN = 300 LF (CONTINGENCY FROM GEOTECHNICAL REPORT)
EST. SHALLOW UNDERCUT = 85 CY (CONTINGENCY FROM GEOTECHNICAL REPORT)

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.

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

PAVEMENT REMOVAL SUMMARY

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
L	12+90	13+11	RT/LT	42
L	15+23	15+40	RT/LT	34
TOTAL:				76
SAY:				80

SUMMARY OF BREAKING EXISTING ASPHALT PAVEMENT

SURVEY LINE	STATION	STATION	LOCATION LT/RT/CL	YD^2
L	13+11	BEGIN EXIST. BRIDGE	RT/LT	188
L	END EXIST. BRIDGE	15+23	RT/LT	112
TOTAL:				300
SAY:				300

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
L	13+55	13+85.97	RT	31.0
L	13+55	13+79.14	LT	24.1
TOTAL:				55.1
SAY:				60

SPECIAL SHOULDER BERM CURB SUMMARY

SURVEY LINE	STATION	STATION	LOCATION	LENGTH
L	14+90.29	14+98.64	RT	8.3
L	14+84.03	14+91.18	LT	7.2
TOTAL:				15.5
SAY:				20

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

GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W		ANCHORS								IMPACT ATTENUATOR TYPE 350			SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	TYPE III	GRAU 350 TL-3	M-350	XIII	CAT-1	VI MOD	BIC	AT-1	EA	G	NG				
-DR1- / -L-	10+46.94 (-DR1-)	13+97.57 (-L-)	RT	37.50	50		BRIDGE		3	6	6.25		4			1							1							SHOP CURVED AT DRIVEWAY ENTRANCE
-L-	13+09.01	13+90.11	LT	81.25				BRIDGE	3	6		50		1.0		1	1													
-L-	14+79.89	15+61.14	RT	81.25				BRIDGE	3	6		50		1.0		1	1													
-L- / -DR2-	14+72.43 (-L-)	10+86.37 (-DR2-)	LT	37.50	50		BRIDGE		3	6	6.25		4			1							1							SHOP CURVED AT DRIVEWAY ENTRANCE
			SUBTOTAL	237.50	100.00	0.00										4	2						2							
		ANCHOR UNIT DEDUCTIONS																												
		GRAU 350 TL-3	2 X 50 =	-100.00																										
		TYPE III	4 X 18.75 =	-75.00																										
		AT-1	2 X 6.25 =	-12.50																										
ADDITIONAL GUARDRAIL POSTS = 5 EA.			PROJECT TOTAL	50.00	100.00	0.00										4	2						2							
			SAY	50.00	100.00	0.00										4	2						2							

DRMP
ENGINEERS • PLANNERS • SCIENTISTS
DYER, RIDDLE, MILLS & PRECOURT, INC.
5950 FAIRVIEW ROAD, SUITE 320
CHARLOTTE, NORTH CAROLINA 28210
(704) 332-2289
NC LICENSE NO. C-2213

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10/24/2013

CHA-MHAGE-W7

COMPUTED BY: JGD DATE: 11/5/2012

CHECKED BY: MDH DATE: 9/12/2013

PROJECT NO.	SHEET NO.
B-4846	3-B

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

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
13+61 -L-	LT	401		1021.8	1019.0														
		401	402		1019.0	1018.9													
13+61 -L-	RT	402		1021.8	1018.9														
		402	403		1018.9	1015.3			24										
10+33 -DR1-	CL	404							36										
11+40 -DR2-	CL	405									56								
10+50 -DR2-	LT	406		1019.0	1015.8														
		406	407		1015.8	1015.5			44										
13+70 -L-	RT																		
15+27 -L-	CL																		
SHEET TOTALS									104		56								

STATION	STRUCTURE NO. FROM	TO	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"
13+61 -L-	401																									
	401	402																		28						
13+61 -L-	402																									
	402	403																								
10+33 -DR1-	404																									
11+40 -DR2-	405																									
10+50 -DR2-	406																									
	406	407																								
13+70 -L-																										
15+27 -L-																										
SHEET TOTALS																				28						

STATION	STRUCTURE NO. FROM	TO	** " 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 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
13+61 -L-	401									1								
	401	402																
13+61 -L-	402									1								
	402	403																
10+33 -DR1-	404																	
11+40 -DR2-	405																	
10+50 -DR2-	406									1								
	406	407																
13+70 -L-																		
15+27 -L-																		
SHEET TOTALS										3								

STATION	STRUCTURE NO. FROM	TO	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. TYPE "D" STD. 840.19 OR 840.28	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 FLAT GRATES STD. 840.29	J.B. STD. 840.31 OR 840.32	T.B. G.D.I. STD. 840.35				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
13+61 -L-	401										1		1								
	401	402																			
13+61 -L-	402										1		1								
	402	403																			
10+33 -DR1-	404																				
11+40 -DR2-	405																				
10+50 -DR2-	406		1	1																	
	406	407																			
13+70 -L-																				45	REMOVE 45 LF OF EXIST. 15" HDPE
15+27 -L-																				50	REMOVE 50 LF OF EXIST. 15" CMP
SHEET TOTALS			1	1							2		2							95	

SIZE / THICKNESS OR GAUGE

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

PROJECT REFERENCE NO.	SHEET NO.
B-4846	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26815 ENGINEER JAMES E. BECK 10/16/2013

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON 10/18/2013

DRMP
ENGINEERS · PLANNERS · SCIENTISTS
DYER, RIDDLE, MILLS & PRECOURT, INC.
5950 FAIRVIEW ROAD, SUITE 320
CHARLOTTE, NORTH CAROLINA 28210
(704) 332-2289
NC LICENSE NO. C-2213

SUNGATE DESIGN GROUP, P.A.
THIS DRAWING IS PROVIDED FOR INFORMATION PURPOSES ONLY. ALL PROFESSIONAL SERVICES SHOULD BE OBTAINED FROM LICENSED PROFESSIONALS. NO STAMP.

-L- CURVE DATA

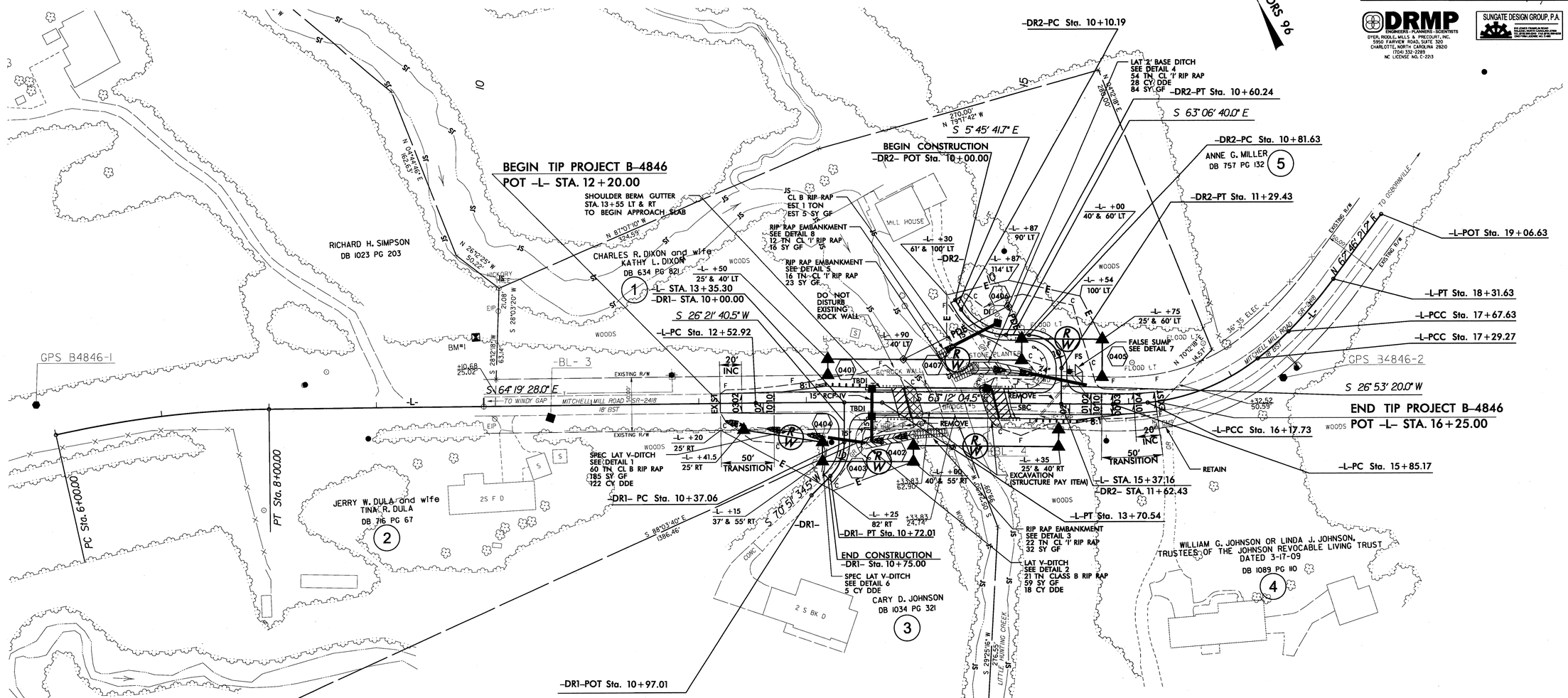
CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5	CURVE 6
PI Sta 7+00.38	PI Sta 13+11.73	PI Sta 16+01.47	PI Sta 16+74.99	PI Sta 17+48.48	PI Sta 17+99.69
Δ = 12° 08' 44.3" (RT)	Δ = 1° 07' 23.5" (RT)	Δ = 6° 13' 09.8" (LT)	Δ = 31° 57' 12.6" (LT)	Δ = 7° 19' 32.1" (LT)	Δ = 8° 31' 39.9" (LT)
D = 6° 04' 22.1"	D = 0° 57' 17.7"	D = 19° 05' 54.9"	D = 28° 38' 52.4"	D = 19° 05' 54.9"	D = 13° 19' 28.6"
L = 200.00'	L = 117.62'	L = 32.56'	L = 111.54'	L = 38.36'	L = 64.00'
T = 100.38'	T = 58.81'	T = 16.30'	T = 57.26'	T = 19.20'	T = 32.06'
R = 943.48'	R = 6,000.00'	R = 300.00'	R = 200.00'	R = 300.00'	R = 430.00'
e = NA	e = SEE PLANS	e = SEE PLANS	e = NA	e = NA	e = NA

-DR1- CURVE DATA

CURVE 1
PI Sta 10+55.47
Δ = 44° 29' 54.0" (RT)
D = 127° 19' 26.2"
L = 34.95'
T = 18.41'
R = 45.00'
e = NA

-DR2- CURVE DATA

CURVE 1	CURVE 2
PI Sta 10+37.54	PI Sta 11+12.06
Δ = 57° 20' 58.3" (LT)	Δ = 90° 00' 00.0" (RT)
D = 114° 35' 29.6"	D = 188° 17' 26.9"
L = 50.05'	L = 47.80'
T = 27.35'	T = 30.43'
R = 50.00'	R = 30.43'
e = NA	e = NA

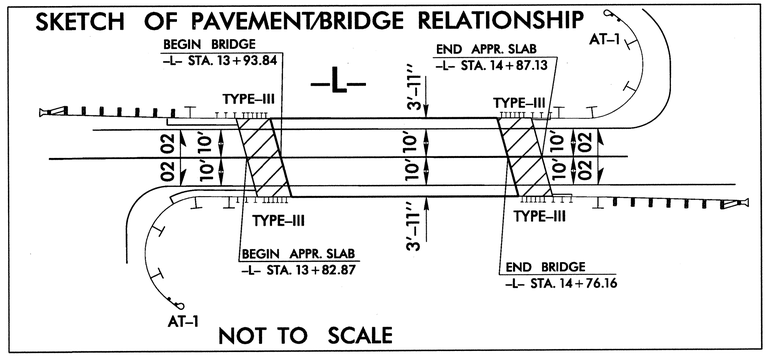


NOTES:

1. SEE SHEET 5 FOR -L-, -DR1- AND -DR2- PROFILES
2. SEE SHEET S-1 THROUGH S-17 FOR STRUCTURE PLANS
3. SIDE ROAD RADII ARE 15' UNLESS OTHERWISE NOTED
4. SEE SHEET 2 FOR SPECIAL SHOULDER BERM CURB (SBC) DETAILS
5. SEE SHEET 2-B FOR DRAINAGE DITCH AND EMBANKMENT DETAILS

** DESIGN EXCEPTION REQUIRED FOR MAXIMUM GRADE, MINIMUM HORIZONTAL CURVE RADIUS, SAG VERTICAL CURVE K, HORIZONTAL STOPPING SIGHT DISTANCE, AND VERTICAL STOPPING SIGHT DISTANCE

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP



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REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
B-4846	5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 26815 ENGINEER JAMES E. BECK 10/16/2013

NORTH CAROLINA PROFESSIONAL SEAL 26971 ENGINEER JOSHUA G. DALTON 10/18/2013

BRIDGE HYDRAULIC DATA

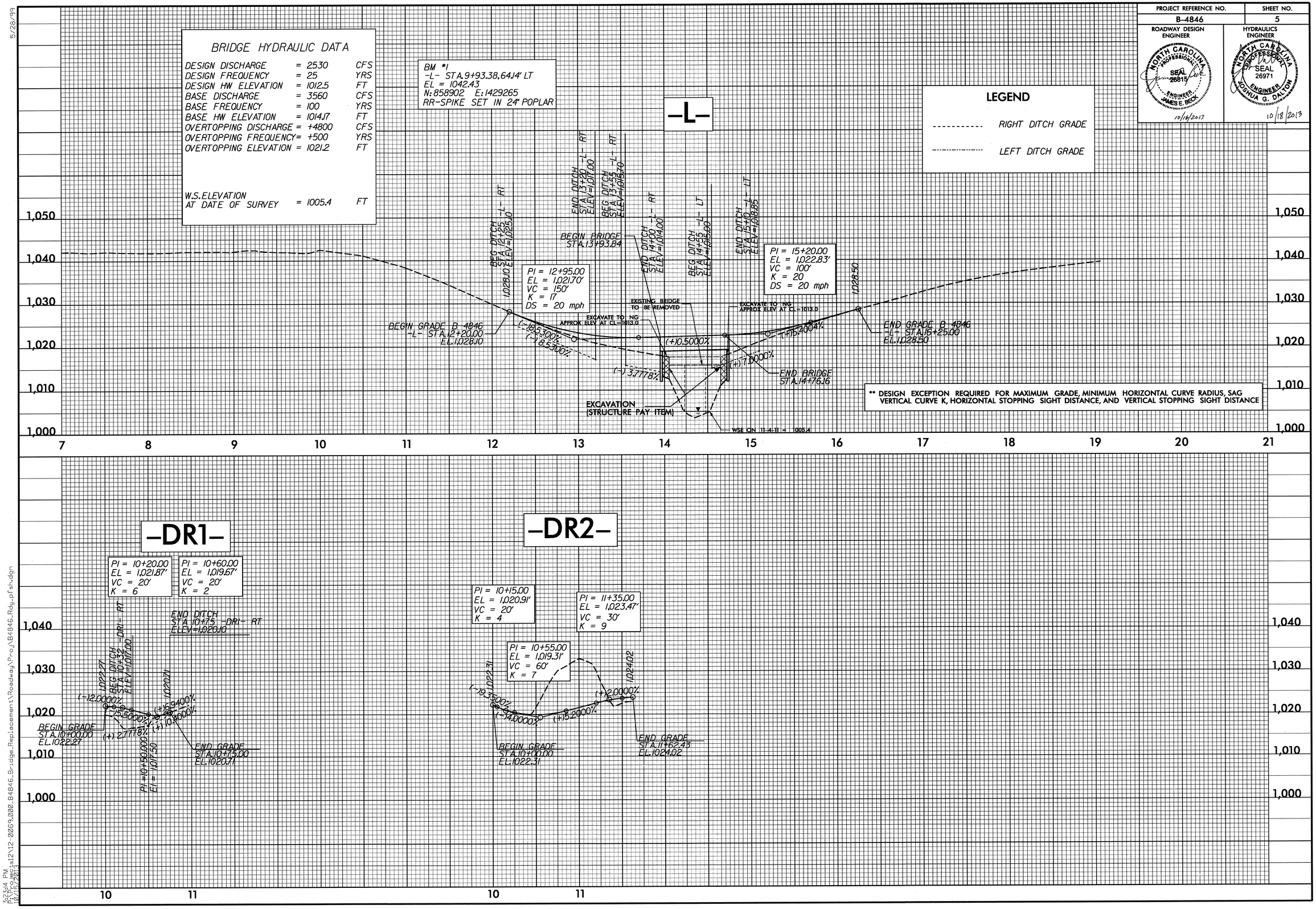
DESIGN DISCHARGE	= 2530	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 1012.5	FT
BASE DISCHARGE	= 3560	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 1014.7	FT
OVERTOPPING DISCHARGE	= +4800	CFS
OVERTOPPING FREQUENCY	= +500	YRS
OVERTOPPING ELEVATION	= 1021.2	FT
W.S. ELEVATION AT DATE OF SURVEY	= 1005.4	FT

BM #1
-L- STA. 9+93.38, 64.14' LT
EL = 1042.43
N: 858902 E: 1429265
RR-SPIKE SET IN 24" POPLAR

LEGEND

RIGHT DITCH GRADE

LEFT DITCH GRADE



** DESIGN EXCEPTION REQUIRED FOR MAXIMUM GRADE, MINIMUM HORIZONTAL CURVE RADIUS, SAG VERTICAL CURVE K, HORIZONTAL STOPPING SIGHT DISTANCE, AND VERTICAL STOPPING SIGHT DISTANCE

5/28/99

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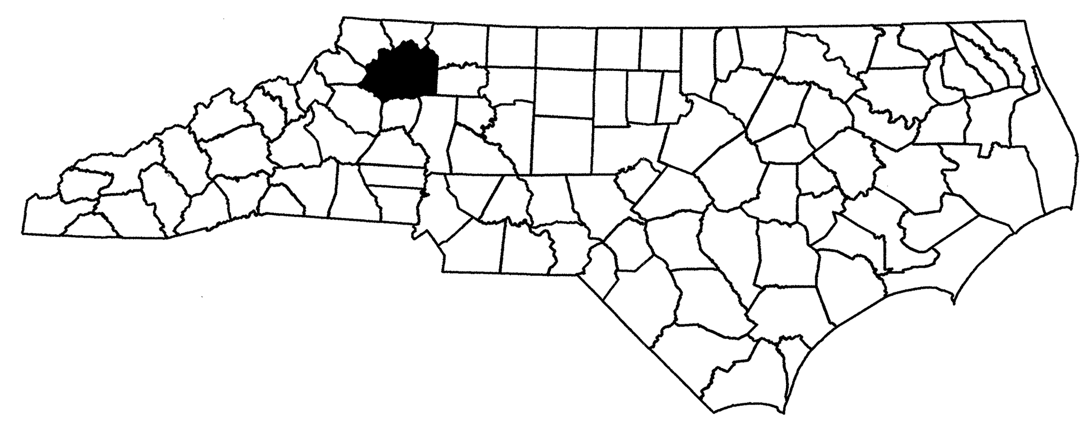
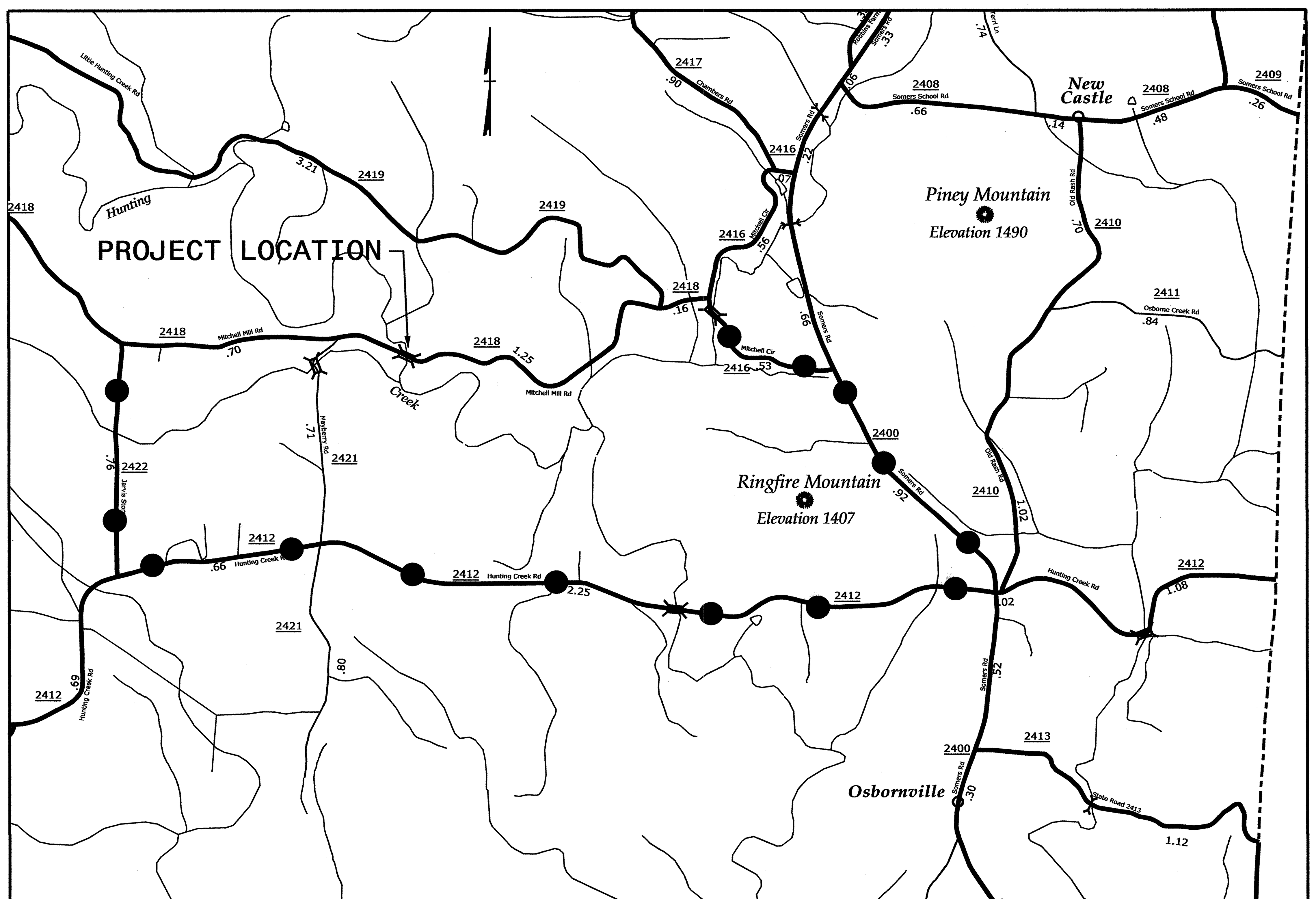
10/15/2013

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

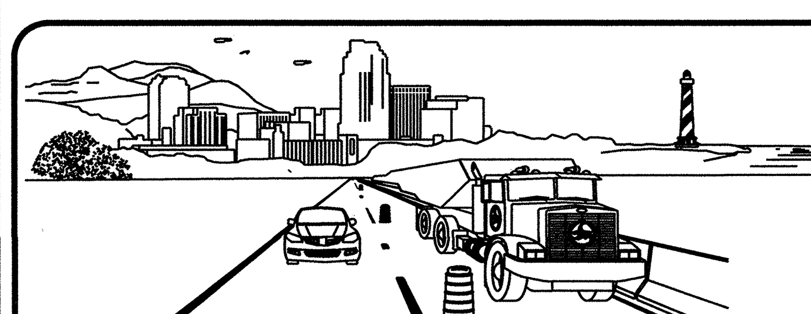
TRANSPORTATION MANAGEMENT PLAN

WILKES COUNTY





VICINITY MAP



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*
KEN BROADWELL KPB	*TRAFFIC CONTROL DESIGN ENGINEER*

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

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND AND PAVEMENT MARKING SCHEDULE
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES AND GENERAL NOTES)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	PLAN DETAILS AND PHASING
TMP-4	DETOUR ROUTE

APPROVED:
DATE: 8JUL13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER

SHEET NO.
TMP-1

TIP PROJECT: B-4846

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kbroadwell AT TE266004

PROJ. REFERENCE NO.	SHEET NO.
B-4846	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 - TYPE III
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM

LEGEND

GENERAL

DIRECTION OF TRAFFIC FLOW

NORTH ARROW

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

CONE

DRUM SKINNY DRUM

TEMPORARY SIGNING

STATIONARY SIGN

PORTABLE SIGN

PAVEMENT MARKING SCHEDULE

N/A

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIER 8 JUL 13

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

ROADWAY STANDARD DRAWINGS, LEGEND AND PAVEMENT MARKING SCHEDULE

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kprodwell AT TE26004

PROJ. REFERENCE NO.	SHEET NO.
B-4846	TMP-1B

TRANSPORTATION OPERATIONS

CONSTRUCTION

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

TMP DESIGN PARAMETERS

CONSTRUCT PROPOSED DRIVEWAYS PRIOR TO CLOSING MITCHELL MILL ROAD.

TRAFFIC SHALL BE DETOURED OFFSITE DURING THE CONSTRUCTION PERIOD.

THE OFFSITE DETOUR SHALL INCLUDE SR 2422, SR 2412, SR 2400, AND SR 2416 (SEE SHEET TMP-4).

TRAFFIC SHALL BE MAINTAINED TO THE EXISTING DRIVEWAYS LOCATED WITHIN THE PROJECT LIMITS. (SEE SHEET TMP-3).

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.

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

PAVEMENT EDGE DROP OFF REQUIREMENTS

F) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

H) 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.

I) 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.

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

TRAFFIC CONTROL DEVICES

K) 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.

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

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIES 6JUL13

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

TRANSPORTATION OPERATIONS & GENERAL NOTES

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kbroadwell AT TE26004

PROJ. REFERENCE NO.	SHEET NO.
B-4846	TMP-2

SIGN NUMBER: SP13092
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: 0.63"
RADII: 1.5"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

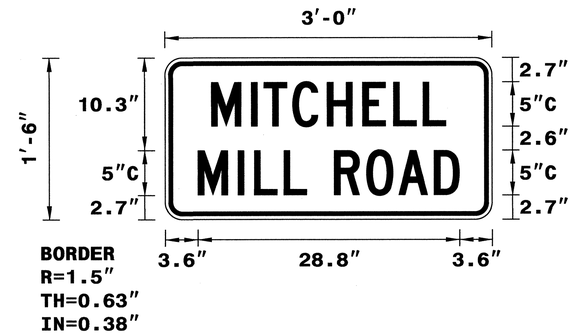
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

USE NOTES: 1,2

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

DESIGN BY: DB
PROJECT ID: B-4846
CHECKED BY: KJ
DIV: 11
DATE: Apr 10, 2013



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																										Series/Size Text Length
		M	I	T	C	H	E	L	L																	C 2000
	5.1	4.4	1.4	3.2	3.8	3.9	3.4	3.3	2.6	5.1																25.9
		M	I	L	L		R	O	A	D																C 2000
	3.6	4.4	1.8	3.3	2.6	3	3.6	3.5	3.9	2.8	3.6															28.8

FILENAME: Work-Zone-SIGN_DESIGN

NORTH CAROLINA D.O.T. SIGN DETAIL

"The special sign design shown on this sheet was provided through a sealed document from Signing and Delineation. The document was submitted to WZTC on April 11, 2013 and sealed by a Professional Engineer, Ronald W. King, license # 022959".

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER R. G. L. GETTIER 6 JUL 13

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

SPECIAL SIGN DESIGN

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kbroadwell AT TE266004

PROJ. REFERENCE NO.	SHEET NO.
B-4846	TMP-3

PHASING

STEP 1: - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF SR 2418 (MITCHELL MILL RD., -L-). SEE SHEETS TMP-2, TMP-3 AND TMP-4.

- USING ROADWAY STANDARD DRAWING NO. 1101.03, SHEETS 1 OF 9 AND SHEETS TMP-3 AND TMP-4 CLOSE SR 2418 (MITCHELL MILL RD., -L-) TO THRU TRAFFIC.

NOTE: INSTALL ADDITIONAL TYPE III BARRICADES TO MAINTAIN ACCESS TO EXISTING DRIVEWAYS AND USE DRUMS TO DELINEATE TRAVELWAY.

STEP 2: - USING ROADWAY STANDARD DRAWING 1101.02, SHEET 1 OF 15 CONSTRUCT -DR1-, -DR2- AND -L- TIE-INS TO EXISTING -L- AND OPEN TO TRAFFIC (SEE CONSTRUCTION PLANS). ADJUST TYPE III BARRICADES AND INSTALL DRUMS AT 10′ ON CENTER SPACING TO DELINEATE TRAVELWAY.

STEP 3: - AWAY FROM TRAFFIC REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE PROPOSED STRUCTURE. SEE CONSTRUCTION PLANS.

- AWAY FROM TRAFFIC AND USING LANE CLOSURES PER ROADWAY STANDARD DRAWING NO. 1101.02, SHEET 1 OF 15 CONSTRUCT THE ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF PAVEMENT ON SR 2418 (MITCHELL MILL RD. -L-). SEE CONSTRUCTION PLANS.

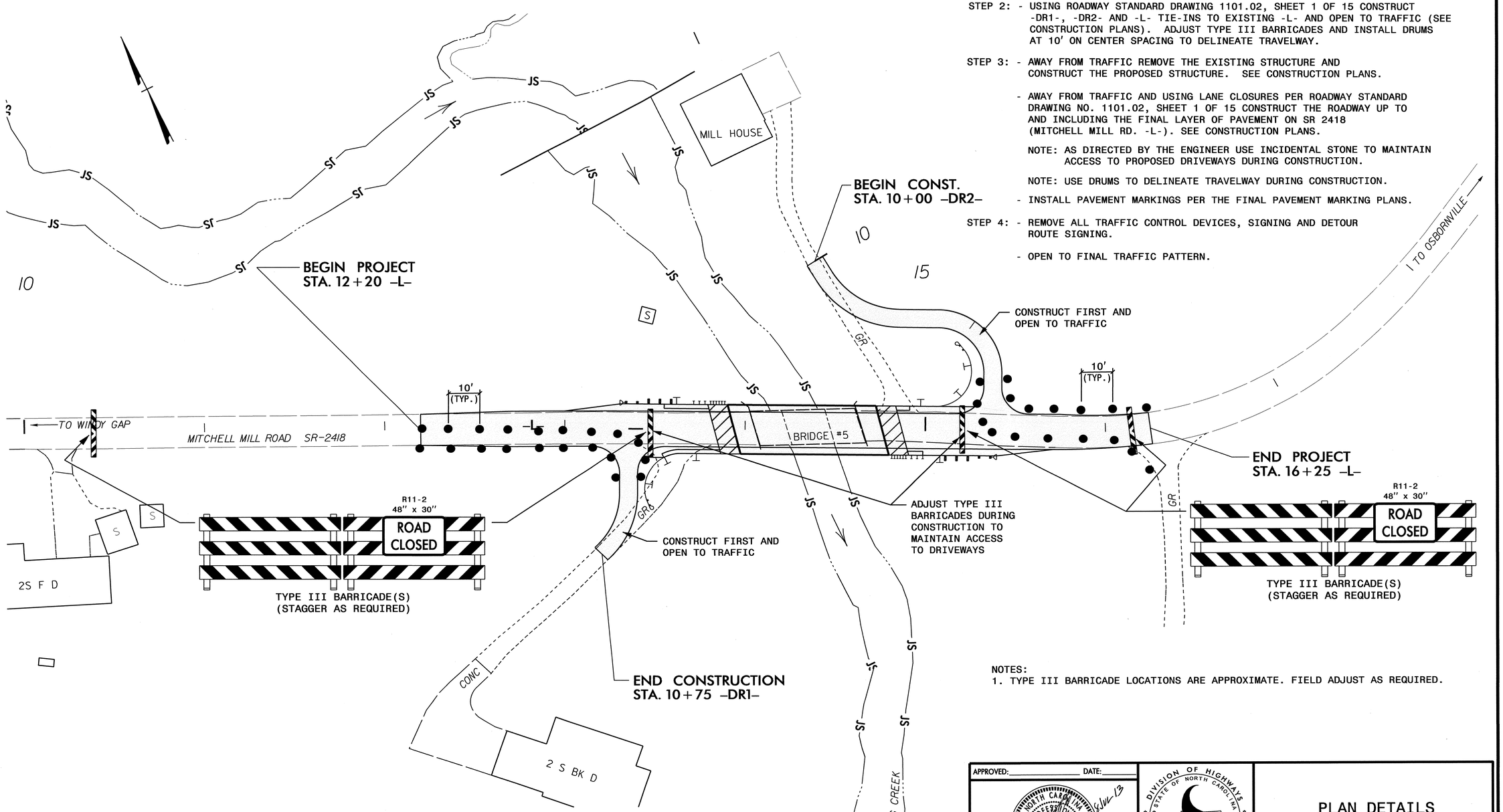
NOTE: AS DIRECTED BY THE ENGINEER USE INCIDENTAL STONE TO MAINTAIN ACCESS TO PROPOSED DRIVEWAYS DURING CONSTRUCTION.

NOTE: USE DRUMS TO DELINEATE TRAVELWAY DURING CONSTRUCTION.

- INSTALL PAVEMENT MARKINGS PER THE FINAL PAVEMENT MARKING PLANS.

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

- OPEN TO FINAL TRAFFIC PATTERN.



NOTES:
1. TYPE III BARRICADE LOCATIONS ARE APPROXIMATE. FIELD ADJUST AS REQUIRED.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER INGRID L. GETTIER

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

PLAN DETAILS AND PHASING

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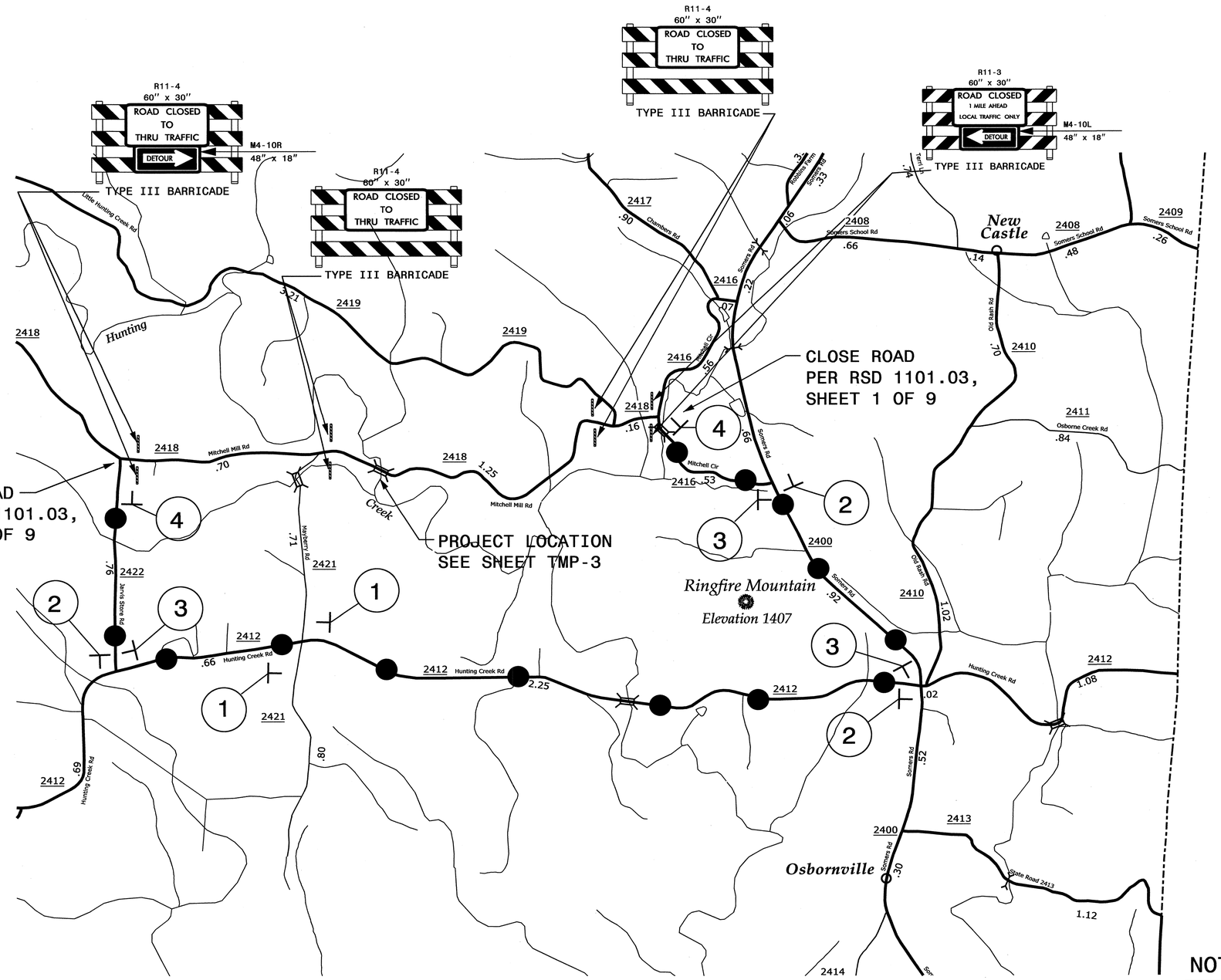
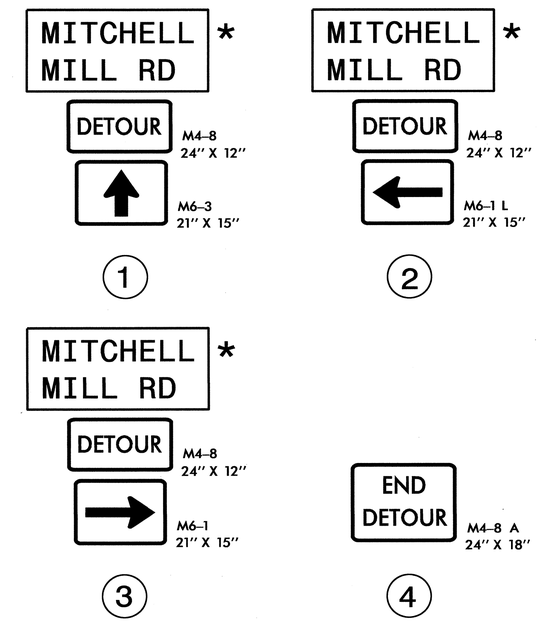
kbroadwell AT TE266004

PROJ. REFERENCE NO.	SHEET NO.
B-4846	TMP-4





NOTES

* — SEE SHEET TMP-2 FOR SPECIAL SIGN DESIGN.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIES JUL 13

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

DETOUR ROUTE

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kbrodgwell AT TE266004

TIP NO.	SHEET NO.
B-4846	PMP-1

APPROVED: 9/20/13

DATE:

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
WILKES COUNTY

LOCATION: BRIDGE No. 5 OVER LITTLE HUNTING CREEK ON SR 2418 (MITCHELL MILL ROAD)

T.I.P.: B-4846

CONTRACT:

ROADWAY STANDARD DRAWING

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

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

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
-L- MITCHELL MILL 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.

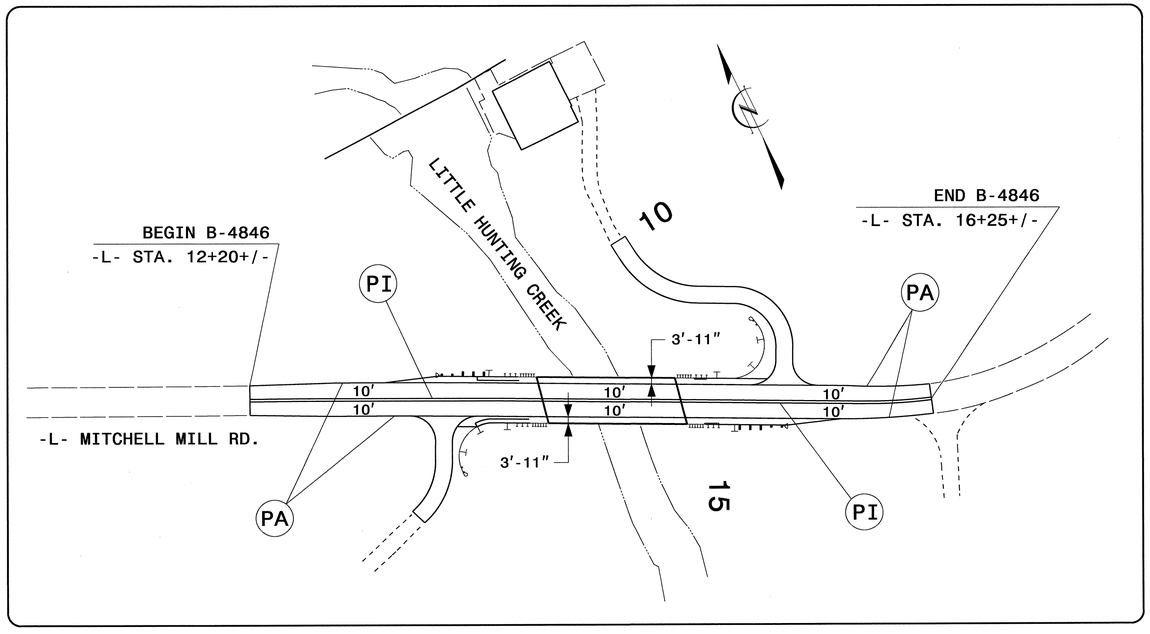
C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

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.

PAVEMENT MARKING SCHEDULE

SYMB	DESCRIPTION
	FINAL PAVEMENT MARKINGS
	PAINT (4")
PA	WHITE EDGELINE
PI	YELLOW DOUBLE CENTER



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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STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-4846	EC-1	

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

TIP PROJECT: B-4846

NAD 83 / CORS 96

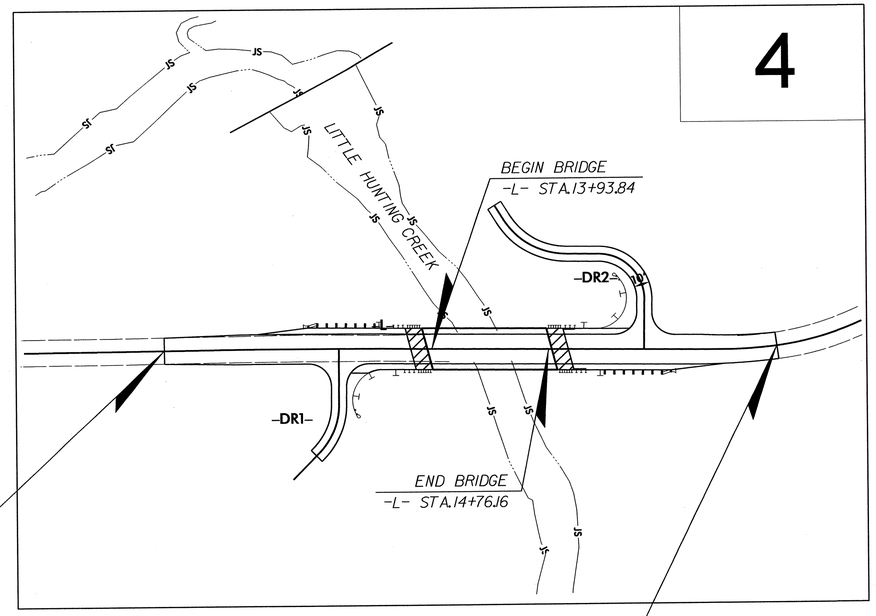
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

WILKES COUNTY

LOCATION: BRIDGE NO. 5 OVER LITTLE HUNTING CREEK ON SR 2418 (MITCHELL MILL ROAD)

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



BEGIN TIP PROJECT B-4846
-L- STA 12+20.00

END TIP PROJECT B-4846
-L- STA 16+25.00

EROSION AND SEDIMENT CONTROL MEASURES

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

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

GRAPHIC SCALE

0
PLANS

0
PROFILE (HORIZONTAL)

0
PROFILE (VERTICAL)

ROADSIDE ENVIRONMENTAL UNIT
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

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

Prepared in the Office of:

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

2012 STANDARD SPECIFICATIONS

Roadway Standard Drawings

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

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

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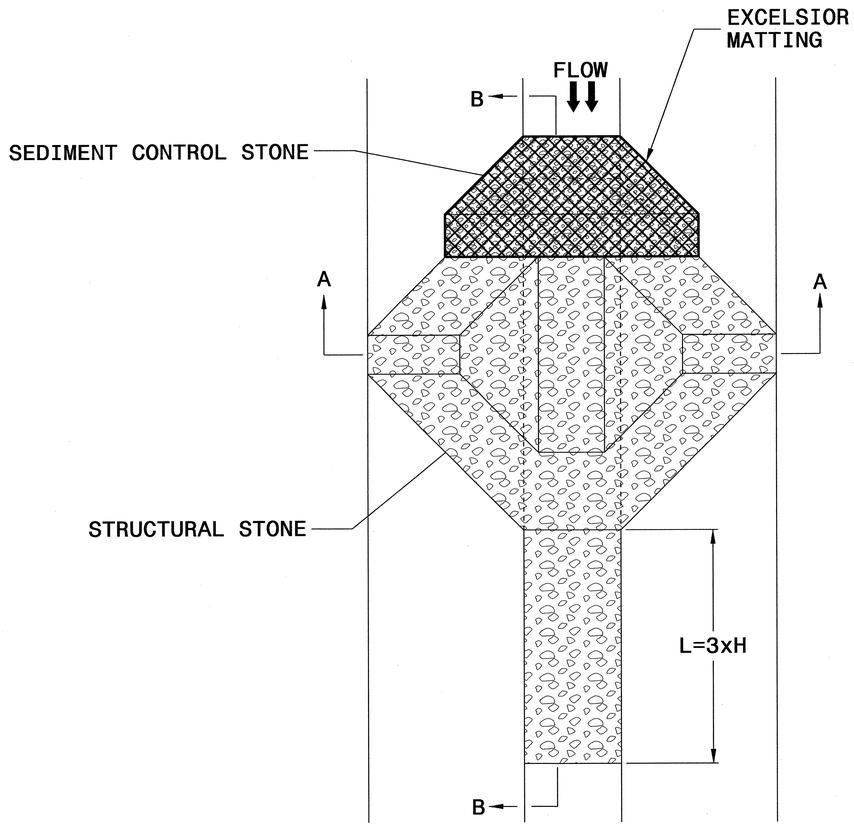
PROJECT REFERENCE NO.	SHEET NO.
B-4846	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



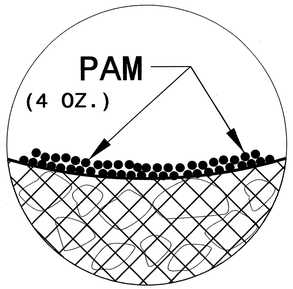
PLAN

NOTES

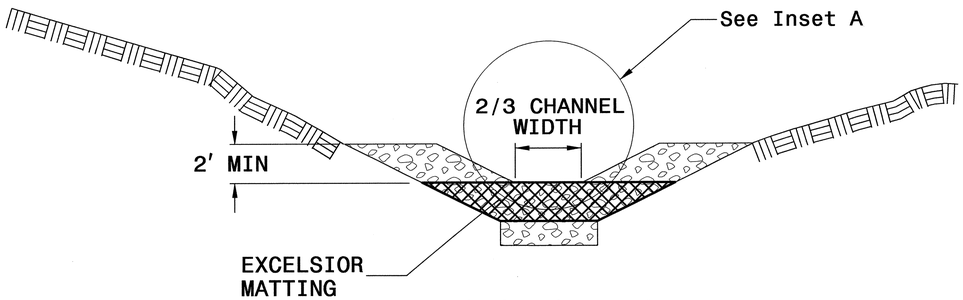
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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

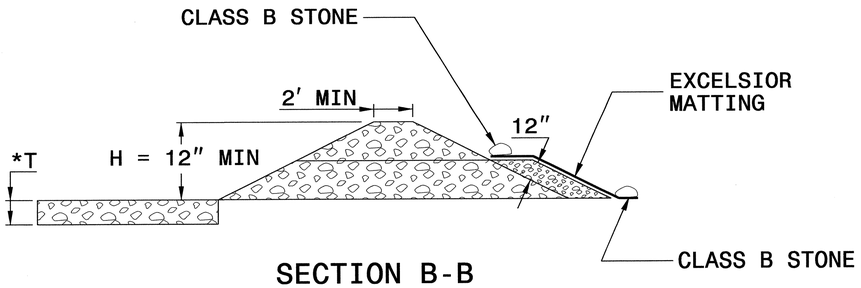
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-4846	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-	15+25	16+00	RT	140
4	-DR1-	10+25	10+50	RT	50
4	-DR2-	10+50	11+25	LT	100
			SUBTOTAL		290
MISCELLANEOUS MATTING TO BE INSTALLED AS DIRECTED BY THE ENGINEER					2100
				TOTAL	2390
				SAY	2400

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	12+25	13+00	LT	90
4	-L-	15+50	16+00	LT	75
4	-DR1-	10+50	10+75	RT	35
4	-DR2-	10+00	10+50	LT	70
			SUBTOTAL		270
		ADDITIONAL PSRM TO BE INSTALLED			0
				TOTAL	270
				SAY	300

PROJECT REFERENCE NO.	SHEET NO.
B-4846	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

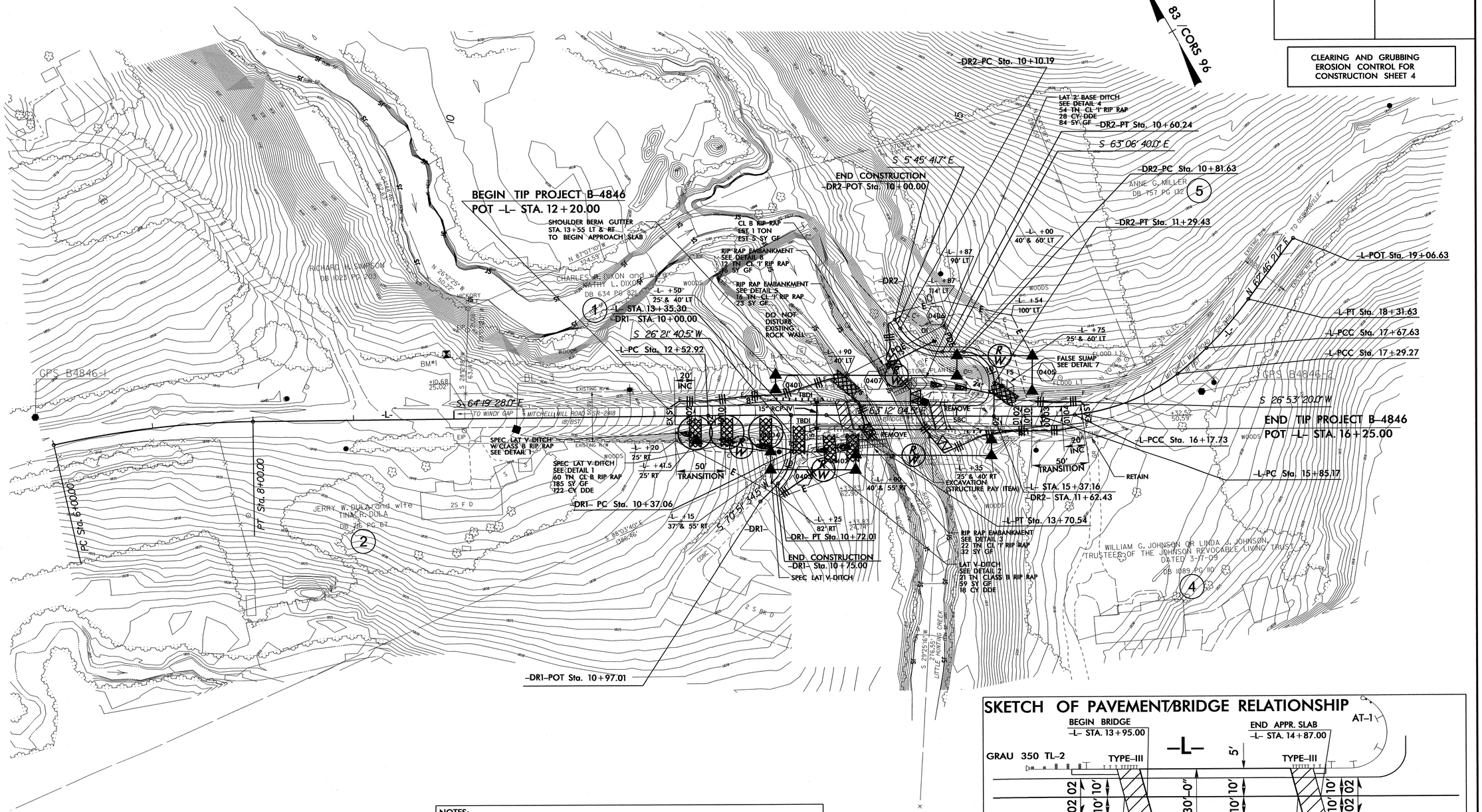
SOIL STABILIZATION TIMEFRAMES

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-4846	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

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

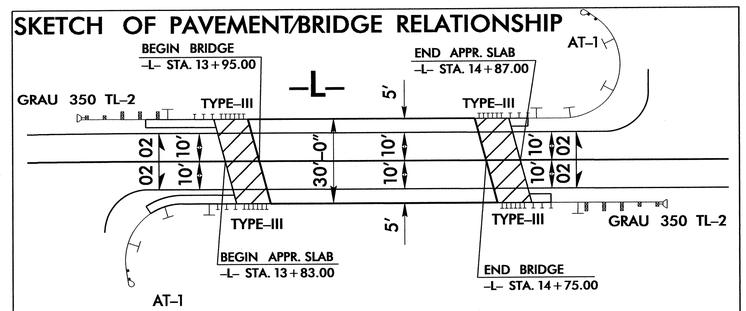


NOTES:

1. SEE SHEET 5 FOR -L-, -DR1- AND -DR2- PROFILES
2. SEE SHEET S-1 THROUGH S-?? FOR STRUCTURE PLANS
3. DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
4. SEE SHEET 2-B FOR DRAINAGE DETAILS

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

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP



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REVISIONS

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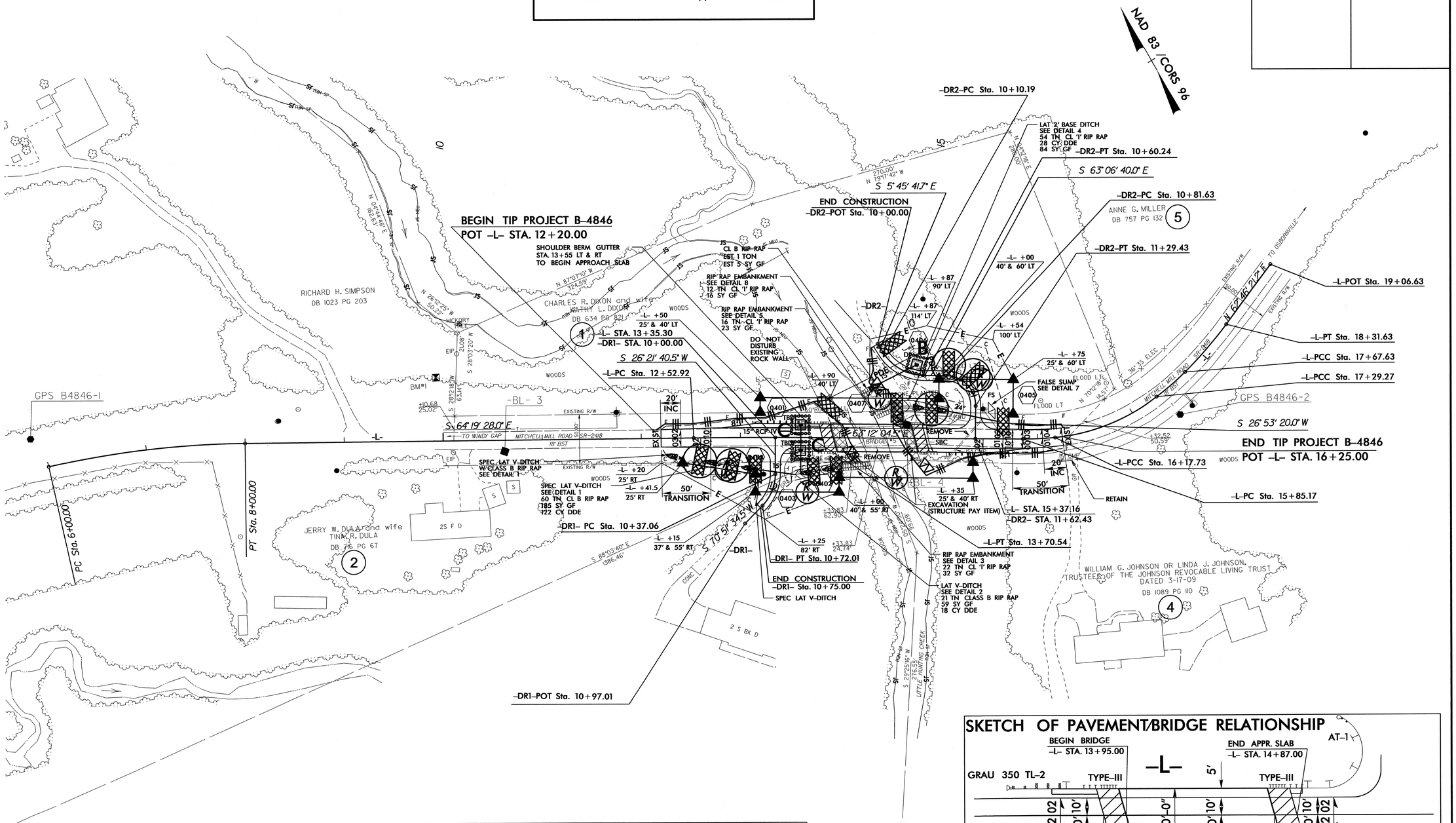
PROJECT REFERENCE NO.	SHEET NO.
B-4846	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

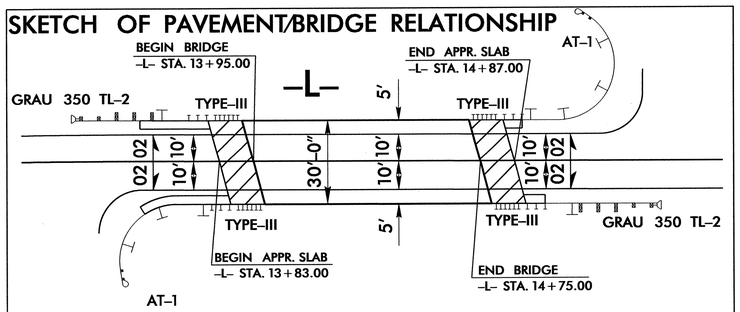
NOTE:
UTILIZE SPECIAL STILLING BASIN(S) WHERE APPLICABLE.



NOTES:

1. SEE SHEET 5 FOR -L-, -DR1- AND -DR2- PROFILES
2. SEE SHEET S-1 THROUGH S-?? FOR STRUCTURE PLANS
3. DRIVEWAY RADII ARE 10' UNLESS OTHERWISE NOTED
4. SEE SHEET 2-B FOR DRAINAGE DETAILS

SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP



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REVISIONS

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TIP PROJECT: B-4846

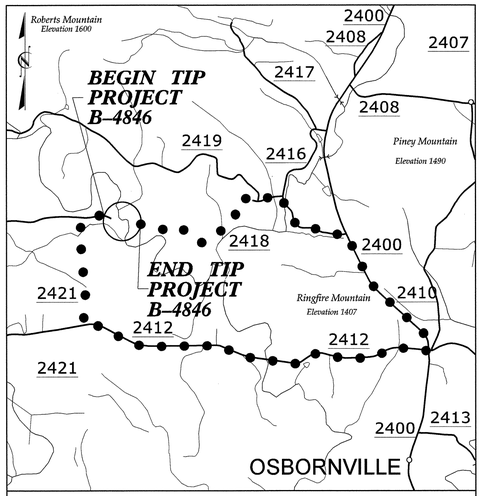
T.I.P. NO.	SHEET NO.
B-4846	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLAN
WILKES COUNTY

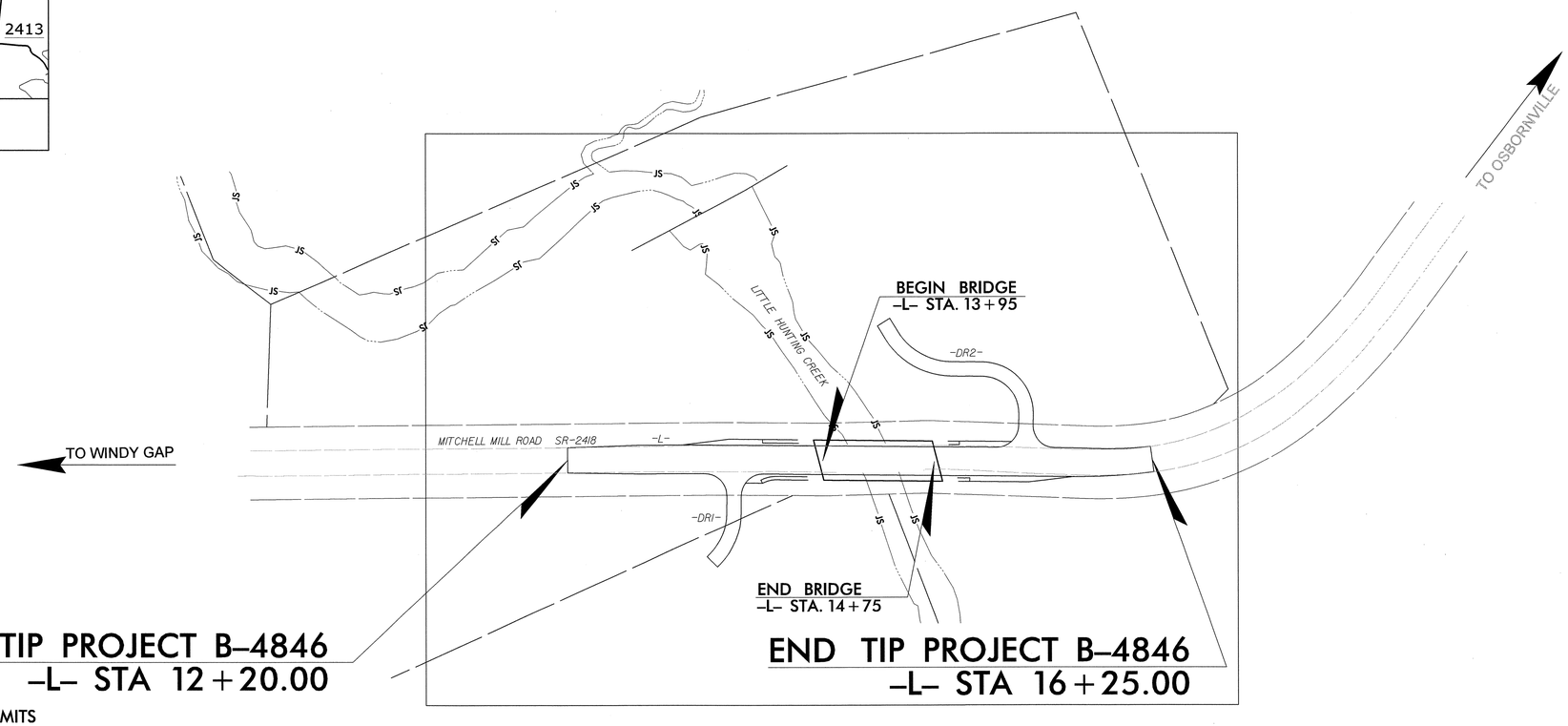
LOCATION: BRIDGE NO. 5 OVER LITTLE HUNTING CREEK ON SR 2418 (MITCHELL MILL ROAD)

TYPE OF WORK: RELOCATION OF POWER AND TELEPHONE



VICINITY MAP

● ● ● ● ● OFFSITE DETOUR



CLEARING ON THIS PROJECT SHALL BE TO THE LIMITS ESTABLISHED BY METHOD II
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT

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 SHEET

UTILITY OWNERS ON PROJECT

(1) ENERGY UNITED ELECTRIC MEMBERSHIP CORP. (POWER DISTRIBUTION)
(2) WILKES TELECOM (TELECOMMUNICATIONS)

Baker

Michael Baker Engineering, Inc.
8000 Regency Parkway, Suite 600
Cary, NC 27518
919-463-5488

UTILITIES COORDINATION CONSULTANT
Gus Kretschmer

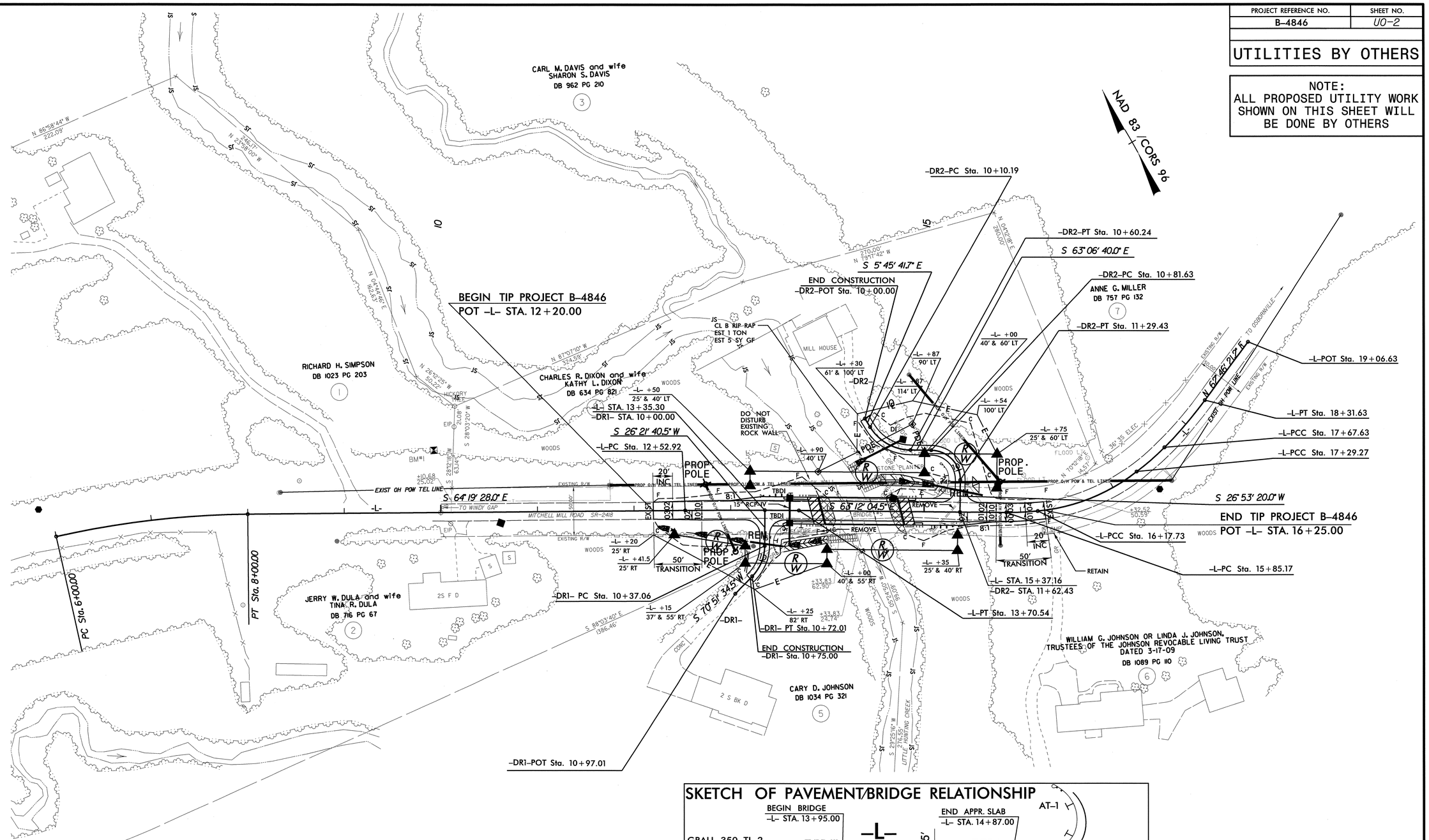
PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION
1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

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

PROJECT REFERENCE NO.	SHEET NO.
B-4846	U0-2

UTILITIES BY OTHERS

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



SKETCH OF PAVEMENT/BRIDGE RELATIONSHIP

Baker
Michael Baker Engineering, Inc.
8000 Regency Parkway,
Suite 600
Cary, NC 27518

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
B-4846	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

LOCATION -L-	UNCLASSIFIED EXCAVATION	EMBANKMENT
12+20	0	0
12+25	0	0
12+50	20	4
12+75	43	10
13+00	37	24
13+25	13	50
13+50	0	67
13+75	6	122
13+93.84	8	190
14+76.16	0	0
15+00	11	86
15+25	4	68
15+50	0	13
15+75	1	2
16+00	1	2
16+25	1	1

EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

LOCATION -DR1-	UNCLASSIFIED EXCAVATION	EMBANKMENT
10+10	0	0
10+25	0	35
10+50	2	61
10+75	5	12

EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

LOCATION -DR2-	UNCLASSIFIED EXCAVATION	EMBANKMENT
10+00	0	0
10+25	10	0
10+50	62	0
10+75	256	0
11+00	438	0
11+25	318	1
11+50	80	4
11+52.43	0	1

EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT.

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.

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

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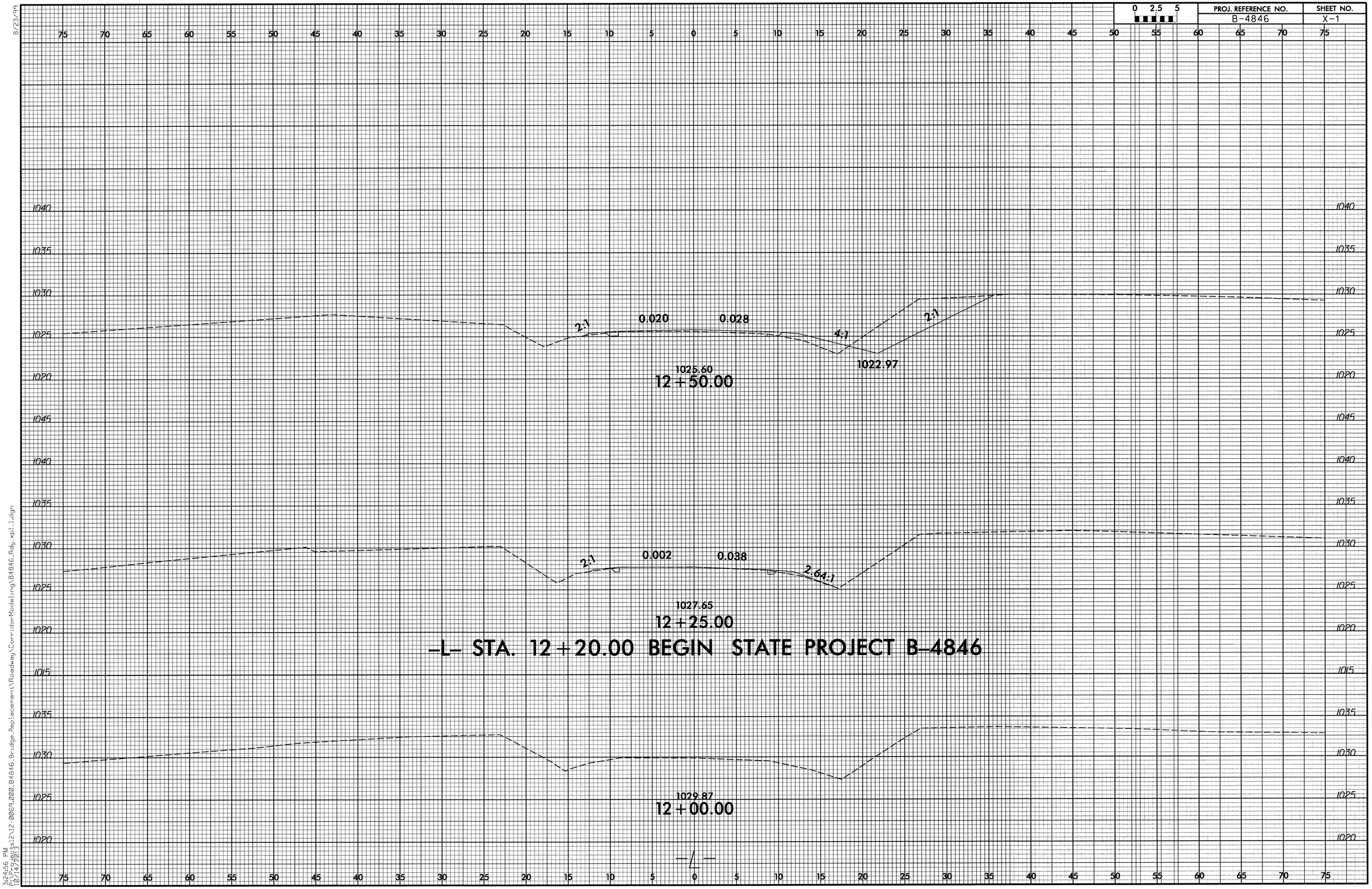

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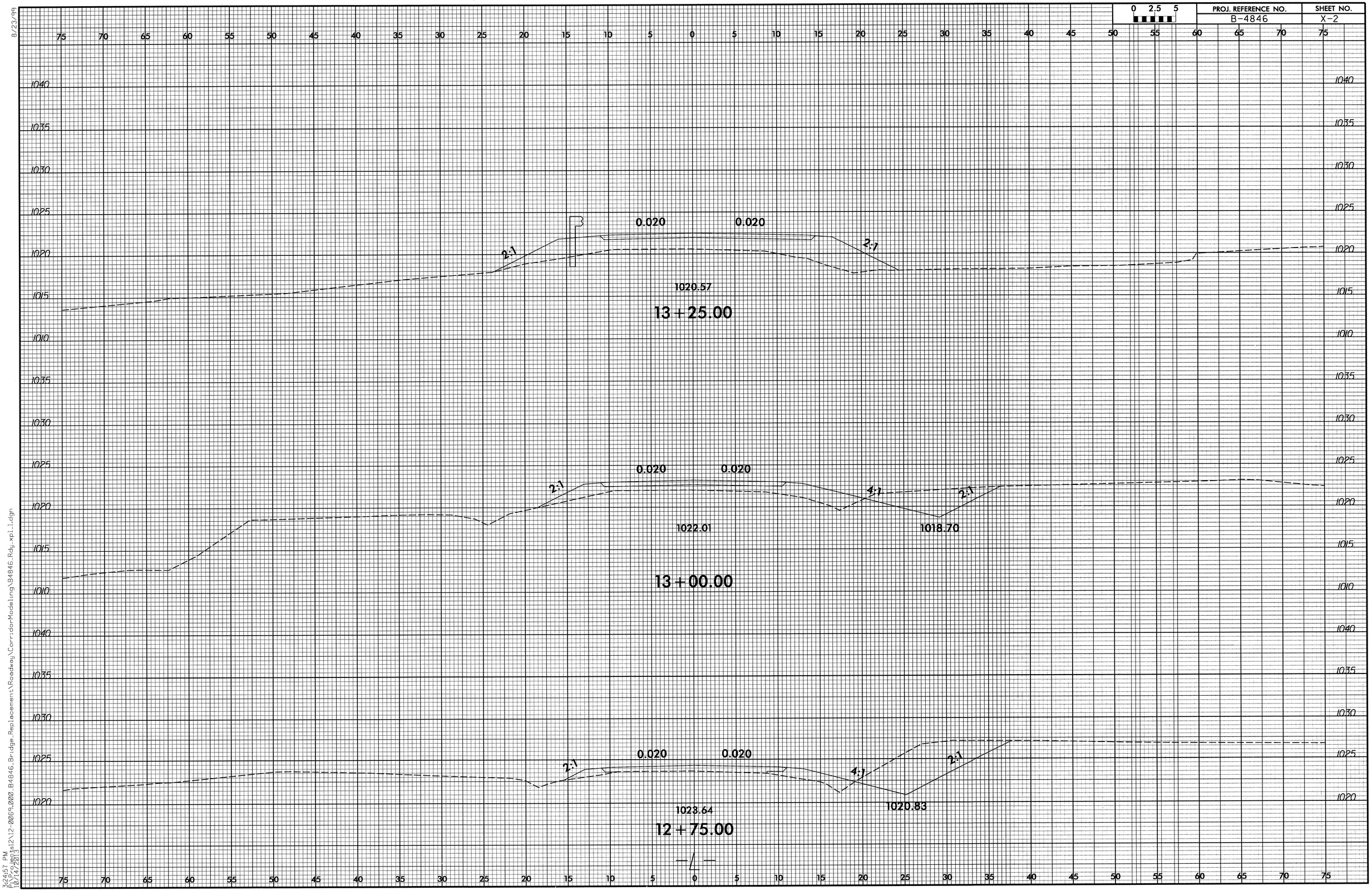

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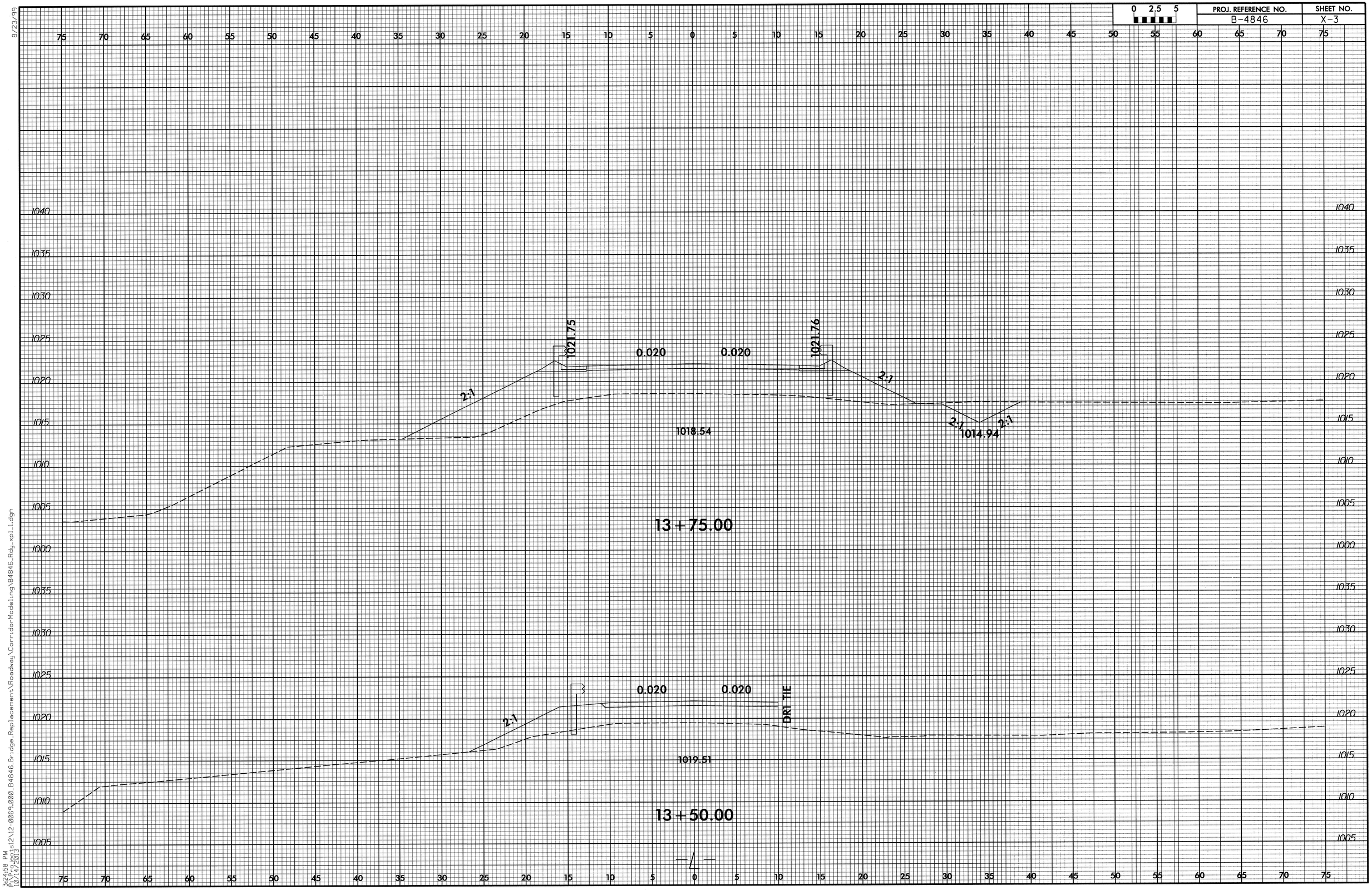
PROJ. REFERENCE NO.	SHEET NO.
B-4846	X-3



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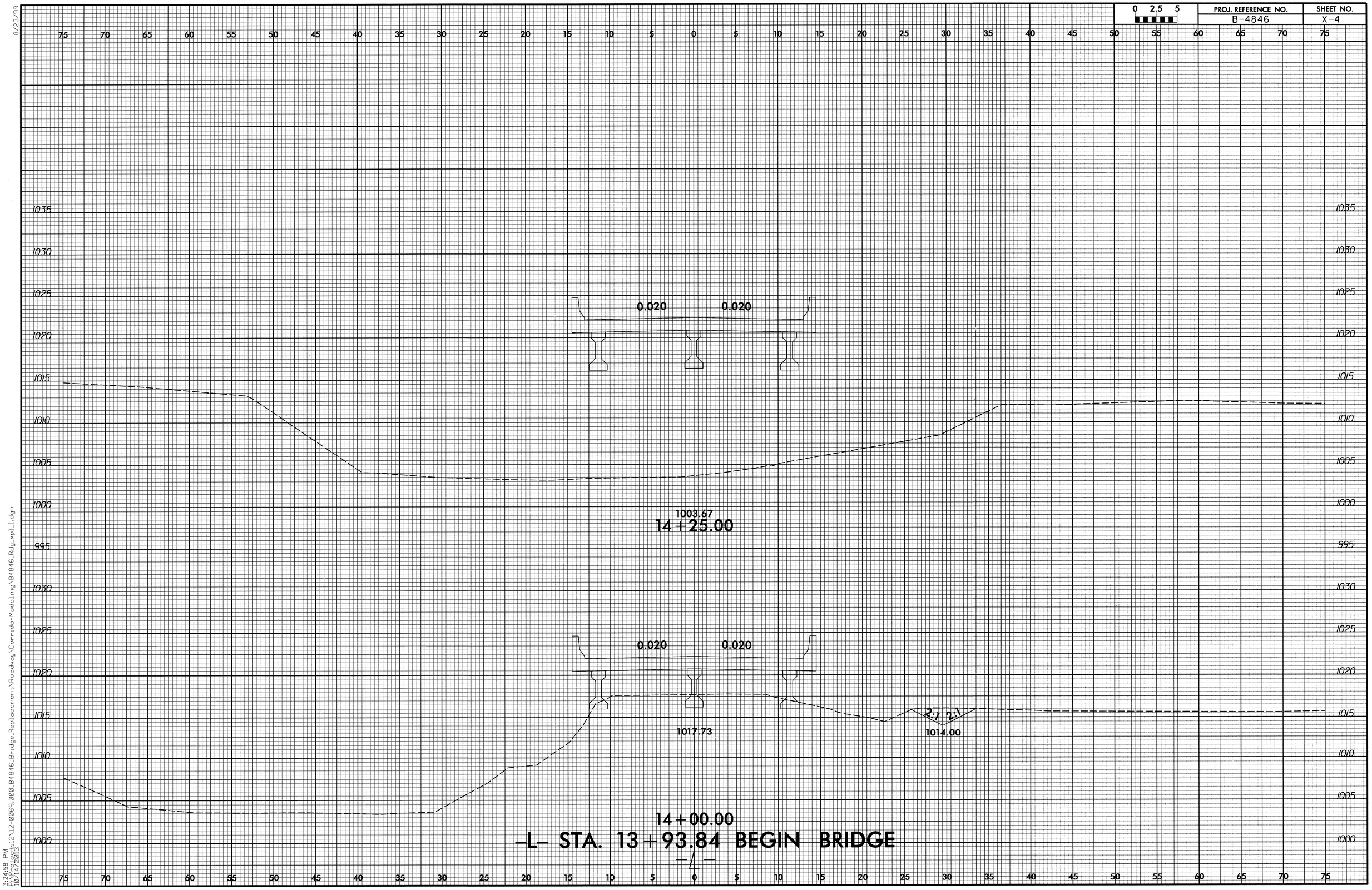

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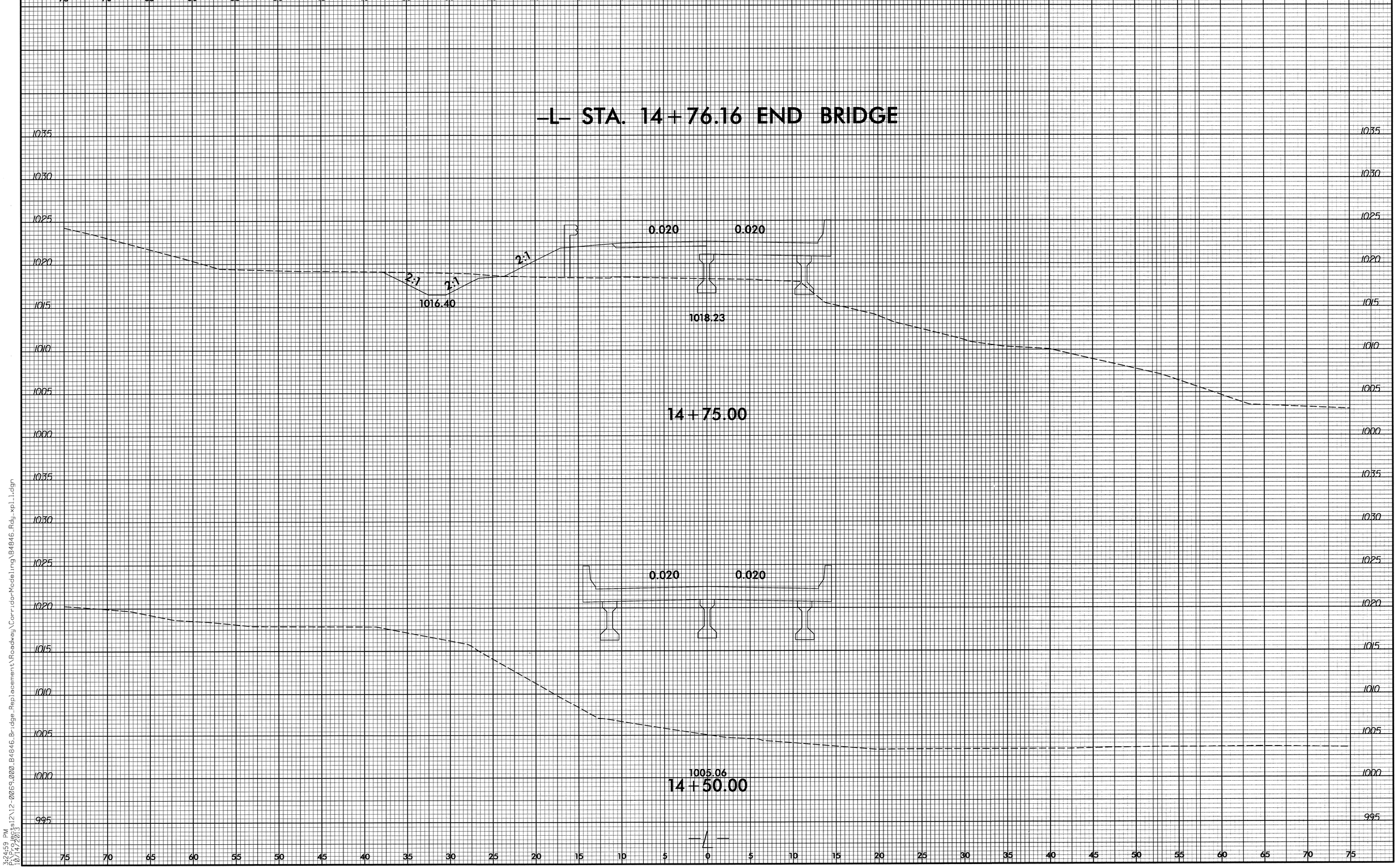

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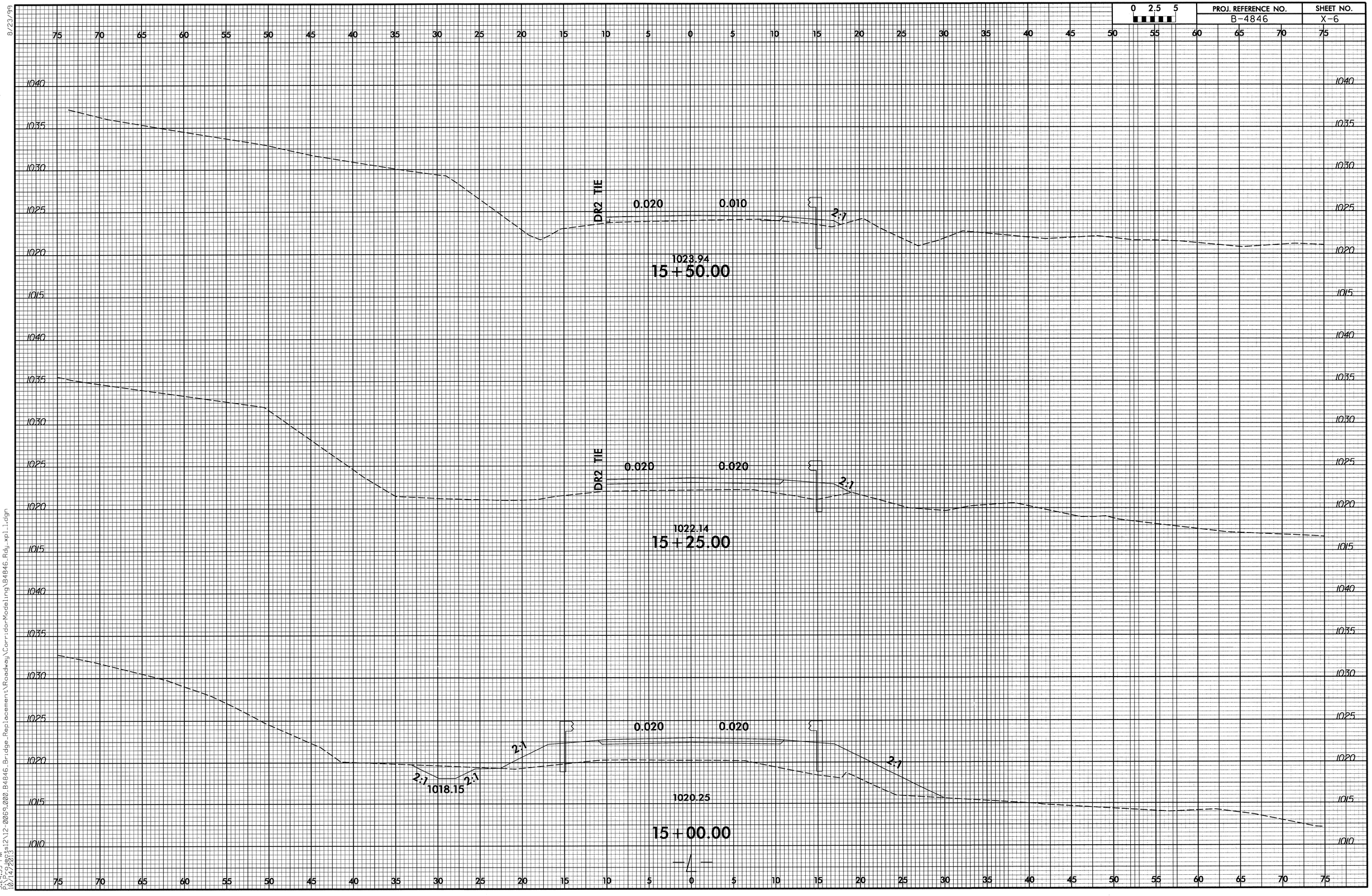

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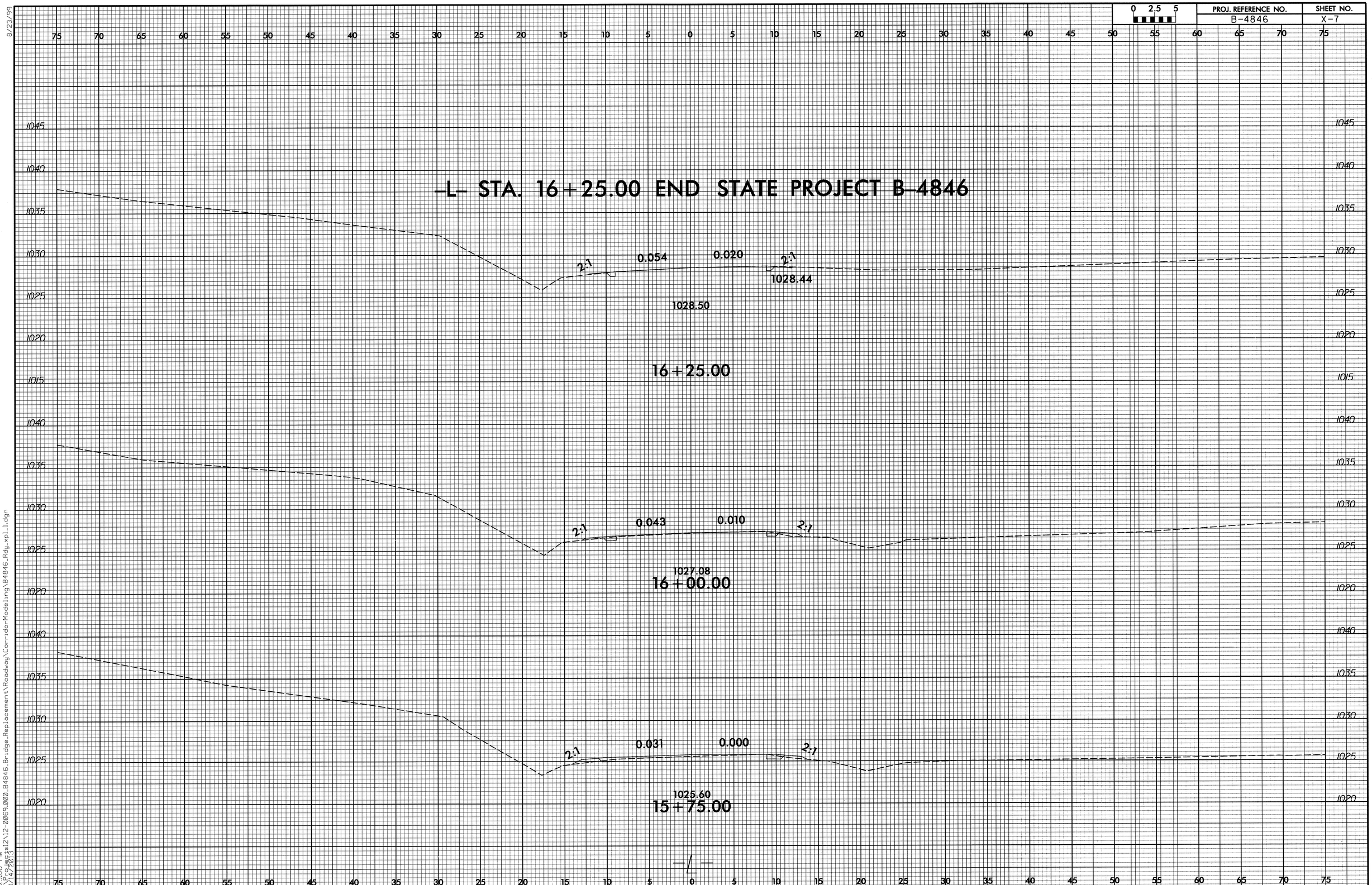

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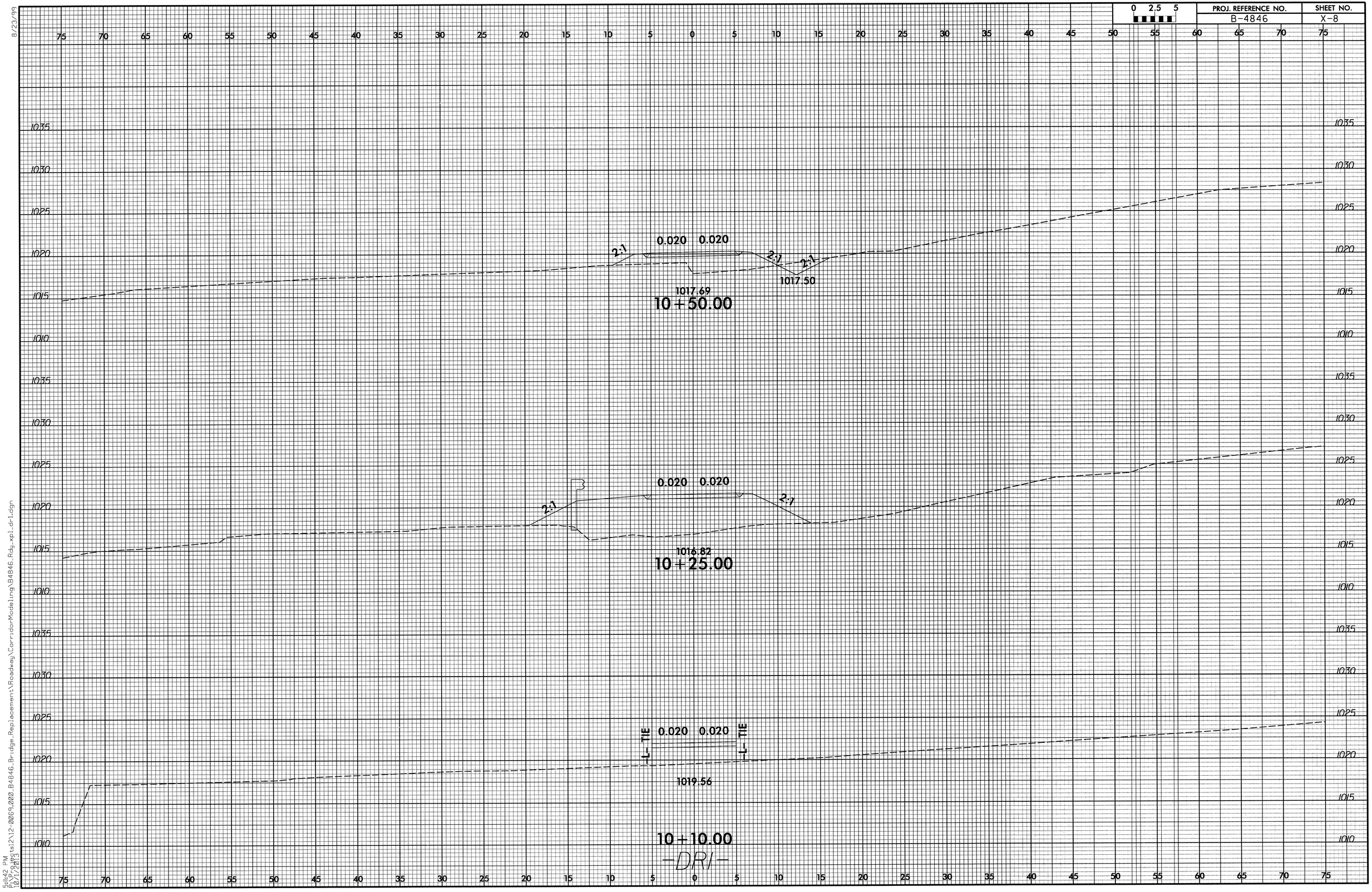

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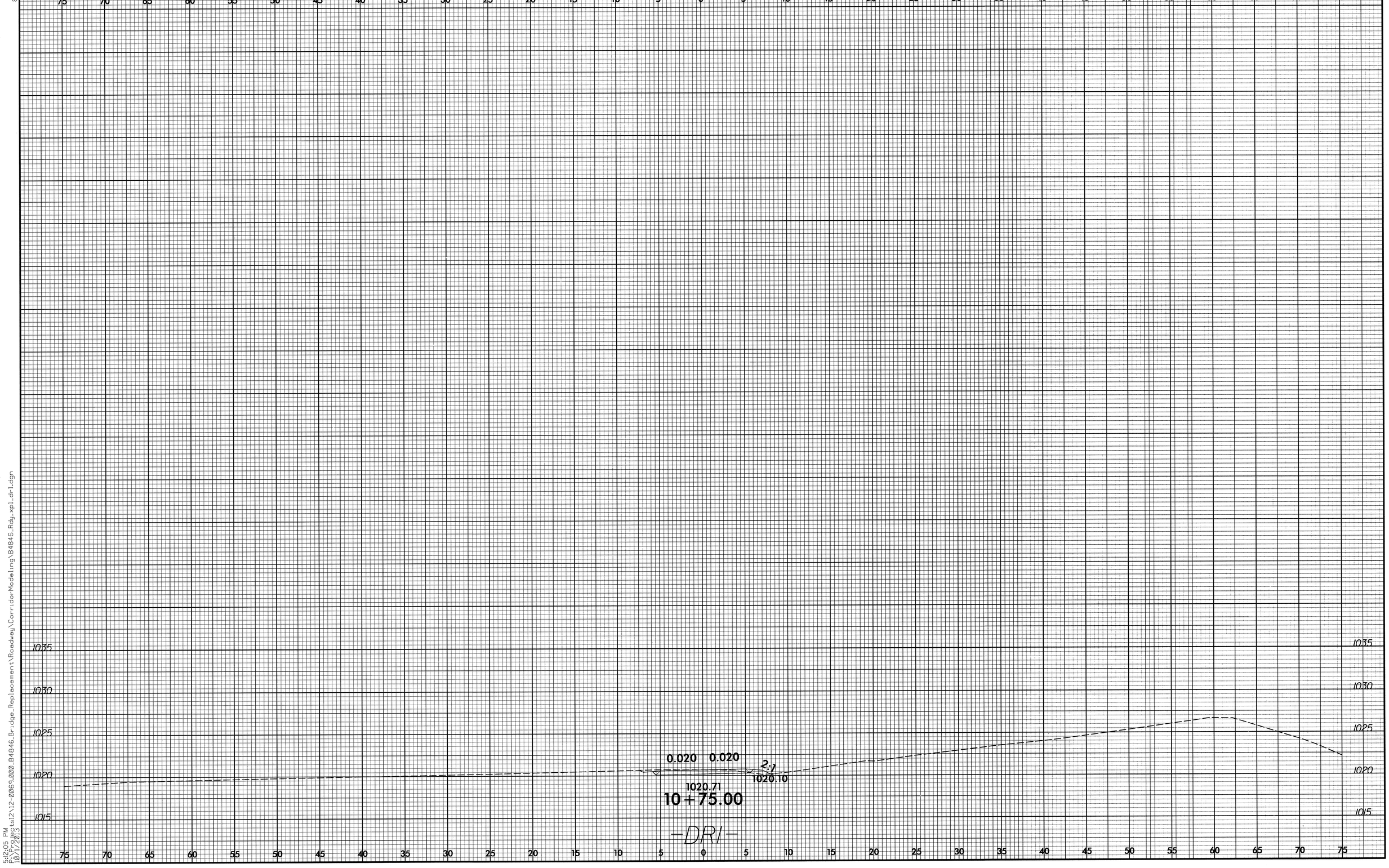
	B-4846	X-9



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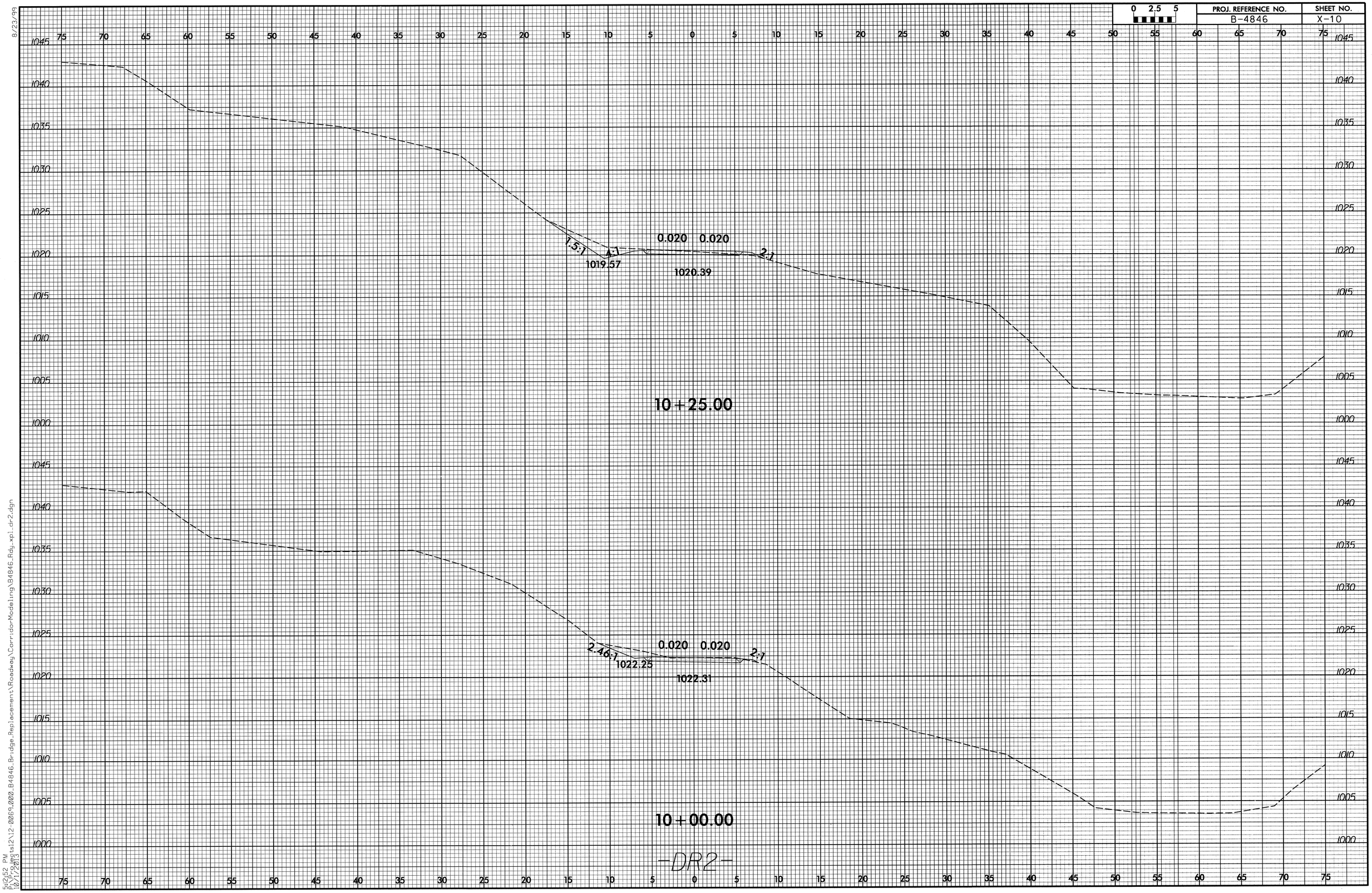

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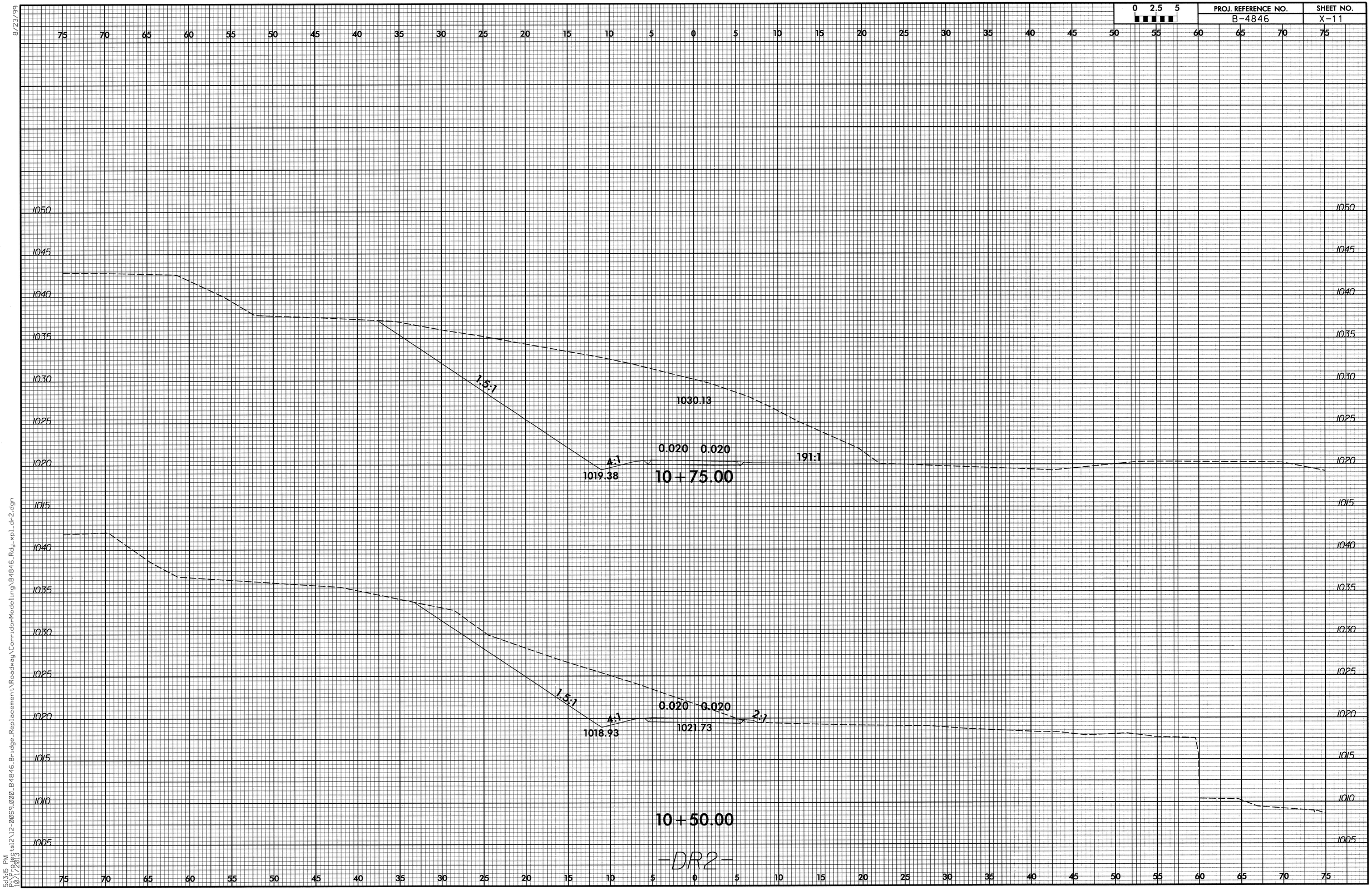
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-4846	X-11



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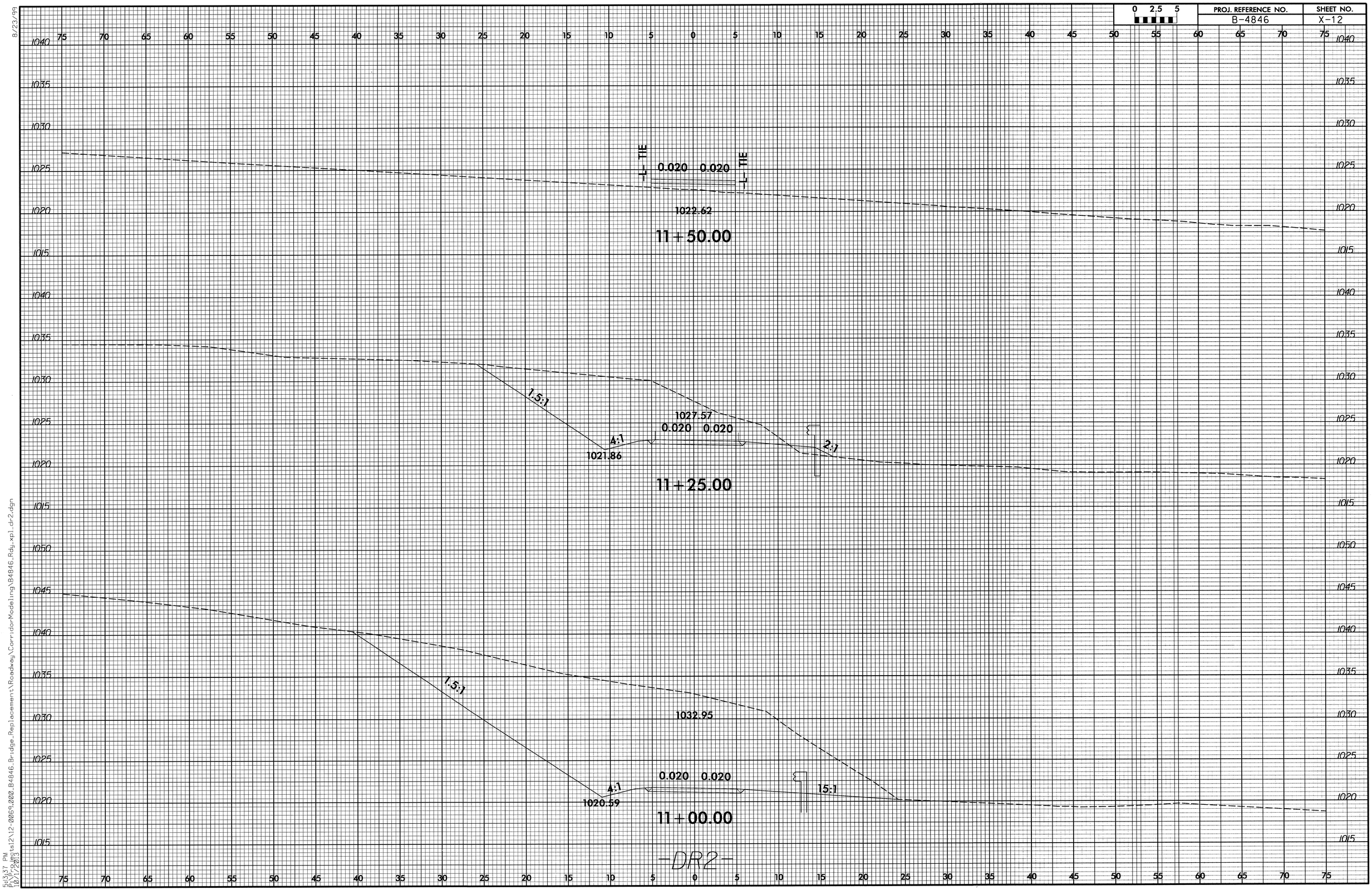

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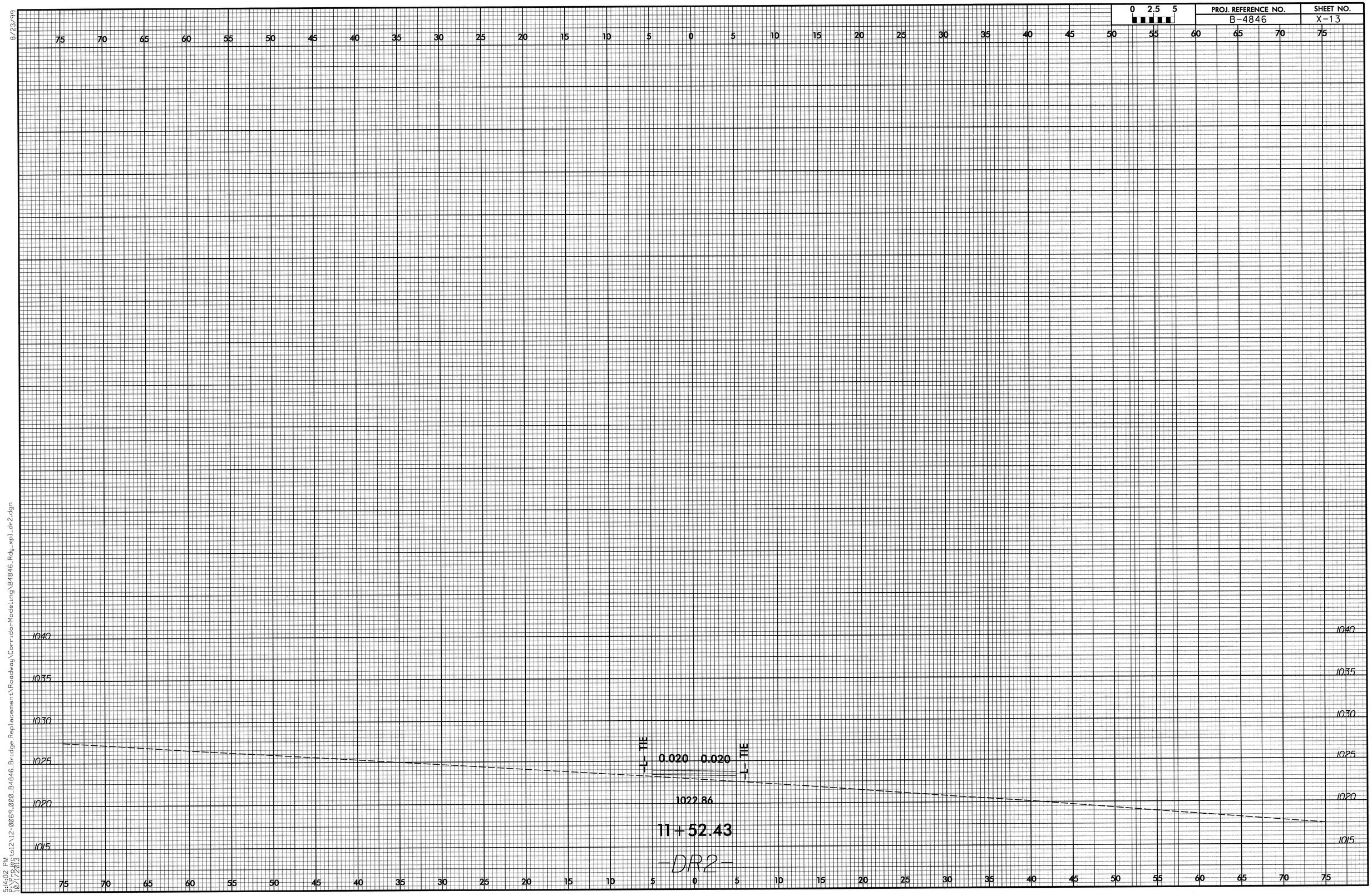

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