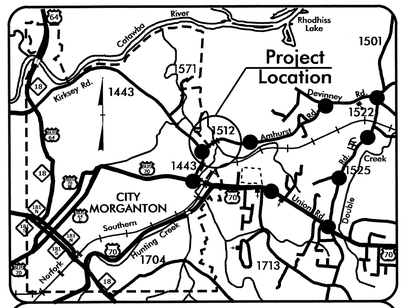
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5135	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42294.1.1	BRZ-1512(5)	PE
42294.2.1	BRZ-1512(5)	R/W, UTILITIES
42294.3.FD1	BRZ-1512(5)	CONSTRUCTION

TIP PROJECT: B-5135

CONTRACT: C203264

See Sheet 1-A For Index of Sheets



VICINITY MAP

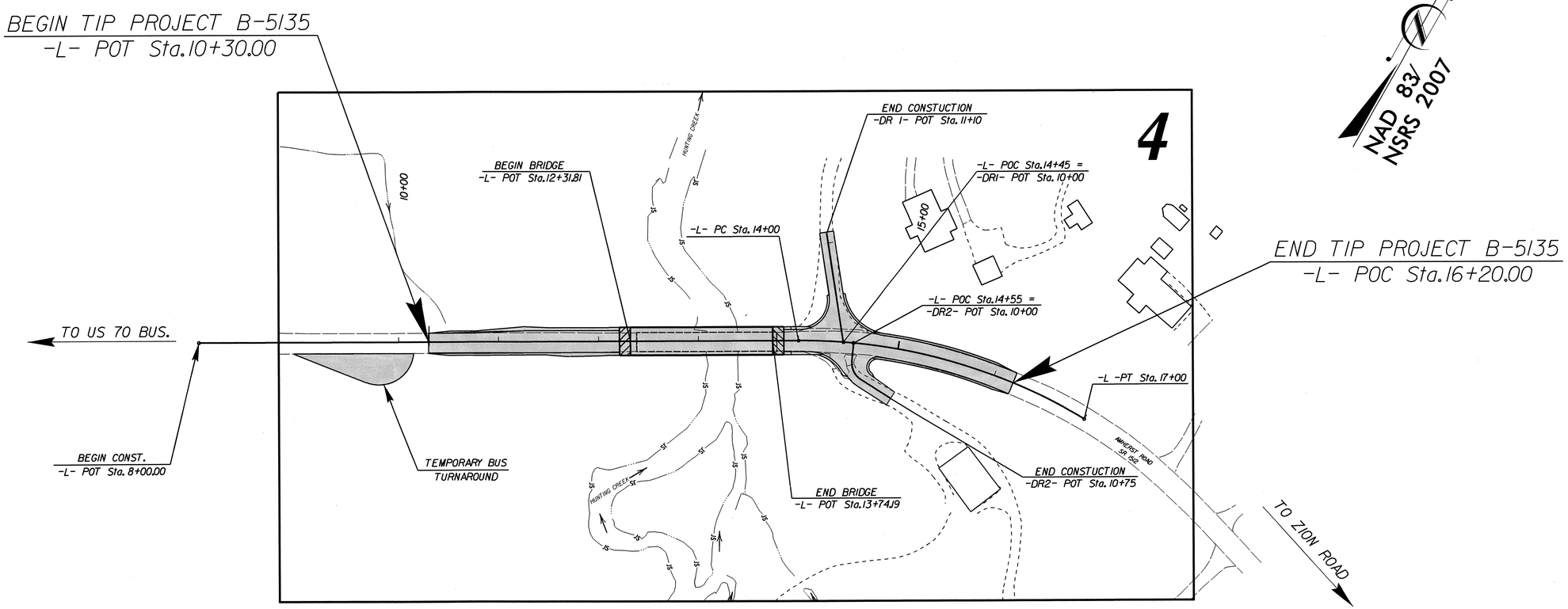
DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BURKE COUNTY

LOCATION: REPLACEMENT OF BRIDGE No. 1 OVER HUNTING CREEK ON SR 1512.

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



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 2013 = 2,830
ADT 2039 = 5,630
DHV = 11 %
D = 60 %
T = 7 % *
V = 30 MPH
* TTST = 1 % DUAL 6 %
FUNC CLASS = LOCAL

SUB-REGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-5135 = 0.085 Miles.
LENGTH STRUCTURE TIP PROJECT B-5135 = 0.027 Miles.

TOTAL LENGTH TIP PROJECT B-5135 = 0.112 Miles.

PROJECT DESIGNED USING SUB-TIER GUIDELINES.

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: NOVEMBER 15, 2012

LETTING DATE: NOVEMBER 19, 2013

KEVIN MOORE, PE
PROJECT ENGINEER

STEVE KENDALL, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24451 ENGINEER STACEY H. BAILEY
SIGNATURE: P.E. 8/22/13

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33296 ENGINEER STEVEN D. KENDALL
SIGNATURE: 8-22-13 P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

09/08/99

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PROJECT REFERENCE NO.	SHEET NO.
B-5135	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 33298 ENGINEER STEVEN D. KEMPAL

8-22-13

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

EFF. 01-01-12
REV. 01-01-12

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 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
310.10	Driveway Pipe Construction
DIVISION 4 – MAJOR STRUCTURES	
422.11	Reinforced Bridge Approach Fills – Sub Reigional 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 Repair
DIVISION 8 – INCIDENTALS	
806.01	Concrete Right of Way Markers
806.02	Granite Right of Way Markers
815.03	Pipe Underdrain and Blind Drain
816.01	Concrete Pads – for Shoulder Drain Installation
816.04	Markers for Drainage Structure and Concrete Pad (Shoulder Drains)
840.25	Anchorage for Frames – Brick or Concrete or Precast
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet – for Cast Iron Double Frame and Grates
840.46	Traffic Bearing Precast Drainage Structure
840.66	Drainage Structure Steps
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
862.04	Anchor End of Guardrail – B-77 and B-83 Anchor Units
876.01	Rip Rap in Channels
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditch with Class 'B' Rip Rap

GENERAL NOTES

2012 SPECIFICATIONS
EFFECTIVE: 01/17/12
REVISED: 11/01/11

GRADE LINE:

GRADING AND SURFACING:
THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED 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.

UNDERDRAINS:
UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 215.03 AT LOCATIONS AS DIRECTED BY THE ENGINEER.

DRIVEWAYS:
DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3" RADII OR RADII AS SHOWN ON PLANS. LOCATION OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS 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:
A.T.&T. Phone (Aerial Phone Transmission Lines)
City of Morganton (8" Sewer Line & 8" Water Line)
Duke Energy (Aerial Power Transmission Lines)
City of Morganton Power
Piedmont Natural Gas

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED OTHERS.

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

INDEX OF SHEETS

SHEET No.	SHEET
1	TITLE SHEET
1-A	LIST OF STANDARD DRAWINGS, GENERAL NOTES, INDEX OF SHEETS
1-B	CONVENTIONAL SYMBOLS
1-C THRU 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAIL, STRUCTURE TYPICAL SECTION, SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP.
3	SUMMARY OF QUANTITIES
3-A	DRAINAGE SUMMARY (48" & UNDER), GUARDRAIL SUMMARY, EARTHWORK SUMMARY, SHOULDER BERM GUTTER SUMMARY, SUBSURFACE DRAINAGE SUMMARY
4	PLAN /PROFILE SHEET
TMP-1 THRU TMP-3	TRANSPORTATION MANAGEMENT PLAN
PM-1	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
SIGN-1	SIGNING PLANS
UO-1 THRU U0-3	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTION SUMMARY SHEETS
X-2 THRU X-10	CROSS-SECTIONS
S-1 THRU S-18	BRIDGE STRUCTURE PLANS

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PROJECT REFERENCE NO.	SHEET NO.
B-5135	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
- 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

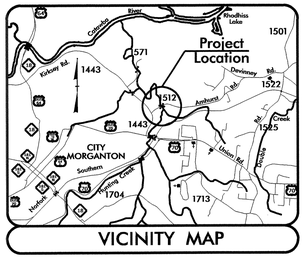
MISCELLANEOUS:

- 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.

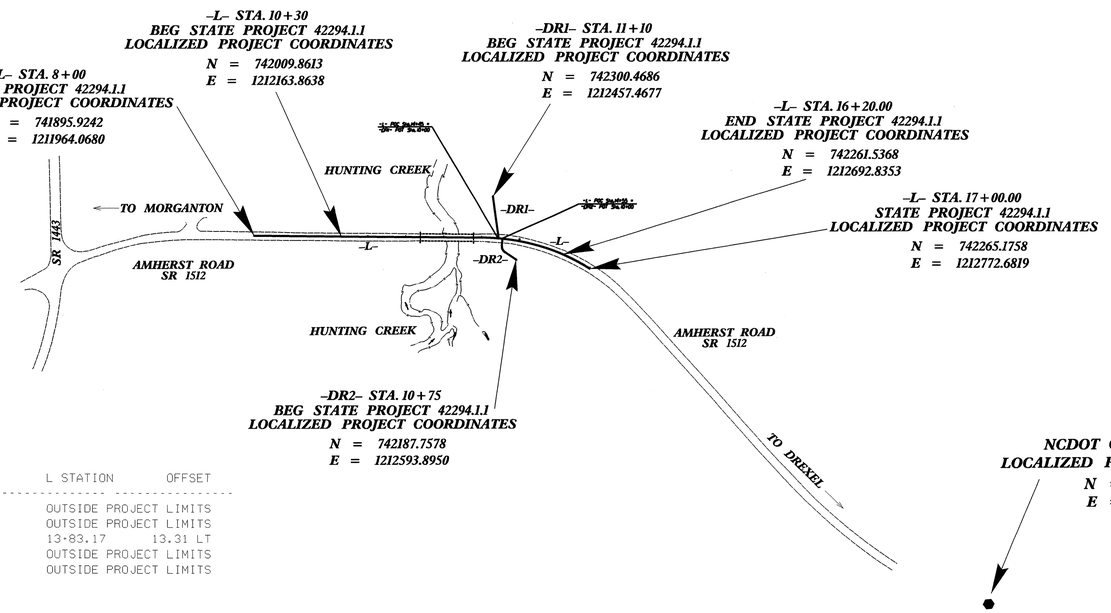
PROJECT REFERENCE NO.	SHEET NO.
B-5135	1-C
Location and Surveys	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SURVEY CONTROL SHEET B-5135



VICINITY MAP



BL	POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
1		BL-1	741577.2140	1211521.9129	1058.96	OUTSIDE PROJECT LIMITS	
2		BL-2	741890.2101	1211981.5451	1037.25	OUTSIDE PROJECT LIMITS	
3		BL-3	742196.3746	1212464.0587	1033.97	13+83.17	13.31 LT
4		BL-4	742269.5594	1212901.3793	1060.06	OUTSIDE PROJECT LIMITS	
5		BL-5	742021.0096	1213548.8373	1072.38	OUTSIDE PROJECT LIMITS	

```
*************************************
BM1       ELEVATION - 1052.48
N 741750      E 1211685
FROM   L STATION 10+00
N 61°31'25" E    DIST   514.81
SPIKE SET IN THE BASE OF 12 INCH
WHITE PINE
*************************************

*************************************
BM2       ELEVATION - 1047.35
N 742277      E 1212512
L STATION 14+57.99 62.75' LEFT
SPIKE SET IN BASE OF A 17 INCH RED OAK
*************************************

*************************************
BM3       ELEVATION - 1078.39
N 742047      E 1213726
FROM    L STATION 17+00.00
S 77°07'28.27" E  DIST  978.30
8" SPIKE SET IN BASE OF A 24" POPLAR
*************************************
```

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5135_LS_CONTROL.TXT

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

● *INDICATES GEODETIC CONTROL MONUMENTS USED OR SET FOR HORIZONTAL PROJECT CONTROL BY THE NCDOT LOCATION AND SURVEYS UNIT.*
PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.
NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCGS FOR MONUMENT "B5135-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 742026.609(ft) EASTING: 1214127.701(ft)
ELEVATION: 1078.65(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.999846052
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"B5135-1" TO -L- STATION 8+00 IS
S 86°32'36.5 " W 2167.58
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

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SURVEY CONTROL SHEET B-5135

FINAL

(DESIGN ALIGNMENTS)

L

TYPE	STATION	NORTH	EAST
POT	8+00.00	741895.9242	1211964.0680
PC	14+00.00	742193.1514	1212485.2743
PT	17+00.00	742265.1758	1212772.6819

DR1

TYPE	STATION	NORTH	EAST
POT	10+00.00	742213.8203	1212525.2326
POT	11+10.00	742300.4686	1212457.4677

DR2

TYPE	STATION	NORTH	EAST
POT	10+00.00	742217.9650	1212534.3331
PC	10+17.86	742201.6460	1212541.5869
PT	10+39.75	742189.8033	1212558.7023
POT	10+75.00	742187.7578	1212593.8950

(ROW MARKERS)

ROW MARKER IRON PIPE AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	10+35.00	-17.48	742027.5252	1212159.5465
L	10+35.00	-36.00	742043.6106	1212150.3735
L	11+10.00	18.61	742033.3261	1212242.5766
L	11+10.00	30.00	742023.4313	1212248.2193
L	12+00.00	50.00	742050.6418	1212336.3078
L	12+90.00	-54.00	742185.5683	1212362.9694
L	14+00.00	50.00	742149.7176	1212510.0433
L	14+03.00	-64.00	742250.3979	1212456.4839
L	14+28.00	36.00	742174.2577	1212526.1589
L	14+51.00	-71.00	742280.9948	1212501.3740
L	14+80.00	-30.00	742255.5361	1212546.4737
L	15+00.00	18.37	742217.1986	1212582.2210
L	16+15.00	-30.00	742290.6813	1212684.0624
L	16+15.00	-17.85	742278.6303	1212685.6056

(PERMANENT EASEMENTS)

ROW MARKER PERMANENT UTILITY EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	11+39.00	-58.00	742114.2409	1212229.8176
L	12+00.00	65.00	742037.6117	1212343.7385
L	12+12.00	65.00	742043.5562	1212354.1626
L	12+12.00	50.00	742056.5864	1212346.7320
L	14+28.00	65.00	742148.3676	1212539.2244
L	14+40.00	65.00	742153.0316	1212548.7227
L	14+40.00	35.00	742180.1029	1212535.7942
L	16+00.00	45.00	742214.3533	1212679.9531
L	16+00.00	18.15	742240.8848	1212675.8174
L	16+10.00	45.00	742215.6849	1212689.0377
L	16+10.00	18.15	742242.2878	1212685.3850

NOTES:

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

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PROJECT CONTROL ESTABLISHED USING GLOBAL POSITIONING SYSTEM.

NETWORK ESTABLISHED FROM NGS ONLINE POSITIONING SERVICE (OPUS)

NOTE: DRAWING NOT TO SCALE

DATUM DESCRIPTION

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VERTICAL DATUM USED IS NAVD 88

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PROJECT REFERENCE NO.	SHEET NO.
B-5135	2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33298 ENGINEER STEVEN D. KENDALL
8-22-13

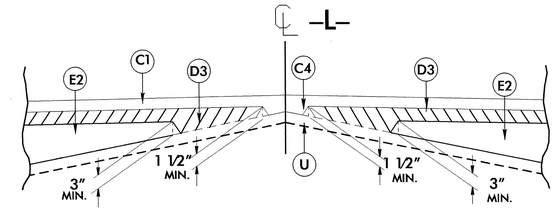
PAVEMENT DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 039819 ENGINEER TONYA R. TEDFORD
AUGUST 2, 2013

PAVEMENT SCHEDULE

FINAL PAVEMENT DESIGN

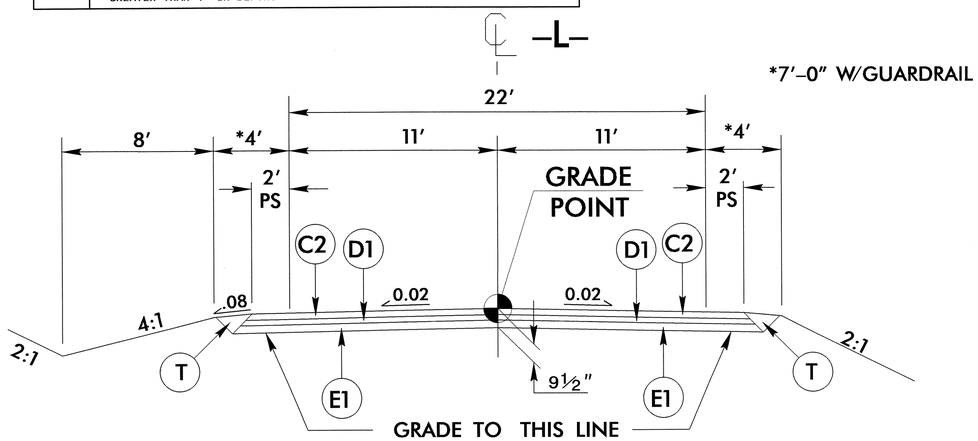
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.	E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	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.
C3	PROP. APPROX. 3.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 196 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	T	EARTH MATERIAL.
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.	W	VARIABLE DEPTH ASPHALT PAVEMENT (SEE STANDARD WEDGING DETAIL).
D1	PROP. APPROX. 2.5" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 285 LBS. PER SQ. YD.	U	EXIST. PAVEMENT
D2	PROP. APPROX. 3.0" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.		
D3	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2½" IN DEPTH OR GREATER THAN 4" IN DEPTH.		

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



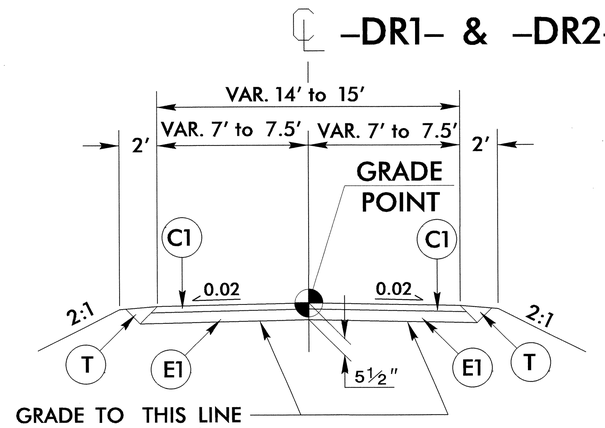
-L- Detail Showing Method of Wedging

RESURFACE AND WEDGE
-L- Sta. 10+30 to Sta. 10+90



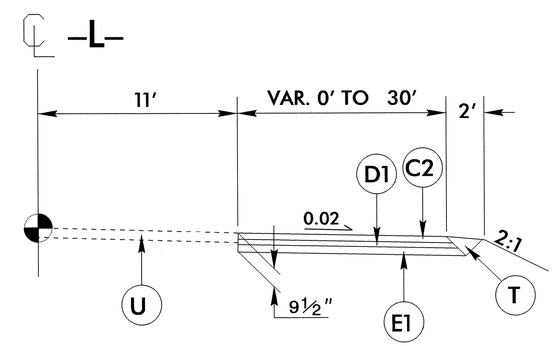
TYPICAL SECTION NO. 1

-L- Sta. 10+90.00 to Sta. 12+31.81(BEGIN BRIDGE)
-L- Sta. 13+74.19(END BRIDGE) to Sta. 16+20.00



TYPICAL SECTION NO. 2

-DR1- Sta. 10+11.28 to Sta. 11+10.00
-DR2- Sta. 10+11.00 to Sta. 10+75.00

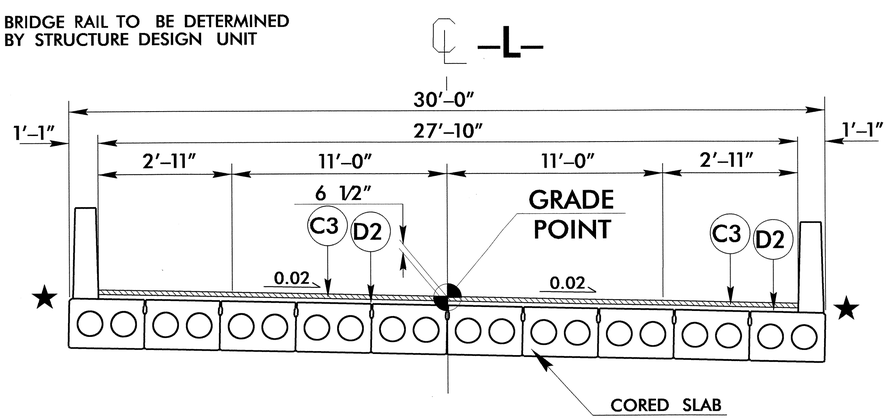


TYPICAL SECTION NO. 3

TEMPORARY BUS TURNAROUND
-L- Sta. 8+95.00 to Sta. 10+15.00

STRUCTURE TYPICAL SECTION

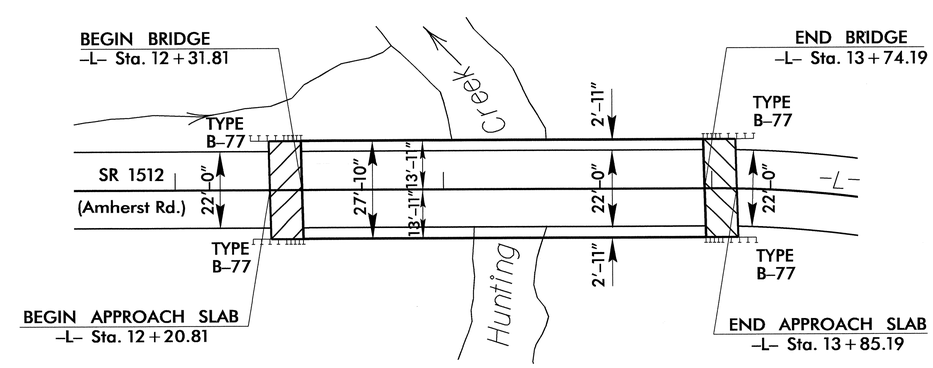
★ BRIDGE RAIL TO BE DETERMINED BY STRUCTURE DESIGN UNIT



DESIGN DATA

ADT 2013 = 2,830
ADT 2039 = 5,630
DHV = 11 %
D = 60 %
T = 7 % *
V = 30 MPH
* TTST = 1 %
DUAL = 6%
FUNCTIONAL CLASS. = RURAL LOCAL
SUB TIER GUIDELINES

SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE WIDTH RELATIONSHIP



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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203264

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
0030000000-N	SP	Lump Sum		BRIDGE APPROACH FILL - SUB REGIONAL TIER, STATION ******* (13+00.00)
0043000000-N	226	Lump Sum		GRADING
0050000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING
0057000000-E	226	100	CY	UNDERCUT EXCAVATION
0134000000-E	240	60	CY	DRAINAGE DITCH EXCAVATION
0195000000-E	265	100	CY	SELECT GRANULAR MATERIAL
0196000000-E	270	200	SY	GEOTEXTILE FOR SOIL STABILIZATION
0318000000-E	300	20	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES
0320000000-E	300	70	SY	FOUNDATION CONDITIONING GEOTEXTILE
0335200000-E	305	12	LF	15" DRAINAGE PIPE
0335300000-E	305	48	LF	18" DRAINAGE PIPE
0576000000-E	310	128	LF	**" CS PIPE CULVERTS, *****" THICK (12", 0.064")
0995000000-E	340	164	LF	PIPE REMOVAL
1099500000-E	505	115	CY	SHALLOW UNDERCUT
1099700000-E	505	125	TON	CLASS IV SUBGRADE STABILIZATION
1220000000-E	545	50	TON	INCIDENTAL STONE BASE
1330000000-E	607	100	SY	INCIDENTAL MILLING
1489000000-E	610	480	TON	ASPHALT CONC BASE COURSE, TYPE B25.0B
1498000000-E	610	310	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE I19.0B
1519000000-E	610	390	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B
1575000000-E	620	60	TON	ASPHALT BINDER FOR PLANT MIX
1693000000-E	654	50	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR
2000000000-N	806	14	EA	RIGHT OF WAY MARKERS

ItemNumber	Sec #	Quantity	Unit	Description
2022000000-E	815	16.8	CY	SUBDRAIN EXCAVATION
2033000000-E	815	16.8	CY	SUBDRAIN FINE AGGREGATE
2044000000-E	815	100	LF	6" PERFORATED SUBDRAIN PIPE
2070000000-N	815	1	EA	SUBDRAIN PIPE OUTLET
2077000000-E	815	6	LF	6" OUTLET PIPE
2286000000-N	840	1	EA	MASONRY DRAINAGE STRUCTURES
2367000000-N	840	1	EA	FRAME WITH TWO GRATES, STD 840.29
2556000000-E	846	33	LF	SHOULDER BERM GUTTER
3030000000-E	862	100	LF	STEEL BM GUARDRAIL
3045000000-E	862	57	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
3317000000-N	862	4	EA	GUARDRAIL ANCHOR UNITS, TYPE B-77
3360000000-E	863	262.5	LF	REMOVE EXISTING GUARDRAIL
3635000000-E	876	3	TON	RIP RAP, CLASS II
3649000000-E	876	78	TON	RIP RAP, CLASS B
3656000000-E	876	1,363	SY	GEOTEXTILE FOR DRAINAGE
4072000000-E	903	85	LF	SUPPORTS, 3-LB STEEL U-CHANNEL
4102000000-N	904	5	EA	SIGN ERECTION, TYPE E
4116100000-N	904	1	EA	SIGN ERECTION, RELOCATE, TYPE **** (GROUND MOUNTED) (E)
4155000000-N	907	2	EA	DISPOSAL OF SIGN SYSTEM, U-CHANNEL
4400000000-E	1110	334	SF	WORK ZONE SIGNS (STATIONARY)
4410000000-E	1110	174	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4445000000-E	1145	96	LF	BARRICADES (TYPE III)

ItemNumber	Sec #	Quantity	Unit	Description
4455000000-N	1150	14	DAY	FLAGGER
4810000000-E	1205	5,504	LF	PAINT PAVEMENT MARKING LINES (4")
6000000000-E	1605	950	LF	TEMPORARY SILT FENCE
6006000000-E	1610	285	TON	STONE FOR EROSION CONTROL, CLASS A
6009000000-E	1610	215	TON	STONE FOR EROSION CONTROL, CLASS B
6012000000-E	1610	255	TON	SEDIMENT CONTROL STONE
6015000000-E	1615	1	ACR	TEMPORARY MULCHING
6018000000-E	1620	50	LB	SEED FOR TEMPORARY SEEDING
6021000000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEEDING
6024000000-E	1622	200	LF	TEMPORARY SLOPE DRAINS
6029000000-E	SP	100	LF	SAFETY FENCE
6030000000-E	1630	270	CY	SILT EXCAVATION
6036000000-E	1631	2,000	SY	MATTING FOR EROSION CONTROL
6037000000-E	SP	350	SY	COIR FIBER MAT
6038000000-E	SP	225	SY	PERMANENT SOIL REINFORCEMENT MAT
6042000000-E	1632	250	LF	1/4" HARDWARE CLOTH
6070000000-N	1639	6	EA	SPECIAL STILLING BASINS
6071010000-E	SP	75	LF	WATTLE
6071020000-E	SP	70	LB	POLYACRYLAMIDE (PAM)
6071030000-E	1640	45	LF	COIR FIBER BAFFLE
6071050000-E	SP	1	EA	**" SKIMMER (1-1/2")
6084000000-E	1660	1	ACR	SEEDING & MULCHING
6087000000-E	1660	0.5	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	0.75	TON	FERTILIZER TOPDRESSING
6114500000-N	1667	10	MHR	SPECIALIZED HAND MOWING
6117000000-N	SP	18	EA	RESPONSE FOR EROSION CONTROL

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COMPUTED BY: V. BARODAWALA DATE: AUGUST 1, 2013
CHECKED BY: T. BURNS DATE: AUGUST 9, 2013

4/04/06

PROJECT REFERENCE NO.	SHEET NO.
B-5135	3-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

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

LIST OF PIPES, ENDWALLS, ETC.

STATION / SIZE / THICKNESS OR GAUGE	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 15"	18"	24"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE	C.S. PIPE 12" .064	18" .064	24" .064	36" .079	84" 0.168	R.C. PIPE (CLASS III) 15"	18"	24"	30"	36"	R.C. PIPE (CLASS IV) 15"	18"	24"	30"	36"	REINFORCED ENDWALLS WITH R.C. – C.Y.	WITH C.S. – C.Y.	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. 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	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.29	T.B.D.I. STD. 840.35	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
-L- 12+02.12	RT.	0401		1,031.6																																	1							1	1					
	RT.	0401	0402		1,028.3	1,027.5		12'																																										
-DR 1- 10+56	CL.	0403	OUT		1,033.8	1,003.0			48'																																								36'	REMOVE 12" HDPE
-L- 9+50.00	RT.	0404			1,033.6	1,032.5												128'																															128'	TEMPORARY 12" CSP
GRAND TOTAL								12'																													1							1					164'	GRAND TOTAL
									48'									128'																											1					

ABBREVIATIONS

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

REMOVAL OF EXISTING ASPHALT PAVEMENT SUMMARY

SURVEY LINE	STATION	STATION	SY
-L-	10+15.00	10+15.00	244.58
		TOTAL:	244.58
		SAY:	250.00

SHOULDER BERM GUTTER SUMMARY

SURVEY LINE	STATION	STATION	LF
-L-	12+00.00 RT.	12+33.00	33
		TOTAL:	33
		SAY:	33

SUBSURFACE DRAINAGE SUMMARY

SURVEY LINE	STATION	STATION	DRAIN TYPE	LF
CONTINGENCY			UNDERDRAIN	100
			TOTAL:	100

EARTHWORK SUMMARY

In Cubic Yards

SURVEY LINE	STATION	STATION	UNCL. EXCAV.	EMBANK +%	BORROW	WASTE
TEMPORARY BUS TURN AROUND						
	SUMMARY No. 1					
-L-	8+75.00	10+25.00	34	18	0	16
		SUMMARY No. 1 TOTAL	34	18	0	16
	SUMMARY No. 2					
-L-	10+25.00	12+31.81	144	140	0	4
		SUMMARY No. 2 TOTAL	144	140	0	4
	SUMMARY No. 3					
-L-	13+74.19	16+20.00	40	192	152	0
-DR 1-	10+11.23	11+10.00	87	130	43	0
-DR 2-	10+11.00	10+75.00	0	101	101	0
		SUMMARY No. 3 TOTAL	127	423	296	0
	SUMMARY No. 4					
TEMP. BUS TURN AROUND REMOVAL						
-L-	8+75.00	10+25.00	18	0	0	18
		SUMMARY No. 4 TOTAL	18	0	0	18
		SUMMARIES TOTAL	323	582	296	37
		LOSS DUE TO CLEARING & GRUBBING	2		-2	
		WASTE IN LIEU OF BORROW			-37	-37
		EST. 5% TO REPLACE SOIL IN BORROW PIT			13	
		PROJECT GRAND TOTAL	325	582	270	0
		SAY	330		280	
		DRAINAGE DITCH EXCAVATION	56			
		SHALLOW UNDERCUT	115			
		UNDERCUT (CONTINGENT)	100			
		CLASS IV SUBGRADE STABILIZATION	125 Tons			

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.

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

GUARDRAIL SUMMARY

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

"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.

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH STRAIGHT	LENGTH SHOP CURVED	LENGTH DOUBLE FACED	WARRANT POINT APPROACH END	WARRANT POINT TRAILING END	"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH APPROACH END	FLARE LENGTH TRAILING END	W APPROACH END	W TRAILING END	ANCHORS TYPE GRAU-350 TL-2	ANCHORS TYPE B-77	ANCHORS AT-1	ANCHOR DEDUCTIONS	IMPACT ATTENUATOR TYPE 350 EA	G	NG	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS
-L-	11+24.25	12+30.50	LT.	106.5'				11+99.25	3'	6'		50'			1	1		2-GRAU 350 (TYPE TL-2) @ 25' =50'							
-L-	13+80.50 LT.	-DR 1- 10+47.97	LT.		41.67'		13+80.50		3'	6'						1	1	4 - TYPE B77 @ 18.75' =75'							
-L-	11+55.50	12+30.50	RT.	75'			12+30.50		3'	6'	50'				1	1		TOTAL -125'							
-L-	13+80.50 RT.	-DR 2- 10+47.97	RT.	25'	24.49'			13+80.50	3'	6'						1	1								
																		2 - AT-1 @ 6.25' = 12.5'							
			SUB-TOTAL	212.5'	61.16'													TOTAL -12.5'					262.5'		
			MINUS ANCHORS	-125.0'	-12.50'																				ADDITIONAL GUARDRAIL POSTS = 5
			GRAND TOTAL	87.5'	53.66'																				
			SAY	100'	57'										2	4	2								

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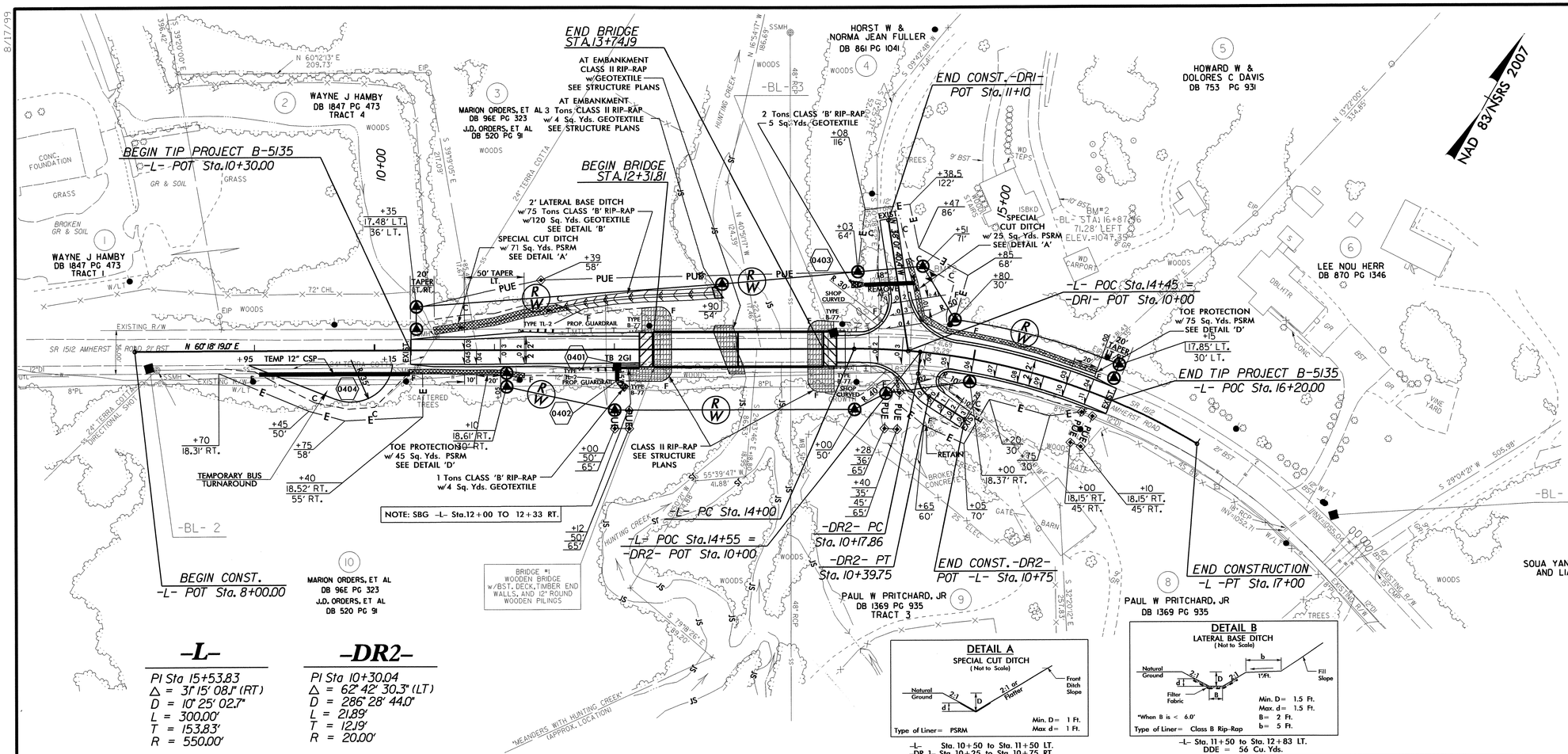
PROJECT REFERENCE NO.	SHEET NO.
B-5135	4
R/W SHEET NO.	

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 33296 ENGINEER STEPHEN D. KENDALL
9-9-13

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 24651 ENGINEER STACEY H. BAILEY
9-9-13

NOTE: SEE SHEET No. 2 FOR SKETCH SHOWING PAVEMENT WIDTH TO BRIDGE RELATIONSHIP.

NOTE: SEE SHEETS S-1 THRU S-18 FOR STRUCTURE PLANS.



-L-

PI Sta 15+53.83
Δ = 31° 15' 08.1" (RT)
D = 10° 25' 02.7"
L = 300.00'
T = 153.83'
R = 550.00'

-DR2-

PI Sta 10+30.04
Δ = 62° 42' 30.3" (LT)
D = 286° 28' 44.0"
L = 21.89'
T = 12.19'
R = 20.00'

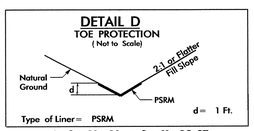
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D = 1 Ft.
Max d = 1 Ft.
Type of Liner = PSRM
-L- Sta. 10+50 to Sta. 11+50 LT.
-DR 1- Sta. 10+25 to Sta. 10+75 RT.

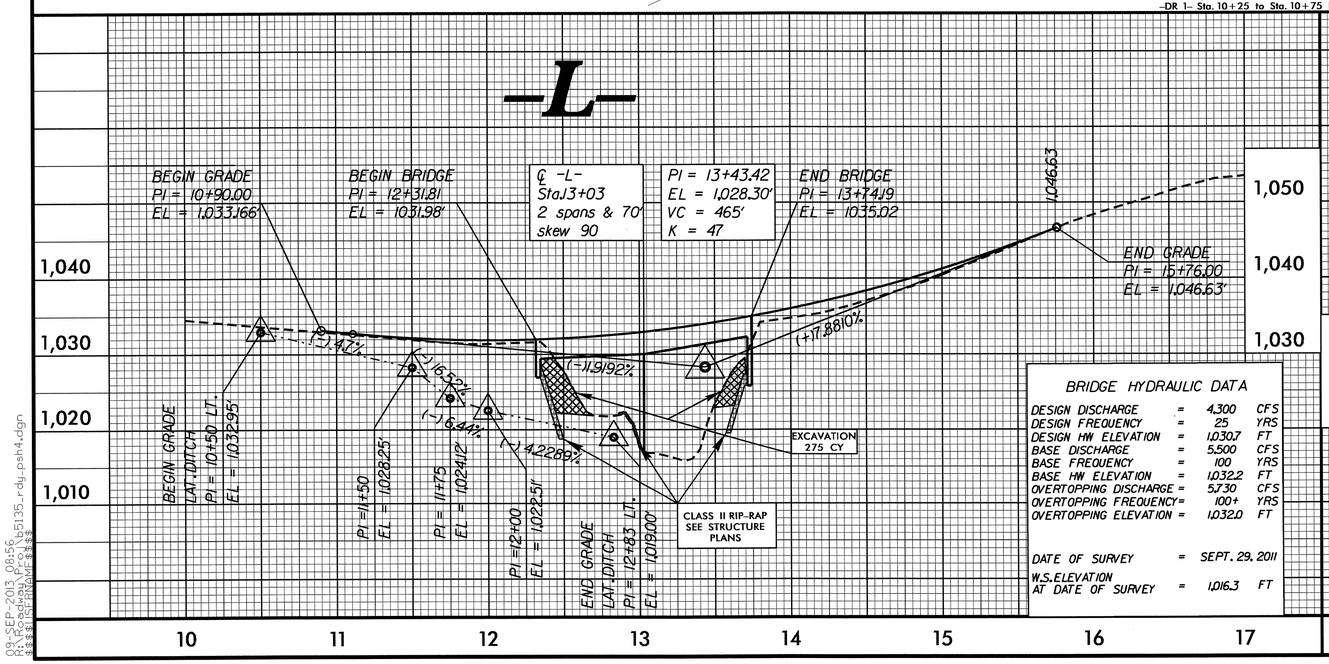
DETAIL B
LATERAL BASE DITCH
(Not to Scale)

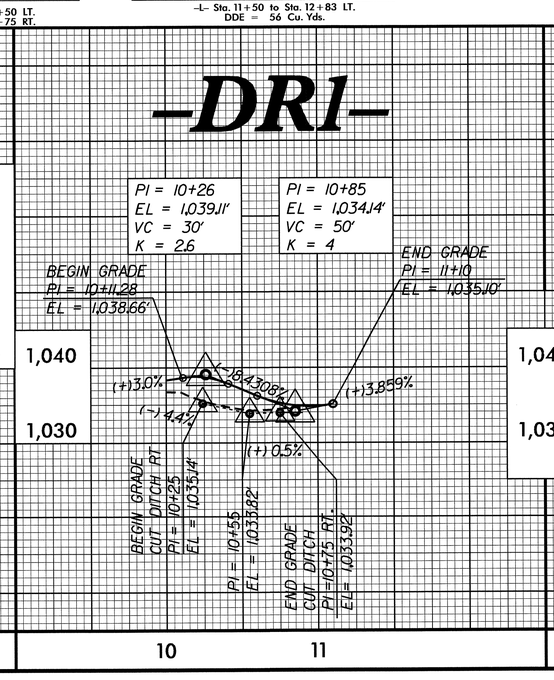
*When B is < 6.0'
Min. D = 1.5 Ft.
Max. d = 1.5 Ft.
B = 2 Ft.
b = 5 Ft.
Type of Liner = Class B Rip-Rap
-L- Sta. 11+50 to Sta. 12+83 LT.
DDE = 56 Cu. Yds.

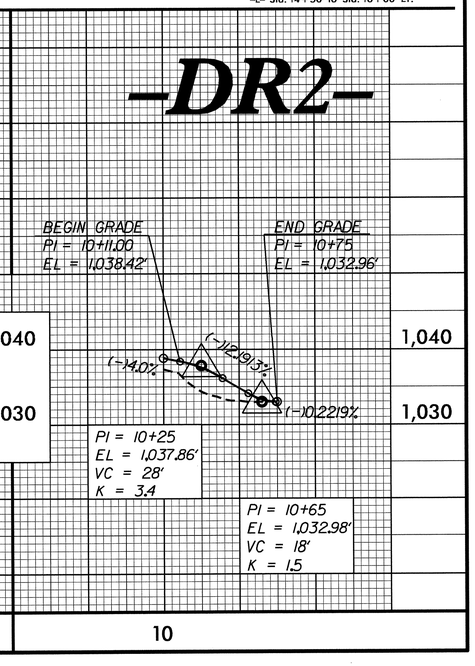
DETAIL D
TOE PROTECTION
(Not to Scale)



d = 1 Ft.
Type of Liner = PSRM
-L- Sta. 10+30 to Sta. 11+25 RT.
-L- Sta. 14+50 to Sta. 16+00 LT.







BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4,300	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1,030.7	FT
BASE DISCHARGE	=	5,500	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1,032.2	FT
OVERTOPPING DISCHARGE	=	5,730	CFS
OVERTOPPING FREQUENCY	=	100+	YRS
OVERTOPPING ELEVATION	=	1,032.0	FT
DATE OF SURVEY	=	SEPT. 29, 2011	
W.S. ELEVATION AT DATE OF SURVEY	=	1,016.3	FT

8/17/99

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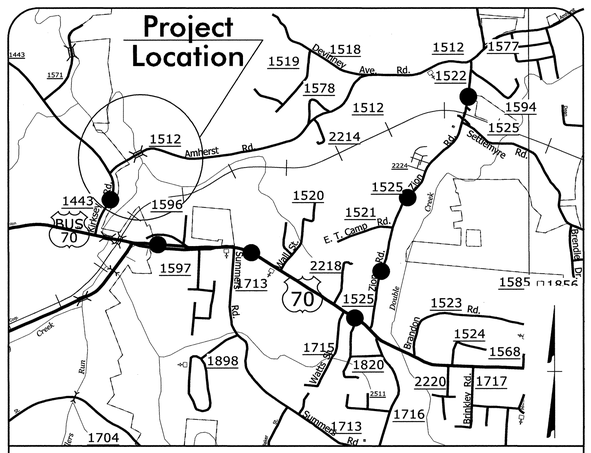
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

BURKE COUNTY



OFF SITE DETOUR

VICINITY MAP

REPLACE BRIDGE NO. 1 OVER HUNTING CREEK ON SR 1512

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET; INDEX OF SHEETS; ROADWAY STANDARD DRAWINGS; AND LEGEND
TMP-1A	TRANSPORTATION OPERATIONS PLAN: (MANAGEMENT STRATEGIES, AND GENERAL NOTES)
TMP-2	SPECIAL SIGN DESIGN
TMP-3	TEMPORARY TRAFFIC CONTROL DETAIL AND PHASING

ROADWAY STANDARD DRAWINGS

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1180.01	SKINNY - DRUM
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

LEGEND

GENERAL

NORTH ARROW

TRAFFIC CONTROL DEVICES

BARRICADE (TYPE III)

TEMPORARY SIGNING

STATIONARY SIGN

SHEET NO.
TMP-1

B-5135

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. WOOLARD, P.E. — TRAFFIC CONTROL PROJECT DESIGN ENGINEER
DENA KLEIN — TRAFFIC CONTROL DESIGN ENGINEER

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

APPROVED:
DATE:
SEAL
NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR.
7/30/13

7/22/2013
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User:rdklein

PROJ. REFERENCE NO.	SHEET NO.
B-5135	TMP-1A

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) 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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

G) 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.

H) 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.

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

TRAFFIC CONTROL DEVICES

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

PAVEMENT MARKINGS AND MARKERS

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

MANAGEMENT STRATEGIES

TRAFFIC WILL BE MAINTAINED OFFSITE DURING CONSTRUCTION.
TRAFFIC WILL FOLLOW SR 1512 TO SR 1522 TO US 70 W AND SR 1443.

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 19862 ENGINEER J. W. WOOLARD, JR.

7/30/13

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

TRANSPORTATION OPERATIONS PLAN

7/22/2013
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User:rcdiken

PROJ. REFERENCE NO.	SHEET NO.
B-5135	TMP-2

SIGN NUMBER: SP13196
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4'-0"
HEIGHT: 2'-0"
TOTAL AREA: 8.0 Sq.Ft.

BORDER TYPE: INSET
RECESS: 0.63"
WIDTH: 0.63"
RADII: 2.88"

NO. Z BARS:
LENGTH:

BACKG COLOR: Fluorescent Orange
COPY COLOR: Black

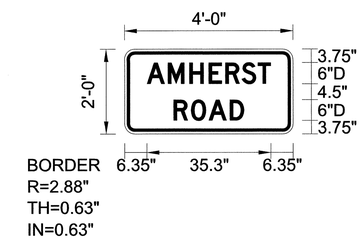
SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: J.Navarrete
PROJECT ID: B-5135
CHECKED BY:
DIV: 13
DATE: Jul 30, 2013

USE NOTES: 1,2

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



Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter spacings are to start of next letter

																											Series/Size Text Length
	A	M	H	E	R	S	T																				D 2000
6.3	6	6.1	5.5	4.7	4.7	4.6	3.7	6.3																			35.3
	R	O	A	D																							D 2000
14	5	5	6	4.1	14																						20.1

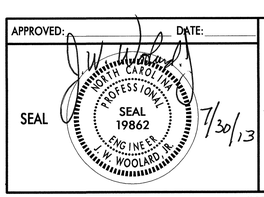
FILENAME: Special Signs3

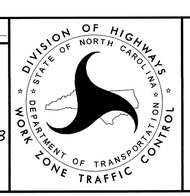
NORTH CAROLINA D.O.T. SIGN DETAIL

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 07-30-2013 AND SEALED BY A PROFESSIONAL ENGINEER, RONALD W. KING, P.E., LICENSE #022959.

APPROVED: DATE:

SEAL





SPECIAL SIGN DESIGN

7/30/2013
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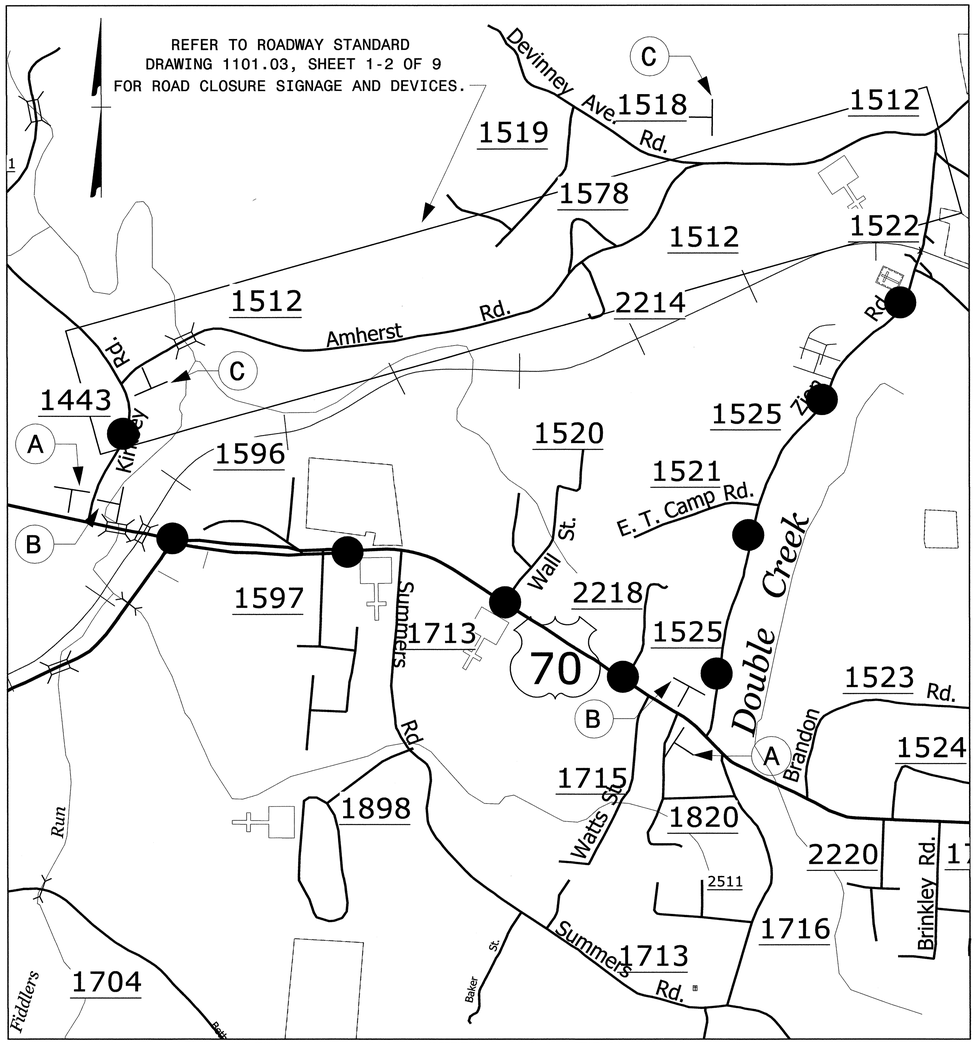
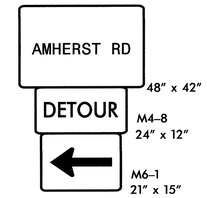
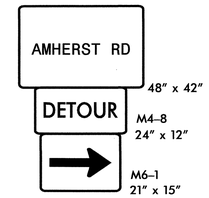
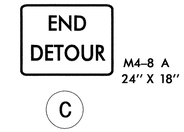
User:ddklein

PROJ. REFERENCE NO.	SHEET NO.
B-5135	TMP-03









PHASING

STEP 1) USING RSD 1101.02 SHEET 1 OF 15 AND FLAGGERS AS NEEDED, CONSTRUCT TEMPORARY BUS TURNAROUND

STEP 2) INSTALL ALL OFFSITE DETOUR SIGNS AND ROAD CLOSURE SIGNING AS SHOWN ABOVE NO MORE THAN 3 DAYS PRIOR TO ROAD CLOSURE. IF ROAD IS NOT CLOSED WITHIN THE SAME WORKING PERIOD AS SIGN INSTALLATION, COVER ALL SIGNING.

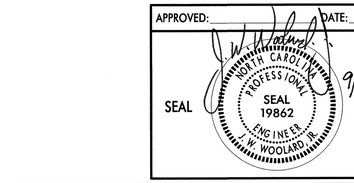
STEP 3) UNCOVER SIGNING IF NEEDED. DETOUR TRAFFIC OFFSITE AND CLOSE -L- (SR 1512 AMHERST RD.). BEHIND ROAD CLOSURE, CONSTRUCT -L-,INCLUDING NEW STRUCTURE, UP TO BUT NOT INCLUDING THE FINAL LIFT OF SURFACE COURSE. MAINTAIN ACCESS TO DRIVEWAYS DURING CONSTRUCTION.

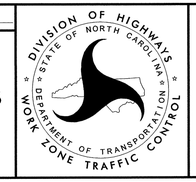
STEP 4) PLACE THE FINAL LIFT OF SURFACE COURSE, PAVEMENT MARKINGS, AND MARKERS (SEE PAVEMENT MARKING PLAN).

STEP 5) REMOVE ALL TRAFFIC CONTROL DEVICES, ROAD CLOSURE SIGNING, AND OPEN -L- TO TRAFFIC IN THE FINAL PATTERN. REMOVE ALL OFFSITE DETOUR SIGNING.

APPROVED: _____ DATE: _____

SEAL





OFFSITE DETOUR & PHASING

9/3/2013
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User:jwoolard

TIP NO.	SHEET NO.
B-5135	PMP-1

APPROVED:
DATE: 7/17/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
BURKE COUNTY
LOCATION: REPLACEMENT OF BRIDGE NO. 1 OVER HUNTING CREEK ON SR 1512

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.

B) STATE FORCES WILL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
AMHERST RD	PAINT	NONE

C) 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.

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

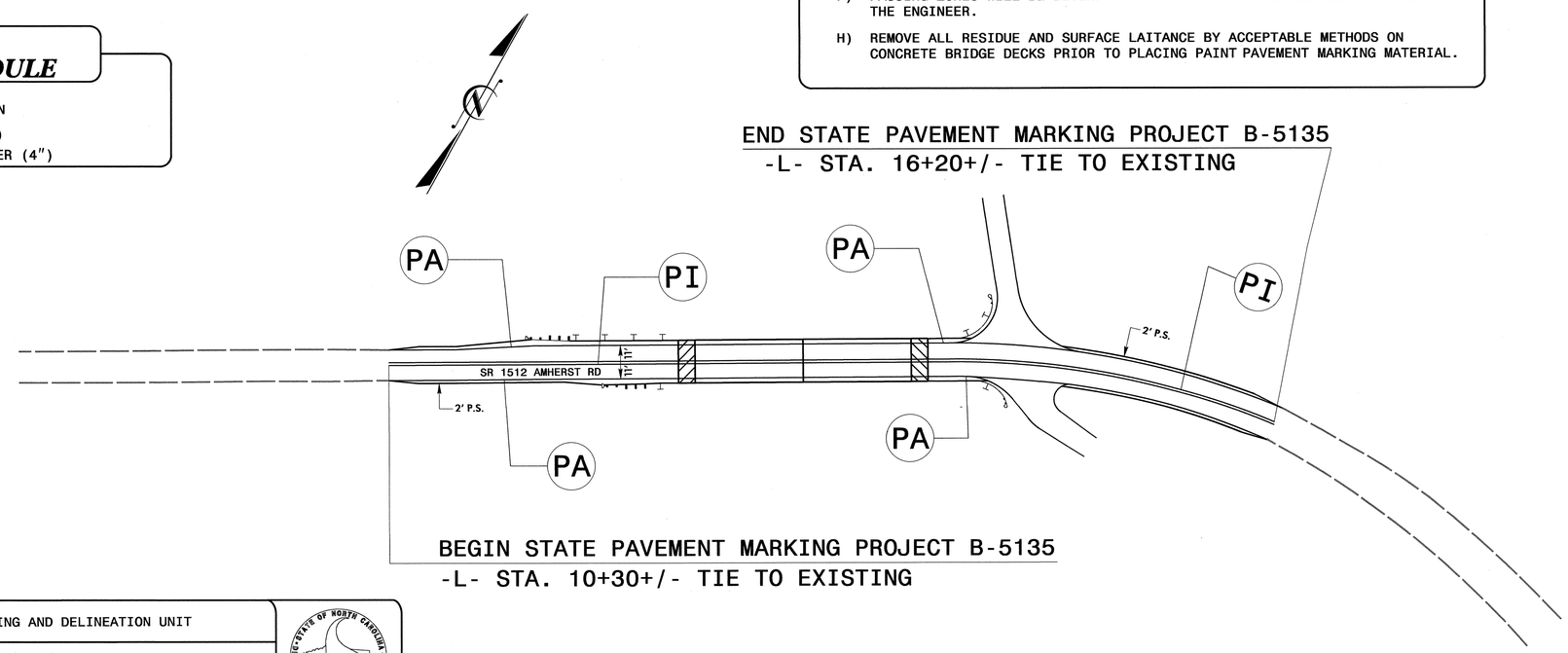
E) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

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

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

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
PA	WHITE EDGELINE (4")
PI	YELLOW DOUBLE CENTER (4")



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

KELVIN JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

WALTER JOHNSON — SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

T.I.P.: B-5135

CONTRACT: C203264

15-JUL-2013 16:15
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walter.johnson@ncdot.gov AT TE247518

PROJECT: B-5135

TIP P

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5135	EC-1	

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

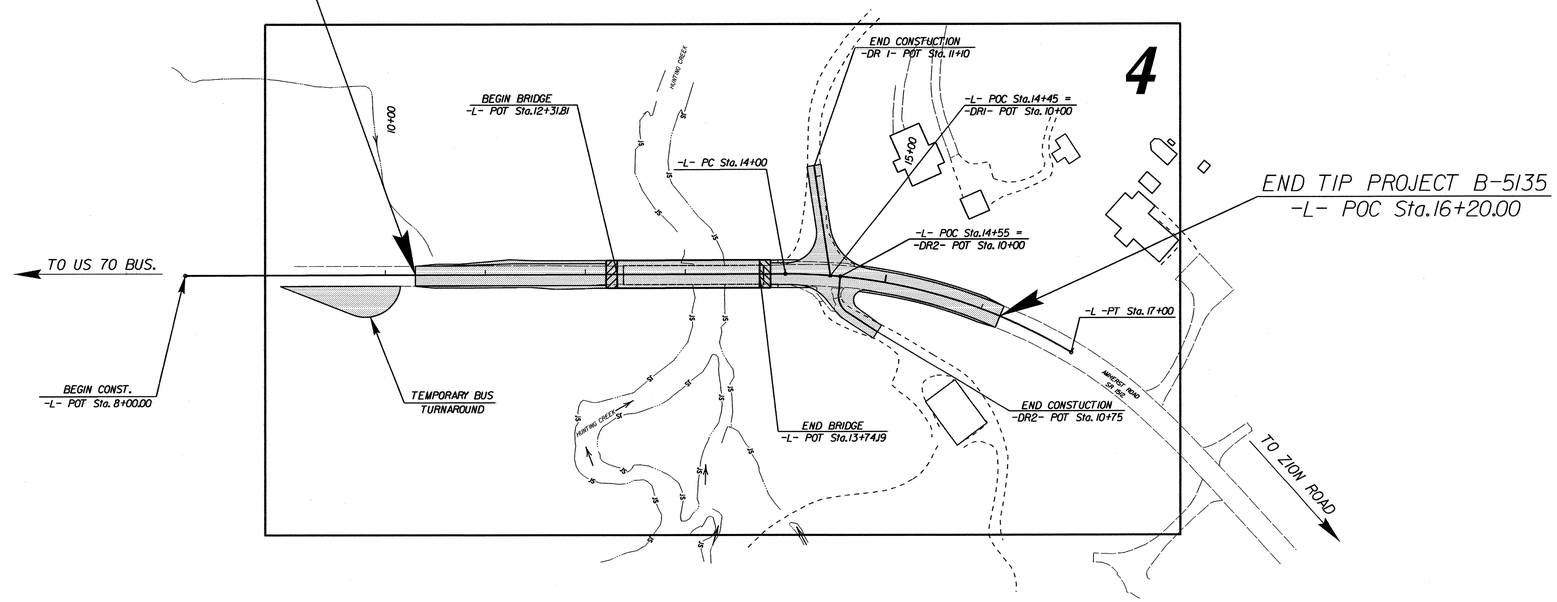
BURKE COUNTY

LOCATION: REPLACEMENT OF BRIDGE No. 1 OVER HUNTING CREEK ON SR 1512.

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

NAD 83/
NAVD 88

BEGIN TIP PROJECT B-5135
-L- POT Sta.10+30.00



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 <u>english</u> 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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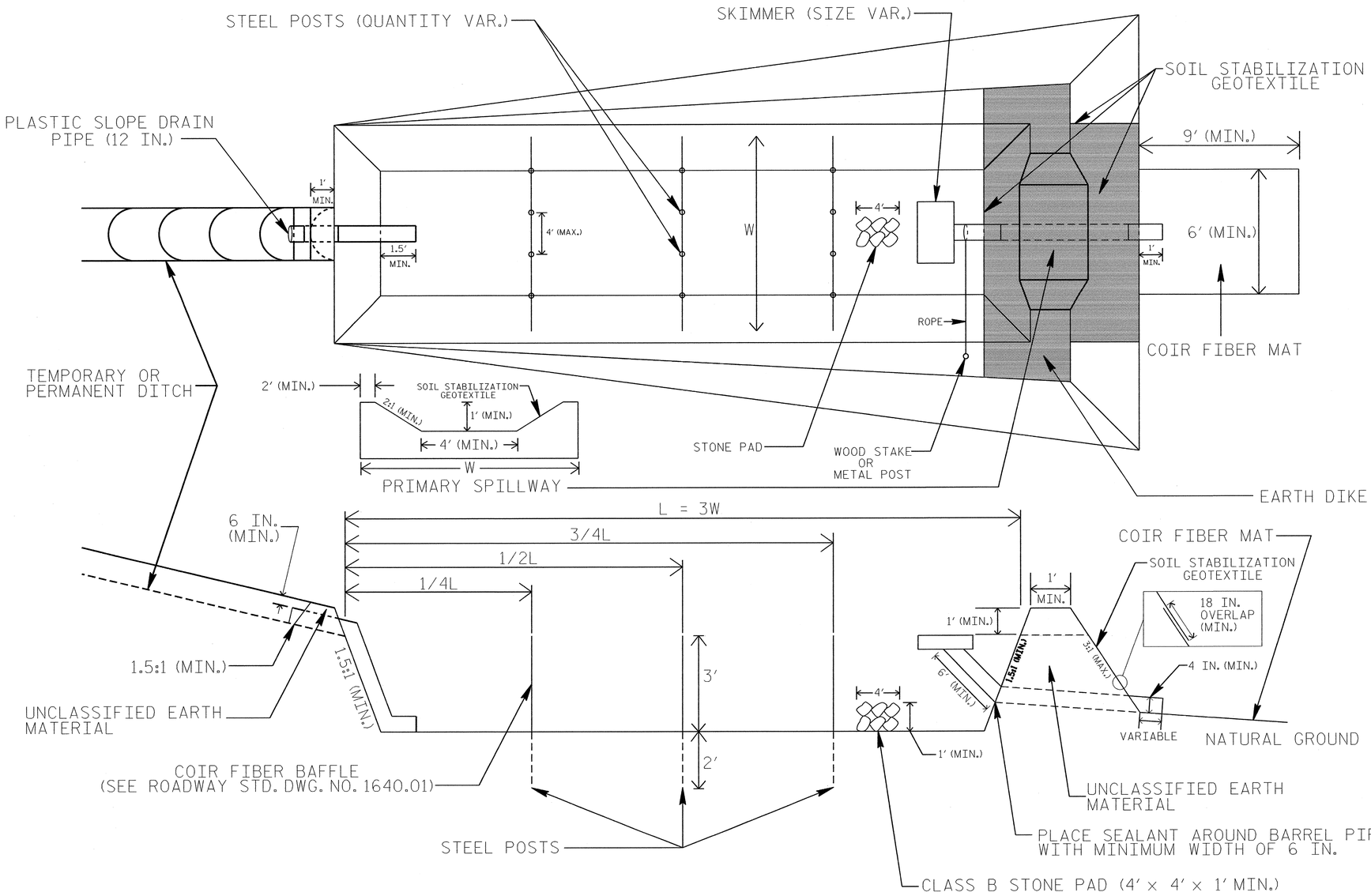
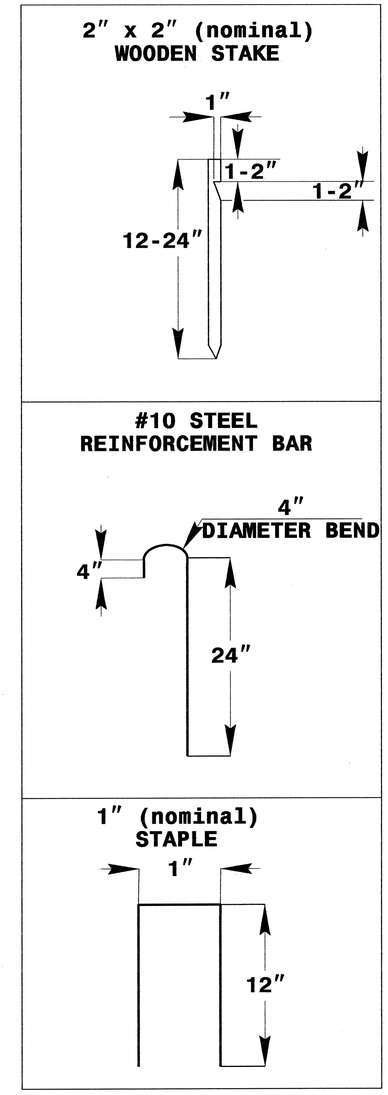
mfinney

PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

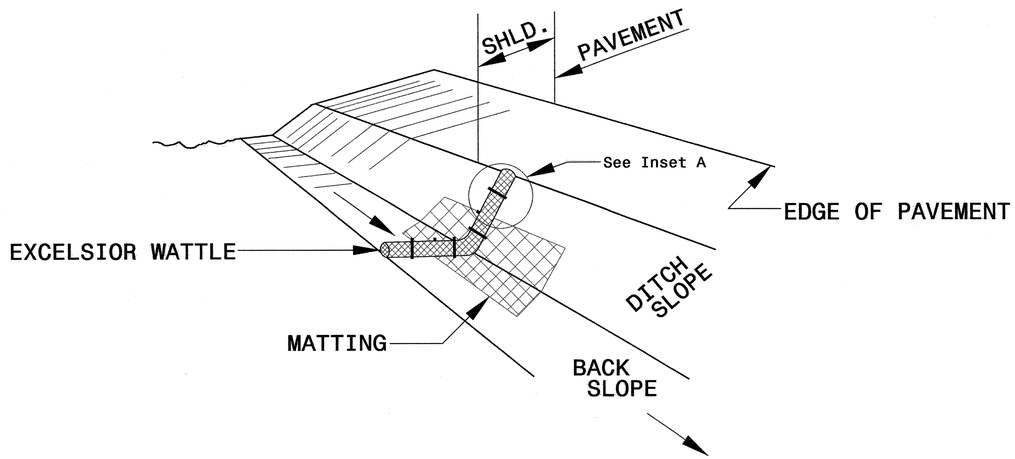
NOTES

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 PRIMARY SPILLWAY WEIR LENGTH (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO BASIN.
5. PLASTIC SLOPE DRAIN PIPE AT INLET OF BASIN MAY BE REPLACED BY FILTRATION GEOTEXTILE OR TARP AS DIRECTED.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAY SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

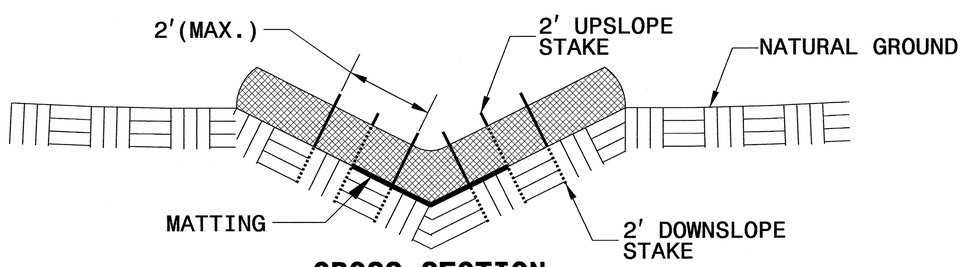
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

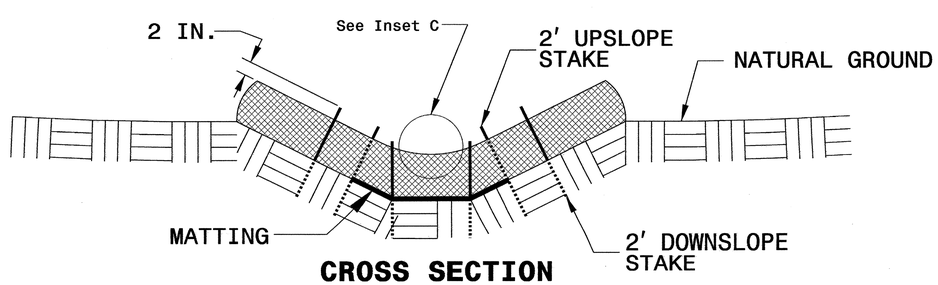
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

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

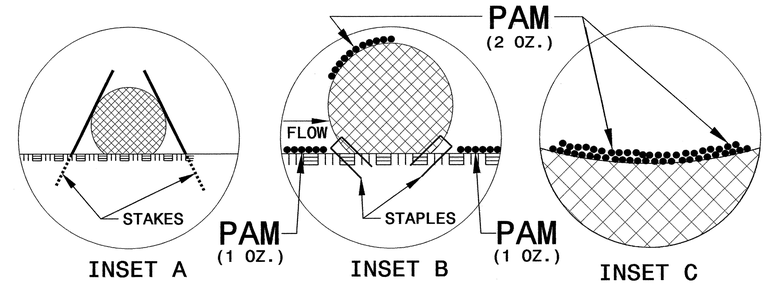
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

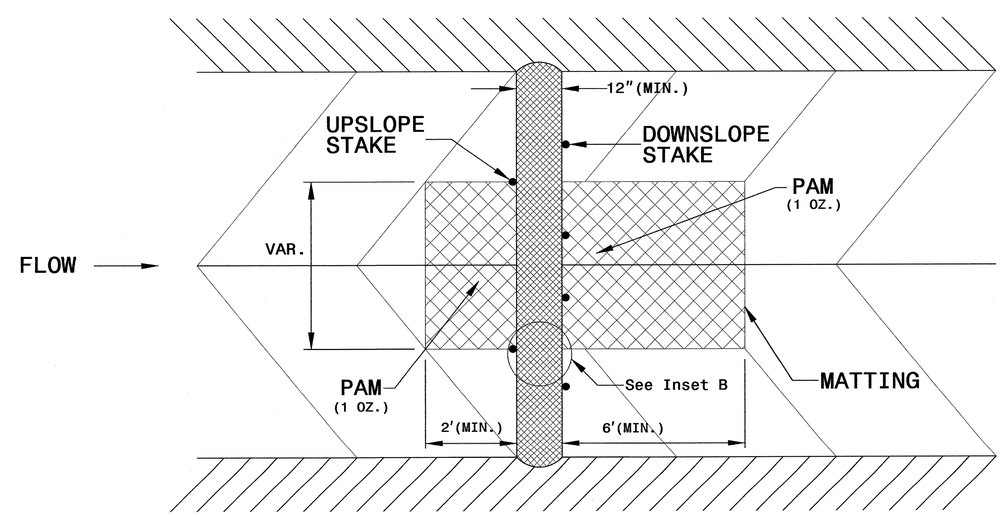
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

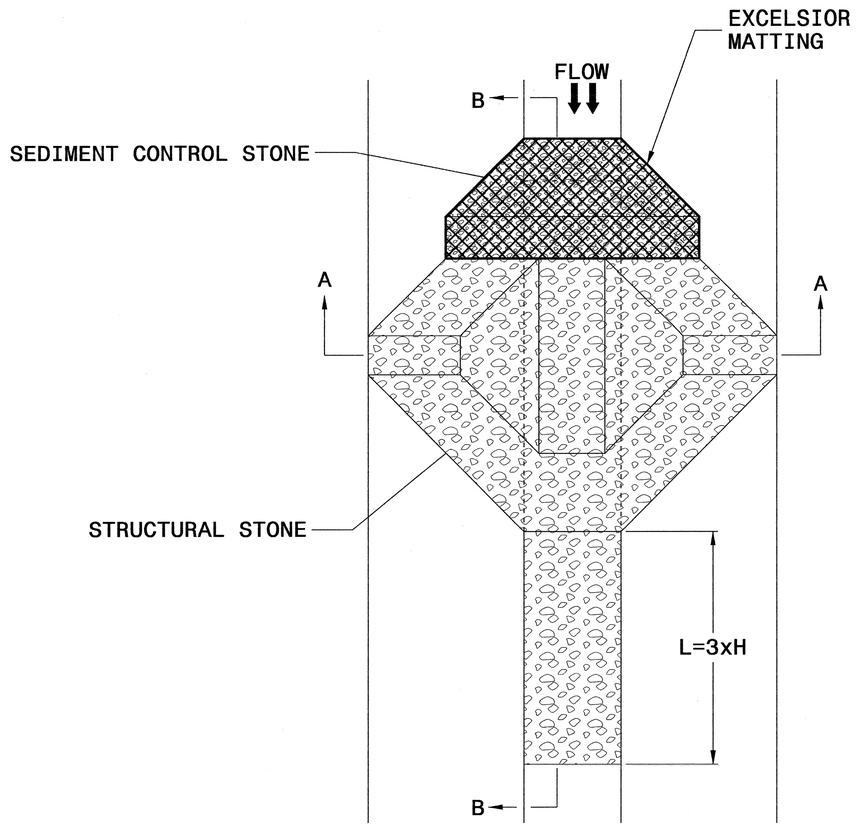




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



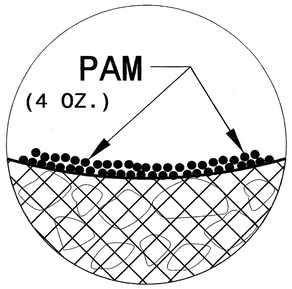
PLAN

NOTES

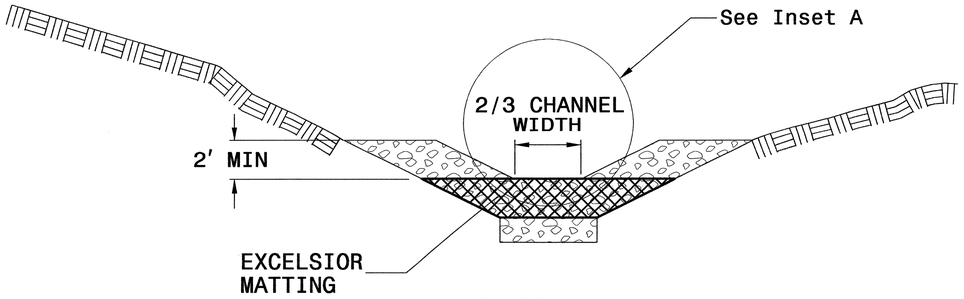
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

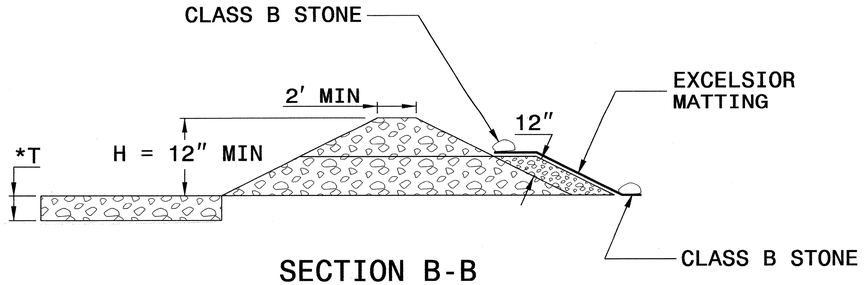
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

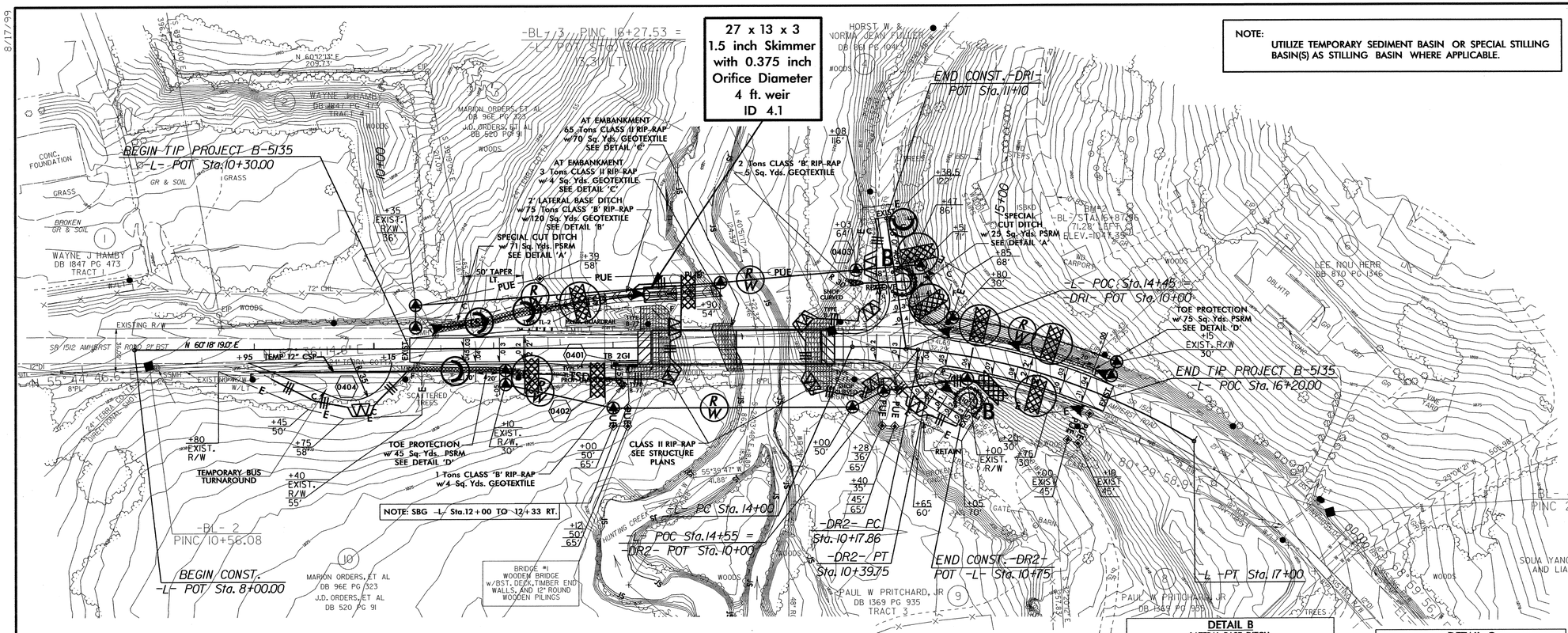
SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS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

PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-4/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.

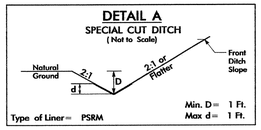
CLEARING AND GRUBBING EROSION CONTROL FOR CONSTRUCTION SHEET 4

27 x 13 x 3
1.5 inch Skimmer with 0.375 inch Orifice Diameter
4 ft. weir
ID 4.1



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

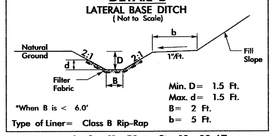
DETAIL A
SPECIAL CUT DITCH
(Not to Scale)



Type of Liner= PSRM
Min. D= 1 Ft.
Max d= 1 Ft.

–L– Sta. 10+50 to Sta. 11+50 LT.
–DR 1– Sta. 10+25 to Sta. 10+75 RT.

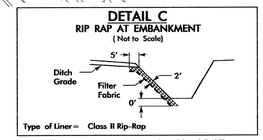
DETAIL B
LATERAL BASE DITCH
(Not to Scale)



*When B is < 6.0'
Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 2 Ft.
b= 5 Ft.
Type of Liner= Class B Rip-Rap

–L– Sta. 11+50 to Sta. 12+83 LT.
DDE = 56 Cu. Yds.

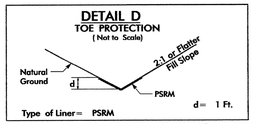
DETAIL C
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= Class II Rip-Rap

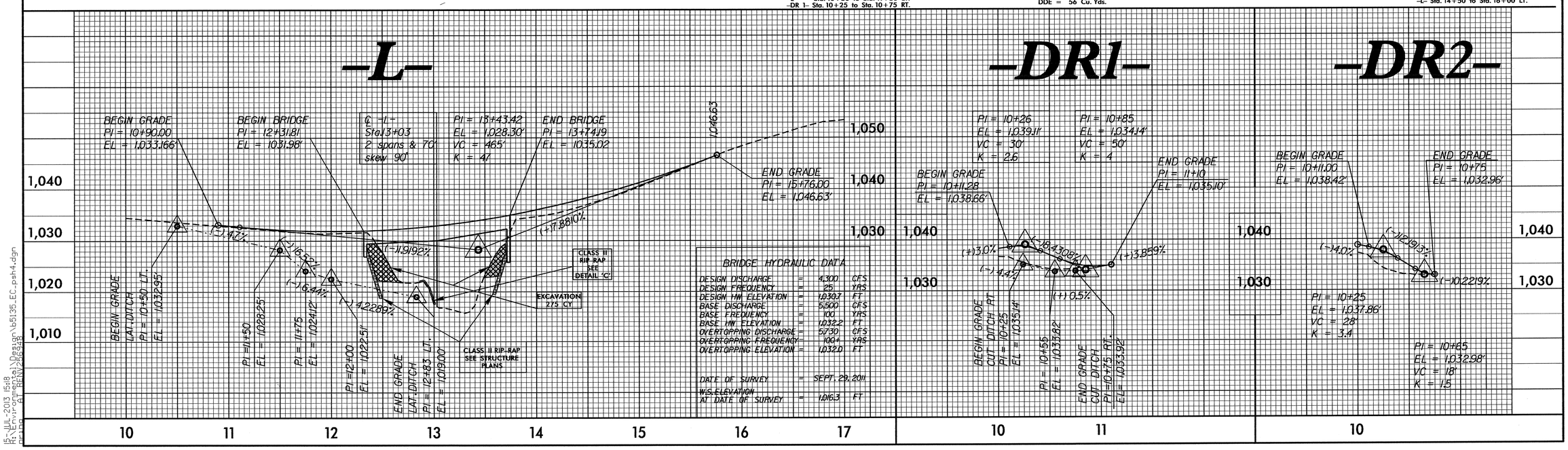
–L– Sta. 12+85 to Sta. 12+95 LT.

DETAIL D
TOE PROTECTION
(Not to Scale)



Type of Liner= PSRM
d= 1 Ft.

–L– Sta. 10+30 to Sta. 11+25 RT.
–L– Sta. 14+50 to Sta. 16+00 LT.



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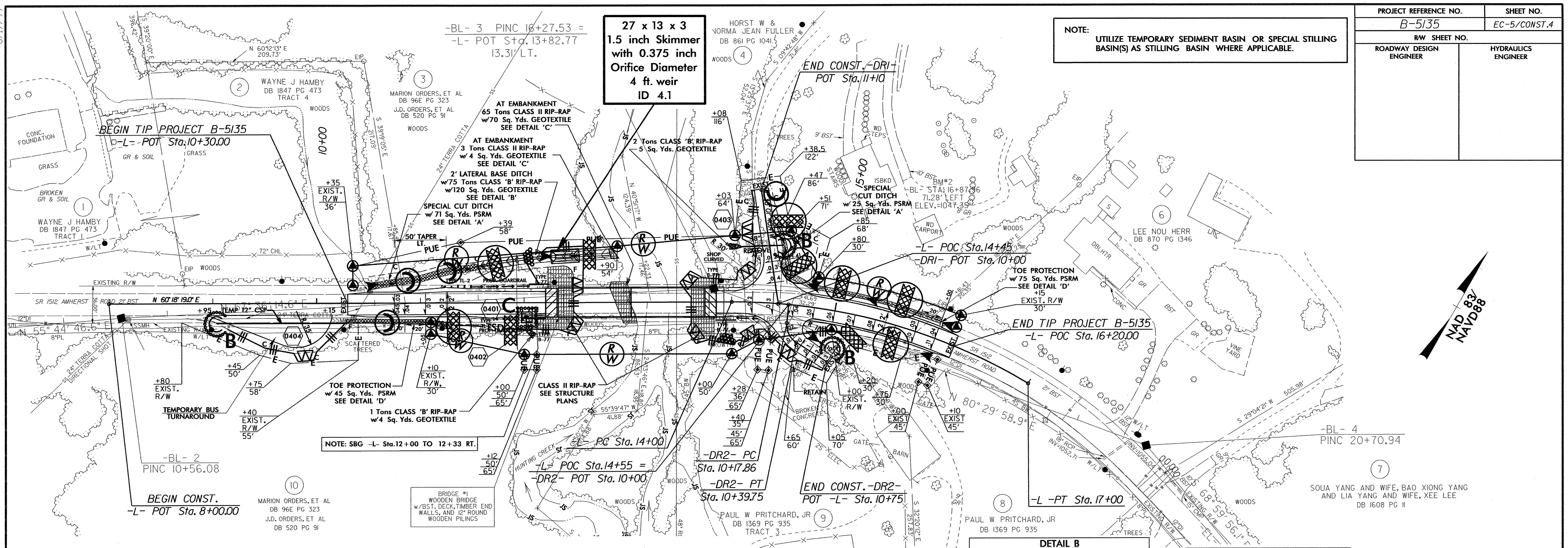
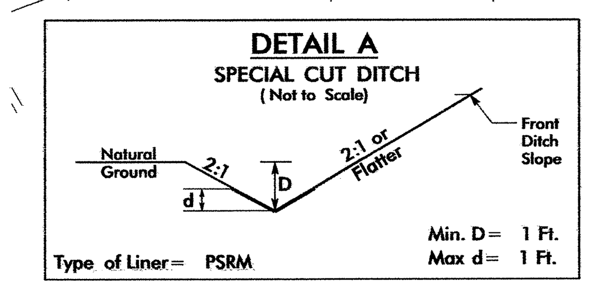
DATE(V) 2013

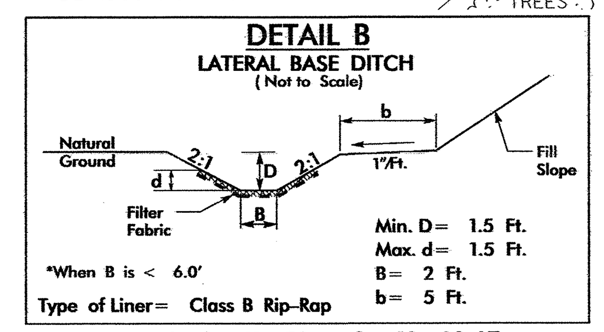
PROJECT REFERENCE NO.	SHEET NO.
B-5135	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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

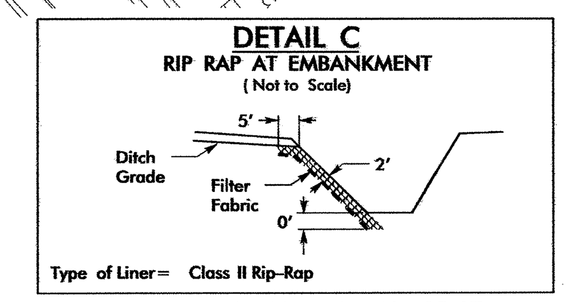




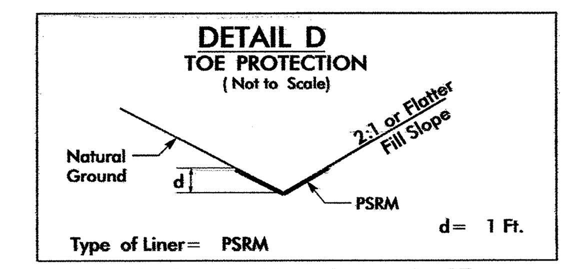
-L- Sta. 10+50 to Sta. 11+50 LT.
-DR 1- Sta. 10+25 to Sta. 10+75 RT.



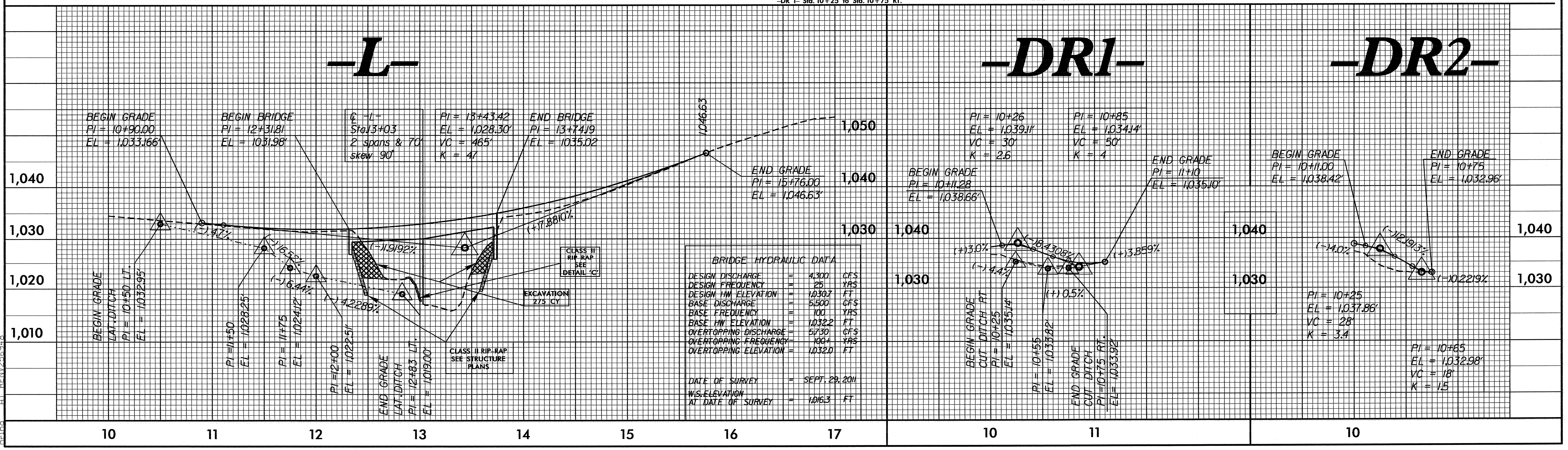
-L- Sta. 11+50 to Sta. 12+83 LT.
DDE = 56 Cu. Yds.



-L- Sta. 12+85 to Sta. 12+95 LT.



-L- Sta. 10+30 to Sta. 11+25 RT.
-L- Sta. 14+50 to Sta. 16+00 LT.



BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4,300	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1,030.7	FT
BASE DISCHARGE	=	5,500	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1,032.2	FT
OVERTOPPING DISCHARGE	=	5,730	CFS
OVERTOPPING FREQUENCY	=	100+	YRS
OVERTOPPING ELEVATION	=	1,032.0	FT
DATE OF SURVEY	=	SEPT. 29, 2011	
W.S. ELEVATION AT DATE OF SURVEY	=	1,016.3	FT

8/17/99

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T.I.P.: B-5135

CONTRACT: C203264

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

TIP NO.	SHEET NO.
B-5135	SIGN-1

APPROVED: RWK
DATE: 7/17/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

SIGNING PLAN
BURKE COUNTY

LOCATION: REPLACEMENT OF BRIDGE NO. 1 OVER HUNTING CREEK ON SR 1512

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:

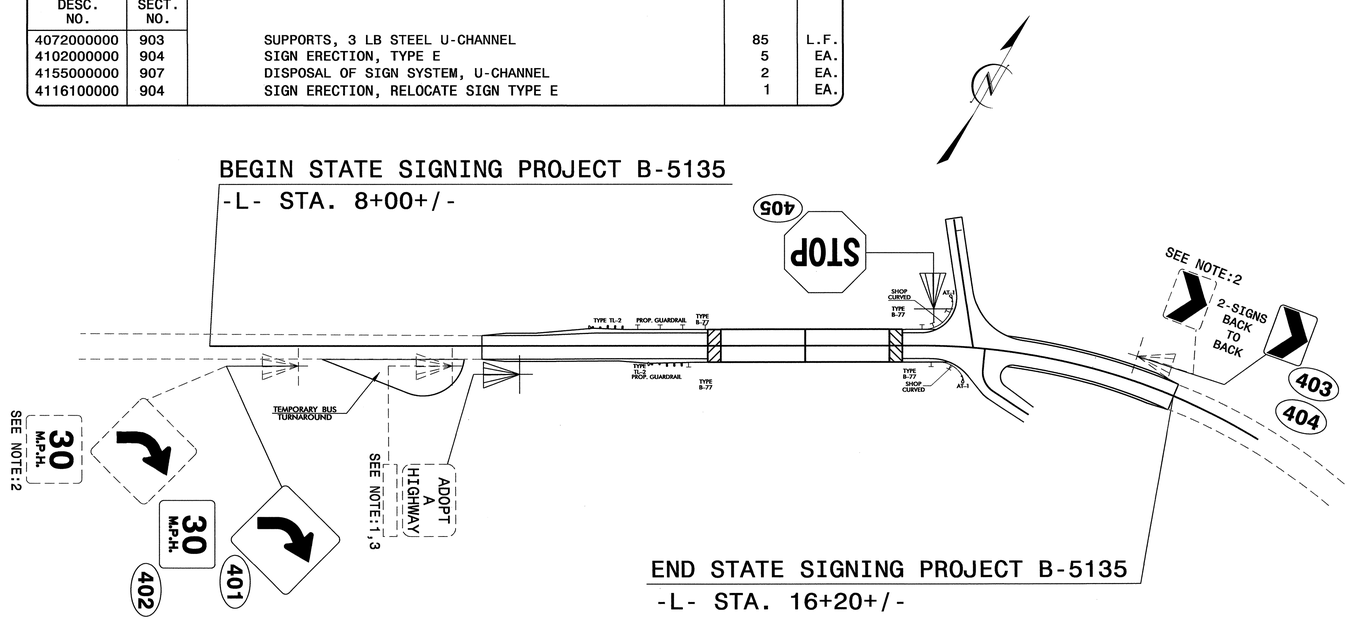
STD. NO.	TITLE
904.10	ORIENTATION OF GROUND MOUNTED SIGNS
904.50	MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

GENERAL NOTES

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

SUMMARY OF QUANTITIES

ITEM NO. DESC. NO.	ITEM NO. SECT. NO.	ITEM DESCRIPTION	QUANTITY	UNIT
4072000000	903	SUPPORTS, 3 LB STEEL U-CHANNEL	85	L.F.
4102000000	904	SIGN ERECTION, TYPE E	5	EA.
4155000000	907	DISPOSAL OF SIGN SYSTEM, U-CHANNEL	2	EA.
4116100000	904	SIGN ERECTION, RELOCATE SIGN TYPE E	1	EA.



401 QUANTITY REQ'D 1

30" X 30"
W1-2R

ONE "U" POST PER SIGN

404 QUANTITY REQ'D 1

24" X 24"
W1-8L

TWO "U" POSTS PER SIGN

402 QUANTITY REQ'D 1

24" X 24"
R13-1

TWO "U" POSTS PER SIGN

405 QUANTITY REQ'D 1

30" X 30"
R1-1

ONE "U" POST PER SIGN

403 QUANTITY REQ'D 1

24" X 24"
W1-8R

TWO "U" POSTS PER SIGN

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

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

KELVIN JORDAN SIGNING & DELINEATION REGIONAL ENGINEER

WALTER JOHNSON SIGNING & DELINEATION PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

15-JUL-2013 11:06
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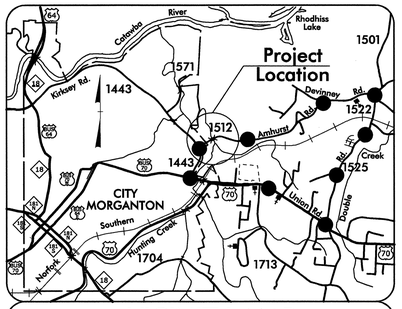
walter.johnson@ncdot.gov

TIP PROJECT: B-5135

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-5135	UO-1

UTILITIES BY OTHERS PLANS
BURKE COUNTY



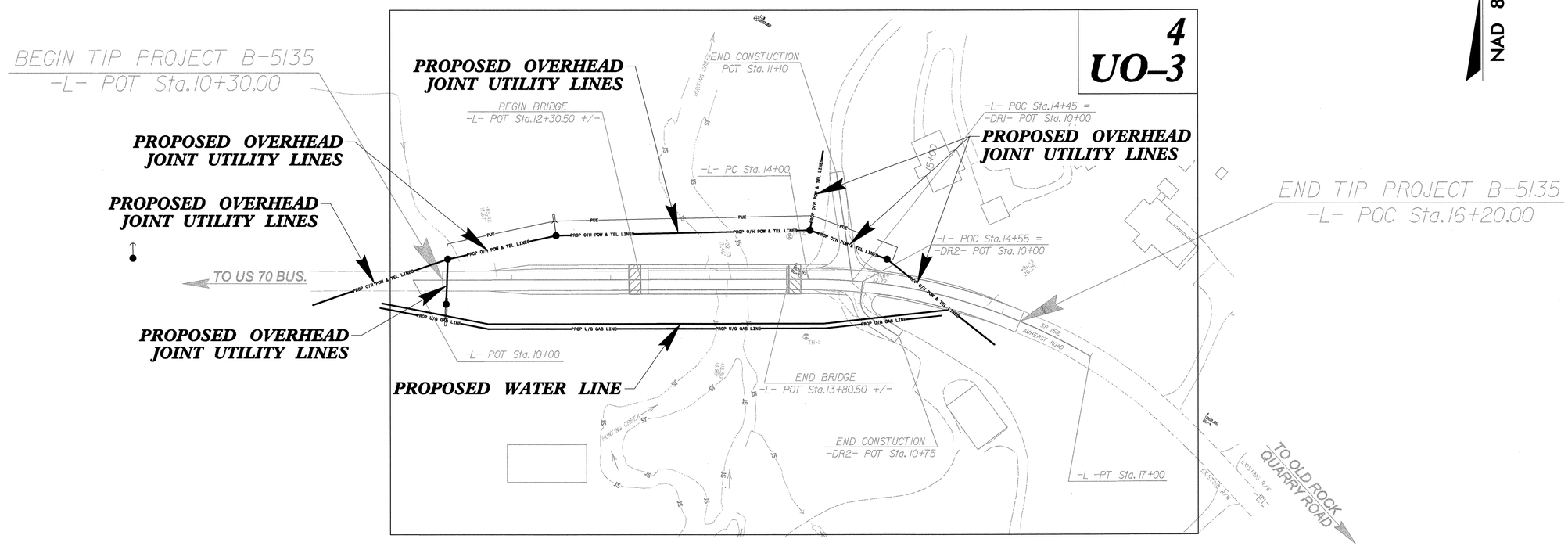
VICINITY MAP

DETOUR ROUTE

LOCATION: REPLACEMENT OF BRIDGE No. 1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK.

TYPE OF WORK: ELECTRIC POWER, TELEPHONE, NATURAL GAS

NAD 83



This project is not within any Municipal Boundaries.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY SYMBOLOGY SHEET
UO-3	UBO PLAN SHEET

PRIVATE UTILITY OWNERS ON PROJECT

(1) POWER - CITY OF MORGANTON POWER
(2) POWER - DUKE ENERGY
(3) TELECOMMUNICATIONS - AT&T
(4) GAS - PIEDMONT NATURAL GAS

HINDE ENGINEERING
License No. C-2639
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT REFERENCE NO.	SHEET NO.
B-5135	U0-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

UTILITIES BY OTHERS

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

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — RPZ
- DCV Backflow Preventer — DCV
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RDCV

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole
- Power Manhole
- Telephone Manhole
- Sanitary Sewer Manhole
- Hand Hole for Cable
- Power Transformer
- Telephone Pedestal
- CATV Pedestal
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line — ?UTL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities
- Utility Line Drawn from Record (Type as Shown) — W
- Designated Utility Line (Type as Shown)

NORTH CAROLINA
DEPT. OF TRANSPORTATION
ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

REPLACEMENT OF BRIDGE NO. 1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK

Designed By:	Checked By:	Date:	Sheet:	Of:
OTHERS	OTHERS	8-6-13	U0-2	U0-3

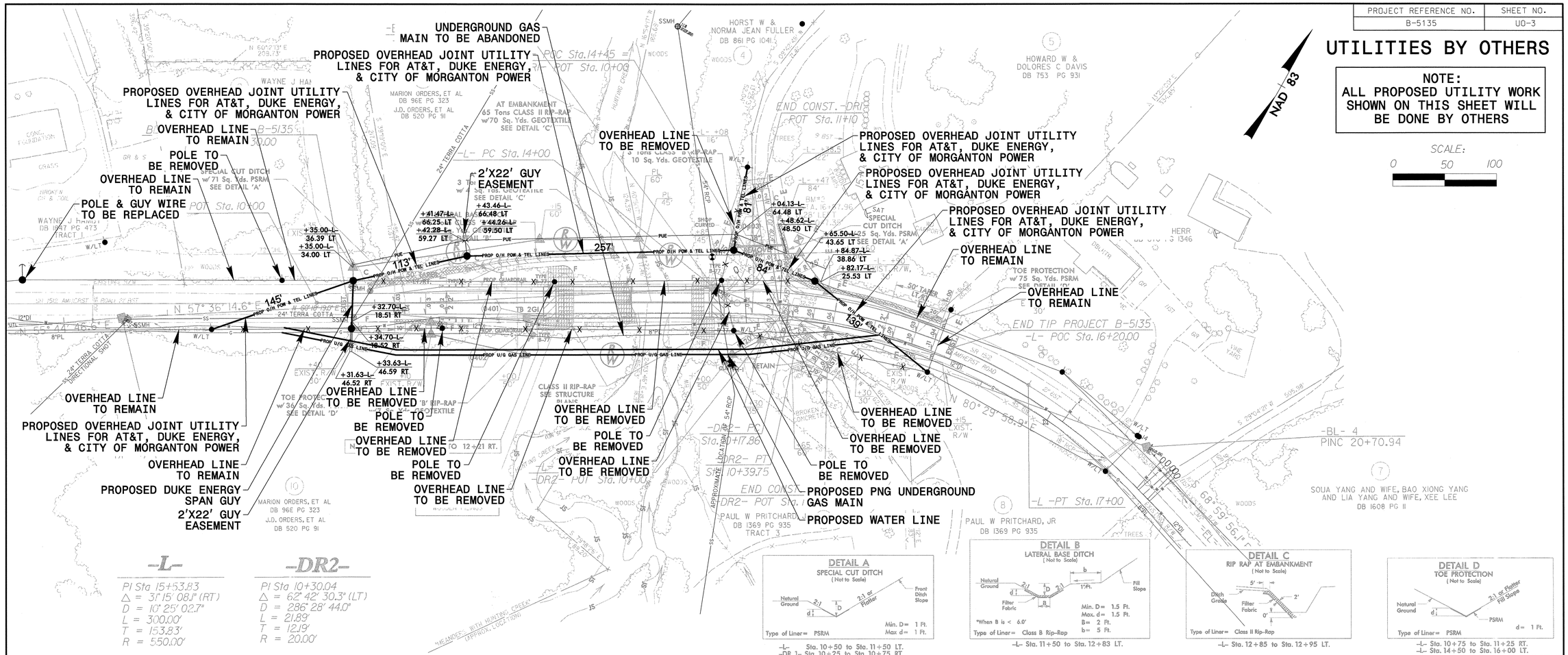
HINDE ENGINEERING
License No. C-2639
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

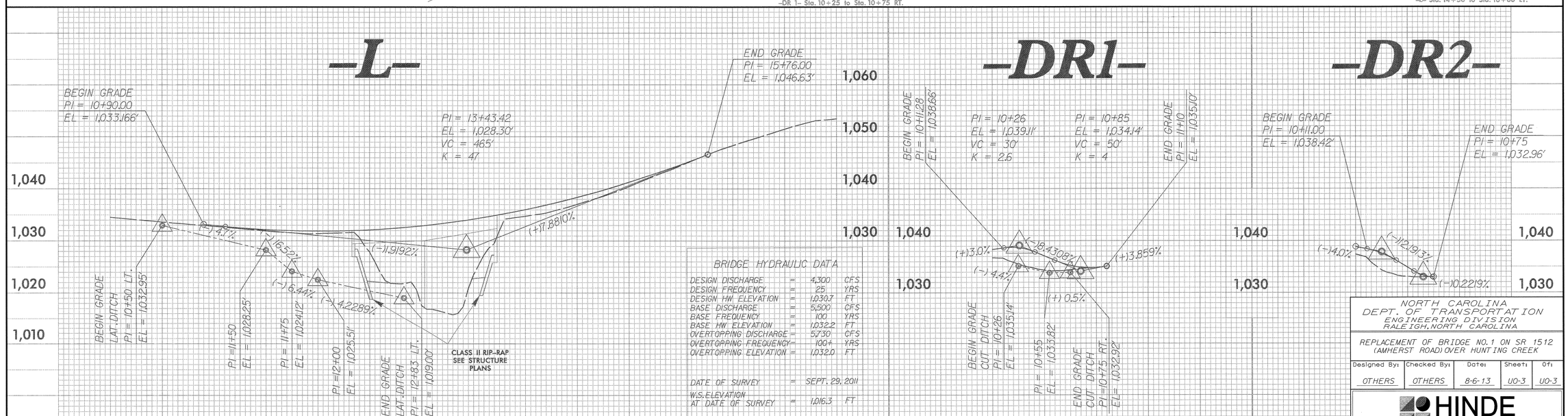
PROJECT REFERENCE NO.	SHEET NO.
B-5135	U0-3

UTILITIES BY OTHERS

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

SCALE: 0 50 100





BRIDGE HYDRAULIC DATA

DESIGN DISCHARGE	=	4,300	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	1,030.7	FT
BASE DISCHARGE	=	5,500	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	1,032.2	FT
OVERTOPPING DISCHARGE	=	5,730	CFS
OVERTOPPING FREQUENCY	=	100+	YRS
OVERTOPPING ELEVATION	=	1,032.0	FT
DATE OF SURVEY	=	SEPT. 29, 2011	
W.S. ELEVATION AT DATE OF SURVEY	=	1,016.3	FT

NORTH CAROLINA
DEPT. OF TRANSPORTATION
ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

REPLACEMENT OF BRIDGE NO. 1 ON SR 1512 (AMHERST ROAD) OVER HUNTING CREEK

Designed By:	Checked By:	Date:	Sheet:	Of:
OTHERS	OTHERS	8-6-13	U0-3	U0-3

HINDE ENGINEERING
License No. C-2639
7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227

PROJ. REFERENCE NO.	SHEET NO.
B-5135	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CROSS-SECTION SUMMARY

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

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

Station L (Temp)	Uncl. Exc. (cu. yd.)	Embt. (cu. yd.)
8+75.00	0	0
9+00.00	1	1
9+50.00	8	5
10+00.00	15	8
10+25.00	10	2

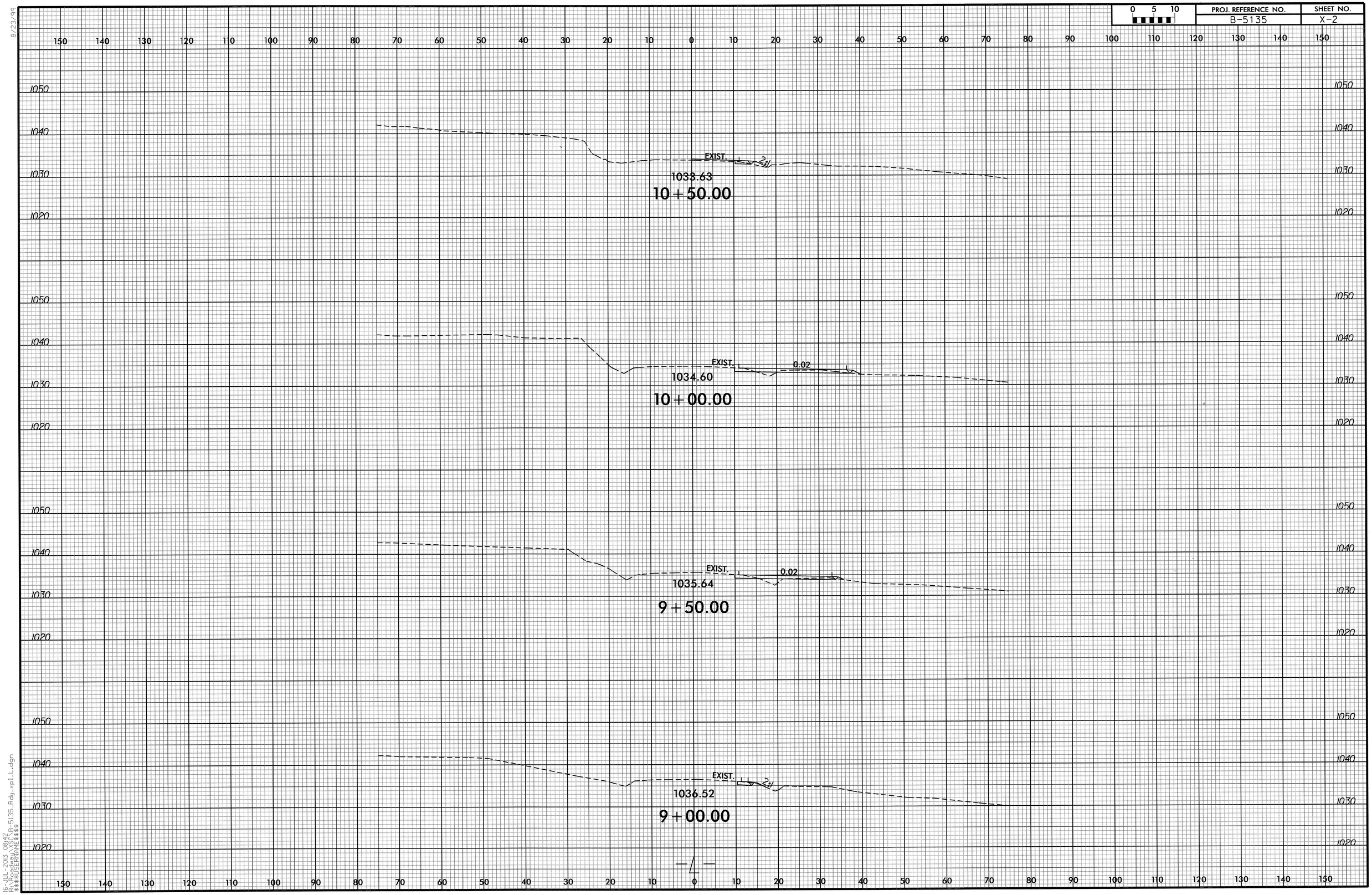
Station L	Uncl. Exc. (cu. yd.)	Embt. (cu. yd.)
10+25.00	0	0
10+50.00	0	1
10+75.00	14	3
11+00.00	31	3
11+25.00	38	3
11+50.00	35	7
11+75.00	17	24
12+00.00	6	51
12+31.81	3	30

Station L	Uncl. Exc. (cu. yd.)	Embt. (cu. yd.)
13+74.19	0	0
14+00.00	0	48
14+25.00	0	39
14+50.00	0	22
14+75.00	0	21
15+00.00	0	21
15+25.00	4	8
15+50.00	11	3
15+75.00	17	2
16+00.00	10	2
16+20.00	0	1

Station DR 1	Uncl. Exc. (cu. yd.)	Embt. (cu. yd.)
10+11.23	0	0
10+25.00	0	19
10+50.00	41	61
10+75.00	41	30
11+00.00	4	3
11+10.00	1	0

Station DR 2	Uncl. Exc. (cu. yd.)	Embt. (cu. yd.)
10+11.00	0	0
10+25.00	0	33
10+50.00	0	42
10+75.00	0	13

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-5135	X-2



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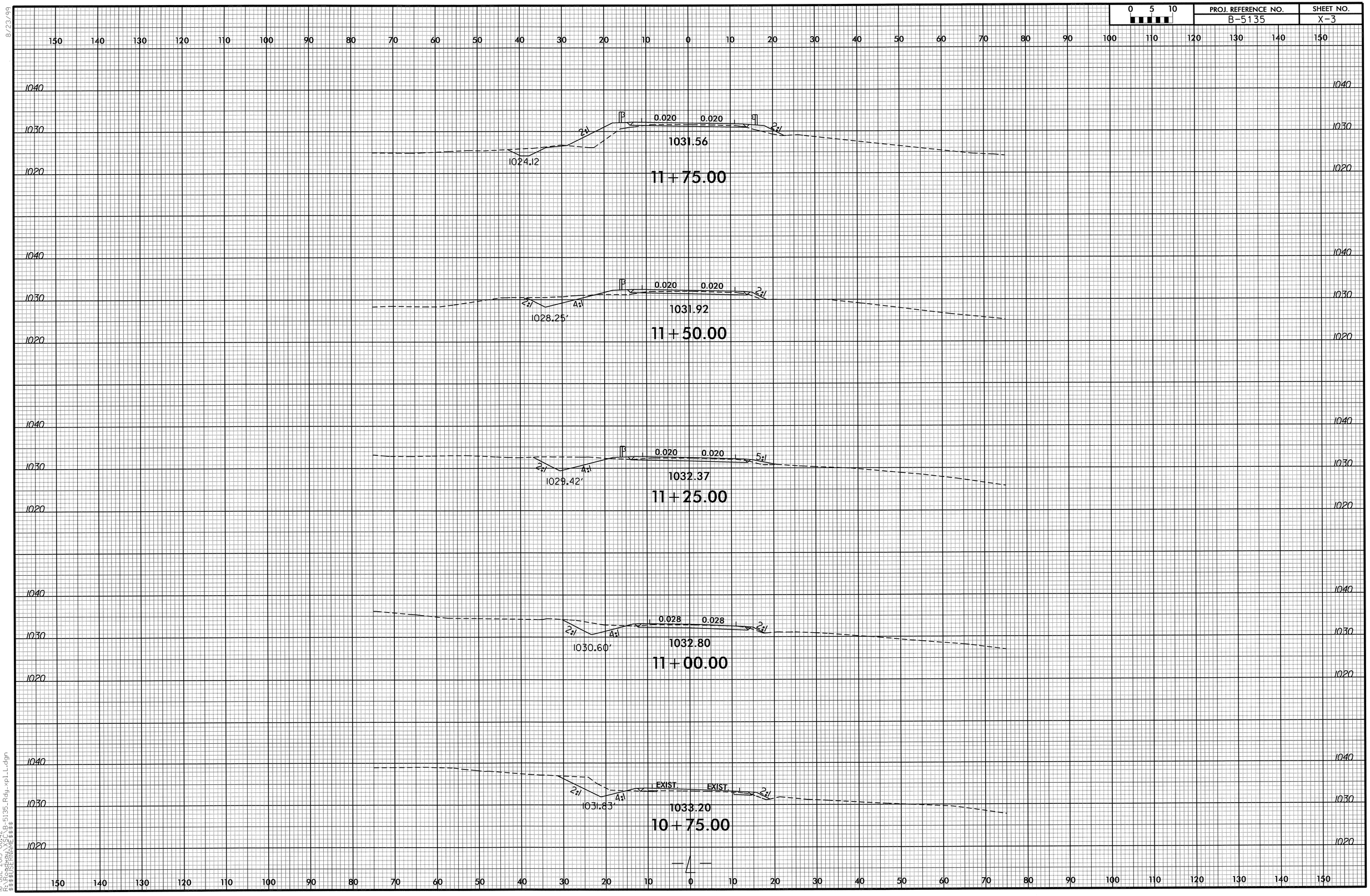
	B-5135	X-3



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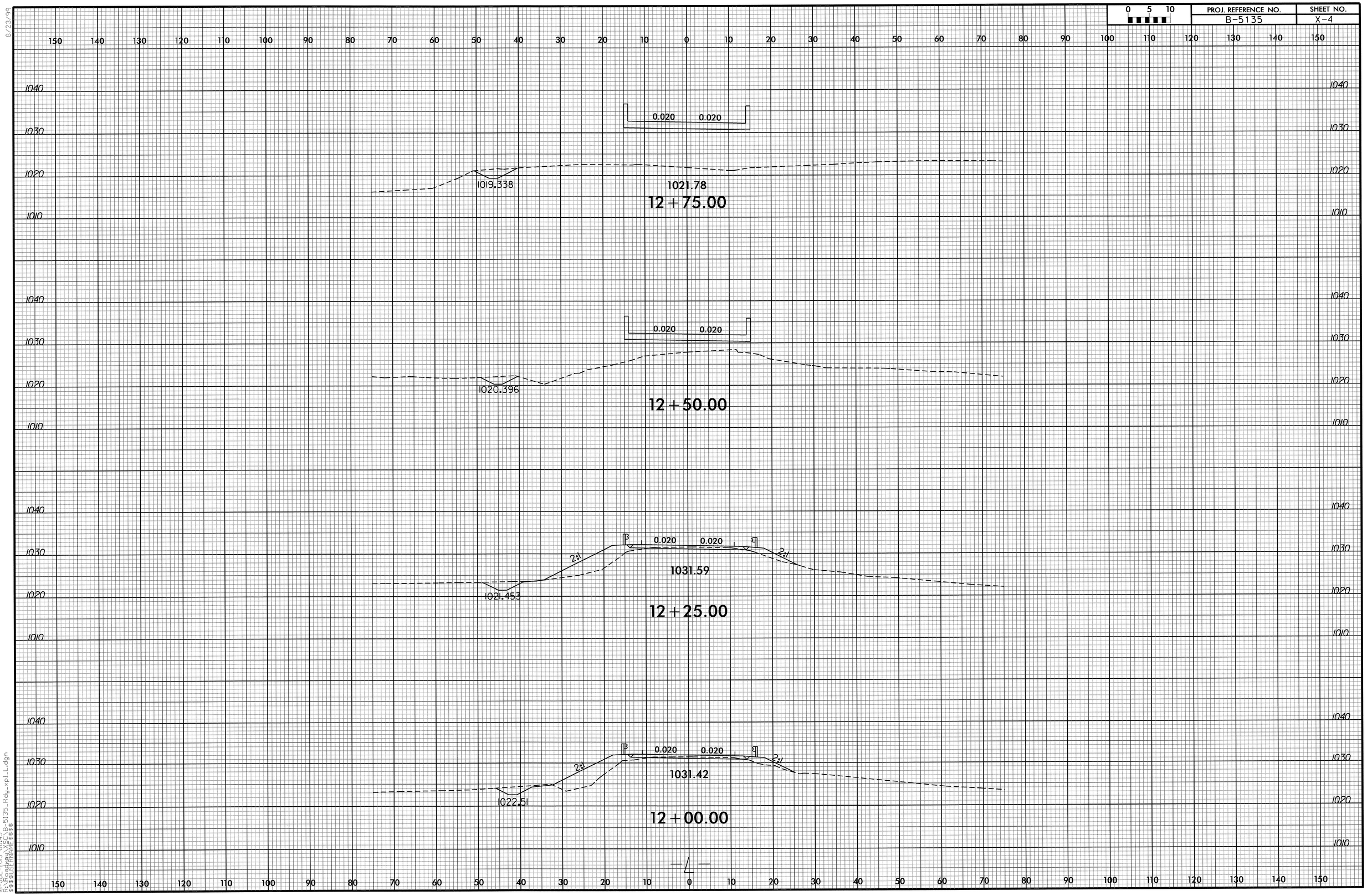
	B-5135	X-4



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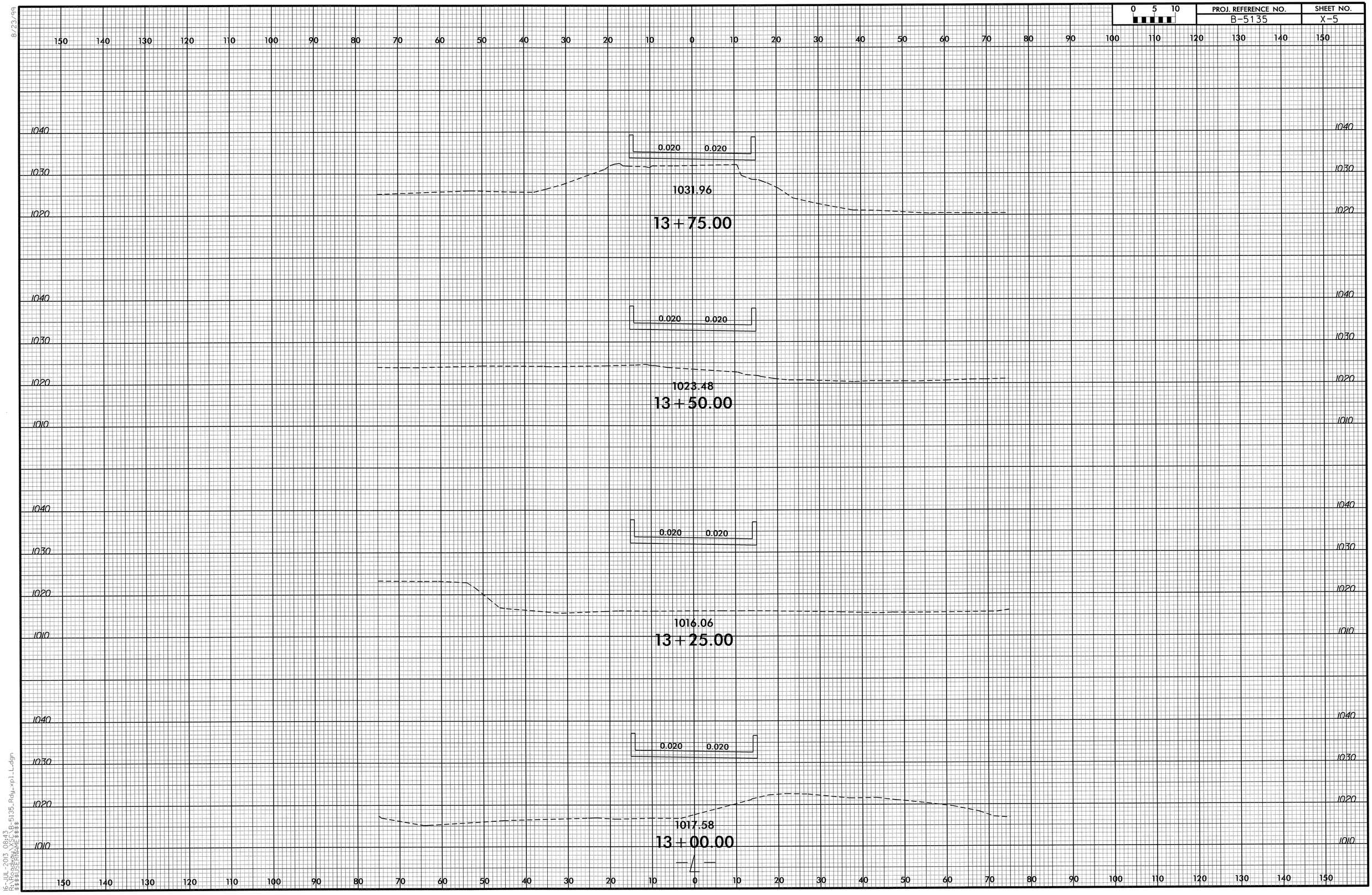

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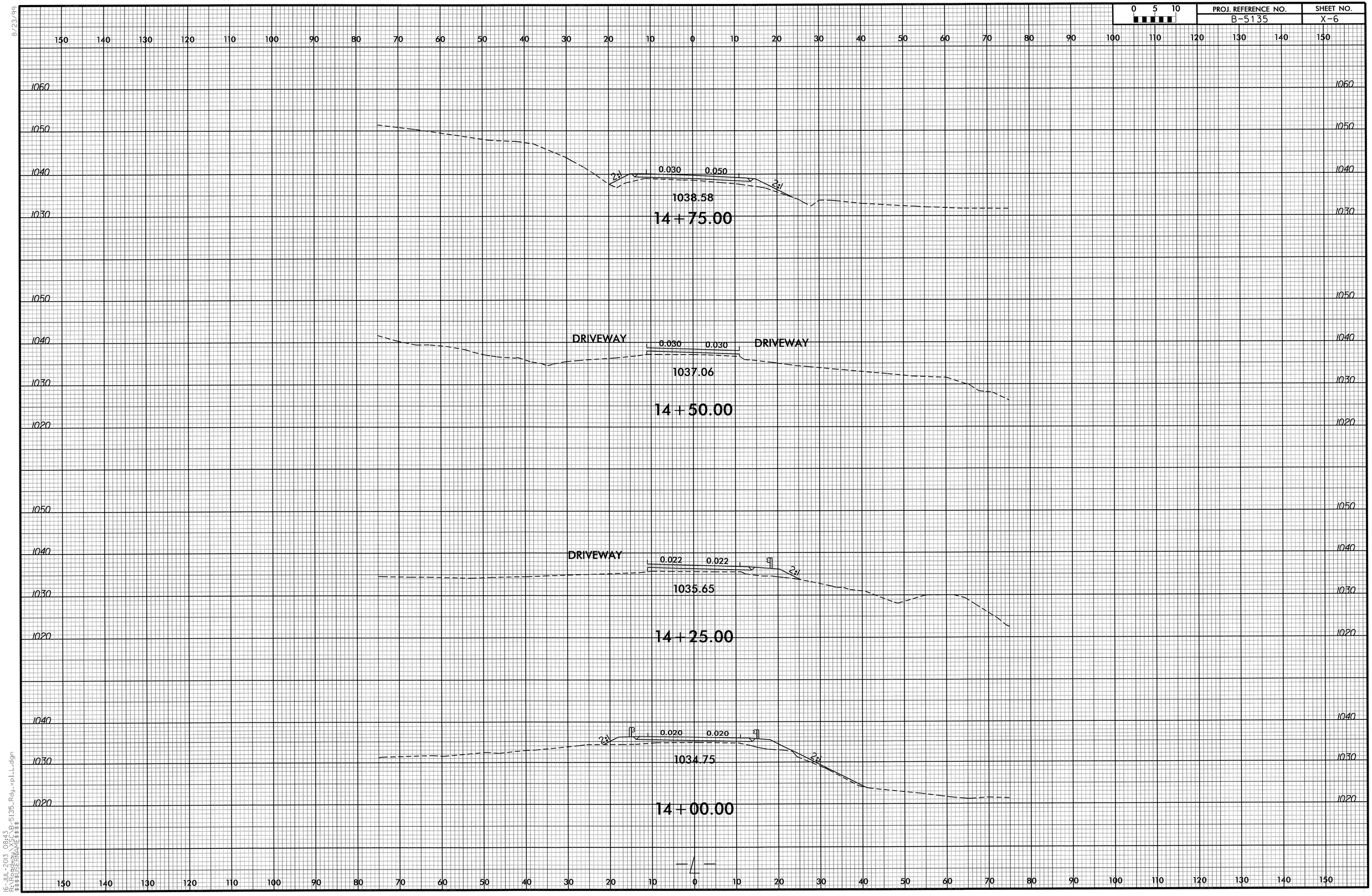

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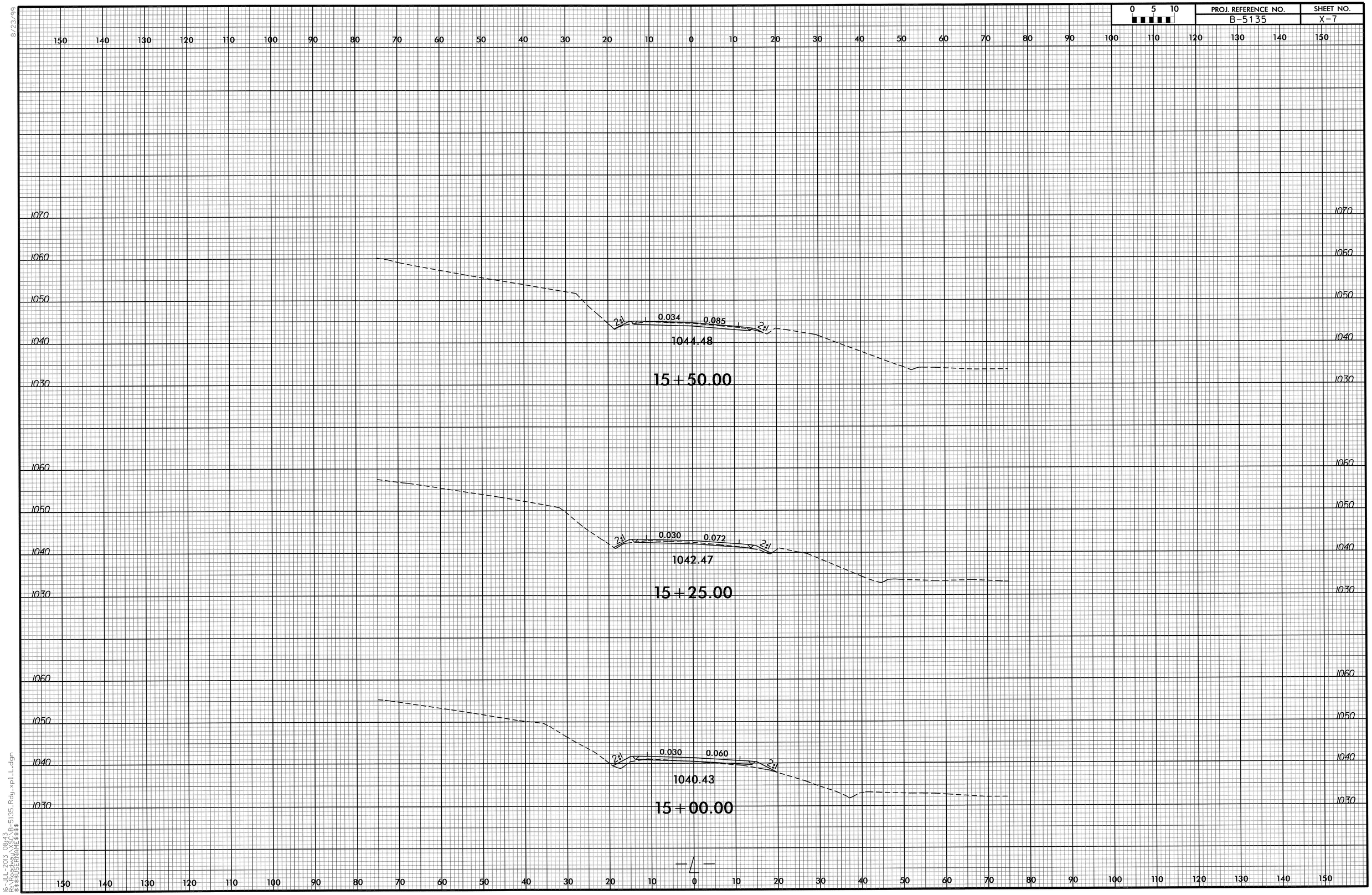

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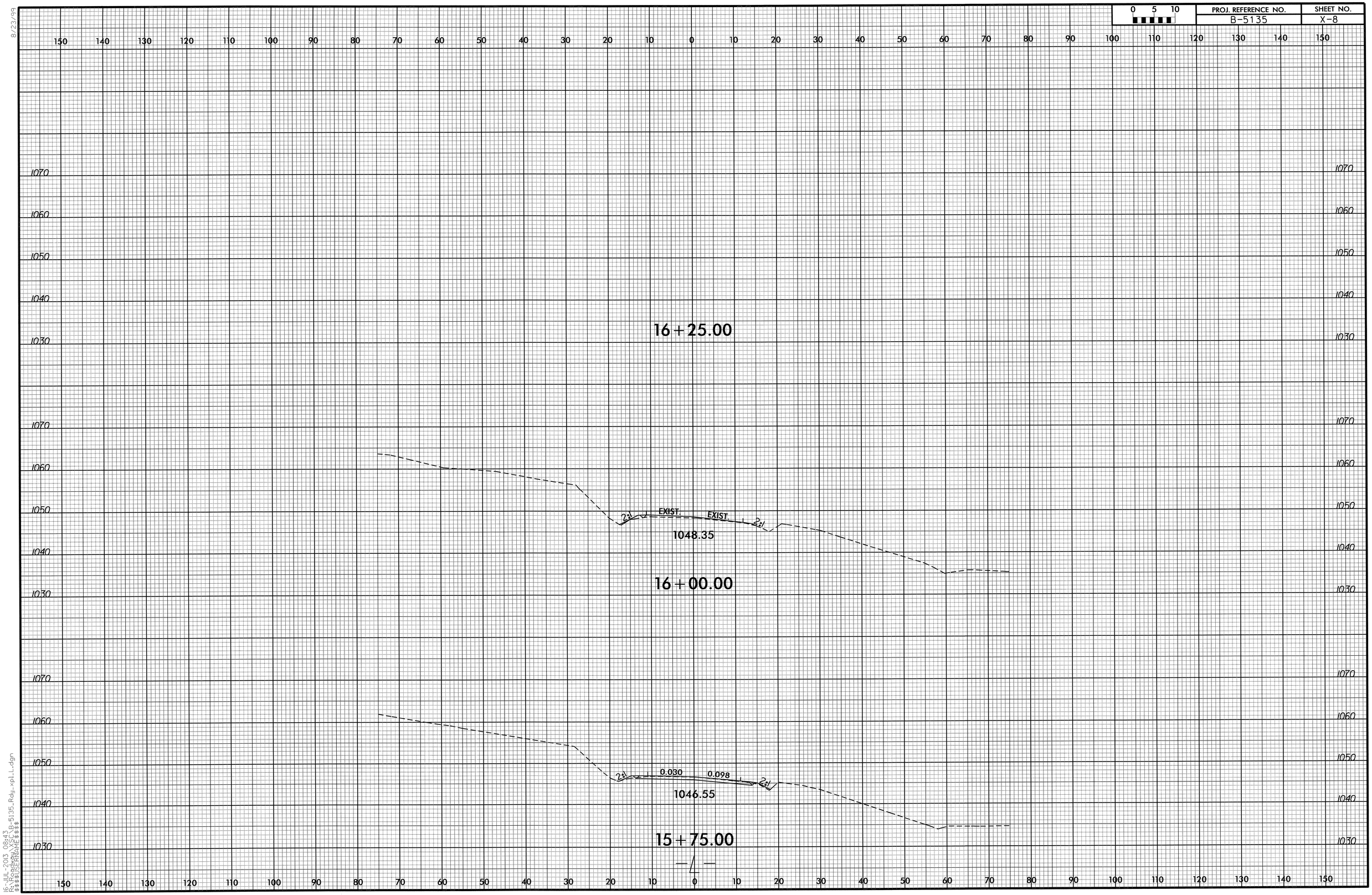

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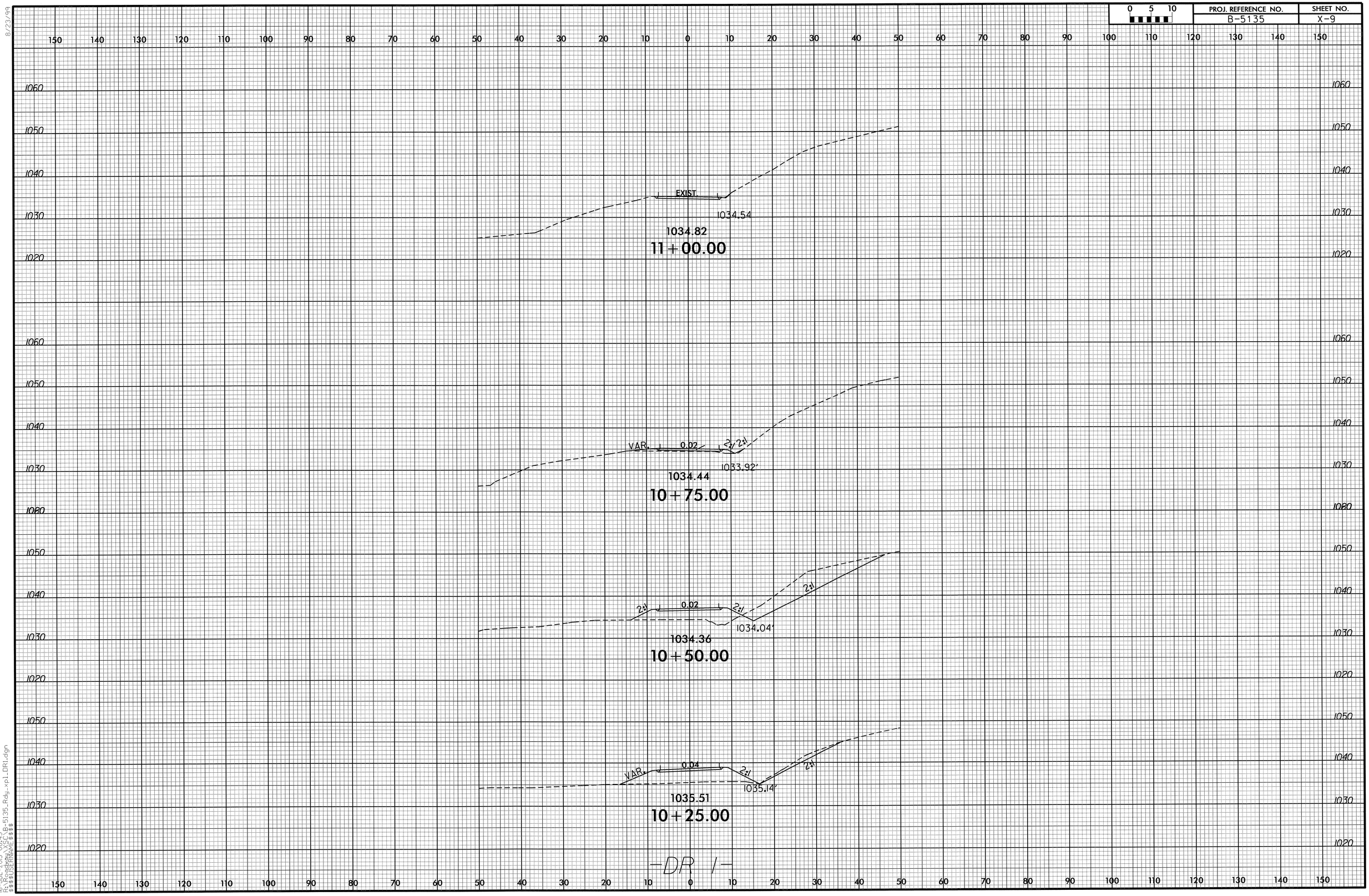

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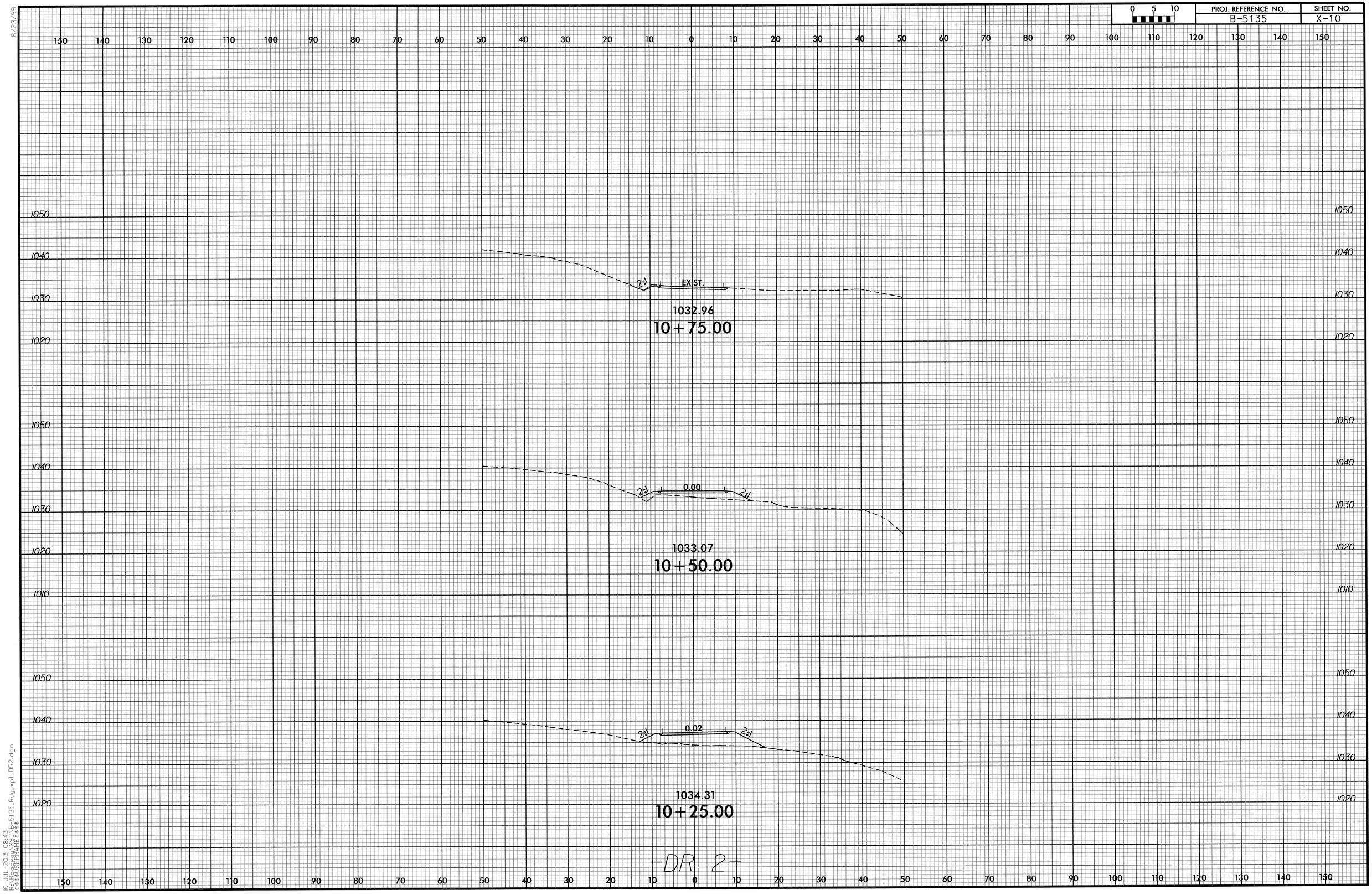

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