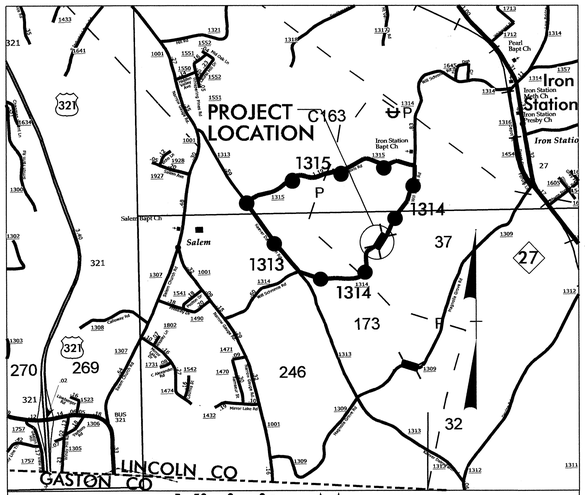
TIP PROJECT: B-5155

CONTRACT: C203356

See Sheet 1-A For Index of Sheets



Vicinity Map

OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

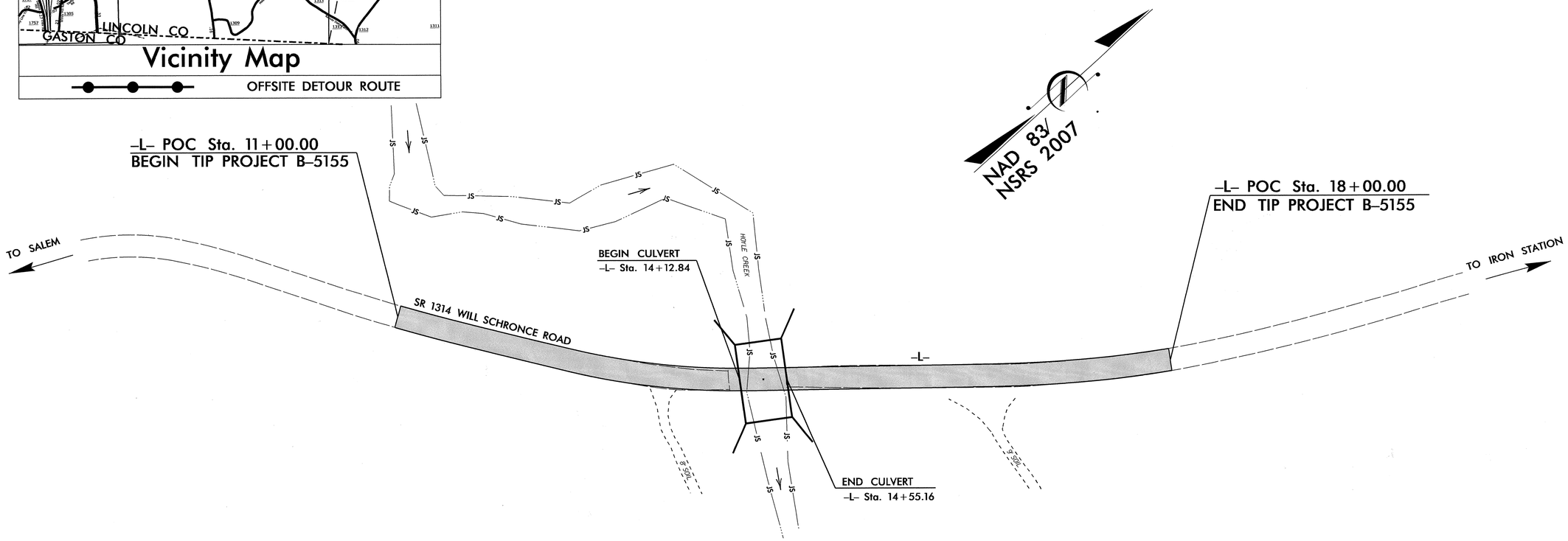
LINCOLN COUNTY

LOCATION: BRIDGE NO. 37 ON SR 1314 OVER HOYLE CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5155	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
42323.1.1	BRZ-1314(5)	PE
42323.2.1	BRZ-1314(5)	RW,UTIL
42323.3.FD1	BRZ-1314(5)	CONST.



NOTES:
TRAFFIC IS TO BE MAINTAINED WITH AN OFFSITE DETOUR.
LOW VOLUME DESIGN GUIDE USED.

GRAPHIC SCALES

50 250 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2014 = 238
ADT 2035 = 400
DHV = 12 %
D = 55 %
T = 8 % *
V = 45 MPH
* TTST =1% DUAL 7%
FUNC CLASS =
RURAL LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY F.A. PROJECT BRZ-1314(5) =	0.125
LENGTH STRUCTURE F.A. PROJECT BRZ-1314(5) =	0.008
TOTAL LENGTH STATE PROJECT 42323.1.1 =	0.133

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

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCTOBER 19, 2012

LETTING DATE:
FEBRUARY 18, 2014

JASON MOORE, PE
PROJECT ENGINEER

JEANIE TYSON
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 035724 ENGINEER BRYAN M. DICK
SIGNATURE: 12-3-13 P.E.

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 22007 ENGINEER ANDREW JASON MOORE
SIGNATURE: 11/21/13 P.E.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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09/08/99

PROJECT REFERENCE NO.	SHEET NO.
B-5155	1-A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22007 ENGINEER ANDREW JASON MOORE

12/5/13

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS. GENERAL NOTES. AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
1-C. 1-D	SURVEY CONTROL SHEETS
2	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
~~3~~	~~SUMMARY OF QUANTITIES~~
3-A	SUMMARY OF QUANTITIES: EARTHWORK. DRAINAGE. BREAKING EXISTING ASPHALT PAVEMENT EXISTING ASPHALT PAVEMENT REMOVAL
4	PLAN/PROFILE SHEET
TMP-1 THRU TMP-4	TRAFFIC CONTROL MARKING & DELINEATION PLAN
PM-1	PAVEMENT MARKING PLAN
EC-1 THRU EC-6	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITY BY OTHERS PLANS
X-1 THRU X-12	CROSS-SECTIONS
C-1 THRU C-4	CULVERT PLANS

2012 ROADWAY ENGLISH STANDARD DRAWINGS

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

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

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE. BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
876.01	Rip Rap in Channels
876.04	Drainage Ditches with Class 'B' Rip Rap

GENERAL NOTES:

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

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 III.

SUPERELEVATION:

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

SHOULDER CONSTRUCTION:

ASPHALT. EARTH. AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH

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.

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.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE

Piedmont - natural gas

RIGHT-OF-WAY MARKERS:

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

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PROJECT REFERENCE NO.	SHEET NO.
B-5155	1-B

04/16/11

Note: Not to Scale

S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

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

BUILDINGS AND OTHER CULTURE:

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

HYDROLOGY:

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

RAILROADS:

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

RIGHT OF WAY:

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

ROADS AND RELATED FEATURES:

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

VEGETATION:

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

EXISTING STRUCTURES:

MAJOR:

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

MINOR:

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

UTILITIES:

POWER:

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

TELEPHONE:

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

WATER:

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

TV:

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

GAS:

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

SANITARY SEWER:

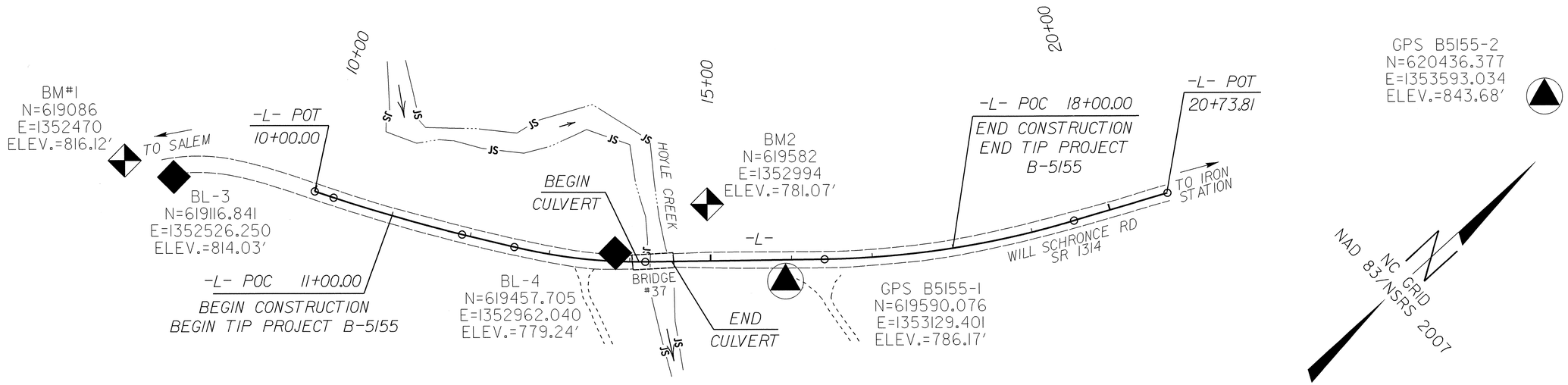
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

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

PROJECT REFERENCE NO.	SHEET NO.
B-5155	1C
Location and Surveys	

SURVEY CONTROL SHEET B-5155



BENCHMARKS (NAVD88)
****
BM#1 ELEVATION = 816.12'
N 619086 E 1352470
BM#1 TO L STATION 10+00
N 51°29'20" E DIST 238'
CHISELED "X" IN NORTH END OF 18" CONC
PIPE
****
****
BM#2 ELEVATION = 781.07'
N 619582 E 1352994
L STATION 14+97 70' LEFT
RR SPIKE IN NORTHERNMOST ROOT OF 24" OAK
****

BL

POINT	DESC.	NORTH	EAST	ELEVATION	L STATION	OFFSET
3	BL-3	619116.8413	1352526.2504	814.03	OUTSIDE PROJECT LIMITS	
4	BL-4	619457.7054	1352962.0395	779.24	13+81.46	10.46 LT
1	GPS B5155-1	619590.0760	1353129.4010	786.17	15+92.07	26.35 RT
2	GPS B5155-2	620436.3770	1353593.0340	843.68	OUTSIDE PROJECT LIMITS	

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5155-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 619590.076(ft) EASTING: 1353129.401(ft)
ELEVATION: 786.17(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984300
THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"B5155-1" TO -L- STATION 10+00.00 IS
S 53°00'14.5" W 591.93'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

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

THE FILES TO BE FOUND ARE AS FOLLOWS:
B5155_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.

NOTE: DRAWING NOT TO SCALE

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PROJECT REFERENCE NO.	SHEET NO.
B-5155	1D
Location and Surveys	

SURVEY CONTROL SHEET B-5155
FINAL

ROW MARKER IRON PIN AND CAP-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+83.00	-65.00	619497.0860	1352924.2847
L	13+83.00	-29.01	619471.8085	1352949.9073
L	14+00.00	70.00	619415.8526	1353033.4371
L	14+00.00	60.00	619422.6870	1353026.1370
L	14+67.00	-60.00	619553.4428	1352981.8956
L	14+67.00	-65.00	619556.7514	1352978.1469
L	14+80.00	70.00	619477.1650	1353087.9649
L	14+80.00	60.00	619483.7822	1353080.4675

ROW MARKER PERMANENT EASEMENT-E

ALIGN	STATION	OFFSET	NORTH	EAST
L	13+20.00	54.25	619367.1461	1352958.9585
L	13+20.00	30.61	619385.2927	1352943.8205
L	13+83.00	-85.00	619511.1319	1352910.0470
L	14+00.00	80.00	619409.0182	1353040.7371
L	14+67.00	-85.00	619569.9859	1352963.1520
L	16+46.84	-29.36	619667.8926	1353123.7579

DESIGN ALIGNMENT

L

TYPE	STATION	NORTH	EAST
POT	10+00.00	619233.8763	1352656.6388
PC	10+24.46	619245.9093	1352677.9395
PT	11+89.57	619332.9527	1352818.1759
PC	12+55.99	619370.2788	1352873.1153
PT	14+19.07	619477.8074	1352995.1669
PC	16+40.71	619643.9770	1353141.8285
PT	19+53.47	619903.5568	1353314.5574
POT	20+73.81	620011.8587	1353367.0275

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B5155-1"
WITH NAD 83/NSRS 2007 STATE PLANE GRID COORDINATES OF
NORTHING: 619590.076(ft) EASTING: 1353129.401(ft)
ELEVATION: 786.17(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99984300
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B5155-1" TO -L- STATION 10+00.00 IS
S 53°00'14.5" W 591.93'
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NOTES:

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

   THE FILES TO BE FOUND ARE AS FOLLOWS:
   B5155_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.

NOTE: DRAWING NOT TO SCALE

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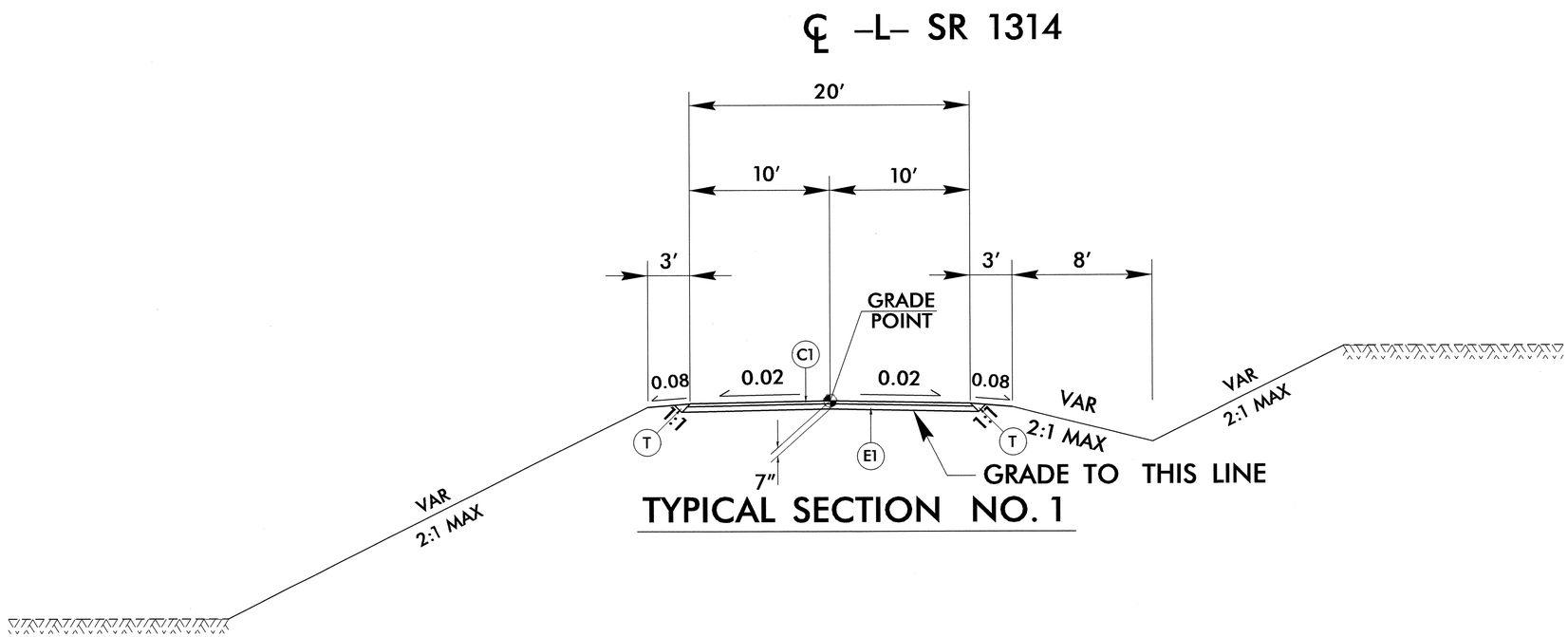
PROJECT REFERENCE NO.	SHEET NO.
B-5155	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22007 ENGINEER ANDREW JASON MOORE 11/21/13

NORTH CAROLINA PROFESSIONAL SEAL 22883 ENGINEER CLARK S. MORRISON 11/22/13

C1	PROP. APPROX. 2.5" ASPHALT CONCRETE SURFACE COURSE, TYPE SF9.5A, AT AN AVERAGE RATE OF 137.5 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
E1	PROP. APPROX. 4.5" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 513 LBS. PER SQ. YD.
T	EARTH MATERIAL.

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



TYPICAL SECTION NO. 1

USE TYPICAL SECTION NO. 1 AS FOLLOWS

-L- STA. 11+00.00 TO STA. 18+00.00

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COMPUTED BY: SEC DATE: 10/4/13
CHECKED BY: TO DATE: 11/6/13

PROJECT NO.	SHEET NO.
B-5155	3-A

RD261649

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

Volumes in Cubic Yards

Station	Station	Uncl. Excav.	Embank. +%	Borrow	Waste
11+00	18+00	224	3,268	3,044	
SUBTOTALS:		224	3,268	3,044	
TOTAL:		224	3,268	3,044	
PROJECT TOTAL:		224	3,268	3,044	
EST. 5% TO REPLACE TOP SOIL ON BORROW PIT				152	
GRAND TOTAL:		224	3,268	3,196	
SAY:		**300**		**3,300**	

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.

EST. DRAINAGE DITCH EXCAVATION	140	CY
SHALLOW UNDERCUT CONTINGENCY	100	CY
CONTINGENCY UNDERCUT	150	CY
CLASS IV SUBGRADE STABILIZATION	200	TON

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

PAVEMENT REMOVAL SUMMARY

IN SQUARE YARDS

SURVEY LINE	Station	Station	LOCATION LT/RT/CL	ASPHALT REMOVAL	ASPHALT BREAKUP
-L-	11+00	12+75	CL	387.86	
-L-	13+52	14+02	CL	102.93	
-L-	14+54	15+04	CL	100.12	
-L-	16+00	18+00	CL	443.59	
-L-	12+75	13+52	CL		171.00
-L-	15+04	16+00	CL		214.06
		TOTAL:		1034.50	385.06
		SAY:		1050	390

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 / SIZE / THICKNESS OR GAUGE	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 12"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
13+27	RT	0401	OUT		780.33	768.45													
TOTAL																			
SAY																			

STATION	C.S. PIPE 12" .064	15" .064	18" .064	24" .064	30" .079	36" .079	42" .109	48" .109	R.C. PIPE CLASS III 12"	15"	18"	24"	30"	36"	42"	48"	R.C. PIPE CLASS IV 12"	15"	18"	24"	30"	36"	42"	48"
13+27			116																					
TOTAL			116																					
SAY			116																					

STATION	** " R.C. PIPE (CLASS V)	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	***" RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YARDS 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+27																
TOTAL																
SAY																

STATION	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 GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32					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+27																		25	
TOTAL																		25	
SAY																		25	

ABBREVIATIONS

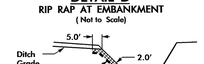
C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

PROJECT REFERENCE NO.	SHEET NO.
B-5155	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 22007 ENGINEER ANDREW JASON MOORE 12/13

NORTH CAROLINA PROFESSIONAL SEAL 035724 ENGINEER BRYAN M. DICK 12/13/13

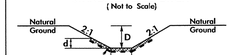
DETAIL D
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= 3 TONS,CL II Rip-Rap
Filter Fabric= 10sy

FROM STA. 14+40 LT TO STA.14+55 LT

DETAIL B
STANDARD BASE DITCH
(Not to Scale)

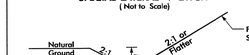


Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 2.0 Ft.
*When B is < 6.0'

Type of Liner= CLASS B RIP RAP

FROM STA 14+40 TO STA 15+25 -L- LT

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



Min. D=1Ft.
Max. d=1Ft.

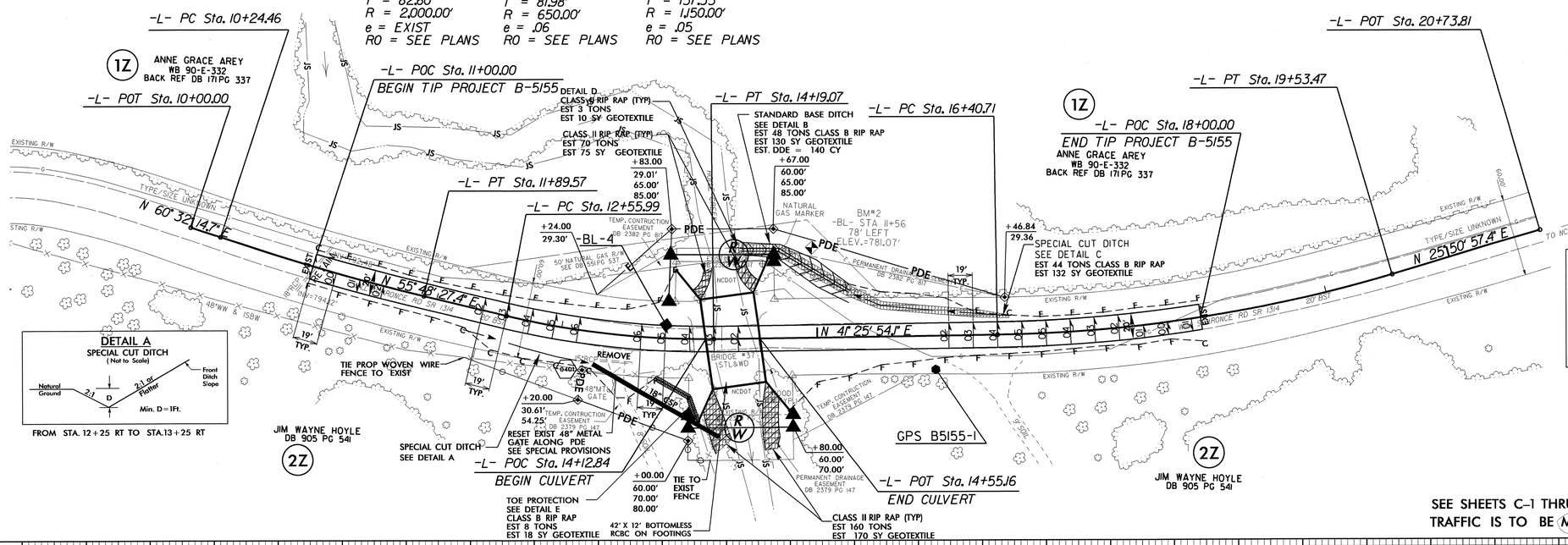
Type of Liner= CLASS B Rip-Rap

FROM STA. 15+25 LT TO STA. 16+50 LT

NAD 83/NSRS 2007

-L-

PI Sta 11+07.06	PI Sta 13+37.96	PI Sta 17+98.06
Δ = 4° 43' 47.2" (LT)	Δ = 14° 22' 33.3" (LT)	Δ = 15° 34' 56.7" (LT)
D = 2° 51' 53.2"	D = 8° 48' 53.0"	D = 4° 58' 56.1"
L = 165.10'	L = 163.09'	L = 312.76'
T = 82.60'	T = 81.98'	T = 157.35'
R = 2,000.00'	R = 650.00'	R = 1,150.00'
e = EXIST	e = .06	e = .05
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS

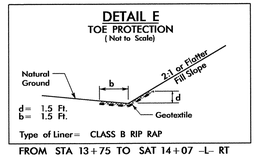


DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D=1Ft.

FROM STA. 12+25 RT TO STA.13+25 RT

DETAIL E
TOE PROTECTION
(Not to Scale)

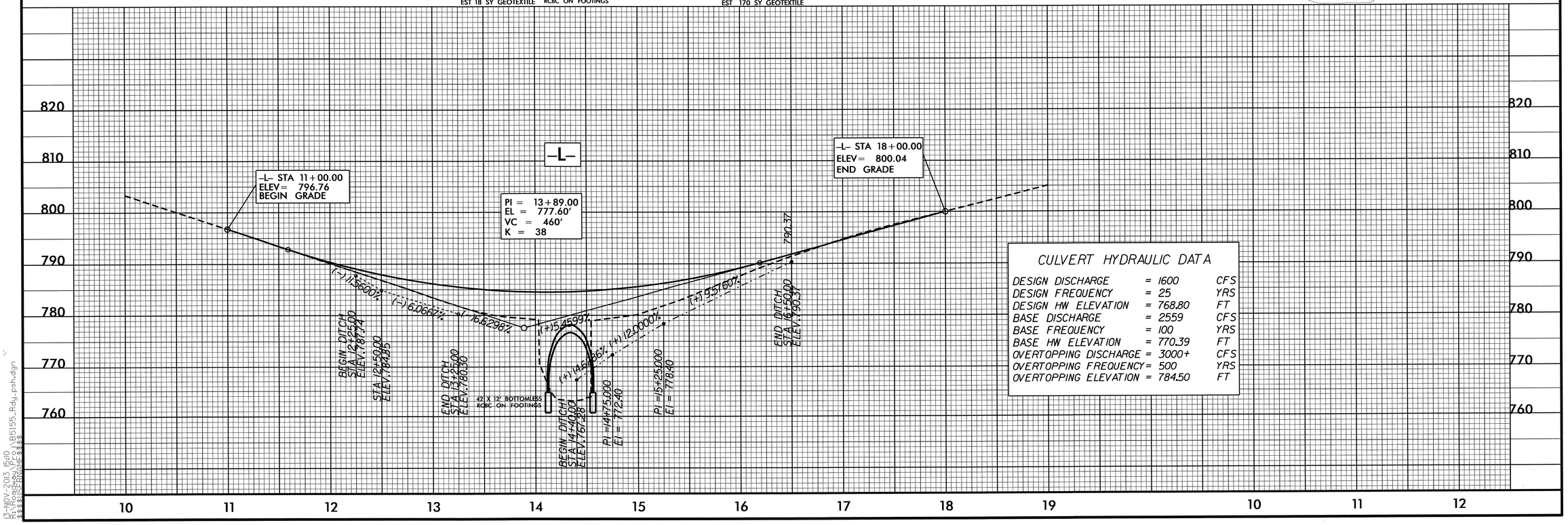


d= 1.5 Ft.
b= 1.5 Ft.

Type of Liner= CLASS B RIP RAP

FROM STA 13+75 TO SAT 14+07 -L- RT

SEE SHEETS C-1 THRU C-4 FOR CULVERT DESIGN
TRAFFIC IS TO BE MEAINTAINED ON AN OFFSITE DETOUR



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 768.80	FT
BASE DISCHARGE	= 2559	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 770.39	FT
OVERTOPPING DISCHARGE	= 3000+	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 784.50	FT

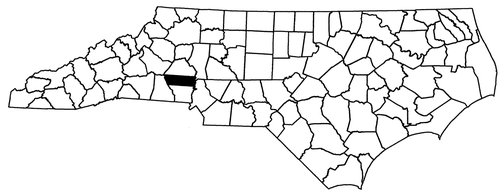
8/17/99

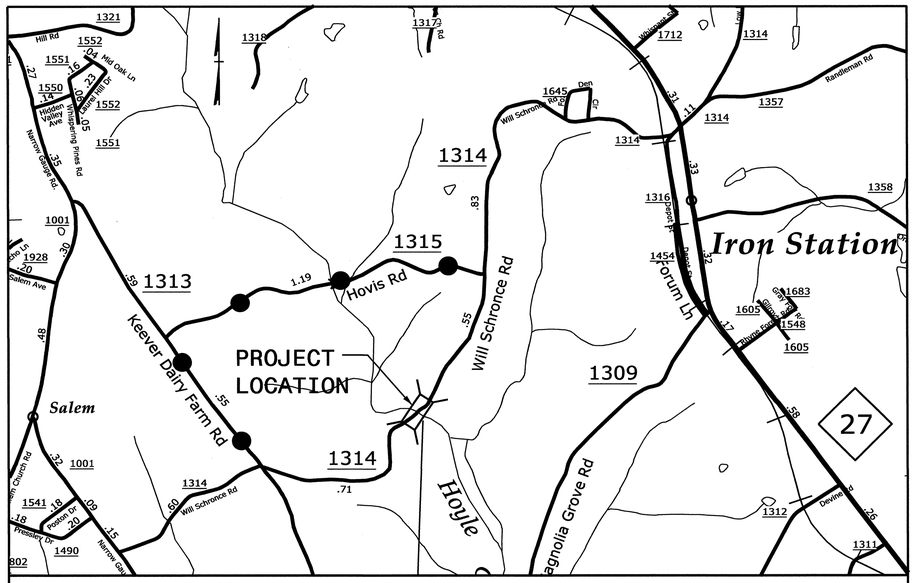
13-NOV-2013 15:10
R:\Roadway\Proj\B5155_Rdy_psh.dgn
$$$$USERNAME$$$$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

LINCOLN COUNTY





VICINITY MAP

INDEX OF SHEETS

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

SHEET NO.
TMP-1

B-5155

TIP PROJECT:

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

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

J. S. BOURNE, P.E. — *STATE TRAFFIC MANAGEMENT ENGINEER*
G. L. GETTIER, P.E. — *TRAFFIC CONTROL PROJECT ENGINEER*
J. W. GILSTRAP — *TRAFFIC CONTROL PROJECT DESIGN ENGINEER*
KEN BROADWELL — *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 8973 ENGINEER G. L. GETTIER
1JUL13

16-JUL-2013 14:58
\\dot\ats-ODIN-Pro1\TIPProjects-B\B5155\Traffic\TrafficControl\TCP\TMP-1.dgn
kbroadwell AT TE26604

PROJ. REFERENCE NO.	SHEET NO.
B-5155	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
1101.03	TEMPORARY ROAD 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
1145.01	BARRICADES - TYPE III
1150.01	FLAGGING DEVICES

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

12/6/13

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

ROADWAY STANDARD DRAWINGS, LEGEND AND PAVEMENT MARKING SCHEDULE

12-DEC-2013 07:21
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kbroadwell AT TE266004

PROJ. REFERENCE NO.	SHEET NO.
B-5155	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

TRAFFIC SHALL BE DETOURED OFFSITE DURING THE CONSTRUCTION PERIOD.

THE OFFSITE DETOUR SHALL INCLUDE SR 1313 AND SR 1315 (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.

TRAFFIC PATTERN ALTERATIONS

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

SIGNING

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

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

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

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

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

TRAFFIC CONTROL DEVICES

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

APPROVED: _____ DATE: _____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIES

5/14/13

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

TRANSPORTATION OPERATIONS & GENERAL NOTES

12-DEC-2013 07:22
k:\dot\ddsroq10\Proj\TIPProjects-B\B5155\Traffic\TrafficControl\TCP\TMP-1.dgn
kbroadwell AT TE266004

PROJ. REFERENCE NO.	SHEET NO.
B-5155	TMP-2

SIGN NUMBER: SP13091
TYPE: STATIONARY
QUANTITY: SEE PLANS

SIGN WIDTH: 4'-0"
HEIGHT: 1'-6"
TOTAL AREA: 6.0 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

DESIGN BY: DB
PROJECT ID: B-5155
CHECKED BY: KJ
DIV: 12
DATE: Apr 10, 2013

USE NOTES: 1,2

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

Spacing Factor is 0.7

LETTER POSITIONS

Letter spacings are to start of next letter

																										Series/Size Text Length
		W	I	L	L		S	C	H	R	O	N	C	E												C 2000
	3.4	4.3	1.5	3	2.6	3	3.3	3.5	3.6	3.3	3.6	3.5	3.5	2.6	3.4											41.3
		R	O	A	D																					C 2000
	17.4	3.3	3.4	3.7	2.8	17.4																				13.2

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 G. L. GETTIER

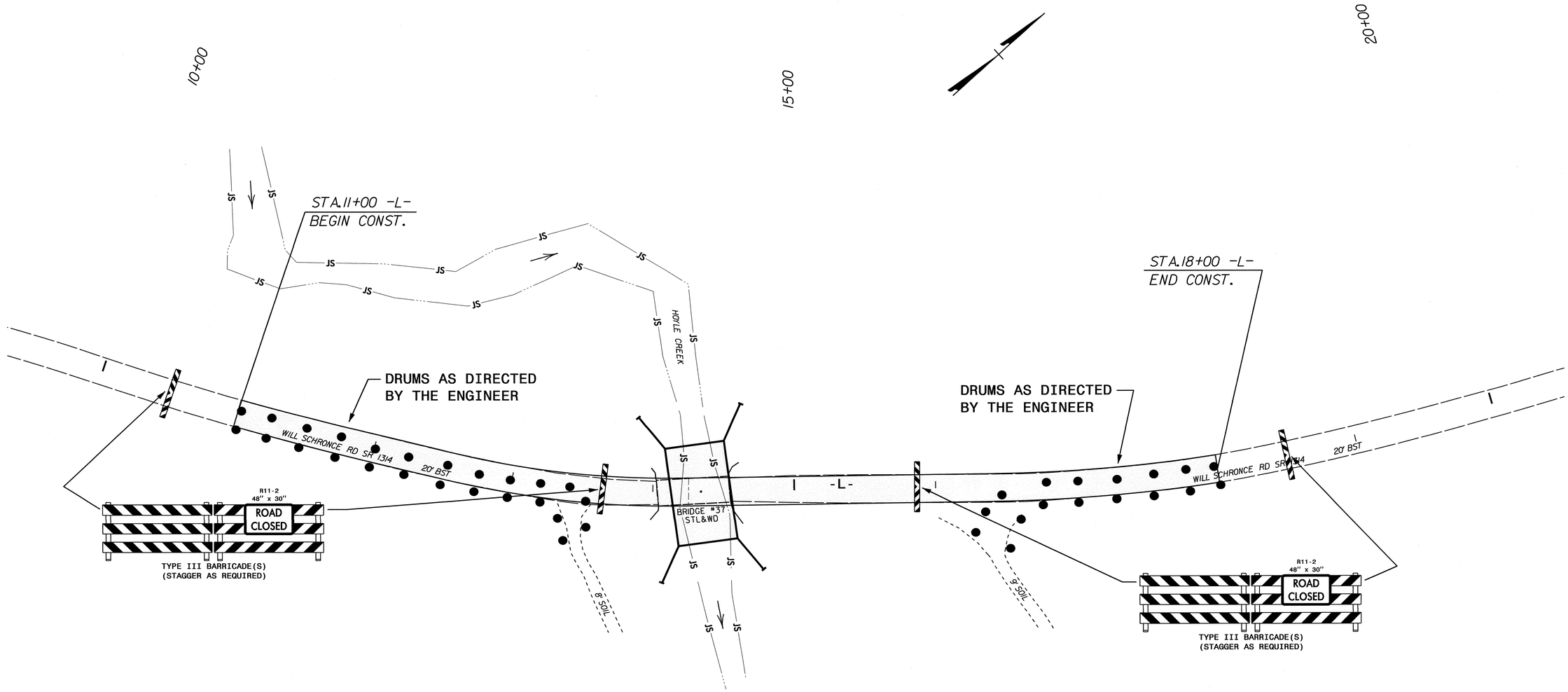
17 Jul-13

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

SPECIAL SIGN DESIGN

16-JUL-2013 15:01
\\dot\dfsroot01\Proj\TIPProjects-B\B5155\Traffic\TrafficControl\TCP\TMP-1.dgn
kbroadwell AT TE26604

PROJ. REFERENCE NO.	SHEET NO.
B-5155	TMP-3



PHASING

STEP 1: - INSTALL OFF-SITE DETOUR ROUTE SIGN ASSEMBLIES FOR THE CLOSING OF SR 1314 (WILL SCHRONCE 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 1314 (WILL SCHRONCE RD., -L-) TO THRU TRAFFIC.

- INSTALL TYPE III BARRICADES TO MAINTAIN ACCESS TO DRIVEWAYS.

STEP 2: - AWAY FROM TRAFFIC REMOVE THE EXISTING STRUCTURE AND CONSTRUCT THE PROPOSED STRUCTURE AND ROADWAY UP TO AND INCLUDING THE FINAL LAYER OF PAVEMENT ON SR 1314 (WILL SCHRONCE RD. -L-). SEE CONSTRUCTION PLANS.

- USE DRUMS TO MAINTAIN ACCESS TO DRIVEWAYS DURING CONSTRUCTION.

- INSTALL PAVEMENT MARKINGS PER THE FINAL PAVEMENT MARKING PLANS.

STEP 3: - REMOVE ALL TRAFFIC CONTROL DEVICES, SIGNING AND DETOUR ROUTE SIGNING.

- OPEN TO FINAL TRAFFIC PATTERN.

APPROVED: _____ DATE: _____

SEAL

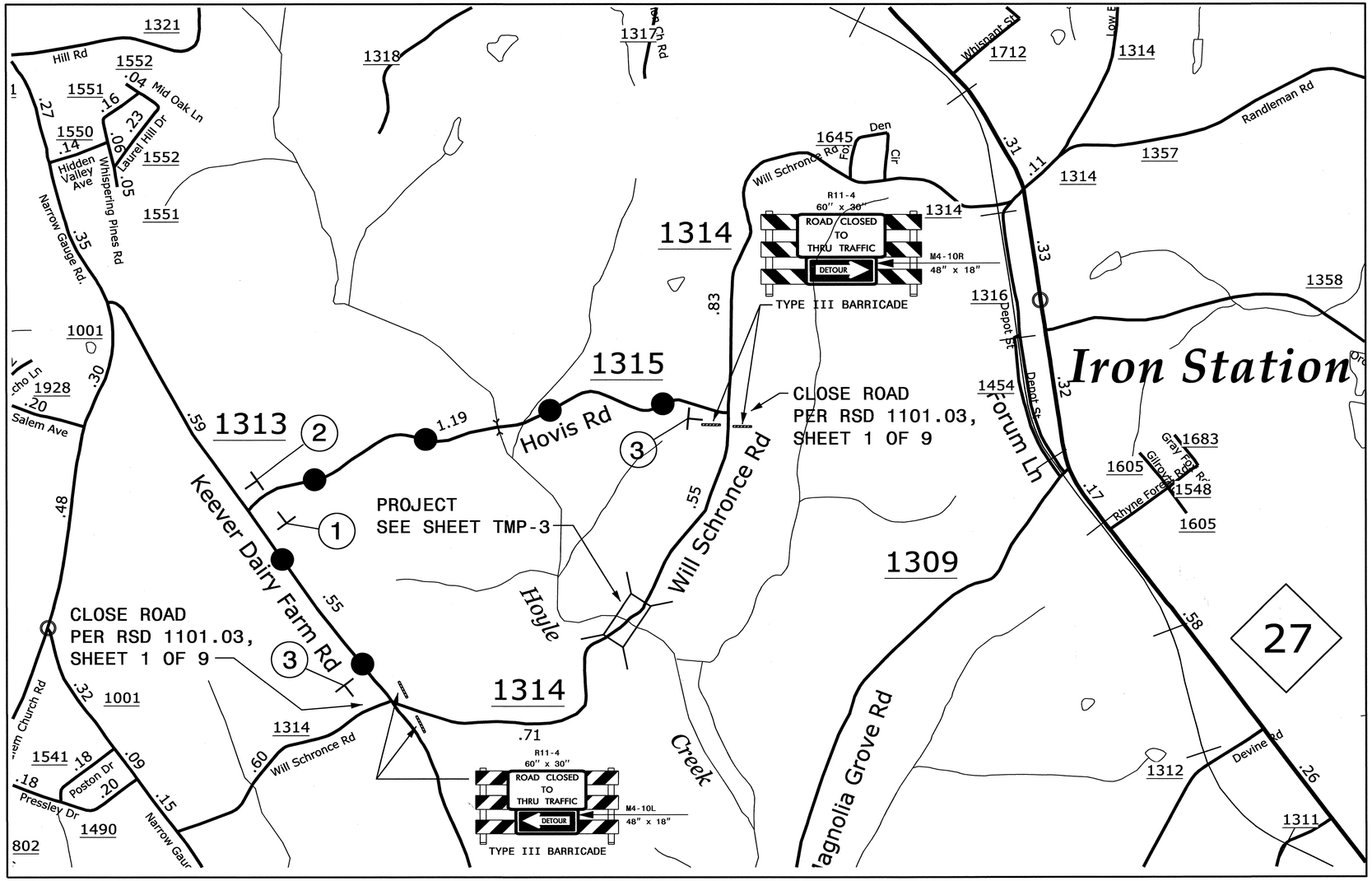
NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTIES 2/12/13

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

PLAN DETAILS
AND PHASING

12-DEC-2013 07:25
\\dot\dfs\root\DIV\Proj\TIPProjects-B\B5155\Traffic\TrafficControl\TCP\TMP-Plan.dgn
kbrodswell AT TE26004

PROJ. REFERENCE NO.	SHEET NO.
B-5155	TMP-4



WILL SCHRONCE ROAD *

DETOUR M4-8 24" X 12"

M6-1 21" X 15"

1

END DETOUR M4-8 A 24" X 18"

3

WILL SCHRONCE ROAD *

DETOUR M4-8 24" X 12"

M6-1 L 21" X 15"

2

NOTES

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

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 8973 ENGINEER G. L. GETTER 17JUL13

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

DETOUR ROUTE

17-JUL-2013 06:45
\\dot\dfsroot0\Proj\TIPProjects-B\B5155\Traffic\TrafficControl\TCP\TMP-1.dgn
kbroadwell AT TE266004

TIP NO.	SHEET NO.
B-5155	PMP-1

APPROVED: RDW
DATE: 12/5/13

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 022959 ENGINEER RONALD W. KING

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
LINCOLN COUNTY
LOCATION: REPLACE BRIDGE 37 OVER HOYLE CREEK ON SR 1314

T.I.P.: B-5155

CONTRACT: C203356

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

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	FINAL PAVEMENT MARKINGS
		PAINT(4")
PA	WHITE EDGELINE (2X)	
PI	YELLOW DOUBLE CENTER (2X)	

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 1X IMPLIES A SINGLE APPLICATION, 2X IMPLIES TWO APPLICATIONS, AND 3X IMPLIES THREE APPLICATIONS.

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:

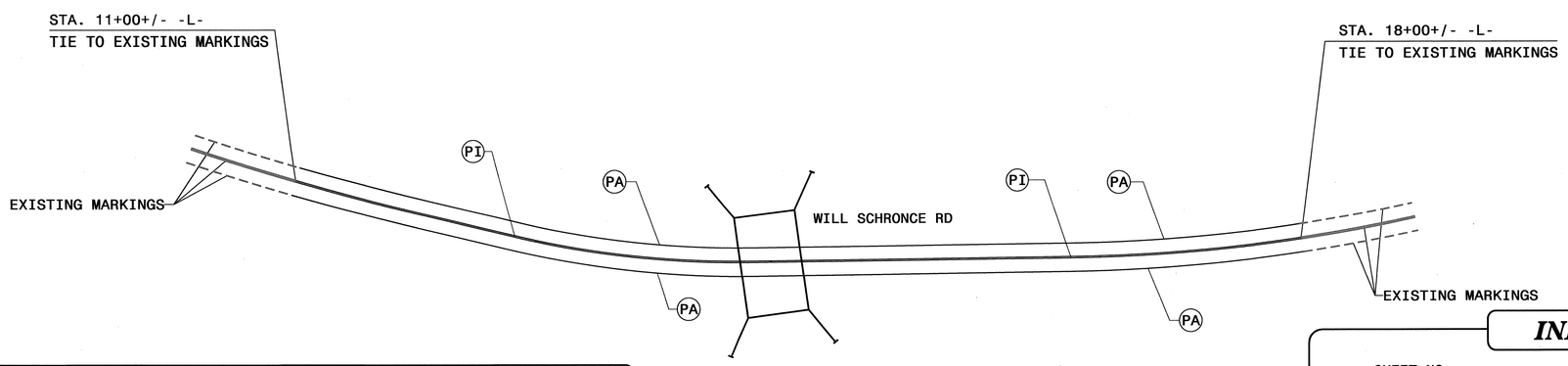
ROAD NAME	MARKING	MARKER
-L-	PAINT	NONE

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.



INDEX

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

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

K. L. JORDAN — SIGNING & DELINEATION REGIONAL ENGINEER

J. G. MARTINEZ — SIGNING & DELINEATION PROJECT DESIGN ENGINEER/TECHNICIAN

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

05-DEC-2013 10:56
R:\Projects\B5155\Traffic\Signing\CADD\Signing Layout Plans\B-5155 PMP.dgn
jgonzalez AT TE274401

TIP PROJECT: B-5155

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-5155	EC-1	

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

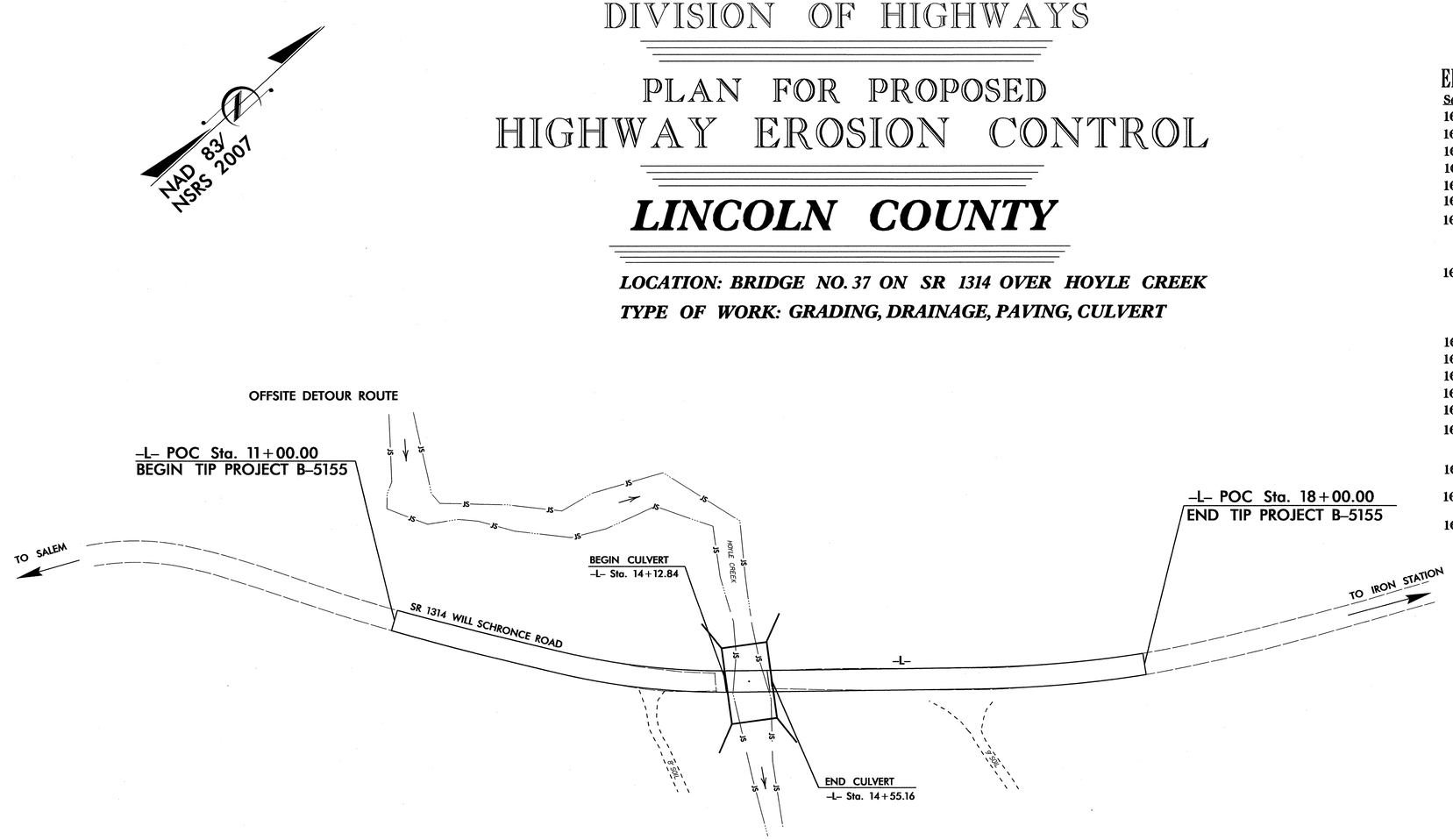
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL

LINCOLN COUNTY

LOCATION: BRIDGE NO. 37 ON SR 1314 OVER HOYLE CREEK

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERT



NOTES:
TRAFFIC IS TO BE MAINTAINED WITH AN OFFSITE DETOUR.
LOW VOLUME DESIGN GUIDE USED.

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		

31-OCT-2013 12:57
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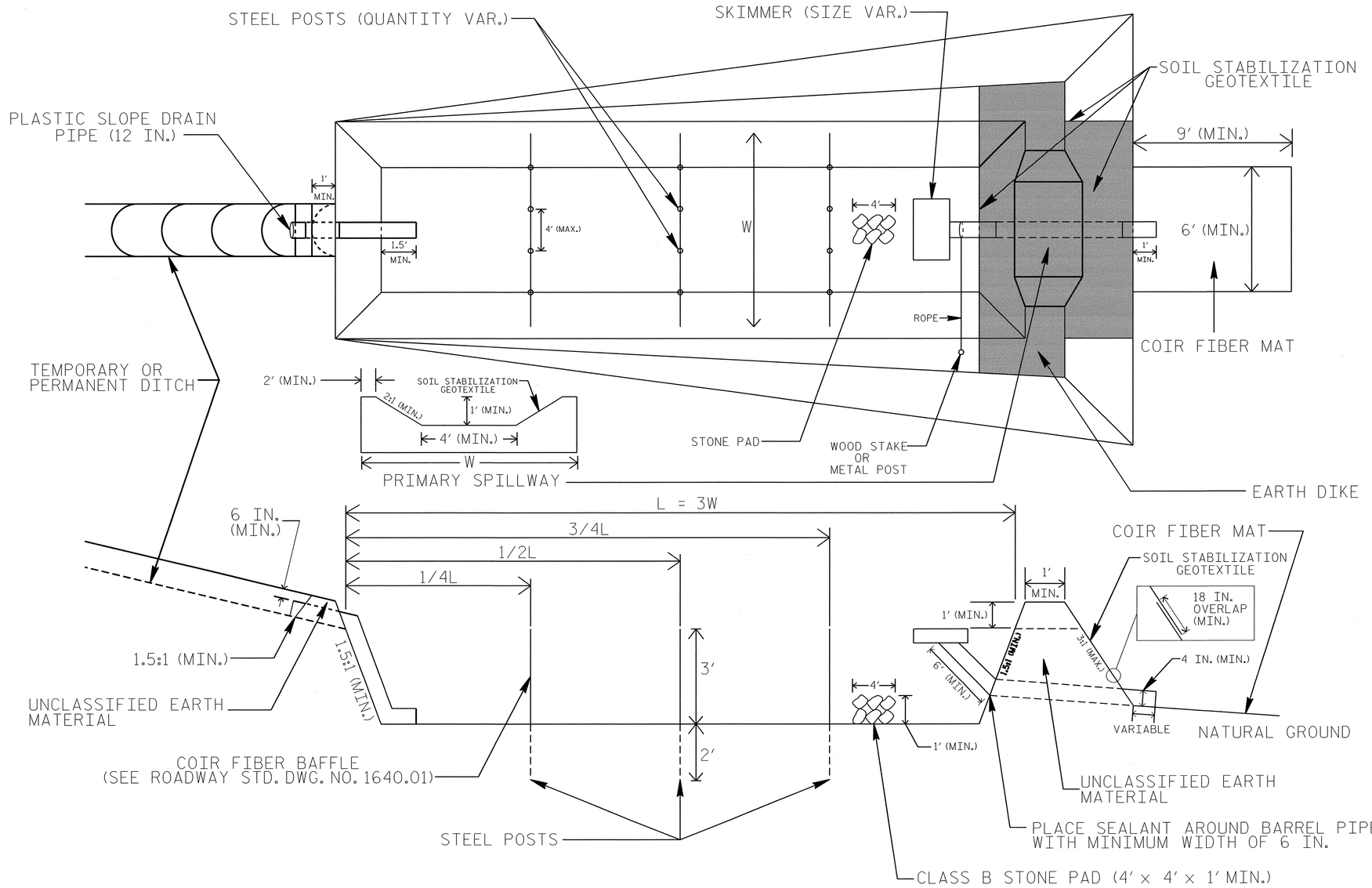
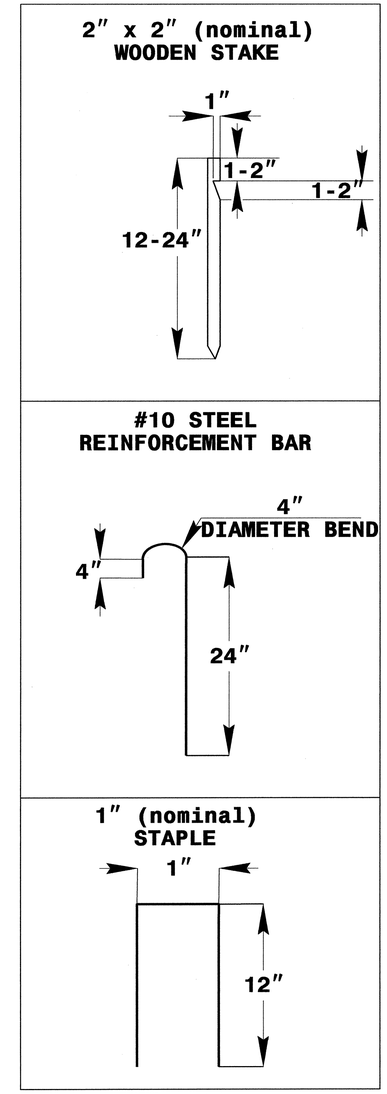
PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-2
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SKIMMER BASIN WITH BAFFLES DETAIL





COIR FIBER MAT ANCHOR OPTIONS

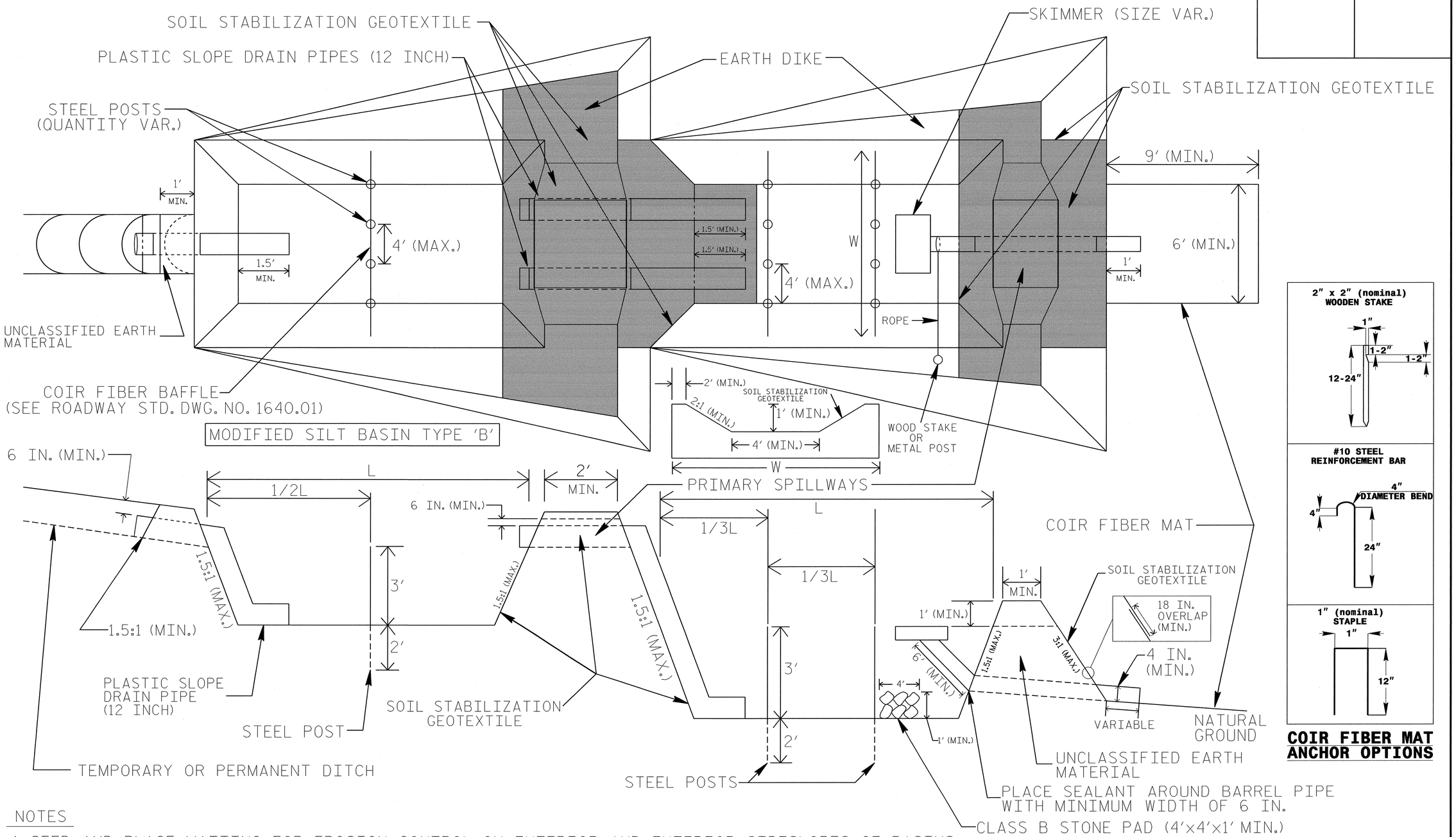
NOTES

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-5155	EC-2A
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

TIERED SKIMMER BASIN DETAIL



COIR FIBER MAT ANCHOR OPTIONS

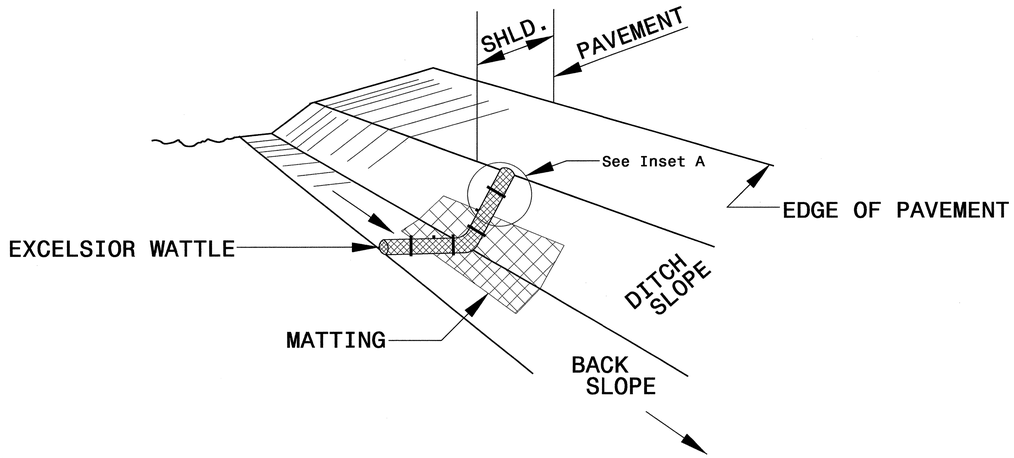
NOTES

1. SEED AND PLACE MATTING FOR EROSION CONTROL ON INTERIOR AND EXTERIOR SIDESLOPES OF BASINS.
2. LIMIT HEIGHT OF EARTH DIKES TO 5 FT.
3. ADDITIONAL MODIFIED SILT BASINS TYPE 'B' MAY BE NEEDED DEPENDING ON SLOPE.
4. FOR BASIN DEPTHS OF 3FT., THE MINIMUM BASIN WIDTHS SHALL BE 9 FT.
5. DETERMINE PRIMARY SPILLWAY LENGTHS (FT.) USING Q/0.4, WHERE Q IS FLOW RATE (CFS) INTO UPPER BASIN.
6. SOIL STABILIZATION GEOTEXTILE FOR PRIMARY SPILLWAYS SHALL BE ONE CONTINUOUS PIECE OF MATERIAL OR OVERLAPPED 18 IN. (MIN.).

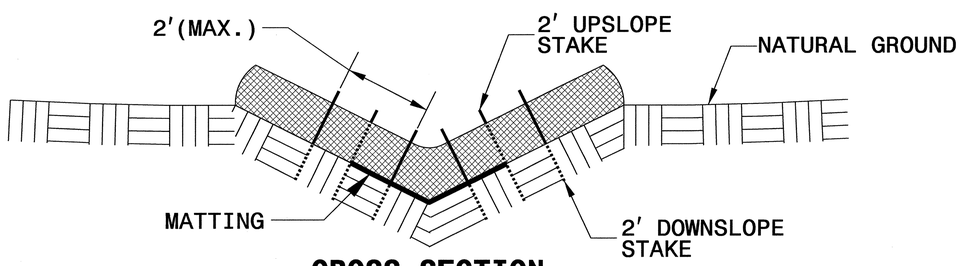
NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-2B
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

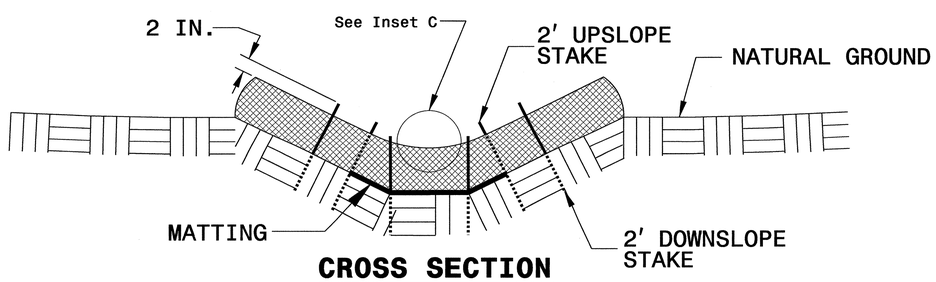
WATTLE WITH POLYACRYLAMIDE (PAM) DETAIL



ISOMETRIC VIEW



CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.

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

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

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

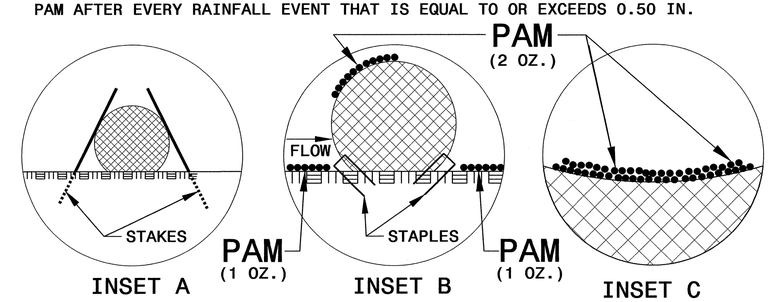
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

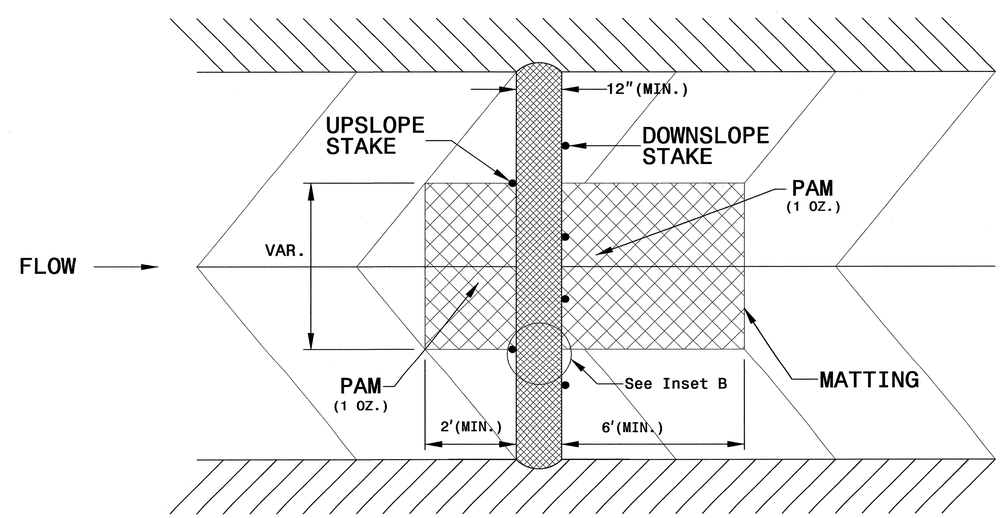
INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

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

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

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

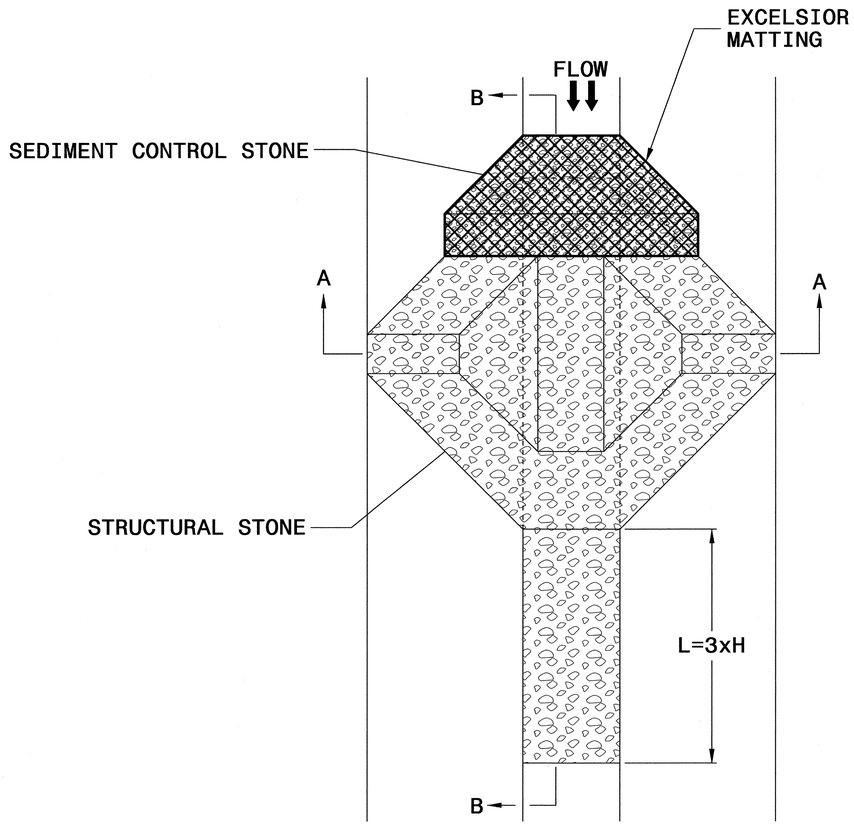




TOP VIEW

PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-2C
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

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



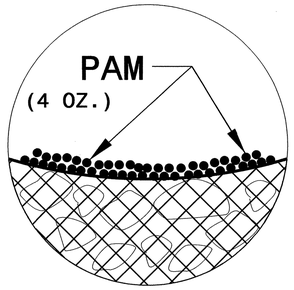
PLAN

NOTES

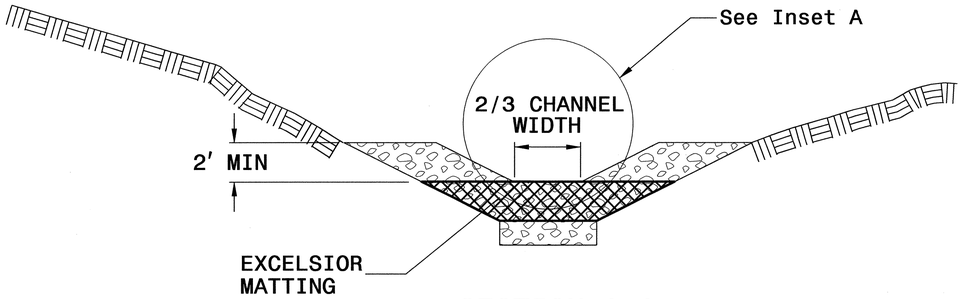
USE EXCELSIOR FOR MATTING MATERIAL AND ANCHOR MATTING SECTION AT TOP AND BOTTOM WITH CLASS B STONE.

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.

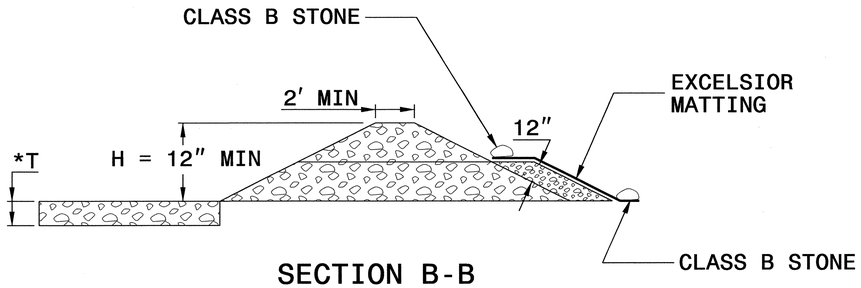
INITIALLY APPLY 4 OUNCES OF POLYACRYLAMIDE (PAM) TO TOP OF MATTING SECTION AND AFTER EVERY RAINFALL EVENT THAT EQUALS OR EXCEEDS 0.50 INCHES.



INSET A



SECTION A-A



SECTION B-B

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

NOT TO SCALE

PROJECT REFERENCE NO.	SHEET NO.
B-5155	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-5155	EC-3A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION SUMMARY SHEET

PERMANENT SOIL REINFORCEMENT MAT

CONST SHEET NO.	LINE	FROM STATION	TO STATION	SIDE	ESTIMATE (SY)
4	-L-	12+25	13+25	RT	80
				SUBTOTAL	80
	ADDITIONAL PSRM TO BE INSTALLED				0
				TOTAL	80
				SAY	100

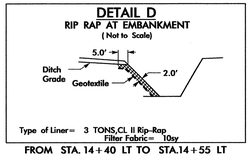
PERMANENT SOIL REINFORCEMENT MAT

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

PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-4/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

CLEARING AND GRUBBING
EROSION CONTROL FOR
CONSTRUCTION SHEET 4

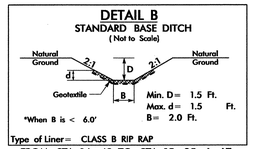
DETAIL D
RIP RAP AT EMBANKMENT
(Not to Scale)



Type of Liner= 3 TONS,CL II Rip-Rap
Filter Fabric= 10sy

FROM STA. 14+40 LT TO STA.14+55 LT

DETAIL B
STANDARD BASE DITCH
(Not to Scale)

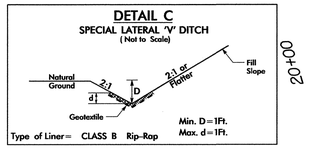


Min. D= 1.5 Ft.
Max. d= 1.5 Ft.
B= 2.0 Ft.
*When B is < 6.0'

Type of Liner= CLASS B RIP RAP

FROM STA 14+40 TO STA 15+25 -L- LT

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

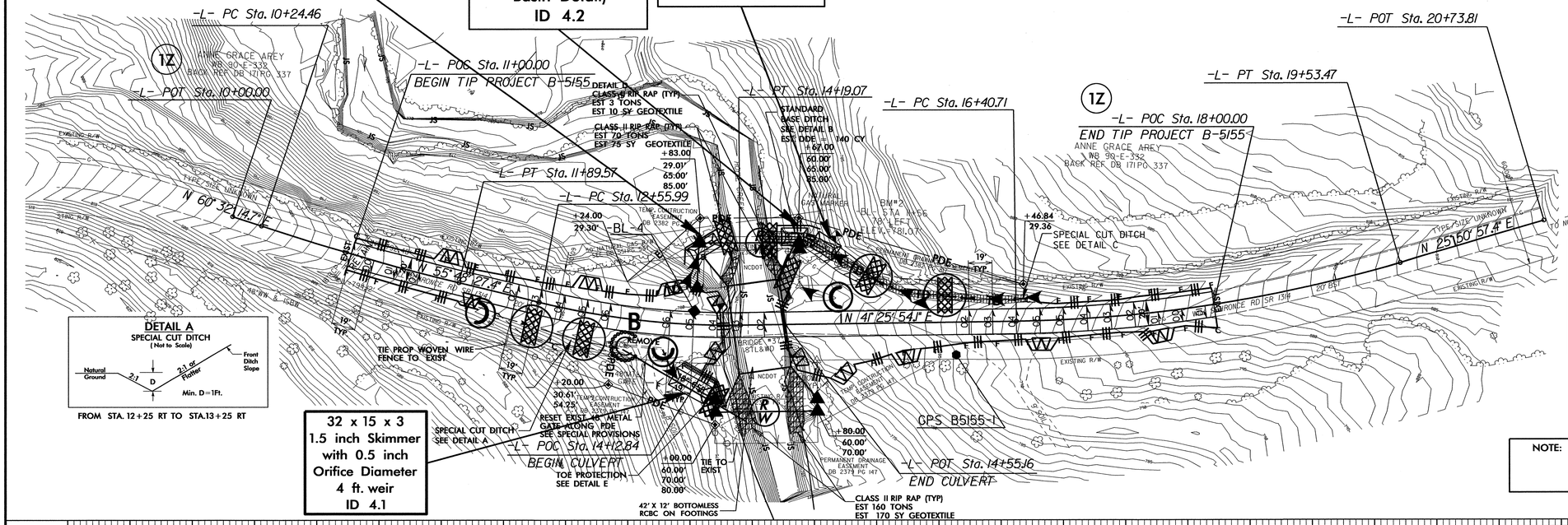


Min. D=1Ft.
Max. d=1Ft.

Type of Liner= CLASS B Rip-Rap

FROM STA. 15+25 LT TO STA. 16+50 LT

NAD 83/NSRS 2007

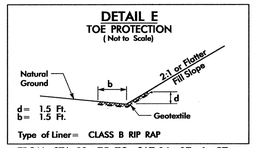


DETAIL A
SPECIAL CUT DITCH
(Not to Scale)

Min. D=1Ft.

FROM STA. 12+25 RT TO STA.13+25 RT

DETAIL E
TOE PROTECTION
(Not to Scale)



d= 1.5 Ft.
b= 1.5 Ft.

Type of Liner= CLASS B RIP RAP

FROM STA 13+75 TO SAT 14+07 -L- RT

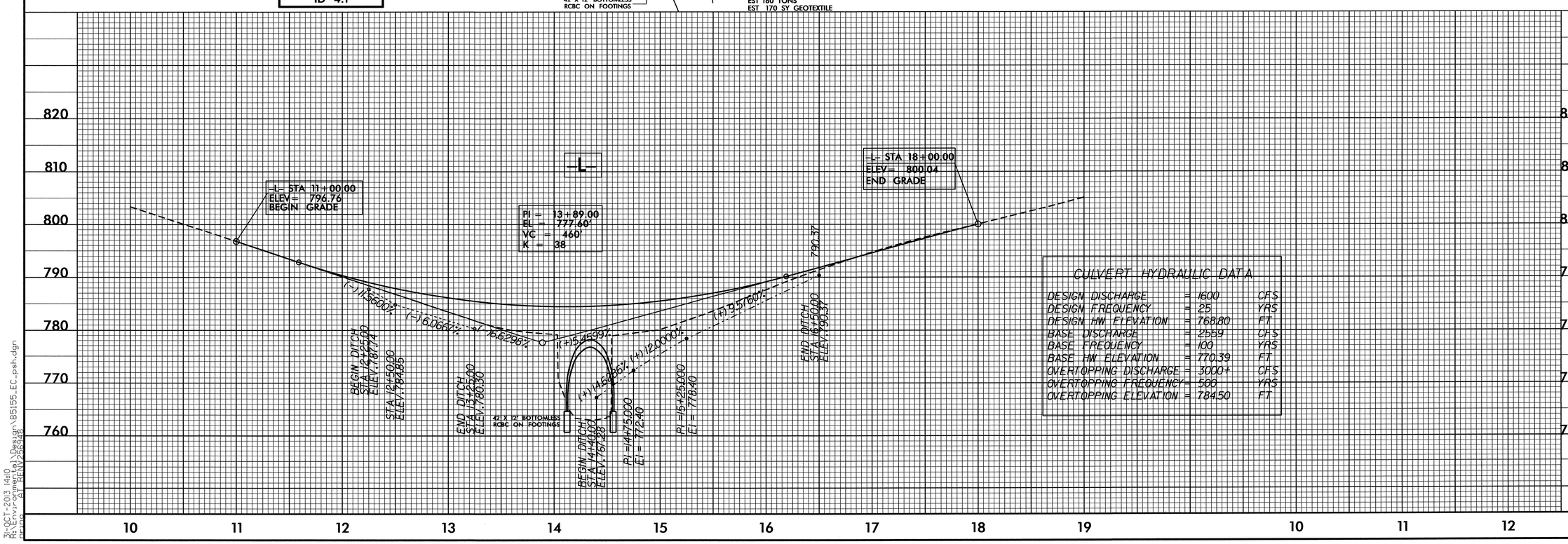
NOTE:
PLACE TEMPORARY ROCK SEDIMENT DAMS TYPE – B AND TEMPORARY ROCK SILT CHECKS TYPE – A AT DRAINAGE OUTLETS.

24 x 12 x 3
1.5 inch Skimmer
with 0.375 inch
Orifice Diameter
4 ft. weir
ID 4.3

23 x 14 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.2

Modified Silt Basin
Type 'B'
23 x 14 x 3
5 ft. weir
(See Tiered Skimmer
Basin Detail)
ID 4.2

32 x 15 x 3
1.5 inch Skimmer
with 0.5 inch
Orifice Diameter
4 ft. weir
ID 4.1



CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	=	1600	CFS
DESIGN FREQUENCY	=	25	YRS
DESIGN HW ELEVATION	=	768.80	FT
BASE DISCHARGE	=	2559	CFS
BASE FREQUENCY	=	100	YRS
BASE HW ELEVATION	=	770.39	FT
OVERTOPPING DISCHARGE	=	3000+	CFS
OVERTOPPING FREQUENCY	=	500	YRS
OVERTOPPING ELEVATION	=	784.50	FT

8/17/99

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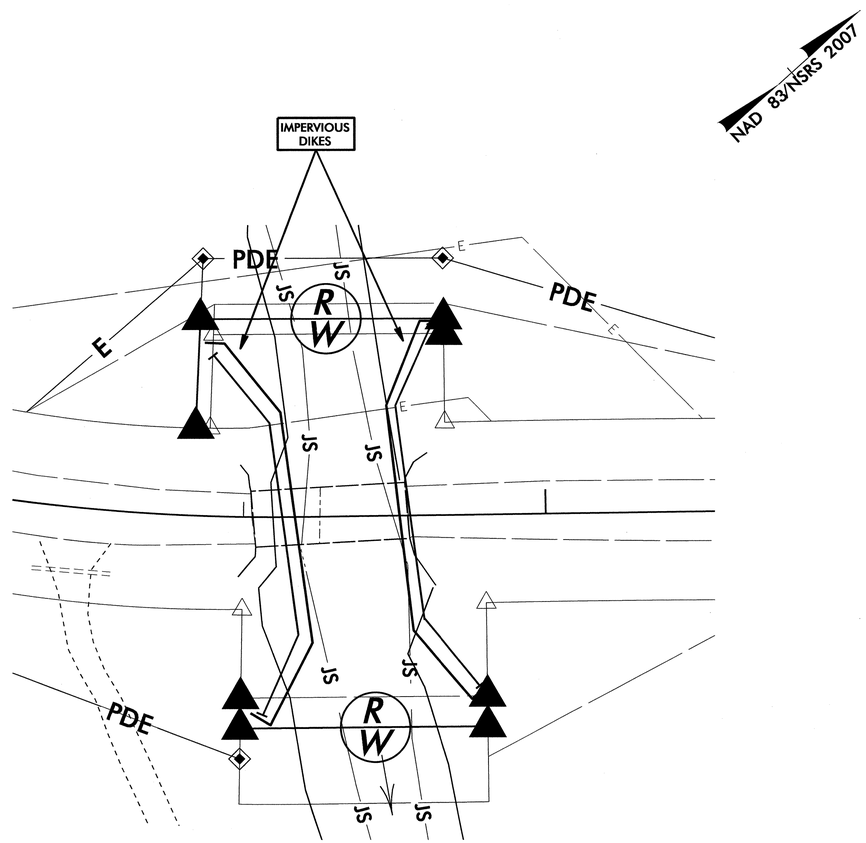
CULVERT CONSTRUCTION SEQUENCE STA. 14 + 34 –L–

PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-5/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

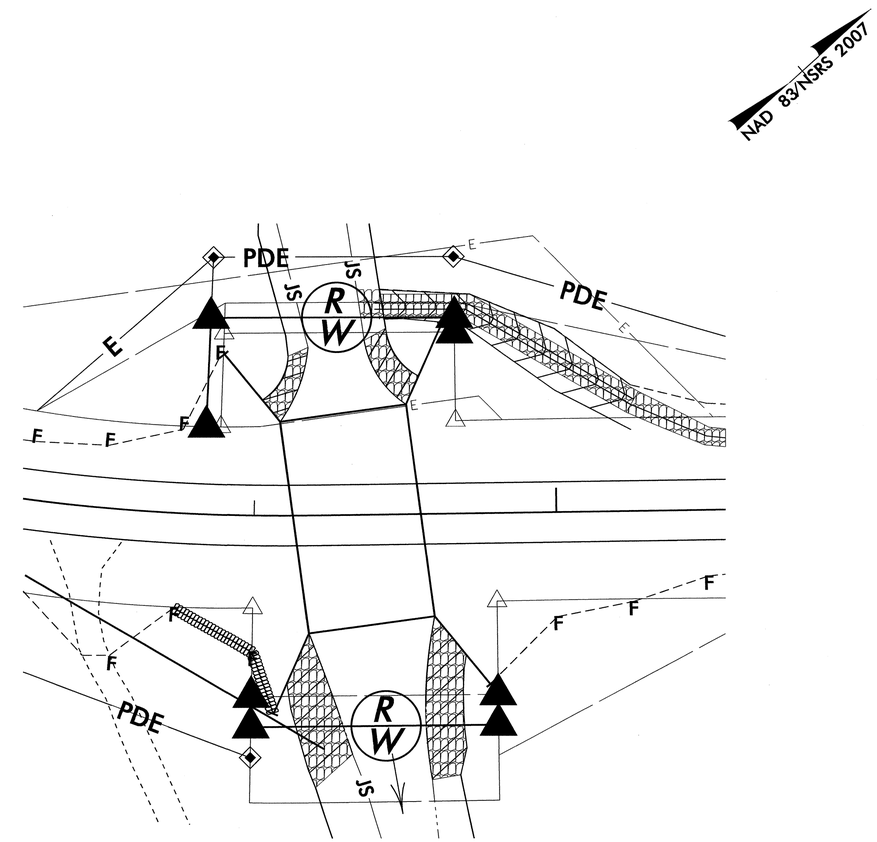
PHASE I

1. UTILIZE SPECIAL STILLING BASIN(S) AS NEEDED THROUGHOUT CULVERT CONSTRUCTION.
2. REMOVE EXISTING BRIDGE.
3. CONSTRUCT IMPERVIOUS DIKES.
4. CONSTRUCT FOOTINGS FOR PROPOSED BOTTOMLESS CULVERT.
5. REMOVE IMPERVIOUS DIKES.



PHASE II

6. CONSTRUCT PROPOSED BOTTOMLESS CULVERT.
7. CONSTRUCT NECESSARY UPSTREAM/DOWNSTREAM CHANNEL IMPROVEMENTS.
8. REMOVE ANY REMAINING SPECIAL STILLING BASIN(S).
9. COMPLETE ROADWAY.



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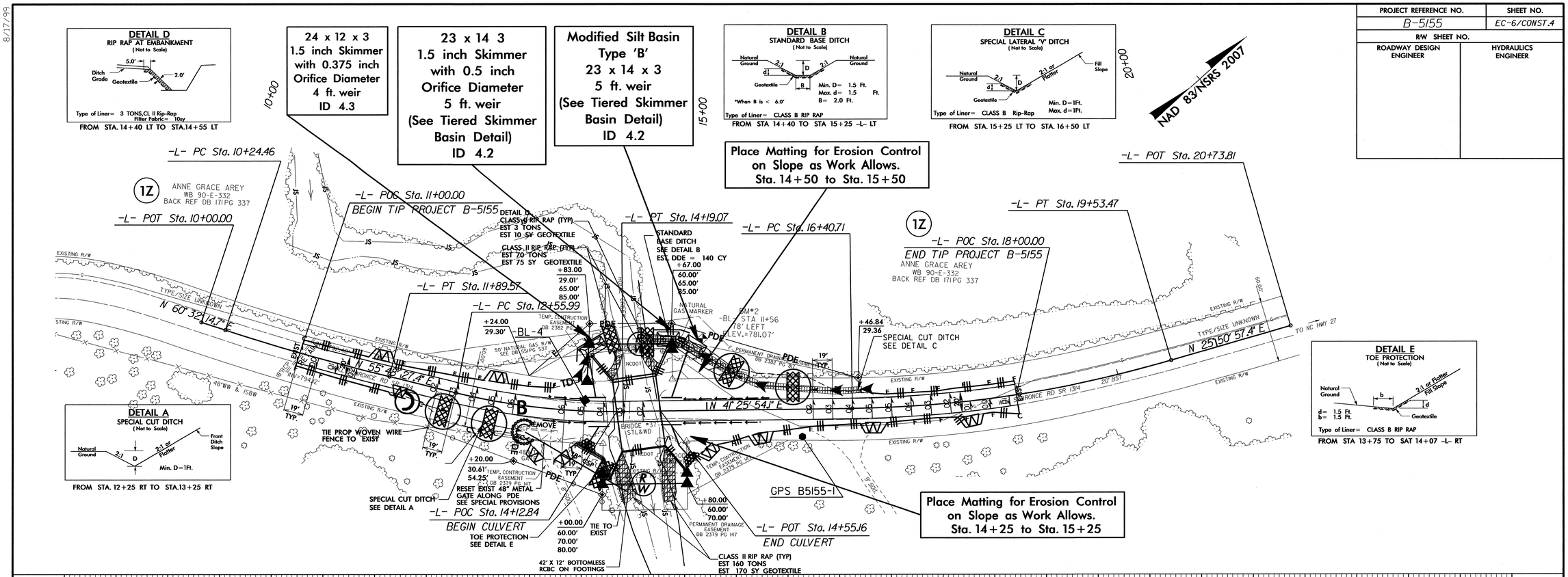
PROJECT REFERENCE NO.	SHEET NO.
B-5155	EC-6/CONST.4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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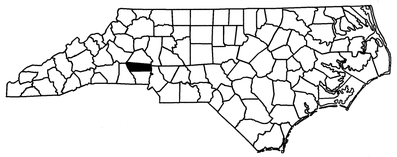
T.I.P. NO.	SHEET NO.
B-5155	UO-1

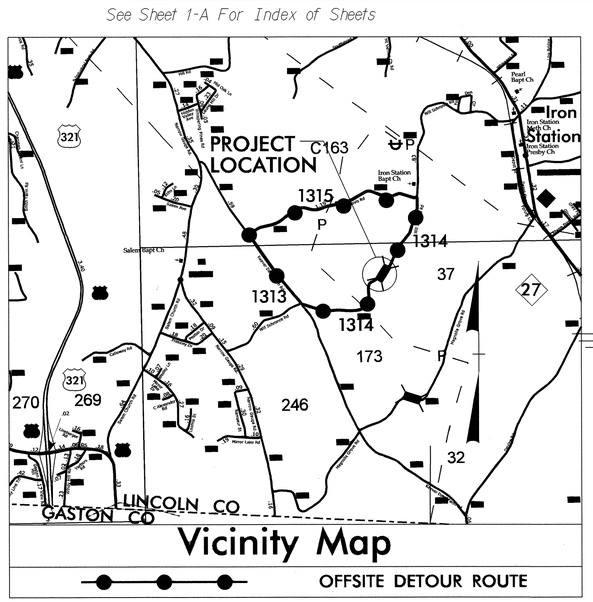
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

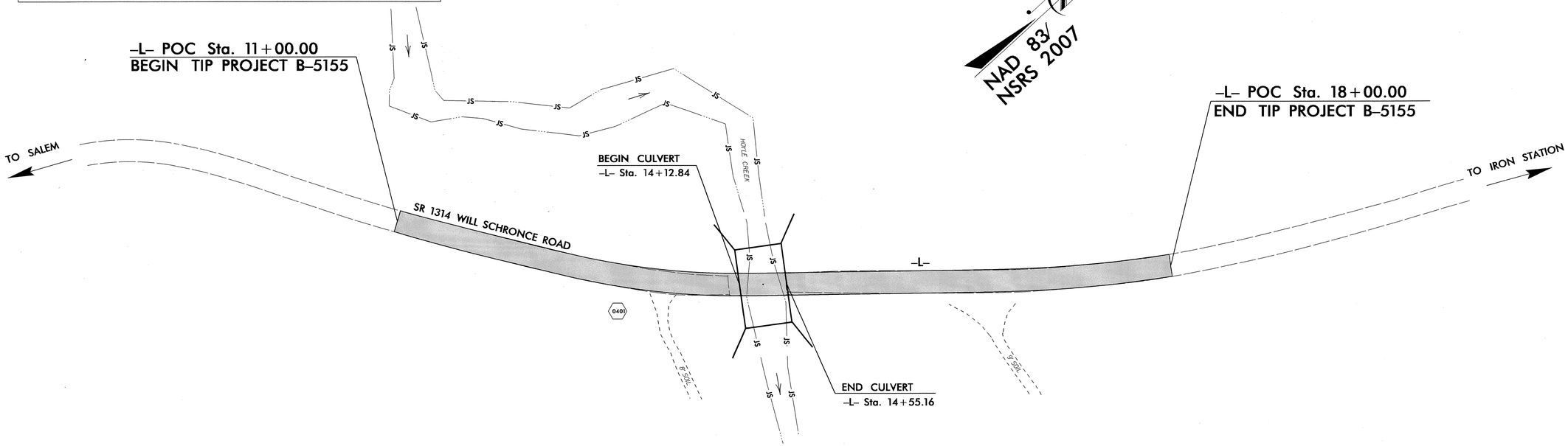
UTILITIES BY OTHERS PLANS
LINCOLN COUNTY

LOCATION: BRIDGE NO. 37 ON SR 1314 OVER HOYLE CREEK

TYPE OF WORK: GAS LINE RELOCATION







GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

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

UTILITY OWNERS ON PROJECT

(A) PSNC ENERGY

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

Roger Worthington, P.E.	*UTILITIES SECTION ENGINEER*
Carl Barclay, P.E.	*UTILITIES SQUAD LEADER PROJECT ENGINEER*
Ali Koucheki, PE	*UTILITIES PROJECT DESIGNER*

TIP PROJECT: B-5155

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$$$$USERNAME$$$$
09/08/99

PROJECT REFERENCE NO.	SHEET NO.
B-5155	U0-2

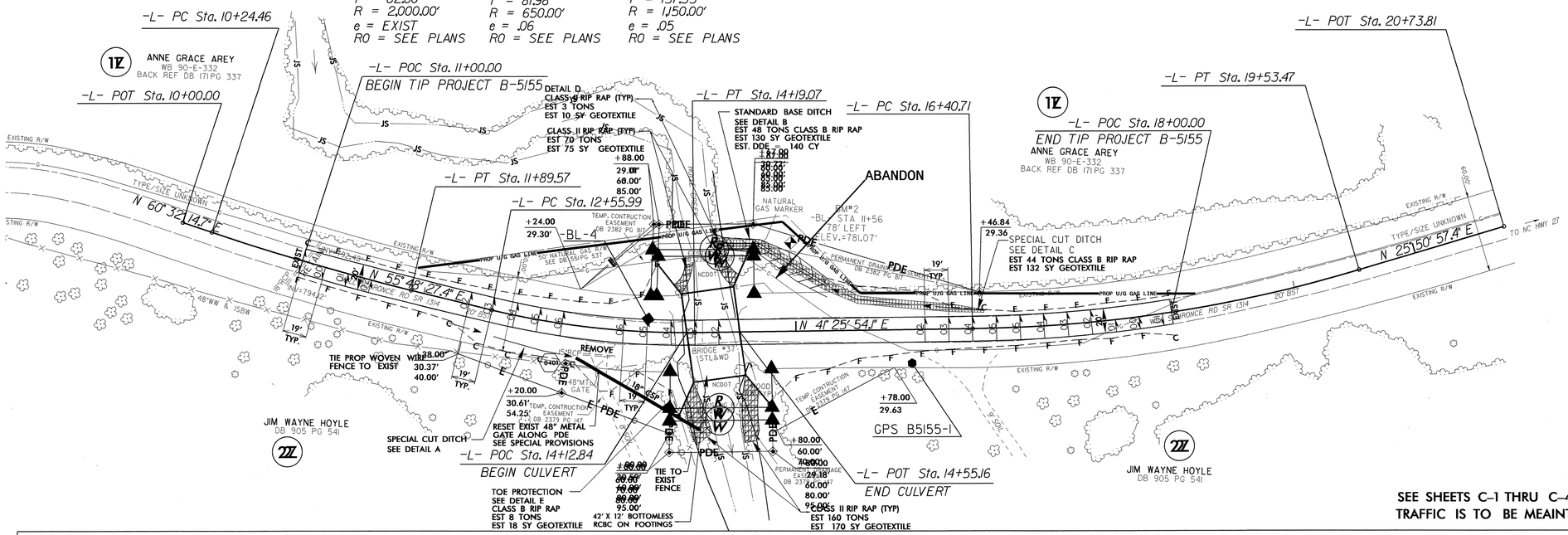
UTILITIES BY OTHERS

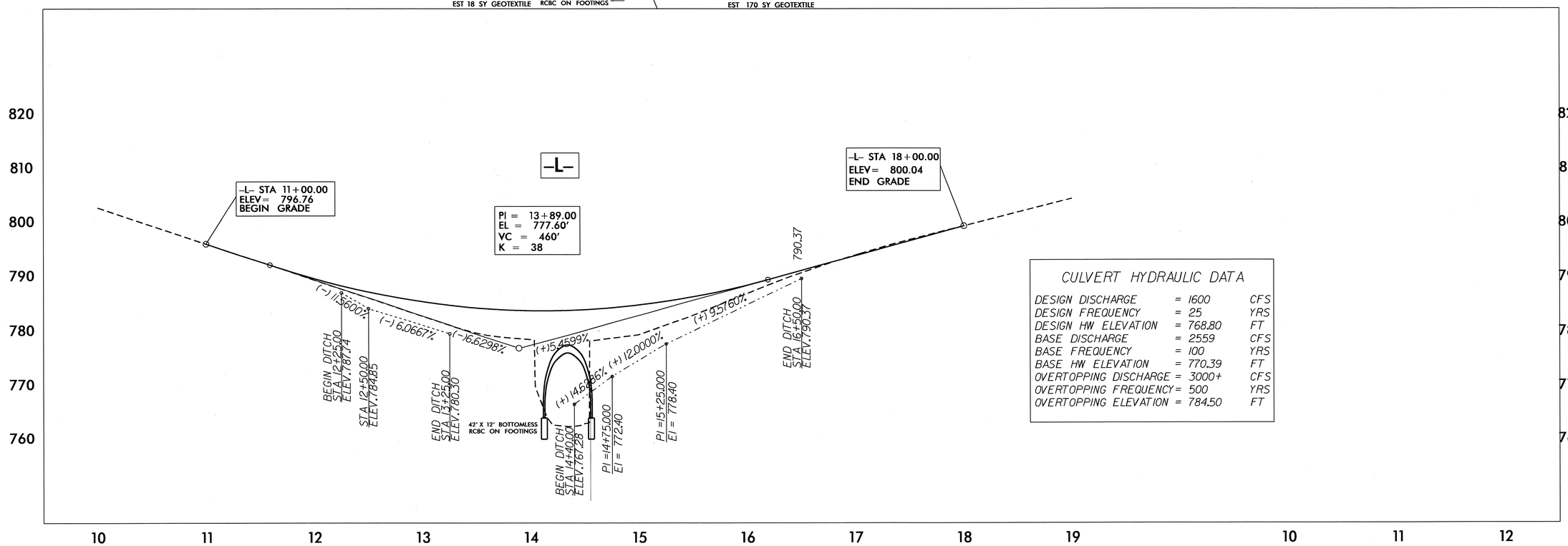
NOTE:
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

NAD 83/NSRS 2007

-L-

PI Sta 11+07.06	PI Sta 13+37.96	PI Sta 17+98.06
Δ = 4° 43' 47.2" (LT)	Δ = 14° 22' 33.3" (LT)	Δ = 15° 34' 56.7" (LT)
D = 2° 51' 53.2"	D = 8° 48' 53.0"	D = 4° 58' 56.1"
L = 165.10'	L = 163.09'	L = 312.76'
T = 82.60'	T = 81.98'	T = 157.35'
R = 2,000.00'	R = 650.00'	R = 1,150.00'
e = EXIST	e = .06	e = .05
RO = SEE PLANS	RO = SEE PLANS	RO = SEE PLANS





CULVERT HYDRAULIC DATA

DESIGN DISCHARGE	= 1600	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 768.80	FT
BASE DISCHARGE	= 2559	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 770.39	FT
OVERTOPPING DISCHARGE	= 3000+	CFS
OVERTOPPING FREQUENCY	= 500	YRS
OVERTOPPING ELEVATION	= 784.50	FT

REVISIONS

5/14/99

02-DEC-2013 10:18
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PROJ. REFERENCE NO.	SHEET NO.
B-5155	X-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

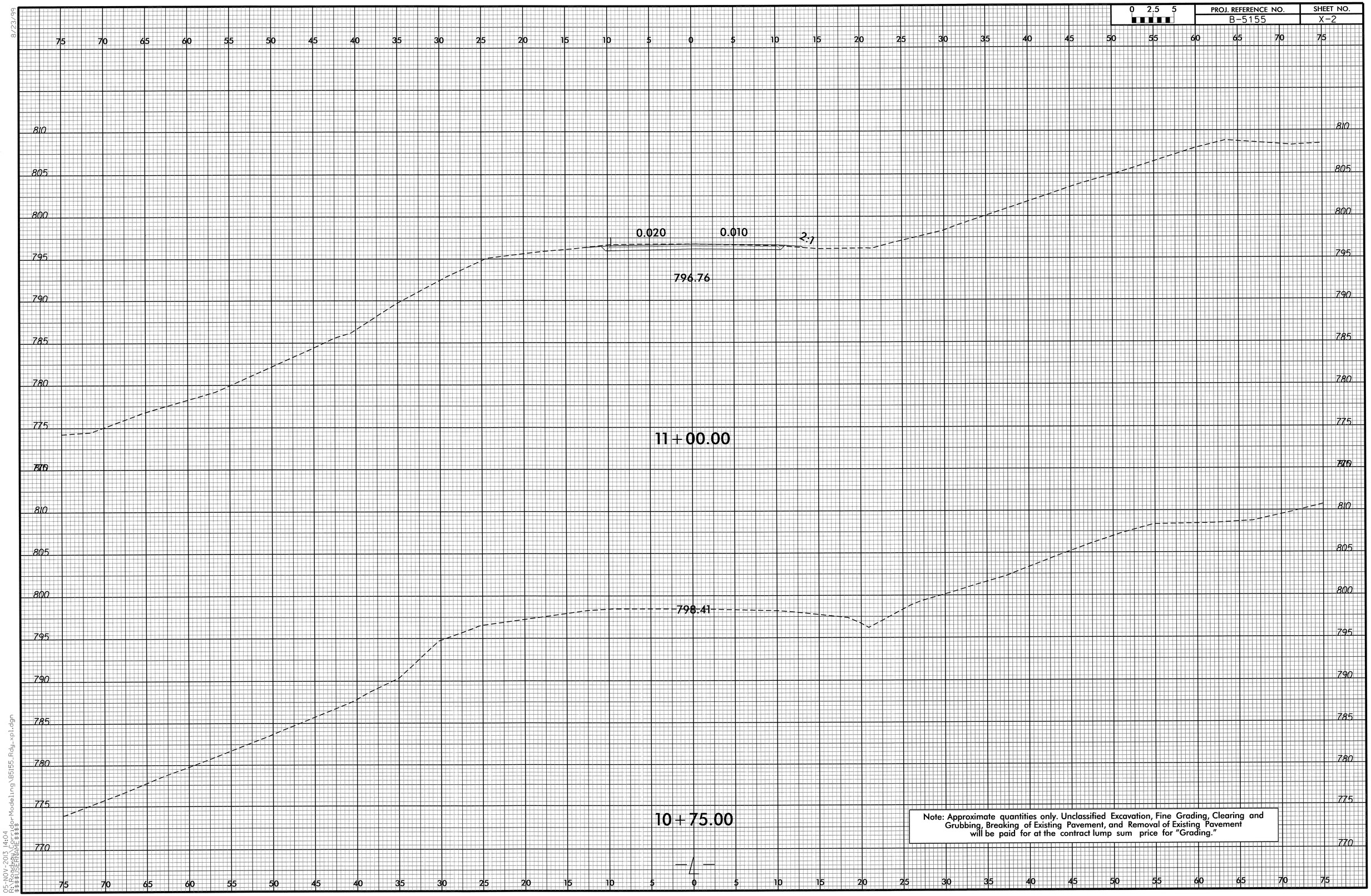
CROSS-SECTION SUMMARY

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

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

Station L	Uncl. Exc. (cu. yd.)	Embt (cu. yd.)
11+00.00	0	0
11+25.00	12	0
11+50.00	11	1
11+75.00	10	1
12+00.00	7	1
12+25.00	3	4
12+50.00	3	13
12+75.00	6	32
13+00.00	5	60
13+25.00	3	94
13+50.00	1	135
13+75.00	0	171
14+00.00	0	336
14+25.00	0	426
14+50.00	0	362
14+75.00	0	330
15+00.00	0	258
15+25.00	13	193
15+50.00	25	135
15+75.00	24	83
16+00.00	17	50
16+25.00	5	26
16+50.00	1	10
16+75.00	6	2
17+00.00	11	0
17+25.00	14	0
17+50.00	16	0
17+75.00	16	0
18+00.00	15	0

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	B-5155	X-2



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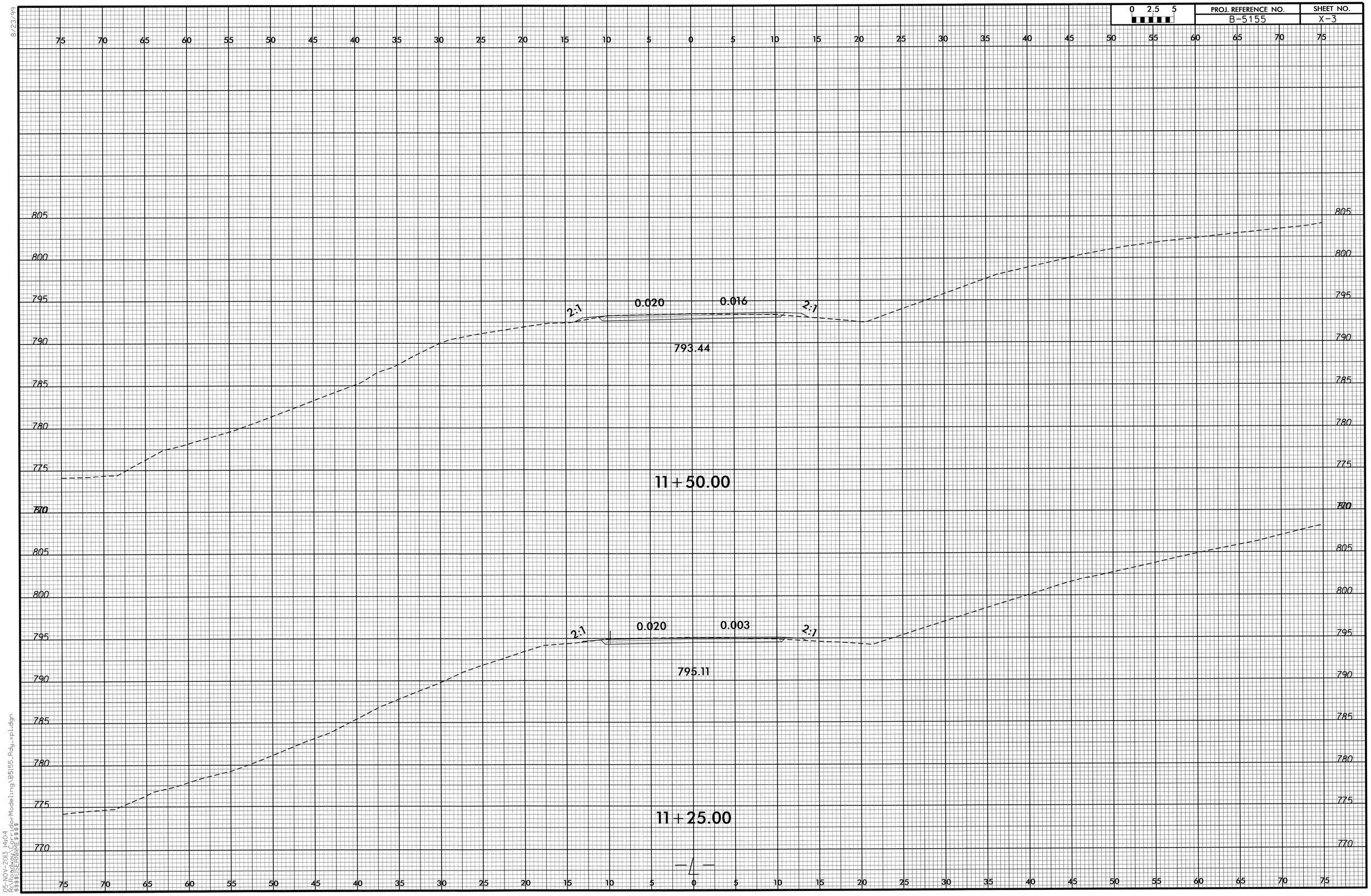

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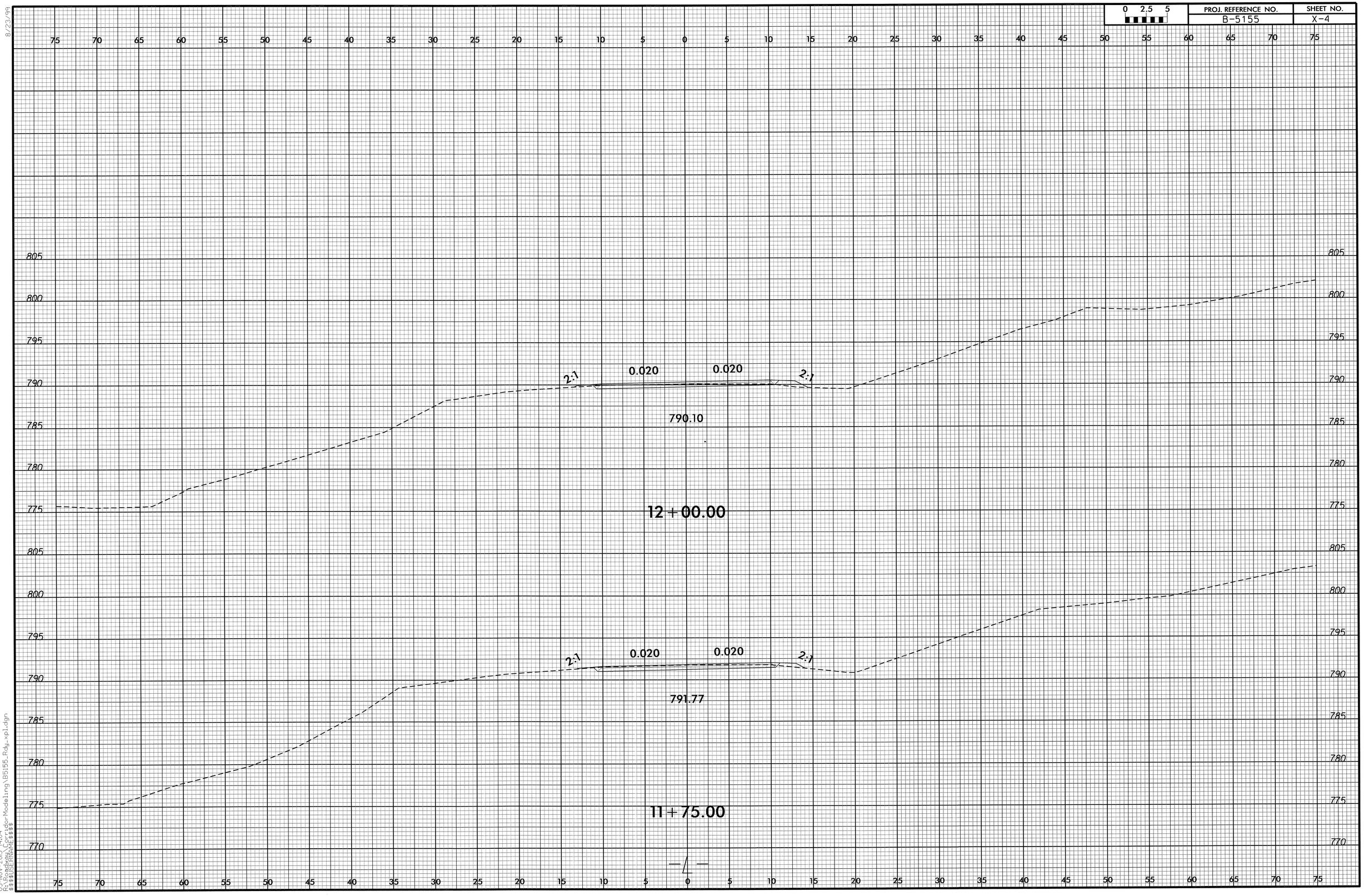

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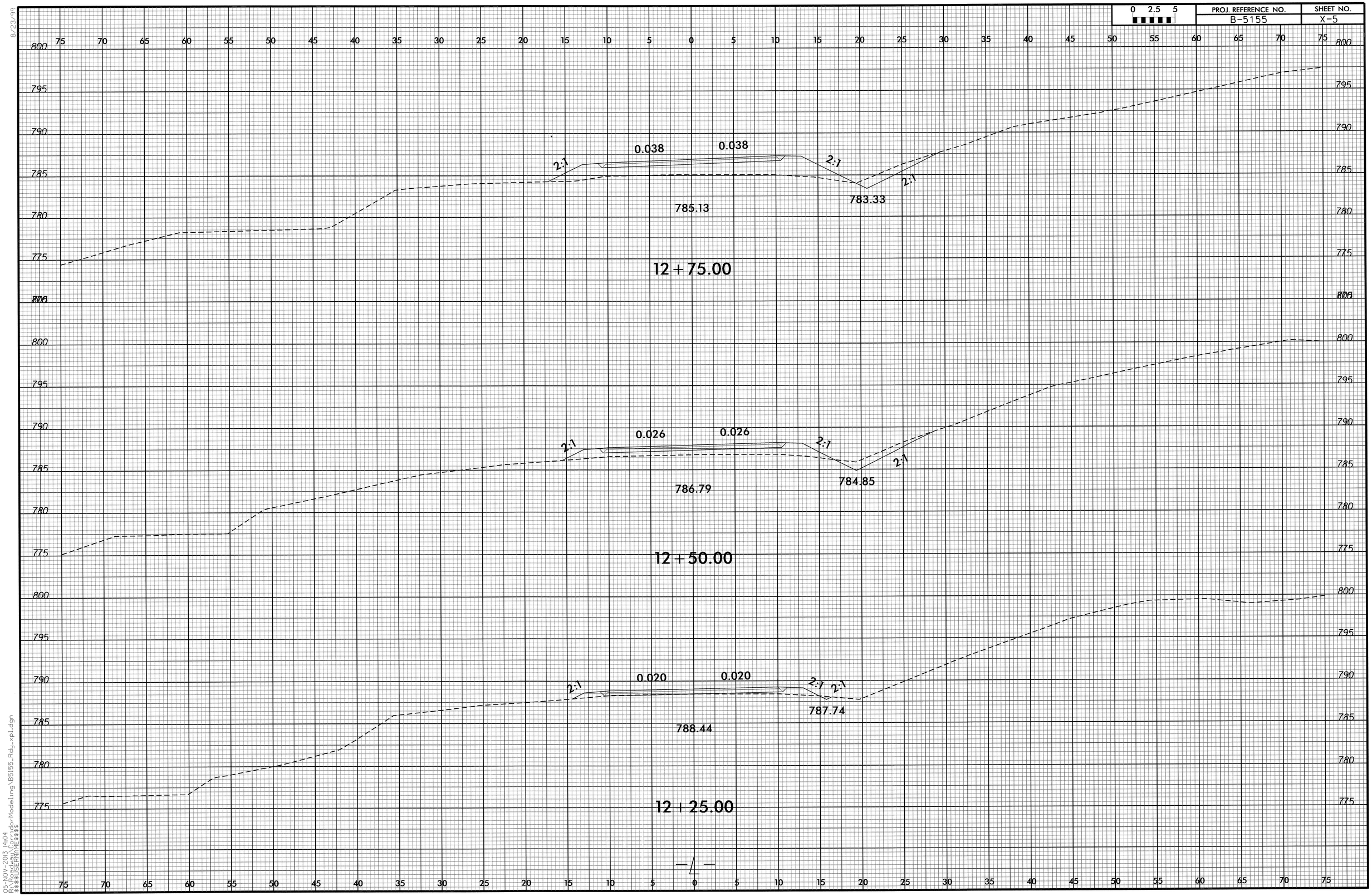

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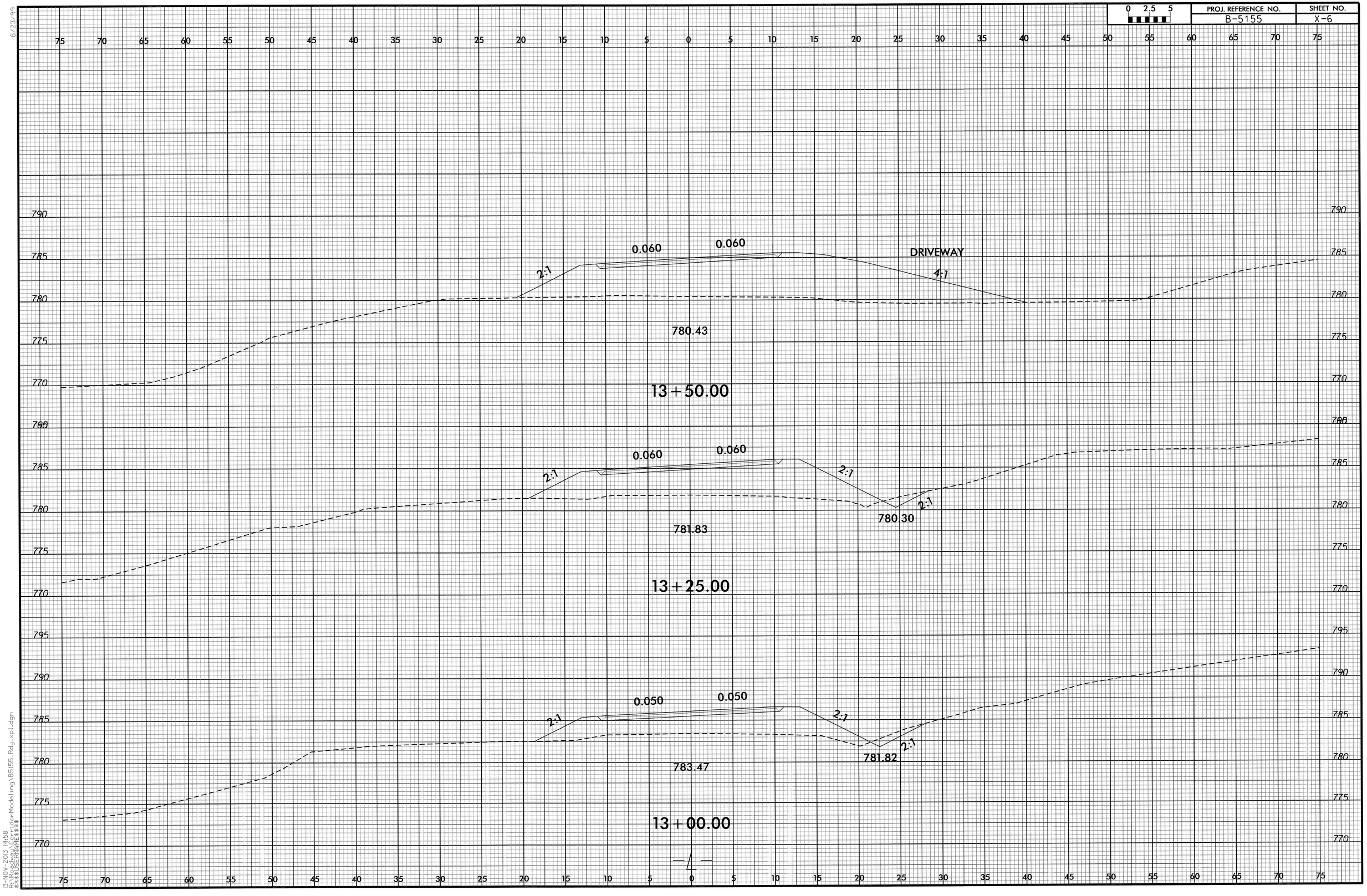

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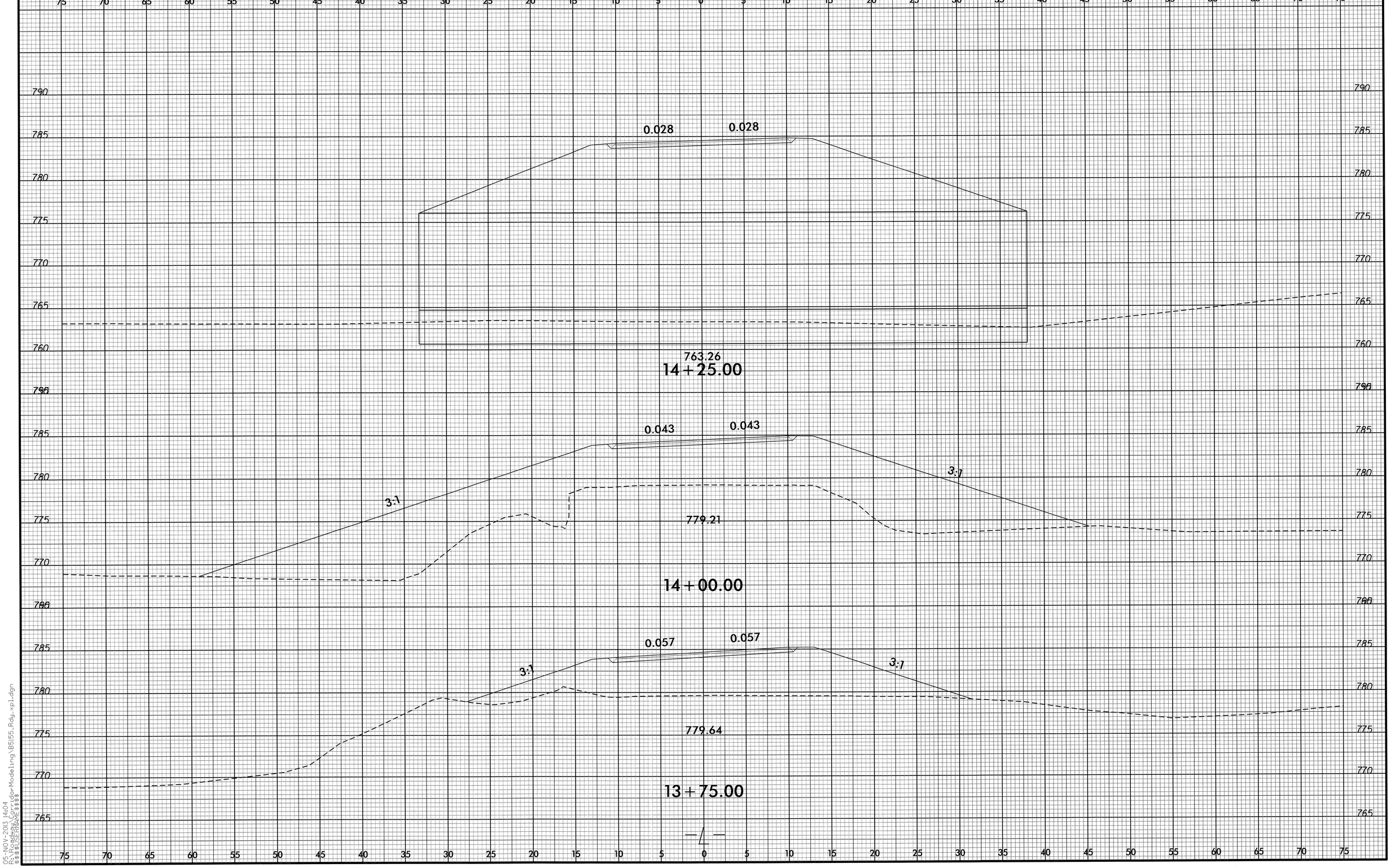

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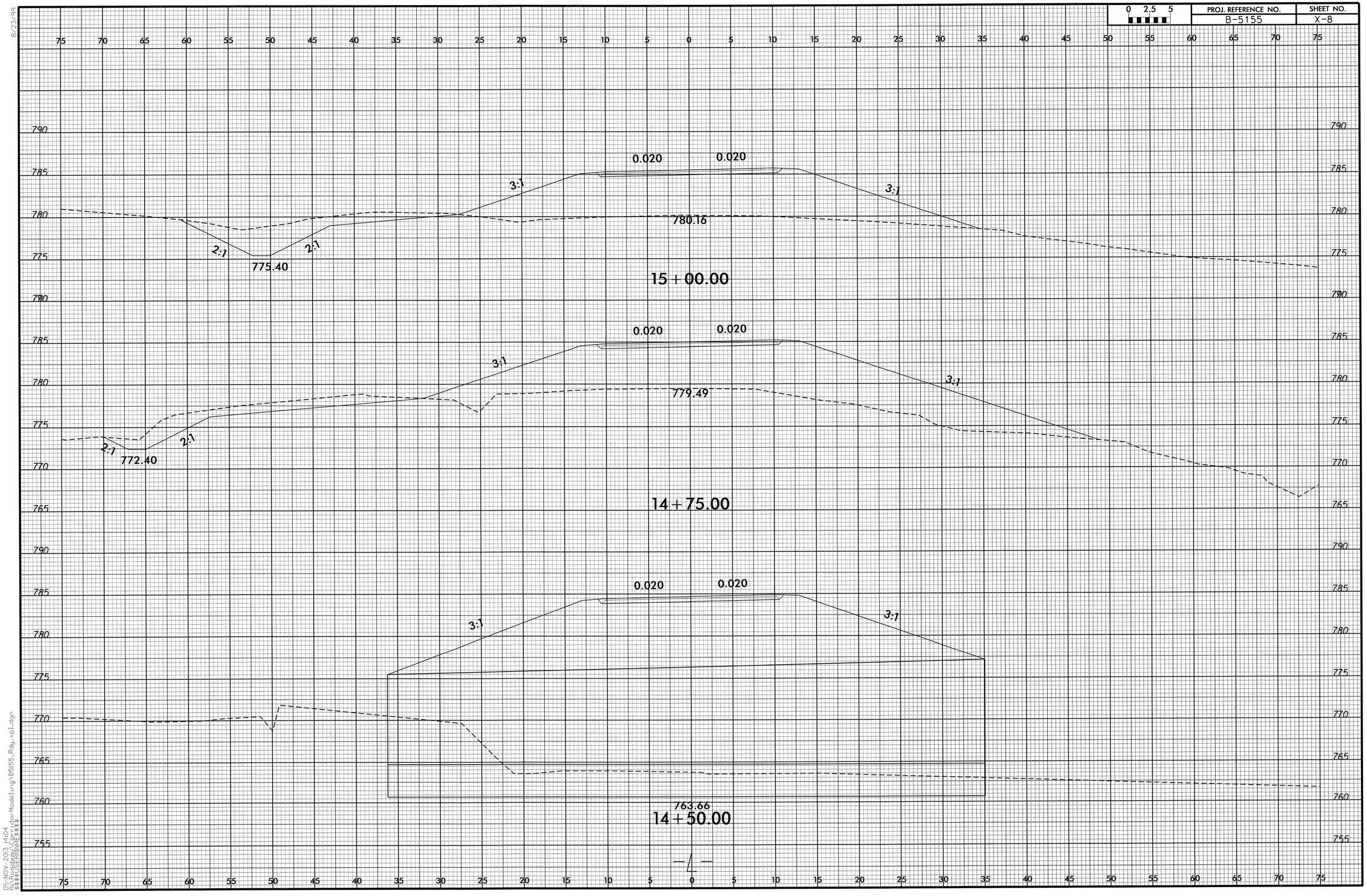

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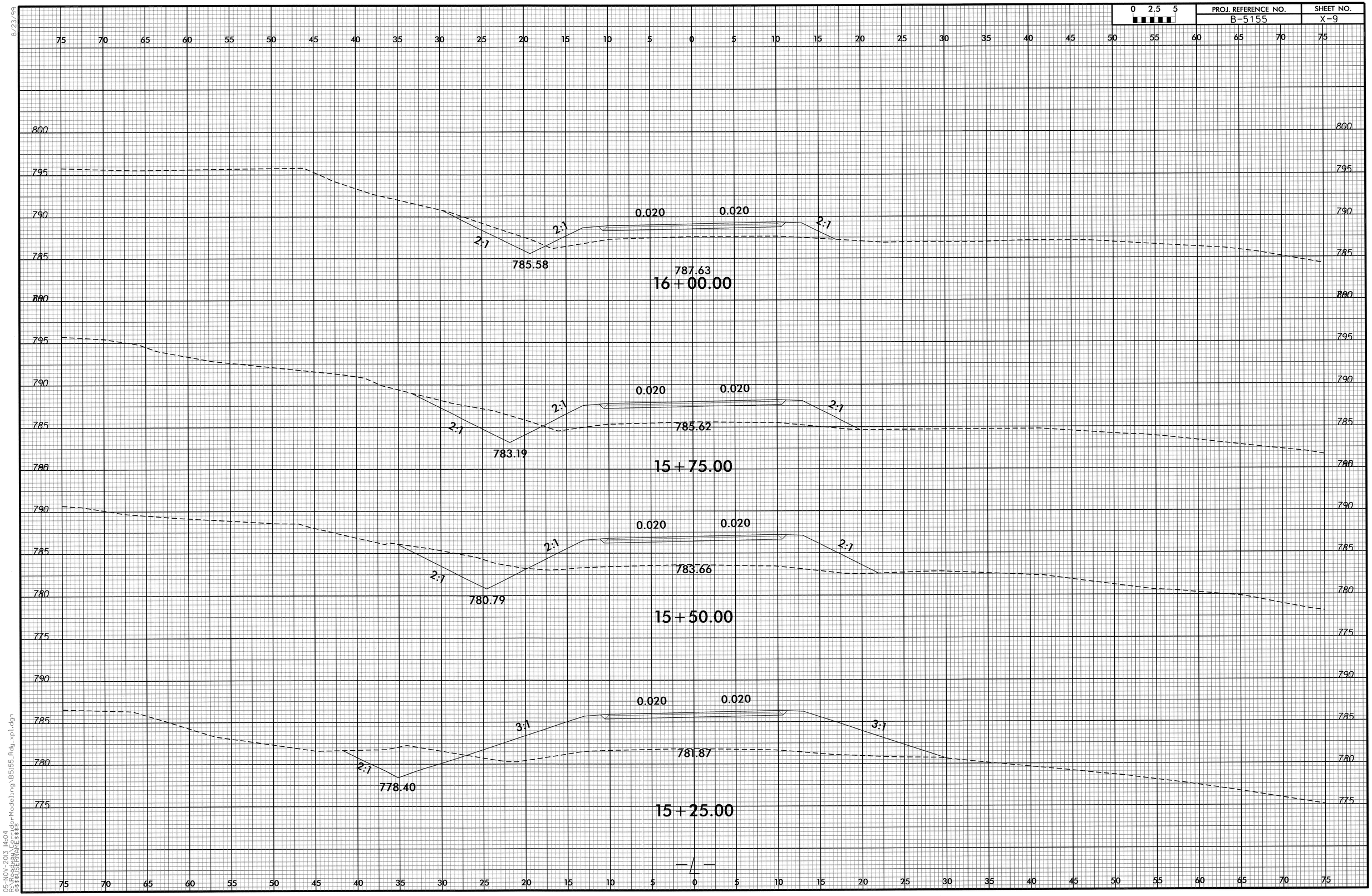
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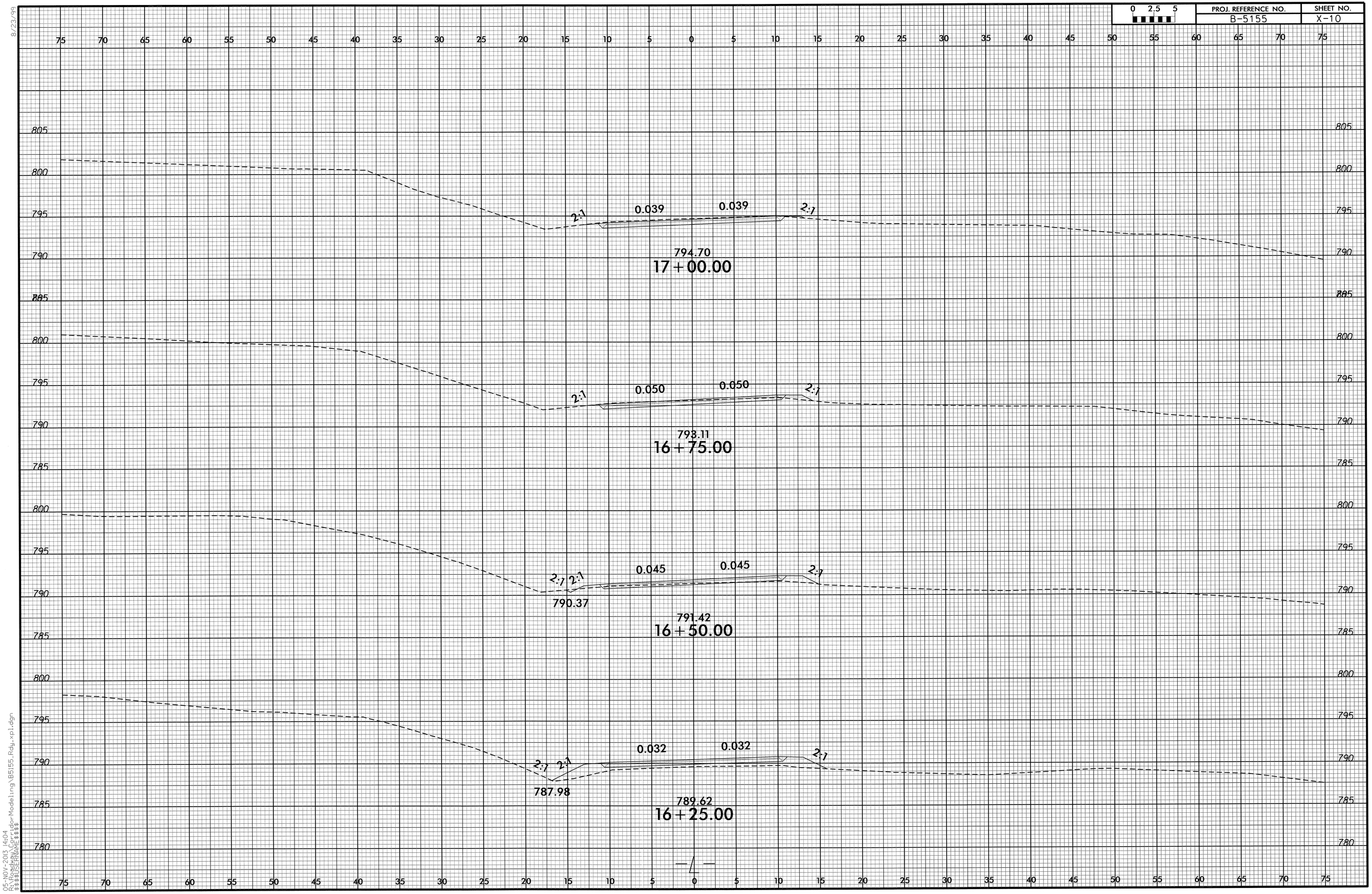

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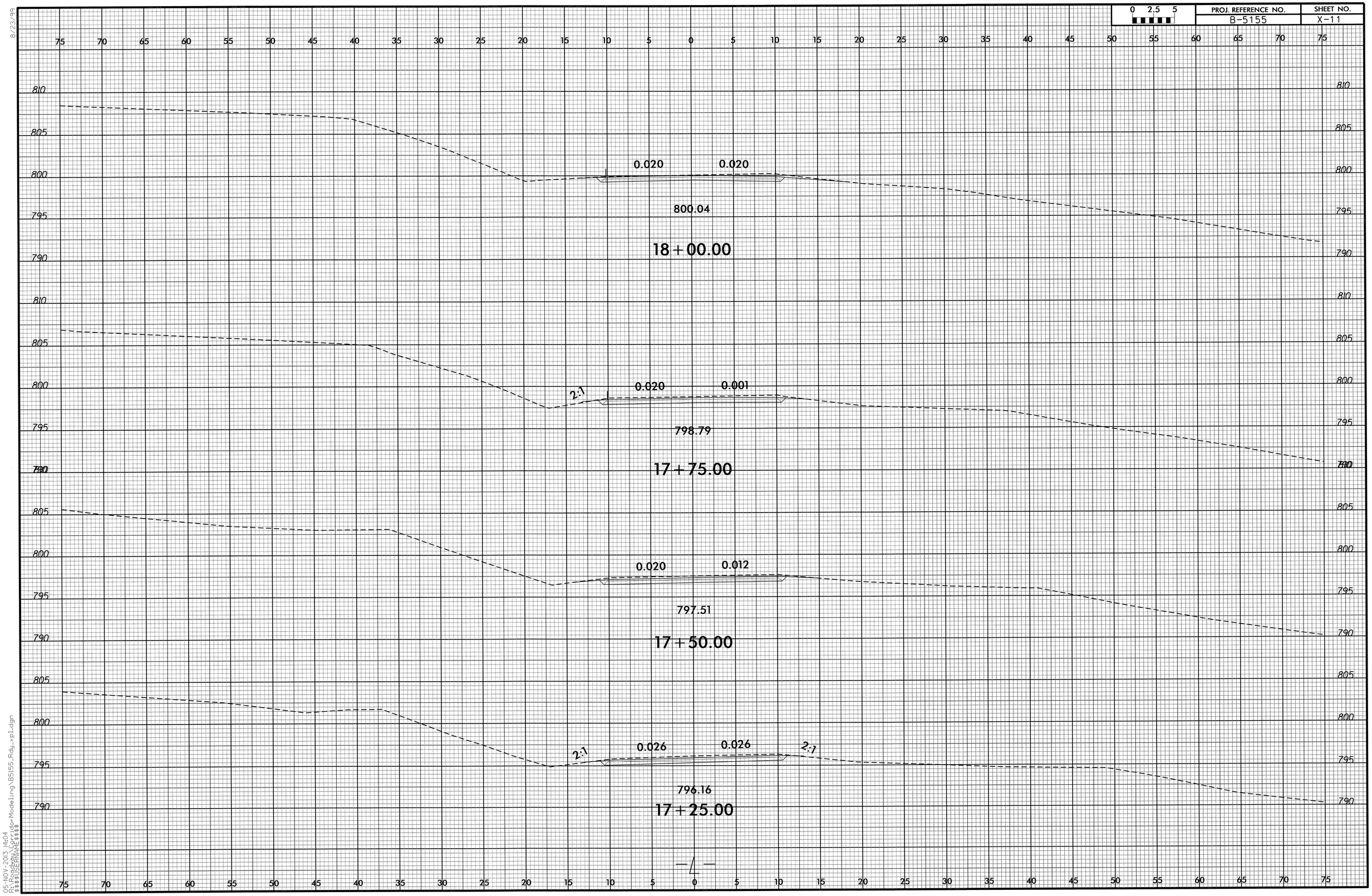

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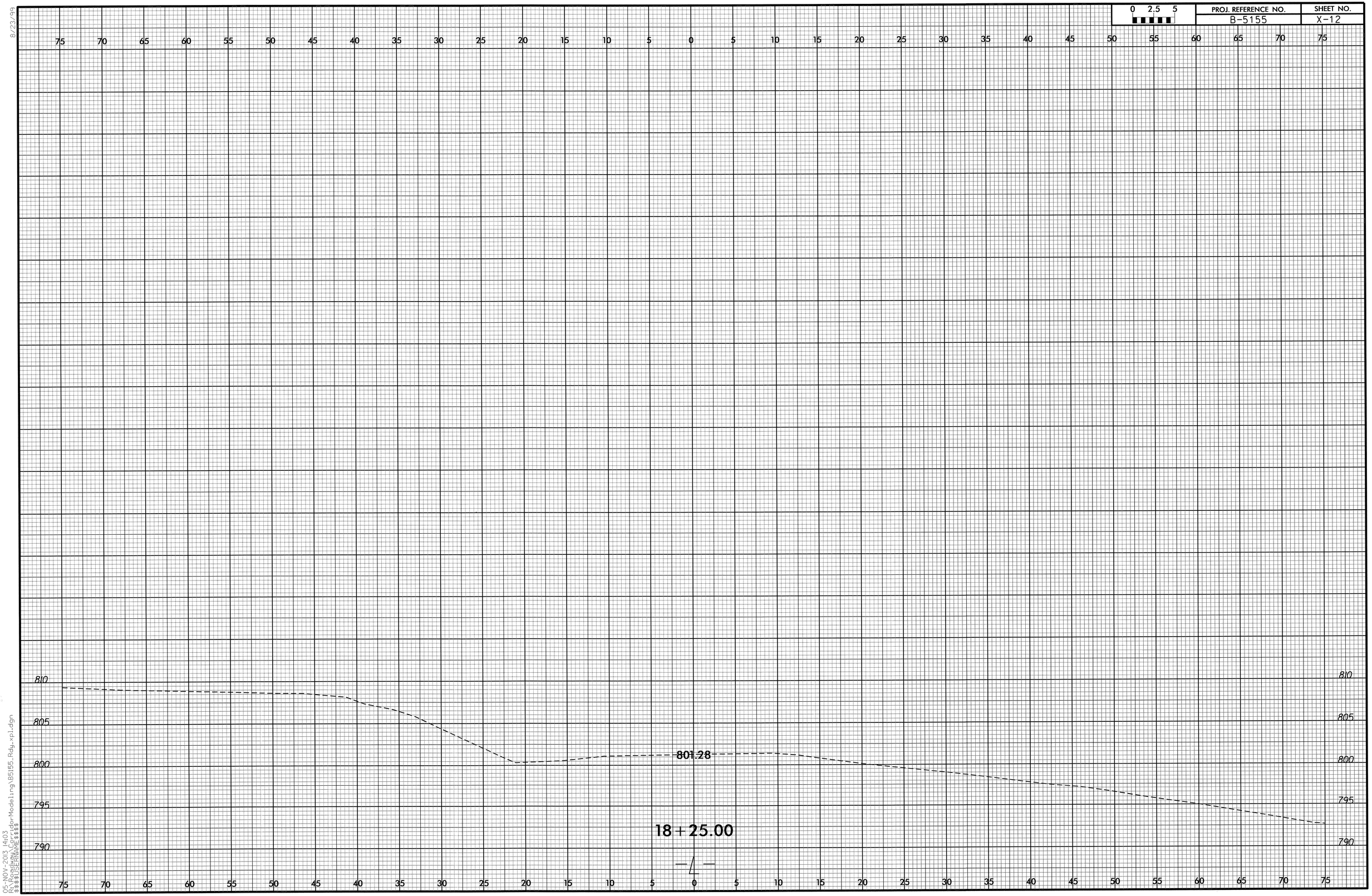

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