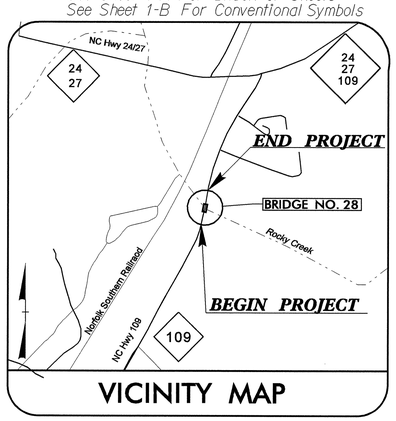
09/08/99

TIP PROJECT: B-4204

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

** DESIGN EXCEPTION REQUIRED FOR VERTICAL ALIGNMENT AND VERTICAL STOPPING SIGHT DISTANCE.

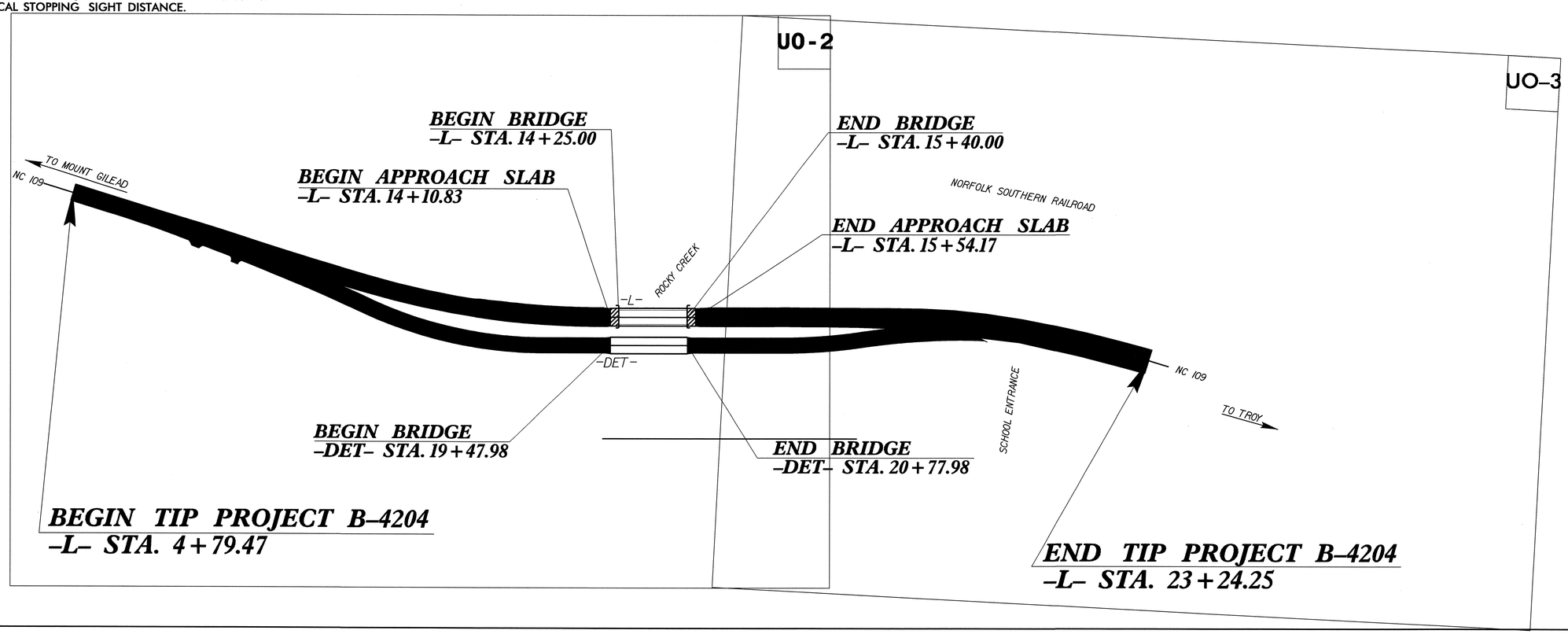
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4204	UO-1

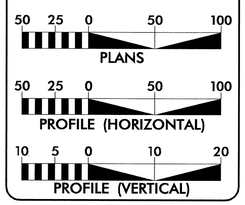
UTILITIES BY OTHERS PLANS
MONTGOMERY COUNTY

LOCATION: BRIDGE NO. 28 OVER ROCKY CREEK ON NC 109

TYPE OF WORK: UTILITY RELOCATION



GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-3	UTILITY BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

(1) RANDOLPH EMC
(2) EMBARQ

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

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

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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
B-4204	U0-2

UTILITIES BY OTHERS

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

5/14/99

THELMA STANBACK
DB 141 PG 708

JEWEL D. RANKIN
DB 61 PG 81

-L-
PI Sta 11+80.92
Δ = 17° 00' 28.8" (LT)
D = 3° 53' 51.6"
L = 436.36'
T = 219.80'
R = 1,470.00'
e(max) = 0.06
Ds = 60MPH

NAD 83/95

BM 16

TO MT. GILEAD

-BL-160

-L- POT Sta. 4+27.55

BECKY WALLACE
DB C5 PG 17

REM.

REMOVE

PROP O/H POW LINES

PROP. POLE

BEGIN CONSTRUCTION
-DET- PC STA.10+00.00 =
-L- POT STA.4+79.47

BEGIN TIP PROJECT B-4204
BEGIN OVERLAY
-L- POT STA.4+79.47 =
-DET- STA.10+00.00

-BL-161
-L- Sta. 9+36.35 20.59' RT.
-DET- Sta. 14+57.26 5.30' LT

-DET- PC Sta. 9+61.12

-L- PC Sta. 9+61.12

-DET- PT Sta. 12+12.57

SPECIAL CUT DITCH
W/CL 'B' R-R EST. 95
TONS, 228 SY F-F
SEE DETAIL 1

SPECIAL CUT DITCH
W/CL 'B' R-R EST. 110
TONS, 262 SY F-F
SEE DETAIL 1

RETAIN

REMOVE CB

18" RCP

TEST HOLE #1

GRAU 350

TEMP. O/H POW LINES

TEMP GRAU 350

TEMP. POLE

PAVEMENT - BRIDGE RELATIONSHIP SKETCH

BEGIN APPROACH SLAB
-L- STA. 14+10.83

BEGIN BRIDGE
-L- STA. 14+25.00

END APPROACH SLAB
-L- STA. 15+54.17

END BRIDGE
-L- STA. 15+40.00

SBG
TYPE B-77
N 12° 22' 23.7" E
-L-
-L- PT Sta. 13+97.49

EXIST. POLE
-DET- PT Sta. 18+37.35
-L- PT Sta. 13+97.49

PERMANENT POWER LINE LOCATION

MAINTAIN EXISTING DITCH

ABANDON

END OVERLAY
-L- POC STA.11+75.00

LAT 'V' DITCH
W/CL 'B' R-R EST. 62
TONS, 151 SY F-F
EST. DDE 210 CY
SEE DETAIL 2

-BL-153
-L- Sta. 15+12.45 19.43' RT
-DET- Sta. 20+49.38 28.57' LT

TEMPORARY POWER LINE LOCATION

UNITED STATES FOREST SERV.
UNIT 1505

BEGIN OVERLAY
-L- STA. 18+12.00

-L- PC Sta. 22+11

MATCH LINE -L- STA. 18+00 SEE SHEET 5

PROP O/H TEL & FO CABLES

TBS L/HD

TBDI

SPECIAL CUT DITCH
SEE DETAIL 4

STANDARD DITCH
W/CL 'B' R-R EST. 61
TONS, 146 SY F-F
EST. DDE 178 CY
SEE DETAIL 3

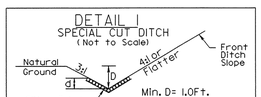
MONTGOMERY COUNTY BOARD OF EDUCATION
DB 234 PG 555
PLAT SLIDE B-366

FLASHING SPEED LIMIT SIGN (SCHOOL)

FOR STRUCTURE PLANS, SEE SHEET S-1 THRU S-__

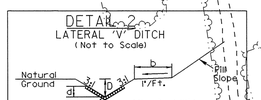
FOR -DET- PLAN AND PROFILE, SEE SHEET NO. 2B AND 2C

DETAIL 1
SPECIAL CUT DITCH
(Not to Scale)



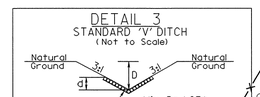
Type of Liner= Class B Rip-Rap
FROM STA. 6+50 TO STA. 9+10 -L- RT.
FROM STA. 9+50 TO 12+50 -L- RT.

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



Type of Liner= Class B Rip-Rap
FROM STA. 12+50 TO STA. 14+45 -L- RT.

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



Type of Liner= Class B Rip-Rap
FROM STA. 15+12 TO STA. 17+00 -L- RT.

** Design exception for vertical alignment and vertical stopping sight distance.

-L-

STRUCTURE HYDRAULIC DATA

DESIGN DISCHARGE	= 2,700	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 474.2	FT
BASE DISCHARGE	= 3,300	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 475.1	FT
OVERTOPPING DISCHARGE	= 4,900+	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 481.6	FT

BM 16 ELEV. 514.88
N 57029.3500 E 1717008.2470
-BL- STA. 6+24.18 22.41' LT
-L- STA. 5+17.45 32.81' LT
-DET- STA. 5+17.45 33.81' LT
RR SPIKE IN BASE OF 24" GUM

530 520 510 500 490 480 470 460 450

5 6 7 8 9 10 11 12 13 14 15 16 17 18

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$$$$USER$$$$
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PROJECT REFERENCE NO.	SHEET NO.
B-4204	U0-3

UTILITIES BY OTHERS

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

NAD 83/95

-DET-	
PI Sta 23+05.66	PI Sta 26+20.64
Δ = 8° 35' 04.0" (LT)	Δ = 25° 22' 47.5" (RT)
D = 6° 21' 58.3"	D = 5° 12' 31.3"
L = 134.84'	L = 487.26'
T = 67.55'	T = 247.69'
R = 900.00'	R = 1,100.00'
e(max) = 0.04	e(max) = 0.04
Ds = 45mph	Ds = 45mph

EXISTING RR R/W
NORFOLK SOUTHERN RAILROAD
100'
EXISTING RR R/W
TO TROY
ROAD
END DIVERGENCE PROJECT B-4204
END -DIVERGENCE PT STA. 28+60.21 = -L- PT STA. 23+22.25
-DET- PT STA. 28+60.21
UNITED STATES FOREST SERVICE
UNIT 1505
WOODS
-DET- 25
-L- 20
PROP TEL & FO CABLES
PROP O/H POW LINES
16"DIP
EO#30
EXISTING R/W
ABANDON
TEMP O/H POW LINES
N 29° 10' 07.2" E
EXIST 29° 10' 07.2" E
NC 109
32' PAVED ROADWAY
POSSIBLE BLIND JUNCTION BOX
TO NC 24-27
18"CONC
24"CONC
6"
fss
GRASS
-L- +50.00
40.00' RT
200
201
202
36' PAVED SCHOOL ENTRANCE
BRICK SIGN
-DET- PT Sta. 28+60.22
-L- PT Sta. 23+58.93
-L- PC Sta. 18+25.92
-DET- PRC Sta. 23+72.95
MONTGOMERY COUNTY BOARD OF EDUCATION
DB 234 PG 555
PLAT SLIDE B-366
FOR -DET- PLAN AND PROFILE, SEE SHEET NO. 2B AND 2C
-L-
BM 13 ELEV. 485.25
N 572223.6140 E 1717580.3000
-L- STA. 18+41.68 77.56' RT
-DET- STA. 23+72.83 40.14' RT
RR SPIKE IN BASE OF 15" PINE

DITCH LEGEND	
RIGHT DITCH	----------

530 520 510 500 490 480 470 460
18 19 20 21 22 23 24

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

PROJ. REFERENCE NO.	SHEET NO.
B-4204	X-1A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NOTE: EMBANKMENT COLUMN DOES NOT INCLUDE BACKFILL FOR UNDERCUT

CROSS-SECTION SUMMARY

Stations DET	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
5+62.39	0	0
6+00.00	0	0
6+50.00	3	0
7+00.00	3	1
7+50.00	1	10
8+00.00	1	28
8+50.00	1	44
9+00.00	2	50
9+50.00	13	31
10+00.00	41	9
10+50.00	90	5
11+00.00	94	2
11+50.00	67	1
12+00.00	75	0
12+50.00	111	0
13+00.00	97	3
13+50.00	48	13
14+00.00	21	95
14+10.63	0	43

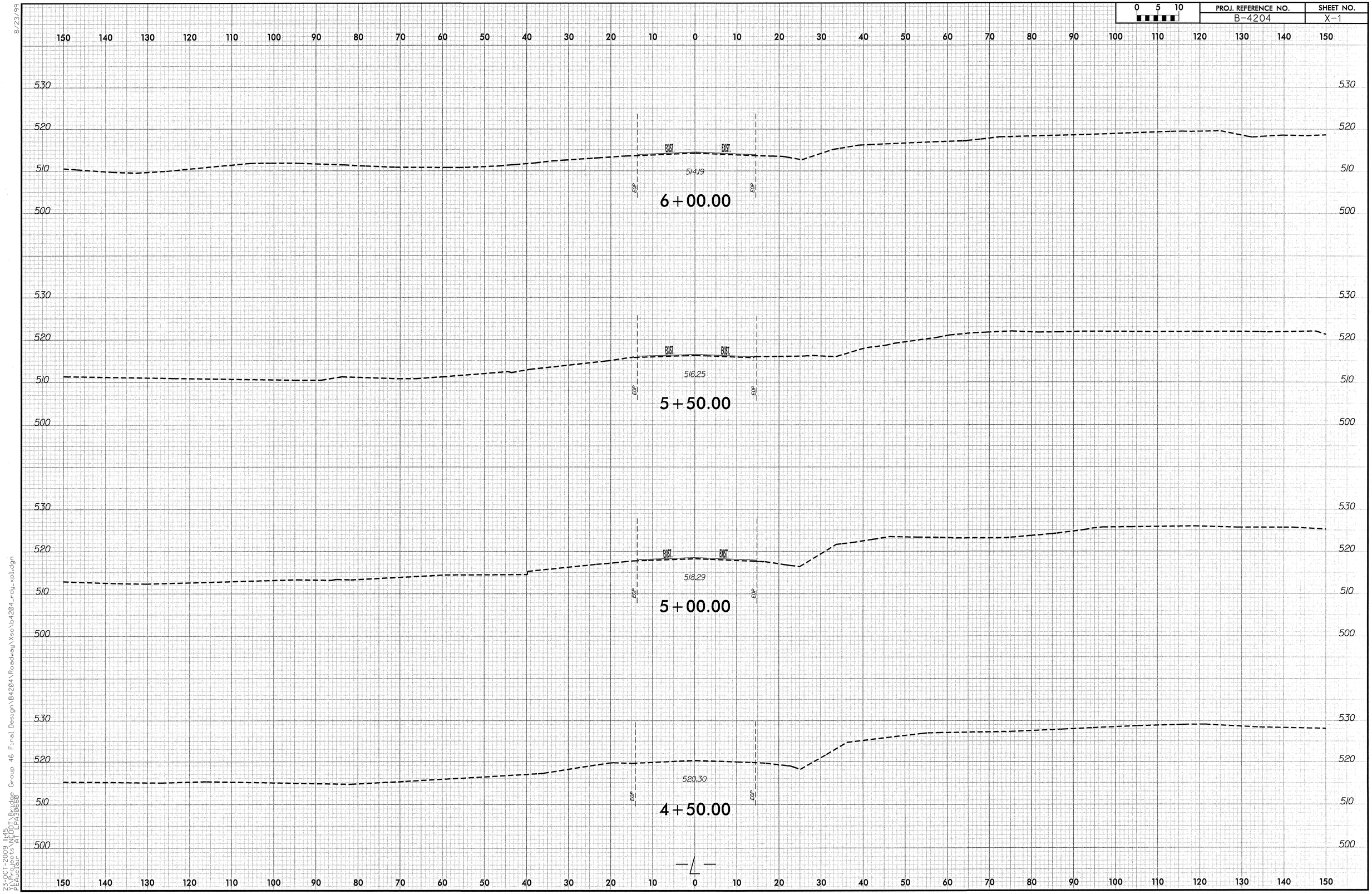
Stations L	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
6+25.00	0	0
6+50.00	0	0
7+00.00	0	2
7+50.00	0	2
8+00.00	0	1
8+50.00	0	2
9+00.00	0	3
9+50.00	0	3
10+00.00	0	6
10+50.00	0	15
11+00.00	0	18
11+50.00	0	9
12+00.00	19	8
12+50.00	38	10
13+00.00	34	11
13+50.00	26	12
14+00.00	11	13
14+24.54	0	13

Stations DET REM L-	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
5+62.39	0	0
6+00.00	0	0
6+50.00	1	0
7+00.00	1	1
7+50.00	13	1
8+00.00	35	0
8+50.00	48	0
9+00.00	54	0
9+50.00	52	9
10+00.00	45	29
10+50.00	39	55
11+00.00	23	46
11+50.00	14	24
12+00.00	20	27
12+50.00	13	70
13+00.00	3	82
13+50.00	13	48
14+00.00	110	21
14+10.63	50	0

Stations DET	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
15+40.00	0	0
15+50.00	0	194
16+00.00	0	715
16+50.00	0	359
17+00.00	0	206
17+50.00	3	107
18+00.00	23	41
18+50.00	60	9
19+00.00	78	3
19+50.00	60	2
20+00.00	29	3
20+50.00	7	2

Stations L	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
15+40.46	0	0
15+50.00	3	4
16+00.00	20	13
16+50.00	32	8
17+00.00	40	12
17+50.00	40	20
18+00.00	53	21
18+50.00	34	9
19+00.00	0	1
19+50.00	0	0
20+00.00	0	0
20+40.00	0	0

Stations DET REM -L-	Uncl. Exc. (cu.yd.)	Embt (cu.yd)
15+40.00	0	0
15+50.00	200	0
16+00.00	745	0
16+50.00	389	0
17+00.00	249	0
17+50.00	154	0
18+00.00	61	15
18+50.00	10	55
19+00.00	9	75
19+50.00	12	52
20+00.00	12	23
20+50.00	7	6



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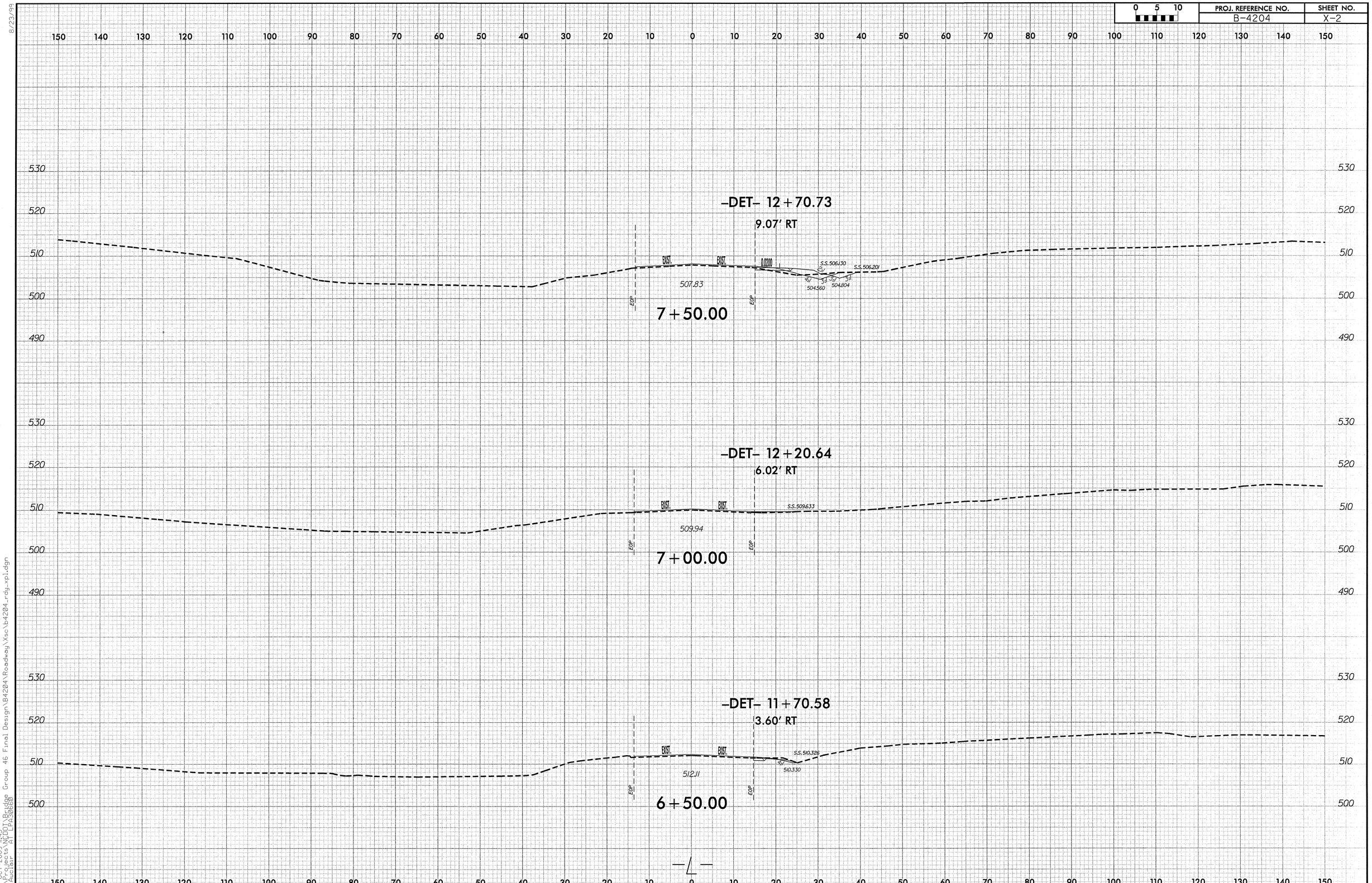
B-4204	X-2



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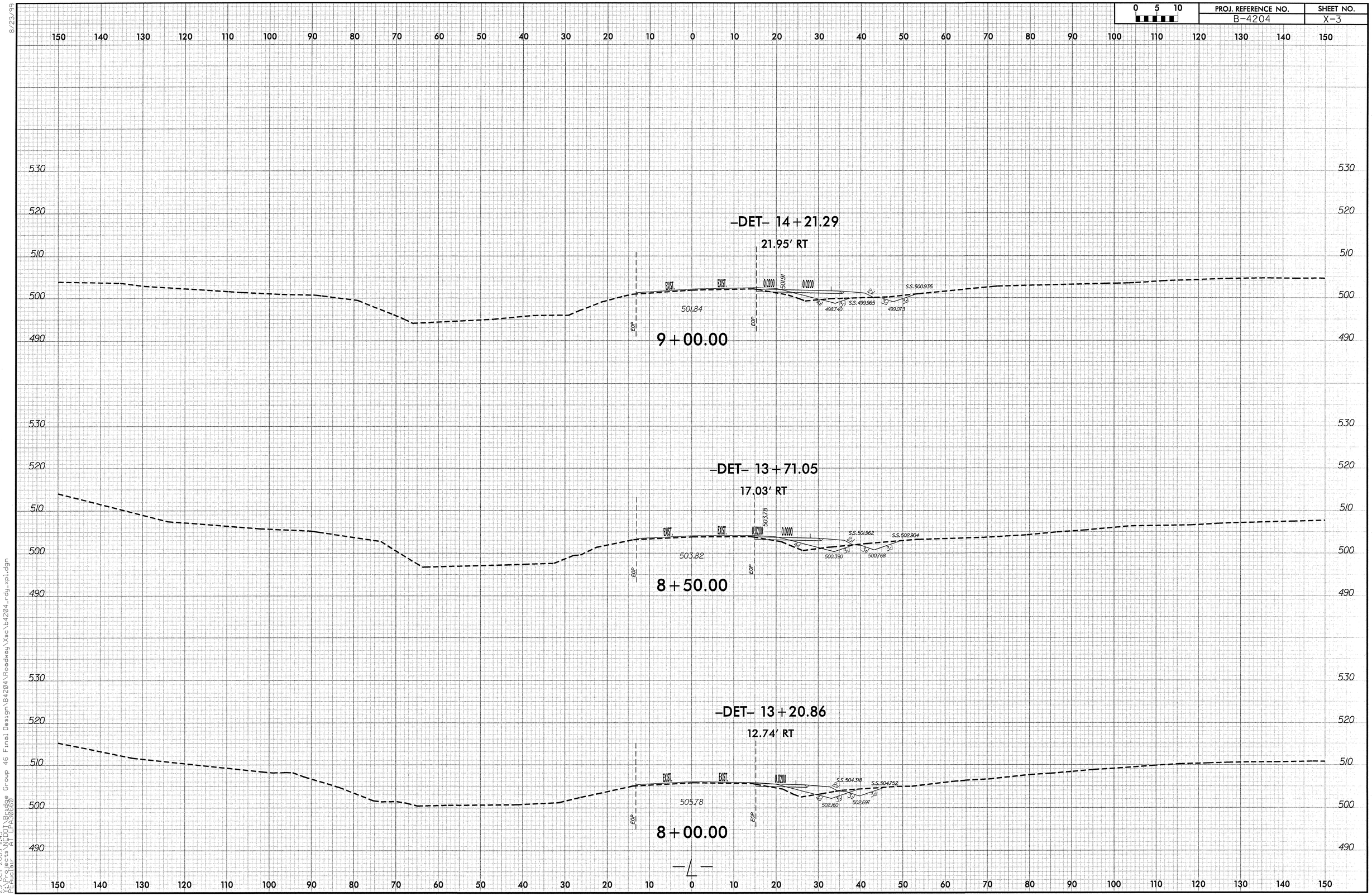

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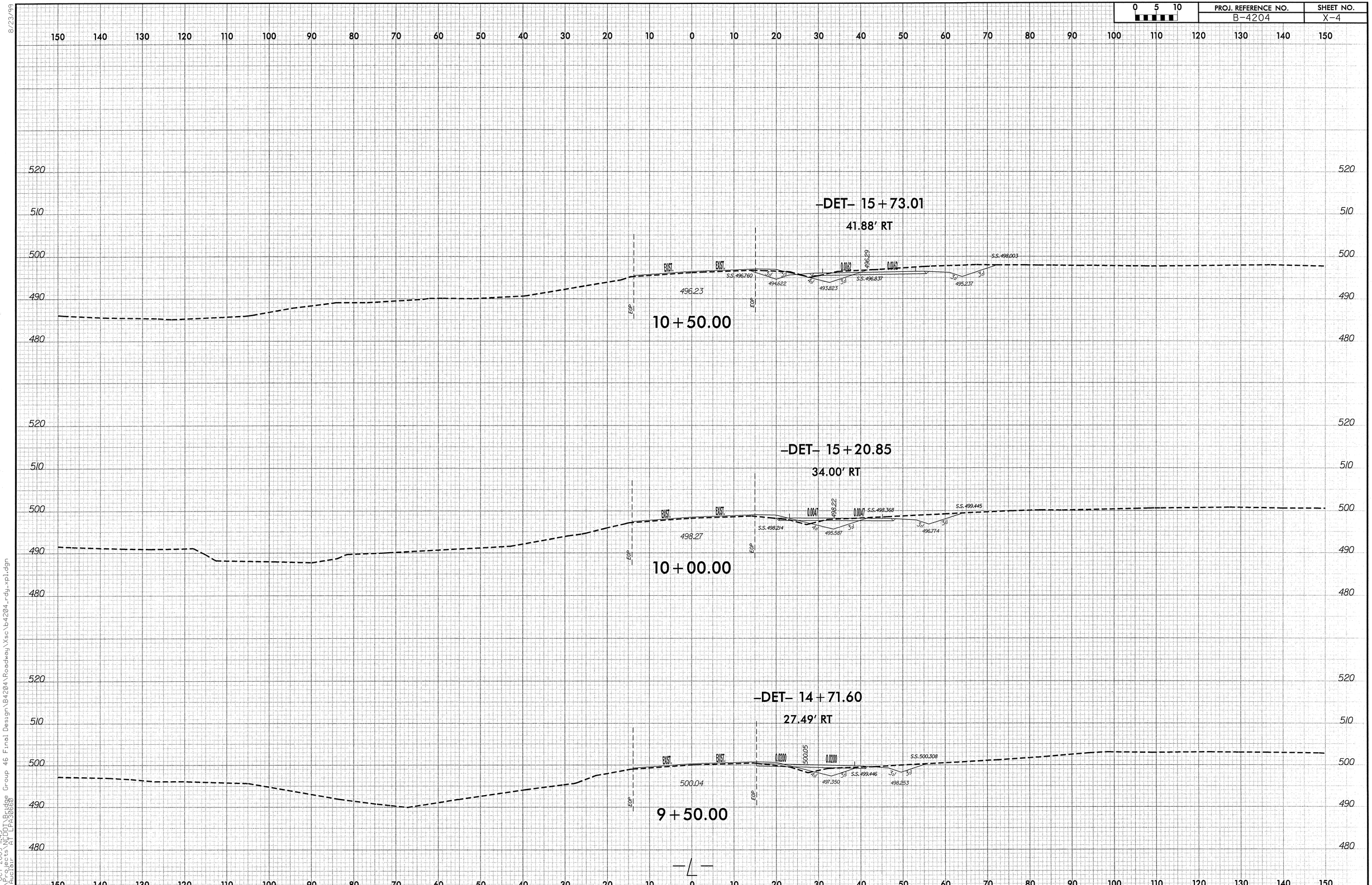
B-4204	X-4



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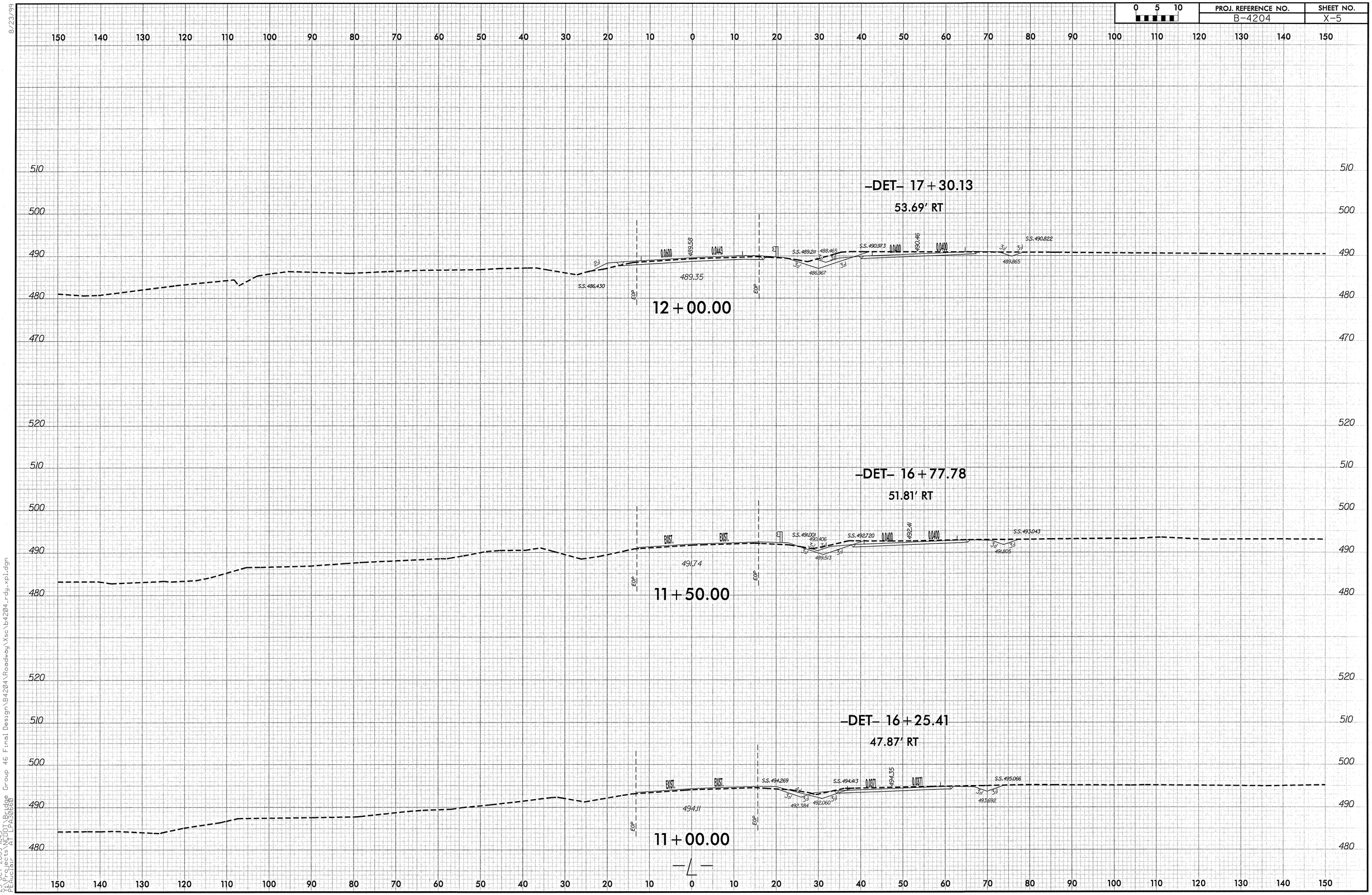

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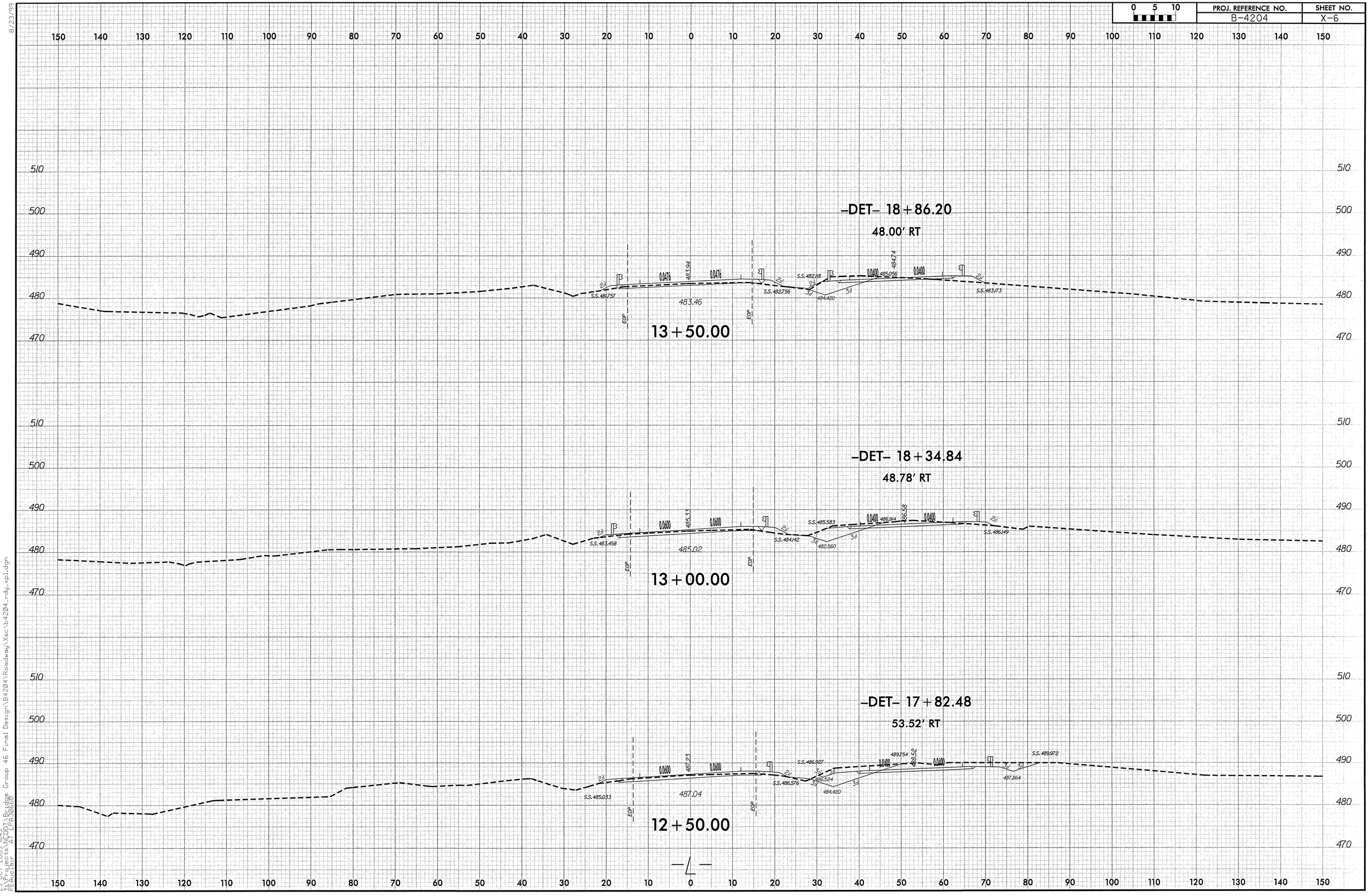

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PEAuclair AT LPA30660

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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4204	X-7

15+00.00

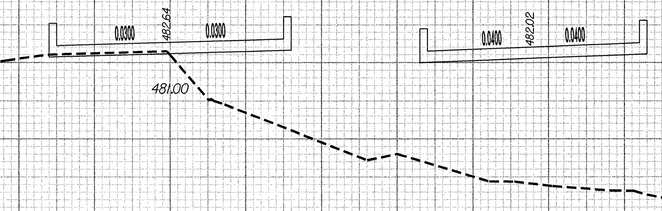
–L– 15+40.46
END BRIDGE

–DET– 20+37.35
48.00' RT

–DET– 20+77.98
END BRIDGE

14+50.00

–DET– 19+87.35
48.00' RT

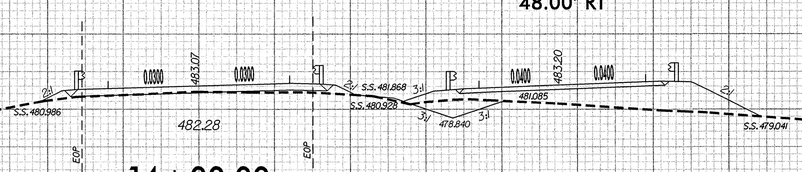


14+00.00

–L– 14+24.54
BEGIN BRIDGE

–DET– 19+47.98
BEGIN BRIDGE

–DET– 19+37.35
48.00' RT



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BkLusk
AT LPA30922

8/23/99

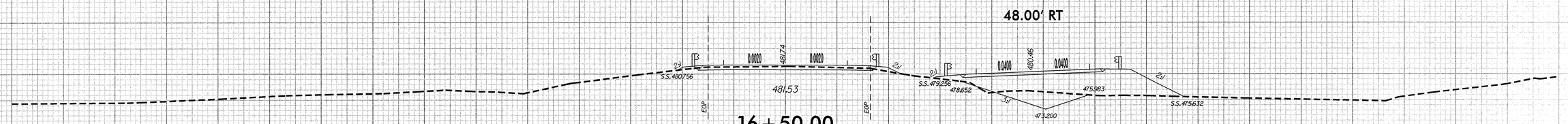
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-4204	X-8

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

500 490 480 470

–DET– 21+87.35

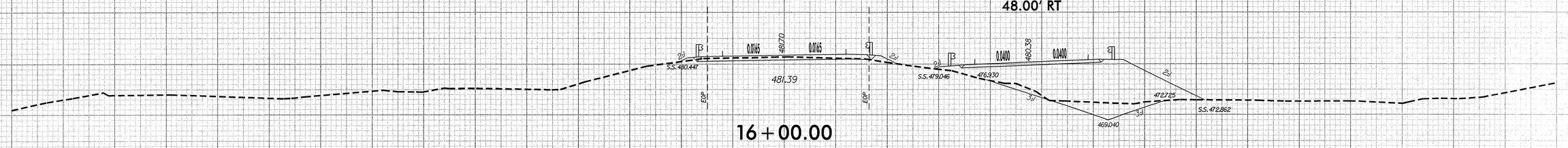
48.00' RT



16+50.00

–DET– 21+37.35

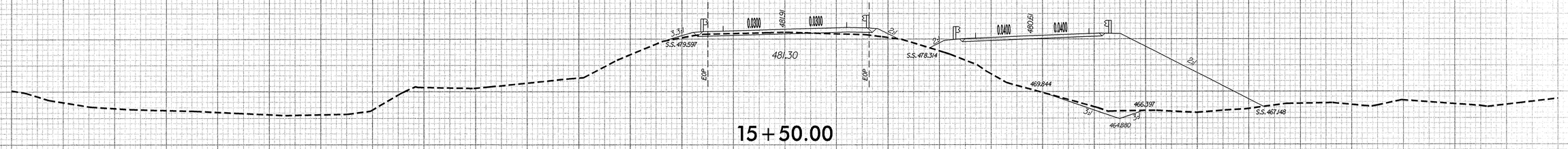
48.00' RT



16+00.00

–DET– 20+87.35

48.00' RT



15+50.00

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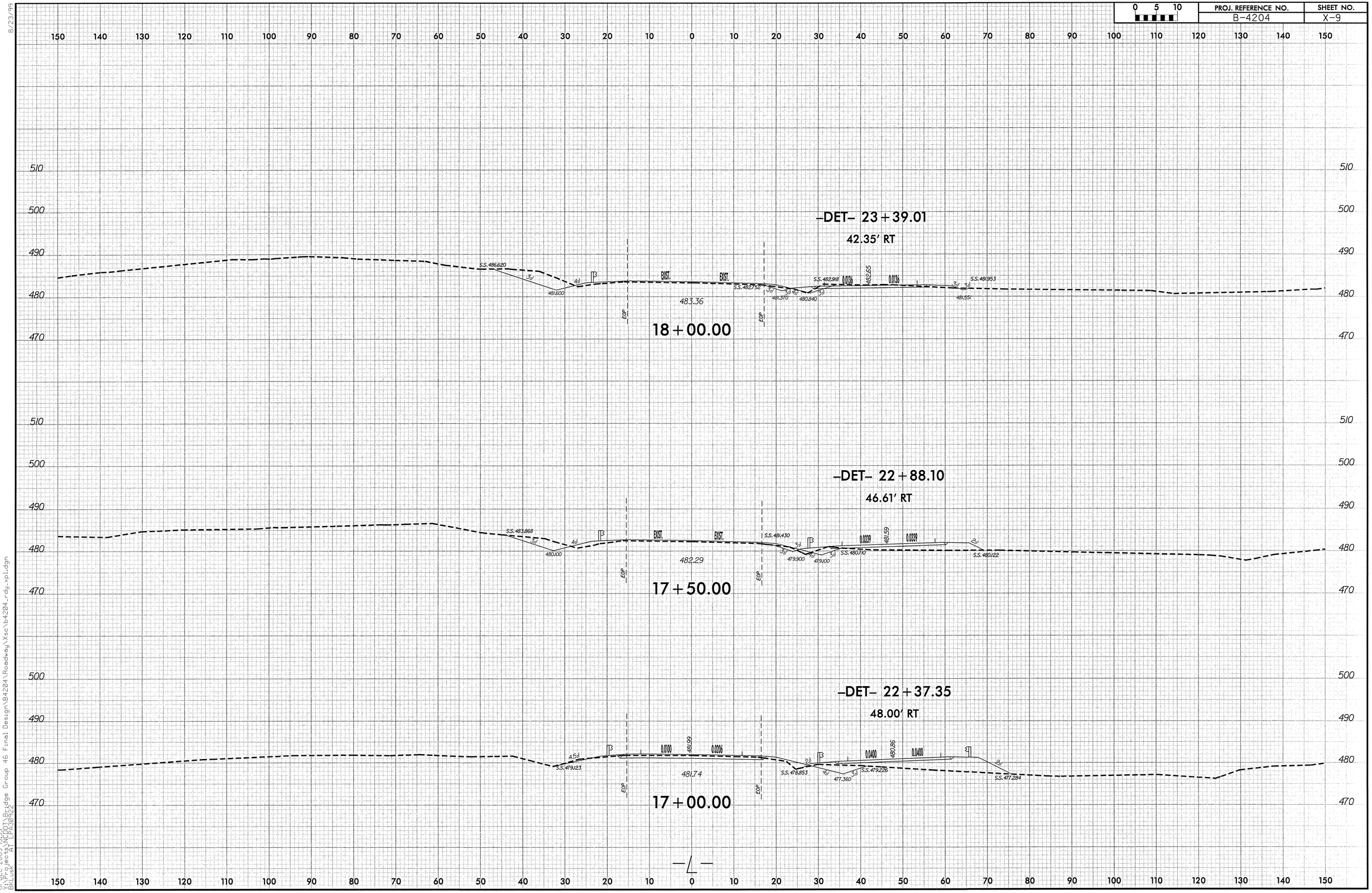
PENGUIN

PROJ. REFERENCE NO.	SHEET NO.
B-4204	X-9



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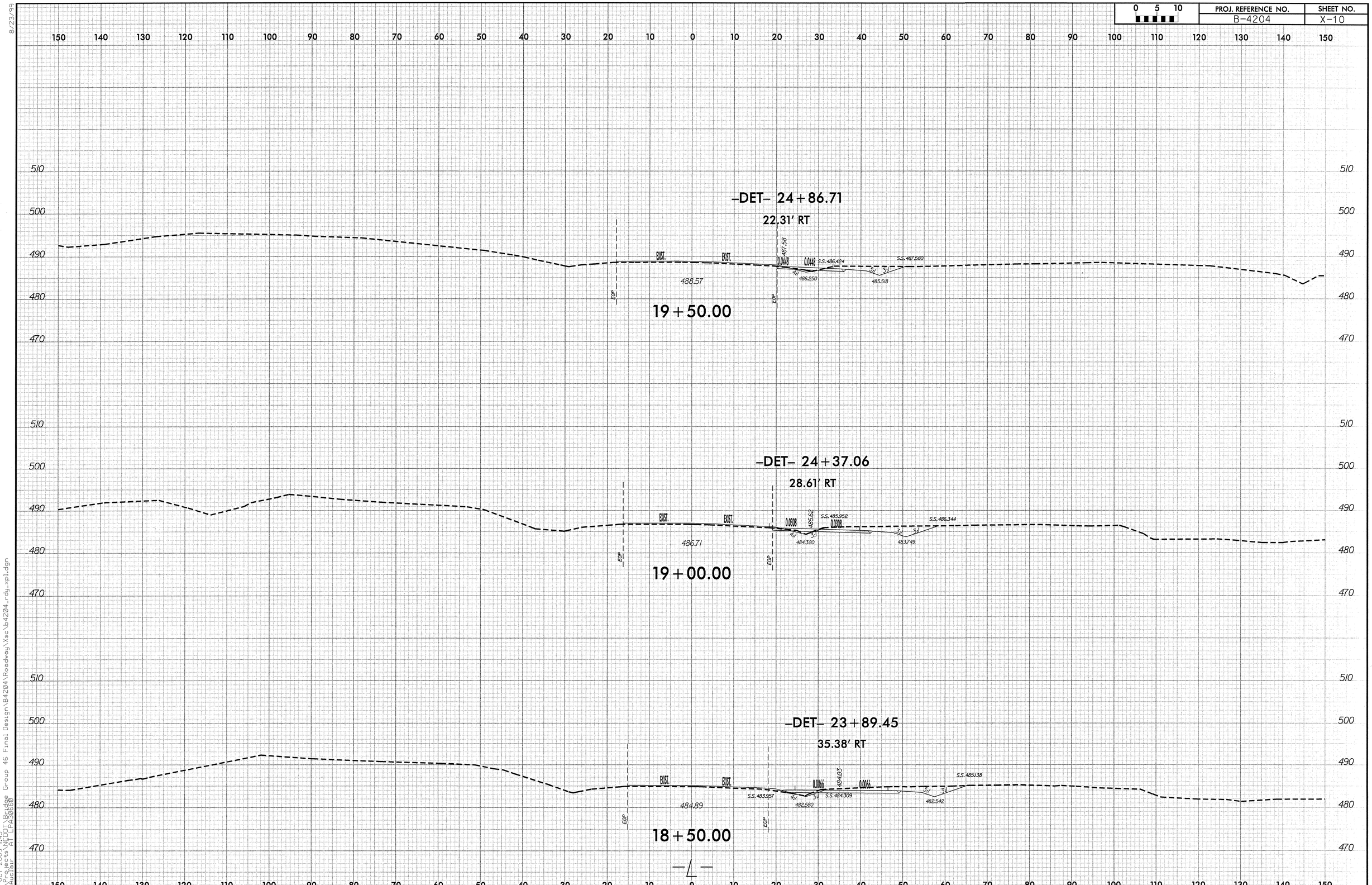
PROJ. REFERENCE NO.	SHEET NO.
B-4204	X-10



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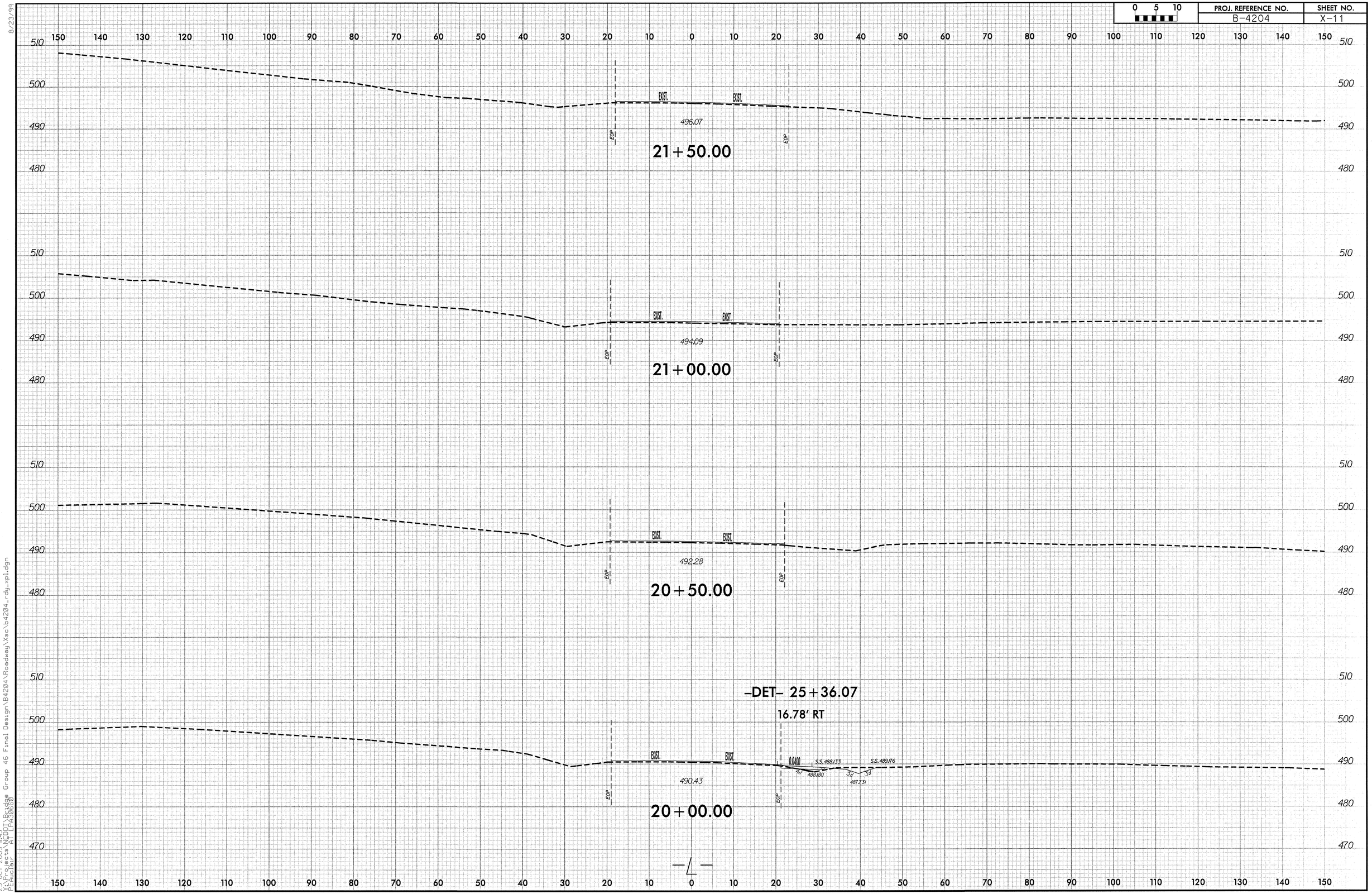

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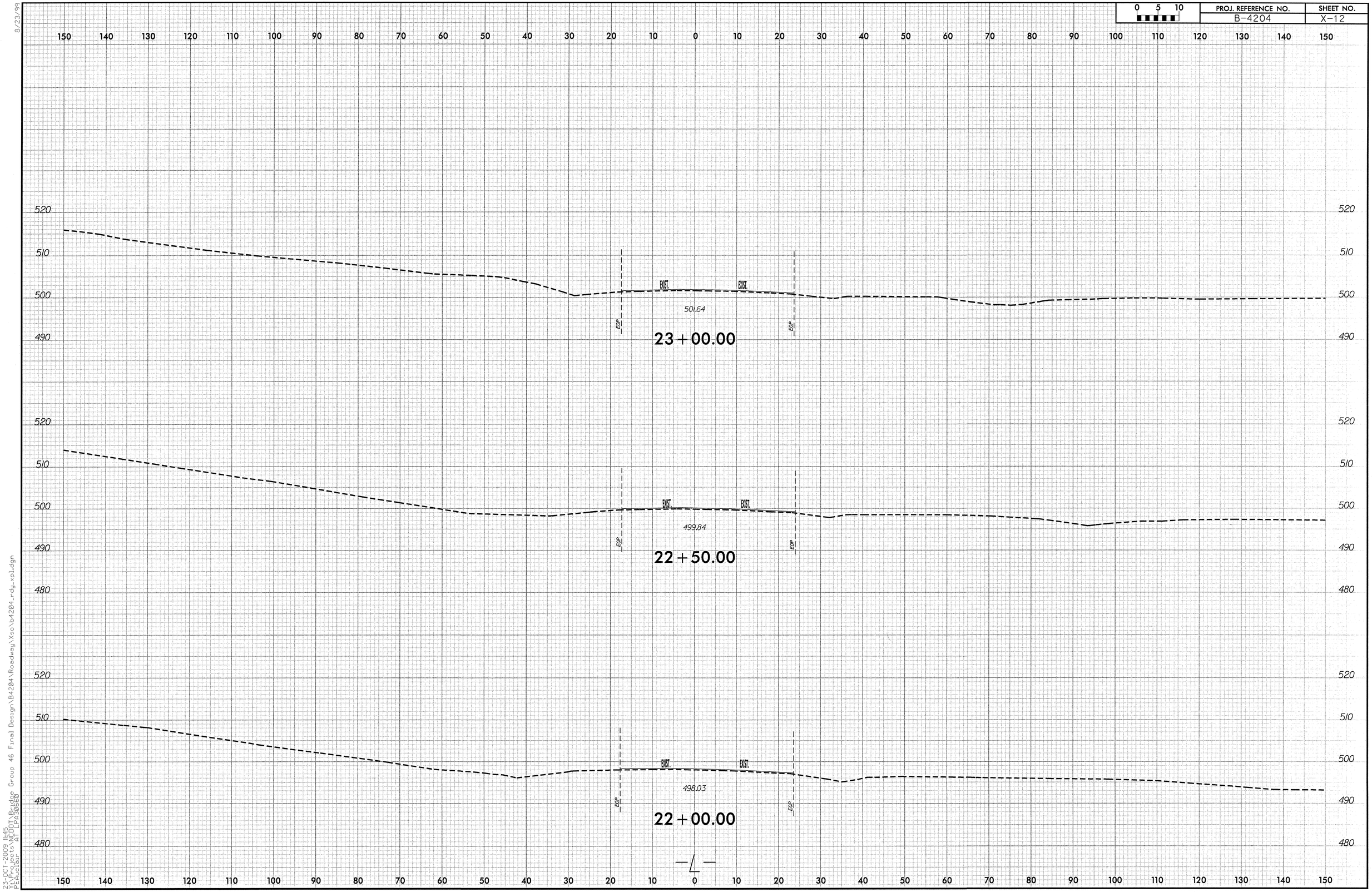

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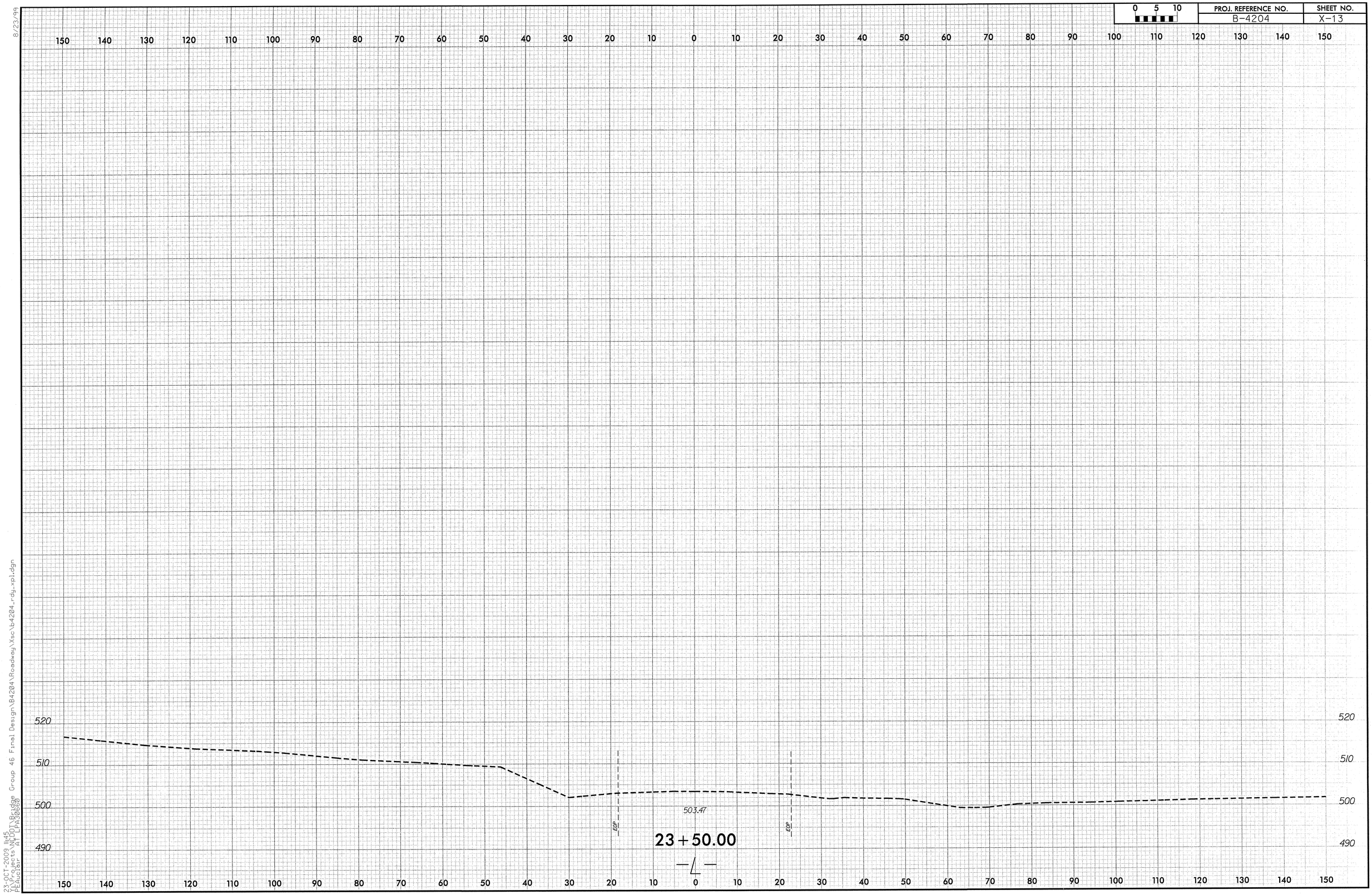

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PEAuclair AT LPA30660