09/08/99

TIP PROJECT: 18314.1045999.3.3

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

HENDERSON COUNTY

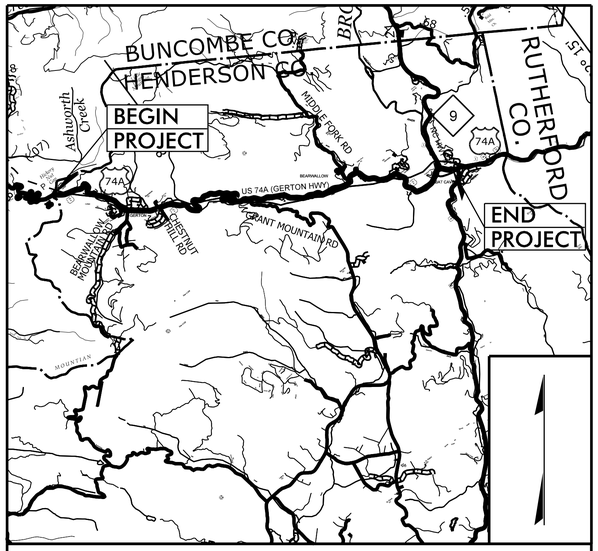
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	18314.1045999.3.3	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
- - - - -	N/A	P.E.
18314.1045999.2.3	N/A	ROW
18314.1045999.3.3	N/A	CONST

LOCATION: *US 74A (GERTON HWY) FROM WEST OF SR 1693 (BEARWALLOW MOUNTAIN RD) TO US 64 (CHIMNEY ROCK RD)*

TYPE OF WORK: *GRADING, PAVING, DRAINAGE, AND STRUCTURES*

WORK PACKAGE #3: *SR 1693 (BEARWALLOW MOUNTAIN ROAD) TO SR 1602 (GRANT MOUNTAIN ROAD))*



VICINITY MAP
(NOT TO SCALE)

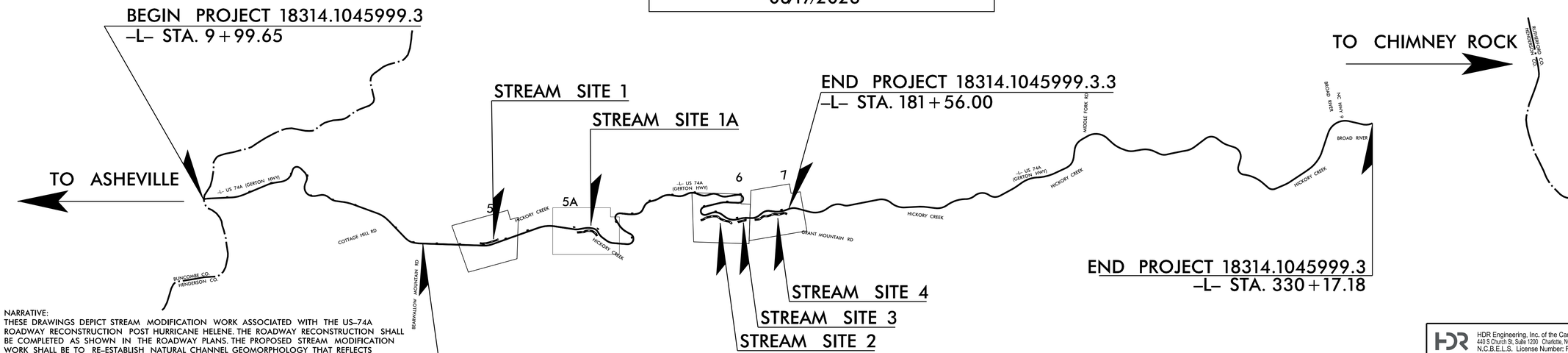
WP#3 RFC PLANS



SHEET	SHEET NO.
TITLE SHEET	1
ALIGNMENT DATA	2D-1 THRU 2D-1A
TYPICAL SECTIONS	2D-2
STREAM DETAILS SHEET	2D-3 THRU 2D-4
PLAN & PROFILE SHEETS	5-7
CROSS SECTIONS	X-1 THRU X-113

NAD 83 - NA 2011

WORK PACKAGE #3
RFC STREAM RELOCATION PLANS
06/17/2026



NARRATIVE:
THESE DRAWINGS DEPICT STREAM MODIFICATION WORK ASSOCIATED WITH THE US–74A ROADWAY RECONSTRUCTION POST HURRICANE HELENE. THE ROADWAY RECONSTRUCTION SHALL BE COMPLETED AS SHOWN IN THE ROADWAY PLANS. THE PROPOSED STREAM MODIFICATION WORK SHALL BE TO RE–ESTABLISH NATURAL CHANNEL GEOMORPHOLOGY THAT REFLECTS APPROPRIATE CHANNEL GEOMETRY, ALIGNMENT, AND PROFILE TO PROTECT THE ADJACENT ROADWAY EMBANKMENT FROM FURTHER EROSION AND INSTABILITY. THE INTENT OF THE PROPOSED STREAM WORK IS TO UTILIZE AND RECONFIGURE EXISTING NATIVE MATERIAL ON–SITE TO ACHIEVE THE PROPOSED DESIGN AS CLOSELY AS PRACTICABLE. ADJUSTMENTS TO CHANNEL ALIGNMENT, PROFILE, AND GEOMETRY MAY BE MADE IN THE FIELD BY THE ENGINEER TO ACCOMODATE EXISTING SITE CONDITIONS AND ENSURE STABILITY AND FUNCTIONALITY OF THE STREAM SYSTEM. PRIORITY SHOULD BE PLACED ON ACHIEVING LONG–TERM CHANNEL AND ROADWAY STABILITY, UTILIZING NATIVE MATERIAL, AND MINIMIZING DISTURBANCE TO SURROUNDING AREAS DURING CONSTRUCTION.

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

2022 = 1,500
ADT 2040 = 3,000
T = 8 %
V = 40 MPH

FUNC CLASS =
MINOR ARTERIAL

PROJECT LENGTH

LENGTH ROADWAY WORK PACKAGE #3 = 2.167 MILES

TOTAL LENGTH TIP PROJECT US–74A = 6.064 MILES

Prepared in the Office of:
HDR Engineering, Inc. of the Carolinas
440 S Church St, Suite 1200 Charlotte, NC 28202
N.C.B.E.L.S. License Number: F-0116

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
–

LETTING DATE:
–

PHILLIP E. ROGERS, PE
PROJECT ENGINEER

MATTHEW J. WERDER, PE
PROJECT DESIGN ENGINEER

NATHAN R. TANNER, PE
NCDOT CONTACT

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

P.E.

SIGNATURE:

ROADWAY DESIGN ENGINEER

P.E.

SIGNATURE:

STATE OF NORTH CAROLINA · DEPARTMENT OF TRANSPORTATION ·

HDR Engineering, Inc. of the Carolinas
440 S Church St, Suite 1200 Charlotte, NC 28202
N.C.B.E.L.S. License Number: F-0116

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: NCDOT_pshpfi.tbl
USER: KCLATTERBU DATE: 6/16/2026 TIME: 5:04:27 PM
FILE: \

6/2/99

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: US-74A_CMGC_STREAM.tbl
USER: KCLATTERBU DATE: 6/16/2026 TIME: 5:05:23 PM
FILE: \

STREAM SITE 1 ALIGNMENT DATA

Chain SS1 contains:
SS1 CUR SS1-1 CUR SS1-2 CUR SS1-3 CUR SS1-4 SS3 SS2

Beginning chain SS1 description

Point SS1 N 645,517.7642 E 1,004,334.8507 Sta 0+00.00

Course from SS1 to PC SS1-1 S 47° 53' 27.17" E Dist 83.7069

Curve Data

Curve SS1-1
P.I. Station 0+91.75 N 645,455.6062 E 1,004,402.2780
Delta = 15° 01' 18.36" (LT)
Degree = 93° 53' 36.22"
Tangent = 8.0455
Length = 15.9987
Radius = 61.0222
External = 0.5281
Long Chord = 15.9530
Mid. Ord. = 0.5236
P.C. Station 0+83.71 N 645,461.6349 E 1,004,396.9503
P.T. Station 0+99.71 N 645,451.1643 E 1,004,408.9862
C.C. N 645,502.0436 E 1,004,442.6760
Back = S 41° 28' 03.58" E
Ahead = S 56° 29' 21.93" E
Chord Bear = S 48° 58' 42.75" E

Course from PT SS1-1 to PC SS1-2 S 58° 20' 46.91" E Dist 125.4961

Curve Data

Curve SS1-2
P.I. Station 2+28.21 N 645,383.8620 E 1,004,518.4504
Delta = 8° 47' 25.84" (LT)
Degree = 146° 27' 48.03"
Tangent = 3.0068
Length = 6.0019
Radius = 39.1195
External = 0.1154
Long Chord = 5.9960
Mid. Ord. = 0.1150
P.C. Station 2+25.20 N 645,385.3061 E 1,004,515.8130
P.T. Station 2+31.20 N 645,382.8379 E 1,004,521.2774
C.C. N 645,419.6186 E 1,004,534.6012
Back = S 61° 17' 47.90" E
Ahead = S 70° 05' 13.75" E
Chord Bear = S 65° 41' 30.83" E

Course from PT SS1-2 to PC SS1-3 S 69° 57' 02.22" E Dist 94.9996

Curve Data

Curve SS1-3
P.I. Station 3+27.70 N 645,349.7786 E 1,004,611.9379
Delta = 3° 22' 12.14" (RT)
Degree = 112° 19' 33.84"
Tangent = 1.5005
Length = 3.0002
Radius = 51.0084
External = 0.0221
Long Chord = 2.9998
Mid. Ord. = 0.0221
P.C. Station 3+26.20 N 645,350.2692 E 1,004,610.5199
P.T. Station 3+29.20 N 645,349.2055 E 1,004,613.3247
C.C. N 645,302.0638 E 1,004,593.8434
Back = S 70° 55' 01.82" E
Ahead = S 67° 32' 49.68" E
Chord Bear = S 69° 13' 55.75" E

Course from PT SS1-3 to PC SS1-4 S 68° 09' 17.63" E Dist 71.5030

Curve Data

Curve SS1-4
P.I. Station 4+05.21 N 645,320.9658 E 1,004,683.8919
Delta = 7° 16' 28.10" (LT)
Degree = 80° 50' 35.20"
Tangent = 4.5052
Length = 8.9983
Radius = 70.8728
External = 0.1430
Long Chord = 8.9922
Mid. Ord. = 0.1428
P.C. Station 4+00.71 N 645,322.5994 E 1,004,679.6934
P.T. Station 4+09.70 N 645,319.8770 E 1,004,688.2636
C.C. N 645,388.8488 E 1,004,705.3920
Back = S 68° 44' 23.51" E
Ahead = S 76° 00' 51.61" E
Chord Bear = S 72° 22' 37.56" E

Course from PT SS1-4 to SS3 S 76° 07' 12.26" E Dist 52.3070

Point SS3 N 645,307.3291 E 1,004,739.0432 Sta 4+62.01

Course from SS3 to SS2 S 85° 52' 50.79" E Dist 35.2509

Point SS2 N 645,304.7970 E 1,004,774.2030 Sta 4+97.26

==========
Ending chain SS1 description

STREAM SITE 2 ALIGNMENT DATA

Chain SS2 contains:
S21 S22 CUR SS2-1 CUR SS2-2 CUR SS2-3 CUR SS2-4 CUR SS2-5 CUR SS2-6 CUR SS2-7 - S24 S25 S26 S23

Beginning chain SS2 description

==========

Point S21 N 642,944.0590 E 1,008,342.6810 Sta 0+00.00

Course from S21 to S22 N 85° 41' 01.63" E Dist 32.4703

Point S22 N 642,946.5027 E 1,008,375.0592 Sta 0+32.47

Course from S22 to PC SS2-1 S 68° 34' 44.48" E Dist 40.9999

Curve Data

Curve SS2-1
P.I. Station 0+83.03 N 642,928.1375 E 1,008,422.1620
Delta = 15° 32' 42.56" (LT)
Degree = 81° 49' 54.15"
Tangent = 9.5569
Length = 18.9965
Radius = 70.0166
External = 0.6492
Long Chord = 18.9383
Mid. Ord. = 0.6433
P.C. Station 0+73.47 N 642,931.5288 E 1,008,413.2270
P.T. Station 0+92.47 N 642,927.2649 E 1,008,431.6790
C.C. N 642,996.9889 E 1,008,438.0725
Back = S 69° 12' 56.29" E
Ahead = S 84° 45' 38.85" E
Chord Bear = S 76° 59' 17.57" E

Course from PT SS2-1 to PC SS2-2 S 85° 59' 19.57" E Dist 57.0000

Curve Data

Curve SS2-2
P.I. Station 1+60.55 N 642,921.9128 E 1,008,499.5355
Delta = 16° 57' 19.71" (RT)
Degree = 77° 04' 26.33"
Tangent = 11.0805
Length = 21.9990
Radius = 74.3387
External = 0.8213
Long Chord = 21.9188
Mid. Ord. = 0.8123
P.C. Station 1+49.47 N 642,923.2776 E 1,008,488.5394
P.T. Station 1+71.47 N 642,917.4005 E 1,008,509.6556
C.C. N 642,849.5050 E 1,008,479.3828
Back = S 92° 55' 28.94" E
Ahead = S 65° 58' 09.23" E
Chord Bear = S 74° 26' 49.09" E

Course from PT SS2-2 to PC SS2-3 S 64° 42' 10.59" E Dist 116.9998

Curve Data

Curve SS2-3
P.I. Station 2+97.51 N 642,863.5821 E 1,008,623.6312
Delta = 13° 45' 03.55" (RT)
Degree = 76° 23' 39.74"
Tangent = 9.0435
Length = 18.0009
Radius = 75.0000
External = 0.5433
Long Chord = 17.9568
Mid. Ord. = 0.5394
P.C. Station 2+88.47 N 642,867.4051 E 1,008,615.4356
P.T. Station 3+06.47 N 642,857.9204 E 1,008,630.6832
C.C. N 642,799.4365 E 1,008,583.7297
Back = S 64° 59' 30.93" E
Ahead = S 51° 14' 27.38" E
Chord Bear = S 58° 06' 59.16" E

Course from PT SS2-3 to PC SS2-4 S 50° 16' 12.64" E Dist 76.9993

Curve Data

Curve SS2-4
P.I. Station 4+06.16 N 642,793.5809 E 1,008,706.8263
Delta = 33° 40' 34.33" (RT)
Degree = 76° 23' 39.74"
Tangent = 22.6983
Length = 44.0820
Radius = 75.0000
External = 3.3595
Long Chord = 43.4503
Mid. Ord. = 3.2155
P.C. Station 3+83.46 N 642,808.7050 E 1,008,689.9008
P.T. Station 4+27.55 N 642,771.6097 E 1,008,712.5252
C.C. N 642,752.7793 E 1,008,639.9276
Back = S 48° 13' 01.63" E
Ahead = S 14° 32' 27.30" E
Chord Bear = S 31° 22' 44.47" E

Course from PT SS2-4 to PC SS2-5 S 14° 32' 27.30" E Dist 71.9180

Curve Data

Curve SS2-5
P.I. Station 5+09.02 N 642,692.7920 E 1,008,733.1358
Delta = 14° 30' 53.75" (LT)
Degree = 76° 23' 39.74"
Tangent = 9.5511
Length = 19.0000
Radius = 75.0000
External = 0.6057
Long Chord = 18.9492
Mid. Ord. = 0.6009
P.C. Station 4+99.46 N 642,701.9953 E 1,008,730.5817
P.T. Station 5+18.46 N 642,684.5226 E 1,008,737.9150
C.C. N 642,722.0512 E 1,008,802.8504
Back = S 15° 30' 36.93" E
Ahead = S 30° 01' 30.68" E
Chord Bear = S 22° 46' 03.80" E

Course from PT SS2-5 to PC SS2-6 S 30° 44' 06.52" E Dist 75.0000

Curve Data

Curve SS2-6
P.I. Station 6+04.02 N 642,610.8208 E 1,008,781.3606
Delta = 14° 32' 46.57" (LT)
Degree = 69° 15' 27.81"
Tangent = 10.5583
Length = 21.0031
Radius = 82.7284
External = 0.6710
Long Chord = 20.9467
Mid. Ord. = 0.6656
P.C. Station 5+93.46 N 642,620.0572 E 1,008,776.2453
P.T. Station 6+14.47 N 642,603.1652 E 1,008,788.6318
C.C. N 642,660.1378 E 1,008,848.6161
Back = S 28° 58' 43.21" E
Ahead = S 43° 31' 29.78" E
Chord Bear = S 36° 15' 06.50" E

Course from PT SS2-6 to PC SS2-7 S 41° 51' 51.87" E Dist 59.9999

Curve Data

Curve SS2-7
P.I. Station 6+97.12 N 642,541.2841 E 1,008,843.4186
Delta = 33° 36' 04.44" (RT)
Degree = 76° 21' 57.62"
Tangent = 22.6531
Length = 44.0003
Radius = 75.0279
External = 3.3452
Long Chord = 43.3724
Mid. Ord. = 3.2025
P.C. Station 6+74.47 N 642,558.4817 E 1,008,828.6739
P.T. Station 7+18.47 N 642,518.8002 E 1,008,846.1823
C.C. N 642,509.6468 E 1,008,771.7149
Back = S 40° 36' 31.61" E
Ahead = S 7° 00' 27.17" E
Chord Bear = S 23° 48' 29.39" E

Course from PT SS2-7 to S24 S 7° 27' 52.56" E Dist 46.0872

Point S24 N 642,473.1036 E 1,008,852.1697 Sta 7+64.56

Course from S24 to S25 S 19° 16' 39.69" E Dist 2.7815

Point S25 N 642,470.4780 E 1,008,853.0880 Sta 7+67.34

Course from S25 to S26 S 8° 32' 04.19" E Dist 14.4268

Point S26 N 642,456.2110 E 1,008,855.2290 Sta 7+81.76

Course from S26 to S23 S 3° 46' 54.44" E Dist 29.8239

Point S23 N 642,426.4520 E 1,008,857.1961 Sta 8+11.59

==========
Ending chain SS2 description

STREAM SITE 3 ALIGNMENT DATA

Chain SS3 contains:
S31 S32 CUR SS3-1 CUR SS3-2 CUR SS3-3 CUR SS3-4 CUR SS3-5 CUR SS3-6 CUR SS3-7 -
S33 S34 CUR SS3-8 CUR SS3-9 CUR SS3-10 CUR SS3-11 S35

Beginning chain SS3 description

==========

Point S31 N 642,407.6722 E 1,008,952.6603 Sta 0+00.00

Course from S31 to S32 N 60° 01' 44.52" E Dist 25.1962

Point S32 N 642,420.2593 E 1,008,974.4873 Sta 0+25.20

Course from S32 to PC SS3-1 N 84° 53' 32.78" E Dist 0.9999

Curve Data

Curve SS3-1
P.I. Station 0+28.20 N 642,420.4397 E 1,008,977.4821
Delta = 4° 32' 12.47" (RT)
Degree = 113° 25' 29.06"
Tangent = 2.0010
Length = 3.9998
Radius = 50.5144
External = 0.0396
Long Chord = 3.9988
Mid. Ord. = 0.0396
P.C. Station 0+26.20 N 642,420.3483 E 1,008,975.4832
P.T. Station 0+30.20 N 642,420.3728 E 1,008,979.4819
C.C. N 642,369.8867 E 1,008,977.7913
Back = N 87° 22' 52.07" E
Ahead = S 88° 04' 55.46" E
Chord Bear = N 89° 38' 58.31" E

Course from PT SS3-1 to PC SS3-2 S 89° 23' 01.85" E Dist 1.0000

STREAM SITE 3 ALIGNMENT DATA (CONTINUED)

Curve Data

Curve SS3-2
P.I. Station 0+32.20 N 642,420.3612 E 1,008,981.4820
Delta = 2° 49' 36.45" (LT)
Degree = 141° 20' 25.51"
Tangent = 1.0002
Length = 2.0000
Radius = 40.5374
External = 0.0123
Long Chord = 1.9998
Mid. Ord. = 0.0123
P.C. Station 0+31.20 N 642,420.3620 E 1,008,980.4818
P.T. Station 0+33.20 N 642,420.4097 E 1,008,982.4810
C.C. N 642,460.8994 E 1,008,980.5146
Back = S 89° 57' 13.28" E
Ahead = N 87° 13' 10.27" E
Chord Bear = N 88° 37' 58.50" E

Course from PT SS3-2 to PC SS3-3 N 87° 19' 59.33" E Dist 2.0000

Curve Data

Curve SS3-3
P.I. Station 0+39.25 N 642,420.7964 E 1,008,988.5235
Delta = 22° 43' 02.29" (RT)
Degree = 283° 49' 20.35"
Tangent = 4.0553
Length = 8.0041
Radius = 20.1872
External = 0.4033
Long Chord = 7.9517
Mid. Ord. = 0.3954
P.C. Station 0+35.20 N 642,420.5028 E 1,008,984.4789
P.T. Station 0+43.20 N 642,419.5052 E 1,008,992.3678
C.C. N 642,400.3685 E 1,008,985.9403
Back = N 85° 50' 54.48" E
Ahead = S 71° 26' 03.23" E
Chord Bear = S 82° 47' 34.37" E

Curve Data

Curve SS3-4
P.I. Station 0+48.22 N 642,417.9681 E 1,008,997.1470
Delta = 12° 40' 41.84" (RT)
Degree = 126° 47' 13.65"
Tangent = 5.0203
Length = 9.9997
Radius = 45.1905
External = 0.2780
Long Chord = 9.9793
Mid. Ord. = 0.2763
P.C. Station 0+43.20 N 642,419.5052 E 1,008,992.3678
P.T. Station 0+53.20 N 642,415.4196 E 1,009,001.4724
C.C. N 642,376.4848 E 1,008,978.5318
Back = S 72° 10' 17.39" E
Ahead = S 59° 29' 35.55" E
Chord Bear = S 65° 49' 56.47" E

Course from PT SS3-4 to PC SS3-5 S 58° 52' 12.69" E Dist 10.9740

Curve Data

Curve SS3-5
P.I. Station 0+68.69 N 642,407.4092 E 1,009,014.7358
Delta = 8° 09' 30.87" (LT)
Degree = 90° 23' 26.96"
Tangent = 4.5206
Length = 9.0259
Radius = 63.3867
External = 0.1610
Long Chord = 9.0183
Mid. Ord. = 0.1606
P.C. Station 0+64.17 N 642,409.7462 E 1,009,010.8661
P.T. Station 0+73.20 N 642,405.6449 E 1,009,018.8979
C.C. N 642,464.0052 E 1,009,043.6357
Back = S 58° 52' 12.69" E
Ahead = S 67° 01' 43.56" E
Chord Bear = S 62° 56' 58.12" E

Course from PT SS3-5 to PC SS3-6 S 66° 29' 19.07" E Dist 10.9999

Curve Data

Curve SS3-6
P.I. Station 0+89.20 N 642,399.2393 E 1,009,033.5604
Delta = 2° 35' 14.33" (RT)
Degree = 25° 52' 23.32"
Tangent = 5.0009
Length = 10.0000
Radius = 221.4488
External = 0.0565
Long Chord = 9.9992
Mid. Ord. = 0.0564
P.C. Station 0+84.20 N 642,401.2567 E 1,009,028.9846
P.T. Station 0+94.20 N 642,397.0174 E 1,009,038.0406
C.C. N 642,198.8272 E 1,008,939.6488
Back = S 66° 12' 29.43" E
Ahead = S 63° 37' 15.09" E
Chord Bear = S 64° 54' 52.26" E

Curve Data

Curve SS3-7
P.I. Station 1+00.70 N 642,394.1603 E 1,009,043.8791
Delta = 0° 40' 14.57" (RT)
Degree = 5° 09' 33.60"
Tangent = 6.5001
Length = 13.0000
Radius = 1,110.5266
External = 0.0190
Long Chord = 12.9999
Mid. Ord. = 0.0190
P.C. Station 0+94.20 N 642,397.0174 E 1,009,038.0406
P.T. Station 1+07.20 N 642,391.2350 E 1,009,049.6837
C.C. N 641,399.5225 E 1,008,549.9081
Back = S 63° 55' 29.28" E
Ahead = S 63° 15' 14.71" E
Chord Bear = S 63° 35' 21.99" E

Course from PT SS3-7 to S33 S 63° 06' 42.08" E Dist 15.0000

Point S33 N 642,384.4512 E 1,009,063.0620 Sta 1+22.20

Course from S33 to S34 S 63° 39' 38.42" E Dist 39.9980

Point S34 N 642,366.7047 E 1,009,098.9076 Sta 1+62.20

Course from S34 to PC SS3-8 S 64° 40' 15.95" E Dist 5.0000

Curve Data

Curve SS3-8
P.I. Station 1+72.20 N 642,362.4051 E 1,009,107.9443
Delta = 7° 43' 28.36" (LT)
Degree = 77° 14' 54.28"
Tangent = 5.0074
Length = 9.9996
Radius = 74.1708
External = 0.1688
Long Chord = 9.9921
Mid. Ord. = 0.1685
P.C. Station 1+67.20 N 642,364.5656 E 1,009,103.4269
P.T. Station 1+77.20 N 642,360.8715 E 1,009,112.7110
C.C. N 642,431.4778 E 1,009,135.4278
Back = S 64° 26' 25.60" E
Ahead = S 72° 09' 53.98" E
Chord Bear = S 68° 18' 09.79" E

Course from PT SS3-8 to PC SS3-9 S 72° 29' 09.46" E Dist 6.9999

Curve Data

Curve SS3-9
P.I. Station 1+89.20 N 642,357.3424 E 1,009,124.1839
Delta = 5° 29' 02.56" (RT)
Degree = 54° 50' 21.21"
Tangent = 5.0039
Length = 10.0002
Radius = 104.4796
External = 0.1198
Long Chord = 9.9964
Mid. Ord. = 0.1196
P.C. Station 1+84.20 N 642,358.7650 E 1,009,119.3864
P.T. Station 1+94.20 N 642,355.4678 E 1,009,128.8234
C.C. N 642,258.5965 E 1,009,089.6835
Back = S 73° 29' 00.03" E
Ahead = S 67° 59' 57.47" E
Chord Bear = S 70° 44' 28.75" E

STREAM SITE 3 ALIGNMENT DATA (CONTINUED)

Curve Data

Curve SS3-10
P.I. Station 2+00.77 N 642,353.1296 E 1,009,134.9643
Delta = 20° 47' 38.33" (RT)
Degree = 159° 59' 05.73"
Tangent = 6.5710
Length = 12.9975
Radius = 35.8132
External = 0.5978
Long Chord = 12.9262
Mid. Ord. = 0.5880
P.C. Station 1+94.20 N 642,355.4678 E 1,009,128.8234
P.T. Station 2+07.19 N 642,348.7636 E 1,009,139.8752
C.C. N 642,321.9986 E 1,009,116.0798
Back = S 69° 09' 19.42" E
Ahead = S 48° 21' 41.09" E
Chord Bear = S 58° 45' 30.26" E

Curve Data

Curve SS3-11
P.I. Station 2+11.00 N 642,346.0407 E 1,009,142.5402
Delta = 1° 22' 52.13" (LT)
Degree = 18° 07' 32.17"
Tangent = 3.8101
Length = 7.6199
Radius = 316.1041
External = 0.0230
Long Chord = 7.6197
Mid. Ord. = 0.0230
P.C. Station 2+07.19 N 642,348.7636 E 1,009,139.8752
P.T. Station 2+14.81 N 642,343.3827 E 1,009,145.2701
C.C. N 642,569.8679 E 1,009,365.7839
Back = S 44° 23' 03.18" E
Ahead = S 45° 45' 55.30" E
Chord Bear = S 45° 04' 29.24" E

Course from PT SS3-11 to S35 S 45° 31' 14.96" E Dist 39.9154

Point S35 N 642,315.4160 E 1,009,173.7500 Sta 2+54.73

==========
Ending chain SS3 description

STREAM SITE 4 ALIGNMENT DATA

Chain SS4 contains:
ETW325 ETW326 ETW327 S40 CUR SS4-1 CUR SS4-2 CUR SS4-3 CUR SS4-4 CUR SS4-5 CUR-
SS4-6 S41 ETW363 ETW364 ETW365 ETW366 ETW367

Beginning chain SS4 description

==========

Point ETW325 N 642,243.3320 E 1,009,263.4020 Sta 0+00.00

Course from ETW325 to ETW326 S 23° 42' 48.44" E Dist 6.9847

Point ETW326 N 642,236.9370 E 1,009,266.2110 Sta 0+06.98

Course from ETW326 to ETW327 N 67° 19' 54.88" E Dist 4.9352

Point ETW327 N 642,238.8390 E 1,009,270.7650 Sta 0+11.92

Course from ETW327 to S40 N 80° 01' 05.62" E Dist 15.8398

Point S40 N 642,241.5846 E 1,009,286.3650 Sta 0+27.76

Course from S40 to PC SS4-1 S 57° 51' 29.62" E Dist 81.1904

Curve Data

Curve SS4-1
P.I. Station 1+29.08 N 642,187.6802 E 1,009,372.1570
Delta = 30° 02' 56.80" (LT)
Degree = 76° 23' 39.74"
Tangent = 20.1306
Length = 39.3342
Radius = 75.0000
External = 2.6546
Long Chord = 38.8849
Mid. Ord. = 2.5639
P.C. Station 1+08.95 N 642,198.3900 E 1,009,355.1117
P.T. Station 1+48.28 N 642,186.9451 E 1,009,392.2742
C.C. N 642,261.8951 E 1,009,395.0129
Back = S 57° 51' 29.62" E
Ahead = S 87° 54' 26.42" E
Chord Bear = S 72° 52' 58.02" E

Course from PT SS4-1 to PC SS4-2 S 88° 41' 47.25" E Dist 69.8115

Curve Data

Curve SS4-2
P.I. Station 2+43.84 N 642,184.4168 E 1,009,487.7954
Delta = 37° 53' 28.47" (RT)
Degree = 76° 23' 39.74"
Tangent = 25.7450
Length = 49.5995
Radius = 75.0000
External = 4.2957
Long Chord = 48.7006
Mid. Ord. = 4.0630
P.C. Station 2+18.10 N 642,185.3569 E 1,009,462.0676
P.T. Station 2+67.70 N 642,167.8738 E 1,009,507.5219
C.C. N 642,110.4070 E 1,009,459.3290
Back = S 87° 54' 26.42" E
Ahead = S 50° 00' 57.95" E
Chord Bear = S 68° 57' 42.18" E

Course from PT SS4-2 to PC SS4-3 S 50° 20' 45.58" E Dist 50.3674

Curve Data

Curve SS4-3
P.I. Station 3+30.43 N 642,127.7875 E 1,009,555.7735
Delta = 18° 55' 52.23" (LT)
Degree = 77° 15' 57.42"
Tangent = 12.3633
Length = 24.5013
Radius = 74.1540
External = 1.0236
Long Chord = 24.3900
Mid. Ord. = 1.0096
P.C. Station 3+18.06 N 642,135.7319 E 1,009,546.3004
P.T. Station 3+42.56 N 642,123.3463 E 1,009,567.3116
C.C. N 642,192.5505 E 1,009,593.9497
Back = S 50° 00' 57.95" E
Ahead = S 68° 56' 50.18" E
Chord Bear = S 59° 28' 54.07" E

Course from PT SS4-3 to PC SS4-4 S 69° 43' 33.55" E Dist 113.7365

Curve Data

Curve SS4-4
P.I. Station 4+72.33 N 642,078.2508 E 1,009,688.9844
Delta = 24° 07' 17.11" (RT)
Degree = 76° 23' 39.74"
Tangent = 16.0248
Length = 31.5749
Radius = 75.0000
External = 1.6929
Long Chord = 31.3422
Mid. Ord. = 1.6555
P.C. Station 4+56.30 N 642,083.9354 E 1,009,674.0017
P.T. Station 4+87.88 N 642,066.9396 E 1,009,700.3356
C.C. N 642,013.8129 E 1,009,647.3965
Back = S 69° 13' 21.78" E
Ahead = S 45° 06' 04.67" E
Chord Bear = S 57° 09' 43.23" E

Course from PT SS4-4 to PC SS4-5 S 45° 06' 04.67" E Dist 65.6416

STREAM SITE 4 ALIGNMENT DATA (CONTINUED)

Curve Data

Curve SS4-5
P.I. Station 5+67.08 N 642,011.0304 E 1,009,756.4429
Delta = 21° 20' 55.29" (LT)
Degree = 79° 36' 25.44"
Tangent = 13.5661
Length = 26.8176
Radius = 71.9732
External = 1.2674
Long Chord = 26.6627
Mid. Ord. = 1.2454
P.C. Station 5+53.52 N 642,020.6061 E 1,009,746.8332
P.T. Station 5+80.33 N 642,005.6101 E 1,009,768.8791
C.C. N 642,071.5888 E 1,009,797.6359
Back = S 45° 06' 04.67" E
Ahead = S 66° 26' 59.96" E
Chord Bear = S 55° 46' 32.32" E

Course from PT SS4-5 to PC SS4-6 S 67° 42' 19.51" E Dist 98.0415

Curve Data

Curve SS4-6
P.I. Station 6+94.92 N 641,961.6770 E 1,009,874.7017
Delta = 30° 51' 17.20" (RT)
Degree = 95° 33' 59.20"
Tangent = 16.5449
Length = 32.2862
Radius = 59.9539
External = 2.2410
Long Chord = 31.8975
Mid. Ord. = 2.1602
P.C. Station 6+78.38 N 641,968.4162 E 1,009,859.5916
P.T. Station 7+10.66 N 641,948.1422 E 1,009,884.2170
C.C. N 641,913.6614 E 1,009,835.1706
Back = S 65° 57' 46.35" E
Ahead = S 35° 06' 29.15" E
Chord Bear = S 50° 32' 07.75" E

Course from PT SS4-6 to S41 S 25° 09' 47.87" E Dist 46.1110

Point S41 N 641,906.4071 E 1,009,903.8234 Sta 7+56.77

Course from S41 to ETW363 S 50° 17' 34.25" E Dist 4.5802

End Region 1
Equation: Sta 7+61.35 (BK) = Sta 8+17.70 (AH) ----------
Begin Region 2

Point ETW363 N 641,903,4810 E 1,009,907,3470 Sta 8+17,70

Course from ETW363 to ETW364 S 5° 56' 07,11" E Dist 26,8168

Point ETW364 N 641,876,8080 E 1,009,910,1200 Sta 8+44,51

Course from ETW364 to ETW365 S 4° 15' 59,63" W Dist 17,3260

Point ETW365 N 641,859,5300 E 1,009,908,8310 Sta 8+61,84

Course from ETW365 to ETW366 S 17° 08' 38,76" W Dist 13,2372

Point ETW366 N 641,846,8810 E 1,009,904,9290 Sta 8+75,08

Course from ETW366 to ETW367 S 4° 27' 54,42" E Dist 14,4248

Point ETW367 N 641,832.5000 E 1,009,906.0520 Sta 8+89,50

==========
Ending chain SS4 description

SEE SHEETS NO. 5 FOR –STREAM SITE 1– PROFILE
SEE SHEETS NO. 6–6a FOR –STREAM SITE 2 & 3– PROFILE
SEE SHEETS NO. 7 FOR –STREAM SITE 4– PROFILE

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–1

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

6/2/99

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt PENTABLE: US-74A_CMGC_STREAM.tbl
USER: KCLATTERBU DATE: 6/16/2026 TIME: 5:05:29 PM
FILE: \

STREAM SITE 1A ALIGNMENT DATA

Chain SS1A contains:
SS100 SS101 CUR SS1A-1 CUR SS1A-2 CUR SS1A-3 CUR SS1A-4 CUR SS1A-5 CUR SS1A-6 -
SS102 CUR SS1A-7 CUR SS1A-8 CUR SS1A-9 CUR SS1A-10 CUR SS1A-11 CUR SS1A-12 CUR -
SS1A-13 SS103 SS104

Beginning chain SS1A description
==========

Point SS100 N 644,398.6217 E 1,006,126.4466 Sta 0+00.00

Course from SS100 to SS101 S 46° 10' 49.05" E Dist 24.7572

Point SS101 N 644,381.4800 E 1,006,144.3094 Sta 0+24.76

Course from SS101 to PC SS1A-1 S 56° 09' 49.56" E Dist 8.0000

Curve Data

Curve SS1A-1
P.I. Station 0+34.76 N 644,375.9263 E 1,006,152.6330
Delta = 11° 07' 06.47" (RT)
Degree = 277° 57' 09.47"
Tangent = 2.0064
Length = 4.0001
Radius = 20.6135
External = 0.0974
Long Chord = 3.9939
Mid. Ord. = 0.0970
P.C. Station 0+32.76 N 644,377.0254 E 1,006,150.9545
P.T. Station 0+36.76 N 644,374.5241 E 1,006,154.0680
C.C. N 644,359.7804 E 1,006,139.6617
Back = S 56° 46' 53.23" E
Ahead = S 45° 39' 46.76" E
Chord Bear = S 51° 13' 19.99" E

Course from PT SS1A-1 to PC SS1A-2 S 48° 00' 47.53" E Dist 4.9997

Curve Data

Curve SS1A-2
P.I. Station 0+54.27 N 644,363.5048 E 1,006,167.6649
Delta = 6° 50' 35.67" (LT)
Degree = 27° 22' 52.31"
Tangent = 12.5111
Length = 24.9925
Radius = 209.2523
External = 0.3737
Long Chord = 24.9776
Mid. Ord. = 0.3730
P.C. Station 0+41.76 N 644,371.1795 E 1,006,157.7843
P.T. Station 0+66.75 N 644,357.0620 E 1,006,178.3896
C.C. N 644,536.4357 E 1,006,286.1467
Back = S 52° 09' 42.40" E
Ahead = S 59° 00' 18.07" E
Chord Bear = S 55° 35' 00.24" E

Curve Data

Curve SS1A-3
P.I. Station 0+81.77 N 644,349.7650 E 1,006,191.5151
Delta = 6° 48' 54.94" (RT)
Degree = 22° 43' 03.92"
Tangent = 15.0176
Length = 29.9997
Radius = 252.2070
External = 0.4467
Long Chord = 29.9820
Mid. Ord. = 0.4459
P.C. Station 0+66.75 N 644,357.0620 E 1,006,178.3896
P.T. Station 0+96.75 N 644,340.9619 E 1,006,203.6820
C.C. N 644,136.6295 E 1,006,055.8420
Back = S 60° 55' 42.62" E
Ahead = S 54° 06' 47.68" E
Chord Bear = S 57° 31' 15.15" E

Course from PT SS1A-3 to PC SS1A-4 S 54° 32' 54.96" E Dist 24.0000

Curve Data

Curve SS1A-4
P.I. Station 1+29.25 N 644,322.2672 E 1,006,230.2716
Delta = 4° 51' 54.02" (RT)
Degree = 28° 36' 59.77"
Tangent = 8.5054
Length = 17.0006
Radius = 200.2187
External = 0.1806
Long Chord = 16.9955
Mid. Ord. = 0.1804
P.C. Station 1+20.75 N 644,327.0416 E 1,006,223.2326
P.T. Station 1+37.75 N 644,316.9130 E 1,006,236.8803
C.C. N 644,161.3430 E 1,006,110.8427
Back = S 55° 51' 06.44" E
Ahead = S 50° 59' 12.42" E
Chord Bear = S 53° 25' 09.43" E

Course from PT SS1A-4 to PC SS1A-5 S 51° 14' 58.96" E Dist 11.9998

Curve Data

Curve SS1A-5
P.I. Station 1+66.00 N 644,299.1711 E 1,006,258.8621
Delta = 24° 48' 04.97" (LT)
Degree = 77° 31' 56.39"
Tangent = 16.2487
Length = 31.9884
Radius = 73.8992
External = 1.7653
Long Chord = 31.7393
Mid. Ord. = 1.7241
P.C. Station 1+49.75 N 644,309.4020 E 1,006,246.2388
P.T. Station 1+81.74 N 644,295.1789 E 1,006,274.6128
C.C. N 644,366.8130 E 1,006,292.7691
Back = S 50° 58' 33.59" E
Ahead = S 75° 46' 38.56" E
Chord Bear = S 63° 22' 36.08" E

Course from PT SS1A-5 to PC SS1A-6 S 81° 21' 03.90" E Dist 30.9983

Curve Data

Curve SS1A-6
P.I. Station 2+19.82 N 644,289.3965 E 1,006,312.2580
Delta = 22° 11' 40.45" (RT)
Degree = 158° 32' 23.39"
Tangent = 7.0885
Length = 13.9994
Radius = 36.1397
External = 0.6886
Long Chord = 13.9120
Mid. Ord. = 0.6757
P.C. Station 2+12.74 N 644,290.5174 E 1,006,305.2586
P.T. Station 2+26.74 N 644,285.7147 E 1,006,318.3153
C.C. N 644,254.8324 E 1,006,299.5440
Back = S 80° 54' 06.93" E
Ahead = S 58° 42' 26.48" E
Chord Bear = S 69° 48' 16.70" E

Course from PT SS1A-6 to SS102 S 59° 05' 25.60" E Dist 15.5926

Point SS102 N 644,277.7050 E 1,006,331.6935 Sta 2+42.33

Course from SS102 to PC SS1A-7 S 59° 20' 45.62" E Dist 10.0000

Curve Data

Curve SS1A-7
P.I. Station 2+59.85 N 644,268.9394 E 1,006,346.8670
Delta = 11° 11' 32.52" (RT)
Degree = 74° 36' 24.02"
Tangent = 7.5249
Length = 15.0018
Radius = 76.7971
External = 0.3678
Long Chord = 14.9780
Mid. Ord. = 0.3660
P.C. Station 2+52.33 N 644,272.6064 E 1,006,340.2961
P.T. Station 2+67.33 N 644,264.0667 E 1,006,352.6011
C.C. N 644,205.5456 E 1,006,302.8710
Back = S 60° 50' 06.44" E
Ahead = S 49° 38' 33.92" E
Chord Bear = S 55° 14' 20.18" E

Course from PT SS1A-7 to PC SS1A-8 S 48° 12' 54.03" E Dist 52.9948

STREAM SITE 1A ALIGNMENT DATA (CONTINUED)

Curve Data

Curve SS1A-8
P.I. Station 3+32.35 N 644,220.5427 E 1,006,400.9046
Delta = 9° 24' 23.16" (RT)
Degree = 39° 11' 32.16"
Tangent = 12.0274
Length = 24.0007
Radius = 146.1915
External = 0.4939
Long Chord = 23.9738
Mid. Ord. = 0.4923
P.C. Station 3+20.33 N 644,228.7543 E 1,006,392.1167
P.T. Station 3+44.33 N 644,211.0053 E 1,006,408.2324
C.C. N 644,121.9375 E 1,006,292.3061
Back = S 46° 56' 31.26" E
Ahead = S 37° 32' 08.10" E
Chord Bear = S 42° 14' 19.68" E

Curve Data

Curve SS1A-9
P.I. Station 3+53.38 N 644,203.8477 E 1,006,413.7816
Delta = 15° 35' 35.61" (RT)
Degree = 86° 37' 18.80"
Tangent = 9.0567
Length = 18.0015
Radius = 66.1447
External = 0.6172
Long Chord = 17.9460
Mid. Ord. = 0.6115
P.C. Station 3+44.33 N 644,211.0053 E 1,006,408.2324
P.T. Station 3+62.33 N 644,195.4620 E 1,006,417.2025
C.C. N 644,170.4774 E 1,006,355.9580
Back = S 37° 47' 10.17" E
Ahead = S 22° 11' 34.55" E
Chord Bear = S 29° 59' 22.36" E

Course from PT SS1A-9 to PC SS1A-10 S 19° 25' 46.33" E Dist 31.9887

Curve Data

Curve SS1A-10
P.I. Station 4+03.83 N 644,156.2182 E 1,006,430.6973
Delta = 7° 38' 53.12" (RT)
Degree = 40° 15' 01.02"
Tangent = 9.5148
Length = 19.0013
Radius = 142.3488
External = 0.3176
Long Chord = 18.9872
Mid. Ord. = 0.3169
P.C. Station 3+94.32 N 644,165.2949 E 1,006,427.8435
P.T. Station 4+13.32 N 644,146.8424 E 1,006,432.3177
C.C. N 644,122.6002 E 1,006,292.0483
Back = S 17° 27' 12.40" E
Ahead = S 9° 48' 19.28" E
Chord Bear = S 13° 37' 45.84" E

Curve Data

Curve SS1A-11
P.I. Station 4+28.32 N 644,132.1532 E 1,006,435.3590
Delta = 1° 35' 11.94" (RT)
Degree = 5° 17' 20.11"
Tangent = 15.0007
Length = 29.9995
Radius = 1,083.3172
External = 0.1039
Long Chord = 29.9986
Mid. Ord. = 0.1038
P.C. Station 4+13.32 N 644,146.8424 E 1,006,432.3177
P.T. Station 4+43.32 N 644,117.3855 E 1,006,437.9925
C.C. N 643,927.2009 E 1,005,371.5002
Back = S 11° 41' 51.94" E
Ahead = S 10° 06' 40.00" E
Chord Bear = S 10° 54' 15.97" E

Curve Data

Curve SS1A-12
P.I. Station 4+51.96 N 644,109.1312 E 1,006,440.5619
Delta = 24° 58' 14.66" (RT)
Degree = 146° 45' 17.19"
Tangent = 8.6449
Length = 17.0153
Radius = 39.0419
External = 0.9457
Long Chord = 16.8809
Mid. Ord. = 0.9233
P.C. Station 4+43.32 N 644,117.3855 E 1,006,437.9925
P.T. Station 4+60.33 N 644,100.5639 E 1,006,439.4065
C.C. N 644,105.7818 E 1,006,400.7149
Back = S 17° 17' 24.65" E
Ahead = S 7° 40' 50.01" W
Chord Bear = S 4° 48' 17.32" E

Curve Data

Curve SS1A-13
P.I. Station 4+68.36 N 644,092.5455 E 1,006,438.9999
Delta = 11° 36' 51.49" (RT)
Degree = 72° 34' 43.95"
Tangent = 8.0287
Length = 16.0023
Radius = 78.9428
External = 0.4072
Long Chord = 15.9749
Mid. Ord. = 0.4051
P.C. Station 4+60.33 N 644,100.5639 E 1,006,439.4065
P.T. Station 4+76.33 N 644,084.7732 E 1,006,436.9874
C.C. N 644,104.5617 E 1,006,360.5659
Back = S 2° 54' 10.17" W
Ahead = S 14° 31' 01.66" W
Chord Bear = S 8° 42' 35.92" W

Course from PT SS1A-13 to SS103 S 12° 17' 53.61" W Dist 29.0000

Point SS103 N 644,056.4387 E 1,006,430.8104 Sta 5+05.33

Course from SS103 to SS104 S 0° 15' 54.88" W Dist 34.2103

Point SS104 N 644,022.2287 E 1,006,430.6520 Sta 5+39.54

==========
Ending chain SS1A description

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–1A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SEE SHEETS NO. 5 FOR –STREAM SITE 1– PROFILE
SEE SHEETS NO. 6–6a FOR –STREAM SITE 2 & 3– PROFILE
SEE SHEETS NO. 7 FOR –STREAM SITE 4– PROFILE

6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–2

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

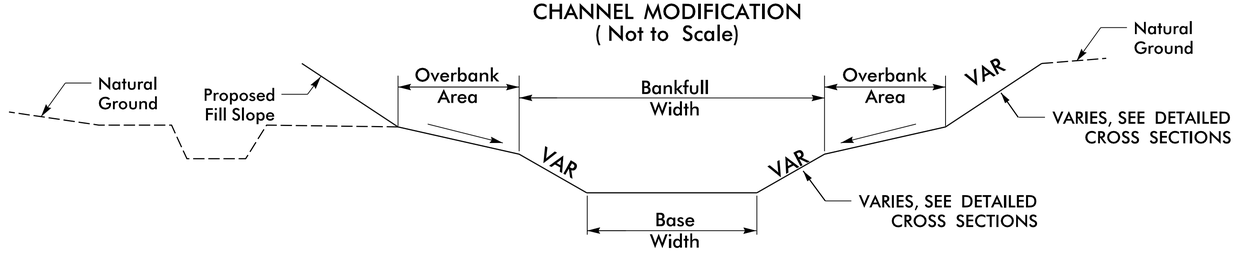
NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

TYPICAL CHANNEL SECTION

CHANNEL MODIFICATION
(Not to Scale)



NOTES:

1. WHERE SUITABLE SOIL MATERIAL EXISTS FOR PLANT GROWTH, OVERBANK AREAS AND HIGHER ELEVATION SLOPES SHALL BE SEEDED WITH RIPARIAN BUFFER SEED MIX. BIOENGINEERING LIVESTAKING SHALL BE PROVIDED AS SHOWN ON PLANS AND IN ALL AREAS WHERE EXISTING TREES ARE REMOVED.

TYPICAL CHANNEL SECTION

VARIABLE	STATION - STATION
STREAM SITE 1	79+20.46 - 83+59.46
STREAM SITE 1A	100+70.04 - 106+17.12
STREAM SITE 2	162+12.67 - 168+83.89
STREAM SITE 3	169+93.93 - 171+91.12
STREAM SITE 4	173+54.26 - 180+72.80

Permanent Riparian Seed Mix (20 lbs/acre w/ cover crop*)

Botanical Name	Common Name	Percentage of Mix	Seed (lbs./acre)
Sorghastrum nutans	Indiangrass	24	4.8
Panicum virgatum	Switchgrass	23	4.6
Andropogon gerardii	Big Bluestem	20.8	4.2
Elymus virginicus	Virginia Wild Rye	20	4
Heliopsis helianthoides	Oxeye Sunflower	3	0.6
Rudbeckia hirta	Black-eyed Susan	3	0.6
Asclepias incarnata	Swamp Milkweed	2	0.4
Monarda fistulosa	Wild Bergamot	1.2	0.2
Helianthus angustifolius	Narrowleaf Sunflower	1	0.2
Aster umbellatus	Flat Topped White Aster	0.5	0.1
Eupatorium perfoliatum	Boneset	0.5	0.1
Solidago nemoralis	Gray Goldenrod	0.5	0.1
Vernonia noveboracensis	New York Ironweed	0.5	0.1

* For a cover crop, use either grain rye (30lbs/acre; 1 Sep to 31 Apr) or Japanese Millet (10 lbs/ acre; 1 May to 31 Aug).

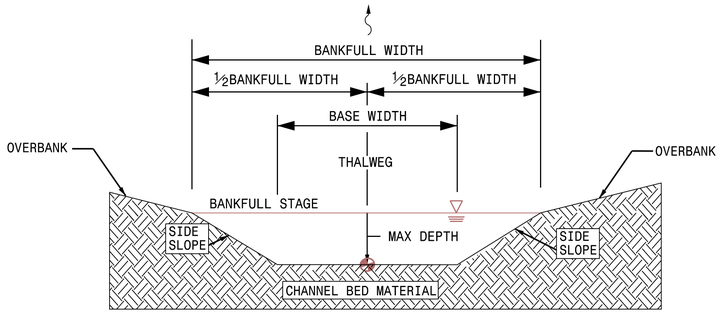
NOTES:

1. CONTRACTOR MAY USE ERNST NC MOUNTAINS RIPARIAN (ERNMX–304) SEED MIX SHOWN IN THE TABLE OR APPROVED EQUAL.

TYPICAL SECTION - RIFFLE

SCALE: NTS
ALL UNITS ARE IN FEET

VARIABLE	STREAM SITE 1	STREAM SITE 1A	STREAM SITE 2	STREAM SITE 3	STREAM SITE 4
BANKFULL WIDTH	25	27	27	29	29
BASE WIDTH	12	12	12	13	13
MAXIMUM DEPTH	2.2	2.5	2.6	2.7	2.7
SIDE SLOPE (H:V)	3:1	3:1	3:1	3:1	3:1



THALWEG (DEEPEST POINT IN CROSS SECTION)
IS LOCATED IN CENTER OF CHANNEL IN A RIFFLE.

NOTES:
- ALL CROSS SECTIONS ARE SHOWN LOOKING IN THE (DOWNSTREAM) DIRECTION.
- ⊕ - GRADE POINT IS THE ELEVATION SHOWN ON PROFILE.
- ALL SHARP CORNERS SHOULD BE ROUNDED
- CONSTRUCT CHANNEL BED USING LOCAL MATERIAL CONSISTING OF GRAVEL, COBBLE, AND BOULDERS. LARGEST LOCAL MATERIAL SHOULD BE UTILIZED IN THE OVERBANK AREA.

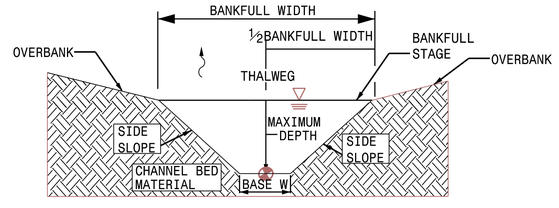
	Estimated Bankfull Flow Based on Regional Curves	
Stream Site	cfs	gpm
SS1	199	89300
SS1A	265	119000
SS2	303	136200
SS3	315	141500
SS4	315	141500

		Stream Site									
		SS1		SS1A		SS2		SS3		SS4	
Parameter	Unit	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Riffle Slope	%	-2	-6	-2	-10	-4	-6	-3	-6	-2	-6
Run Slope	%	-12	-25	-20	-45	-15	-30	-10	-25	-12	-25
Pool Slope	%	2	5	2	5	2	5	2	5	2	5
Glide Slope	%	6	15	5	15	12	25	6	15	6	15
Riffle Length	Ft	20	30	10	20	10	20	25	35	25	35
Pool Length	Ft	15	25	8	15	8	15	20	30	20	30

TYPICAL SECTION - POOL

SCALE: NTS
ALL UNITS ARE IN FEET

VARIABLE	STREAM SITE 1	STREAM SITE 1A	STREAM SITE 2	STREAM SITE 3	STREAM SITE 4
BANKFULL WIDTH	28	30	30	32	32
BASE WIDTH	11.5	11.6	11.5	12.6	12.6
MAX DEPTH	3.2	3.6	3.7	3.8	3.8
SIDE SLOPE (H:V)	2.5:1	2.5:1	2.5:1	2.5:1	2.5:1



THALWEG (DEEPEST POINT IN A CROSS SECTION)
IS LOCATED IN THE MIDDLE OF THE BASE WIDTH.

NOTES:
- ALL CROSS SECTIONS ARE SHOWN LOOKING IN THE (DOWNSTREAM) DIRECTION.
- ⊕ - GRADE POINT IS THE ELEVATION SHOWN ON PROFILE.
- ALL SHARP CORNERS SHOULD BE ROUNDED
- CONSTRUCT CHANNEL BED USING LOCAL MATERIAL CONSISTING OF GRAVEL, COBBLE, AND BOULDERS. LARGEST LOCAL MATERIAL SHOULD BE UTILIZED IN THE OVERBANK AREA.

NOTES:

1. PROVIDED RANGES ARE ALLOWABLE ADJUSTMENTS FROM SPECIFIED DESIGN PARAMETERS DURING IN–FIELD ADJUSTMENTS AS APPROVED BY ENGINEER.

REVISIONS

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: US-74A_CMGC_STREAM.tbl
DATE: 6/16/2026
TIME: 5:05:34 PM

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–3
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
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SEQUENCE OF CONSTRUCTION FOR TYPICAL WORK AREA

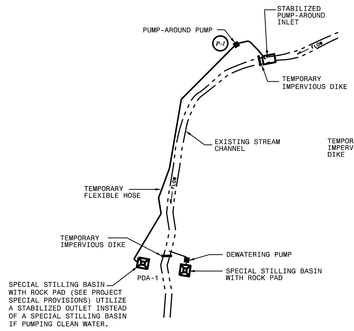
1. INSTALL SPECIAL STILLING BASIN(S).
2. INSTALL STABILIZED PUMP AROUND INLET, UPSTREAM PUMP, AND TEMPORARY FLEXIBLE HOSE.
3. PLACE UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
4. PLACE DOWNSTREAM IMPERVIOUS DIKE AND PUMPING APPARATUS. DEWATER ENTRAPPED AREA. AREA TO BE DEWATERED SHALL BE EQUAL TO ONE DAY'S WORK.
5. PERFORM STREAM MODIFICATION WORK IN ACCORDANCE WITH THE PLANS.
6. EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF IMPERVIOUS DIKES. REMOVE IMPERVIOUS DIKES, PUMPS, AND TEMPORARY FLEXIBLE HOSE. (DOWNSTREAM IMPERVIOUS DIKES FIRST).
7. ALL GRADING AND STABILIZATION MUST BE COMPLETED AT THE END OF EACH WORK DAY WITHIN THE PUMP AROUND AREAS BETWEEN THE IMPERVIOUS DIKES. THE IMPERVIOUS DIKE LOCATIONS AS SHOWN ON THIS SHEET ONLY SHOW THE UPPER AND LOWER EXTENT OF WORK FOR EACH STREAM SEGMENT. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF THE IMPERVIOUS DIKE(S) FOR EACH DAY'S WORK.
8. REMOVE SPECIAL STILLING BASIN(S) AND BACKFILL. STABILIZE DISTURBED AREA WITH SEED AND MULCH.

NOTES:

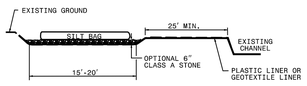
1. ALL EXCAVATION SHALL BE PERFORMED IN ONLY DRY OR ISOLATED SECTIONS OF CHANNEL.
2. IMPERVIOUS DIKES ARE TO BE USED TO ISOLATE WORK FROM STREAM FLOW WHEN NECESSARY.
3. SAND BAGS SHALL BE FILLED WITH CLEAN MASONRY SAND OR CLEAN #57 STONE.
4. ALL GRADED AREAS SHALL BE STABILIZED WITHIN 24 HOURS.
5. MAINTENANCE OF STREAM FLOW OPERATIONS SHALL BE INCIDENTAL TO THE WORK. THIS INCLUDES POLYETHYLENE SHEETING, DIVERSION PIPES, PUMPS AND HOSES.
6. PUMPS AND HOSES SHALL BE OF SUFFICIENT SIZE TO DEWATER THE WORK AREA.
7. SIDESLOPES OF RESTORED CHANNEL SHALL BE MATTED PRIOR TO TURNING WATER INTO CHANNEL. SEE TYPICAL MATTING LOCATION DETAIL.
8. CONTRACTOR IS RESPONSIBLE FOR DETERMINING & AQUIRING THE PROPER SIZED PUMP. SEE BANKFULL CHANNEL FLOW TABLE PROVIDED ON SHEET 2D-2 FOR GUIDANCE.
9. WATER PUMPED FROM EXCAVATIONS SHALL BE DISCHARGED INTO A GEOTEXTILE SILT BAG AND SHALL PROVIDE MEASURES TO PREVENT DISCHARGE FROM EXCEEDING 10 NTU'S. CONTRACTOR MAY UTILIZE FLOCCULANTS TO SETTLE OUT PARTICLES.

PUMP-AROUND OPERATION

SCALE:NTS

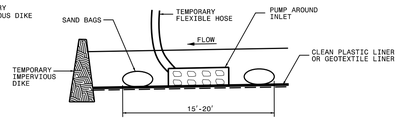


PUMP-AROUND OPERATION
PLAN VIEW

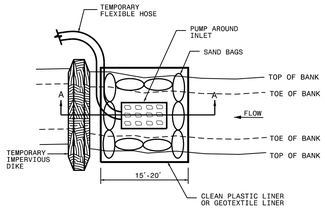


NOTE: PROVIDE STABILIZED OUTLET

STILLING BASIN WITH ROCK PAD



STABILIZED PUMP-AROUND INLET
SECTION A-A



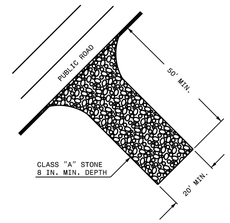
STABILIZED PUMP-AROUND INLET
PLAN VIEW

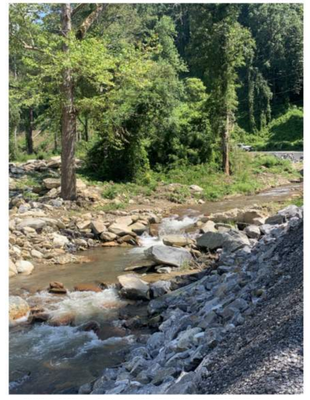
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE

SCALE:NTS

NOTES:

1. TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS SHALL BE PROVIDED.
2. ENTRANCE(S) SHOULD BE LOCATED TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOP DRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. GRAVEL CONSTRUCTION ENTRANCE SHALL BE LOCATED AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE MUST BE PROVIDED.
6. FILTER FABRIC TO BE PLACED BENEATH STONE.



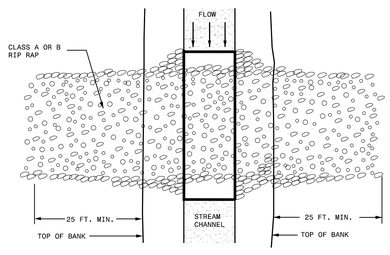


EXAMPLE RIFFLE - ROCK CASCADE SEQUENCE FOR REFERENCE ONLY.

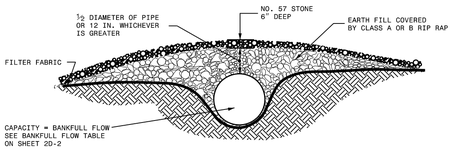
TEMPORARY STREAM CROSSING

SCALE:NTS

NOTES:
1. FOR USE IN EXISTING CHANNEL ONLY. NOT FOR USE IN MODIFIED CHANNEL.
2. LOG MAT BRIDGE MAY BE USED IN LIEU OF TEMPORARY PIPE CROSSING.



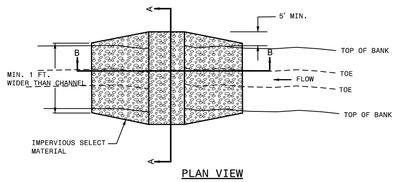
PLAN VIEW



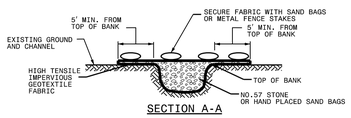
PROFILE VIEW

TEMPORARY IMPERVIOUS CHANNEL PLUG

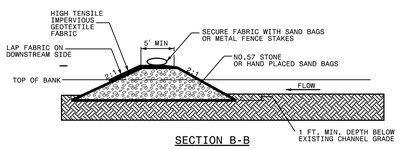
SCALE: NTS



PLAN VIEW



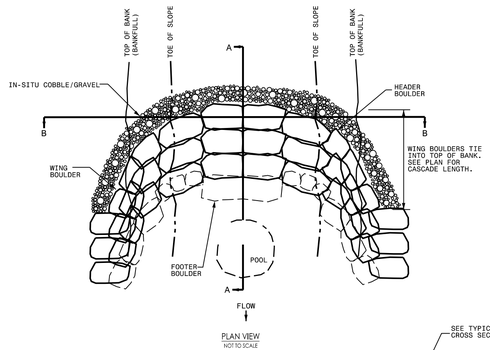
SECTION A-A



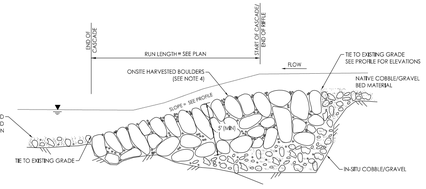
SECTION B-B

RIFFLE - ROCK CASCADE SEQUENCE

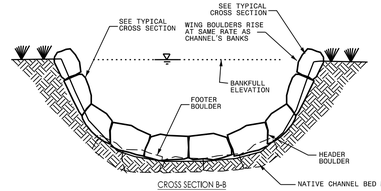
SCALE:NTS



PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE



CROSS SECTION B-B
NOT TO SCALE

NOTES:

1. DIMENSIONS ARE APPROXIMATE AND MAY BE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND THE DIRECTION OF THE ENGINEER AND/OR THE CLIENT REPRESENTATIVE.
2. CONSTRUCT CASCADE STRUCTURE BEGINNING AT THE DOWNSTREAM END AND MOVING IN THE UPSTREAM DIRECTION.
3. PLACE BOULDERS SO THEY ARE TOUCHING AND ORIENTED WITH THEIR DOWNSTREAM END PITCHED UP INTO THE FLOW AS SHOWN.
4. BOULDERS SHALL BE SOURCED ON SITE WITH SIZE DIMENSIONS MEETING THE MINIMUM RANGE OF 36"-48"(L) X 36"-48"(W) X 24"-36"(D). NON-NATIVE CLASS VII AND LARGER RIPRAP AND BOULDERS CAN BE USED IN NON-EXPOSED LOWER LAYERS OF THE IN-STREAM CONSTRUCTION WHEN A SUFFICIENT AMOUNT OF ONSITE HARVESTED BOULDERS ARE NOT AVAILABLE.

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	2D–4

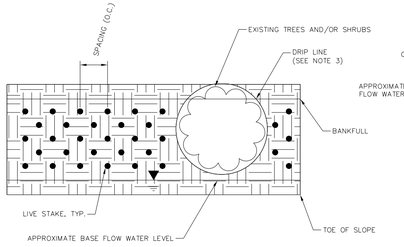
ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

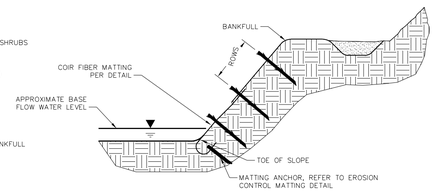
NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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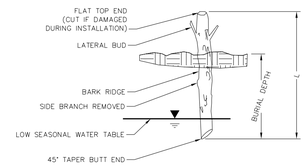
PLAN VIEW



TYPICAL SECTION

NOTES:

1. LIVE STAKES SHALL BE INSTALLED ON FINISHED STREAM BANKS. "FINISHED" GENERALLY REFERS TO ANY AND/OR ALL OF THE FOLLOWING AS SPECIFIED BY THE DESIGNER:
   A. GRADED
   B. PREPARED (ROTO-TILLED, RAKED, AND AMENDED),
   C. SEEDED,
   D. MULCHED, AND
   E. COVERED WITH EROSION CONTROL MATTING.
2. LIVE STAKES SHALL BE FASHIONED FROM DORMANT CUTTINGS OF WOODY PLANT SPECIES (TREES AND SHRUBS) IN ACCORDANCE WITH THE PLANTING TABLE THIS SHEET OR APPROVED EQUAL.
3. LIVE STAKES SHALL NOT BE PLACED WITHIN THE DRIP LINE OF ANY EXISTING TREES AND/OR SHRUBS THAT REMAIN ON THE BANKS.
4. LIVE STAKES SHALL NOT BE PLANTED WITHIN 5 FEET OF HEADWALL, WINGWALL, OR OTHER INFRASTRUCTURE.
5. DETAILED HANDLING, PREPARATION, AND INSTALLATION GUIDELINES FOR LIVE STAKES SHALL BE SPECIFIED BY THE DESIGNER, INCLUDING:
   A. LIVE STAKES MAY BE STORED UP TO 10 DAYS IN WATER.
   B. ALL LATERAL BRANCHES SHALL BE CAREFULLY REMOVED FROM THE WOODY CUTTINGS PRIOR TO INSTALLATION.
   C. LIVE STAKES SHALL BE DRIVEN INTO THE GROUND USING A "DEAD BLOW" PLASTIC HAMMER, BY CREATING A PILOT HOLE AND SLIPPING THE STAKE INTO IT, OR WITH THE USE OF A HYDRAULIC INJECTION SYSTEM. SOIL SHALL BE FIRMLY PACKED AROUND THE HOLE AFTER INSTALLATION.
   D. SPLIT OR OTHERWISE DAMAGED LIVE STAKES SHALL NOT BE USED.



LIVE STAKE DETAIL

DESIGN VARIABLES	
DIAMETER	1/2"–2"
LENGTH	2' – 3'
BURIAL DEPTH	4/5L
SPACING (O.C.)	3'
ROWS [1]	SEE PLANS
PLACEMENT OF 1ST ROW FROM TOE OF SLOPE	0.5'

[1] ROWS SHOULD BE EQUALLY SPACED WITHIN THE IDENTIFIED PLANTING AREAS SHOWN ON THE PLANS.

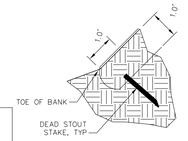
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LIVE STAKING

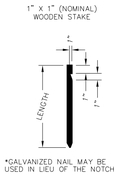
Live Stakes			
Botanical Name	**Common Name**	**Stratum**	**Percent of Total Livestakes by Stream Site**
Cornus amomum	Silky Dogwood	Shrub	25
Salix nigra	Black Willow	Shrub	30
Salix sericea	Silky Willow	Shrub	30
Sambucus canadensis	Elderberry	Shrub	15

NOTES:

1. THE SLOPE AND/OR STREAM BANK SHALL BE PREPARED (GRADED, TILLED, SMOOTHED, ETC.) AND SEEDED AND MULCHED AS SPECIFIED BY THE DESIGNER PRIOR TO THE PLACEMENT OF THE MATTING.
2. THE MATTING SHALL BE INSTALLED SO AS TO NOT BE IN TENSION, BUT BE PLACED NEATLY, FLUSH AGAINST THE SOIL, AND WITH NO GAPS OR WRINKLES.
3. MATTING SHALL BE NEATLY SECURED AROUND ANY PROJECT STRUCTURES, STRUCTURE ARMS, AND/OR SILLS TO PREVENT ANY LOOSE OR FRAYED EDGES.
4. THERE SHALL BE NO LOOSE ENDS OR UNSECURED MATTING ON THE COMPLETED WORK.

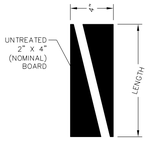


MATTING ANCHOR DETAIL



*GALVANIZED NAIL MAY BE USED IN LIEU OF THE NOTCH.

STAKE - OPTION 1



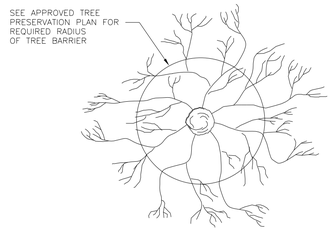
DEAD STOUT STAKE - OPTION 2

NOT TO SCALE

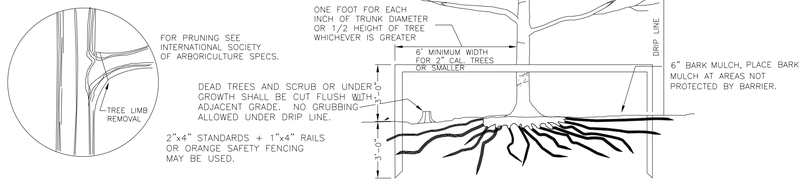
COIR MATTING BANK STABILIZATION

NOTES:

1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.



PLAN VIEW OF ROOT ZONE



TREE PROTECTION

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	05

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER MATTIE M. CLATTERBUCK

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555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
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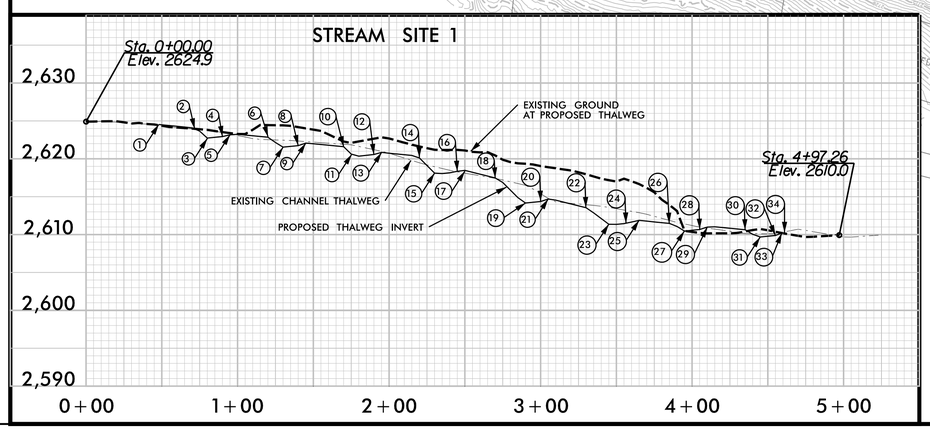
STREAM SITE 1

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

PT Sta. 0+99.78
PC Sta. 0+83.41
PC Sta. 4+00.71
PT Sta. 4+09.70
PT Sta. 4+62.01
POT Sta. 4+97.26
PC Sta. 2+25.20
PT Sta. 2+31.20
STREAM CONSTRUCTION LIMITS
POT Sta. 0+00.00
BEGIN STREAM CONSTRUCTION SS1 Sta. 0+48.10 L Sta. 79+20.46
END STREAM CONSTRUCTION SS1 Sta. 4+67.41 L Sta. 83+59.46
PROPOSED STREAM CENTERLINE
BOTTOM OF BANK
TOP OF BANK
EXISTING CENTERLINE
PC Sta. 3+26.20
PT Sta. 3+29.20
PROPOSED SLOPE EMBANKMENT PROTECTION SEE ROADWAY PLANS

KONATOSA CIR
KELLY HILL RD
POND LN
HICKORY CREEK
ROCK OUTCROP
75+00
85+00
-L-

FRIDDELL, TENA;HOPKINS, RONALD LAWRENCE Deed Book/Page 003327/000357
FRIDDELL, TENA;HOPKINS, RONALD LAWRENCE Deed Book/Page 003327/000357
HOPKINS, RONALD LAWRENCE; FRIDDELL, TENA R. Deed Book/Page 003327/000365
BRETON, AUGUST; BRETON, NICHOLE LEIGH Deed Book/Page 00I5I9/00434
ROOTED IN GERTON LLC Deed Book/Page 004307/000597
STEPP, THOMAS L; STEPP, SARAH C Deed Book/Page 00139I/000594
THOMAS STEPP Deed Book/Page 00139I/000594
RONALD HOPKINS Deed Book/Page 00396I/00028I
BEARWALLOW BAPTIST CHURCH Deed Book/Page 00156/000404
Deed Book/Page 001206/000328
ARDEN PROPERTY MANAGEMENT, LLC. Deed Book/Page 00I478/00009
OWENSBY, ETAL. Book/Page DE/000396
EILEEN FENRELL Deed Book/Page 00I68I/000432
MARGARET WHITT Deed Book/Page 00I374/000276
DAVID EARNHARDT, ETAL. Deed Book/Page 003997/000357
CHESTNUT HILLS HOMEOWNERS ASSOC., INC. Deed Book/Page 00I015/000228
UPPER HICKORY NUT GORGE COMMUNITY CENTER Deed Book/Page 000402/000648
LASURE, DANIEL W III;LASURE, L/ Deed Book/Page 0004133/000380



POINTID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT)	BKF DEPTH (FT)
1	Head of Riffle	0+48.10	2624.53	-2.00%	2626.73	25	2.2
2	Head of Cascade	0+73.10	2624.03	-20.00%		25	
3	Mid Pool	0+79.60	2622.73	2.00%	2625.93	28	3.2
4	Glide	0+92.60	2622.99	8.00%		28	
5	Head of Riffle	0+96.60	2623.31	-2.00%	2625.51	25	2.2
6	Head of Cascade	1+21.60	2622.81	-20.00%		25	
7	Mid Pool	1+28.10	2621.51	2.00%	2624.71	28	3.2
8	Glide	1+41.10	2621.77	8.00%		28	
9	Head of Riffle	1+45.10	2622.09	-2.00%	2624.29	25	2.2
10	Head of Cascade	1+70.10	2621.59	-20.00%		25	
11	Mid Pool	1+76.60	2620.29	2.00%	2623.49	28	3.2
12	Glide	1+89.60	2620.55	8.00%		28	
13	Head of Riffle	1+93.60	2620.87	-2.00%	2623.07	25	2.2
14	Head of Cascade	2+18.60	2620.37	-20.00%		25	
15	Mid Pool	2+30.60	2617.97	2.00%	2621.17	28	3.2
16	Glide	2+43.60	2618.23	9.00%		28	
17	Head of Riffle	2+47.60	2618.59	-5.00%	2620.79	25	2.2
18	Head of Cascade	2+72.60	2617.34	-20.00%		25	
19	Mid Pool	2+88.60	2614.14	2.00%	2617.34	28	3.2
20	Glide	3+01.60	2614.40	9.00%		28	
21	Head of Riffle	3+05.60	2614.76	-5.00%	2616.96	25	2.2
22	Head of Cascade	3+30.60	2613.51	-15.00%		25	
23	Mid Pool	3+45.60	2611.26	2.00%	2614.46	28	3.2
24	Glide	3+58.60	2611.52	10.00%		28	
25	Head of Riffle	3+62.60	2611.92	-2.00%	2614.12	25	2.2
26	Head of Cascade	3+87.60	2611.42	-15.00%		25	
27	Mid Pool	3+94.10	2610.45	2.00%	2613.65	28	3.2
28	Glide	4+07.10	2610.71	10.00%		28	
29	Head of Riffle	4+11.10	2611.11	-2.00%	2613.31	25	2.2
30	Head of Cascade	4+36.10	2610.61	-15.00%		25	
31	Mid Pool	4+42.60	2609.63	2.00%	2612.83	28	3.2
32	Glide	4+55.60	2609.89	10.00%		28	
33	Head of Riffle	4+59.60	2610.29	-4.00%	2612.49	25	2.2
34	Tie-In	4+61.91	2610.20			25	

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- REFORESTATION AREA

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA

REVISIONS

6/2/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: \
PENTABLE: US-74A_CMGC_STREAM.tbl
DATE: 6/16/2026
TIME: 5:05:52 PM

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	05A

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

LEGEND:

BIOENGINEERING LIVE STAKING AREA

REFORESTATION AREA

NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

SEE SHEET 2D–1A FOR STREAM ALIGNMENT DATA

NAD 83 – NA 2011

STREAM SITE 1A

CONTRACTOR TO AVOID REMOVAL OF EXISTING TREES WITHIN THE TEMPORARY EASEMENT AREA ADJACENT TO THE STREAM AS MUCH AS PRACTICABLE. SEE PENDING REFORESTATION PLAN FOR PROPOSED TREE PLANTINGS.

PROPOSED SLOPE EMBANKMENT PROTECTION SEE ROADWAY PLANS

BEGIN STREAM CONSTRUCTION SS1A Sta. 0+24.76 L Sta. 100+70.04

END STREAM CONSTRUCTION SS1A Sta. 5+05.33 L Sta. 106+17.12

STREAM CONSTRUCTION LIMITS

PROPOSED STREAM CENTERLINE

TOP OF BANK

BOTTOM OF BANK

EXISTING STREAM CENTERLINE

PI Sta. 2+42.33
PT Sta. 1+81.74
PC Sta. 1+49.75
PRC Sta. 0+66.75
PC Sta. 0+41.76
PI Sta. 0+24.76
POT Sta. 0+00.00

PC Sta. 0+32.76
PT Sta. 0+36.76
PT Sta. 0+96.75
PC Sta. 1+20.75
PT Sta. 1+37.75

PC Sta. 2+12.74
PT Sta. 2+26.74
PC Sta. 2+52.33
PT Sta. 2+67.33

PC Sta. 3+20.33
PCC Sta. 3+44.33
PT Sta. 3+62.33
PC Sta. 3+94.32
PCC Sta. 4+13.32
PCC Sta. 4+43.32
PCC Sta. 4+60.33
PT Sta. 4+76.33
PI Sta. 5+05.33
POT Sta. 5+39.54

PAUL WILSON Deed Book/Page 001333/000245

WILLIAM MITCHELL Deed Book/Page 003828/000005

L&S OATES FAMILY LIMITED PARTNERSHIP Deed Book/Page 001248/000654

HICKORY NUT FOREST LLC Deed Book/Page 001290/00077 002017/10762

HICKORY NUT FOREST LLC Deed Book/Page 001290/00077 002017/10762

MICHAEL LUCHI ANN Deed Book/Page 001484/00059

HICKORY NUT FOREST HOMEOWNERS ASSOC., INC. Deed Book/Page 003168/000065

HICKORY CREEK

POINT ID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+24.76	2561.30	-10.00%	2563.6	27	2.5
2	Head of Cas cade	0+37.76	2560.00	-35.00%		27	
3	Mid Pool	0+41.76	2558.60	-2.00%	2562.2	30	3.6
4	Glide	0+47.76	2558.72	5.00%		30	
5	Head of Riffle	0+53.76	2559.87	-10.00%	2561.37	27	2.5
6	Head of Cas cade	0+63.76	2557.57	-29.00%		27	
7	Mid Pool	0+67.76	2556.41	3.00%	2560.01	30	3.6
8	Glide	0+73.76	2556.59	7.00%		30	
9	Head of Riffle	0+76.76	2556.60	-6.00%	2559.3	27	2.5
10	Head of Cas cade	0+89.76	2556.02	-29.00%		27	
11	Mid Pool	0+93.76	2554.86	3.00%	2558.46	30	3.6
12	Glide	0+99.76	2555.04	7.00%		30	
13	Head of Riffle	1+02.76	2555.25	-6.00%	2557.75	27	2.5
14	Head of Cas cade	1+15.76	2554.47	-29.00%		27	
15	Mid Pool	1+19.76	2553.31	3.00%	2556.91	30	3.6
16	Glide	1+25.76	2553.49	7.00%		30	
17	Head of Riffle	1+28.76	2553.70	-6.00%	2556.2	27	2.5
18	Head of Cas cade	1+41.76	2552.92	-29.00%		27	
19	Mid Pool	1+45.76	2551.76	3.00%	2555.36	30	3.6
20	Glide	1+51.76	2551.94	7.00%		30	
21	Head of Riffle	1+54.76	2552.15	-6.00%	2554.65	27	2.5
22	Head of Cas cade	1+67.76	2551.37	-29.00%		27	
23	Mid Pool	1+71.76	2550.21	3.00%	2553.81	30	3.6
24	Glide	1+77.76	2550.38	7.00%		30	
25	Head of Riffle	1+80.76	2550.60	-6.00%	2553.1	27	2.5
26	Head of Cas cade	1+93.76	2549.82	-29.00%		27	
27	Mid Pool	1+97.76	2548.66	3.00%	2552.26	30	3.6
28	Glide	2+03.76	2548.84	7.00%		30	
29	Head of Riffle	2+06.76	2549.05	-6.00%	2551.55	27	2.5
30	Head of Cas cade	2+19.76	2548.27	-29.00%		27	
31	Mid Pool	2+23.76	2547.11	3.00%	2550.71	30	3.6
32	Glide	2+29.76	2547.29	7.00%		30	
33	Head of Riffle	2+32.76	2547.50	-6.00%	2550	27	2.5
34	Head of Cas cade	2+45.76	2546.72	-29.00%		27	
35	Mid Pool	2+49.76	2546.56	3.00%	2549.16	30	3.6
36	Glide	2+55.76	2546.74	7.00%		30	
37	Head of Riffle	2+58.76	2546.95	-6.00%	2548.45	27	2.5
38	Head of Cas cade	2+71.76	2546.17	-29.00%		27	
39	Mid Pool	2+75.76	2544.01	3.00%	2547.61	30	3.6
40	Glide	2+81.76	2544.19	7.00%		30	
41	Head of Riffle	2+84.76	2544.40	-3.00%	2546.9	27	2.5
42	Head of Cas cade	2+97.76	2544.01	-21.00%		27	
43	Mid Pool	3+01.76	2543.17	2.00%	2546.77	30	3.6
44	Glide	3+07.76	2543.29	8.00%		30	
45	Head of Riffle	3+10.76	2543.53	-3.00%	2546.03	27	2.5
46	Head of Cas cade	3+23.76	2543.14	-21.00%		27	
47	Mid Pool	3+27.76	2542.30	2.00%	2545.9	30	3.6
48	Glide	3+33.76	2542.42	8.00%		30	
49	Head of Riffle	3+36.76	2542.66	-3.00%	2545.16	27	2.5
50	Head of Cas cade	3+49.76	2542.27	-21.00%		27	
51	Mid Pool	3+53.76	2541.43	2.00%	2545.03	30	3.6
52	Glide	3+59.76	2541.55	8.00%		30	
53	Head of Riffle	3+62.76	2541.79	-3.00%	2544.29	27	2.5
54	Head of Cas cade	3+75.76	2541.40	-21.00%		27	
55	Mid Pool	3+79.76	2540.56	2.00%	2544.16	30	3.6
56	Glide	3+85.76	2540.68	8.00%		30	
57	Head of Riffle	3+88.76	2540.92	-3.00%	2543.42	27	2.5
58	Head of Cas cade	4+01.76	2540.53	-21.00%		27	
59	Mid Pool	4+05.76	2539.69	2.00%	2543.29	30	3.6
60	Glide	4+11.76	2539.81	8.00%		30	
61	Head of Riffle	4+14.76	2540.05	-21.00%	2542.55	27	2.5
62	Head of Cas cade	4+24.76	2537.96	-45.00%		27	
63	Mid Pool	4+37.76	2532.10	3.00%	2535.7	30	3.6
64	Glide	4+43.76	2532.28	4.00%		30	
65	Head of Riffle	4+49.76	2532.40	-2.50%	2534.9	27	2.5
66	Head of Cas cade	4+59.76	2532.08	-25.00%		27	
67	Mid Pool	4+63.76	2531.08	3.00%	2534.675	30	3.6
68	Glide	4+69.76	2531.26	12.00%		30	
69	Head of Riffle	4+72.76	2531.62	-2.50%	2534.115	27	2.5
70	Head of Cas cade	4+85.76	2531.29	-25.00%		27	
71	Mid Pool	4+89.76	2530.29	3.00%	2533.89	30	3.6
72	Glide	4+95.76	2530.47	12.00%		30	
73	Head of Riffle	4+98.76	2530.83	-2.00%	2533.33	27	2.5
74	Tie-In	5+05.69	2530.69			27	

STREAM SITE 1A

EXISTING GROUND AT PROPOSED THALWEG

EXISTING CHANNEL THALWEG

PROPOSED THALWEG INVERT

Sta. 0+00.00 Elev. 2562.3

Sta. 5+39.54 Elev. 2528.9

2,565
2,555
2,545
2,535
2,525

0+00 1+00 2+00 3+00 4+00 5+00

REVISIONS

6/2/99

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USER: KCLATTERBU TIME: 5:06:00 PM
DATE: 6/16/2026
FILE: \

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	06

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

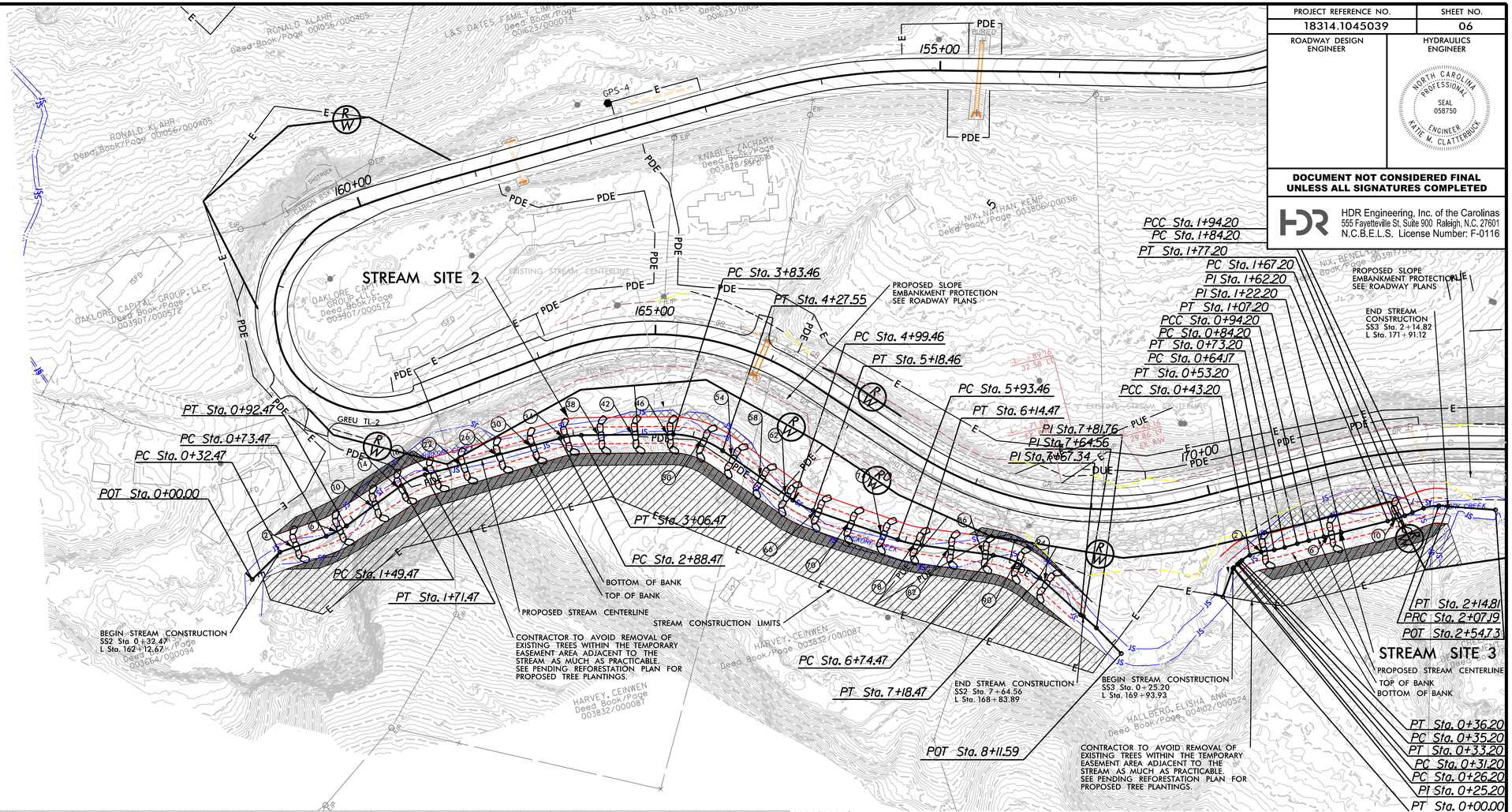
HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

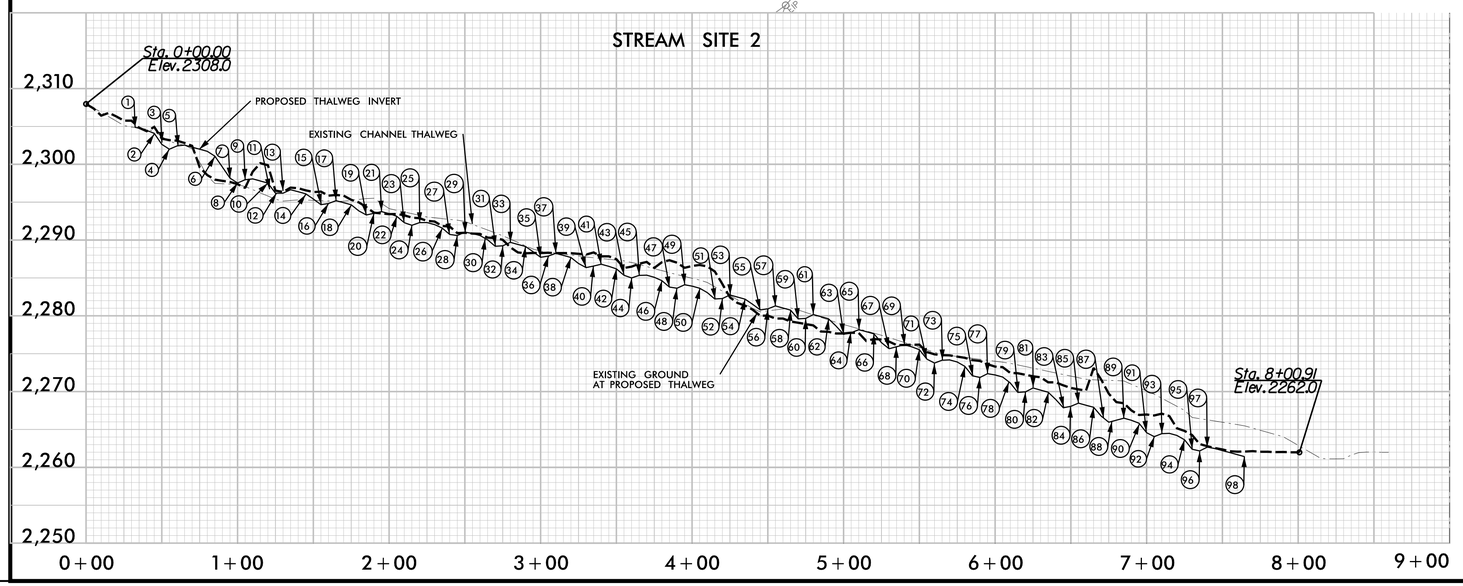
NAD 83 NA 2011

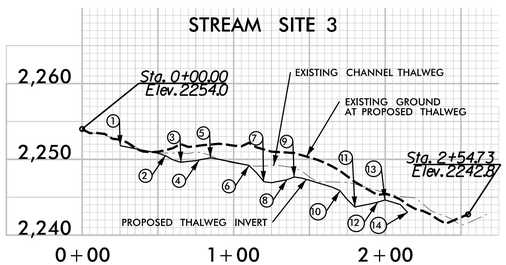
NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

LEGEND:

- BIOENGINEERING LIVE STAKING AREA
- REFORESTATION AREA







SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA
SEE SHEET 06A FOR PROFILE POINT TABLES

REVISIONS

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6/2/99

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	06A
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

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HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

STREAM SITE 2

POINTID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+32.47	2304.90	-5.50%	2307.5	27	2.6
2	Head of Cascade	0+44.47	2304.24	-29.00%		27	
3	Mid Pool	0+52.47	2301.92	3.00%	2305.62	30	3.7
4	Glide	0+58.47	2302.10	21.00%		30	
5	Head of Riffle	0+61.47	2302.73	-5.50%	2305.33	27	2.6
6	Head of Cascade	0+83.47	2301.52	-29.00%		27	
7	Mid Pool	0+97.47	2297.46	3.00%	2301.16	30	3.7
8	Glide	1+03.47	2297.64	21.00%		30	
9	Head of Riffle	1+06.47	2298.27	-5.50%	2300.87	27	2.6
10	Head of Cascade	1+20.47	2297.50	-29.00%		27	
11	Mid Pool	1+25.47	2296.05	3.00%	2299.75	30	3.7
12	Glide	1+31.47	2296.23	15.00%		30	
13	Head of Riffle	1+34.47	2296.68	-5.50%	2299.28	27	2.6
14	Head of Cascade	1+46.47	2296.02	-17.00%		27	
15	Mid Pool	1+54.47	2294.66	3.00%	2298.36	30	3.7
16	Glide	1+60.47	2294.84	15.00%		30	
17	Head of Riffle	1+63.47	2295.29	-5.50%	2297.89	27	2.6
18	Head of Cascade	1+75.47	2294.63	-17.00%		27	
19	Mid Pool	1+83.47	2293.27	3.00%	2296.97	30	3.7
20	Glide	1+89.47	2293.45	15.00%		30	
21	Head of Riffle	1+92.47	2293.90	-5.50%	2296.5	27	2.6
22	Head of Cascade	2+04.47	2293.24	-17.00%		27	
23	Mid Pool	2+12.47	2291.88	3.00%	2295.58	30	3.7
24	Glide	2+18.47	2292.06	15.00%		30	
25	Head of Riffle	2+21.47	2292.51	-5.50%	2295.11	27	2.6
26	Head of Cascade	2+33.47	2291.85	-17.00%		27	
27	Mid Pool	2+41.47	2290.49	3.00%	2294.19	30	3.7
28	Glide	2+47.47	2290.67	15.00%		30	
29	Head of Riffle	2+60.47	2291.12	-5.50%	2293.72	27	2.6
30	Head of Cascade	2+62.47	2290.46	-17.00%		27	
31	Mid Pool	2+70.47	2289.10	3.00%	2292.8	30	3.7
32	Glide	2+76.47	2289.28	15.00%		30	
33	Head of Riffle	2+79.47	2289.73	-5.50%	2292.33	27	2.6
34	Head of Cascade	2+91.47	2289.07	-17.00%		27	
35	Mid Pool	2+99.47	2287.71	3.00%	2291.41	30	3.7
36	Glide	3+05.47	2287.89	15.00%		30	
37	Head of Riffle	3+08.47	2288.34	-5.50%	2290.94	27	2.6
38	Head of Cascade	3+20.47	2287.68	-17.00%		27	
39	Mid Pool	3+28.47	2286.32	3.00%	2290.02	30	3.7
40	Glide	3+34.47	2286.50	15.00%		30	
41	Head of Riffle	3+37.47	2286.95	-5.50%	2289.55	27	2.6
42	Head of Cascade	3+49.47	2286.29	-17.00%		27	
43	Mid Pool	3+57.47	2284.93	3.00%	2288.63	30	3.7
44	Glide	3+63.47	2285.11	15.00%		30	
45	Head of Riffle	3+66.47	2285.56	-5.50%	2288.16	27	2.6
46	Head of Cascade	3+78.47	2284.90	-17.00%		27	
47	Mid Pool	3+86.47	2283.54	3.00%	2287.24	30	3.7
48	Glide	3+92.47	2283.72	15.00%		30	
49	Head of Riffle	3+95.47	2284.17	-5.50%	2286.77	27	2.6
50	Head of Cascade	4+07.47	2283.51	-17.00%		27	
51	Mid Pool	4+15.47	2282.15	3.00%	2285.85	30	3.7
52	Glide	4+21.47	2282.33	15.00%		30	
53	Head of Riffle	4+24.47	2282.78	-5.50%	2285.38	27	2.6
54	Head of Cascade	4+36.47	2282.12	-17.00%		27	
55	Mid Pool	4+44.47	2280.76	3.00%	2284.46	30	3.7
56	Glide	4+50.47	2280.94	15.00%		30	
57	Head of Riffle	4+53.47	2281.39	-5.50%	2283.99	27	2.6
58	Head of Cascade	4+65.47	2280.73	-25.00%		27	
59	Mid Pool	4+70.47	2279.48	4.00%	2283.18	30	3.7
60	Glide	4+76.47	2279.72	16.00%		30	
61	Head of Riffle	4+79.47	2280.20	-5.50%	2282.8	27	2.6
62	Head of Cascade	4+91.47	2279.54	-25.00%		27	
63	Mid Pool	4+99.47	2277.54	4.00%	2281.24	30	3.7
64	Glide	5+05.47	2277.78	16.00%		30	
65	Head of Riffle	5+08.47	2278.26	-5.50%	2280.86	27	2.6
66	Head of Cascade	5+20.47	2277.60	-25.00%		27	
67	Mid Pool	5+28.47	2275.60	4.00%	2279.3	30	3.7
68	Glide	5+34.47	2275.84	16.00%		30	
69	Head of Riffle	5+37.47	2276.32	-5.50%	2278.92	27	2.6
70	Head of Cascade	5+49.47	2275.66	-25.00%		27	
71	Mid Pool	5+57.47	2273.66	4.00%	2277.36	30	3.7
72	Glide	5+63.47	2273.90	16.00%		30	
73	Head of Riffle	5+66.47	2274.38	-5.50%	2276.98	27	2.6
74	Head of Cascade	5+78.47	2273.72	-25.00%		27	
75	Mid Pool	5+86.47	2271.72	4.00%	2275.42	30	3.7
76	Glide	5+92.47	2271.96	16.00%		30	
77	Head of Riffle	5+95.47	2272.44	-5.50%	2275.04	27	2.6
78	Head of Cascade	6+07.47	2271.78	-25.00%		27	
79	Mid Pool	6+15.47	2269.78	4.00%	2273.48	30	3.7
80	Glide	6+21.47	2270.02	16.00%		30	
81	Head of Riffle	6+24.47	2270.50	-5.50%	2273.1	27	2.6
82	Head of Cascade	6+36.47	2269.84	-25.00%		27	
83	Mid Pool	6+44.47	2267.84	4.00%	2271.54	30	3.7
84	Glide	6+50.47	2268.08	16.00%		30	
85	Head of Riffle	6+53.47	2268.56	-5.50%	2271.16	27	2.6
86	Head of Cascade	6+65.47	2267.90	-25.00%		27	
87	Mid Pool	6+73.47	2265.90	4.00%	2269.6	30	3.7
88	Glide	6+79.47	2266.14	16.00%		30	
89	Head of Riffle	6+82.47	2266.62	-5.50%	2269.22	27	2.6
90	Head of Cascade	6+94.47	2265.96	-25.00%		27	
91	Mid Pool	7+02.47	2263.96	4.00%	2267.66	30	3.7
92	Glide	7+08.47	2264.20	16.00%		30	
93	Head of Riffle	7+11.47	2264.68	-5.50%	2267.28	27	2.6
94	Head of Cascade	7+23.47	2264.02	-25.00%		27	
95	Mid Pool	7+31.47	2262.02	4.00%	2265.72	30	3.7
96	Glide	7+37.47	2262.26	16.00%		30	
97	Head of Riffle	7+40.47	2262.74	-5.50%	2265.34	27	2.6
98	Tie-In	7+64.56	2261.42			27	

STREAM SITE 3

POINTID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT.)	BKF DEPTH (FT.)
1	Head of Riffle	0+25.20	2251.80	-4.00%	2254.50	29	2.7
2	Head of Cascade	0+53.20	2250.68	-11.00%		29	
3	Mid Pool	0+63.20	2249.58	2.00%	2253.38	32	3.8
4	Glide	0+78.20	2249.88	8.00%		32	
5	Head of Riffle	0+83.20	2250.28	-4.00%	2252.98	29	2.7
6	Head of Cascade	1+11.20	2249.16	-24.00%		29	
7	Mid Pool	1+21.20	2246.76	4.00%	2250.56	32	3.8
8	Glide	1+36.20	2247.36	8.00%		32	
9	Head of Riffle	1+41.20	2247.76	-6.00%	2250.46	29	2.7
10	Head of Cascade	1+69.20	2246.08	-24.00%		29	
11	Mid Pool	1+79.20	2243.68	4.00%	2247.48	32	3.8
12	Glide	1+94.20	2244.28	8.00%		32	
13	Head of Riffle	1+99.20	2244.68	-6.00%	2247.38	29	2.7
14	Tie-In	2+14.82	2243.74			29	

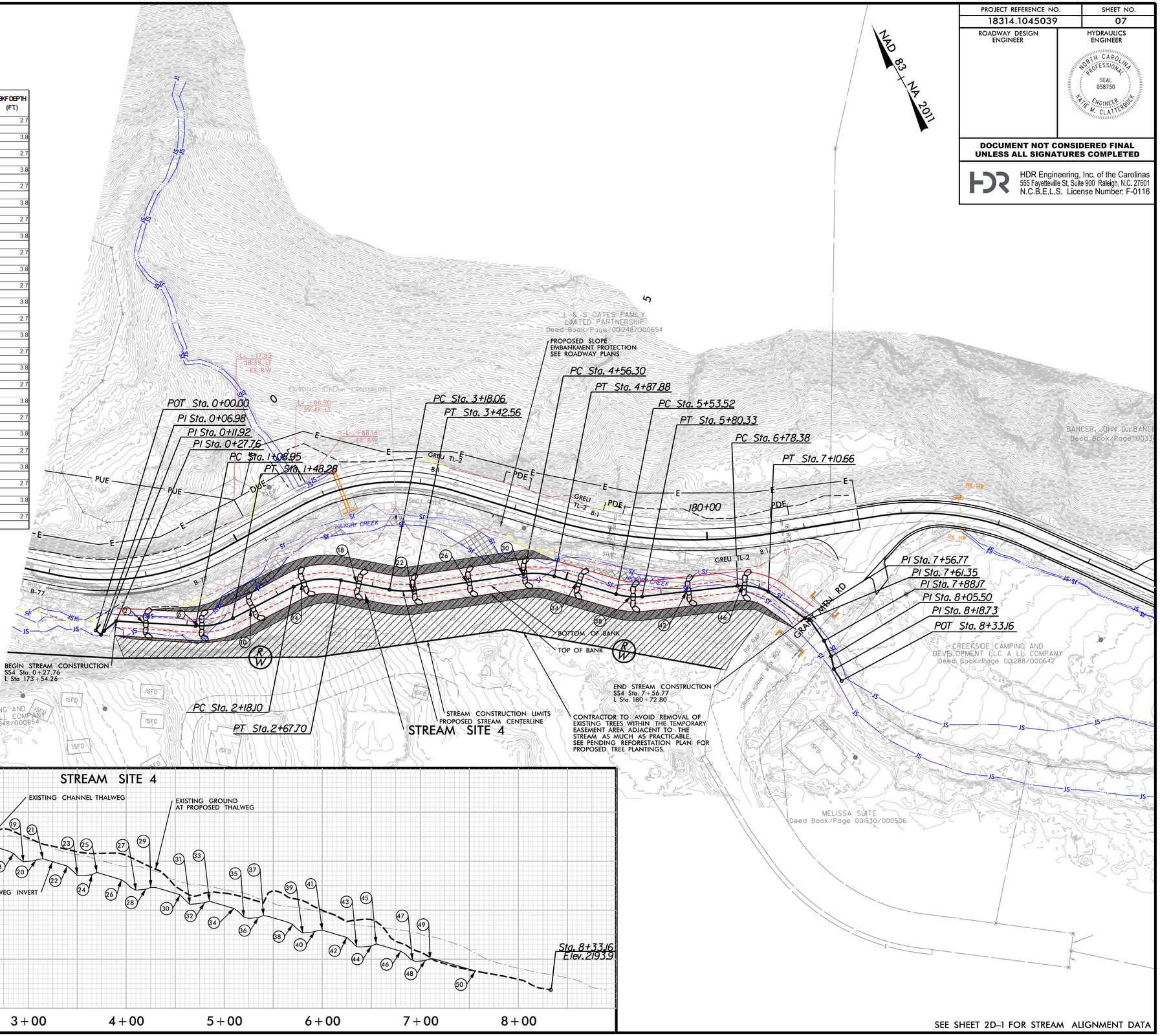
REVISIONS

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NOTE:
1. ENGINEER MAY MAKE CHANNEL ALIGNMENT AND PROFILE ADJUSTMENTS IN THE FIELD BASED ON SITE CONDITIONS INCLUDING EXISTING STREAM CROSSING STRUCTURES.
2. PRIVATE BRIDGES AND CULVERTS TO BE DESIGNED IN SEPARATE PROJECTS AND NOT INCLUDED ON THESE PLANS.

POINTID	FEATURE	STATION	CHANNEL CL ELEV	CHANNEL SLOPE	BKF ELEV	BKF WIDTH (FT)	BKF DEPTH (FT)
1	Head of Riffle	0+27.76	2230.80	-3.00%	2233.5	29	2.7
2	Head of Cascade	0+55.76	2229.96	-14.00%		29	
3	Mid Pool	0+65.76	2228.56	2.00%	2232.36	32	3.8
4	Glide	0+79.76	2228.84	10.00%		32	
5	Head of Riffle	0+84.76	2229.34	-3.00%	2232.04	29	2.7
6	Head of Cascade	1+12.76	2228.50	-14.00%		29	
7	Mid Pool	1+22.76	2227.10	2.00%	2230.9	32	3.8
8	Glide	1+36.76	2227.38	10.00%		32	
9	Head of Riffle	1+41.76	2227.88	-3.00%	2230.58	29	2.7
10	Head of Cascade	1+69.76	2227.04	-14.00%		29	
11	Mid Pool	1+79.76	2225.64	2.00%	2229.44	32	3.8
12	Glide	1+93.76	2225.92	10.00%		32	
13	Head of Riffle	1+98.76	2226.42	-6.00%	2229.12	29	2.7
14	Head of Cascade	2+26.76	2224.74	-20.00%		29	
15	Mid Pool	2+36.76	2222.74	2.00%	2226.54	32	3.8
16	Glide	2+50.76	2223.02	10.00%		32	
17	Head of Riffle	2+55.76	2223.52	-6.00%	2226.22	29	2.7
18	Head of Cascade	2+83.76	2221.84	-20.00%		29	
19	Mid Pool	2+93.76	2219.84	2.00%	2223.64	32	3.8
20	Glide	3+07.76	2220.12	10.00%		32	
21	Head of Riffle	3+12.76	2220.62	-6.00%	2223.32	29	2.7
22	Head of Cascade	3+40.76	2218.94	-20.00%		29	
23	Mid Pool	3+50.76	2216.94	2.00%	2220.74	32	3.8
24	Glide	3+64.76	2217.22	10.00%		32	
25	Head of Riffle	3+69.76	2217.72	-6.00%	2220.42	29	2.7
26	Head of Cascade	3+97.76	2216.04	-20.00%		29	
27	Mid Pool	4+07.76	2214.04	2.00%	2217.84	32	3.8
28	Glide	4+21.76	2214.32	10.00%		32	
29	Head of Riffle	4+26.76	2214.82	-5.90%	2217.52	29	2.7
30	Head of Cascade	4+54.76	2213.17	-20.00%		29	
31	Mid Pool	4+64.76	2211.17	2.00%	2214.968	32	3.8
32	Glide	4+78.76	2211.45	9.00%		32	
33	Head of Riffle	4+83.76	2211.90	-5.90%	2214.598	29	2.7
34	Head of Cascade	5+11.76	2210.25	-20.00%		29	
35	Mid Pool	5+21.76	2208.25	2.00%	2212.046	32	3.8
36	Glide	5+35.76	2208.53	9.00%		32	
37	Head of Riffle	5+40.76	2208.98	-5.90%	2211.676	29	2.7
38	Head of Cascade	5+68.76	2207.32	-20.00%		29	
39	Mid Pool	5+78.76	2205.32	2.00%	2209.124	32	3.8
40	Glide	5+92.76	2205.60	9.00%		32	
41	Head of Riffle	5+97.76	2206.05	-5.90%	2208.754	29	2.7
42	Head of Cascade	6+25.76	2204.40	-20.00%		29	
43	Mid Pool	6+35.76	2202.40	2.00%	2206.202	32	3.8
44	Glide	6+49.76	2202.68	9.00%		32	
45	Head of Riffle	6+54.76	2203.13	-5.90%	2205.832	29	2.7
46	Head of Cascade	6+82.76	2201.48	-20.00%		29	
47	Mid Pool	6+92.76	2199.48	2.00%	2203.28	32	3.8
48	Glide	7+06.76	2199.76	9.00%		32	
49	Head of Riffle	7+11.76	2200.21	-5.90%	2202.91	29	2.7
50	Tie-In	7+56.77	2197.55			29	

LEGEND:
- BIOENGINEERING LIVE STAKING AREA
- REFORESTATION AREA



SEE SHEET 2D-1 FOR STREAM ALIGNMENT DATA

PROJECT REFERENCE NO.	SHEET NO.
18314.1045039	07

ROADWAY DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 058750 ENGINEER KATIE M. CLATTERBUCK

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

HDR Engineering, Inc. of the Carolinas
555 Fayetteville St, Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

REVISIONS

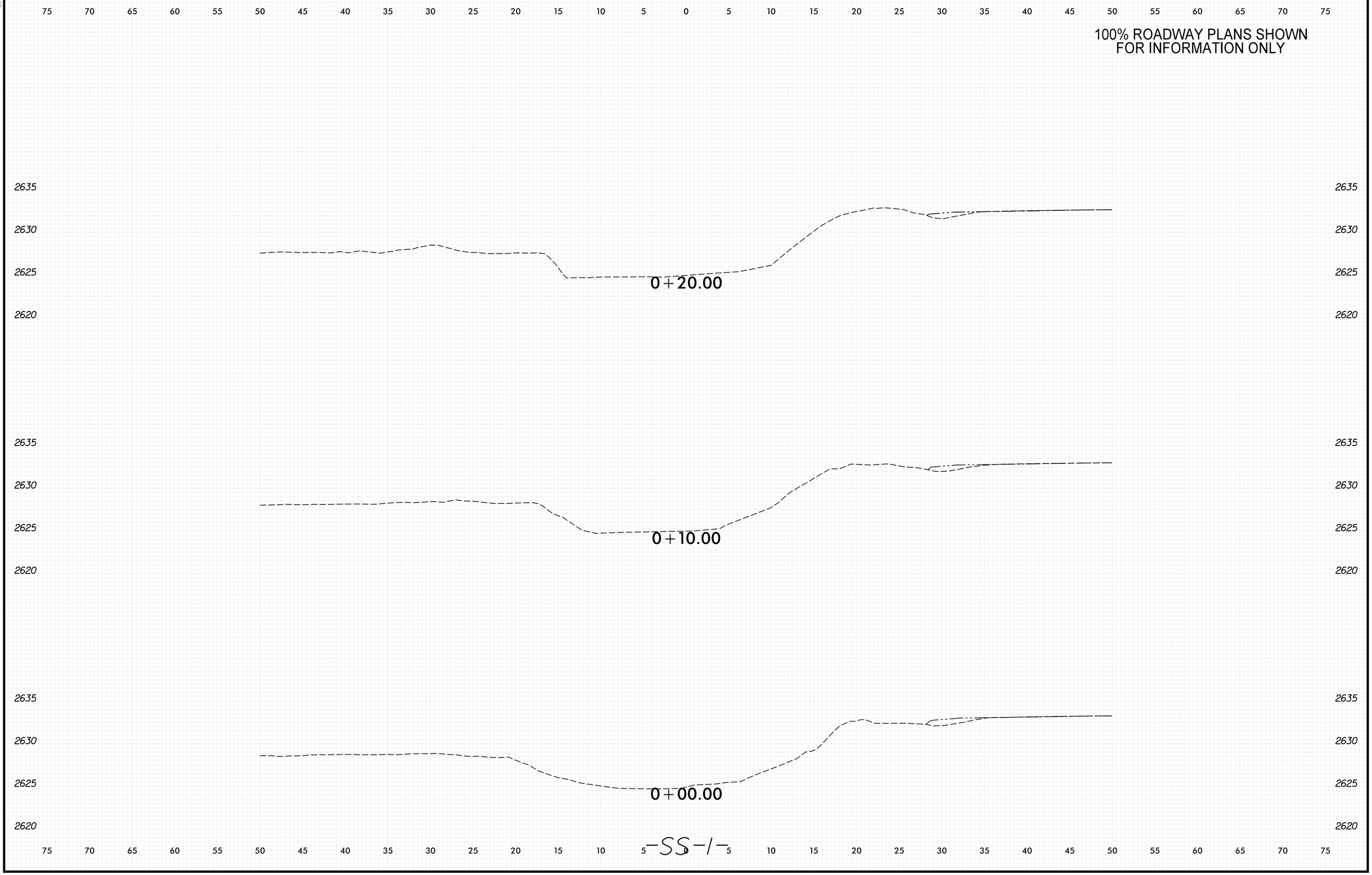
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FOR INFORMATION ONLY



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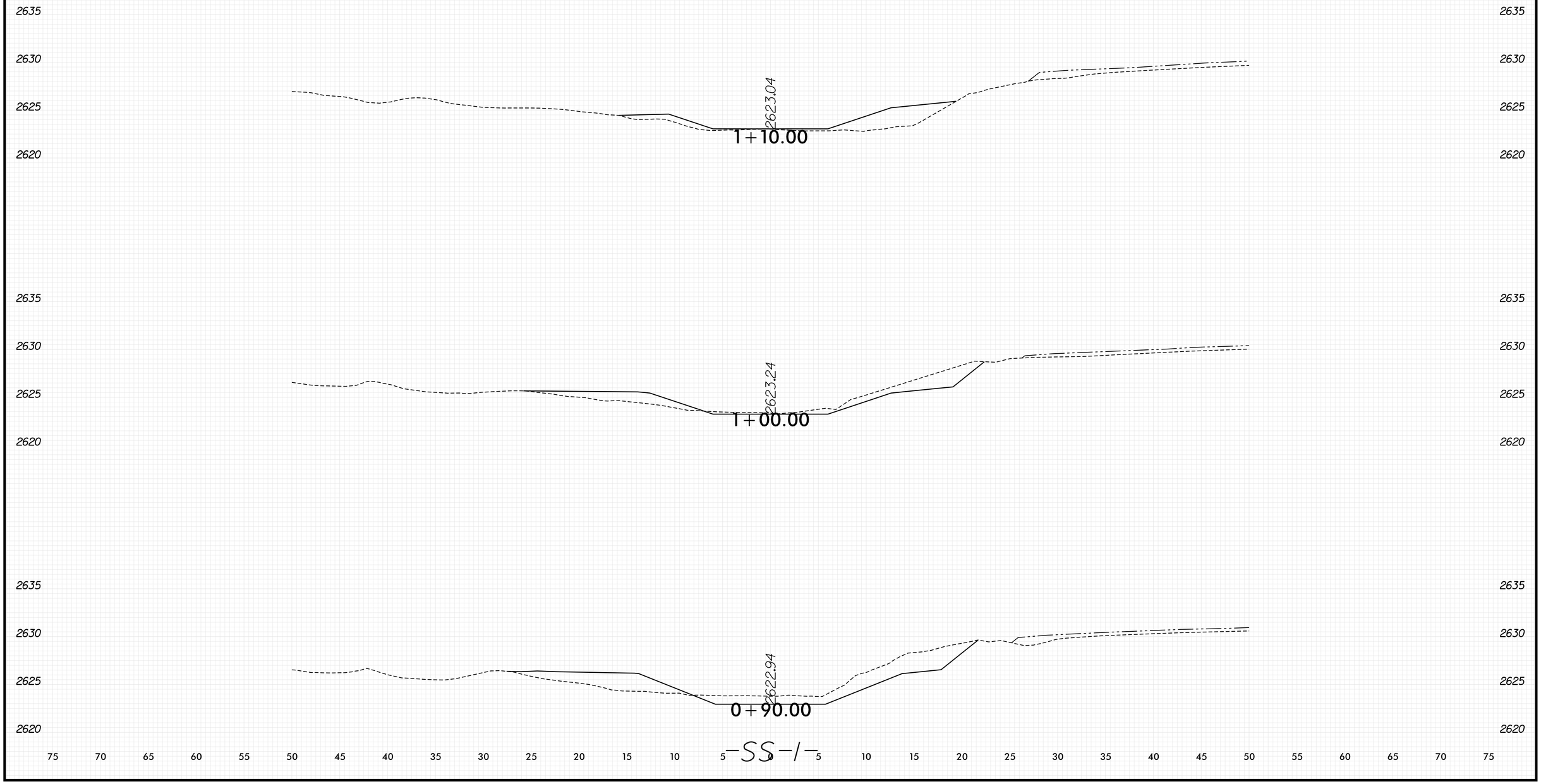
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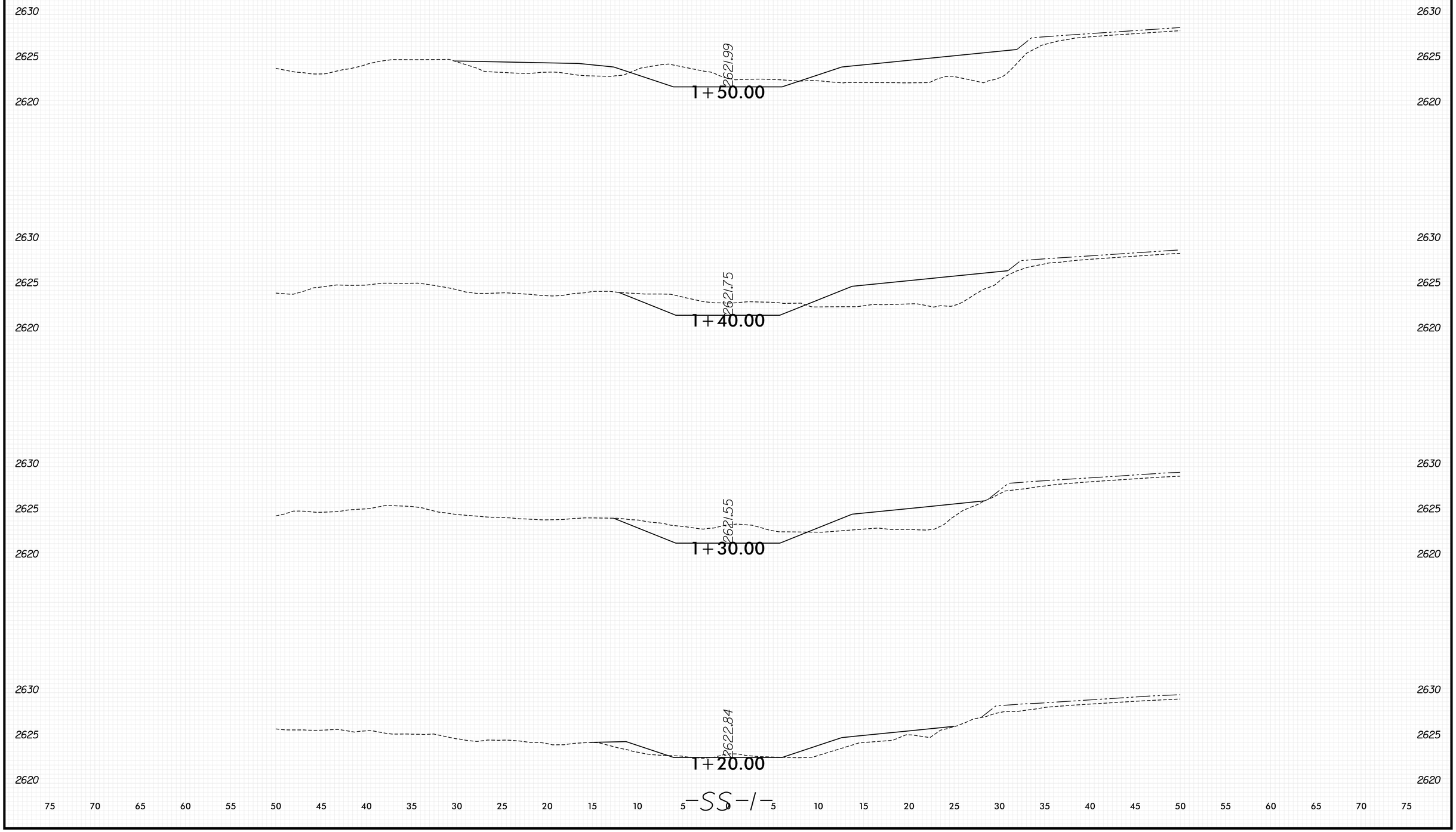
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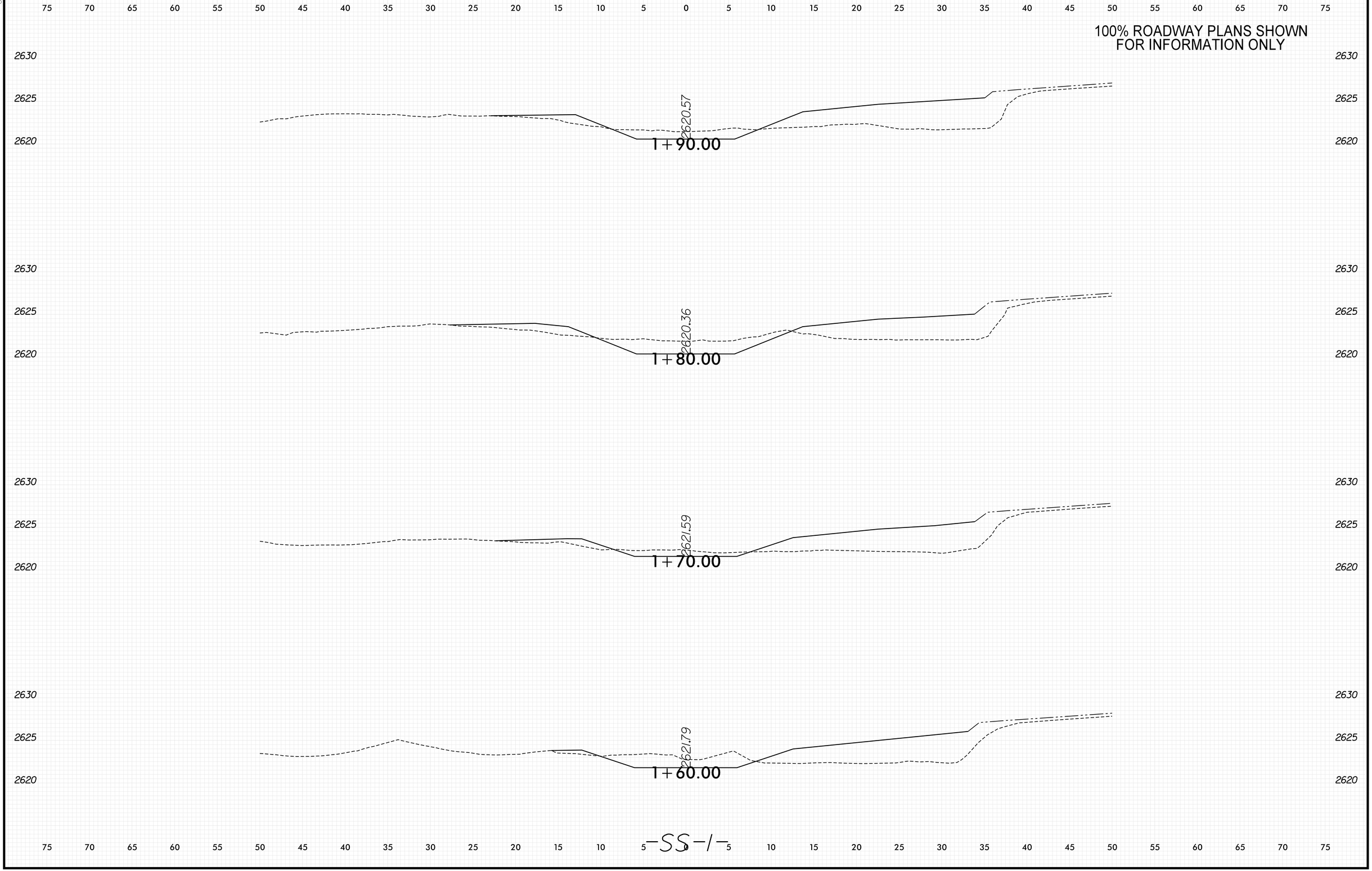


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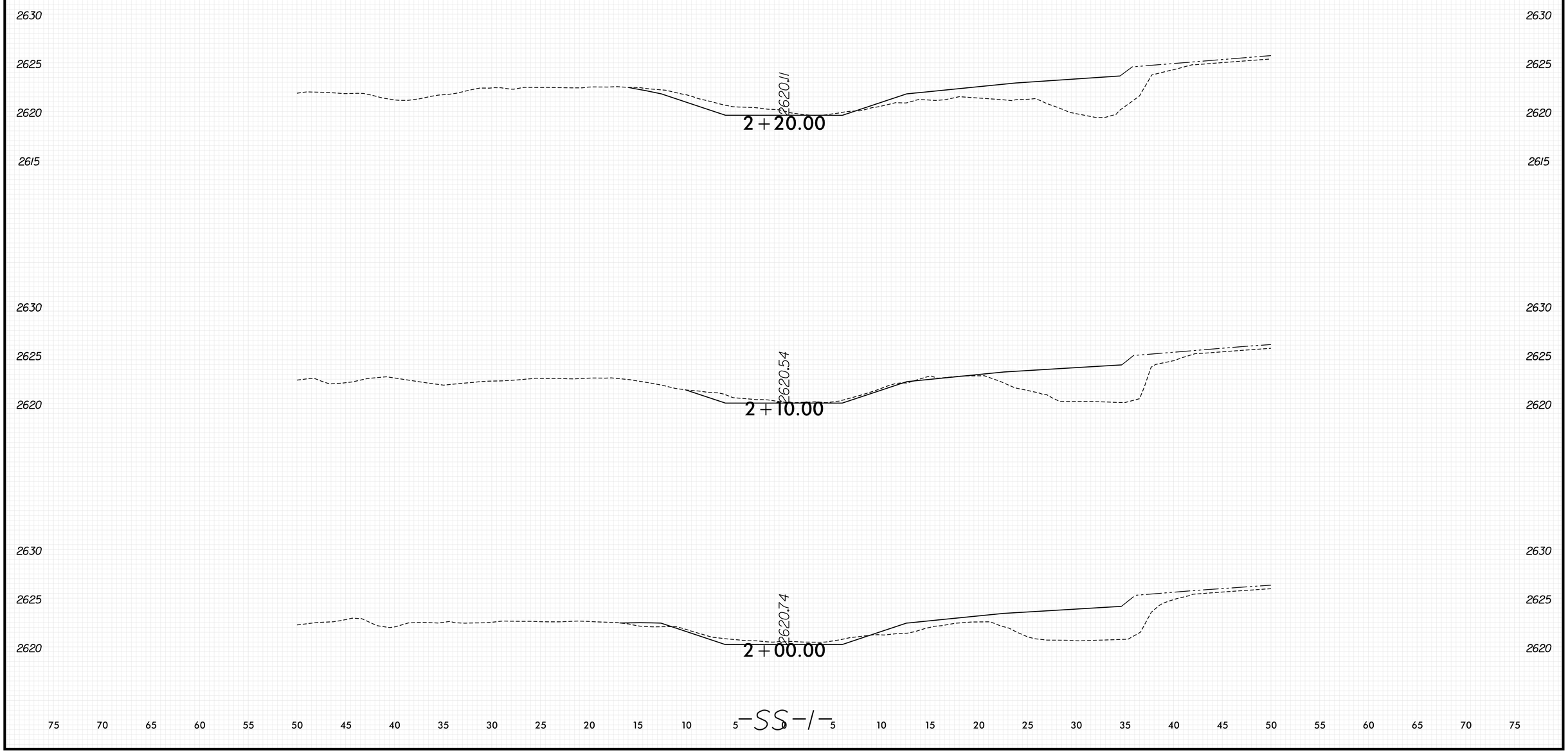


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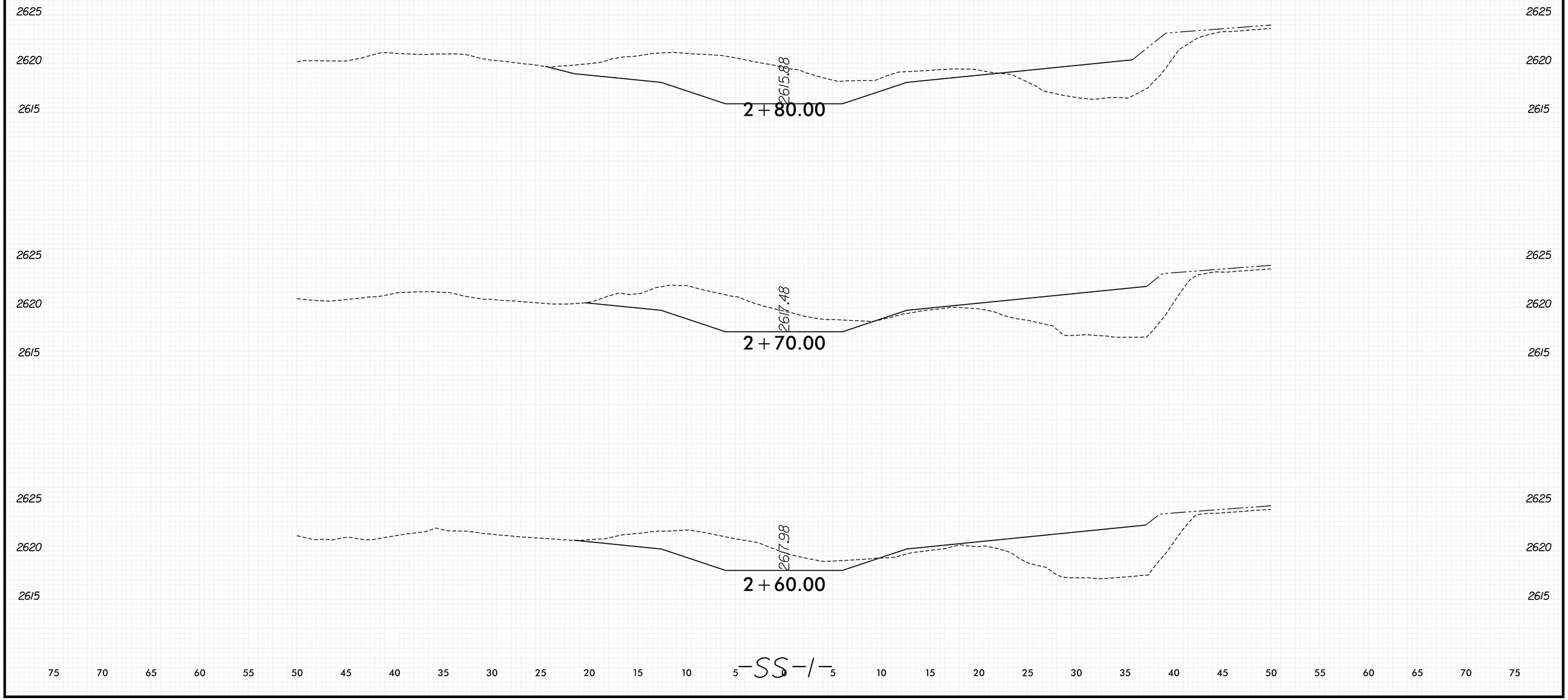
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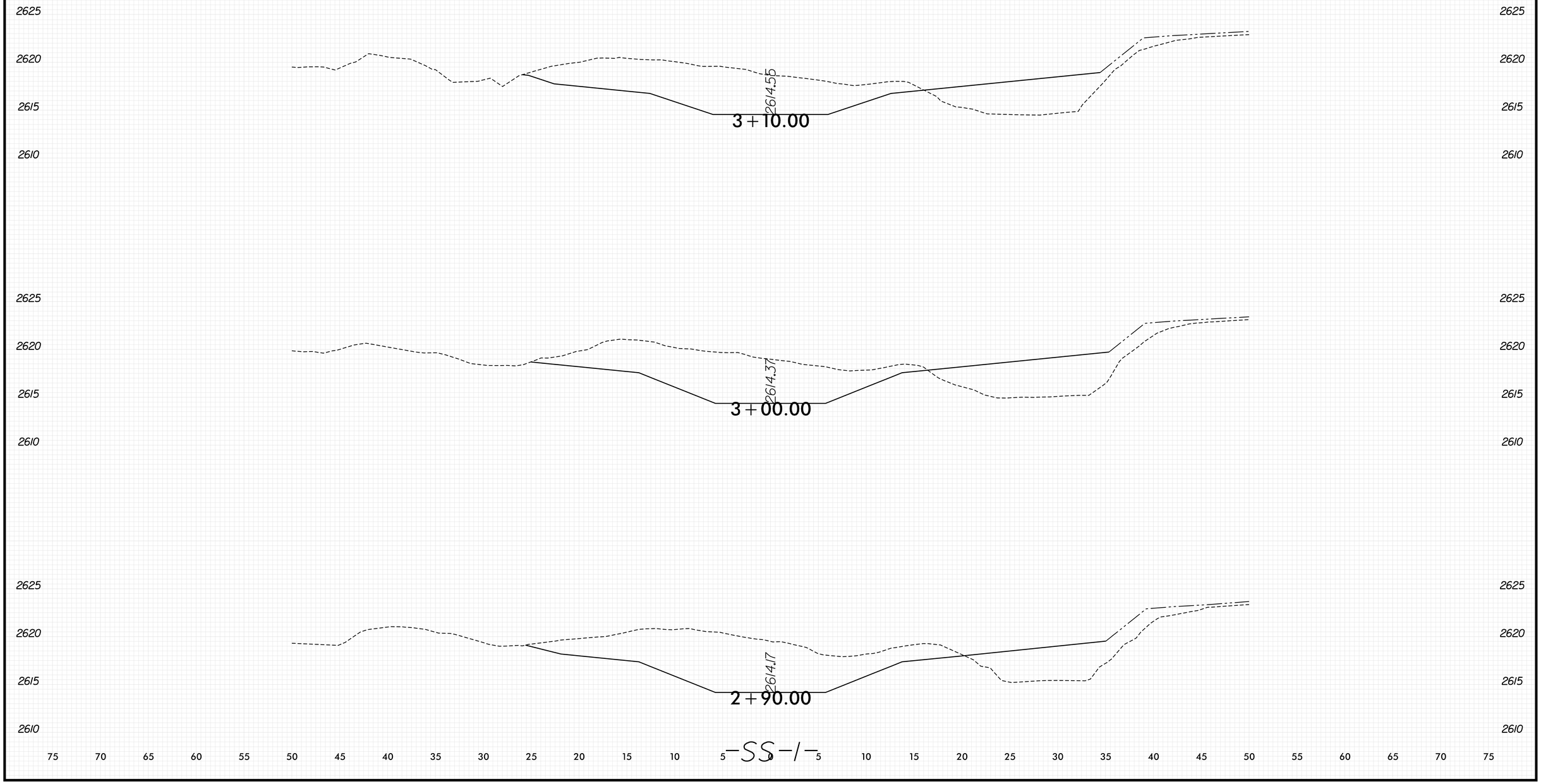


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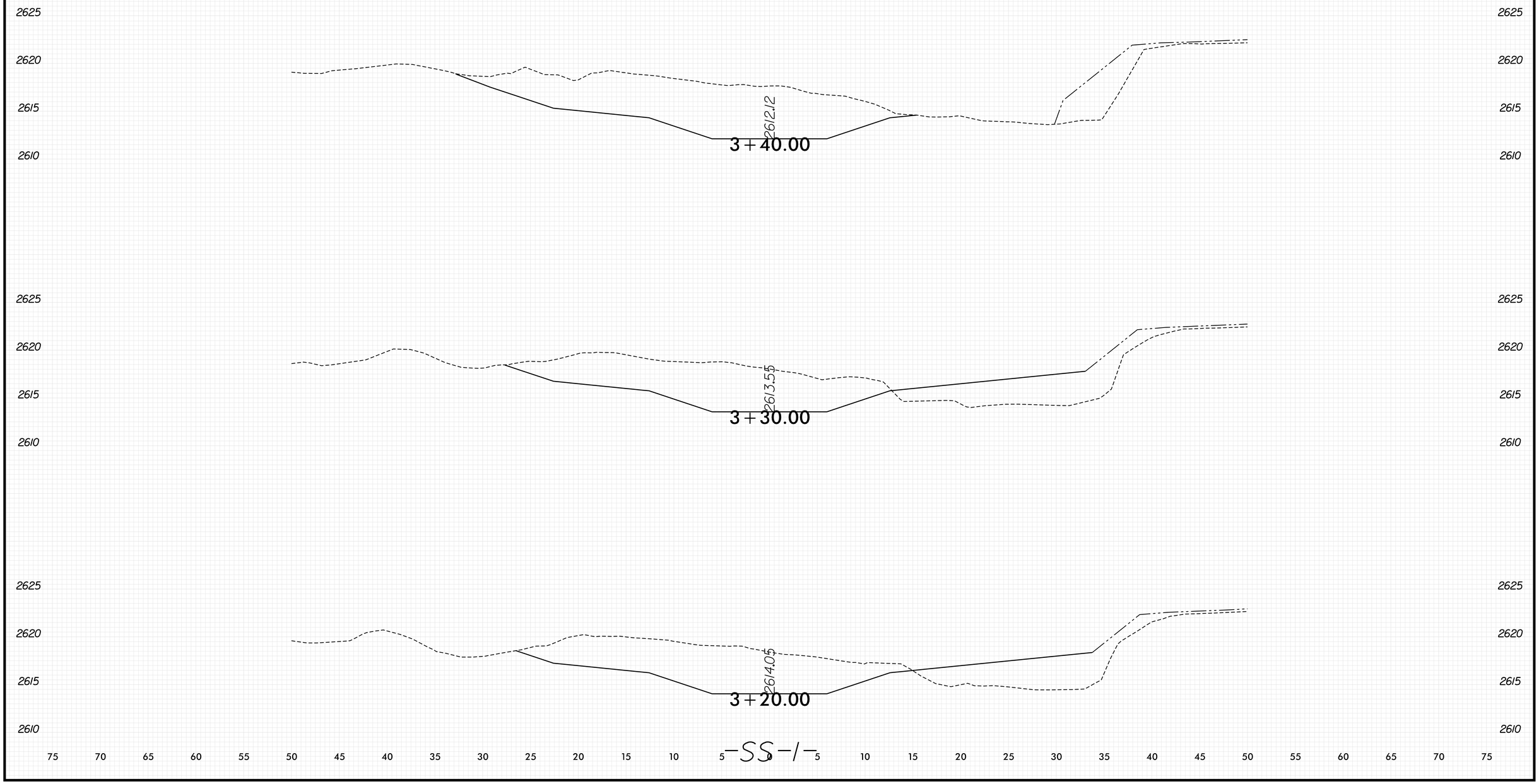
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FOR INFORMATION ONLY



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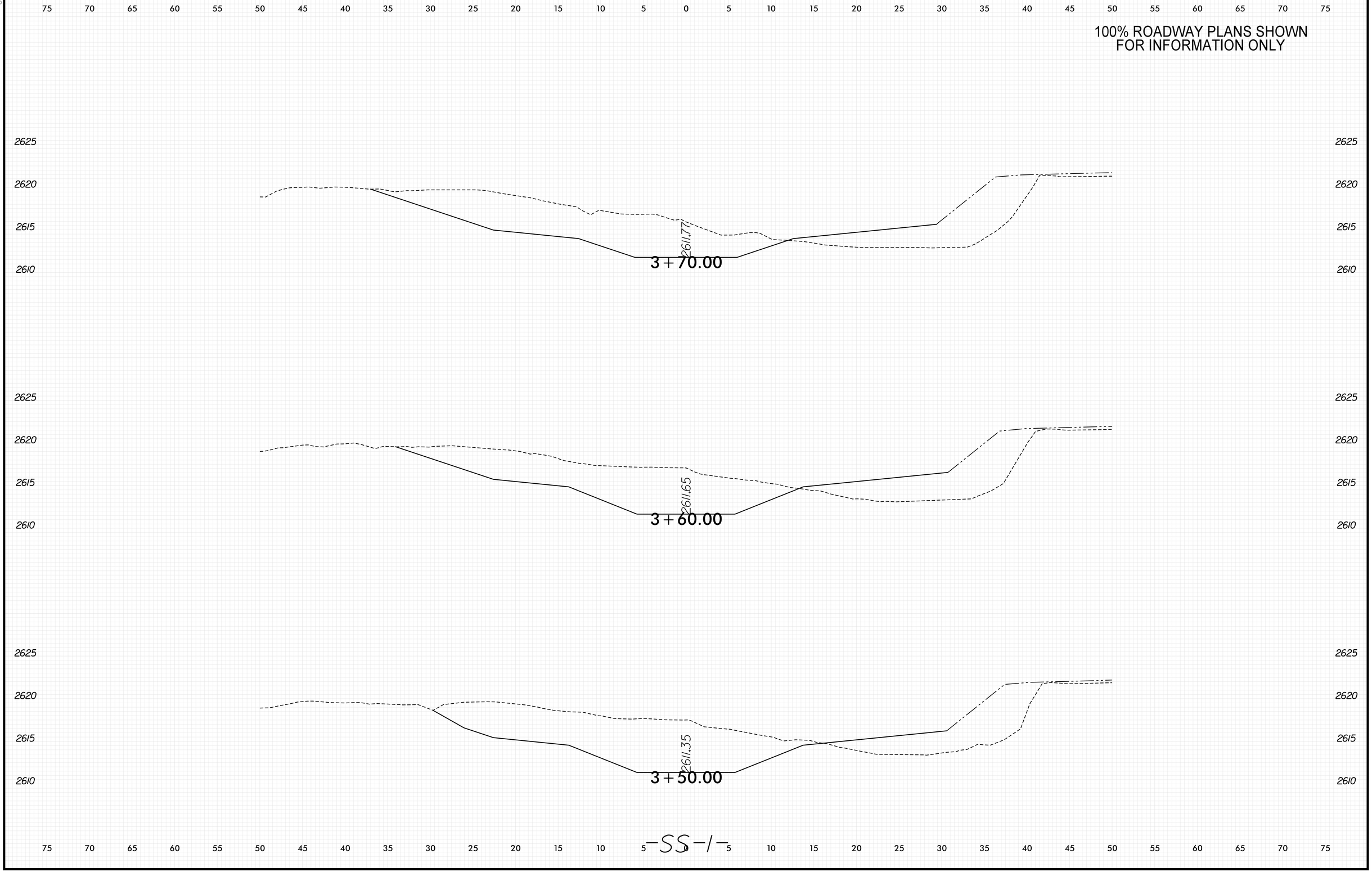
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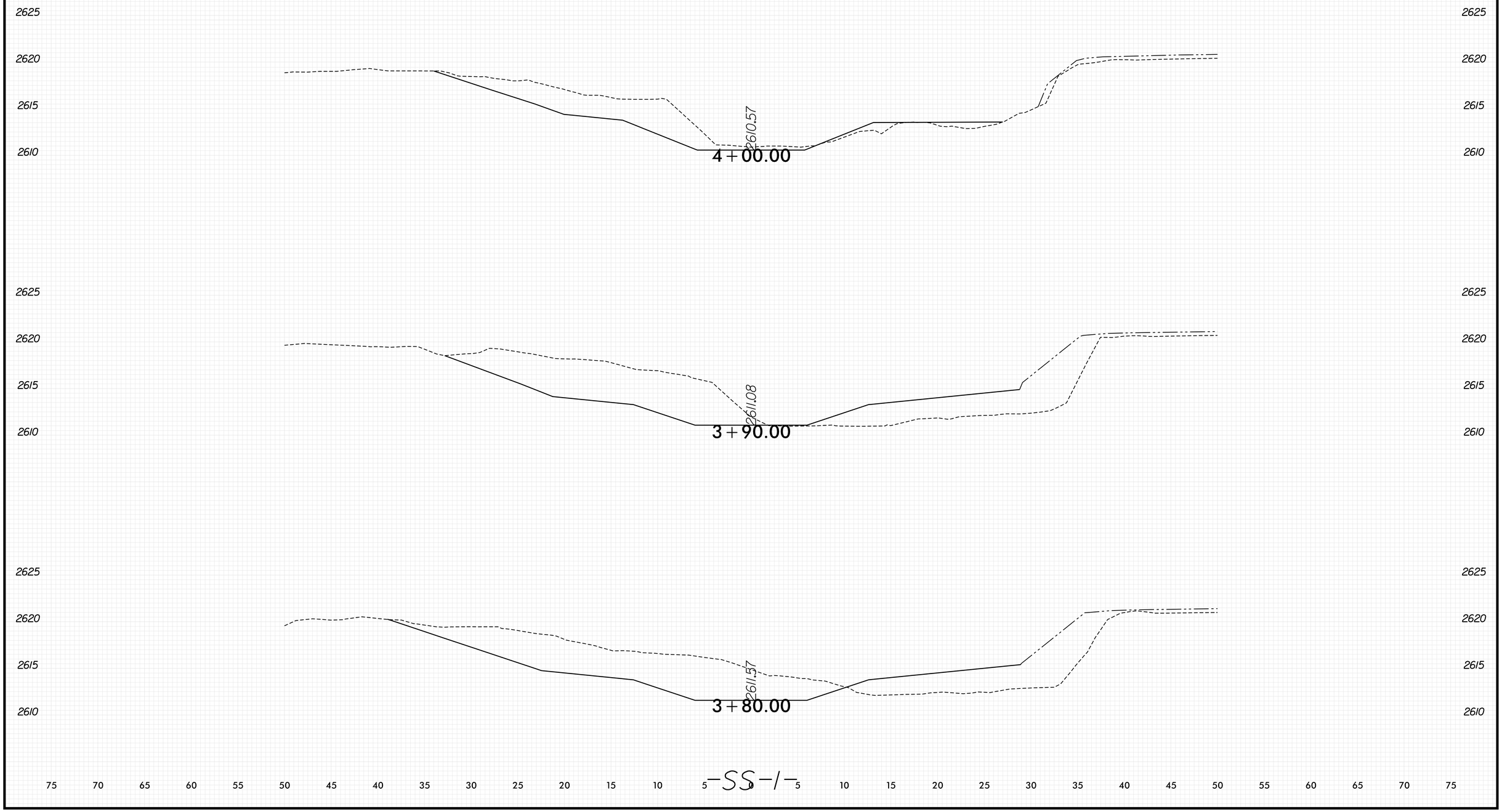
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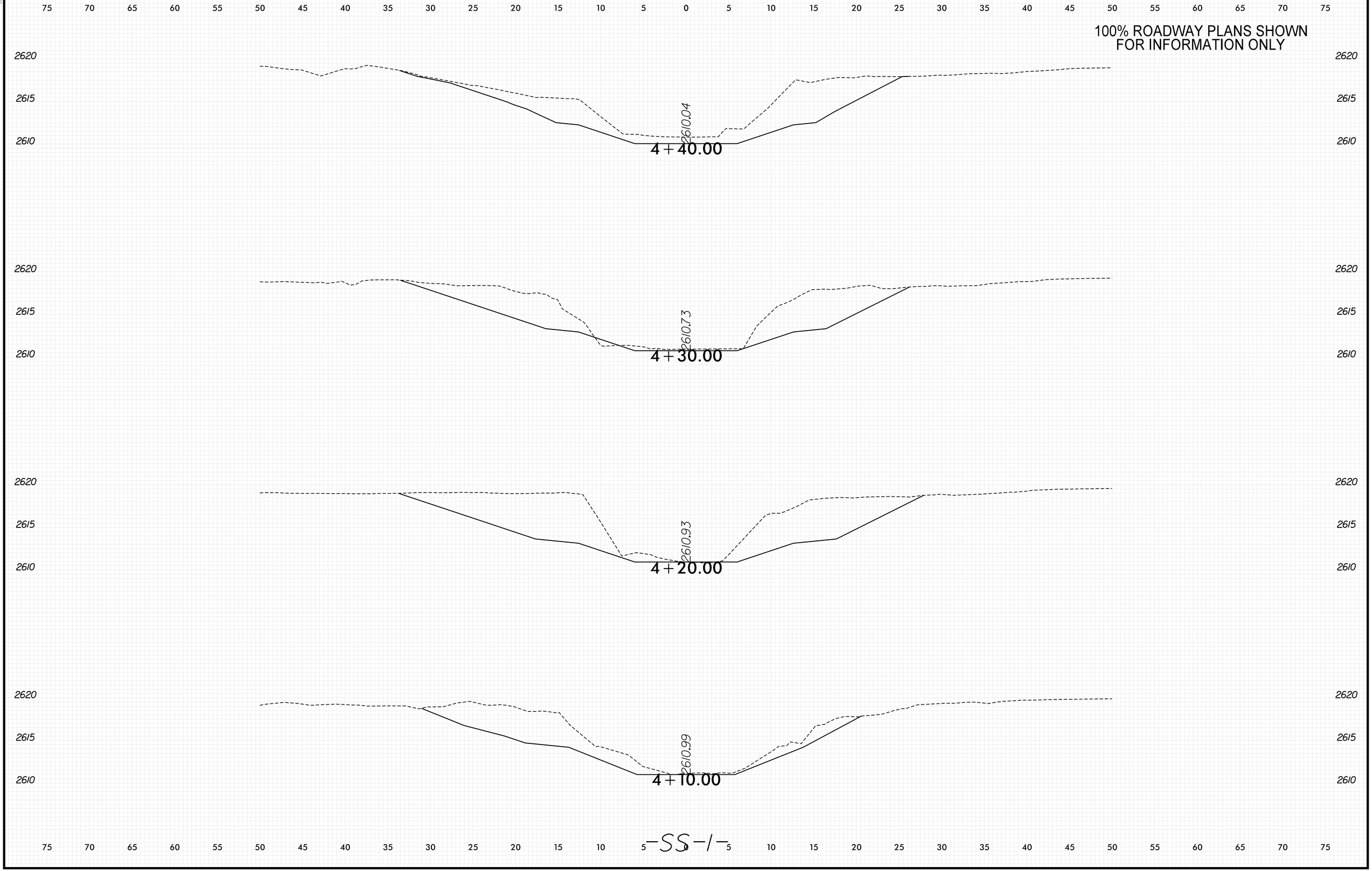


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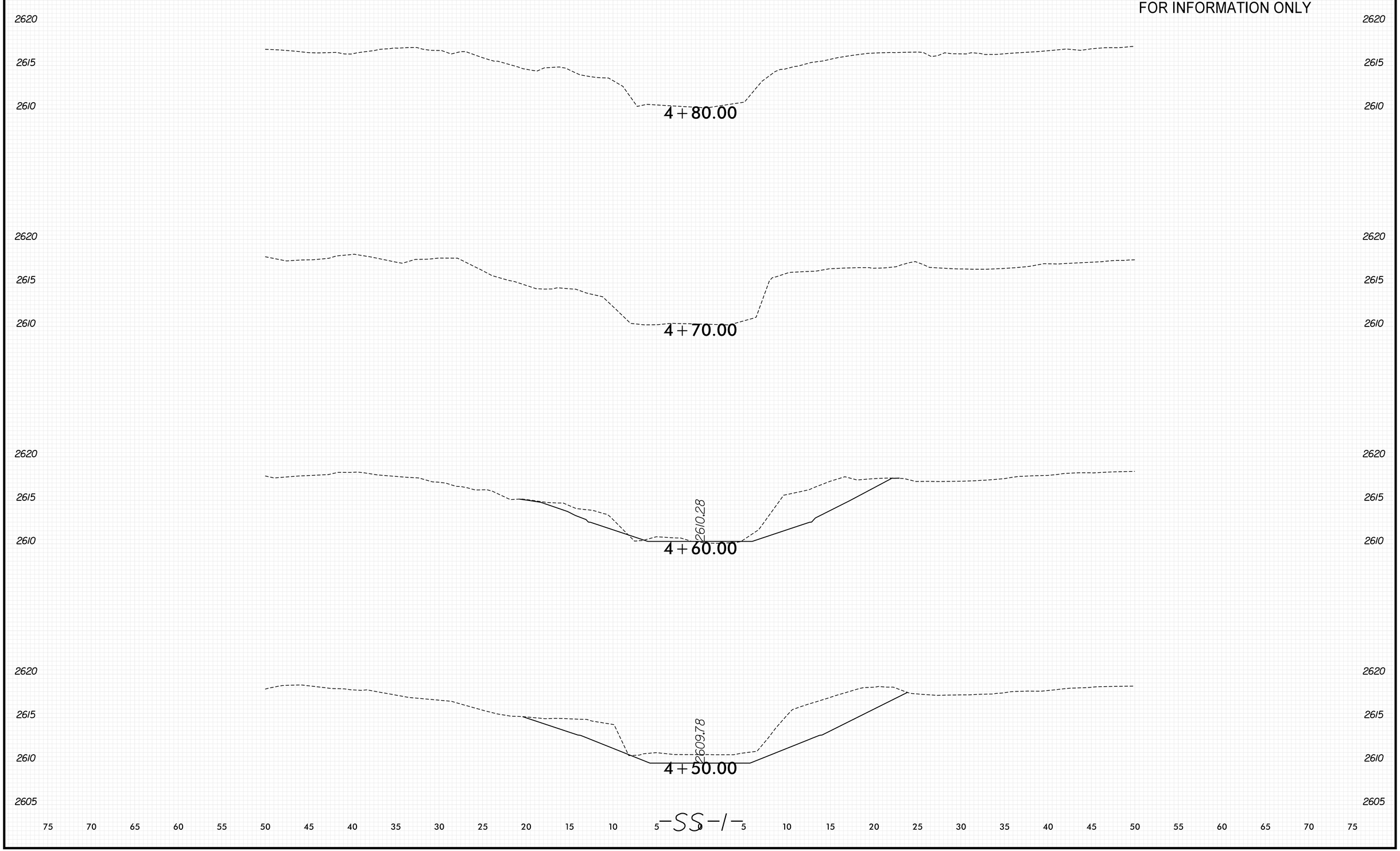
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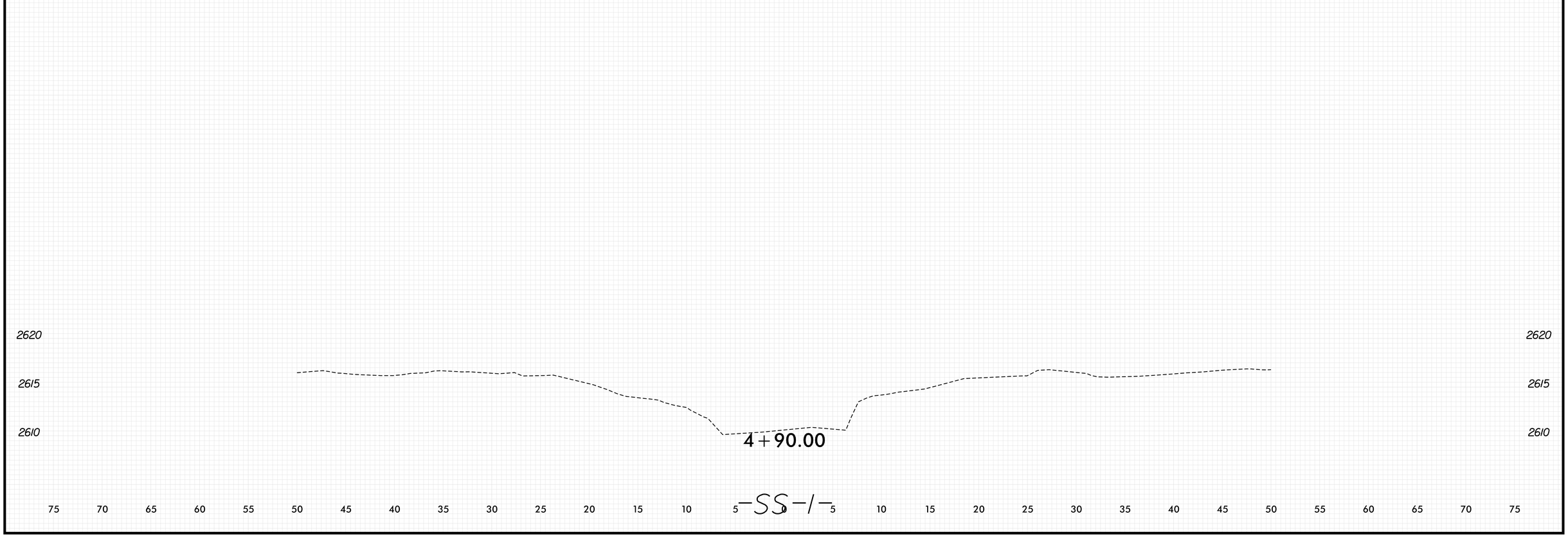
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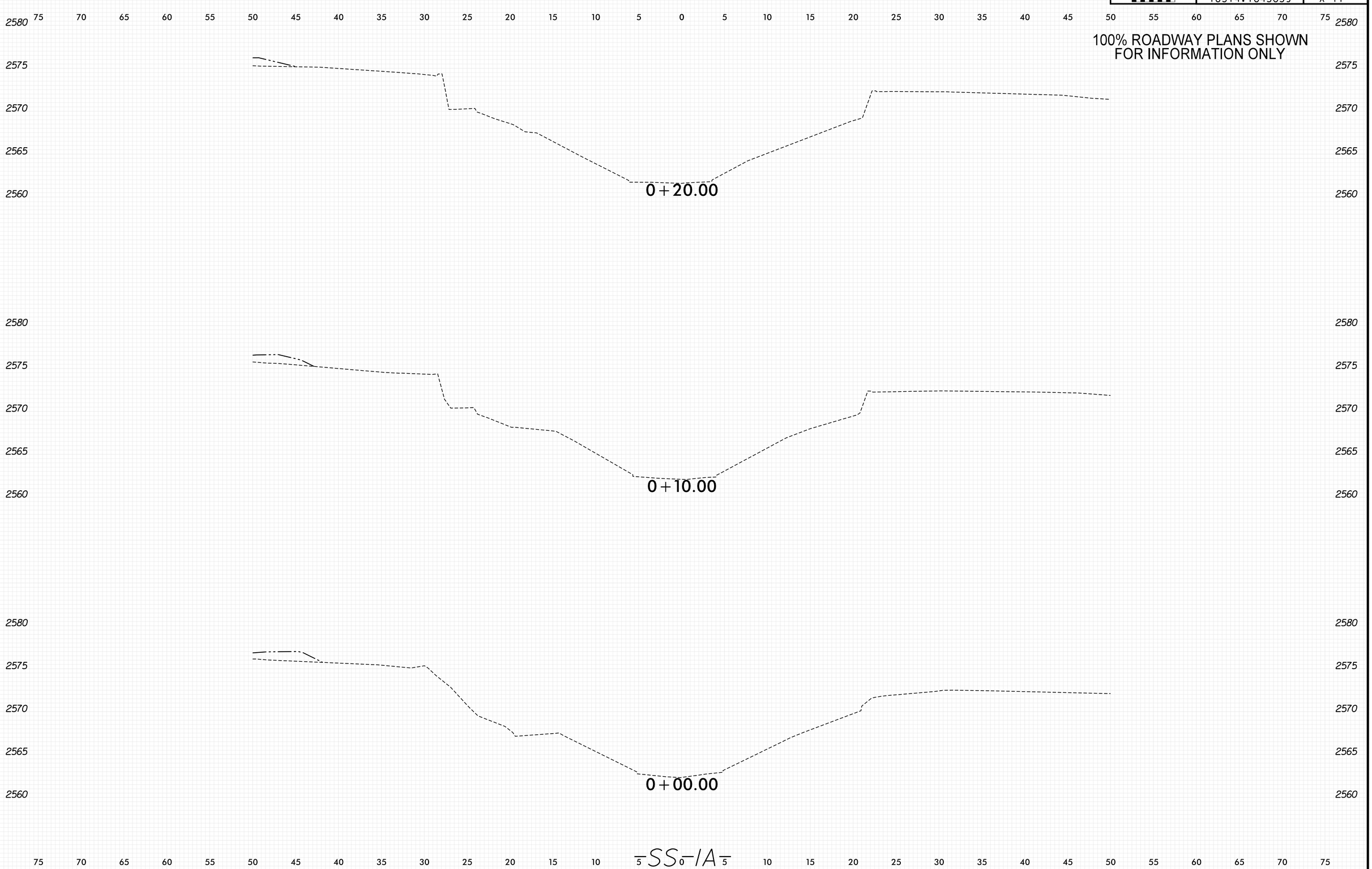
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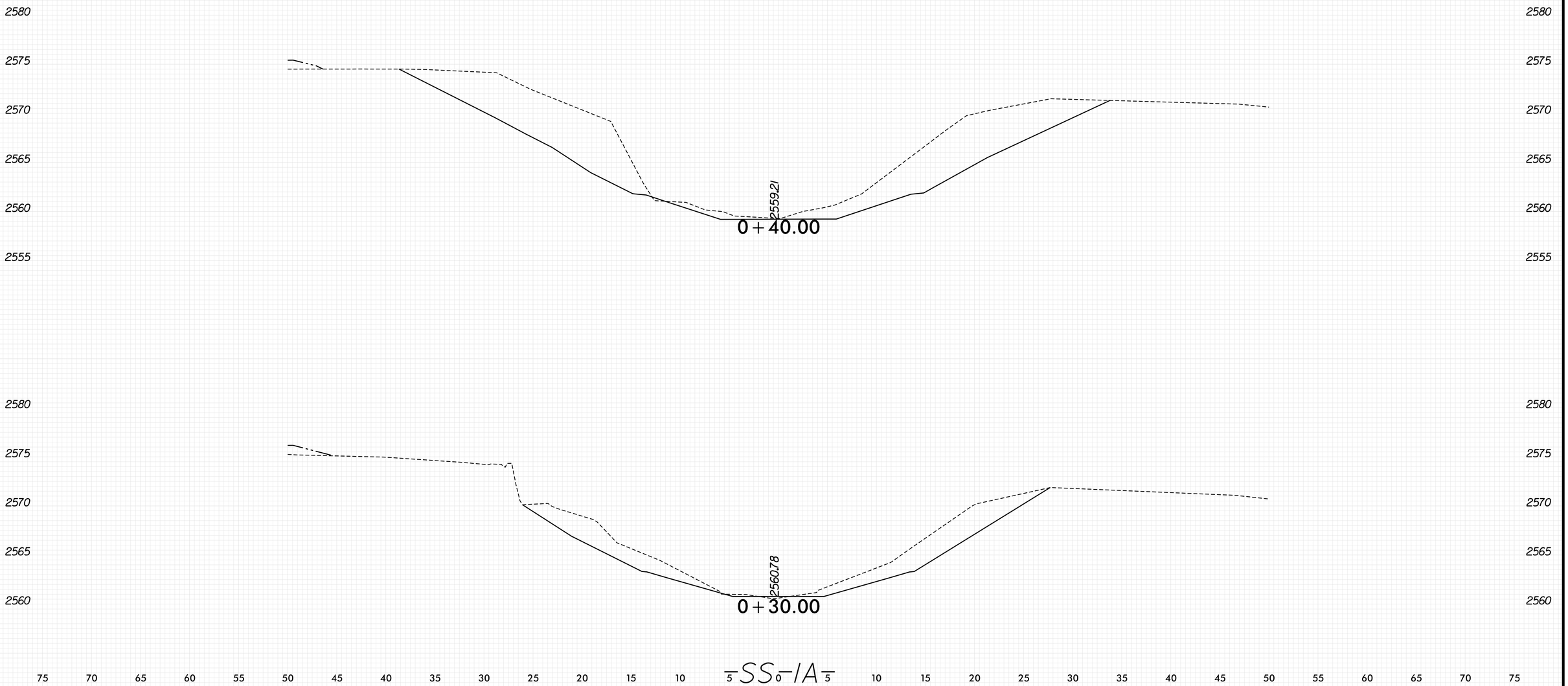
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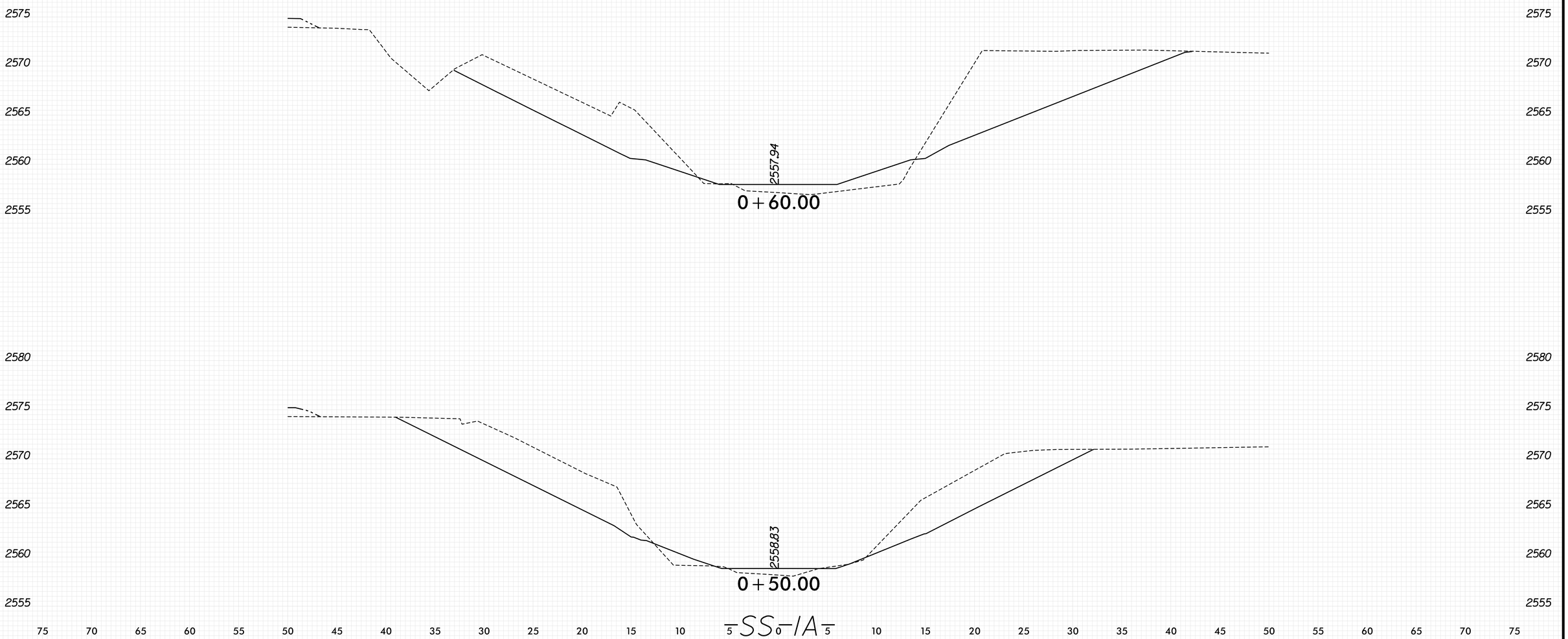
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FOR INFORMATION ONLY



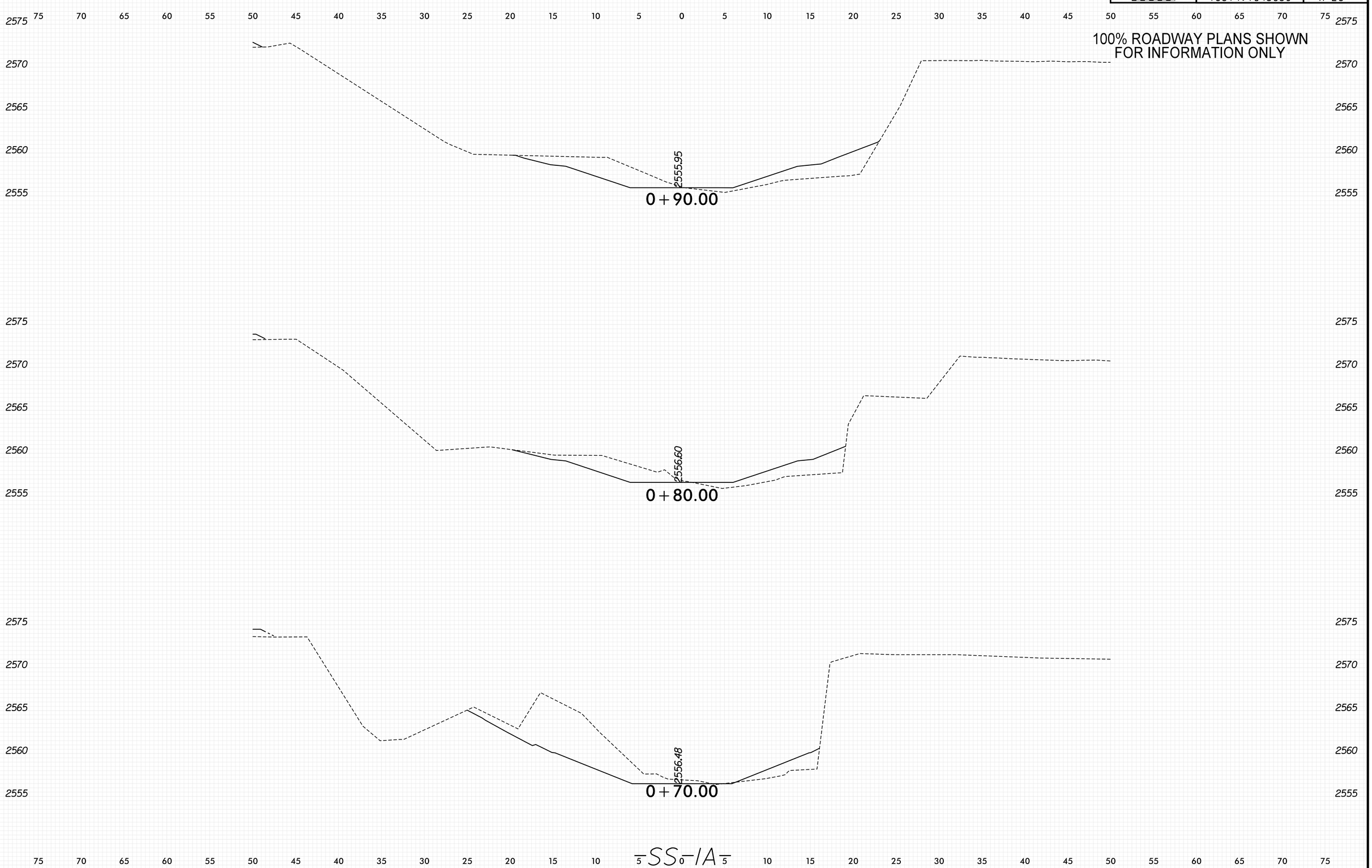
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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
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DATE: 5/8/2026
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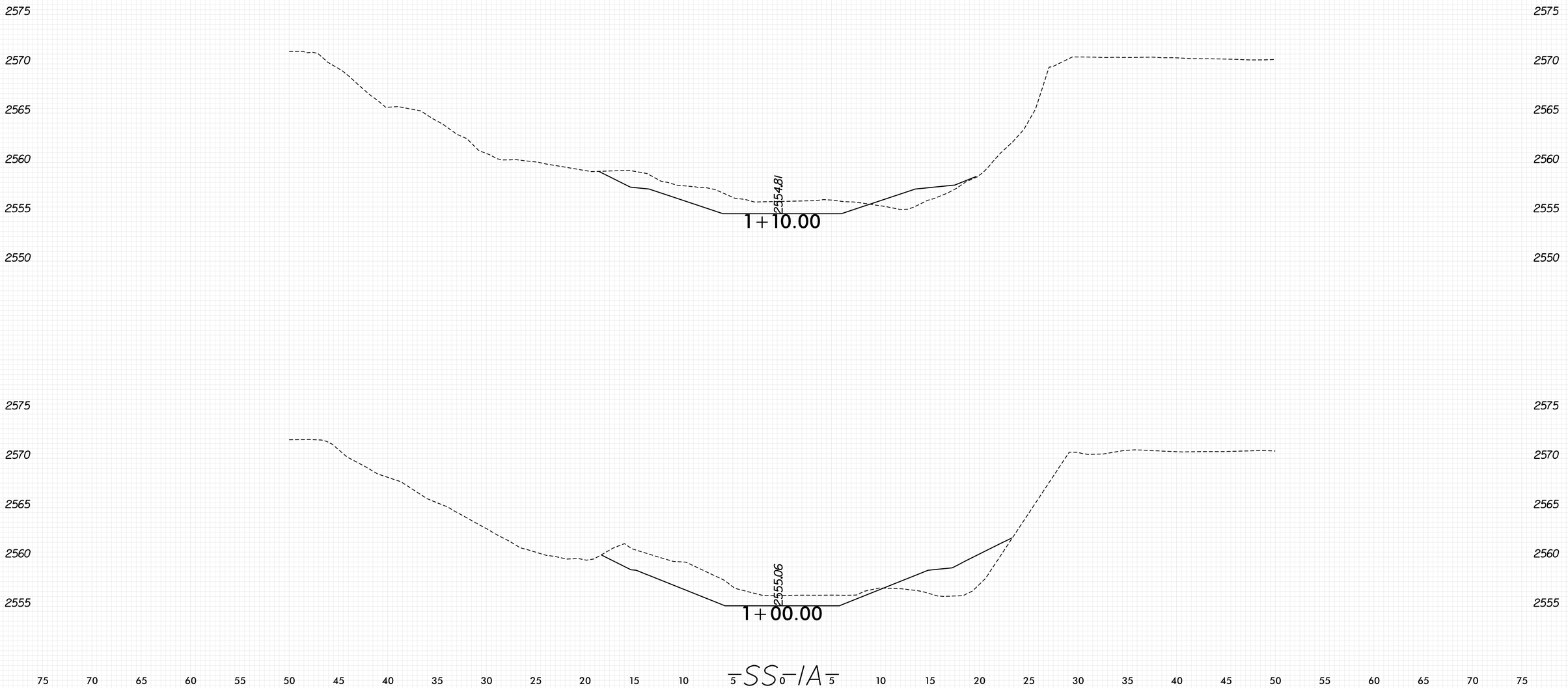
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng.50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:37:53 AM

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

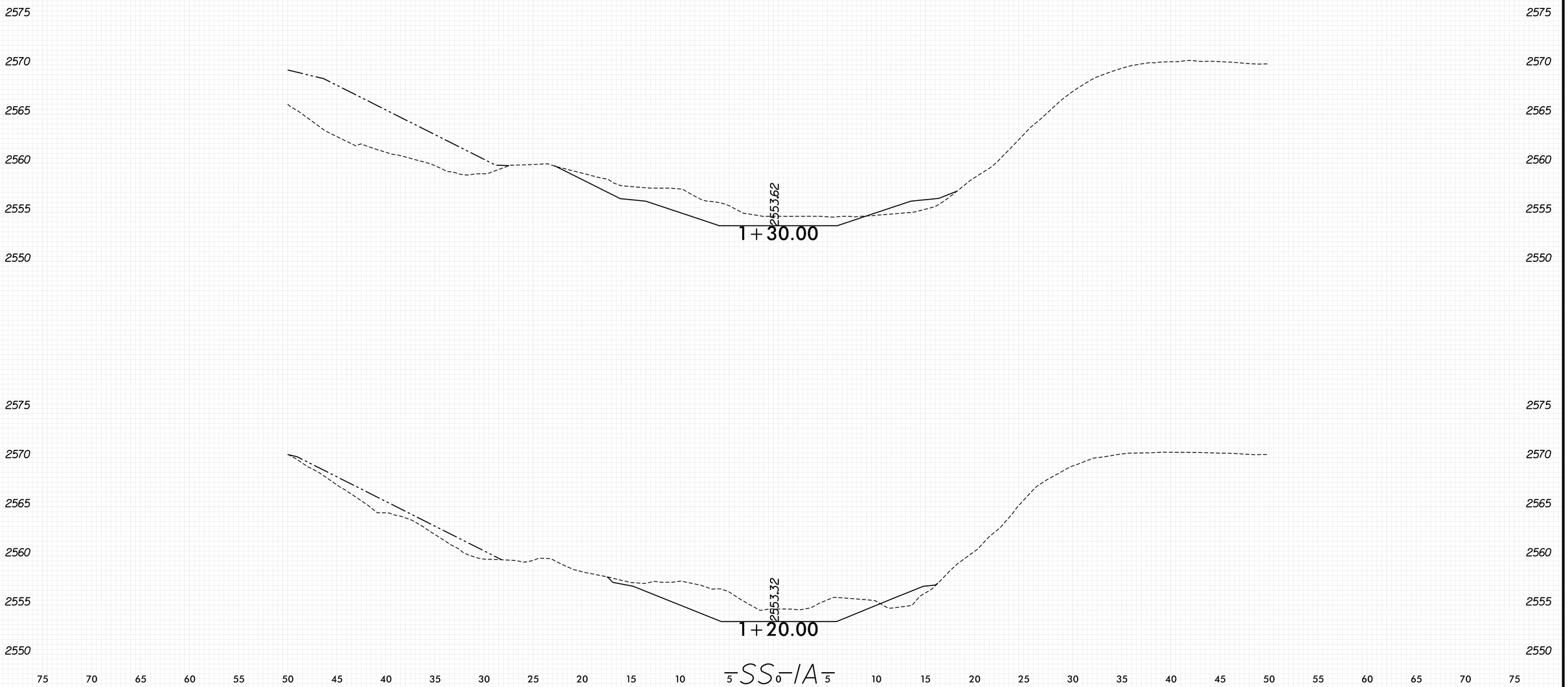
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:37:55 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-22

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

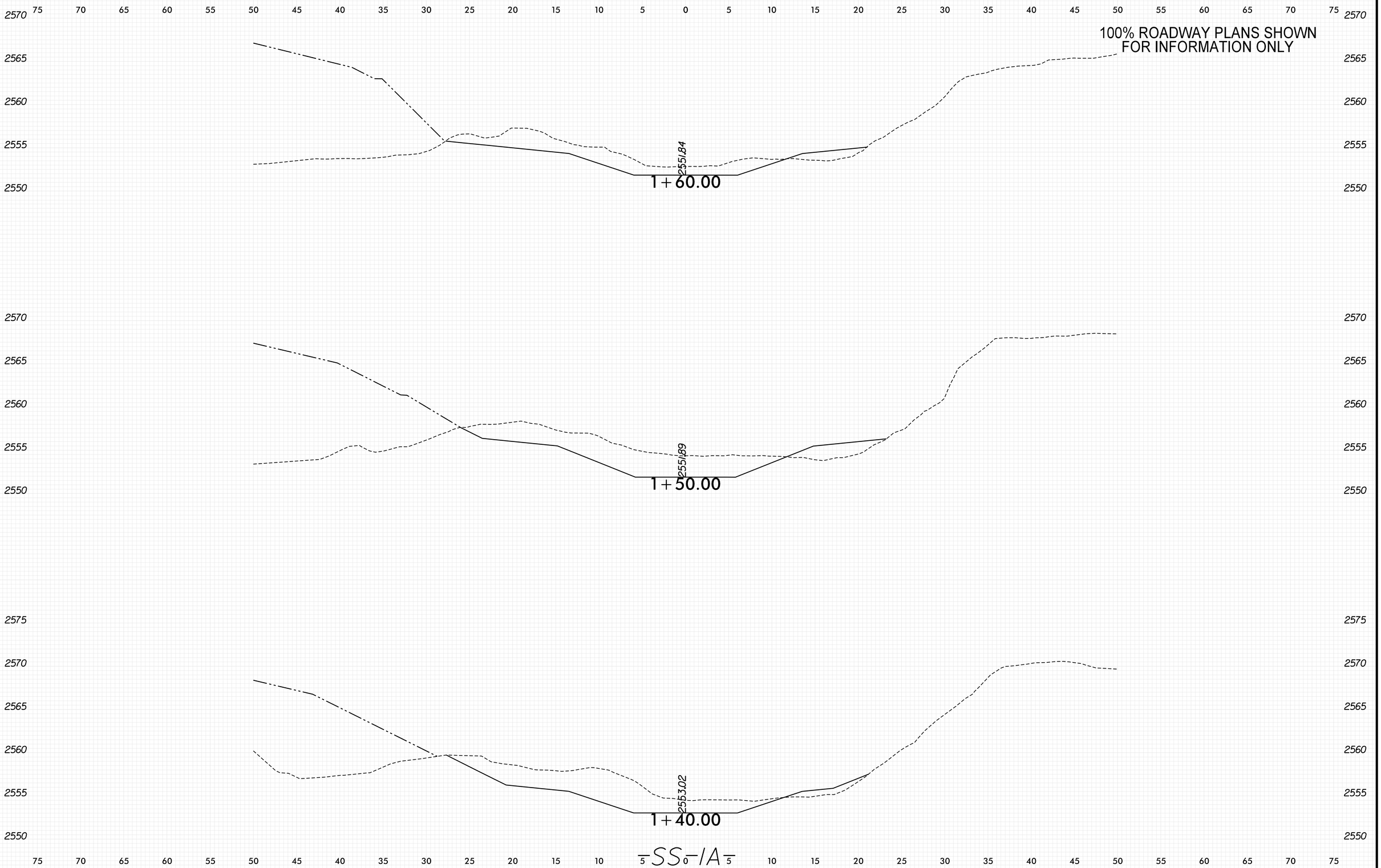


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8/23/99

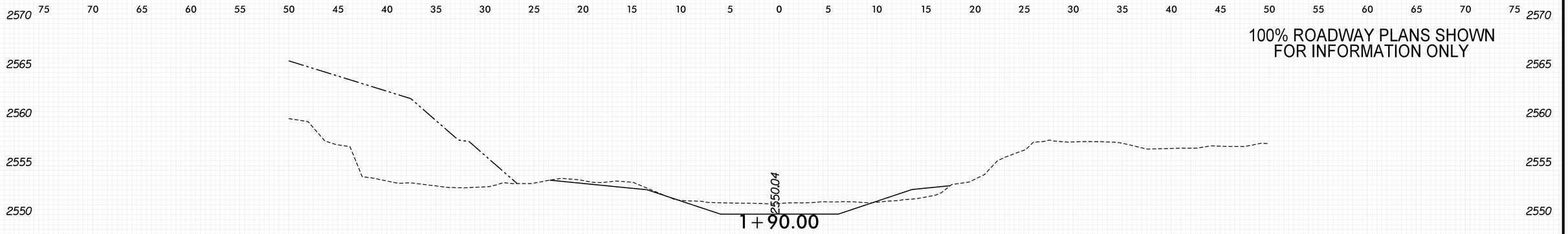
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-23

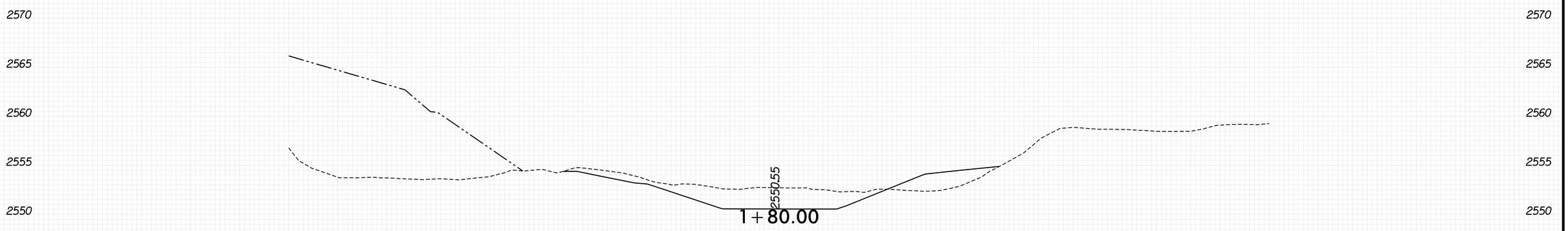
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FOR INFORMATION ONLY

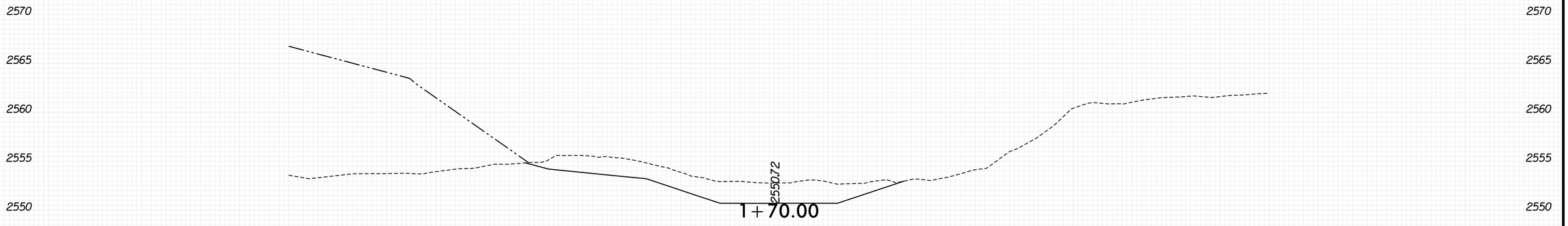


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DATE: 5/8/2026
TIME: 9:37:57 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

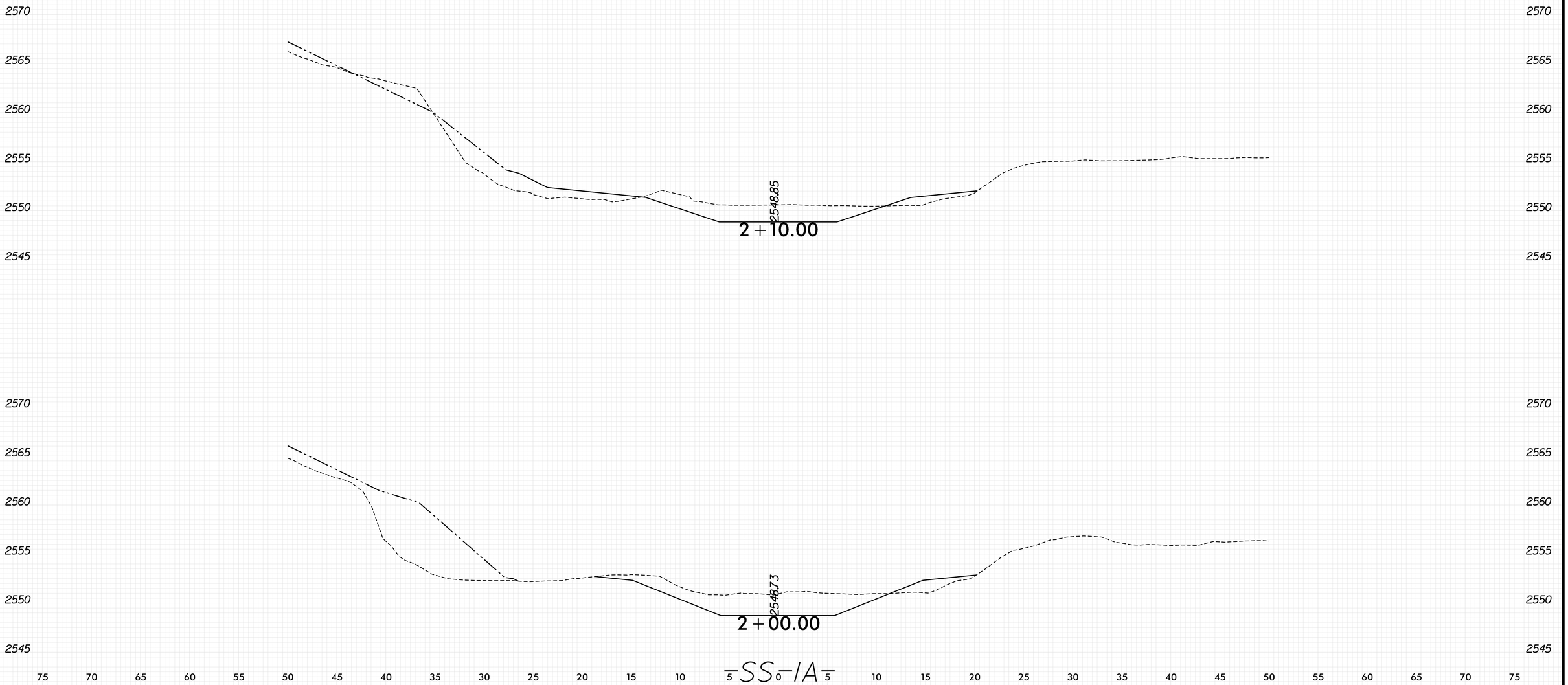






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TIME: 9:37:58 AM
8/23/99

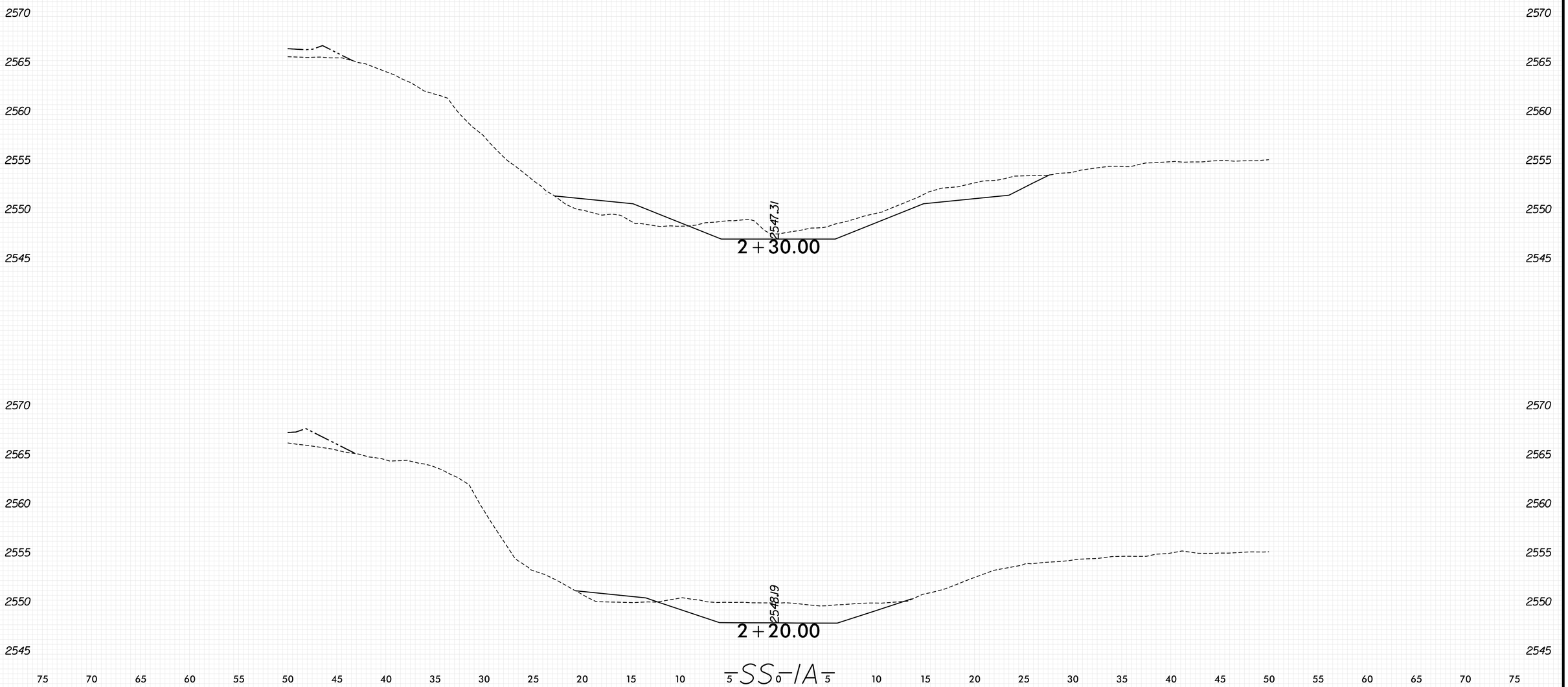
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:00 AM

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-27

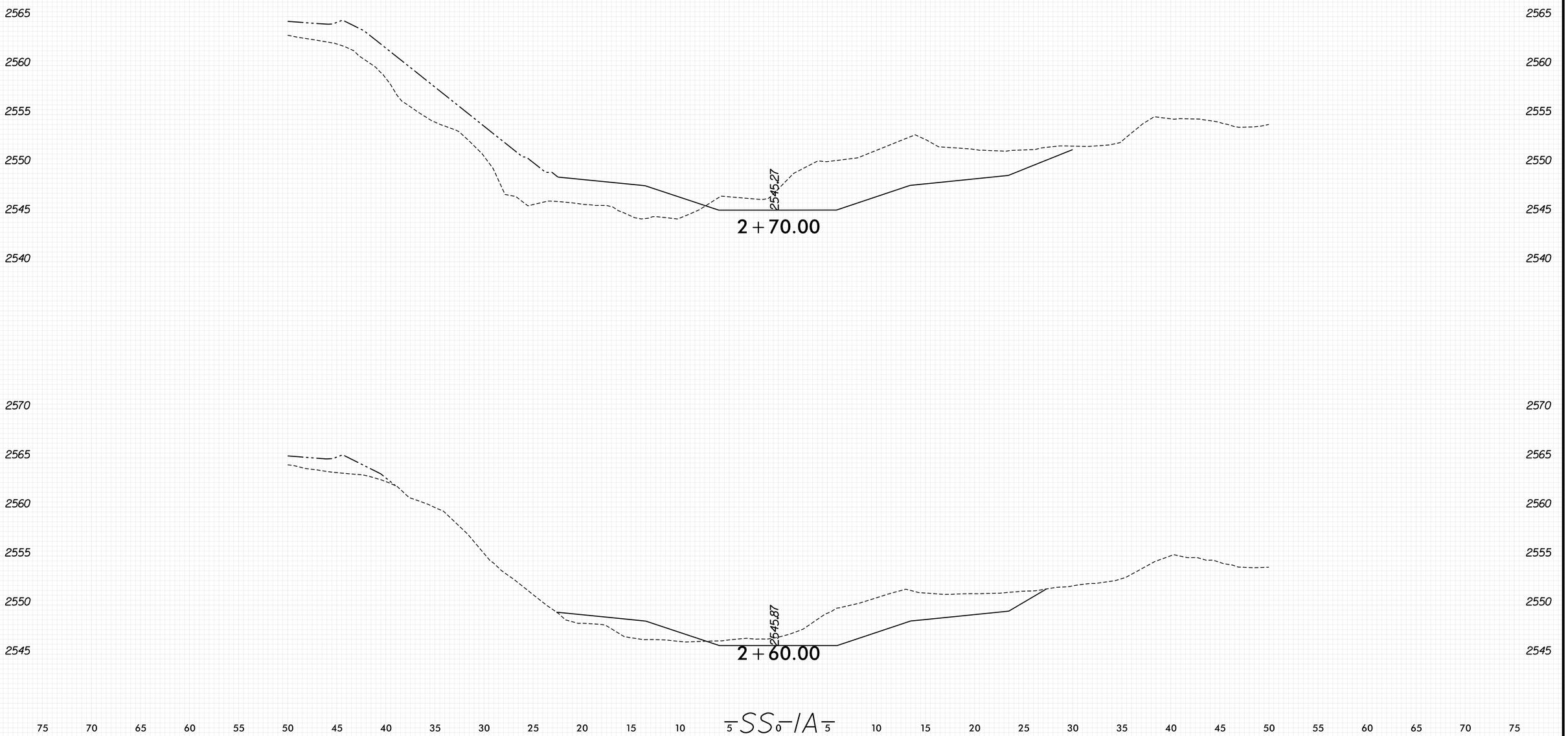
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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpLeh_v8.tbl
TIME: 9:38:02 AM
DATE: 5/8/2026

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

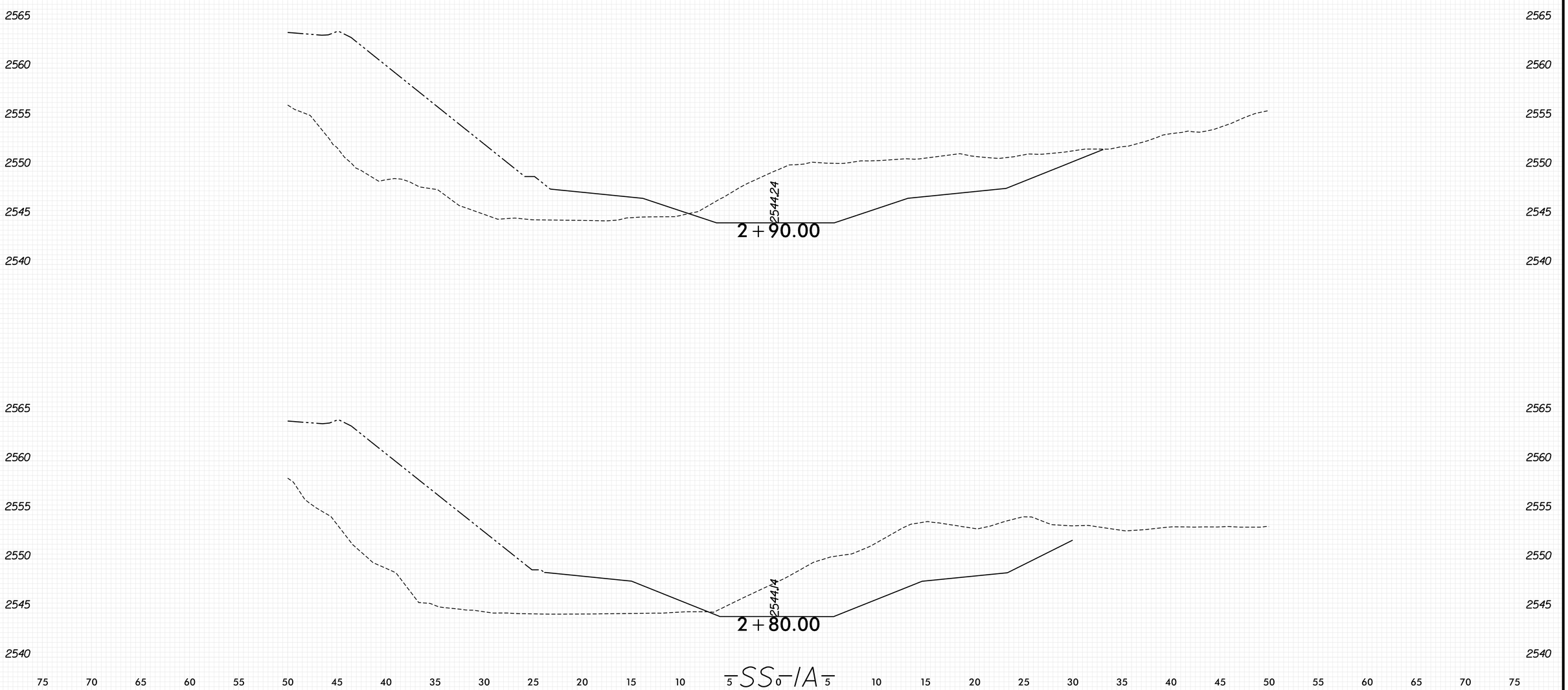
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS0-1A-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:03 AM

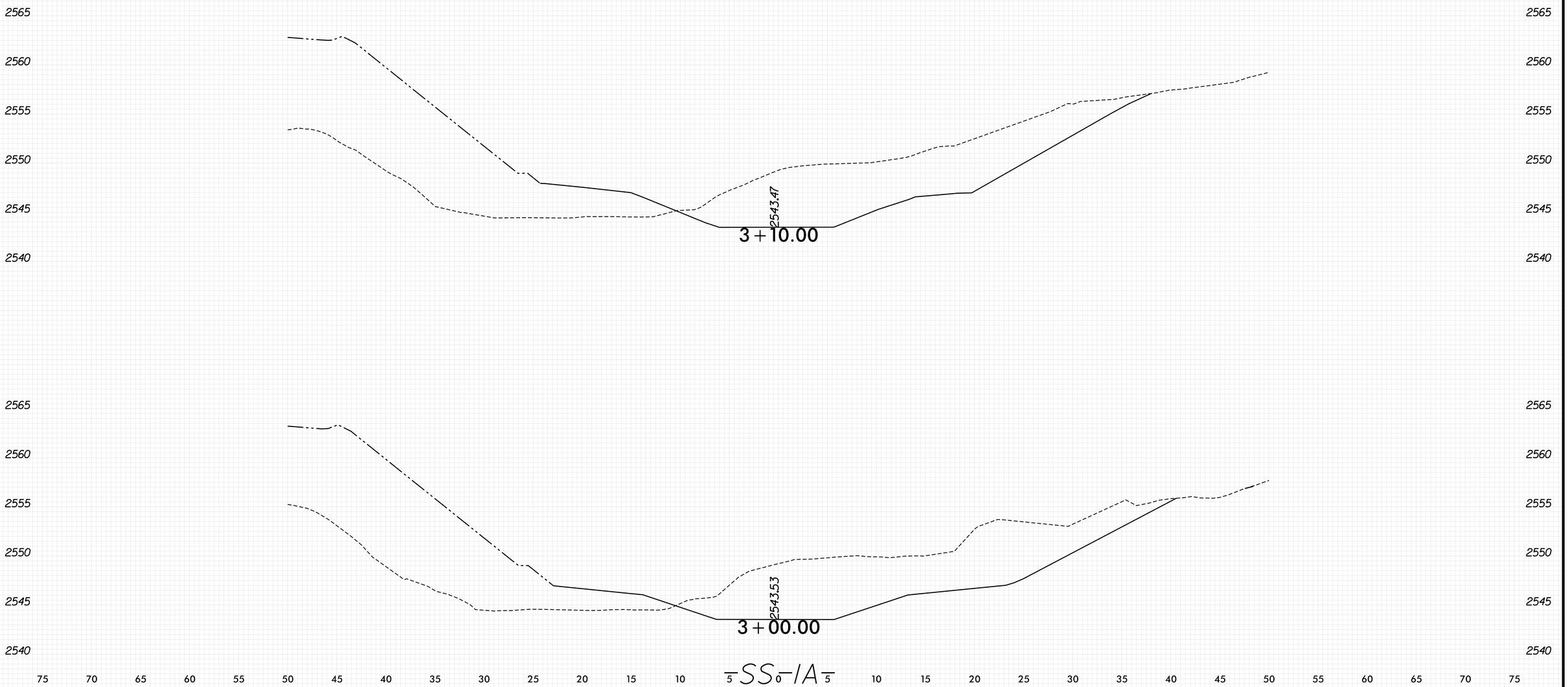
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:05 AM

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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



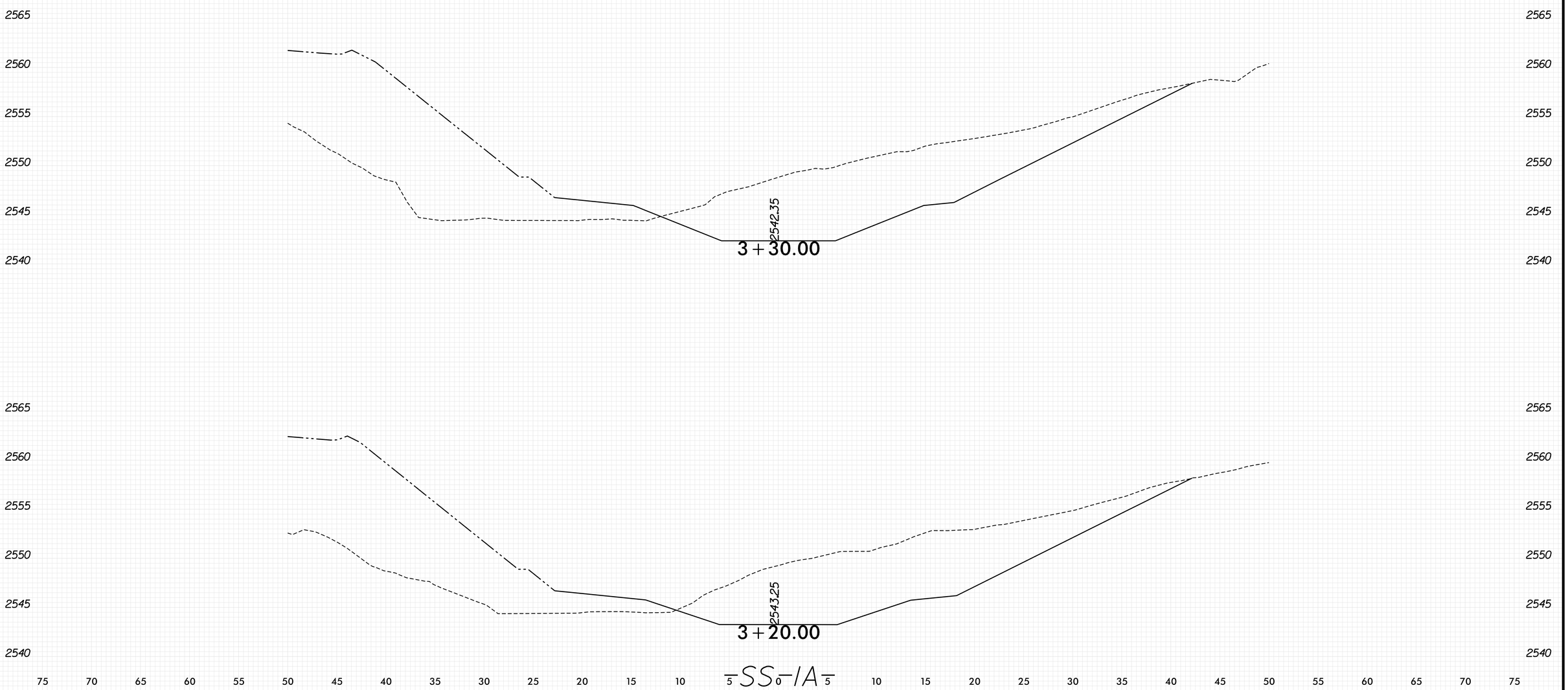
8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:38:06 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-31

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

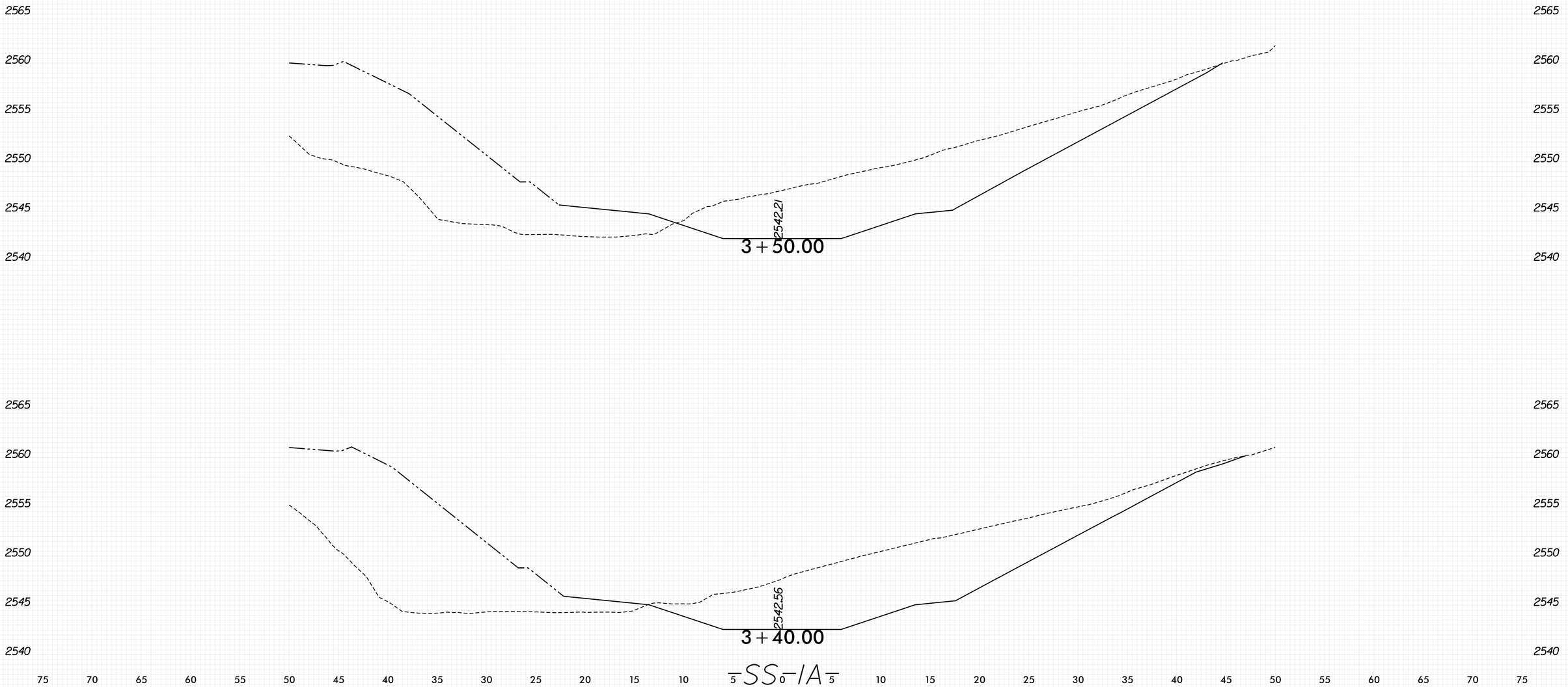
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:38:07 AM

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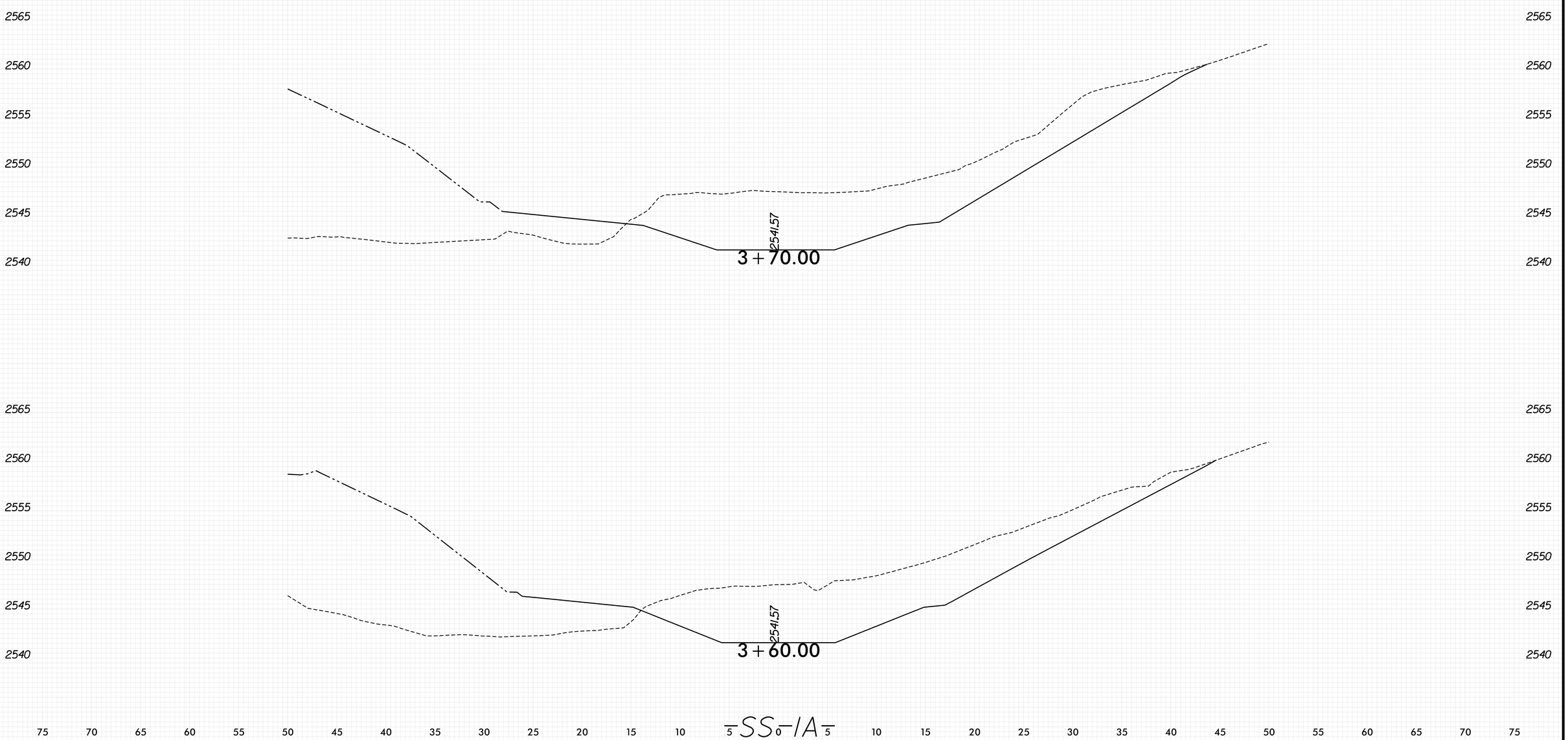
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:09 AM
8/23/99

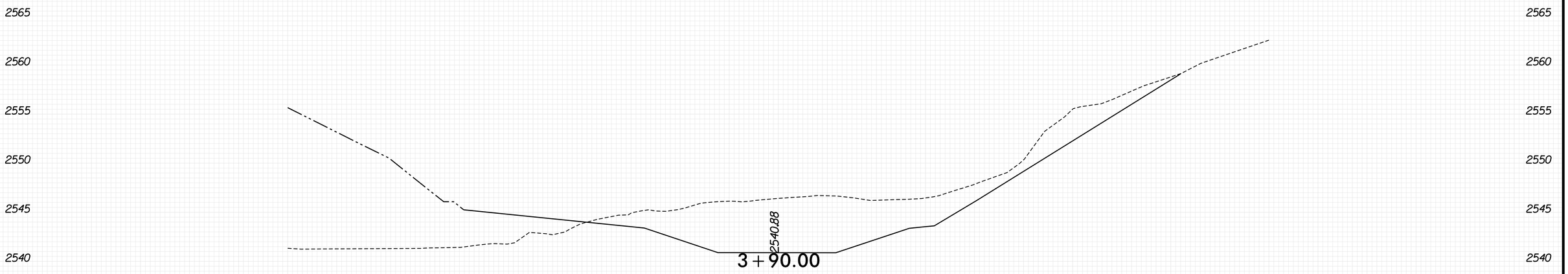
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-33

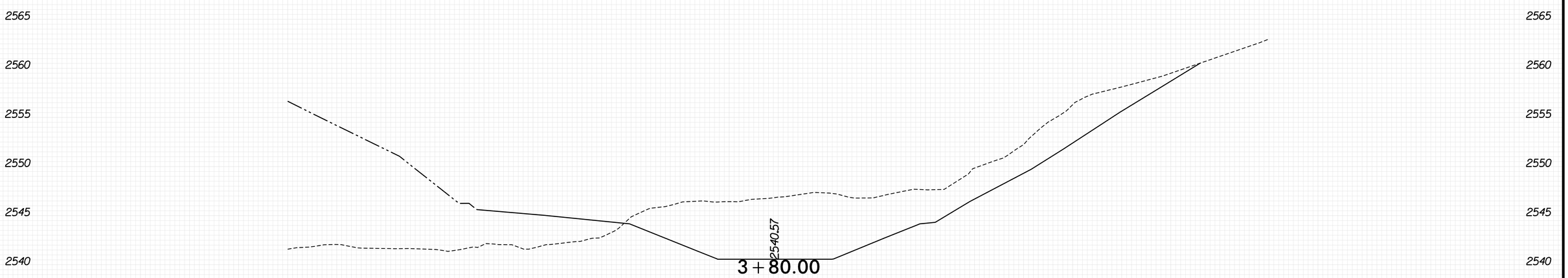
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



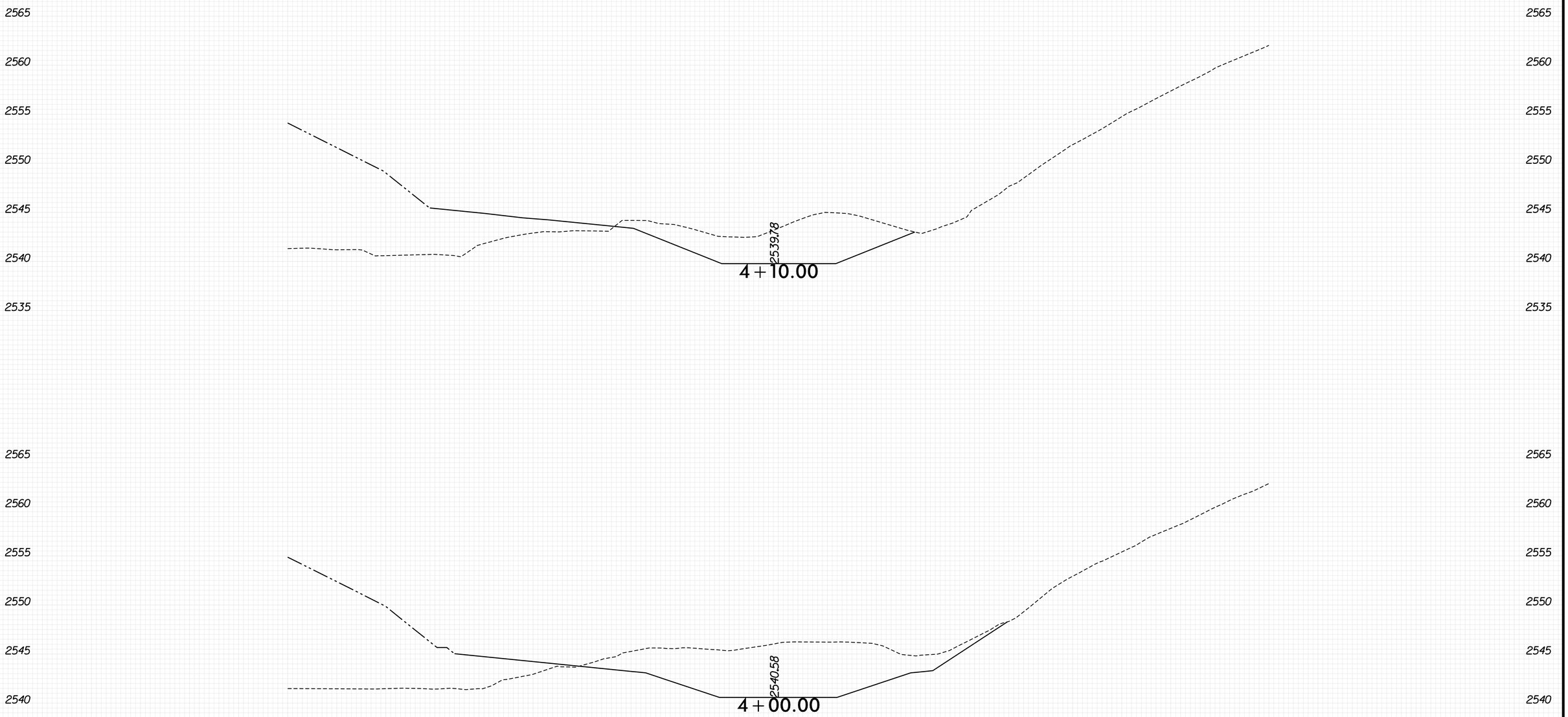


-SS-/A-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:11 AM

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

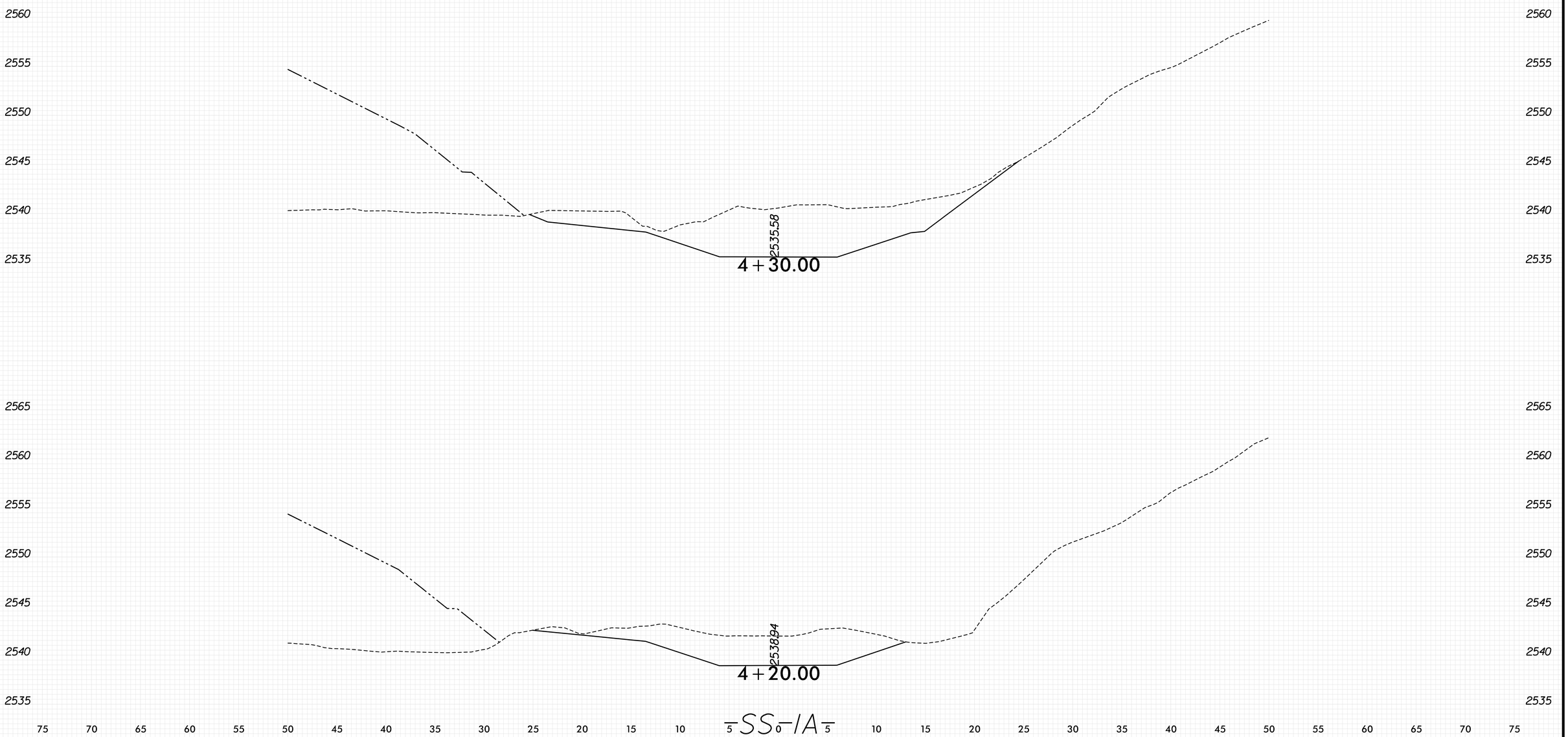


-SS-/A-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:13 AM
8/23/99

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

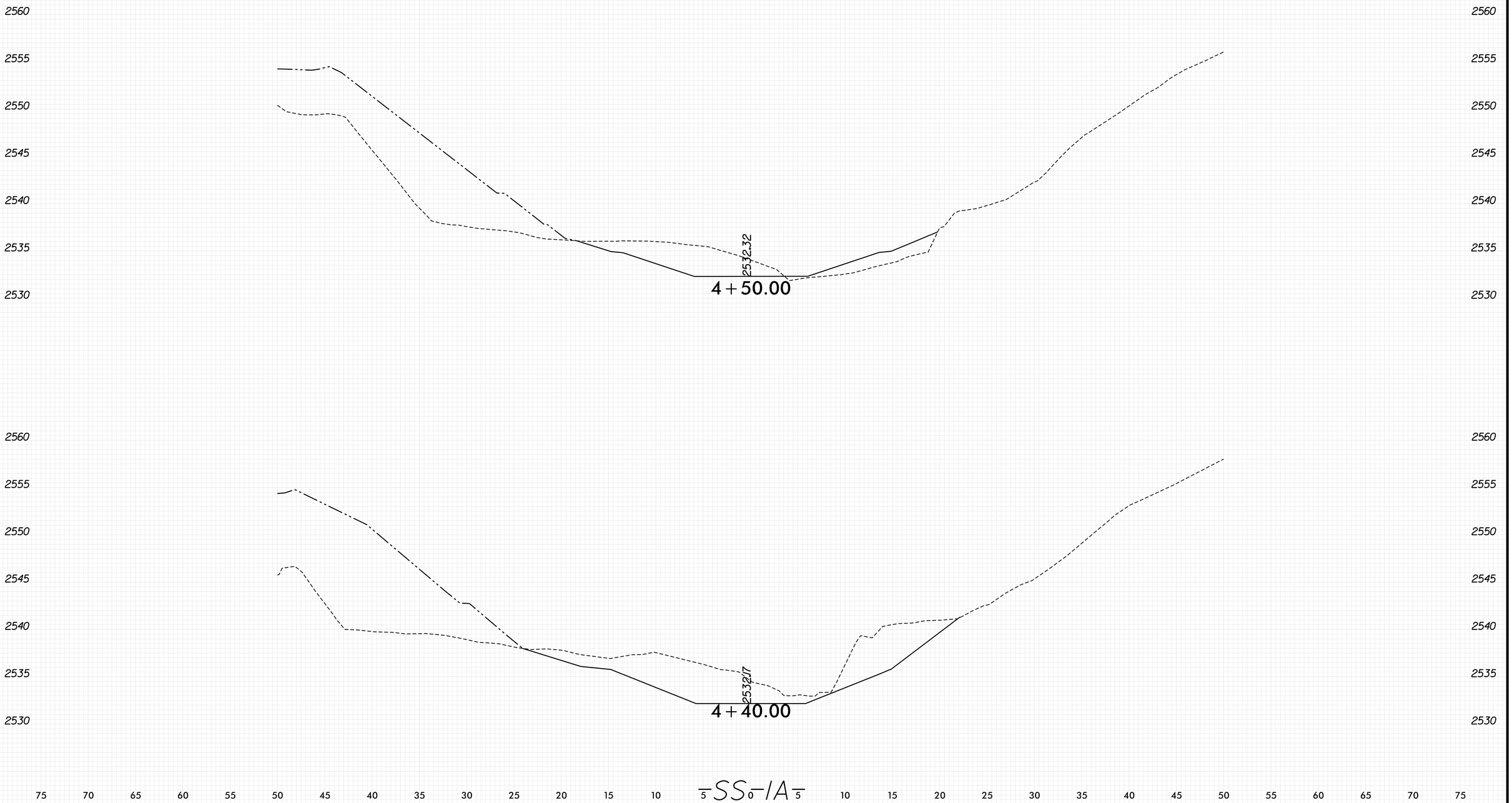
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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DATE: 5/8/2026
TIME: 9:38:14 AM

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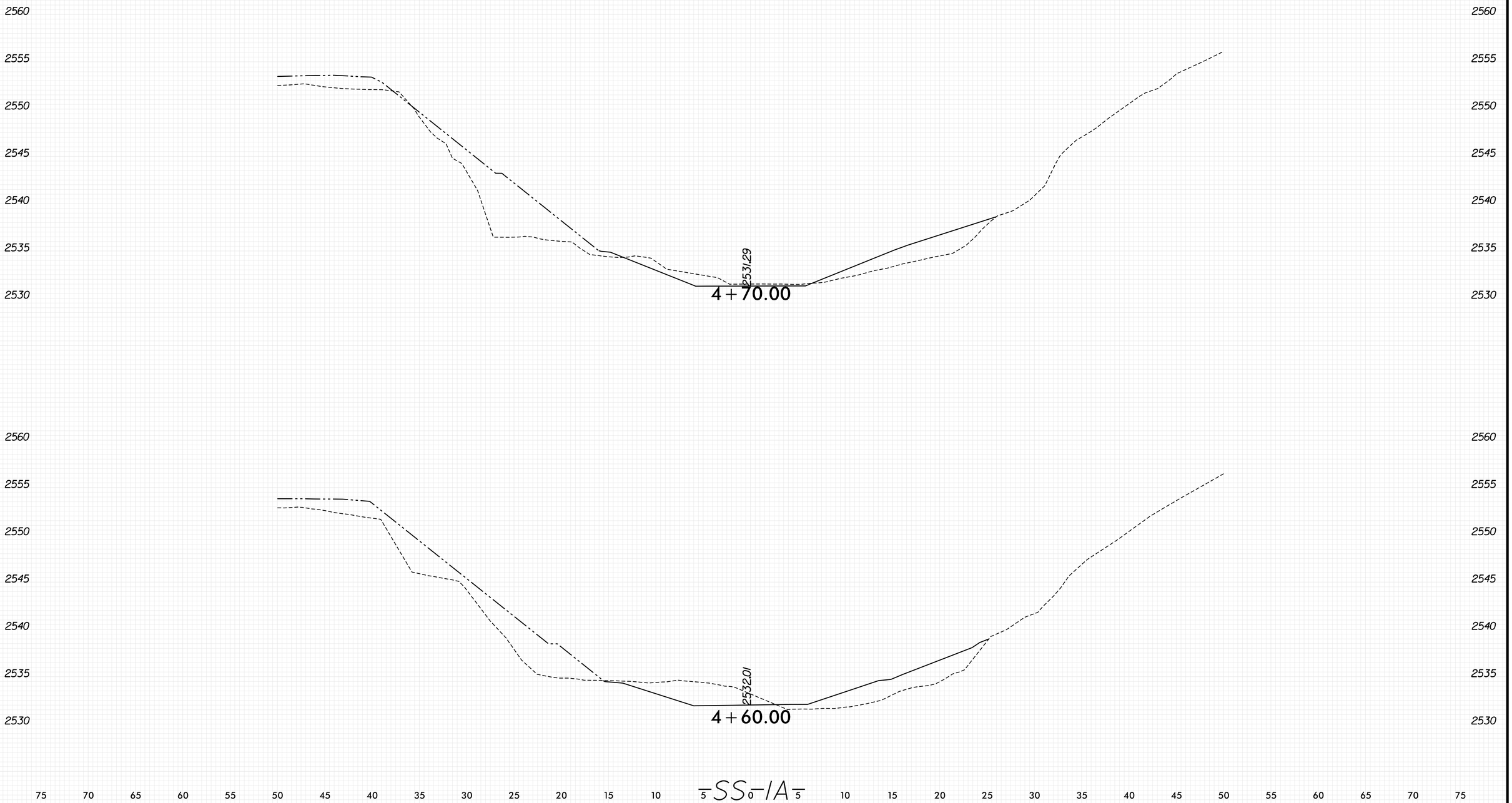
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:38:15 AM

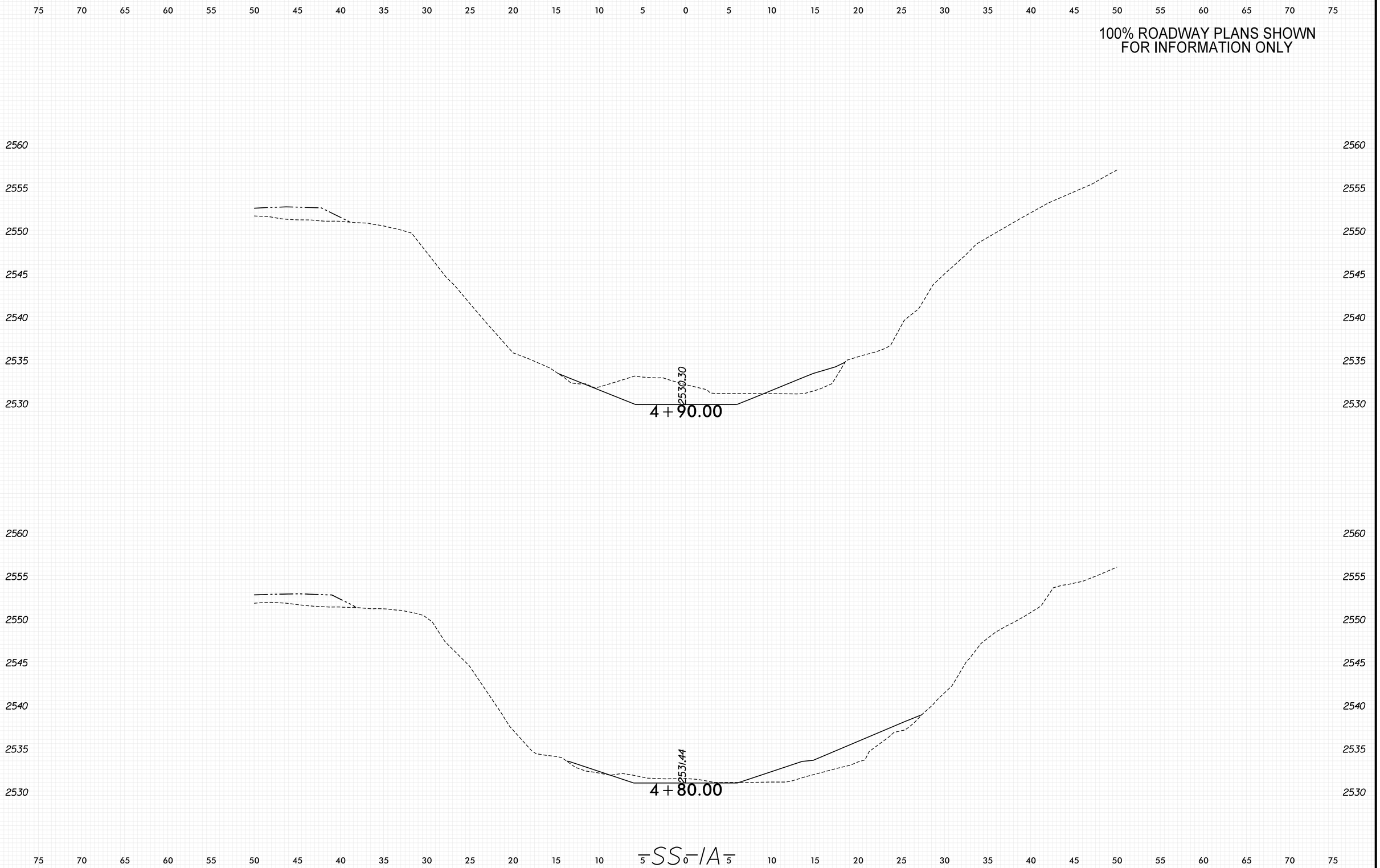
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



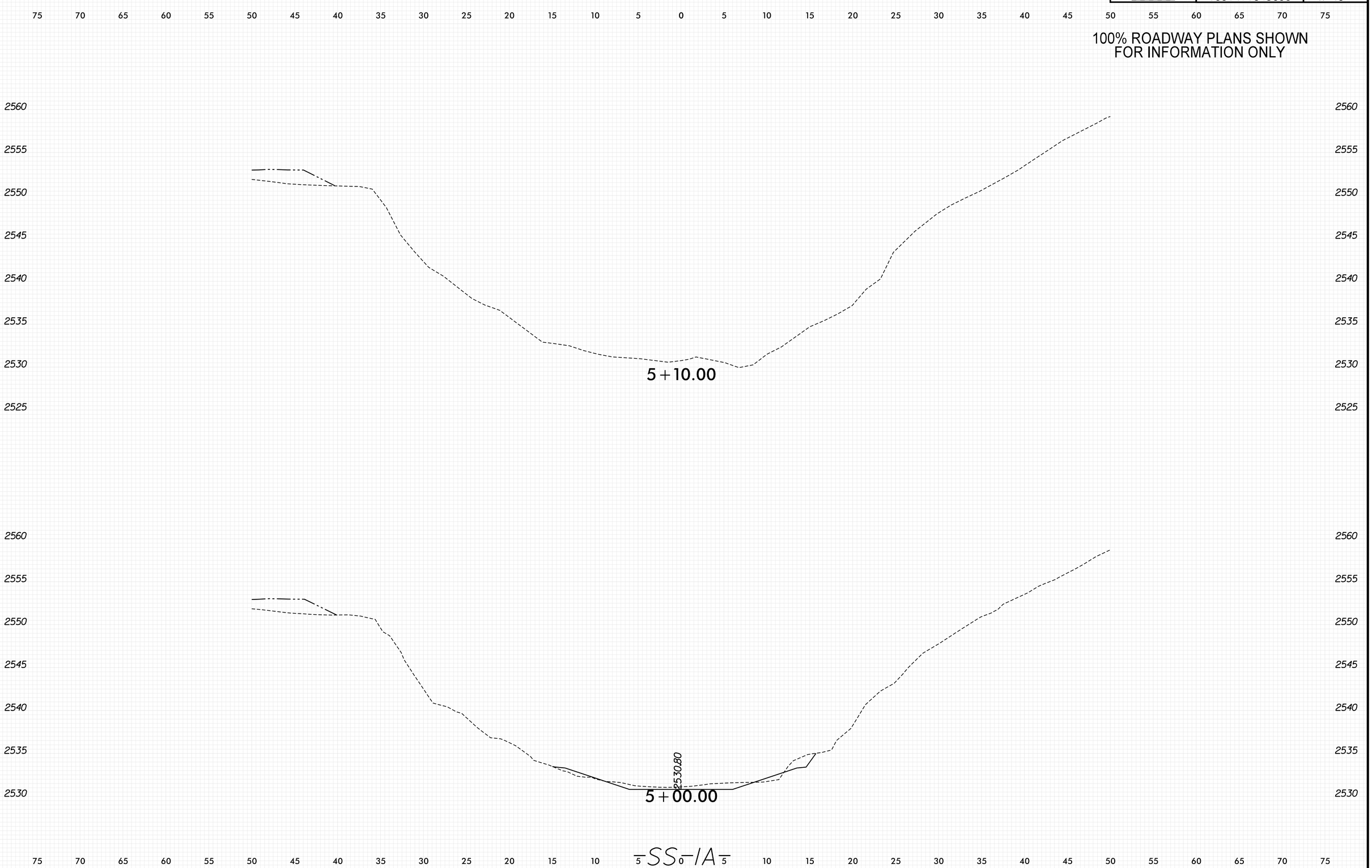
8/23/99
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USER: KCLATTERBU
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:16 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



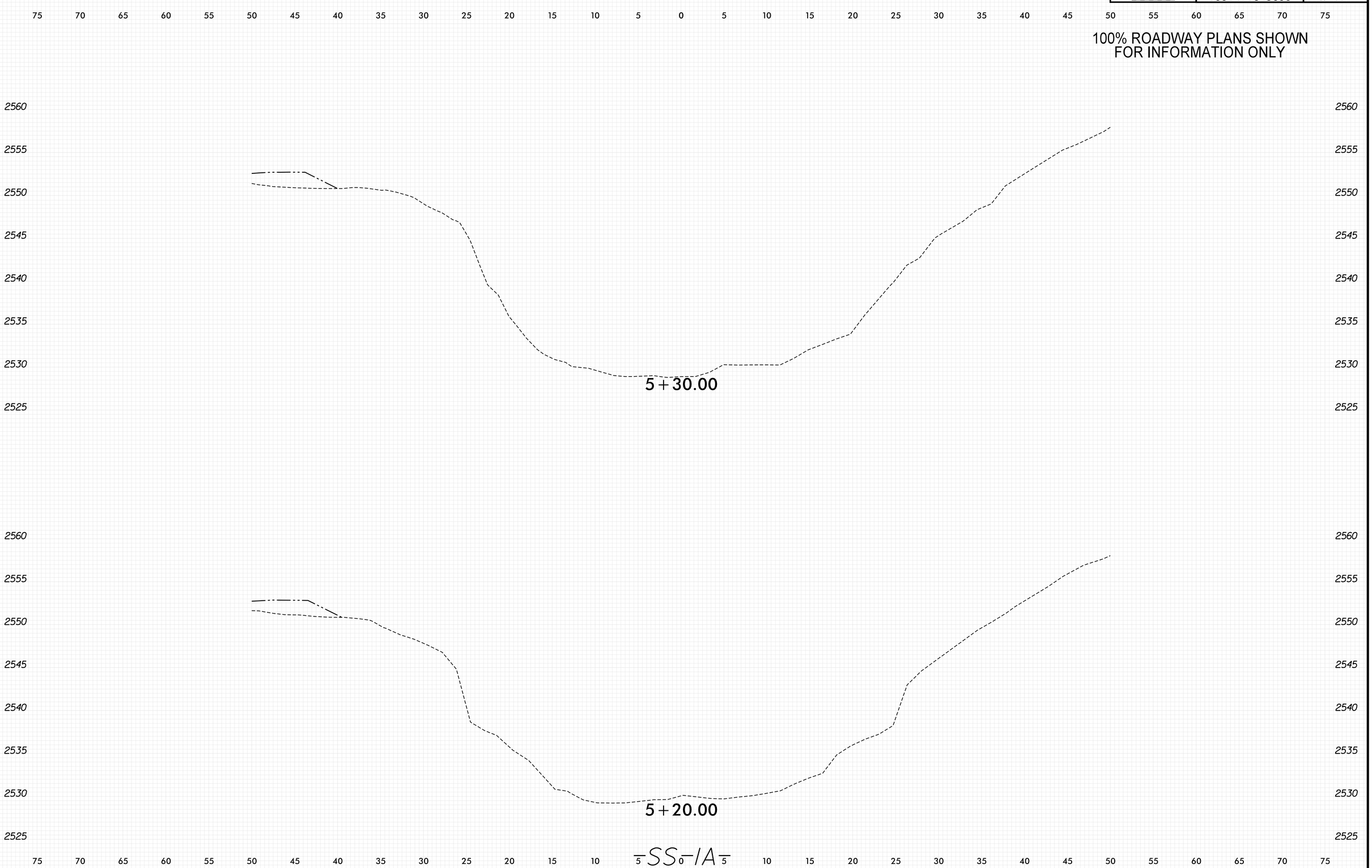
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USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:17 AM
8/23/99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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DATE: 5/8/2026
TIME: 9:38:18 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



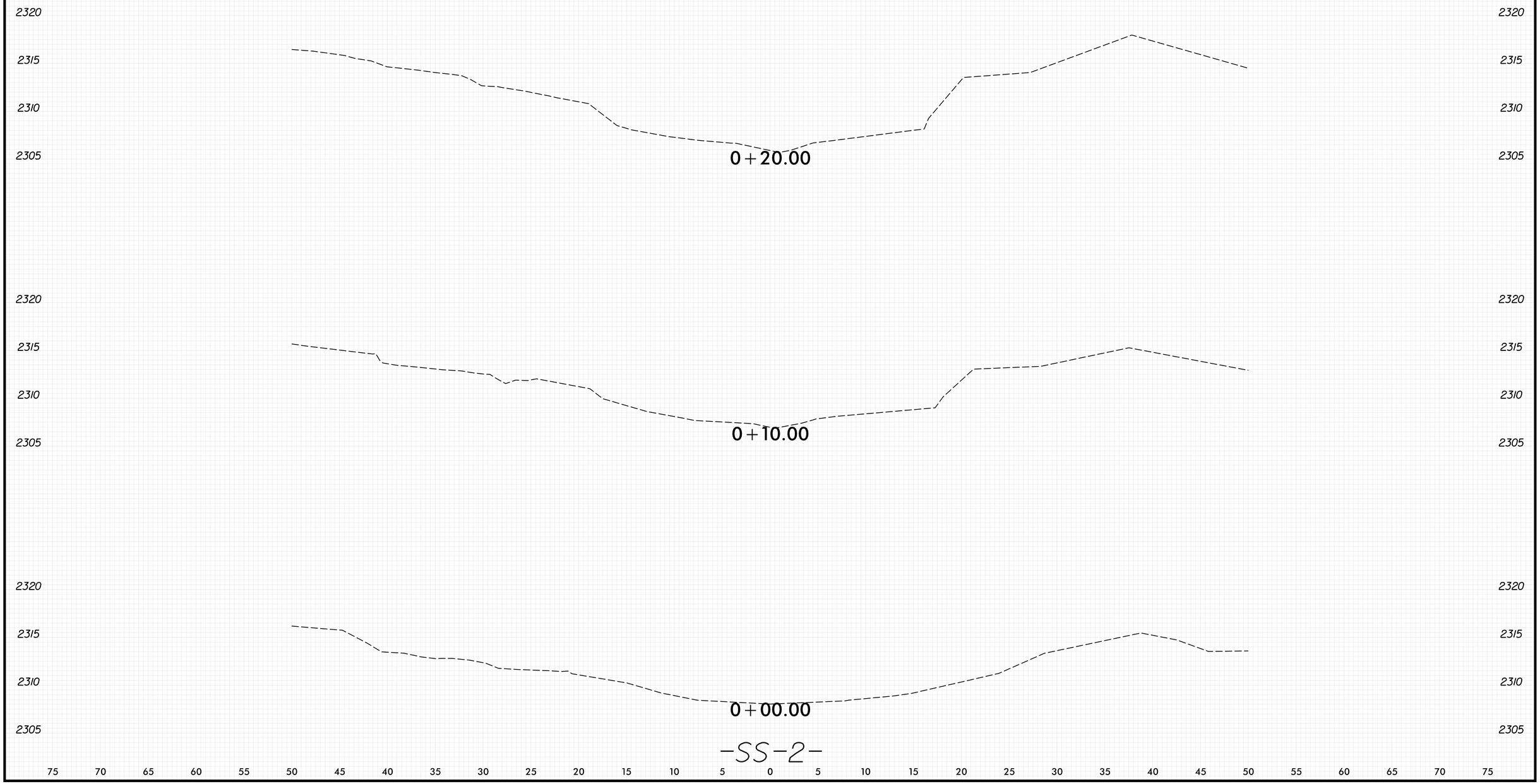
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USER: KCLATTERBU DATE: 5/8/2026 TIME: 9:38:19 AM
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-42

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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



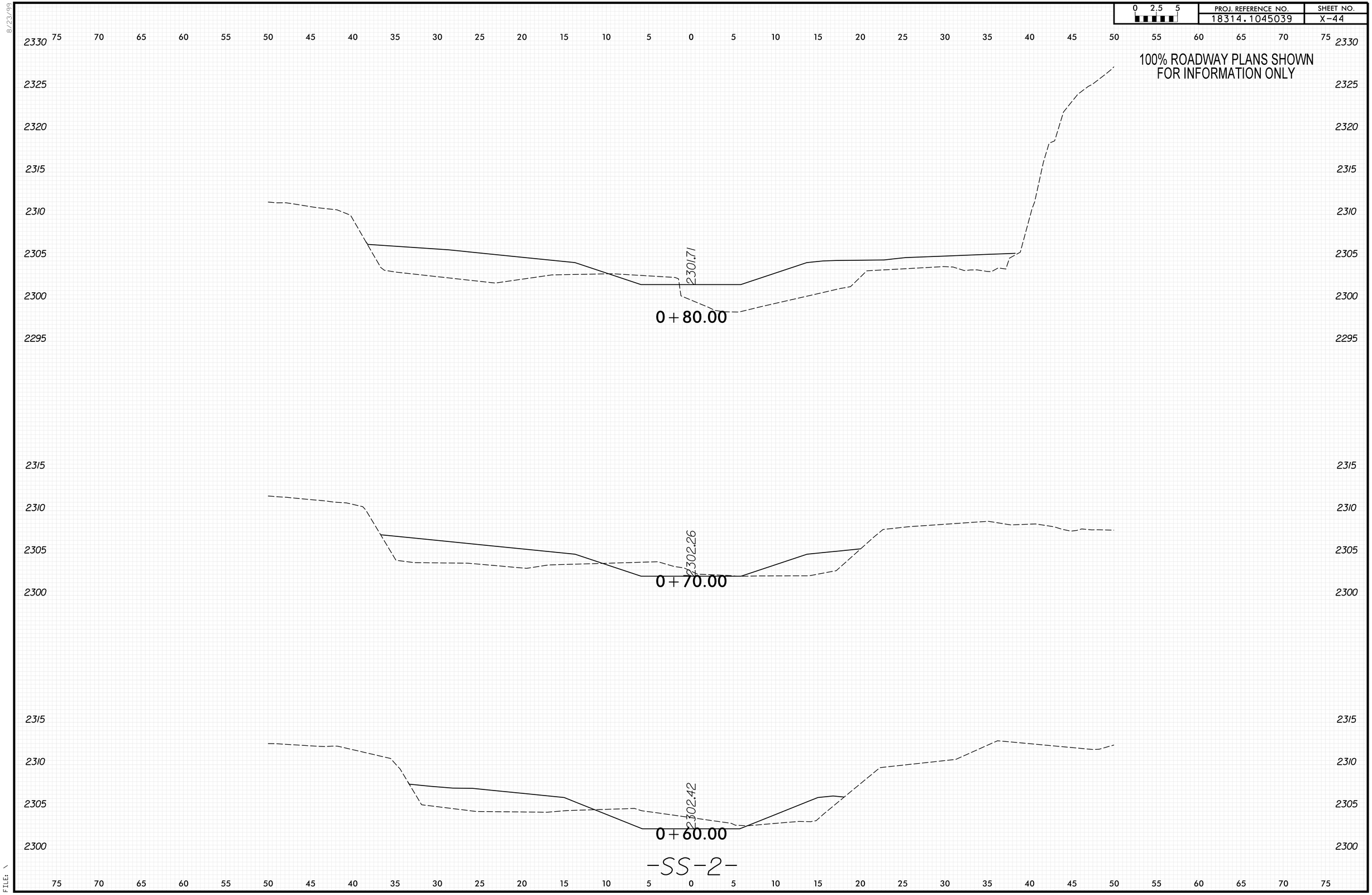
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USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:38:23 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

-SS-2-

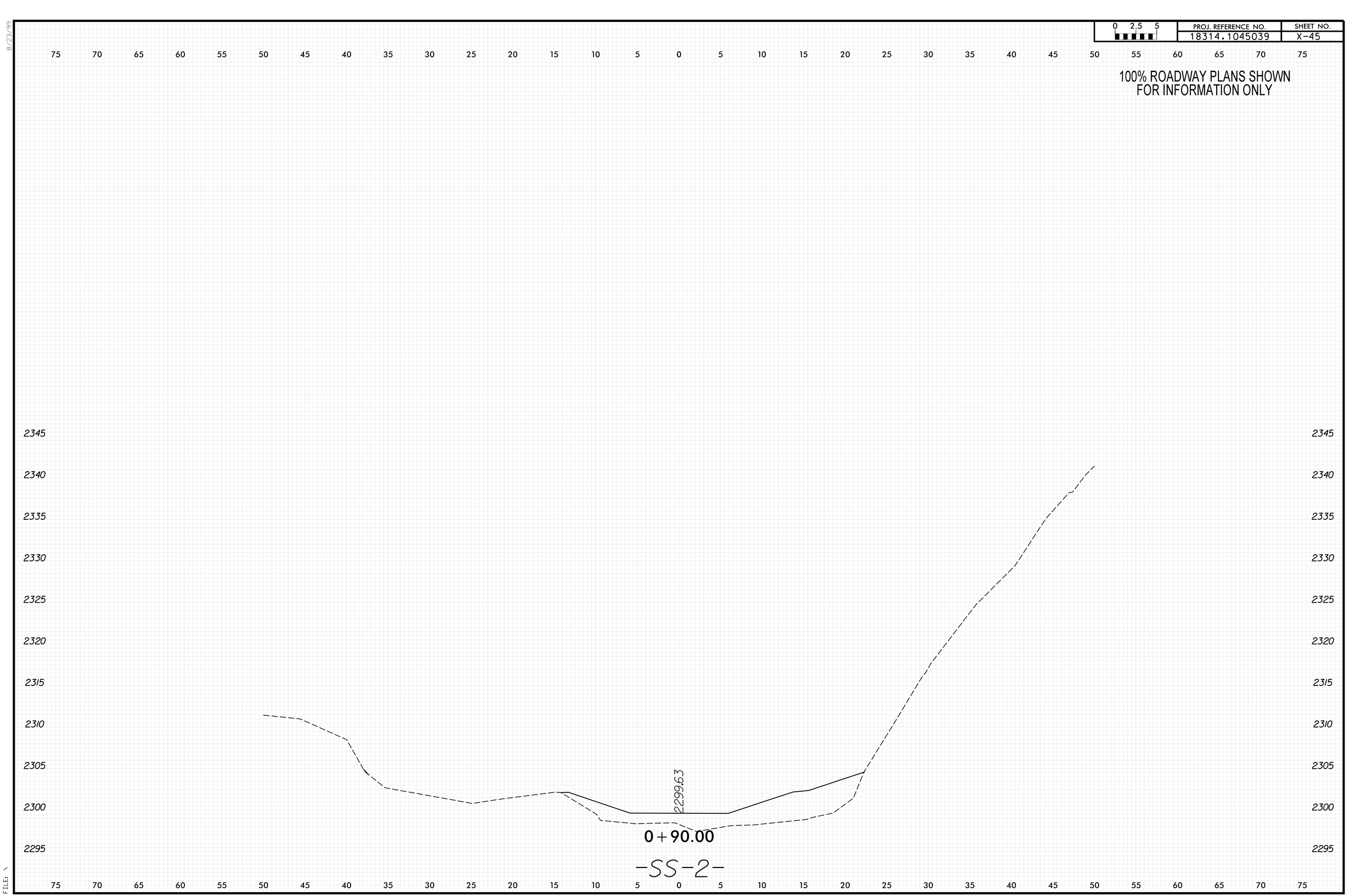
8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:24 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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DATE: 5/8/2026
TIME: 9:38:26 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

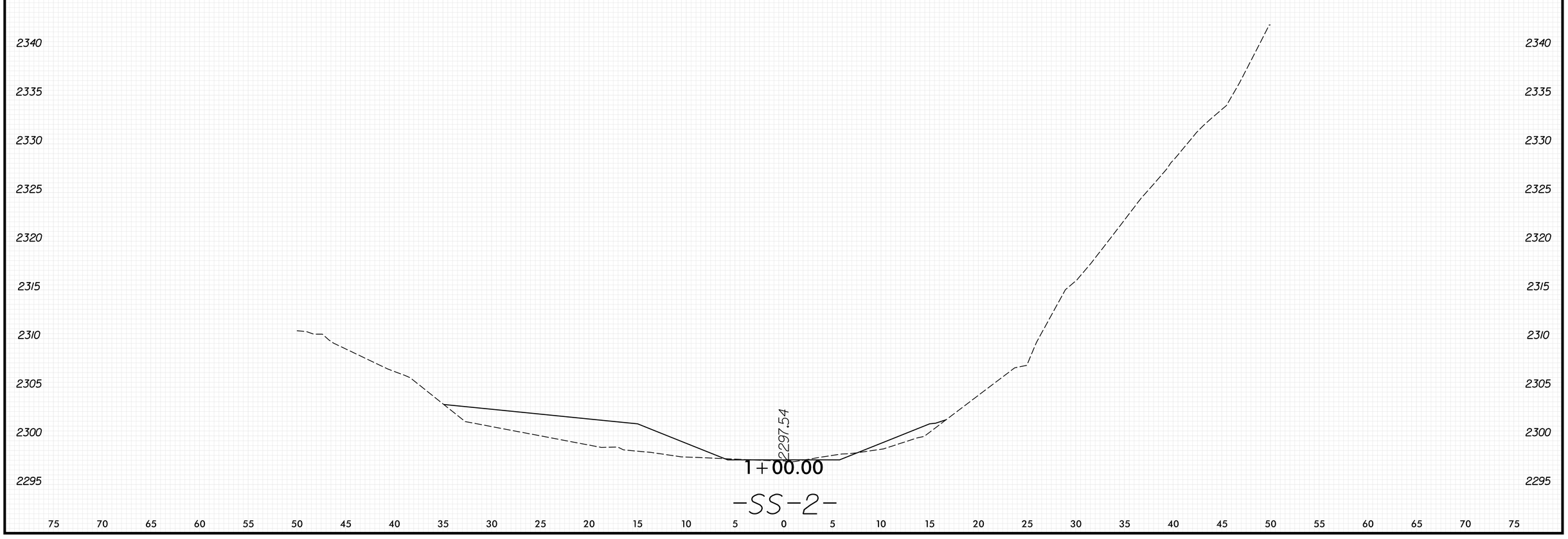


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:27 AM
8/23/99

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-46

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

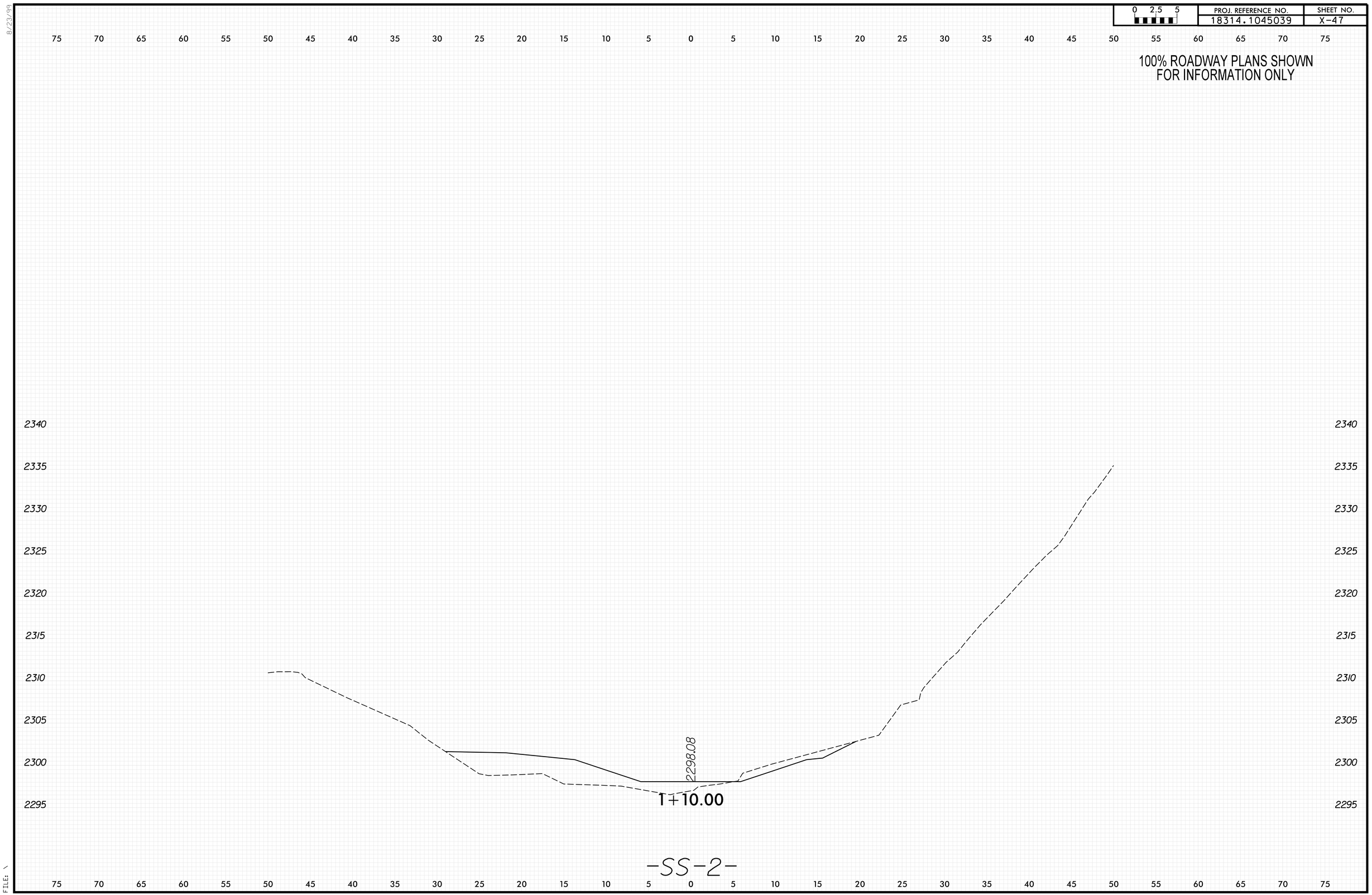


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:38:28 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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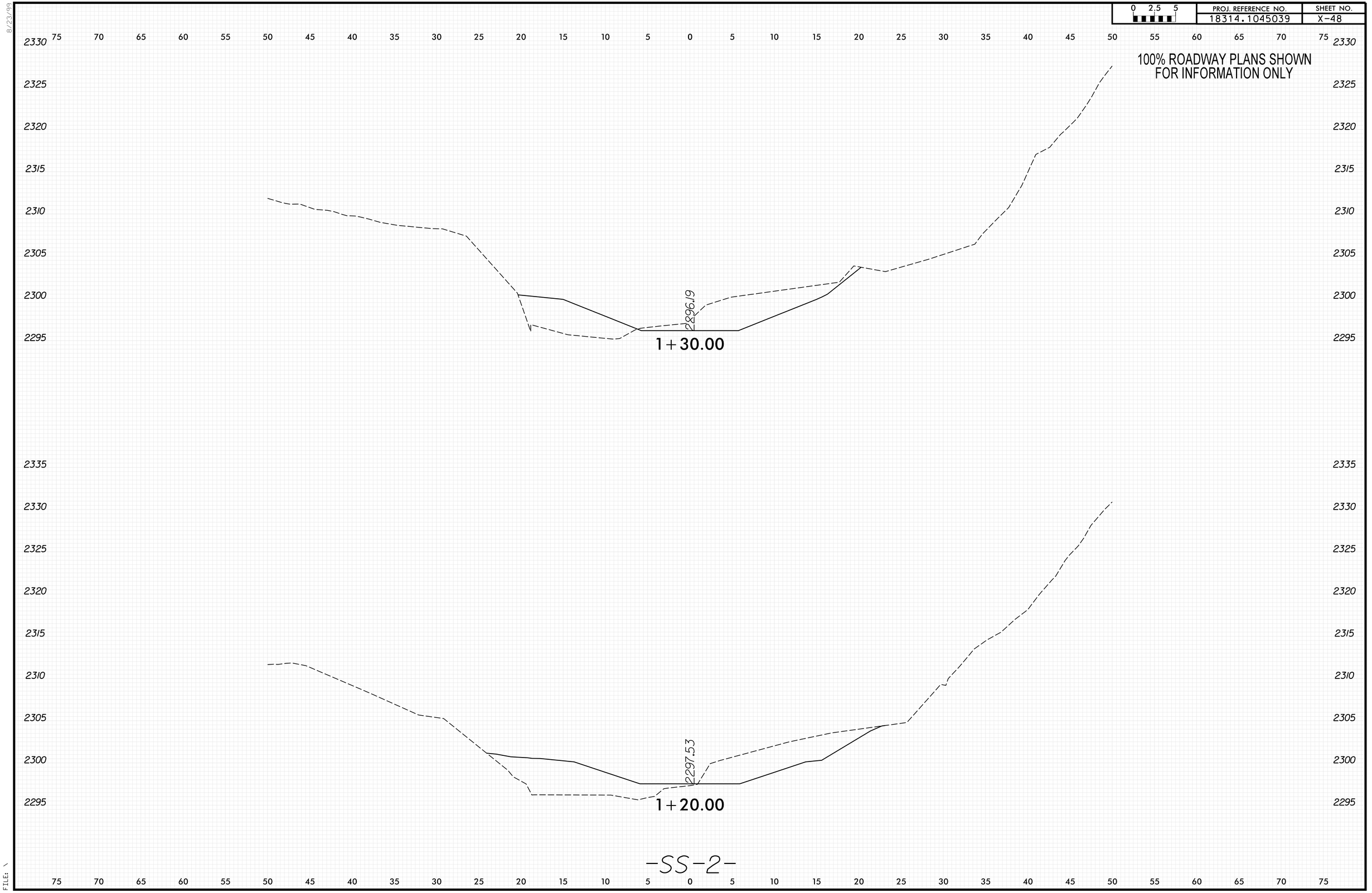
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:29 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-48

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



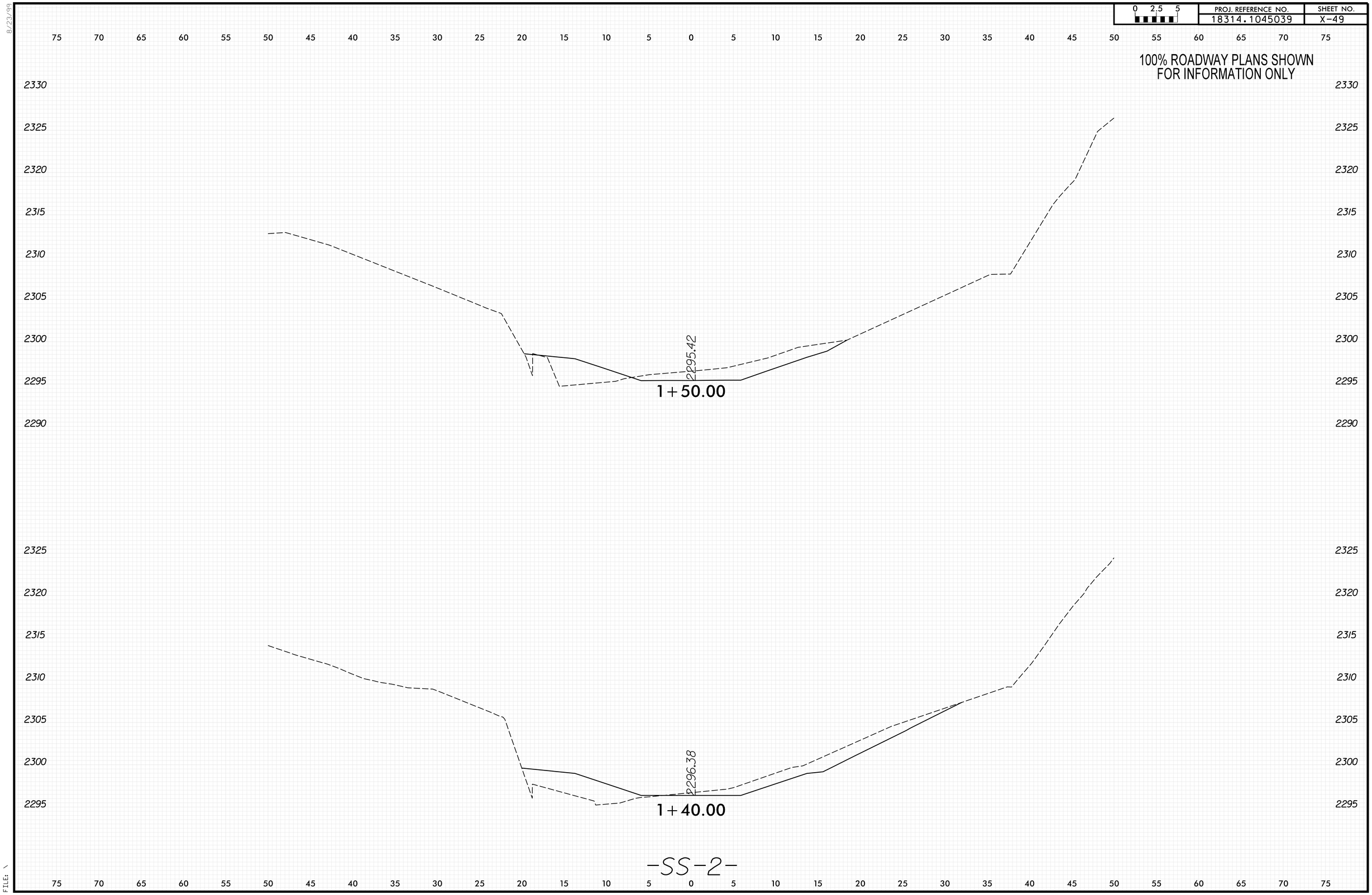
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8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:30 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-49

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

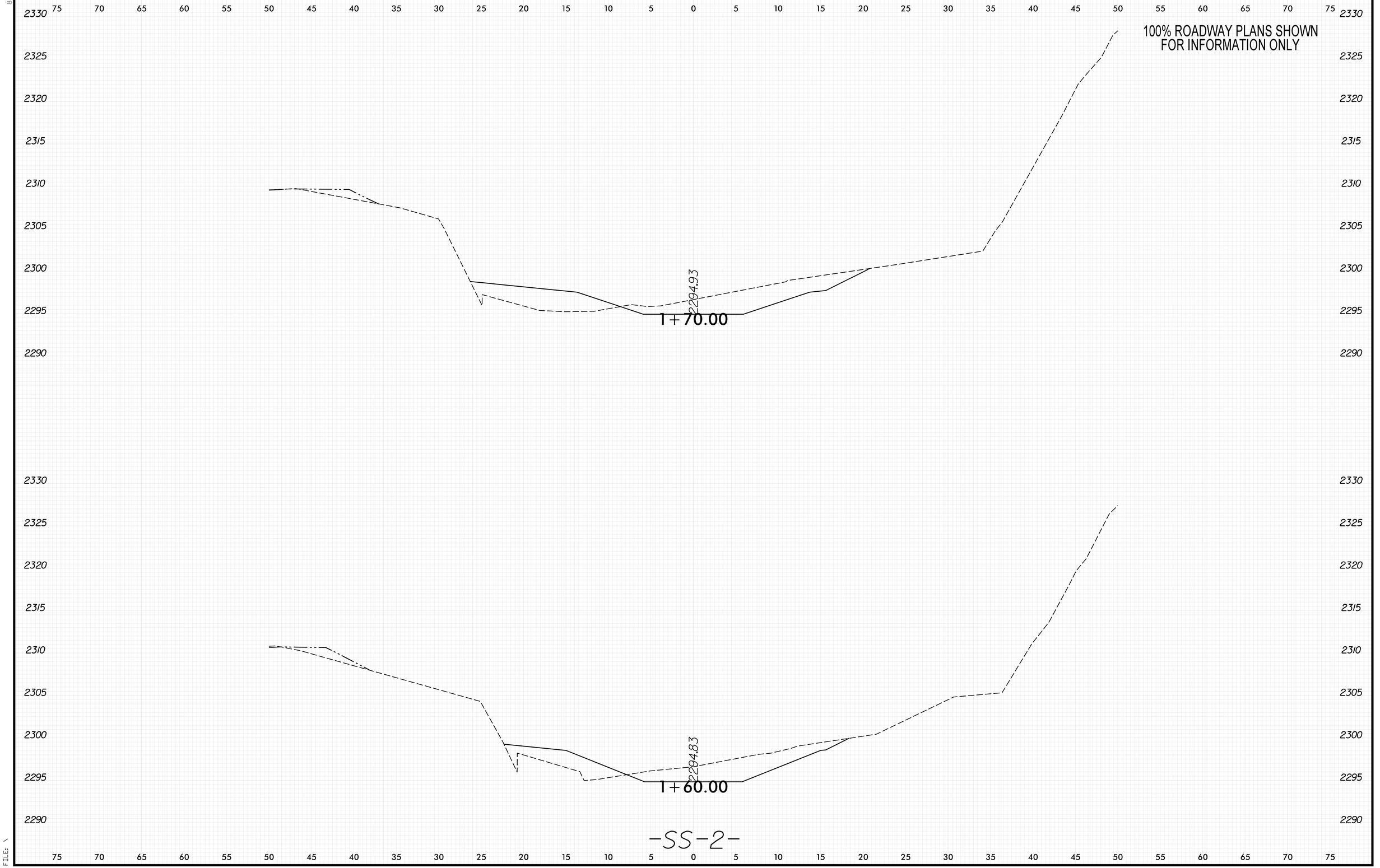


8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
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TIME: 9:38:32 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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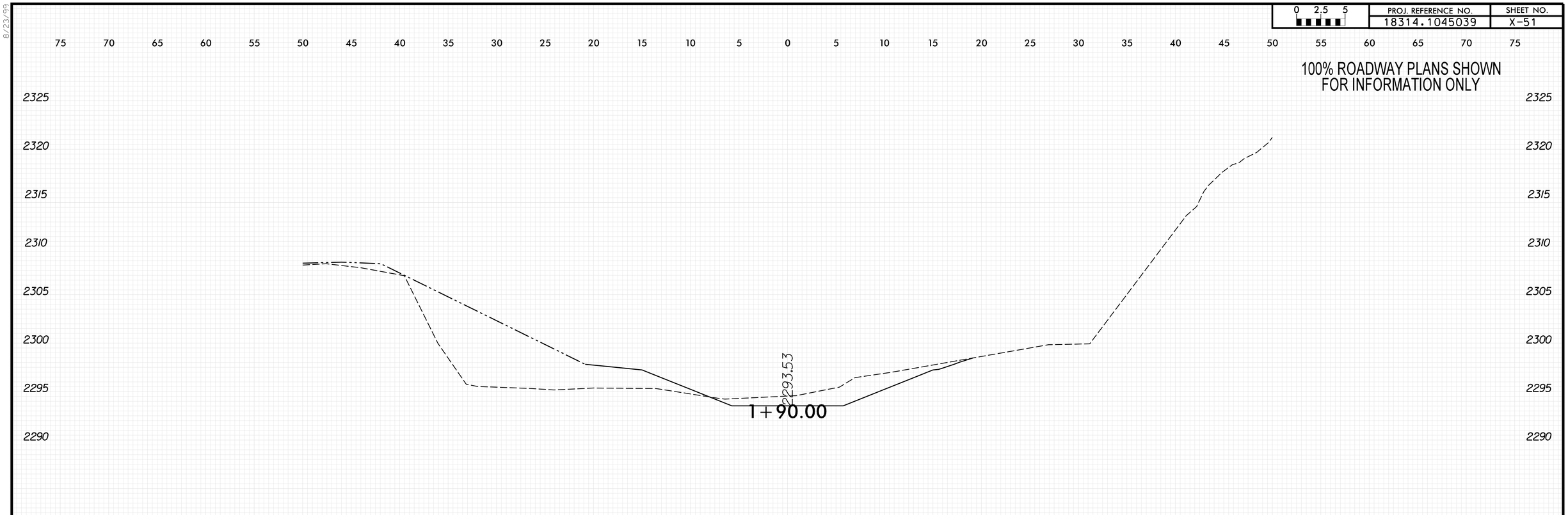
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

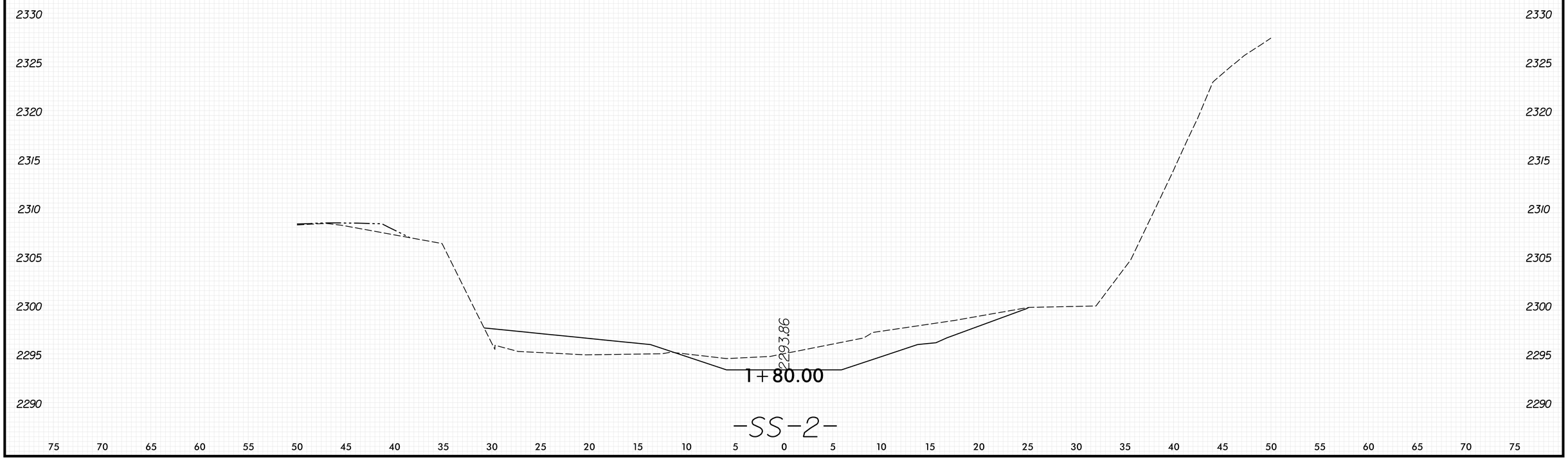


8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
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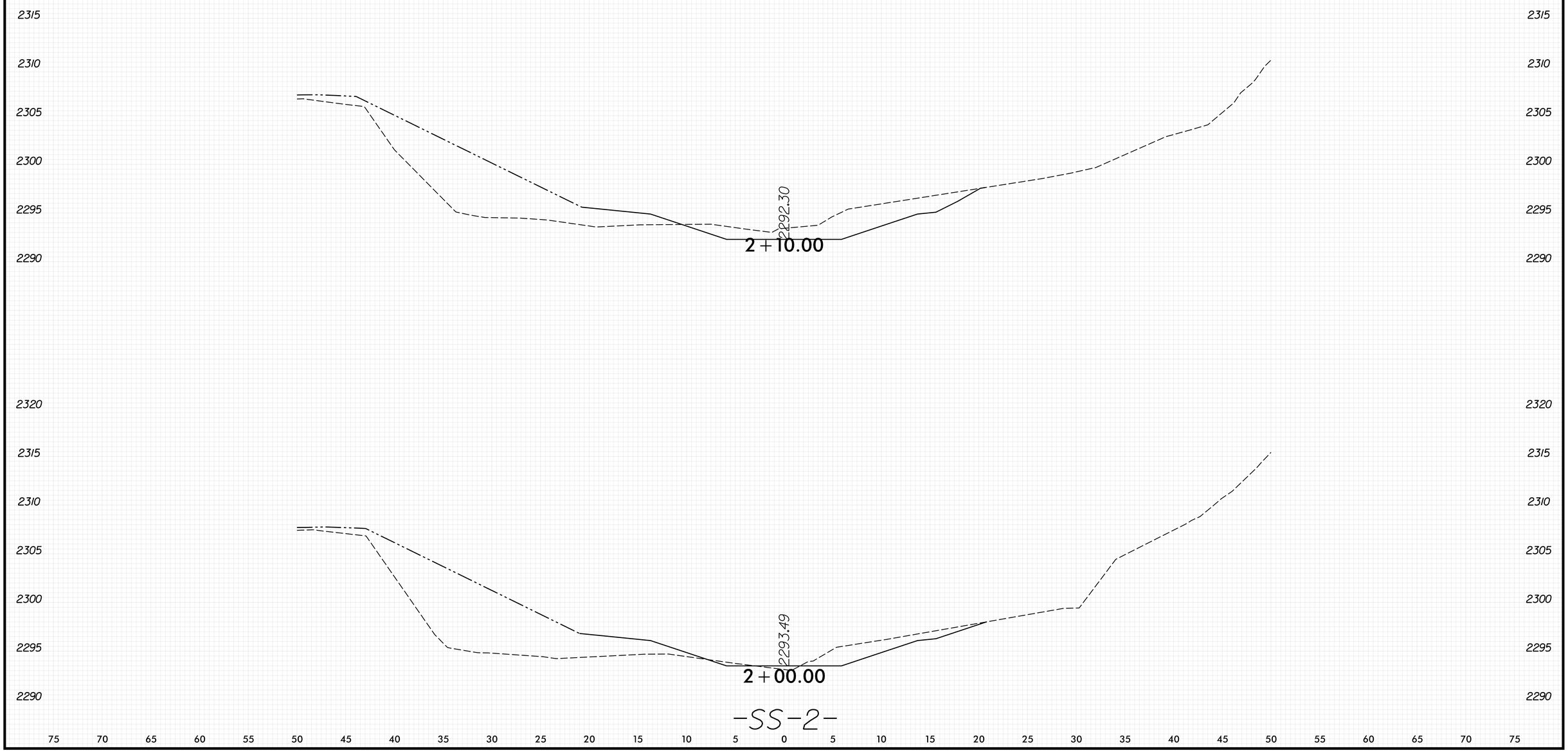
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:34 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT.pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_eh_v8.tbl
TIME: 9:38:36 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-53

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

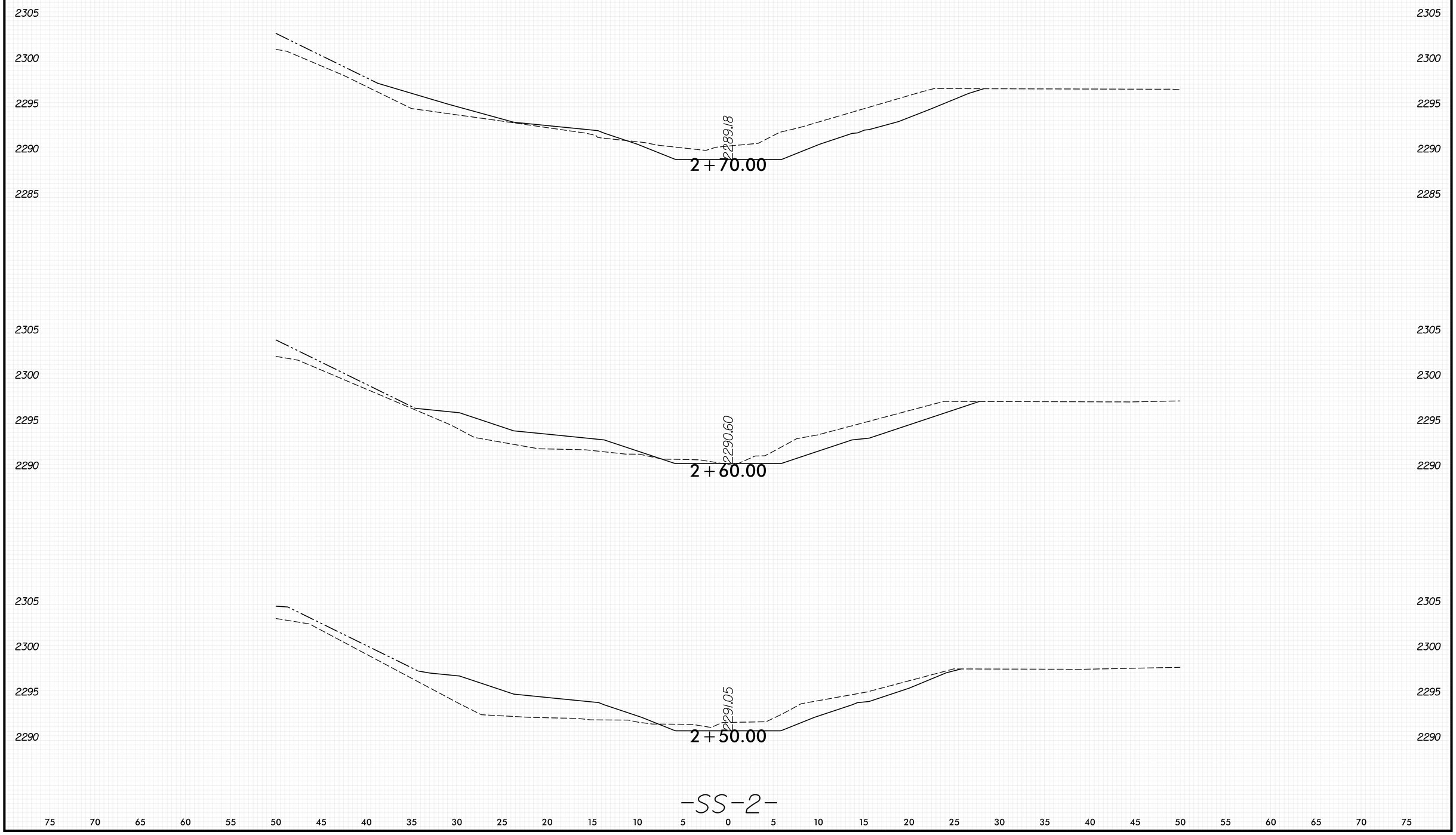
PLOT DRIVER: NCDOT.pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:38:37 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-54

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-2-

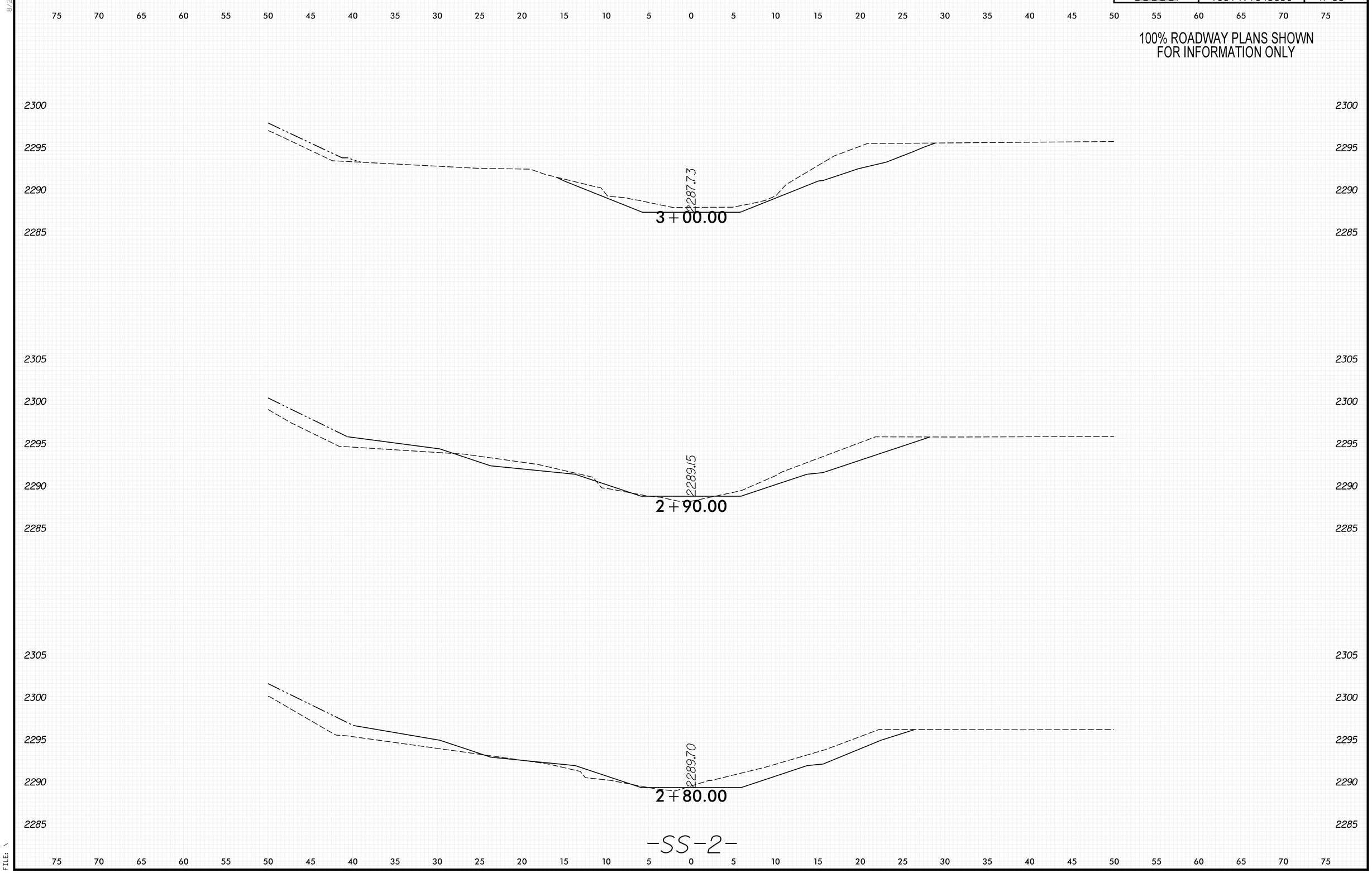
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:38 AM

8/23/99

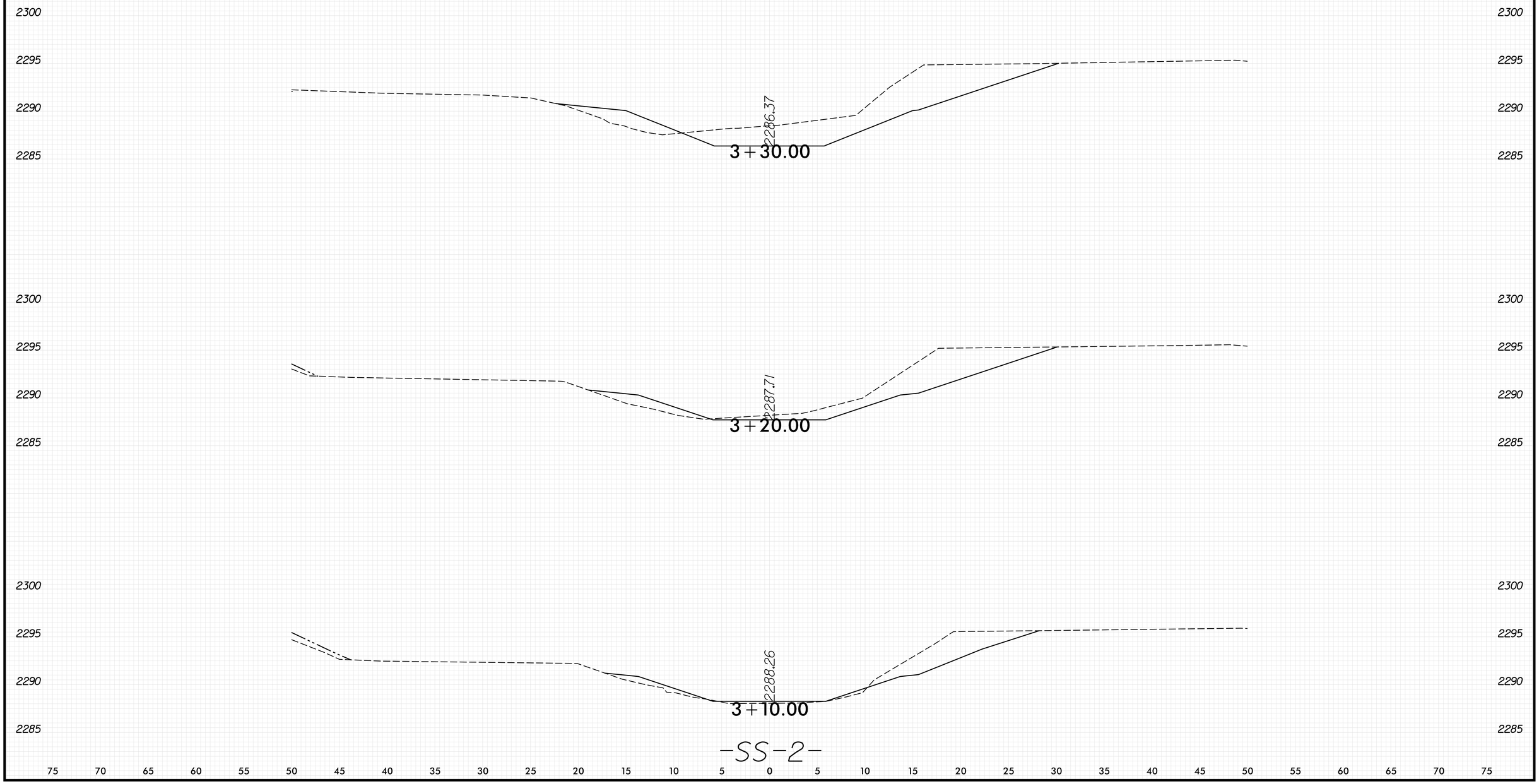
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-55

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



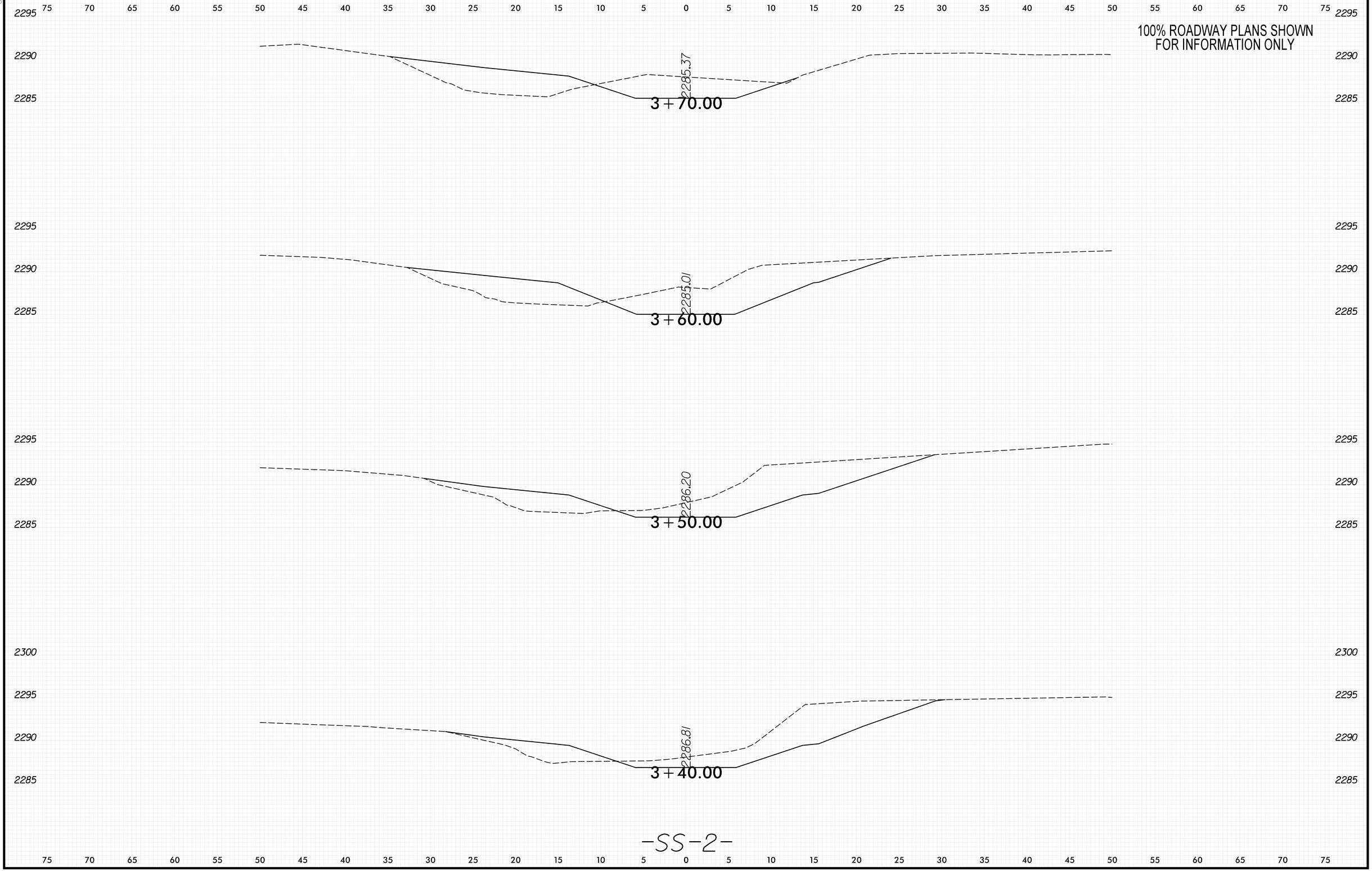
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:39 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:41 AM
8/23/99

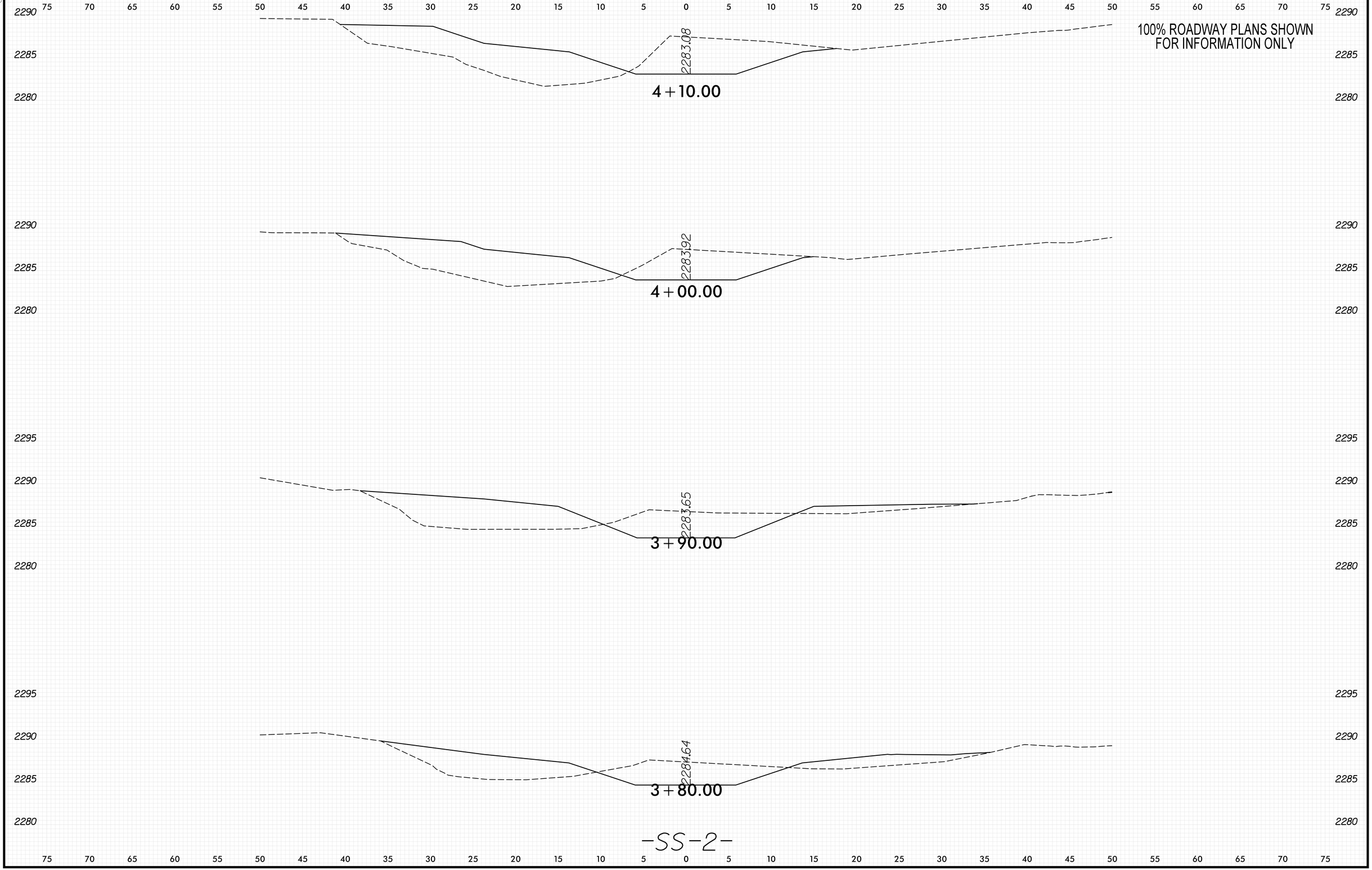
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-2-

8/23/99
PENTABLE: xpl_en_v8.tbl
TIME: 9:38:42 AM
DATE: 5/8/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

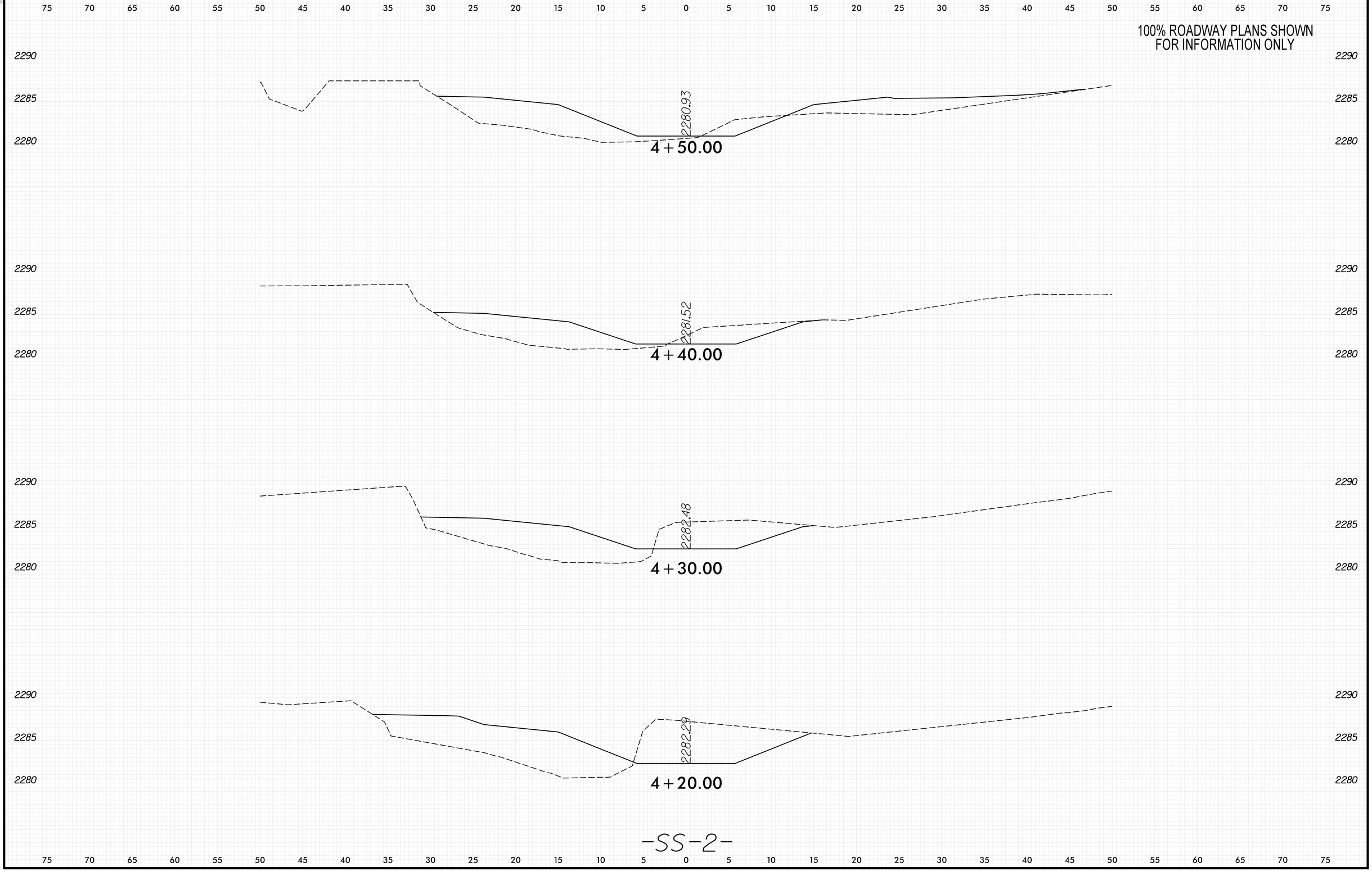


-SS-2-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:43 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-59

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

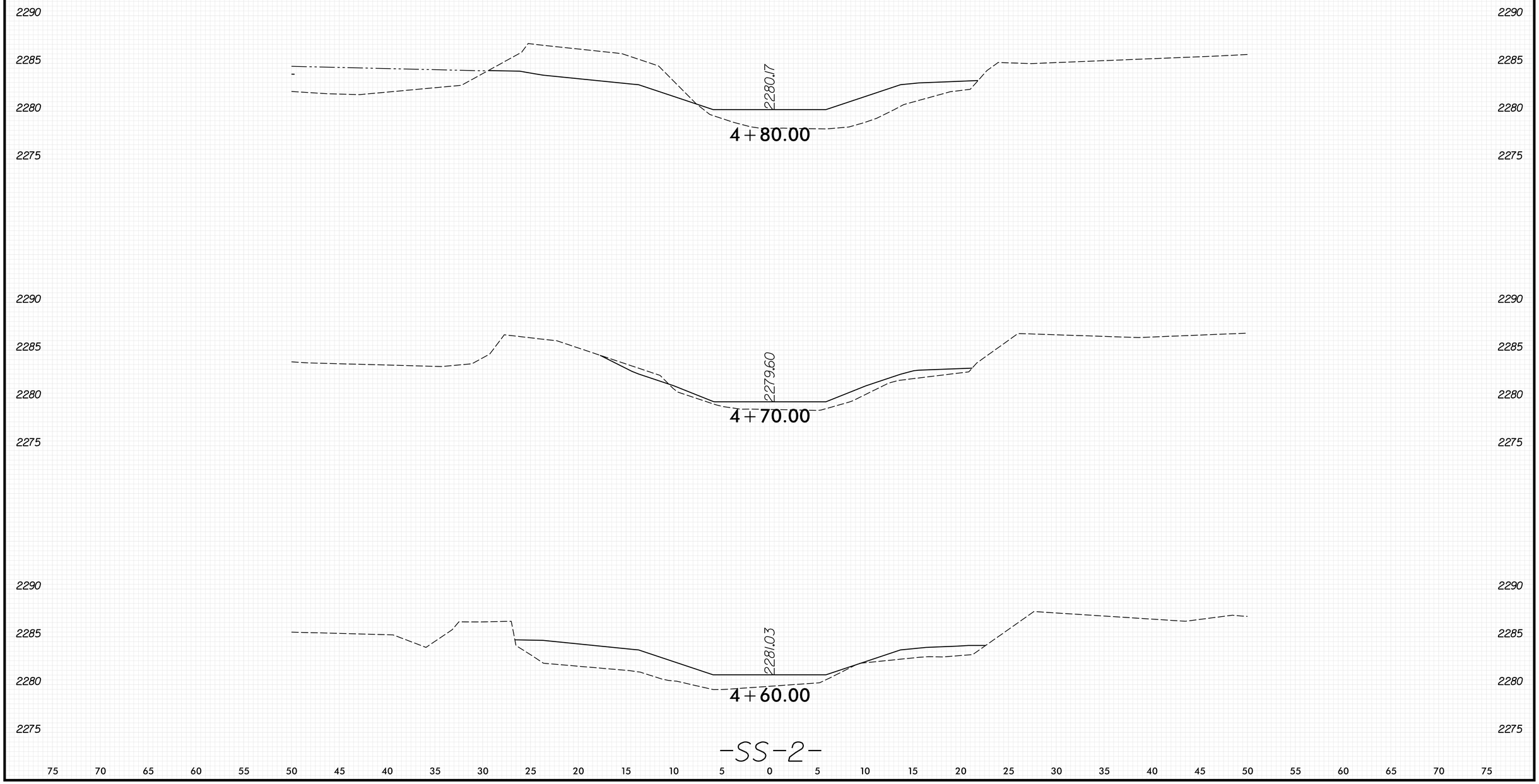


-SS-2-

8/23/99

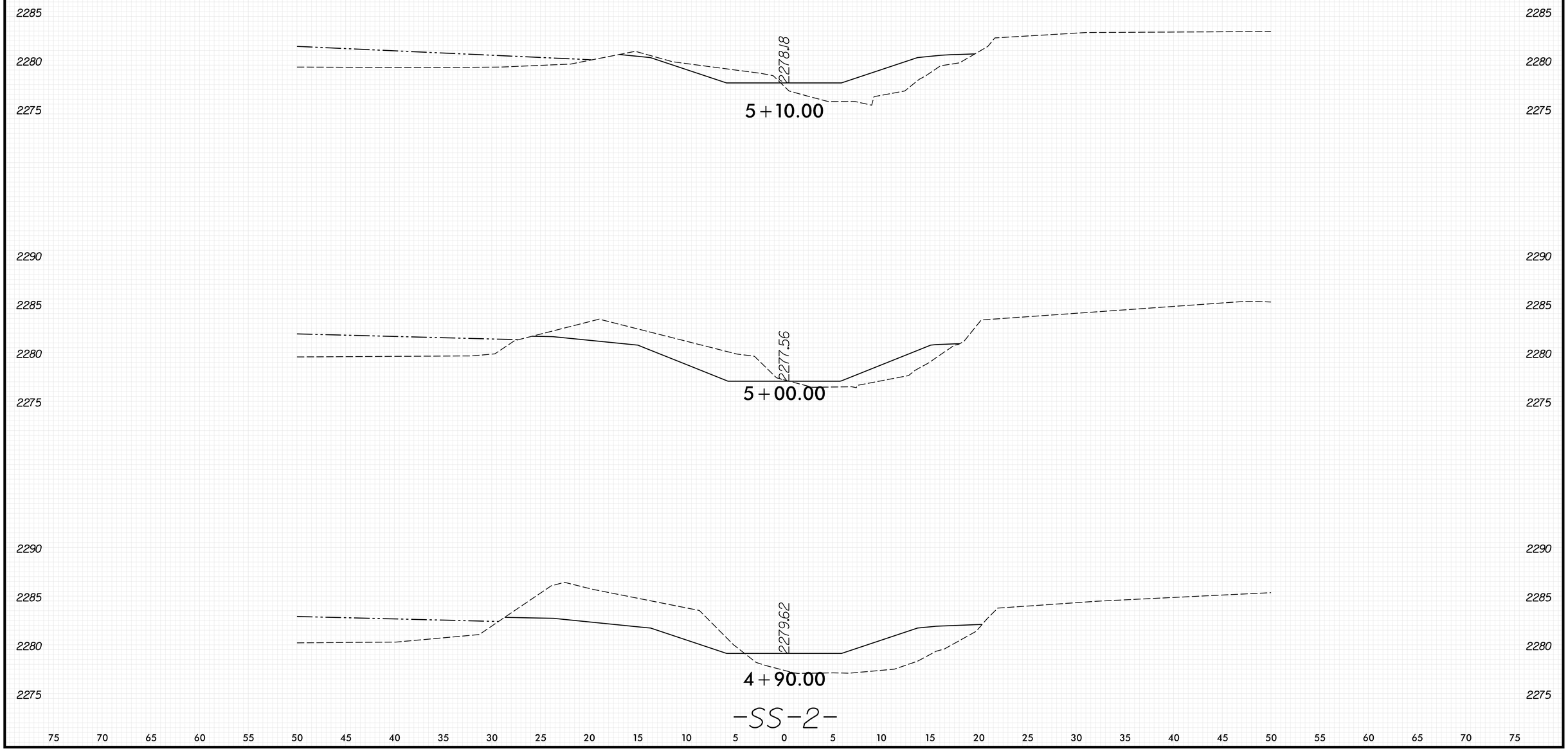
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:44 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



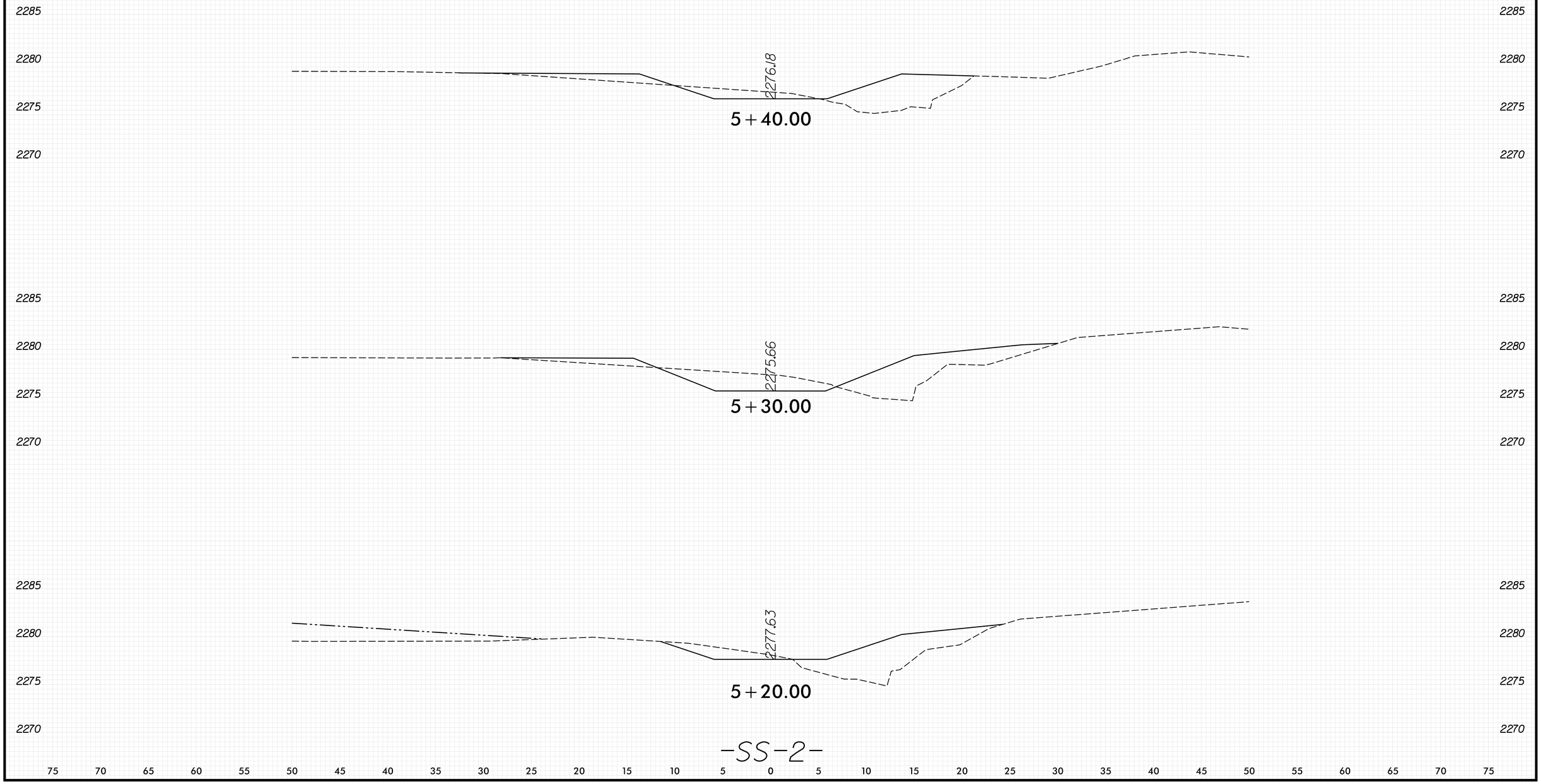
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:45 AM
8/23/99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:47 AM
8/23/99

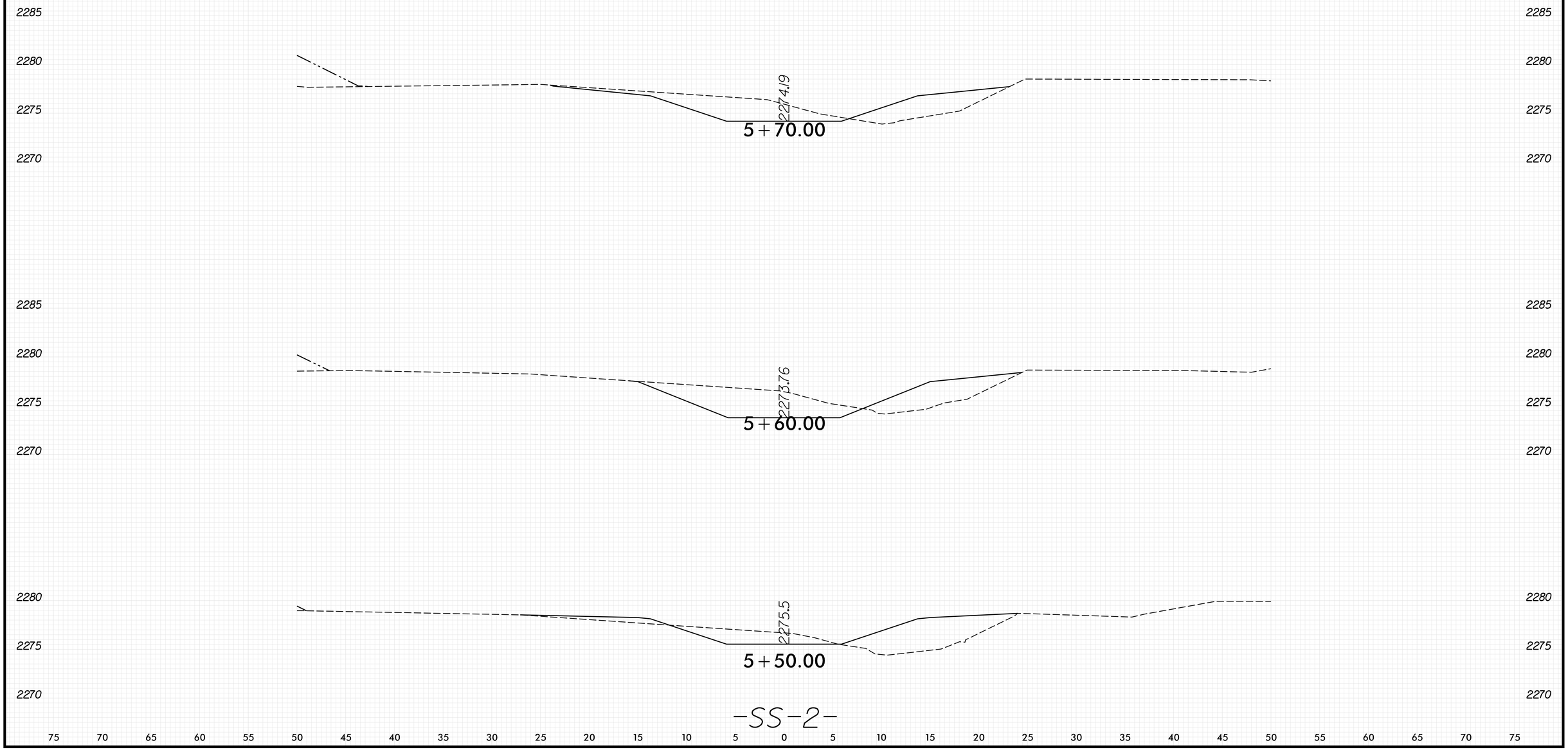
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:48 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-63

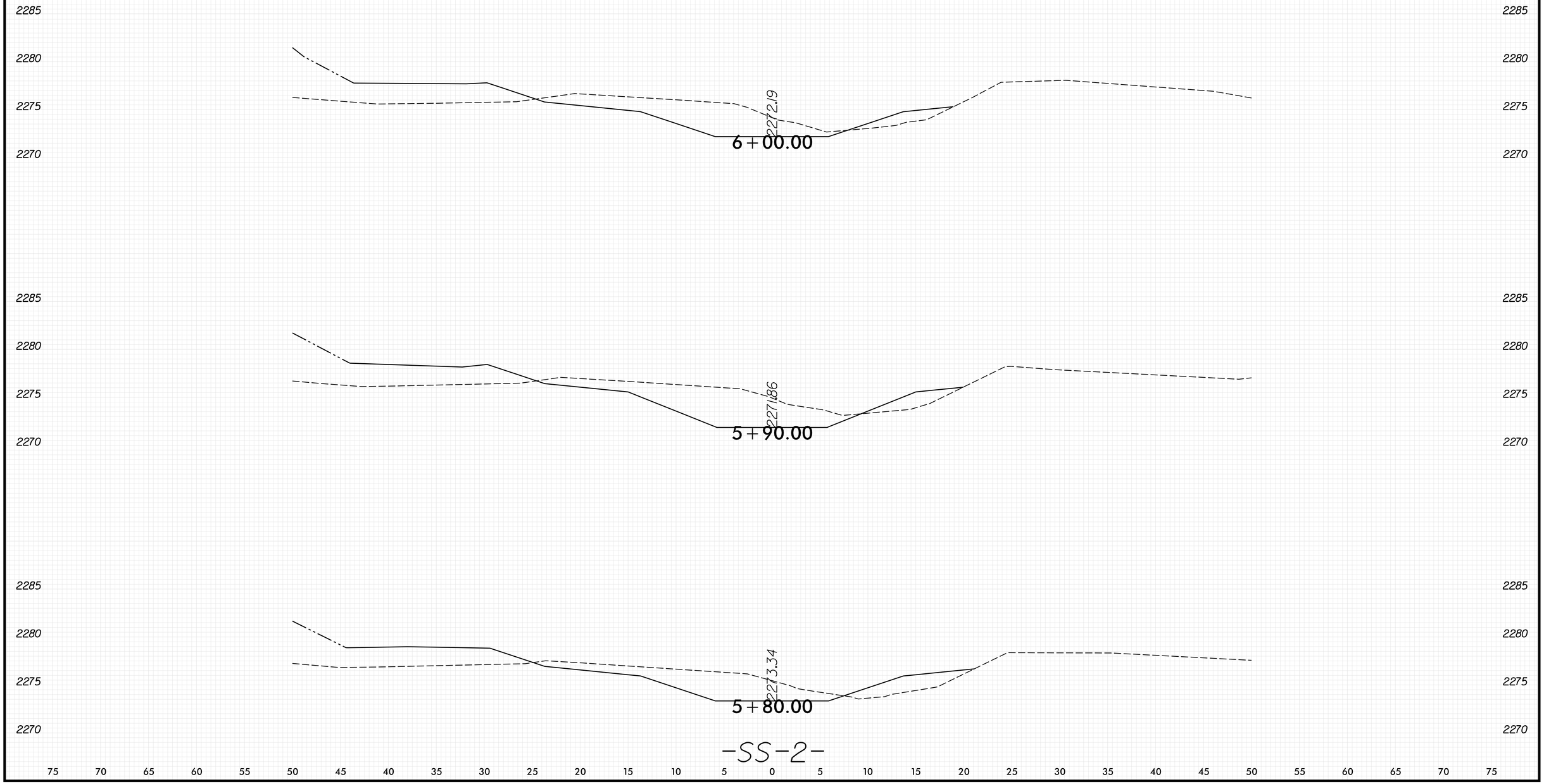
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:49 AM
8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-64

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

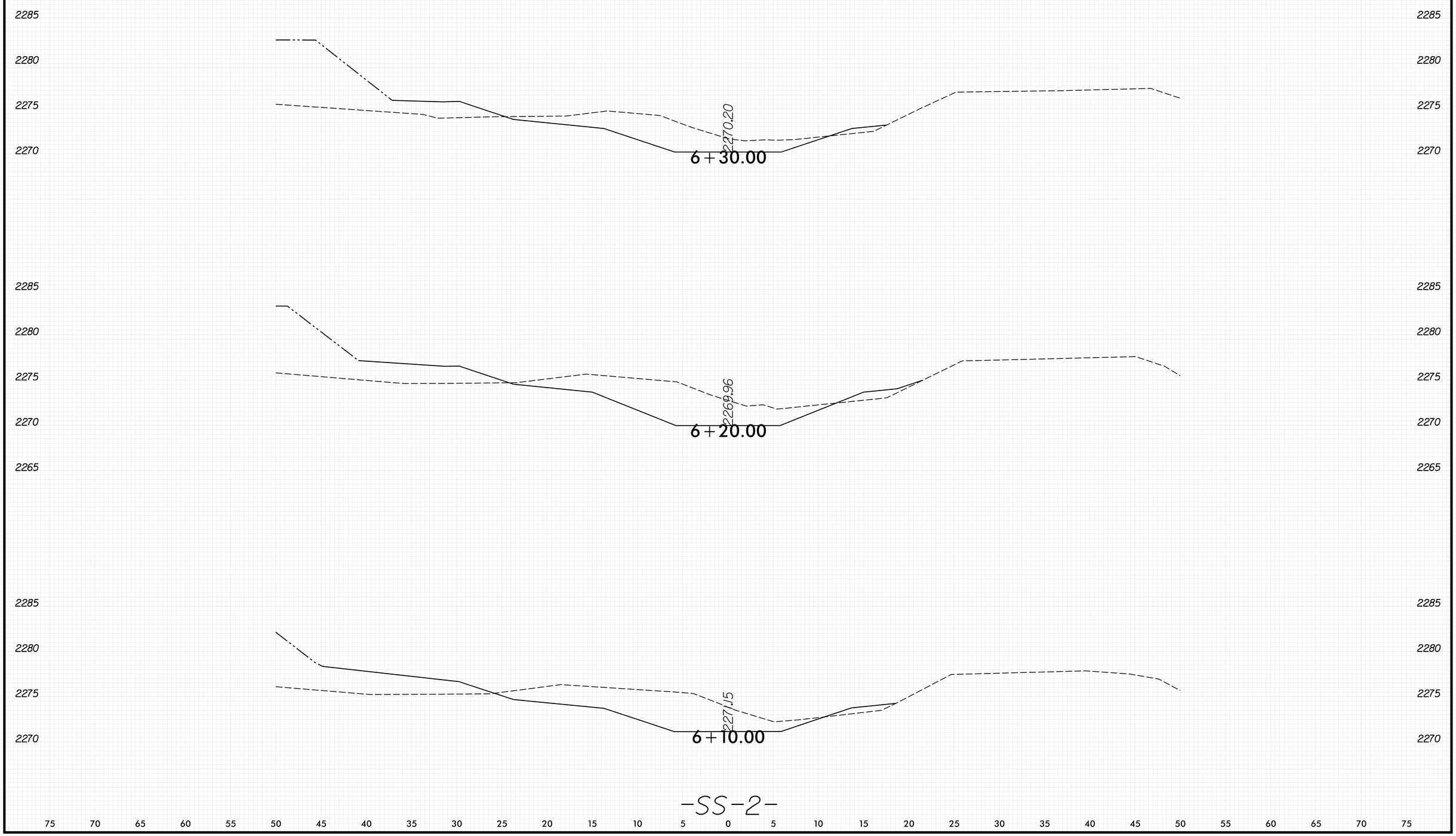


-SS-2-

8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:50 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-2-

8/23/99
PENTABLE: xpl_en_v8.tbl
TIME: 9:38:52 AM
DATE: 5/8/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

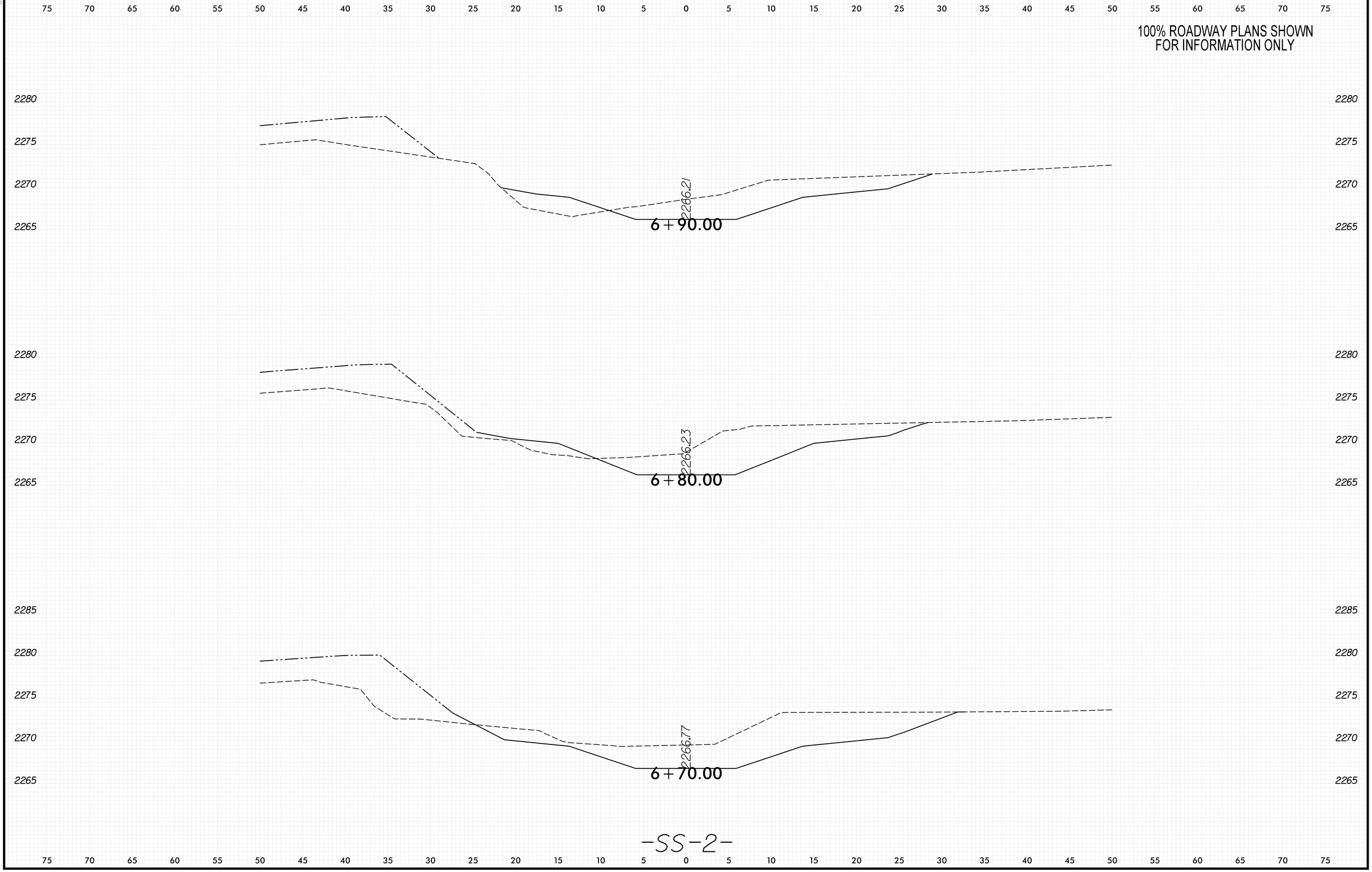
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

-SS-2-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE:
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:53 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-67

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

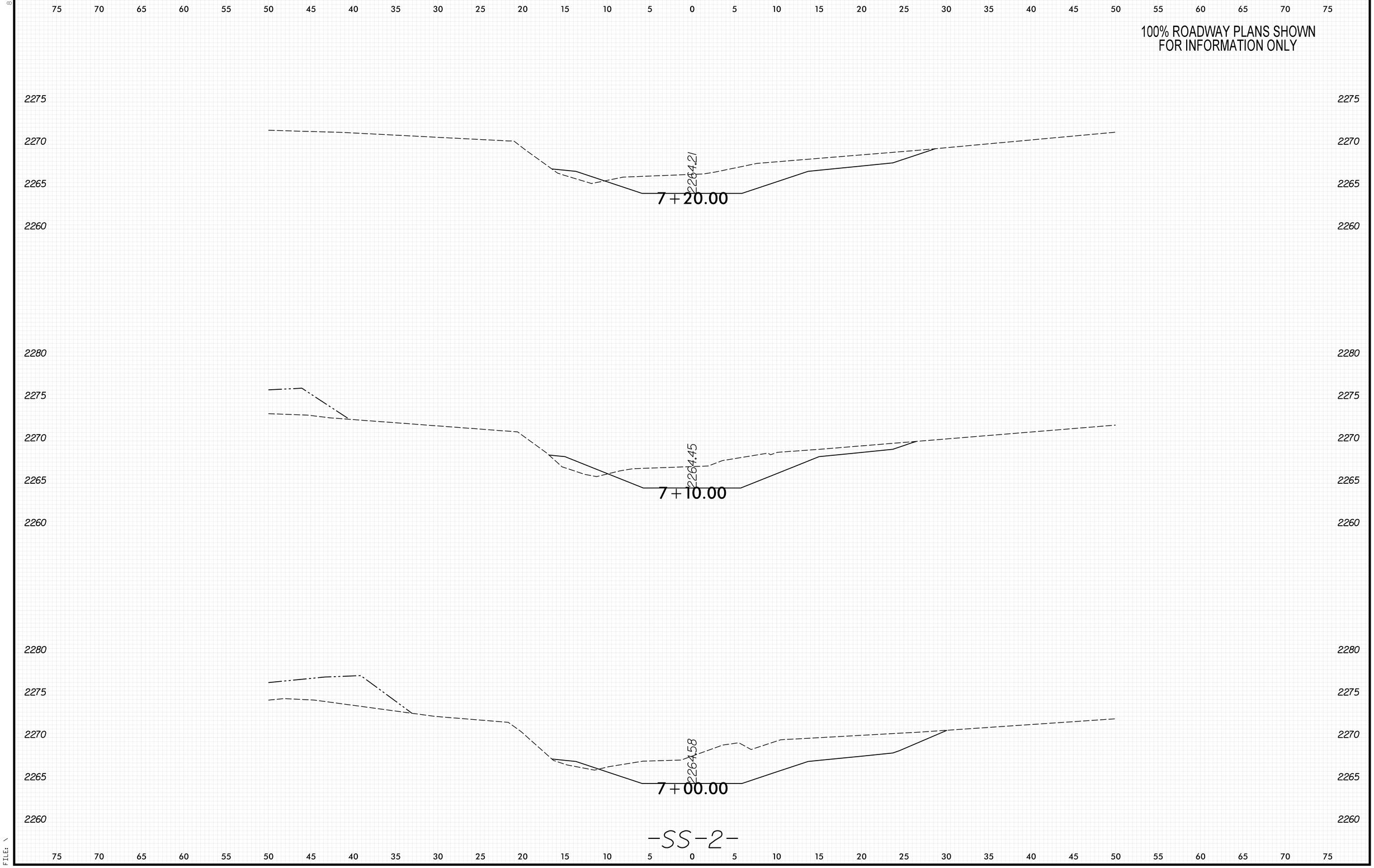


PLOT DRIVER: NCDOT.pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:38:55 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-68

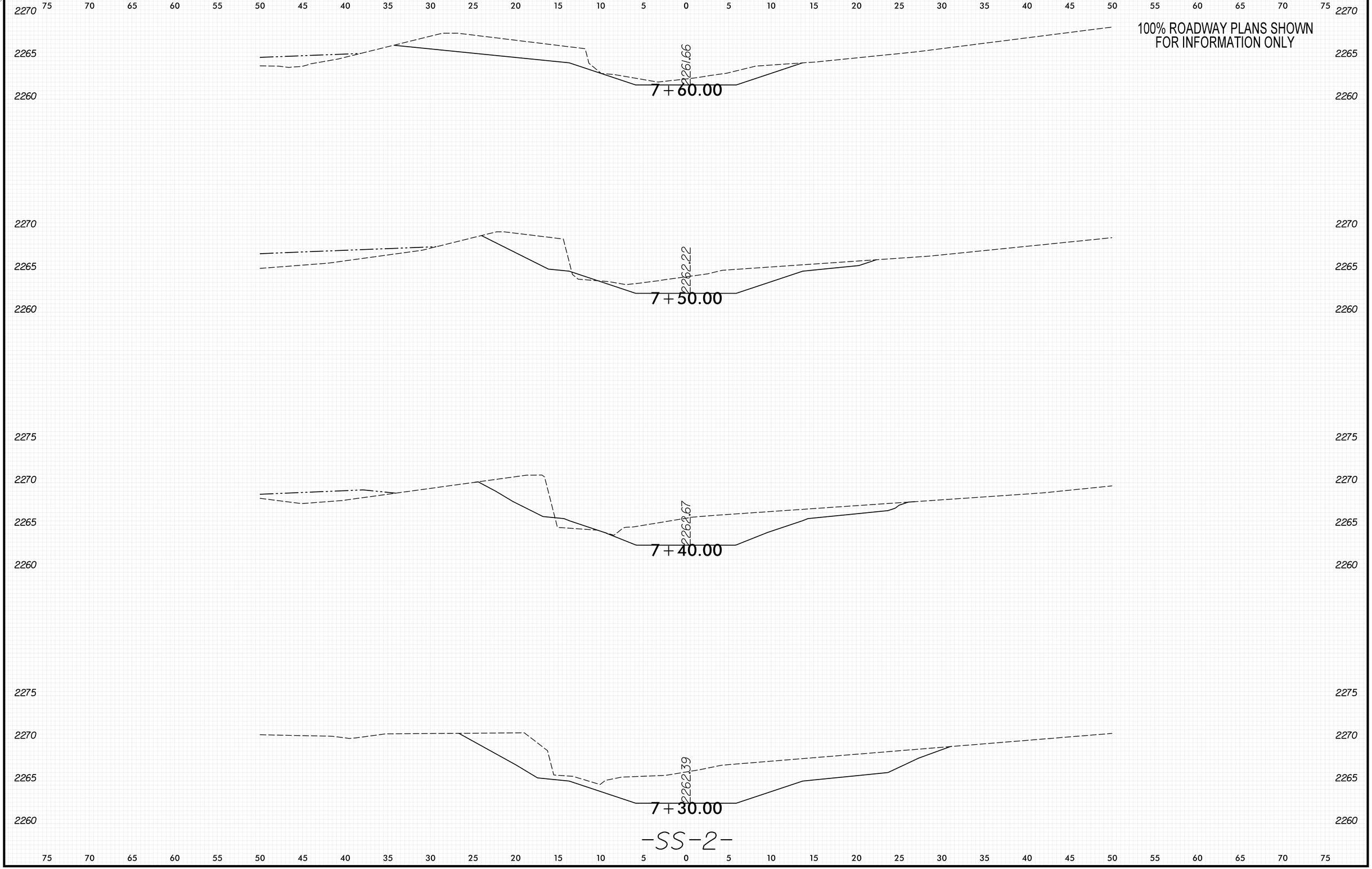
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:56 AM

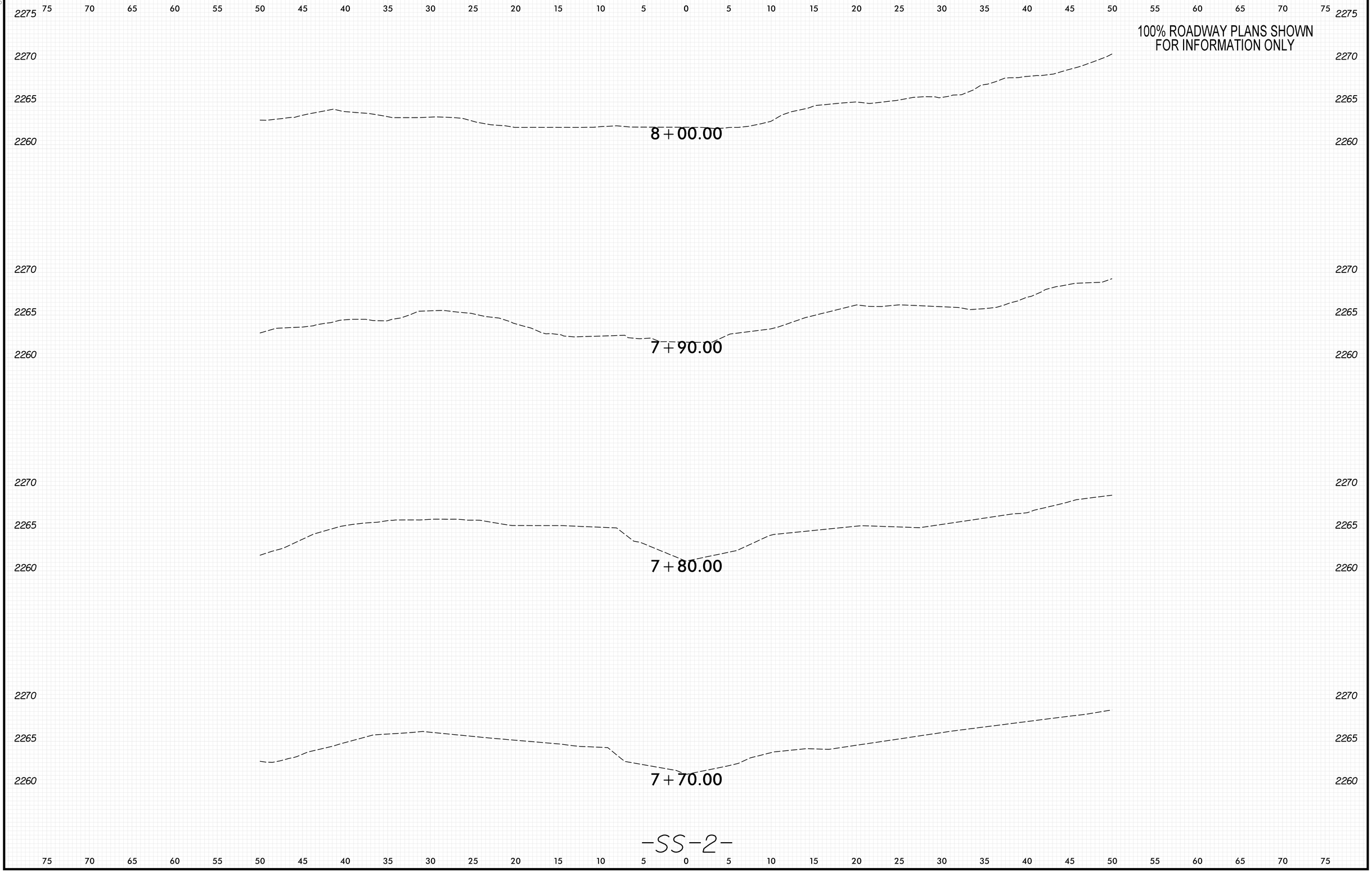
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-2-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:57 AM

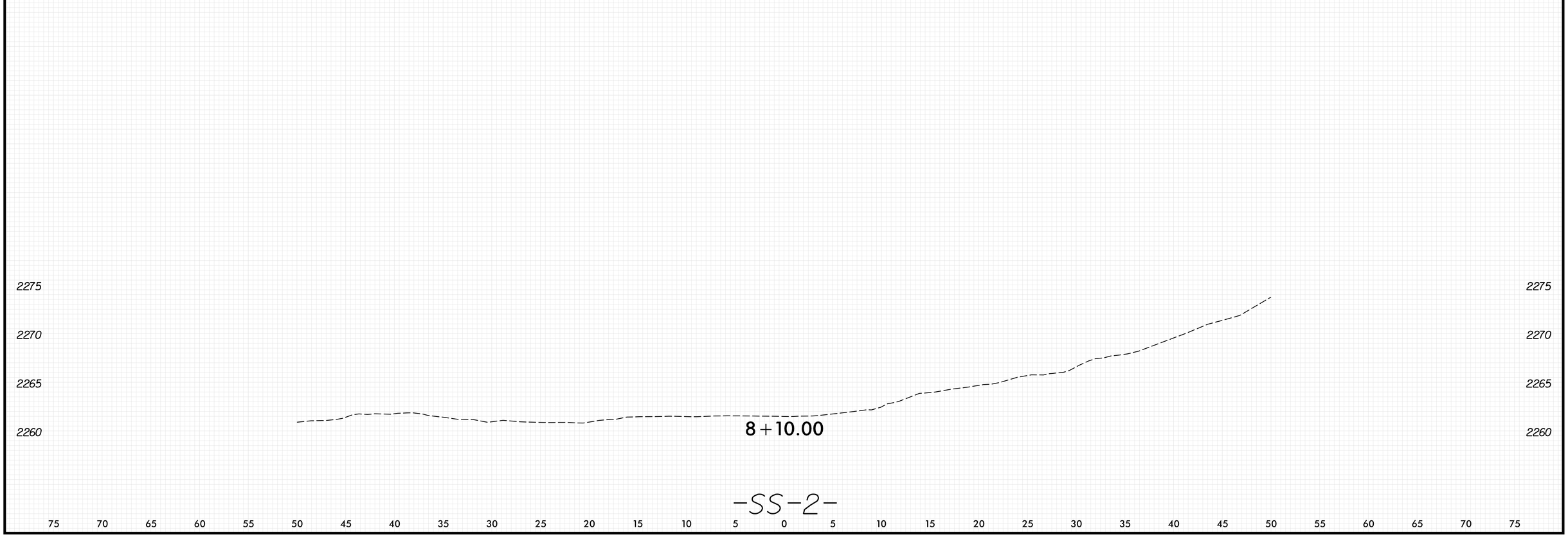
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-2-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:38:59 AM
8/23/99

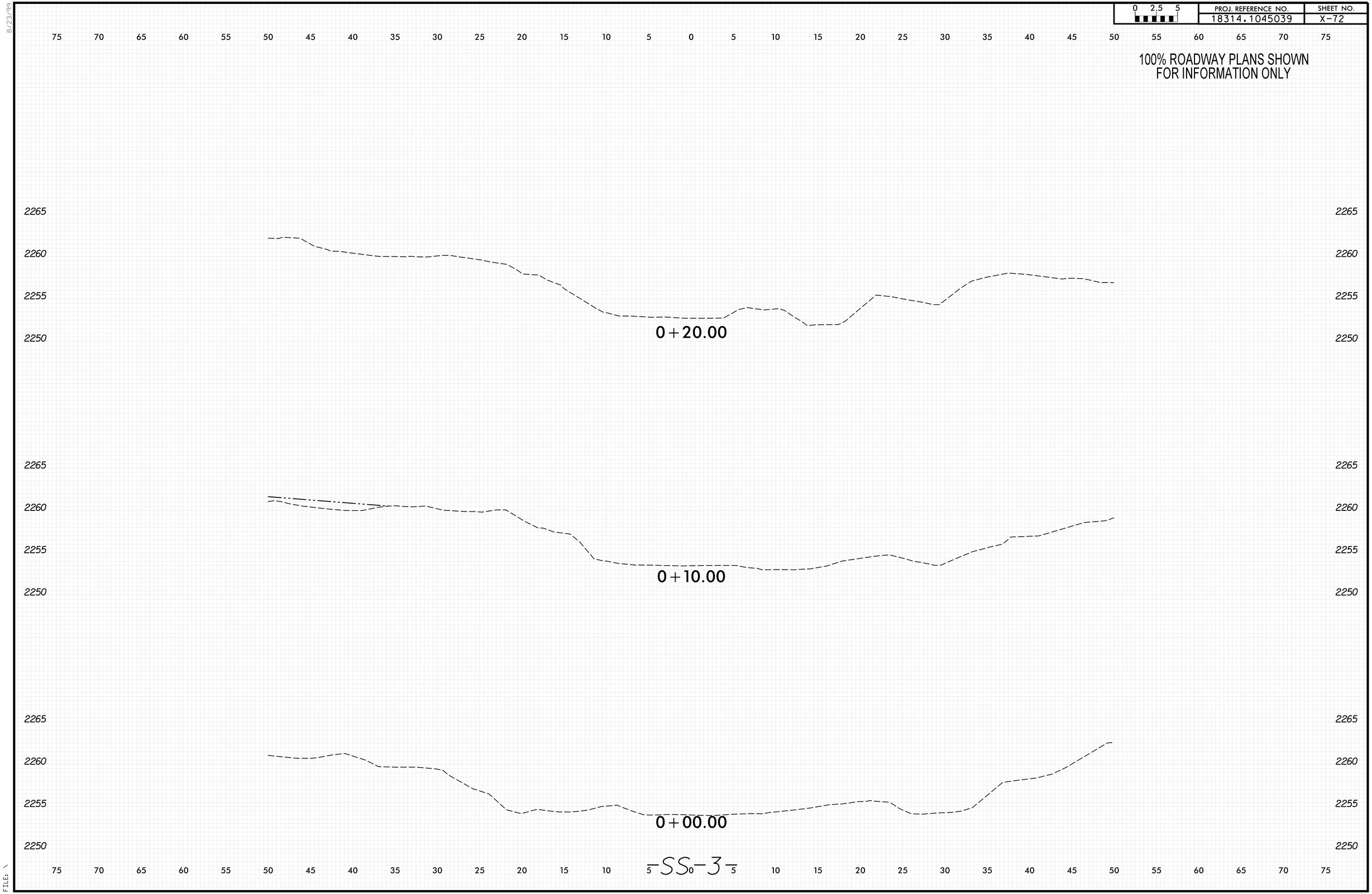
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:00 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-72

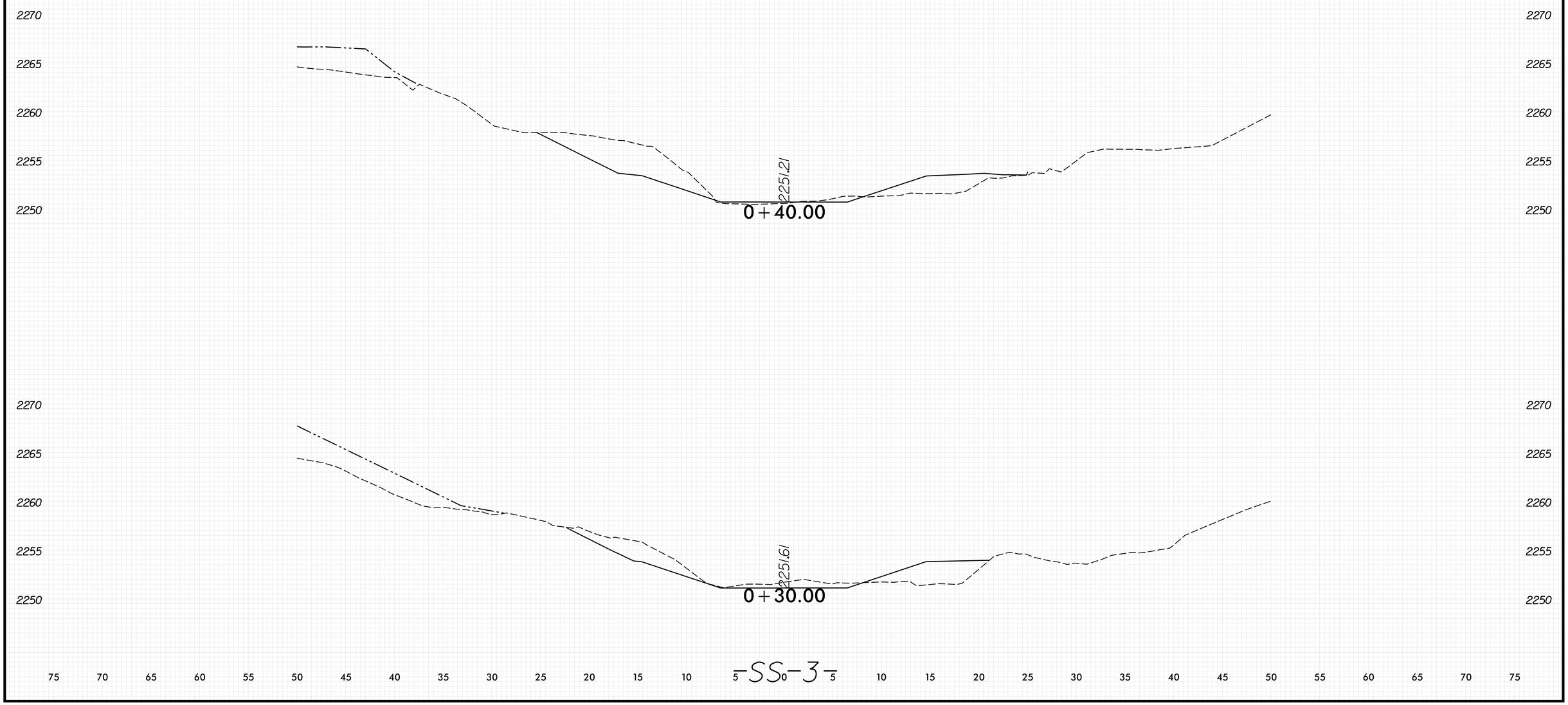
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

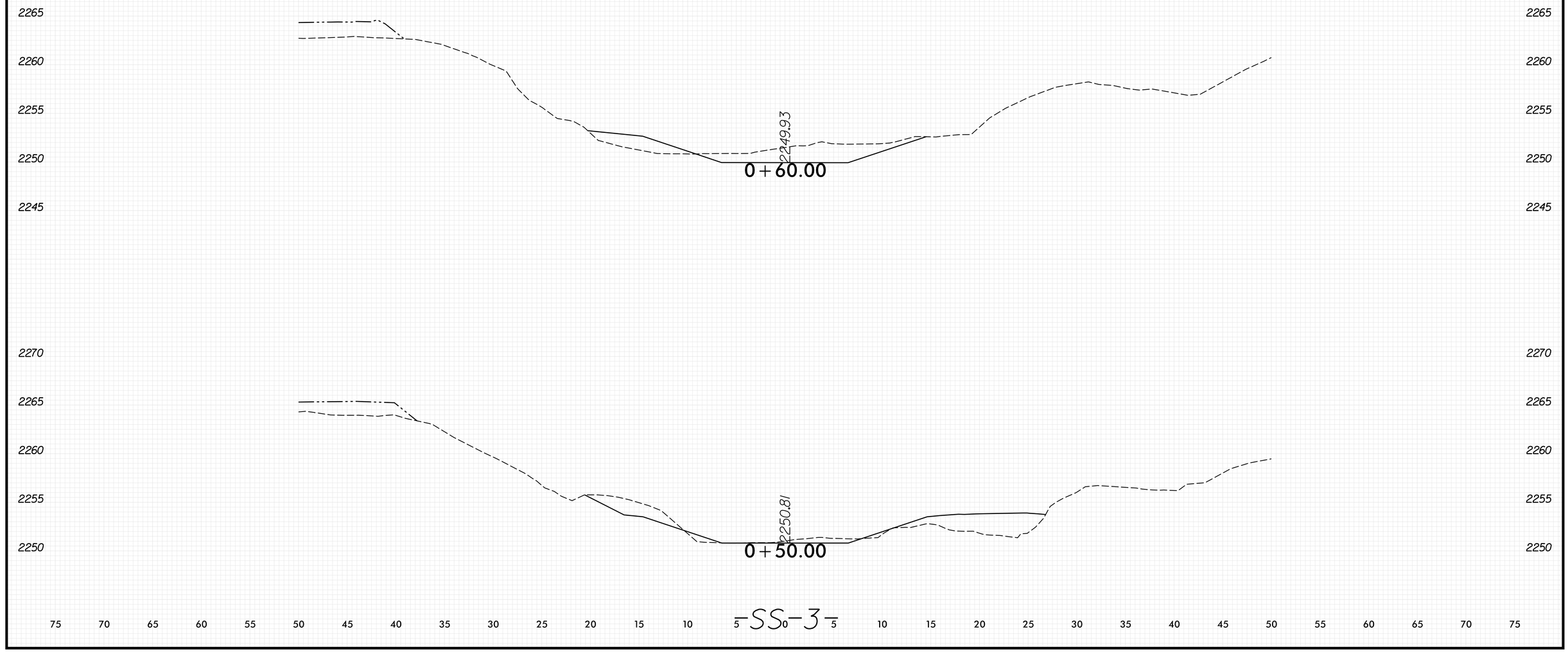
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:04 AM
DATE: 5/8/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color-eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:06 AM
8/23/99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

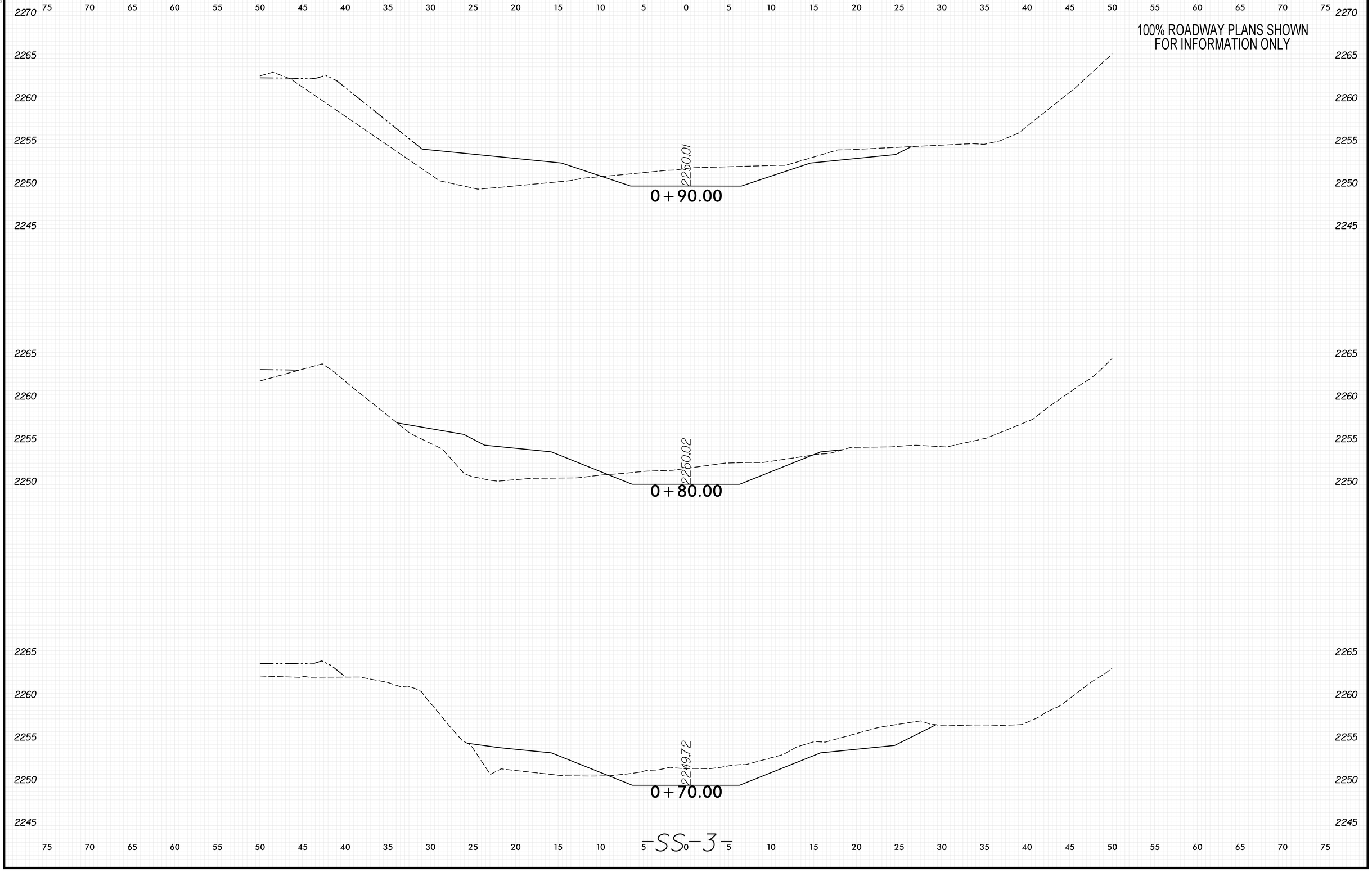


8/23/99
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:07 AM
DATE: 5/8/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

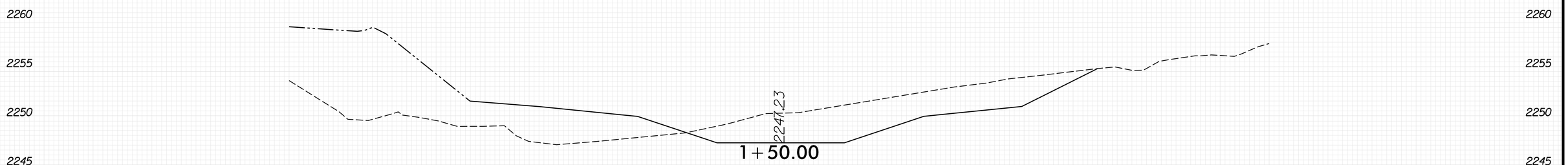


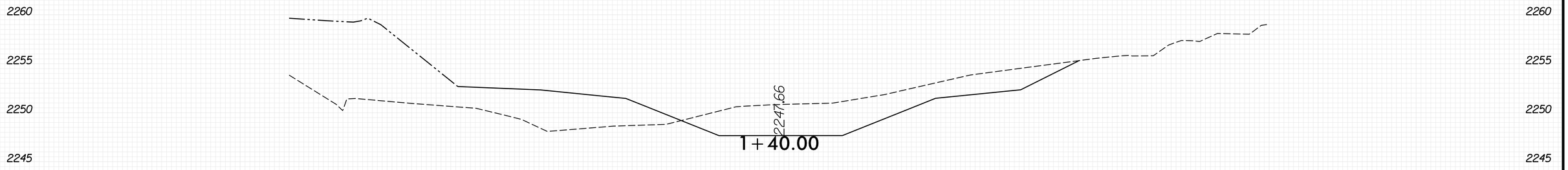
PLOT DRIVER: NCDOT.pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_eh_v8.tbl
DATE: 5/8/2026
TIME: 9:39:08 AM

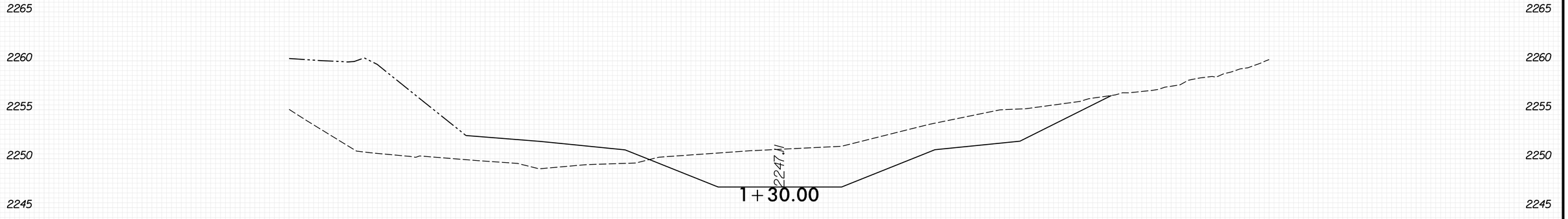
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:09 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY







-SS-3-

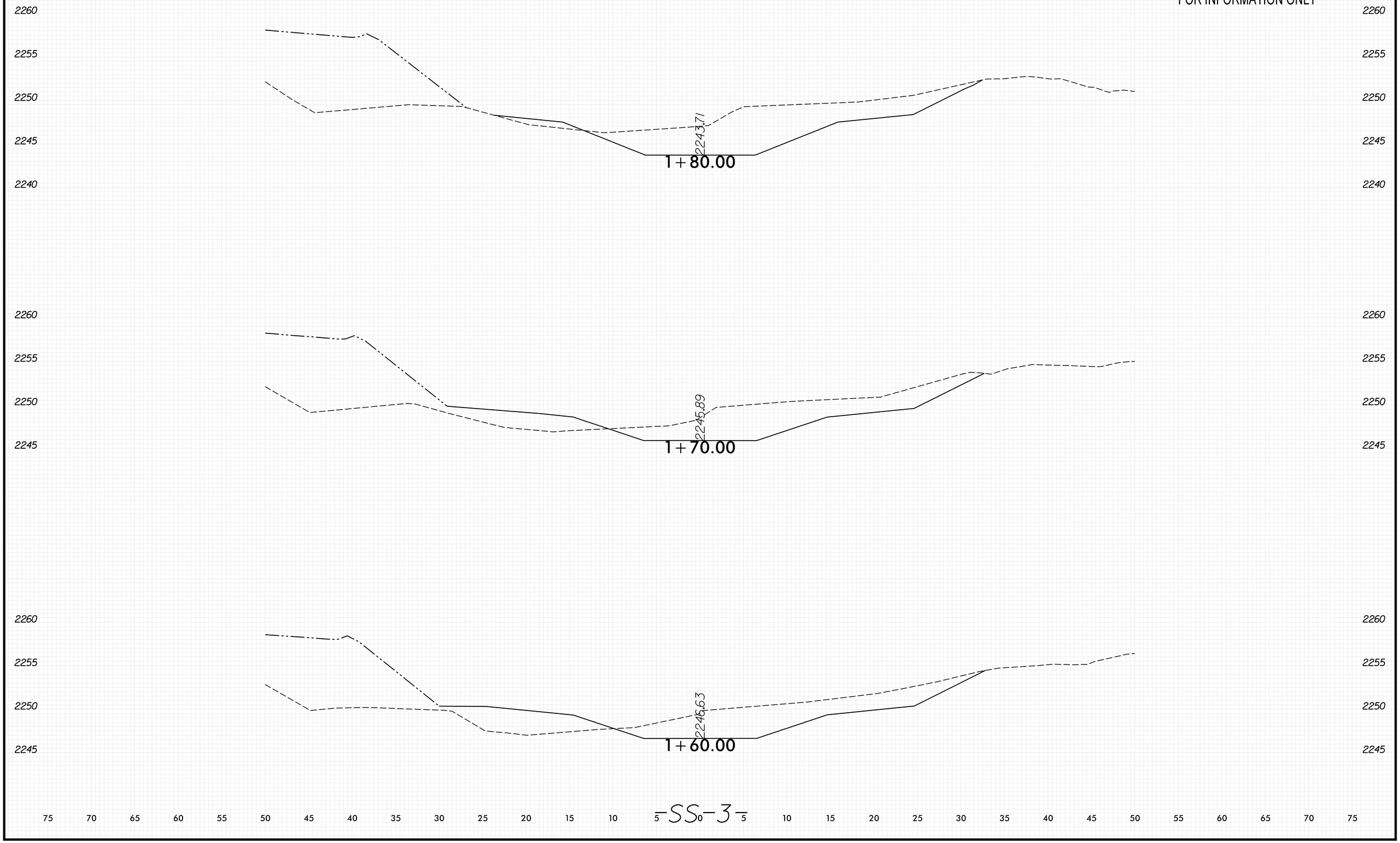
8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:10 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-78

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



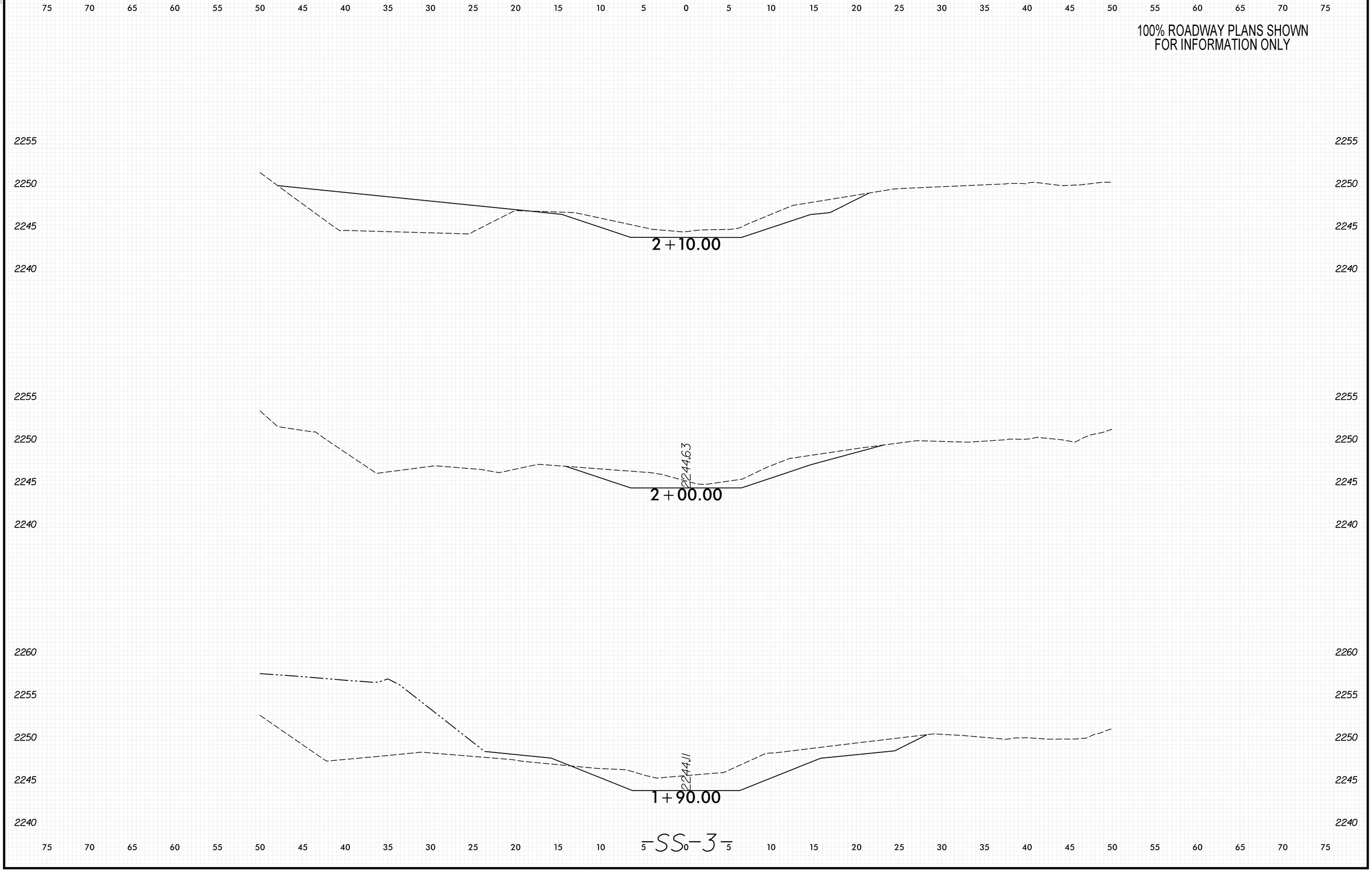
-SS-3-

PLOT DRIVER: NCDOT.pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
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TIME: 9:39:11 AM

8/23/99

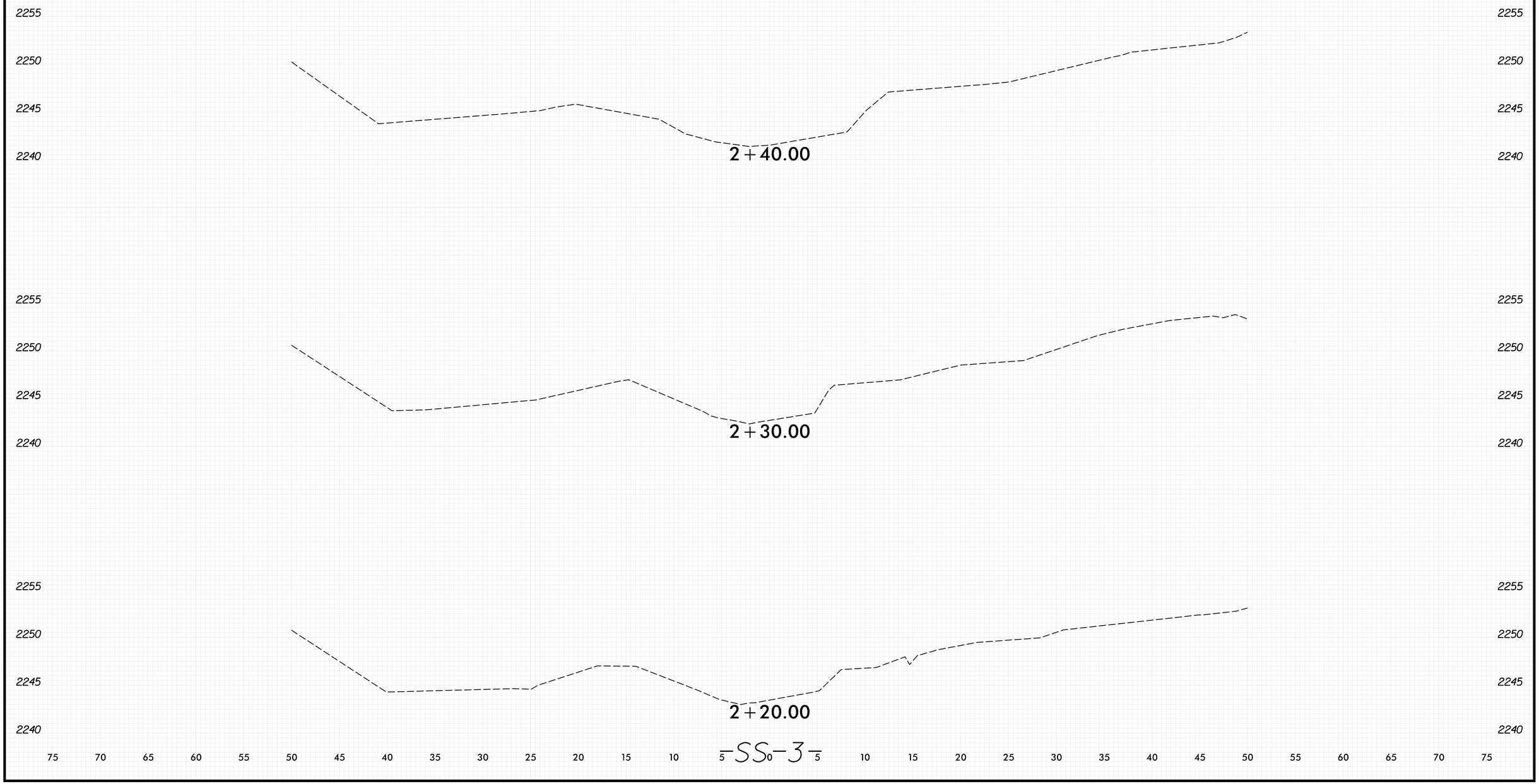
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-79

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:12 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



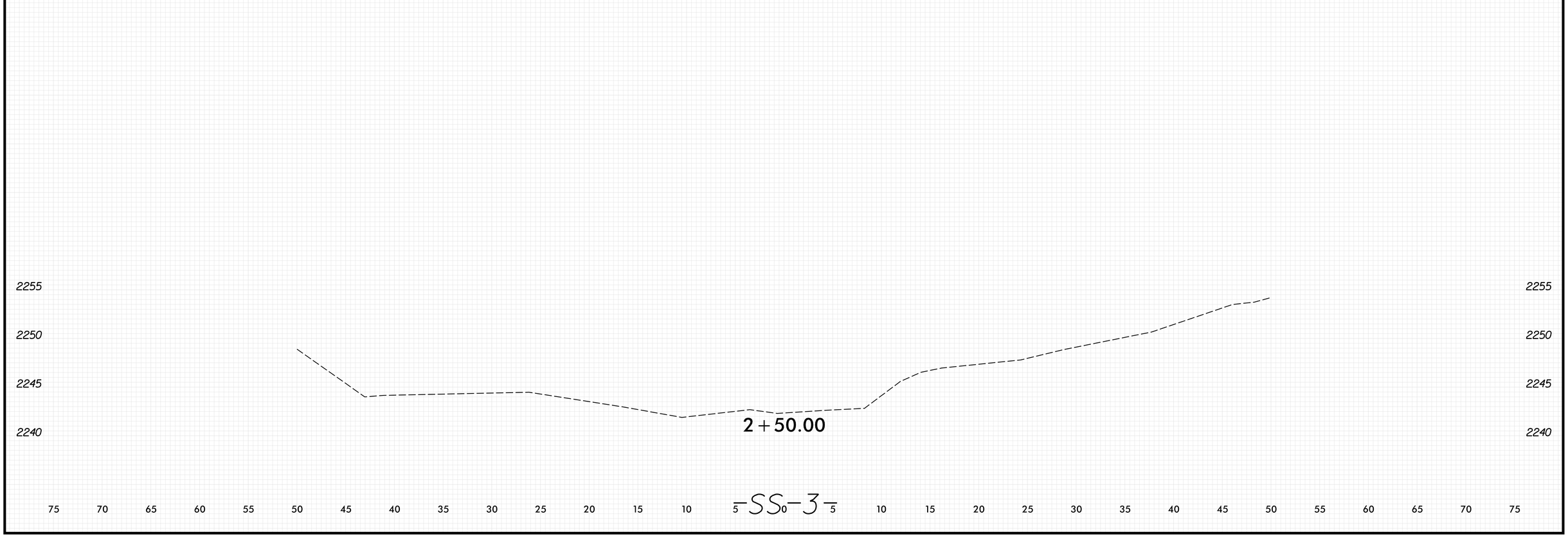
8/23/99
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:14 AM
DATE: 5/8/2026
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-81

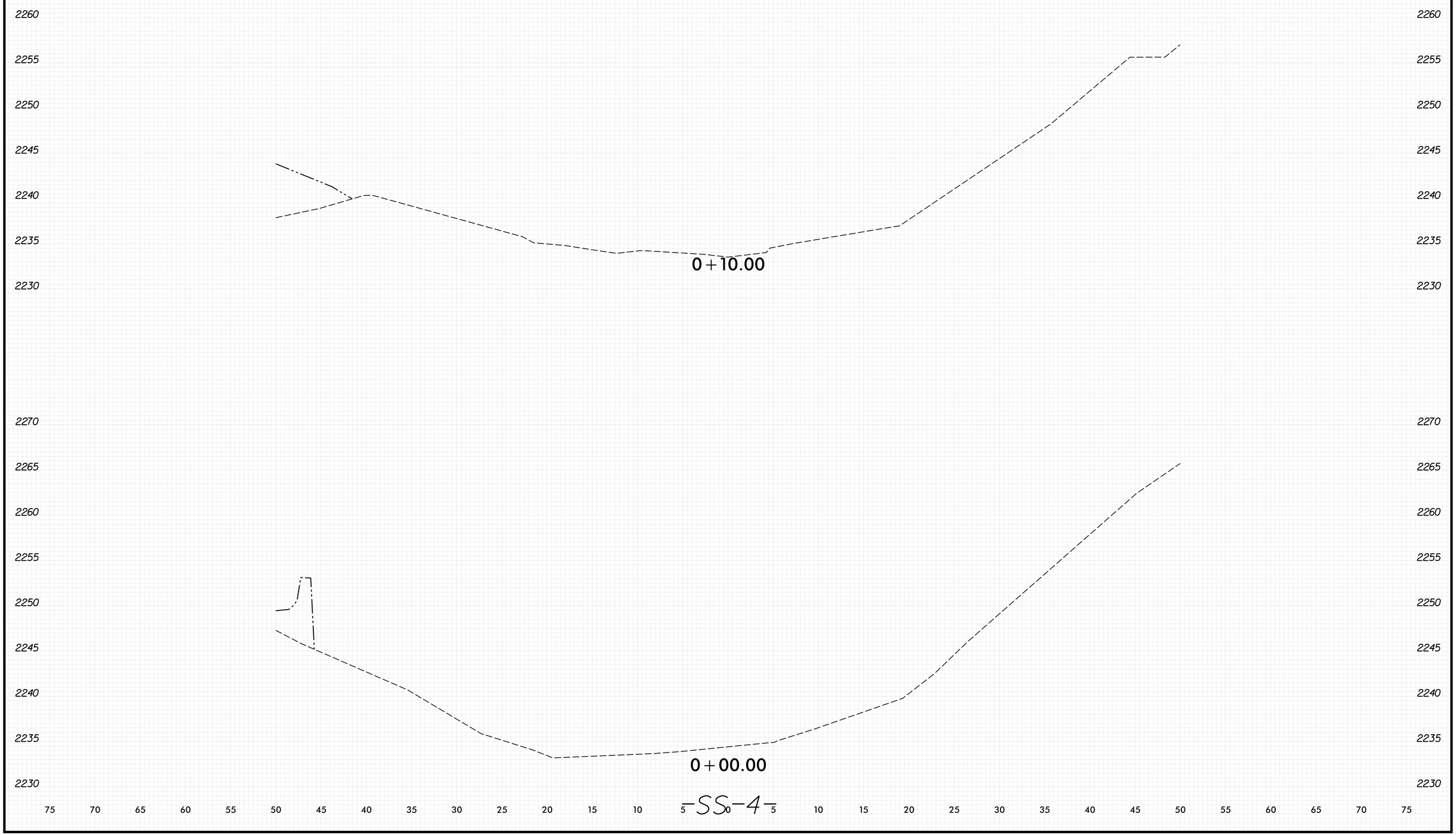
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
DATE: 5/8/2026
PENTABLE: xpl_en_v8.tbl
TIME: 9:39:15 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-4-

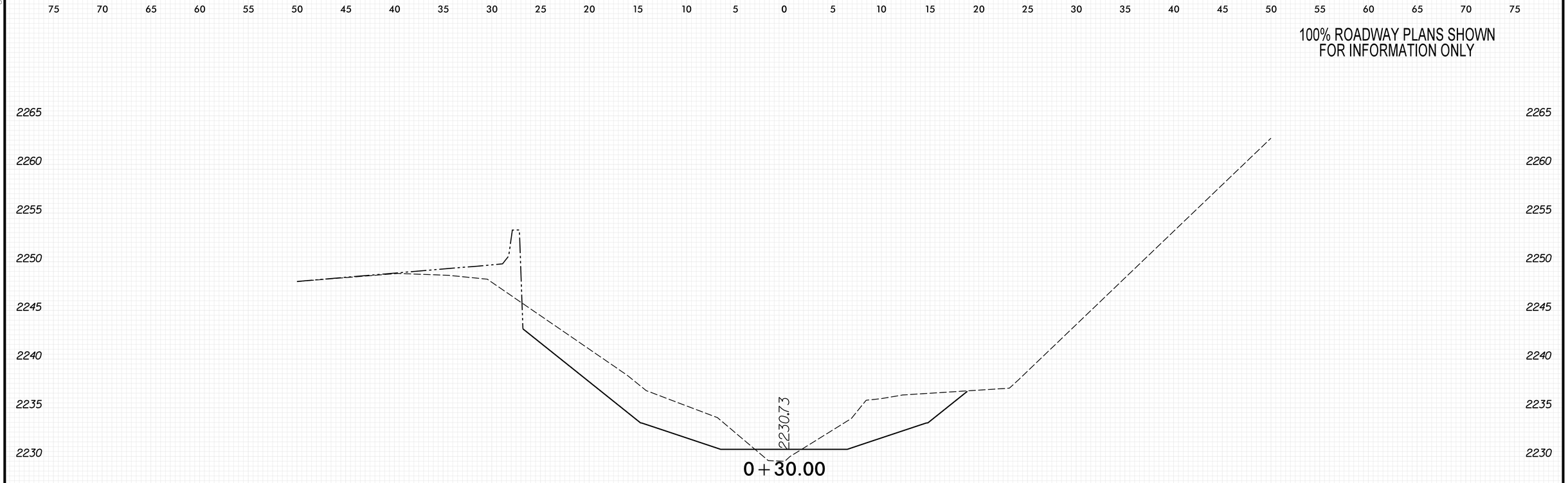
8/23/99

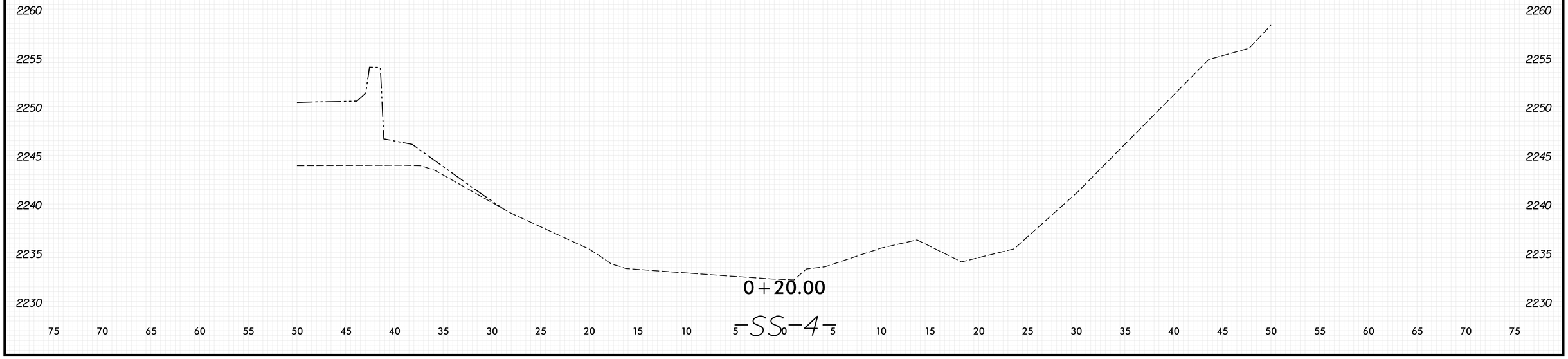
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: /
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:19 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-83

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY





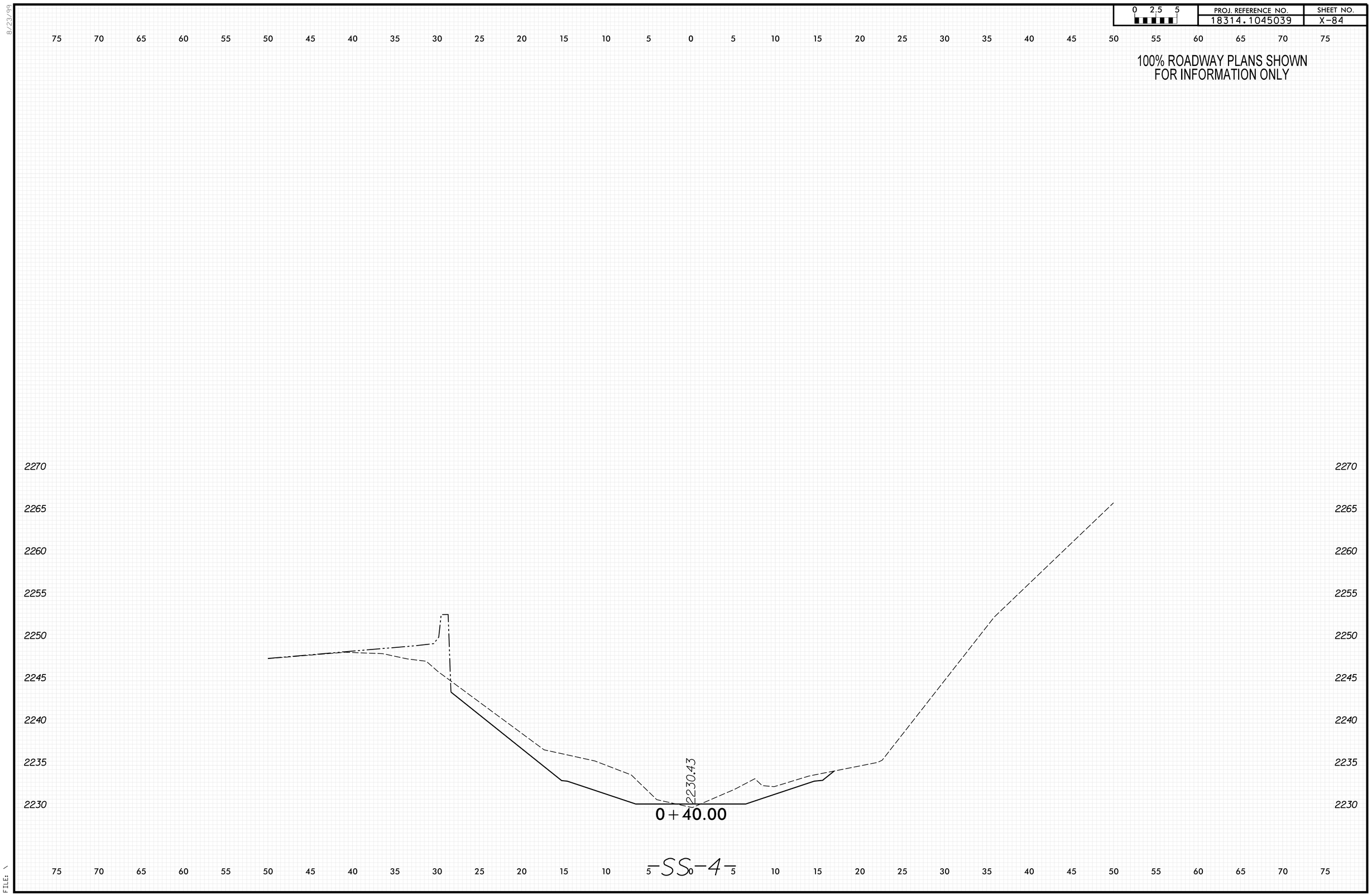
-SS-4-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: /
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:20 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-84

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

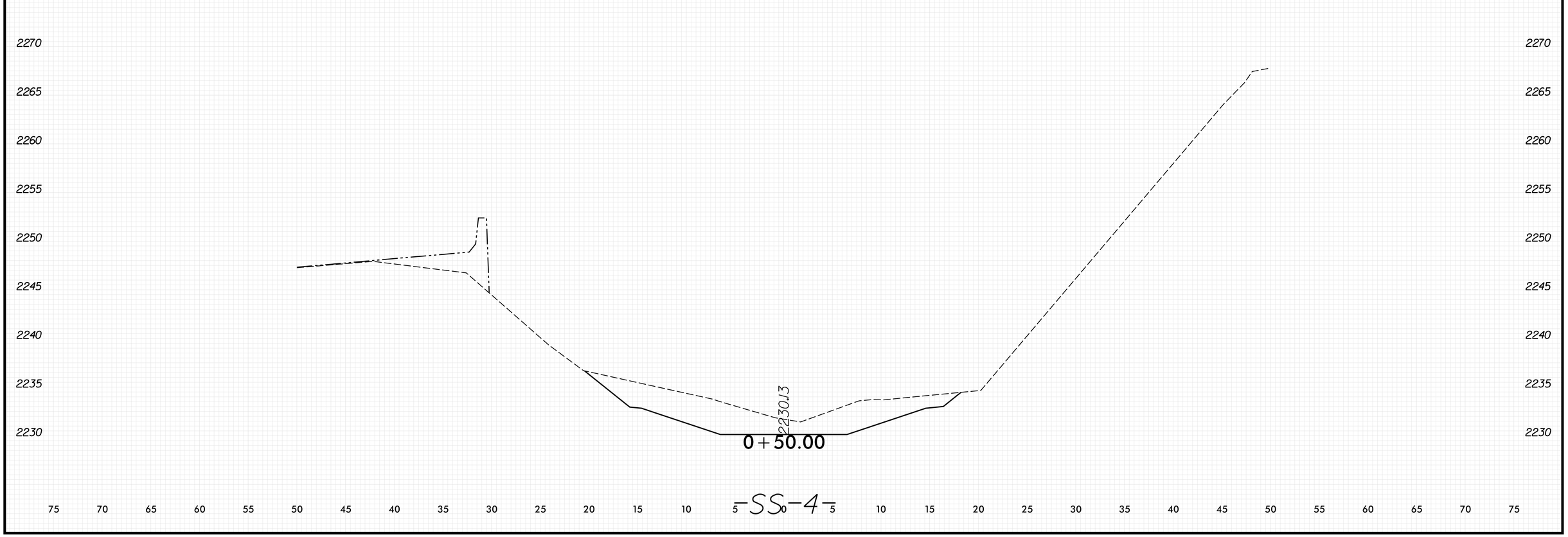


PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:21 AM

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
18314.1045039	X-85

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

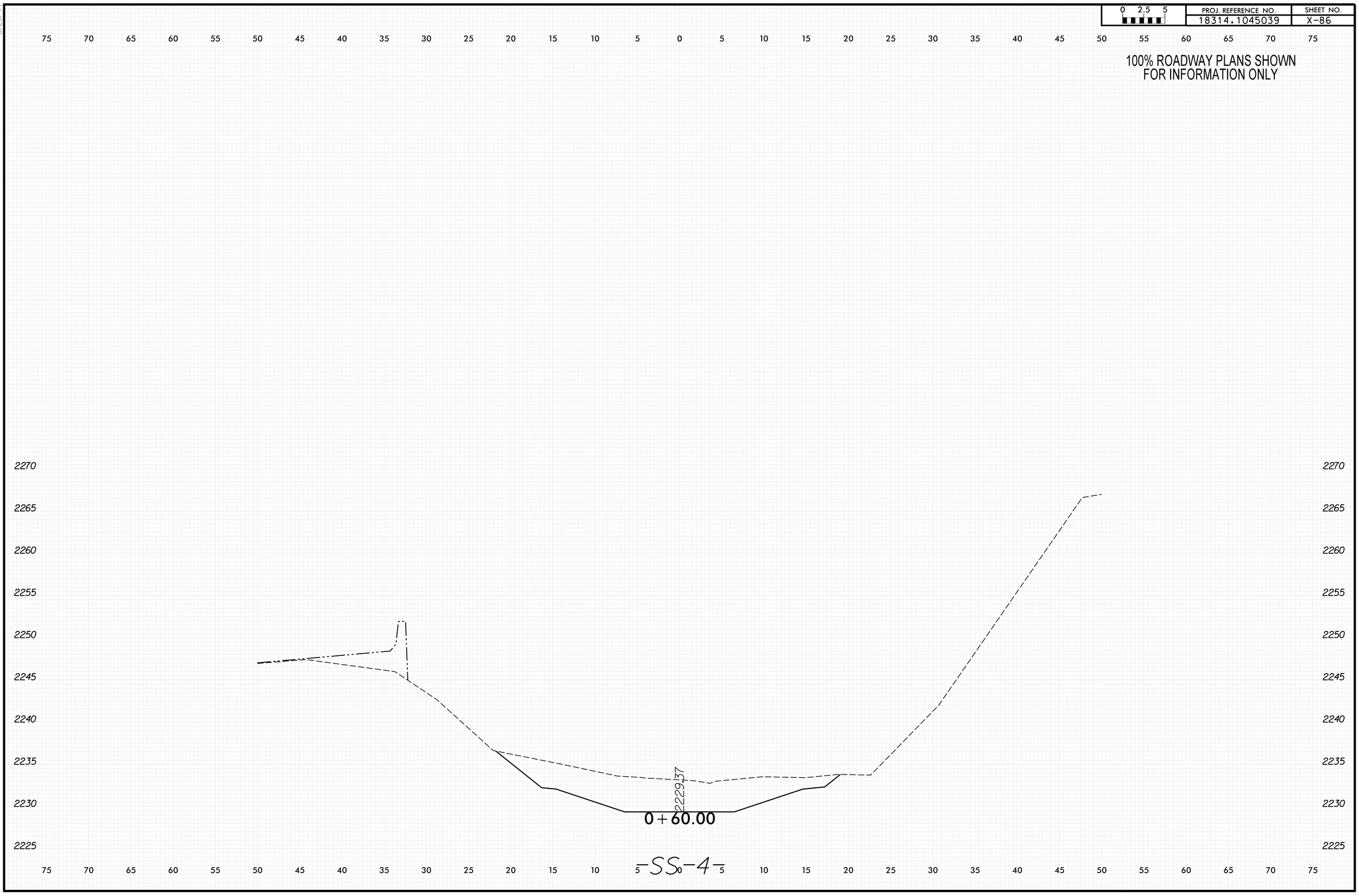


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USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:22 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-86

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

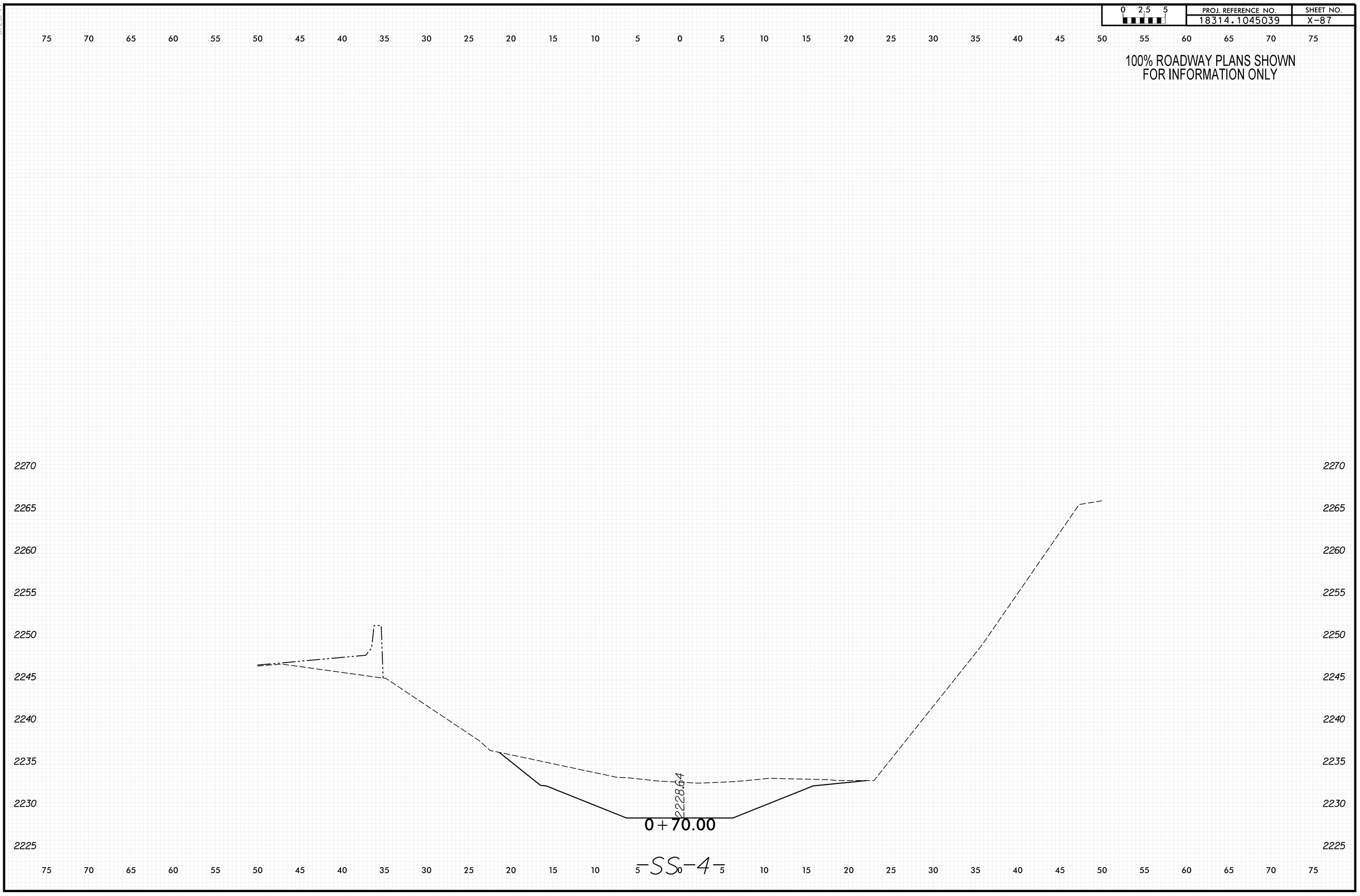


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TIME: 9:39:23 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-87

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

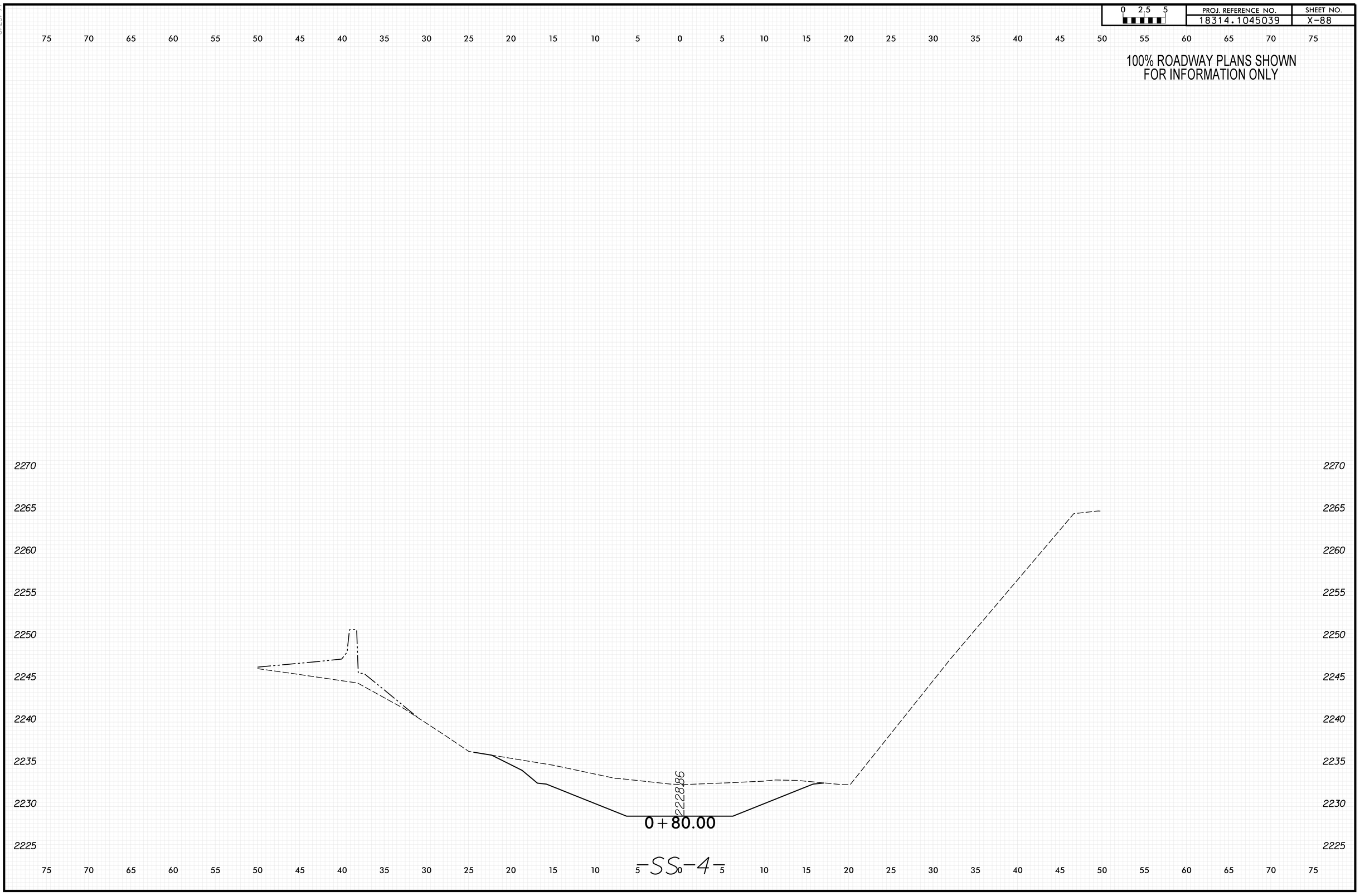


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DATE: 5/8/2026
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-88

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



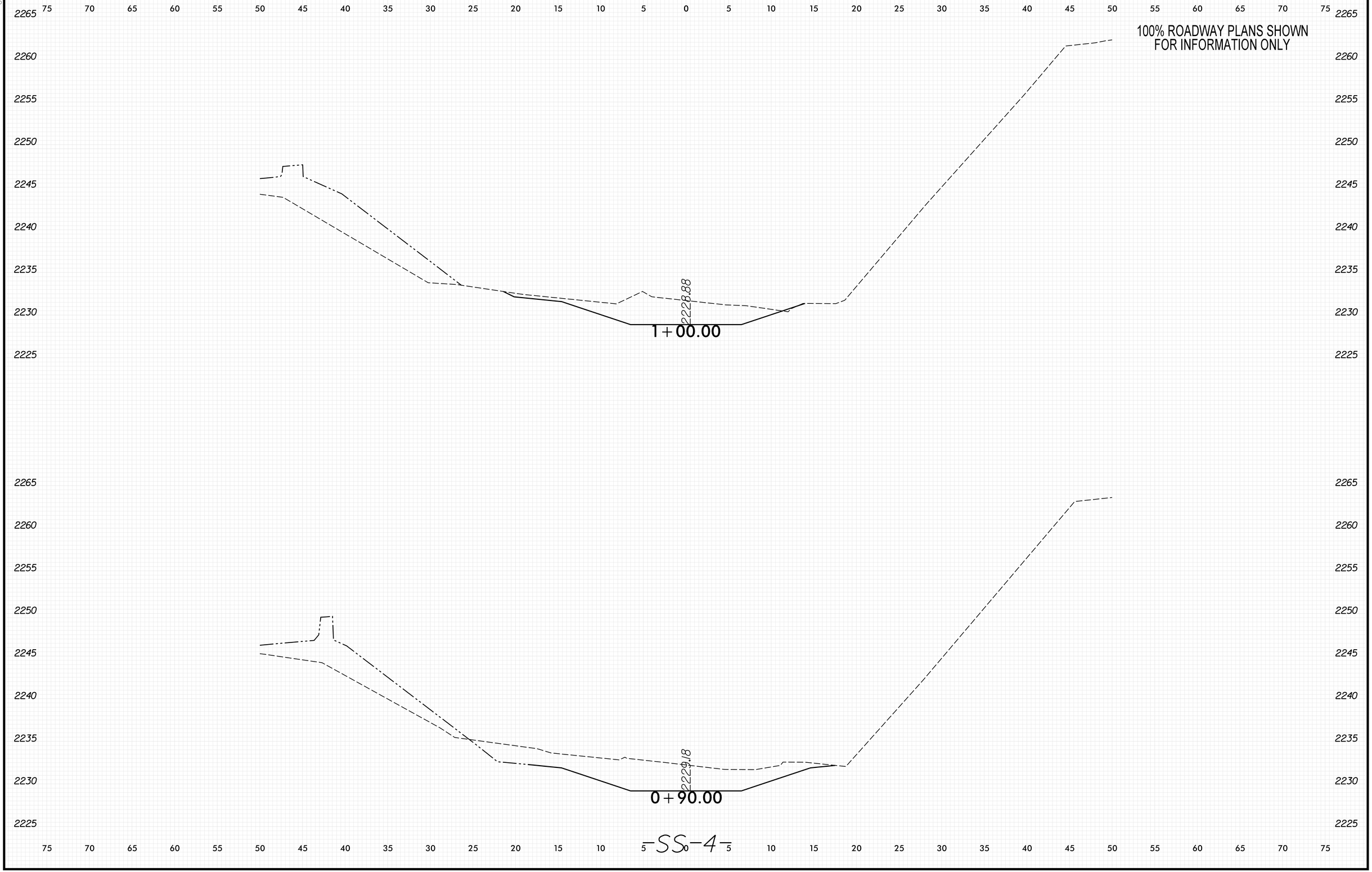
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USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:26 AM

8/23/99

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
18314.1045039	X-89

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

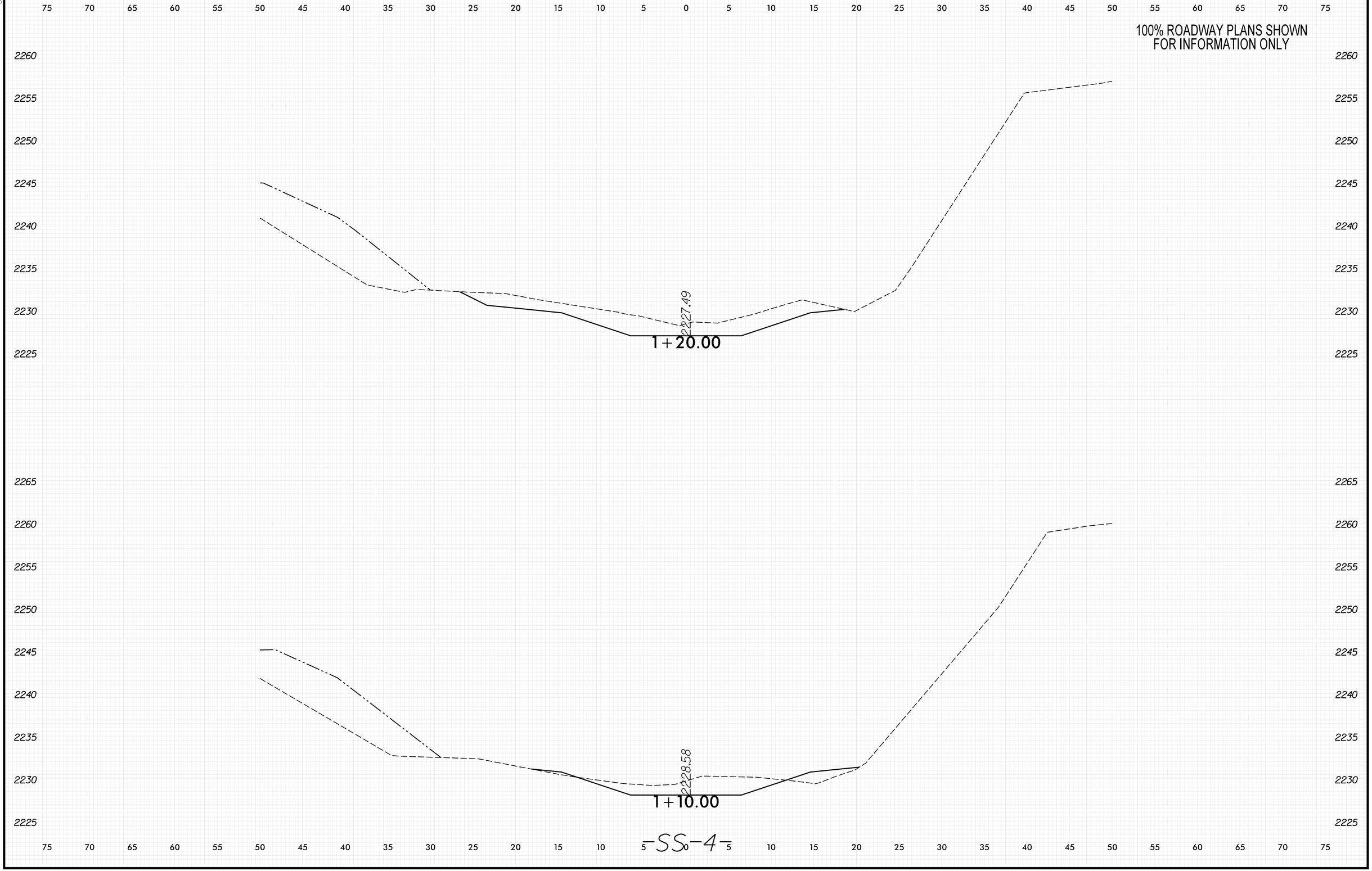


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PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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TIME: 9:39:27 AM

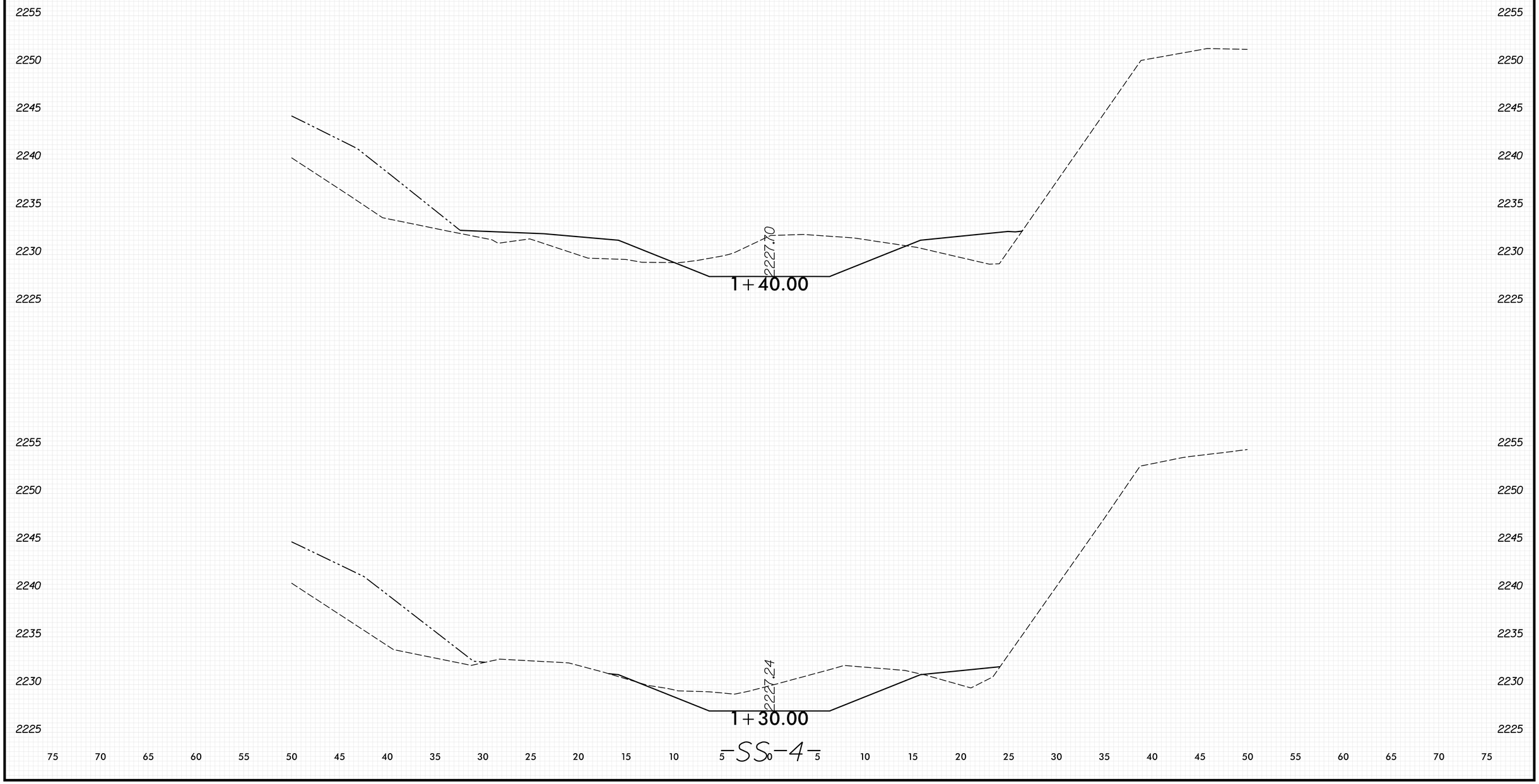
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-90

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



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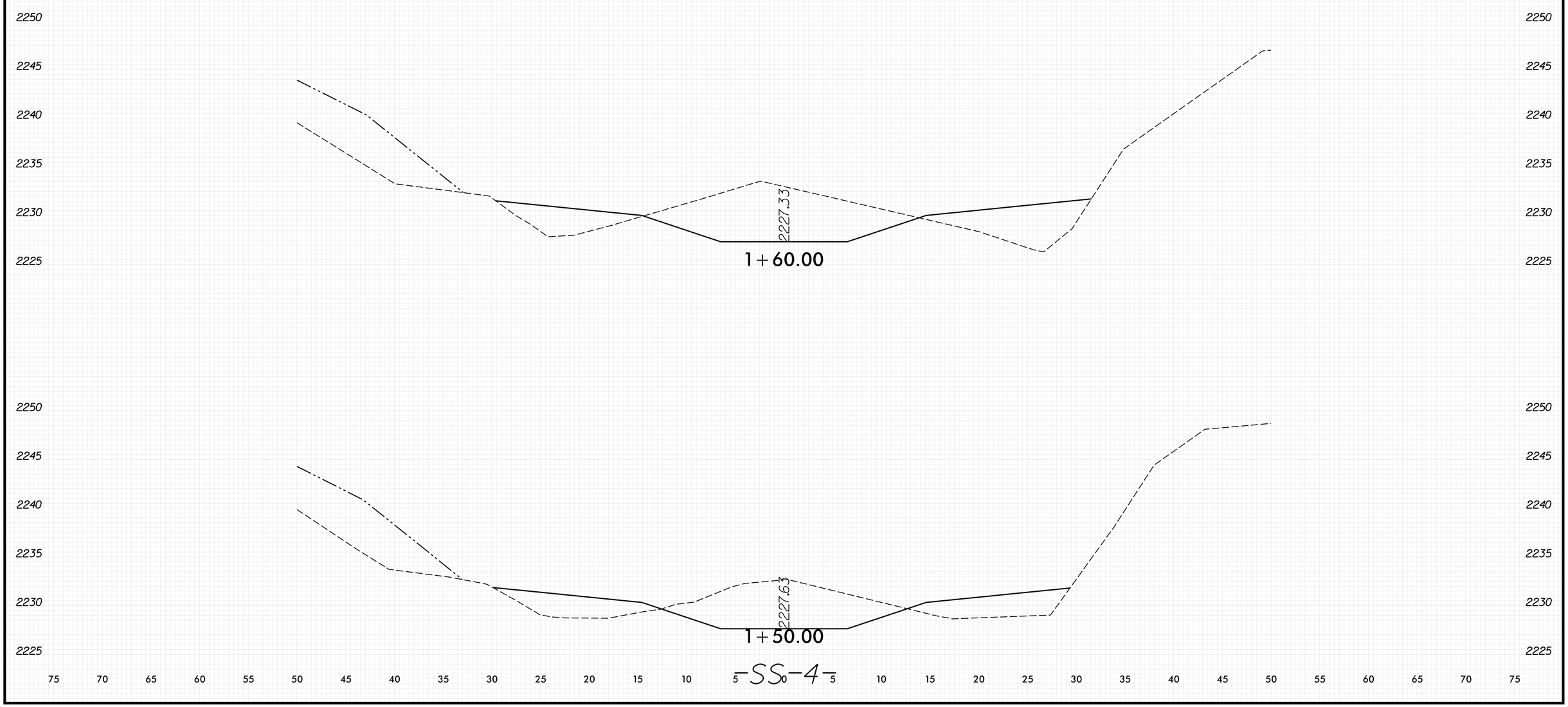
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:30 AM
8/23/99

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

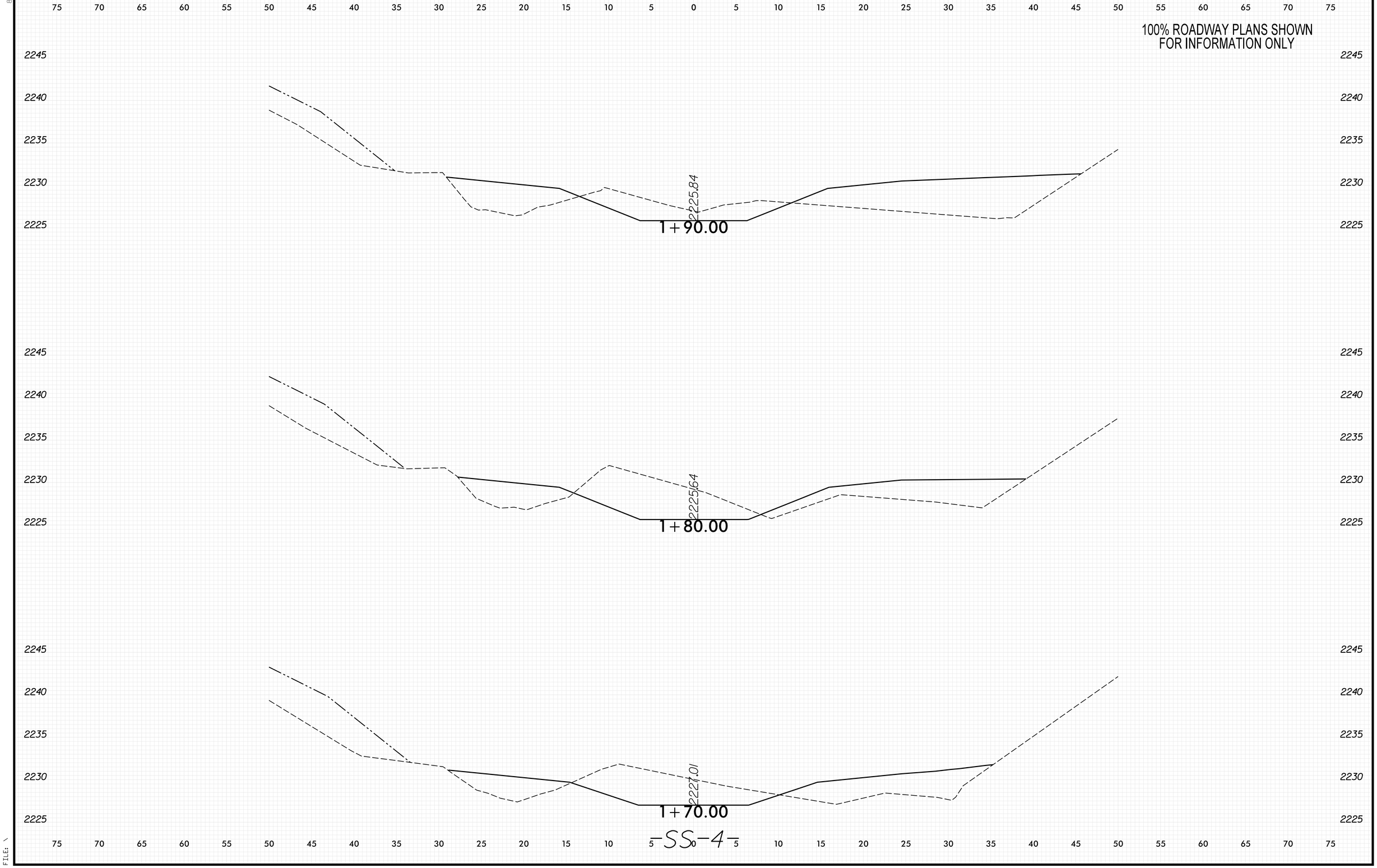


8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:31 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-93

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



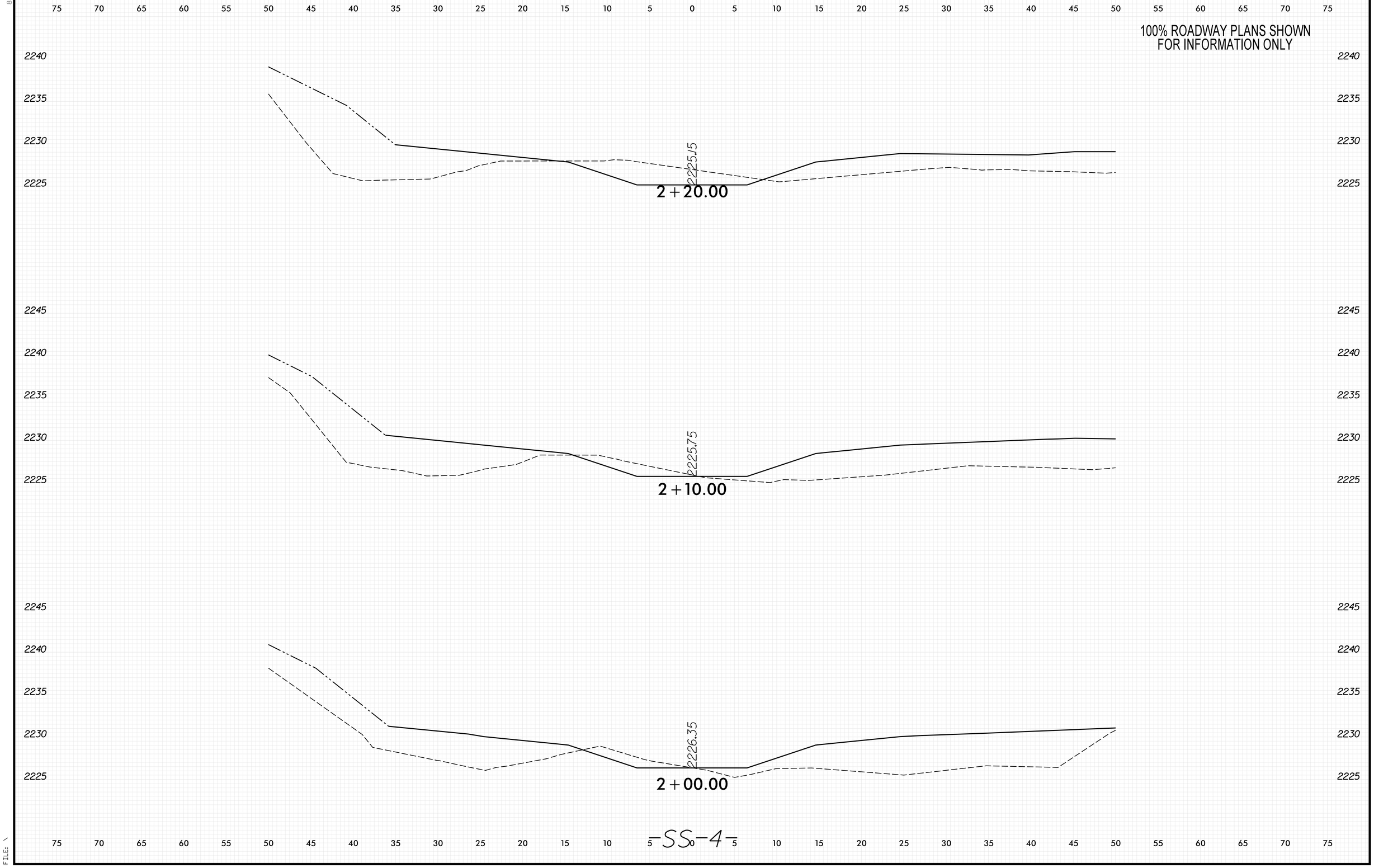
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PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-94

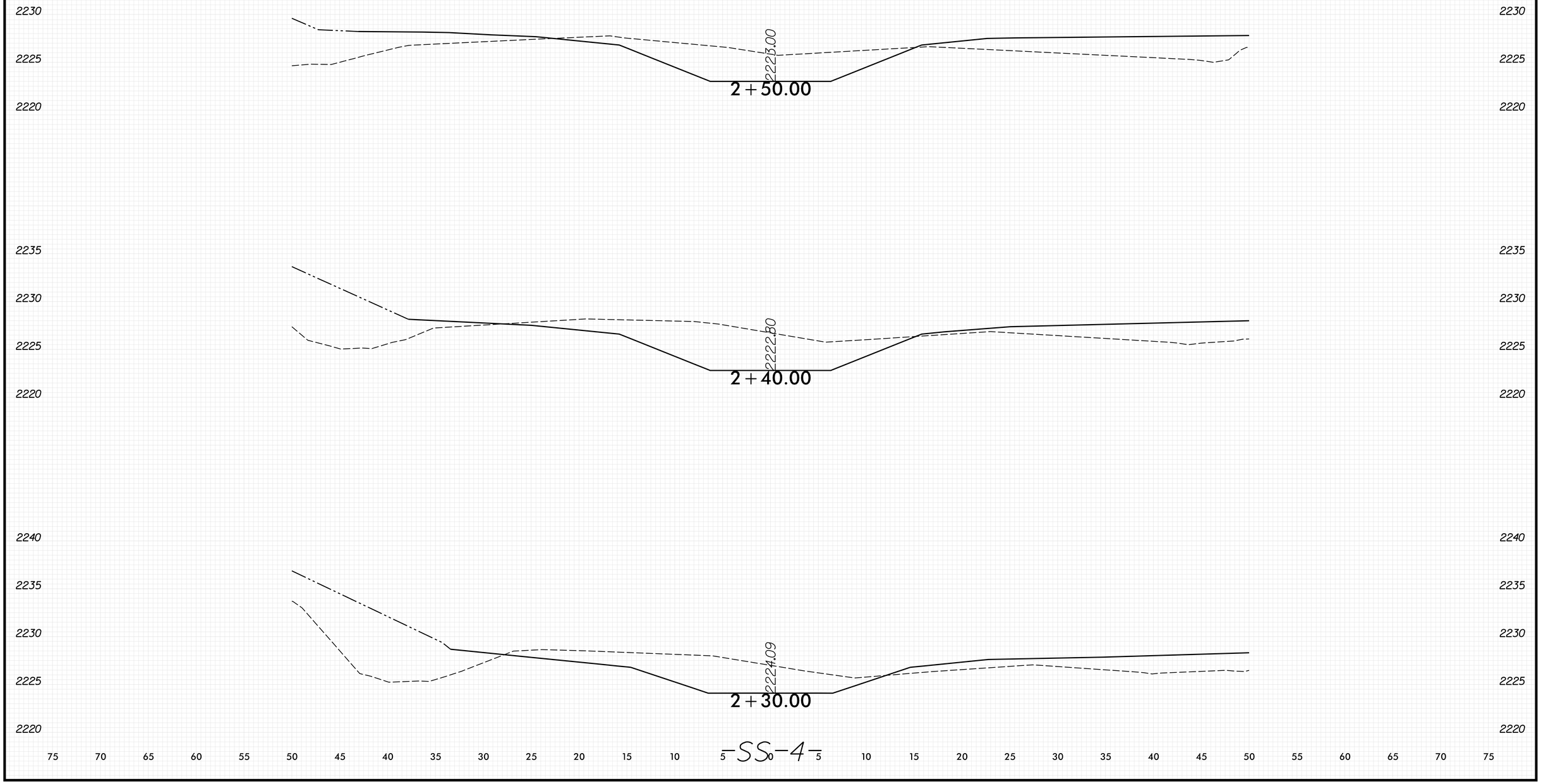
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

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DATE: 5/8/2026
TIME: 9:39:34 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



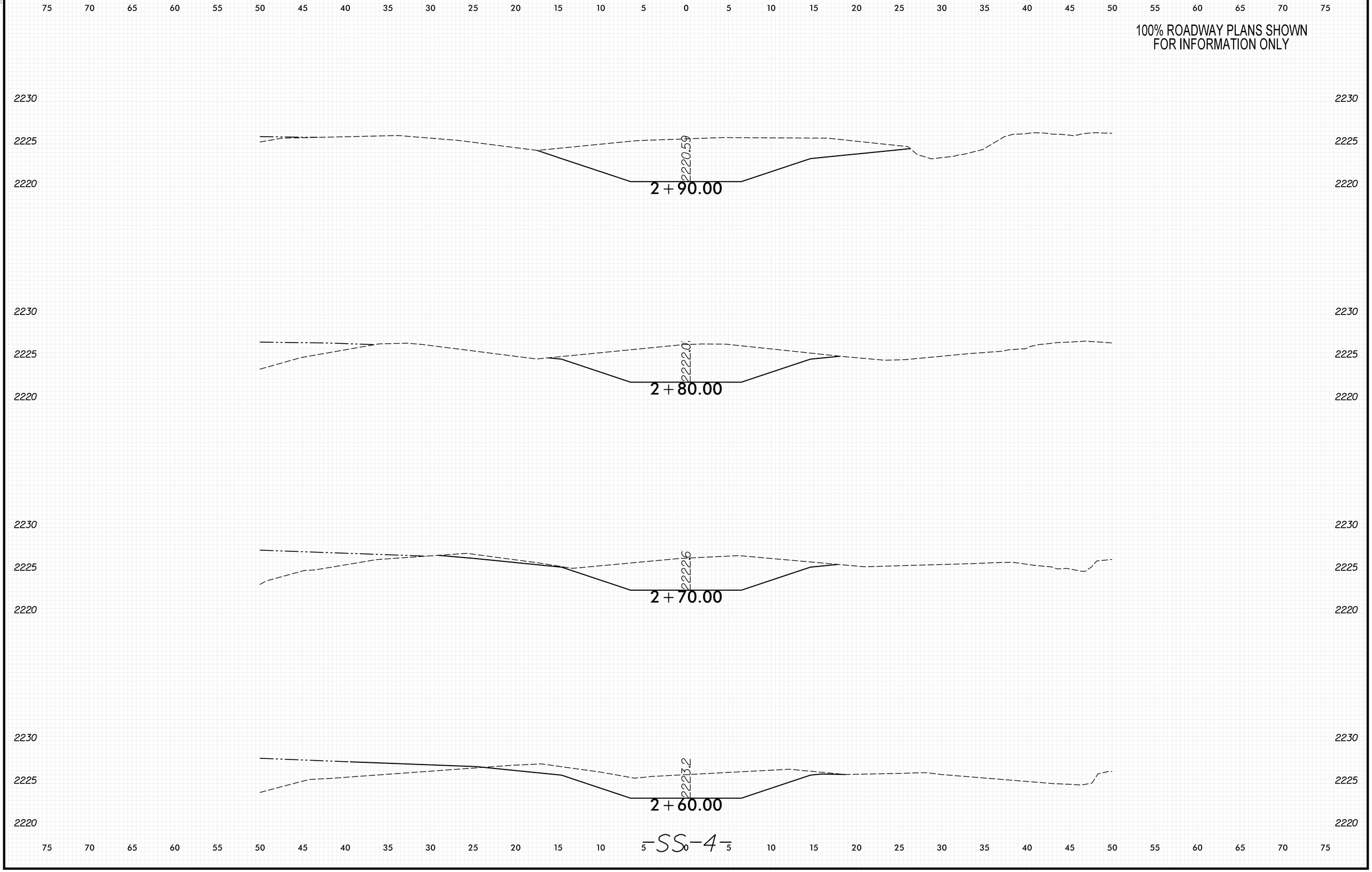
-SS-4-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:35 AM
8/23/99

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-96

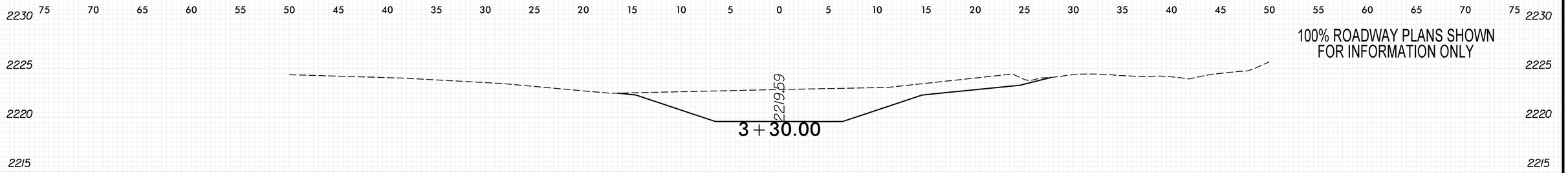
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

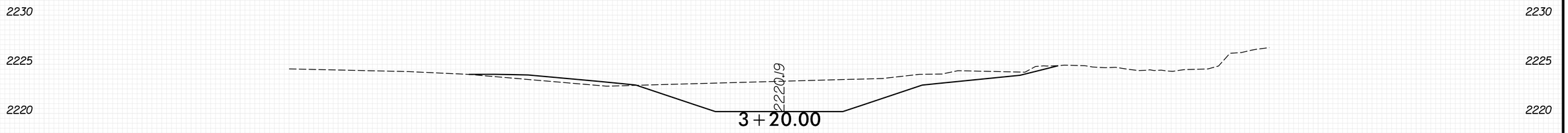


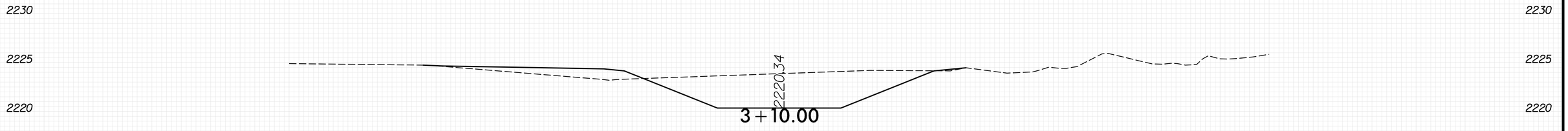
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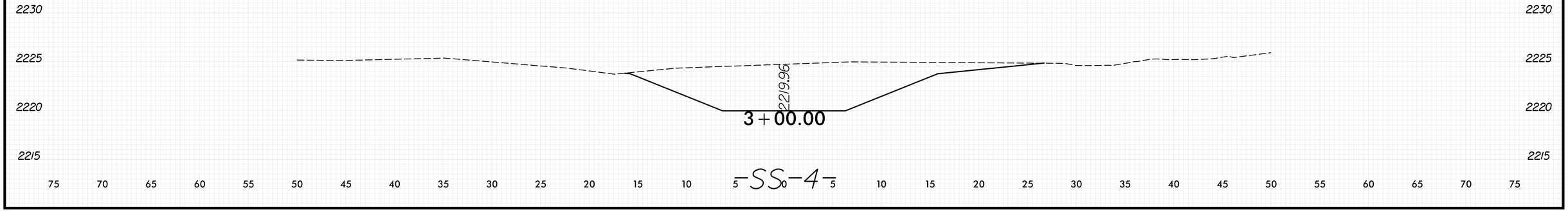
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USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:36 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY







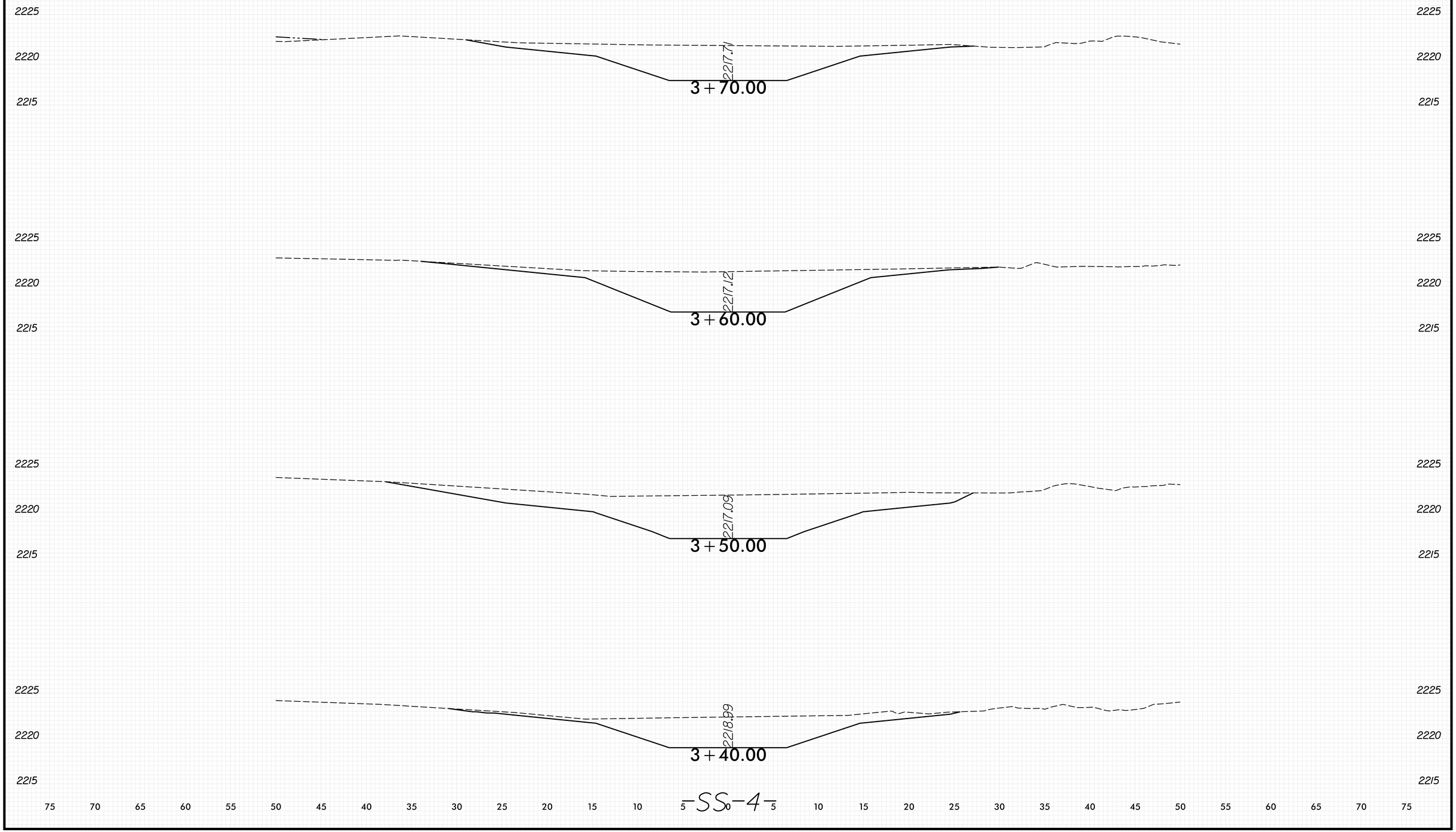


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PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: \
PENTABLE: xpl_en_v8.tbl
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8/23/99

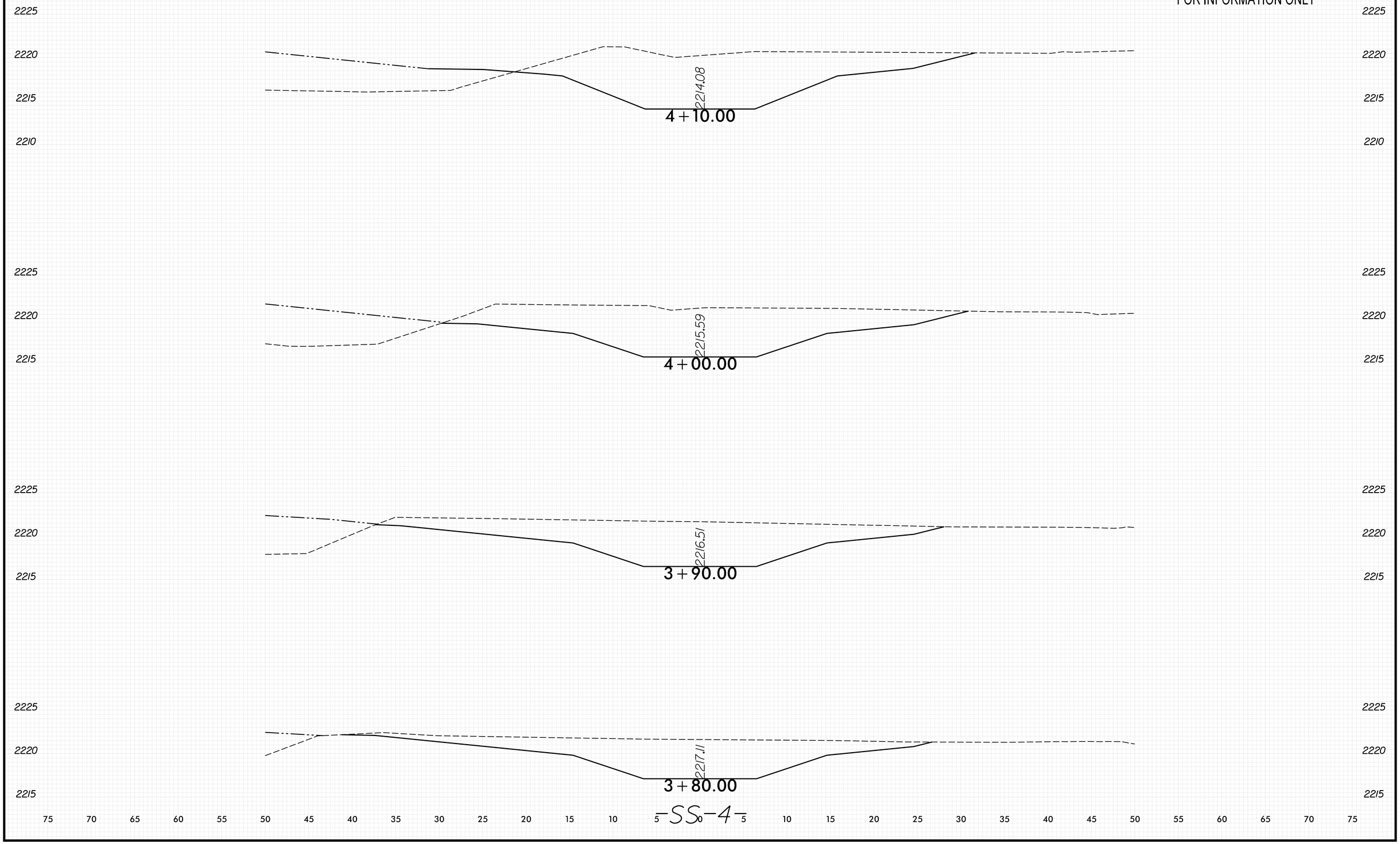
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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-4-

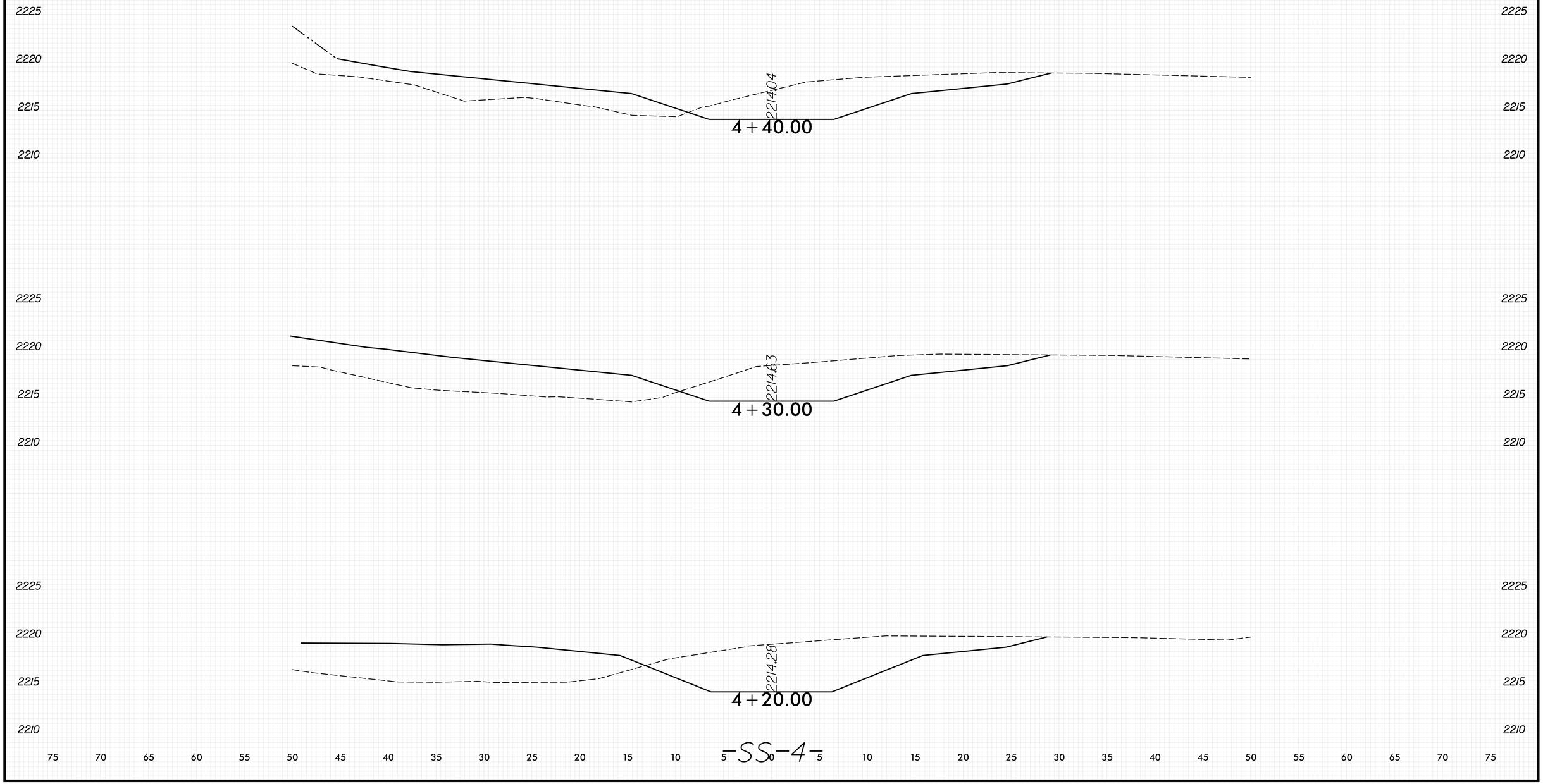
100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:39:39 AM

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100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

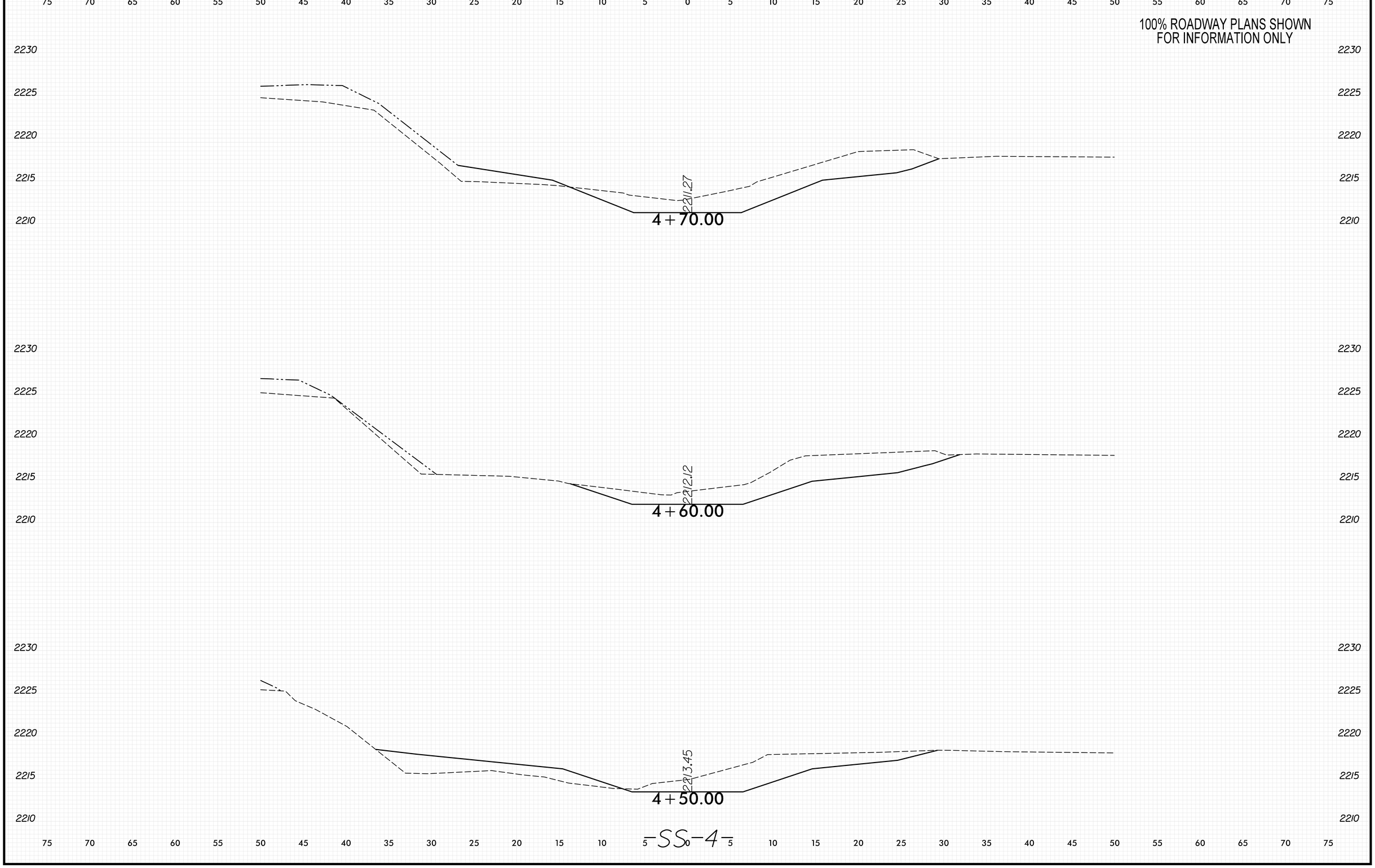


-SS-4-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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DATE: 5/8/2026
TIME: 9:39:41 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-101

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99

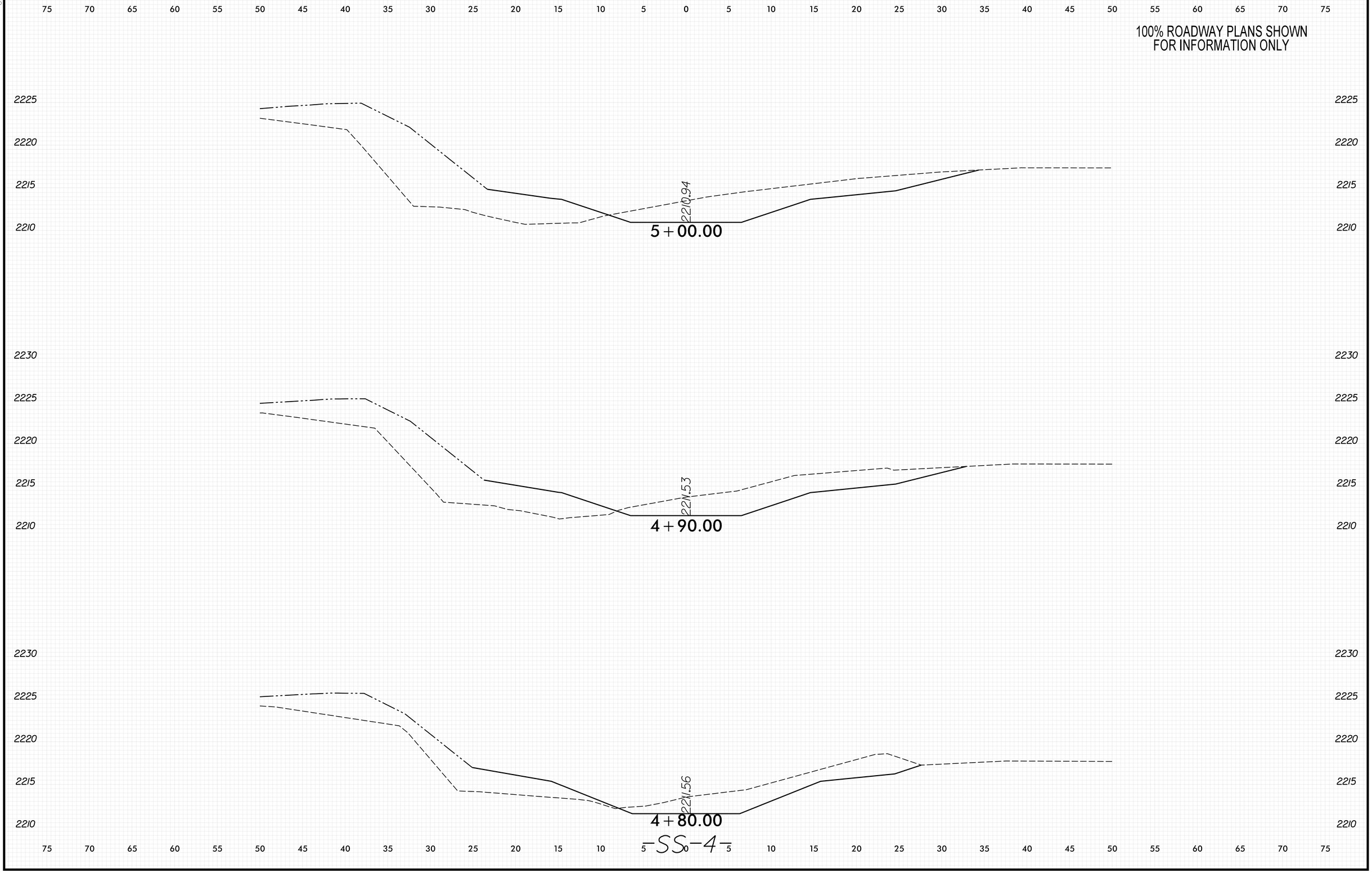
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USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:27 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-102

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-4-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

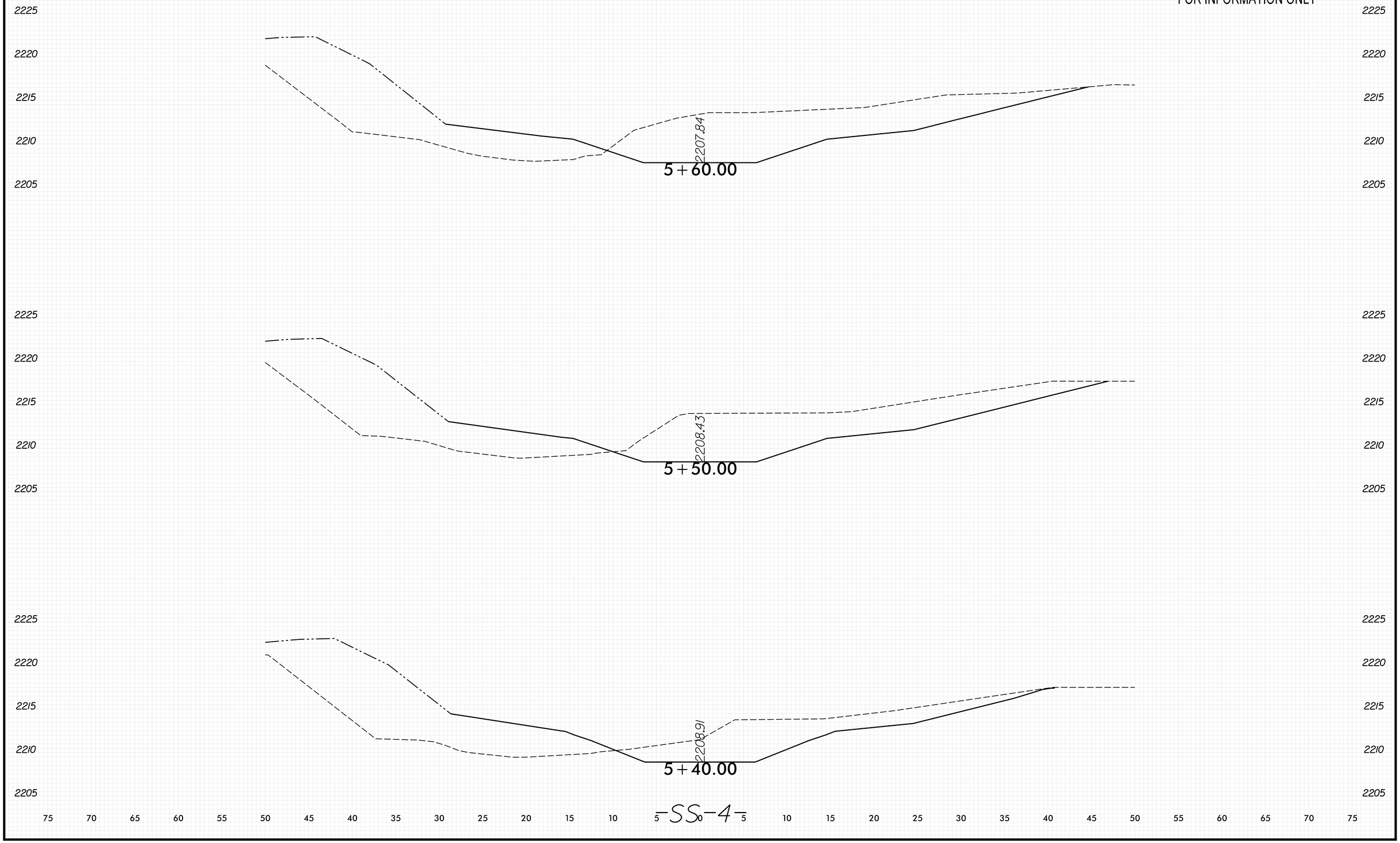
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TIME: 9:40:29 AM
DATE: 5/8/2026

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

-SS-4-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:30 AM
8/23/99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



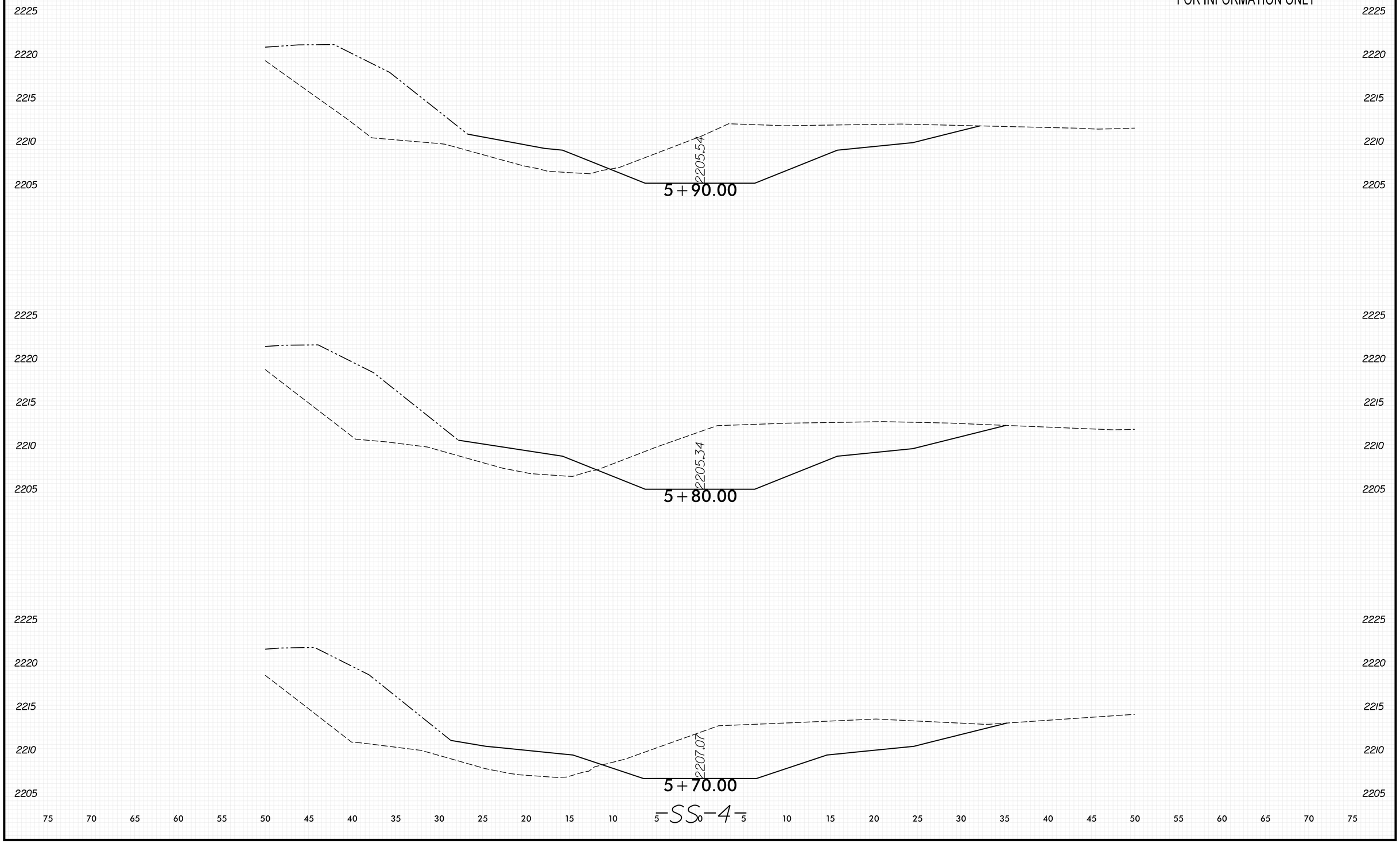
-SS-4-

8/23/99
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:31 AM

8/23/99

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-105

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



-SS-4-

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DATE: 5/8/2026
TIME: 9:40:32 AM

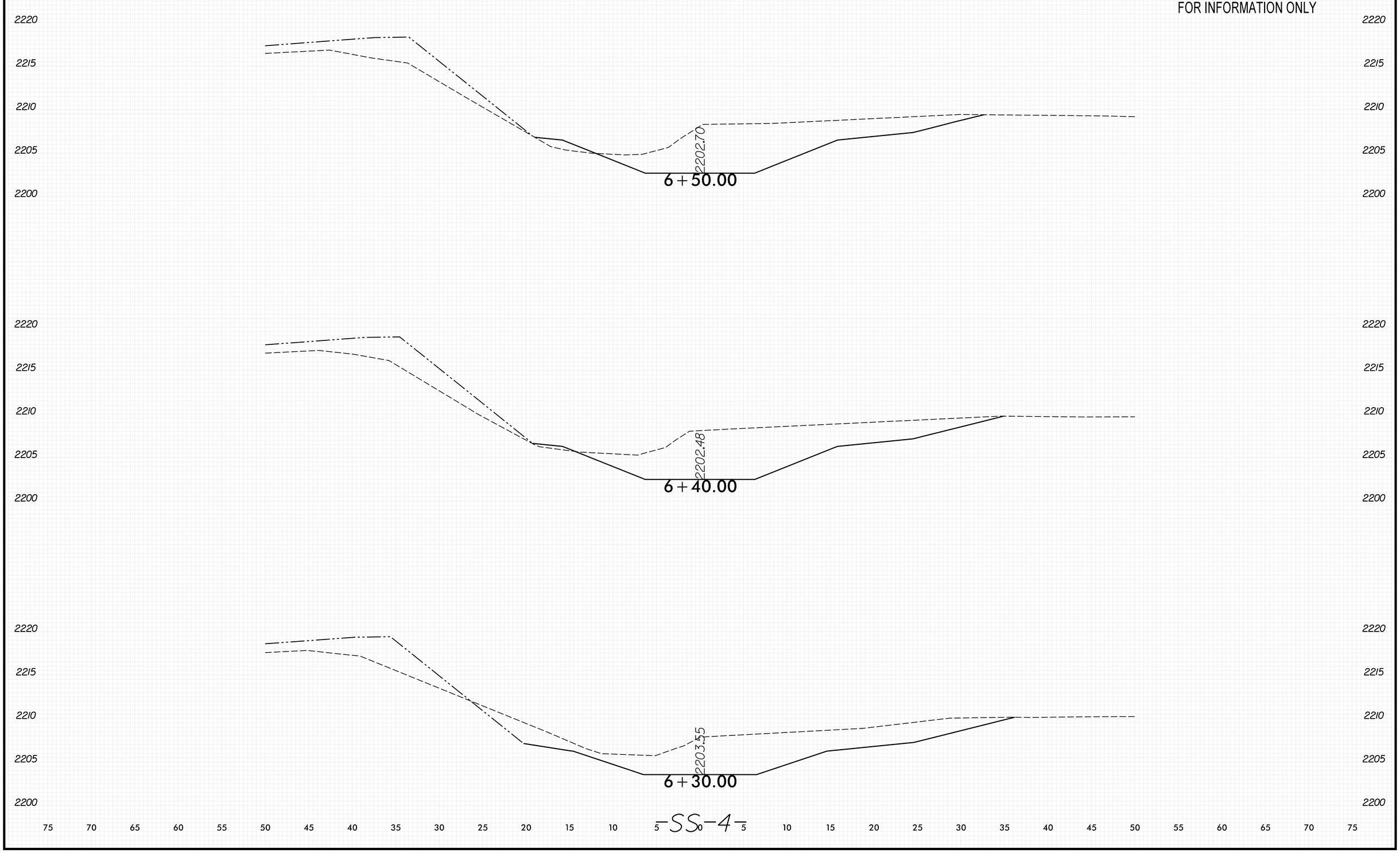
0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-106

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

-SS-4-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:34 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

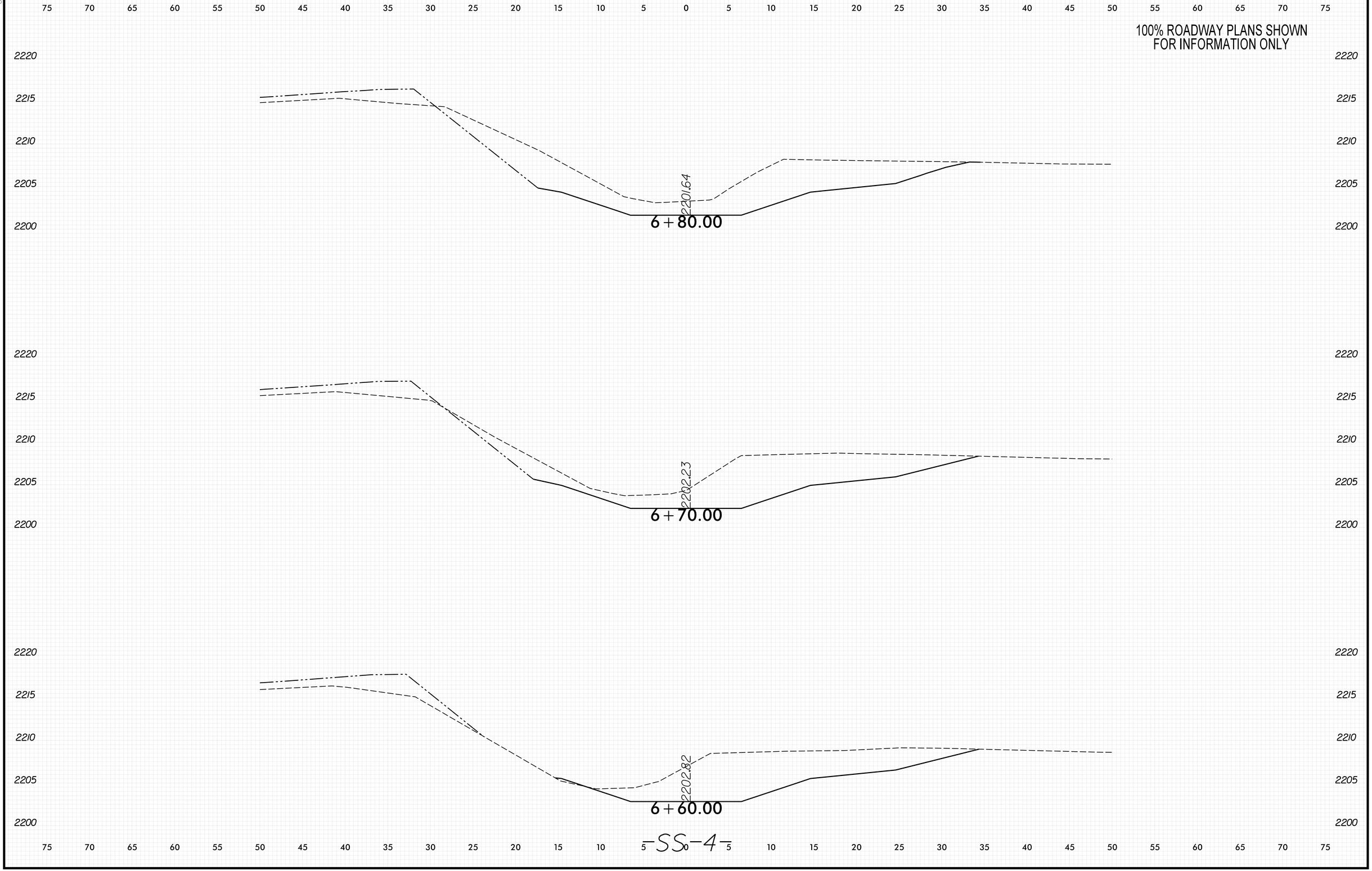


-SS-4-

8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:36 AM

0 2.5 5	PROJ. REFERENCE NO.	SHEET NO.
	18314.1045039	X-108

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



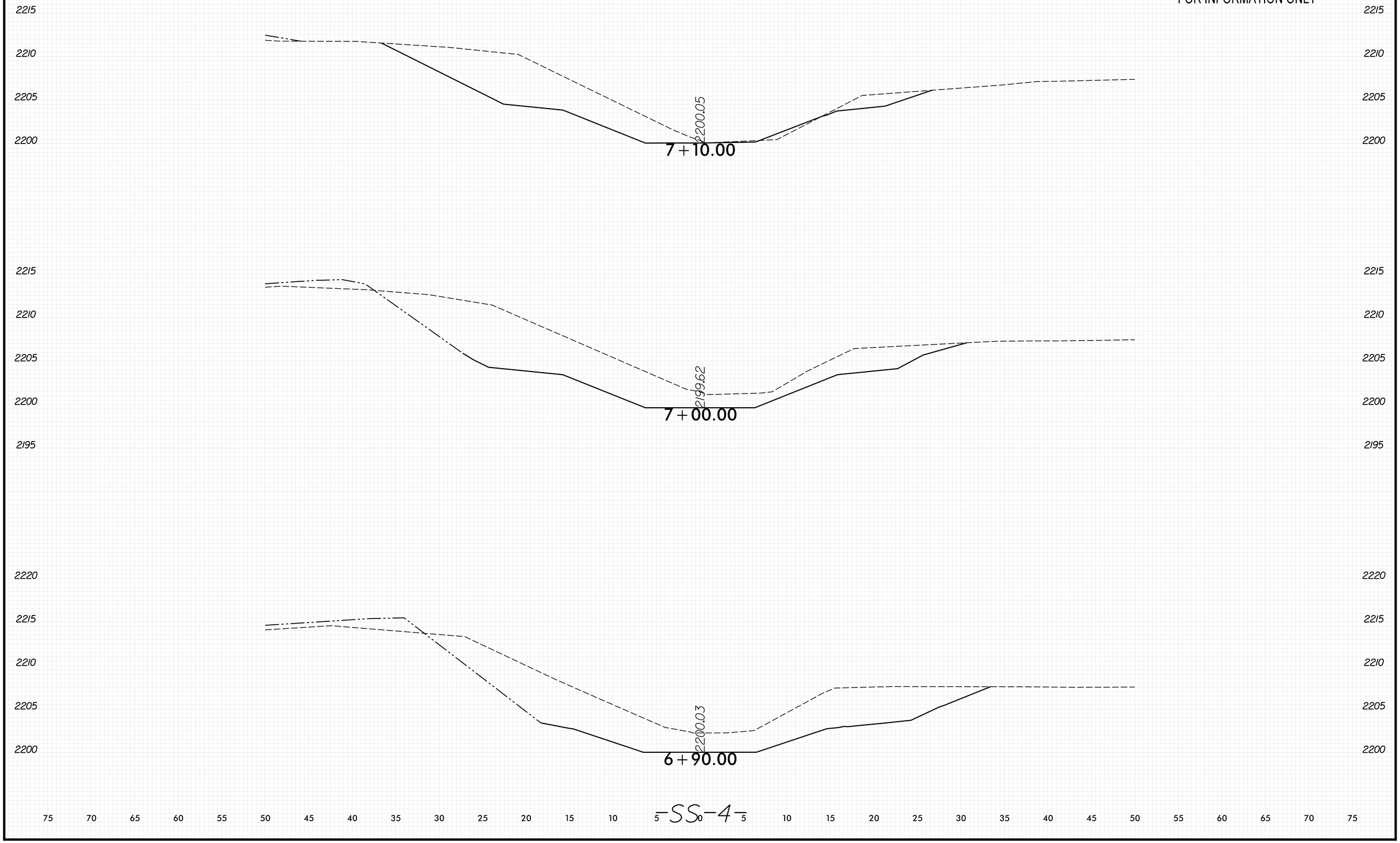
-SS-4-

8/23/99

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \

PENTABLE: xpl_en_v8.tbl
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DATE: 5/8/2026

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

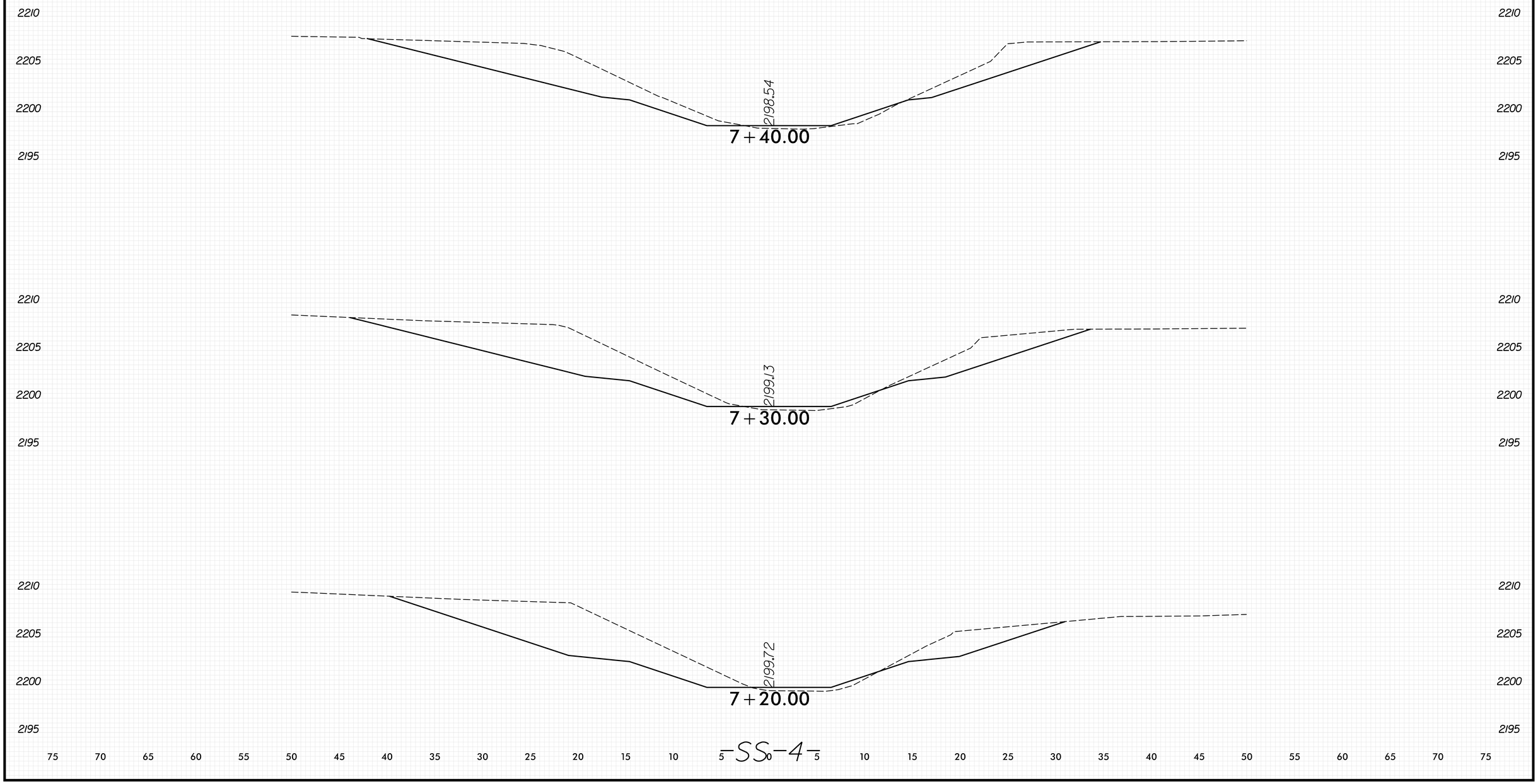


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USER: KCLATTERBU | DATE: 5/8/2026 | TIME: 9:40:39 AM
FILE: \

8/23/99

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY

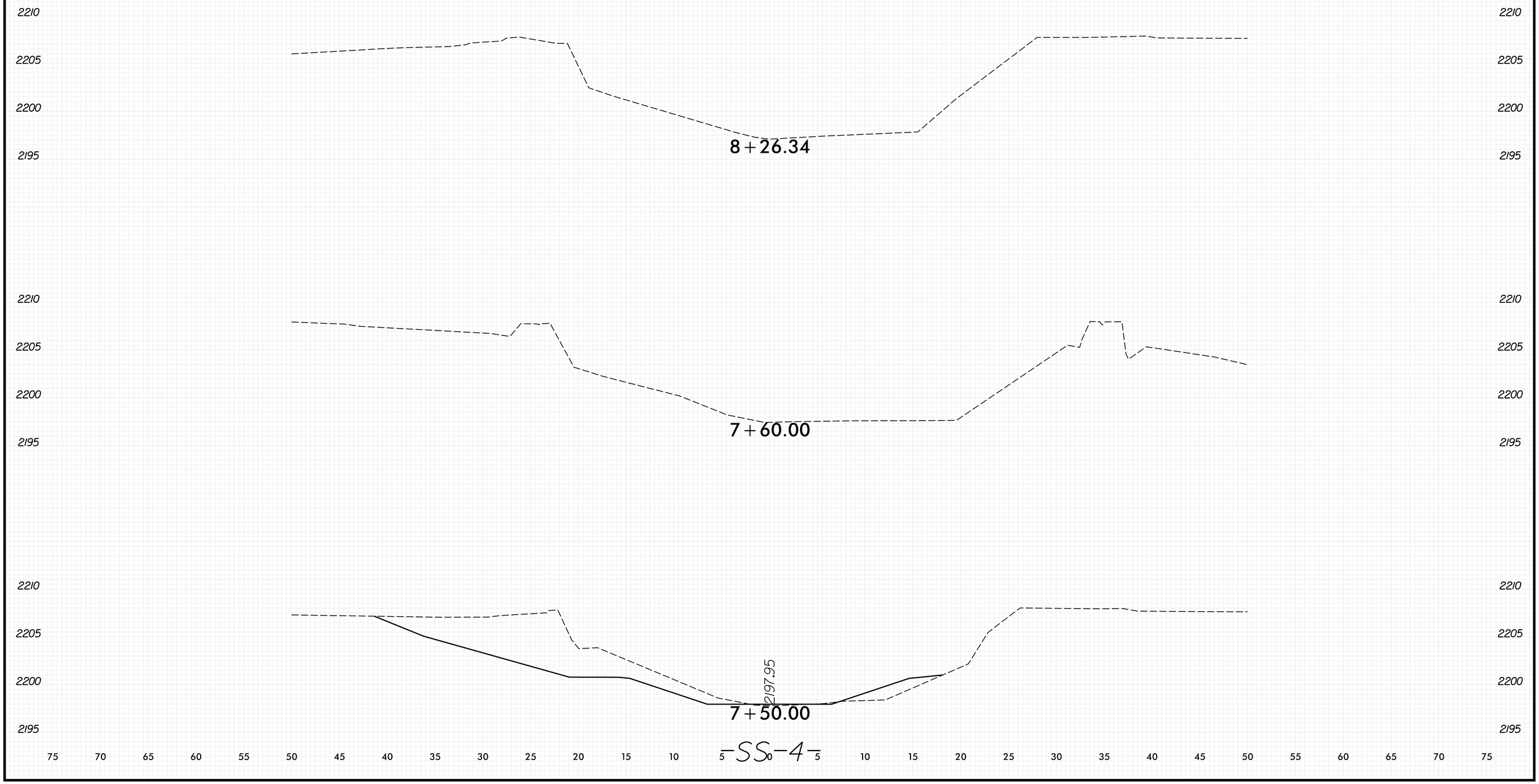


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PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:40 AM
8/23/99

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN FOR INFORMATION ONLY

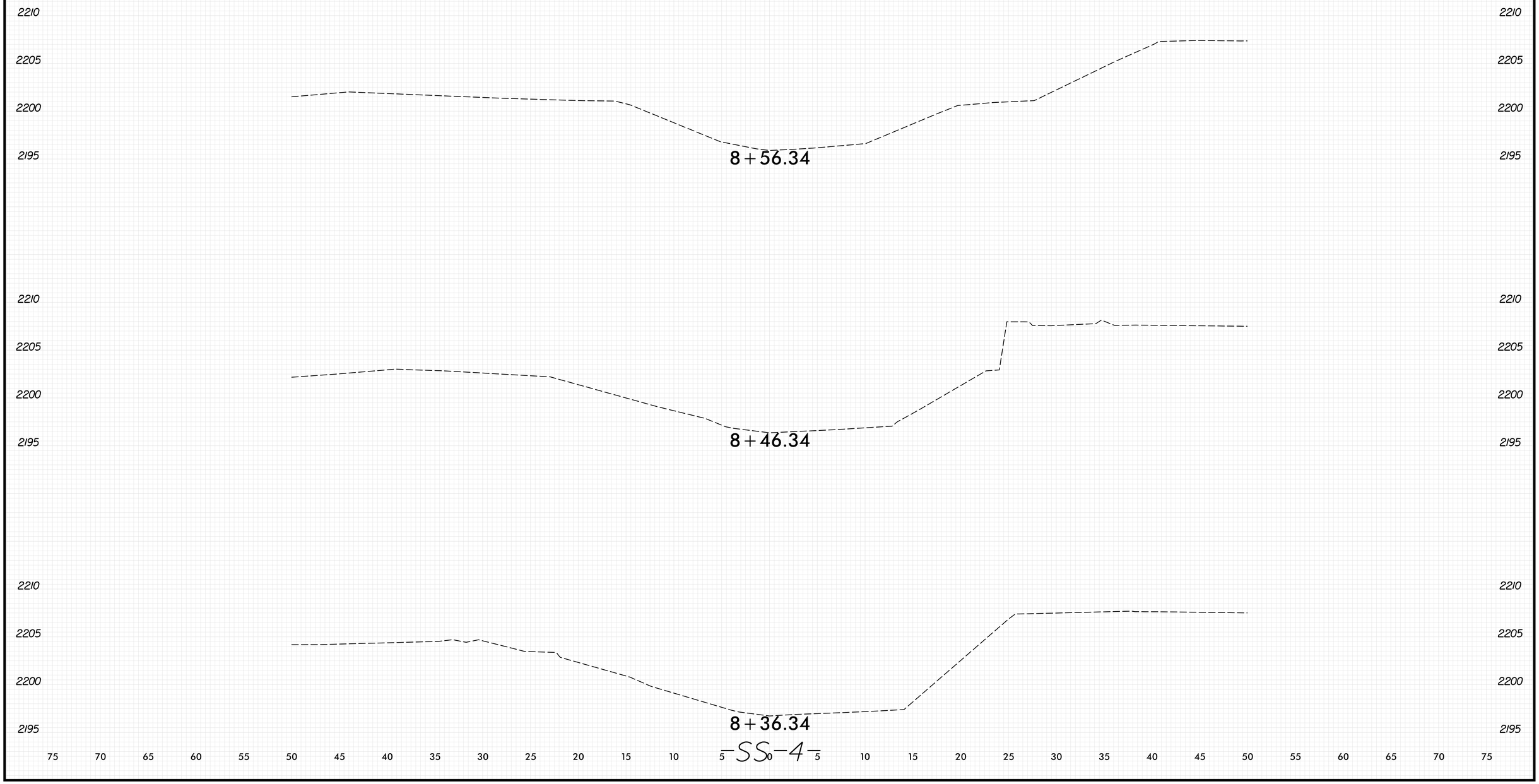


-SS-4-

PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
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FILE: \
PENTABLE: xpl_en_v8.tbl
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TIME: 9:40:41 AM
8/23/99

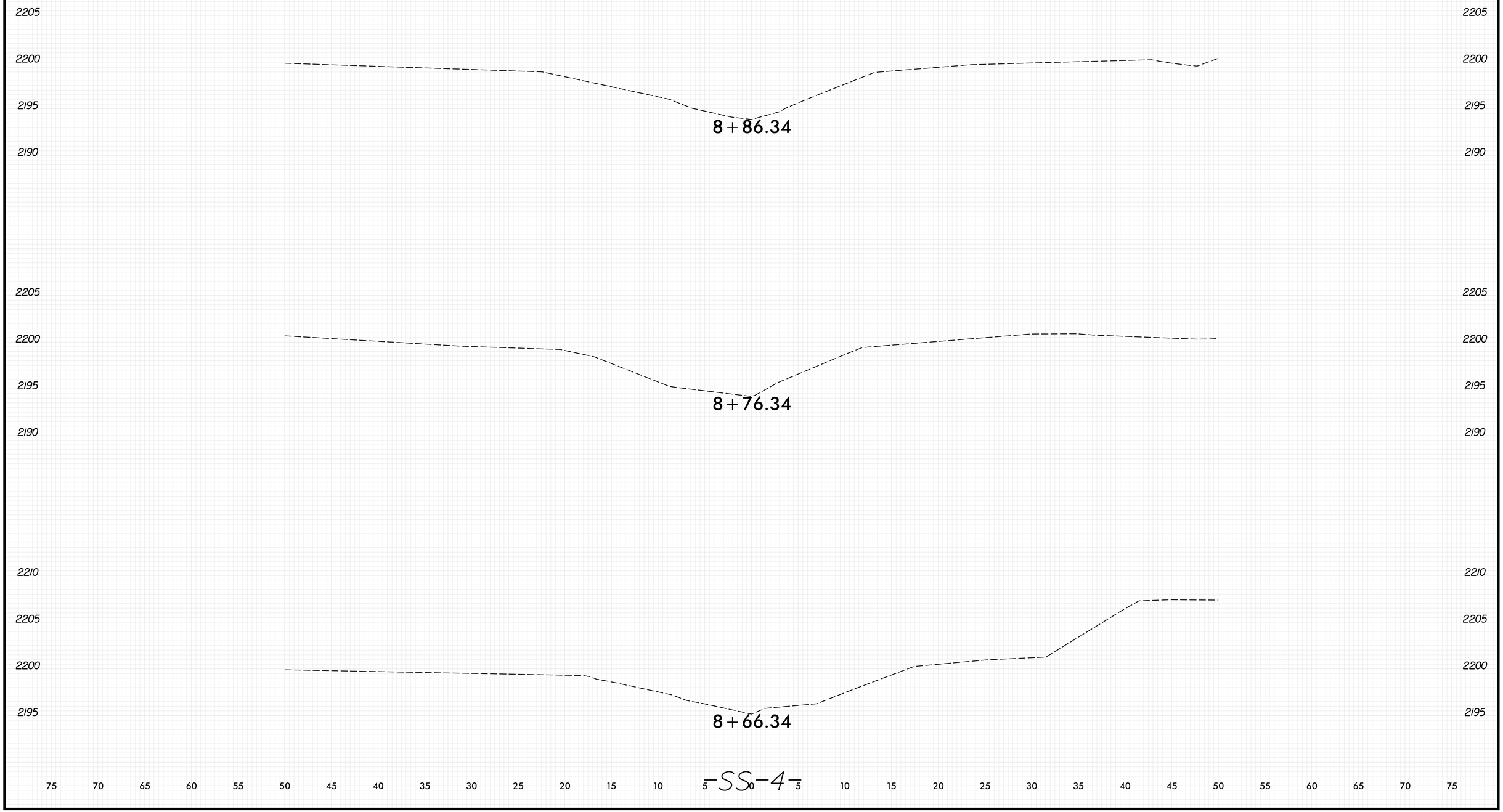
75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:43 AM

100% ROADWAY PLANS SHOWN
FOR INFORMATION ONLY



8/23/99
PLOT DRIVER: NCDOT_pdf_color_eng_50.plt
USER: KCLATTERBU
FILE: \
PENTABLE: xpl_en_v8.tbl
DATE: 5/8/2026
TIME: 9:40:44 AM