STORM WATER DRAIN NO. 21

CITY OF WICHITA, KANSAS

DEPARTMENT OF ENGINEERING

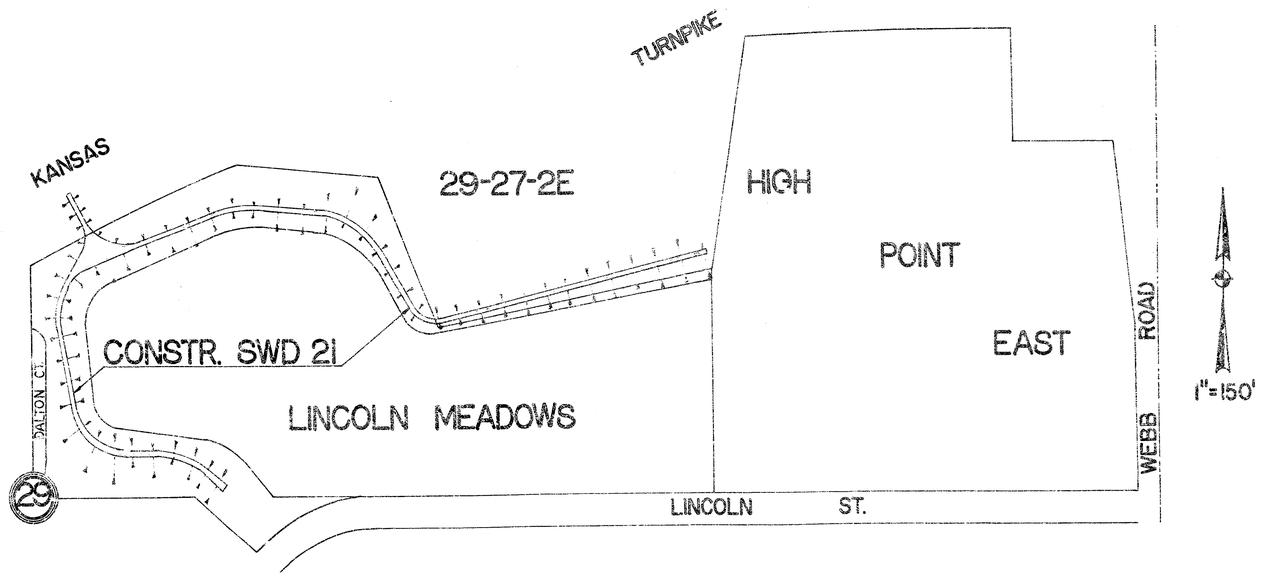
R.W. BRUGGEMAN, DIRECTOR OF ENGINEERING / CITY ENGINEER

DATE_____

PROJECT NO. 468-76-245-80172-000-000-000

GENERAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING HIGHWAY PERMIT FROM KANSAS TURNPIKE AUTHORITY FOR CONSTRUCTION WITHIN K.T.A. RIGHT-OF-WAY.
2. FIELD ENGINEER SHALL TAKE CROSS-SECTIONS BEFORE AND AFTER CONSTRUCTION. THESE SECTIONS WILL BE USED TO DETERMINE FINAL PAY QUANTITIES FOR EARTHWORK.



THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL PUBLIC LAND SURVEY CORNERS AND MONUMENTS WITHIN THE CONSTRUCTION SITE. IF IT IS NECESSARY TO DISTURB OR DESTROY ANY CORNER OR MONUMENT IN THE COURSE OF CONSTRUCTION, IT SHALL BE REFERENCED AND RESTORED BY A REGISTERED LAND SURVEYOR OR OTHER QUALIFIED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.

SWD 21 SHEET 1/13 OF 13

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BM 135.90 'd' SE Cor. of south headwall of 2-5'x4' RCB under K.T.A.

SCALE: 1"=20'

NOTE: Rip-Rap of this project to be one of the following:
1. Poured non-reinforced conc. slab 6" thick with dummy groove joints @ 8' max. centers and with toe-wall @ all edges to be 6" wide, 2' deep trench filled with concrete.
2. Specified Type 3 Rip-Rap without sand base and with toe-wall @ all edges to be 12" wide, 2' deep trench filled with Type 3 specified rock.
3. Fabric-Concrete as manufactured by FABRIFORM, Construction Technique, 11900 Shaker Blvd. Cleveland, OH 44120, or an approved equal. Use manufacturer's printed specifications with 2' deep toe-wall at all edges, and field saw joints

Note: Additional Rip-Rap (due to existing erosion) shall be placed at locations as directed by field engineer.

LINCOLN MEADOWS
LOCATION: Sec. 29-27-2E between Turnpike, Lincoln, Dalton & Webb Rd.

KANSAS TURNPIKE

Sta. 10+00 Line B

PC 10+74.85 Line B

Line B
Line A

PT 18+82.21 Line A

Existing 2-3'x4' RCB to remain

Sta. 19+57.04 Line A

DLK 441 & 442

Curve Data:
PI Sta. 18+57.71
Δ = 58°25'25"
R = 53.21'
T = 29.75
L = 54.25

Install Rip-Rap
Sta. 16+66.02 to Sta 19+51.1

PT Sta. 17+52.87 Line A

PC Sta. 10+00 Line AB

PC 18+27.96

LINE A

PC. 16+66.02

Drainage Dedication

Curve Data
PI Sta 17+13.70
Δ = 60°00'00"
R = 131.00'
L = 91.44'
T = 47.68'

Channel Section: 10' bottom with 4:1 sides

N 5°08'35" E
Line A

15' Maintenance & Access Easement

S 5°09'E
181.45'

Drainage Dedication

Earthwork Limit

Iron
482.94 N
286.84 E

Iron
584.87 N
348.39 E

Curve Data:
Δ = 73°81'
R = 100.00'
L = 128.31'

30" RCP
See Sheet 3

Line B
See Sheet 3

5'x2' RCB
See Sheet 3

634.42 N
352.71 E

681.13 N
352.33 E

612.48 N
290.58 E

539.74 N
247.81 E

432.17 N
198.17 E

135.52'

Curve Data:
Δ = 74°50'
R = 75.00'
L = 100.14'
T = 59.15'
LC = 92.86'

Iron
234.75 N
345.95 E

Iron
302.22 N
302.16 E

PC 13+10.73

Install Rip-Rap
Sta. 13+10.73 to Sta. 14+52.00

PT 14+52.00

216.14 N
279.77 E

Curve Data
PI Sta 13+94.29
Δ = 76°30'00"
R = 106.00'
L = 141.53'
T = 85.56'

Earthwork Limit

Drainage Dedication

S 0°11'51"E

S 0°11'51"E
532.17'

DALTON CL.

32'

NOTE: Locate PI's of Line A, Line AB & Line B from coordinates as shown on drainage dedication boundary line.

NOTE: Prior design for top-of-bank is not used in this project. The top-of-bank elevations shown on cross-sections are for information only.

LINE A

155																					155
150																					150
145																					145
140																					140
	19+57.04 Headwall Apron (Existing) @ 140.41		18+82.21		18+27.96		17+57.87		16+66.02		14+92.60		14+00 March Line								
	140.54		140.78		140.88		140.00		143.39		145.76		145.86								
	0.537%				0.176%				0.734%												
			Ground Line								Ground Line										
							0.00% Top of East Bank (prior design)				0.235% Top of East Bank (prior design)										
							151.50		151.50				152.18								
											0.20%										

20		19		18		17		16		15		14									

SWD # 21

DEPARTMENT OF ENGINEERING
CITY OF WICHITA, KANSAS

R.W. BRUGGEMAN, DIRECTOR OF ENGINEERING/CITY ENGINEER

DATE: _____

PROJECT NO. 468-76-245-80172-000-000-0061

LINE A
Sheet 2/19 13
SWD # 21

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BM 151.69 "a" E-end Hdwl. over 2-36" RCP near SW cor. Lincoln Meadows Apts.

P.T. Sta. 14+52.60

Iron
302.22 N
302.14 E

Curve Data:
Δ = 76°30'
R = 75.00'
L = 100.14'
T = 59.13'

LINCOLN MEADOWS

Iron:
234.75 N
345.95 E

15' Maintenance & Access Easement

S 81° 39' E 211.64

Drainage Dedication

Nail
204.02 N
575.34 E

Curve Data:
Δ = 43°09'
R = 150.00'
L = 112.70'
T = 59.16'

Earthwork Limit

P.C. 13+10.73

216.14 N
218.77 E

S 81°39'00" E

LINE A

Install Rip-Rap
Sta. 10+77.84 to Sta. 11+46.67

175.03 N
558.82 E

P.T. 11+46.67

Curve Data:
P.I. Sta. 13+24.09
Δ = 76°30'00"
R = 106.00'
L = 141.53'
T = 85.56'

Nail
149.19 N
670.75 E

P.C. 10+77.84

S 58° 30' 28" E

Install 4'x 33" Rip-Rap
Sta 10+18± to Sta. 10+28±

Sta 10+18±

Existing Double 36" RCP with headwall

Iron: 100' N
7.10' E

N 90° 00' 00" E
Drainage Dedication

Earthwork Limit

Curve Data:
P.I. 11+13.25
Δ = 59°08'32"
R = 119.00'
L = 68.83'
T = 35.41'

100.00 N
577.30 E

Sta. 10+00
100.00 N
643.65 E

Install Rip-Rap
(Sta. 13+10.73 to Sta. 14+52.60)

Drainage Dedication
N 90° 00' 00" E

NOTE: Increase slope so earthwork will be within Drainage Dedication.

100 N
200 E

DALTON Ct.

32'

24'

Drainage Dedication

CHANNEL SECTION Sta. 13+20 to 14+00

1% ± to Existing Surface
4:1
8'
10' Level
4:1 to Existing Surface

Varies from 17' to 10' from Sta. 10+18 to Sta. 10+77.84

CHANNEL SECTION Sta. 10+18± to 13+20

4:1 to Existing Surface
10' Level
4:1 to Existing Surface

SCALE: 1" = 20'

LINE A

Sta. 14+00 Match Line
132.18

Prior design, Top of North Bank @ 0.255%

Sta. 10+77.84
155.50

10+18± Approx.
149.19

0.20%
Rip-Rap
0.20%
Existing Surface @ Centerline
Rip-Rap
0.20%
0.20%
Rip-Rap

145.86
146.34
146.06
146.26
146.37
146.46
146.50
146.68

Sta. 13+10.73
Sta. 11+46.67
Sta. 10+77.84
10+22

155
150
145

14 13 12 11 10

LINE A

SWD #21 Sheet 3/19 13

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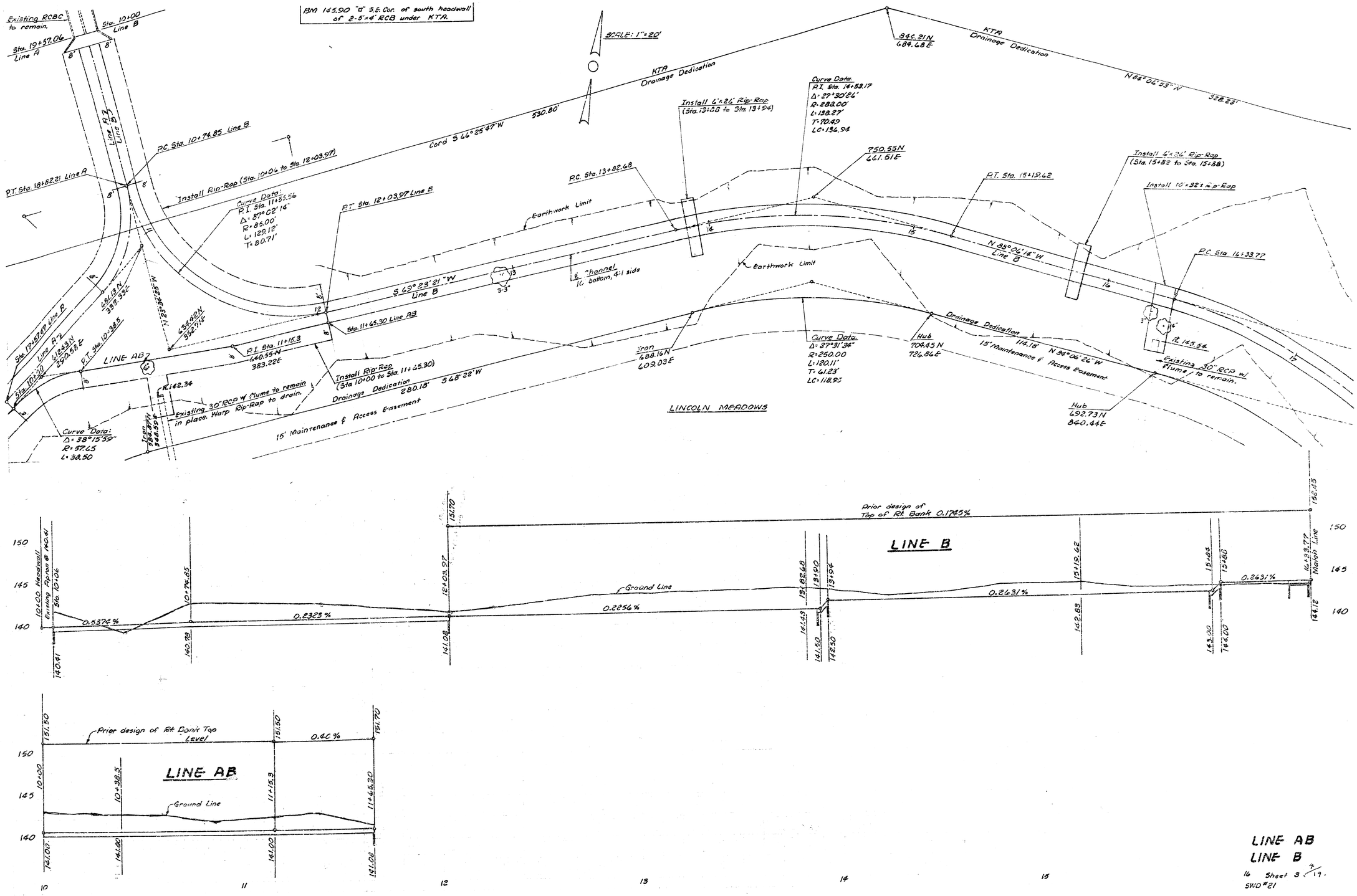

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BN: See Sheets 3 & 5

Scale: 1"=20'

810.90 N
1011.78 E

KTA
N 84°04'53" W

Drainage Dedication

N 21°05'54" W

KTA
Drainage Dedication

Curve Data
P.I. Sta. 17+54.20
Δ: 53°51'47"
R: 241.00'
L: 226.56'
T: 122.43

Install 6'x26' Rip-Rap
(Sta. 17+76 to Sta. 17+82)

713.48 N
946.37 E

Earthwork Limit

Earthwork Limit

PT Sta 18+60.33

Earthwork Limit
℄ Channel, 10' bottom, 3:1 sides

N 29°14'27" W

Curve Data:
PI Sta 19+29.49
Δ: 70°57'47"
R: 44.00'
L: 54.49'
T: 31.34'
LC: 51.08'

Install Rip-Rap
Sta. 19+68.63 to 20+23.13

℄ Fence to remain
℄ Earthwork Limit

PT Sta 20+23.13

℄ Line B

475.53 N
1141.17 E

S 79°47'44" W

KTA
Drainage Dedication

S 79°28'08" W

Drainage Dedication
15' Maintenance & Access Easement

S 80°30' W

LINCOLN MEADOWS

℄ Earthwork Limit

PC 16+33.77

Hub
692.73 N
860.44 E

Curve Data:
Δ: 54°52'
R: 210.00'
L: 201.10
T: 109.01
L.C. 193.50

Hub
584.92 N
1002.12 E

Drainage Dedication
N 29°14'26" W
15' Maintenance & Access Easement

LINCOLN MEADOWS

Hub 497.44 N
1051.93 E

PC Sta 19+68.63

484.98 N
1094.40 E

Hub 460.11 N
1129.75 E

Curve Data:
Δ: 70°15'36"
R: 75.00'
L: 91.97
T: 52.77
LC: 86.31

LINE B

16+33.77 Match Line
152.65

0.1739%

Prior design of Rt. Bank Top

19+50
153.00

0.644%

21+00 Match Line
153.97

155
150
145
140

Rip-Rap

0.26 %

0.2671 %

Existing Surface @ ℄ Channel

0.917 %

0.2876 %

16+33.77
144.12

144.50
17+78
17+88
145.50

19+68.63
146.00

20+23.13
146.50

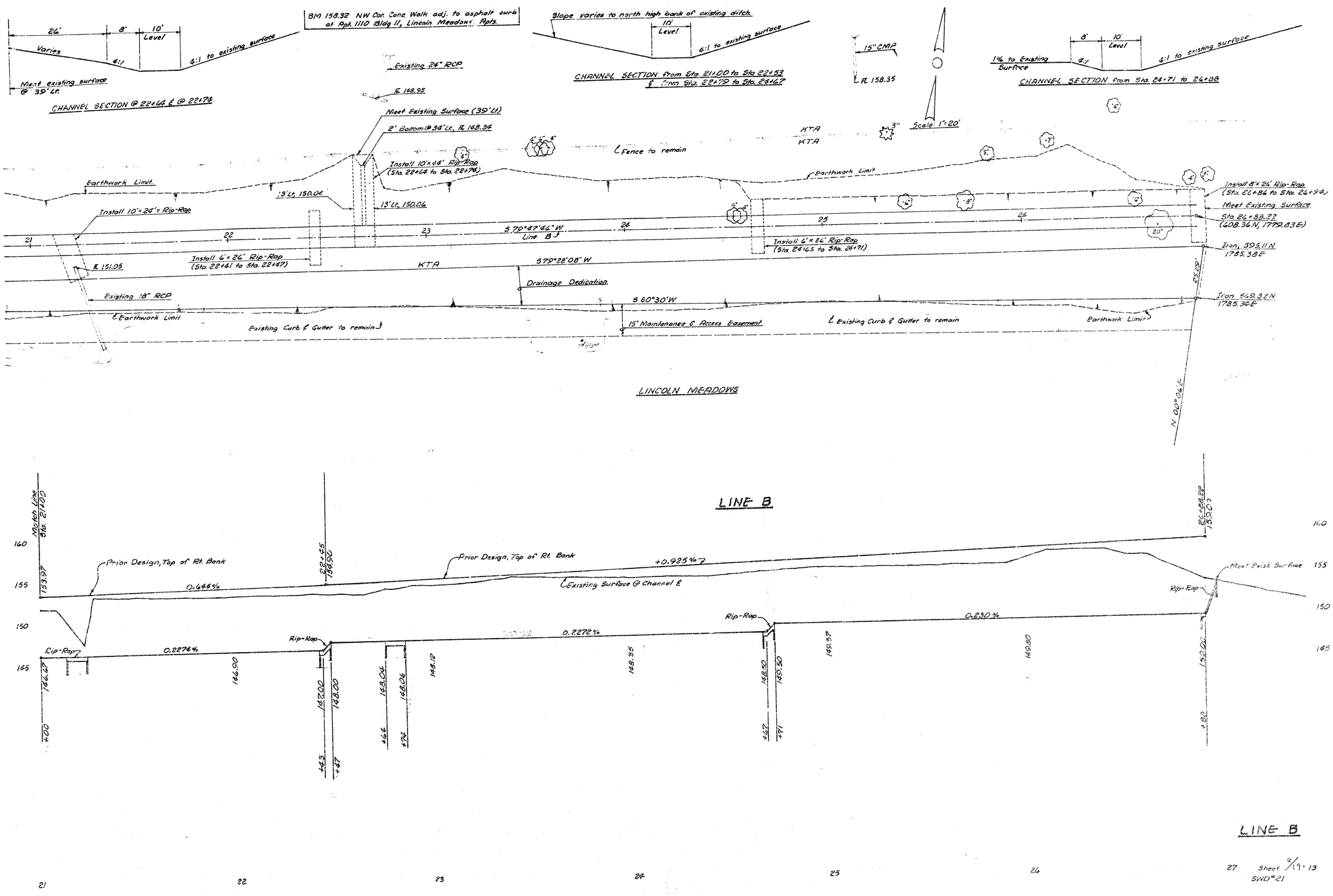
21+00
146.67

16 17 18 19 20 21

LINE B

SWO "21

Sheet 4 5/19



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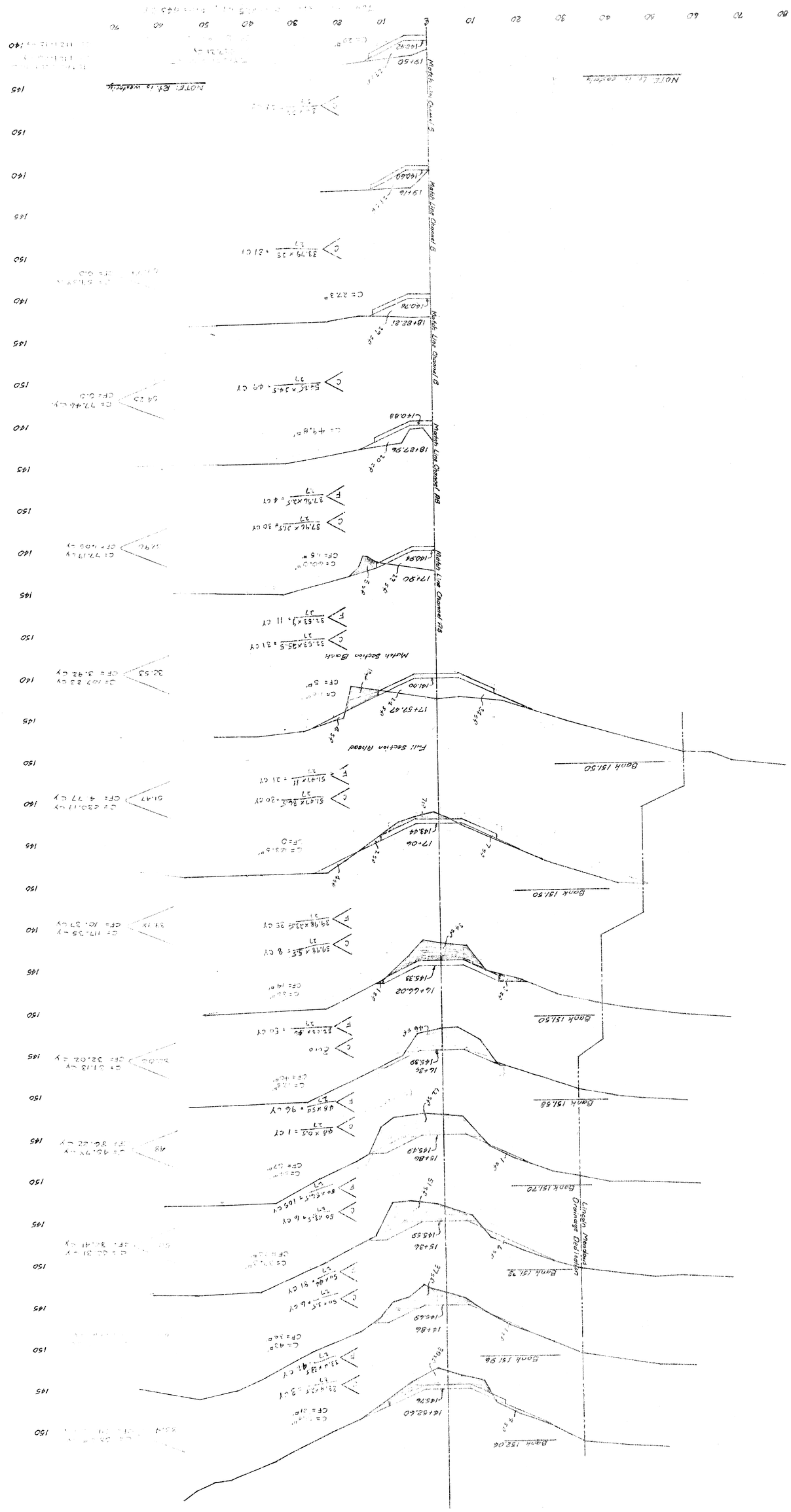


TOTAL ALL SHEETS (CUT 7921 CY)(FILL 1287 CY)

Line A Sta 19+50 to S2 14+52.60
SWD #21 Sheet 19 13

Line A Sta 14+31 to Sta 11+12
SWD #21
Sheet 9 of 19

Lincoln Meadows
Drainage Dedication

Sta 14+31.00 C+F EL 152.52

NOTE: Lt is perpendicular

Bank 152.10
14+31
145.90
3.5:1
C: 31.4 × 4.5 / 3 = 3 CY
F: 2.4 × 2.5 / 3 = 2 CY

Bank 152.19
13+95
145.87
3.5:1
C: 36 × 15.5 / 3 = 31 CY
F: 26 × 3.5 / 3 = 31 CY

Bank 152.24
13+60
145.04
3.5:1
C: 35 × 43.5 / 3 = 55 CY
F: 75 × 5.5 / 3 = 41 CY

Bank 152.87
13+25
144.01
3.5:1
C: 36 × 66.5 / 3 = 84 CY
F: 35 × 2.5 / 3 = 38 CY

Bank 152.81
13+03
144.04
3.5:1
C: 14.27 × 6.5 / 3 = 31 CY
F: 14.27 × 2.5 / 3 = 13 CY

Bank 152.65
12+93
146.07
3.5:1
C: 15.79 × 12.5 / 3 = 14 CY
F: 15.75 × 2.5 / 3 = 14 CY

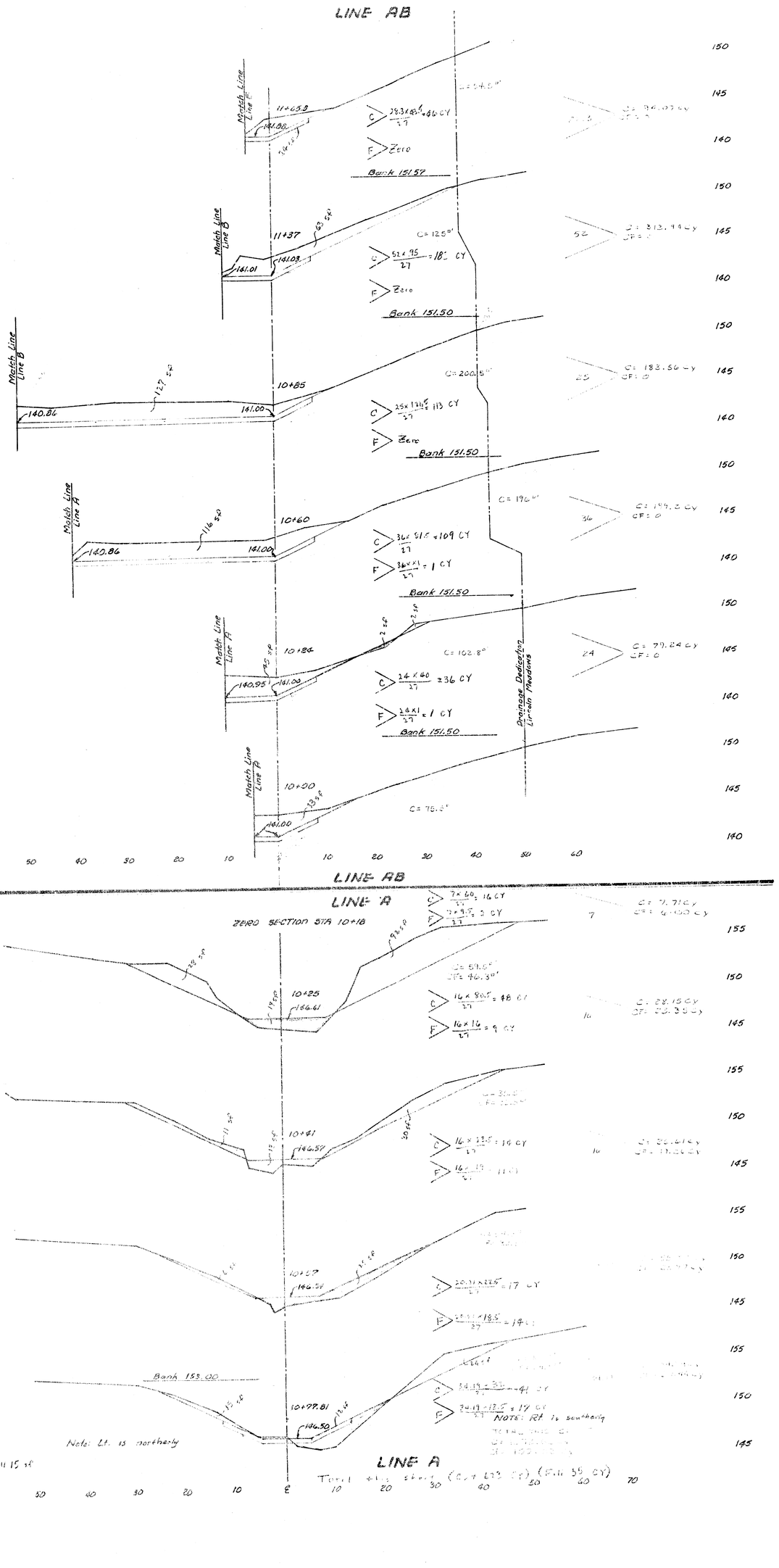
Bank 152.52
12+45
146.17
3.5:1
C: 50 × 11.5 / 3 = 21 CY
F: 50 × 2.5 / 3 = 42 CY

Bank 152.21
11+95
146.27
3.5:1
C: 50 × 23 / 3 = 41 CY
F: 50 × 2.5 / 3 = 42 CY

Bank 152.80
11+57
146.35
3.5:1
C: 38 × 49.5 / 3 = 76 CY
F: 38 × 12.5 / 3 = 31 CY

Bank 152.88
11+46.67
146.37
3.5:1
C: 10.33 × 23 / 3 = 9 CY
F: 10.33 × 11.5 / 3 = 7 CY

Bank 152.91
11+12
146.39
3.5:1
C: 24.47 × 19 / 3 = 24 CY
F: 24.47 × 15 / 3 = 19 CY



Line A Sta 10+77.81 to 10+18
Line AB Sta 10+00 to 1+55.3
SWD #21 Sheet 1 of 1 19

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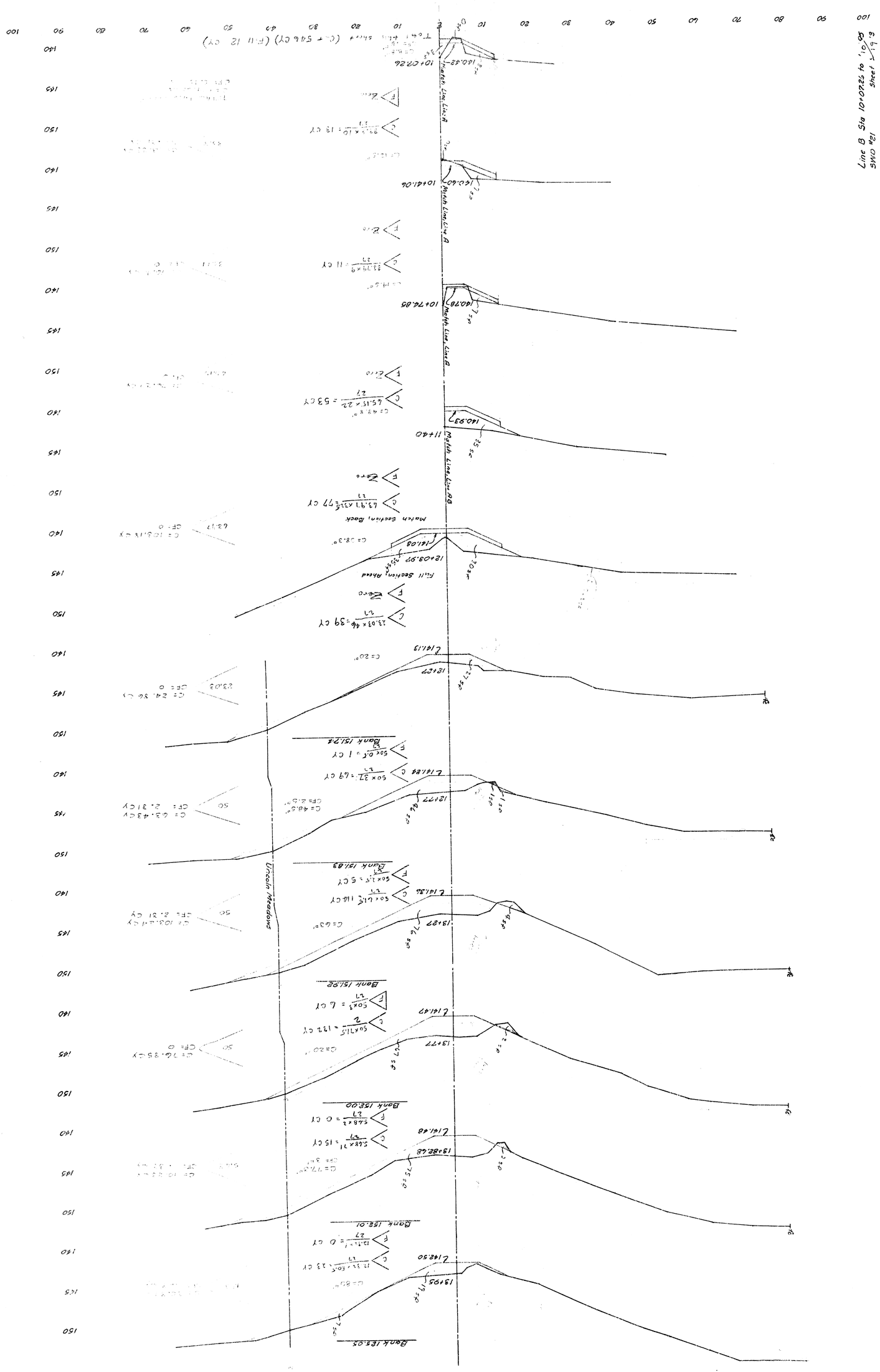

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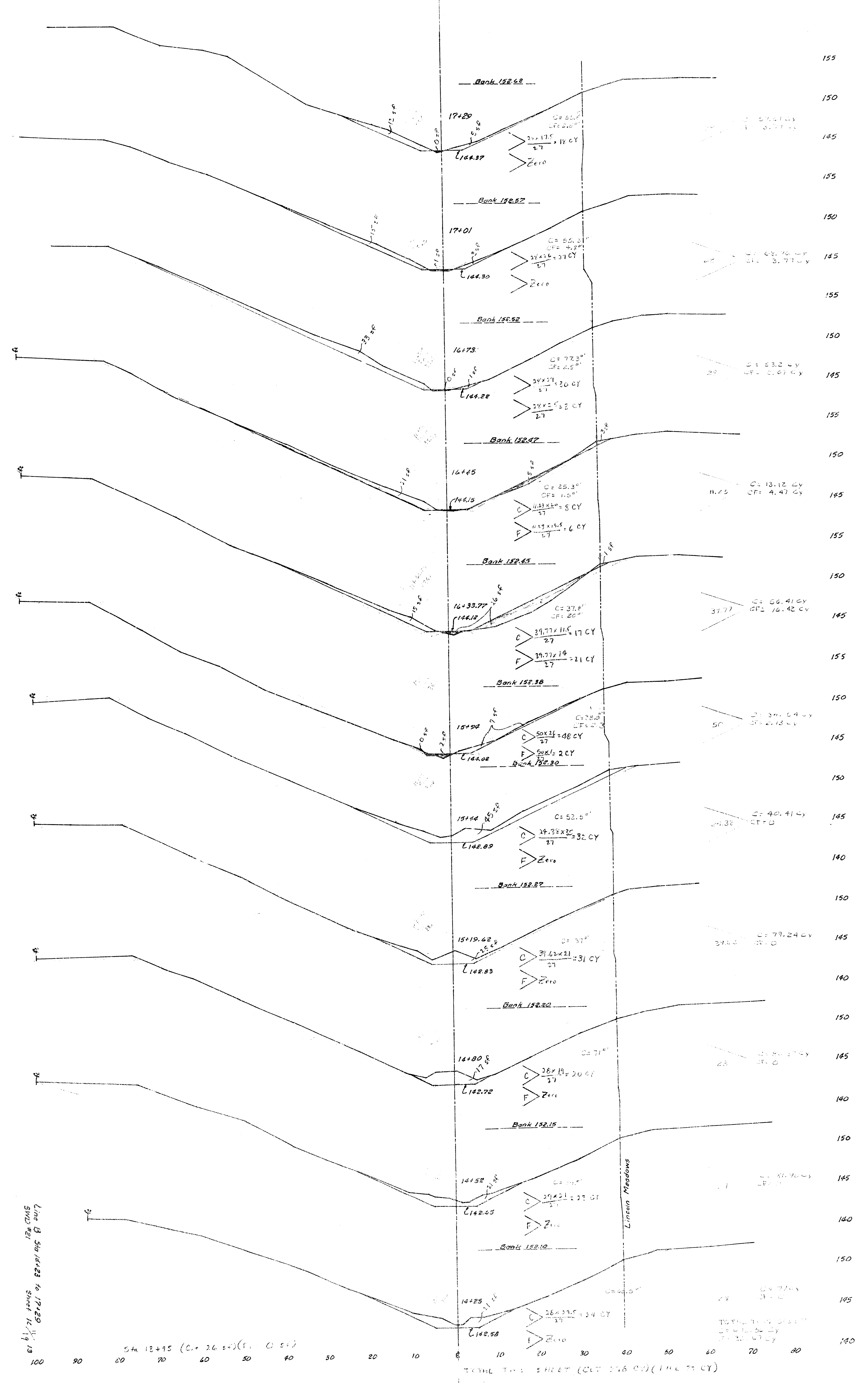

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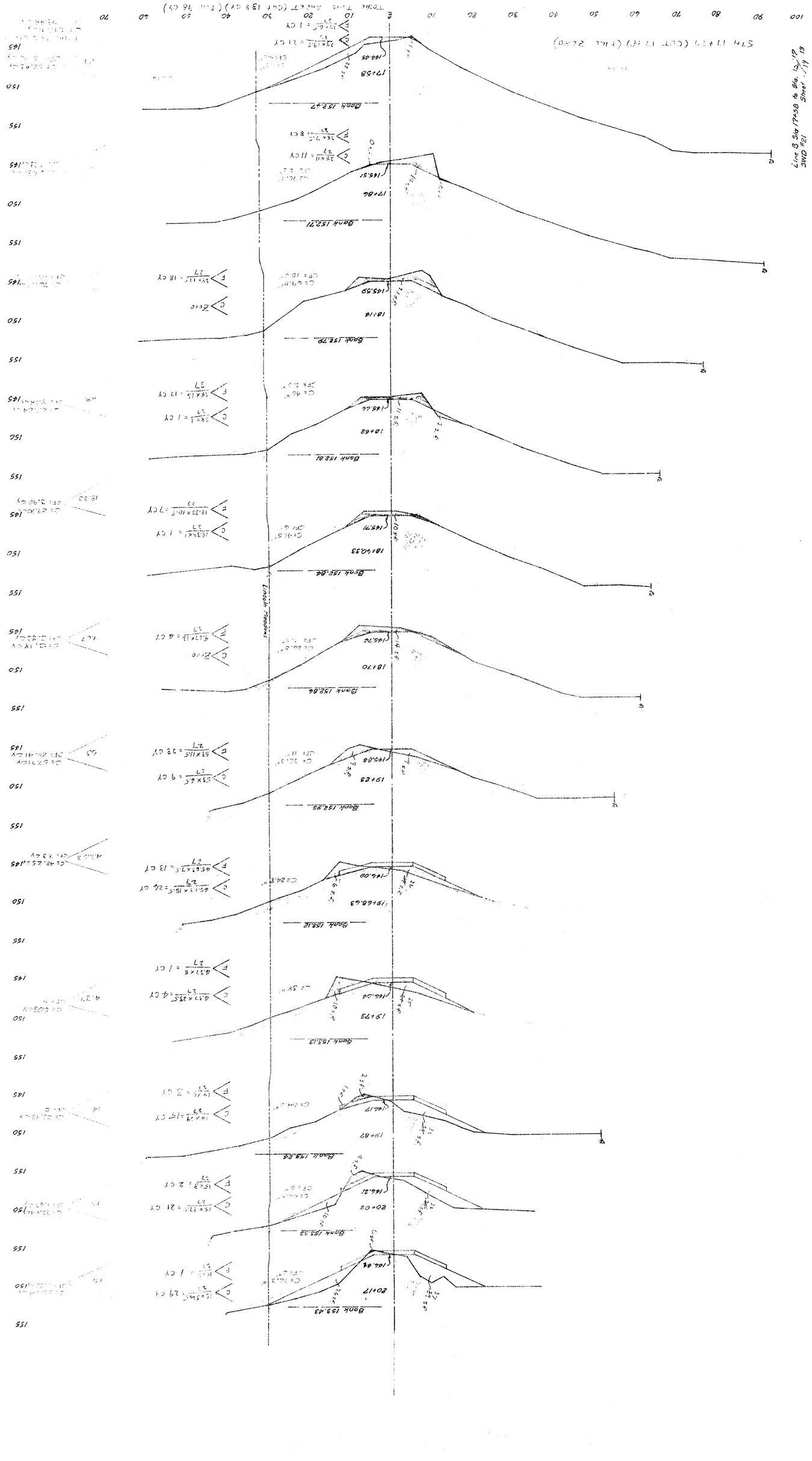
Line & Sta (Proj to Sta. 12+19
Sheet 1/19
STH 17+19 (CUT 17 FT) (FILL 2 CYD)
TOTAL THIS SHEET (CUT 138 CY) (FILL 16 CY)
Lincoln Highway
Bank 152.86
Bank 152.47
Bank 152.71
Bank 152.81
Bank 152.78
Bank 152.71
Bank 152.84
Bank 153.33
Bank 153.23
Bank 153.43
Bank 153.13
Bank 153.24
Bank 153.18
Bank 152.83
Bank 152.82
Bank 152.81

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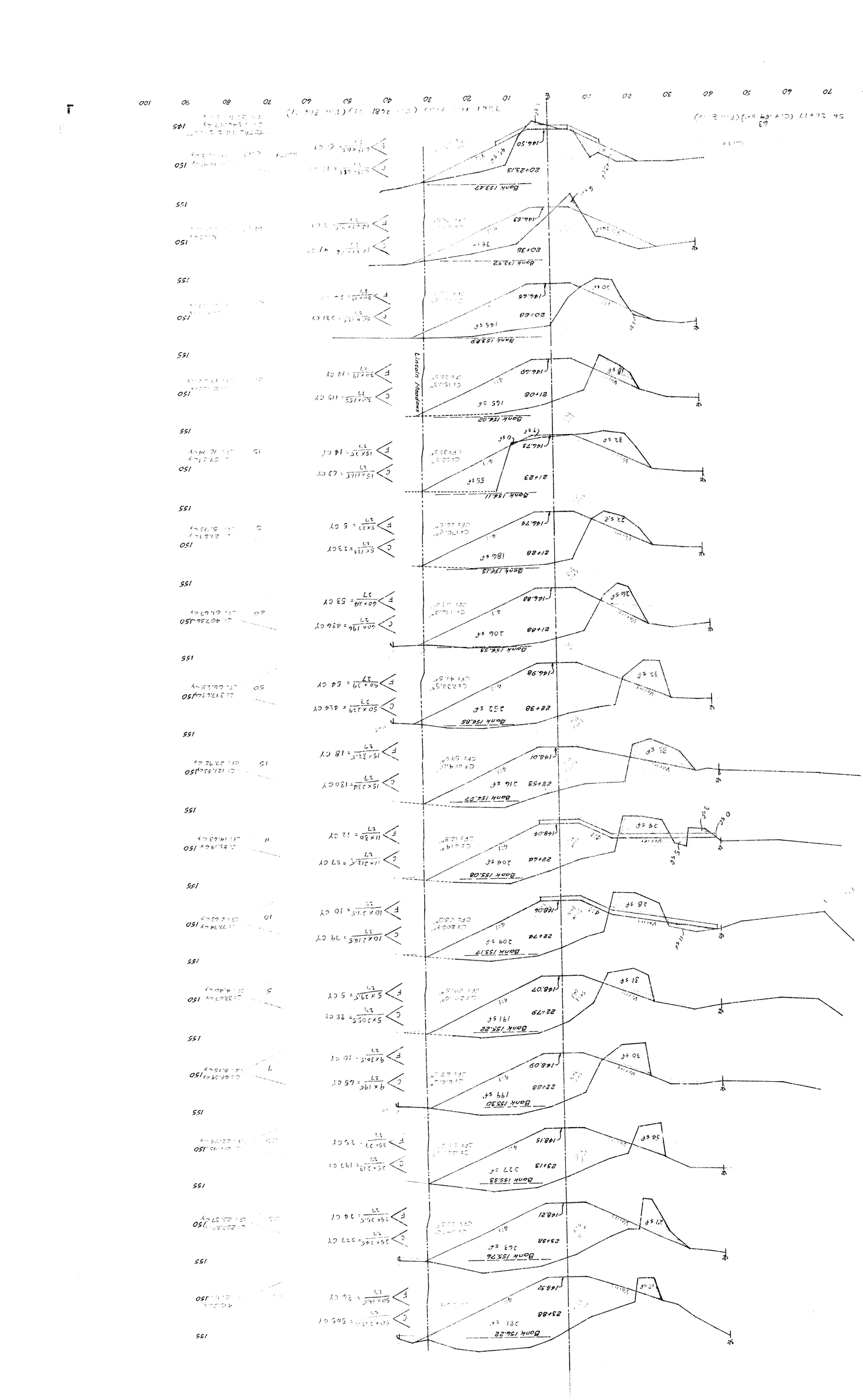
Line B Sta 20+23.13 to Sta 23+81.43
Sheet 16 of 19
SWD # 21


Bank 156.85
22+38
252 sf
Bank 156.58
21+88
206 sf
Bank 156.29
23+88
263 sf
Bank 155.76
22+53
316 sf
Bank 155.53
21+88
227 sf
Bank 155.30
22+08
199 sf
Bank 155.22
21+79
191 sf
Bank 155.08
22+64
204 sf
Bank 154.85
21+88
184 sf
Bank 154.82
21+23
55 sf
Bank 153.17
22+74
209 sf
Bank 153.89
20+68
145 sf
Bank 154.02
21+08
145 sf
Bank 153.92
20+38
Bank 153.47
20+23.13
Lincoln Meadows
Vista
Vista
Vista

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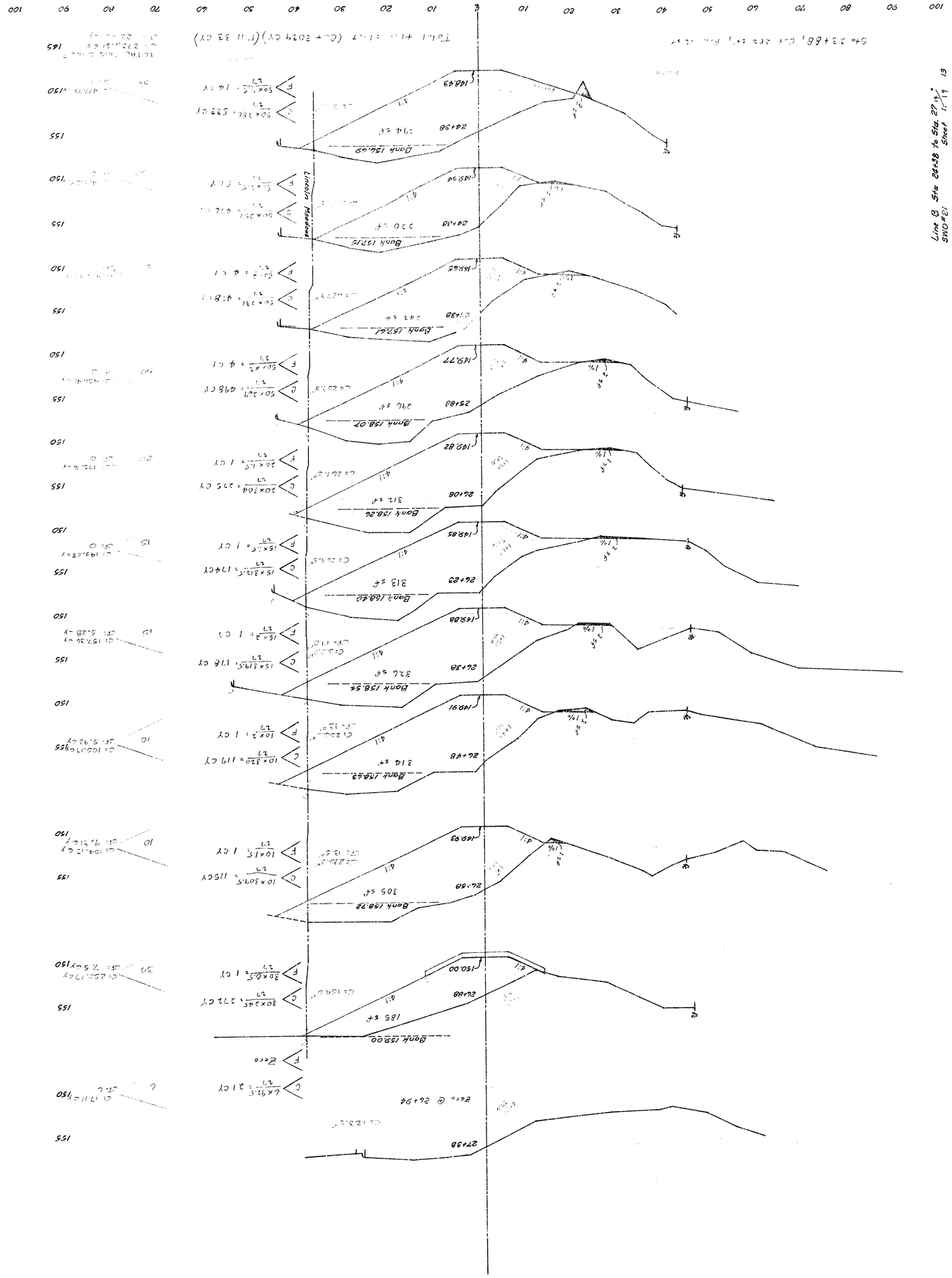
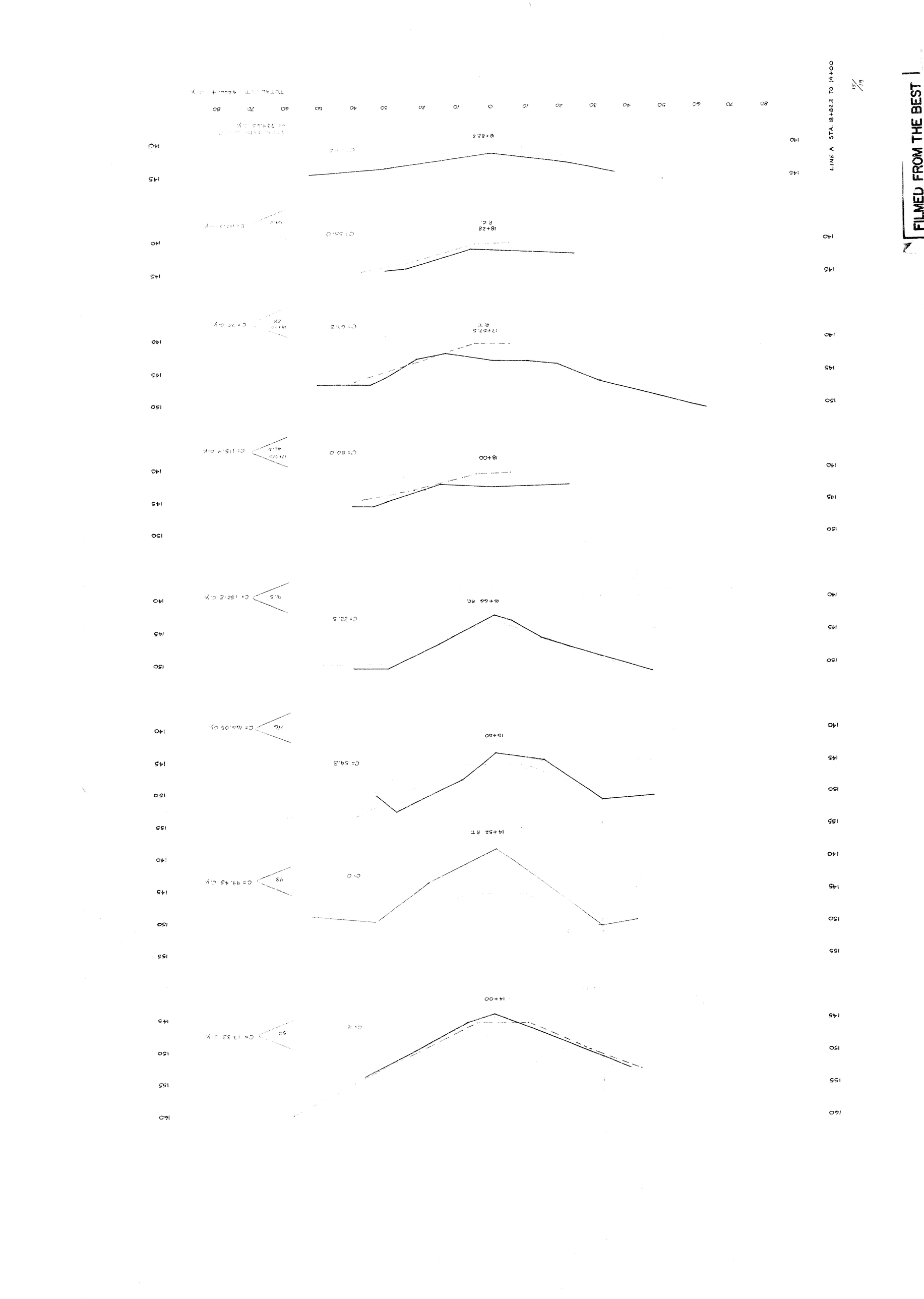


LINE A STA. 13+82.2 TO 14+00

15/19



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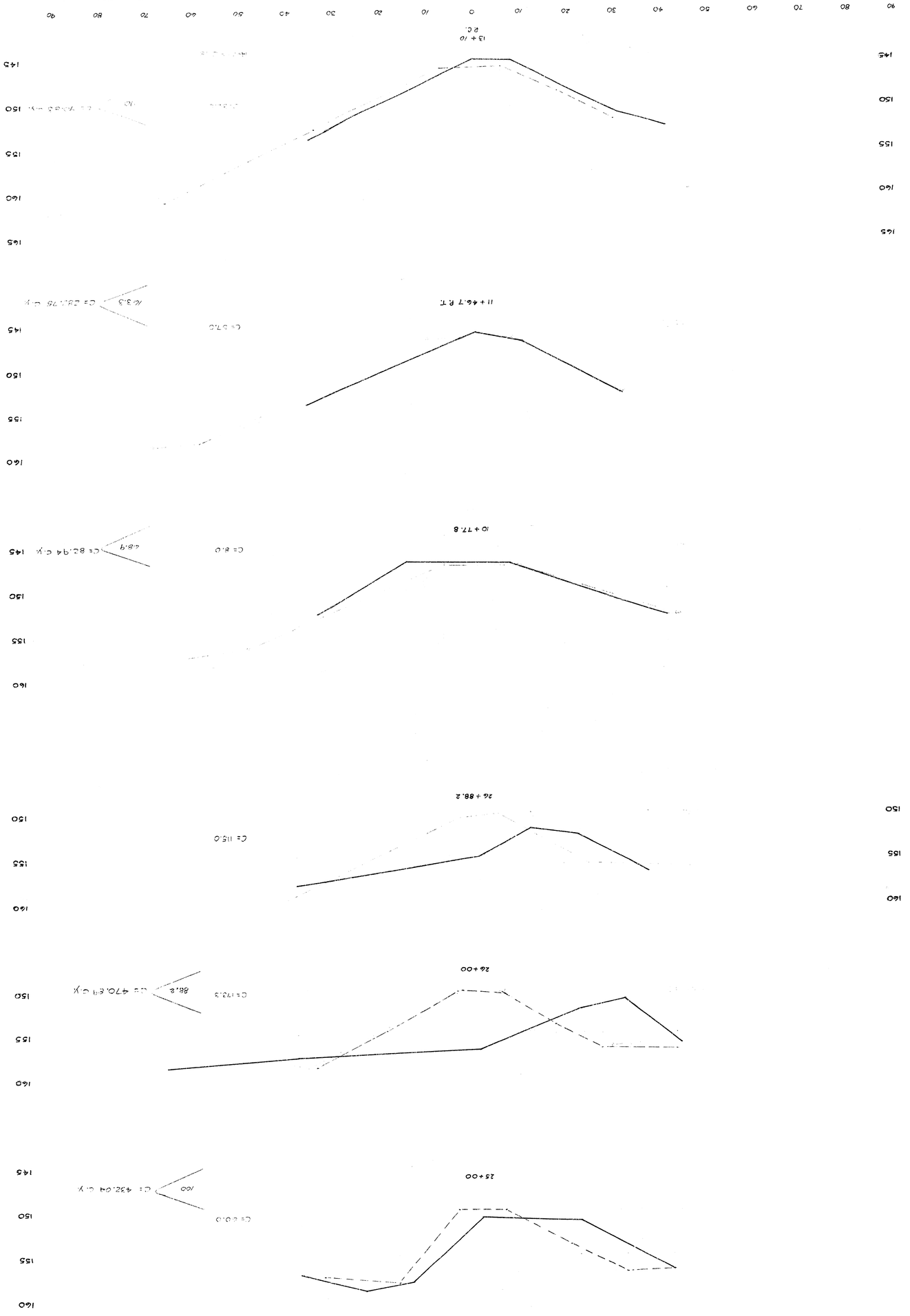
LINE A STA. 13+10 TO 10+77.8



LINE B STA. 24+88.2 TO 25+00

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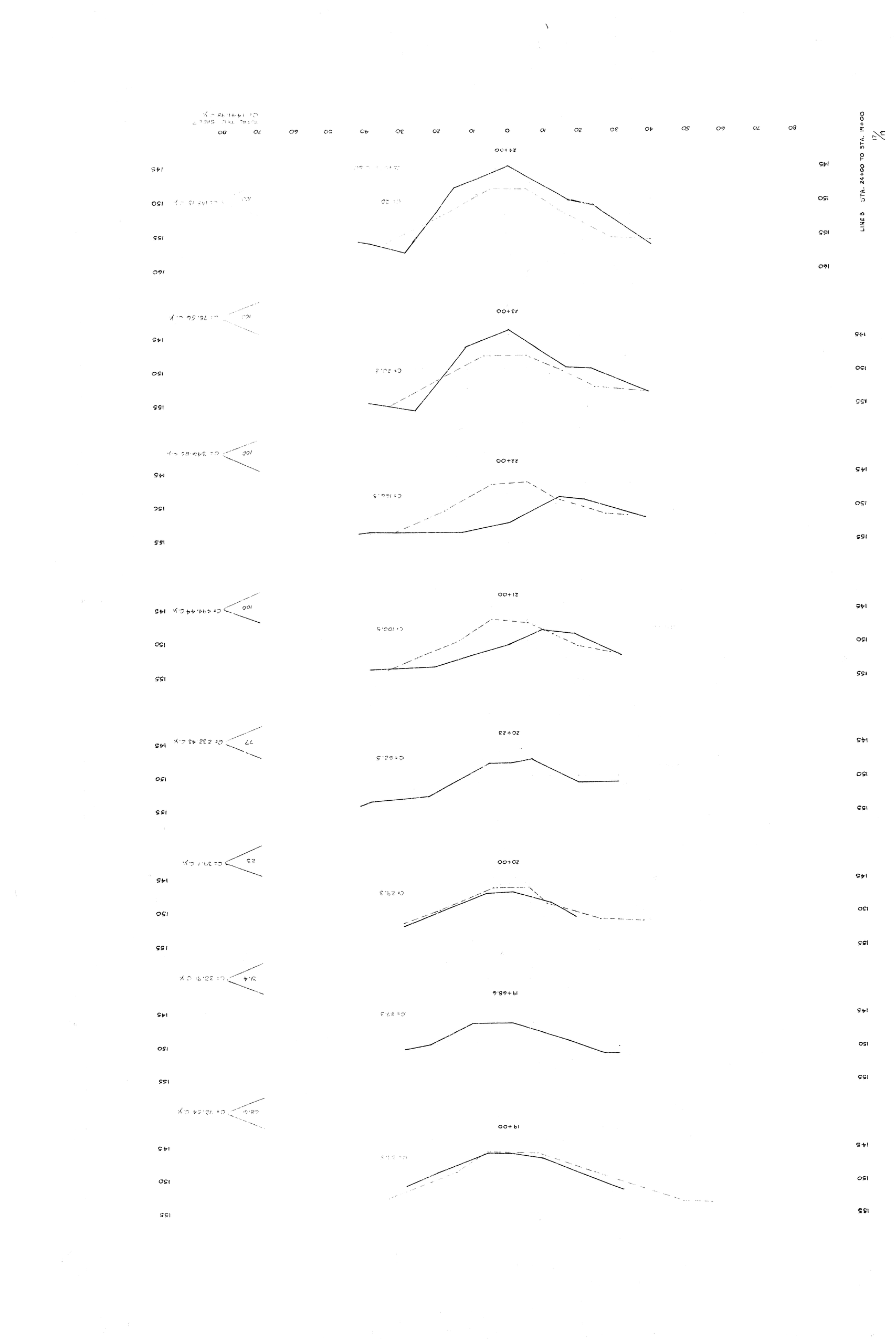
LINE B STA. 24+00 TO STA. 19+00



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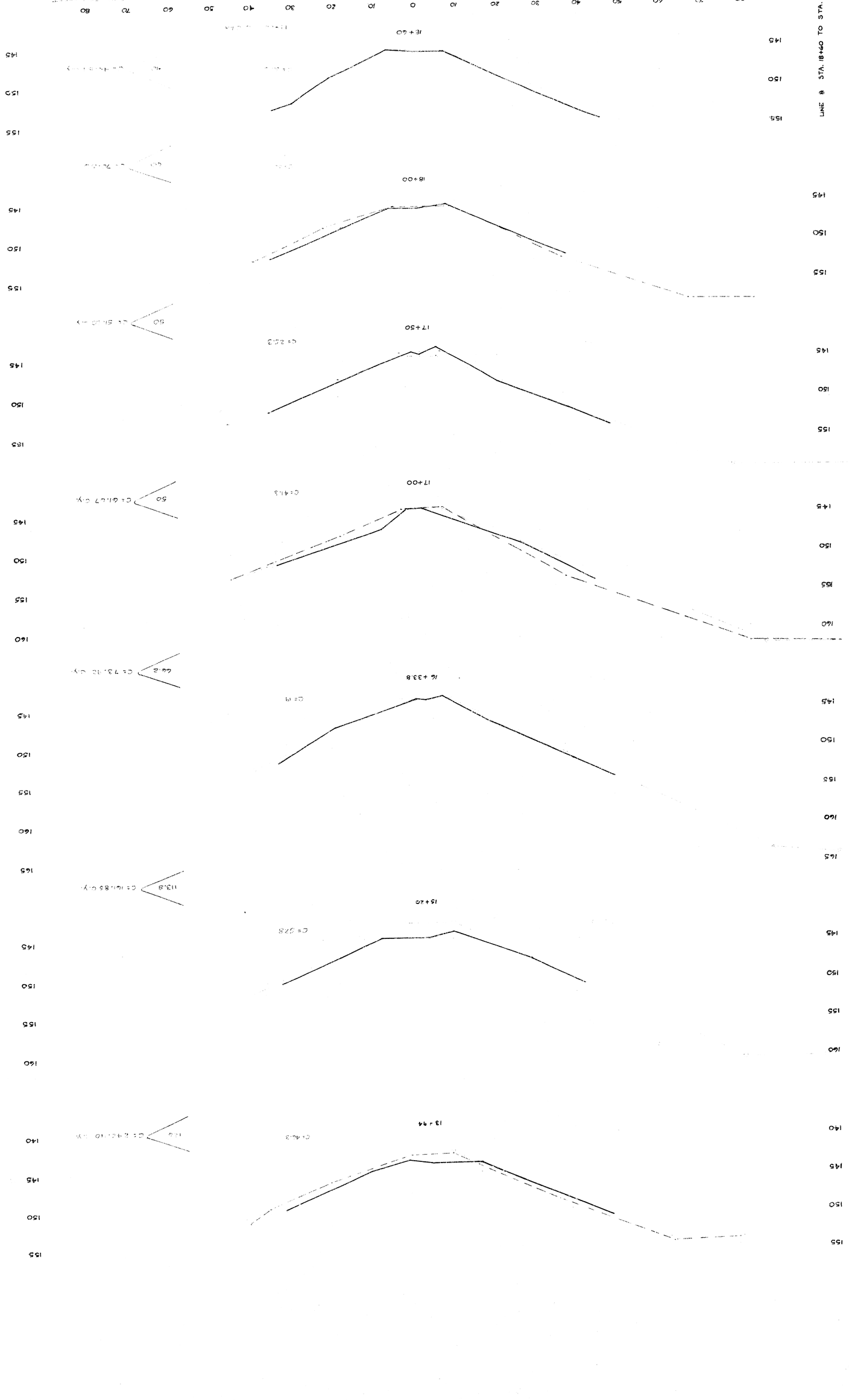
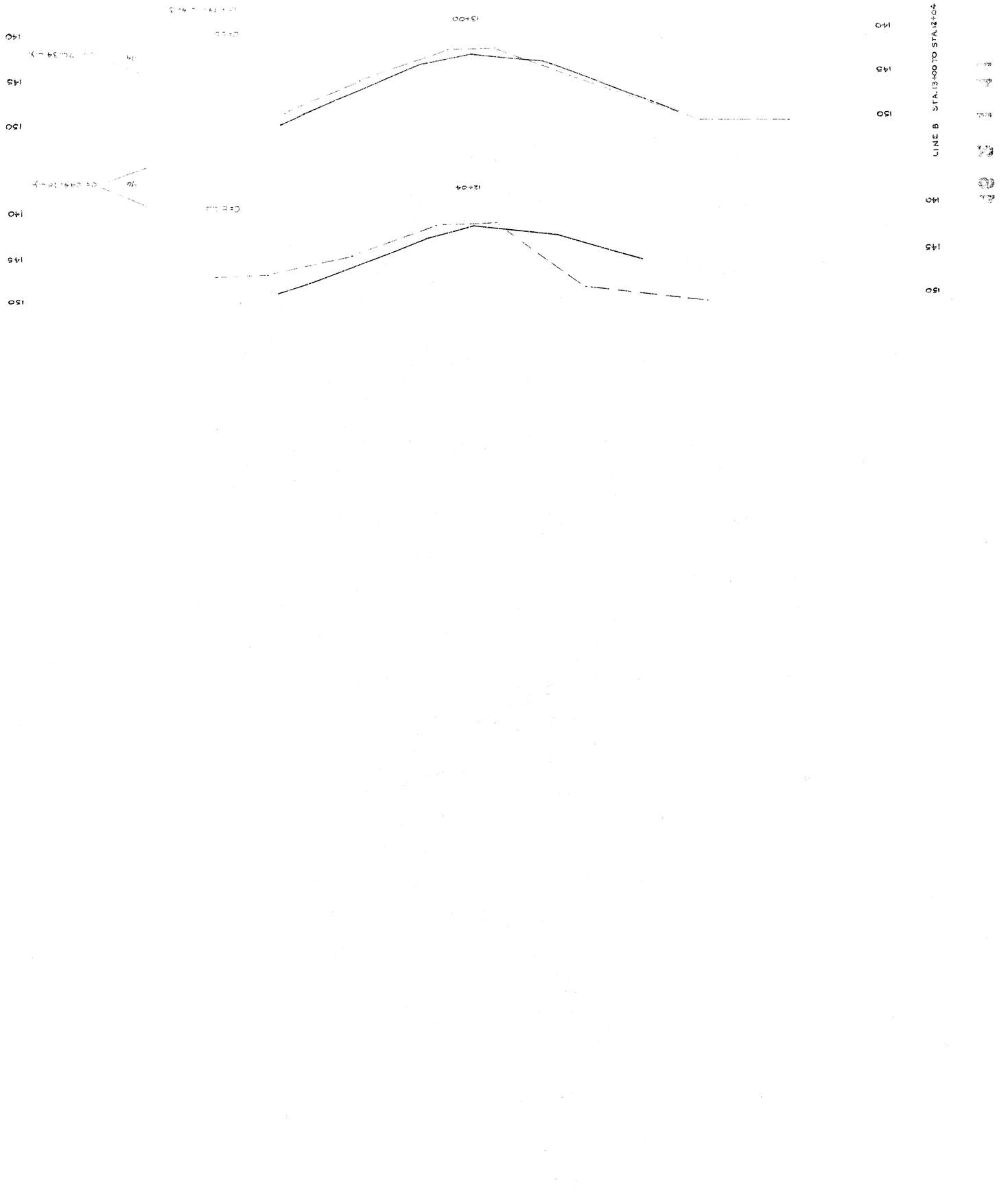
LINE @ STA. 18+60 TO STA. 13+94





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