

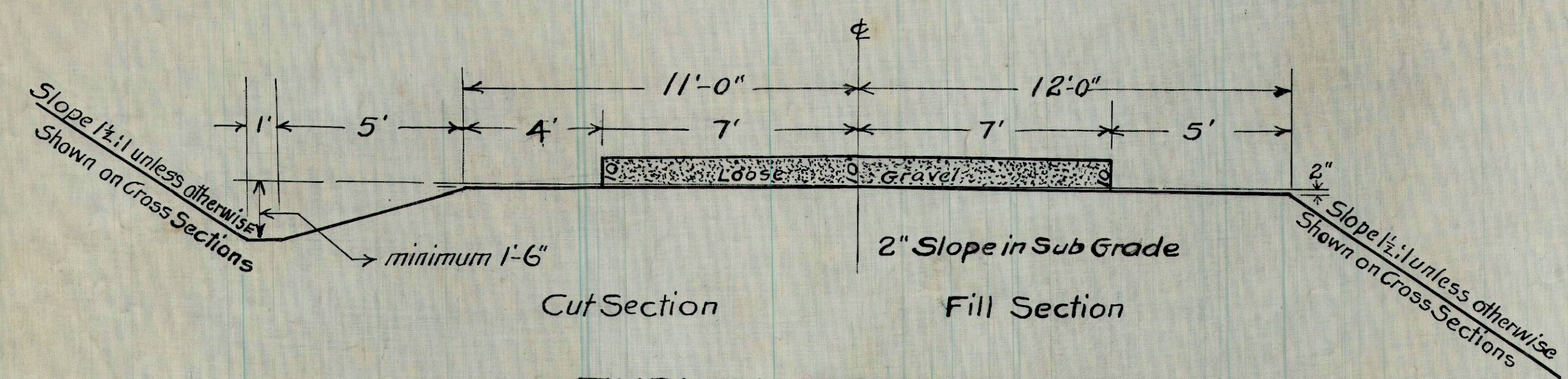
# HOLMES-COUNTY

## DIVISION OF CONSTRUCTION

### WINESBURG - WALNUTCREEK-ROAD

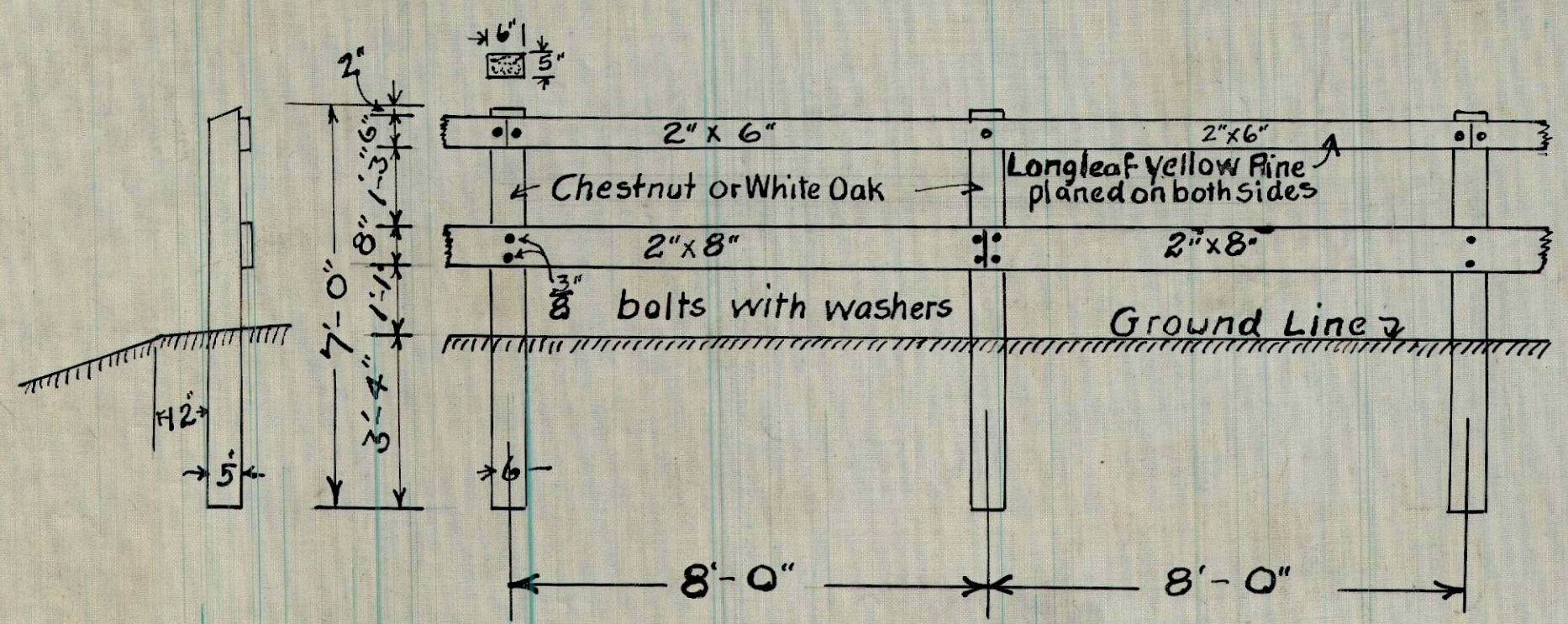
#### ROAD-NO 157.

### SEC. "A" PAINT and WALNUTCREEK TOWNSHIPS



**TYPICAL CROSS SECTION.**  
UNLESS OTHERWISE SHOWN ON CROSS SECTIONS

Gravel shall be spread uniformly to thickness shown by staking forms on the sides and using a strike off or by using an adjustable spreader box. Contractor shall keep the placed gravel dragged until all the gravel has been placed.



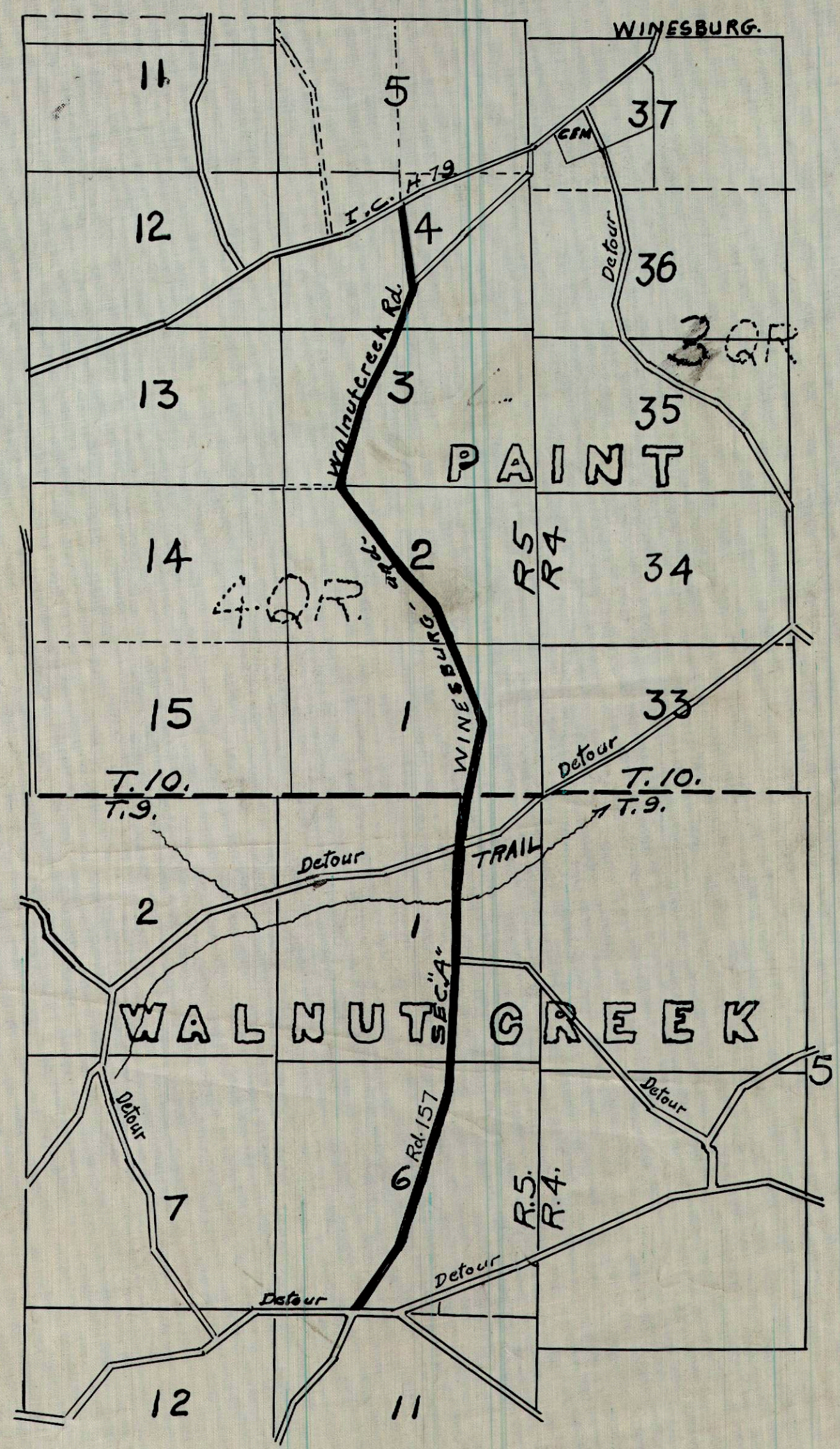
BILL OF MATERIALS FOR TWO PANELS			
1	Wood Rail	2" x 6" x 16'	
1	"	2" x 8" x 16'	
2	Wood Posts	5' x 6" x 7'	
9	Carriage Bolts	3/8"	
9	Washers	7/16"	
0.7	Spikes 40D		5"

**TYPE "E" GUARD RAIL**

Note - All surfaces in contact to be painted before assembling, and all exposed surfaces to have two (2) coats of white lead and linseed oil paint. Posts to be set vertical in line parallel to grade line. Posts to be cut on top as shown on plan. Rails to be secured to post as shown without splitting.

In order to secure proper alignment and grade bolt holes shall be bored and the top of posts trimmed after the posts are set and the rails nailed to them.

Before setting, posts shall be treated from a point one foot below surface line to a point one foot above surface line when set, with a coat of creosote oil or carbolinium applied at a temperature of 250° to 300° Fahr.



**INDEX OF SHEETS**

Title and Std Sections	Sheets 1.
Plans and Profile	2 to 5.
Cross Sections	6 to 16.
Bridge Plans	17 to 18.
Summary of Quantities	19.

The Standard Specifications of the State of Ohio, Division of Highways, in force on August 25<sup>th</sup> 1925 will govern this improvement unless otherwise shown.

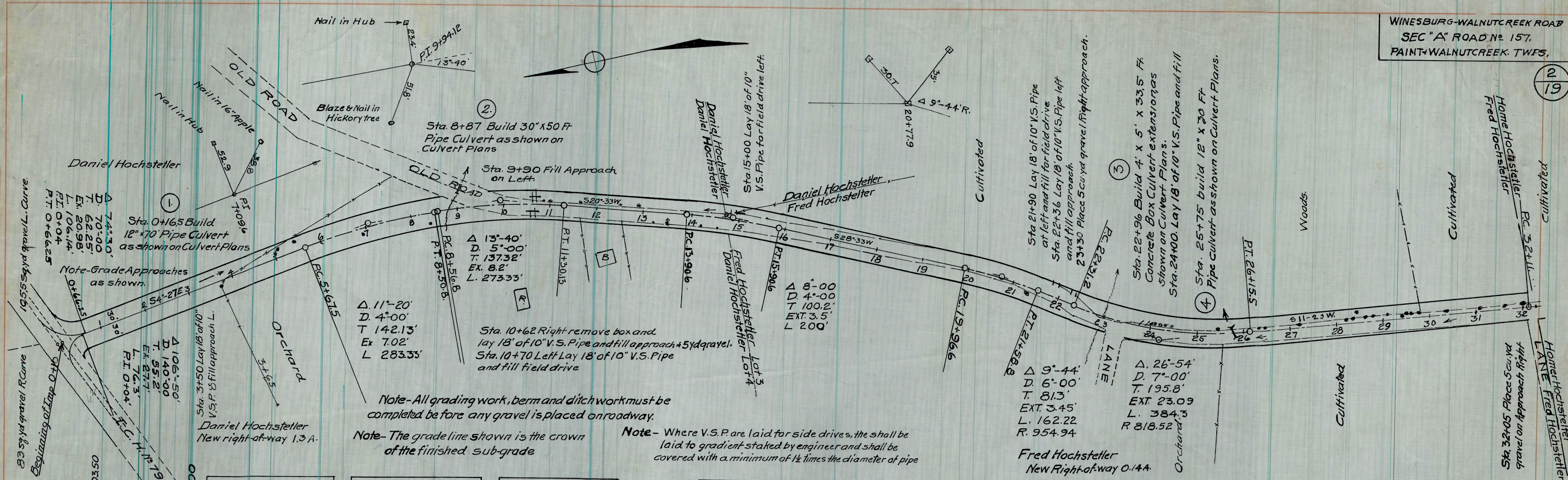
I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the Highway for a part of the time and that detours will be provided as shown on the plans and estimate:

Approved March 15, 1926  
*Karl Snyder*  
County Surveyor.

We the Commissioners of Holmes County, hereby approve these plans and certify that the right-of-way 60 feet wide is available for the construction, maintenance and repair of the above Highway.

Approved March 15, 1926  
*E. B. Miller*  
*J. A. Mullet*  
*H. H. Allison*  
County Commissioners.





Note - All grading work, berm and ditch work must be completed before any gravel is placed on roadway.

Note - The grade line shown is the crown of the finished sub-grade

Note - Where V.S.P. are laid for side drives, they shall be laid to gradient staked by engineer and shall be covered with a minimum of 1/2 times the diameter of pipe

B.M. Sta. 0+00  
Spike in corner post on north side of Road  
Elev. 1308.35

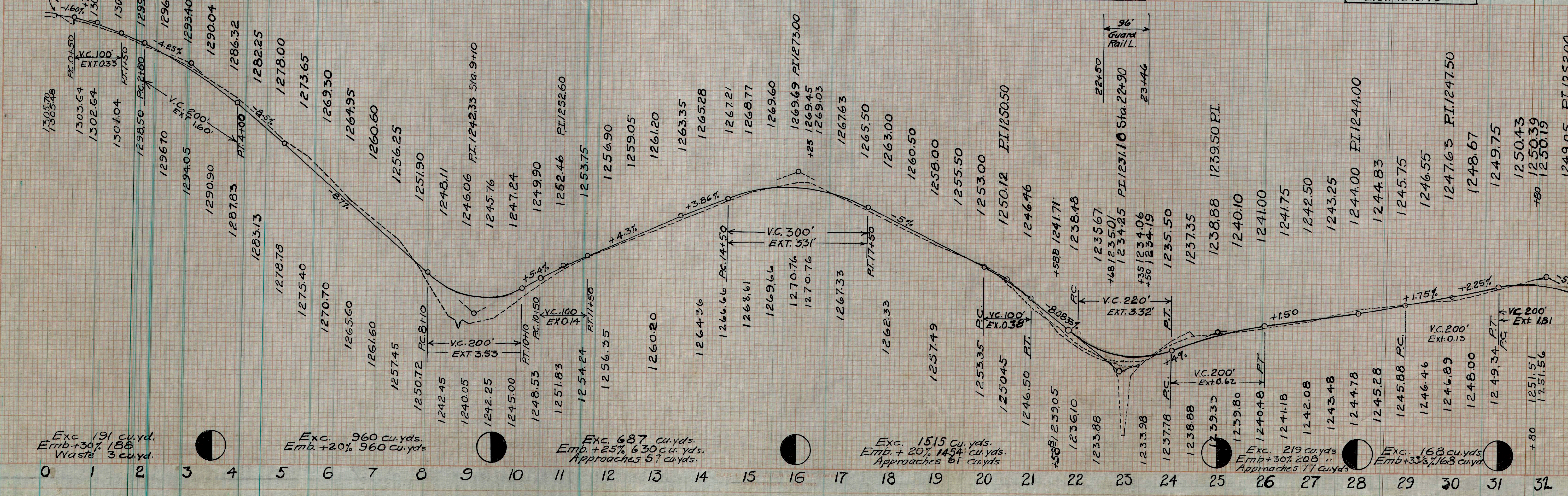
B.M. Sta. 5+45  
Blaze 2 nails in roof of Apple tree 40' R. of  $\Phi$   
Elev. 1275.74

B.M. Sta. 8+90  
 $\Phi$  cut on North head wall of Old Culv. Left  
Elev. 1243.07

B.M. Sta. 14+85  
Blaze 2 Spikes in root of Hickory 30' R. of  $\Phi$   
Elev. 1270.71

B.M. Sta. 22+40  
Blaze 2 Spikes in root of Chestnut 30' L. of  $\Phi$   
Elev. 1236.16

B.M. Sta. 29+60  
Blaze 2 Spikes in Root of W. Oak 27' R. of  $\Phi$   
Elev. 1249.46



Exc. 191 cu. yds.  
Emb. +30% 188  
Waste 3 cu. yds.

Exc. 960 cu. yds.  
Emb. +20% 960 cu. yds.

Exc. 687 cu. yds.  
Emb. +25% 630 cu. yds.  
Approaches 57 cu. yds.

Exc. 1515 cu. yds.  
Emb. +20% 1454 cu. yds.  
Approaches 61 cu. yds.

Exc. 219 cu. yds.  
Emb. +30% 208  
Approaches 71 cu. yds.

Exc. 168 cu. yds.  
Emb. +33% 168 cu. yds.

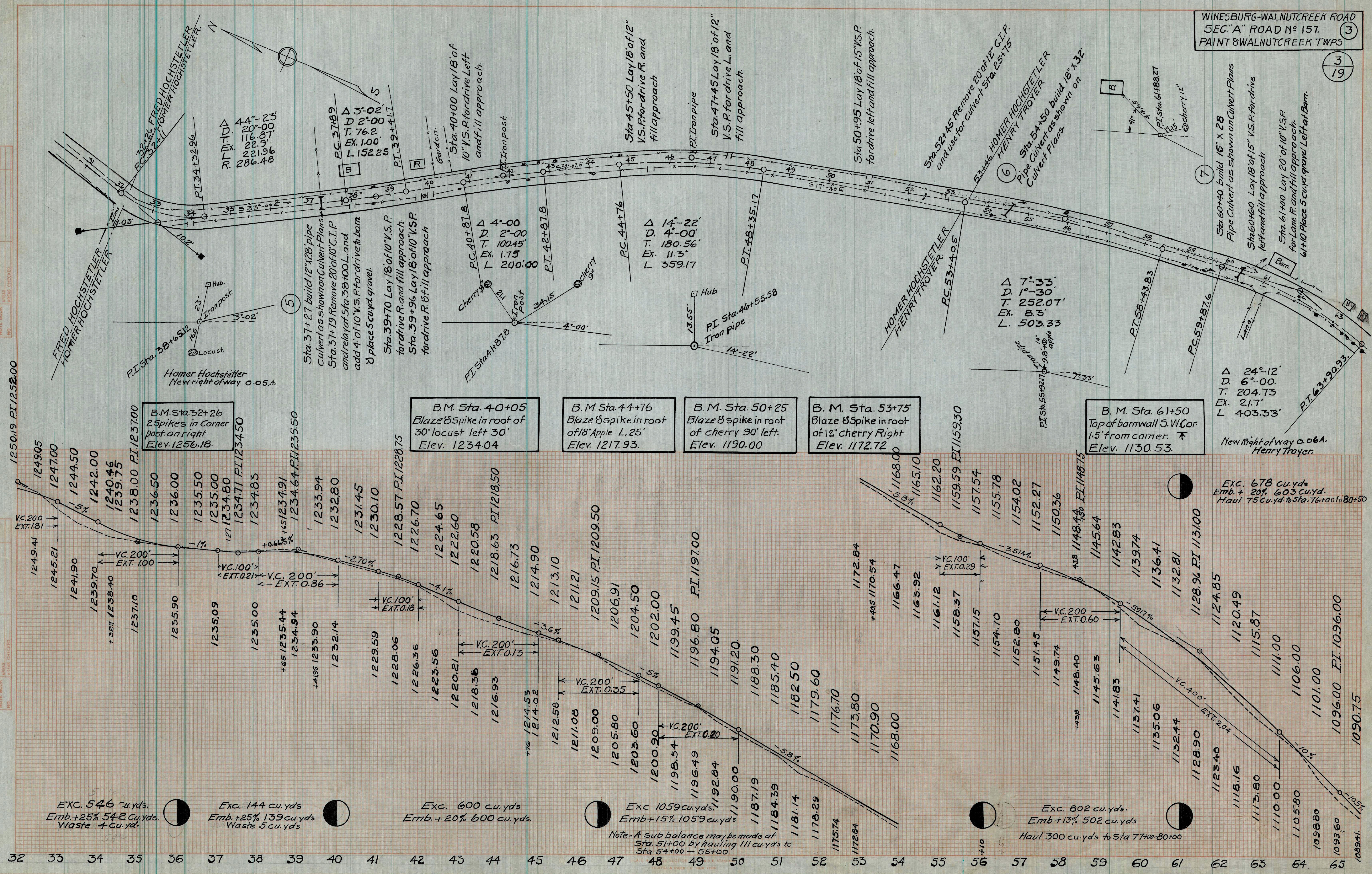


WINESBURG-WALNUTCREEK ROAD  
 SEC. "A" ROAD N° 157.  
 PAINT & WALNUTCREEK TWP 5

3  
19

FINAL SURVEY  
 SURVEYOR  
 TEMPLATE  
 NOTE BOOK  
 AND  
 FIELD CHECKED  
 NO.

ORIGINAL SURVEY  
 SURVEYOR  
 TEMPLATE  
 NOTE BOOK  
 AND  
 FIELD CHECKED  
 NO.



1250.19 PI 1252.00

B.M. Sta. 32+26  
 2 Spikes in Corner  
 post on right  
 Elev. 1256.18

B.M. Sta. 40+05  
 Blaze & spike in root of  
 30' locust left 30'  
 Elev. 1234.04

B.M. Sta. 44+76  
 Blaze & spike in root  
 of 18' apple L. 25'  
 Elev. 1217.93

B.M. Sta. 50+25  
 Blaze & spike in root  
 of 12' cherry Right  
 Elev. 1190.00

B.M. Sta. 53+75  
 Blaze & spike in root  
 of 12' cherry Right  
 Elev. 1172.72

B.M. Sta. 61+50  
 Top of barn wall S.W. Cor.  
 15' from corner.  
 Elev. 1130.53

Exc. 678 cu. yds  
 Emb. + 20% 603 cu. yds.  
 Haul 75 cu. yd. to Sta. 76+00 to 80+50

32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65

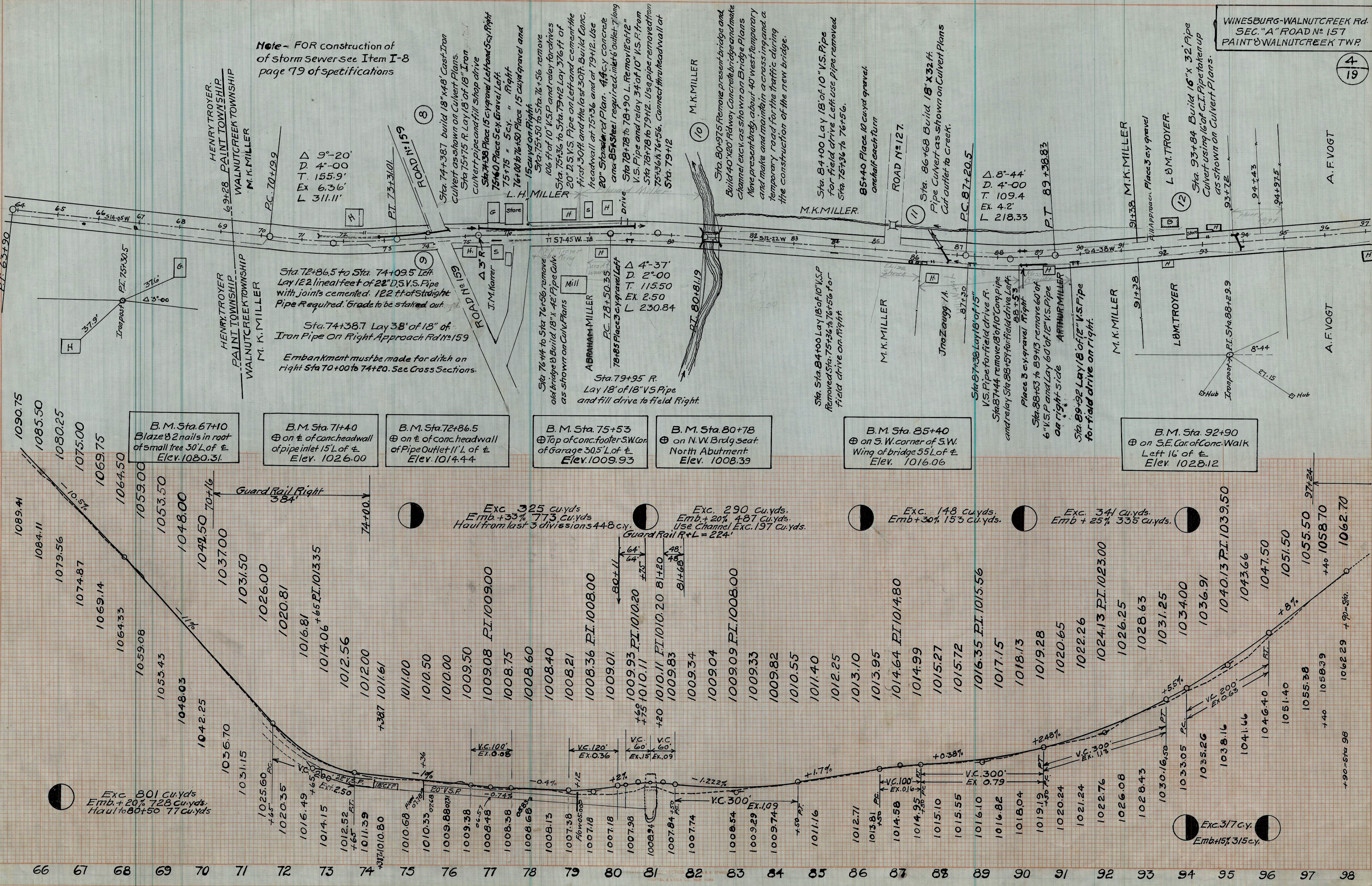


ORIGINAL SURVEY PLAT NO. DATE  
 SUPPORTED SURVEY PLAT NO. DATE  
 BY DATE  
 CHECKED BY DATE  
 NO. DATE

WINESBURG-WALNUTCREEK RD.  
 SEC. "A" ROAD NO. 157  
 PAINT & WALNUTCREEK TWP.

4  
19

Note - FOR construction of storm sewer see Item I-8 page 79 of specifications



B.M. Sta. 67+10  
 Blaze 82 nails in root of small tree 30' L of  $\pm$   
 Elev. 1080.31

B.M. Sta. 71+40  
 on  $\pm$  of conc. headwall of pipe inlet 15' L of  $\pm$   
 Elev. 1026.00

B.M. Sta. 72+86.5  
 on  $\pm$  of conc. headwall of pipe outlet 11' L of  $\pm$   
 Elev. 1014.44

B.M. Sta. 75+53  
 Top of conc. footer SW corner of Garage 30.5' L of  $\pm$   
 Elev. 1009.93

B.M. Sta. 80+78  
 on N.W. Bldg seat North Abutment  
 Elev. 1008.39

B.M. Sta. 85+40  
 on S.W. corner of S.W. Wing of bridge 55' L of  $\pm$   
 Elev. 1016.06

B.M. Sta. 92+90  
 on S.E. Cor. of Conc. Walk Left 16' of  $\pm$   
 Elev. 1028.12

Exc. 801 cu.yds  
 Emb. +20% 728 cu.yds.  
 Haul to 80+50 77 cu.yds

Exc. 325 cu.yds  
 Emb. +33% 773 cu.yds  
 Haul from last 3 divisions 448 cu.yds

Exc. 290 cu.yds  
 Emb. +20% 487 cu.yds  
 Use Channel Exc. 197 cu.yds

Exc. 148 cu.yds  
 Emb. +30% 153 cu.yds

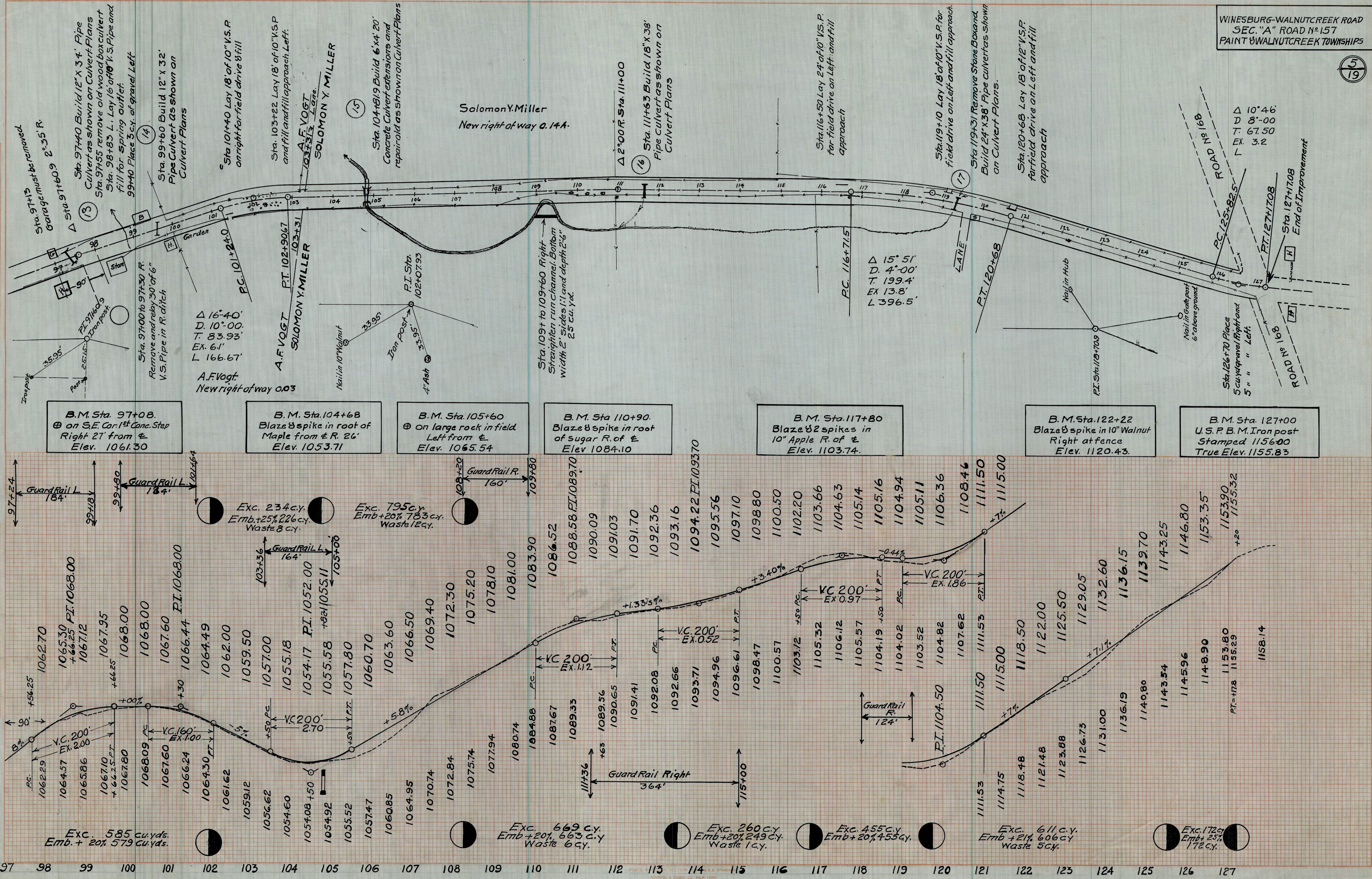
Exc. 341 cu.yds  
 Emb. +25% 335 cu.yds

Exc. 317 cu.yds  
 Emb. +15% 315 cu.yds



DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
NO. \_\_\_\_\_  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
NO. \_\_\_\_\_

DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
NO. \_\_\_\_\_  
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
NO. \_\_\_\_\_



B.M. Sta. 97+08.  
⊕ on S.E. Cor. 1<sup>st</sup> Conc. Step  
Right 27' from  $\pm$   
Elev. 1061.30

B.M. Sta. 104+68  
Blaze & spike in root of  
Maple from  $\pm$  R. 26'  
Elev. 1053.71

B.M. Sta. 105+60  
⊕ on large rock in field  
Left from  $\pm$  R. 26'  
Elev. 1065.54

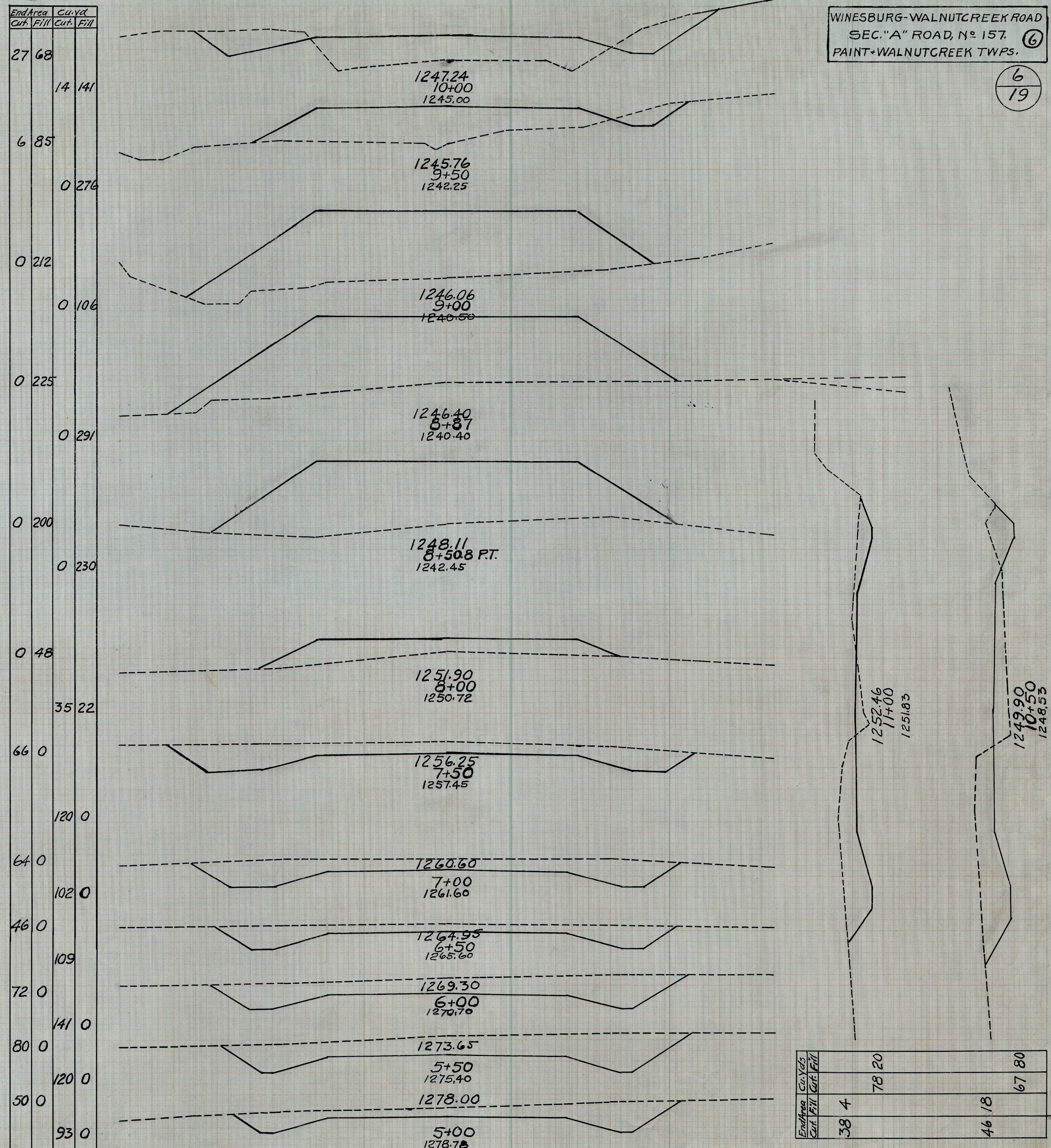
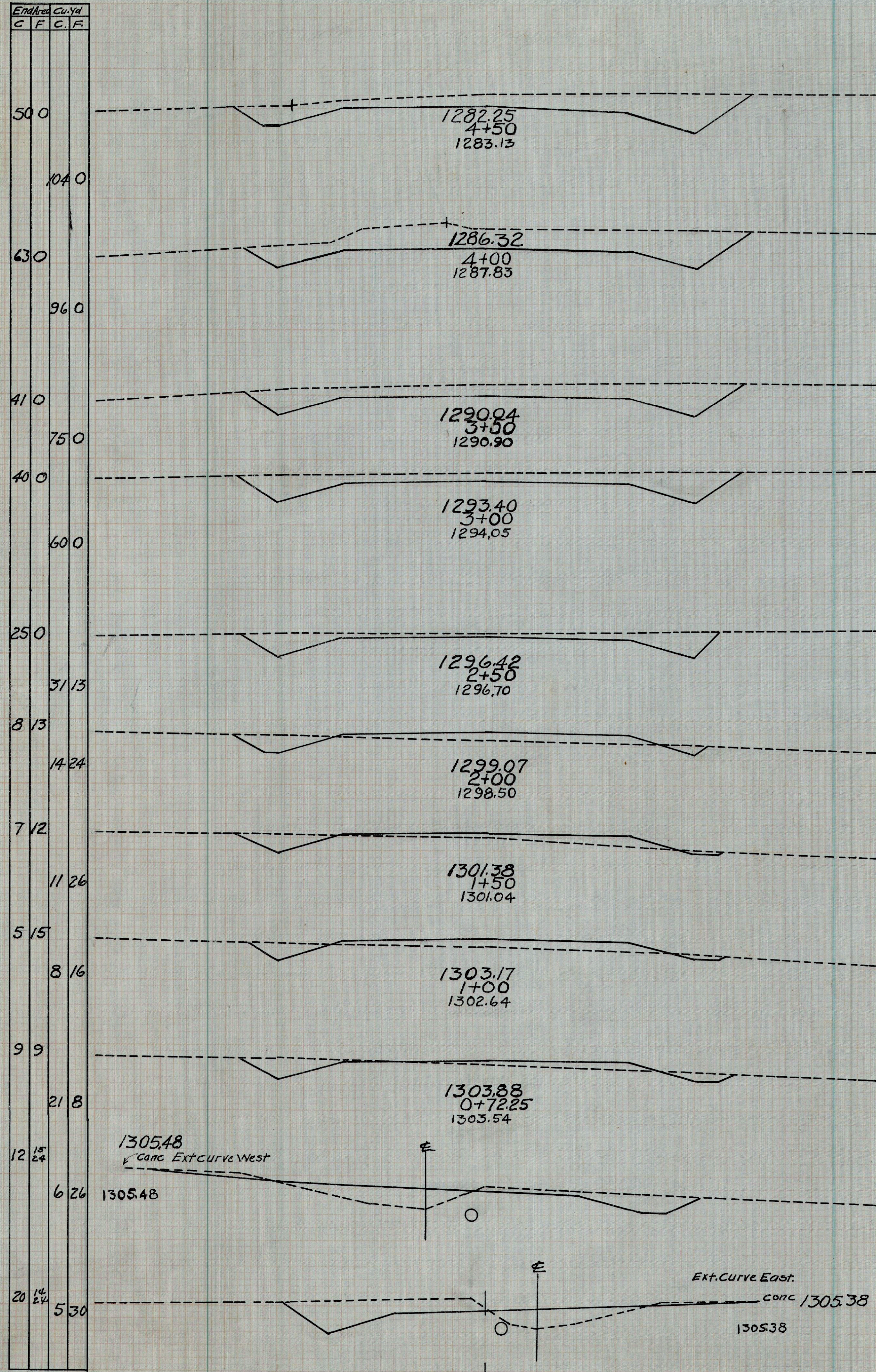
B.M. Sta. 110+90.  
Blaze & spike in root  
of sugar R. of  $\pm$   
Elev. 1084.10

B.M. Sta. 117+80  
Blaze & 2 spikes in  
10" Apple R. of  $\pm$   
Elev. 1103.74.

B.M. Sta. 122+22  
Blaze & spike in 10" Walnut  
Right at fence  
Elev. 1120.43.

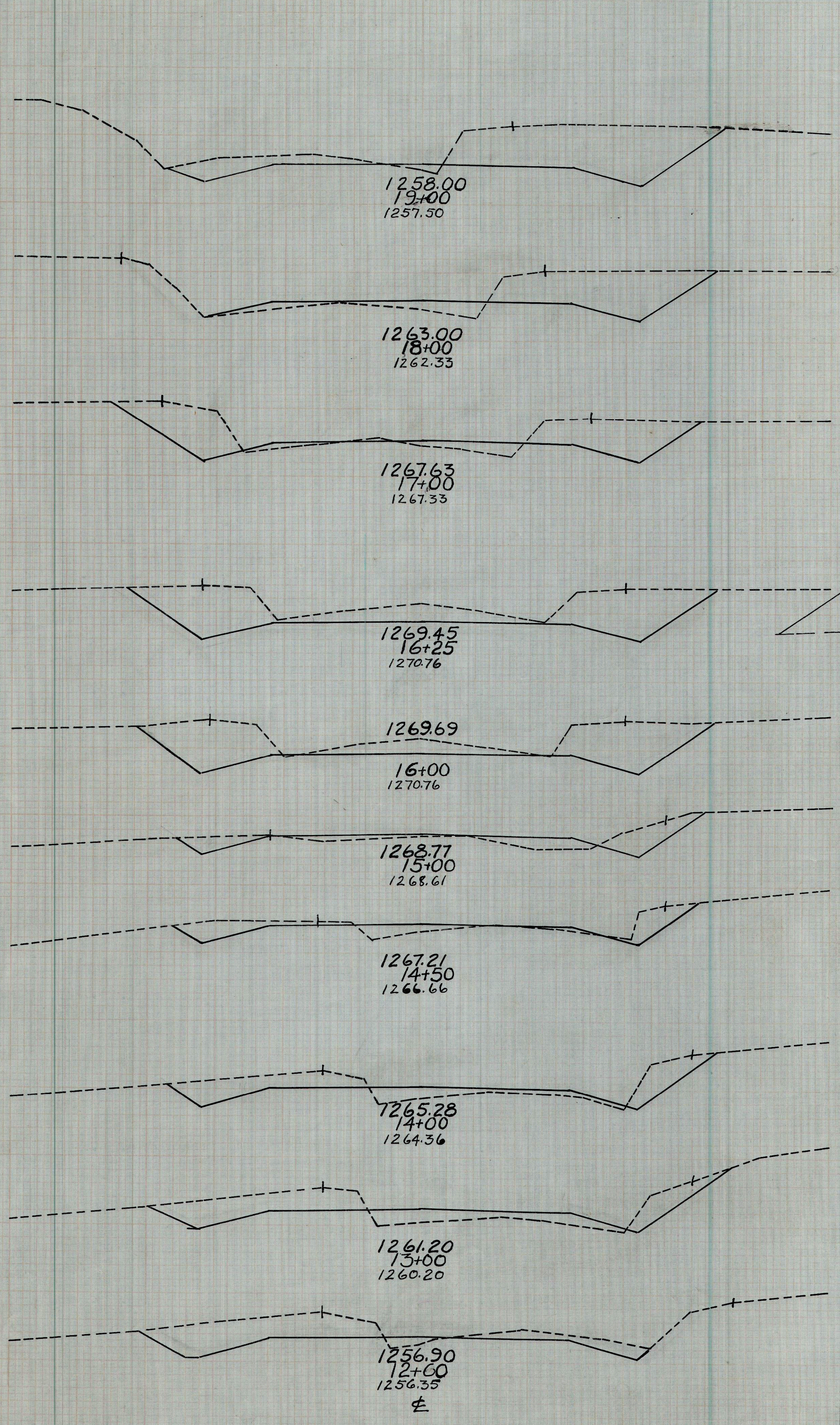
B.M. Sta. 127+00  
U.S.P. B.M. Iron post  
Stamped 115600  
True Elev. 1155.83



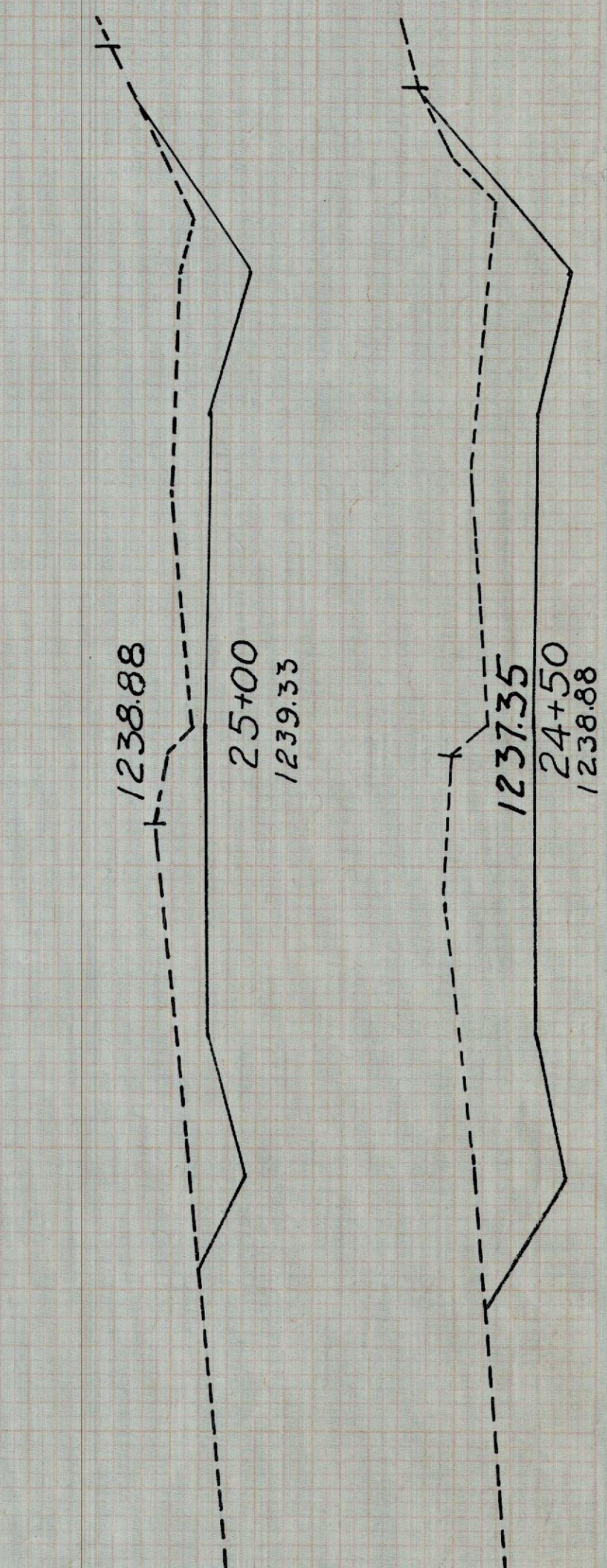
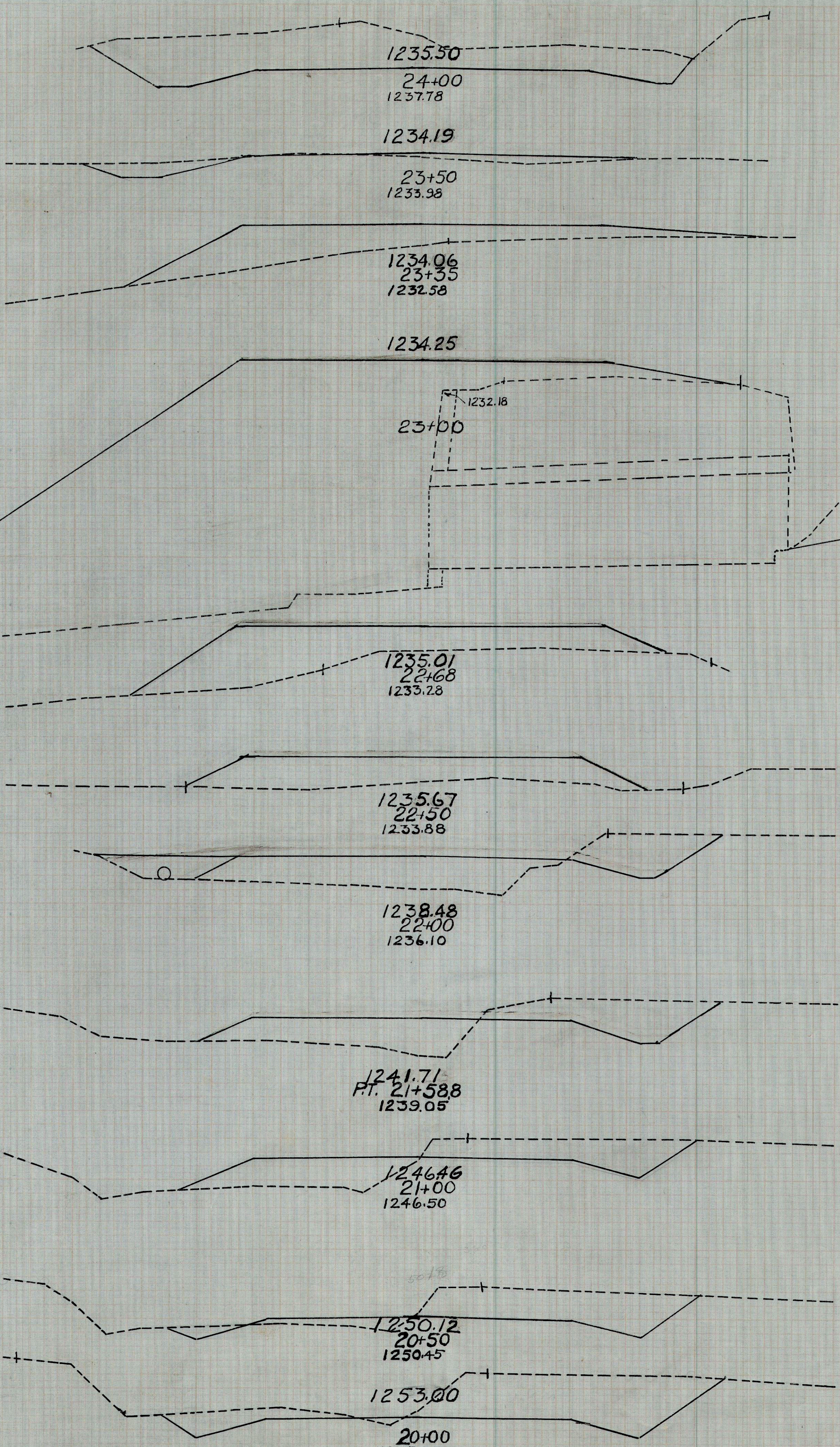




End Area		Cu. yd.	
C	F	C	F
67	3	193	28
37	12	137	39
37	9	143	10
66	0	58	0
60	0	131	18
11	10	24	17
15	7	36	17
24	10	102	46
31	15	111	33
29	3	124	13



End Area		Cu. yd.	
C	F	C	F
105	0	106	6
10	7	4	19
0	60	0	393
0	546	0	374
0	85	0	49
0	60	11	106
21	53	Approach	30
35	69	Approach	31
25	38		
61	74		
37	29		
74	33		
43	7		
111	9		
77	2		
268	9		



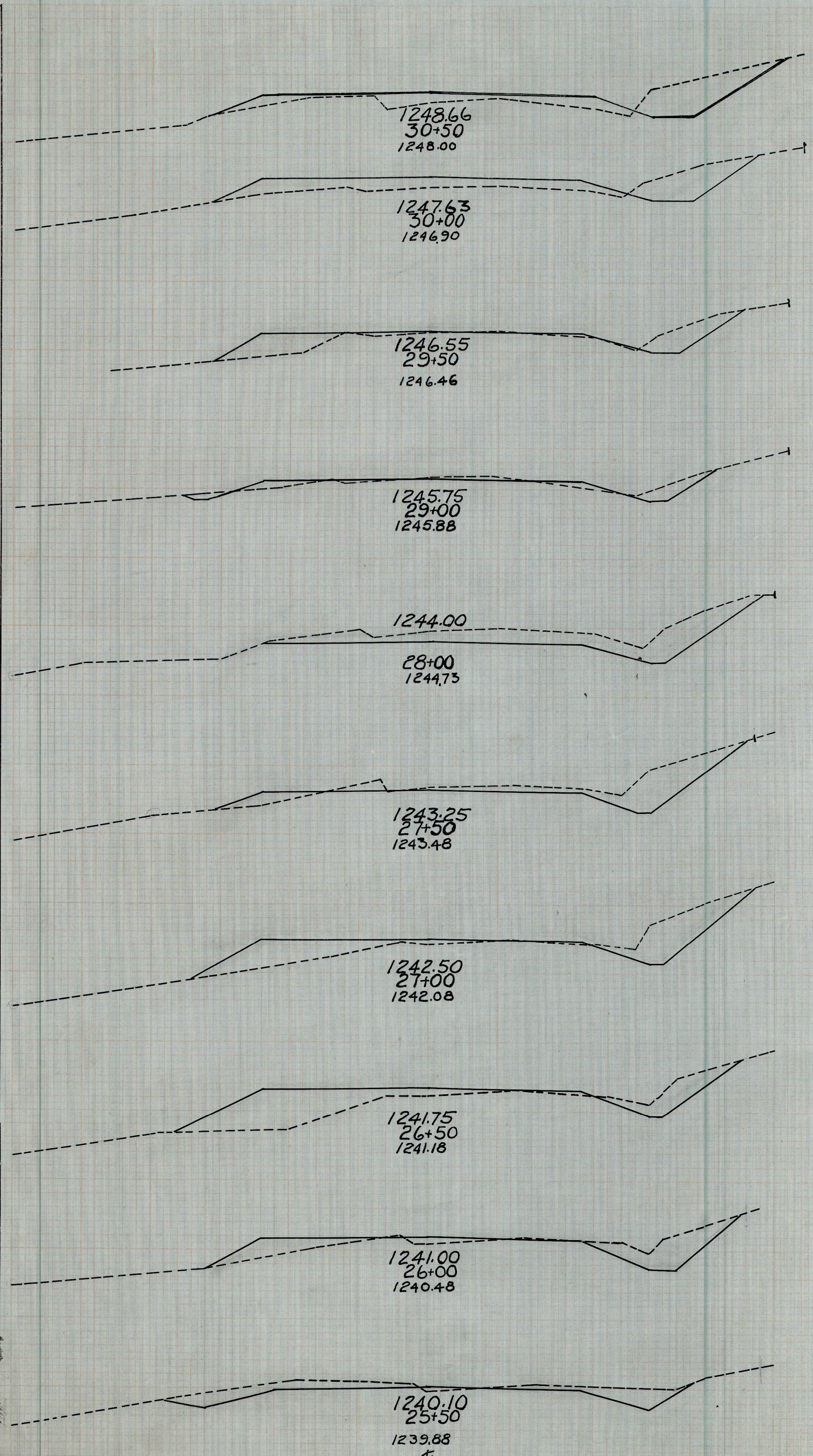
End Area		Cu. yd.	
C	F	C	F
50	0	132	0
92	0	182	0

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 NOTE BOOK NO. 100  
 AREA CHECKED

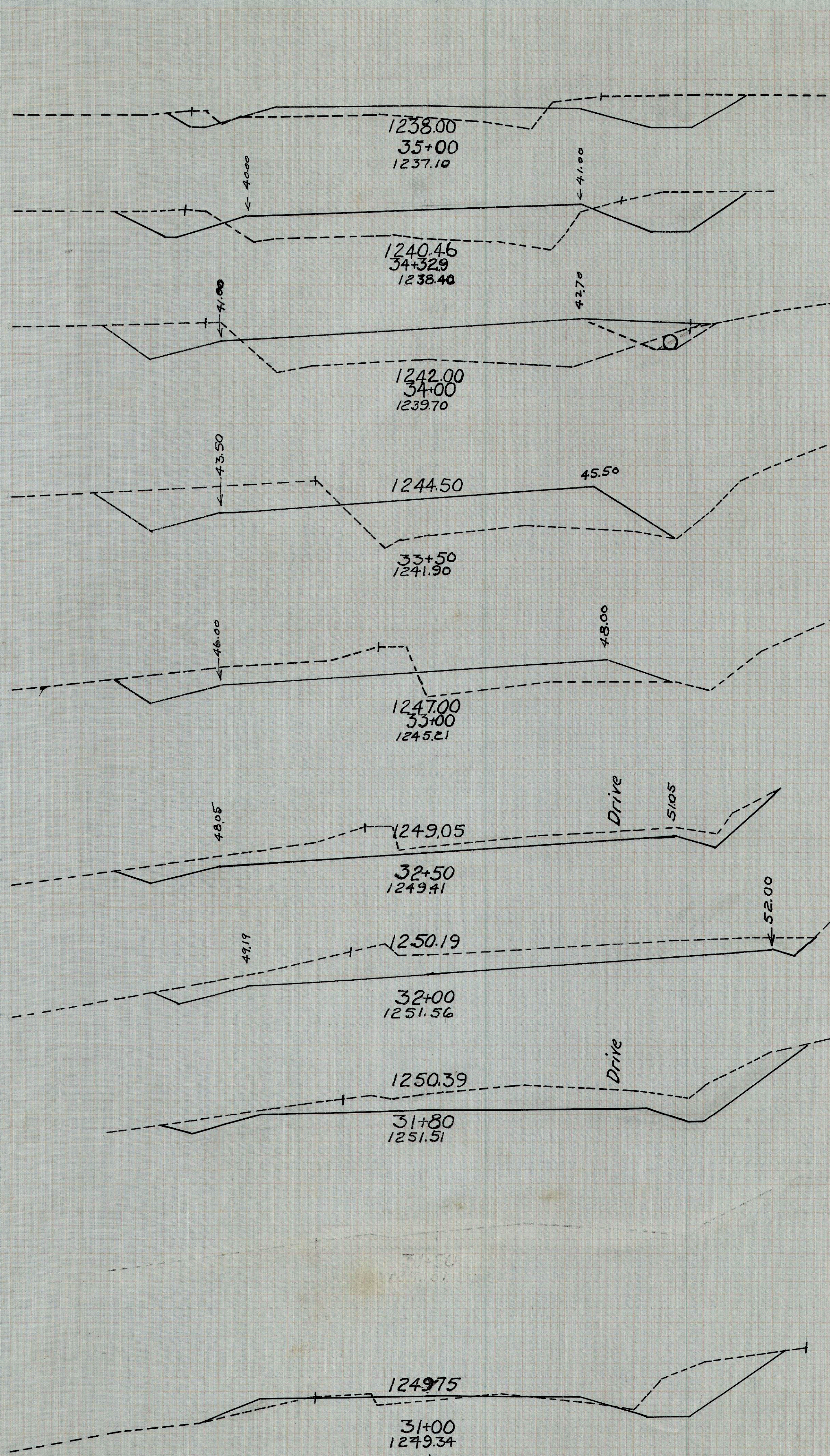
ORIGINAL SURVEY PLOTTED  
 NOTE BOOK NO. 100  
 AREA CHECKED



End Area	Cu. Yd.
Cut, Fill	Cut, Fill
18 16	
28 37	
13 23	
18 37	
7 17	
12 21	
6 6	
74 11	
34 0	
50 6	
21 5	
35 30	
17 27	
25 60	
10 34	
20 46	
12 16	
27 16	
17 1	
62 1	



End Area	Cu. Yds.
Cut, Fill	Cut, Fill
22 19	
57 98	
25 59	
24 78	
14 68	
44 112	
34 53	
59 72	
31 25	
65 18	
40 0	
82 0	
48 0	
39 0	
56 0	
115 6	
21 7	
36 20	

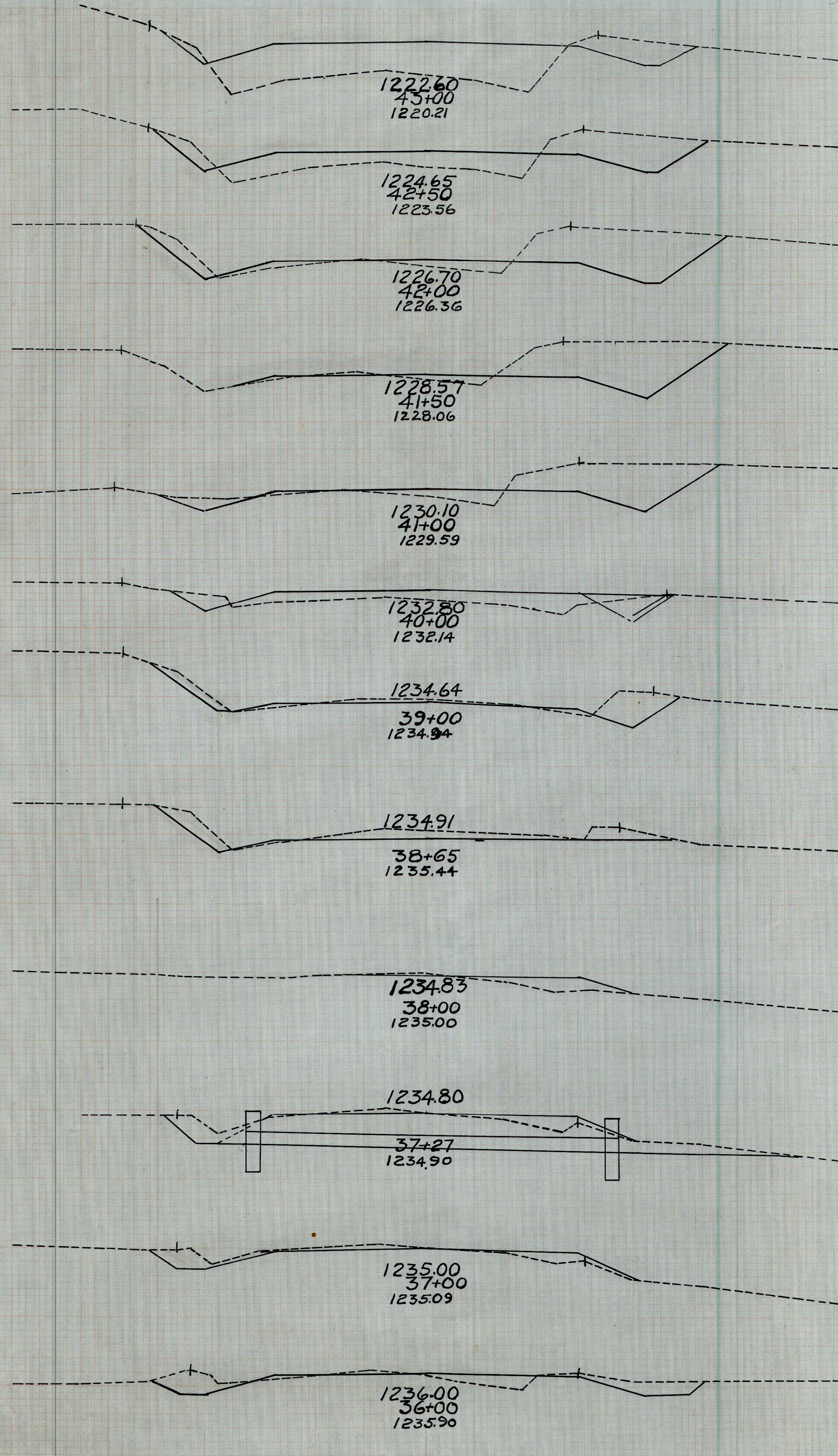


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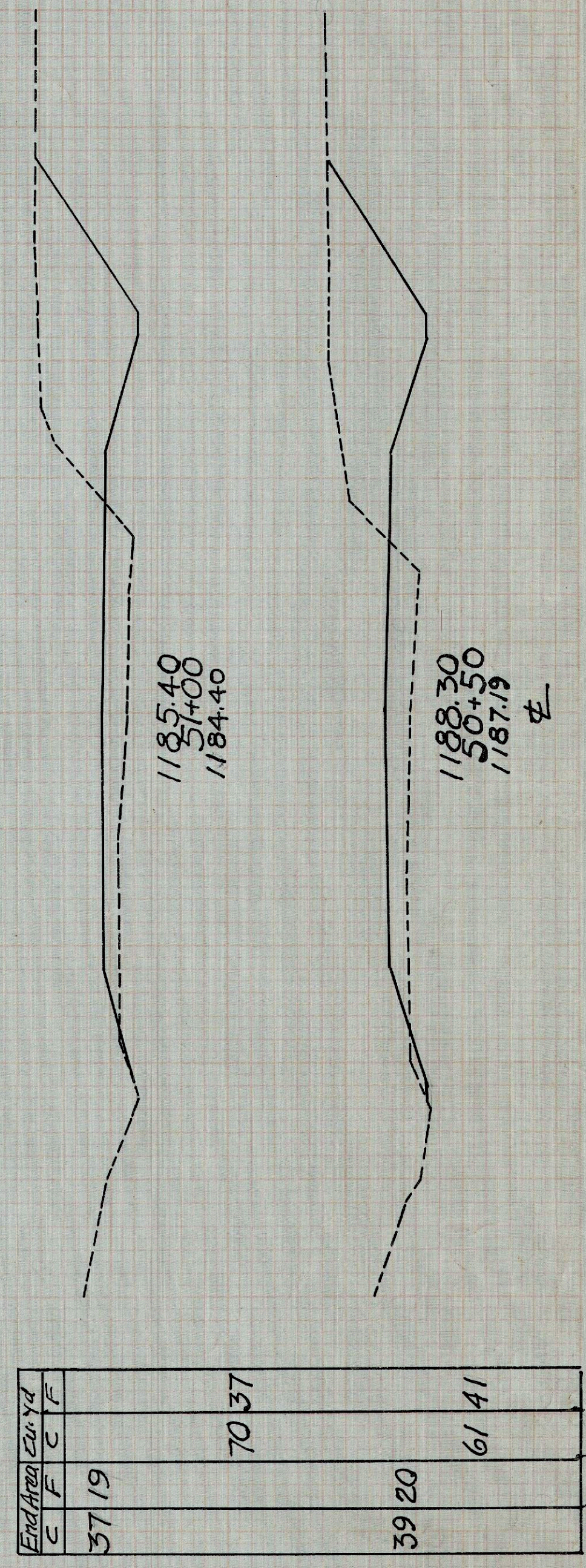
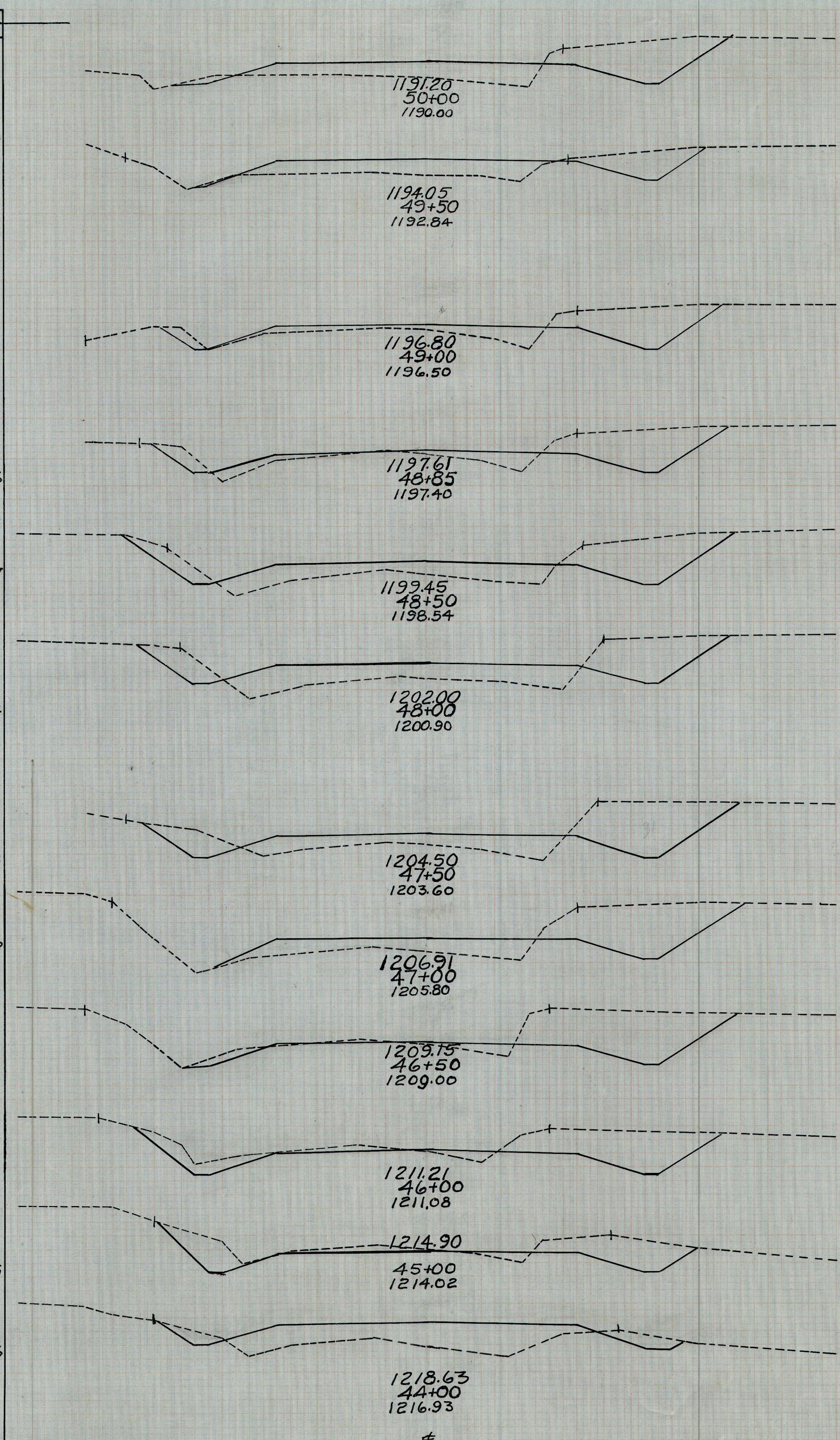
ORIGINAL SURVEY NOTE BOOK NO.



End Area		Cu yd	
C	F	C	F
13	65		
		35	87
25	28		
		61	35
41	10		
		75	14
40	5		
		67	14
32	10		
		70	57
6	21		
		39	43
15	2		
		22	2
17	0		
		22	11
2	9		
		11	24
8	9		
		9	9
11	6		
		41	22
11	6		
		61	46



End Area		Cu yd	
C	F	C	F
27	23		
		46	44
12	25		
		35	33
26	10		
		15	8
30	13		
		41	26
32	28		
		59	57
32	34		
		66	54
39	24		
		70	44
37	23		
		76	26
45	5		
		76	8
38	3		
		118	13
26	4		
		61	83
7	41		
		37	196



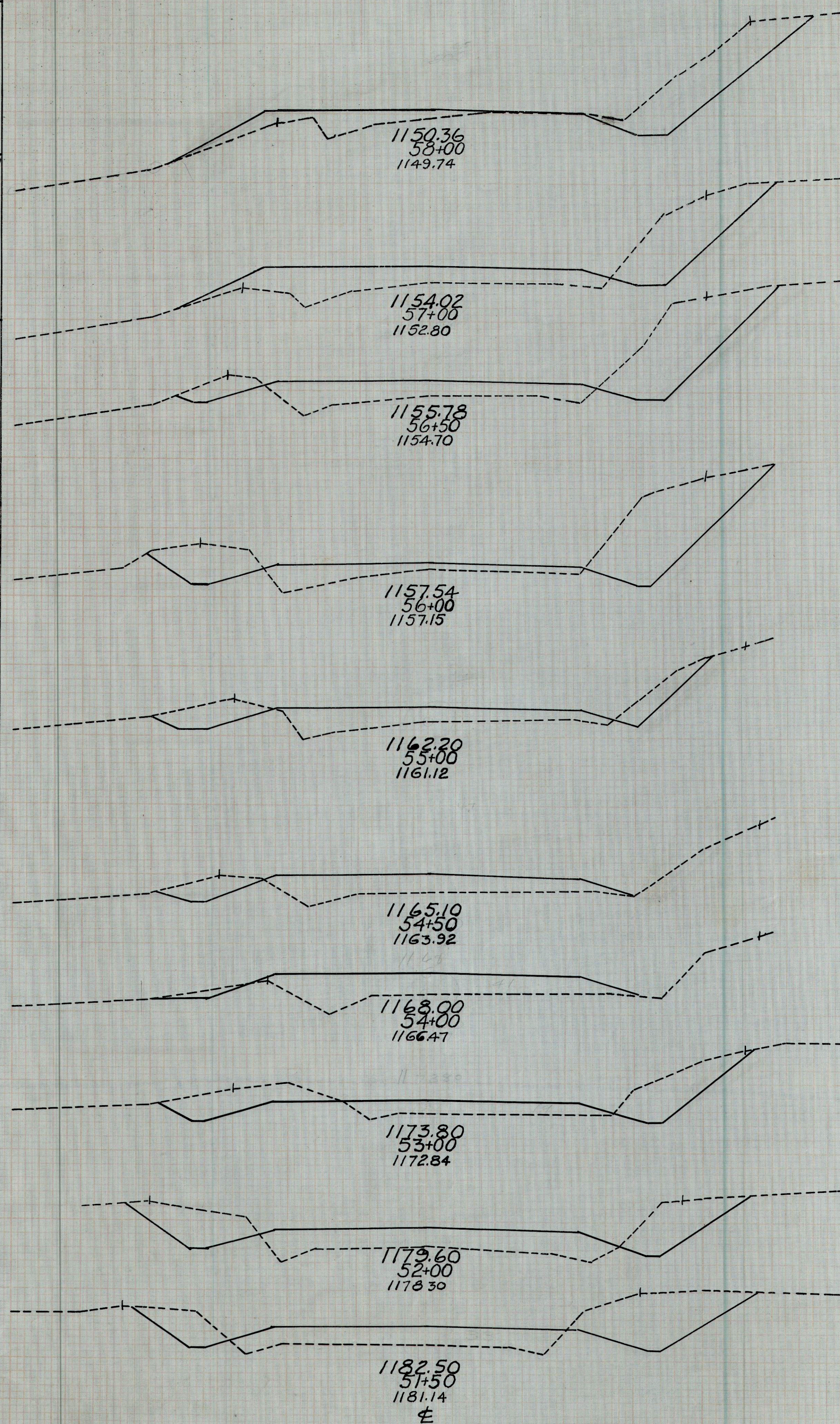
End Area		Cu yd	
C	F	C	F
57	19		
		70	37
		39	20
		61	41

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 NO. DATA CHECKED

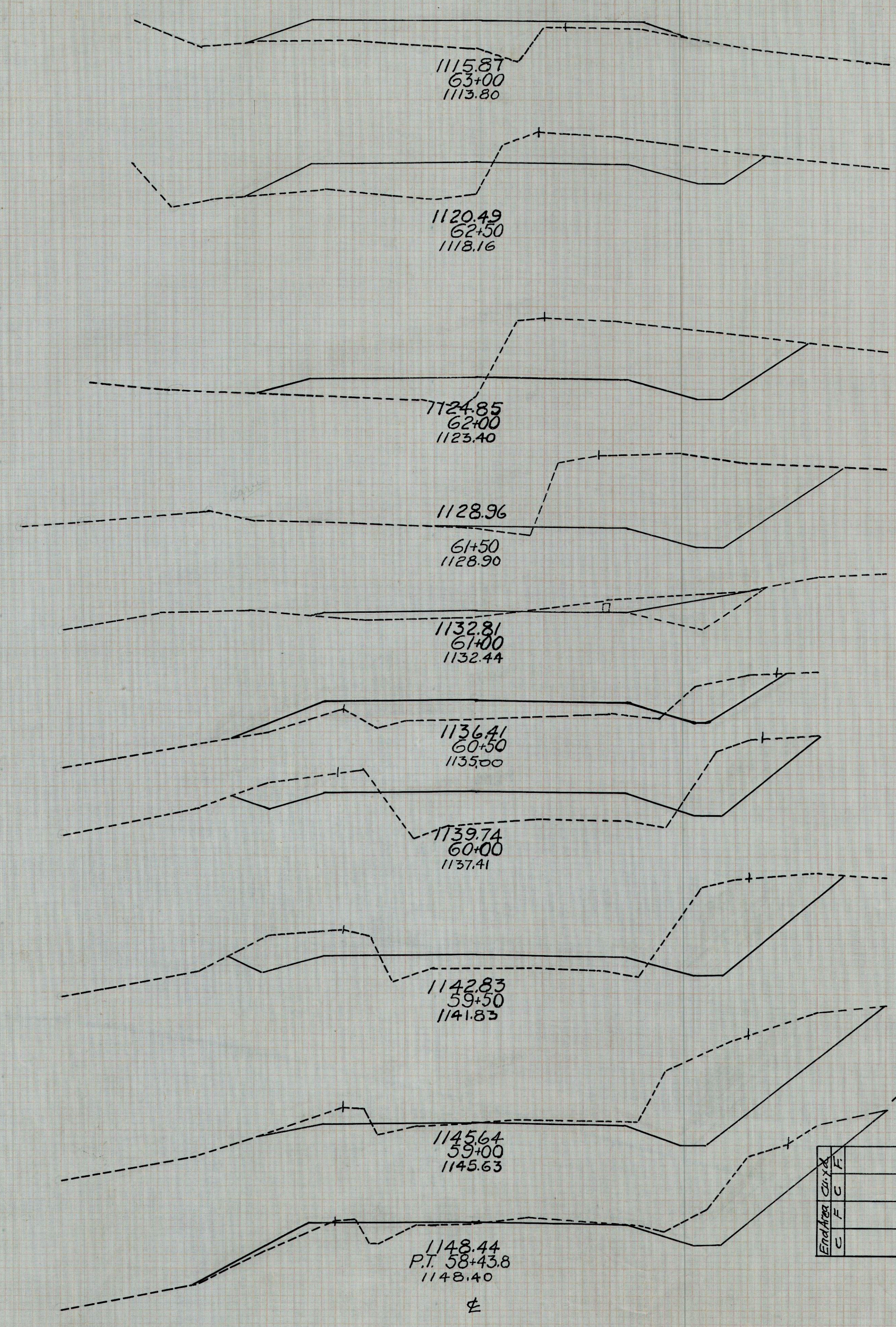
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 NOTE BOOK AREA  
 NO. DATA CHECKED



End Area		Cuyd.	
E	F	C	F
37	19		
132	103		
34	40		
76	65		
48	30		
104	46		
64	20		
146	93		
15	30		
20	56		
7	30		
9	67		
3	41		
70	111		
35	19		
128	106		
34	38		
72	67		
44	33		
65	48		



End Area		Cuyd.	
E	F	C	F
0	41		
30	71		
40	35		
118	56		
87	24		
173	24		
100	2		
87	9		
19	8		
18	38		
13	34		
50	74		
42	46		
102	61		
68	20		
135	20		
79	2		
128	9		
45	6		
67	20		



End Area		Cuyd.	
E	F	C	F
33	7		
46	22		
17	16		
13	54		

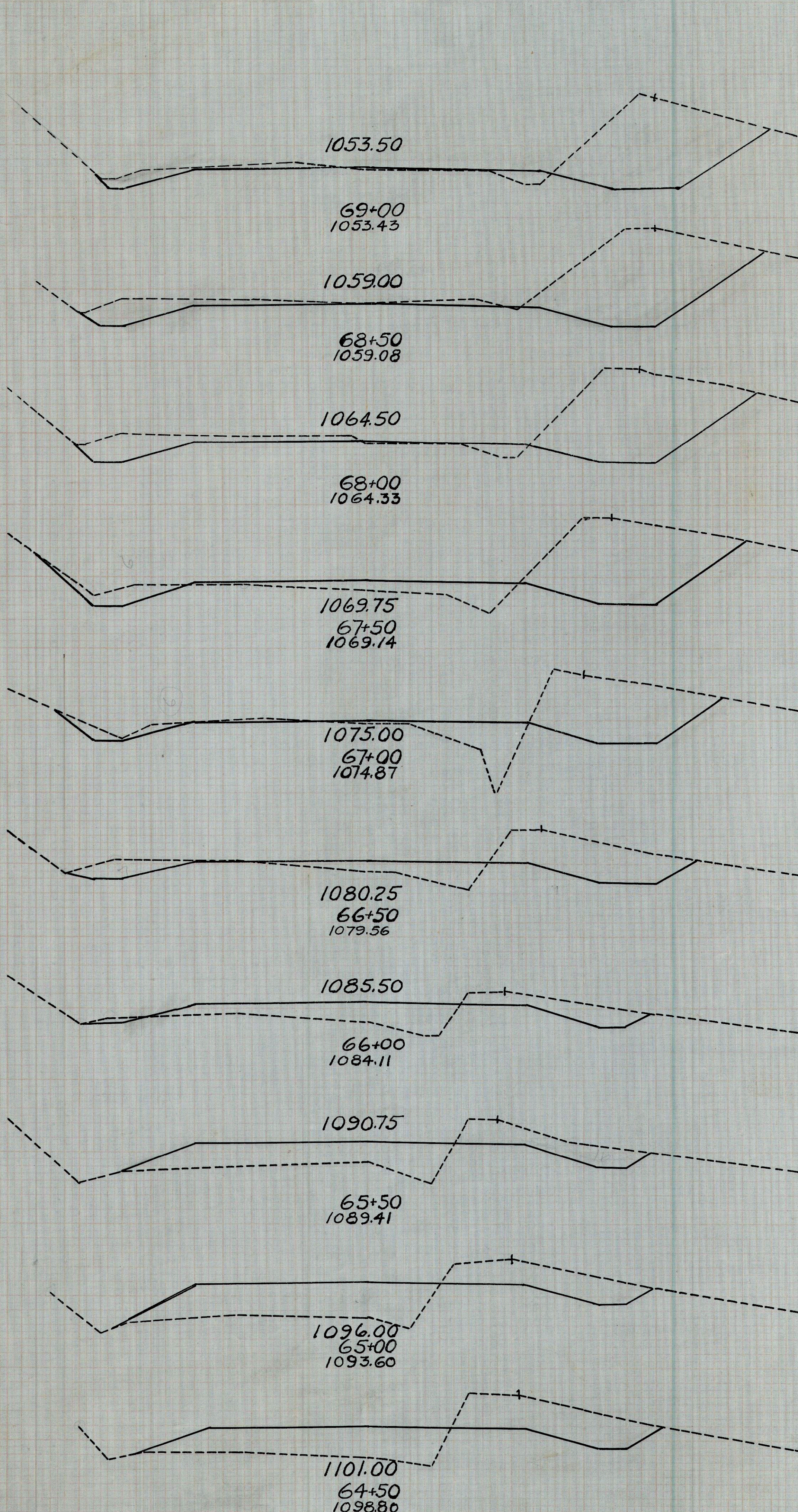
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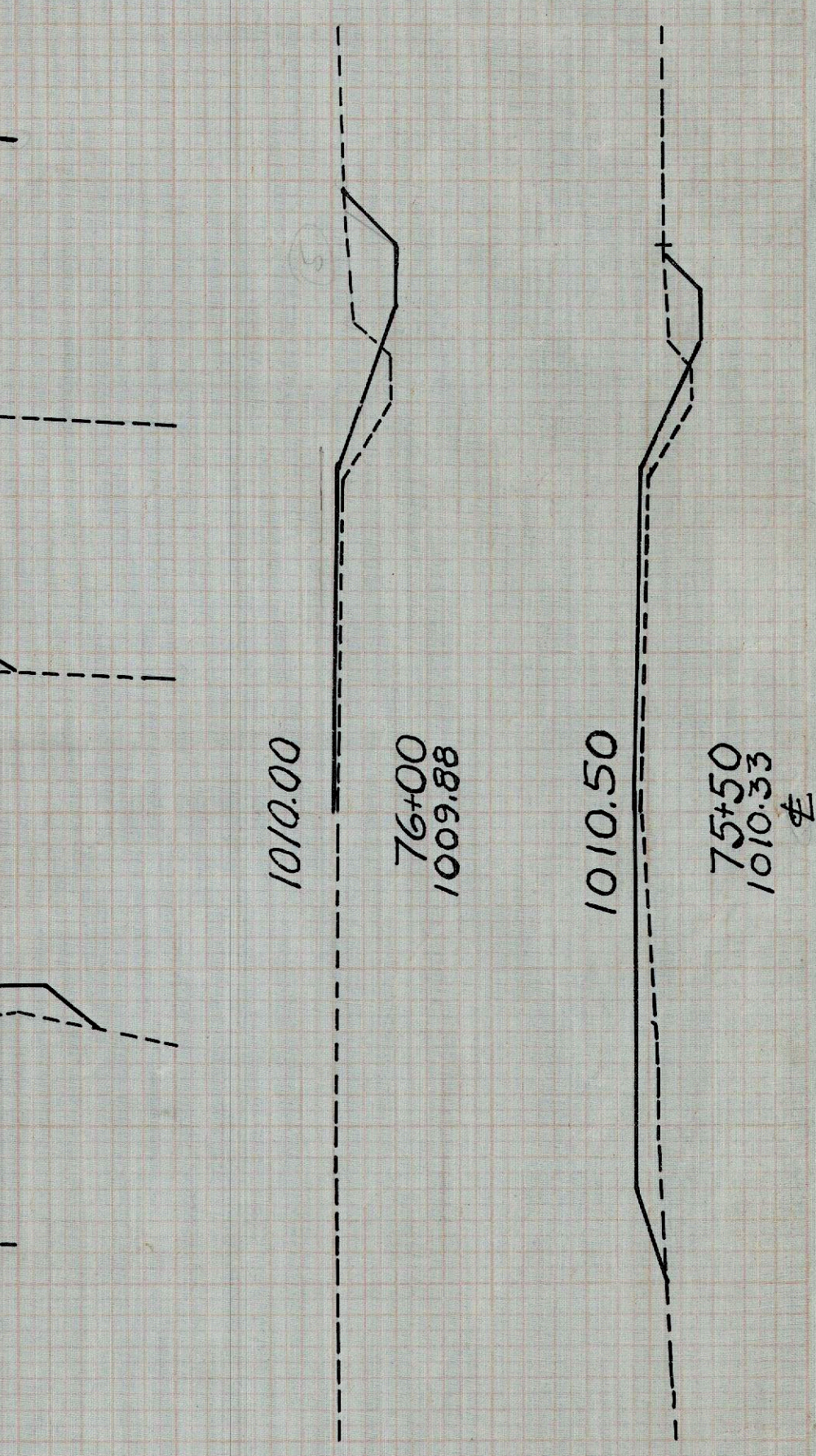
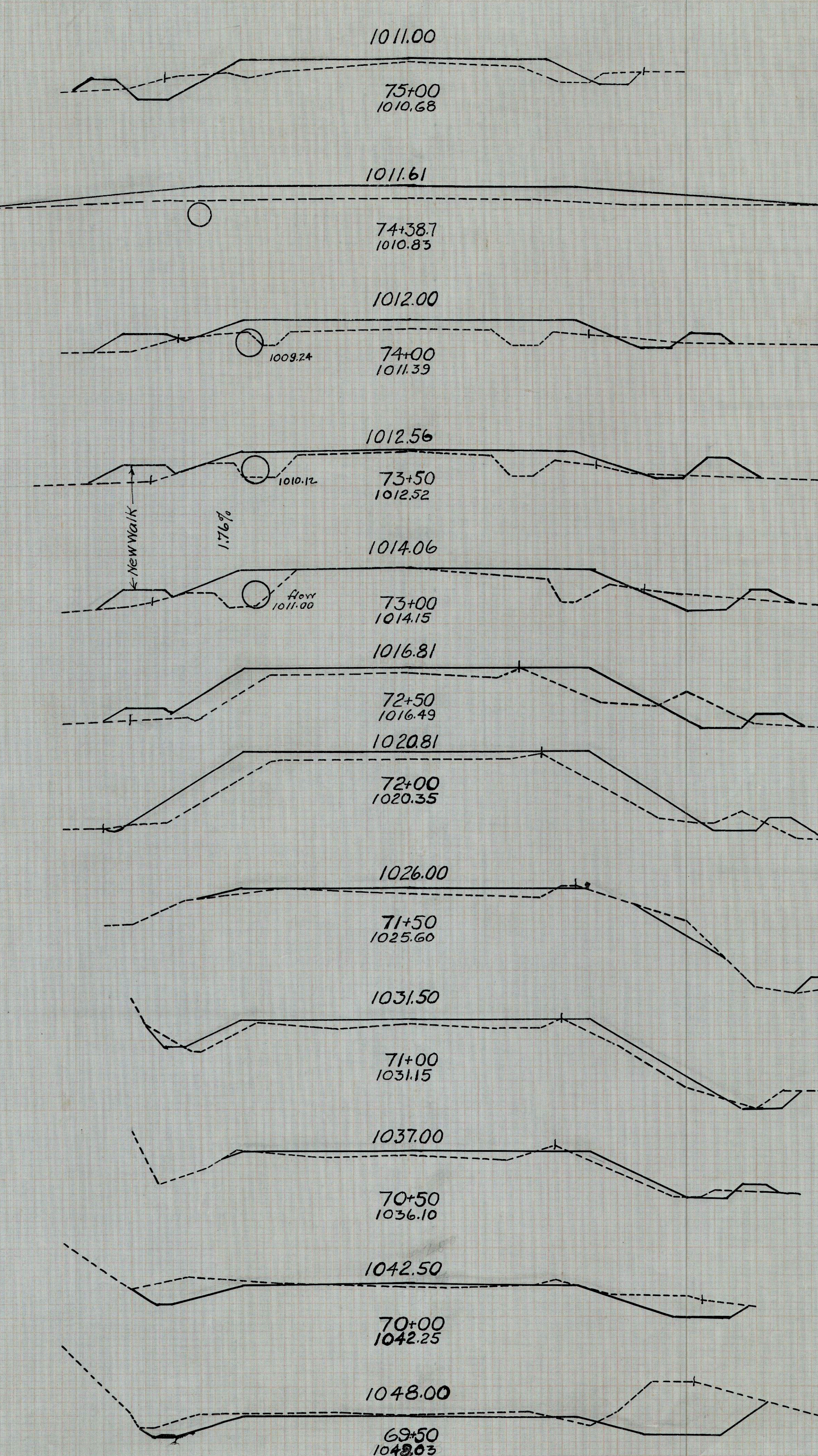
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End Area		cu yd	
C	F	C	F
64	3		
	132	3	
79	0		
	148	4	
78	3		
	132	20	
64	18		
	104	32	
49	17		
	76	28	
35	13		
	43	35	
11	25		
	25	56	
16	35		
	35	74	
22	45		
	48	60	
31	37		
	60	41	



End Area		cu yd	
C	F	C	F
8	20		
	8	54	
0	45		
	2	57	
2	35		
	3	66	
1	36		
	5	63	
5	32		
	10	65	
6	38		
	8	79	
3	47		
	7	58	
4	14		
	7	33	
3	22		
	4	37	
1	17		
	18	20	
19	4		
	48	5	
33	1		
	89	4	

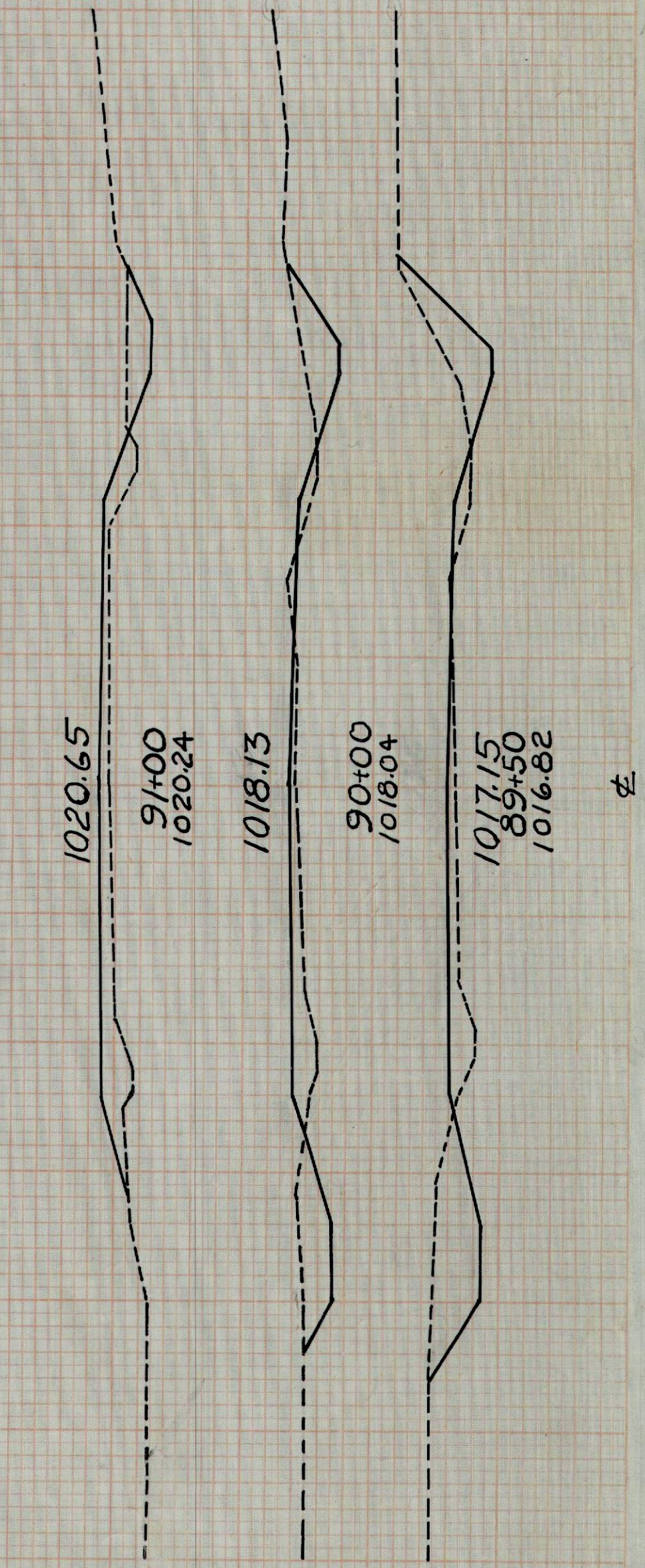
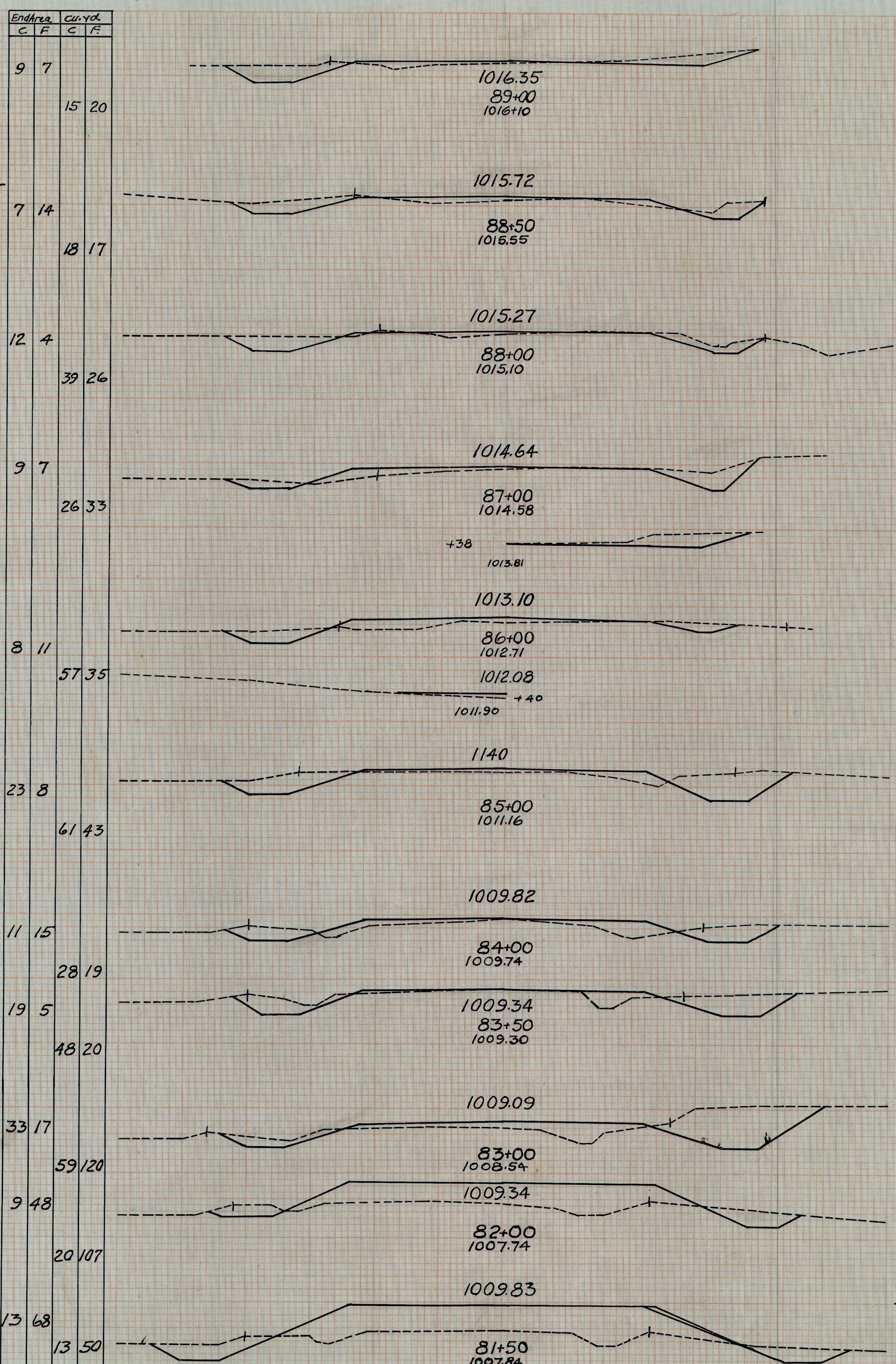
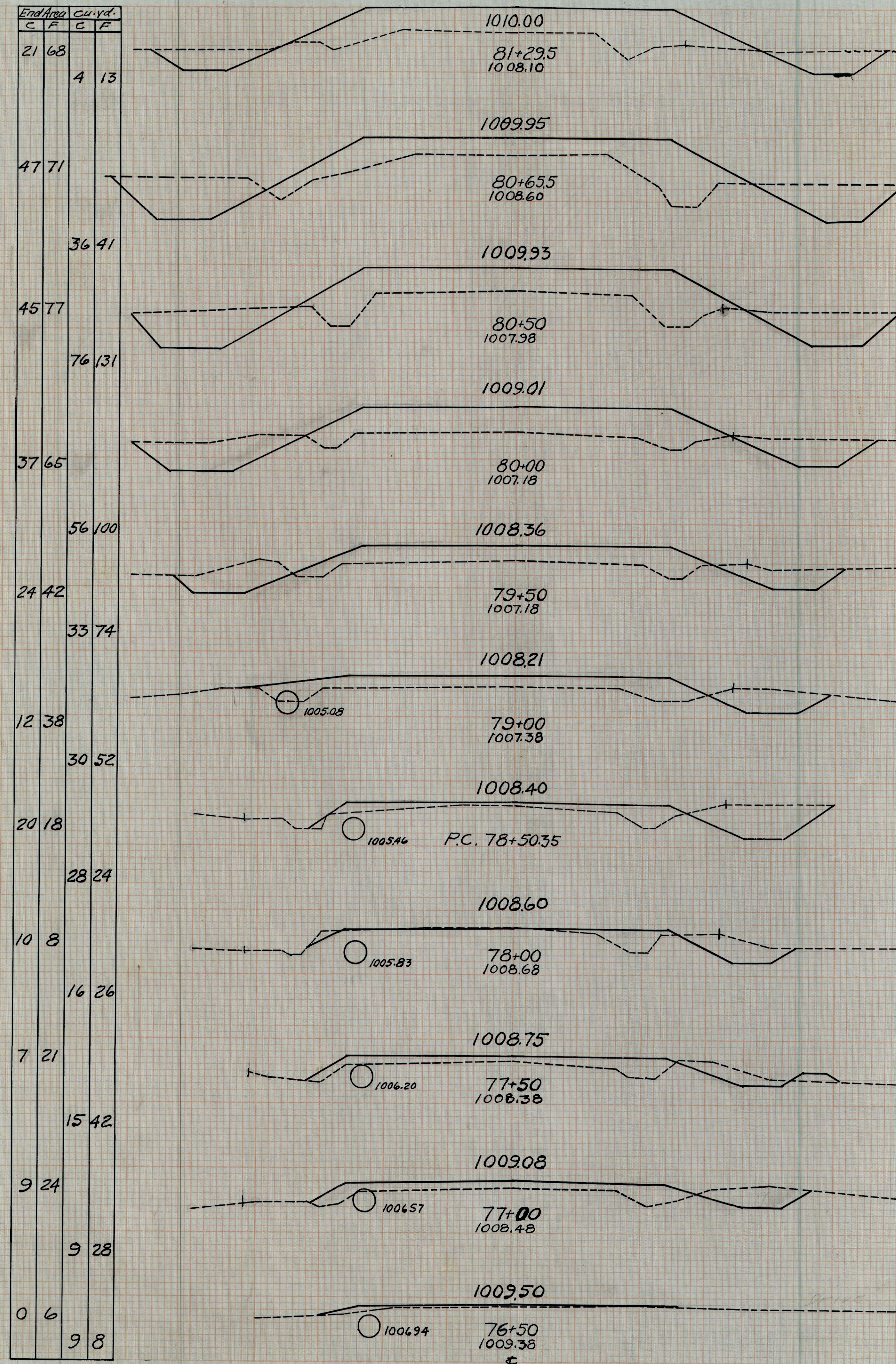


End Area		cu yd	
C	F	C	F
5	3		
	8	15	
3	13		
	9	31	

ORIGINAL SURVEY  
 DATE: \_\_\_\_\_  
 SURVEY NO: \_\_\_\_\_  
 NOTE BOOK NO: \_\_\_\_\_  
 AREA: \_\_\_\_\_  
 DATE: \_\_\_\_\_

ORIGINAL SURVEY  
 DATE: \_\_\_\_\_  
 SURVEY NO: \_\_\_\_\_  
 NOTE BOOK NO: \_\_\_\_\_  
 AREA: \_\_\_\_\_  
 DATE: \_\_\_\_\_





End Area		Cu. yd.	
C	F	C	F
3	15	24	43
10	8	26	18
18	11	24	18

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ORIGINAL SURVEY PLOTTED, TEMPLATE, NOTE BOOK, AREA CHECKED.



End Area		Cu. yd.	
C	F	C	F
12	16		
12	36		
1	22		
37	52		
39	34		
89	78		
57	49		
117	87		
69	46		
74	57		
11	16		
50	37		
64	24		
109	32		
54	11		
82	13		
34	3		
48	37		
19	37		
21	63		
4	31		
7	43		

End Area		Cu. yds.	
Cut	Fill	Cut	Fill
58	0		
120	0		
72	0		
159	2		
100	1		
139	11		
50	11		
46	41		
1	33		
2	91		
0	65		
0	122		
0	22		
0	57		
2	40		
4	69		
3	34		
4	32		
9	7		
19	21		

1051.50  
96+00  
1051.40

1047.50  
96+00  
1046.40

1043.66  
95+50  
1041.26

1040.13  
95+00  
1038.16

1036.91  
94+50  
1035.26

1034.10  
94+00  
1033.05

1031.25  
93+50  
1030.16

1028.63  
93+00  
1028.43

1026.25  
92+50  
1026.08

1024.13  
92+00  
1022.76

1022.26  
91+50  
1021.24

E

1066.44  
101+50  
1066.24

1067.60  
101+00  
1067.60

1068.00  
100+50  
1068.09

1068.00  
100+00  
1067.80

1067.95  
99+50  
1067.10

1067.12  
99+00  
1065.86

1065.30  
98+50  
1064.80

1062.70  
98+00  
1062.29

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102+50  
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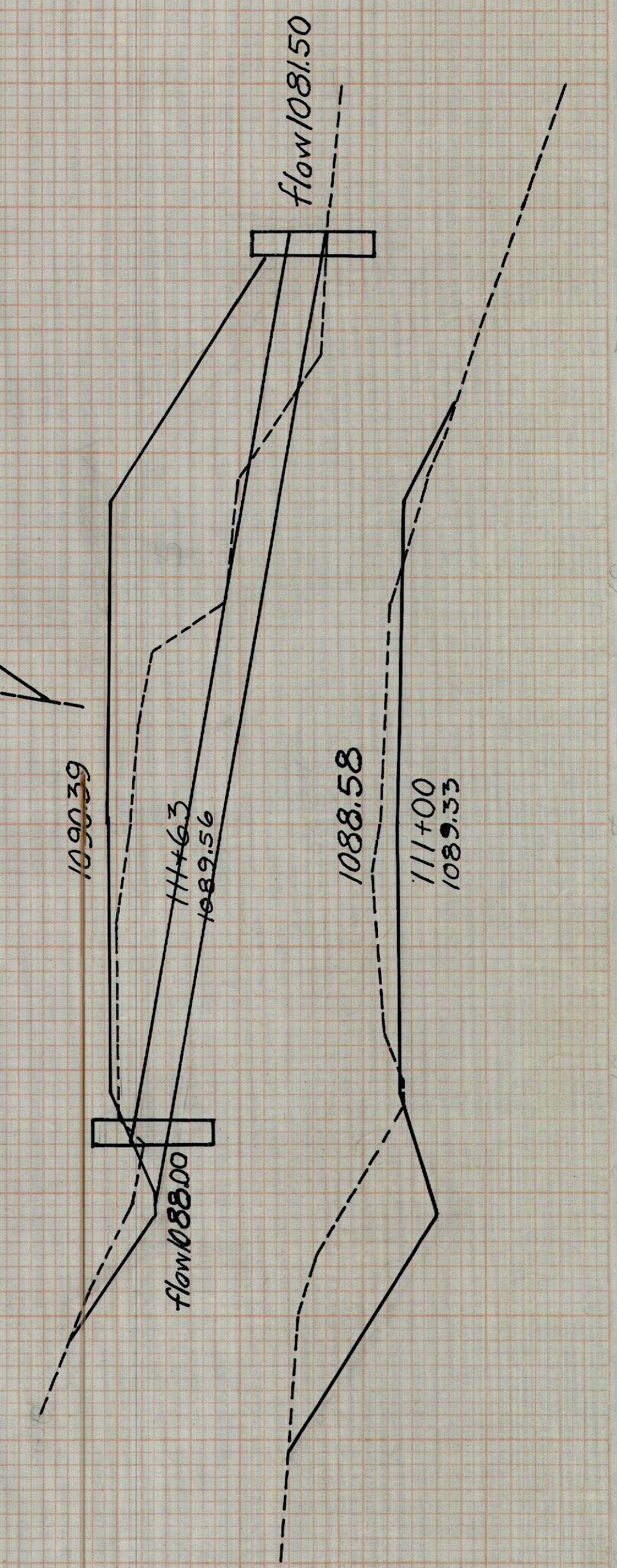
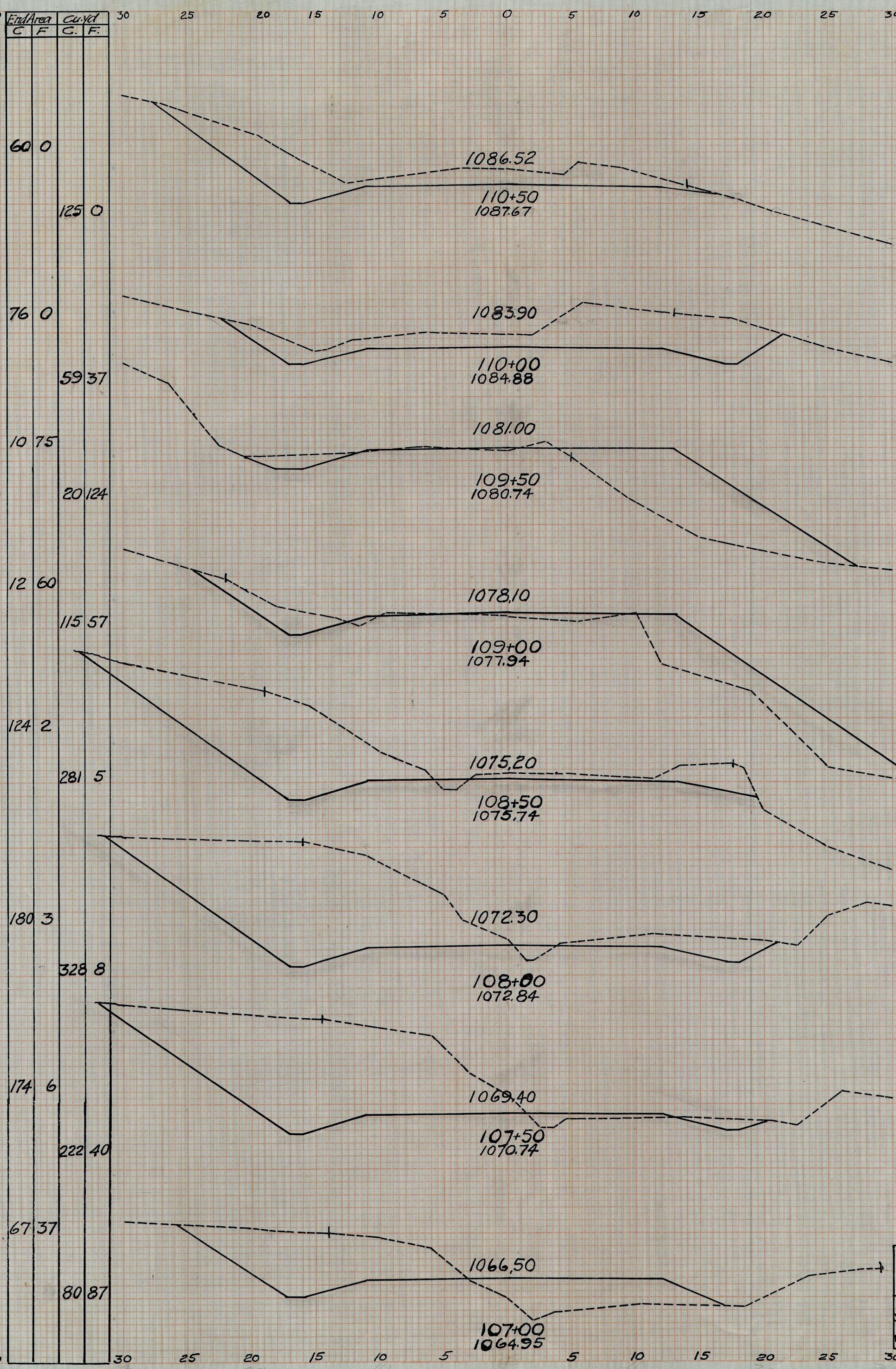
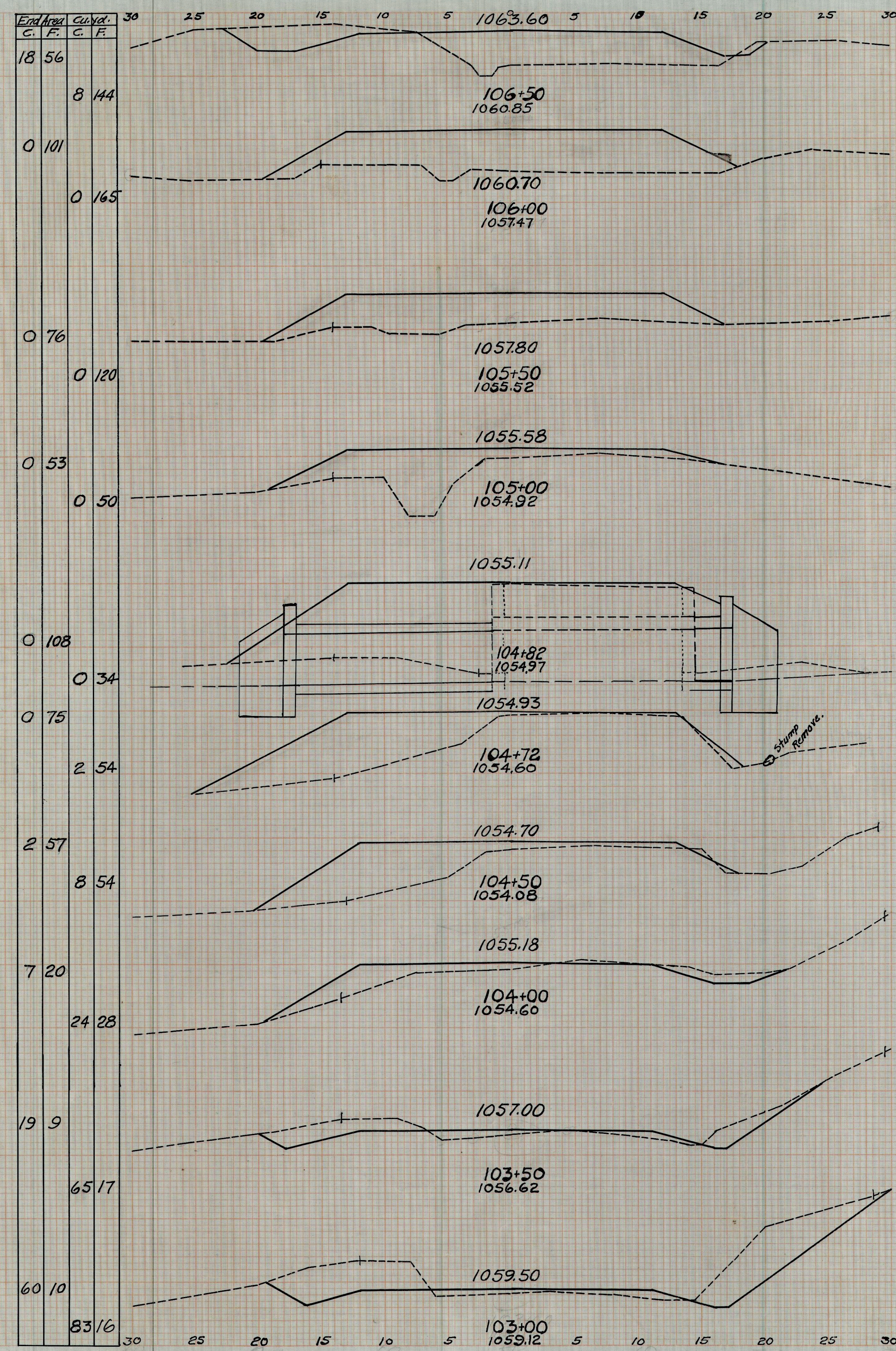
1064.49  
102+00  
1064.30

End Area	Cu. yds.
Cut	Fill
29	7
52	16
27	10
80	9



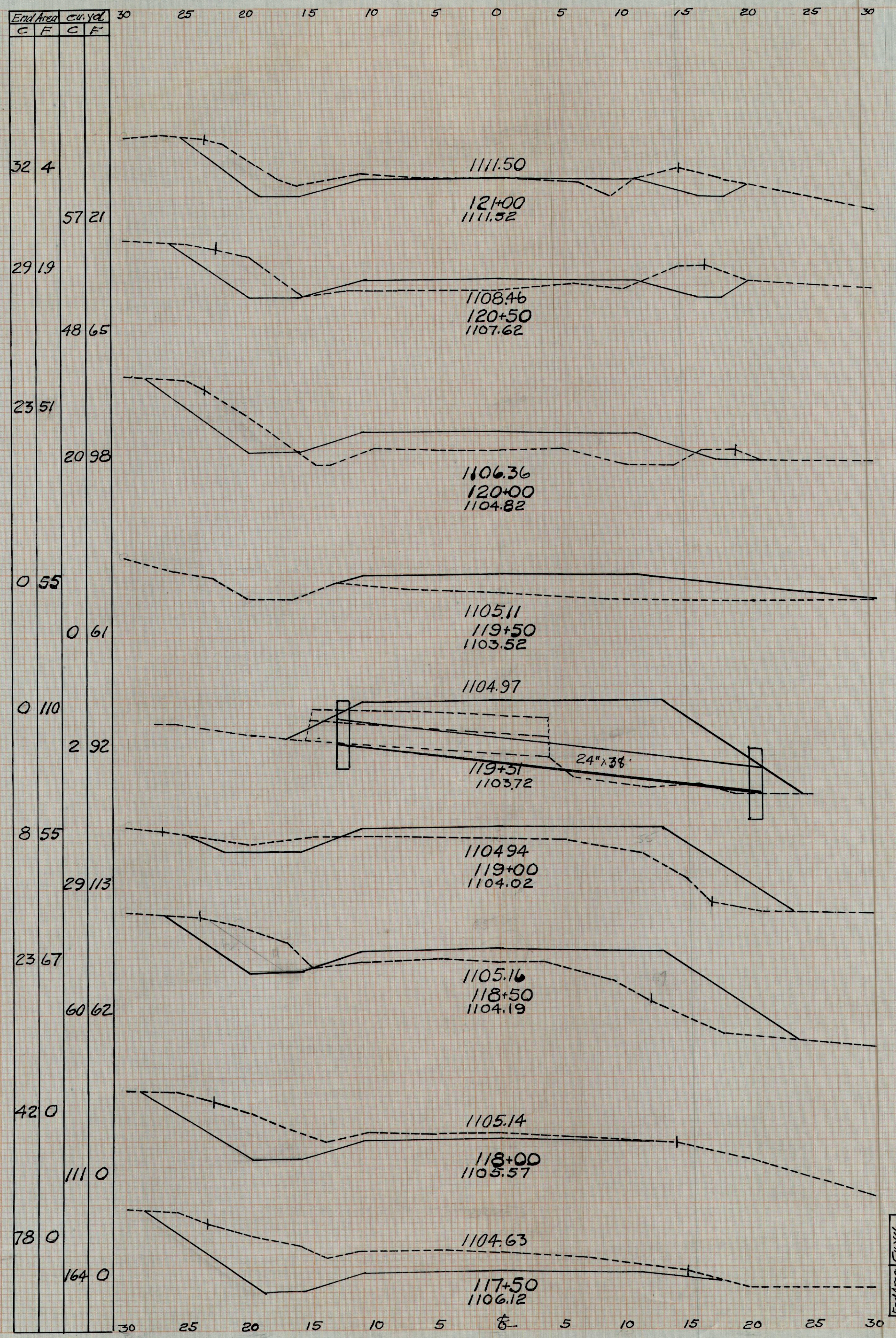
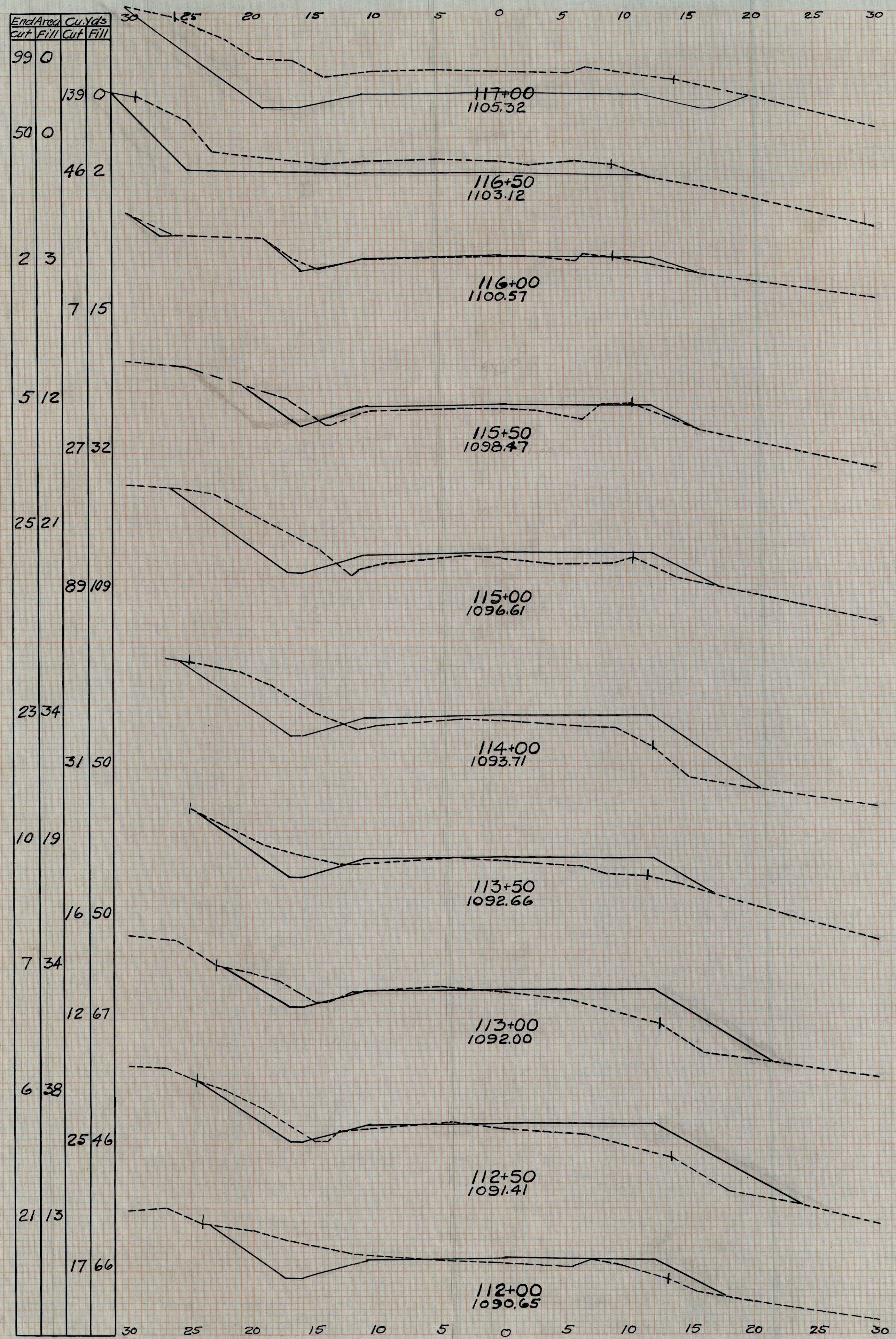
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 BY \_\_\_\_\_  
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 NOTE BOOK \_\_\_\_\_  
 TEMPLATES \_\_\_\_\_  
 AREAS \_\_\_\_\_  
 CHECKED \_\_\_\_\_

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 ORIGINAL SURVEY \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 TEMPLATES \_\_\_\_\_  
 AREAS \_\_\_\_\_  
 CHECKED \_\_\_\_\_



End Area C. F.	Cut/Fill C. F.	End Area C. F.	Cut/Fill C. F.
4	85	57	104
45	4	99	2



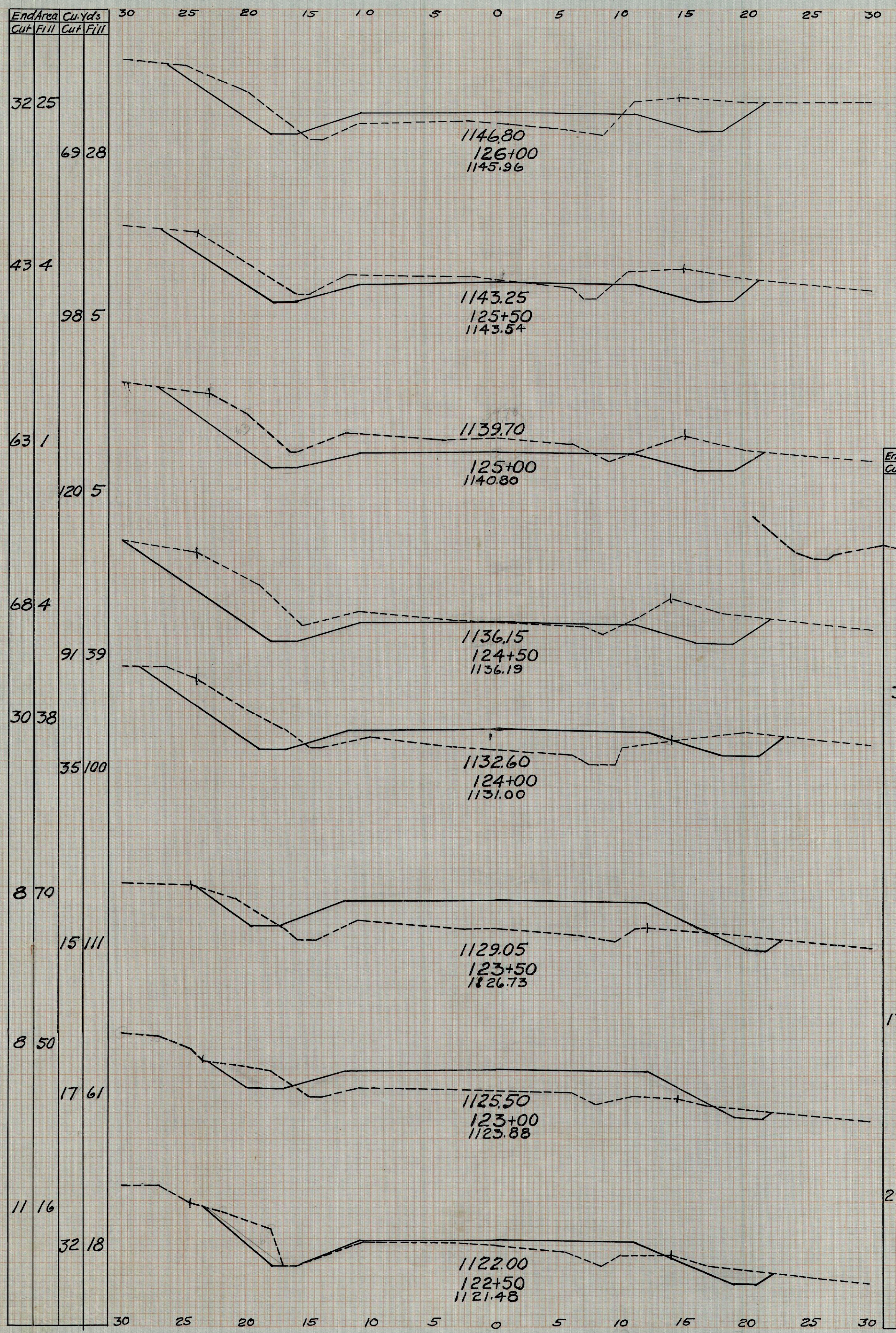


Station	End Area (Cut/Fill)	Cu. Yds. (Cut/Fill)
118+50	23 / 3	40 / 11
119+50	20 / 9	48 / 13

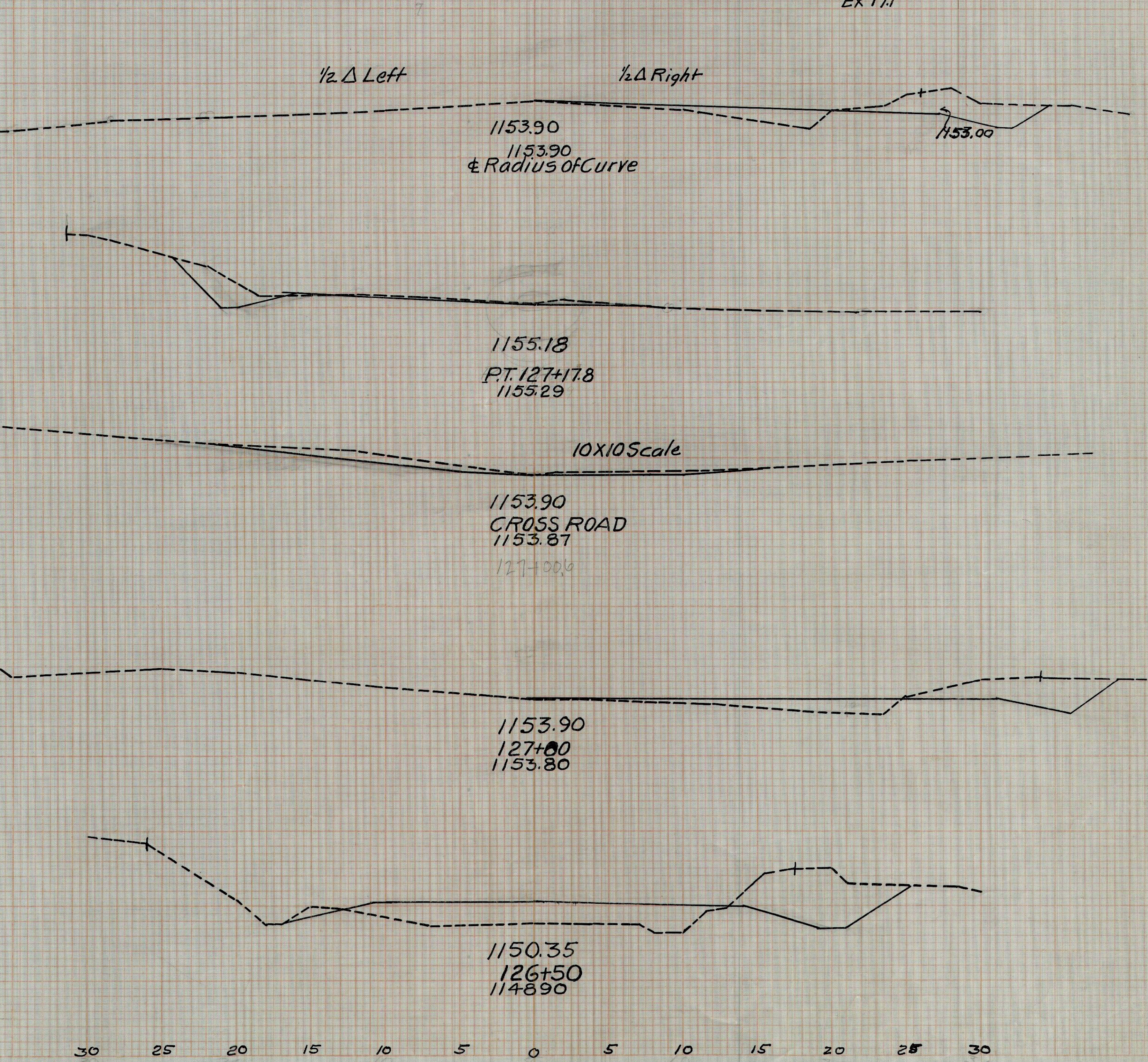


DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 FINAL SURVEY \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_

DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 ORIGINAL SURVEY \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 NO. \_\_\_\_\_

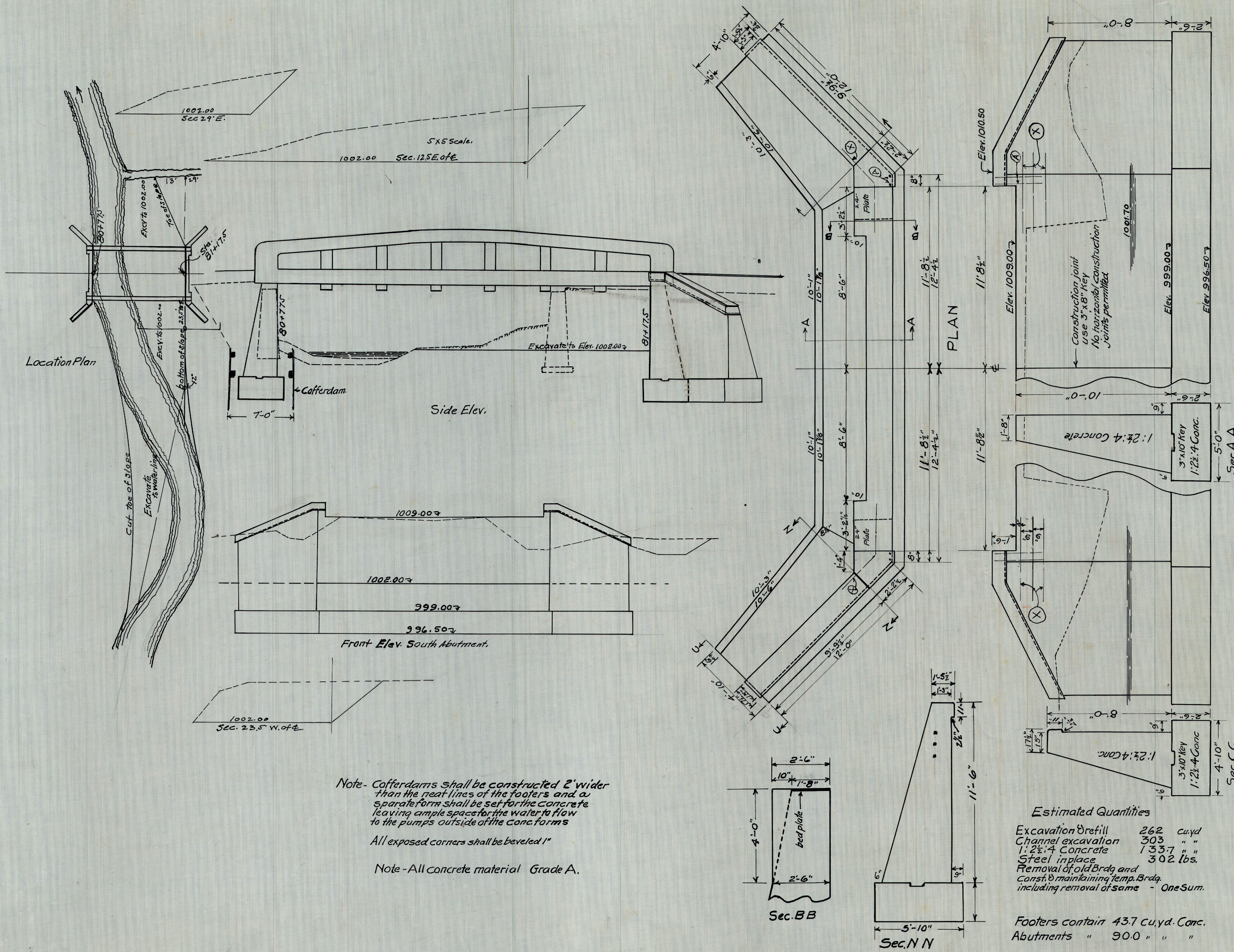


Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
127+00	1153.90	1153.87	17.12	8.70
127+17.8	1155.18	1155.29	6.10	3.0
127+50	1150.35	1148.90	56.56	27.34



Δ 60°-00  
 D 60°-00  
 T 59.70  
 Ex 17.1





Note - Cofferdams shall be constructed 2' wider than the neat lines of the footers and a separate form shall be set for the concrete leaving ample space for the water to flow to the pumps outside of the conc. forms  
All exposed corners shall be beveled 1"  
Note - All concrete material Grade A.

Estimated Quantities

Excavation & fill	262	cu yd
Channel excavation	303	" "
1:2 1/2 : 4 Concrete	1337	" "
Steel in place	302	lbs.
Removal of old Brdg and Const. & maintaining temp. Brdg. including removal of same	-	One Sum.

Footers contain 43.7 cu yd. Conc.  
Abutments " 90.0 " " "

Note - Present Steel bridge shall be moved about 40' west and placed on firm supports for a temporary crossing and a temporary roadway shall be constructed and maintained during the construction of this bridge and when the same is completed the temporary structure shall be removed and all rubbish cleaned up.

Channel excavation shall be placed on roadway for embankment  
All concrete shall be protected from the Sun and air and shall be kept wet for 6 days.  
All workmanship and material shall conform to Specifications - State Highway Specifications for 1925 shall control.  
All exposed surfaces shall have a corborandum rubbed finish  
Slump for concrete 4 to 2"

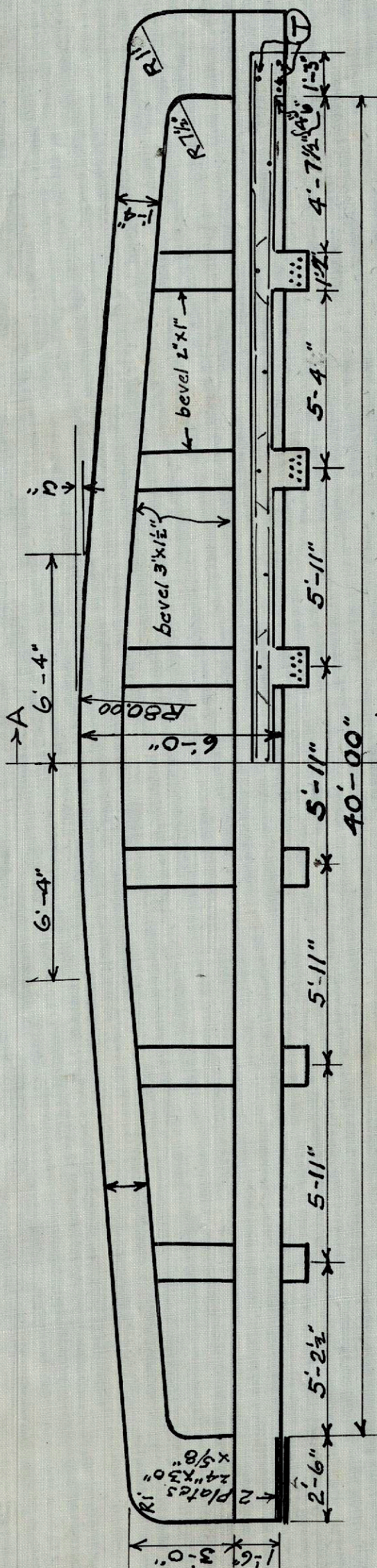
Scale 3" = 1 in.

Steel List  
8 A bars 1/2" φ 3'-0" ..... 164  
12 X bars 1" φ 7'-0" ..... 286#

**SUBSTRUCTURE**  
**FOR CONCRETE BRIDGE**  
**STA 80+97.5 ROAD N° 157**  
**WINESBURG-WALNUTCREEK RD.**  
**STRUCTURE N° 10**  
**SHEET N° 2. 1926**

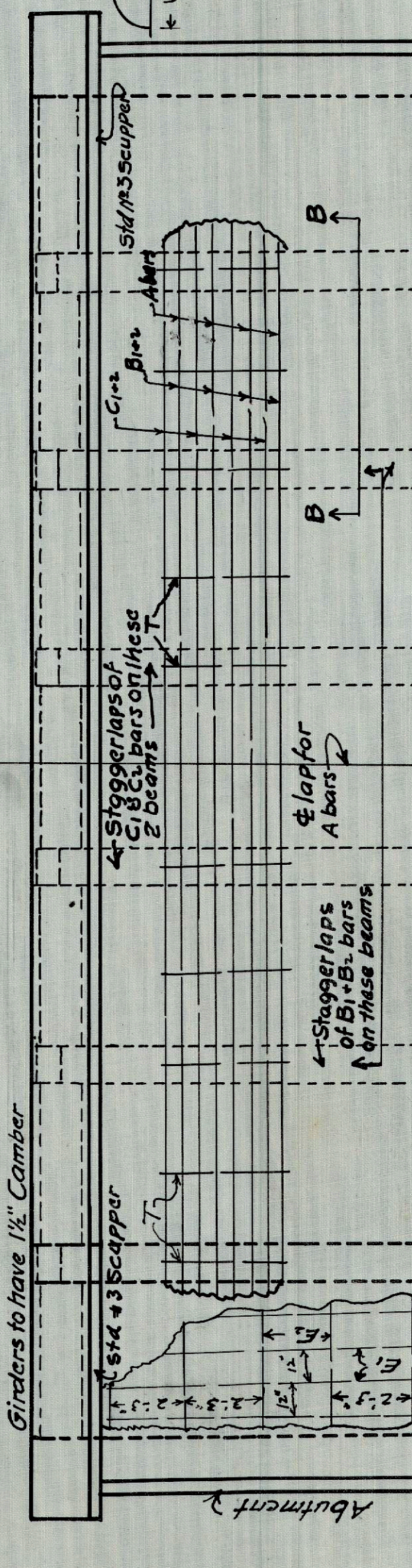


MARK	SIZE	NUMBER	LENGTH	WEIGHT	SHAPE
<b>Slab</b>					
T	1/2" φ	19	22'-0"	278 #	Straight
A	1/2" φ	38	22'-0"	711	"
B1	"	21	13'-0"	232	"
B2	"	21	31'-0"	533	Bent
C1	"	20	26'-0"	442	"
C2	"	20	20'-0"	340	"
<b>Beam</b>					
Total 2556					
Q1	1" φ	6	23'-6"	479	Bent
Q2	"	6	23'-6"	479	"
Q3	"	6	23'-6"	479	"
R1	"	6	29'-0"	592	"
R2	"	6	26'-0"	530	"
R3	"	6	28'-0"	571	"
R4	"	6	28'-6"	581	"
Sb	1/2" φ	174	5'-0"	582	"
<b>Girder Bars (Total)</b>					
4293					
M1	1 1/8" φ	2	44'-6"	383	Straight
M2	1" φ	2	35'-8"	243	Bent
M3	"	2	44'-2"	300	"
M4	"	2	44'-2"	300	"
M5	1 1/8" φ	2	35'-8"	243	Straight
M6	1 1/8" φ	2	44'-6"	383	"
N1	1" φ	2	44'-6"	383	"
N2	1" φ	2	44'-6"	383	"
N3	1" φ	2	48'-2"	388	Bent
N4	1" φ	2	44'-6"	383	Straight
N5	1 1/8" φ	2	44'-6"	383	"
N6	1" φ	2	44'-6"	383	"
S1	1/2" φ	8	13'-3"	90	Bent
S2	"	8	12'-3"	83	"
S3	"	8	11'-3"	77	"
S4	"	8	10'-3"	73	"
<b>Total</b>					
4203 #					
<b>Structural Steel</b>					
4 Plates 98" x 24" x 3/8" Placed on one side 510 #					
<b>Wearing Surface</b>					
E1	3/8" φ	86	9'-6"	307	Cross way
E2	"	20	22'-0"	166	Long way
<b>Total</b>					
473 #					



HALF SIDE ELEVATION

HALF LONGITUDINAL SECTION

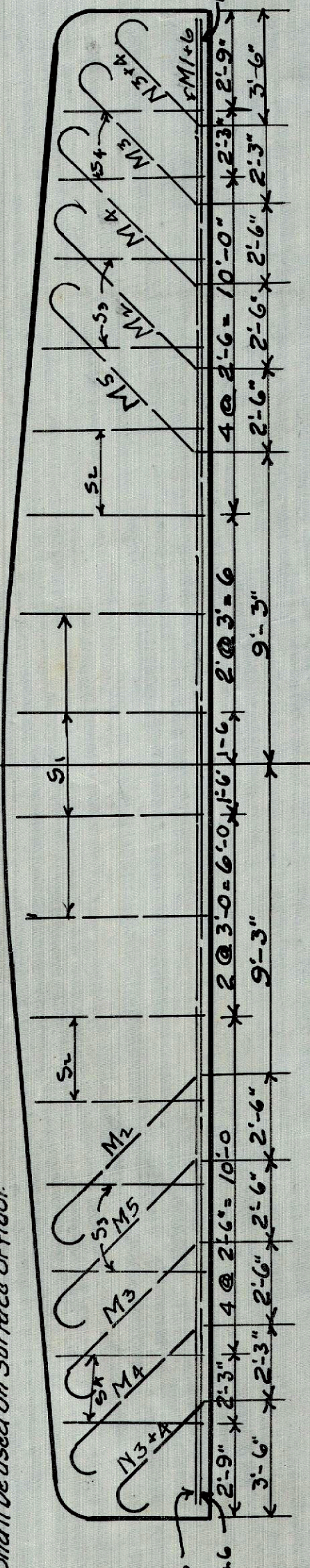


PLAN

HALF

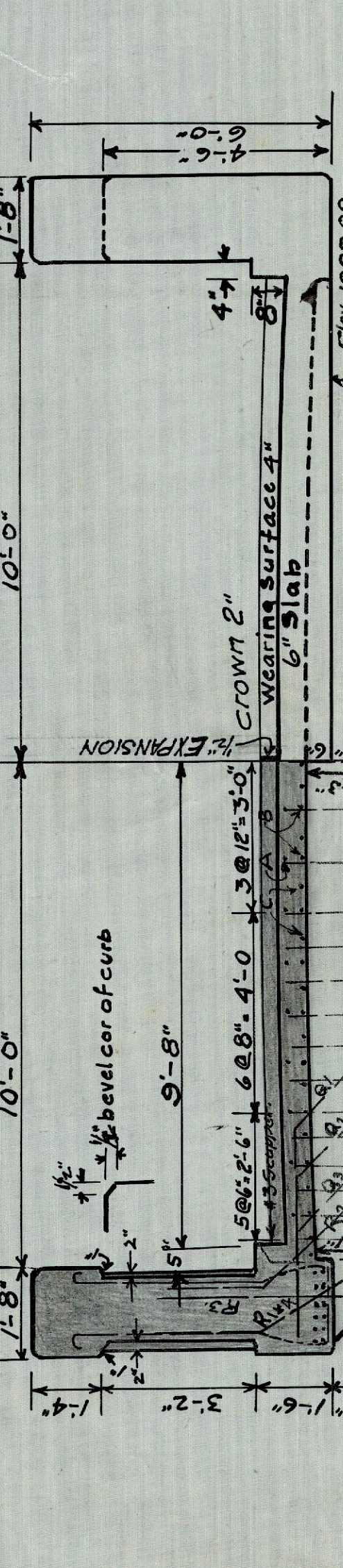
Note - A bars are to be placed in top of Slab over B bars. 1" from top  
B & C bars are to be placed in bottom of slab and are to alternate at 6" and 1" from bottom.  
Wearing Surface Steel shall be 3/8" bars spaced 2'-3" for longitudinal bars and 12" for cross bars 2" from top 2 ply for paper shall be used on surface of floor.

2 Steel plates 24" x 30" x 3/8" placed on faces to 9/16" shall be placed face to face with graphite between under each girder at one end of bridge and the abutment of this end shall be covered with 2 layers of 2 ply for paper. All four corners shall be separated from wing walls by 1/2" prepared expansion felt.



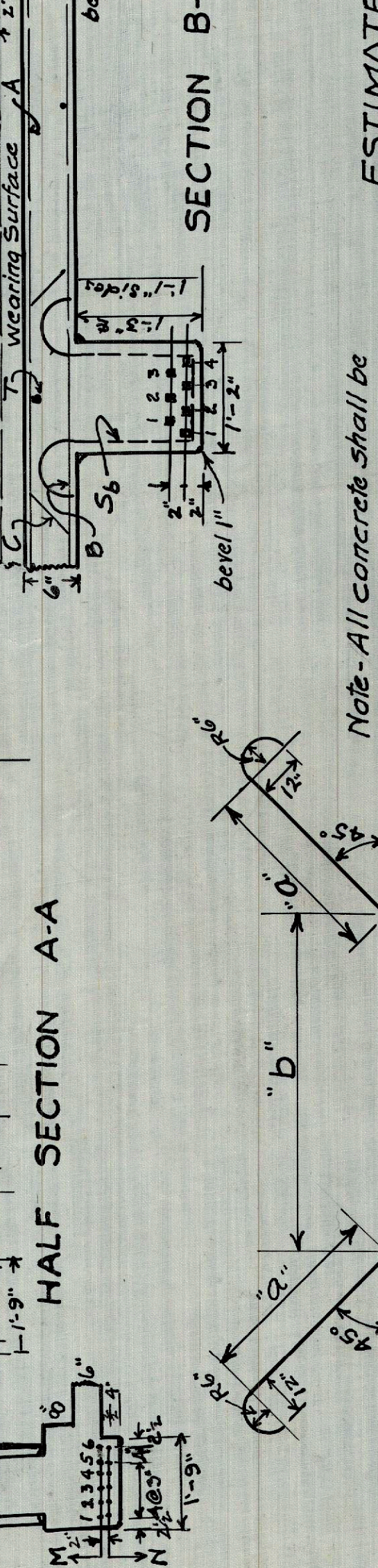
SIDE ELEVATION SHOWING GIRDER REINFORCEMENT

HALF END VIEW



HALF SECTION A-A

SECTION B-B



GIRDER BARS

MARK	"a"	"b"
N3	3'-6"	38'-0"
N4	3'-6"	38'-0"
M3	5'-0"	31'-0"
M4	5'-0"	31'-0"
M2	5'-9"	21'-0"
M5	5'-9"	21'-0"

Slump for conc. for banding Steel 4"  
" " " balance of conc. 2"

Note - All concrete shall be cured by being protected from sun and air and kept wet for 6 days  
All of the girder and curb surfaces shall have a corundum rubbed surf.  
All reinforcing steel shall be fastened and held firm by metal Saddles, Separators, chairs and ties. No conc. blocks, wood or stone permitted  
Bridge shall be poured by one continuous operation  
All concrete material Grade "A".

ESTIMATED QUANTITIES  
1:2:3 Concrete 50.2 cu. yd.  
Reinforcing Steel 11552 lbs.  
Structural Steel 510 #  
Expansion felt 1/2" 20 sq. ft.  
Wearing surface 40:1:3 conc. 91.3 sq. yd.  
Rubbed surface finish 150 sq. yd.  
2 ply tarred paper 880 sq. ft.  
Bar Saddles, Separators, chairs & ties - Sum.  
FOR SUBSTRUCTURE SEE SHEET #2.

Note - All workmanship and material must conform to specifications for Concrete Structures State Highway Specifications for 1925 shall control

**CONCRETE GIRDER BRIDGE**  
**SPAN 40' ROADWAY 20'**  
**LOADING T-15**  
**STA. 80+97.5**  
**WINESBURG-WALNUTCREEK RD.**  
**No 157 STRUCTURE No 10.**  
W.L.R. Eng. Feb. 1926.



## SUMMARY OF QUANTITIES

ITEM	ROADWAY	Quantity
R-1	Excavation	13672 cu.yds
R-1	Channel excavation	25 " "
R-1	Headwall excavation	6 " "
R-1	Clearing and grubbing right-of-way	One sum
S-7	Vitrified sewer pipe for driveways 10"	material Sec. 6.7 334 lin.ft.
S-7	" " " " " " " " " 12"	" " 6.7 132 " "
S-7	" " " " " " " " " 15"	" " 6.7 72 " "
S-8	Solid cast iron pipe " " " 18"	" " 6.2 16 " "
I-8	D.S. Vitrified sewer pipe for storm sewer 22"	" " 6.7 122 " "
I-8	" " " " " " " " " " 20"	" " 6.7 376 " "
S-1	Concrete for headwalls for storm sewer 1:2:3½	" " 2.1 + Sec. 3.1 or 2 4.4 cu.yd.
S-4	Reinforcing Steel	" " 7.1 85 lbs
R-3	Finishing shoulders, slopes & ditches both sides	12685 lin.ft.
R-4	Guard Rail Type "E" See Plan.	1886 " "

### PAVEMENT

T-2	Gravel paving 10" thick loose measure dragged & traffic bound	Sec. 3-12 19780 sq.yds
T-2	Gravel loose for approaches and private drives	" 3-12 122 cu.yds

### CULVERTS

R-4	Excavation and refill	225 cu.yds.
R-4	Channel excavation	35 " "
S-1+S-2	Concrete 1:2:3½	Material Sec. 2-1 & Sec. 3-1 or 2 81.6 " "
S-1+S-2	" " 1:2:2 Cover Slab	" " 2-1 & 3-1 or 2 0.3 " "
S-4	Reinforcing Steel	" " 7-1 3800 lbs.
S-1	Grouted stone paving 6" thick to 12" thick	22.4 sq.yds.
S-8	Solid Cast Iron Culvert Pipe 12"	" Sec. 6.2 173 feet
S-8	" " " " " " " " 16"	" " 6.2 44 "
S-8	" " " " " " " " 18"	" " 6.2 246 "
S-8	" " " " " " " " 24"	" " 6-2 38 "
S-8	" " " " " " " " 30"	" " 6-2 50 "
S-8	Sectional Iron pipe removed and relaid 12"	20 "
S-8	" " " " " " " " " 16"	16 "

### BRIDGES OVER 20 FT

R-4	Excavation and refill	Sec. 262 Cu.yds
R-4	Channel excavation	303 " "
S-1+S-2	Concrete Substructure 1:2½:4	Material, S. 2.1 and Sec. 3.1 + 2 133.7 " "
S-1+S-2	" " Superstructure 1:2:3	" Sec. 2.1 and " 3.1 + 2 50.2 " "
S-1	" " Wearing Surface 4" thick 1:2:3	" " 2.1 and " 3.1 + 2 91.3 sq.yds.
S-4	Reinforcing Steel	" " 7.1 11854 lbs.
S-5	Structural Steel Bearing plates planed 24" x 30" x 5/8"	" " 7-3 510 lbs
M-10	Expansion felt ½"	20 sq.ft.
M-10	Tarred Paper 2ply	880 sq.ft.
S-4	Metal bar saddles, Separators, Chairs and ties	One sum
I-14	Removal of old Structure and temporary road & bridge	One sum