

# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS  
Chicago New York San Francisco New Orleans Pittsburg Toronto

501

## DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be  $30.6 + (20 - 16) \div 2$  or 2 ft. added to  $30.6 = 32.6$ . For slopes of 1 on  $1\frac{1}{2}$  see inside of back cover.

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Pages

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" " " " 82+19.47 - 269+60.16	6-24
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Revision of pipeline " 131+73.24 - 155+12.45	28-29
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Location of pipe line from dam to  
Sta. angle 1

	N73°48'W	
+32.52	9°52' 1/2' EC.	
+25	9°31'	
37	8°17'	P.I. 36+32.36
+75	7°04'	Δ 19°45' R.
+50	5°51'	R 587.
+25	4°38'	T 102.18
36	3°24'	L 202.34
+75	2°11'	di 2.9283
+50	0°58'	d25 1°13.207

55+30.18 B.C.  
S 86°27'W Co. bearing Equations  
S 86°49'30" W

+17.34	8°32' 1/2' EC.	
35	7°50'	
+75	6°50'	
+50	5°50'	
+25	4°50'	
34	3°50'	P.I. 34+11.55
+75	2°50'	Δ 17°05' L
+50	1°50'	R 715.
+25	0°50'	T 107.39
		L 213.18
		di 2.409
		d25 1°00.1

33+04.16 B.C.  
N 76°05'30" W  
32+20.73 E.C.  
247.10

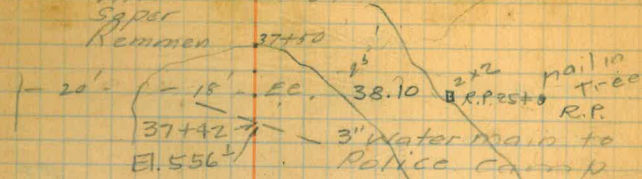
Contd. from Book 500-p5.

Lake side (cont. from book 500)

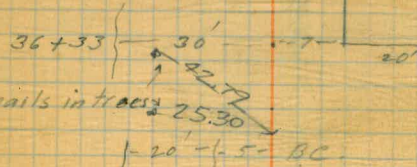
7/26/35

Hill  
SAPER  
Remmen

760+



City  
Garage



R.P.S. nails in trees 25.30  
20'-1.5' B.C.

20'-1.3' EC.

34+00 8'-12'

33+67.30 R.C.S.T. = 377+676.3  
P.I. co. rd. survey.

B.C. 4'-17'

Sta. distance bearing  
N 71° 53' W

+74.49 3° 57.2' E.C.

+75 3° 36'

+50 3° 07'

+25 2° 38'

13 2° 08'

+75 1° 40'

+50 1° 11'

+25 0° 42'

42 0° 12'

4148903 B.C. = (369 + 43<sup>10</sup> E.C. + 606)

N 79° 48' W

+78.25 3° 00' E.C.

+50 2° 36'

+25 2° 15'

59 1° 53'

+75 1° 32'

+50 1° 11'

+25 0° 49'

38 0° 28'

+75 0° 06'

37467.45 B.C.

curved data

P.I. = 42+91.93

Δ 7° 58' R

R 1487

T 102.90

L 205.46

d<sub>i</sub> 1.1859

d<sub>25</sub> 0° 28.9

P.I. 38+72.95

Δ 6° 00' L

R 2013

T 105.50

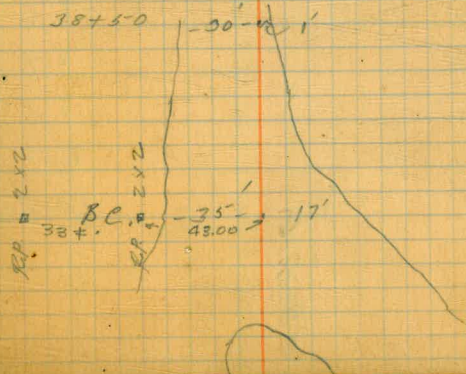
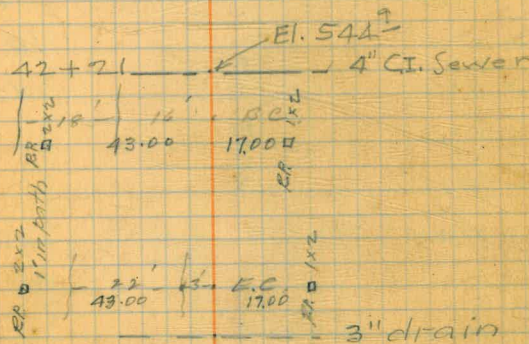
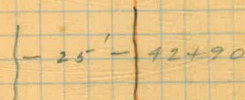
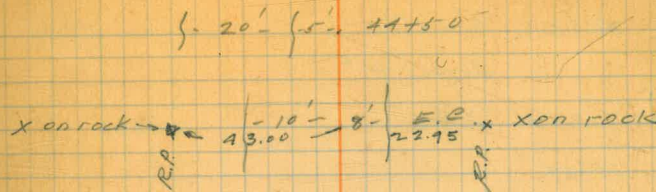
L 210.80

d<sub>i</sub> 0.8839

d<sub>25</sub> 0° 21.3174

419.18

242.61



Sta. dist. bearing  
N 60° 11' W

curve data

+283.9 17° 15' EC.  
51 15° 29'  
+75 13° 57'  
+50 12° 21'  
+25 10° 51'  
50 9° 18'  
+75 7° 45'  
+50 6° 13'  
+25 4° 40'  
49 3° 07'  
+75 1° 34'  
4814960 BC.

403.07

N 51° 41' W

+59.24 10° 06' EC.  
+50 9° 25'  
+25 7° 34'  
46 5° 13'  
+75 3° 52'  
+50 2° 01'  
4542280 BC.

300.15

P.I. 49+93.37

Δ 34° 30' L.

R 463

T 193.77

L 278.79

d1 3.7125

d25 1° 52.843

P.I. 45+91.74

Δ 20° 12' R

R 387

T 68.94

L 136.44

d1 4.4410

d25 15.104

2x2  
26# 2x2  
18' 43.00 6' EC.

RP RP

2x2  
35# 2x2  
14' 43.00 5' BC.

2x2  
27# 2x2  
20' 43.00 2' EC.

2x2  
33# 2x2  
21' 43.00 BC.

Sta.	deflca.	bearing	curve data
61		3°52'	
+75		3°28'	P.I. 59+87.98
+50		3°04'	Δ 8°11'30" R
+25		2°39'	R 1761.25
60		2°15'	T 126.12
+75		1°50'	L 251.61
+50		1°26'	di 0.97595
+25		1°02'	d25 0°24.399
59		0°37'	
+75		0°13'	
58+6186	BC.		

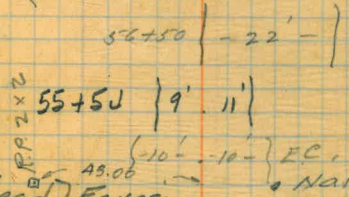
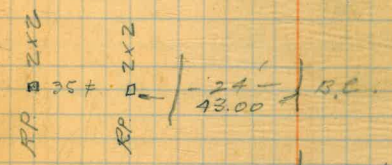
557.80  
557.80

Sta.	deflca.	bearing	curve data
55+10499	EC.		
+75		7°15 1/2'	P.I. 54+80.97
+25		5°43'	Δ 14°31' R
55		4°35'	R 587
+75		3°22'	T 74.76
+50		2°09'	L 148.73
+25		0°55'	di 2.9183
54+0621	BC.		d25 1°13.207

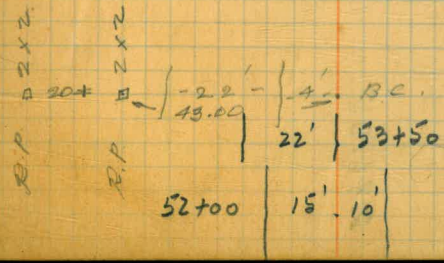
N. 71° 40' W

Equation

496.35



55+04.94 Ahead } Equation  
55+54.94 Back }  
Nail in tree



Sta. detlec. bearing

curve data

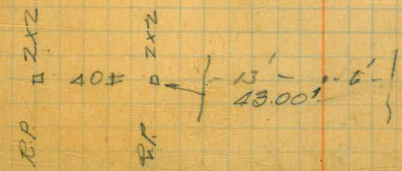
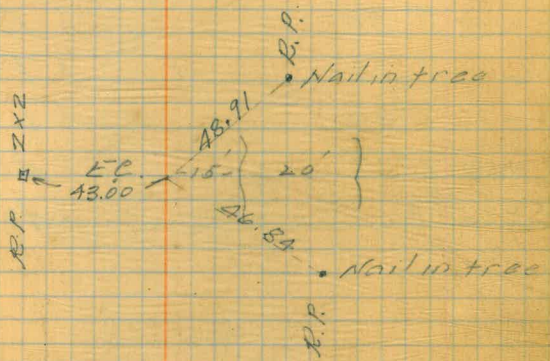
Contd. in Book 500-p.6.

~~131.16~~  $9^{\circ}13\frac{1}{2}'$   
 $131.16$   $9^{\circ}18\frac{1}{2}'$  EC.  
 $125$   $9^{\circ}03'$   
 $14$   $8^{\circ}19'$   
 $175$   $7^{\circ}35'$   
 $150$   $6^{\circ}52'$   
 $125$   $6^{\circ}08'$   
 $63$   $5^{\circ}25'$   
 $175$   $4^{\circ}41'$   
 $150$   $3^{\circ}58'$   
 $125$   $3^{\circ}14'$   
 $62$   $2^{\circ}31'$   
 $175$   $1^{\circ}47'$   
 $150$   $1^{\circ}04'$   
 $125$   $0^{\circ}20'$   
 $61+13.97$   $4^{\circ}05\frac{1}{2}'$  PCC.

N  $45^{\circ}02'$  W

P.I.  $62+73.70$   
 $18^{\circ}26'30''$  R  
 $18^{\circ}26'30''$  R  
 $R$  987.  
 $T$  160.23  
 $L$  317.58  
 $d_1$  1.7915  
 $d_{25}$   $0^{\circ}43.538$

286.35





~~88+00 5° 16'  
 +75 4° 47'  
 +50 4° 18'  
 +25 3° 49'  
 87 3° 21'  
 +75 2° 52'  
 +50 2° 23'  
 +25 1° 54'  
 86 1° 25'  
 +75 0° 56'  
 +50 0° 27'  
 85+26<sup>57</sup> B.C.~~

Void-see page 30-this book

$P.I. = 87+39.30$   
 $\Delta = 16^\circ 17' \text{ Rt}$   
 $R = 1487$   
 $T = 212.73$   
 $L = 422.60$   
 $d1' = 1.1559$   
 $d25' = 0^\circ 28.899$

84

N. 78° 47' W

+50

631.99

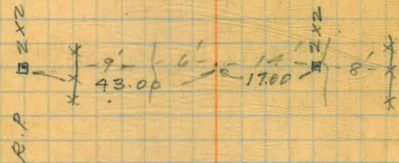
83

+50

82+19<sup>47</sup> E.C.

Contd. from Book 500-p. 7.

Hill  
 Loudon - transit notes  
 Soper - Hd Ch. c  
 Remmen - Rear Ch.



88+ 95 1° 48'  
 +7 75 1° 20'  
 +5 50 0° 52'  
 +2 25 0° 23'  
 87 94+04<sup>50</sup> B.C.

+7  
 +5  
 +  
 86  
 +  
 +  
 85+

N. 62° 30' W

761.81

Void-seeps 30 this book

+ 49<sup>1</sup> E.C. 8° 08.5  
 +25 79 41  
 83 89 7° 11  
 +75 6° 43  
 +50 6° 14'  
 82 88+25 5° 45

P.I. = 94 + 98.25 ✓  
 Δ = 7° 05' 30" L  
 R = 1513  
 T = 93.75  
 L = 187.27  
 d1 = 1.1361  
 d25 = 0° 28' 40"

R.R. rail in tree

R.P. rail in bank

95+00 | 5' - 15' | \*

32.7 - 15' - 7' | \*

25.51

93+00 | 12' - 11' | \*

91+00 | 5' - 10' | \*

rail in tree

20+ depression rock

25' - 18' - 4' - 4' | 24.00<sup>RP</sup> | \*

60.86

88+50 | 4' | 10' - 4' - 5' | \*

N. 47° 55' W

+59<sup>61</sup> EC 10° 50.25

+50 10° 22'

+25 9° 09'

98 7° 56'

+75 6° 42'

+30 5° 29'

+25 4° 16'

97 3° 03'

+75 1° 49'

+50 0° 36'

96+37<sup>61</sup> BC

P.I. 97+49.98

∠ Δ = 21° 40' 30" R

∠ R = 587.00

∠ T = 112.37

∠ L = 222.06

∠ d1 = 2' 92.83

d 25' = 1° 13' 20.7

N. 69° 35' 30" W

251.96

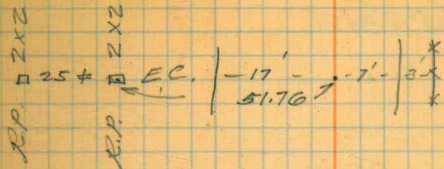
Void - See page 30 this book

+91<sup>71</sup> EC 3° 33'

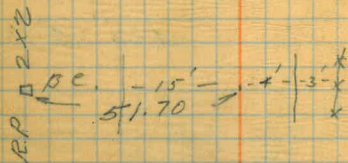
+75 3° 14'

+50 2° 45'

95+25 2° 17'



R.P. nail in tree



N. 65° 19' 30" W

E.C. ✓  
+39<sup>82</sup> 3° 42' 25"

+25 3° 25'

104 2° 57'

+75 2° 28'

+50 1° 59'

+25 1° 31'

103 1° 02'

+75 0° 33'

+50 0° 05'

+45<sup>87</sup> P.C.C. 5° 00'

+25 4° 36'

102 4° 08'

+75 3° 39'

+50 3° 11'

+25 2° 43'

101 2° 14'

+75 1° 46'

+50 1° 17'

+25 0° 49'

100+00 0° 21'

99+81<sup>80</sup> BC

P.I. = 103 + 42.98

✓ Δ = 7° 24' 30" L

✓ R = 150.0

✓ T = 97.11

✓ L = 193.95

✓ d1' = 1.146

✓ d25' = 0° 28' 65"

279.48

P.I. = 101 + 14.17

✓ Δ = 10° 00' L

✓ R = 151.3

✓ T = 132.37

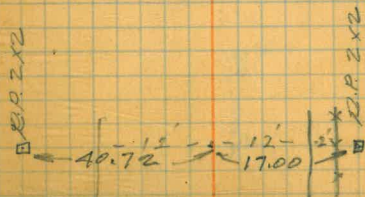
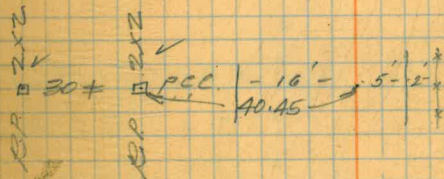
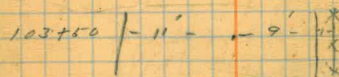
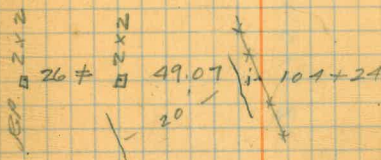
✓ L = 264.07

✓ d1' = 1.1361

✓ d25' = 0° 28' 40.2"

366.87

✓ old - see page  
30 this book



N. 57° 55' W

1281.27

+40<sup>42</sup> EC. 3° 42' 25"

+25 3° 25'

106 2° 56'

+75 2° 27'

+50 1° 59'

+25 1° 30'

105 1° 01'

+75 0° 33'

+50 0° 04'

104+46<sup>49</sup> B.C.

200.89

P.I. = 105+43.60

Δ = 7° 24' 30"

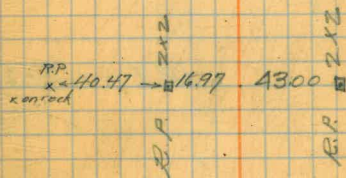
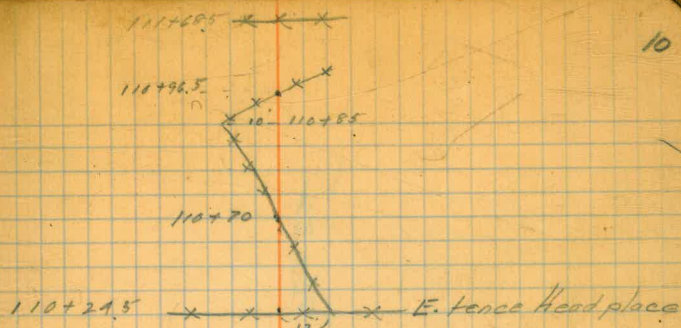
R = 1500

T = 97.11

L = 193.95

d<sub>1</sub> = 1.146

d<sub>25'</sub> = 0° 28' 65"



760.32  
 N. 82° 25' 30" W

+50<sup>93</sup> EC. 12° 15' 25"

+50 12° 12'

+25 11° 01'

119 9° 49'

+75 8° 38'

+50 7° 26'

+25 6° 14'

118 5° 03'

+75 3° 51'

+50 2° 40'

+25 1° 28'

117 0° 16'

116+94<sup>28</sup> BC

P.I. = 118+24.60

Δ = 24° 30' 30" L

R = 600

T = 130.32

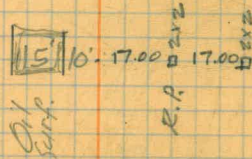
L = 256.65

d 1' = 2.865

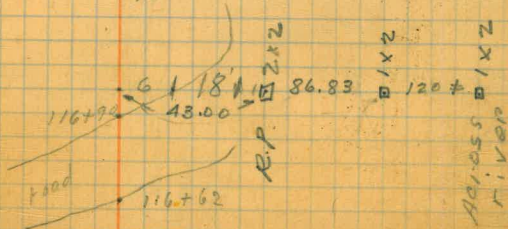
d 25' = 1° 11' 619

7-31-35  
 Hill  
 Loudon  
 Soper  
 Remmen.

120+00 ○ 5' Oak + 1-cc  
 119+88 Road over river

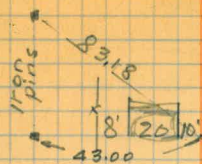


117+55 → 10' 2' 20' edge Capetform.  
 16'

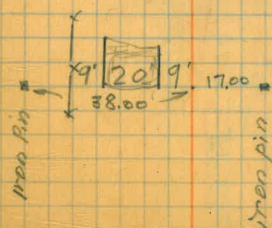


✓  
 +11<sup>14</sup> E.C. 8° 47' 15"  
 128 8° 35'  
 +75 8° 06'  
 +50 7° 38'  
 +25 7° 09'  
 127 6° 41'  
 +75 6° 13'  
 +50 5° 44'  
 +25 5° 16'  
 126 4° 47'  
 +75 4° 19'  
 +50 3° 50'  
 +25 3° 22'  
 125 2° 54'  
 +75 2° 25'  
 +50 1° 57'  
 +25 1° 29'  
 124 1° 00'  
 +75 0° 31'  
 +50 0° 03'  
 123 + 47<sup>00</sup> B.C.

✓  
 P.I. = 125 + 80.93  
 ✓ Δ = 17° 34' 30" L  
 ✓ R = 1513  
 ✓ T = 233.89  
 ✓ L = 464.10  
 ✓ d = 8° 47' 15"  
 ✓ d 1' = 1.1361  
 ✓ d 25' = 0° 28' 40"



5' ⊙ Oak tree 4' dia.



~~136 18°26'~~~~+75 17°22'~~~~+50 16°17'~~~~+25 15°12'~~~~135 14°08'~~~~+75 13°03'~~~~+50 11°58'~~~~+25 10°54'~~~~134 9°49'~~~~+75 8°44'~~~~+50 7°40'~~~~+25 6°35'~~~~133 5°30'~~~~+75 4°26'~~~~+50 3°21'~~~~+25 2°16'~~~~132 1°12'~~~~+75 0°07'~~~~131+72<sup>30</sup> - BC.~~

Revised 12-4-35  
New Alignment - page 28 - this book

$$P.I. = 135 + 71.20$$

$$\Delta = 61°57' Lt.$$

$$R = 664.53$$

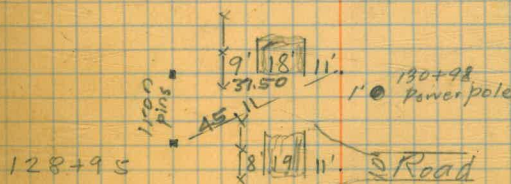
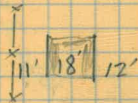
$$T = 398.90$$

$$L = 718.51$$

$$d = 30°58'30''$$

$$d1' = 2.5866$$

$$d25' = 1°04.6655$$

$$5.80°00'24''$$
$$993.95$$




145+78 <sup>87</sup> P.O.T.

5.18°03'N

1164.51

Page 29 this book

↑

1086.96

+90 <sup>81</sup> EC. 30°58'30"

( = 272+272<sup>a</sup> Suc. 606 )

+75 30°17'

+50 29°12'

+25 28°08'

138 27°04'

+75 25°59'

+50 24°54'

+25 23°50'

137 22°45'

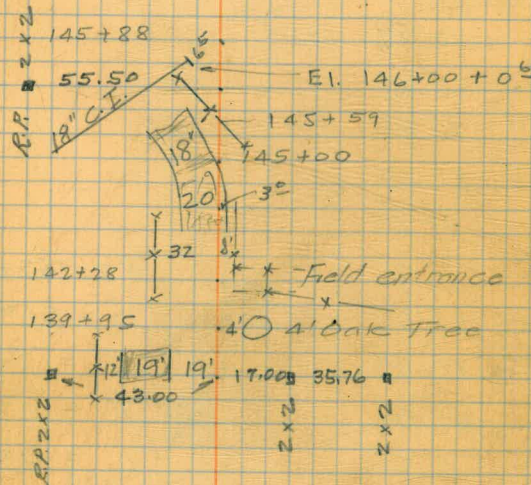
+75 21°40'

+50 20°36'

136+25 19°31'

point to tree

110 #



161+12<sup>21</sup> P.O.T.

5.43°22'50"W

~~+57<sup>93</sup> EC. 12°39'55"  
 +50 12°26'  
 +25 11°43'  
 159 10°59'  
 +75 10°14'  
 +50 9°32'  
 +25 8°48'  
 158 8°05'  
 +75 7°21'  
 +50 6°38'  
 +25 5°54'  
 157 5°10'  
 +75 4°27'  
 +50 3°44'  
 +25 3°01'  
 156 2°17'  
 +75 1°33'  
 +50 0°49'  
 +25 0°06'  
 155+21<sup>58</sup> B.C.~~

5.18°03'W

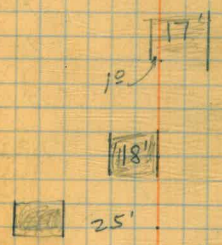
P.I: 157+43.38  
 $\Delta = 25°19'50" R$   
 $R = 987$   
 $T = 221.80$   
 $L = 436.35$   
 $d = 12°39'55"$   
 $d/1' = 1.7415$   
 $d/25' = 0°43.538$

RR 2x2  
 40# 2x2 43.00

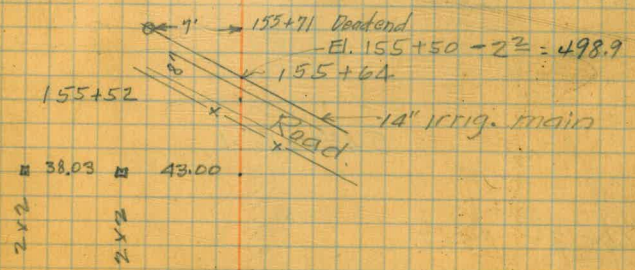
8-5-35  
 Hill  
 Loudon  
 Soper  
 Remmen.

RR 2x2  
 33# 2x2 43.00  
 18' 17' 12'

159+22 13' EL. 497.6 12" C.I. 30' EL. 498.7



$\frac{501.1}{2.2} = 227.7$



✓  
 +40<sup>21</sup> E.C.  $12^{\circ}04'50'' = (239+66)^{92}$  Survey 606)

+25  $11^{\circ}38'$

171  $10^{\circ}55'$

+75  $10^{\circ}11'$

+50  $9^{\circ}27'$

+25  $8^{\circ}44'$

170  $8^{\circ}01'$

+75  $7^{\circ}17'$

+50  $6^{\circ}34'$

+25  $5^{\circ}50'$

169  $5^{\circ}06'$

+75  $4^{\circ}23'$

+50  $3^{\circ}39'$

+25  $2^{\circ}56'$

168  $2^{\circ}12'$

+75  $1^{\circ}29'$

+50  $0^{\circ}45'$

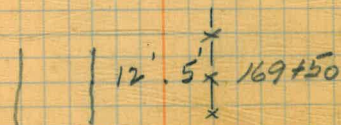
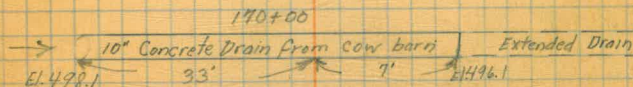
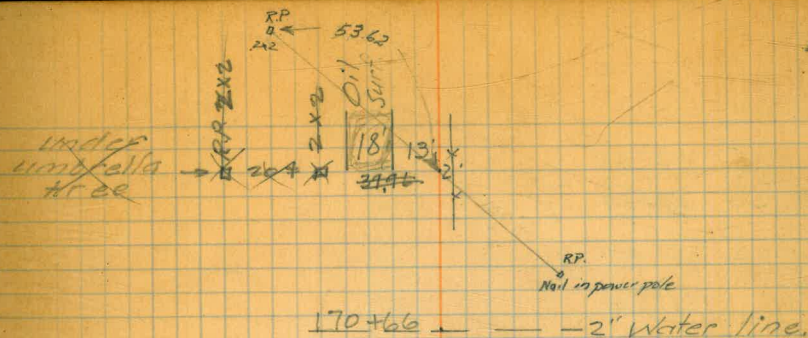
+25  $0^{\circ}02'$

167+24<sup>00</sup> B.C.

✓  
 $S.43^{\circ}22'50''W$

166+22<sup>33</sup> P.O.T.

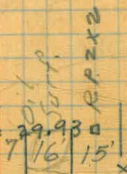
1199.11



168+61 Drive way

168+30

167+68



nail in sill of old milk house

166+89

6' E1.499.1

16\"/>

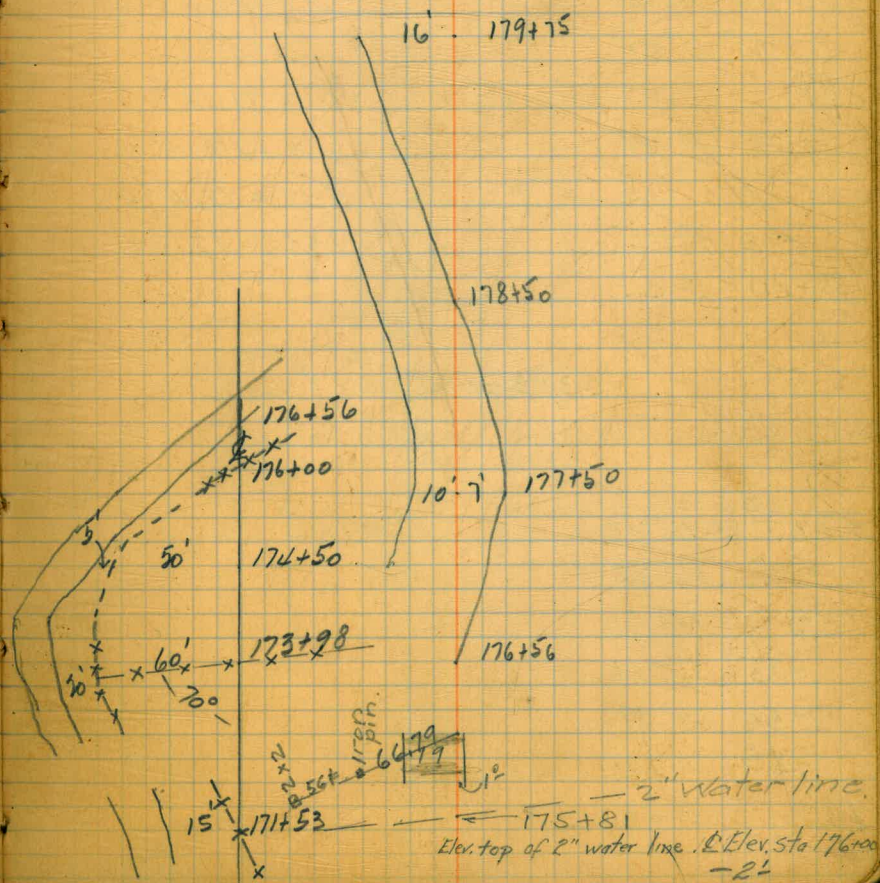
E1.498.5

6' 164+38 tel. pole

+75 12° 53'  
 +50 12° 17'  
 +25 11° 42'  
 181 11° 06'  
 +75 10° 31'  
 +50 9° 55'  
 +25 9° 20'  
 180 8° 45'  
 +75 8° 09'  
 +50 7° 34'  
 +25 6° 58'  
 179 6° 23'  
 +75 5° 48'  
 +50 5° 12'  
 +25 4° 37'  
 178 4° 01'  
 +75 3° 26'  
 +50 2° 50'  
 +25 2° 15'  
 177 1° 40'  
 +75 1° 04'  
 +50 0° 29'  
 176+29<sup>th</sup> B.C

5.67° 32' 30" W  
 1059.50

P.I. 179+88.47  
 Δ = 32° 57' L  
 R = 1213  
 T = 358.73  
 L = 697.58  
 d1' = 1.417  
 d25' = 35.426



194+00 P.O.T.

5.37° 35' 30" W

↓  
 58  
 +02 EC 1° 30'  
 190 1° 29'  
 +75 1° 16'  
 +50 1° 04'  
 +25 0° 51'  
 189 0° 39'  
 +75 0° 27'  
 +50 0° 15'  
 +25 0° 02'  
 188+20<sup>00</sup> B.C.

P.I. = 189+11.31

Δ = 3° 00' R

R = 3487

T = 91.31

L = 182.58

d 1' = 0.4929

d 25' = 12.3236

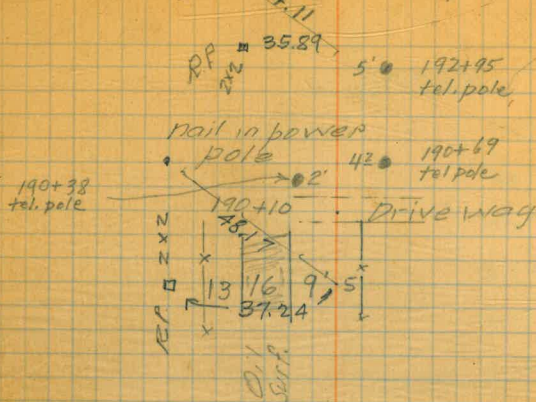
5.32° 35' 30" W

942.72

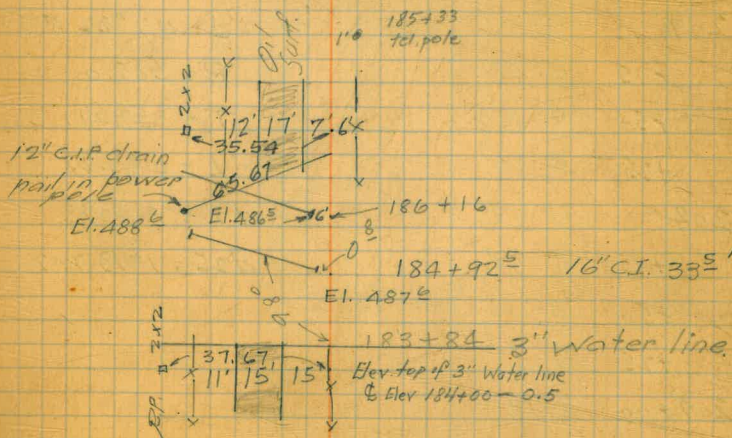
↓  
 32  
 +27 EC 16° 28' 30" (= 227+94<sup>14</sup> Survey 606)  
 +25 16° 25'  
 183 15° 50'  
 +75 15° 14'  
 +50 14° 39'  
 +25 14° 03'  
 182 13° 28'

nail in power pole 54.11  
6E 195+95 tel. pole

18



189+42 tel. pole



182+36 tel. pole

conference line

5.84°57'30"W

211+39.42 E.C. 23°41' (= 199+71<sup>25</sup> Survey 606)

+25 22°59'

211 21°46'

+75 20°33'

+50 19°20'

+25 18°06'

210 16°53'

+75 15°40'

+50 14°26'

+25 13°13'

209 12°00'

+75 10°47'

+50 9°33'

+25 8°20'

208 7°07'

+75 5°54'

+50 4°41'

+25 3°27'

207+00 2°14'

+75 1°01'

206+54 48.6,

5.37°35'30"W

2000.34

P.I. = 209+11.61

Δ = 47°22' R.

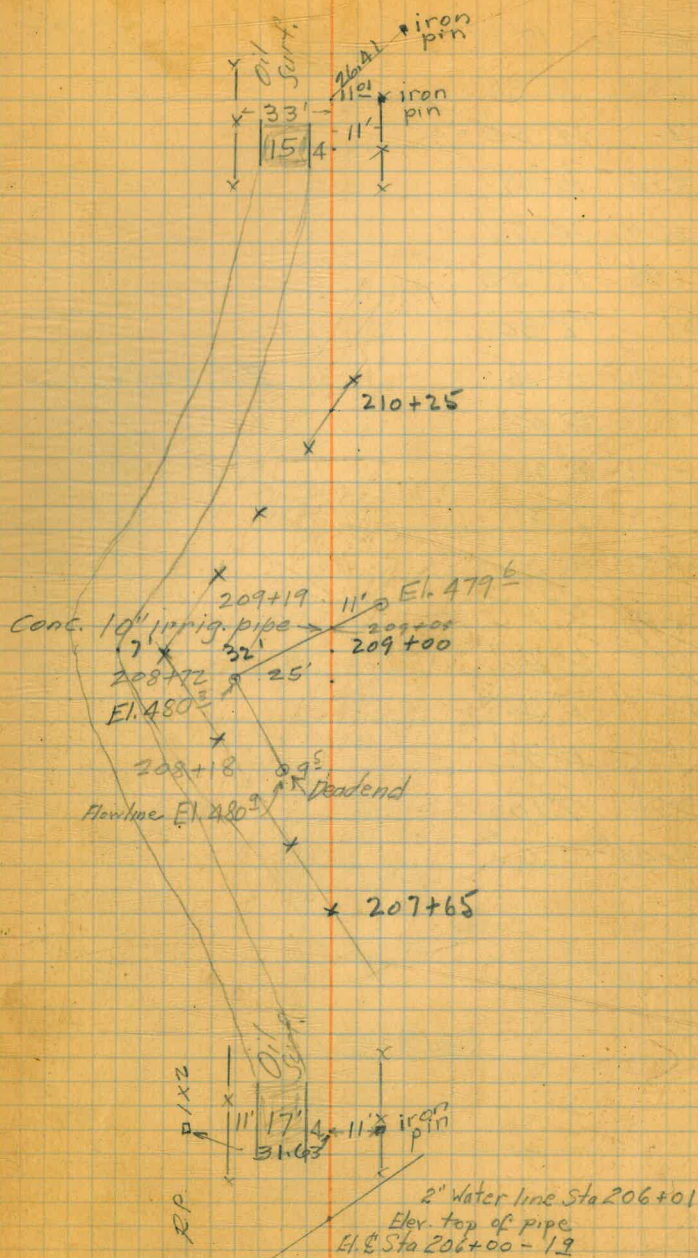
R = 587.0

T = 257.47

L = 485.28

d1' = 2.9283

d25' = 1013.707

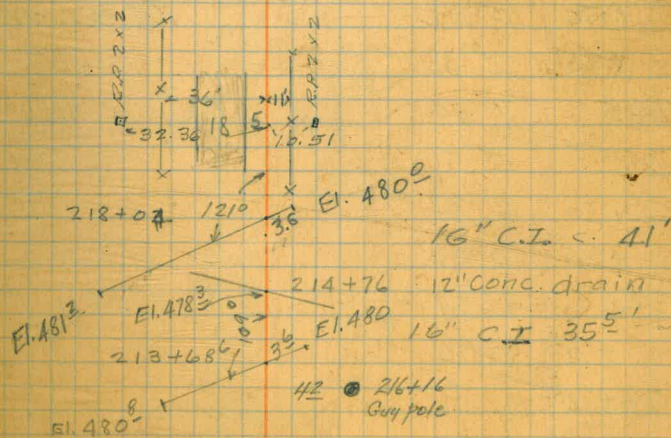
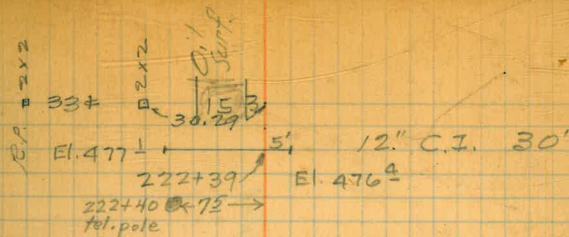


1  
~~143~~<sup>22</sup> E.C. 19°29'  
 +25 18°36'  
 222 17°22'  
 +75 16°09'  
 +50 14°56'  
 +25 13°43'  
 221 12°30'  
 +75 11°16'  
 +50 10°03'  
 +25 8°50'  
 220 7°37'  
 +75 6°24'  
 +50 5°10'  
 +25 3°57'  
 219 2°44'  
 +75 1°31'  
 +50 0°18'  
 218+44<sup>00</sup> B.C. ✓

5.84°57'30"N ✓

1169.73

✓ P.I. 220+51.68  
 ✓ Δ = 38°58' R  
 ✓ R = 587  
 ✓ T = 207.68  
 ✓ L = 399.22  
 ✓ d1 = 2'92.83  
 ✓ d25' = 1°13.20'



See Book 479 P. 44  
 For conc. drain  
 from base to 216+16

N. 89° 04' 30" W

783.71

+65<sup>el</sup> EC. 16° 30'

+50 15° 37'

+25 14° 18'

226 12° 50'

+75 11° 26'

+50 10° 02'

+25 8° 38'

225 7° 14'

+75 5° 51'

+50 4° 27'

+25 3° 03'

224 1° 39'

+75 0° 16'

223+70<sup>34</sup> B.C.

P.I. 225+77.30

∠ Δ = 33° 00' L

∠ R = 51.3

∠ T = 151.96

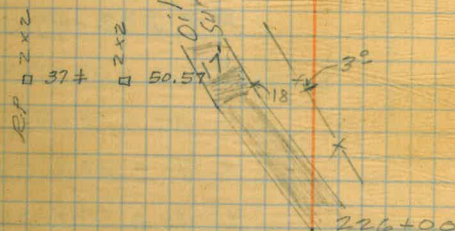
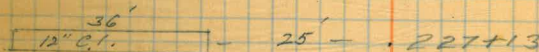
∠ L = 295.47

∠ d'1' = 3.3507

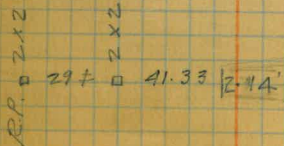
∠ d 25' = 1° 23.767

N. 56° 04' 30" W

486.76



225+00.76





234 8° 04'  
 +75 7° 35'  
 +50 7° 07'  
 +25 6° 38'  
 233 6° 10'  
 +75 5° 42'  
 +50 5° 13'  
 +25 4° 45'  
 232 4° 16'  
 +75 3° 48'  
 +50 3° 19'  
 +25 2° 51'  
 231 2° 23'  
 +75 1° 54'  
 +50 1° 26'  
 +25 0° 58'  
 230 0° 29'  
 +75 0° 01'  
 229+74<sup>29</sup> B.C.

P.I. 232+97.56

✓  $\Delta = 24^{\circ} 07' 30'' L$

✓  $R = 1513$

✓  $T = 323.32$

✓  $L = 637.06$

✓  $d1' = 1.1361$

✓  $d25' = 28.402$

232+00 2'

230+98

230+A1

1700<sup>1750</sup> 27+ 2x2 R.P.

258+59<sup>L</sup> P.O.T.

253+98.59 P.O.T.

3595.25

248+00 P.O.T.

5.66°48'N

244+50 P.O.T.

+11<sup>30</sup> E.C. 12°03'45"

236 11°51'

+75 11°22'

+50 10°54'

+25 10°26'

235 9°57'

+75 9°29'

+50 9°00'

234+25 8°32'

EI. 457<sup>±</sup> 260+54<sup>S</sup> 11' 16" CI. 28' 23

EI. 457<sup>±</sup>

259+20

Pole D-28880-T

28.51 2058+82 30# R.P. 2x2

R.P. Pat 50±  
Exc Hub

R.P. Pat 55.53  
2x2 Hub

251+55

14'

14'

R.P. 2x2 43.00 17.00 2x2

14' 245+88

70#

R.P. Pat 90.91  
2x2 Hub

244+95

44.35  
R.P. Pat  
Exc Hub

242+65

239+26

237+18

236+36

iron pin 25.00

17.00 iron pin

235+10

Lead to house

234+88

234+40

Contd. in Book 500, p. 8.

5.58° 05' 30" W

✓  
+60<sup>16</sup> E.C. 4° 21' 15"

+50 4° 04'

+25 3° 22'

269 2° 39'

+75 1° 57'

+50 1° 14'

+25 0° 32'

268+06<sup>20</sup> B.C.

✓  
P.I. = 268+83.33

✓ Δ = 8° 42' 30" L.

✓ R = 1013

✓ T = 77.13

✓ L = 153.96

✓ d<sub>1</sub>' = 1.6968

✓ d<sub>25</sub>' = 0° 42' 47"

274+87 12' 12" 12" C.I. 30'  
El. 450<sup>1</sup> El. 449<sup>5</sup>

El. 451<sup>3</sup>  
771+06 17° 12'  
El. 450<sup>1</sup> R 12'

16" C.I. 32'

710+00 10' 8' 17<sup>25</sup> 2x2 30# 02x2 R.P.

14' 4" 17.00<sup>2</sup> 50# iron pin  
iron pin

Cont'd in Book 500 page 38

5.25° 49' 30" N

1560.75

+45 <sup>65</sup> E.C. 11° 04'

+75 10° 27'

333 9° 46'

+75 9° 04'

+50 8° 22'

+25 7° 39'

332 6° 57'

+75 6° 14'

+50 5° 32'

+25 4° 50'

331 4° 07'

+75 3° 25'

+50 2° 42'

+25 2° 0°

330 1° 17'

+75 0° 35'

329+54<sup>33</sup> B.C.

5.47° 57' 30" N

1302.46

318+50.0 P.O.T.

P.I. = 331+52.46

Δ = 22° 08' L

R = 1013

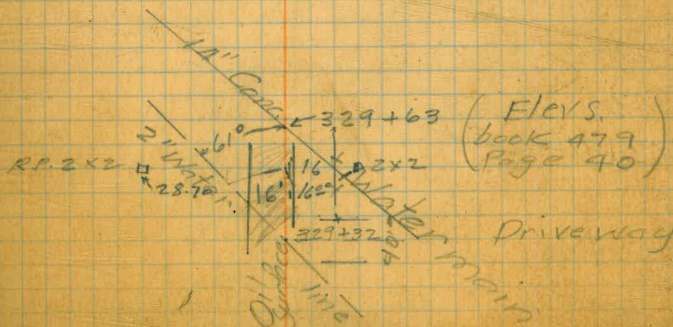
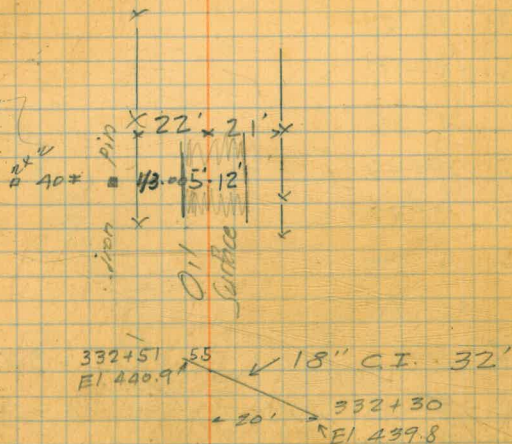
T = 198.13

L = 391.32

d1' = 1.6968

d75' = 42.42

Cont'd from Book 500, p. 11.



348 18°14'  
 +75 17°20'  
 +50 16°26'  
 +25 15°31'

347 14°36'  
 +75 13°42'  
 +50 12°47'  
 +25 11°52'

346 10°58'  
 +75 10°03'  
 +50 9°09'  
 +25 8°14'

345 7°20'  
 +75 6°25'  
 +50 5°30'  
 +25 4°36'

344 3°41'  
 +75 2°47'  
 +50 1°52'  
 +25 0°57'

343 0°03'

342+98<sup>13</sup> B.C. ✓

~~1011 see page 24~~

$$P.I. = 347 + 08.27$$

$$\Delta = 54^{\circ}59' R$$

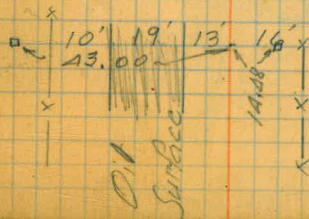
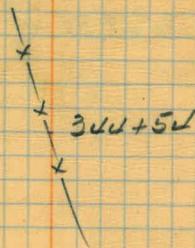
$$R = 787$$

$$T = 409.54$$

$$L = 755.24$$

$$d1' = 2.1841$$

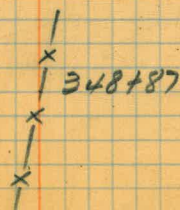
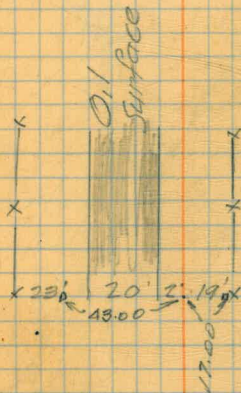
$$d25' = 0^{\circ}54.6025$$



Contd. in Book 500, p. 12.

$5.80^{\circ}48'30''N$   
~~+53<sup>91</sup> EC  $27^{\circ}21'30''$   
 +50  $27^{\circ}21'$   
 +25  $26^{\circ}26'$   
 350  $25^{\circ}32'$   
 +75  $24^{\circ}37'$   
 +50  $23^{\circ}42'$   
 +25  $22^{\circ}48'$   
 349  $21^{\circ}53'$   
 +75  $20^{\circ}59'$   
 +50  $20^{\circ}04'$   
 348+25  $19^{\circ}09'$~~

Void - see page 34



Realignment of Pipe line from El Monte  
Park - West

H. H.  
Joper  
Remmen.

Dec. 4 1935  
Raining.

28

+3354 27°53'  
138 28°22'  
+50 26°06'  
137 23°50'  
+50 21°35'  
136 19°19'  
+50 17°03'  
135 14°47'  
+50 12°32'  
134 10°16'  
+50 8°00'  
133 5°44'  
+50 3°29'  
132 1°13'  
131+132A BC.

Void see page 36

Δ 59°46' L  
P 633.  
L 660.30  
T 363.75  
Deflection = 0°02.7154  
" 52°2'15.7715

R.P.C. Hub  
□ 90±

R.P.C.  
Hub □ 39.384  
90°

R.P.C. Hub  
□ 95±

R.P.C. Hub  
□ 110.11  
90°

Cont'd from page 13

~~155+12.45~~~~Void - see page 37~~

~~+16.39 1° 21' 45" EC.  
 146 1° 12'  
 +50 0° 44'  
 145 0° 15'  
 144+73.09 B.C.~~

~~P.I. 145+44.77  
 Δ 2° 43' 30" Lt  
 R 3013  
 + 71.68  
 L 143.30  
 d 1° 0' 00" 570.48  
 d 50° 0' 28" 524~~

R.P.C. Hub  
 □ 50 ±  
 by guard fence

R.P.C. Hub  
 □ 40.53

90° ↗

R.P.B.C.  
 ○ 120 ±  
 Nail in 30" oak

R.P.B.C. Hub  
 □ 42.22

90° ↘



Pipeline Relocation Sta. 84+98.62 to 102+45.87  
 Profile - Book 509 page 78

30

	+48.34 AC	8°08'30"		
89	+50	7°16'	P.I	87+25.04
		6°22'	Δ	16°17' R
88		5°28'	R	1582.66
	+50	4°33'	T	226.42
87		3°39'	L	449.79
	+50	2°45"	d 1'	0°01'.086
86		1°50'	d 50'	0°54'.303
	+50	0°56'		
85		0°01'		
84+98.62 B.C.				

Contd. from page 6

RP + nail in tree	20±	RP + cross on rock	64.86	20.00	RP # 2+2
RP @ 2x2 Hub	30±	RP @ 2x2 Hub	36.75		
			97.60		

+91.435C. 3° 32' 45"  
 +50 2° 46'  
 95 1° 49'  
 +50 0° 52'  
 94+03.67BC

P.1 94+97.68  
 Δ 7° 05' 30" L  
 R 1517'  
 T 94.01  
 L 187.76  
 d1 0° 01' .133  
 d50 0° 56' .655

R.P. - Nail in tree  
 ↓

R.P. - Nail in bank

29.51

57.84

R.P. = 2x2 Hub  
 in river bottom

100 ±

R.P. = 2x2 Hub  
 in river bottom

R.P.  
 □ across river.  
 2-L

Cont'd from page 31

+57.82 BC 10° 50' 15"

+50 10° 27'

+25 9° 13½'

98 8° 00'

+75 6° 46'

+50 5° 32½'

+25 4° 18½'

97 3° 05'

175 1° 51'

+50 0° 38'

96+37.27 BC

P.I. 97+48.86

Δ 21° 40' 30" R

R 583'

+ 111.61

L 220.55

d 1° 0' 02" .948

d 50' 2° 27' 415

32

R.P. = 2.2.14.6

25.1

2.2.14.6

55.76

R.P. = 2.2.14.6

2.2.14.6

55.70

Cont'd on page 9

102+45.87 P.C.

+114.05 5° 00'

102 4° 17'

+50 3° 29'

101 2° 41'

+50 1° 52'

100 1° 04'

+50 0° 15'

99+34.02 B.C.

P.I 100+89.42

Δ 10° 00' L

R 1776.35

T 155.41

L 310.03

d1 0° 0' .9678

d50 0° 48' .3875

R.P. = 2x2

✓ 30.4

R.P. = 2x2

✓ 40.45

R.P. = 2x2 Hub

50.4

R.P. = 2x2 Hub

40.15

Pipeline revision at Co. road + Blon St.

347 14° 40'

+50 13° 13'

346 11° 46'

+50 10° 19'

345 8° 52'

+50 7° 25'

344 5° 58'

+50 4° 31'

343 3° 04'

+50 1° 36'

342 0° 09'

341+94.64 B.C.

PI 347+08.26

Δ 54° 59' RT

R 987

+ 513.62

L 947.16

d1

d50

R.P.  
Iron pin # 43.00

R.P.B.C.  
1700 # Iron pin

Cont'd from page 25

H.W.  
Soper  
Remmen

10/10/35

34

Cont'd in Book 500 page 12.

~~351+58.00~~

~~351+41.80 27° 29½' E.C.~~

~~351 26° 17'~~

~~+50 24° 50'~~

~~350 23° 23'~~

~~+50 21° 56'~~

~~349 20° 28'~~

~~+50 19° 01'~~

~~348 17° 34'~~

~~347+50 16° 07'~~

R.P.  
Iron pin 43.00

17.00 R.P.  
Iron pin

Pipeline revision - Sta. 131+74.40 to 159+54.35

+75	23° 24'	
+50	22° 13½'	
+25	21° 03½'	Pt. 135+23.75
136	19° 53½'	Δ 59° 21' 30" Lt
+75	18° 43'	R= 613'
+50	17° 33'	T 349.35
+25	16° 23'	L 635.07
135	15° 13'	di 2.8042
+75	14° 03'	dso 2° 20' 210
+50	12° 53'	
+25	11° 43'	
134	10° 32½'	
+75	9° 22½'	
+50	8° 12½'	
+25	7° 02'	
133	5° 52'	
+75	4° 42'	
+50	3° 32'	
+25	2° 22'	
132	1° 12'	
131+74.40 B.C		

Cont'd from page 13

Jan 9 1936  
Japer  
Remmen

36



146+94.68FC.  $1^{\circ}33'30''$

+50  $1^{\circ}08'$

146  $0^{\circ}39\frac{1}{2}'$

+50  $0^{\circ}11'$

145+30.79BC.

138+09.47EC.  $29^{\circ}46'45''$

138  $29^{\circ}14'$

+75  $28^{\circ}04'$

+50  $26^{\circ}54'$

+25  $25^{\circ}44'$

137  $24^{\circ}34'$

R1-146+12.74

A  $3^{\circ}07'14''$

R 3013

+ 81.95

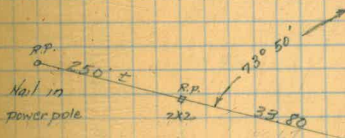
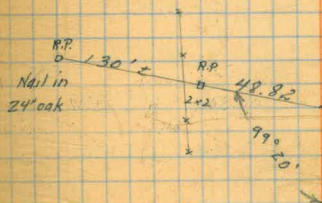
L 163.89

di' .5705

dsd 28.5250

RPEL 100'±  
B 2x2 146

RPEL 40.83  
B 2x2 146





Cont'd on page 16

159+62.76 Equation

159+54.35 BC.  $12^{\circ}55'45''$

+50  $12^{\circ}48'$

159  $11^{\circ}21'$

+50  $9^{\circ}54'$

158  $8^{\circ}27'$

+50  $7^{\circ}00'$

157  $5^{\circ}33'$

+50  $4^{\circ}06'$

156  $2^{\circ}39'$

+50  $1^{\circ}11\frac{1}{2}'$

155+08.90 BC.

(slope  
 $54-12^{\circ}35'$ )

38

R.P.C.  
2x2 Hub 50'

R.P.C.  
2x2 Hub 52.70

PL: 157+35.48

A:  $25^{\circ}51'30''$  PL

R: 987

T: 226.58

L: 445.45

di: 1.7414

ds:  $1^{\circ}27.070$

R.P.C.  
2x2 Hub 71.49

22.80 R.P.C.  
2x2 Hub on fence line

Additional ties at +50  
Stations Along El. Capitan R.L.  
See BOOK 500 pages 175

9-6-44

Byler  
King  
Otter  
Stephens

39

toe	62+50			berm
7'	24'	14'	7'	

toe	60+50			berm
3'	25'		12'	

toe	59+50			berm
5'	27'	14'	6'	

toe	55+50			berm
1'	14'	9'	24'	
toe	59+50			berm
3'	20'	5'	4'	

toe	50+50			berm
6'	20'	11'	7'	
toe	49+50			berm
3'	11'	11'	3'	
toe	48+49			berm
3'	13'	8'	5'	

toe	46+50			berm
6'	19'	11'	11'	
toe	45+50			berm
3'	17'	2'	10'	

toe	43+50			berm
2'	14'	5'	22'	

toe	42+50			berm
2'	17'	13'	5'	

toe	39+50			berm
2'	17'	6'	14'	

toe	38+50			berm
2'	21'	7'	21'	

toe	37+50			b
2'	22'	12'	17'	

1/2 tol	100	102+50			2' X 6'	berm
6'	18'	17'				
1/4 tol	100	101+50			X	berm
10'	5'	19'		11' X 8'		
1/2 tol	100	100+50			X	berm
3'	6'	16'		5'   2' X 3'		
1/2 tol	100	99+50			X	berm
50'	11'	8''		13'	11' X 4'	berm
1/4 tol	100	98+50			X	berm
10'	23'	9'		12'	4' X 4'	berm
1/2 tol	100	97+50			X	berm
15'	11'	12'		9'	11' X 5'	berm
1/2 tol	100	96+50			X	berm
15'	2'	18'		2'   5' X 6'		
1/4 tol	100	95+50			X	berm
10'	11'	15'		2'   2' X 5'		berm
1/2 tol	100	94+50			X	berm
20'	12'	12'		5'   2' X 4'		

1/2 tol	100	89+50				X
5'	4'	18'		4'	11'	X
3/4 tol	100	88+50				X
7'	9'	32'	6'	16'		X
1/4 tol	100	87+50				X
8'	3'	24'	5'	15'		X X
1/2 tol	100	86+50				X
8'	5'	25'	2'	17'		X
1/2 tol	100	85+50				X berm
5'	6'	24'		17'		X

1/2 tol	100	81+50				berm	X
8'	8'	21'	6'	8'		10'	X
	100	80+50				berm	X
	3'	24'	4'	10'		8'	X

2/3 tol	100	73+50				berm
9'		26'		6'		
1/4 tol	100	72+50				
21'		24'	3'	10'		
1/2 tol	100	71+50				
9'		24'	2'			
	100	70+50				berm
5'		26'	1'	8'		
	100	69+50				berm
6'		24'	1'	6'		

	100	65+50				berm
	3'	25'	1'	27'		

X X 12'	136+50 27	7	19'	berm	
X X 10'	135+50 23'	7'	9'	berm	
X X 11'	134+50 24'	2'	22'	berm	
X X 12'	133+50 24'	3'	14'	berm	
X X 10'	132+50 22'	7'	8'	berm	
X X 10'	131+50 22'	6'	7'	berm	
X X 8'	127+50 23'	6'			
X X 7'	126+50 22'	8'			
X X 8'	21'	125+50 13'	40'	berm	
X X 6'	203'	124+50 11'	17'		
X X 8'	21'	123+50 10'	50'	berm	
X X 7'	122+50 24'	8'	20'	berm	
toc 7'	23'	119+50 12'	20'	berm	
toc 26'		118+50 24'	11'	9'	berm
toc 5'	117+50 10'	5'	26'	25'	berm

$\frac{\text{Katal}}{8'}$	$\frac{\text{Koc}}{11'}$	176+50 27'	2'	13'	X berm
---------------------------	--------------------------	---------------	----	-----	--------

X	8'	170+50 28'	2'	3'	berm	X
---	----	---------------	----	----	------	---

berm	10'	169+50 27'	3'	5'	12'	X
------	-----	---------------	----	----	-----	---

berm	9'	169+50 28'	1'	5'	berm	X
------	----	---------------	----	----	------	---

$\frac{\text{Katal}}{8'}$	$\frac{\text{Koc}}{28'}$	167+50 27'	2'	6'	berm	X
---------------------------	--------------------------	---------------	----	----	------	---

$\frac{\text{Katal}}{10'}$	$\frac{\text{Koc}}{11'}$	159+50 27'	2'		
----------------------------	--------------------------	---------------	----	--	--

$\frac{\text{Katal}}{3'}$	$\frac{\text{Koc}}{3'}$	159+50 29'	1'	5'	berm	35'	X
---------------------------	-------------------------	---------------	----	----	------	-----	---

$\frac{\text{Katal}}{5'}$	$\frac{\text{Koc}}{2'}$	157+50 29'	4'	3'	berm	2'	X
---------------------------	-------------------------	---------------	----	----	------	----	---

berm	6'	156+50 27'	4'	2'	15'	X
------	----	---------------	----	----	-----	---

X	33'	155+50 30'	11'			X
---	-----	---------------	-----	--	--	---

X	7'	138+50 21'	4'		
---	----	---------------	----	--	--

X	11'	137+50 26'			
---	-----	---------------	--	--	--

X	14	berm	207+50	7'	3'	berm	X
X		3'	26'			14'	X

X	15'	berm	208+50	3'	2'	berm	X
X		2'	26'			12'	X

X	17'	berm	207+50	4'	2'	berm	X
X		2'	23'			11'	X

X	17'		206+50	3'			X
X			26'		14'		X

X	8'		189+50	9'		berm	X
X			29'			8'	X

X	7'		188+50	12'	4'	berm	X
X			28'			14'	X

2 to 1	12'	berm	182+50	4'		berm	X
	11'		28'	6'		13'	X

1 to 1	12'	berm	181+50	4'		berm	X
	11'		28'	7'		13'	X

1 to 1	10'	berm	180+50	5'		berm	X
	11'		30'	11'		6'	X

1/2 to 1	10'	berm	179+50	11'		berm	X
	11'		28'	9'		8'	X

1/2 to 1	10'	berm	178+50	2'		berm	X
	11'		25'	8'		7'	X

1/2 to 1	12'	berm	177+50	3'		berm	X
	11'		26'	14'			X

$\frac{1}{4}$ tol	toe	232+50			berm
12'	6'	25'	3'	27'	

$\frac{1}{4}$ tol	toe	231+50			toe
10'	5'	26'	2'	17'	

$\frac{1}{4}$ tol	toe	230+50			toe	$\frac{1}{4}$ tol
6'	5'	25'	1'	17'		4'

berm	226+50			berm
3'	27'		10'	

$\frac{1}{4}$ tol	toe	225+50			berm
6'	1'	27'	2'	7'	

$\frac{1}{4}$ tol	toe	224+50			berm
6'	1'	26'	2'	10'	

X				berm	X
X	17'	221+50	2' 1'	18'	X
		27'			

		220+50			X
		25'	4'	18'	X

X				berm	X
X	16'	219+50	2'	7'	8'
		28'			

X				berm	X
X	17'	218+50	1'	9'	8'
		26'			

$\frac{1}{4}$ tol	toe	211+50			X
6'		25'	3'	17'	X

berm	210+50			berm	X
3'	25'		2'	13'	X

drive	235+50 26'	4'	berm
-------	---------------	----	------

1/4 tol 6'	6'	234+50 27'	11'	15'	100
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1/4 tol 8'	6'	233+50 25'	11'	22'	100
---------------	----	---------------	-----	-----	-----

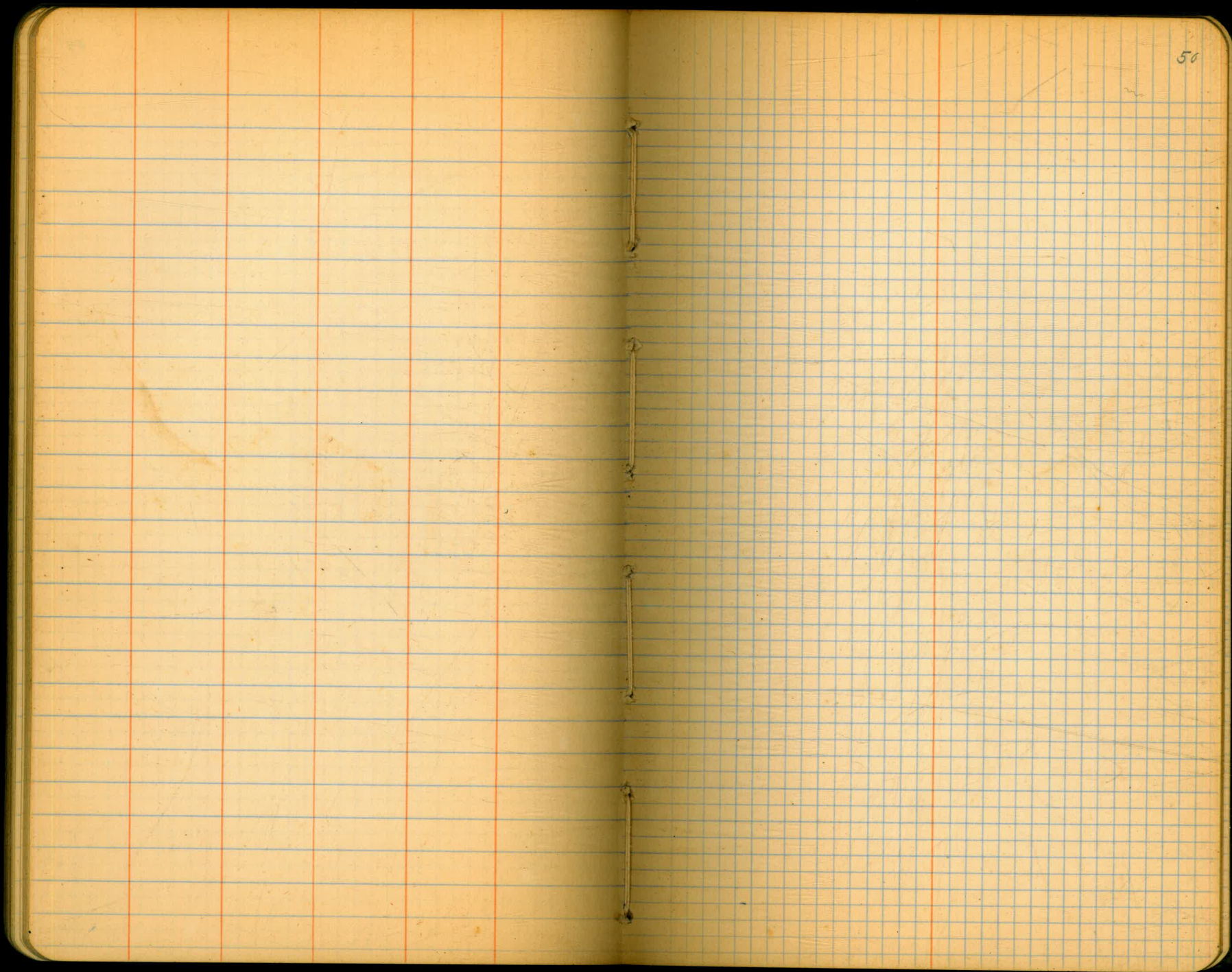
















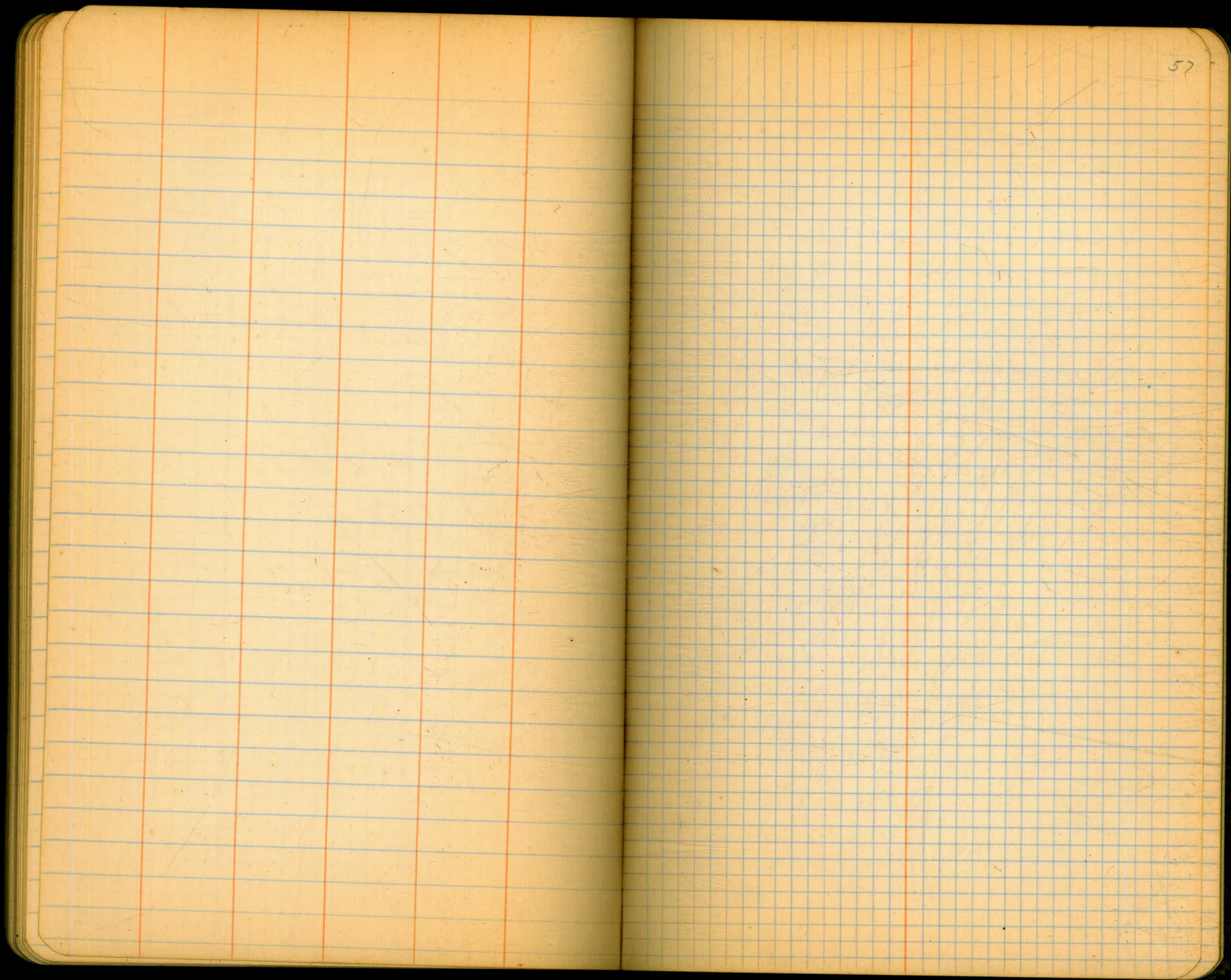


















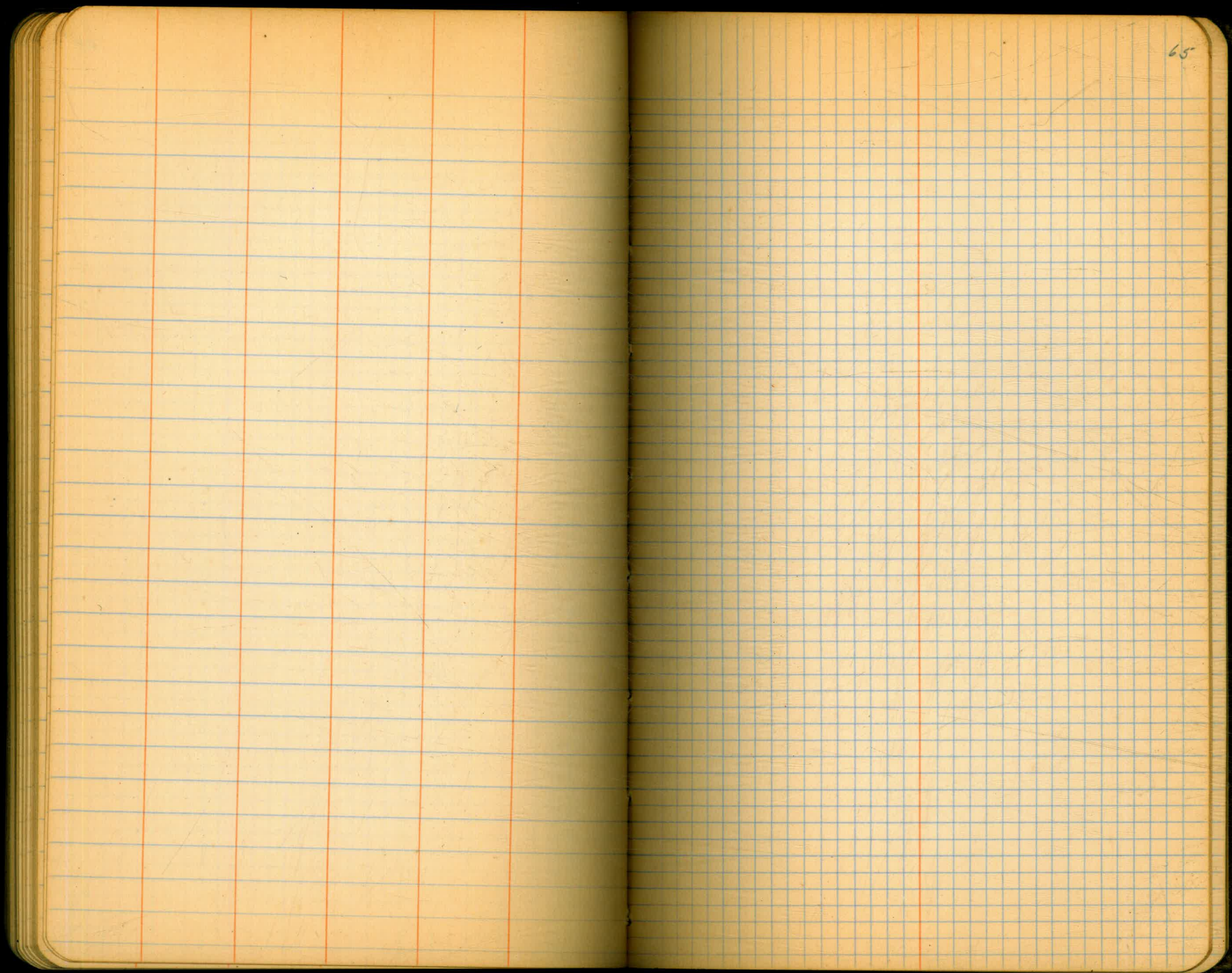




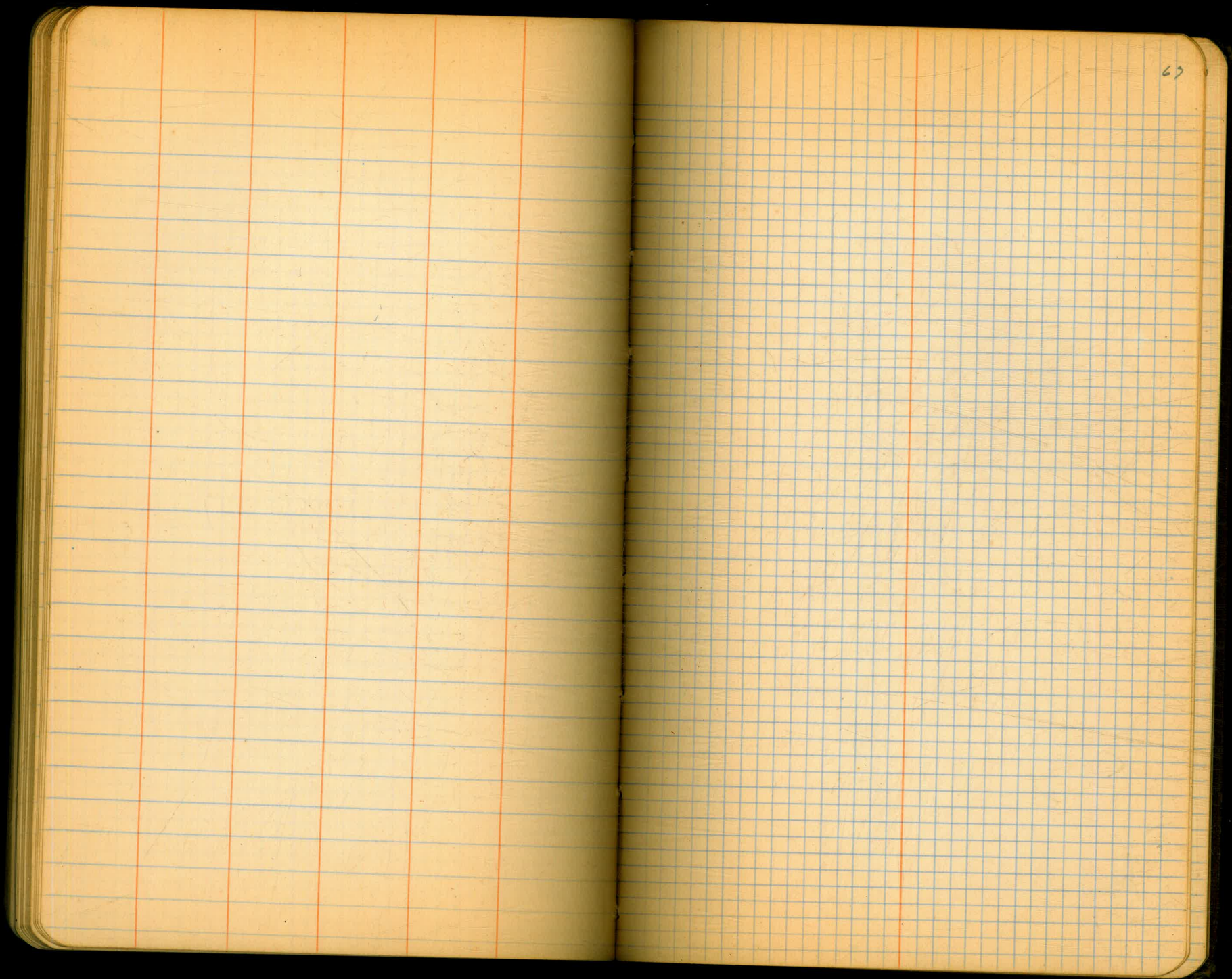




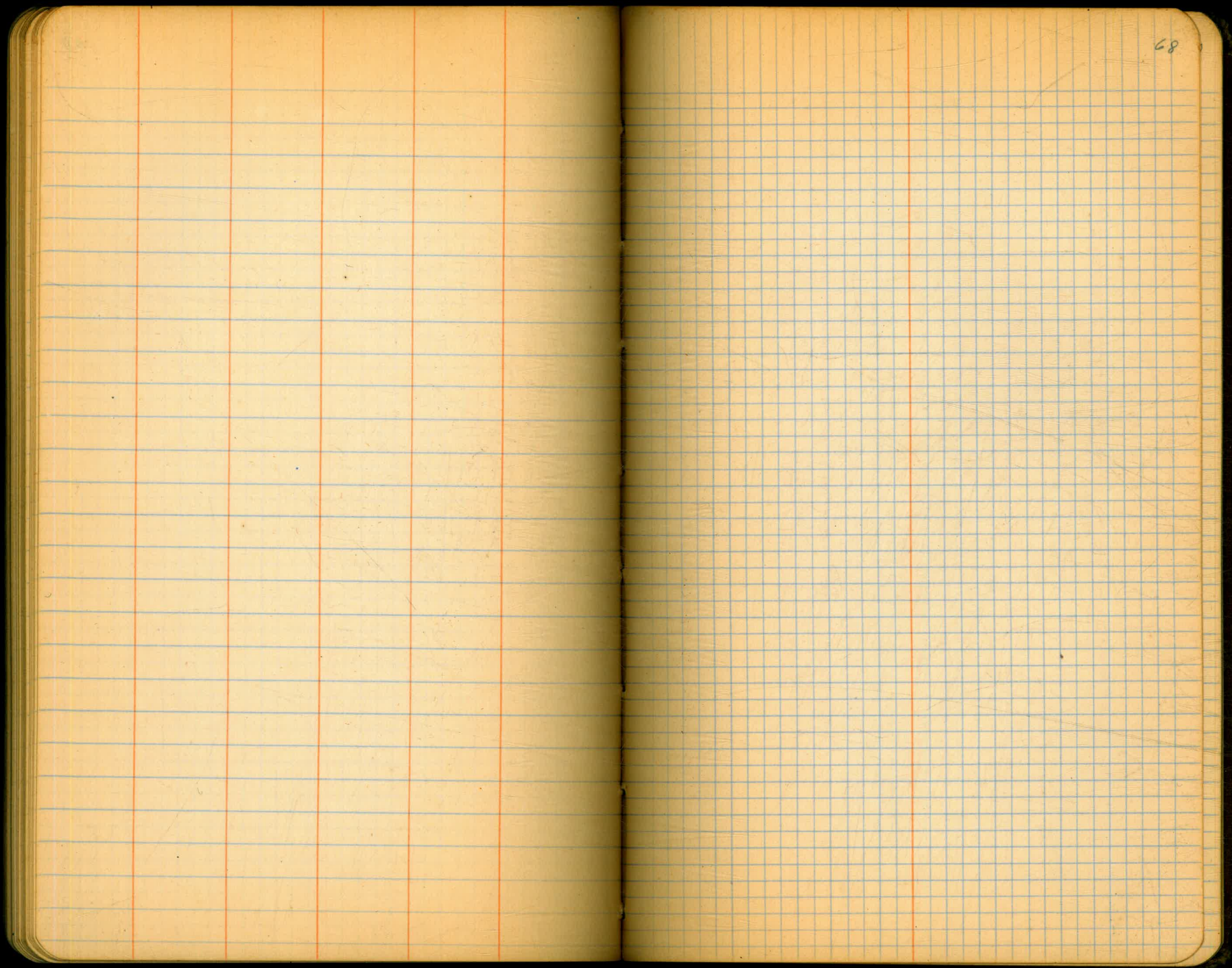


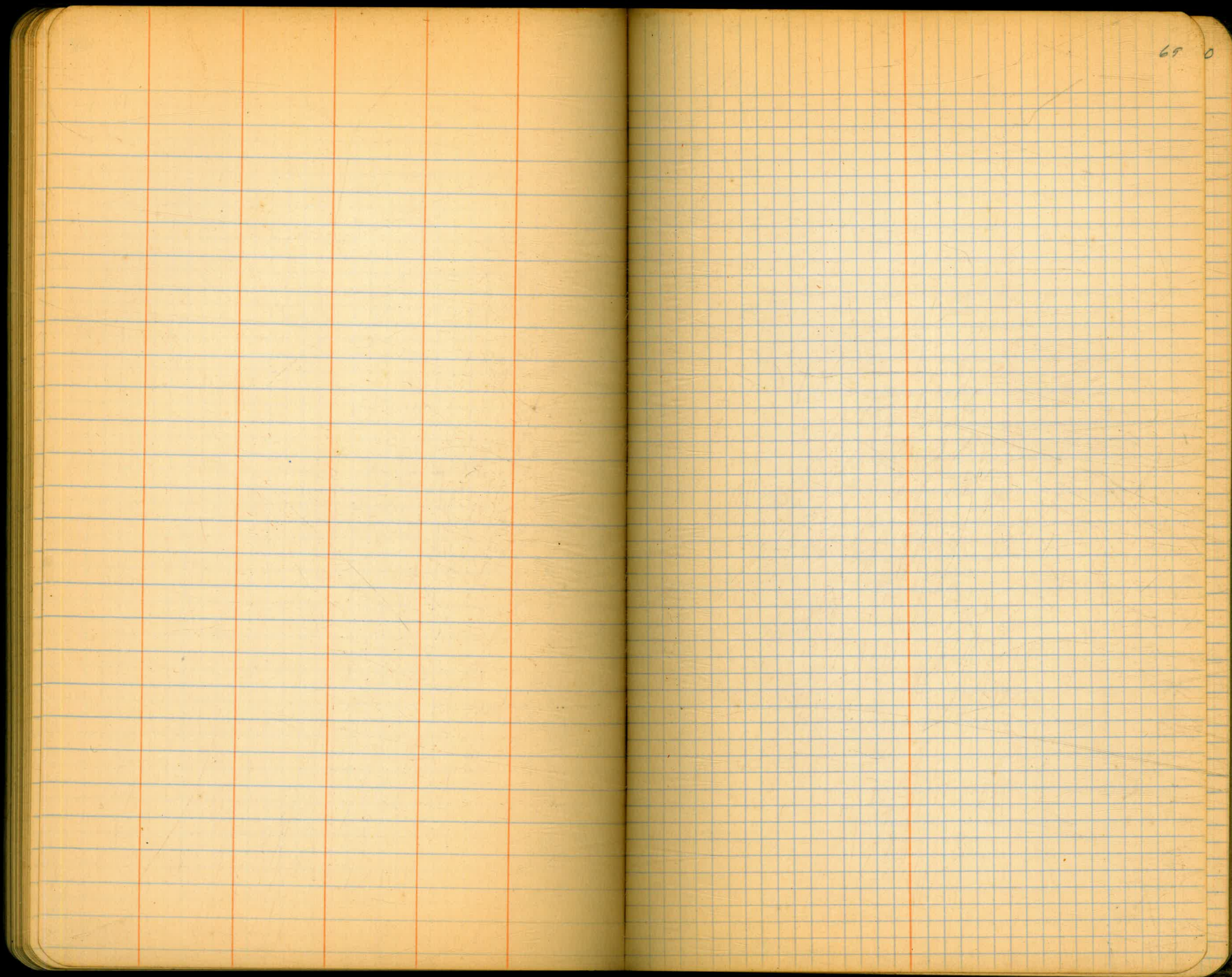






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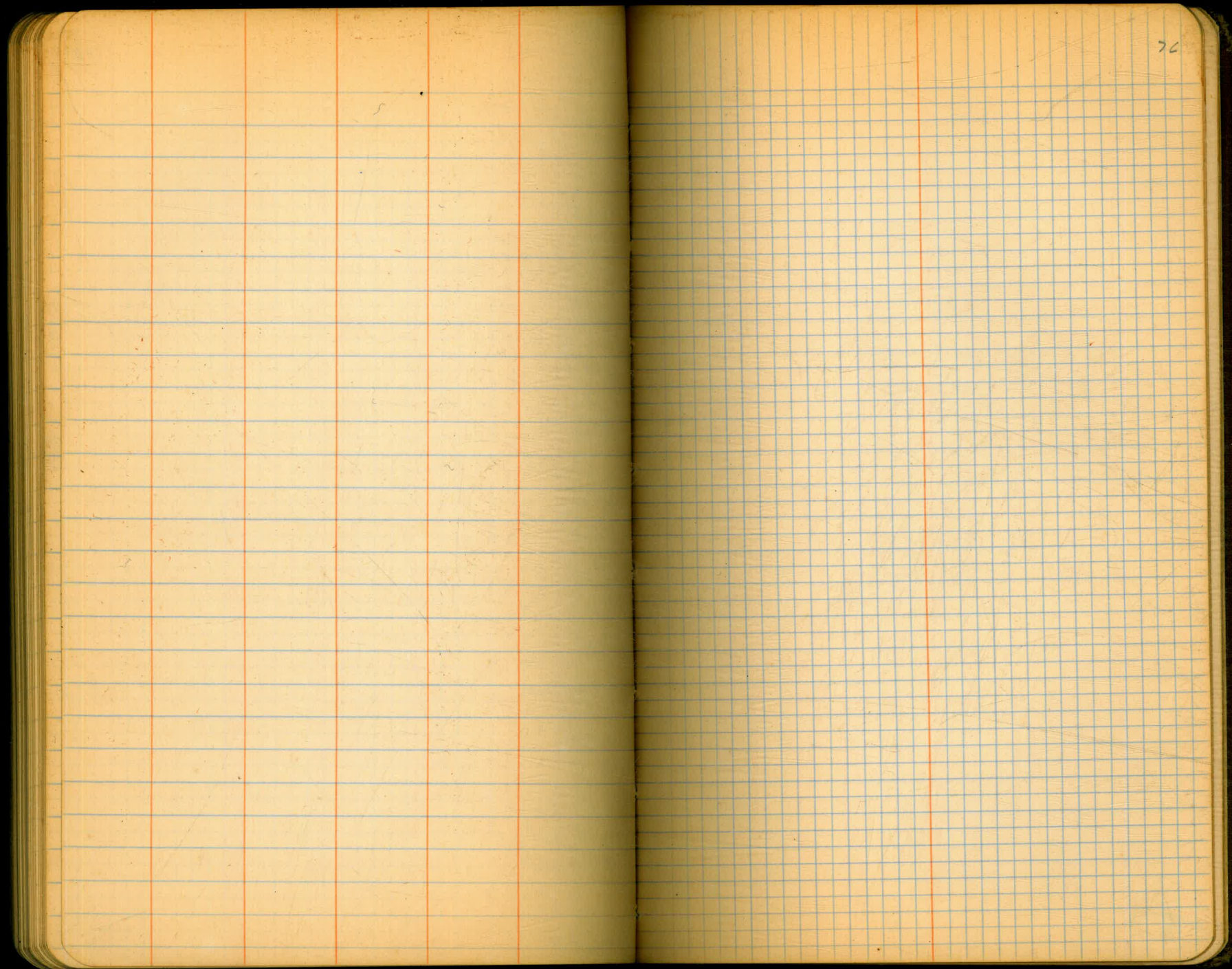


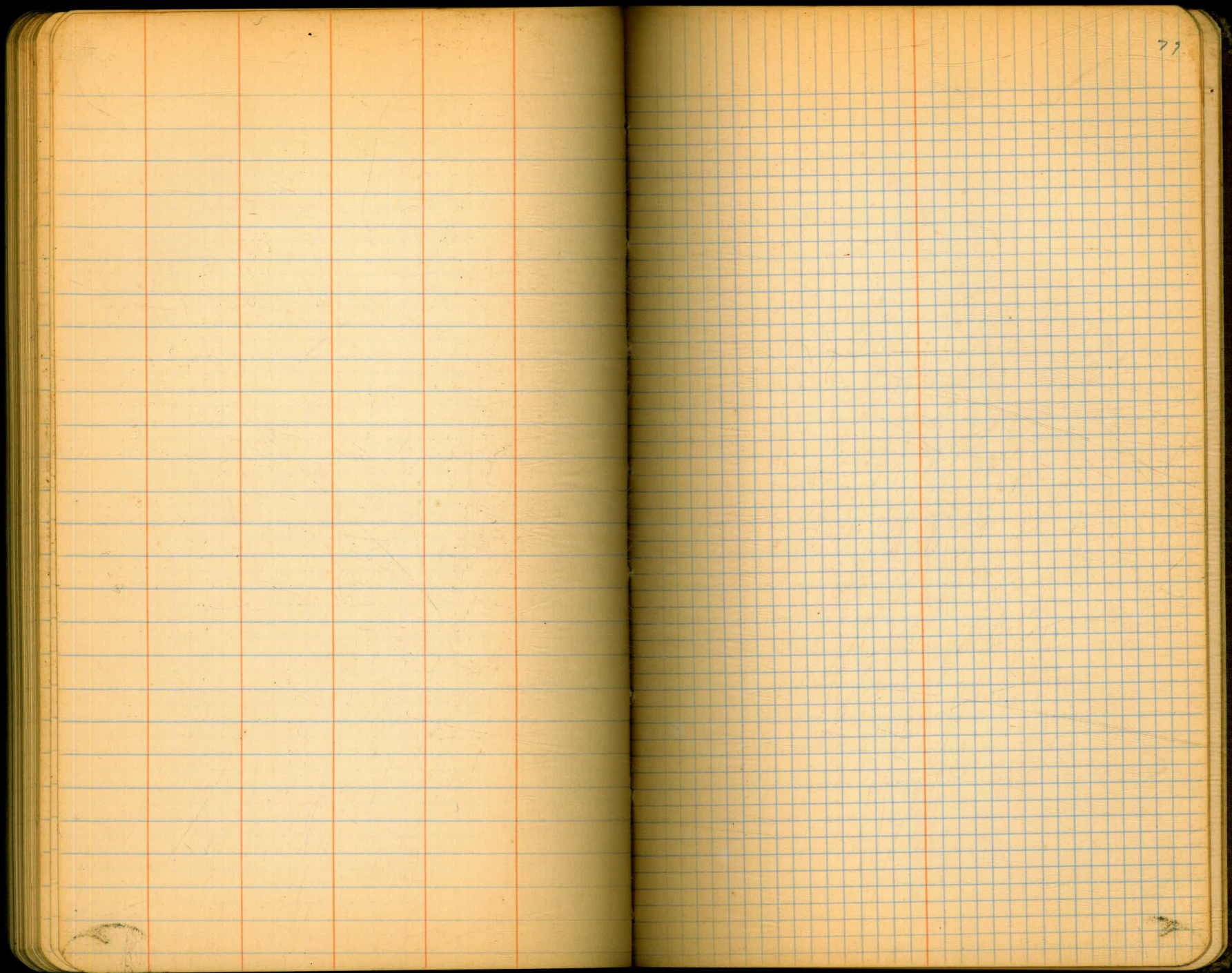








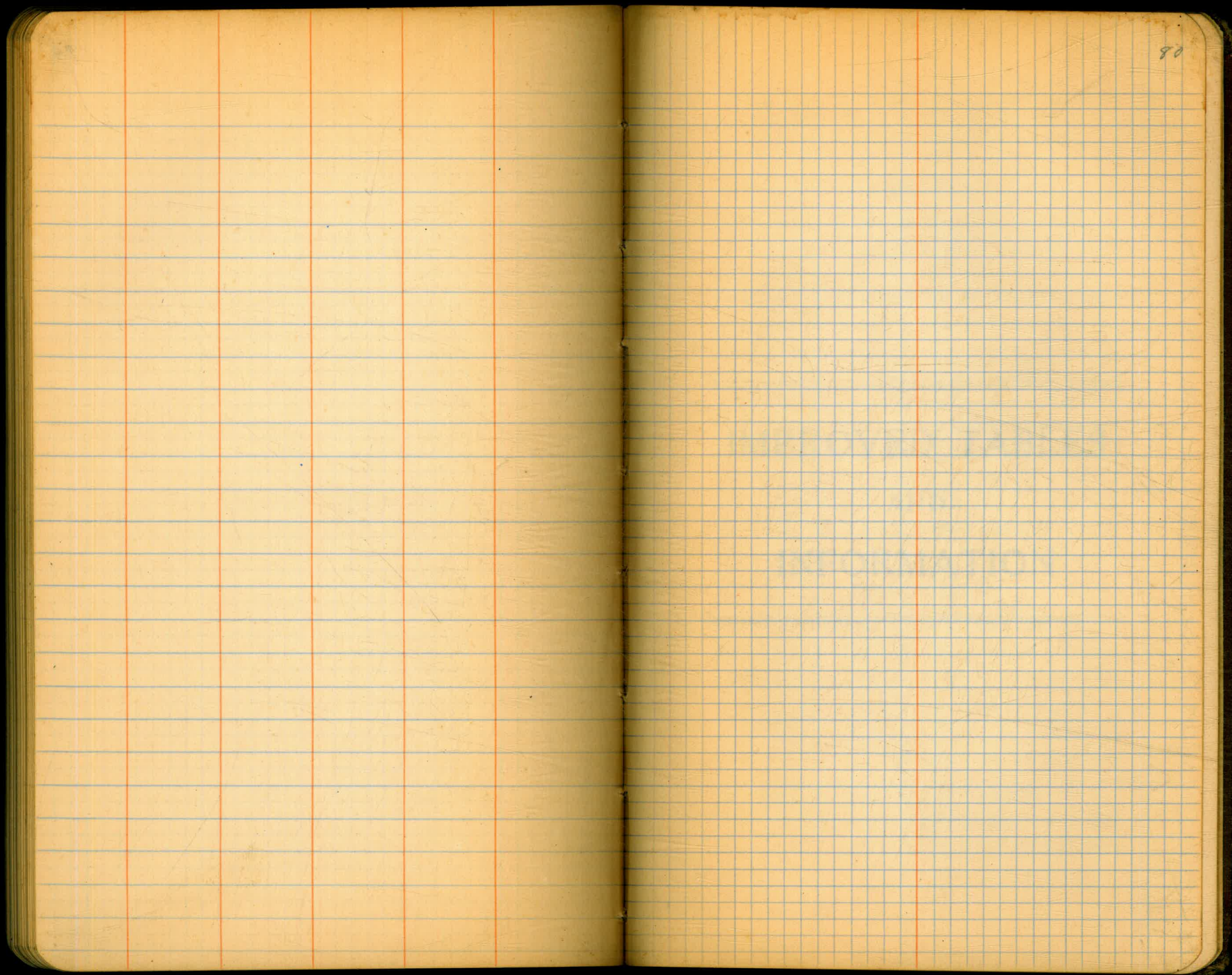












DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 1/2 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between

**IMPROVED TABLES  
AND  
INFORMATION**

TABLE No. 2.

To find tangent and external for curve in any other degree, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given  $L$  may be found by dividing tangent (or external) opposite  $L$  by given tangent (or external). The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

177+77.6 B0  
180+59.4 M.H.

8498 62  
214 59  
88 13 21

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be  $41.9 + (20 - 16) \div 2$  or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.