



# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

500

## 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 1½ see inside of back cover.

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Pipe line location survey from dam to Lakeside

clear 7/24/35

H. H.  
Soper  
Remmer

Sta. Angle Bearing Curve data

12+47.03 18° 25' L  
21° 35' L

215.65

16+31.38 18° 11' 30" L (computed)  
18° 13'

347.58

6+83.80 21° 57' R.

5466.6 P.O.T. N 83° 01' W

396.56

2+87.24 23° 04' R.

573° 55' W

R.P. B 2x2  
35#

R.P. B 2x2 R.W.  
37195

90°

5474.6 End of ramp  
5466.6 End of inner lining

0+00.12 Flange face of westerly 36" pipe (South line)

0+00 Flange face of most easterly 36" pipe (North line)

0-2.35 face of tunnel plug

Note position of pipe in face of plug in relation to  $\phi$  will be determined when tunnel is pumped out.



Sta. angle bearing curve data

N<sup>85°53'30"</sup>W

16+76.12 E.C.

Δ 11°47' R

E.C. 5'53 1/2

R. 480. ✓

+75 5'50'

T 49.53 ✓

16+26.93 11°47' R

+50 4'20'

L. 98.72 ✓

+25 2'50' delica. i 3.591 ✓

10460 1'21" " 25 1'29.525 ✓

15+77.90 B.C.

S<sup>82°19'30"</sup>W

379.90

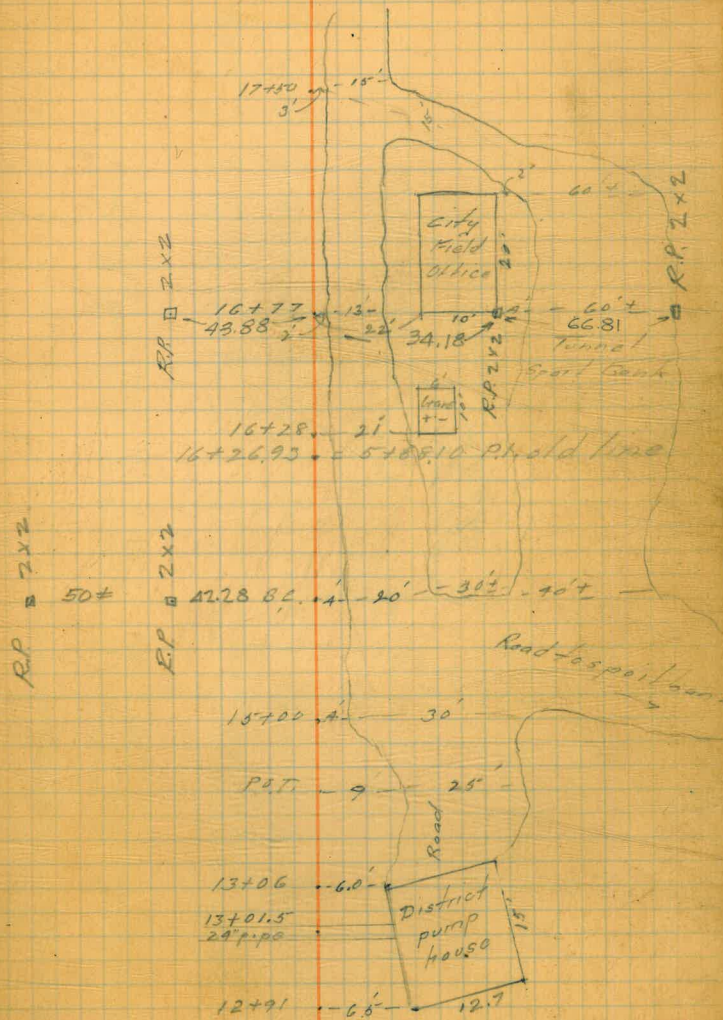
13+54.17 P.O.T. = 3+15.31 apt. of old line

13+06

13+01.5

12+91

Topog. notes by  
L.H.H. 8/6/35





Sta. angle bearing curve data

S. 82° 27' W

21+72.66 E.C.

E.C. 15° 19' ✓  
 150 - 10° 55' ✓ Δ 24° 38' 30" ✓  
 125 - 9° 28' ✓ R 480 ✓  
 21+00 7° 59' ✓ T 10486 ✓  
 175 - 6° 30' ✓ L 206.46 ✓  
 150 - 5° 00' ✓ d.i. 3.581 ✓  
 125 - 3° 31' ✓ d.25 1° 29.525 ✓  
 20+00 - 2° 01'  
 175 - 0° 51'

20+71.05

~~20+51.35~~ 24° 38' 30" L.

19+66.20 E.C.

197.82  
207.52

N. 72° 54' 30" W

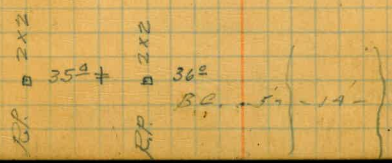
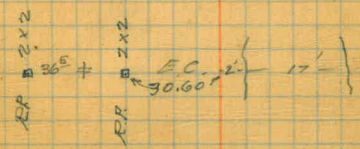
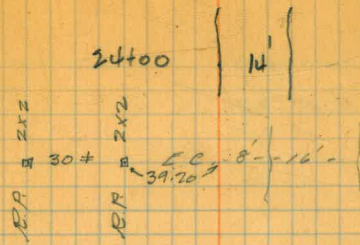
19+16.15 E.C.

Δ 12° 58' ✓  
 E.C. 6° 22 1/2' ✓  
 19+00 - 5° 24 1/2' ✓  
 175 - 3° 55' ✓ R 480 ✓  
 150 - 2° 25 1/2' ✓ T 51.62 ✓  
 125 - 0° 56' ✓ L 108.77 ✓  
 18+25 - 0° 33' ✓ d.i. 3.581 ✓  
 d.25 1° 29.525 ✓

18+64.00 12° 59' R

18+09.38 B.C.

237.61



2x2  
 2x2  
 2x2



sta. angle bearing curve data

N74°19'W

29+33.62 EC.

EC. 18.44' Δ 37°28' R

+25-17.42 ✓ R 240.

29+100-14.23 ✓ T 86.40<sup>.39</sup>

28+58.06 37°28' R

+75-11.44 ✓ L 156.96<sup>.94</sup>

+50-8.45 ✓ d.l' 7.162

+25-5.46 ✓ d.25' 2°59'.049

28+20-2.27

27+76.66 BC.

204.76

S68°13'W

27+13.25 EC.

Δ 14°14' L

EC. 7.07' ✓ R 480.0

27+100-6.20 ✓ T 59.95<sup>.93</sup>

+75-4.50 ✓ L 119.28<sup>.74</sup>

+50-3.21 ✓ d.l' 3.581

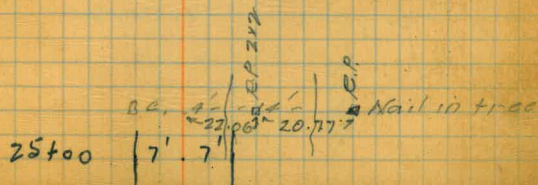
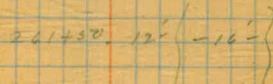
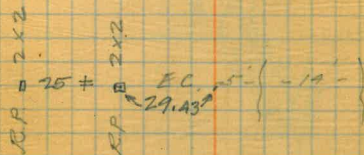
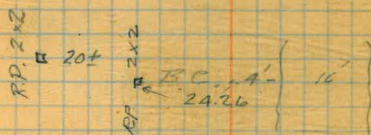
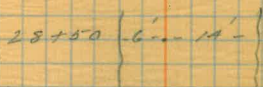
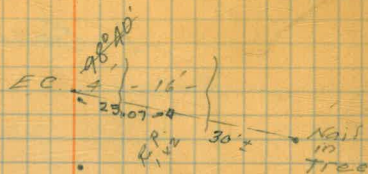
+25-1.57 ✓ d.25' 1°29'.525

26+100-0.22

99  
25+93.27 BC.

586.11

4





Sta. angle bearing curve data  
Contd. in Book 501-p 1

N76°05'30"W

32+20.73 E.C.

E.C. 11'-

Δ 13°22'30" R

R 480

EC - 624'

T 56.28

31+64.96 13°22'30" R

32+00 - 5°27'

L 112.05

475 - 3°57'

d1 3.581

450 - 2°28'

d25 1°29'52"

425 - 0°58'

31+08.68 B.C.

133.70

B.C. 6' - 20'

N89°28"W

30+95.08 E.C.

Abandoned  
Revised alignment  
11/9/35  
on p. 31.

EC 734'

Δ 15°09" L

475 - 6°22'

R 480

450 - 4°53'

T 63.82

425 - 3°23'

L 120.99

30+00 - 1°54'

d1 3.581

475 - 0°24'

d25 1°22'25"

30+32.00 15°09'

29+68.18 B.C.

179.78

B.C. 4' - 18'



Cont. from book 501

Sta. angle bearing curv data

1  
 +60.96 23°21' EC.  
 +50 22°18'  
 +25 20°54'  
 23 19°30'  
 +75 18°07'  
 +50 16°43'  
 +25 15°19'  
 72 13°55'  
 +75 12°32'  
 +50 11°08'  
 +25 9°44'  
 71 8°20'  
 +75 6°56'  
 +50 5°33'  
 +25 4°09'  
 70 2°45'  
 +75 1°21'  
 69 +50.58 BC

PI = 71 + 77.73  
 Δ 46°43' L  
 R 513.  
 T 221.55  
 L 418.28  
 di 3.3807  
 d25 1923.767

N45°02'W

901.31

65483.30 P.O.T.

Contd. from Book 501 - p. 5.

7/27/35 Hill Paper Rammer hot

75+00 - 9' - 14' }  
 Z x Z  
 32# 48.00  
 74+30 road  
 EC. } 14' - 5' }

71+00 | 21' - 12' |

Z x Z  
 27# BC 44.98  
 Z x Z  
 RP

68+00 | 19' - |



Sta deflec. bearing curra data

Contd. in Book 501-p.6.  
N78°47'W

+19.47 6°22' E.C.

22 5°56'

+25 5°12'

15° 4°28'

+25 3°44'

21 3°01'

+25 2°17'

15° 1°34'

+25 0°50'

20 0°07'

72+96.10 B.C.

79+89.91 P.O.T.

5.88°15'W

76+00 P.O.T.

960.85

P.I.: 81+08.76

✓ A. 12°58' R

✓ R 987.

✓ T 112.16

✓ L 22337

✓ di 1.7414

✓ dec 0°43.538

RP 30± 43.00 17.00  
2x2 RP 2x2  
RP 2x2

RP 2x2  
17.00 40±

RP 2x2

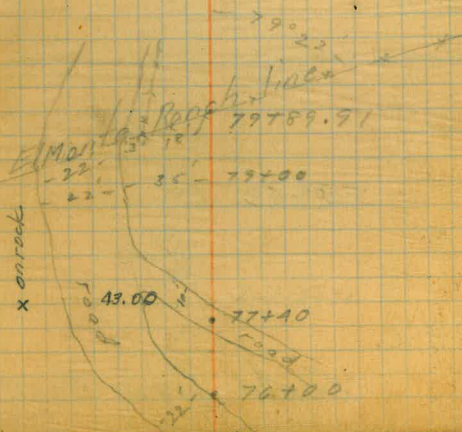
40±

x on rock

43.00

77+40

76+00





5.46°25'W

1492.97

+62<sup>97</sup> - EC 8°50'15

+50 8°20'

+25 7°19'

278 6°18'

+75 5°18'

+50 4°18'

+25 3°18'

277 2°17'

+75 1°17'

+50 0°17'

276+43<sup>02</sup> - B.C. = 134+72<sup>32</sup> #606

5.58°05'30"W

870.85

269+60<sup>16</sup> - E.C.

Contd. from Book 501 - p.24

Hill  
• Loudon - transit notes  
Soper - 11d chain  
Remmon - Rear "

E1.452<sup>L</sup> 14<sup>E</sup> 279+47<sup>L</sup> 16" CI 30<sup>E</sup>  
E1.450<sup>L</sup>

15' 17.00 25' RP 2x2  
Oil Sample

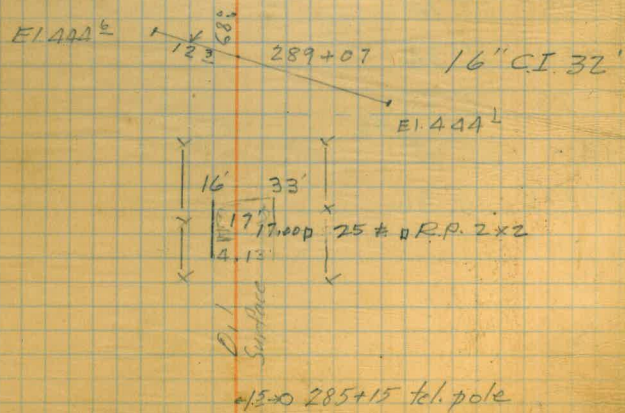
6.11' 17.00 30' RP 1x2  
Oil Sample



+50 13°56'  
 +25 13°17'  
 293 12°37'  
 +75 11°58'  
 +50 11°18'  
 +25 10°39'  
 292 9°59'  
 +75 9°19'  
 +50 8°40'  
 +25 8°01'  
 291 7°21'  
 +75 6°41'  
 +50 6°02'  
 +25 5°22'  
 290 4°43'  
 +75 4°03'  
 +50 3°24'  
 +25 2°44'  
 289 2°05'  
 +75 1°25'  
 +50 0°45'  
 +25 0°06'  
 288+21<sup>09</sup> B.C.

P.I. = 292 + 45.08  
 ↓ Δ = 42°37' R  
 ↓ R = 1087  
 ↓ T = 423.99  
 ↓ L = 808.51  
 ↓ d1 = 1.5813  
 ↓ d25' = 39.5325

292+21 0x4' →  
 telephone pole





583°02'W  
1835.10

✓  
+29<sup>60</sup> EC 2198'30"  
+25 21°01'  
296 20°22'  
+75 19°52'  
+50 19°13'  
+25 18°33'  
295 17°54'  
+75 17°14'  
+50 16°34'  
+25 15°55'  
294 15°15'  
293+75 14°36'

El. 4407

10  
12' El. 440<sup>3</sup>  
16" CI 28'  
301+07

299+32  
30" Sycamore

El. 443°

296+96<sup>6</sup> 16" CI 32'  
33' El. 442°

3' 242  
17.00 R 50' 2x2 R.P.  
Ditch

25  
294+98  
36" Sycamore

70°  
El. 443° 332 294+27  
20" Riv. S.



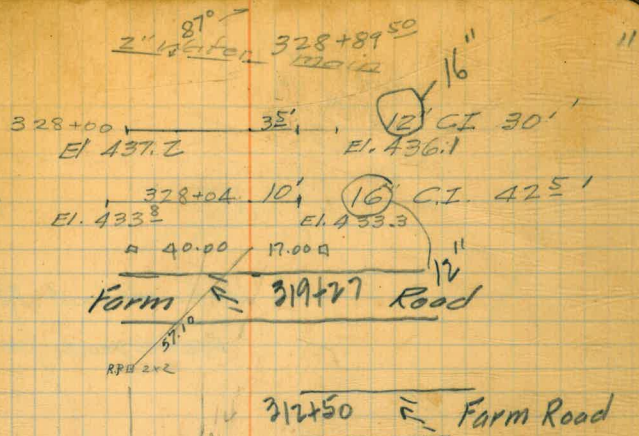
318+50 P.O.T.

Contd. in Book 501-p. 25

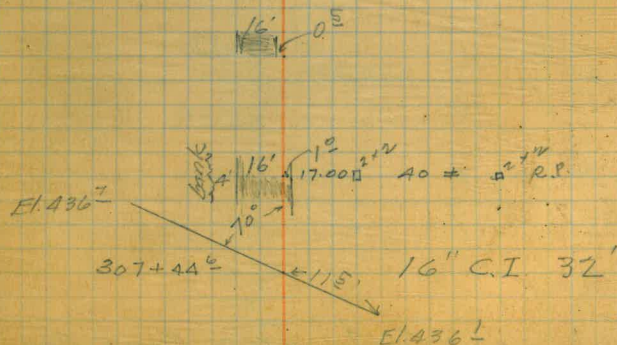
5.47° 57' 30" N  
818.49

+77 <sup>83</sup>	EC. 17° 32' 15"	(99+45 <sup>73</sup> Survey 6 of 6)
+75	17° 22'	P.I. = 310+40.71
+50	15° 49'	Δ = 35° 04' 30" L
+25	14° 16'	R = 463
311	12° 43'	T = 146.32
+75	11° 11'	L = 283.44
+50	9° 38'	d1' = 3.7125
+25	8° 05'	d25' = 1° 32' 8.13
310	6° 32'	
+75	4° 59'	
+50	3° 26'	
+25	1° 54'	
309	0° 21'	
308+94 <sup>37</sup>	BL	

Void - see page 36



R.P. 2x2 43.19' 16" 17° 17' 2x2





$$\begin{array}{r} 5804850W \\ 3^{\circ}26'30'' \\ \hline S 82^{\circ}15'N \\ 3W \\ \hline S 80^{\circ}51'W \end{array}$$

Note: For additional P.P.T.'s and Reference points - see page 37.

401+44 <sup>92</sup>P.O.T.

397+77 <sup>68</sup>P.O.T.

void - see page 34-35 this book

387+17 <sup>05</sup>L

$\Delta = 3^{\circ}24' L$

385+82 <sup>05</sup>L

$= (25 + 50^{36} + 606)$

$\Delta = 3^{\circ}36' 30R$

~~383+87~~ P.O.T.

371+32 <sup>21</sup>P.O.T.

Contd From Book 501 - P. 27.

~~404+10~~  
~~Lake bank~~

~~402+50~~  
~~Lake bank~~

401+45  
401+24  
Road

Note for pipe line on Sycamore see page 15

400+11  
Road

398+37

397+20 <sup>52.86</sup> <sup>2x2</sup> <sup>50+</sup> <sup>2x2</sup> C.P.

396+20  
Lake bank

387+50 17.02

386+21 2x2  $\square$  43.00 385+80 iron pipe

383+76.5 17' x x

16" C.I. RP 2x2  $\square$  43.00 1517  $\square$  2x2

BR 2x2  $\square$  372+12 43.00 17.00  $\square$  Road

Bridge 1.7 360+59

See profile for water way EIS.



- 18.5 -

- 18' - 12' -

414+93.7

River St.

2 1/2" galvanized pipe main

37' → 414+83.7 flowline elev. 222.3 (100%)

Woodside St.

413+63

Drive

412+90

Rep. Shop.

Driveway

Filling Station

5" main

411+32.7

120'

Main St.

34'

411+16.7

6" steel water main flowline elev. 212.7 (100%)

410+2

conc block fence

3'

20'

Vino St.

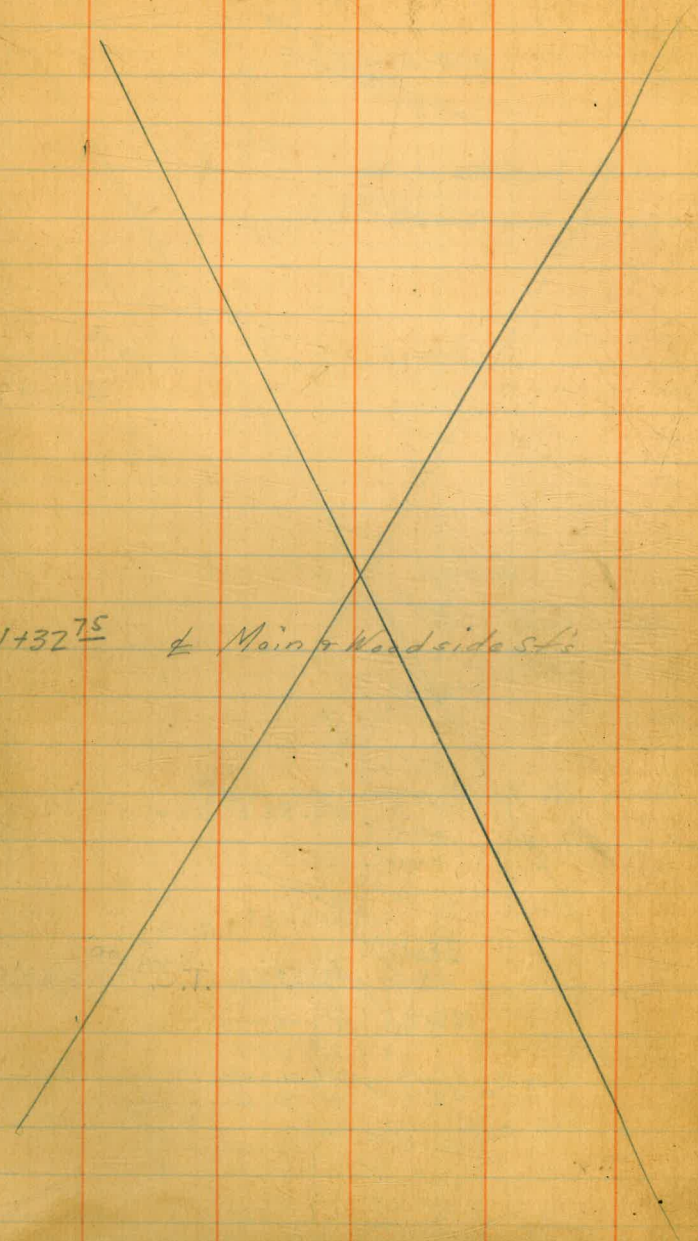
108+73

Road N

406+19

411+32.75

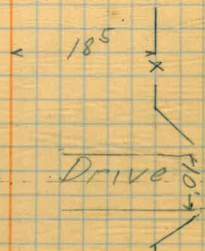
Main & Woodside Sts





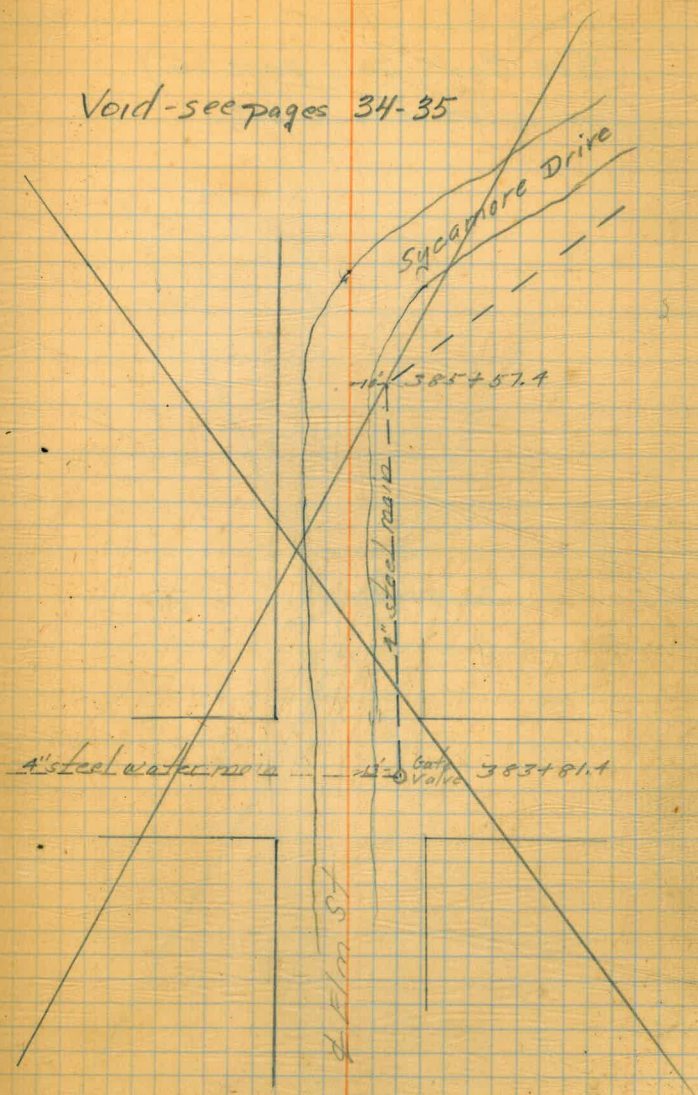
418+00.00 Existing pipeline (1926)

416+26 Drive





Void - see pages 34-35



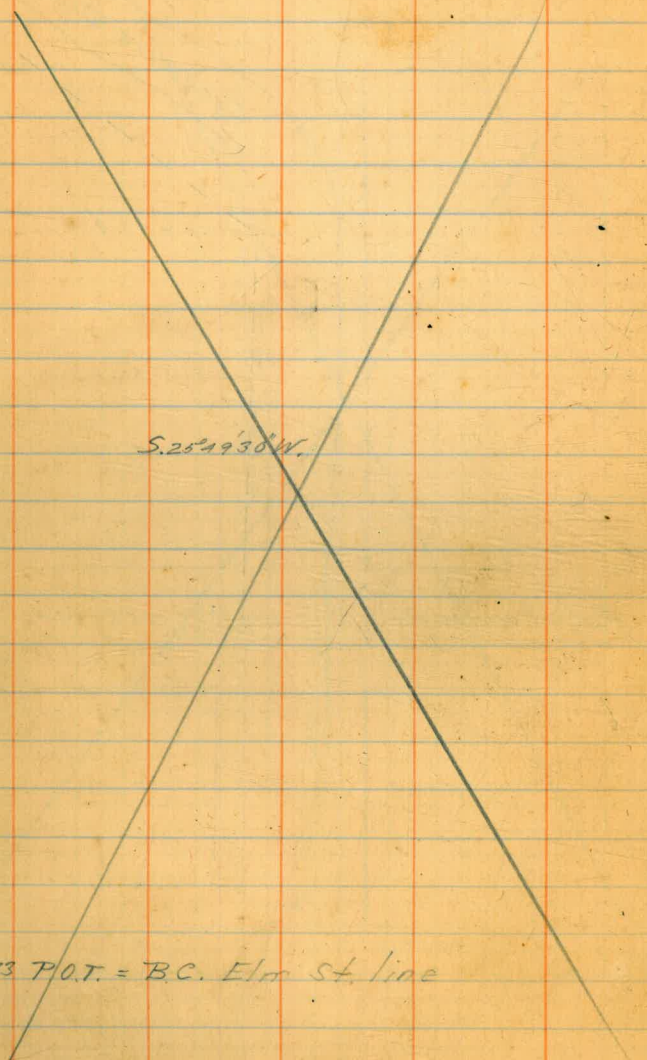


Alternate line from sta 342+98.73 to  
Lakeside via Julian Ave.

Sta. Detlec. Bearing Curve Data

(See Book 501 - page 26.)

(Level notes in book 509)

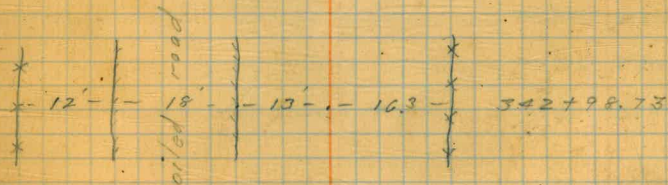
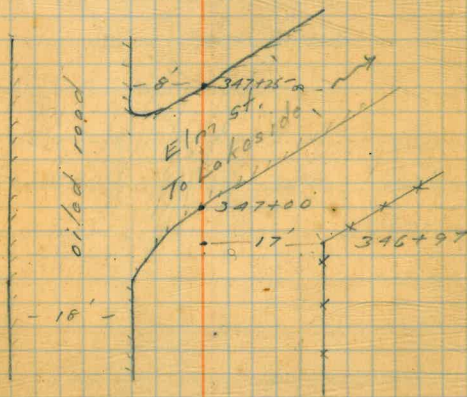
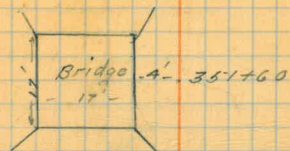


342+98.73 P.O.T. = B.C. Elm St. line

Hill Sept. 26, 1935  
Soper  
Remmen

16

357+85.2 - 90° pole





Sta. Deflec. Bearing

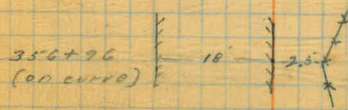
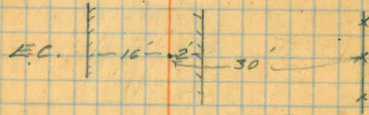
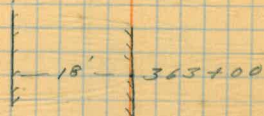
Curve Data

S. 80° 48' 30" W.

101.76	27° 27'	EC.
368	27° 11'	
175	23° 25'	
150	19° 39'	
125	15° 53'	
357	12° 01'	
175	8° 20'	
150	4° 34'	
125	0° 48'	
356+19.70		BC.

P.I.	357+18.90
Δ	54° 54' R
R	190.
T	98.70
L	182.06

Julian Ave. &



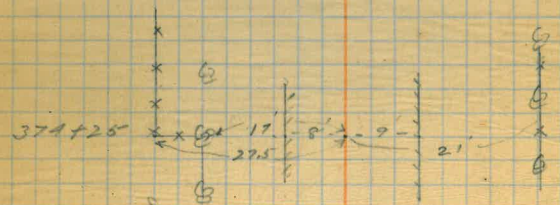
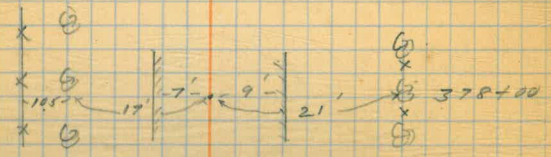
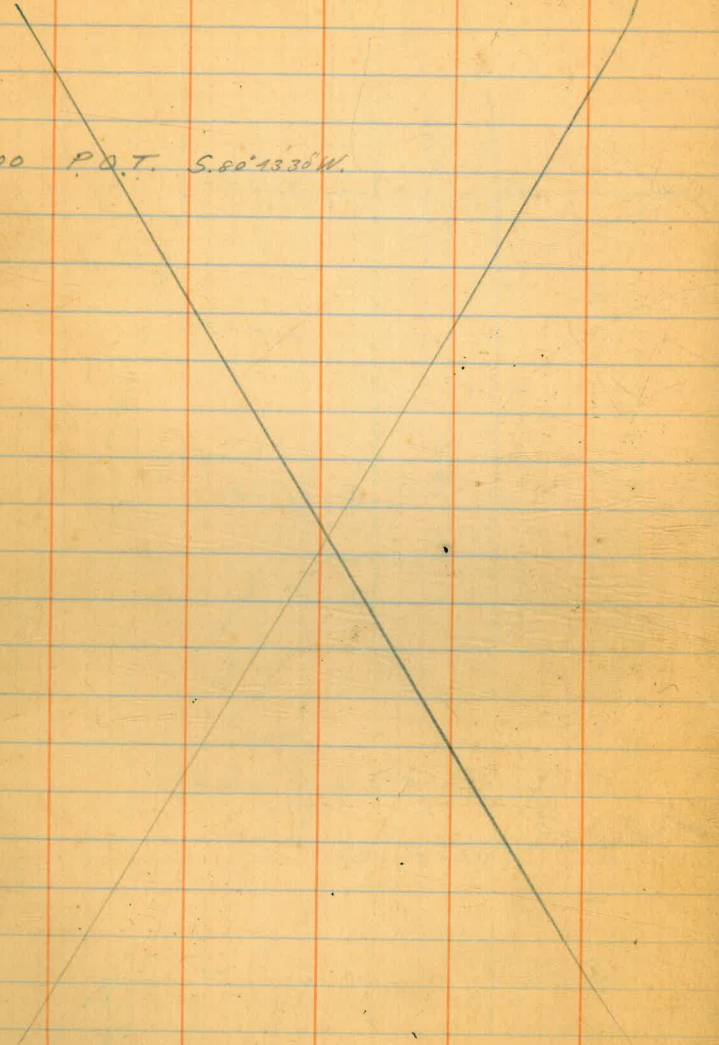






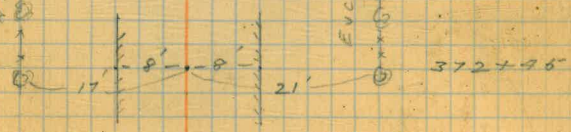
Sta.	Deflec. Bearing	Curve Data
------	-----------------	------------

378+00 P.O.T. S. 80° 43' 30" W.



Begin, near of  
Eucalyptus trees, wire fence between

Eucalyptus trees

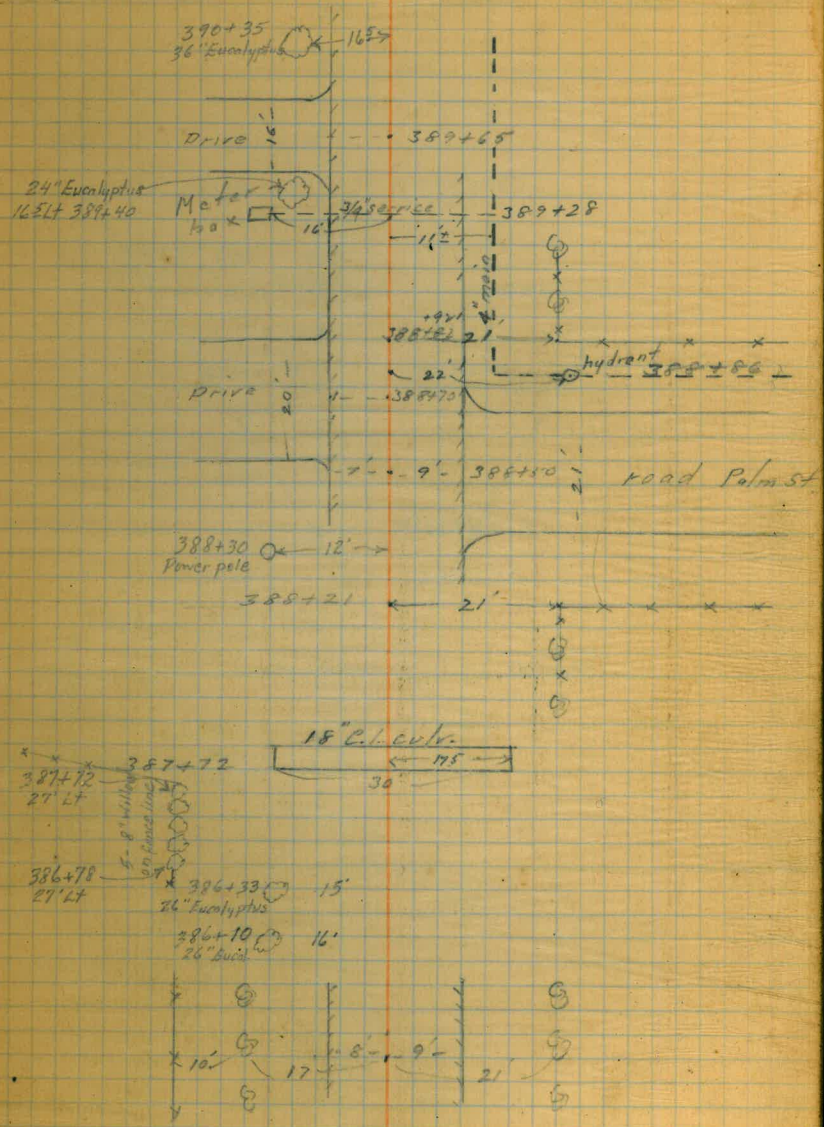
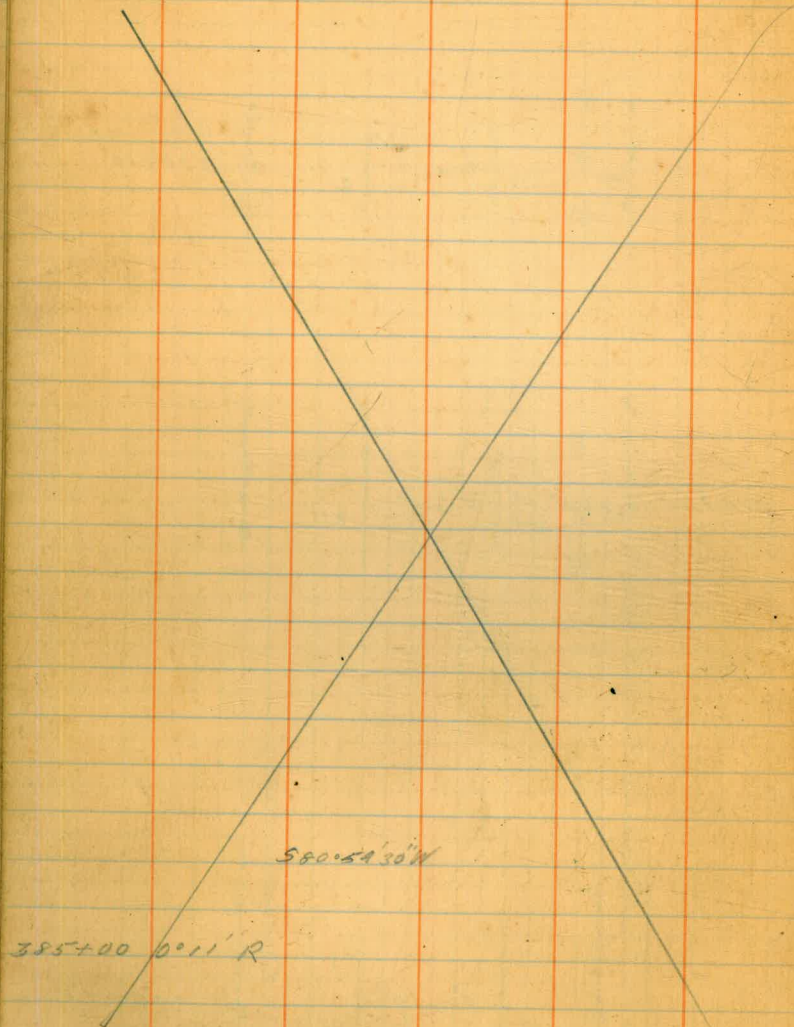


1/2" C.I. Culv. P.L. 435.2



Sta. Detlec. Bearing

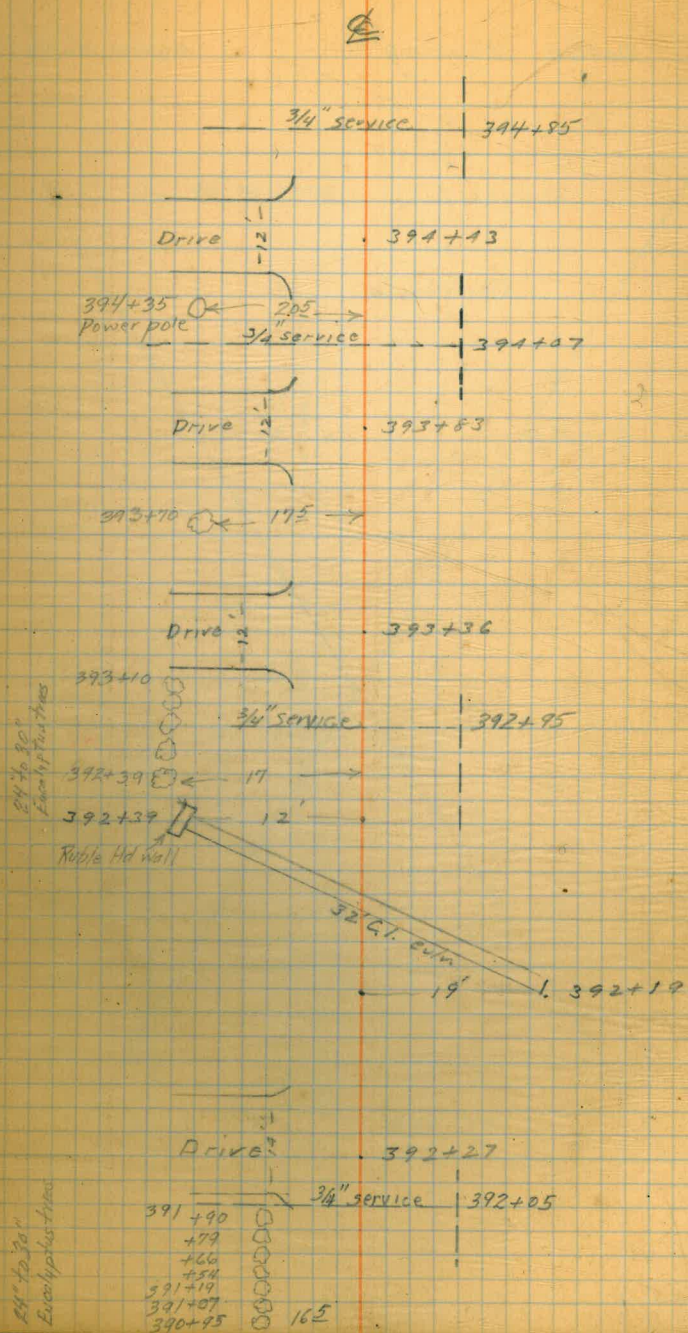
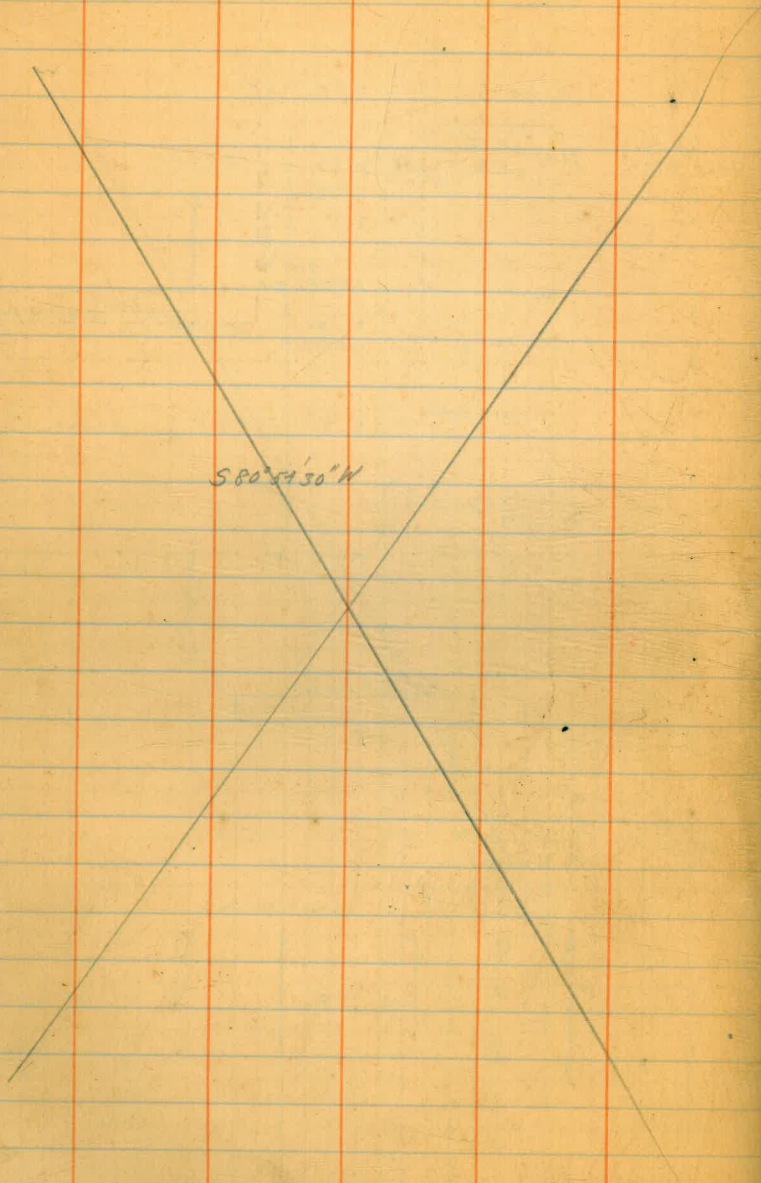
Curve Data





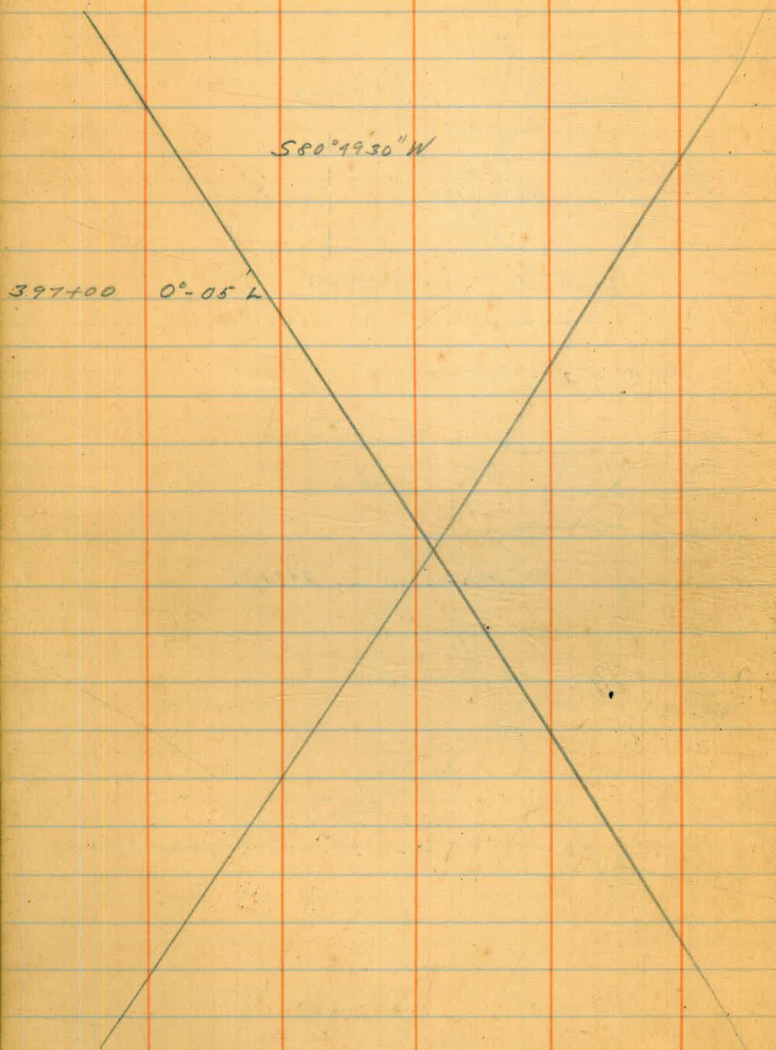
Sta. Deflec. Bearing

curve data

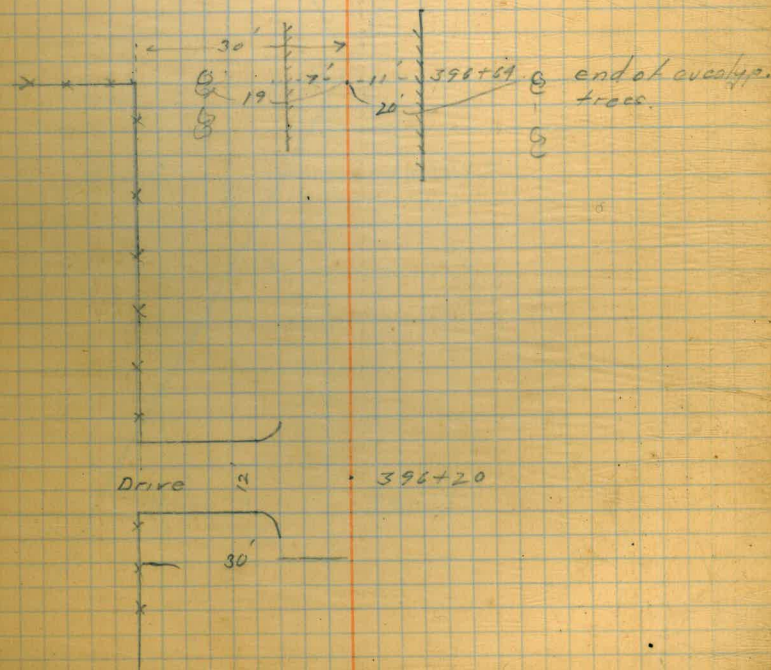
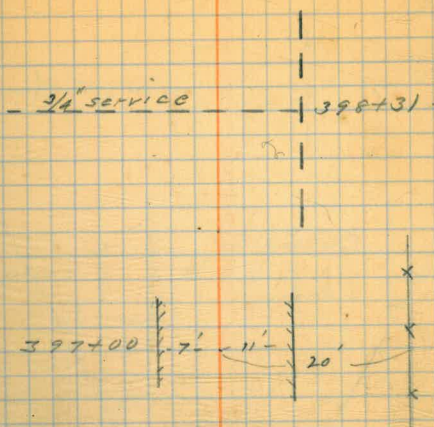




Sta.      Det.      Bearing      curve data



4



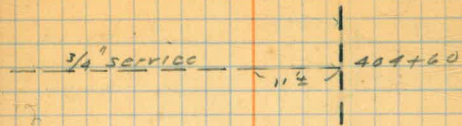


E

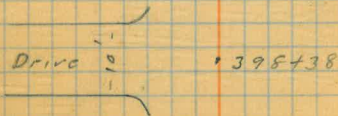
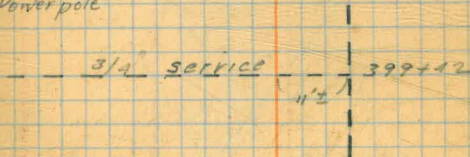
Sta. Deflec. Bearing

Curve Data

S80°49'30" W



400+04 Powerpole 21'





Sta. Deflce. Bearing

Curve Data

~~S82°19'00"W~~

⊕

24

Drive 0

409+70

Road

20'

3/4" service

409+61

3/4" service

409+07

Drive 2

408+70

Power Pole  
408+12  
22' L

Drive 2

408+30

407+99

17'

12" C. Hook

35'

16'

407+87

Drive 2

406+90

26'

407+75

3/4" service

406+57

Drive

406+19

406+24  
406+14







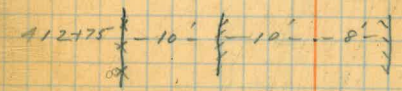
Sta. Deflec. Bearing

Curve data

N 67° 21' 30" W

+51.21 18° 15' 1/2" EC  
 +25 15° 22'  
 #13 12° 37'  
 +75 9° 52'  
 +50 7° 06"  
 +25 4° 21'  
 #12 1° 36"  
 #11 +85.50 BC.

P.I. 412+71.28  
 Δ 36° 31' L  
 R 260.  
 T 85.78  
 L 175.71





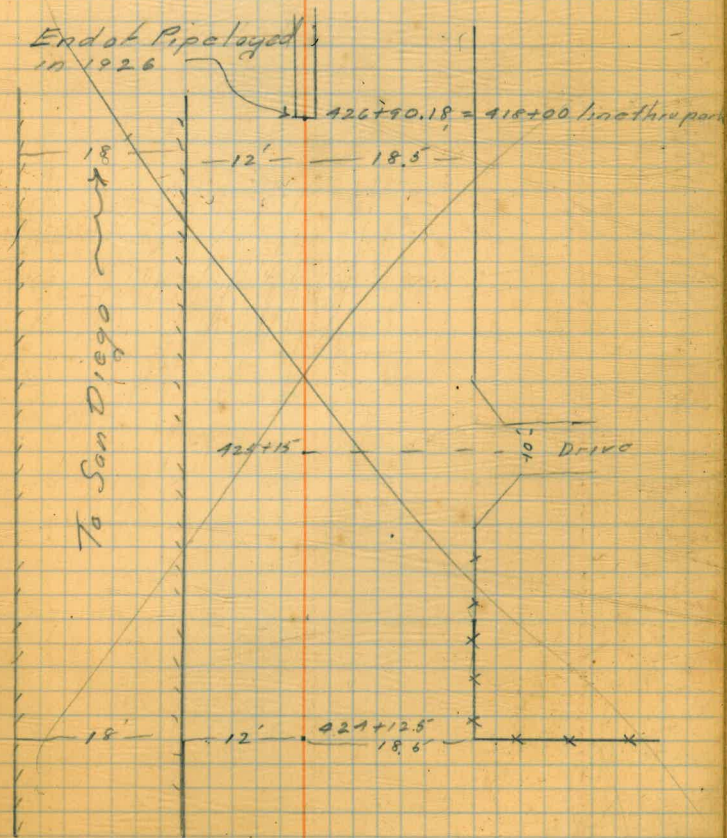




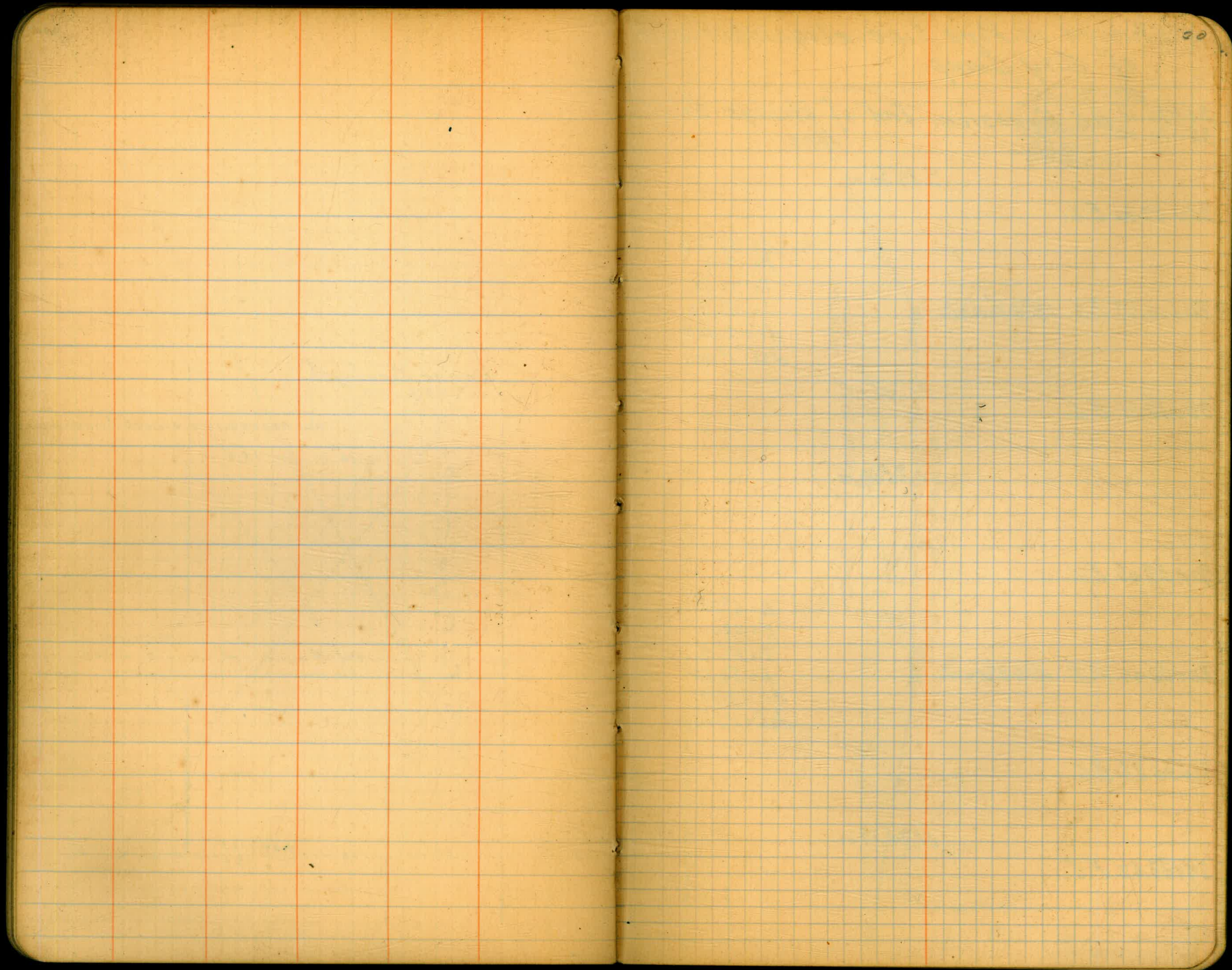




Endok Pipelaged  
10/1926













Profile Levels on change in Pipe Line alignment east of City Camp.

B.M.#5.

6.92 586.65 ✓

579.73.

Spike in oak tree.

30+04.88

10.5 576.2 ✓

+25

8.6 78.1 ✓

+50

7.2 79.5 ✓

+59.05

6.7 80.0 ✓

31+00

4.9 81.8 ✓

+50

5.0 81.7 ✓

32+00

6.4 80.3 ✓

+50

7.4 79.3 ✓

33+00

8.5 78.2 ✓

+32.81

9.0 77.7 ✓

+50

9.7 77.0 ✓

+75

10.8 75.9 ✓

34+00

11.5 75.2 ✓

+25

12.6 74.1 ✓

B.M.#5.

579.73

Spike in Oak Tree.

0.79 580.52 ✓

34+50

7.8 572.7 ✓

+75

9.5 71.0 ✓

+87.34

10.1 70.4 ✓

35+00

10.9 69.6 ✓

+30.02 = Equasion

+30.18

13.5 67.0 ✓

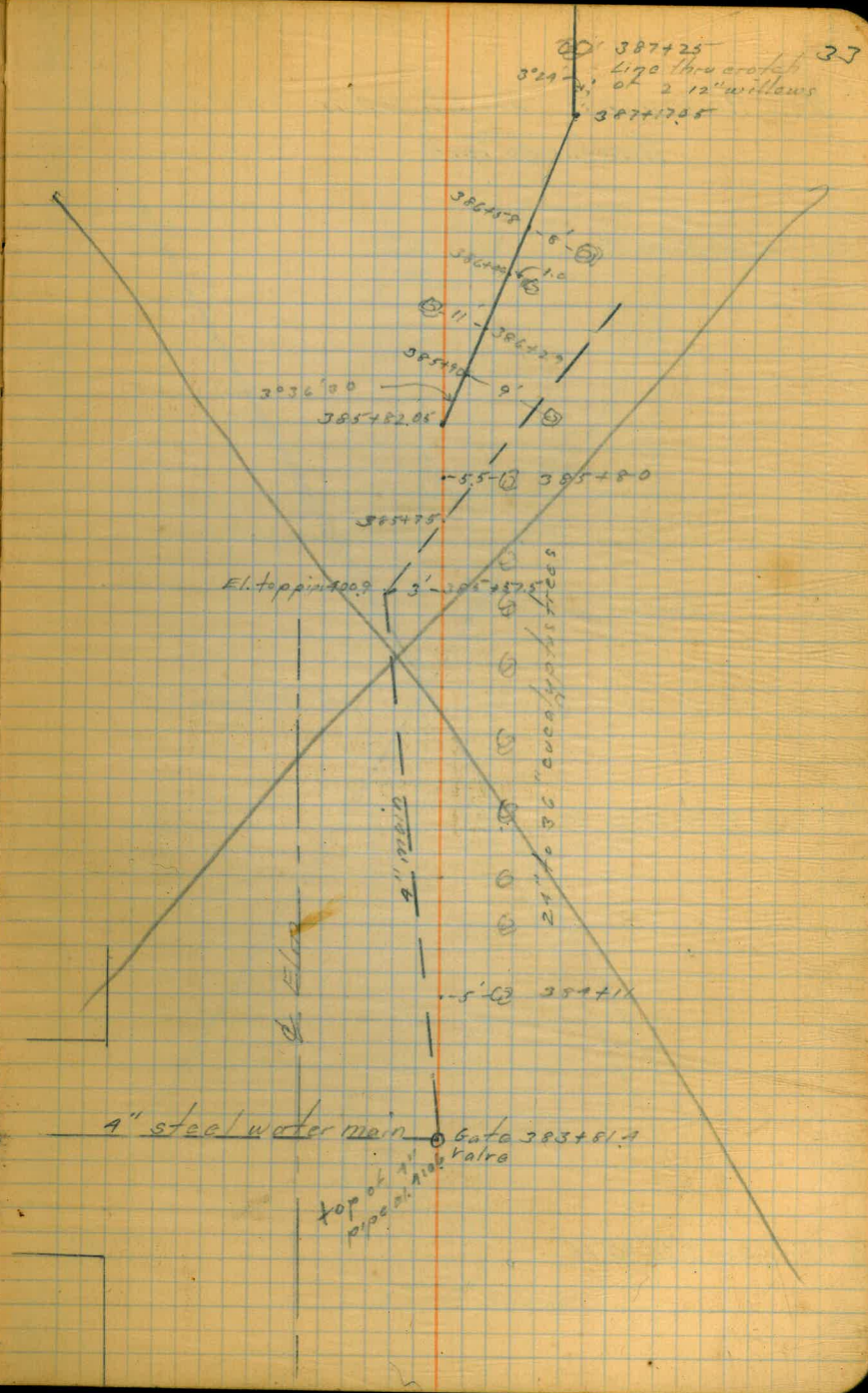
Nov. 9, 1935

Converse  
Saper  
Remmen.



Location of pipe line & trees  
at about sta. 385.

~~Void~~  
See next page





New Alignment - Sta 381+00 to 388+60.18  
thru Lindo Park

$\Delta 385+32.80$   $3^{\circ} 50' RT$

Void.

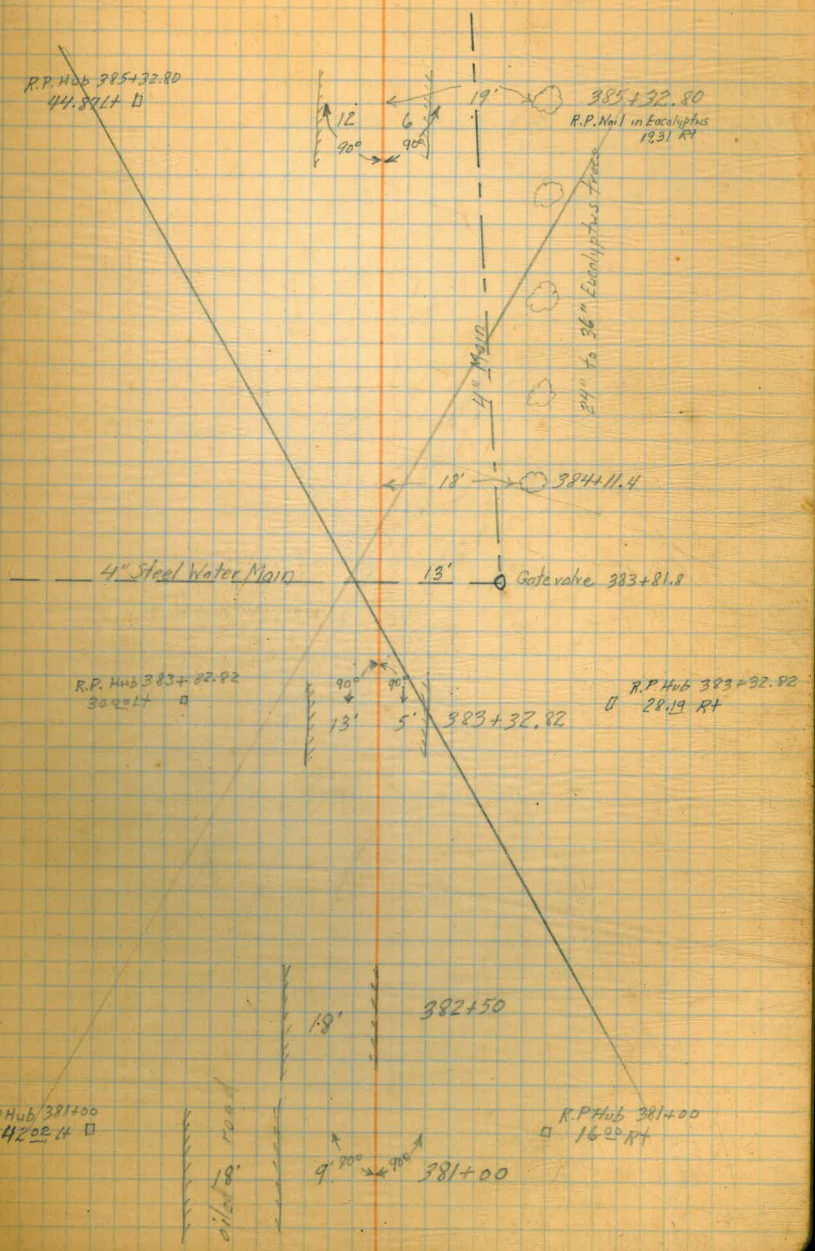
$\Delta 383+32.82$   $3^{\circ} 12' 36" RT$

$\Delta 381+00.00$   $3^{\circ} 12' 30" LT$

H. 11  
Soper  
Remmen

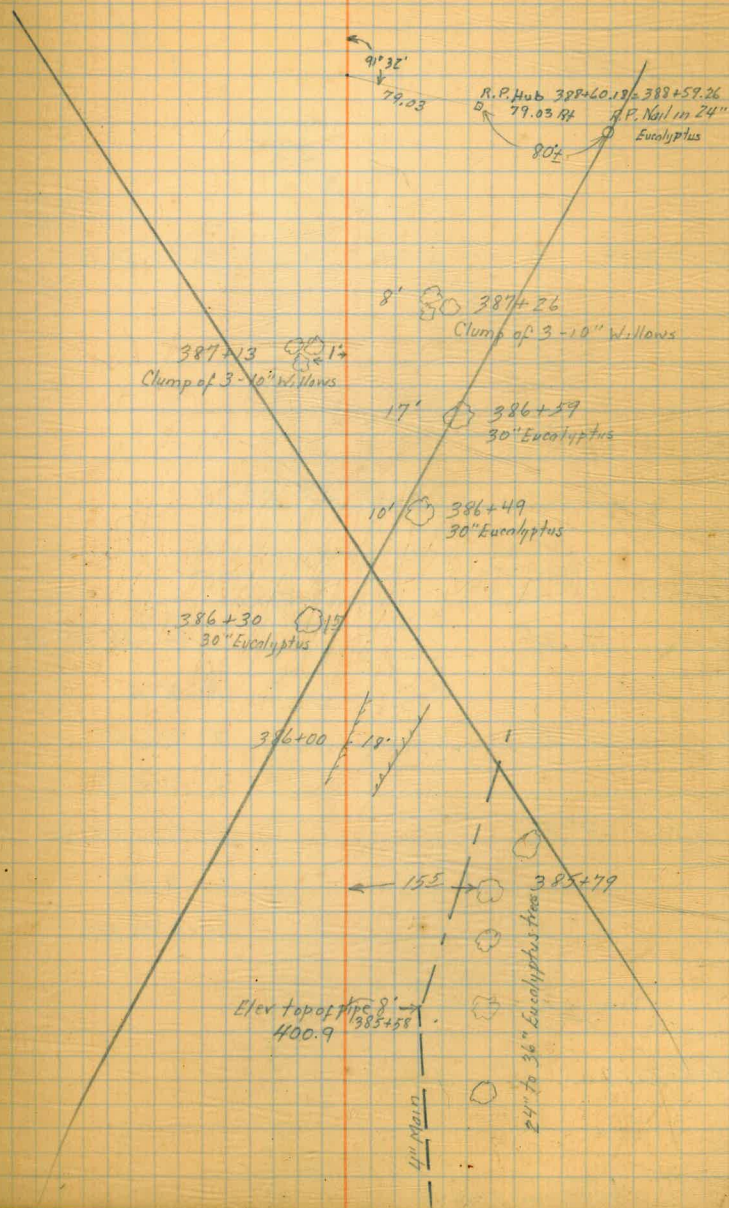
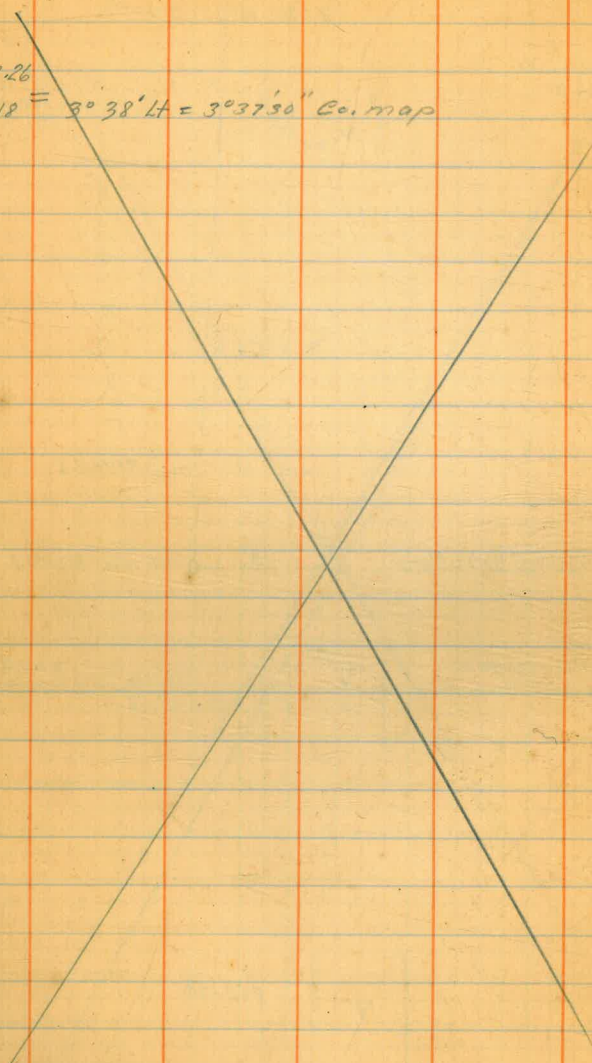
Dec. 5 1935

34





388+59.26  
 $\Delta 388+60.12 = 3^\circ 38' 44" = 3^\circ 37' 50" \text{ Co. map}$





Revision of Pipeline Alignment at Pumping Plant.  
 Profile, elevations and sta. of Crosspipes - Book 509 page 75-76

Cont'd on page 11

316+00 Pot  
 316+05.13 P.I.

3° 05' 30" RT

314+04.76 P.I.

3° 05' 30" LT

Void - Book 501 page 25

547° 57' 30" W

LC +77.96 17° 32' 15"

+50 15° 32'

Δ 35° 04' 30" LT

R = 400'

311 11° 57'

T = 126.41

L = 244.87

+50 8° 22'

RI 310+59.50

di = 4.297

310 4° 47'

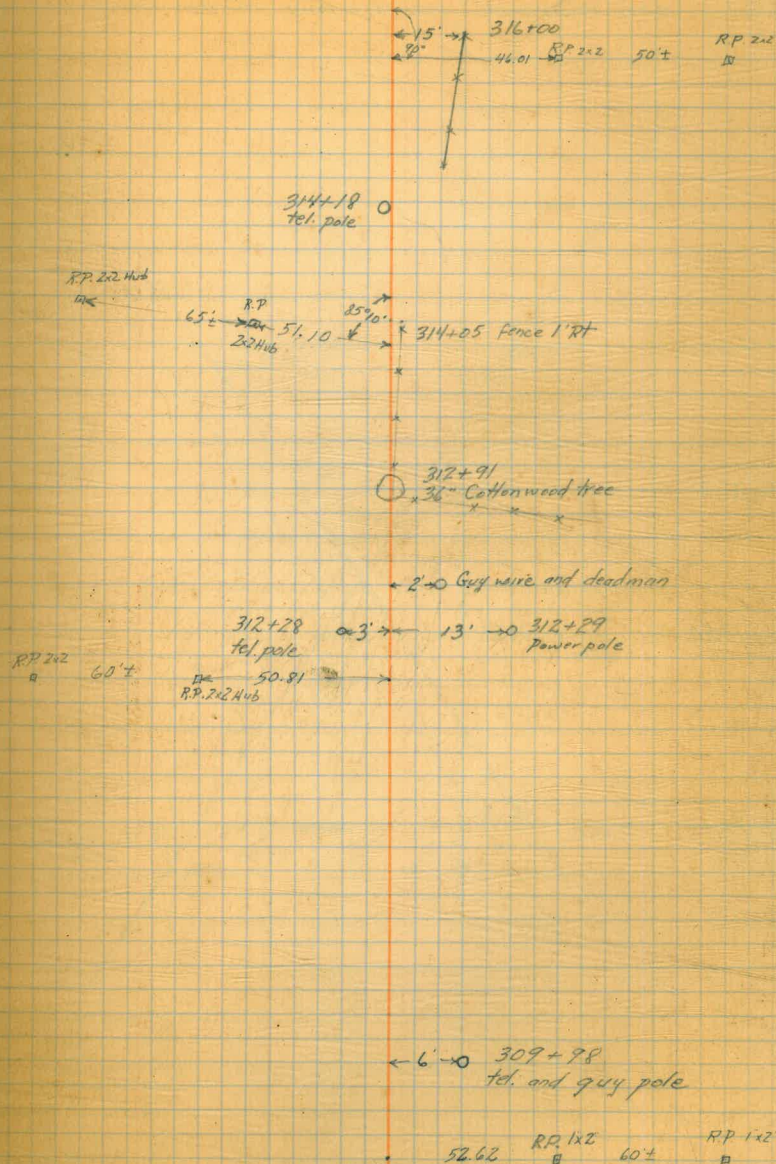
d<sub>50</sub> = 3° 34' 8.59"

+50 1° 13'

B.C. 309+33.09

5 83° 02' W

Cont'd from page 10





Jan 14 1936  
Soper  
Remmen

37

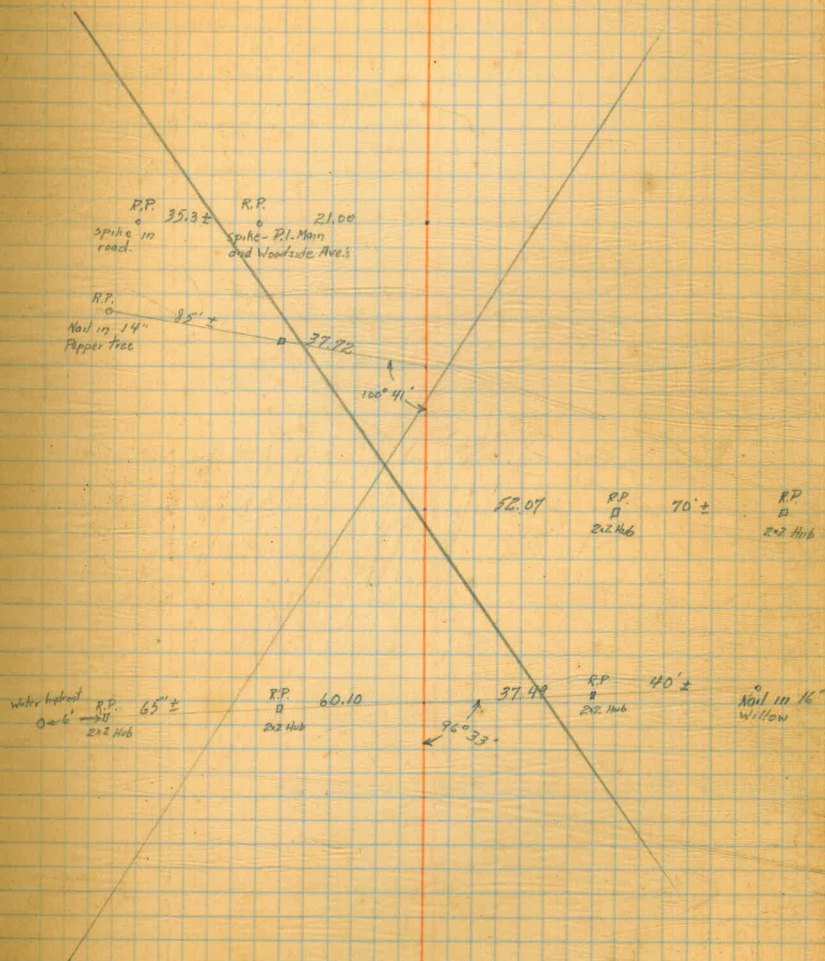
P.O.t.'s and reference points thru Lundo Park.

411+32.75

405+71.91

401+13.80

397+77.68





Pipeline revision - Julian Ave.

350+00 P.O.T.

341+94.64 B.C. line thru Park = P.O.T. Julian Ave line

Cont'd from Book 501 - 25

Feb. 4 1936  
H.W.  
Soper  
Remmen

38

RD 252 RP 1300  
242 Shiner



358+0186 E.C.

+75

+50

+25

357+00

+75

+50

+25

356+1953 R.C.

P. 357+18.40

A 54° 59' R1

R. 190

T 98.87

L 182.33

d. 9.047

d<sub>2</sub> 3° 46.168

RP nail in

Eucalyptus 25'

RPP1

2+2

24.07

P1.



Feb 5 1936

40

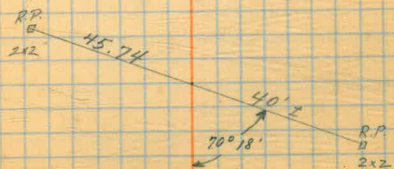
378+00 P.O.T.

35.65 R.P.  
D  
2x2

30'±

R.P.  
D  
2x2

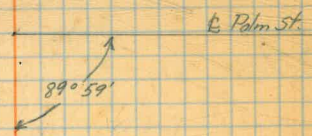
368+36.82 P.O.T.





388+52.40 P.O.T. (P.I. of Palm St and Julian Ave)

RP	145' ±	RP	31.46
R		R	
2x2		2x2	

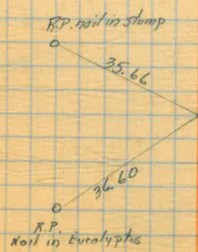




400+00.00 P.O.T.

393+49.92 P.O.T.

42  
RP RP  
|| 50' || 40.15  
2.22 2.22



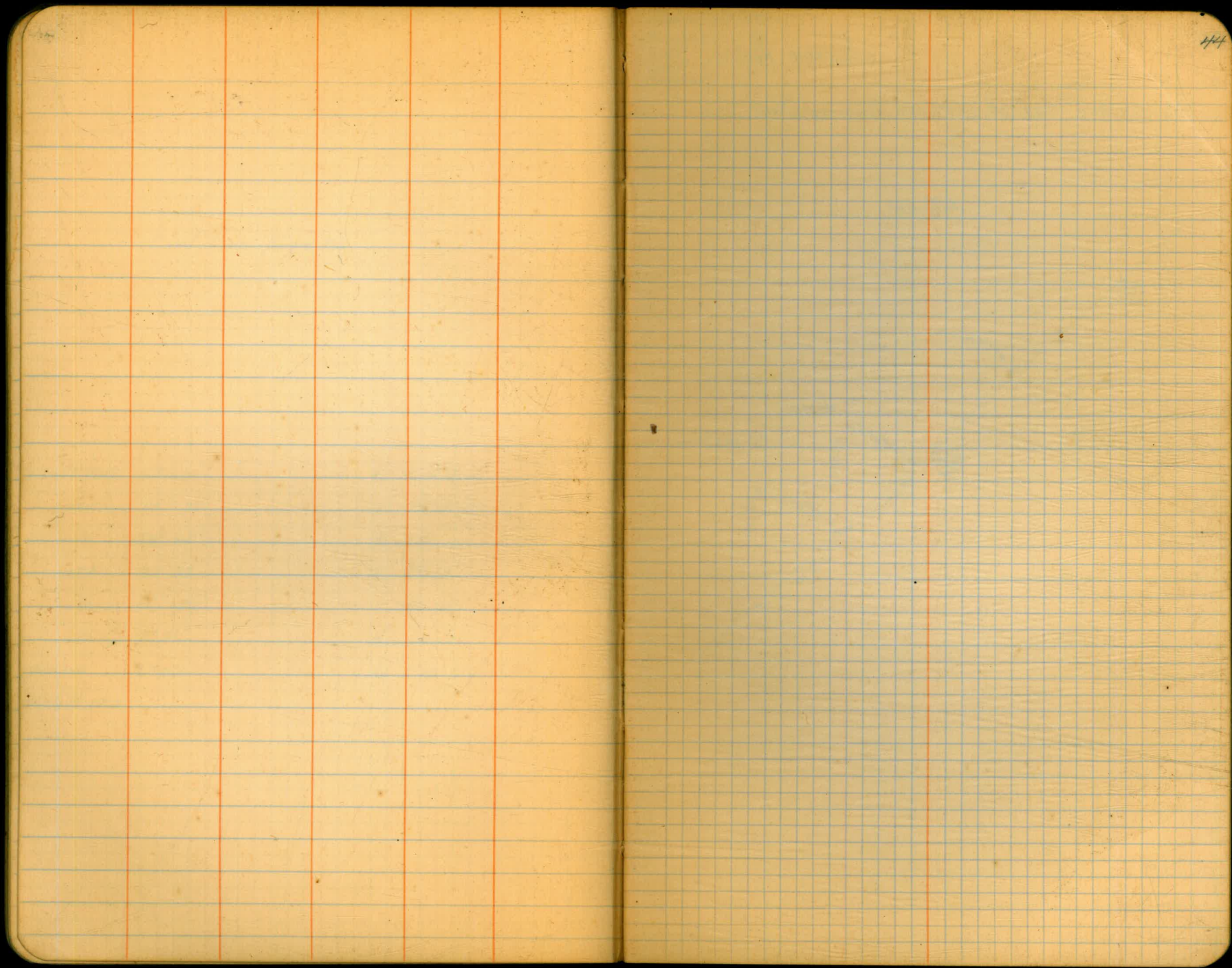


Cont'd on page 26

411+38.79 EC.	39° 11'	P1	410+78.00
+25	35° 35'	A	78° 22' RT
411+00	29° 05'	R.	110
+75	22° 34'	T	89.66
+50	16° 03 1/2'	L	150.45
+25	9° 33'	d.	15.626
410+00.	3° 02'	dis	6° 30'.653

2 407+88.34 BC.

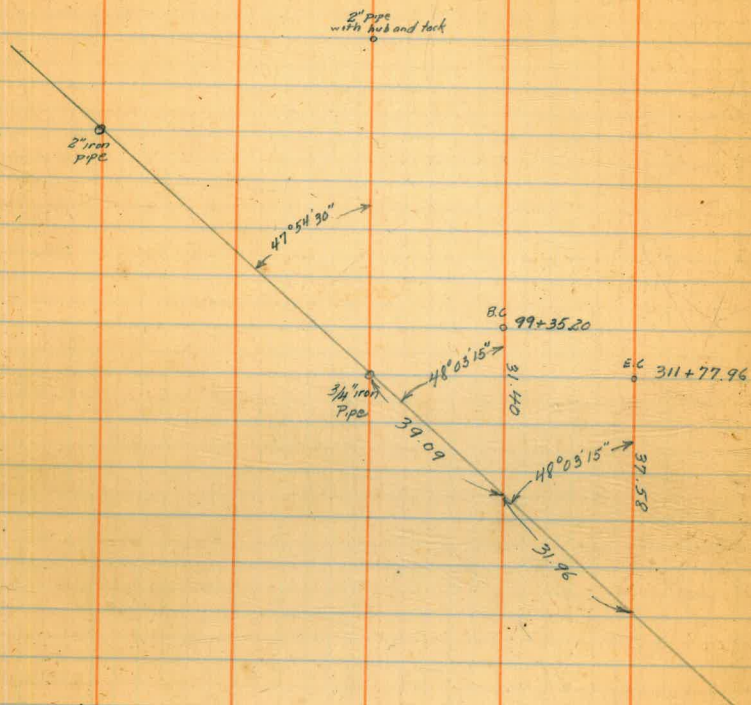






Co. road #606 Pipeline

Property line ties at El Monte Pumping Plant



March 25 1936  
Converse  
Soper  
Isbell  
Remmen

45

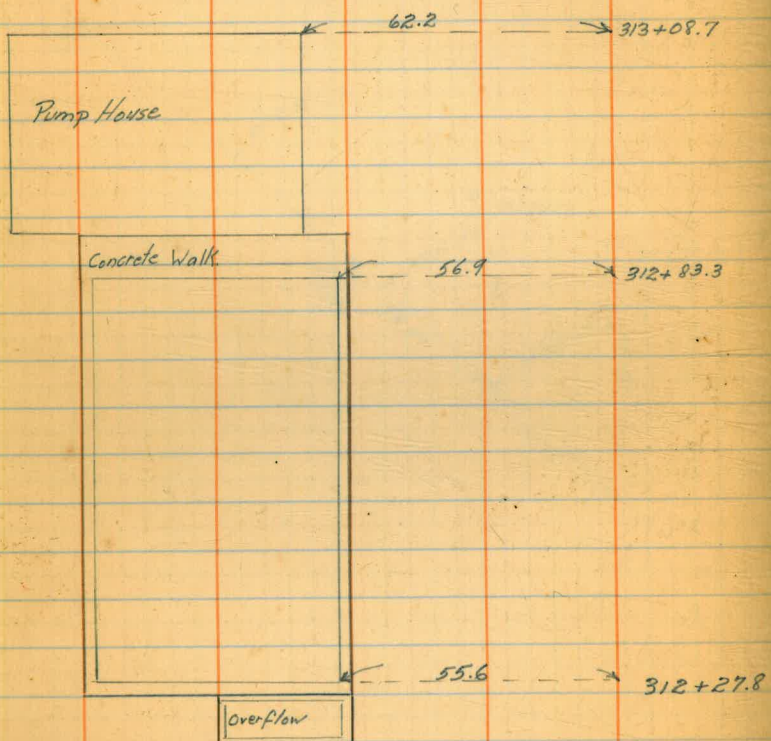


⊥  
Pipeline

March 26 1936  
Converse  
Soper  
Isbell  
Remmen

46

Ties to Pumping Plant Reservoir.





TIES TO El. Capitan P.L.

Byler  
King  
Otten  
Stephens  
7-31-44

16+76<sup>12</sup> E.C.

15+77<sup>4</sup>  
15+77<sup>2</sup> = B.C.

13+99<sup>1</sup> A.V. #3

13+12<sup>67</sup> Edge G.V. Chamber

12+99<sup>3</sup>  $\phi$  30" G.V.

12+95<sup>1</sup> Edge of G.V. Chamber

12+92<sup>E</sup> 2" Top

12+97<sup>03</sup> L

12+96<sup>2</sup> A.V. #2

11+08<sup>80</sup>  $\phi$  CONC. Pier

10+78<sup>80</sup>  $\phi$  CONC. Pier

10+67<sup>92</sup> B.O. #1

10+61<sup>12</sup>  $\phi$  CONC. Pier

10+39<sup>12</sup> Tunnel Exit Portal = starting point of this survey

Note For Additional ties at +50.5 stas. 47  
from 35+50 on see Book 501 Page 39 to 45

16+85  
18<sup>2</sup> 5' | real  
12<sup>2</sup>  
16+76  
15<sup>2</sup> 8' | 2 trees

1401 16+50 | 92  
20' 700

1401 16+00 | 92  
18' 700

2401 15+50 | 72  
50 700

2401 15+00  
50 112  
700

Fd. R.P. Hubs

1401 14+50 | 82  
50 400

2401 14+00 | 90  
50 400

1401 13+50 | 92  
5' 712

2401 13+00 |  
12' 700 180

1401 12+00 | 72  
10' 700

Fd. R.P.<sup>3</sup>

1401 11+50 | 52  
10' 700

+tree  
15786  
20' 6' | road  
12'

56<sup>2</sup> | berm

48<sup>2</sup> | berm

42<sup>2</sup> | berm

Power pole  
29<sup>2</sup> | berm  
31<sup>2</sup>

16<sup>2</sup> | berm

14<sup>2</sup> | berm



26+98 M.H.  
 26+36 1/2 Mi. Post  
 25+93<sup>88</sup> B.C.

23+02 B.O. # 2

21+72<sup>86</sup> E.C.

19+66<sup>88</sup> B.C.  
 19+18<sup>85</sup> E.C.

18+09<sup>88</sup> B.C.

16+99  $\Phi$  48" X 48" X 30" W/C to 30" X 29" B.O.

$\Phi$

48

2 to 1 | 27+00 | 8° | 4' | 12' | 27' → berm  
 20' | toe  
 1/2 to 1 | 26+00 | 5° | 2' | 10' | 19' → berm  
 16' | toe  
 170  
 18" W.Z. Culvert  
 35+11

2 to 1 | 25+00 | 12' | 20° → berm  
 16' | toe | Road

1 to 1 | 24+00 | 12' | 15° → berm  
 5' | toe | Road

1 to 1 | 23+00 | 12' | 14' → berm  
 10' | toe | Road

2 to 1 | 22+50 | 37° → berm  
 6' | toe

2 to 1 | 22+00 | 12' | 25° → berm  
 8' | toe | Road

1 to 1 | 21+50 | 37° → berm  
 16' | toe

1 to 1 | 21+00 | 12' | 25° → berm  
 10' | toe | Road

1 to 1 | 20+50 | 37° → toe  
 10' | toe

1 to 1 | 20+00 | 12' | Road.

1 to 1 | 19+50 | 34° → berm  
 8' | toe

1 to 1 | 19+00 | 12' | 15' → berm  
 10' | toe | Road

fd. R.R.<sup>3</sup>  
 30+40 → 19+18<sup>88</sup>

1 to 1 | 18+50 | 22° → berm  
 7' | toe

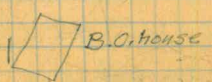
2 to 1 | 18+00 | 12' | 22° → berm  
 50' | toe

17+45  
 16°

1 to 1 | 17+50 | 21° → berm  
 5' | toe

32°  
 17+20

1 to 1 | 17+00 | Road | 12'  
 50' | toe





30+98 A.V. #5

30+93<sup>2</sup> A.V. #4

30+59<sup>05</sup> E.C.

30+04<sup>88</sup> B.C.

29+33<sup>63</sup> E.C.

27+76<sup>64</sup> B.C.

27+13<sup>33</sup> E.C.

$\frac{1 \text{ tol}}{150}$  31+00 toe 50 12' 8' berm

$\frac{1 \text{ tol}}{8'}$  30+50 toe 70 2.12' berm

$\frac{1 \text{ tol}}{10'}$  30+00 toe 82 4' 12' 14' berm

$\frac{1 \text{ tol}}{8'}$  29+00 toe 80 4' 12' 16' berm

$\frac{1 \text{ tol}}{50'}$  28+50 toe 80 4' 12' 14' berm

$\frac{1 \text{ tol}}{6'}$  28+00 toe 100 6' 12' 22' berm



57+67.45 B.C.

37+32.52 E.C.

37+23.5 3" Conn. to Police Camp

37+20 M.H.

35+30.18 B.C.

34+87.21 E.C.

33+32.21 B.C.

Note for Additional +50 ties from  
37+50 on See Book 501 Page 39 50

37+33

37+16 @ 12'

toe | 37+00  
edge of road | 32'

36+98

3 to | toe 36+50  
50' | 27'

2 to | 5' | 36+00 | 4' berm.  
50' | toe | 14'

35+78 | 23' | 35+93  
18" W.I. drain

3 to | toe | 35+50 | 3' berm  
10' | 10' | 13'

toe | road | 14' | 3' berm  
28' | 35+00

2 to | toe | 34+50 | 13' berm  
10' | 5' | 18' road

1/2 to | 6' | 34+00 | 12' berm & road  
10' | 22'

1/4 to | 4' | 33+50 | 10' berm & edge of  
10' | 20' | road

1/2 to | toe | 33+00 | 13' berm &  
3' | 27' | edge of road

15' B to | 32+00 | 12' | 11' berm  
road | 18' | toe | 6' | road

12' road to camp

9' buried Gas tank

36+93.5

Garage

7' 36+30



46+59<sup>29</sup> E.C.

46+58 M.H.

45+22<sup>22</sup> B.C.H.

43+94<sup>99</sup> E.C.

43+22

41+89<sup>03</sup> B.C.

41+69 Conn. to Bristol Press, Ga.

39+78<sup>25</sup> E.C.

39+59<sup>4</sup> 3/4 mi. post.

39+50 3" Conn. to Eng. Camp

1/2 total 20' | 2' toe | 47+00 | 17' | 3' | 6' berm

1/2 total 20' | 3' toe | 46+00 | 18' | 7' | berm

1/2 total 20' | 3' toe | 45+00 | 21' | 6' | berm

1/2 total 20' | 2' toe | 44+00 | 16' | 5' | 16' | berm

1/2 total 20' | toe | 43+00 | 19' | 5' | 17' | berm

toe & edge of road | 42+00 | 15' | 21' | 3' | berm

30' tree 41+90 14'

X X X 41+67 X

41+25<sup>5</sup> 24" tree

41+16<sup>8</sup> 18" tree

toe & edge of road | 41+00 | 9' | 3' | berm

40+59 7' 24" tree

40+16 11' 30" tree

toe & edge of road | 40+00 | 19' | 5' | 9' | berm

39+69 10' 24" tree

39+00 | 21' | 3' | 18' | berm

40+30

Ed. hub & th.

42+22

39+78<sup>22</sup>

11'

Ed. I.P.

17'

Ed. hub & th.

39+77<sup>05</sup>

38+12

11'

30" tree

toe & edge of road | 38+00 | 35' | 5' | berm



$$\frac{2 \text{ tol}}{5'} \left\{ \begin{array}{l} 8' \\ 57+00 \end{array} \right\} 3' \quad 17 \quad \left\{ \begin{array}{l} 12 \\ \text{berm} \end{array} \right\}$$

55704<sup>94</sup> Ahead  
55754<sup>94</sup> F.C.

55709 M.H. Could not find Marker

55709 M.H.

54706 2' B.C.

53744 2" Press. Valve

52778 1 mi. Post

51728<sup>82</sup> F.C.

48749<sup>60</sup> B.C.

$$\frac{1 \text{ tol}}{6'} \left\{ \begin{array}{l} 56+00 \\ 15' \end{array} \right\} 5' \quad 18' \quad \left\{ \begin{array}{l} 12 \\ \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{8'} \left\{ \begin{array}{l} 4' \\ \text{toe} \end{array} \right\} \left\{ \begin{array}{l} 55+00 \\ 18' \end{array} \right\} 6' \quad 18' \quad \left\{ \begin{array}{l} \text{berm} \\ \text{fd. I.P.} \end{array} \right\}$$

$$16' \quad \text{fd. I.P.}$$

$$\frac{1 \text{ tol}}{5'} \left\{ \begin{array}{l} \text{toe} \\ 7' \end{array} \right\} \left\{ \begin{array}{l} 54+00 \\ 23' \end{array} \right\} 2' \quad 3' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{8'} \left\{ \begin{array}{l} \text{toe} \\ 4' \end{array} \right\} \left\{ \begin{array}{l} 53+00 \\ 15' \end{array} \right\} 8' \quad 6' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{8'} \left\{ \begin{array}{l} \text{toe} \\ 9' \end{array} \right\} \left\{ \begin{array}{l} 52+00 \\ 14' \end{array} \right\} 9' \quad 11' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

fd. I.P.

$$51+28^2 \quad \text{fd. I.P.}$$

$$\frac{1 \text{ tol}}{15'} \left\{ \begin{array}{l} \text{toe} \\ 5' \end{array} \right\} \left\{ \begin{array}{l} 51+00 \\ 20' \end{array} \right\} 11' \quad 7' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{10'} \left\{ \begin{array}{l} 6' \\ 18' \end{array} \right\} \left\{ \begin{array}{l} 50+00 \\ 18' \end{array} \right\} 2' \quad 8' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{8'} \left\{ \begin{array}{l} \text{toe} \\ 4' \end{array} \right\} \left\{ \begin{array}{l} 49+00 \\ 12' \end{array} \right\} 10' \quad 5' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$

$$\frac{1 \text{ tol}}{20'} \left\{ \begin{array}{l} 6' \\ \text{toe} \end{array} \right\} \left\{ \begin{array}{l} 48+00 \\ 16' \end{array} \right\} 4' \quad 6' \quad \left\{ \begin{array}{l} \text{berm} \end{array} \right\}$$



69+50<sup>83</sup> B.C.  
68+49<sup>1</sup> B.O. #3

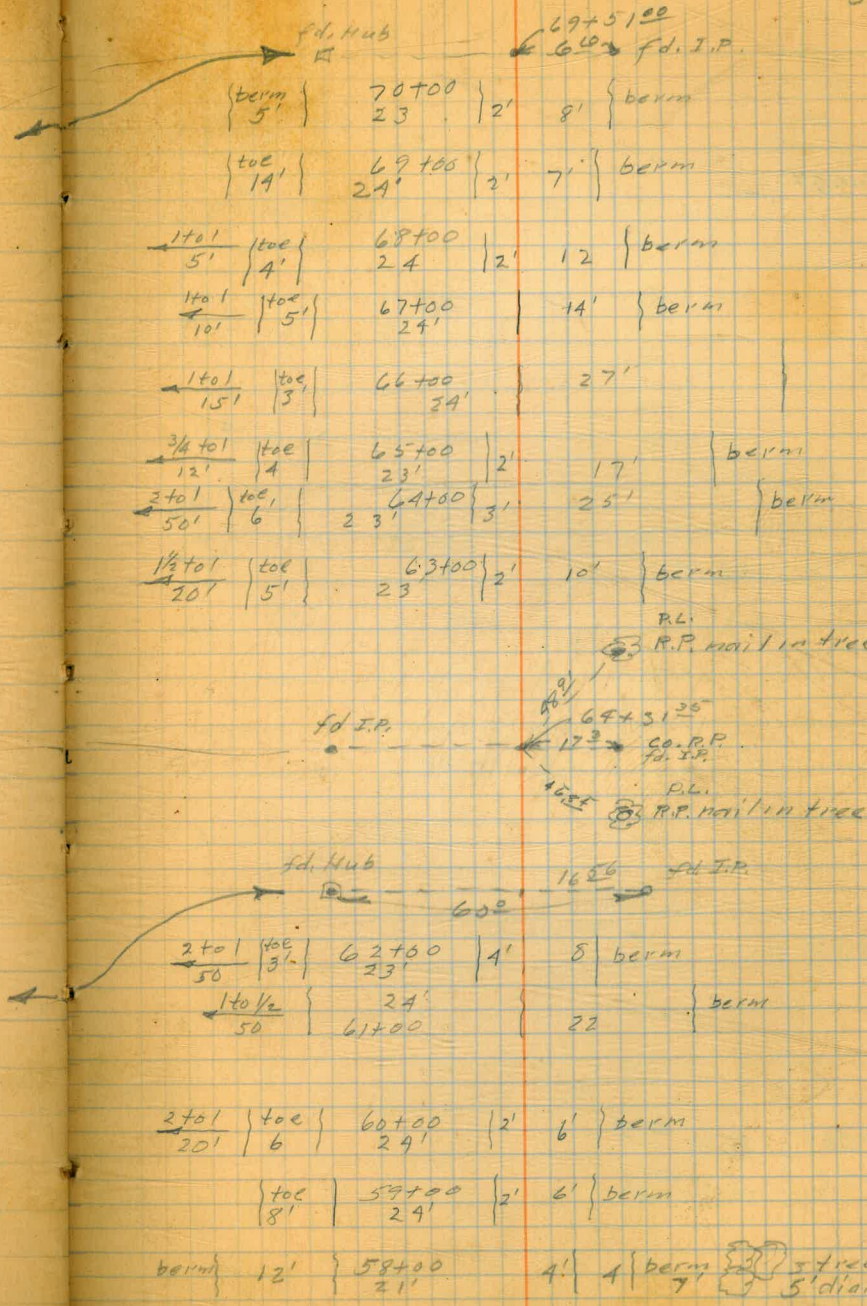
66+03 1 1/2 Mi. Post.

69+95 M.H.

69+31.15 E.C.

61+13<sup>47</sup> P.C.C.

58+61<sup>86</sup> B.C.





79+96<sup>10</sup> B.C.

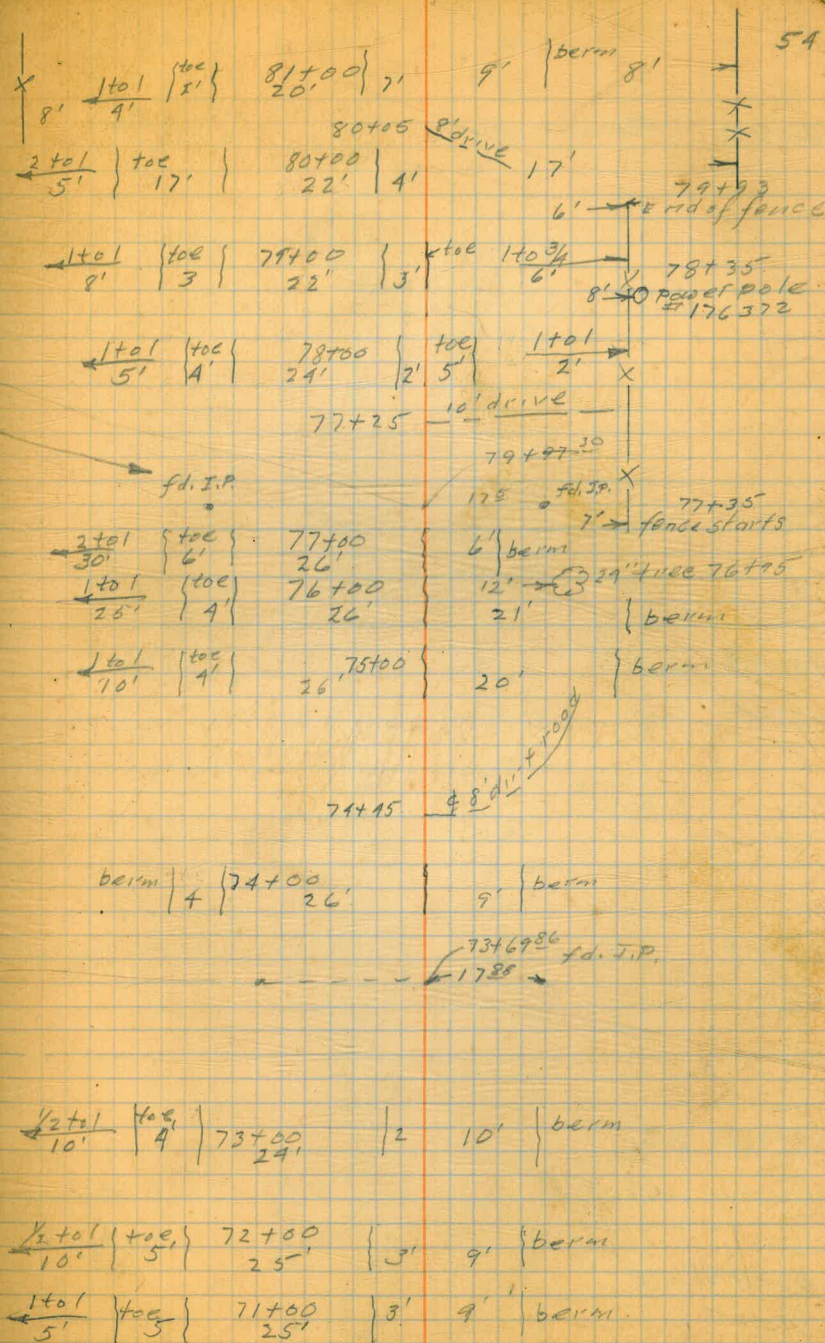
75+11 M.H.

73+68<sup>96</sup> E.C.

72+56<sup>3</sup> A.V. #7

72+52 A.V. #6

72+52 A.V. #6





92+42 1 3/4 Mi. Post.

89+98 B.O. #4

89+48<sup>2</sup> E.C.

85+04 M.H.

84+98<sup>62</sup> B.C.

82+19<sup>12</sup> E.C.

← 1/2 tol | tol | 93+00 | 1' | 5' | fence & berm 55  
15' | 9' | 24'

1/2 tol | toe | 92+00 | 5' | 8' | 8' | berm  
15' | 6' | 8'

Set Co. B.C.

30.22  
5333  
96+10.23  
52  
95+91.23 E.C.  
fd. I.P.

Set Co. E.C.

B.C. 99+03.27

93+87.20  
fd. I.P.

89+50 1/2 tol   toe   91+00   8'   11'   2' X 9'   berm
X 15'   4'   11'
X 20'   7'   9'
X 2'   16'   89+00   4'   6'   berm   X
X 24'   22'   88+00   6'   7'   berm   X
X 11'   6'   24'   6'   7'   6'   X
X 10'   1/2 tol   toe   87+00   3'   15'   X
X 14'   4'   3'   25'   3'   15'   X
X 7'   6'   16'   86+00   16   X
X 24'   24'   85+00   17'   X
X 13'   16'   24'   17'   X berm & fence

X 3'   16'   2   84+00   10'   berm   X
X 10'   5'   25'   83+00   9'   berm   X
X 13'   4'   21'   82+00   10'   berm   X
X 21'   5'   21'   81+00   8'   X



106+40<sup>11</sup> E.C.

104+46<sup>10</sup> B.C.

104+39<sup>8</sup> E.C.

103+54 M.H.

102+45<sup>8</sup>

102+44<sup>5</sup> = P.C.C.

99+34<sup>02</sup> B.C.

98+57<sup>8</sup> E.C.

98+21<sup>9</sup> A.V. # 9

98+17 A.V. # 8

96+37<sup>27</sup> B.C.

95+91<sup>13</sup> E.C.

94+03<sup>27</sup> B.C.

see previous page for  
ties to B.C. & E.C.

108+00

1/2 total toe | 107+00  
4' | 7'

30'

40'

berm

berm

36" free end 106+08

12'  
toe | 106+00  
12'

30'

berm

30" free end 105+33

edge of road | X  
2' | X  
105+00  
22'

25'

berm

X 104+33

3/4 total toe | 104+00  
50' | 5' | 18' | 2' | 4' X 5' | berm

1/2 total toe | 103+00 | X  
20' | 4' | 13' | 3' | X | berm

1/2 total toe | 102+00  
6' | 2' | 19' | 2' | 3' | berm

1/4 total toe | 101+00  
10' | 2' | 20' | 2' | 3' | berm

total 2 total 1/2 total 100+00  
8' | 11' | 11' | 9' | 2' | 7' | berm

1 to 3/4 1/2 99+00  
15' | 11' | 8' | 19' | 1' | 6' | berm

total toe 98+00  
20' | 7' | 11' | 15' | 2' X 6' | berm

total 3 total 97+00  
16' | 16' | 7' | 3' | berm

1/2 total toe 96+00  
30' | 13' | 18' | 11' | 2' | 2' | berm

1/2 total toe 95+00  
15' | 5' | 13' | 3' | 1' | 12' | berm

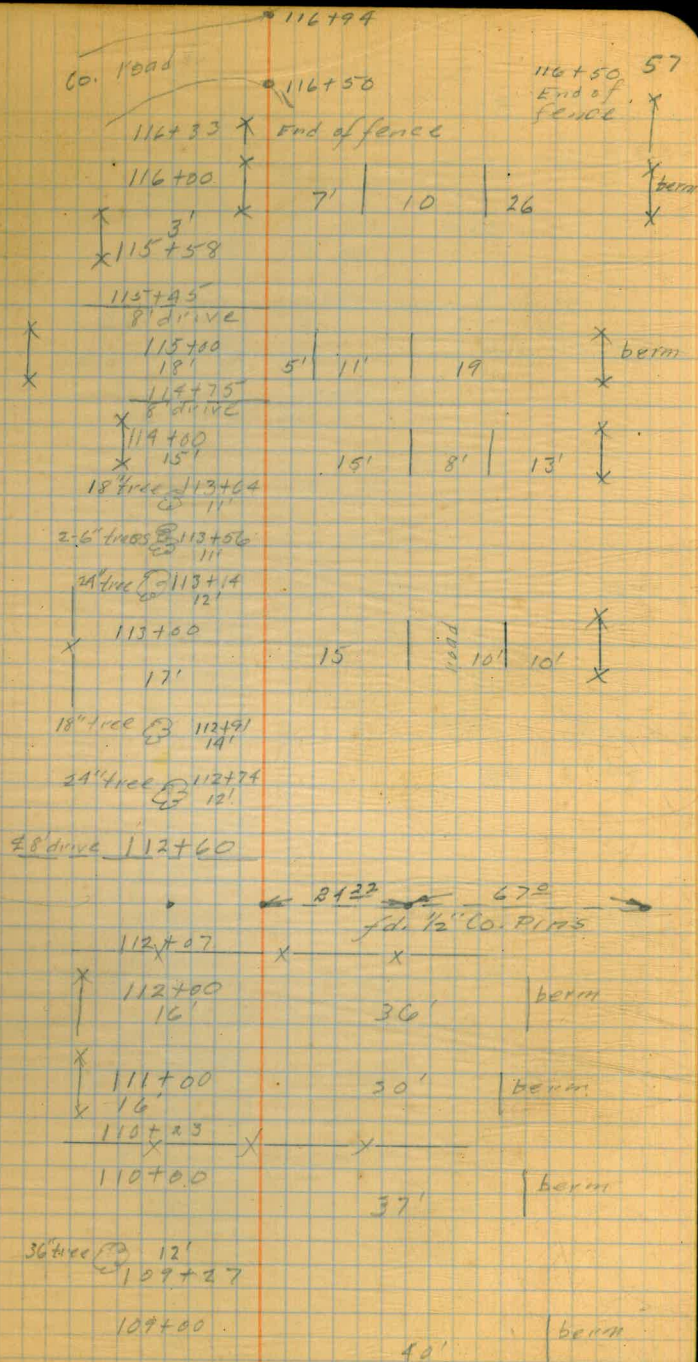
1/2 total toe 94+00  
25' | 4' | 16' | 4' | 2' | fence of berm



116+9928 B.C.  
116+3451 P.O.T.

111+64 M.H.

109+46 P.O.T.





131479<sup>20</sup> D.C.

128+11<sup>19</sup> E.C.

123+48 M.H.

123+47<sup>21</sup> B.C.

119+50<sup>23</sup> E.C.

58

X 10' | 22 132+00 5' 6' | berm  
 X 11' | 23 131+00 4' | berm  
 X 9' | 25 130+99 4' | berm  
 X 9' | 25 130+00 4 3' | berm  
 129+98 7' 30" tree

X 6' | 32 129+00 5' | berm E road  
 X 8' | 26 128+50 5' 2' | berm  
 E park drive

X 8' | 26 128+00 5' 2' | berm  
 127+78 9' 30" tree

X 9' | 21 127+00 8' 6' | berm  
 X 8' | 21 126+50 11' 9' | berm  
 125+85 4' 30" tree

X 7' | 23 125+00 11' 15' | berm  
 X 6' | 23 124+00 10'  
 X 6' | 24 123+00 8'  
 X 6' | 23 122+00 8'  
 X 5' | 25 121+00 7'  
 120+00

X 6' | 23 119+00 13' 22' | berm  
 X 118+90 8' drive  
 X 118+86 begin fence  
 23' 118+00 7' 30' | berm

PAV. →  
 118+95  
 118+15' 6' | begin ASPH. PAV.  
 12'

140' 50' | 600 19' | 118+00 11' 12' |  
 10' | 10' | 117+00 13' 2' | 21 | road.



146+99<sup>68</sup> E.C.

115730<sup>29</sup> B.C.

143+78 M.H.

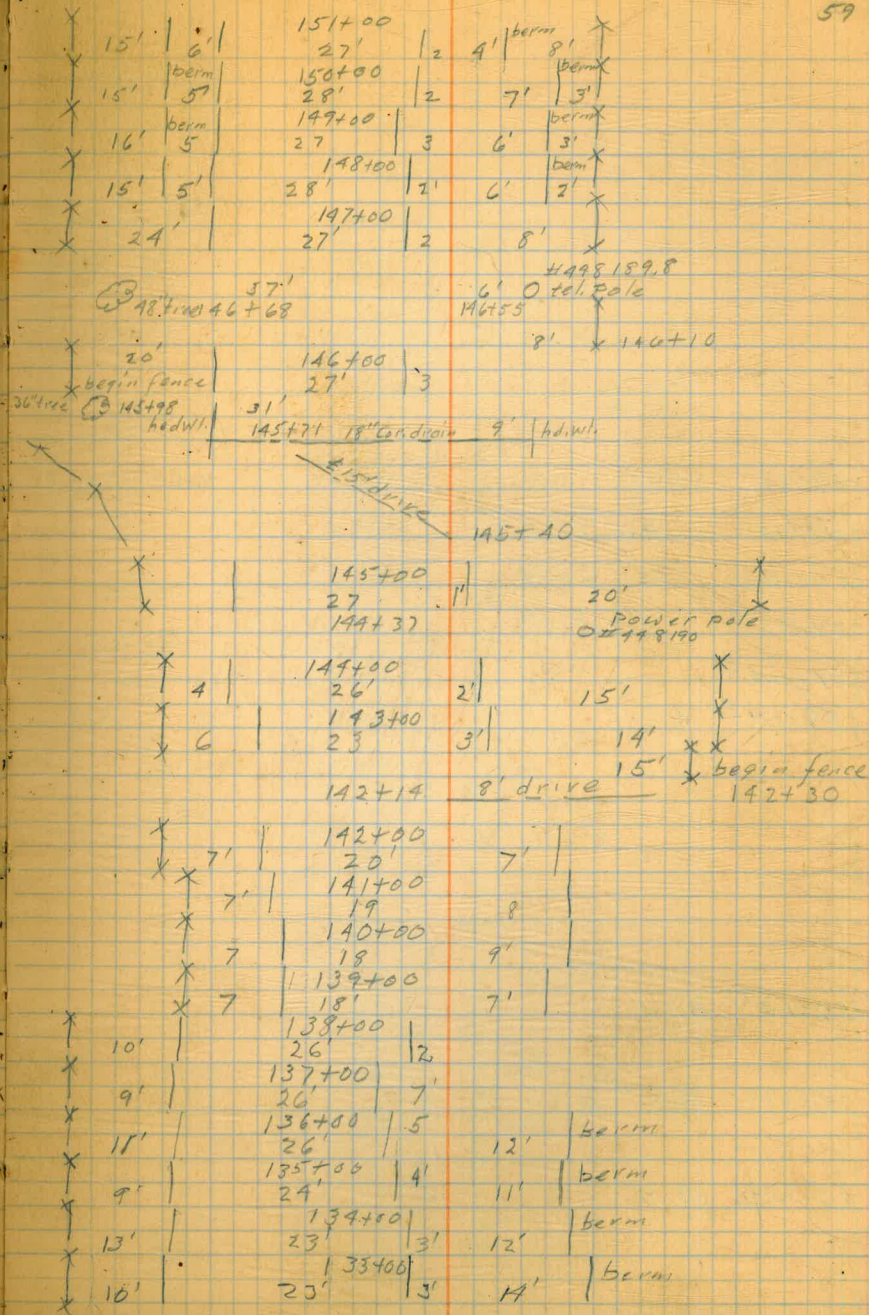
138+09<sup>97</sup> E.C.

145

134+51<sup>5</sup> B.O. #5

133+43 M.H.

59





172

173

174

160+65 M.H.

160+15 A.V. #11

160+03 36" Gate

159+92<sup>76</sup> A.V. #10

159+62<sup>76</sup>

159+54<sup>35</sup> F.C.

155+08<sup>20</sup> B.C.

154+77 B.O. #6

154

153+46 M.H.

168+95 10' drive

1/4 tol	hoe	168+00	5'	11'	X	
3'	11'	29'			X	
1/4 tol	hoe	167+00			X	
10'	2'	26'	11'	9'	X	
		166+60		15'	X	
1/4 tol	hoe	166+00			X	
12'	2'	25'	6'	9'	X	
1/4 tol	hoe	165+00			X	
9'	2'	27'	11'	6'	10'	X
		31'				X
hdwl.	18" Cor. J Guli	164+57	8'	hdwl.		X

169+37 9' 0' tel. pole #96527

1/4 tol	hoe	169+00	1'	6'	berm	11'	X
8'	7'	27'					X
1/4 tol	hoe	163+00			berm	11'	X
8'	10'	27'	3'	6'	berm	8'	X
		162+76			10' drive		X
1/4 tol	hoe	162+00			berm		X
15'	2'	26'	2'	6'	berm	11'	X
1/4 tol	hoe	161+00			berm		X
3'	2'	24'	3'	8'	berm	16'	X
1/4 tol	hoe	160+00			berm		X
8'	4'	25'	3'	7'	berm	2.9'	X
		159+00					X
17'	2'	27'	3'	4'	2.9'		X
1/4 tol	hoe	158+00			berm		X
8'	7'	27'	3'	4'	berm		X
1/4 tol	hoe	157+00			berm		X
3'	5'	27'	6'	11'	6'		X

10' drive 156+50

		156+00			berm		X
		26'	3'	15'			X
		10' drive					X
		155+62					X
		155+40			10' drive		X
		155+00			berm		X
		28'	2'	3'	10'		X
hdwl.	36"	154+37	4'	hdwl.			X
		20" Cor. J drain					X
		154+00	1'		berm		X
		27'	13'	12'			X
		153+00			berm		X
		27'	3'	2'	10'		X
		152+00			berm		X
		28'	2'	3'	8'		X

168+71 Tel. Pole 0408664 60

tel. pole #408663 H

tel. pole #96527



183+273<sup>2</sup> B.C.

180+59<sup>1</sup> M.H.

177+97<sup>2</sup> B.O. II 12

171+62 3 1/4 M. Post

170+59<sup>2</sup> M.H.

61

185+97 10'drive Eq. Side

hdwl	24	185+52	8'	hdwl.	
		12" Cor. J. drain			
		185+35	8'		0492419
4 to 1	toe	185+00			X
10'	2'	22'	3' 2'	16'	X
1 to 1	toe	184+00		berm	X
10'	3'	20'	3' 4'	14'	X
1 to 1	toe	183+00		berm	X
10'	1'	26'	4' 5'	13'	X
					tel. pole #93523
					182+40 9' 0'
1 to 1	toe	182+00		berm	X
2'	1'	26'	9' 2'	16'	X
1 to 1	toe	181+00		berm	X
3'	2'	29'	9' 2'	16'	X
1 to 1	toe	180+00		berm	X
10'	1'	29'	3' 6'	12'	X
					179+39 14'
					tel. pole #93524
1 to 1	toe	179+00			X
8'		25'	1' 7'	10'	X
1 to 1	toe	178+00			X also berm
10'	1'	25'	3'	13'	X
1 to 1	toe	177+00			X
10'	1'	27'	2'	15'	X
					20' tel. pole #306169
X		176+00		berm	X
X 12'		26'	2' 4'	14'	X
No hdwl.		18" Cor. J. Cul.	8'	hdwl.	X
		175+00			
X	berm	175+00		berm	X
X 8'	5'	26'	1' 5'	13'	X
X	berm	174+00			X
X 9'	3'	27'	1' 7'	11'	X
					10'drive 173+94
					173+99 0' tel. pole #93525
hdwl.		173+00		hdwl.	X
berm	3'	27'	7'	7'	X
2 1/2" Cor. J. Cul.		172+00		berm	X
toe		27'	1' 7'	8'	X
					10'drive
		171+00		berm	X
X		171+00		berm	X
X 10'		26'	2'	8'	7'
hdwl.	30'	18" Cor. J. Cul.	8'	hdwl.	X
		170+98			
					170+78 tel. pole #93526
X		170+00		berm	X
X 7'		29'	3'	5'	11'
X		169+00			X
X 18'		28'	2'	10'	X



Power Pole #173430  
35' 196+06

X 2401	edge par.	196+00	2'	8'	berm	X
X 17'	toe	26		9'		X
						195+87 tel. Pole #306168

±10' drive  
195+58

X	K.C.	195+00	2'	8'	berm	X
X 7'	2'	27		9'		X
X		194+60	2'	6'	berm	X
X 10'		27		11'		X
						Stubby 193+16 # for pole 173431

±10' drive		193+00	2'	6'	berm	X
		28'		10'		X
						192+95 tel. Pole #307151

192+85 Power Pole  
36' #173431

X		192+00	2'	6'		X
X 8'		28'		10'		X

hdwl. 30' 191+82  
E 18" Cor. I. Culv.

191+63

±10' drive

X		191+00	2'	6'	berm	X
X 9'		29'		10'		X
						190+70 tel. Pole #307152

190+34 Power Pole  
36' #173432

±12' drive  
190+11

X		190+00	1'	6'	berm	X
X 8'		29		9'		X
X		189+00	11'	7'	berm	X
X 7'		29'		9'		X
		±10' drive				188+53

188+29

5' tel. pole  
#92412

X		188+00	2'	2'	berm	X
X 6'		28		16'		X
		187+19				

34' 12" Cor. I. drain 2'

X		187+00	2'	5'	berm	X
X 9'		28'		12'		X
		±10' drive				186+95

toe		186+50	2'	4'	berm	X
8'		27'		13'		X

190+61<sup>5</sup> M.H.

188+20<sup>20</sup> E.L.



211+39<sup>42</sup> E.C.  
211+21 1 Mi. Post.

209+87 M.H.

206+54<sup>19</sup> B.C.

207+11

205+15

200+66<sup>55</sup> M.H.

198+00 3<sup>3</sup>/<sub>4</sub> Mi. Post.

211+59 Power pole #173425  
34'  
34' 100' 211+00  
13' 6' 24'  
14' berm 210+00  
10' 5' 3' 27'  
209+07 6'x8' Gottle pole  
29' 209+00  
12' 9' 2' 25'  
205+95 Power pole #305923  
34'

208+00 25'  
207+00 27'  
16'  
206+00 27'  
16'  
205+95 Power pole #173427  
34'  
205+00 28'  
16' 204+20  
20' drive

204+00 27'  
203+00 27'  
15'  
202+63 Power pole #173428  
34'

This tie to page 65  
226+65<sup>81</sup> E.C.

fd. 1/2 J.P.S.  
400 530  
202+00 27'  
15'  
201+00 25'  
16'  
200+00 25'  
16'

199+37 Power pole #173429  
35'  
199+00 28'  
198+00 28'  
197+00 28'  
16' Pav. stop

211+62 tel. pole #93522 63

3 14' berm 110' X  
11' 5' 11' X  
6' 11' berm 120' X  
2' 3' 12' X

2' 5' berm 10' X  
3' 4' berm 10' X  
11' 16' X

17' X berm  
2' 16' X berm  
2' 17' X berm  
8' 202+75 tel. pole #305924  
8' 202+75

2<sup>3</sup> Error in chaining moved ahead  
berm X  
2' 5' 12' X  
201+27 10' drive  
3' 5' berm 12' X  
4' 6' berm 11' X

199+19 tel. pole #305925  
8'  
1' berm X  
3' 6' 10' X berm  
3' 16' X  
3' 5' berm 12' X



223+70<sup>29</sup> B.C.

222+43<sup>22</sup> E.C.

222+11 M.H. Could not find Mark K.V.

218+44<sup>00</sup> B.C.

215+70 M.H. Could not find M.H.

214+11 M.H.

209+11 M.H. Could not find M.H.

X	2701	toe	226+00	2'	6'	berm	
X	16'	Par.	25'				
	1/4 toe	toe	225+00			berm	
	1/2 toe	toe	227'	3'	11'		
X	8'	Par.	224+00	3'	10'	berm	
X	1401	toe	223+00	3'	13'	berm	X
X	13'	Par.	25'			23'	
						222+45'	tel. pole # 23520

	hdwl.	29'	18" Cor. I. Culv.	5'	hdwl.		
			222+05				
X	6'	toe	222+00			berm	X
X	2'	Par.	27'	4'	13'		X
			221+00			berm	
			26'	3'	17'		X
			20' drive			220+39'	tel. pole # 23521

X	29'		220+00	5'	7'	berm	X
X			26'			10'	
X	16'		219+00	1'	5'	berm	X
X			27'			12'	X
			218+17				
			173422				
X	33'	Power Pole					
X			218+00			berm	X
X	17'		24'	3'	11'		6' X

	hdwl.	31'	217+80	6'	hdwl.		
			12" Cor. I. Culv.				
			217+41				
			30' drive			11'	tel. pole # 305920

X			217+00			berm	X
X	17'		25'	2'	8'	9'	
			216+19				
			173423				
X	33'	Power Pole					Stub guy to pole # 173423
X			216+00			berm	X
X	13'		26'	2'	8'	9'	X
			215+43				
			177896				
X			215+00			berm	X
X	13'		25'	1'	7'	10'	X
			214+60			10' drive S	

both sides 11' 214+42 tel. pole # 305921

	hdwl.	30'	214+37	5'	hdwl.		
			12" Cor. I. Pipe				
			214+16				
			173424				

X	12'	toe	214+00			berm	X
X	4'	Par.	27'	1'	9'	9'	X
X	1 to 1/2 toe	toe	213+00			berm	X
X	16'		27'	2'	1'	12'	X
X	1401	toe	212+00			berm	X
X	6'		29'	6'	11'		X



227443

236+11<sup>30</sup> E.C.

219+5<sup>14</sup> E.C.

235+31 M.H.

234+13 M.H.

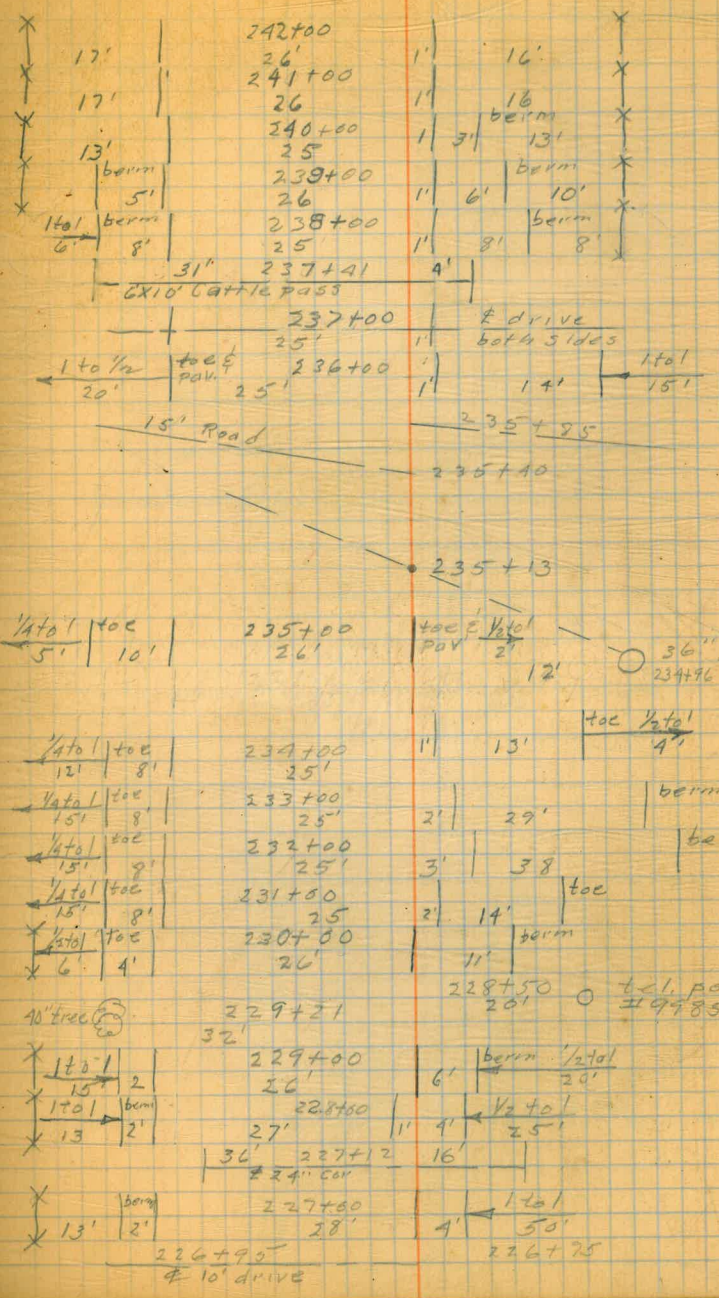
234+09<sup>5</sup> A.V. # 14

234+00<sup>5</sup> A.V. # 13

229+79<sup>14</sup> D.C.

127421 B.O. # 7

226+65<sup>81</sup> E.C.





263+99<sup>E</sup> 5 mi. post.

260+67<sup>E</sup> A.V. #15

258+01<sup>E</sup> B.D. #8

255+41 M.H.

245+23 M.H. Could not find marker

263+80  
 1/2 tol | toc | 263+00  
 8' | 2' | 27'  
 1/2 tol | toc | 262+00  
 8' | 2' | 25'  
 1/2 tol | toc | 261+00  
 10' | 2' | 25'

1/2 tol | toc | 260+00  
 10' | 4' | 27'  
 1/2 tol | toc | 259+00  
 8' | 4' | 27'  
 18' Road

berm | 11' | 258  
 | | 27'  
 hdwl. | 37' | 257+74  
 & 30' cor. I cu. IV.

X 4 tol | berm | 257+00  
 13' | 2' | 27'  
 X 4 tol | berm | 256+00  
 11' | 4' | 26'  
 X 4 tol | berm | 255+00  
 11' | 4' | 27'  
 X 4 tol | berm | 254+00  
 12' | 4' | 27'  
 X 4 tol | berm | 253+00  
 13' | 4' | 27'  
 X 2 tol | berm | 252+00  
 12' | 4' | 26'  
 X 2 tol | berm | 251+00  
 13' | 3' | 27'  
 X 1 tol | berm | 250+00  
 11' | 3' | 28'  
 X 1 tol | berm | 249+00  
 11' | 2' | 28'  
 X 1 tol | berm | 248+00  
 11' | 2' | 28'  
 X 1 tol | berm | 247+00  
 11' | 2' | 28'  
 X | | 246+00  
 | | 26'  
 X | | 245+00  
 | | 26'  
 X | | 244+00  
 | | 26'  
 X | | 243+00  
 | | 26'  
 X | | 242+00  
 | | 26'

11' 0 tol. pole #434709  
 1/2 tol | X  
 6' | 11' | berm | X  
 1/2 tol | 9' | berm | X  
 11' | 9' | 7' | X  
 269+80 0 tol. pole #434710  
 | X

1' | 16' | berm | X  
 toc's pole | 8' | 9' | X  
 258+50

berm | 5' | berm | X  
 | | 10' | 13' | hdwl | X

berm | 5' | berm | 13' | X  
 | | 5' | berm | 13' | X  
 | | 5' | berm | 13' | X  
 | | 5' | berm | 12' | X  
 | | 5' | berm | 12' | X  
 | | 5' | berm | 12' | X  
 | | 3' | berm | 14' | X  
 | | 1' | 3' | 1 tol | 6' | 7' | X  
 | | 1' | 3' | 1 tol | 6' | 7' | X  
 | | 1' | 3' | 1 tol | 6' | 7' | X  
 | | 1' | 3' | 1 tol | 6' | 7' | X  
 | | 1' | 16' | X  
 | | 1' | 16' | X  
 | | 1' | 16' | X  
 | | 1' | 16' | X  
 | | 1' | 16' | X



274+01 M.H. Could not find marker

X	13'	5'	274+00	25'	2'	13'	X	6'	berm
X							X		berm
X	30'		273+00	25'	2'	11'	X		berm
									tel. pole
									#434706

X	24'	6'	272+00	25'	2'	5'	6'	X	berm
X								X	
X	19'		271+00	26'		10'		8'	berm

X	4'	3'	270+00	25'	1'	9'		9'	berm
									tel. pole
									#434707

269+60<sup>16</sup> E.C.

X	7'	3'	269+50	25'	1'	8'	X	9'	berm
X							X		berm
X	8'	2'	269	24'	1'	8'	X	9'	berm

X	8'	2'	268+50	24'	1'	12'	X	3'	berm
X							X		berm

X	10'	2'	268+00	26'	1'	13'	X	5'	berm
X							X		berm

X	15'	2'	267+00	24'	2'	15'	X	berm
							X	tel. pole
								#434708

X	8'	3'	266+00	25'	1'	14'	X	4'	berm
X							X		berm

X	6'	2'	265+00	27'	1'	5'	11'	X
---	----	----	--------	-----	----	----	-----	---

hdwl	30'		264+12		2'	hdwl
			272" cor. I. Culv.			

X	10'	5'	264+00	27'	6'	11'	X
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268+06<sup>20</sup> B.C.

265+23 M.H. Could not find marker



280495<sup>2</sup> A.V. #16278462<sup>2</sup> E.C.276493<sup>2</sup> E.C.

1/2 tol	1/2 toe	283400			X
4'	2'	27'	5'	13'	X
1/2 tol		282400			X
26'		26'	5'	12'	X

281485 13' 0 tel. pole #434702

	1/2 toe	281400			X
	3'	25'	11'	4'	12'
1/2 tol	1/2 toe	280400			X
10'	2'	25'	11'	10'	4'

279445 11' 0 tel. pole #434703

1/2 tol	1/2 toe	279400			X
7'	2'	25'	18'		X

1/2 tol	1/2 toe	278450			X
10'	3'	23'	18'		X

1/2 tol	1/2 toe	278400			X
12'	2'	23'	11'	16'	X

1/2 tol	1/2 toe	277450			X
15'	5'	21'	2'	14'	X

277434 11' 0 tel. pole #434704

1/2 tol	1/2 toe	277400			X
9'	4'	22'	2'	14'	X

1/2 tol	1/2 toe	276450			X
6'	3'	23'	2'	15'	X

1/2 tol	1/2 toe	276400			X
5'	2'	24'	2'	15'	X

1/2 tol	1/2 toe	275400			X
7'	4'	25'	2'	15'	X

274483.0 tel. pole #434705



X			292+00			X
X	16'		24	2'	16'	X
X			291+50			X
X	17'		26	11	17'	X
X			291+00			X
X	16'		27		17'	X berm

2 to 1			290+50			X berm
14'	3'		25'	11	13'	X 4'

3/4 to 1	to c		290+00			X berm
5'	3'		26'		18'	X

1/2 to 1	to c		289+50			X berm
4'	2'		26'		18'	X 2'

Power Pole 289+30  
#173403 30'

1/2 to 1	to c		289+00			X berm
4'	3'		27'		17'	X

X 1/2 to 1	to c		288+50			X berm
X 12'	4'		27'	11	16'	X 4'

X 1/2 to 1	to c		288+00			X berm
X 13'	3'		27'	11	16'	X

287+01 17' tel. pole #92409

1 to 1	to c		287+00			X berm
9'	11'		27'		17'	X

1/2 to 1	to c		286+00			X berm
15'	3'		25'	11	16'	X 3'

1/2 to 1	to c		285+00			X berm
4'	3'		26'		12'	X 5'

284+10 13' tel. pole #434701

2 to 1	to c		284+00			X berm
20'	3'		26'	5	13'	X

288+21<sup>00</sup> B.C.



296+29<sup>00</sup> E.C.

1 to 1	toe	298+00	11"	9'	berm	X
50'	10'	25				X
hdwl		297+67			hdwl.	
	30'	18' Cor. J. Culv.		5'		
3 to 1	toe	297+00	11"	5'		X
19'	20'	27'			13'	X
1/2 to 1	toe	296+50	11"	10'	berm	X
3'	13'	27			7'	X
		296+00				X berm
1/4 to 1	toe	26		17'		X
5'	13'					
		295+99			14'	tot. pole #83202
Power pole		295+61				
#173401		32'				
1/2 to 1	toe	295+50	11"		18'	X berm
6'	13'	28'				X
1/2 to 1	toe	295+00	11"		18'	X berm
6'	13'	28'				X
hdwl		294+53			hdwl.	
	30'	18' Cor. J. Culv.		4'		
X		294+50	11"	3'	berm	X
X	16'	26'			19'	X
X		294+00				X berm
X	16'	26'	11"		17'	X
X		293+50				X berm
X	1 1/2 to 1	toe	11"	7'		X
X	15'	27'				X
		293+30			14'	X
X		293+00			berm	X
X	1 to 1	toe	2'	6'		X
X	14'	25'				X
		292+57		7'	21" tree	
		292+52		12'	tot. pole #92307	
X	1 to 1	toe				X
X	10'	26'		18'		X



309+339 B.C.

$\frac{1}{2}$ total	toe	309+50	3'	6'	11'	X
5'	2'	25'				X
$\frac{1}{2}$ total	toe	309+80		10'	berm 7'	X
6'	2'	27'				X
$\frac{1}{2}$ total	toe	308+60		11'	berm 6'	X
5'	2'	26'				X
		307+90		13'	tel. pole # 93901	
bdwl.	29'	307+43	6'	bdwl.		
		#12" Cor. 2 Cur.				
X total	toe	307+00		7'	berm 10'	X
X 13'	5'	25'				X
toe		306+00		5'	berm 12'	X
23'		27'				X
toe		305+00		5'	berm 12'	X
22'		28'				X
		304+17		15'	stub guy #174776	
$\frac{1}{2}$ total	toe	304+00		5'	berm 12'	X
50'	4'	27'				X
$\frac{1}{2}$ total	toe	303+00		7'	11'	X
4'	12'	25'				X
$\frac{1}{2}$ total	toe	302+00	11'	7'	berm 10'	X
8'	3'	25'				X
		301+88		11'	tel. pole # 89373	
$\frac{1}{2}$ total	toe	301+00	11'	7'	berm 10'	X
5'	4'	25'				X
10'	wa	300+00	11'	7'	berm 10'	X
25'	4'	26'				X
24' tree		299+32				X
		28'				X
total	toe	299+00	11'	9'	berm 9'	X
25'	10'	25'				X
		298+83		11'	tel. pole # 64374	



311+77<sup>26</sup> E.C.

311+49 chamber cover

X								
X	15'	311+77	29'	12'		20'		berm
X	15'	311+50	26'	10'				berm
X	15'	311+50	26'	10'				berm
X	15'	311+50	26'	10'				berm
X	15'	311+00	27'	11'				berm
X	15'	310+53	26'	6'	3	11'		berm
		310+39				13'		tel. pole #96188
X	15'	310+00	25'	7'		11'		berm
X	15'	310+00	25'	7'		11'		berm











Retrace of County road

Dep't. Co.

190+68<sup>20</sup> P.I.

191+39<sup>80</sup> E.C.

191+93<sup>00</sup> B.C.

23°10'R 168.53

192+34<sup>00</sup> P.I.

192+73<sup>87</sup> E.C.

192+93<sup>79</sup> B.C.

20°30'R 113.37

193+46<sup>24</sup> P.I.

70°

194+01<sup>33</sup> E.C.

195+26<sup>33</sup>

10°00'L 458.10

198+07<sup>18</sup>

7°30'R 168.25

199+75<sup>43</sup>

29°24'L 253.45

202+28<sup>88</sup>

7°46'15"R 113.42

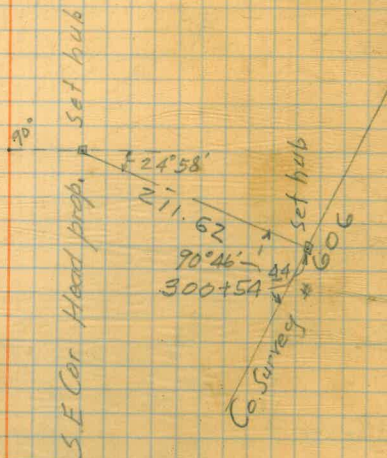
308+29<sup>30</sup> B.C.

Survey # 303 east of  
Cape Horn.

75

8-2-35

Hill  
London  
Seper  
Remmen



Co. Survey 303

Co. Survey 606















588.10 11°47' R/L.

3+16.31 - 5+38.74 S 82°19'28" W

5°53 1/2

5+38.74

3 15.31

2 23.43

7+00

1 33.4

5+66.6

## DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder  
stake for any width roadway, slope 1% 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

## 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  $T$  may be found  
by dividing tangent (or external) opposite  $T$  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.



7143  
188  
1023  
1326  
3  
3978

9242  
5280  
3962

3942  
22  
6142

9375  
9805

3942      39  
28          69  
6542      10.8

328460.84  
32545371  
307.13  
8498.62  
888570

1326  
3978

325.53.71

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	25.2	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) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.