W673

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

MICROFILMED JAN 14 1988

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)÷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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Please Return to
City of San Diego Water Dept.
Room 903 Civic Center

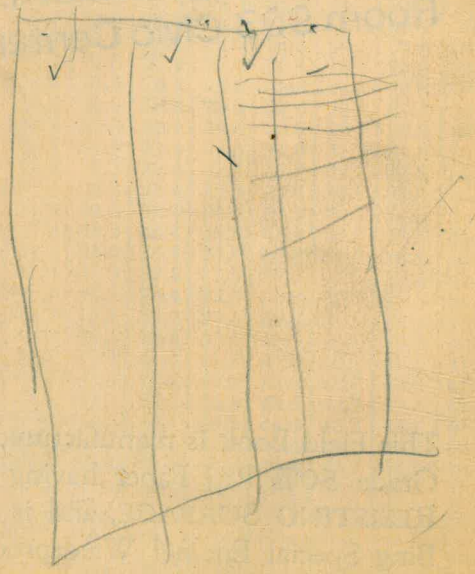
This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

Made in U. S. A.

Indexed to p. 51 - 2/7/46
" p. 56 - 3/13/47
p 59 - 5/21/47
" P 60-72 7/1-2150 con

6.57 6.64 6.62

143.07
2.15
145.12



INDEX

Alice

Alignment of Pipe line to
Join Otay 2nd Main & Bonita P.L.s along Detroit Ave.

+93

+64

+55

+38

2+27 29

2+15

2+00

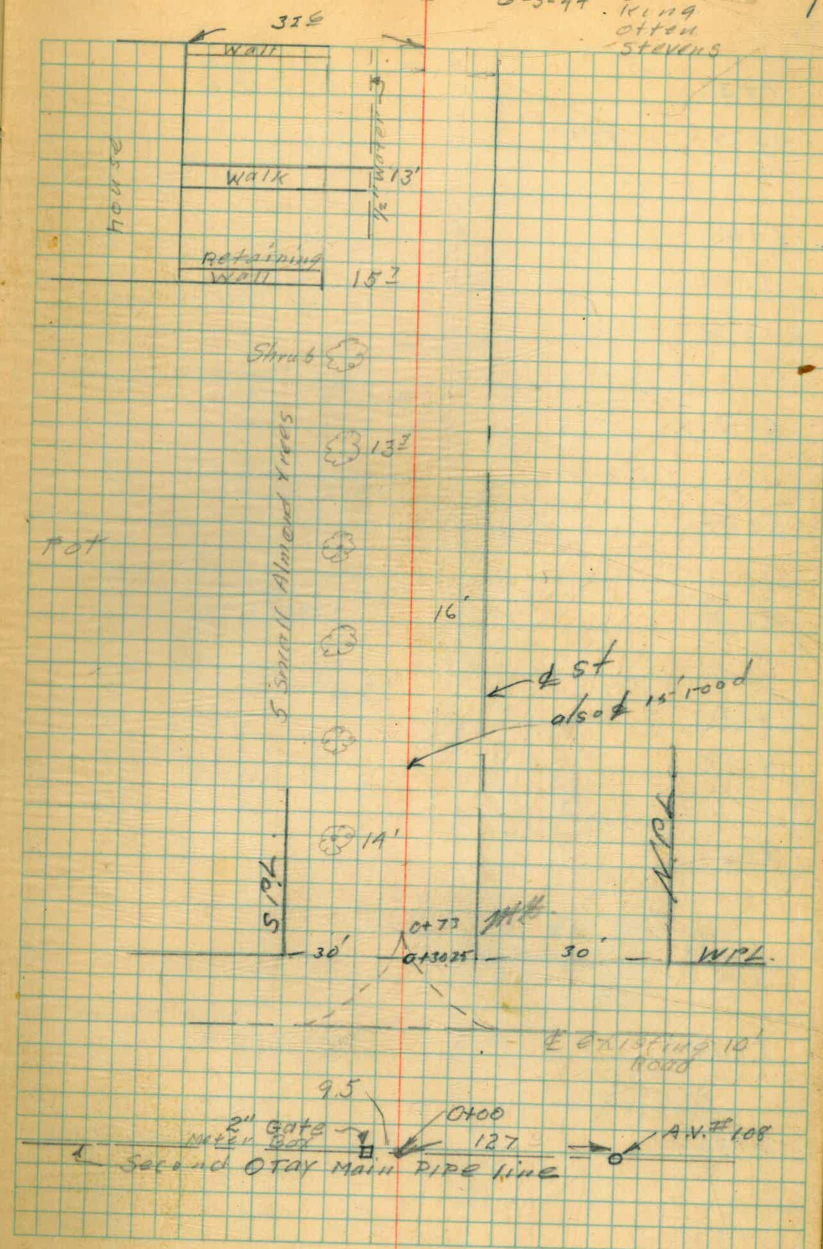
1+89

0+73 (~~0+23~~)

0+11 ℄ 10' Road

0+00

6-3-44 Byler
King
Otten
Stevens



7+33

7+29.36 POT

7+00

6+52

6+12

5+67

5+36

4+97

4+71

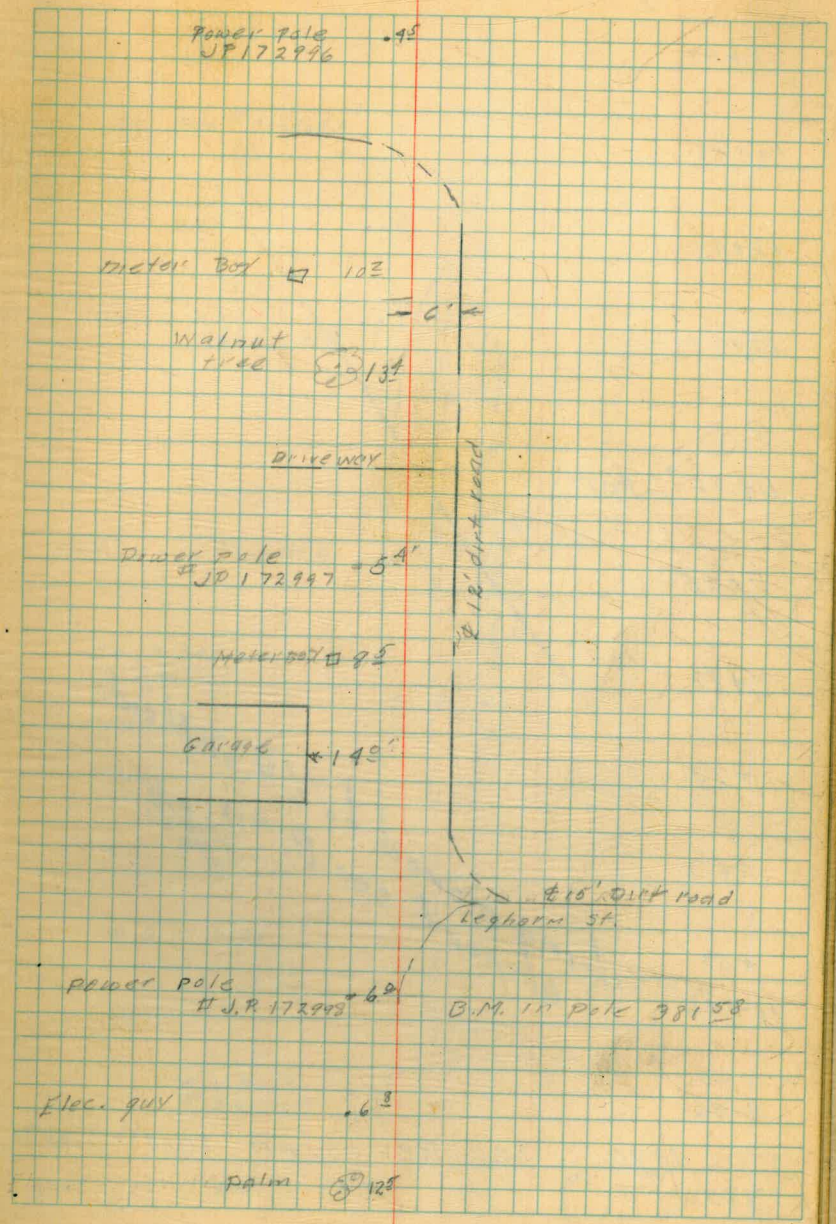
4+62

3+93

3+59

3+36

3+33



23+77

15+58

12+95

12+74

11+95 ± Pot

11+36

+87

+73

+63

+50

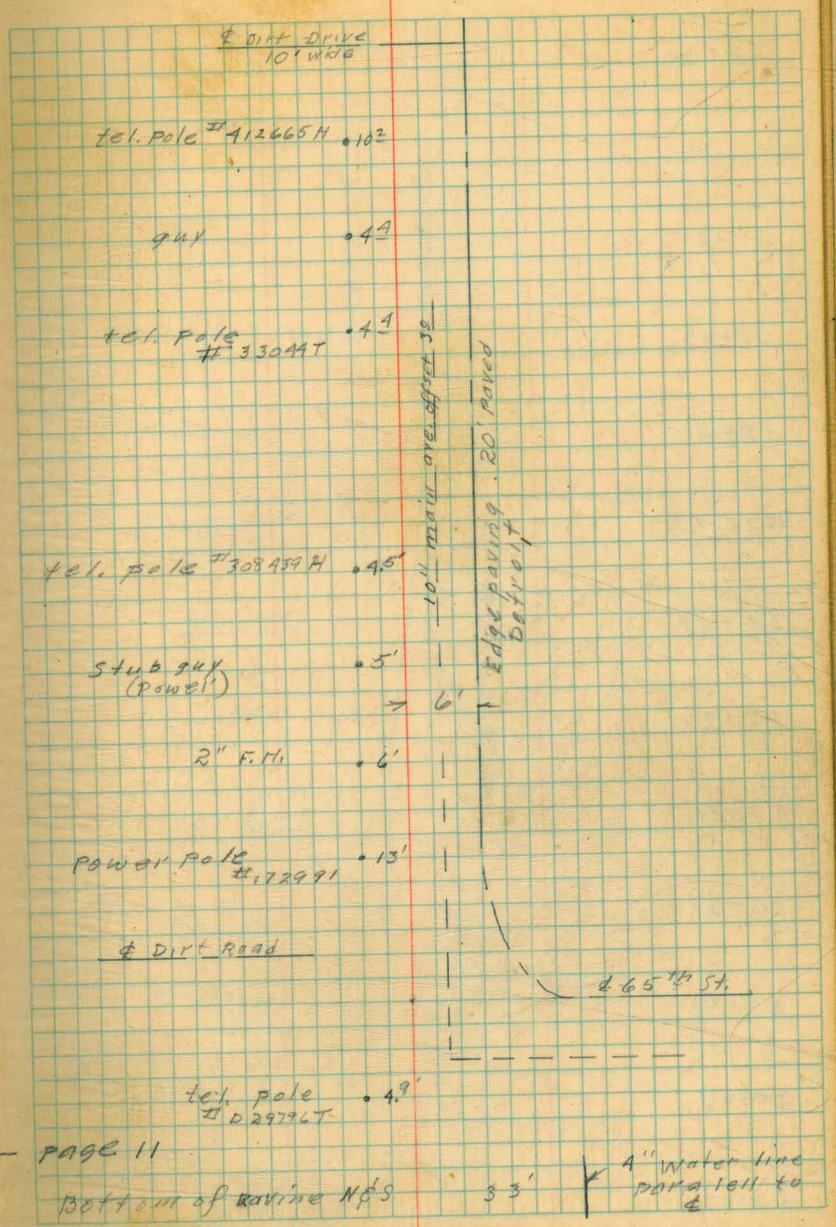
10+45

9+92

from 9+80 See Revision this Book — page 11

8+50

Line moved to 6' N. of N. side of part. see P. 11



38+48

38+35

38+33

38+00

37+73

37+68

37+66

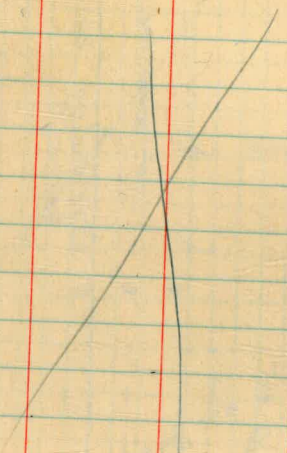
37+46 ℄

36+21

33+50

29+53

23+94



℄ dirt drive

Meter Box

Rubble Curb

Ave offset 3'

6'

6'

Power Pole
#176805

8'

Meter Box

8'

guy

8'

℄ 61 st.
20' Paved

Edge paving 20' paved

Edge paving 17'

Stub guy
(Power)

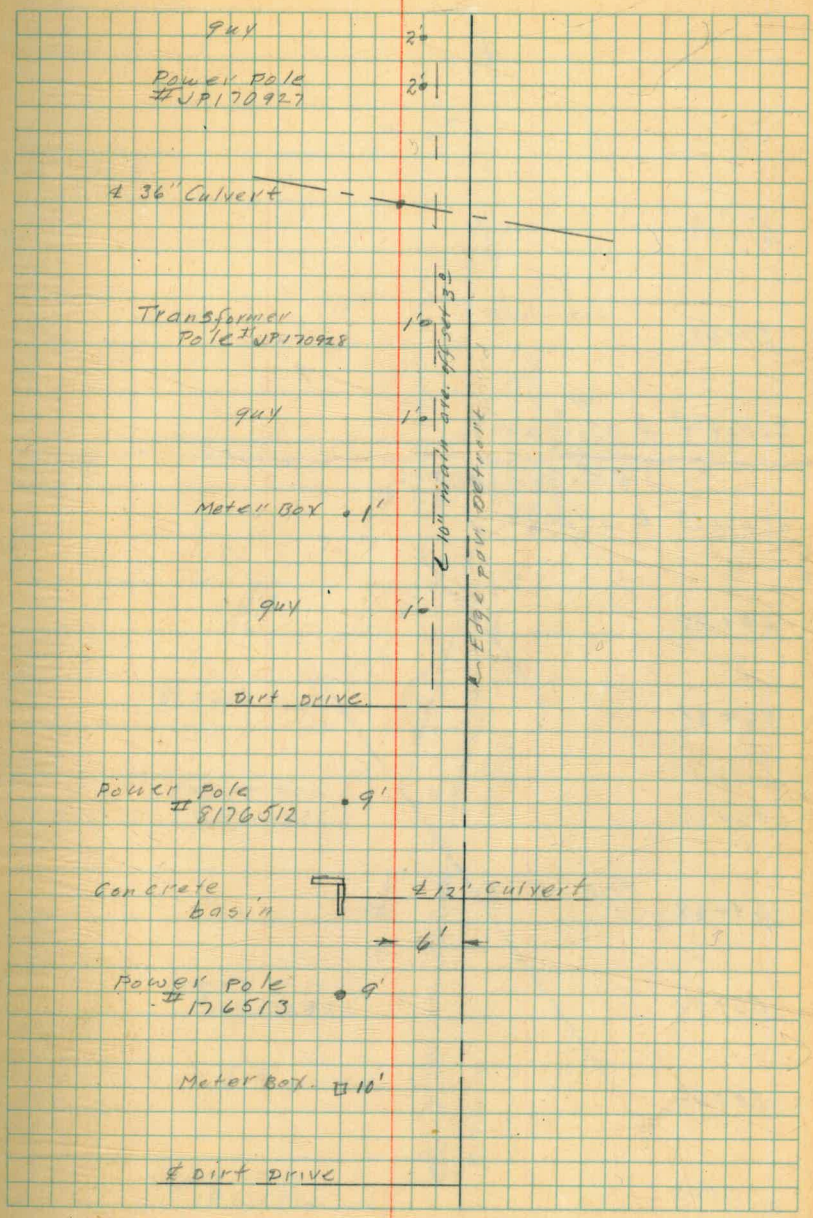
8.5'

18" culvert

24" Culvert

Gate valve 4'

	℄
47+57	
46+65	
44+79	
44+63	
44+57.5	
44+52	
44+07	
42+23	
41+02	
40+24	
39+88	
39+75	



56+76 13
43
57+19 33

61+52

59+08

57+19 33 L 55°23' Lt.

See Revision

56+76 13 L 39°11' Lt.

56+79

56+61

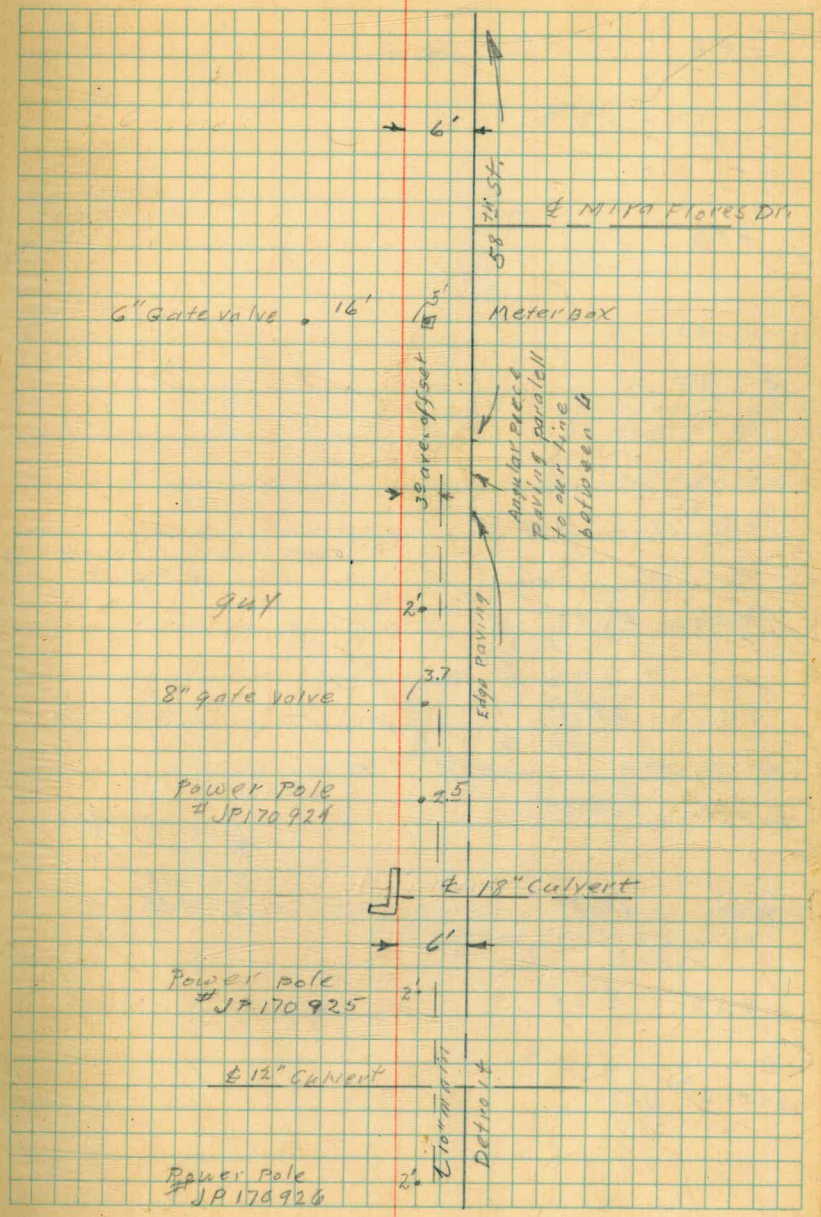
56+56

54+68

53+57

50+58

50+00



+92

+59

+33

65+20

65+10

+88

+80 60 E.C. 42°12'30"

+50 37°12'

64 29°01'

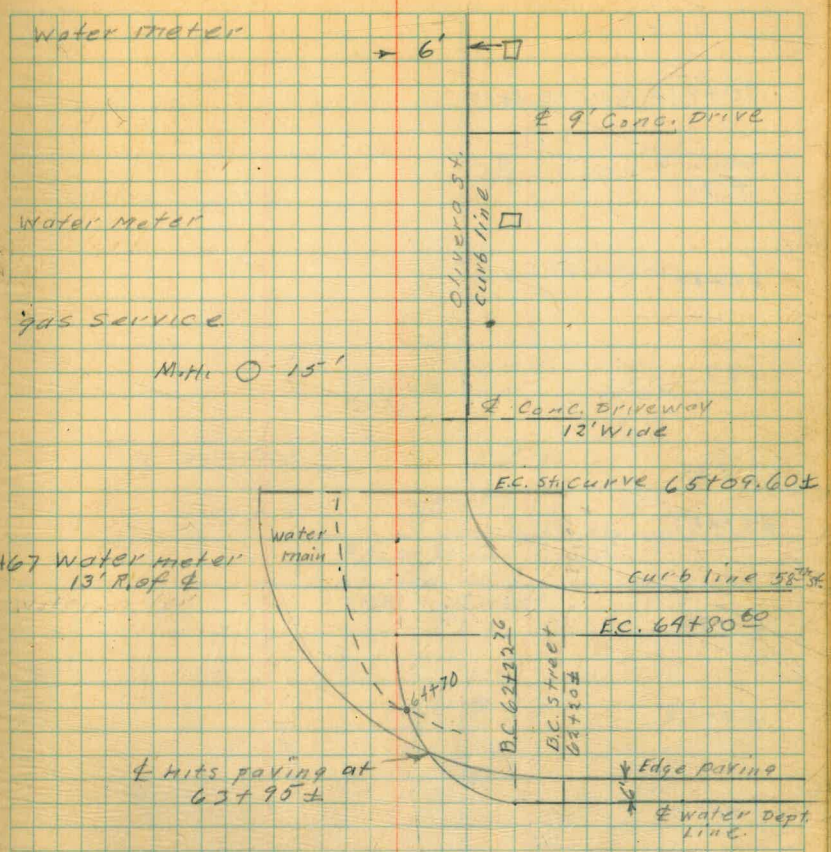
+50 20°50'

63 12°39'

+50 4°28'

62+22 26 B.C.

Δ 84°25' Rt.
R 175
T 158.73
L 257.84



Note - Water main is 3.2' Rt. at 64+50, 2.3 Left at 64+80, 6' Left at 65+00

70+93 ℄ Curve Left

+71

69+42

+87

68+80

68+48

67+96

67+71.5

67+13

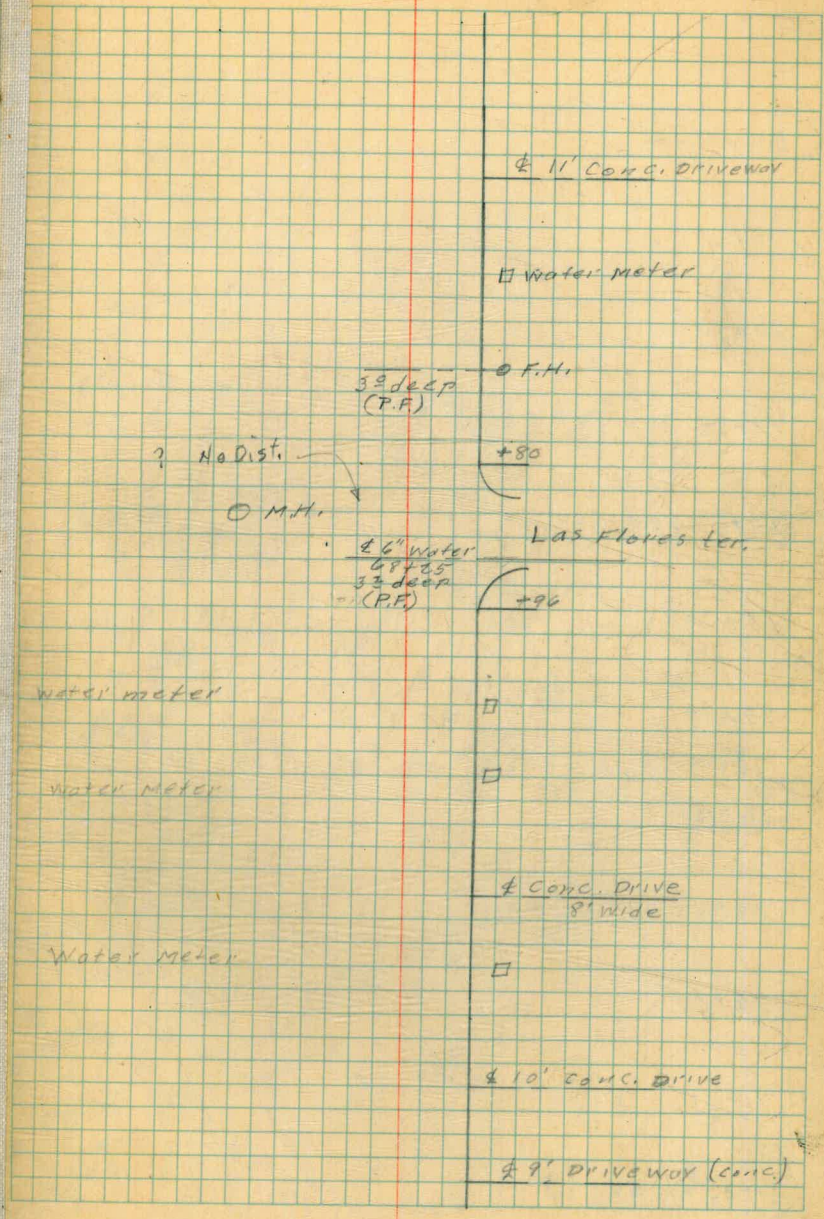
+98

+52.50

+41

66+20

℄



81+76 ± B.F.

80+51

80+60

80+10

79+99

78+51± E.C.

78+20

77+09

76+59

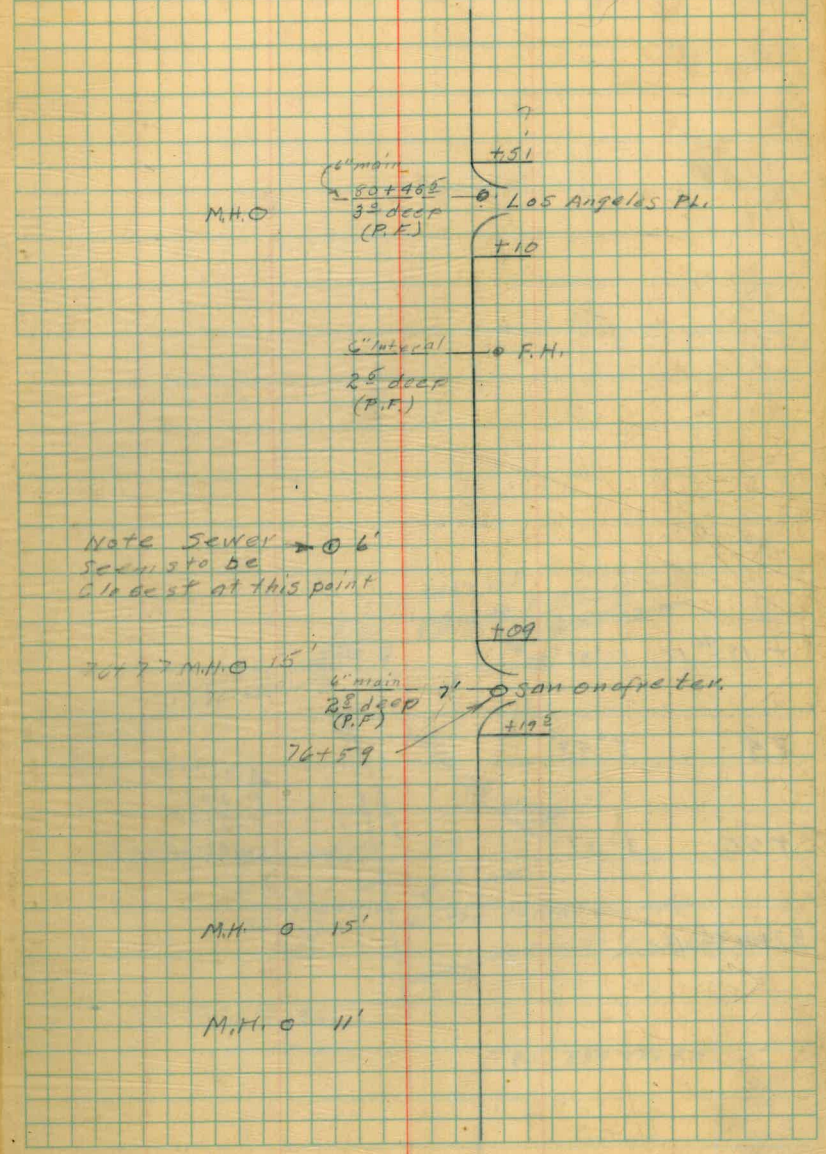
76+18 ±

74+94 ± B.C. curve R.

74+22 ±

71+71

71+35 ± = E.C. ?



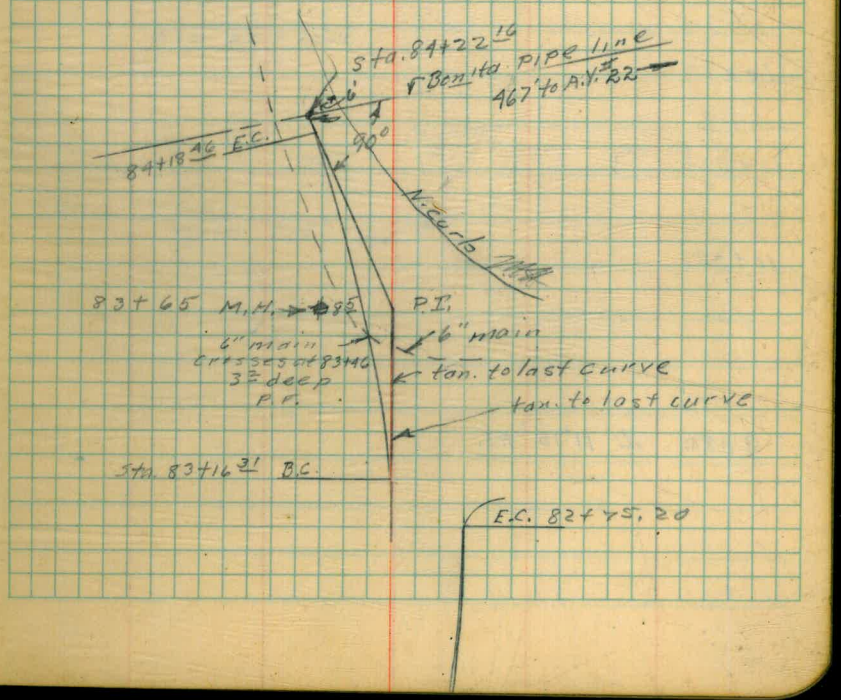
+ 18 46 E.C. 10°38'30"

84 8°43'

+50 3°31

83+16 31 B.C.

Δ 21°17'
R 275'
T 51.67'
L 102.15'



Revision of ℄ pipe line from Sta. 9+80 to 5+7+19 33

15+18

13+52

12+45

12+14 Meter

11+47 ± L 10°58'30" Lt.

11+28 5

10+91 9

10+50

10+33 3

10+32 3

9+80 L 11°15' Rt.

Byler
King
Otton
Stephens

6-8-44

℄

11.

6' - 6' □ meter Box

℄ dirt driveway

12+45 dirt driveway

□ 1' meter Box 12+14

11+47 ± L

HWY. E.C. 11+44.2 ±

20' paving

edge paving

edge paving

℄ 15' dirt road

℄ 10" water main

Meter Box □ 0.5

50+03

48+00

47+44

46+59

41+02

+76

+37

37+16

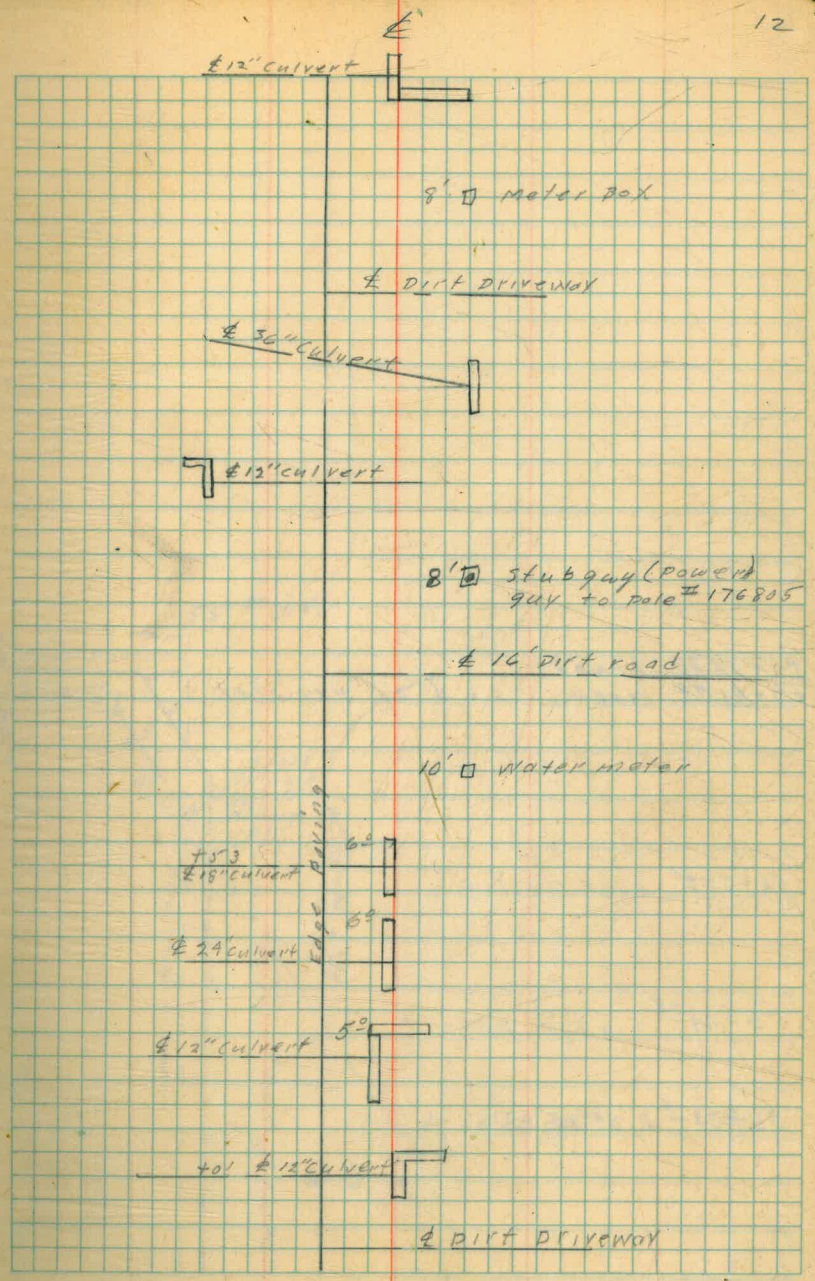
33+53

29+44

+53

20+01

15+80

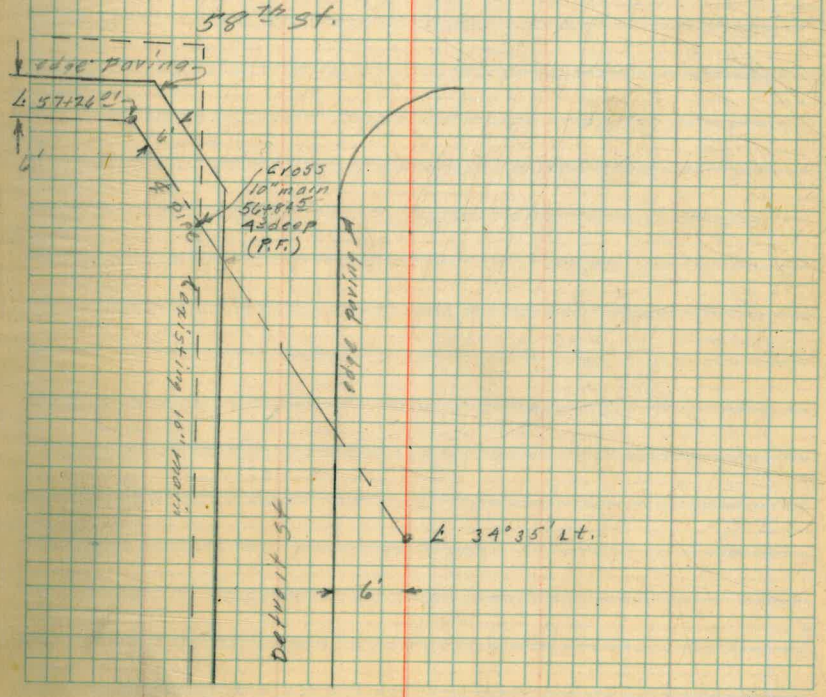


57+19.33 Ahead
57+31.98 Back end of revision

56+77.68 edge paving

56+44.38 edge paving

56+32.85 L 34°35' Lt.



Profile along ℄ Detroit P.L.

	4.91	386.49		381.58
			12.89	373.60
	1.55	375.15		
0+00			15.1	360.1
3+00			12.7	362.5
0+3			10.5	364.7
+18			10.0	365.2
+20			9.0	366.2
+50			4.9	370.3
+68			1.9	373.3
TP			0.46	374.69
	12.36	387.05		
1+00			10.5	376.6
+50			5.9	381.2
2+00			3.3	383.8

BVler
King
Otten
Stevens

6-7-44

15

main in paved pole ℄ Side int. of Detroit & Leghorn Sts

City Datum

℄ Otd 2nd. Main Pipe line

for ground

℄ dirt road

		387.05		
+50			2.9	384.2
3+00			4.4	382.7
+50			6.2	380.9
TP		✓	5.47	381.58 ✓
	0.67	382.25		
4+00			3.6	378.65
+25			5.5	376.75
+50			6.9	375.35
5			12.9	369.35
TP		✓	13.03	369.22 ✓
	0.24	369.46		
+50			5.8	363.7
6			10.0	359.5
TP			13.04	356.42 ✓
	0.34	356.76 ✓		
+50			1.3	355.5

ON B.M.

		356.76 ✓		
7+00			8.1	348.7
+30			10.7	346.1
+50			12.2	344.6
			8.45	348.31 ✓
TP			13.07	343.69 ✓
	0.33	344.02 ✓		
			12.87	331.15 ✓
	0.27	331.42 ✓		
8			7.1	324.0
+35			19.5	311.9
+50			19.5	311.9
+58			19.1	312.3
9+00			4.3	327.1
TP			0.11	331.28 ✓
	12.27	343.55 ✓		
+50			3.3	340.3
			1.93	341.62 ✓
	5.13	347.05 ✓		
9+80			3.3	343.8

B.M. on Pole

	347.05 ✓		
10+00		3.2	344.9
		1.9	345.2
+50		2.9	344.2
		30.2	~~316.9~~ ? 344.03
+91.2		1.80	342.3
11		5.4	341.7
+28.5		7.21	339.8
+47.11		8.3	338.8
~~Paving~~		8.1	339.0
12+00		9.8	337.3
paving		9.6	337.5
+50		11.2	335.9
Paving		11.2	335.9
13		12.4	334.7
Paving		12.5	334.6
TP		12.94	334.11 ✓

top meter pit

set B.M. nail in power pole S.W. Cor. 65th & Detroit

edge paving

edge paving

				334.11 ✓
	-0.84	334.95 ✓		
+50			1,8	333.2
Paving			1,8	333.2
14			3,4	331.6
			2.9	332.1
+50			4.4	330.6
Paving			4.2	330.8
15			5.0	330.0
Paving			5.5	329.5
+50			6.2	328.8
Paving			6.8	328.2
16			8.1	326.9
Paving			8.4	326.6
+50			9.4	325.6
Paving			10.2	324.8
17			11.6	323.4
Paving			11.9	323.1

		334.95 ✓		
TP			12.61	322.34 ✓
	0.39	322.73 ✓		
17+50			1.9	320.8
Paving			1.8	320.9
18			4.1	318.6
Paving			3.9	318.8
+50			6.2	316.5
Paving			6.6	316.1
19			9.2	313.5
Paving			9.4	313.3
+50			11.5	311.2
Paving			12.2	310.5
TP			13.08	309.65 ✓
	0.38	310.03 ✓		
20			2.1	307.9
Paving			2.2	307.8
20+01			4.85	305.18

Fl. line culvert ont
Fl. line " Lof

		310.03 ✓		
+50			4.9	305.1
Paving			4.9	305.1
21			7.7	302.3
Paving			7.8	302.2
+50			10.3	299.7
Paving			10.4	299.6
22			13.0	297.0
Paving			13.1	296.9
TP			12 56	297.17 ✓
	0,79	298.26 ✓		
+50			4.0	294.3
Paving			4.3	294.0
22+53			17.36	290.90
			10.99	287.27
2-3			6.7	291.6
Paving			7.0	291.3
+50			9.9	288.4
Paving			9.7	288.6

Fl. line culvert at ℄

Fl. line culvert ⊥ side

NOTE - Elevations from Sta. 20 to Sta. 30 Subject to Changes City is dumping along Shoulder

		298.26 ✓		
24			12.1	286.2
Paving			12.5	285.8
TP			12.63	285.63 ✓
	0.54	286.17 ✓		
+50			3.8	282.4
Paving			3.3	282.9
25			5.9	280.3
Paving			6.1	280.1
+50			9.0	277.2
Paving			8.5	277.7
26			11.0	275.2
Paving			10.7	275.5
+50			13.1	273.1
Paving			12.0	274.2
			13.05	273.12 ✓
	0.24	273.36 ✓		
27			1.7	271.7
paving			1.3	272.1

		273.36 ✓			
27+50			3.1	270.3	
Paving			2.8	270.6	
28			4.4	269.0	
Paving			4.3	269.1	
+50			5.6	267.8	
Paving			5.6	267.8	
29			6.6	266.8	
Paving			6.3	267.1	
+44			10.63	262.73	Fl. line Culvert R end
			8.45	264.91	Fl. line Culvert L end
			10.45	262.91	set B.M. top pipe Culvert
+50			7.3	266.1	
Paving			6.7	266.7	
30			6.5	266.9	
Paving			6.6	266.8	
+50			4.7	268.7	
Paving			5.8	267.6	

Note - el. along ℄ subject to change
from Sta. 20 to Sta. 30 as City is
dumping along Shoulder

		273.36 ✓		
31			4.3	269.1
Paving			5.0	268.4
+50			4.1	269.3
Paving			4.4	269.0
32			2.6	270.8
Paving			3.3	270.1
+50			2.0	271.4
Paving			2.4	271.0
33			1.4	272.0
Paving			1.2	272.2
				✓
TP		✓	0.25	273.11
	9.66	282.77		
+50			9.7	273.1
Paving			9.5	273.3
+53			13.15	269.6
34			8.0	274.8
Paving			8.1	274.7

F.L. Culvert

		282.77 ✓		
34+50			6.2	276.6
Paving			6.2	276.6
35			1.1	278.7
Paving			3.9	278.9
+50			1.2	281.6
Paving			1.1	281.7
				✓
TP			0.20	282.57
	9.90	292.47 ✓		
36			8.9	283.6
Paving			8.5	284.0
+50			7.1	285.4
Paving			6.9	285.6
37			5.4	287.1
Paving			5.6	
				✓
			4.58	287.89
+50			4.5	288.0
Paving			4.7	287.8

Set B.M. on L.P.C. of C.L. & 61st St. Detroit

		292.47 ✓		
38			4.2	288.3
Paving			4.2	288.3
+50			4.1	288.4
Paving			3.8	288.7
39			4.1	288.4
Paving			4.2	288.3
+50			5.6	286.9
Paving			5.3	287.2
40			8.3	284.2
Paving			7.4	285.1
+50			11.3	281.3
Paving			10.2	282.3
TP		✓	12.44	280.03 ✓
	680	280.83		
41			2.8	278.0
			1.5	279.3
+.02			9.68	276.15

Note - Elevation from sta 40 to 50 Subject to Change as City is dumping along shoulder

FL. line Culvert Rend

		280.83 ✓		
41+50			5.4	275.4
Paving			4.4	276.4
42			7.9	272.9
Paving			7.3	273.5
+50			10.3	270.5
Paving			10.1	270.7
43			13.1	267.7
Paving			12.8	268.0
TP			13.04	267.79 ✓
	0.21	268.00 ✓		
+50			2.7	265.3
Paving			2.9	265.1
44			5.2	262.8
Paving			5.9	262.1
+50			9.5	258.5
Paving			9.3	258.7

Note - el. on ℄ from sta. 40 to 50 subject to
change as city is dumping along shoulder

		268.00 ✓		
45			13.0	255.0
Paving			13.0	255.0
TP		✓	12.62	255.38 ✓
	1.23	256.61 ✓		
+50			4.2	252.4
Paving			4.0	252.6
46			5.9	250.7
Paving			5.9	250.7
+50			6.5	250.1
Paving			7.0	249.6
+59			11.30	245.3
47			6.8	249.8
Paving			7.3	249.3
+50			6.8	249.8
Paving			7.2	249.4
48			7.5	249.1
paving			7.2	249.4

Fl. line Road

		256.61		
48+50			7.2	249.4
Paving			6.8	249.8
49			6.6	250.0
Paving			6.2	250.4
+50			5.2	251.4
Paving			4.6	252.0
50			3.0	253.6
Paving			2.5	254.1
+53			5.10	251.5
Paving			5.90	250.7
TP			2.32	254.29
	12.05	266.34		
+50			10.3	256.0
Paving			10.0	256.3
51			7.2	259.1
Paving			7.3	259.0

Note - Grading & surfacing change as City is grading along Shuler from Sta. 40+00 to Sta. 51+00

Ft. line 12" culvert Rend

Ft. line " L. end

		266.34 ✓		
51+50			4.8	261.5
Paving			4.9	261.4
52			2.8	263.5
Paving			2.6	263.7
+50			0.0	266.3
Paving			0.0	
TP		✓	0.17	266.17 ✓
	11.85	278.02		
53			9.1	268.9
Paving			9.4	268.6
+50			6.7	271.3
Paving			6.8	271.2
54			4.5	273.5
paving			4.2	273.8
+50			2.6	275.4
paving			1.6	276.4
TP		✓	0.44	277.58 ✓
	11.48	289.06		

		289.06 ✓		
55			10.7	278.4
Paving			10.3	278.8
+50			7.8	281.3
Paving			8.5	280.6
56			5.3	283.8
Paving			5.6	283.5
TP		✓	1.21	287.85 ✓
	7.04	294.89		
56+26 88 Lt.			10.0	284.9
Paving			10.0	284.9
56+44 39			9.55	285.3
+50			9.2	285.7
56+97 68			8.05	286.84
57			6.2	288.7
paving			6.7	288.2

Set B.M. nail in pole S.E. Cor. 58th & Detroit

294.89

57+31.93 ℄	5.6	289.3
57+19.33 ahead	5.3	289.6
+50	4.9	290.0
	4.8	290.1
paving		
58	3.5	291.4
paving	3.4	291.5
+50	0.4	294.5
paving	0.7	294.2
59	0.4	294.5
paving	0.6	294.3
+50	0.9	294.0
paving	1.3	293.6
60	2.5	292.4
paving	2.7	292.2
+50	2.8	292.1
paving	4.3	290.6

		✓ 294.89		
61			6.6	288.3
Paving			1.0	293.9
				✓
TP			6.30	288.59
		✓		
	306	291.65		
+50			6.5	285.2
Paving			6.1	285.3
62			4.2	287.5
Paving			4.2	287.5
+22.7C	B.C.		4.9	286.8
Paving			4.8	286.9
+50			5.2	286.5
Paving			5.7	286.0
63			7.0	284.7
Paving			7.0	284.7
+50			8.5	283.2
Paving			8.4	283.3

		291.65 ✓		
63+95			9.59	282.06
6A			9.8	281.9
6' Rt.			9.9	281.8
+50			11.1	280.6
6' Rt.			11.1	280.6
TP			11.12	280.53 ✓
	0.86	281.39 ✓		
+80 60 EC.			2.0	279.4
top curb			1.6	279.8
65			2.6	278.8
top curb			2.2	279.2
+10			2.5	278.89
			7.7	273.7
+50			3.7	277.7
top curb			3.2	278.2
6.6			4.5	276.9
top curb			4.0	277.4
+50			5.5	275.9
top curb			5.0	276.4

edge parking

top Manh. Cover
Fl. line

		✓ 281.39		
67			7.0	274.4
in Driveway			7.0	274.4
+50 top curb			10.7	270.7
			10.2	271.2
TP		✓	12.61	✓ 268.78
	0.83	269.61		
68			2.9	266.7
on Pav			3.1	266.5
68+48			4.1	265.9
			9.9	259.7
+50 on Pav			5.2	264.4
			5.4	264.2
69 top curb			8.6	261.0
			8.1	261.5
+50 top curb			12.3	257.3
			12.0	257.6
TP		✓	12.80	✓ 256.81
	0.41	257.22		

on M.H. cover
Fl. line

		257.22 ✓		
70 top curb			4.0	253.2 ✓
			3.5	253.7
70 top curb			8.0	249.2
			7.5	249.7
71 top curb			11.8	245.4
			11.3	245.9
TP			12.99	244.23 ✓
	0.64	244.87 ✓		
70 top curb			2.6	242.3
			2.2	242.7
71+71			3.6	241.3
			9.8	235.1
72 top curb			5.7	239.2
			5.3	239.6
70 top curb			9.0	235.9
			8.5	236.4

top M.H. Cover

Fl. line

		244.87 ✓		
73			12.3	232.6
top curb			11.8	233.1
TP			13.08	231.79 ✓
	0.53	232.32 ✓		
+50			3.1	229.2
top curb			2.7	229.6
74			6.3	226.0
top curb			6.0	226.3
+225			7.4	224.9
curb			14.1	218.2
+50			9.9	222.40
top curb			9.4	222.9
TP			12.28	220.01 ✓
	0.46	220.50 ✓		
75			2.7	217.8
top curb			2.3	218.2

top M.H. Cover
Fl. line

		220.50 ✓		
75+50			7.9	212.6
top curb			7.4	213.1
76			12.9	207.6
top curb			12.4	208.1
TP			12.73 ✓	207.77 ✓
	0.18	207.95 ✓		
+50			4.6	203.4
6' R. on pav.			4.6	203.4
+77			5.4	202.55
			13.7	194.25
77			6.6	201.4
top curb			6.2	201.8
+50			10.8	197.2
top curb			10.5	197.5
TP			12.62 ✓	195.33 ✓
	0.70	196.03 ✓		
78			3.2	192.8
top curb			2.7	193.3

top M.H. cover

Fl. line

		196.03 ✓		
78+50			7.6	188.4
top				
curb			7.2	188.8
79			11.9	184.1
top				
curb			11.4	184.6
TP			13.10	182.93 ✓
	0.27	183.20 ✓		
+50			3.3	179.9
top				
curb			2.9	180.3
+99			4.34	178.86
80			7.4	175.8
top				
curb			7.0	176.2
+50			10.0	173.2
6' R. on				
pav			10.2	173.0
+60			10.1	173.1
			17.6	165.60
81			13.2	170.0
top				
curb			12.8	170.4

top F.H.

top M.H. Cover

Fl. line

		183.20 ✓		✓
TP			12.82	170.38
	0.06	170.44 ✓		
81+50			4.7	165.7
top curb			4.3	166.1
82			7.4	163.0
top curb			7.0	163.4
+50			9.5	160.9
in Drive 6' R			9.7	160.7
83			11.0	159.4
on PAV 6' R			11.1	159.3
+16.31	B.C.		11.5	158.9
on pav 6' R.			11.6	158.8
+50			12.7	157.7
on pav 6' R.			12.8	157.6
				✓
TP			12.83	157.61
	4.52	162.13 ✓		
+65			5.3	156.8
			12.8	149.3

top M.H. cover

		162.13 ✓		
84 on par 6' R			6.2	155.9
			6.4	155.7
+18 96 E.C. top curb			7.2	154.9
			6.8	155.3
+22 16 top curb			7.2	154.9
			6.8	155.3
				✓
		✓	2.98	159.15
	11.99	171.14		✓
TP			0.69	170.45
	8.50	178.95 ✓		✓
TP			5.85	173.10
	3.23	176.33 ✓		✓
TP			0.60	175.73
	12.95	188.68 ✓		✓
			3.63	185.05

depth to top Bonita P.L. 3.1 (Pipe finder)

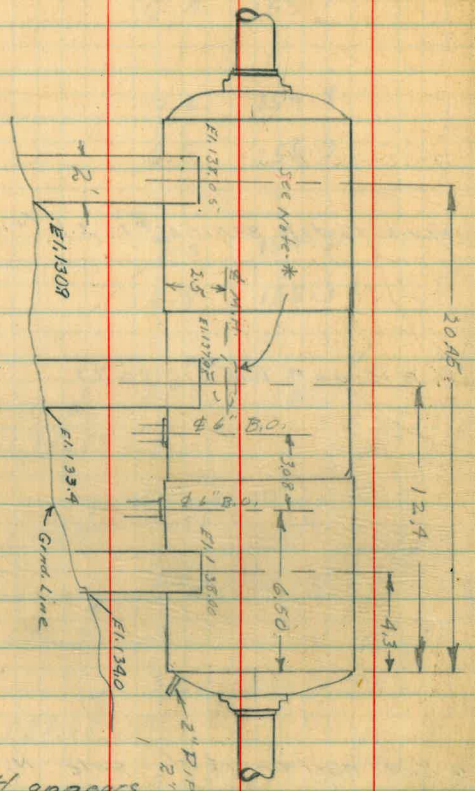
Set B.M. in P. Pole # 17 80.73

on B.M. Martin tel. pole N. side Imperial Ave near Junction of Church and 3rd.
U.S.G.S. el. 191.31 - Rec. 1912

N. Coote made this bench 1912
Field Books 312 + 325
from city engr's office

Layout of Sand Trap 31st ST. & Bdwy. Benita Pl. 8-17-44

* Note - M.H. on opposite side of Trap

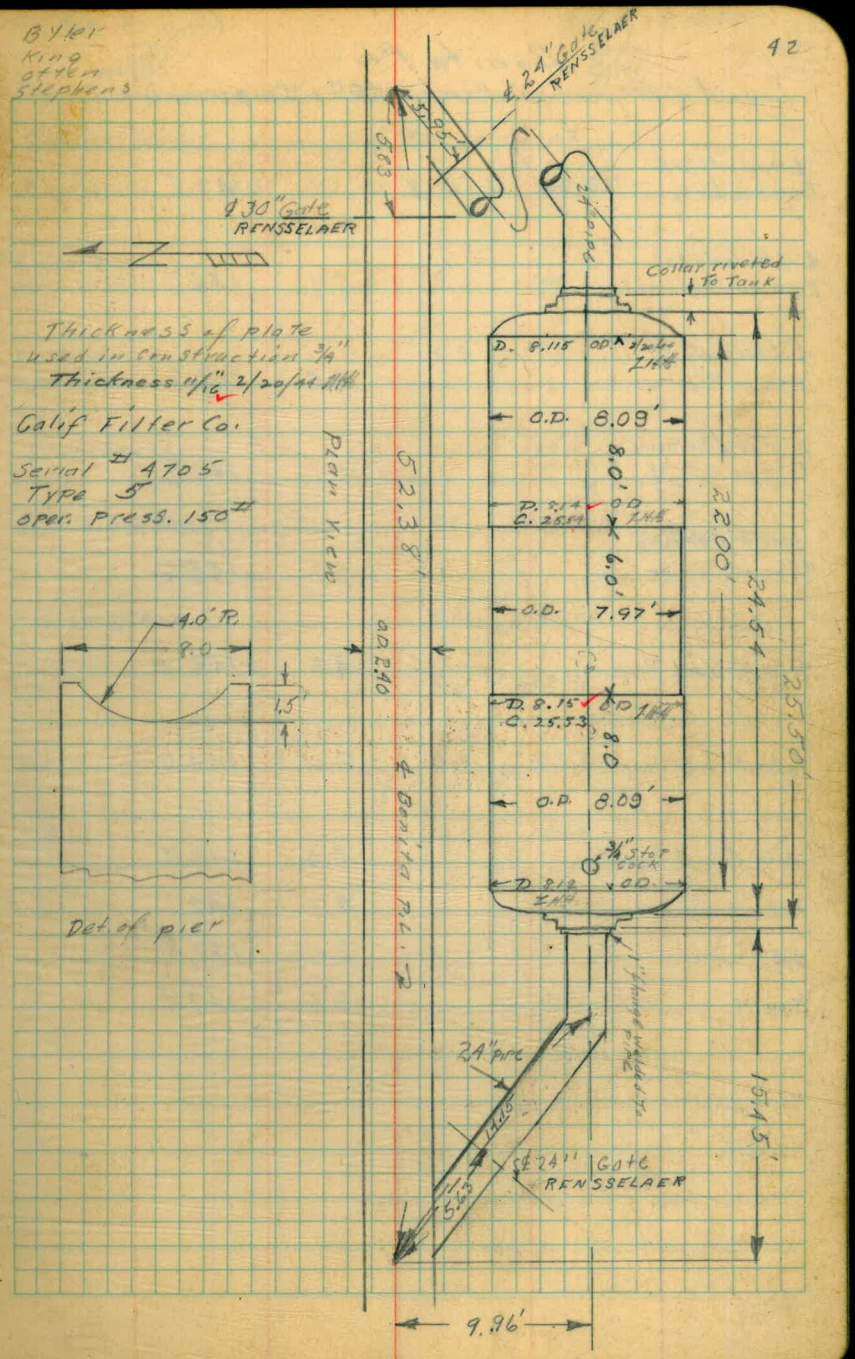


Note plate of M.H. appears to be about 7/8" in thickness. However due to shape of fitting it is hard to determine exact thickness.

W.A.

Byler
King
Otten
Stephens

42



March 19, 1945
Soper
King
Stephens

Bonita P.2.

Layout of proposed sand trap - 49th & Imperial Ave

℄ nail -103+50 Imp. Ave. Loc.	3.32	150.8	147.5
℄ of Easterly 32" Pipe on Prop. line		4.7	146.1
℄ of Westerly 32" Pipe on Prop. line		4.6	146.2
Junction of Southerly 16" pipe with 32"		3.1	147.7
Junction of Northerly 16" pipe with 32" pipe		5.2	145.6
℄ South Sand Trap		4.3	146.5
℄ North Sand Trap		6.0	144.8
N.W. Cor. of base		8.4	142.4
N.E. " " "		8.7	142.1
S.E. " " "		3.0	147.8
S.W. " " "		3.4	147.4

April 18, 1945
Soper
King
Stephens
43

Layout of proposed sand trap 49½ & Imperial

Base and Westerly pipe moved 8' North and 8' West

	+	H.I	-	Elev
℄ nail 103+50	3.95	151.45		147.5
℄ of Easterly 32" pipe on Prop. line			5.3	146.1
℄ of Westerly 32" pipe on Prop. line			5.9	145.5
℄ South Sand Trap			6.4	145.0
℄ North Sand Trap			8.0	143.4
S.E. Cor of base			5.0	146.4
S.W. " " "			6.0	145.4
N.W. " " "			9.4	142.0
N.E. " " "			10.0	141.4

Bonita P.2.

Cuts and slope stakes for sand trap - 49th & Imperial

℄ nail 10345 Imp. Ave. Loc. Set B.M. Nail in tel. pole	2.45	149.95	147.5	
		0.10	149.85	
				Sub-Grade
S.E. Cor of base		3.4	146.5	137.25
S.W. Cor of base		4.5	145.4	137.25
20' North on east side		5.6	144.3	136.93
20' North on west side		5.8	144.1	136.93
N.E. Cor of base		8.5	141.4	136.61
N.W. Cor. of base		7.9	142.0	136.61

May 31 1945
Soper
King
Stephens
44

Slope stakes from finish floor grade

Cut		
9.3'	To East C 9⁰ / 9	To South C 10½ / 10½
8.2'	To West C 7½ / 7½	To South C 8½ / 8½
7.4'	To West C 8' / 8'	
7.2'	To East C 6⅞ / 6⅞	
4.8'	To East C 4½ / 4½	
5.4'	To West C 6' / 6'	

Bonita P.L.

Proposed drain at Nogal and Haya Streets to care for water from sand trap at 4914 + Imperial

2+75 P.O.T.

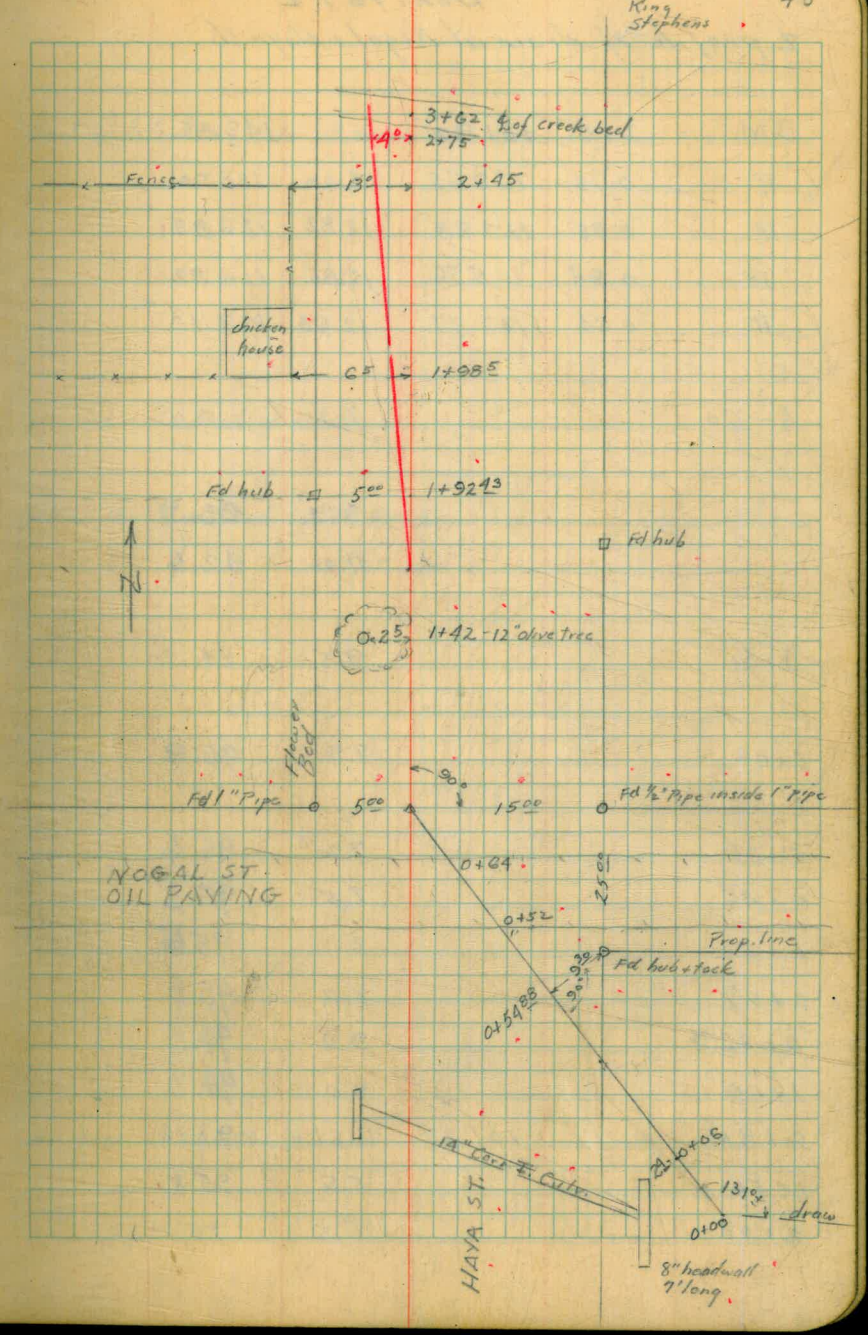
1+50 Δ 1°49' Lt - Alternate Loc. & profile on page 49

0+82.46 Δ 12°46' Rt

0+00

June 4, 1945
Soper
King
Stephens

45



Bonita P.L.

& profile of drain at Nogal + Hoya St.

B.M.	2.05	151.90		149.85
TP	0.75	139.65	13.00	138.90
TP	0.85	127.68	12.82	126.83
TP	0.94	115.76	12.86	114.82
TP	0.64	103.77	12.63	103 13
0 – 50			7.8	
			9.9.	93.9
			11.2	92.6
0+00			9.5	94.3
0+06			7.9	95.9
0+30			7.2	96.6
0+46			8.5	95.3
0+50			8.3	95.5
0+57			8.0	95.8
0+82 46			9.0	94.8
1+00			9.0	94.8
Set B.M.	4.11	101.27	6.61	97.16
1+50			5.5	95.8
2+00			5.5	95.8

Nail in telephone pole at sand trap - 49th + Imperial Ave

In draw 50 back of 0+00

A line 14" Conc. I Culv. 3' Lt 0+03

" " " " " " outlet end

On pipe 15' Rt 0+82 46

		101.27			
2+50			3.0	98.3	
2+75			1.1	100.2	
2+79			1.7	99.6	
TP	3.65	92.57	12.35	88.92	
3+00			12.8	79.8	
TP	3.37	83.08	12.86	79.71	
3+10			7.4	75.7	
+17			8.9	74.2	
+30			9.1	74.0	
+45			12.2	70.9	
3+62			11.6	71.5	
TP	12.60	94.45	1.23	81.85	
TP	7.64	101.46	0.63	93.82	
			4.31	97.15	Rec. 97.16

Top of bank

Bottom of wash

" " " approx ½ of wash

ck on pipe 15' Rt 0+82.46

Bonita P.L.

℄ Profile of 32" lines connecting sand trap at 49½ & Imperial to Bonita Steel line

B.M.	2.02	151.87	149.85
		8.9	143.0

Ground profile over proposed Westerly 33" line

0+00 = ℄ B.S. line	6.0	145.9
0+17 - ℄ Imp. Ave	5.5	146.4
0+33	5.7	146.2
0+40	4.8	147.1
0+47	6.5	145.4

Ground profile over proposed Easterly 33" line

0+00 = ℄ B.S.	5.6	146.3
0+17	5.1	146.8
0+33	5.5	146.4
0+40	4.4	147.5
0+47	6.2	145.7

See page 51

Top of concrete covered Bonita Steel line - 7' East of Westerly 33" pipe — 17' South of ℄ of Imperial Ave

Bonita PL.

℄ profile - alternate Loc. Nogal + Haya St.

B.M.	4.88	102.04		97.16
1+50			6.3	95.7
2+00			6.7	95.3
+50			4.6	97.4
+75			3.2	98.8
+78			3.5	98.5
TP	1.37	91.09	12.32	89.72
TP	1.54	83.41	9.22	81.87
3+04			5.7	77.7
3+18			9.1	74.3
+30			9.2	74.2
+46			12.6	70.8
+62			12.2	71.2
ck. on previous sta 3+17			9.2	74.2 Rec 74.2

On pipe 15' Rt 0+82.46

Bonita Pl.

Sub-grade stakes for concrete base - sand trap - 49th & Imperial

B.M.	0.22	150.07		149.85	
TP	5.54	147.29	8.32	141.75	
	4.57	146.32	5.54	141.75	
South end			9.07	137.25	137.25
" "			9.07	137.25	137.25
center			9.39	136.93	136.93
"			9.39	136.93	136.93
North end			9.71	136.61	136.61
" "			9.71	136.61	136.61
TP	5.55	150.97	0.90	145.42	
ck on B.M.			1.12	149.85	Rec. 149.85

June 8, 1945
Super
King
Stephens

Grade
"
"
"
"
"

Bonita PL.

℄ profile of proposed 32° lines to connect Bonita Steel to sand traps at 49th + Imp.

	1.69	151.54 ✓	149.85

Profile of westerly 32° line

℄ Bonita Steel = 0+00	6.0	145.5 ✓
0+17 - ℄ Imp. Ave	5.2	146.3 ✓
0+40	5.7	145.8 ✓
0+60	6.6	144.9 ✓
0+70	8.5	143.0 ✓
0+86	14.3	137.2 ✓

Profile of Easterly 32° line

℄ Bonita Steel = 0+00	5.3	146.2 ✓
0+17 ℄ Imp Ave	4.8	146.7 ✓
0+40	5.3	146.2 ✓
0+65	5.4	146.1 ✓
0+91 △	5.7	145.8 ✓
1+05	6.0	145.5 ✓

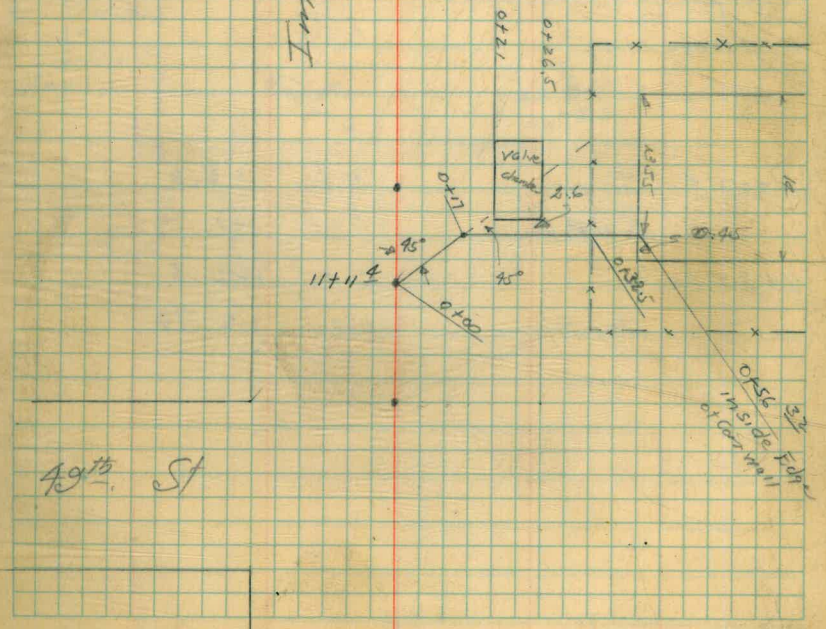
Commercial St. Pk.

	Pressure Relief	Blow off	49 7/4 of Imperial	
B#1	2.23 151.60		149.37	
0+00	L.R+45° from Mainline	5.2	146.4	
+07		4.7	146.9	
+17	L.Rt 45	5.7	145.9	
+21		5.8	145.8	
0+27		5.4	146.2	
0+36		5.3	146.3	
0+50		10.9	140.7	
0+56 32	Top Wall	12.49	139.11	
"	Top of Bottom Slab	13.94	137.66	GRS 7 MAR 47

52

℄

Bliss Notes
Kiny
Leonard
Neenow
3/3/47

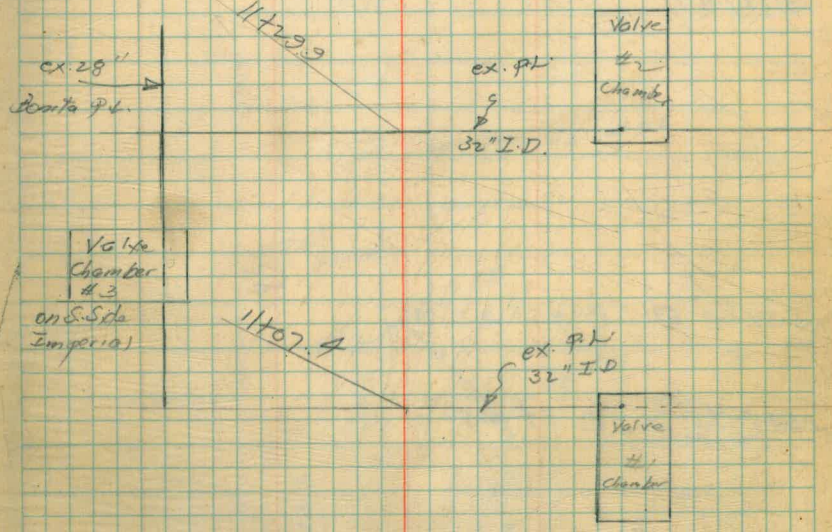


Levels to Determine Elevs of

BM	2.23	151.60		149.37
		#1		
Top Pipe At Flange			8.81	142.79
" " Flange			8.54	143.06
		#2		
Top Pipe			8.95	142.65
" Flange			8.64	142.96
		#3 on South Side of Imperial		
Top Pipe			8.90	
" Flange			8.59	
11+07.4	Ground		5.1	146.5
" "	Top Pipe		8.81	142.79
11+29.9			5.3	146.3
"	Top Pipe		8.90	142.70

Existing Pipes At Sand Traps 49th & Imperial

Bliss Notes
Kiang & Leonard Nienow
March 3-47



Commercial St. Pipe Line

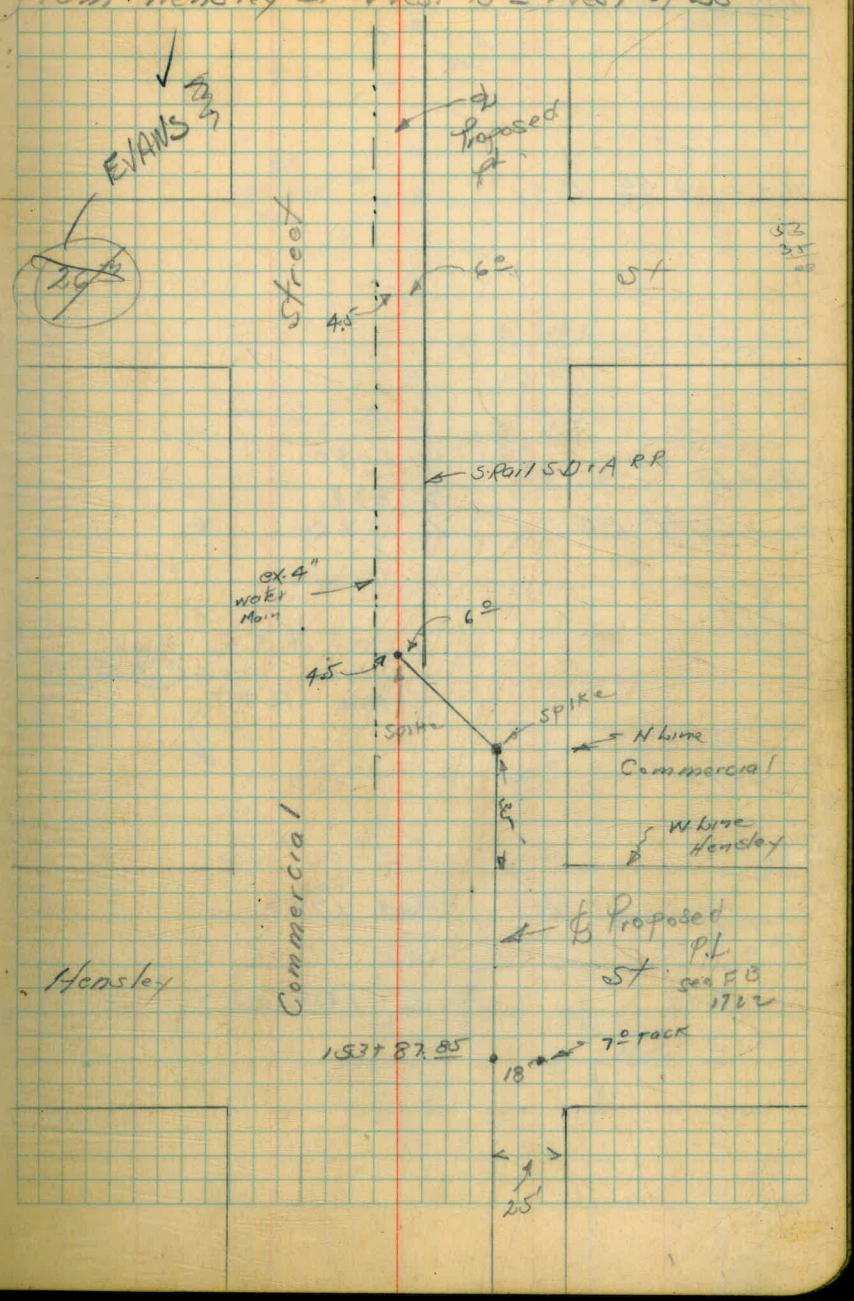
Line Change Commercial St.

Hill
Bliss Notes
King "
Leonard H. Chain
Nienow R. "
3/12/47

155+08.23 ℄ Pt 45°-22'-00"

154+75.85 ℄ Lt 45°-00'-00

from Hensley St West to ℄ West of 25th



165+36.94

162+24.55 EC

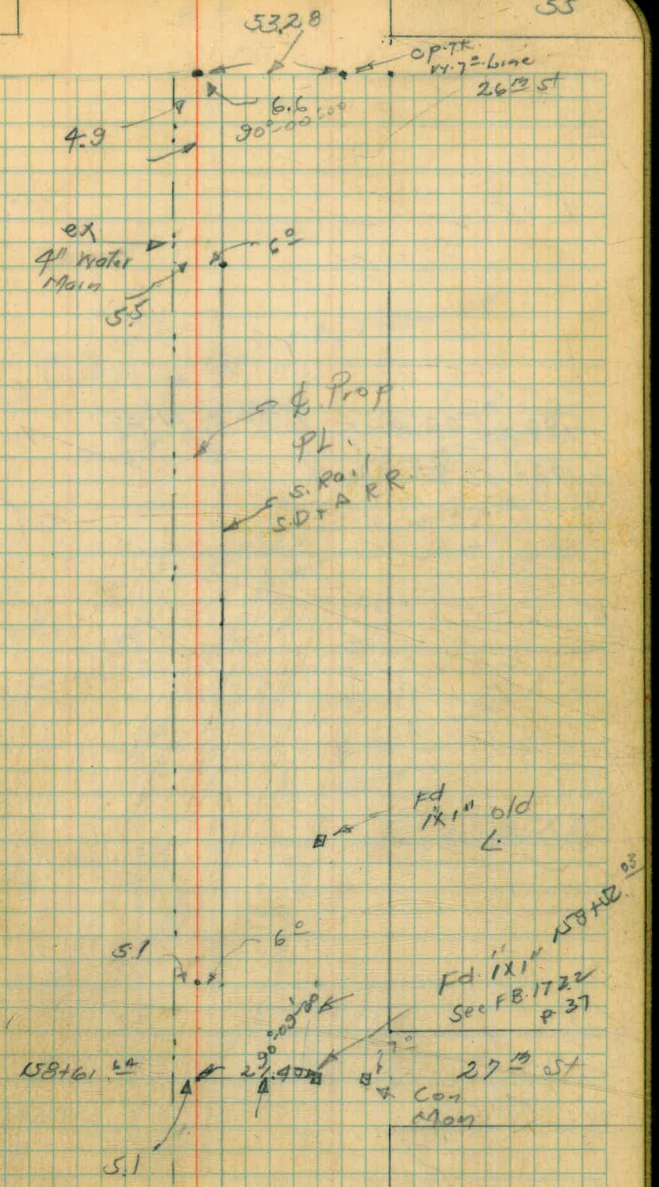
Δ 4°-52'-00" Rt
R. 2050
T 87.11
L 174.24

160+50.31 BC. Rt
160+49.22 E.C.

SEE R.S.G. COMP. NOTES PGES. (121) & (122) FOR R + T.

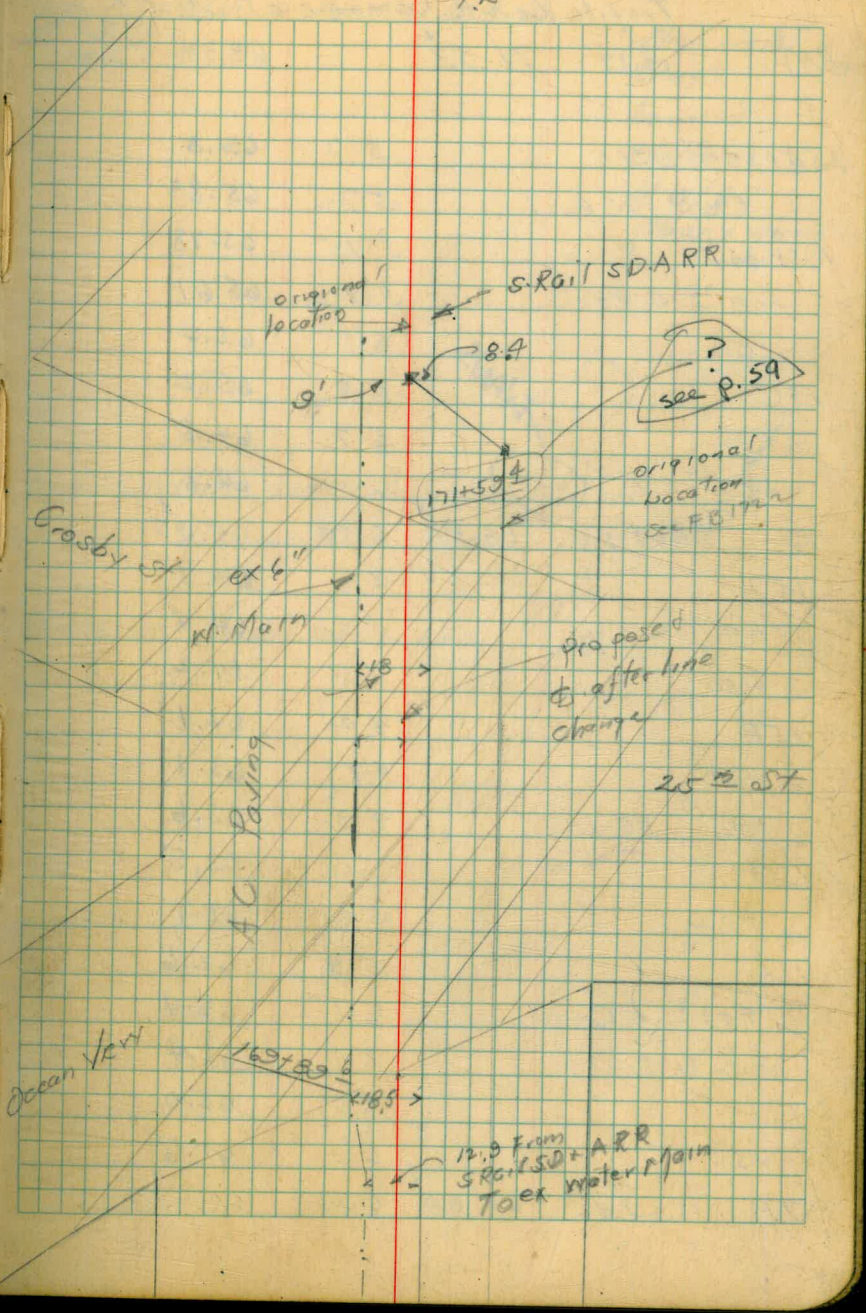
Δ 5°-00'-00"
Rad. 1762.6
Tan. 76.96
L 153.62

158+90.60 B.C. Lt



173+29.68 Back L Rt 0°-01'-30"
= 173+32.43 Ahead

℄ Proposed P.I.



Profile Levels Commercial St. P.L.

BM	3.19	71.53 ✓		68.34
154+75	85 L.Lt.		5.7	65.8
+90	35 N. Rail		5.70	65.83
155+60	15 S. "		5.75	65.78
+08	73 L. Rt.		5.92	65.61
+50			6.1	65.4
156			6.3	65.2
+50			6.7	64.8
+60	E. Line 22 ft		6.7	64.8 ✓
T.P.	3.54	68.53 ✓	6.54	64.99
157			3.8	64.7
+90	W. Line		4.1	64.4
+50			4.3	64.2
158			4.4	64.1
+50			4.7	63.8
+90	60 BC. Lt.		4.9	63.6
159			5.0	63.5
+50			5.4	63.1
160			5.9	62.6
+44	27 EC.		6.1	62.4
+50	31 BC. Rt.		6.1	62.4
161			6.5	62.0
+50			6.9	61.6 ✓
T.P.	3.45	65.08 ✓	6.90	61.63

EVANS

Con'd on N.E. Comm'l. p. 28

From Hemsley to L. West of 35th St

See F.B. 172 p. 38

Bliss Nokes
Knight
Leonard
Nimonis
3/17/47
Clear & warm

on oiled surface badly deteriorated

on oil surface badly deteriorated

EVANS? ✓

		↑ 65.08		
162			3.8	61.3
+24 35	E.C.		4.1	61.0
+50			4.2	60.9
163			4.5	60.6
+50			4.9	60.2
164			5.1	60.0
+50			5.4	59.7
+64 7			5.35	59.73
165			5.64	59.44
+43 8			6.10	58.98
+50			6.2	58.9
166			6.6	58.5
+50			7.0	58.1 ✓
T.P.	2.25	60.33 ✓	7.00	58.08
167			2.7	57.6
+50			3.1	57.2
168			3.7	56.6
+50			4.1	56.2
169			4.4 5.0?	55.9
+50			5.0	55.3
+89 6			5.22	55.11
170			5.3	55.0
+50			5.88	54.45
+56			6.04	54.29
+66			6.05	54.28

00 Asphalt Macadam Paving E Line 26th
on A.C.
W Line 26th on Asphalt Macadam Paving

Easty A.C. Paving on Ocean View
on A.C.
" "
" "
" "

↑ 60 33

171		6.18	54.15
+50		6.42	53.91
+59 4		6.58	53.75
172		6.62	53.71
+50		6.90	53.43
+72		7.14	53.19
173		7.5	52.8
equ. = +32 33	29 68 Back ahead	7.8	52.5
Check		7.28	53.05 ✓
			53 05 Record

On A.C.
" "
Asphalt Macadam
" "
" "
End asphalt Macadam

pages 57, 58 & 59
Checked & reduced.
3.17.47

See FB. 172 P. 40. L. 172+30 on Sta 6

PRELIMARY ALIGNMENT FOR JAMACHA PIPE LINE

6+79.05 ℄ PT 0°01'15" LT.
(FD ℄ ET. 38' RT.)

NOTE: Moved 12" WATER MAIN 3' to North to clear Sewer M.H. L℄T 41' Rt.
EWE.

See NOTE Above.
EWE.

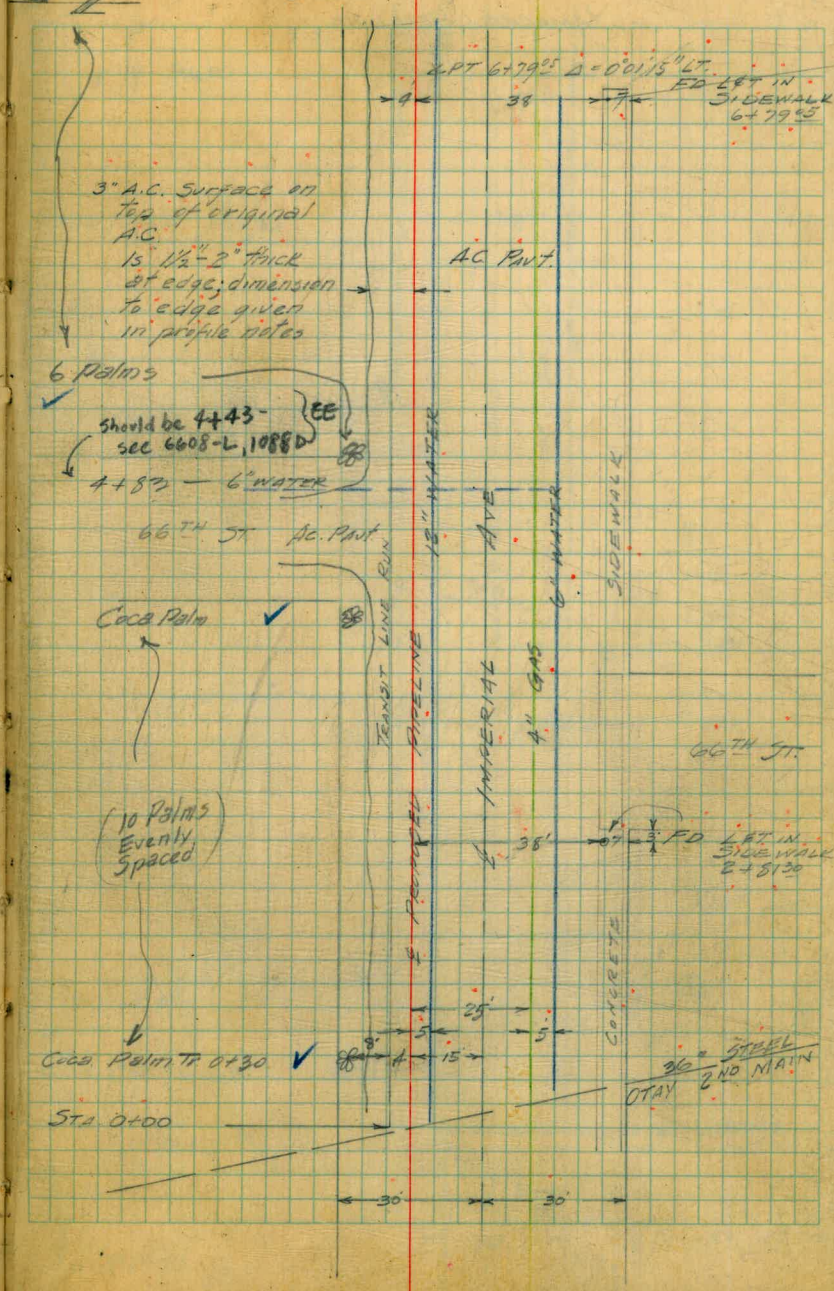
2+81.30 POT. (L℄T. 38' RT.)

0+00 Intersection of ℄ 36" Steel, Otay 2nd Main & pt. 15' Nor., parallel to ℄ Imperial Ave

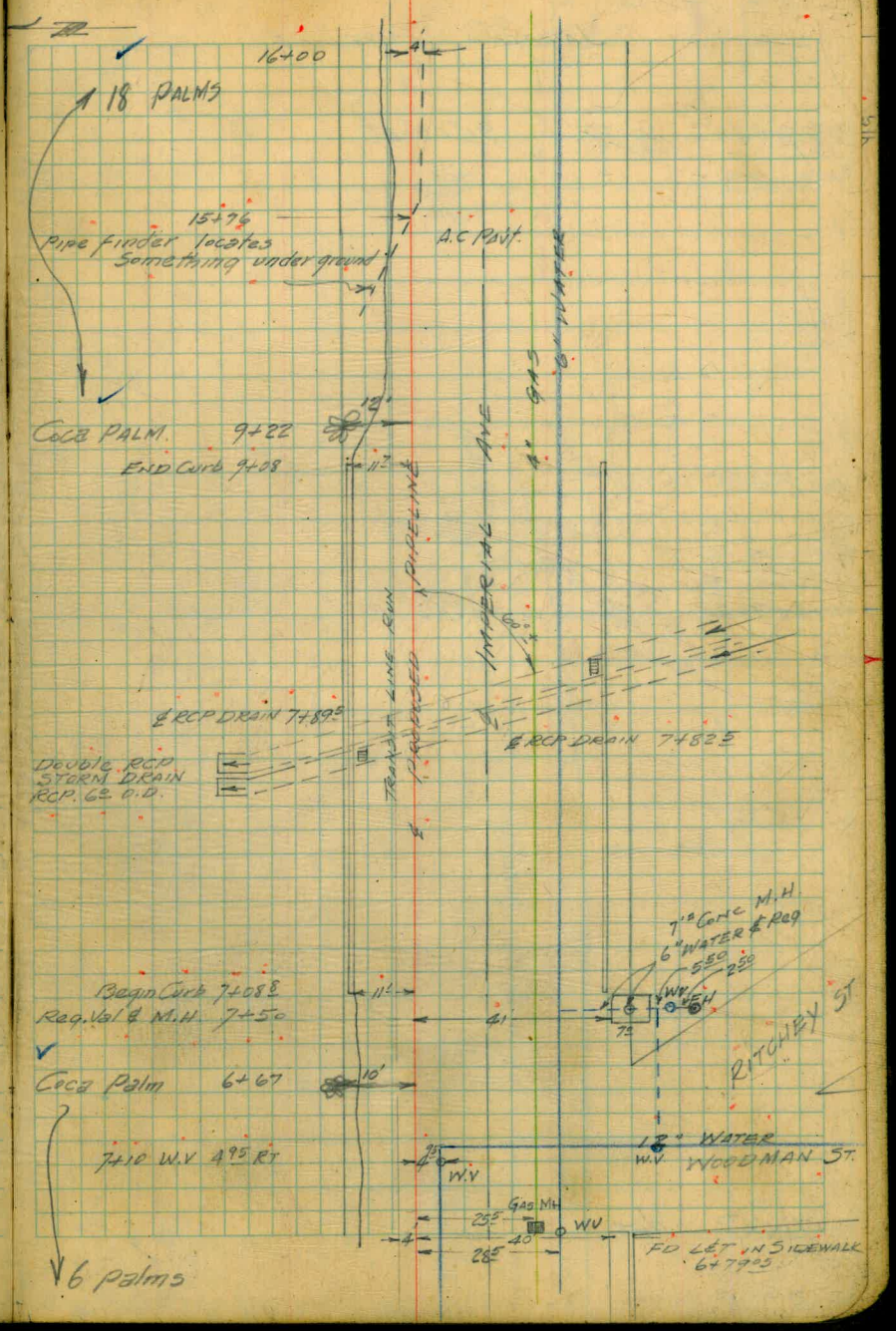
BEATTY WEST CARVER

JUNE 21, 1950 VERY WARM
" 22, "

60



JAMACHA PIPELINE

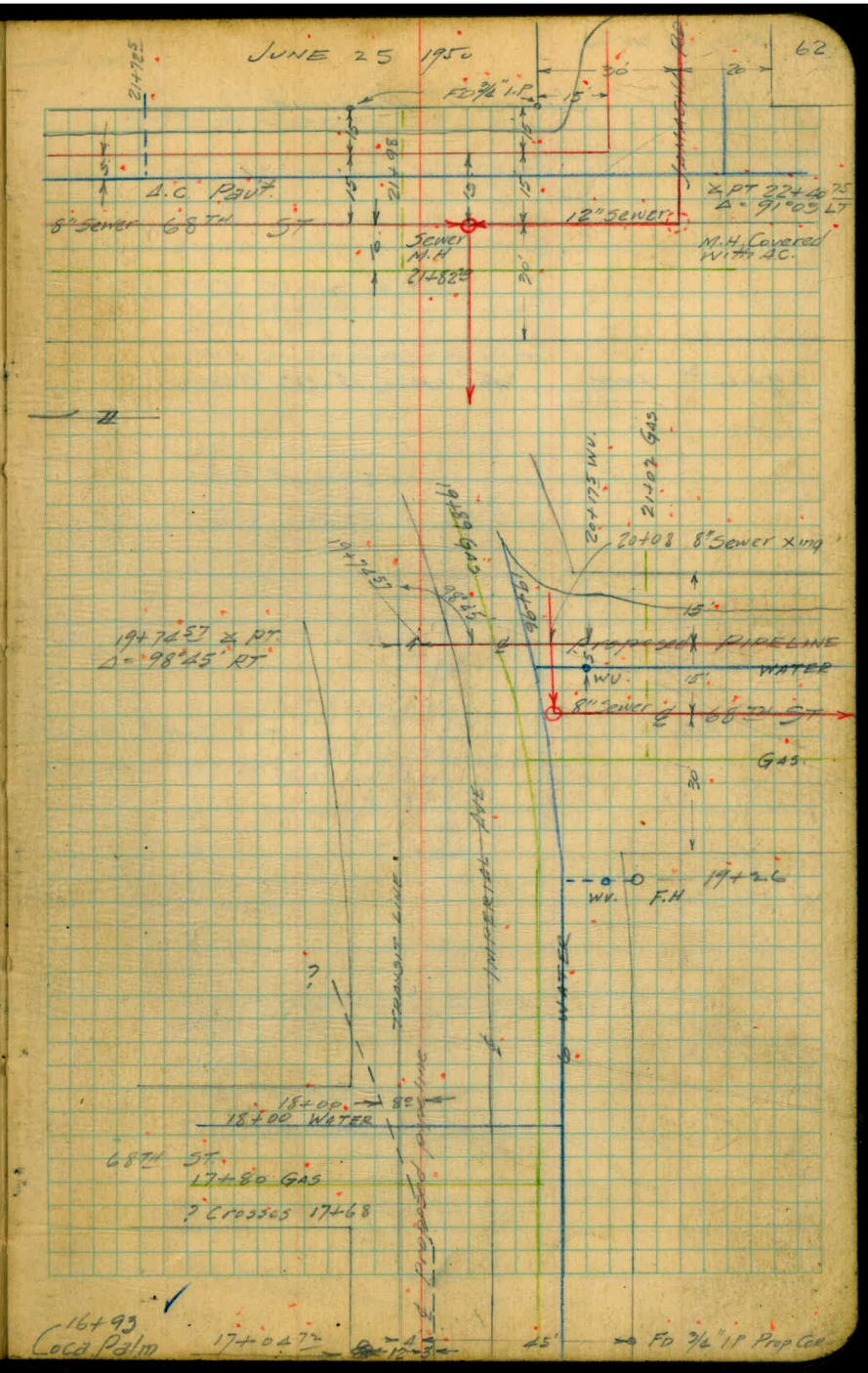


JAMACHA PIPELINE

22+40.75 ℄ PT. 91°03' LT

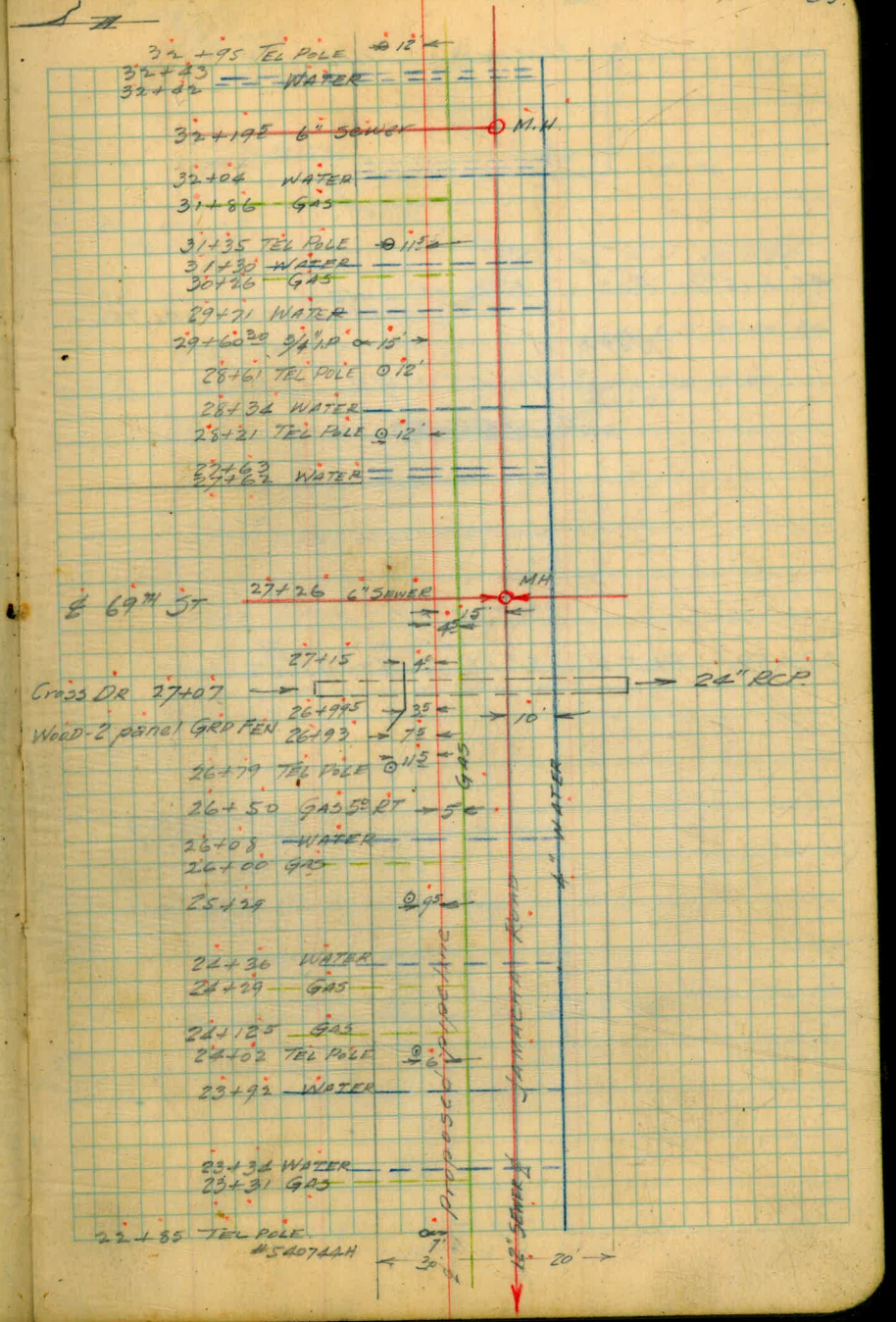
19+74.57 ℄ PT. Δ = 98°45' RT

17+04.72 POT



JAMACHA PIPELINE

29+60.30 POT. 3/4" I.R. 15' LT.



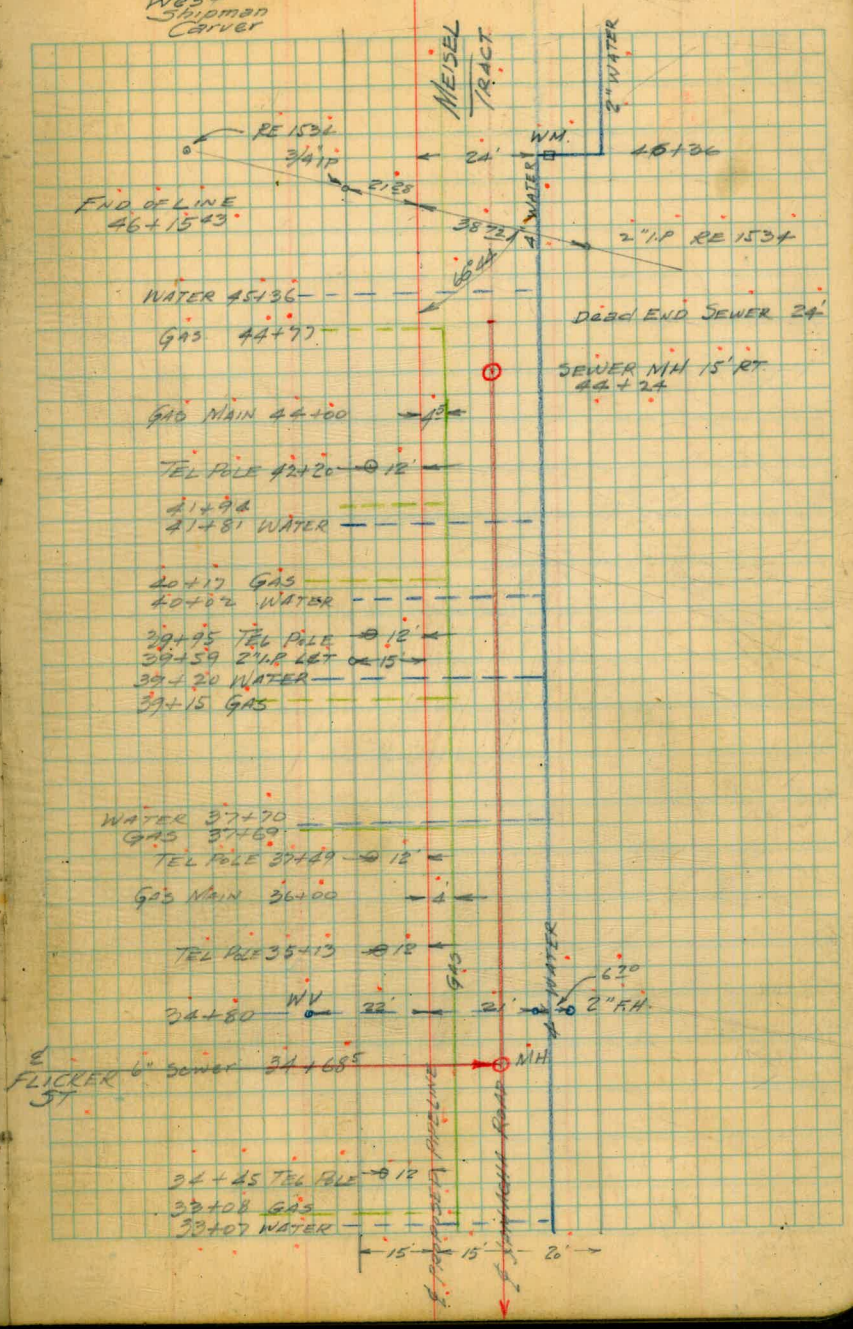
JUNE 30 1950
1323 Ky
W 83 4
Shipman
Carver

JAMACHA PIPELINE

46+15.43 POT END OF LINE
INTERSECTION WITH MEISEL TRACT

NOTE:-
STA 45+90. (STAKED) END
~~STA 45+83~~

39+59 POT 2" I.P & L&T 15' LT



℄ PROFILE – JAMACHA PIPELINE

BM.	4.61	225.88		221.27
0+00			5.4	20.5
+50			5.4	20.5
1+00			5.2	20.7
+50			5.1	20.8
2+00			4.9	21.0
+50			4.4	21.5
3+00			3.4	22.5
+50			2.6	23.3
4+00			1.7	24.2
+50			0.6	25.3
℄ Ck BM	10.63 3.86	234.34 234.26 Corr +.1	2.17 3.86	223.71 230.48 = 230.4
5+00			8.0	26.3
+50			6.9	27.4
6+00			6.0	28.3
+50			5.5	28.8
7+00			5.2	29.1
+50			5.1	29.2
Opening in Grill	7' LT 7+77 S	Top RCP	9.9	24.4
		Bott. RCP	15.9	18.4
8+00			5.0	29.3
+50			4.9	29.4
9+00			4.7	29.6
+50			4.5	29.8
10+00			4.2	30.1

REDUCED & CHECKED BY EWE 7-10-50

BR. PLUG SE. COR 65TH & Imperial

Edge A.C. 10.5 LT.
" " 10.3 LT.
" " 10.5 LT.
" " 9.4 LT.
" " 8.3 LT.
" " 9.0 LT.
" " 9.3 LT.
" " 9.8 LT.
" " 9.6 LT.

66TH ST.

LET W. LINE Woodman Ave at Imperial

" " 9.2 LT.
" 8.9 LT.
" " 8.5 LT.
" 8.3 LT.
" 11.0 LT.
Face Curb 12.8 LT.

Face Curb 13.4 LT.
" 13.5 LT.
" 13.6 LT.
Edge AC 9.0 LT.
" " 5.0 LT.

JAMACHA PIPELINE

10+50			3.8	230.5
11+00			3.6	30.7
IP ⊕ NAIL	8.04	~~238.67~~ ~~238.71~~	3.67	~~230.59~~ ~~230.67~~
+50			7.4	31.2
12+00			6.8	31.8
+50			6.1	32.5
13+00			5.4	33.2
+50			4.6	34.0
14+00			3.9	34.7
+50			3.0	35.6
15+00			2.3	36.3
+50			1.6	37.0
16+00			0.6	38.0
IP ROCK	10.62	248.14 ~~248.23~~	1.10	~~237.52~~ ~~237.61~~
+50			9.0	239.1
17+00			7.9	40.2
+50			6.6	41.5
18+00			4.4	43.7
+50			3.9	44.2
19+00			1.2	46.9
+74.57 ℄ PT			0.6	47.5
IP	4.30	~~250.75~~ ~~250.84~~	1.69	~~246.45~~ ~~246.54~~
20+00			3.5	247.3
CK B.M.			1.41	~~249.34~~ ~~249.43~~ = 248.31
20+09 Rim Sewer MH			3.74	247.01
20+09 Inv. 8" Sewer			10.14	240.61

(See CK Levels page 71) (F.H. Has been Moved)

Edge AC 1.2 LT
" " 0.5 LT
" " 0.2 LT
" " 1.2 LT
" " 1.2 LT
" " 2.0 LT
" " 1.9 LT
" " 2.0 LT
" " 2.3 LT
" " 3.0 LT
" " 3.5 LT
" " 4.0 LT
" " 4.0 LT
" " 2.8 LT
" " 1.3 LT
" " 3.9 LT
" " 10.5 LT
" " 15.0 LT
" " 18.0 LT
" " 3.9 LT

Top F.H. SW Cor 68TH & Imperial

(S) Rim Sewer M.H. 14.5 LT 20+09

℄ PROFILE	JAMACHA PIPE LINE			
		~~250.84~~ 250.75		
20+05			3.7	247.10
+50			4.4	46.4
21+00			6.0	44.8
+50			8.6	42.2
+82.20	ⓓ Rim Sewer M.H. Inv. 12"℄8" Sewer		9.71	241.04
			19.40	231.35
22+00			10.1	240.7
+40.75	℄ PT.		10.8	240.0
℄ NAIL		~~248.01~~ ~~248.10~~	10.81	~~239.94~~ ~~240.03~~
	8.07			
+50			8.0	240.0
+61			7.8	40.2
23+00			7.7	40.3
+50			6.5	41.5
24+00			5.9	42.1
+50			5.6	42.4
+76	Ⓦ Rim Sewer M.H. Inv. 12" Sewer		5.47	242.54
			12.7	35.31
25+00			5.1	42.9
+50			4.9	43.1
26+00			4.6	43.4
+50			4.0	44.0
27+00			1.8	46.2
27+09.5 LT	Inlet Top 24" RCP		3.20	44.81
	Inlet Bott 24 RCP		5.60	42.41
27+07.5 RT	OUTLET Top		3.12	44.89
	OUTLET Bott		5.42	42.59
℄ Rock	9.64	~~255.78~~ ~~255.87~~	1.87	~~246.14~~ ~~246.23~~
	Rim of Sewer MH		9.34	246.44
27+26	Inv. of 12" Sewer		16.90	238.88

Edge A.C at ℄

" " 2° LT

" " 7° LT

" " 6.9° LT

" " 1° LT Junction of 12℄6" Sewers - Flows N

" " 1.9° LT

" " 17° LT Toward NE Prop Cor

" " at ℄

" " 5° LT

" " 8° RT

" " 6.9 RT

" " 9° RT

" " 9.0 RT

" " 7.5 RT

" " 7.7 RT

" " 7.0 RT

" " 6.2 RT

℄ PROFILE JAMACHA PIPELINE

27+17		9.5	246.3
+47		8.7	47.1
+50		8.8	47.0
28+00		8.3	47.5
+50		7.6	48.2
29+00		6.3	49.5
+50		4.8	51.0
+85 (Nor)	Rim of Sewer MH	3.31	252.47
	Inv. 12" Sewer	12.30	43.28
30+00		3.6	52.2
+50		2.7	53.1
31+00		1.9	53.9
+50		1.0	54.8
32+00		0.3	55.5
P K & Nail	~~10.75~~ 266.27 266.36	0.26	~~255.52~~ ~~255.61~~
+19 (Nor)	Rim of Sewer MH.	10.06	256.21
	Inv. 12" Sewer	18.60	247.67
+50		9.9	56.4
33+00		9.0	57.3
+50		8.2	58.1
34+00		7.3	59.0
+50		6.4	59.9
+68 (Nor)	Rim of Sewer MH	6.48	259.79
	Inv. 12" Sewer	12.30	251.97
35+00		5.8	60.5
+50		5.1	61.2
36+00		4.3	62.0
+50		3.4	62.9

Edge A.C. 2' ℄

End A.C. 2' ℄

6" Sewer Crosses
12" Sewer 15' RT

Sewer crosses ℄ PIDGEON ST.

12" Sewer 15' RT
6" Sewer Crosses ℄ } FLICKER ST

℄ PROFILE JAMACHA PIPELINE

		~~266.76~~ 266.27		
37+00	Rim - Sewer M.H. Inv. 12" Sewer		2.5	263.8
			1.70	264.57
			9.60	256.67
+50			1.3	265.0
38+00			0.5	265.8
		~~273.75~~		266.14
TP (Rock)	7.61	~~273.84~~	0.13	~~266.29~~
+50			7.3	266.5
39+00			6.5	67.3
+50			5.5	68.3
40+00			4.8	69.0
+50			4.7	69.1
41+00			4.8	69.0
+50			4.8	69.0
42+00			4.8	69.0
+50			4.8	69.0
43+00			5.1	68.7
+50			4.9	68.9
44+00			4.9	68.9
		~~277.68~~		~~267.93~~
TP	9.75	~~277.77~~	5.82	~~268.02~~
	(Inv. 12" Sewer 15' RT)		16.05	261.63
+50			8.9	268.8
45+00			8.7	269.0
+50			8.1	269.6
46+00			7.5	270.2
+15.43			7.0	70.7
				~~271.31~~
TBM			6.37	~~271.20~~
		~~280.44~~		~~275.03~~
TP	5.41	~~280.53~~	2.65	~~275.12~~
		~~284.38~~		~~279.02~~
CK TP	5.36	~~284.47~~	1.42	~~279.11~~ = 277.94 ?
	8.43	~~290.58~~	2.32	~~282.96~~
CK TP		~~290.68~~	2.64	~~285.15~~ = 287.81
				~~287.94~~
				~~287.86~~

Sewer M.H 15' RT 37+37.5 (Street to North is closed)

(See) Rim of Sewer M.H RT 15' 44+24 4" WATER 20.5 RT

Private Surveyors on Sub-division in this area, say their levels are from Spike in Pole SE Cor Lisbon St & Jamacha Road. which check reasonably Close.

2" I.P. 38.72 South

(MARKED WRONG!)

NAIL IN TELE Pole 200' E END of LINE

" " " " 200' E " " "

CHECK LEVELS

BM (City)	10.80	232.07		221.27	
Ck BM (City)	4.57	235.05	1.59	230.48	= 230.40
T.P.	8.07	238.72	4.40	230.65	
T.P.	12.70	250.27	1.15	237.57	
Ck BM (City)			0.88	249.39	= 248.31
			1st Run	249.43	See pg 67

This .04 could be used to reduce difference in the Elev. 287.86 = 287.81

See pg. 71

REDUCED & CHECKED BY EWE. 7/10/50

B.P. SE Cor 65th & Imperial

L & T. W. Prop Woodman & Imperial

Top F.H. SW. Cor 68th Imperial
Evidently has been disturbed as to Elev.

{ Filling Station operator says F.H. Location is very undesirable and has been hit and knocked over several times.

JUNE 30 1950
BEATTY ✓
SHIPMAN ✓

PROFILE OF LINE - 90° RT (@ T. SOUTH)
FROM JAMACHA ROAD to SKYLINE DRIVE
M29 Brg. S 0°00'

STA	HORIZ ∠	STADIA DIST	VERT ∠	ROD	ELEV.
46+15.43	90° RT = Δ			+5.3 H.I. 276.0	270.7
		30.0	0°00'	3.5	262.5
		185.0	0°00'	9.6	266.4
		195.0	0°00'	13.5	262.5
		205.0	0°00'	7.4	268.6
		370.0	0°00'	2.2	273.8
		425.0	+ 1°05'	+8.0 -9.1	-1.1 274.9
		13.00 4.70 830.0 Cor 828.3	+ 2°38'	+38.1 -8.8	+29.3 305.3
				+5.2 H.I. 310.5	
A.		100.0	—	2.6	307.9
		13.00 4.30 870.0 Cor. 851.5	+ 8°24'	+125.7 -8.7	+117.0 427.5
				+5.1 H.I. 432.6	
B.		82.0	+ 3°03'	+2.4	+2.0 434.6
		7.00 2.95 405.0 Cor 393.0	+ 3°42'	+26.1 -5.0	+21.1 453.7
				+5.1 H.I. 458.8	
C		5.00 2.62 238.0	+ 0°40'	+2.8 -4.3	-1.5 457.3
				+5.2 H.I. 462.5	
D		310.0	0°00	-4.5	458.0
		12.3 3.0 330.0	- 1°15'	-7.2 -10.7	-17.9 444.6
Total Dist.		2640.8			

Bottom of creek 6' wide.

40' LT Bottom of gully 15' Lower than Sta
200± LT Top of hill 40' Higher " "
200± RT Top of hill 50' Higher " "

FENCE CROSSES 90°±
80' RT Top hill 15' higher than Sta
75' LT " 15' lower " "
200' LT Bottom gully 50' lower " "

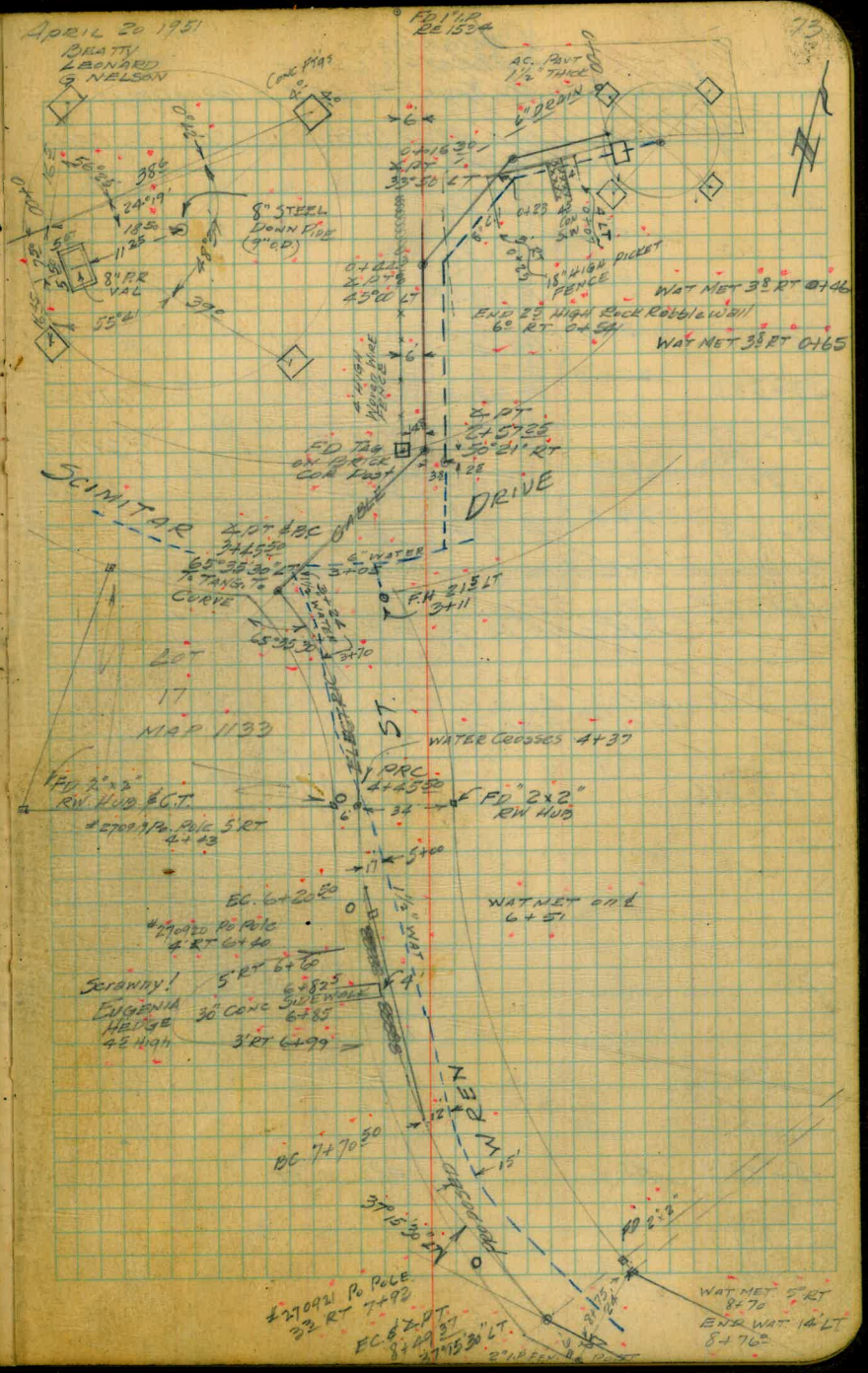
Top of Ridge
90° RT 125' NOR ENCANTO TANK

on ridge 250' LT 9' higher
head of gully 350' RT 75' lower

Edge of Cut Bank
Edge of Conc Pavt Nor side Skyline drive

℄ ALIGNMENT FOR ELECTRIC CABLE FROM ENCANTO TANK TO 65TH ℄ BROADWAY

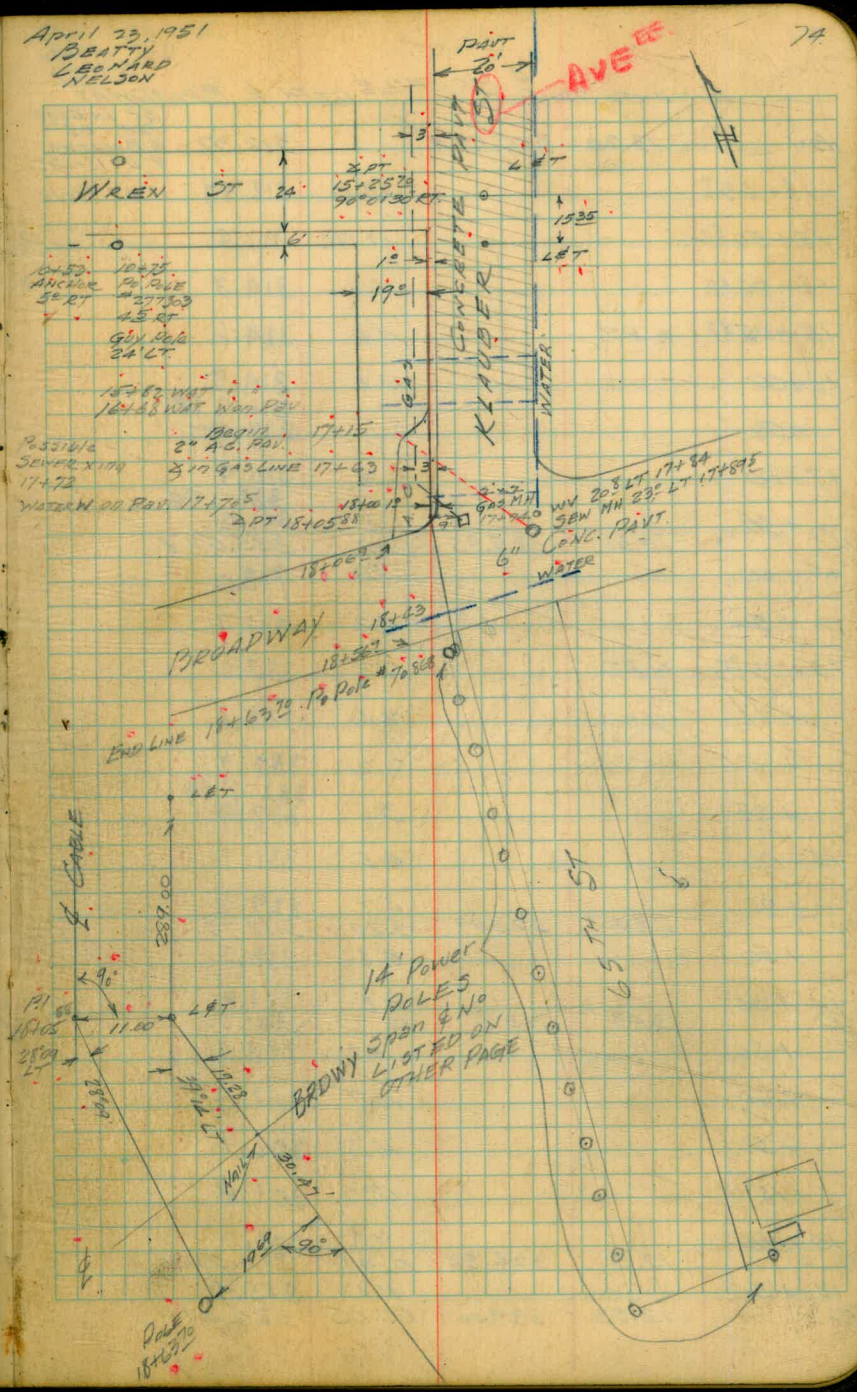
8+49.37	EC ℄ & PT		
7+70.50	BC	CHORD USED TO FLATTEN PORTION OF CURVE TO M133 HEDGE	Δ = 54°03'20" LT R = 594.00 Dap 27°01'60" L = 403.46
6+20.50	EC		
4+45.50	PRC		Δ = 38°57' RT. R = 106.00 Def. 19°28'30" L = 100'
3+45.5	P.I. & BC. (To RT.)		65°35'30 LT To Tang To Curve
2+57.25	P.I.		50°21 RT
0+44.3	P.I.		45°00 LT
0+16.30	P.I.		33°50' LT.
0+00			



℄ ALIGNMENT FOR ELECTRIC CABLE FROM ENCANTO TANK TO 65TH & BROADWAY

STATION	SPAN	POLE NO	STATION	SPAN	POLE NO
31+57.8		P-70863			
	170.5				
29+87.3		P-70864			
	141.1				
28+46.2		P-70879			
	128.3				
27+17.9		P 70109			
	139.3				
25+78.6		P70865			
	220.3				
23+58.3		P 70866	35+85.9		277350
	153.0			68.0	
22+05.3		JP 171267	35+17.9		P 277349
	123.0			81.0	
20+82.3		P 70867	34+36.9		70858
	111.5			114.5	
19+70.8		P 77693	33+22.4		P 70859
	107.1			164.6	
18+63.70	END OF LINE E SIDE PO. POLE #P 70868				
	18+56.2 Edge Pavt.				
	18+06.2 Edge Pavt				
18+05.88	P.I.		28°09' LT		Edge Pavt 05 LT
15+25.70	P.I.		90°01'30" RT		

April 23, 1951
BEATTY
LEONARD
NELSON



April 23 1951
BEATTY
LEONARD
NELSON

ENCANTO TANK TO & PROFILE 65TH & BROADWAY

BM.	13.20	325.57 ✓		312.37	BP ON Edge Pavt. 65th & BROADWAY 9' LT 18+63 ✓
18+63			13.0	312.57	AT Pole
18+56.80			12.96	312.6	Edge Conc Pav.
18+06.80			11.26	314.3	" " "
18+05.88	℄ PT		11.0	314.4	
18+00			11.1	314.5	
				316.9 EE	
+50			8.7	~~314.9~~	
17+00			5.2	320.4	
				324.2 EE	
+50			1.4	~~321.2~~	
PI	10.38	335.95 ✓	0.00	325.57 ✓	
16+00			7.9	328.0	
+50			4.2	331.9	
15+25.70	℄ PT.		2.3	333.6	
+21			2.6	333.3	
+15			2.2	333.7	
				332.9 EE	
+08			3.0	~~332.9~~	
15+00			4.5	331.4	
+91			6.7	329.2	
PI	0.34	323.09	13.20	322.75	14+91 PI. Pole 45 Rt
+50			4.8	318.3	
14+00			11.3	311.8	
PI	3.48	313.80	12.77	310.32	
+80			5.2	308.6	
+60			10.9	302.9	
+50			11.7	302.1	
+18			12.2	301.6	
13+00			9.8	304.0	
PI	13.13	326.52	0.41	313.39	
12+50			11.1	315.4	
PI	12.53	339.00	00.05	326.47	

April 23, 1951
Same Party

℄ PROFILE

ENCANTO TANK TO 65TH ℄ BROADWAY

		339.00		
12+00			11.6	327.4
			0.4	338.6
+50	13.14	351.90	0.24	338.76
11+00			5.2	346.7
			0.3	351.6
+50 ROCK.	12.33	364.10	0.13	351.77 K
10+00			9.4	359.7
+50			7.7	356.4
9+00			7.5	356.6
+75			8.6	355.5
8+49±	℄ PT		10.3	353.8
+45S			10.0	354.1
+20S			8.5	355.6
7+95S			6.9	357.2
+70S			5.6	358.5
+45S			3.1	361.0
+20S			1.4	362.7 J
	13.29	376.33	1.06	363.02 NE COR WALK
6+95S			11.0	365.3
+70S			8.1	368.2
+45S			6.1	370.2
+20S			4.3	372.0
5+95S			2.0	374.3
			0.0	376.3
+70S ROCK	13.27	389.47	0.13	376.20
+45S			10.5	379.0
+20S			6.5	383.0
4+95S			4.1	385.4
			3.0	386.5
+82 ROCK	12.53	401.61	0.39	389.08

℄ PROFILE

ENCANTO TANK TO 65TH & BROADWAY

		401.61		
4+70.5			12.1	389.5
4+58			11.9	389.7
+45.5	PRC.		10.3	391.3
+20.5			7.0	394.6
3+95.5			3.0	398.6
H ROCK	12.99	414.30	0.31	401.31
3+70.5			12.0	402.3
+61			12.0	402.3
+45.5	BC & PT.		10.4	403.9
+25			4.5	409.8
+07			0.6	413.7
3+00			0.0	414.3
H ROCK	13.14	427.38	0.06	414.24
SET TBM			10.69	416.69 TOP. F.H SECOR SCHNITTER & NIVEL
+79			12.5	414.9
+75			8.8	416.6
+62			6.5	420.9
2+57.25	℄ PT.		5.9	421.5
+50			4.5	422.9
TP ROCK	13.16	440.42	0.12	427.26
+39			13.2	427.2
2+00			6.5	433.9
TP	13.14	453.47	0.09	440.33
+50			8.2	445.3
+25		465.54 EE	2.9	450.6
H	12.19	~~465.56~~	0.12	~~453.35~~ ~~453.37 EE~~ 453.35 EE
1+00			10.3	455.[illegible] EE
+50			5.1	460.[illegible] EE
0+44.3			4.8	460.[illegible] EE

April 24, 1951
Same party

℄ PROFILE
℄ CHECK LEVELS

		465.54		
0+16.3			4.1	461.4 on AC Pav.
0+00			4.2	461.3 on AC Pav.
CK BM.			2.61	462.93 = □ on SE Cor Conc Val Box
"	2.15	465.08		
"	0.75	452.61	13.22	451.86
"	0.17	439.66	13.12	439.49
"	0.14	426.56	13.24	426.42
CK TBM on FH.			9.86	416.70 = 416.69
"	0.09	413.48	13.17	413.39
"	0.28	400.53	13.23	400.25
"	0.15	387.39	13.29	387.24
"	0.39	374.92	12.86	374.53
"	1.04	363.33	12.63	362.29
"	0.51	350.62	13.22	350.11
"	0.14	337.43	13.33	337.29
"	0.32	324.77	12.98	324.45
CK BM			12.31	312.46 = 312.37 BP on Conc Pour, 9'27 184+63.70

Jamacha 12" C.I.P.
Profile (6)

B.M.	4.35	225.62			221.27	CUT
0+00			5.1	220.5	214.8	5.7
0+50			5.0	220.6	215.8	5.8
1+00			4.8	220.8	215.8	5.0
1+50			4.7	220.9	216.3	4.6
2+00			4.5	221.1	216.8	4.3
2+50			4.0	221.6	217.3	4.3
3+00			3.1	222.5	217.8	4.7
3+15			2.8	222.8	218.0	4.8
3+50			2.1	223.5	218.9	4.6
4+00			1.2	224.4	220.0	4.4
T.P.	10.80	234.60	1.82	223.80		
4+50			9.1	225.5	221.1	4.4
5+00			8.0	226.6	222.1	4.5
5+50			7.0	227.6	223.2	4.4
6+00			6.1	228.5	224.3	4.2
6+15			5.9	228.7	224.5	4.2
6+50			5.6	229.0	224.6	4.4
7+00			5.4	229.2	224.8	4.4
7+50			5.2	229.4	225.0	4.4
8+00			5.2	229.4	225.1	4.3
8+50			5.0	229.6	225.3	4.3
9+00			4.9	229.7	226.6	4.2
9+50			4.6	230.0	225.7	4.3
10+00			4.4	230.2	226.0	4.2

King Leonard Williams 6-12-51 HOT 79

Brass P. S.E. Cor 65 & Imperial

Profile (E) Jamaica Rd. 12" C.I.P.

234.60

10+50			4.1	230.5	226.3	4.2
11+00			3.7	230.9	226.5	4.4
11+50			3.3	231.3	227.3	4.0
12+00			2.7	231.9	228.0	3.9
T.P.	12.38	244.17	2.81	231.79		
12+50			11.5	232.7	228.7	4.0
13+00			10.8	233.4	229.5	3.9
13+50			9.8	234.3	230.2	4.1
14+00			9.2	235.0	231.0	4.0
14+50			8.4	235.8	231.7	4.1
15+00			7.7	236.5	232.5	4.0
15+50			6.8	237.4	233.3	4.1
16+00			6.0	238.2	234.0	4.2
16+50			4.8	239.4	234.9	4.5
17+00			3.6	240.5	235.9	4.6
17+50			2.3	241.9	236.8	5.1
17+87			1.0	243.2	237.5	5.7
18+00			0.7	243.5	238.0	5.6
T.P.	8.86	251.07	1.96	242.31		
18+50			6.6	244.5	239.9	4.6
19+00			5.2	246.9	241.8	4.1
TBM.	0.70	250.04	1.69	249.38	249.34	
19+50			3.0	247.0	241.8	5.2
Δ 19+745			2.6	247.4	241.8	5.4
20+00			2.9	247.1	241.8	5.3

King
Leonard
Williams

6-12-51

80

Top Fl. 689 Imperial

250.04

20+50	3.7	246.3	2418	4.5
			2396	5.1
21+00	5.3	244.7	2378	4.8
21+50	7.8	242.2	2375	4.7
			2380	4.2
22+00	9.4	240.6	2360	4.6
			2376	3.6
			2356	4.3
22+40.75 BK	10.1	239.9	2362	3.7
			2356	4.2
22+40.75	10.2	239.8	2362	3.6
T.P.E No. 1 Δ	10.11	239.93	239.94	

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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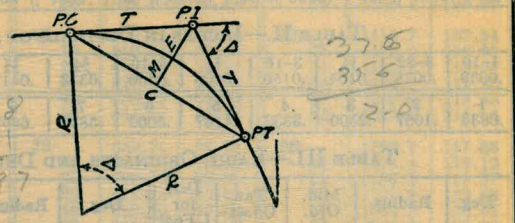

CURVE FORMULAS

Radius=R=$\frac{50}{\text{sin. } D/2}$(1) Degree of Curve=D and sin. $\frac{D}{2}=\frac{50}{R}$ (2)

Tangent=T=R tan $\frac{\Delta}{2}$ (3) Length of Curve=L=100$\frac{\Delta}{D}$ (4)

Middle ordinate=M=R(1—cos. $\frac{\Delta}{2}$) (5)=R vers $\frac{\Delta}{2}$ (6)

External=E=T tan $\frac{\Delta}{4}$-(7)=R ÷ cos. $\frac{\Delta}{2}$—R(8)=R exsec $\frac{\Delta}{2}$(9)

Long Chord=C=2 R sin. $\frac{\Delta}{2}$ (10) Δ=Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=414.49 ft. From Table V correction=.36 or T=414.85 ft. P. C.=Sta. P.I.—T=157 +45.50. Also from (4) L=746.00 and P. T.=Sta. P. C.+L=164+91.50.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.=7.27 ft. Distance=158—Sta. P. C.=54.50, hence offset=7.27 $(54.50 \div 100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2 \div (2 \times 688.26)$=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′ +8° 20′ ÷2=6° 26.2′, etc.

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=115.27 and from Table V correction=.10 or E=115.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.

Table I.—Minutes in Decimals of a Degree.

1′	.0167	11′	.1833	21	.3500	31′	.5167	41′	.6833	51′	.8500
2	.0333	12	.2000	22	.3667	32	.5333	42	.7000	52	.8667
3	.0500	13	.2167	23	.3833	33	.5500	43	.7167	53	.8833
4	.0667	14	.2333	24	.4000	34	.5667	44	.7333	54	.9000
5	.0833	15	.2500	25	.4167	35	.5833	45	.7500	55	.9167
6	.1000	16	.2667	26	.4333	36	.6000	46	.7667	56	.9333
7	.1167	17	.2833	27	.4500	37	.6167	47	.7833	57	.9500
8	.1333	18	.3000	28	.4667	38	.6333	48	.8000	58	.9667
9	.1500	19	.3167	29	.4833	39	.6500	49	.8167	59	.9833
10	.1667	20	.3333	30	.5000	40	.6667	50	.8333	60	1.0000

Table II.—Inches in Decimals of a Foot.

1-16	3-32	⅛	3-16	¼	5-16	⅜	½	⅝	¾	⅞
.0052	.0078	.0104	.0156	.0208	.0260	.0313	.0417	.0521	.0625	.0729

1	2	3	4	5	6	7	8	9	10	11
.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167

Table III.—Radii, Ordinates and Deflections.

Deg.	Radius	Mid. Ord.	Tan. Offset	Def. for 1 Foot	Deg.	Radius	Mid. Ord.	Tan Offset	Def. for 1 Foot
0° 10′	34377.5	.036	.145	0.05′	7°	819.02	1.528	6.105	2.10′
20	17188.8	.073	.291	0.10	20′	781.84	1.600	6.395	2.20
30	11459.2	.109	.436	0.15	30	764.49	1.637	6.540	2.25
40	8594.42	.145	.582	0.20	40	747.89	1.673	6.685	2.30
50	6875.55	.182	.727	0.25	8	716.78	1.746	6.976	2.40
1	5729.65	.218	.873	0.30	20	688.16	1.819	7.266	2.50
10	4911.15	.255	1.018	0.35	30	674.69	1.855	7.411	2.55
20	4297.28	.291	1.164	0.40	40	661.74	1.892	7.556	2.60
30	3819.83	.327	1.309	0.45	9	637.28	1.965	7.846	2.70
40	3437.87	.364	1.454	0.50	20	614.56	2.037	8.136	2.80
50	3125.36	.400	1.600	0.55	30	603.80	2.074	8.281	2.85
2	2864.93	.436	1.745	0.60	40	593.42	2.110	8.426	2.90
10	2644.58	.473	1.891	0.65	10	573.69	2.183	8.716	3.00
20	2455.70	.509	2.036	0.70	30	546.44	2.292	9.150	3.15
30	2292.01	.545	2.181	0.75	11	521.67	2.402	9.585	3.30
40	2148.79	.582	2.327	0.80	30	499.06	2.511	10.02	3.45
50	2022.41	.618	2.472	0.85	12	478.34	2.620	10.45	3.60
3	1910.08	.655	2.618	0.90	30	459.28	2.730	10.89	3.75
10	1809.57	.691	2.763	0.95	13	441.68	2.839	11.32	3.90
20	1719.12	.727	2.908	1.00	30	425.40	2.949	11.75	4.05
30	1637.28	.764	3.054	1.05	14	410.28	3.058	12.18	4.20
40	1562.88	.800	3.199	1.10	30	396.20	3.168	12.62	4.35
50	1494.95	.836	3.345	1.15	15	383.07	3.277	13.05	4.50
4	1432.69	.873	3.490	1.20	30	370.78	3.387	13.49	4.65
10	1375.40	.909	3.635	1.25	16	359.27	3.496	13.92	4.80
20	1322.53	.945	3.718	1.30	30	348.45	3.606	14.35	4.95
30	1273.57	.982	3.926	1.35	17	338.27	3.716	14.78	5.10
40	1228.11	1.018	4.071	1.40	18	319.62	3.935	15.64	5.40
50	1185.78	1.055	4.217	1.45	19	302.94	4.155	16.51	5.70
5	1146.28	1.091	4.362	1.50	20	287.94	4.374	17.37	6.00
10	1109.33	1.127	4.507	1.55	21	274.37	4.594	18.22	6.30
20	1074.68	1.164	4.653	1.60	22	262.04	4.814	19.08	6.60
30	1042.14	1.200	4.798	1.65	23	250.79	5.035	19.94	6.90
40	1011.51	1.237	4.943	1.70	24	240.49	5.255	20.79	7.20
50	982.64	1.273	5.088	1.75	25	231.01	5.476	21.64	7.50
6	955.37	1.309	5.234	1.80	26	222.27	5.697	22.50	7.80
10	929.57	1.346	5.379	1.85	27	214.18	5.918	23.35	8.10
20	905.13	1.382	5.524	1.90	28	206.68	6.139	24.19	8.40
30	881.95	1.418	5.669	1.95	29	199.70	6.360	25.04	8.70
40	859.92	1.455	5.814	2.00	30	193.18	6.583	25.88	9.00

Note. Chord Deflection=2 times tangent deflection.

Table IV.—Tangents and Externals to a 1° Curve.

Central Angle	Tangent	External	Central Angle	Tangent	External	Central Angle	Tangent	External
1°	50.00	.22	11°	551.70	26.50	21°	1061.9	97.57
10′	58.34	.30	10′	560.11	27.31	10′	1070.6	99.16
20	66.67	.39	20	568.53	28.14	20	1079.2	100.75
30	75.01	.49	30	576.95	28.97	30	1087.8	102.35
40	83.34	.61	40	585.36	29.82	40	1096.4	103.97
50	91.68	.73	50	593.79	30.68	50	1105.1	105.60
2	100.01	.87	12	602.21	31.56	22	1113.7	107.24
10	108.35	1.02	10	610.64	32.45	10	1122.4	108.90
20	116.68	1.19	20	619.07	33.35	20	1131.0	110.57
30	125.02	1.36	30	627.50	34.26	30	1139.7	112.25
40	133.36	1.55	40	635.93	35.18	40	1148.4	113.95
50	141.70	1.75	50	644.37	36.12	50	1157.0	115.66
3	150.04	1.96	13	652.81	37.07	23	1165.7	117.38
10	158.38	2.19	10	661.25	38.03	10	1174.4	119.12
20	166.72	2.43	20	669.70	39.01	20	1183.1	120.87
30	175.06	2.67	30	678.15	39.99	30	1191.8	122.63
40	183.40	2.93	40	686.60	40.99	40	1200.5	124.41
50	191.74	3.21	50	695.06	42.00	50	1209.2	126.20
4	200.08	3.49	14	703.51	43.03	24	1217.9	128.00
10	208.43	3.79	10	711.97	44.07	10	1226.6	129.82
20	216.77	4.10	20	720.44	45.12	20	1235.3	131.65
30	225.12	4.42	30	728.90	46.18	30	1244.0	133.50
40	233.47	4.76	40	737.37	47.25	40	1252.8	135.35
50	241.81	5.10	50	745.85	48.34	50	1261.5	137.23
5	250.16	5.46	15	754.32	49.44	25	1270.2	139.11
10	258.51	5.83	10	762.80	50.55	10	1279.0	141.01
20	266.86	6.21	20	771.29	51.68	20	1287.7	142.93
30	275.21	6.61	30	779.77	52.89	30	1296.5	144.85
40	283.57	7.01	40	788.26	53.97	40	1305.3	146.79
50	291.92	7.43	50	796.75	55.13	50	1314.0	148.75
6	300.28	7.86	16	805.25	56.31	26	1322.8	150.71
10	308.64	8.31	10	813.75	57.50	10	1331.6	152.69
20	316.99	8.76	20	822.25	58.70	20	1340.4	154.69
30	325.35	9.23	30	830.76	59.91	30	1349.2	156.70
40	333.71	9.71	40	839.27	61.14	40	1358.0	158.72
50	342.08	10.20	50	847.78	62.38	50	1366.8	160.76
7	350.44	10.71	17	856.30	63.63	27	1375.6	162.81
10	358.81	11.22	10	864.82	64.90	10	1384.4	164.86
20	367.17	11.75	20	873.35	66.18	20	1393.2	166.95
30	375.54	12.29	30	881.88	67.47	30	1402.0	169.04
40	383.91	12.85	40	890.41	68.77	40	1410.9	171.15
50	392.28	13.41	50	898.95	70.09	50	1419.7	173.27
8	400.66	13.99	18	907.49	71.42	28	1428.6	175.41
10	409.03	14.58	10	916.03	72.76	10	1437.4	177.55
20	417.41	15.18	20	924.58	74.12	20	1446.3	179.72
30	425.79	15.80	30	933.13	75.49	30	1455.1	181.89
40	434.17	16.43	40	941.69	76.86	40	1464.0	184.08
50	442.55	17.07	50	950.25	78.26	50	1472.9	186.29
9	450.93	17.72	19	958.81	79.67	29	1481.8	188.51
10	459.32	18.38	10	967.38	81.09	10	1490.7	190.74
20	467.71	19.06	20	975.96	82.53	20	1499.6	192.99
30	476.10	19.75	30	984.53	83.97	30	1508.5	195.25
40	484.49	20.45	40	993.12	85.43	40	1517.4	197.53
50	492.88	21.16	50	1001.7	86.90	50	1526.3	199.82
10	501.28	21.89	20	1010.3	88.39	30	1535.3	202.12
10	509.68	22.62	10	1018.9	89.89	10	1544.2	204.44
20	518.08	23.38	20	1027.5	91.40	20	1553.1	206.77
30	526.48	24.14	30	1036.1	92.92	30	1562.1	209.12
40	534.89	24.91	40	1044.7	94.46	40	1571.0	211.48
50	543.29	25.70	50	1053.3	96.01	50	1580.0	213.86

2.4
7
22 / 168 (.763
154
140
132
80

162.13 × 7.45 = 154.68

162.13 × 1.025 = 151.88

5.18
.365
881

27.02
6

2.27
5
2.77
587
8.64
33
897

2" I.P.
69 lbs @ 1/mp.

253.58

Please Return to
City of San Diego Water Dept.
Room 903 Civic Center

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

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