

705

EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

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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CITY OF SAN DIEGO
UNIVERSITY NE COR
368.75
17017
6 1/2 RT STA 46+00
368.71

BRASS PLUG 30 SIDE
APP 35 WEST CITY LIMIT

Please Return to
City of San Diego Water Dept.
Room 268 Civic Center
Telephone Main 5161

217 56

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.

Notes

Date	Index	By	Date	Map#	By
6/11	22	W.D.			

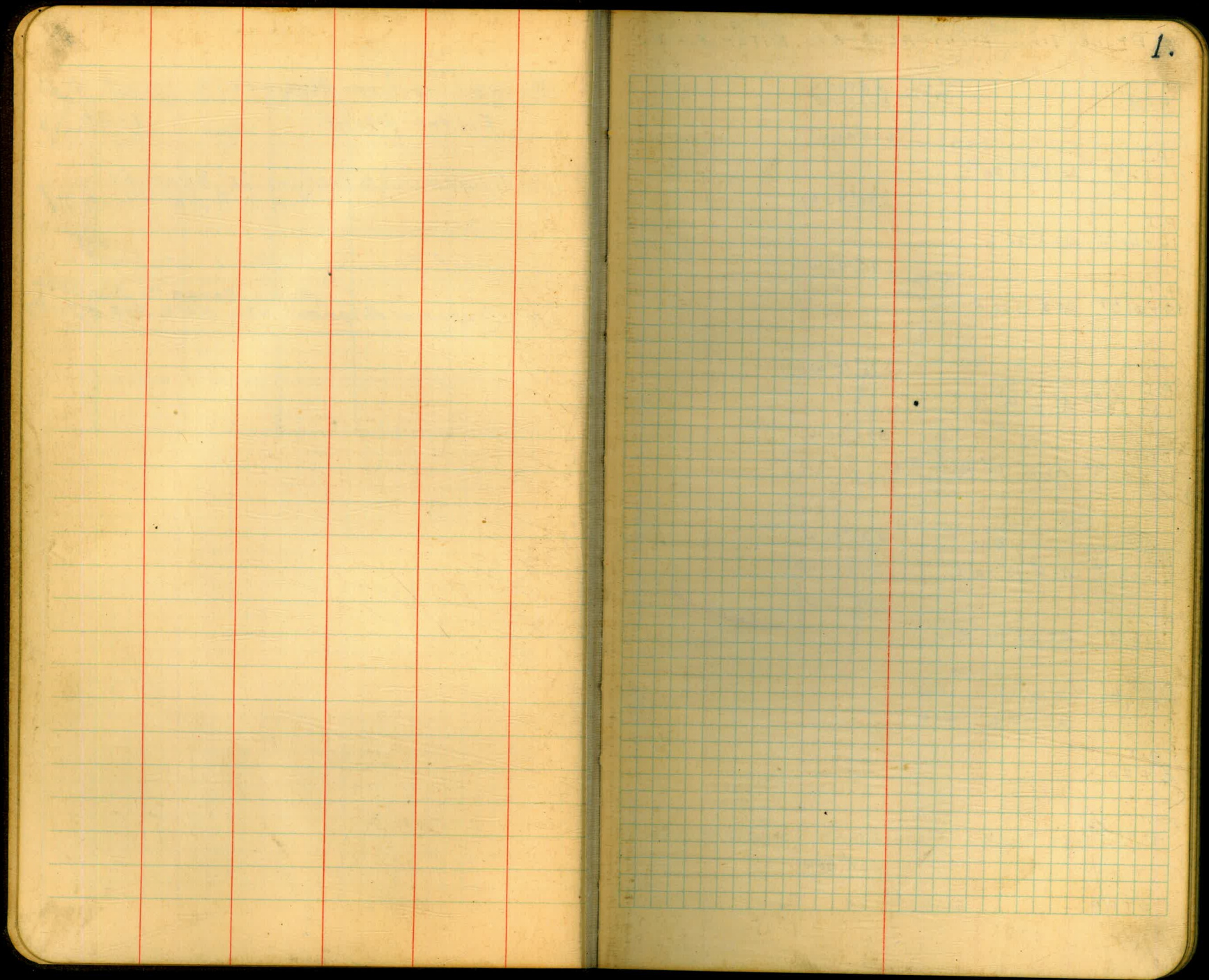
Plotted or
reduced

Brine Line from Alvarado
Filter Plant.

1-20 ✓

Alignment & Profile - 21" Brine Line
Murray Blvd at Alvarado 21 ✓

Alignment Brine Line To POLICE PISTOL RANGE ^{alice} 65-70 ✓
" " " PISTOL RANGE TO END ^{alice} OF PROPOSED ALIGNMENT NEAR NAT'L AVE ✓ 70-77



1.

Brine line ^{loc.} from ALVARADO FILTER PLANT

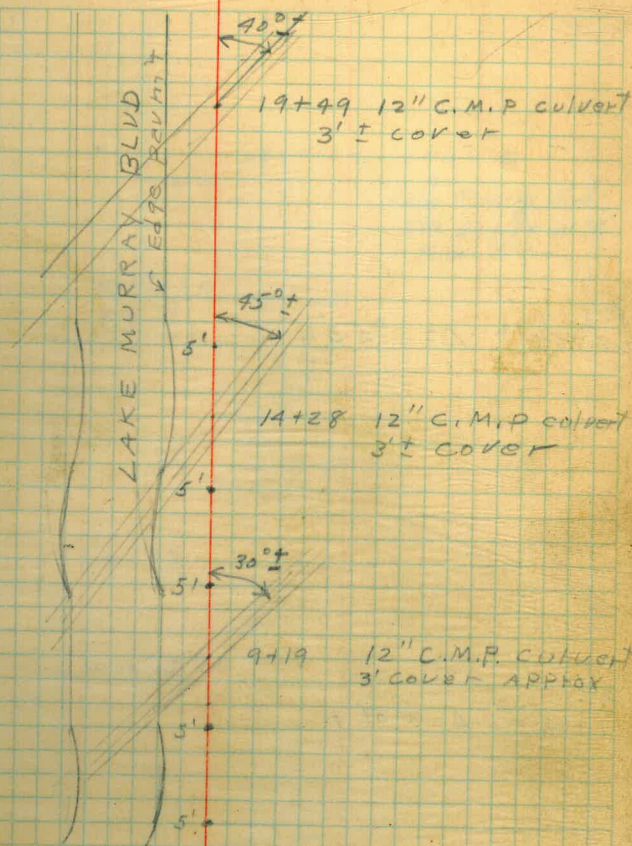
8-19-46
clear - HOT

Nelson
LEONARD
Eaton

2

STA	Magnetic Bearing
P.I. 17+87 ⁸⁶	S 30° 00' W
A = 4° 39' 30" L	
P.I. 16+20 ³⁵	S 39° 45' W
A = 7° 35' L	
P.I. 19+51 ²⁹	S 41° 45' W
A = 3° 18' 30" R	
P.I. 13+53 ⁸²	S 38° 15' W
A = 6° 16' R	
P.I. 12+33 ²⁰	S 32° 00' W
A = 2° 45' R	
P.I. 8+83 ³⁵	S 30° 00' W
A = 6° 13' 30" L	
P.I. 7+68 ⁰³	S 36° 00' W
A = 65° 01' R	
P.O.T. 7+39 ²	
P.O.T. 5+70	
P.O.T. 4+41 ⁵⁶	
0+00	N 29° 20' W

VOID! See Page 21



NOTE
All P.O.T & P.I points
are SPIRES

= Southern Point North-South Layout Axis.

= Center Point Layout Axis

28+93

P.I
28+59¹² $\Delta = 4^{\circ} 53' L$

S 22° 00' W

P.I
27+68³² $\Delta = 3^{\circ} 01' R$

S 30° 00' W

P.I
24+81²⁰ $\Delta = 3^{\circ} 14' L$

S 27° 30' W

2" PIPE
Guard Rail → 4' 29+14.5

CONC ← 8' →

Bridge
conc ← 6' →
with walls

28+90 ← creek =

Lake Murray Blvd.
Sta 50+80 W. 1/4.
From Map.



28+00 Gravel Road

24+85

5'

BLACK
TOP CONNECTICUT AVE

23+84

P.I
38+18⁰⁵ $\Delta = 7^{\circ} 22' 30'' R$ S 11° 30' W

S 2° 30' W

P.I
37+05⁴⁵ $\Delta = 9^{\circ} 42' R$

S 2° 15' E

P.I
34+38⁸⁵ $\Delta = 17^{\circ} 15' L$

S 15° 30' W

P.I
33+19⁸³ $\Delta = 7^{\circ} 53' L$

S 23° 30' W

P.I
30+10⁷² $\Delta = 2^{\circ} 15' 30'' R$

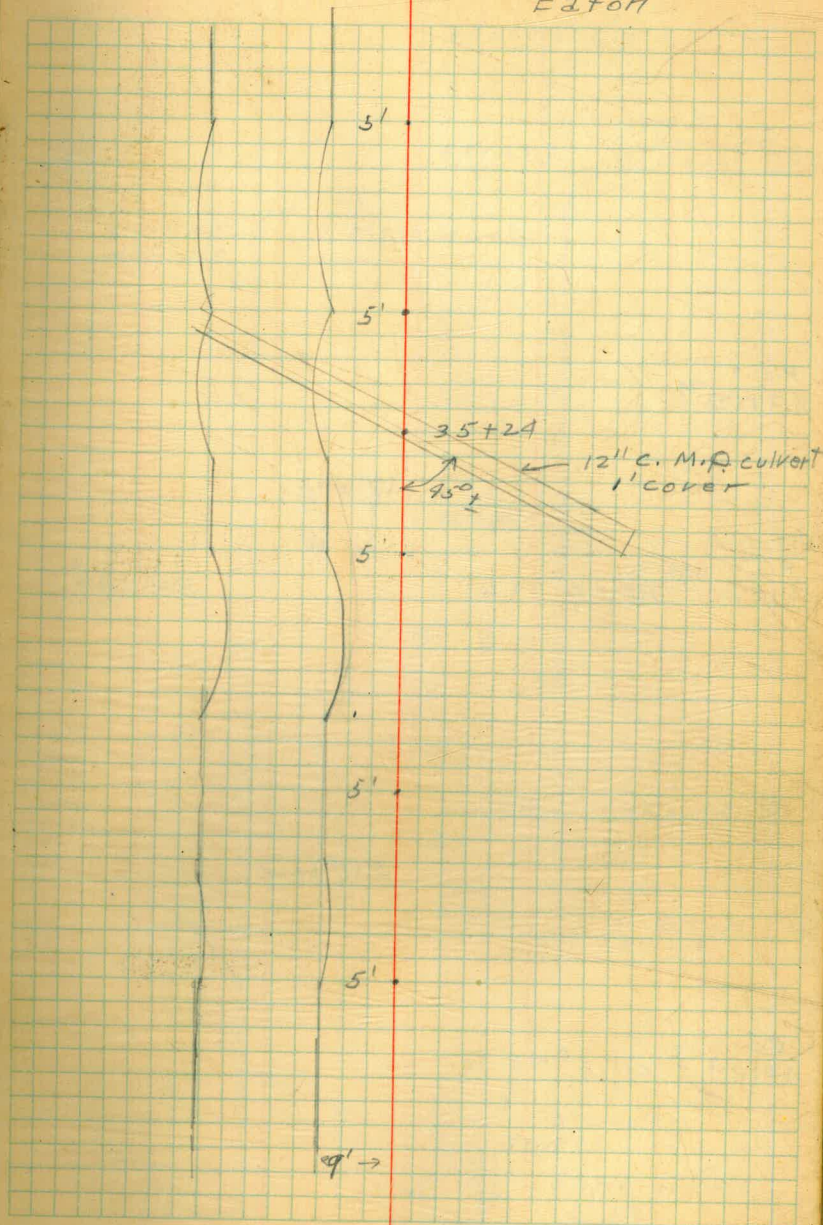
S 18° 30' W

P.I
29+25⁷⁷ $\Delta = 3^{\circ} 21' 30'' L$

8-20-46
clear - very hot

Nelson
Leonard
Eaton

4



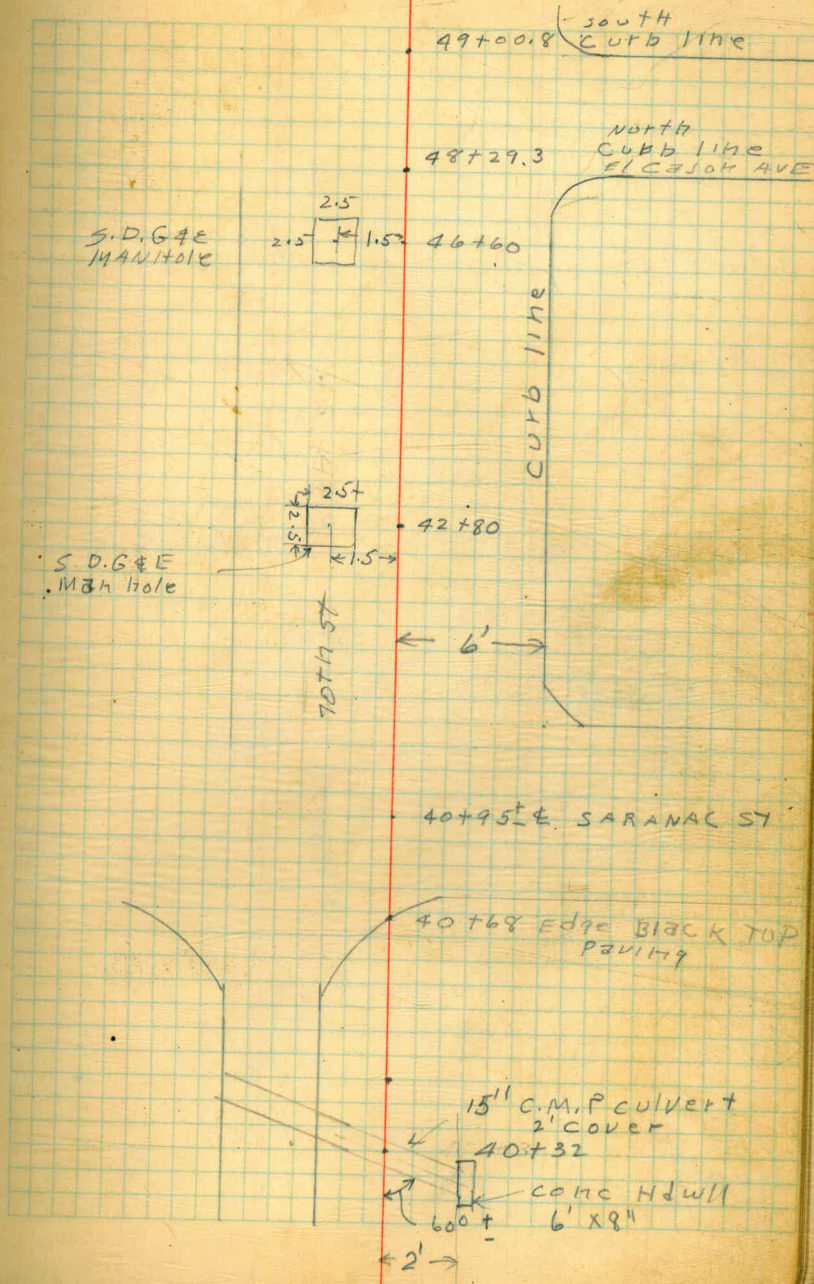
P.O.T
44+00⁹⁴

P.I
41+25⁵³ $\Delta = 20^\circ 34' L$

P.I
40+54⁰³ $\Delta = 6^\circ 48' R$

S 3° 00' E

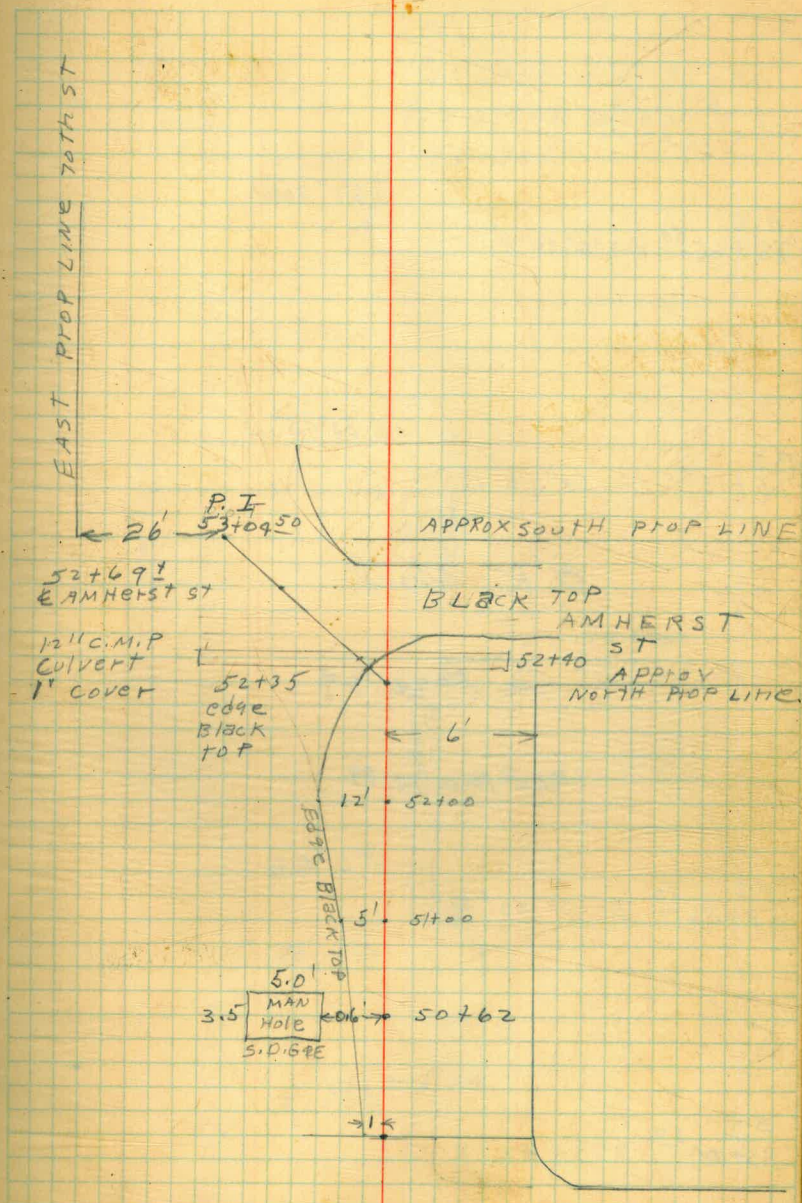
S 17° 30' W



P.I.
52+28.90 $\Delta = 38^{\circ} 12' L$

S. $39^{\circ} 36' E$

P.O.T
49+14.75



8-21-46
clear-HOT

Nelson
Leohard
EATON

7.

P.I
78+65⁵⁰ $\Delta=14^{\circ}26' R$

S 67° 30' W

E.I
75+15⁰⁰ $\Delta=53^{\circ}56' R$

S 53° 15' W

↑
O.K. Ahead

See Page 39

↓
Cont. from pg. 39

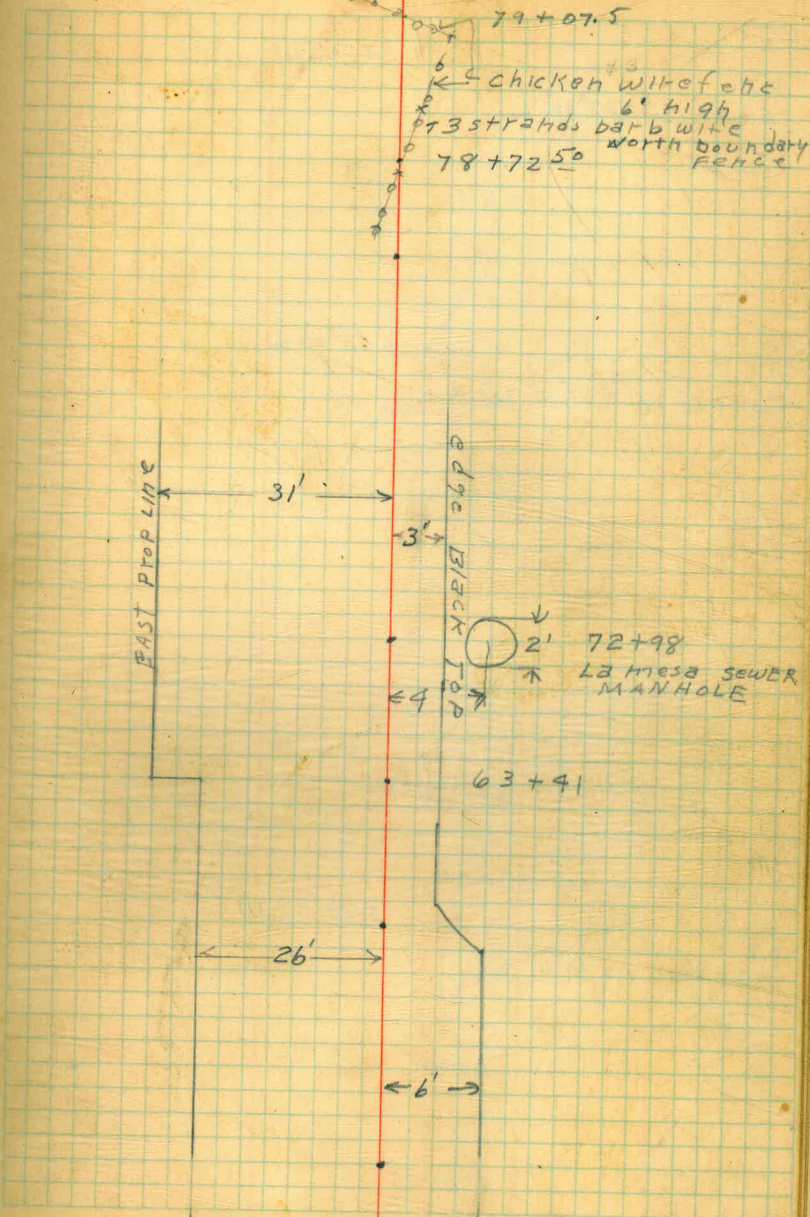
P.I
58+56¹⁰ $\Delta=5^{\circ}37' R$

S 0° 30' E

P.I
53+09⁵⁰ $\Delta=34^{\circ}42' R$

S 5° 00' E

VOID



P.I
85+04 $\Delta = 23^{\circ}36' L$

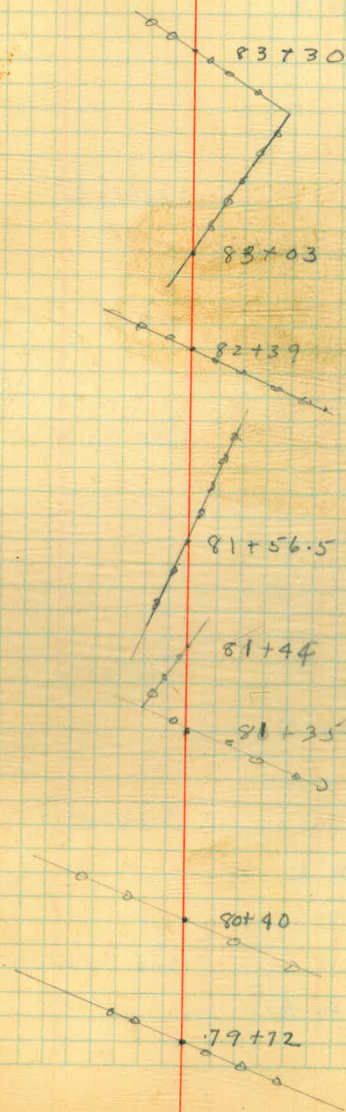
540°45W

P.I
83+00 $\Delta = 31^{\circ}02'30'' R$

565°00W

P.I
80+98 $\Delta = 34^{\circ}27' L$

533°45W



All Fences
shown are
woven wire
chickens fence
6' HIGH

P.I
99+30 $\Delta=17^{\circ}33' R$

S. 42° 00' W

P.I
97+56⁰⁰ $\Delta=26^{\circ}32'30'' L$

S 24° 30' W

P.I
94+44⁰⁰ $\Delta=12^{\circ}29' L$

S 50° 45' W

P.I
92+03⁵⁰ $\Delta=25^{\circ}04' R$

S 62° 00' W

P.I 88+94⁰⁰ $\Delta=27^{\circ}30' L$

S 38° 15' W

P.I
86+88 $\Delta=25^{\circ}06' R$

S 65° 30' W

172 - 12

P.I.
109+63.7 $\Delta = 86^{\circ} 08' R$
17.5
26.2

S 99° 00' W

P.O.T
109+22

P.O.T 57
106+25

S 3° 15' W

P.I.
102+35.55 $\Delta = 12^{\circ} 17' L$

S 15° 30' W

P.I.
100+86.00 $\Delta = 26^{\circ} 39' L$

8-30-46
1621-170T

Nelson
Leonard
Eaton

101

← 17.5' →

← La Mesa
sewer

109+46.2

La Mesa sewer

109+39

South bank
sewer ditch

109+25

North bank
sewer ditch

108+07.1

South edge
pavement

107+60.8

North curb
University Ave

10-21-46
clear-watery

Nelson
Leonard
Griffin

11.

P.I
141717⁴⁰ $\Delta = 0^{\circ}04' L$

P.O.T 47
137423

P.I
132468⁰ $\Delta = 0^{\circ}09' R$

P.I
124495⁴³ $\Delta = 15^{\circ}38' R$

S 74° 00' W

← 17.5 →

P.I
121406³⁸ $\Delta = 10^{\circ}50' L$

S 59° 30' W

= 121409³⁸ BK.

~~121409~~ OA

P.I
112486²⁵ $\Delta = 19^{\circ}21'30'' L$

S 70° 00' W

← 17.5 →

P.I 85
156+22 $\Delta = 2^{\circ} 40' R$

S 57° 00' W

P.I 73
154+21 $\Delta = 13^{\circ} 35' L$

S 55° 00' W

P.I 53
150+95 $\Delta = 8^{\circ} 02' R$

S 68° 30' W

P.I 55
149+85 $\Delta = 14^{\circ} 48' L$

S 59° 30' W

← 7' → ← 15' →

← 15' →

← 12' →

← 15' →

152+98 stream bed

← 14.0' →

14.8

BEGIN
S.P. SEWER

26

CONCRETE
PARTIAL
FLUME

← 13.47' →

3.34

END LA
MESA
SEWER

← 16' →

6.75

5.4

P.I 74
182+82 - $\Delta = 3^{\circ} 54' 30''$ L

S 60° 00' W

186

P.I 37
179+02 - $\Delta = 8^{\circ} 27' R$

S 63° 30' W

P.I
174+62⁰⁰ - $\Delta = 8^{\circ} 10' 30'' R$

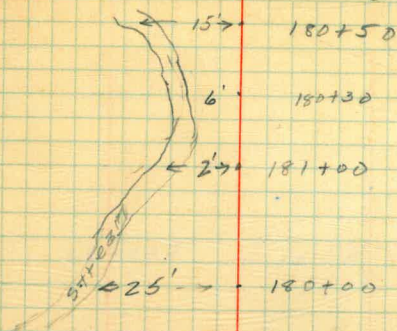
S 55° 00' W

P.I
167+45¹¹ - $\Delta = 10^{\circ} 35' 30'' L$

S 47° 15' W

10-23-46
clear-HOT

Nelson notes
LEONARD X 13
PHILLIPS
GRIFFIN



← 26' → 157+50

← 15' → 157+00

199+73⁶⁵ P.O.T.

P.I.
199+73 ⁴³ 0° 01' 30" L

548' 00 W

(Eliminated
This one)

P.I.
188+90 ¹⁷ A = 10° 29' 30" L

548' 00 W

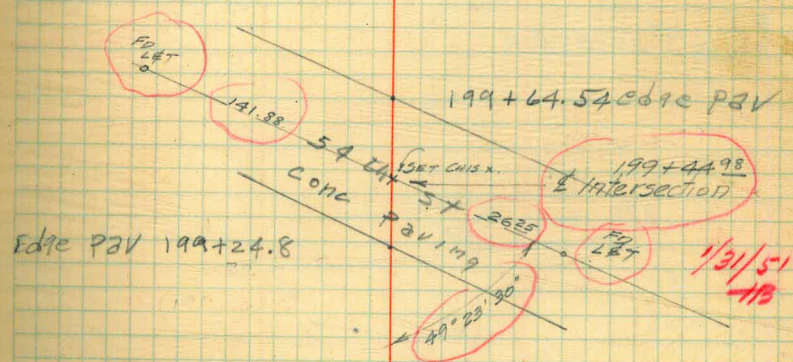
74

206+25 ← 20' →

• 205+90

5' ← 12' →

205+50



P.I. ⁷⁴
232+57- $\Delta = 19^{\circ} 55' 30'' R$
-57³⁵

S 31°00' W

^{95¹⁸}
P.I. ⁴⁸
227+95- $\Delta = 21^{\circ} 34' L$

S 17°00' W

P.O.T. ³⁸
226+96-

S 38°00' W

³⁴
P.I. ³⁵
219+08- $\Delta = 11^{\circ} 38' R$

NH A 26

215+70⁸⁸ P.O.T.

215+86⁺

36" steel P.L.

P.I. ⁶¹
212+00- $\Delta = 21^{\circ} 47' 30'' L$

S 28°30' W

NH A-28^{FD}

10-24-46
Clear-HOT

Nelson Notes
Leonard X 15
Phillips
Griffin

P.I
265+39⁷² $\Delta=10^{\circ}09'30''R$

S 29°00' W

P.I
250+61⁰⁷ $\Delta=4^{\circ}40'30''L$

S 19°30' W

P.I
245+71¹² $\Delta=7^{\circ}52' L$

S 22°00' W

P.O.T
239+73⁹⁵

10-29-96
Clear-warm

Nelson Notes
Leonard T 16
Phillips
Griffin

264+28
2" 2" iron pipe fence
Kilham's Dairy

edge conc 239+70
EUCLID AVE
239+50
edge conc

P.I
275+45⁷³ - Δ = 20° 02' 30" R

S 49° 00' W

17.

2 board
Guard fence 282+17.9

282+12.5

conc apron

edge pav
Fairmount Ave 282+05.5

edge pav 281+81.7

281+55.4
3 wire barb fence

275+83.7
4 wire barb fence

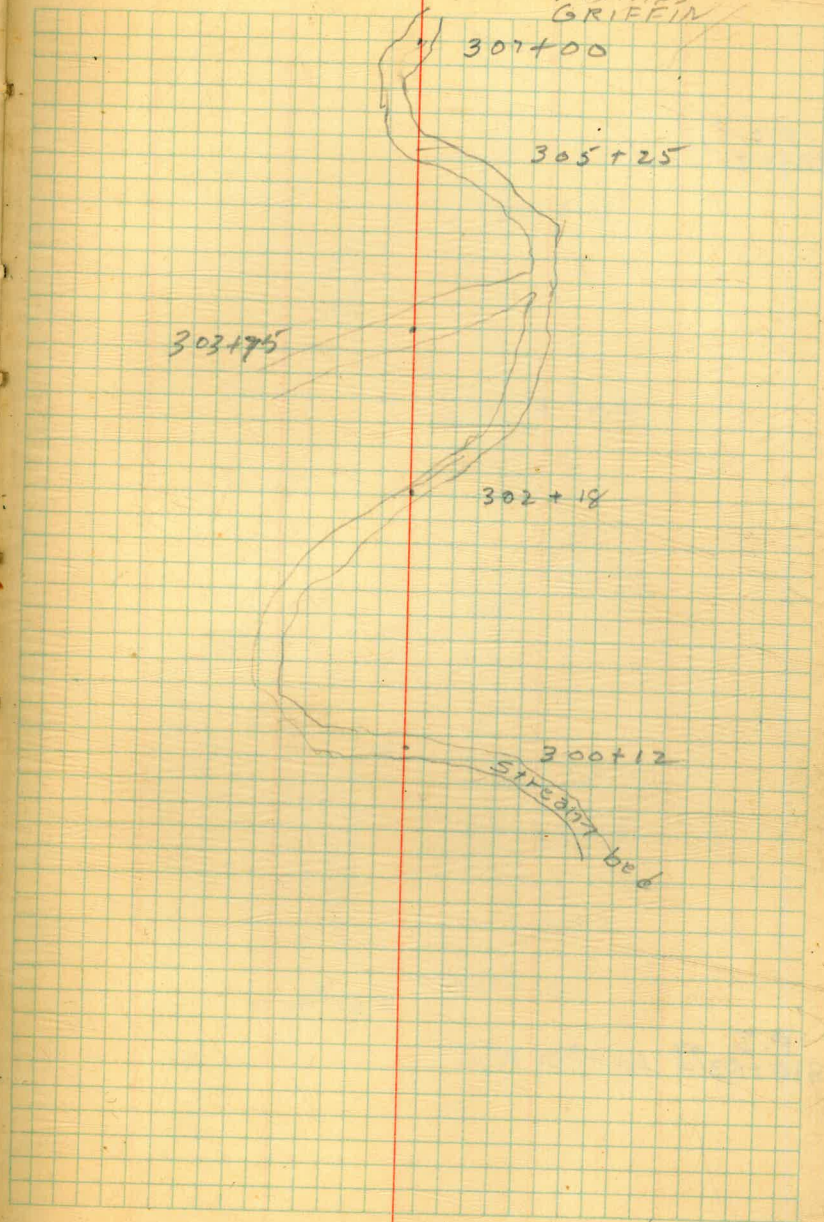
271+59
3-2" iron pipe
fence → 18"
Corrugated
steel tank → 271+54
10' DIA 10' HIGH
NOT PERMANENT

268+47.0
3-2" iron pipe
fence

266+56.4
3-2" iron pipe
fence

10-31-96
Clear-cool

Nelson Notes
Leonard T. Phillips
GRIFFIN 18



P.O.T
300+00

P.O.T 45
285+97

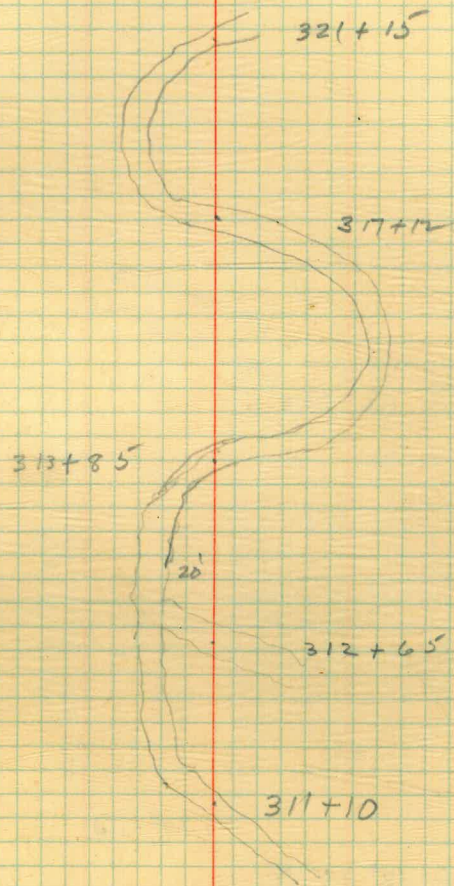
282+66⁵⁰ POT

P.O.T
324+21⁵⁵

P.I
310+53⁴⁷ Δ=17°51' R

S 67° 30' W

19



1.0506
15

52530
10506 157590

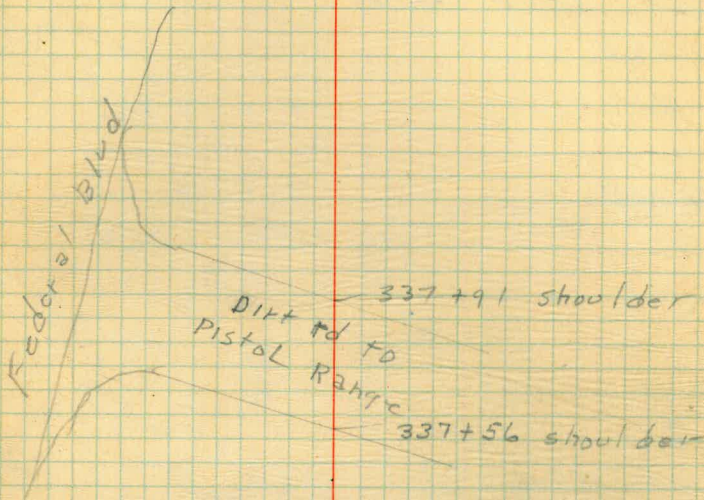
P.I
340+70⁰⁵

Emb 35 of 10-31-46

P.I
331+99³⁰ $\Delta = 12^{\circ} 39' R$

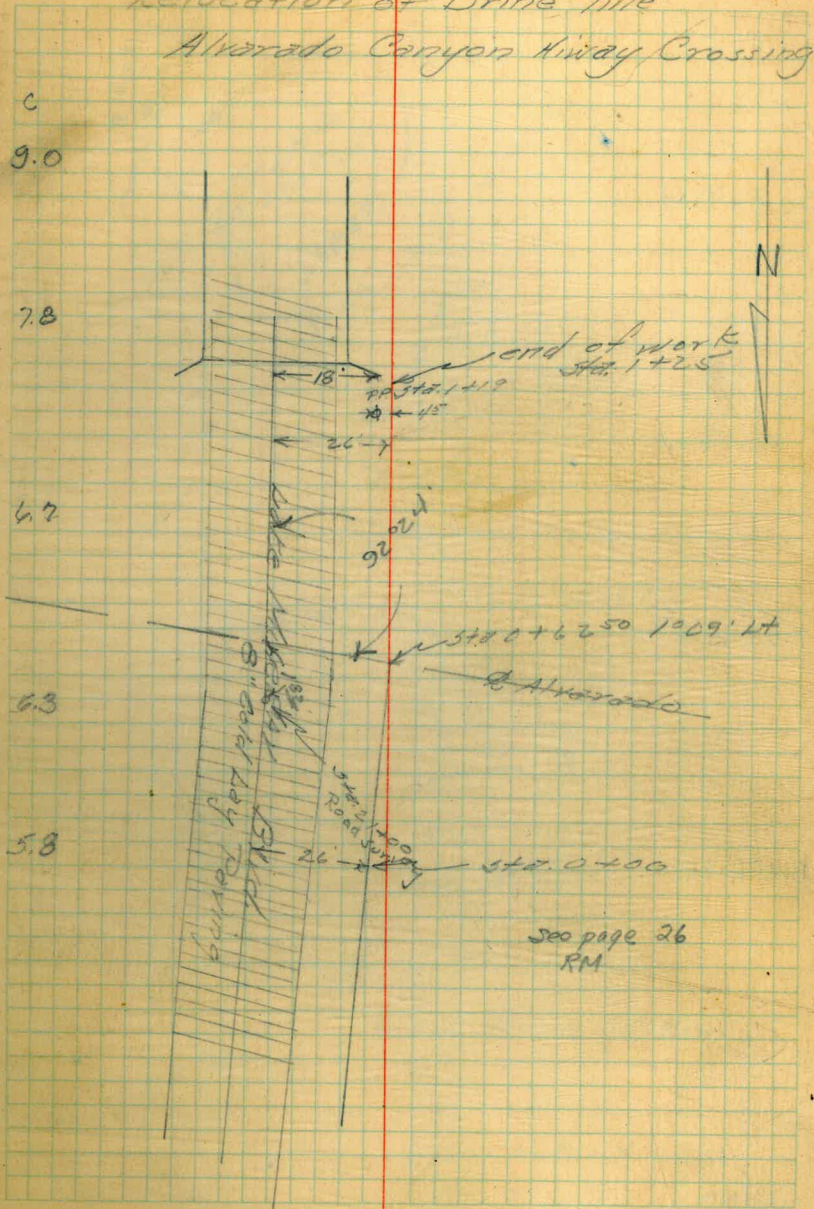
S79°02W

20



335+60

Relocation of Brine line
Alvarado Canyon Highway Crossing



		city	date		
B.M. point on west wall of bridge	5.85	388.87	583.02	389.72	
1+25	6.6	382.3	373.3		
℄	6.5	82.4			
0+935	6.4	382.5	374.7		
℄	6.3	82.6			
0+625	6.0	382.9	376.2		
℄	6.7				
0+315	5.0	383.9	378.6		
℄	5.5				
0+100	4.0	384.9	379.1		
℄	5.3				

See page 26
RM

ReAlignment 21" Salt
Brine Line

EC 8+93.64

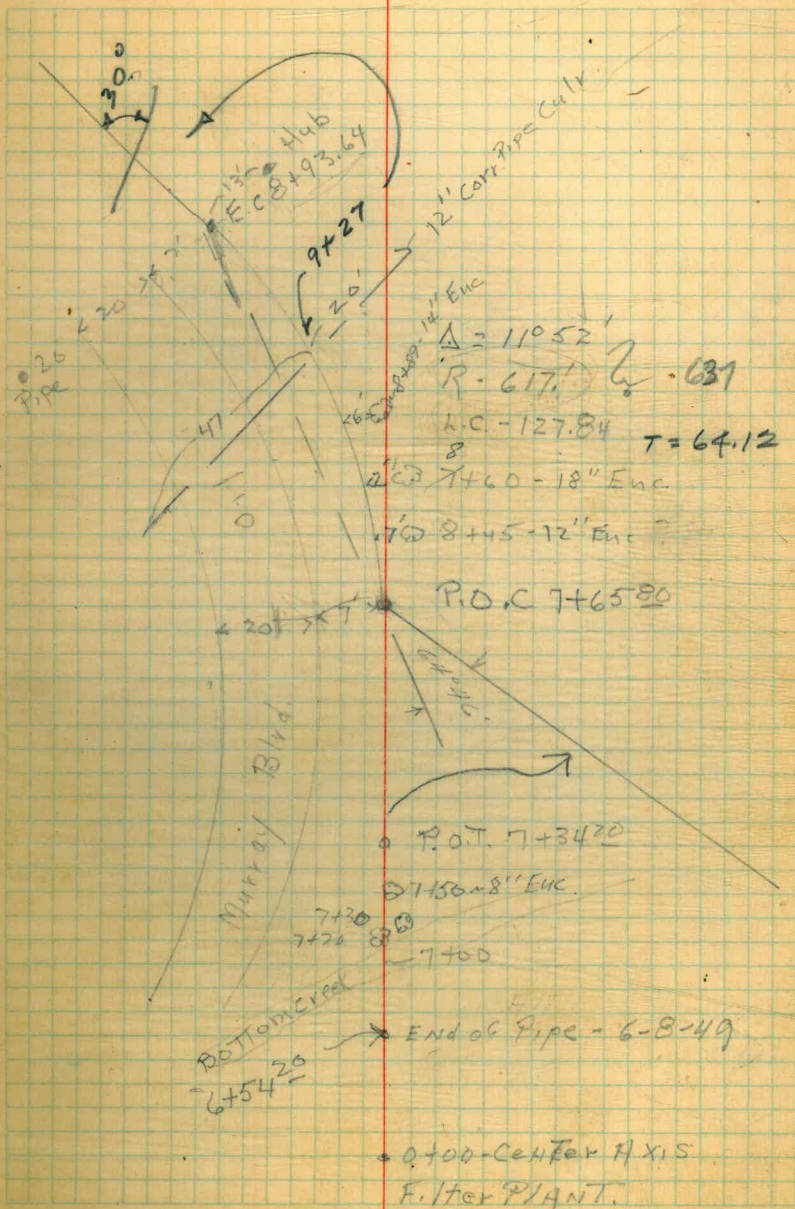
P.O.C. 7+65.80

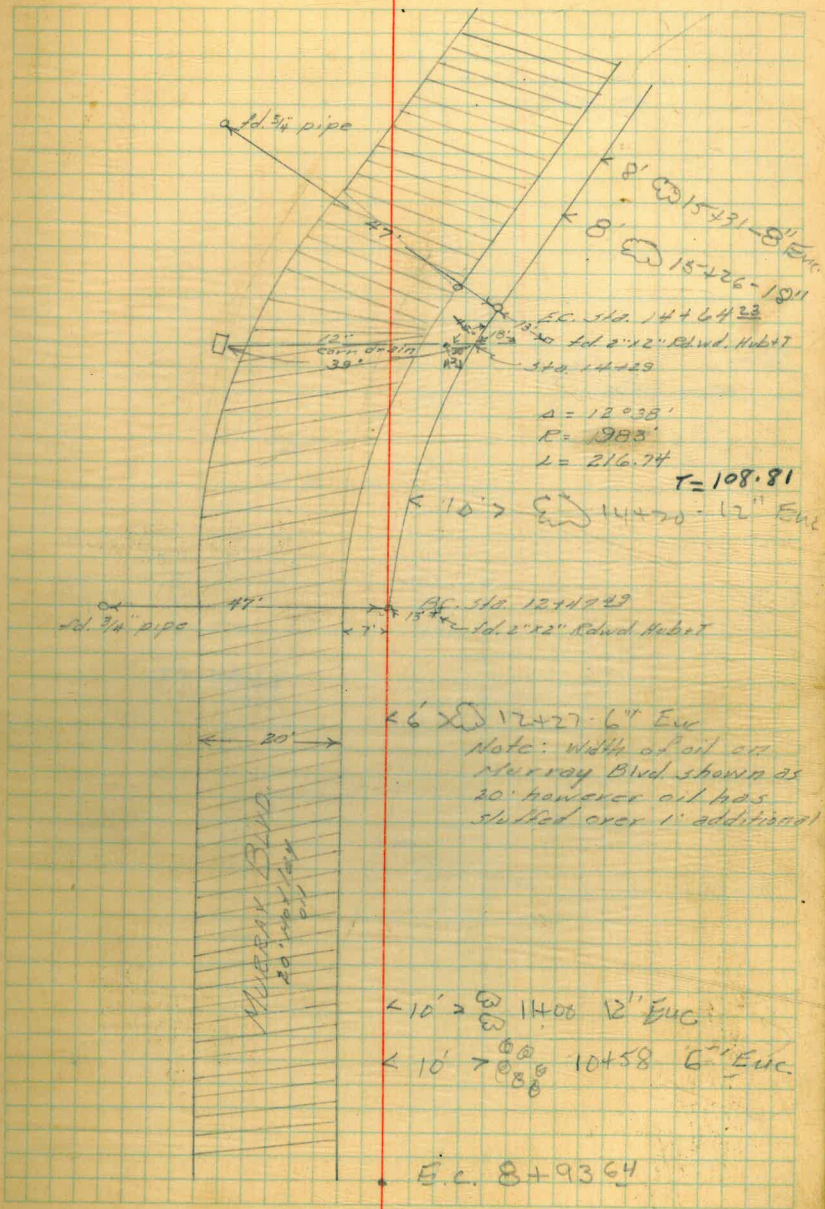
P.O.T. 7+34.20 by Nelson

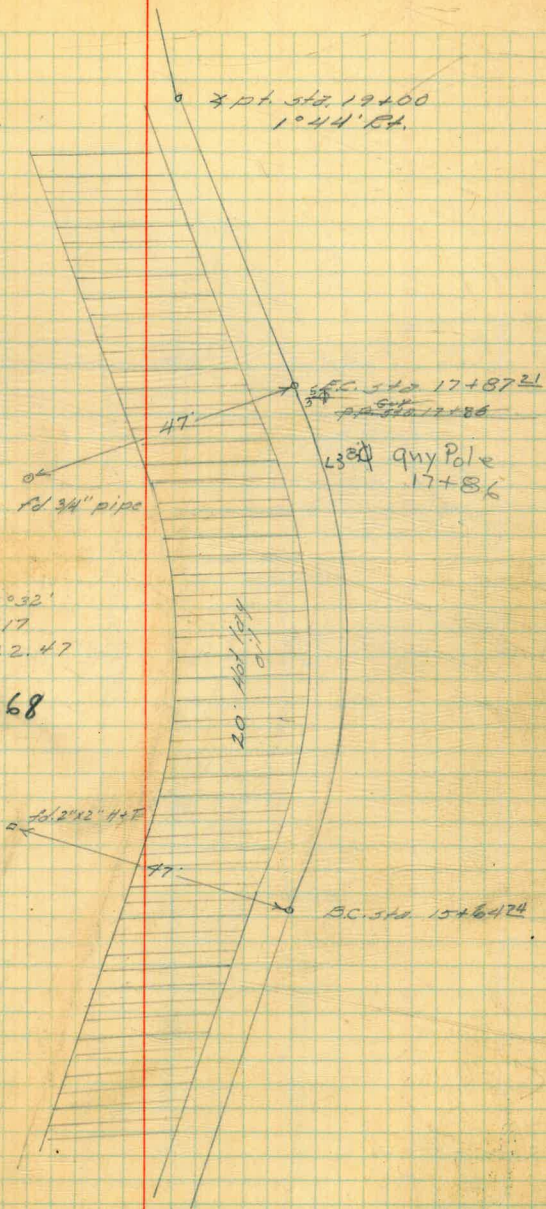
0+00

King-Shipman 6-8-49

22





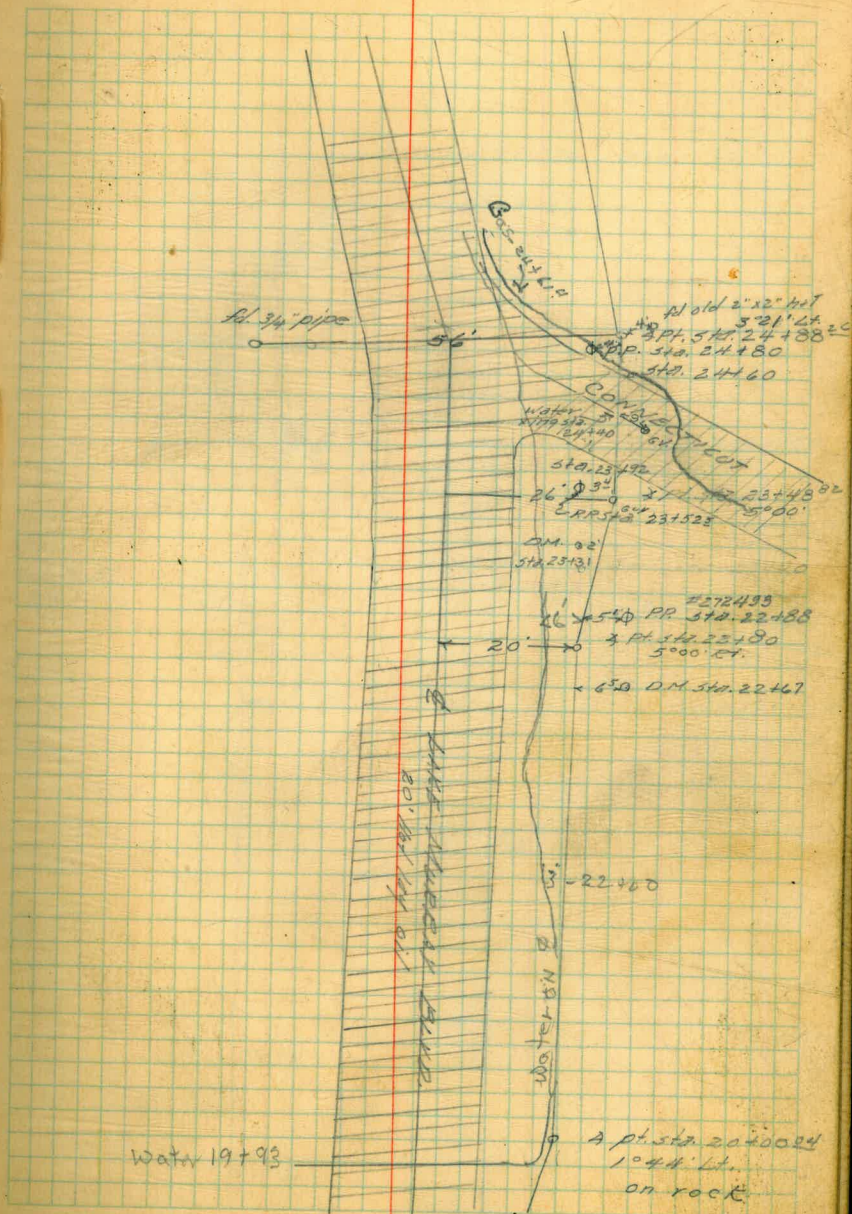


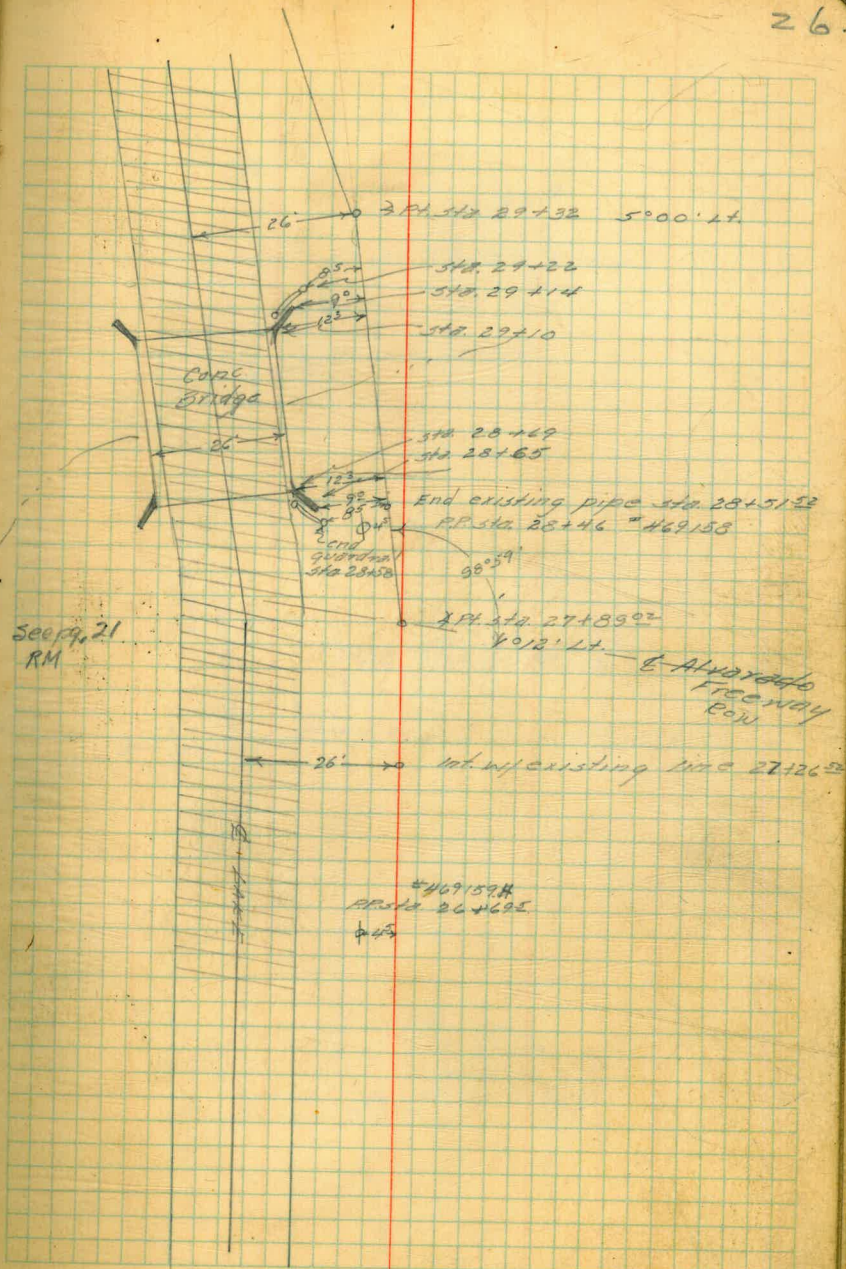
$$\Delta = 72.032'$$

$$R = 1017$$

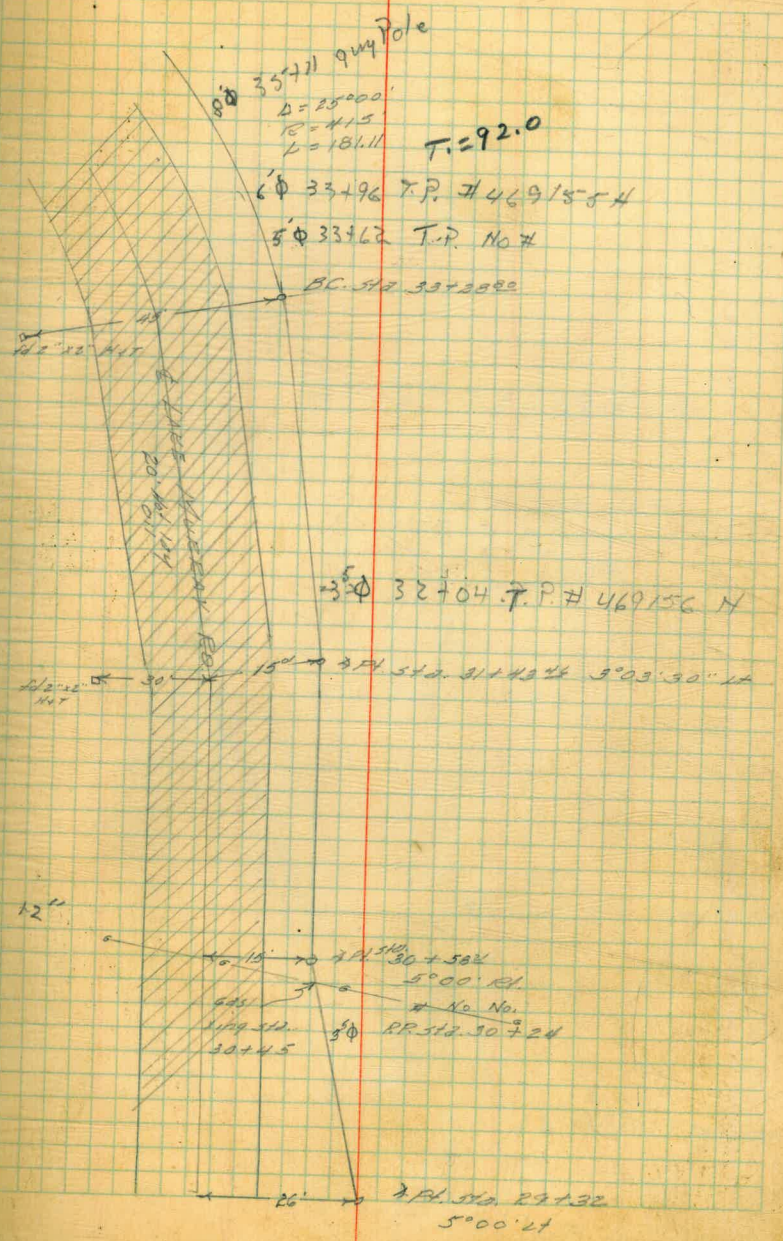
$$L = 222.47$$

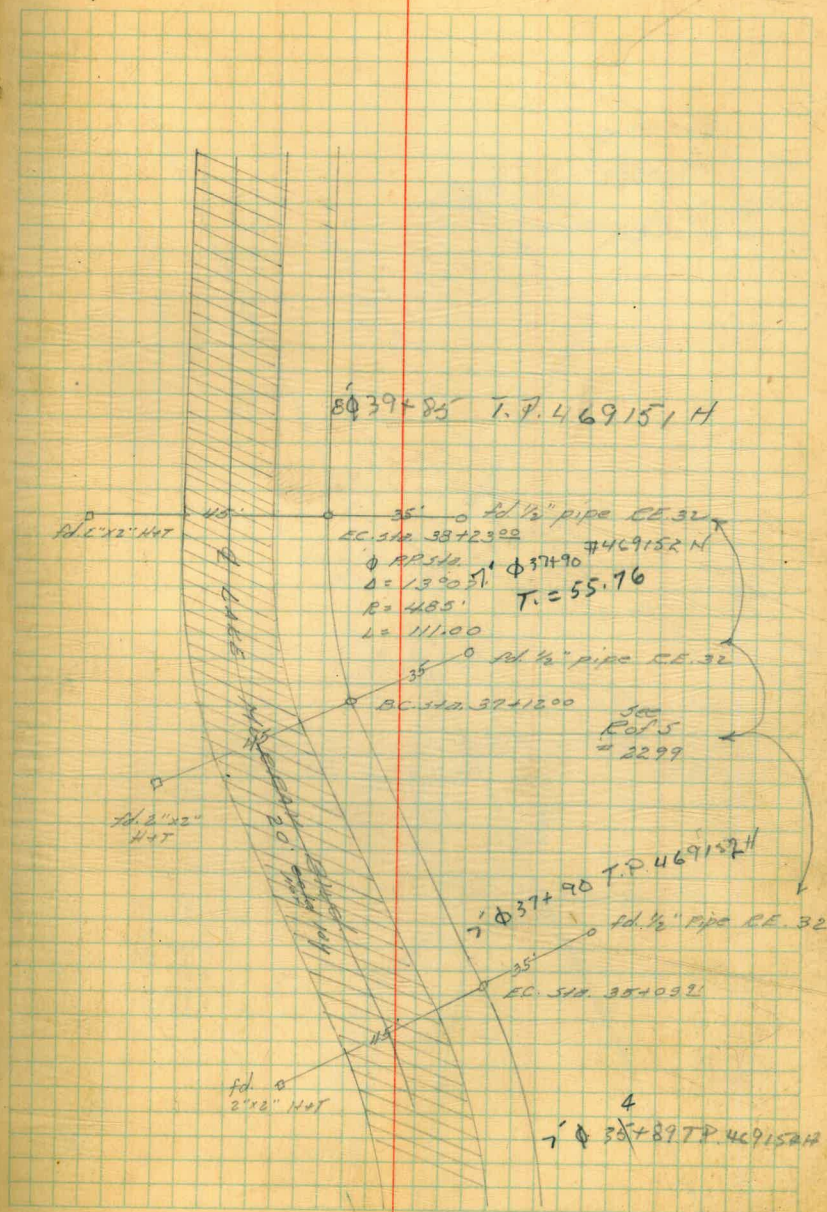
$$T = 111.68$$



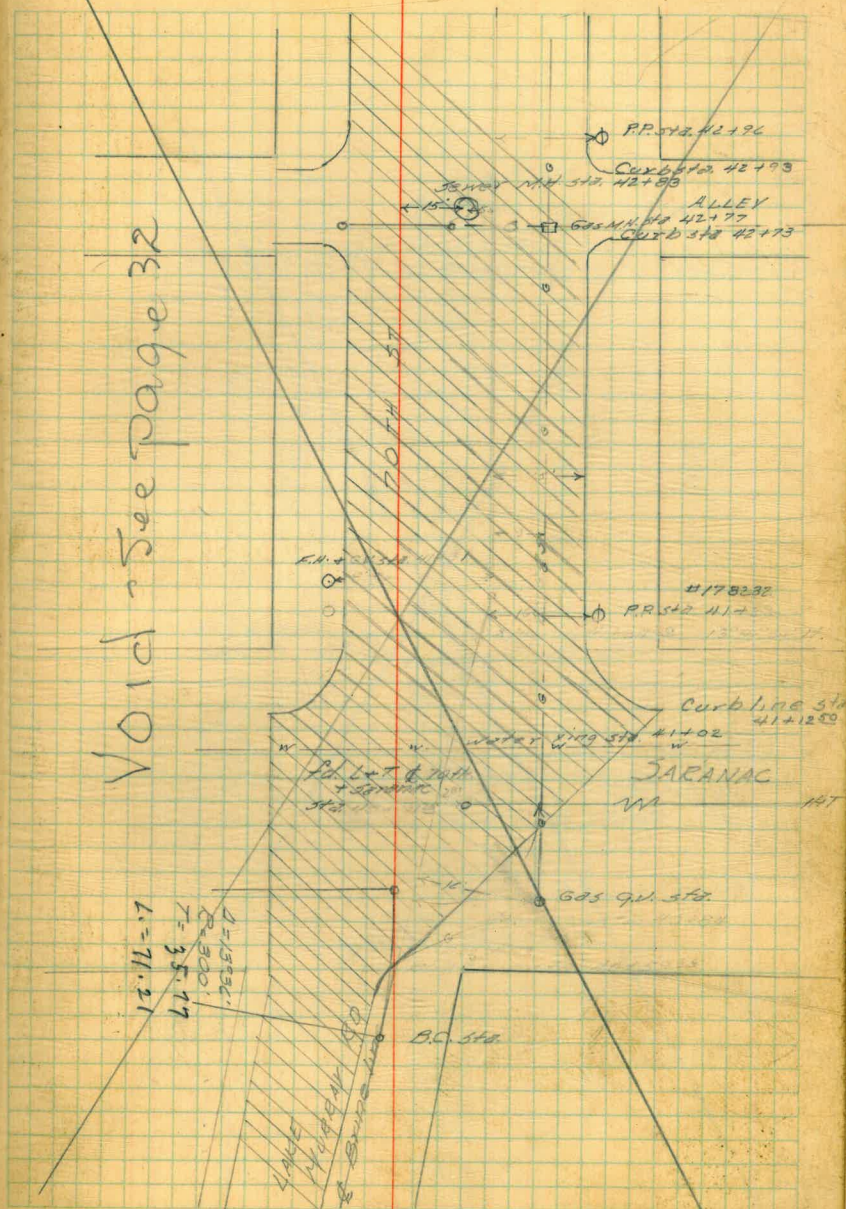


See pg. 21
RM





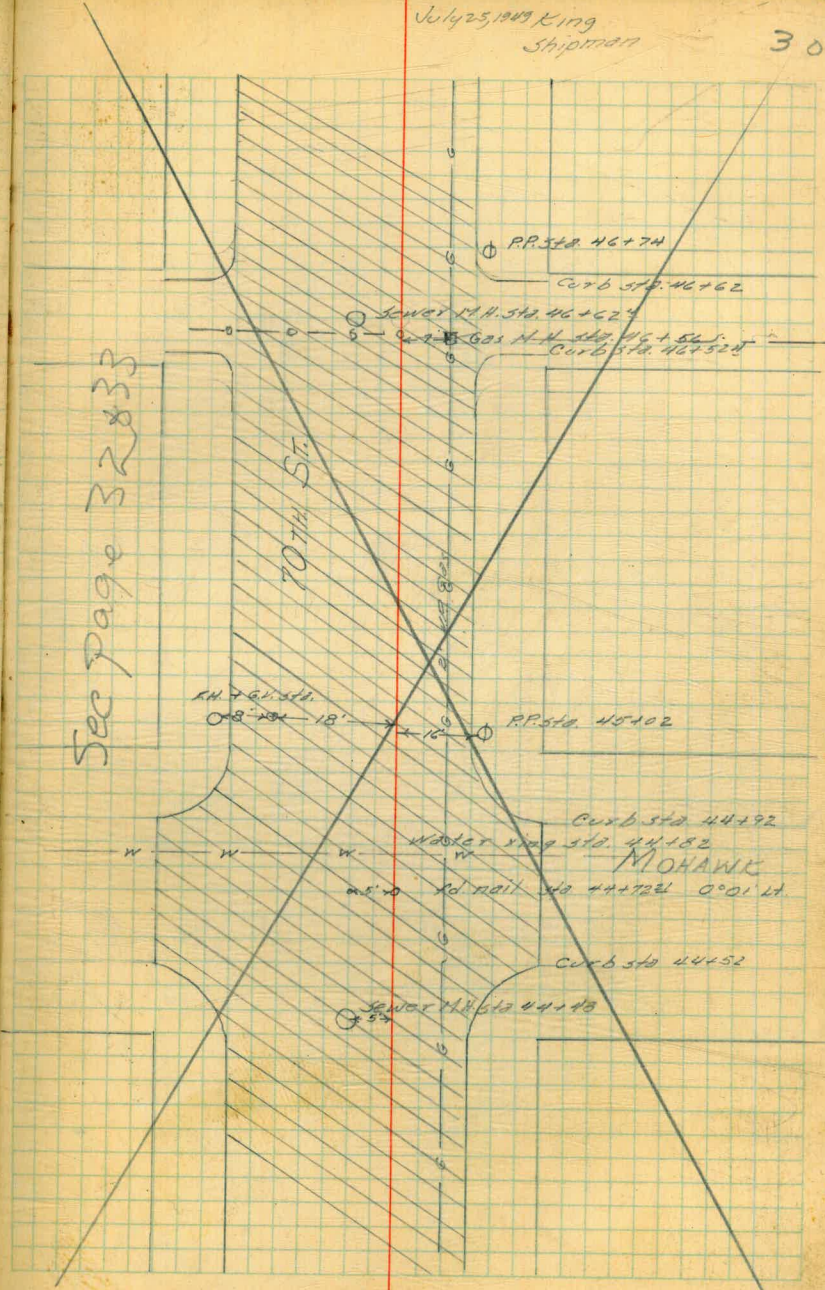
VOID - See page 32

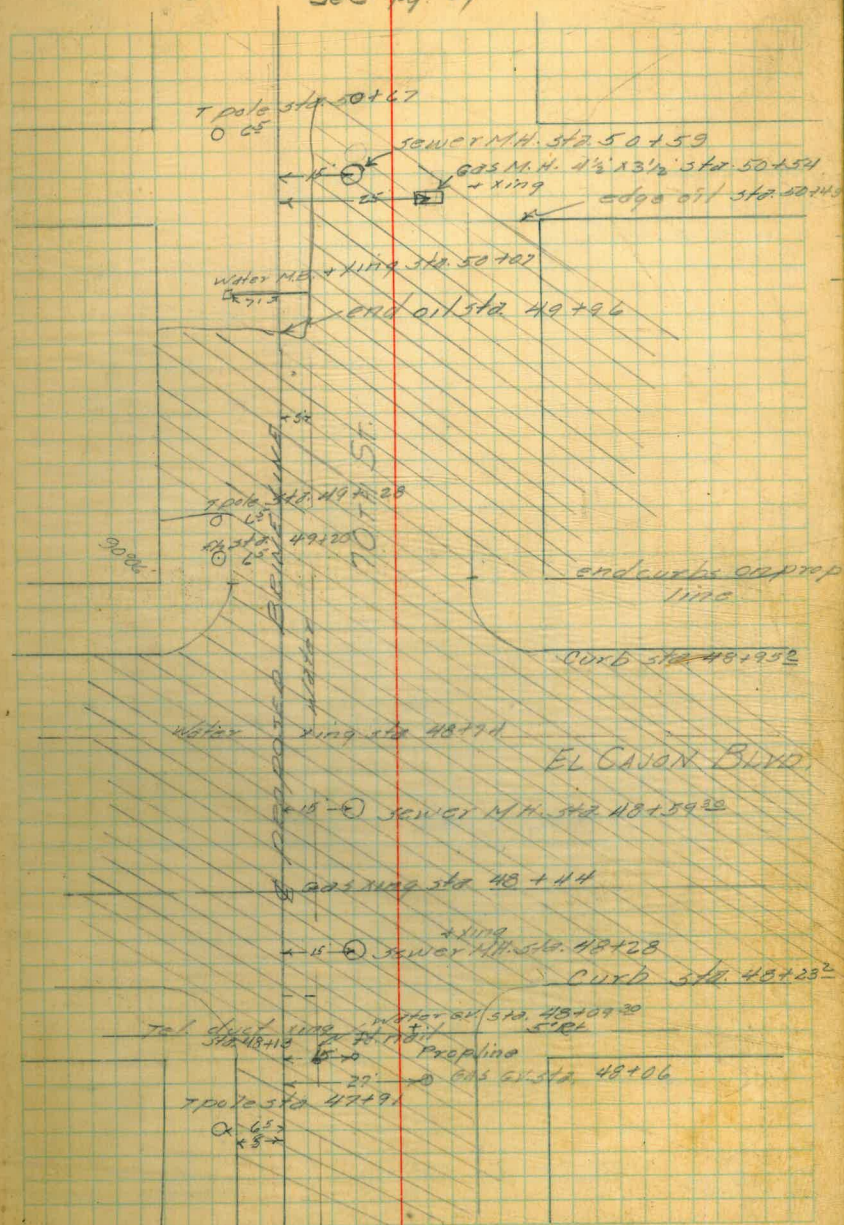


July 25, 1949 King
Shipman

30

See Page 32833



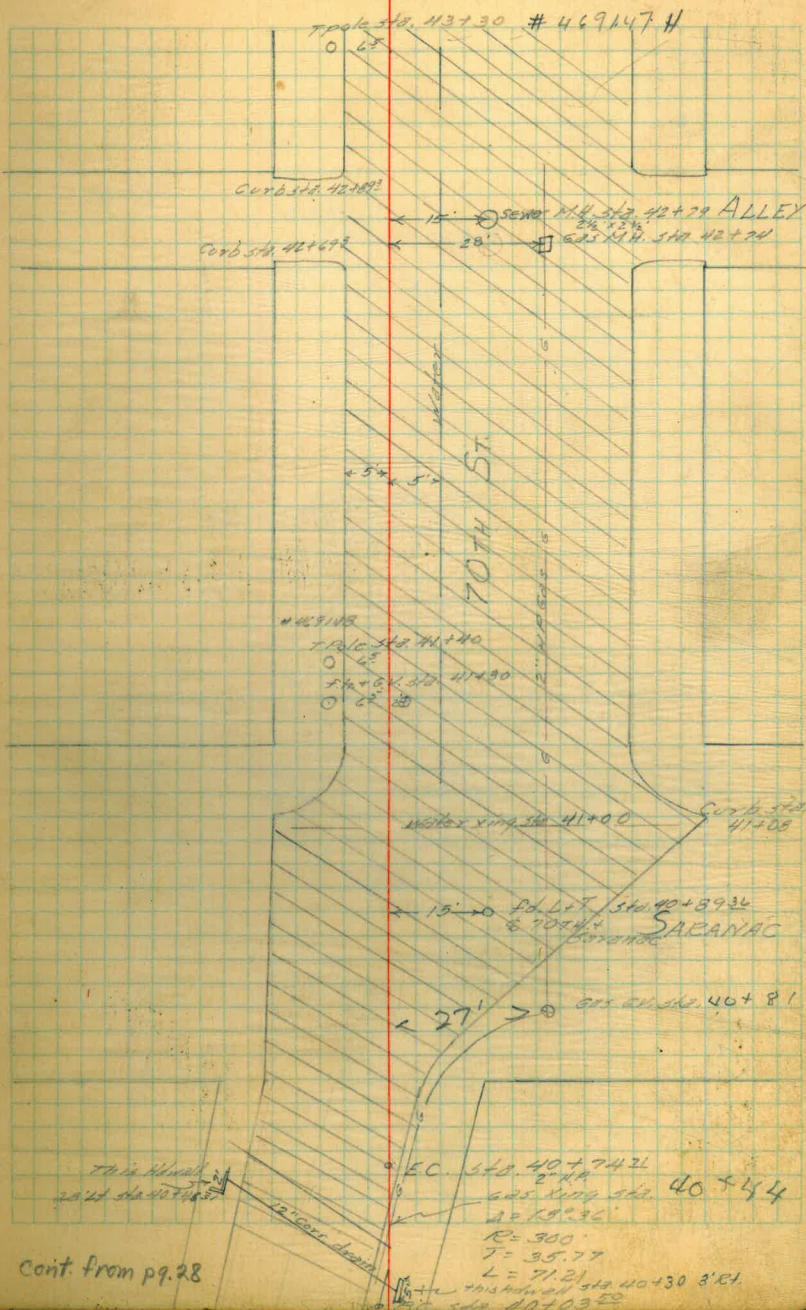


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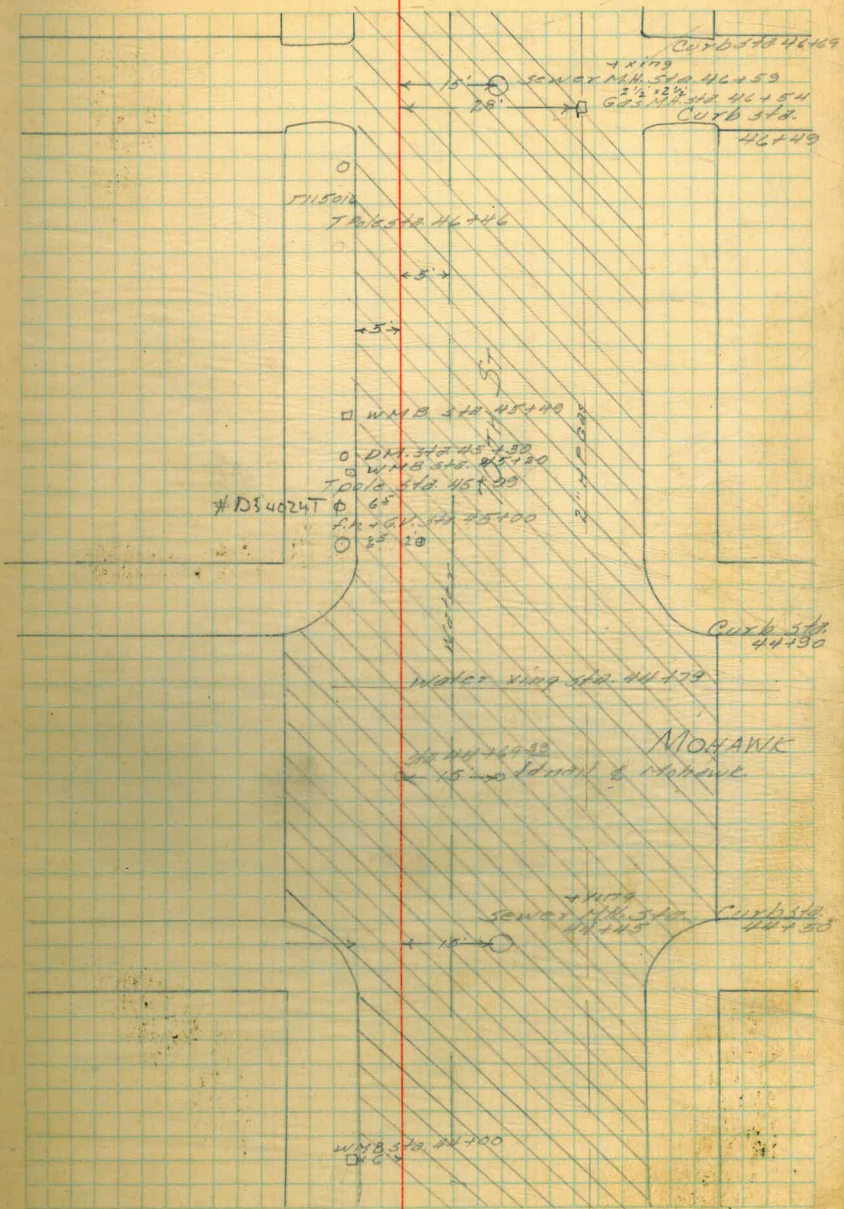
8-1-49 Rainey
Hot King
Shipman

New Alignment Salt Brine Line

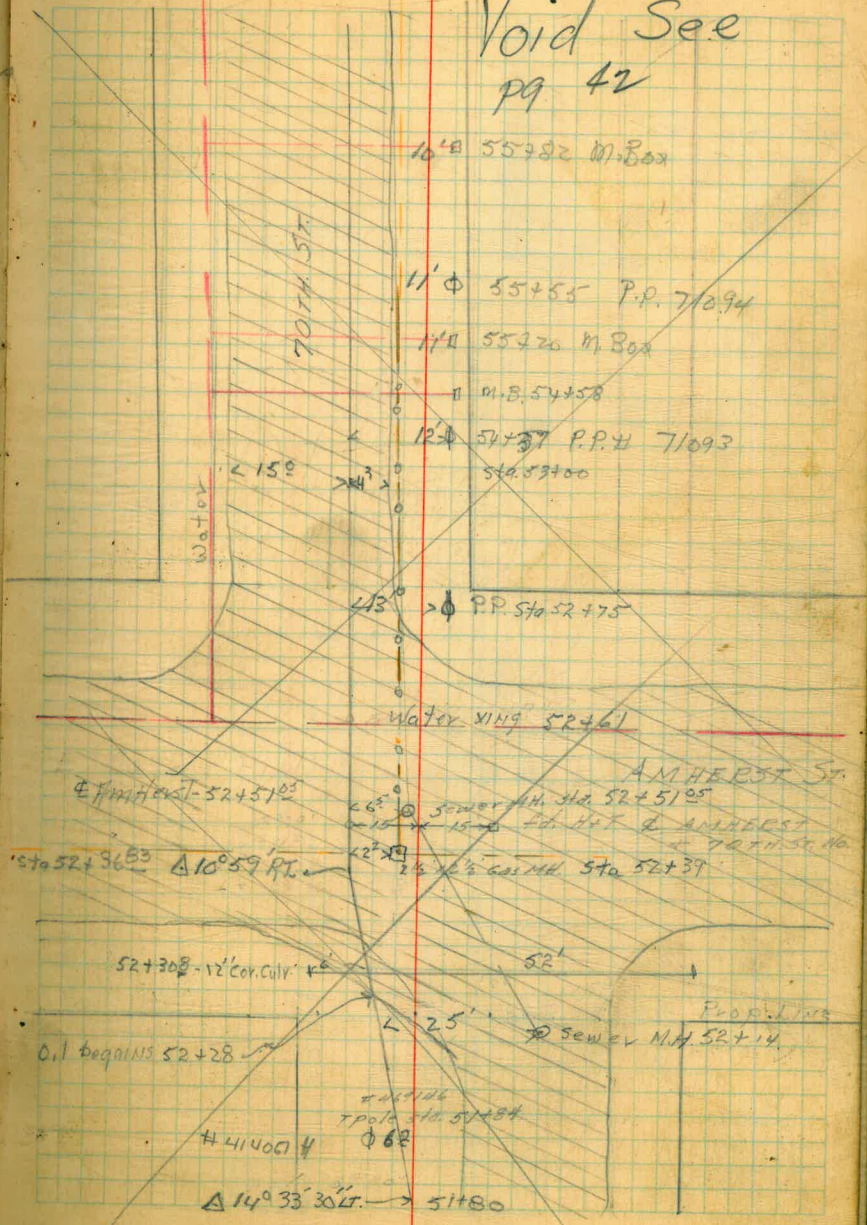
39



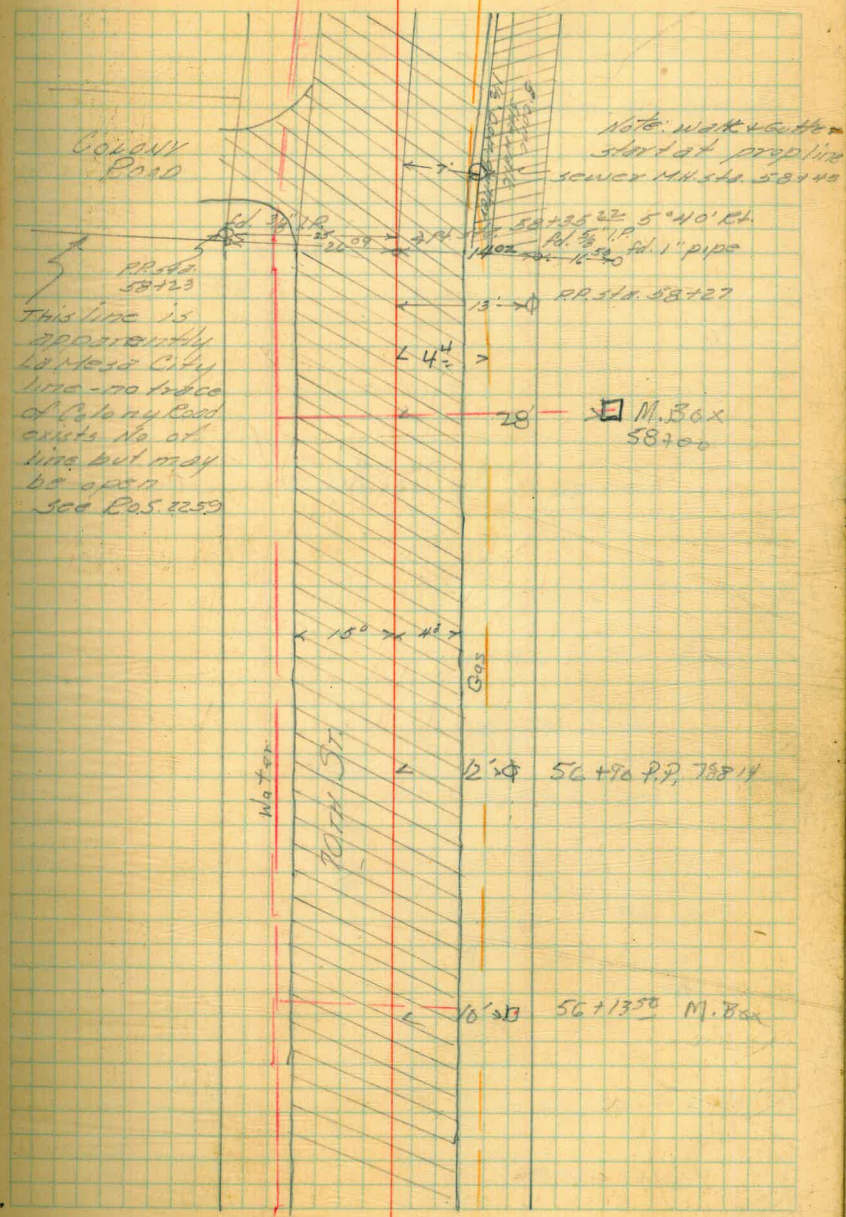
Cont. from pg. 28



Void See pg 42



Cont. from pg. 31



COLONY ROAD

Note: water & gas start at prop line sewer M.H. Sta. 58+40

RR Sta. 58+23
 This line is apparently La Mesa City line - no trace of Colony Road exists to of line but may be open see E.O.S. 2259

58+35.22 5°40' Pt. M. 1/2" IP 1402 11.50

13' RR Sta. 58+27

4 1/2"

28 M. Box 58+70.00

150' x 12"

Gas

Water

70" dia

12" φ 56+90 P.P. 78814

16" φ 56+1350 M. Box

2' conc
man. sta

M. Box
62+70
Sta 63+21.00

← 630 Sewer M.H. 62+67

← 14' → M.B. 62+38

← 16' → 62+00

3' water

12" φ 61+93 P.P. # 76474

12" M.B. 61+42

11" M.B. 60+43

70' 5"

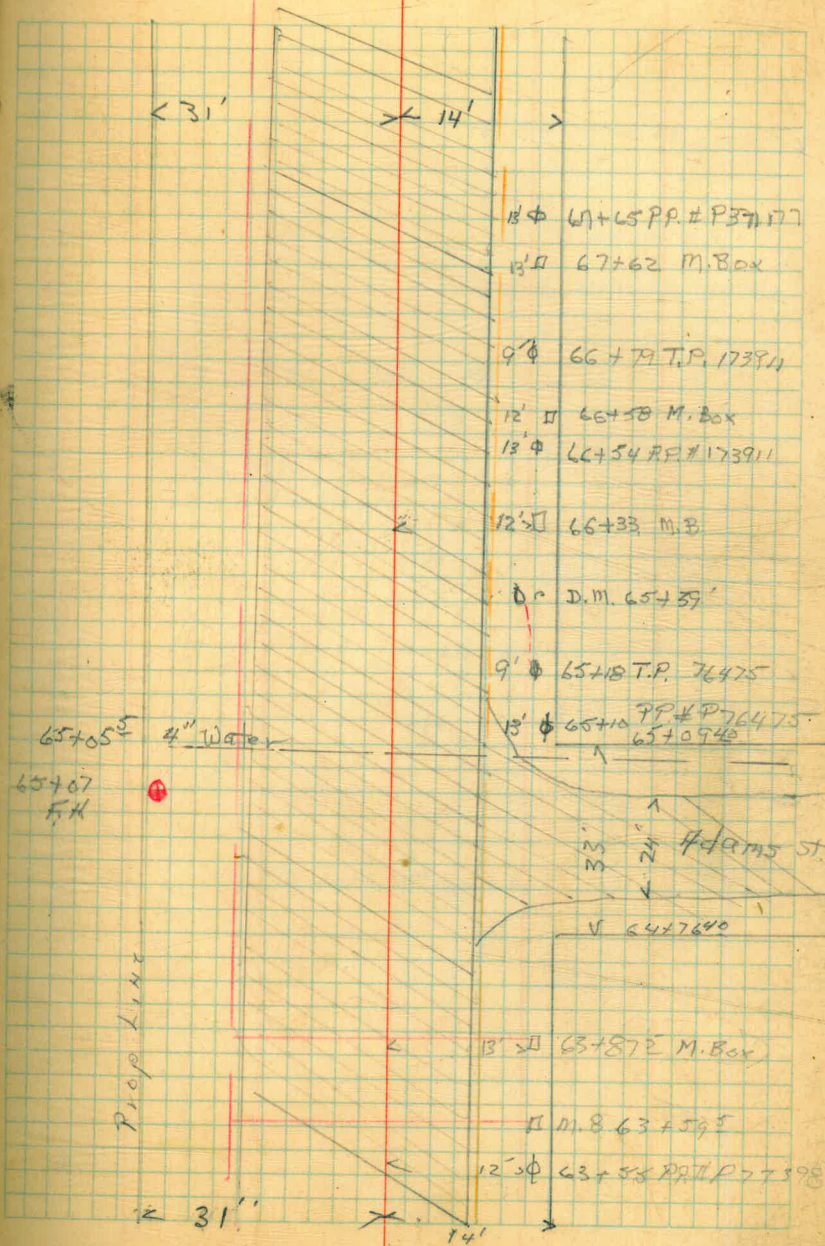
M. Box 60+39
and walk & gutter
Sta. 60+39.20

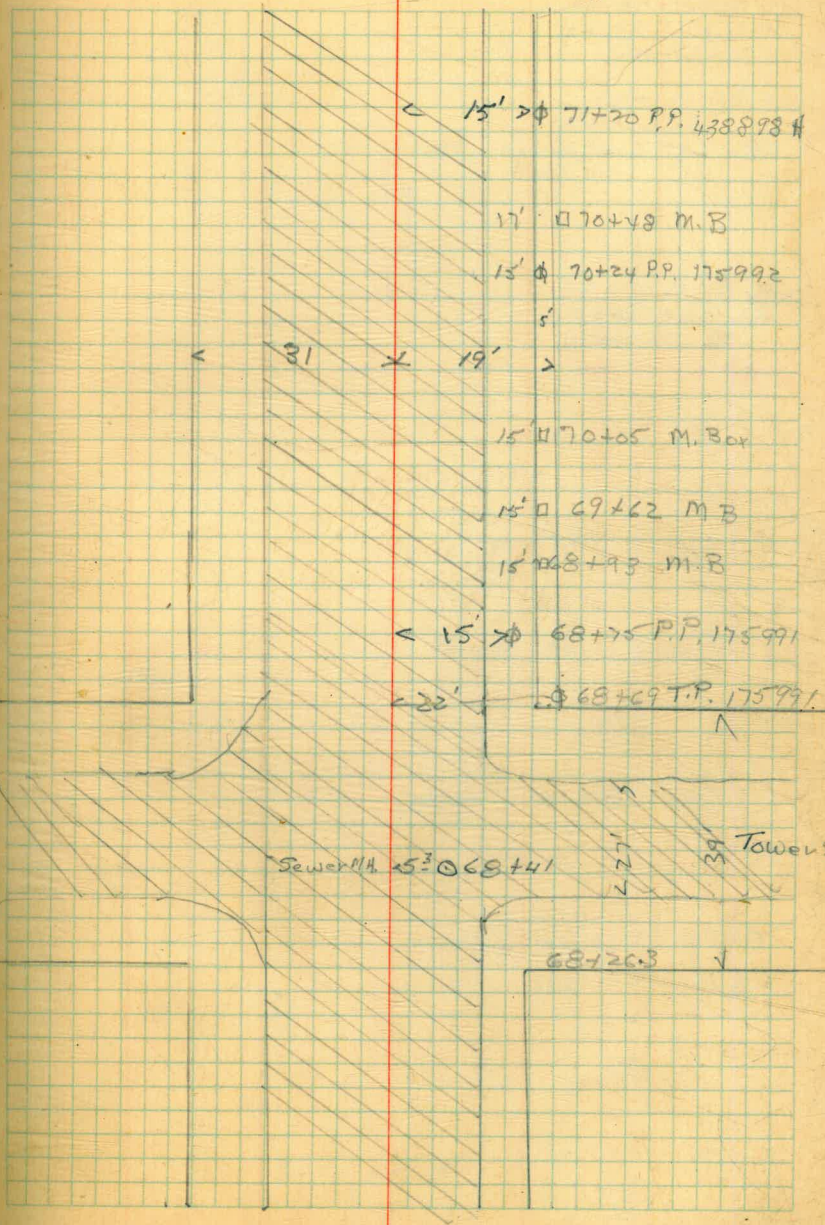
14" P.P. # 76991
Sta. 60+35.5

14" φ 59+24 P.P. # 75532

M. Box 59+14

14" water





< 15' > φ 71+70 P.P. 438898 H

17' □ 70+48 M.B

15' φ 70+24 P.P. 175992

5'

< 31' X 19' >

15' □ 70+05 M. Box

15' □ 69+62 M.B

15' □ 68+93 M.B

< 15' > φ 68+75 P.P. 175991

< 22' > φ 68+69 T.P. 175991

Sewer M.H. 53 068+41

29' Tower St

68+26.3

Cont. on pg. 7

39

end of Mesa Hornes
subdivision
(nothing found)

Mesa Hornes
R05 2221

Ed. Iron Pipe BC.
L.S. 2412

19'

07576
7576

74+94.12 Δ BK
= 75+15.00 AH.

~~Sec 2~~

See page 4041

15' \times D.M. 73+89

F.U. \odot
73+65

15' \odot 73+65 P.P. 488599

14' \times 72+78 Sewer Manhole

15' \odot 72+20 T.P. 07108

16' \times 72+17 P.P. 17108

17' \odot 71+63 118

31 \times 19' \times

Sta.	Brine	Line	Mag B.
	Defl.		

E.C. 78+824

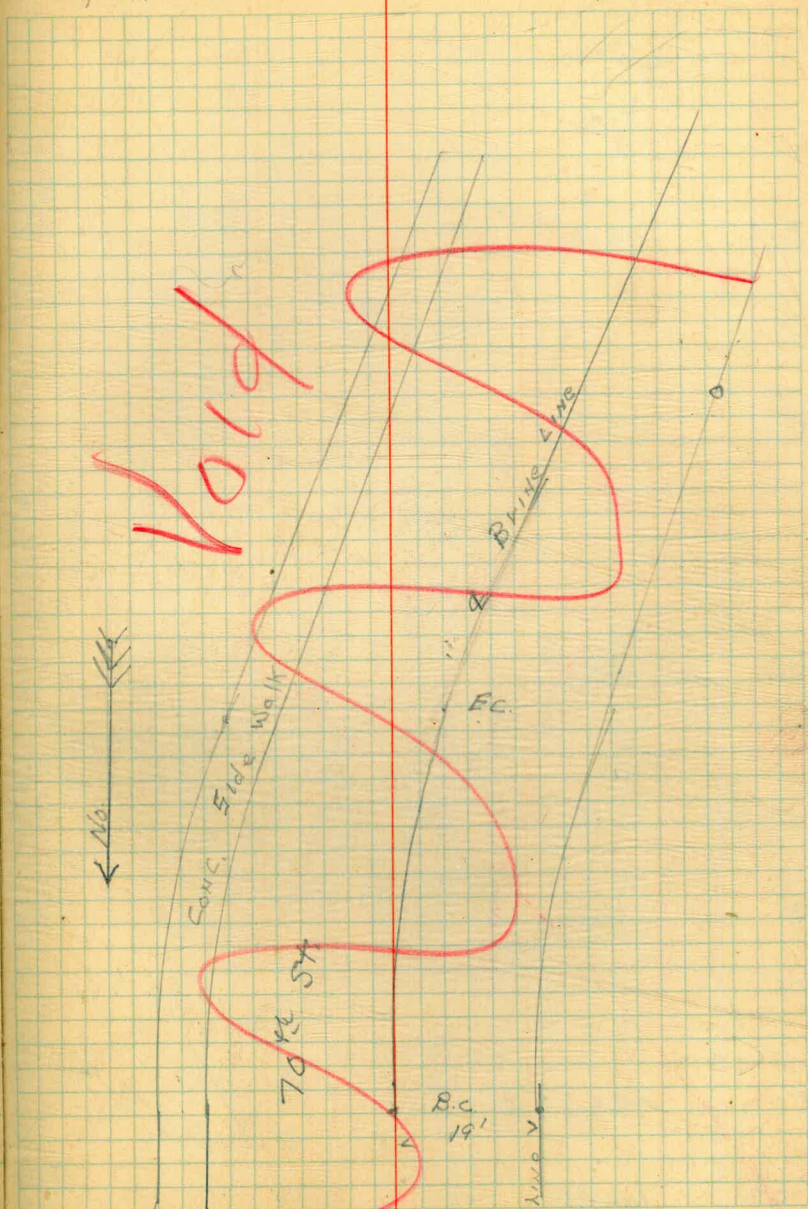
$\Delta 209'$ Rt.
 $R. 994'$
 $T. 105.79$
 $k = 210.79$

B.C. 75+915B

$S 11^\circ E$

King 147-50
 West-
 Shipman

clear
 cold 40



Realignment Brine Line - Sta 74+94.12
See P. 39

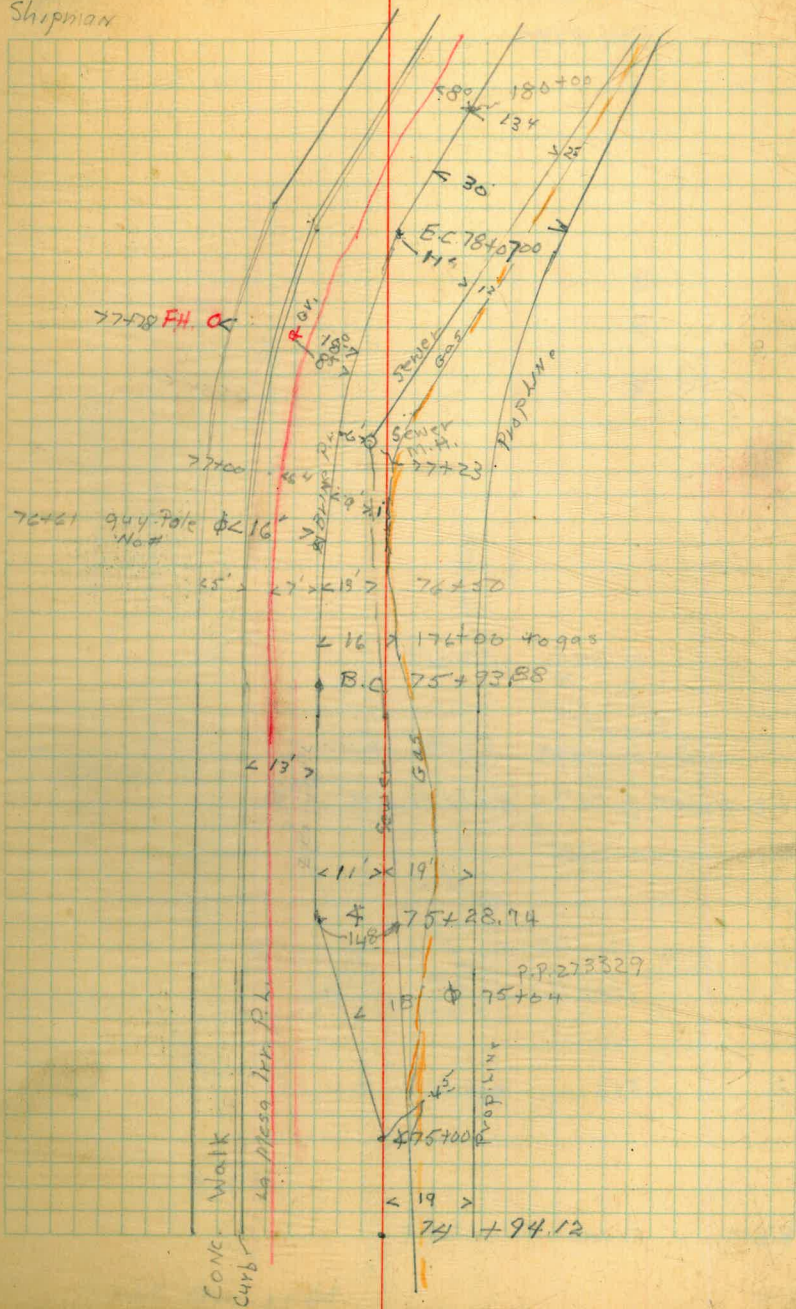
	Sta.	Defl.	Mag. B.
			S 11° E
E.C.	78+07 ⁰⁰		
P.I.	77+00.84	Δ 12° 09' Rt. R. 1005'	
		SJ. 106 ⁹⁶ L 213 ¹²	
B.C.	75+93 ⁸⁸		
+	75+28.74	22° 30' Rt.	
+	75+00	22° 30' Lt.	
P.O.T	74+94.12	See P. 39	

KING
West
Shipman

1-18-58

Clear
Warm

#1



New alignment 21" Brine line
Sta 51+80

Mag. B.

✕ 52+85.76 $44^{\circ}58'30''$ R.

12" P.L. xing 52+78.76

F.D. Hubert @ 70th & Amherst

@ Amherst P.L. xing 52+63.33

995 xing 52+45

4 70th P.L. xing 52+36.30

Sewer xing 52+29

✕ 52+15 45° R.

P.O.T. 51+80

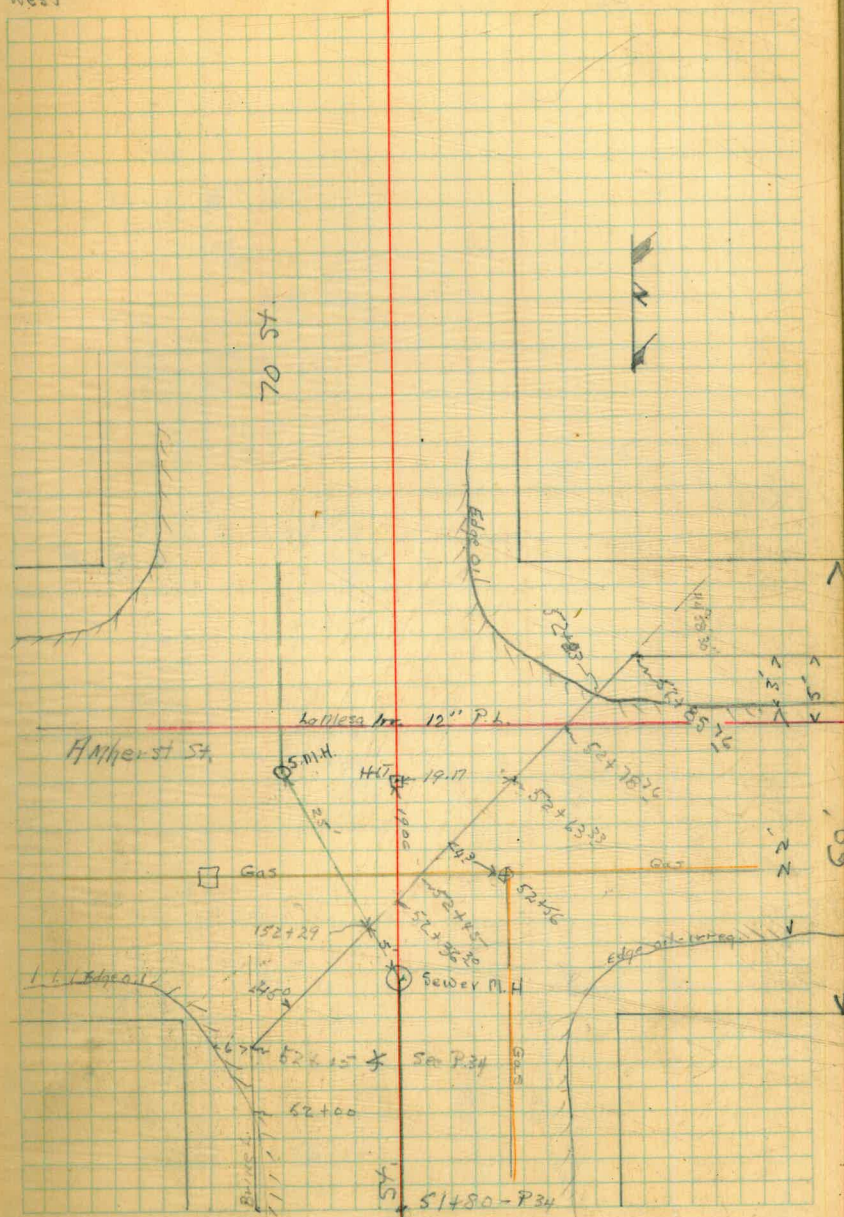
N 2° W

King
Shipman
West

1-25-50

clear-cold

42



Cont. from pg. 34

Sta.

21" B+ line LINE

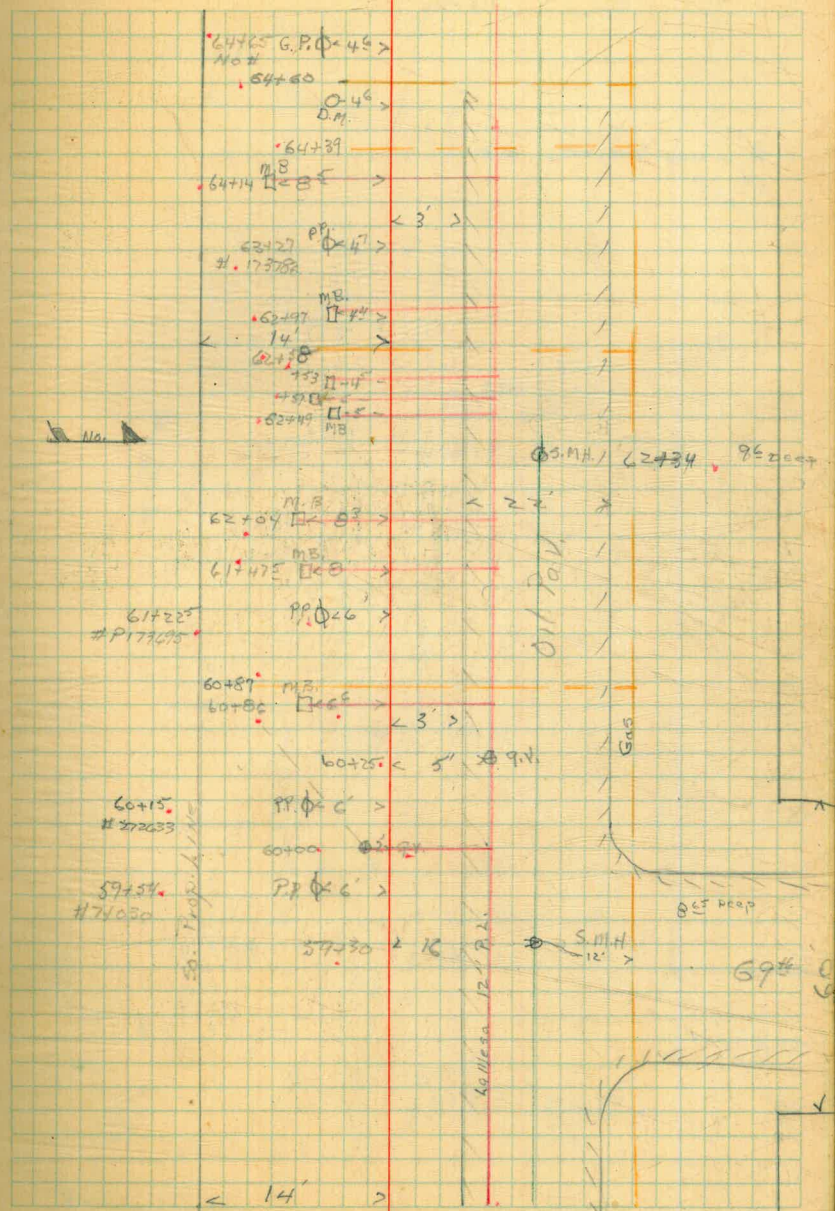
DeFl.

King
Shipman
West

1-25-50

Clear-Gold

44



21" Brine Line

King
Shipton
West 1-27-50

clear-cold

45

Sta. ReFl.

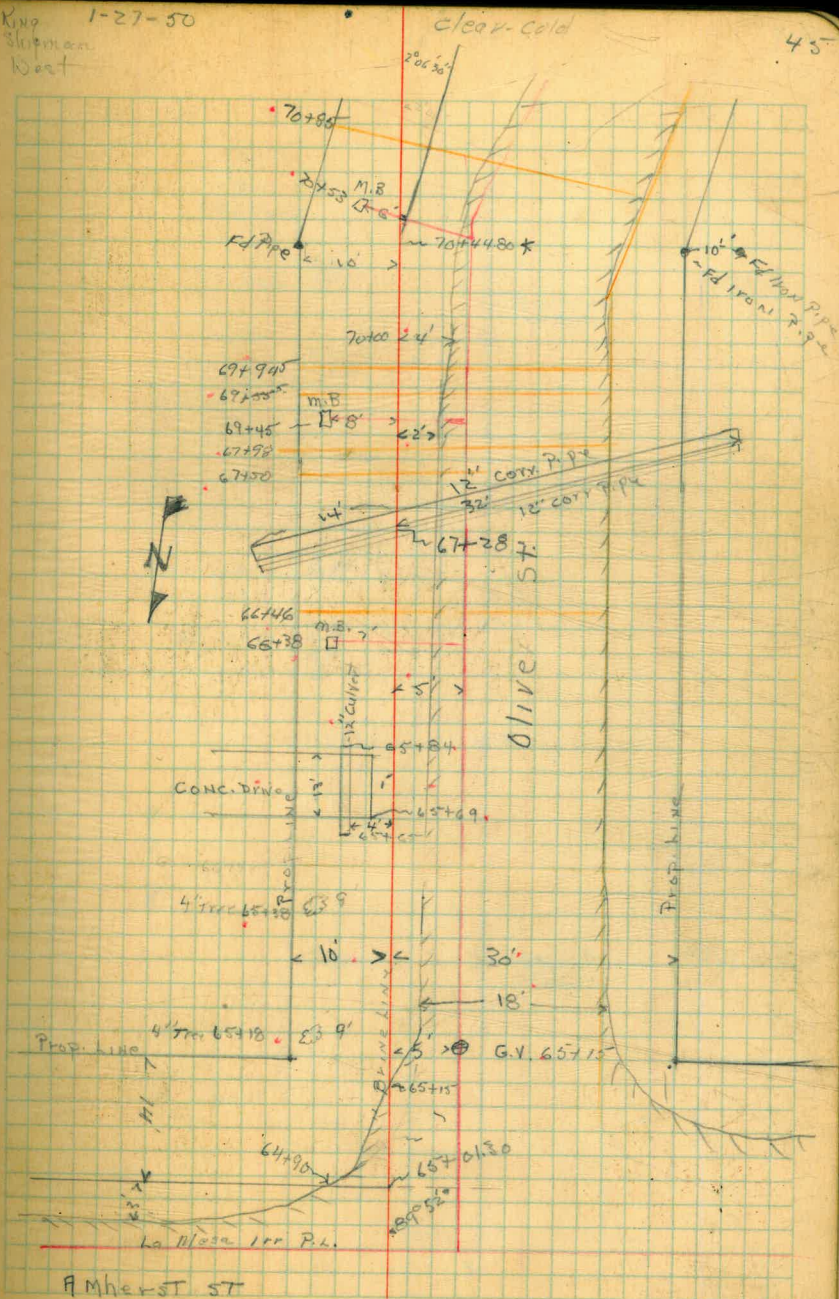
Mag. B.

S 1° E.

† 70+44.80 2°06'30" R

S 53° E

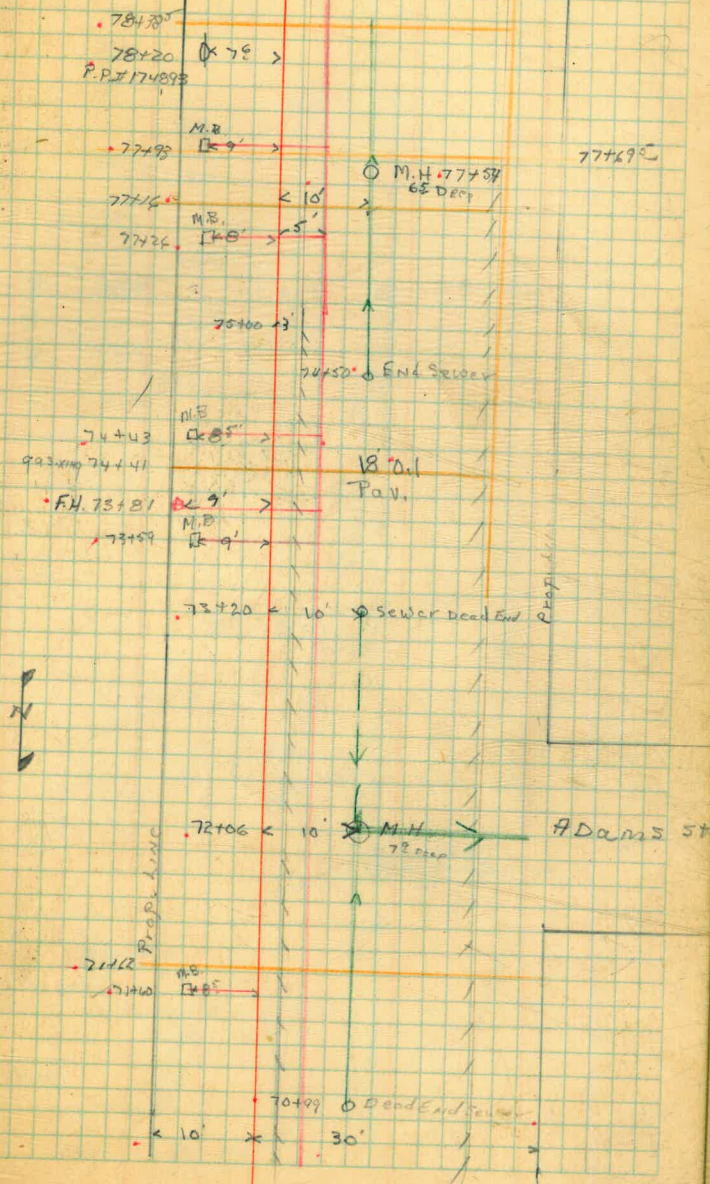
† 65+01.30 89°52' L



21" Potline line

Kilg
Sert
Shuman
1-27-50

454



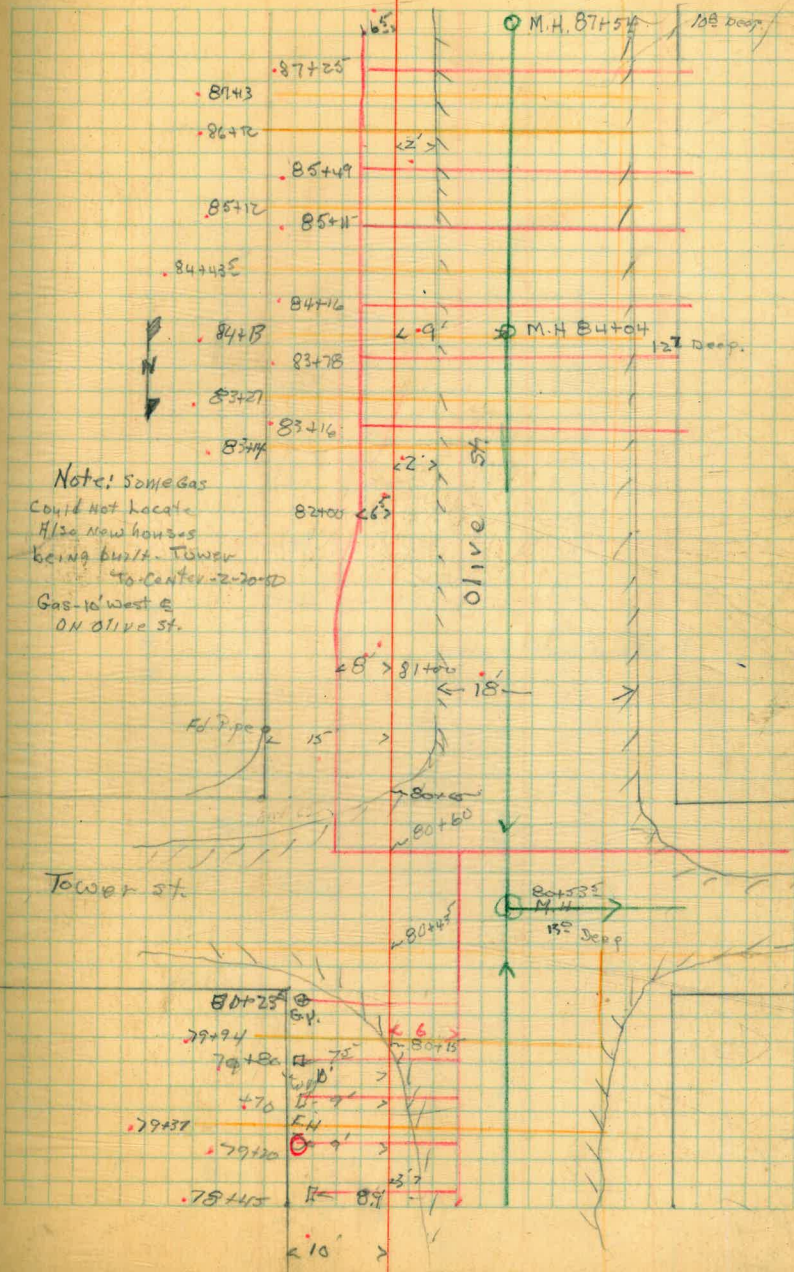
21" Brine Line

King's Notes
Surreman
West

1-30-50

clear

46

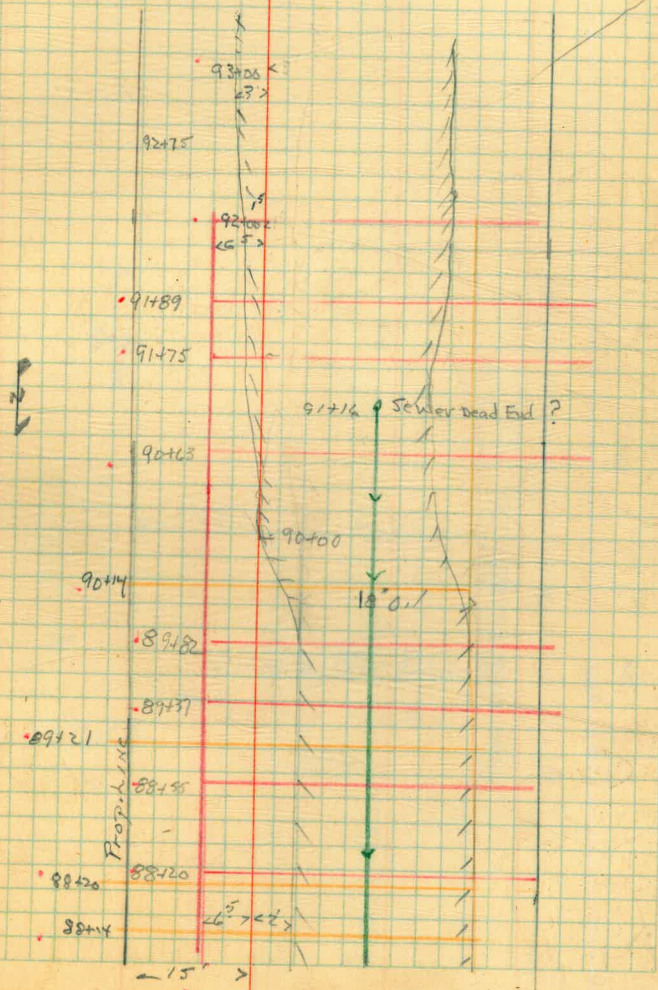


21" Brine Line

King-Notes
Shipman
West.

clear

47



21" BRINE LINE

Mag 3

KING-NOTES 2-2-50
Shipman
West. 1

Clear Warm

40

586° 30' N

△

93+3936

88° R

Center St.

93+3936
117° 15'

99194

93+3920

olive St.

↑
N
↓

CONT. P. 53

Oil End 93+56

99+545

12' CO. W. R. T.

93+266

R.P. 17204

R.M. 0172

Prop Line

117° 15'

40'

40'

75°

117° 15'

21" BWN + LIN +

E.C. 101+50.73

$\Delta 73^\circ 41' L$

R. 87.62

T. 65.86

K. 112.73

Defl. $\alpha = 19.608$

Hubs 100+39.03

B.C. 100+38.00

Iron Pipe 96+90.20

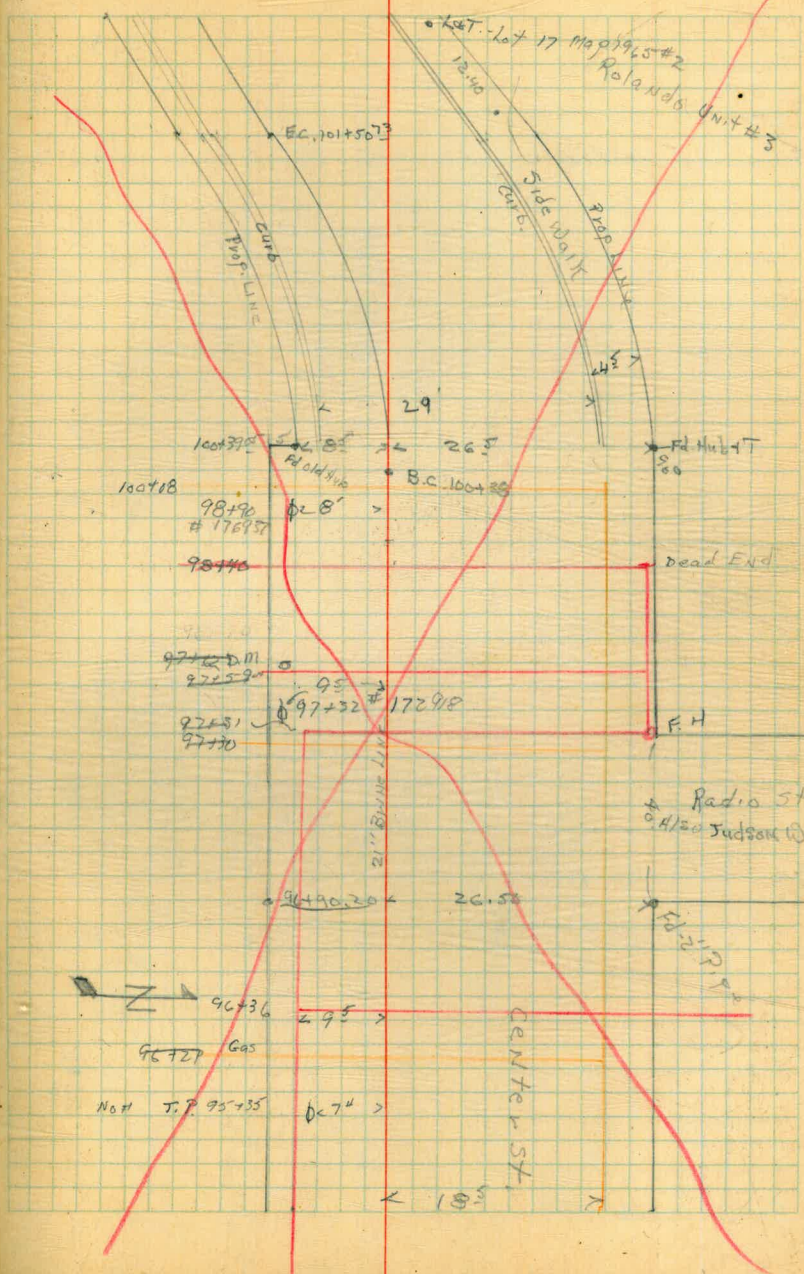
See Page 53

King
Shipman
West

2:2-80

clear

49



E.C. 107+73.31

$\Delta 40^{\circ} 50' 30'' R$
R. 376.58
T. 140.17
L. 268.38
DEFL. 4.23

P.R.C. 105+04.23

$\Delta 30^{\circ} 15' 30'' L$ (DEFL. 4.157)
R 413.58
T 135.38
L. 261.67

B.C. 102+43.25

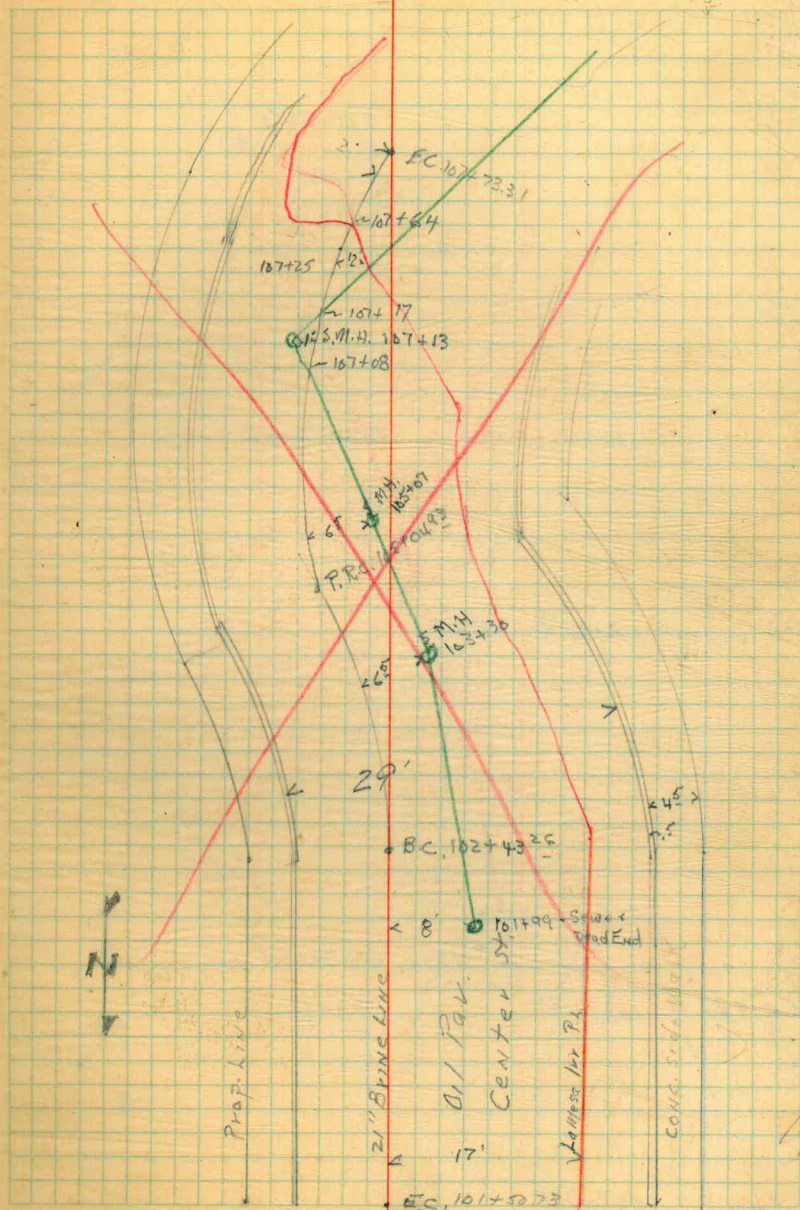
E.C. 101+50.23

21" Brine Line

KING
SIMPSON
10627

2-6-50

95'
79'
15'



21" BRINE LINE

See Rolando - Sheet 1965 P2 43

E.C.

111+72.12

$\Delta 13^{\circ}09'39''$ R
R. 610
T 70.40
L. 140.12

B.C.

110+32.0

*

110+32.0

1013' L. Target Tangent to Curve

+

108+85.78

43°25' L

6°45' L. OFF TANGENT TO CURVE

E.C. + A

108+165.0

$\Delta 22^{\circ}11'10''$ R
R. 111.50
L. 43.19
T

P.C.C.

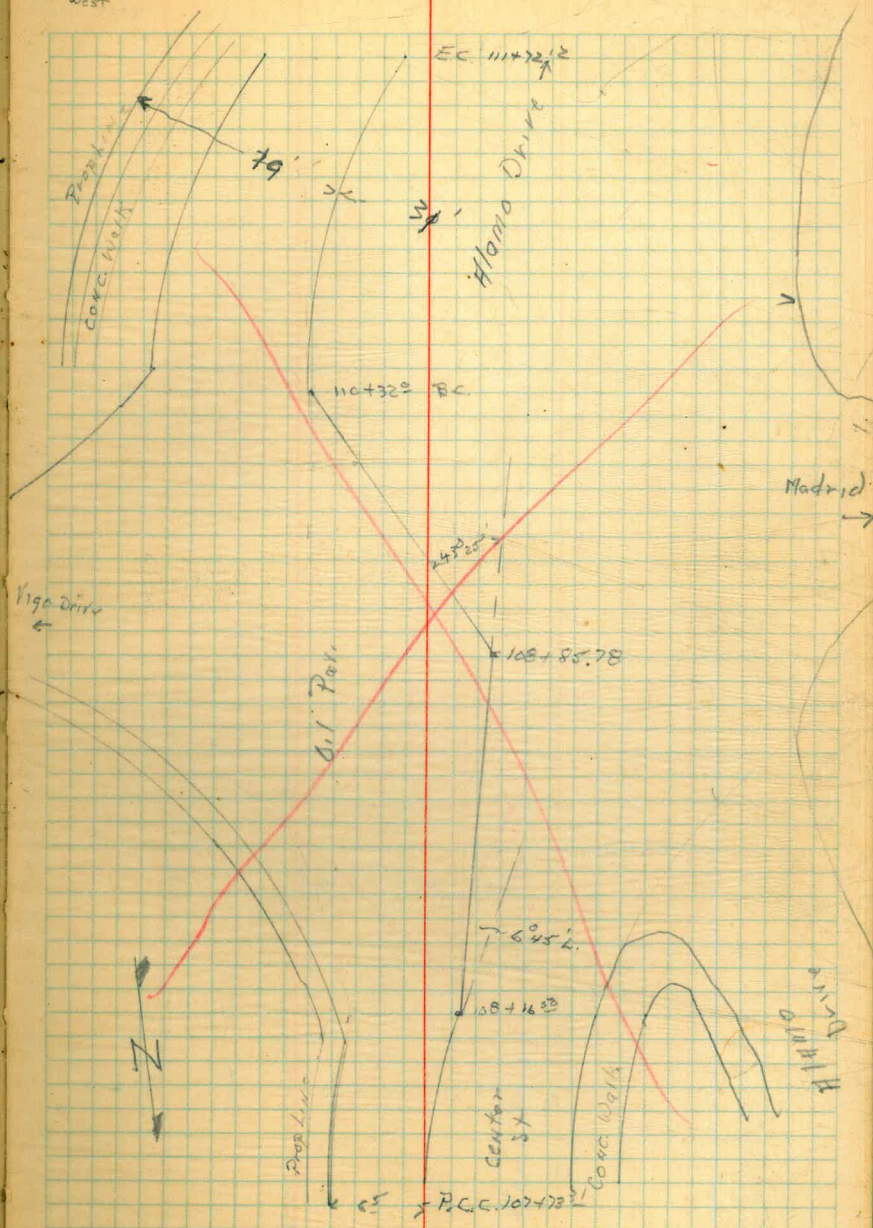
107+73.21

KING
SHIPMAN
WEST

2-8-50

Clear

51

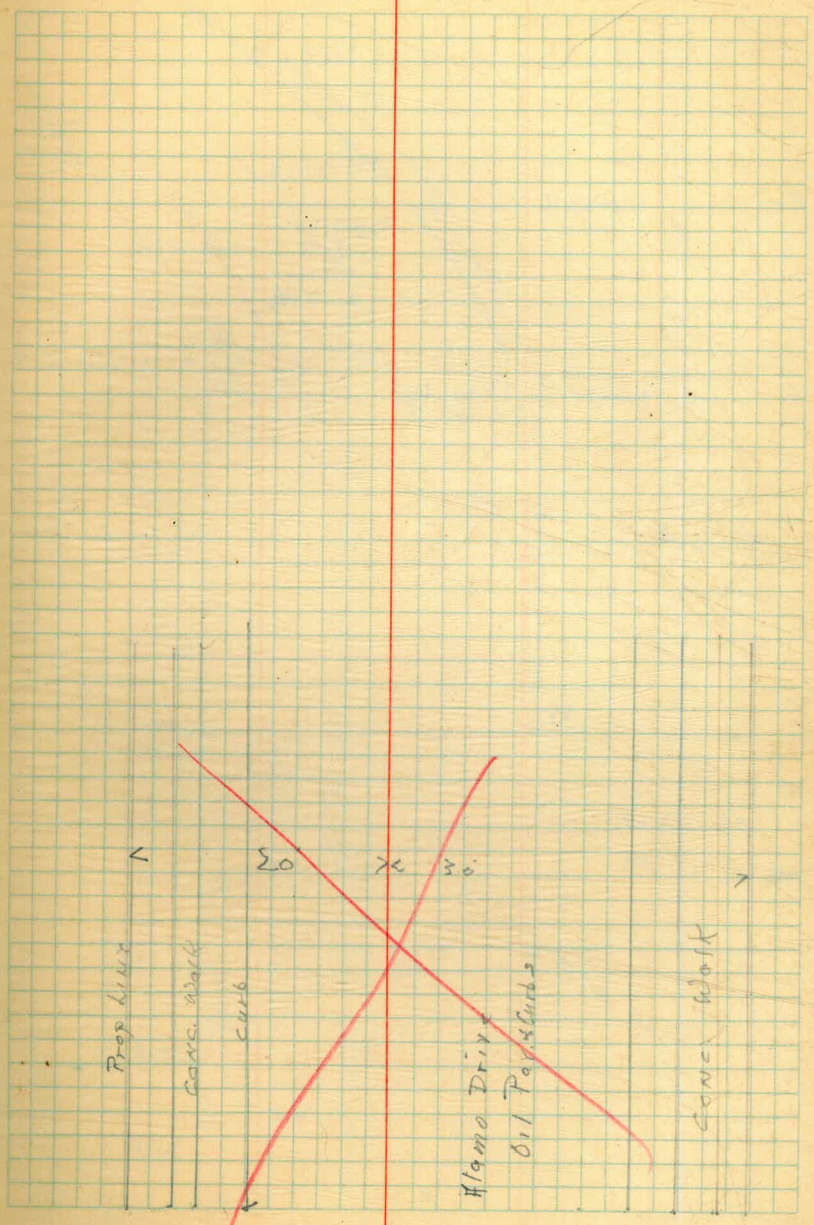


21" Brine Line

King
Shipman
West

2-8-52

52



21" Brine Line

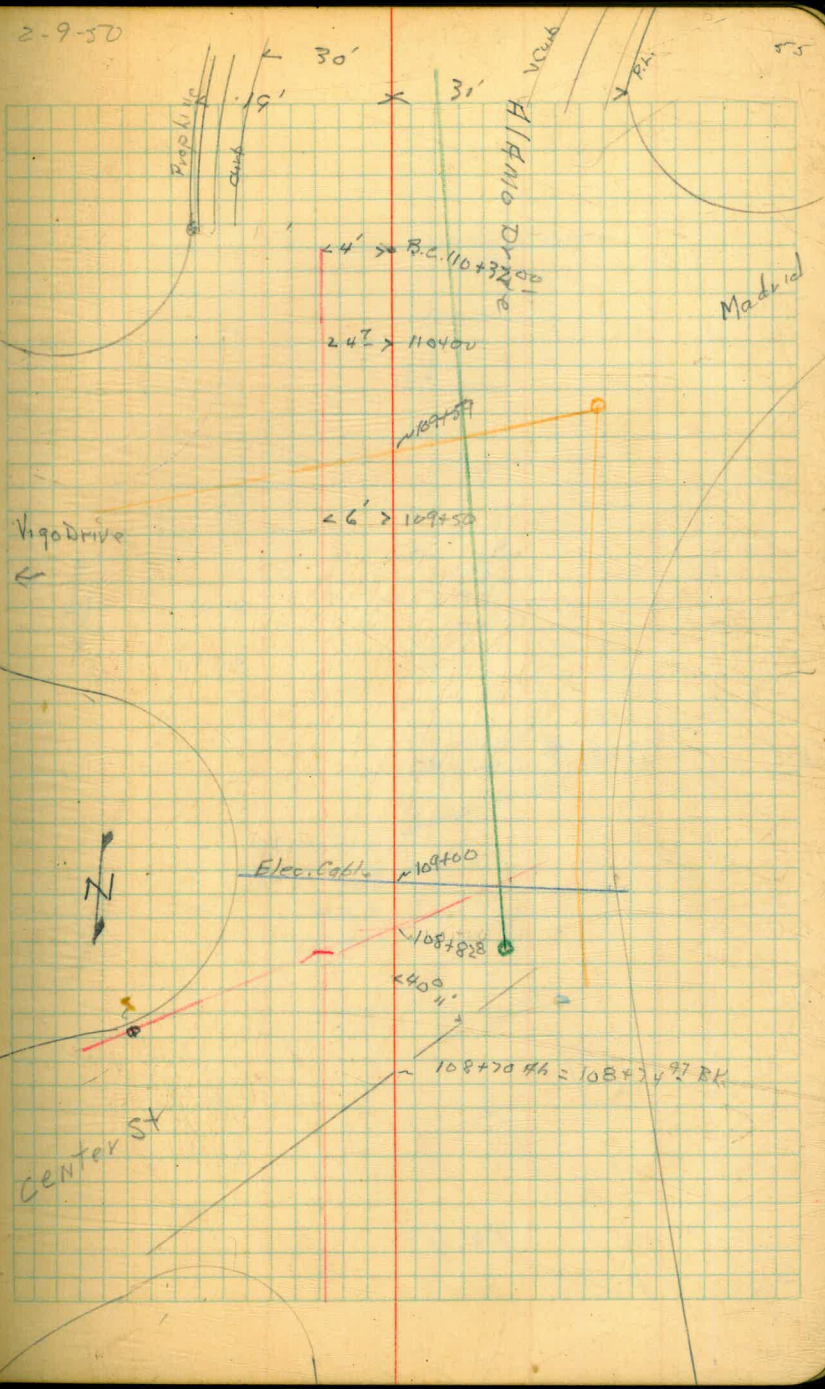
King
Shipman
West

2-9-50

R.C. 110+32⁰⁰ 1°13' L From A Pt to get tang. to Curve

108+70.46 40°11' L

108+74.97 BK



21" BYRNE LINE

KING
SHIPWAY
W. 021

29-50

Clear 52

S 30° E

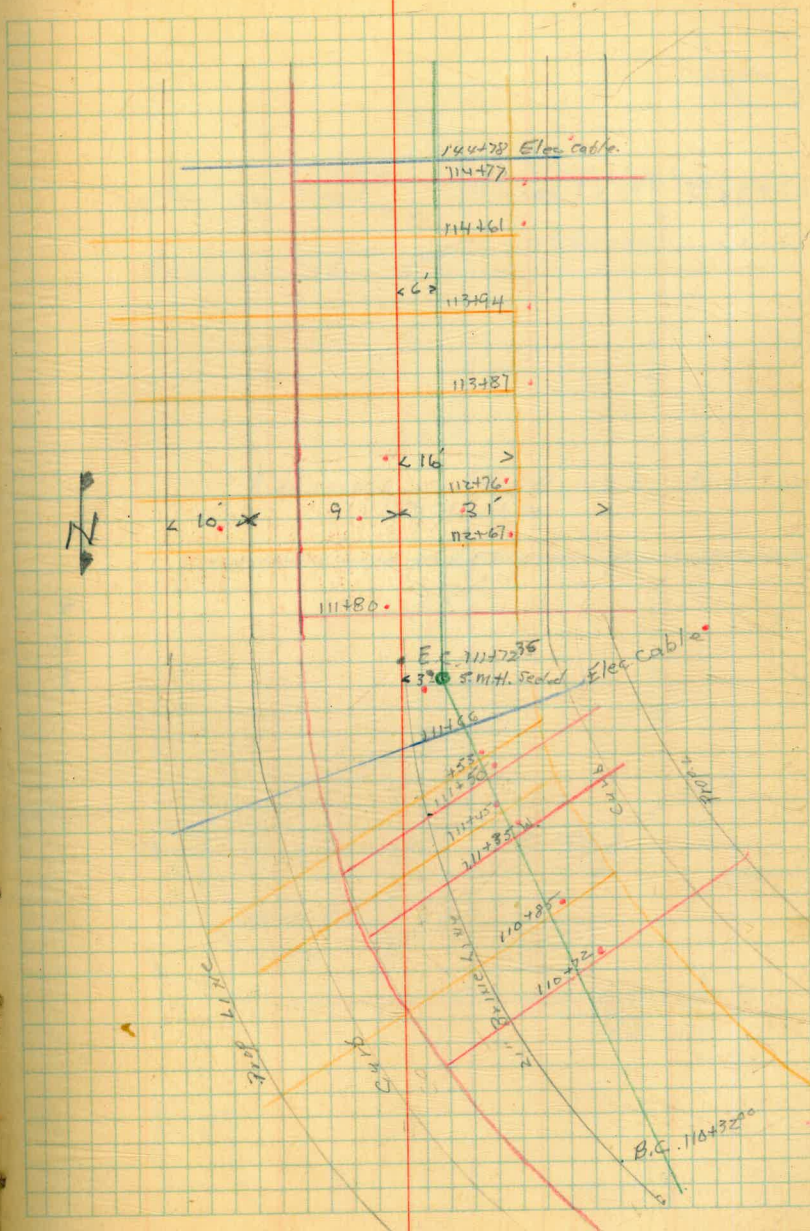
E.C. 111472³⁵

$\Delta 13^{\circ}09'39''$ R.
R.G. 11
T. 70.43
L. 140.36

B.C.

110432⁰⁰

$17^{\circ}09'39''$ R.



21" BRINE LINE

KING
SHIPMAN
WART

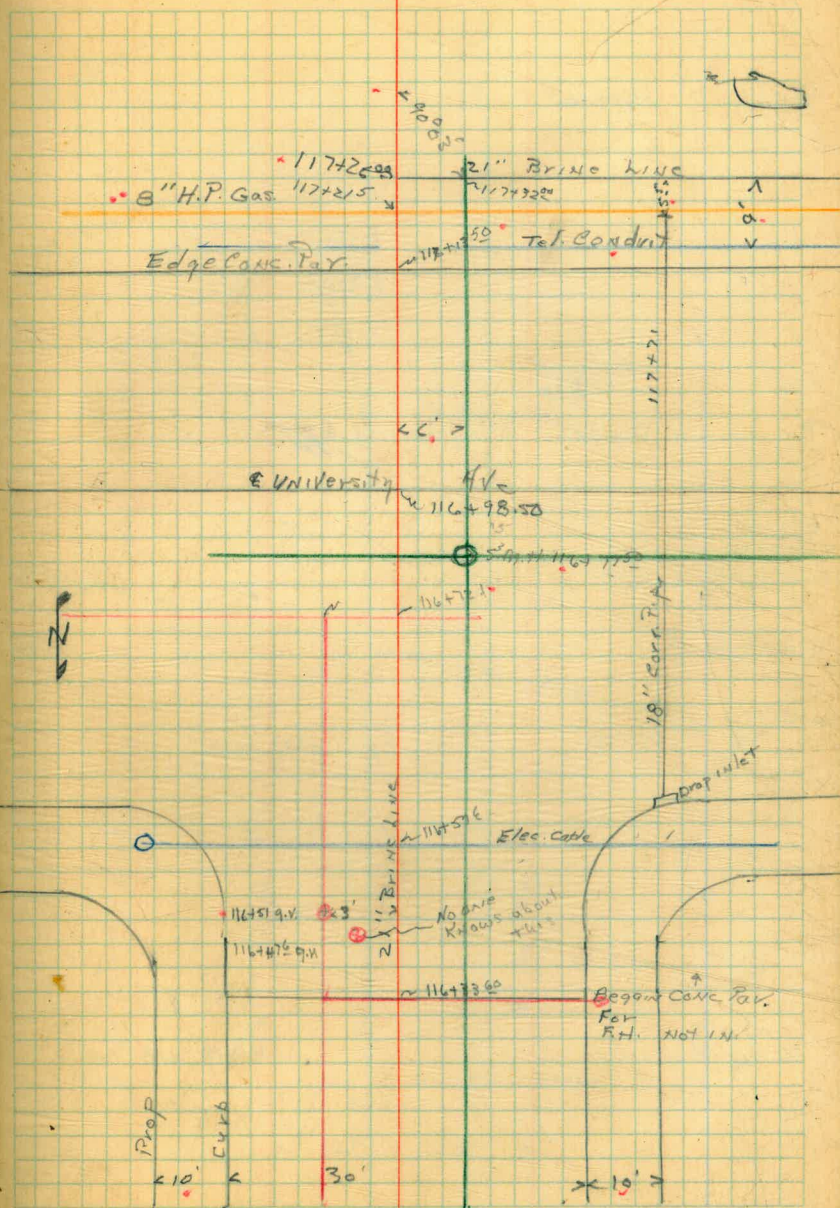
2-15-50

clear-Hot

57

117+26.00 90°03' R

116+98.50 2 UNI. AVE



21" Brine Line
(4 in 4 in)

E.C. 124+60.10

A 22°55' L
R. 972.5
A. 388.97
T. 197.12

71.13
B.C. 120+21.13 22°55' L

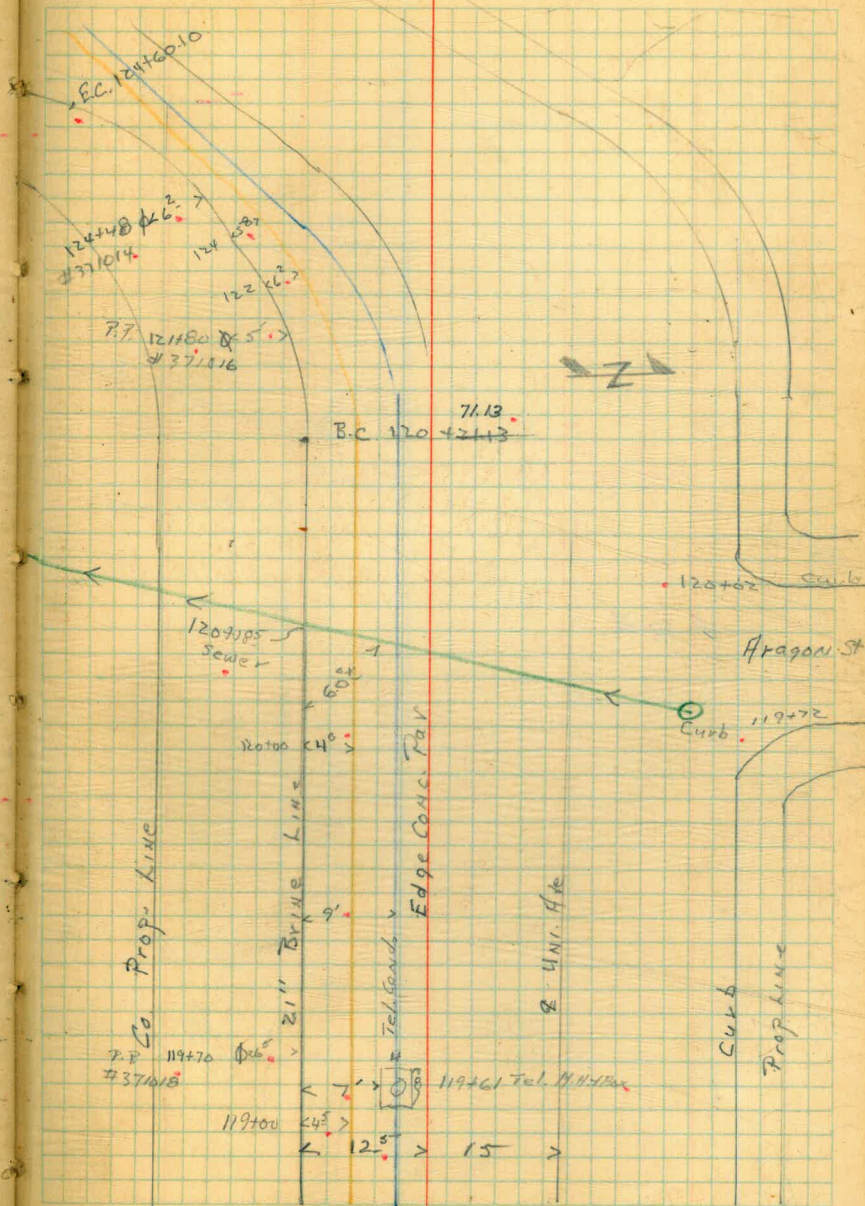
6.29.50
R.M.

Note: All Tel. Cond.
Boxes 4x8

King
West
Shipman

2-27-50

Clear-Warm 58



21" Brine Line
(Uni. Ave)

King
West
Shipman

2-27-58

Clear

60

Oil Pan

Cartagena
Drill

< 2250 >

142468
P.P. 277458

φ 7.5 >

141765

141765 W. Service

141745 Edge 2" B. Top

< 225 > X 275 >

22

140477 Tel. M.H.

P.P. 139461
277457

φ 6.2 >

< 15 >

136458
277458

φ 5.7 >

Prop. Line

21" Brine Line

Edge Conn. Tank

8" Man. dia

+46 curb

Bonillo
Dr.

Co.

φ 2.7 >

133458 P.P. 277459

133430

φ 2.7 >

136467

21" Brise Line
(UNI. AVE)

Note: 4 UNI. AVE & 4 Pav.
ave diff. From
1434661 to City Rd.

30' R.

1434861

KING
SHIPMAN
WEST

2-28-50

Clear-Hot

61

College
Library

2 4.4 x Gas q.v. 150+59

RP 271011 150+71 @ 7.5' < 4.9' >

< 2.7' > Tol. M.H. 146462

< 5.5' > 146

PP 272604 148+23 @ 7' >

End of oil 145487

PP 272604
145476 @ 6.5'

Oil Tank

DM 14448
14448 6' x 4'

14448 @ 27.5'

< 12.0' >

< 6.7' >

Edge of City Rd.

* See Cul. Map # 1575

143175

1447615

1431615

145447

143431.5

1447315

21" Brise Line

21" Brise Line

2" Brine Line
UNI. Ave

See Map 2095
File # 5650

157+80.87
10° 28' R.
LT # 2/19/50

REVIS
ALIGNM
SEE Pg. 70

0° 30' L.

151+00

KING
Shipman
West

3-6-50

Clear

62

DNM 158+35

10' Meter 14-8+00
w/ CONC. Apron

5+492

893

157+80.87A

157+80.87A

157+80.87A

157+80.87A

PP 271452

150+80.5

11.7

153+31

18" CORR PIPE

7.2

RM 20153 Tol MW

D.M. 0152408

610E

75.2

PP 271453

151+80

0.8

20" CORR PIPE

PROP. LINE

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

151+40

EDGE CONC. TAN

UNI. AVE

College Way

BOTH

REVIS
SEE Pg. 70

2" Brine Line
UNL. Ave

Note: See File # 5250
For ties from city;
Bdy. West to challenge pd

2° 53' R.

167+72³

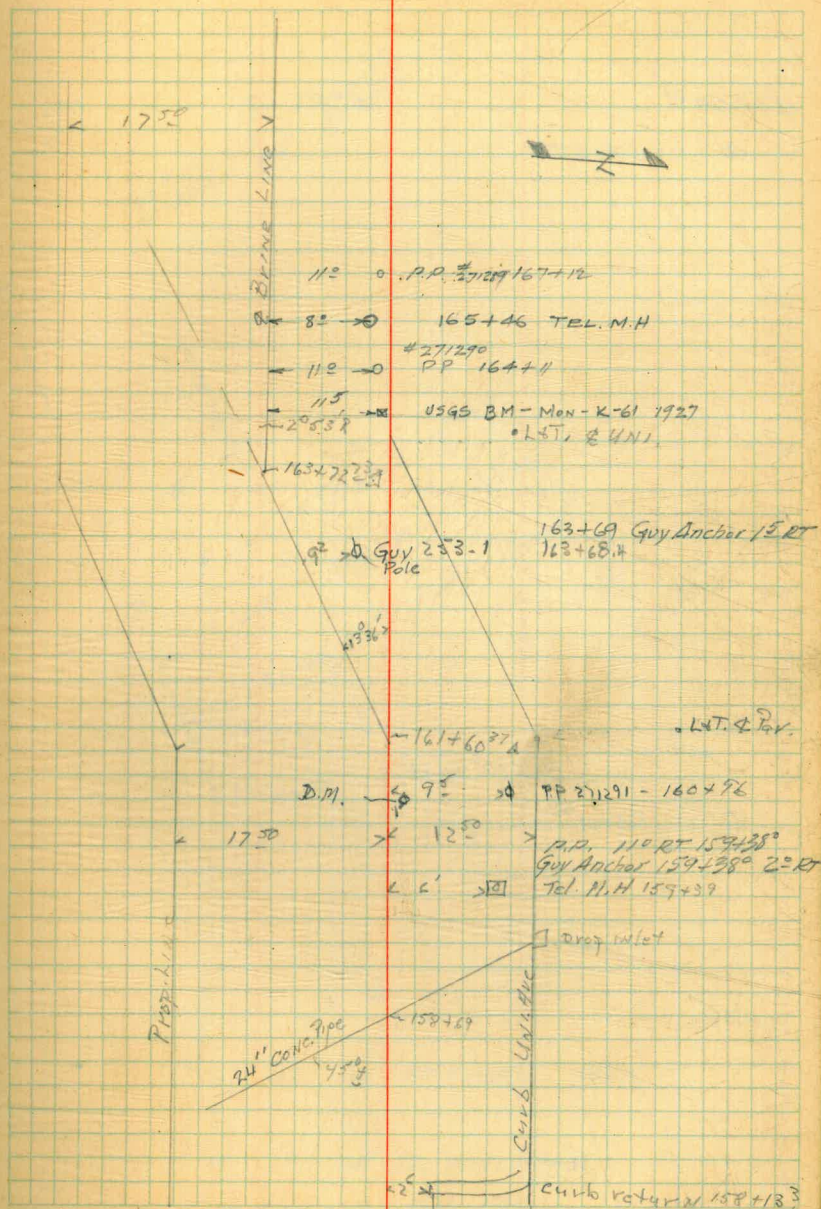
13° 36' Lt.

161+60³⁷ Δ

King
Shipton
West

4-25-50

63



21" Bvine Line
UNI. Ave

KING
Shipman
West

4-25-50

64

182+54⁸⁴

P.I.

15° 57' LT

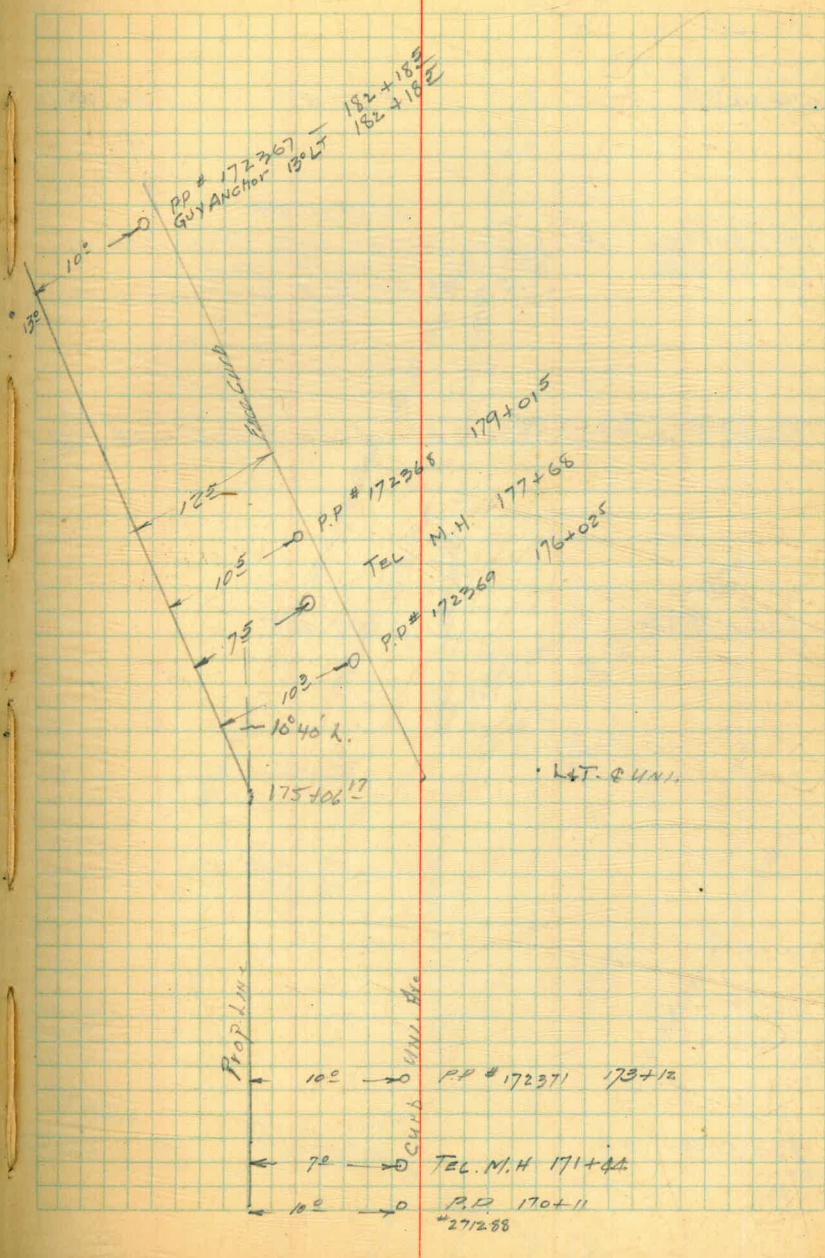
△

182+17⁴⁸

10° 40' LT

△

175+06¹⁷



SALT BRINE LINE

179+02.87 P.I. 8°27' RT FD NAIL

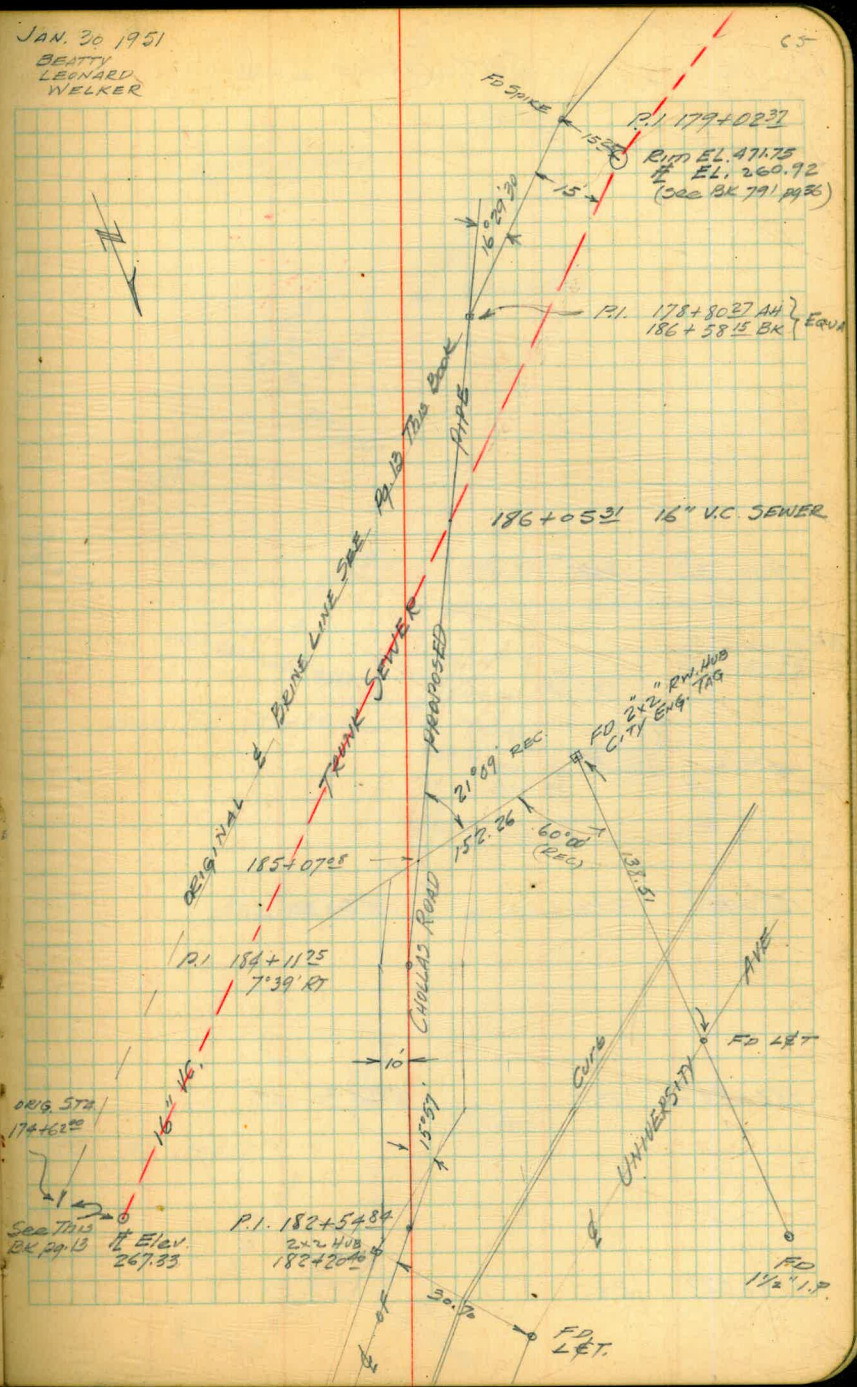
178+80.27 AH. P.I. 16°29'30 RT
 186+58.15 BK. } Intersection with Orig. Line as shown on pg. 13 This Book. 15.0 TO RT of E La Mesa Sewer.

185+07.08 POT. (21°09' RT 152.26 To 2'x2' HUB & CITY EDGE 700)

184+11.25 P.I. 7°39' RT

182+54.84 P.I. 15°57' LT

JAN. 30 1951
 BEATTY
 LEONARD
 WELKER



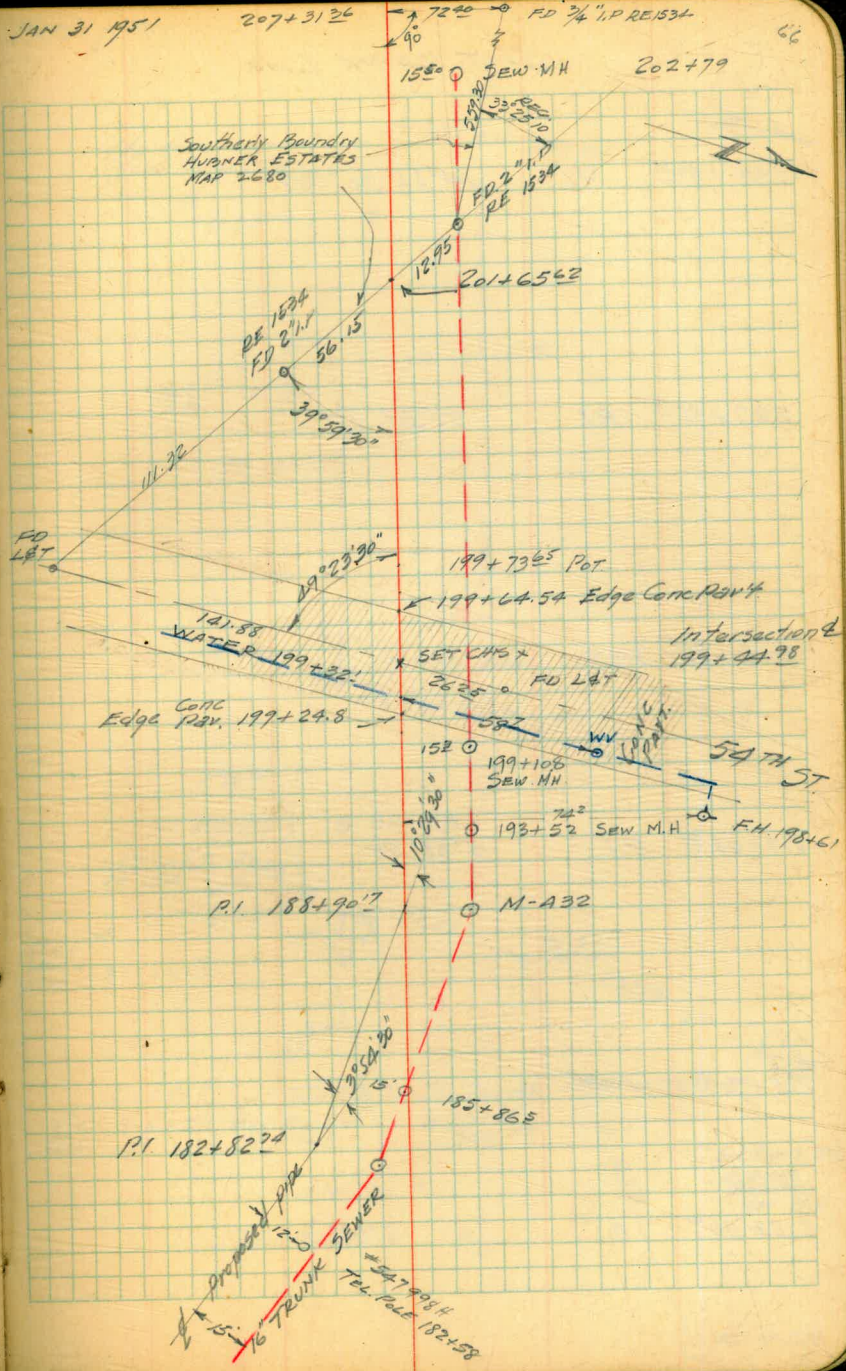
SALT BRINE LINE

199+73⁶⁵ P.O.T.

188+90⁷ P.I. 10°29'30" LT.

182+82²⁴ P.I. 3°54'30" LT.

179+02³⁷ P.I. 8°27' RT.



SALT BRINE LINE

232+57³⁵ P.I. 14°55'30" RT

227+95¹³ P.I. 21°34' LT

226+96¹⁹ POT

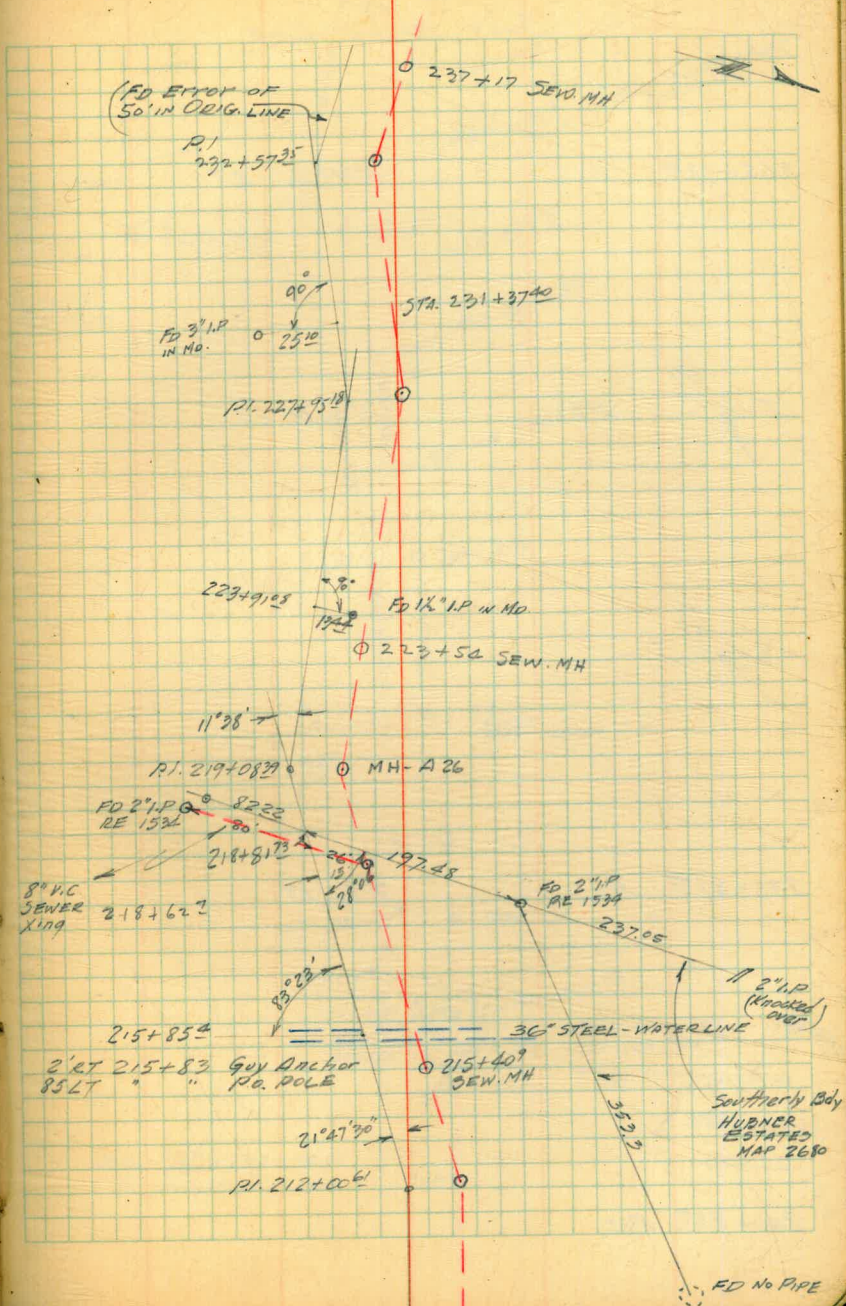
219+08³⁹ P.I. 11°38' RT

215+70⁸⁸ POT

212+00⁶¹ P.I. 21°47'30" LT

FEB 2 1. 1951

67



SALT BRINE LINE

265+87.22 P.I. 10°09'20" RT

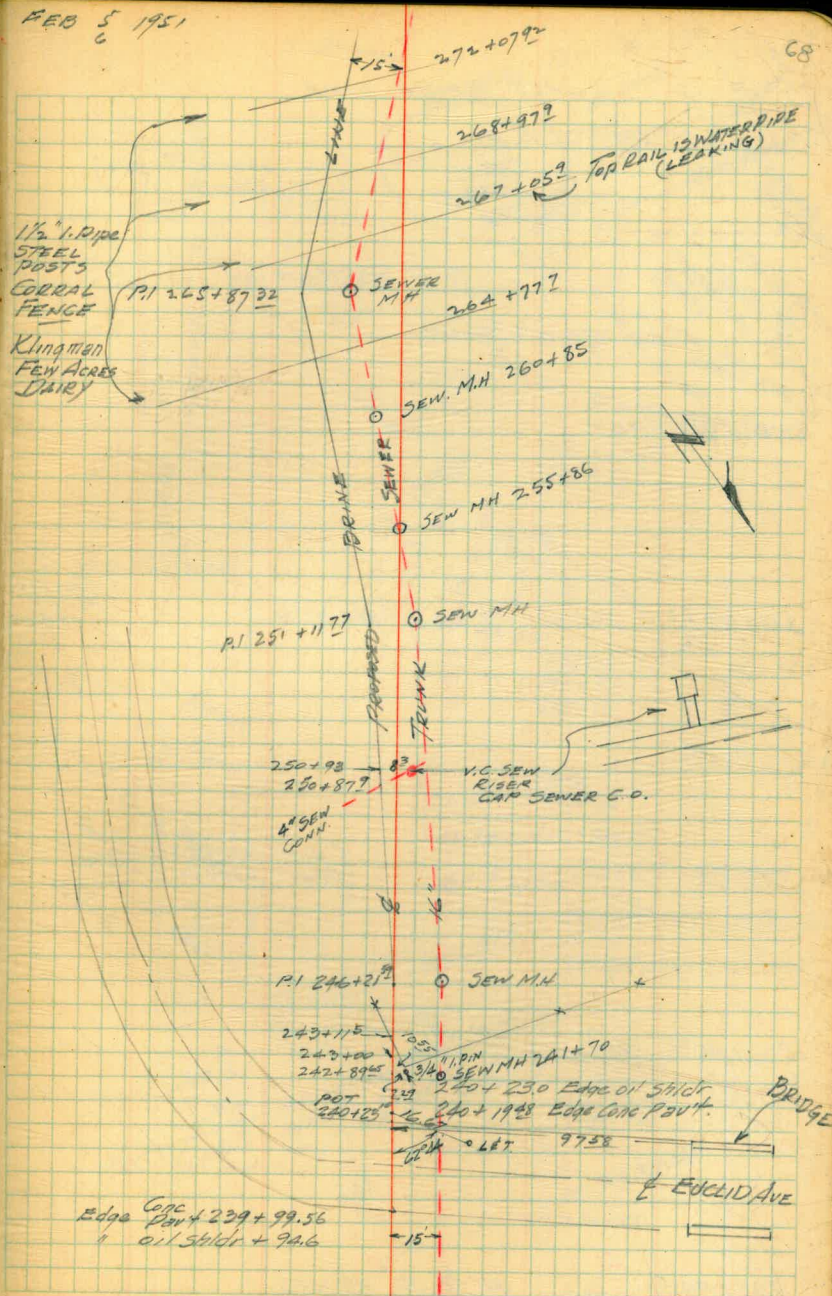
251+11.77 P.I. 4°40'30" LT

246+21.59 P.I. 7°52' LT

240+23.10 P.O.T.

FEB 5 1951
6

68



FEB. 8 1951
 DEATY
 LEONARD
 WILKER

SALT BRINE LINE

341+17⁹⁰ P.I. **REVISED SEE PAGE 71** (our 336+47²⁵ STA. Orig. 336+00)

322+46⁵⁵ P.I. 12°38' RT

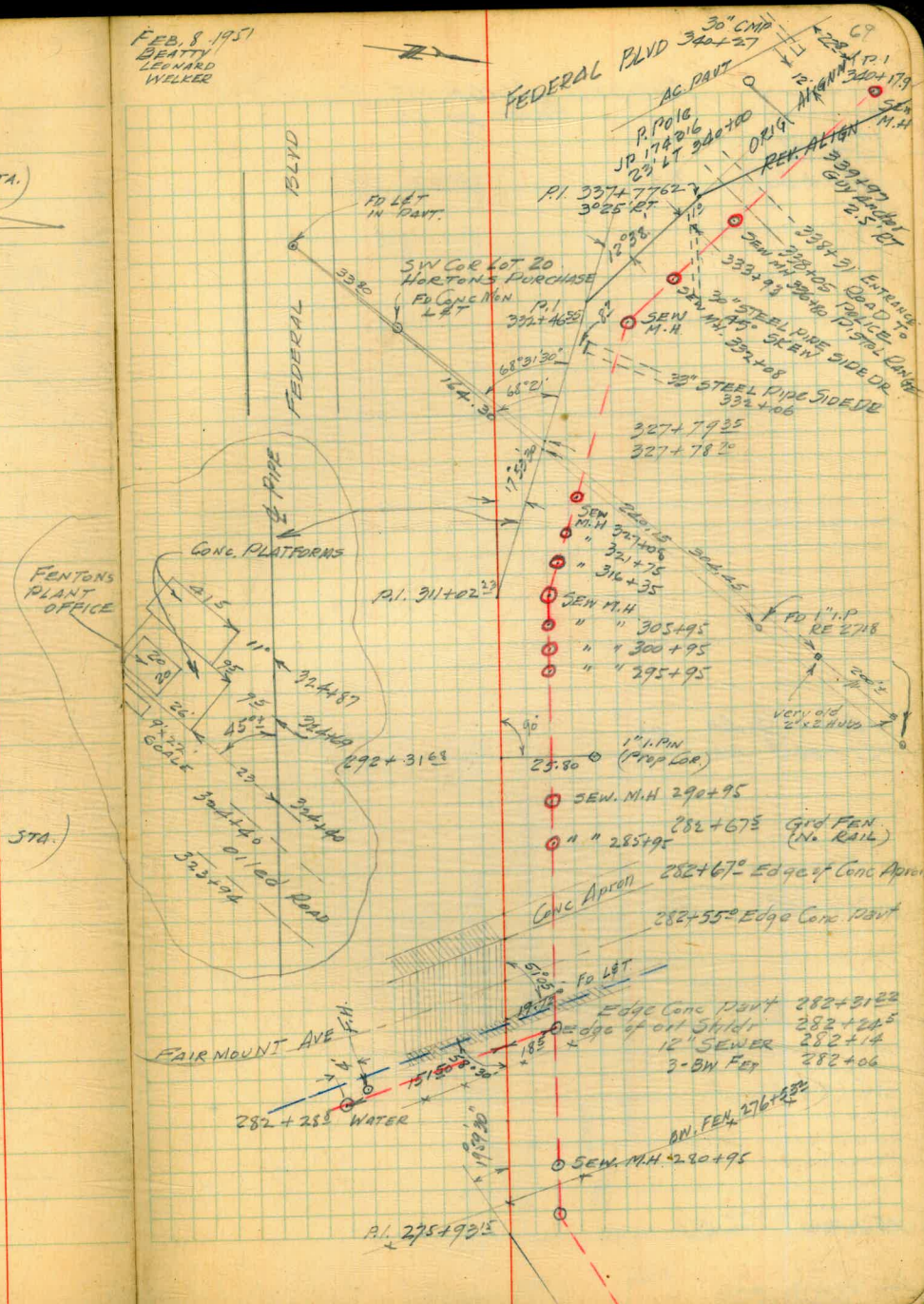
325+93¹⁰ POT

311+02²³ P.I. 17°53'30" RT.

(our 291+48⁶⁹ STA. Orig. 291+00)

286+46²⁵ POT

275+93¹⁵ P.I. 19°59'30" RT



REVISED ALIGN MT BRINE LINE
FROM pg. 62

157+80.87 P.I. 1°28' RT

151+62.82 AH P.I. 22°30' LT
151+66.12 BK

151+44.32 P.I. 22°30' RT

151+21.82 P.I. 22°30' RT

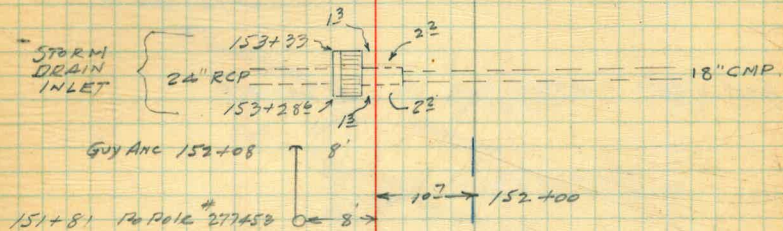
151+00 P.I. 23°00' LT

FEB 15, 1951
HEATH
LEONARD
WELKER

70

P.I. 157+80.87
1°28' RT
(NOT LEFT
AS SHOWN PG 62)

154+86 P.O. POLE #277432 O-62



P.I. 151+62.82 AH
151+66.12 BK

151+45 P.I. 151+44.32
151+42 P.I. 151+37.8
151+37.8

Edge
VAL CHAM

P.I. 151+21.82

NEW
CONCRETE
VAL CHAM
16" HORIZ
VALVE

P.I. 151+00

CHIS X COLLEGE

6" SEWER 166° 150+81 44.3
RIM EL. 321.43 INV. EL. 308.18
RIM EL. 322.25 INV. EL. 310.72

SALT BRINE LINE

348+50 P.I. 19°15' LT

346+00 POT

578°30' W

343+55° P.I. 5°00' LT

583°30' W

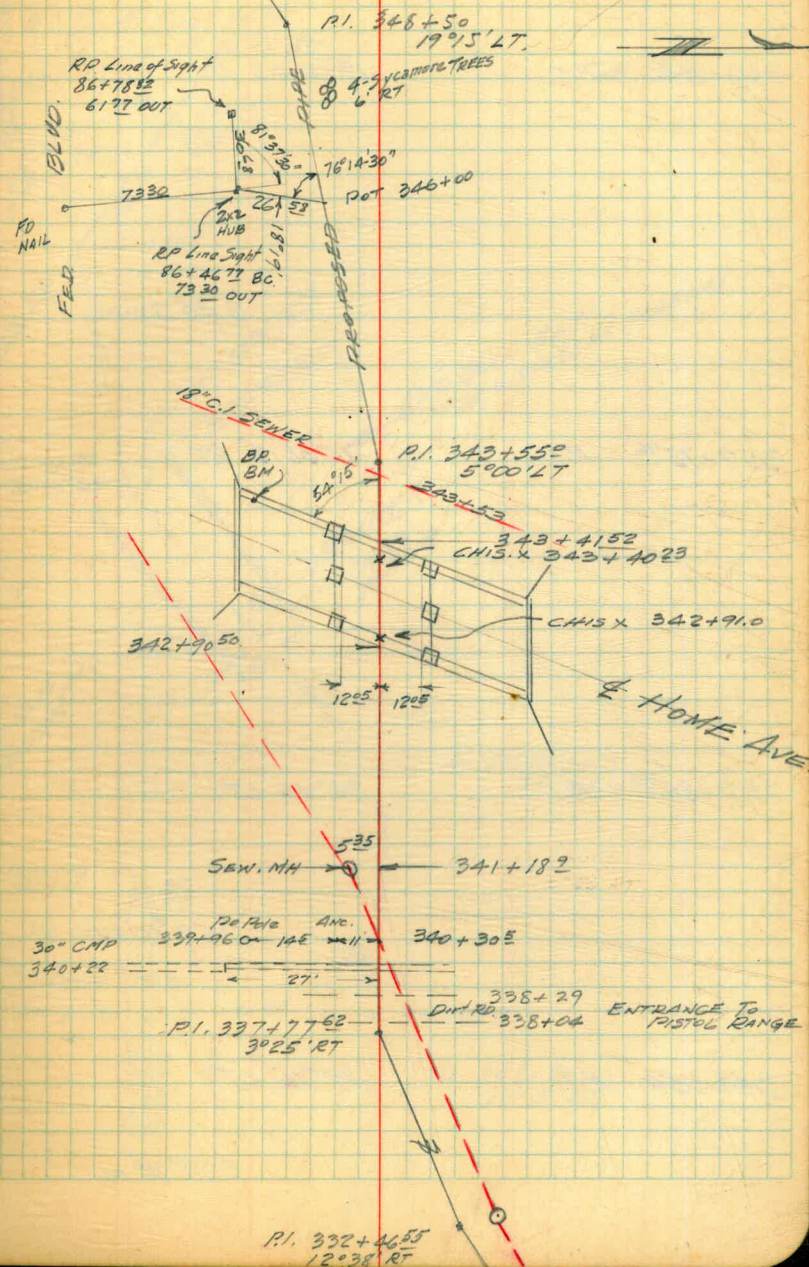
337+77⁶² P.I. 3°25' RT

580°00' W

332+46⁵⁵ P.I. 12°38' RT

MAR. 7, 1951

BEATTY
LEONARD
WELKER



BRINE LINE

366+86.45 P.I.

19°00'45" RT

5.40°30' W

357+75.96 P.I.

16°38'15" RT

5.24° W

355+84.95 P.I.

34°45' LT

5.59°00' W

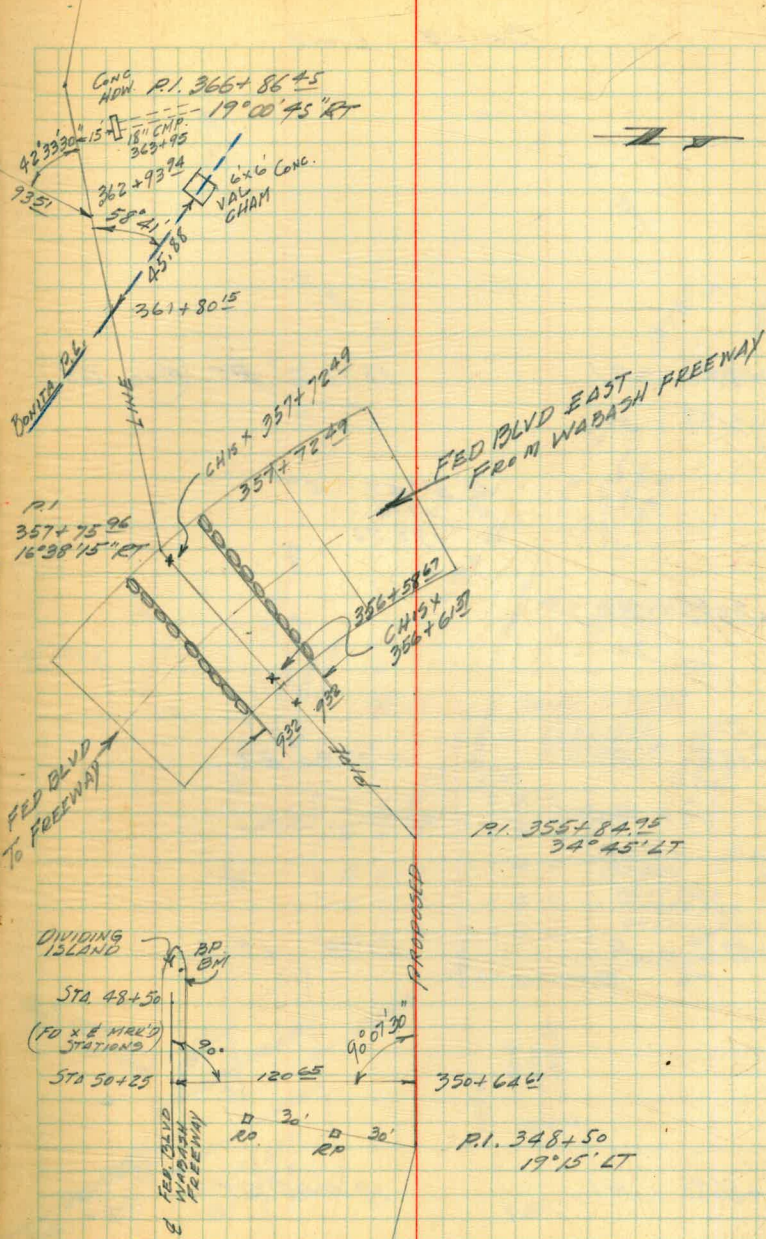
348+50 P.I.

19°15' LT

5.78°30' W

MAR. 8, 1951

71



BRINE LINE

373+31²⁸ P.I. 17°12'30" RT (From TAN.)

373+31²⁸ EC.

Δ 5°47' RT
R 1910.
L 192.76

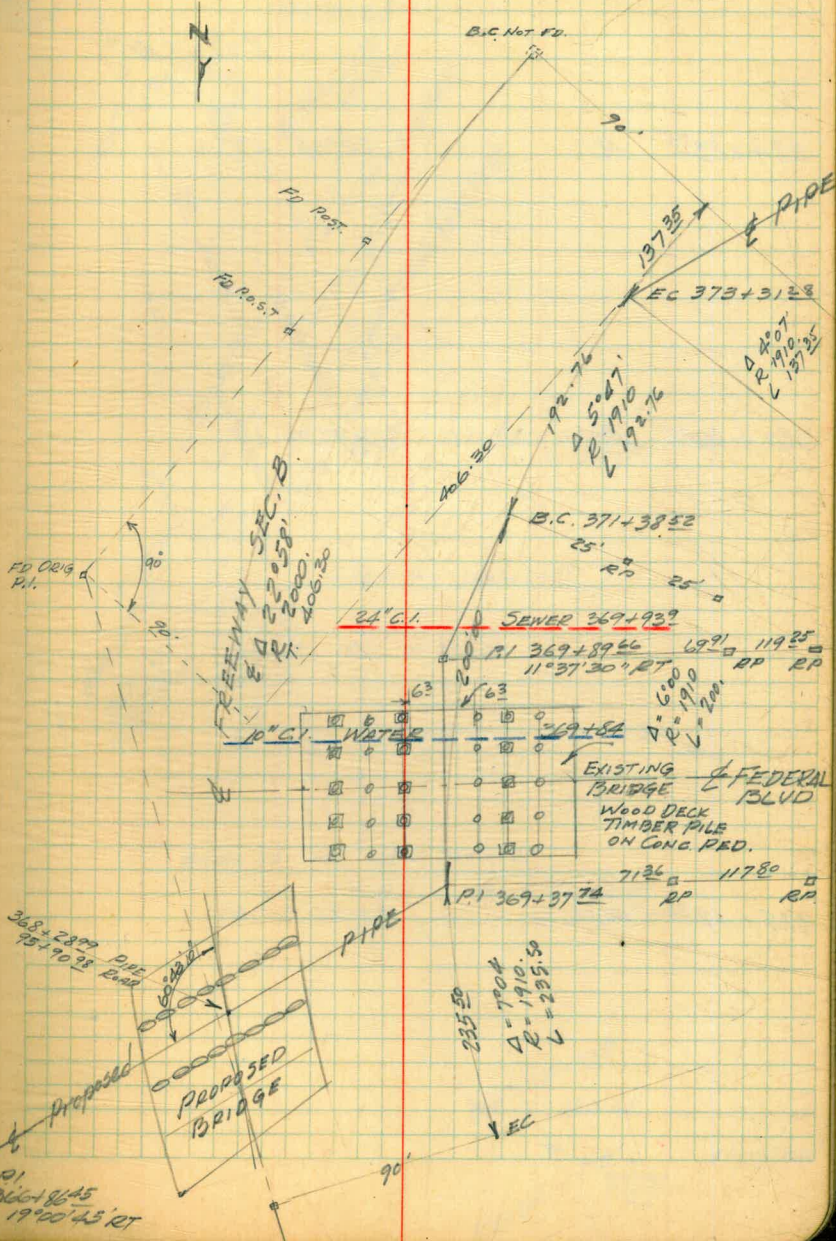
371+38⁵² B.C.

369+89⁶⁶ P.I. 11°37'30" RT

369+37⁷⁴ P.I. 61°39' LT

366+86⁴⁵ P.I. 19°00'45" RT

MAIL
EDGE
P.I. 3375 20'



BRINE LINE

384+23²⁵ P.I.

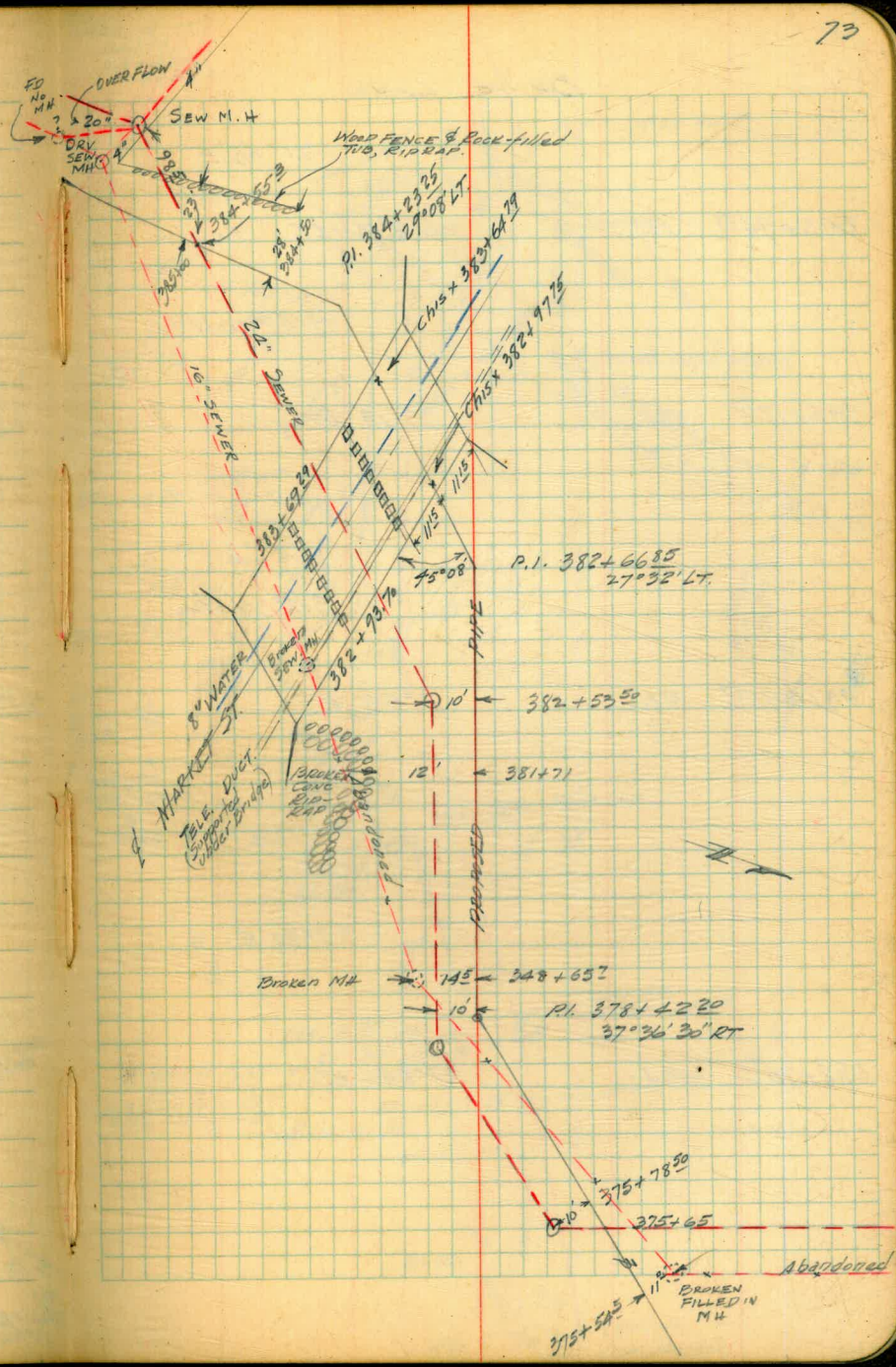
29°08' LT.

382+66⁸⁵ P.I.

27°32' LT.

378+42²⁰ P.I.

37°36' 30" RT.



BRINE LINE

5 21° 45' E

395+94³⁹ P.I.

64.00' LT.

5 42° 00' N

395+12⁷³ P.I.

37° 19' RT

54° 30' W

391+95⁸⁷ P.I.

11° 55' RT

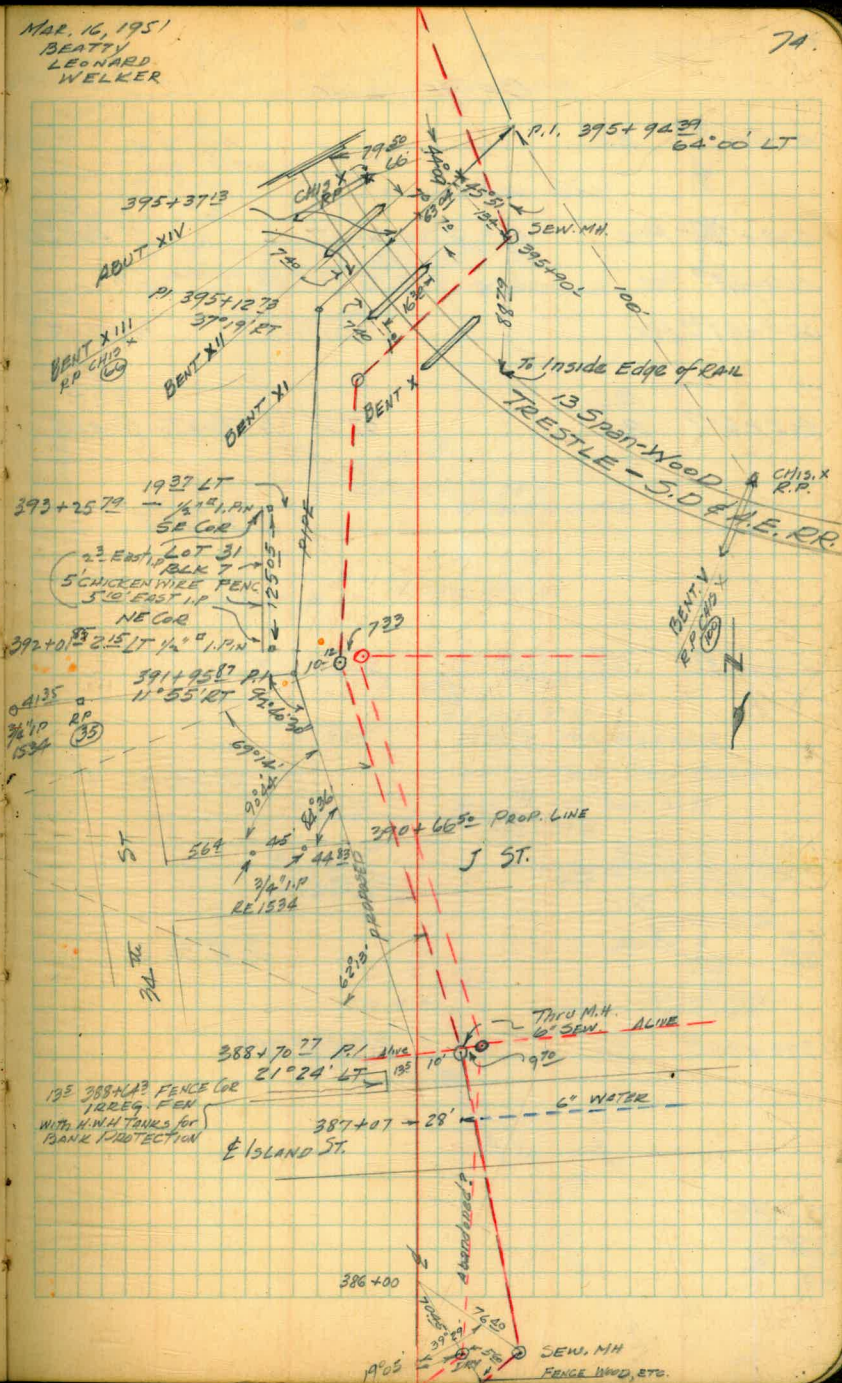
57° 30' E

388+70⁷⁷ P.I.

21° 24' LT.

MAR. 16, 1951
BEATTY
LEONARD
WELKER

7A



BRINE LINE

415+19⁶³ E.C.

409+78⁷⁰ POC

409+69⁵³ POC

409+47⁴⁰ POC

405+61¹³ B.C.
P.I.

403+13⁹³ P.I.

399+36⁵⁰ P.I.

$D = 5^{\circ}26'30''$ LT
 $R = 10,090.$
 $L = 958.50$

37°54' (To TANG TO CURVE)
RT

531°30' E

30°54' LT

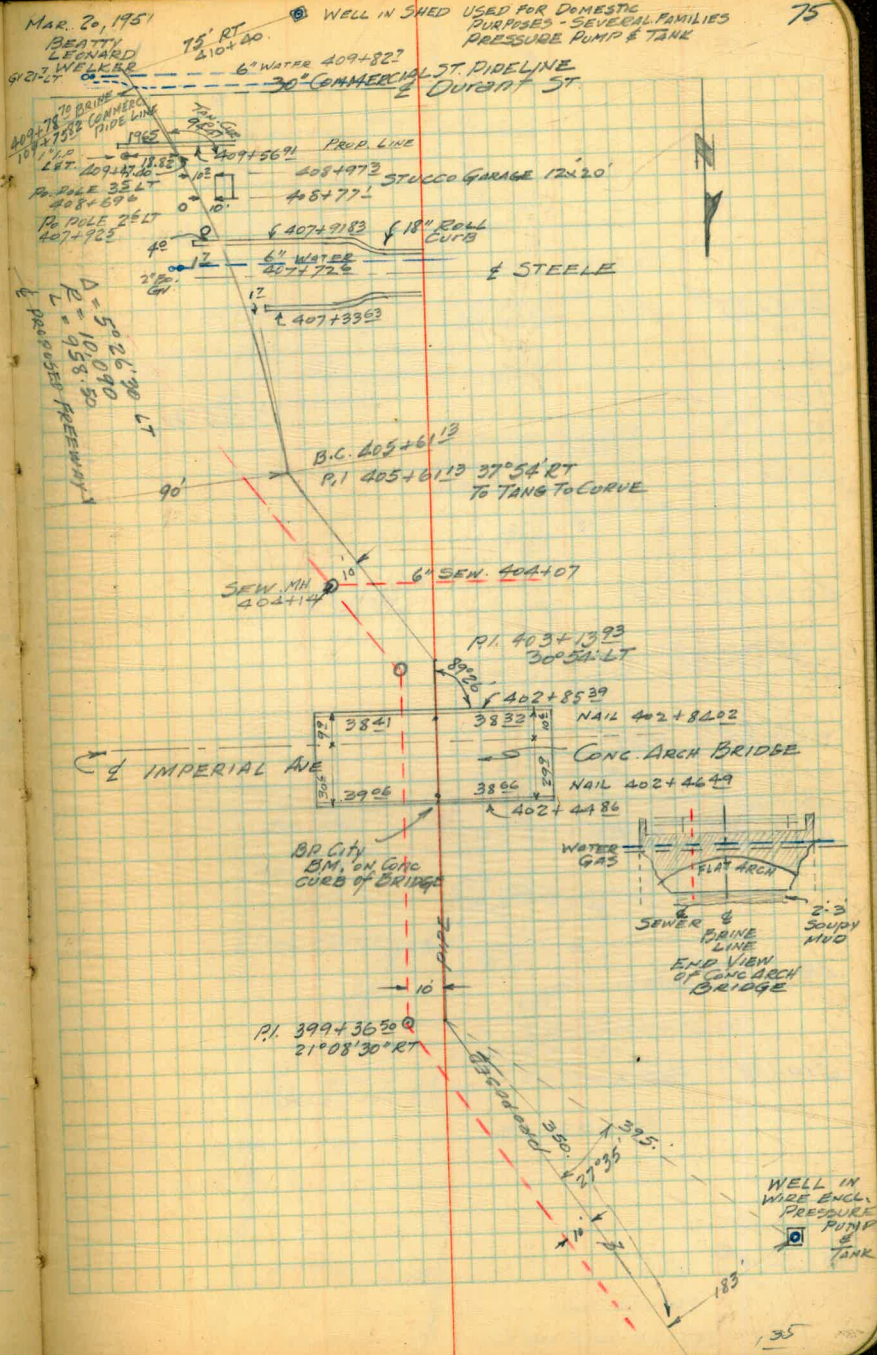
50°30' E

21°08'30" RT

Commercial
ST PIPELINE

T

PROP. LINE



BRINE LINE

S 1°30' W

424+25²⁰ P.I.

53°40' LT

S 55° W

422+27²⁰ P.I.

51°15' RT

421+84⁰⁸ P.O.T

421+19³⁷ P.O.T

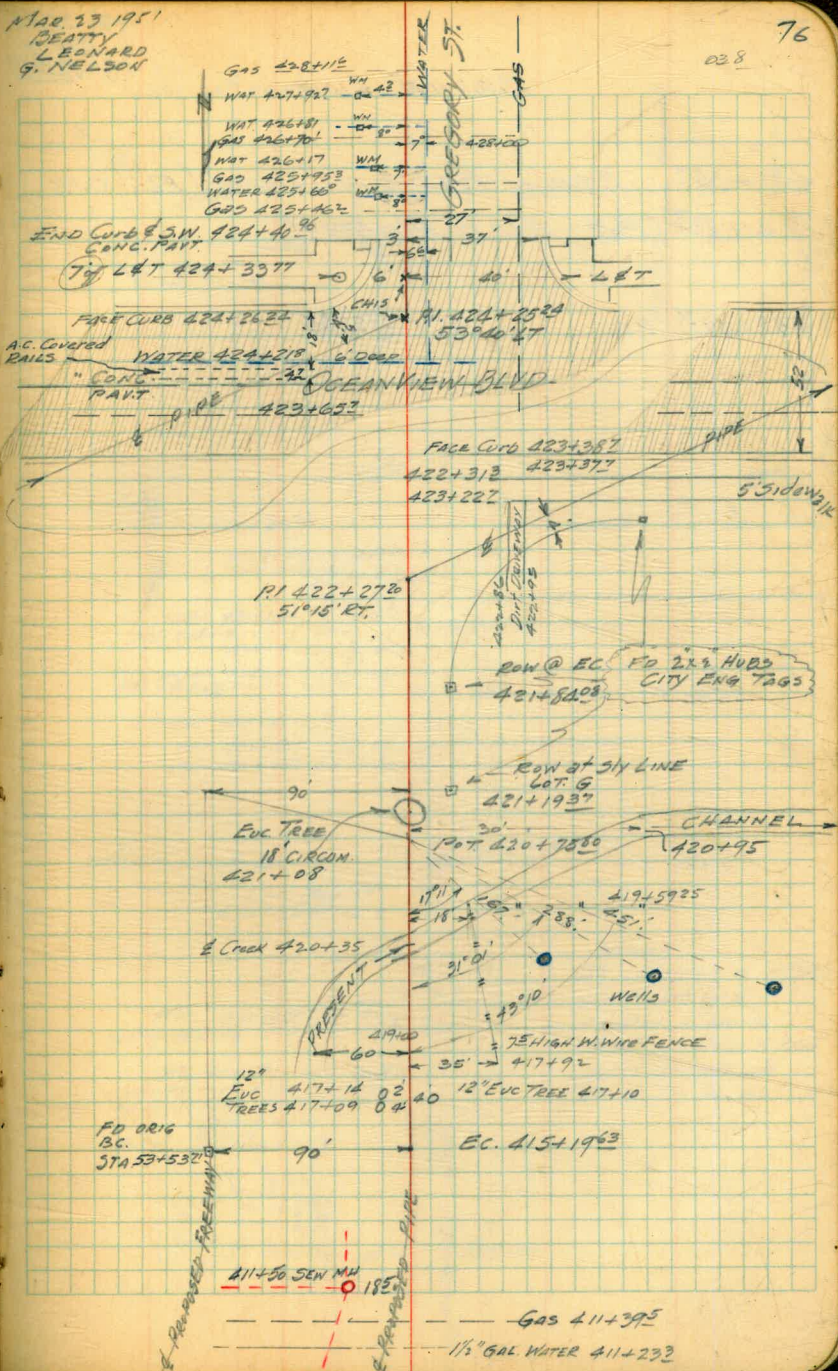
420+75⁸⁰ P.O.T

419+89⁷⁸ P.O.T

415+19⁶³ E.C

S 3°30' W

1120 23 1951
DEATY
LEONARD
G. NELSON



BRINE LINE

MAR. 28, 1951
BEATTY
LEONARD
& NELSON

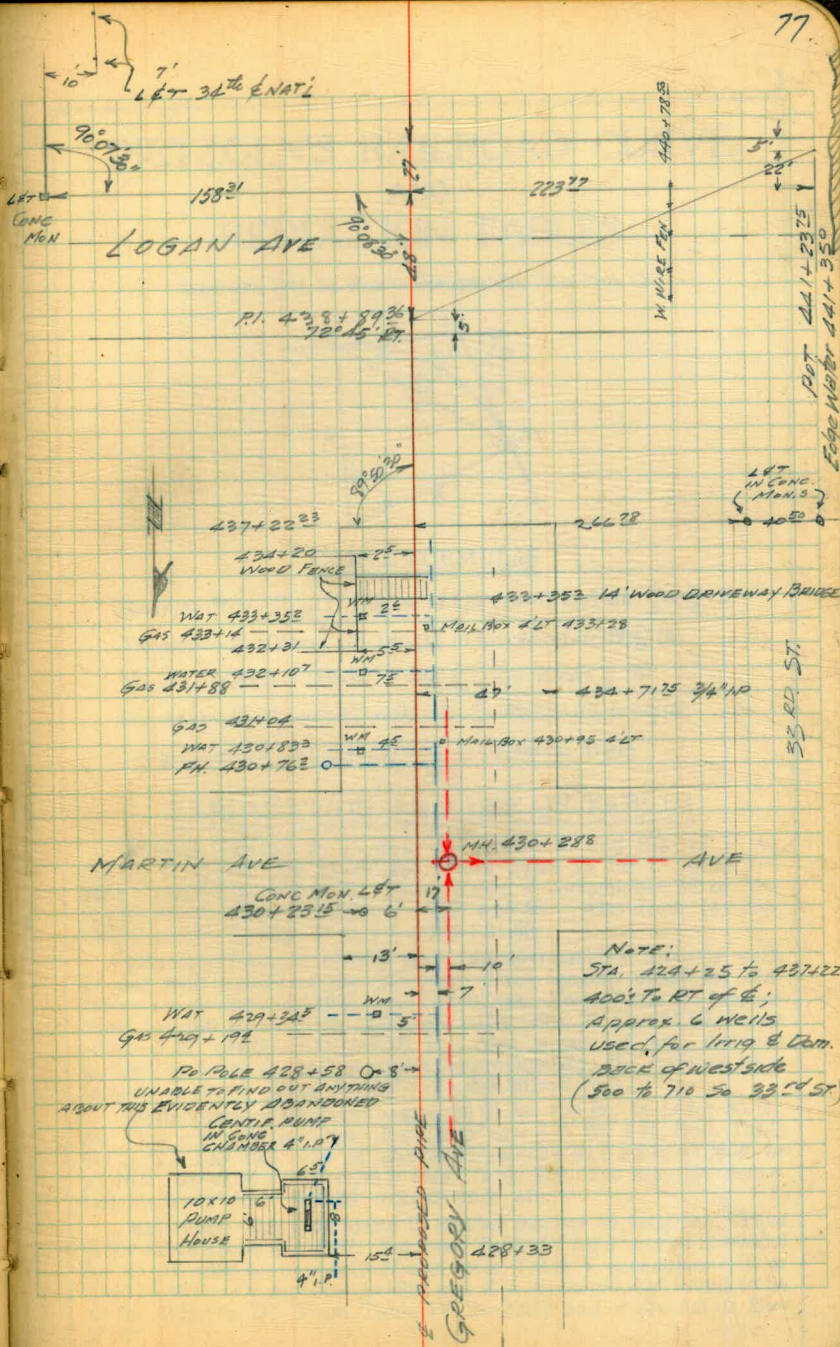
441+35⁰ Edge of WATER IN SLOUGH (EL -0.90)

441+23⁷⁵ POT END of Alignment

57°15'W

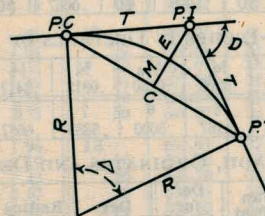
438+89³⁶ P.I.

72°45'



DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

Copyright, 1914, by Eugene Dietzgen Co., New York City



CURVE FORMULAS

- Radius= $R = \frac{50}{\sin \frac{D}{2}}$ (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) $= R \text{vers } \frac{\Delta}{2}$ (6)
 External= $E = T \tan \frac{\Delta}{4}$ (7) $= R \div \cos \frac{\Delta}{2} - R$ (8) $= R \text{exsec } \frac{\Delta}{2}$ (9)
 Long Chord= $C = 2 R \sin \frac{\Delta}{2}$ (10) $\Delta =$ Central Angle

EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. $\Delta = 62^\circ 10'$ $D = 8^\circ 20'$. From Table IV for 1° curve $T = 3454.1$ and $\div 8\frac{1}{3} = 414.49$ 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= $\frac{1}{2} D$ for 100 ft., $\frac{1}{4} D$ for 50 ft., etc. For c ft.=(in minutes) $.3 \times C \times D^\circ$ or=defl. for 1 ft. from Table III $\times C$. For Sta. 158 of above curve= $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$ or $2^\circ 16.2'$, or= $2.50 \times 54.5 = 136.2'$ from Table III. For Sta. 159 deflection angle= $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$, 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 $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$ and from Table V correction=.10 or $E = 115.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

W.O.H
24-6-14

97.56

Please Return to
City of San Diego Water Dept.
Room 268 Civic Center
Telephone Main 5161

50
11

DISTANCES FROM CENTER OF ROADWAY FOR
CROSS-SECTIONING.

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

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

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

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