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)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

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.

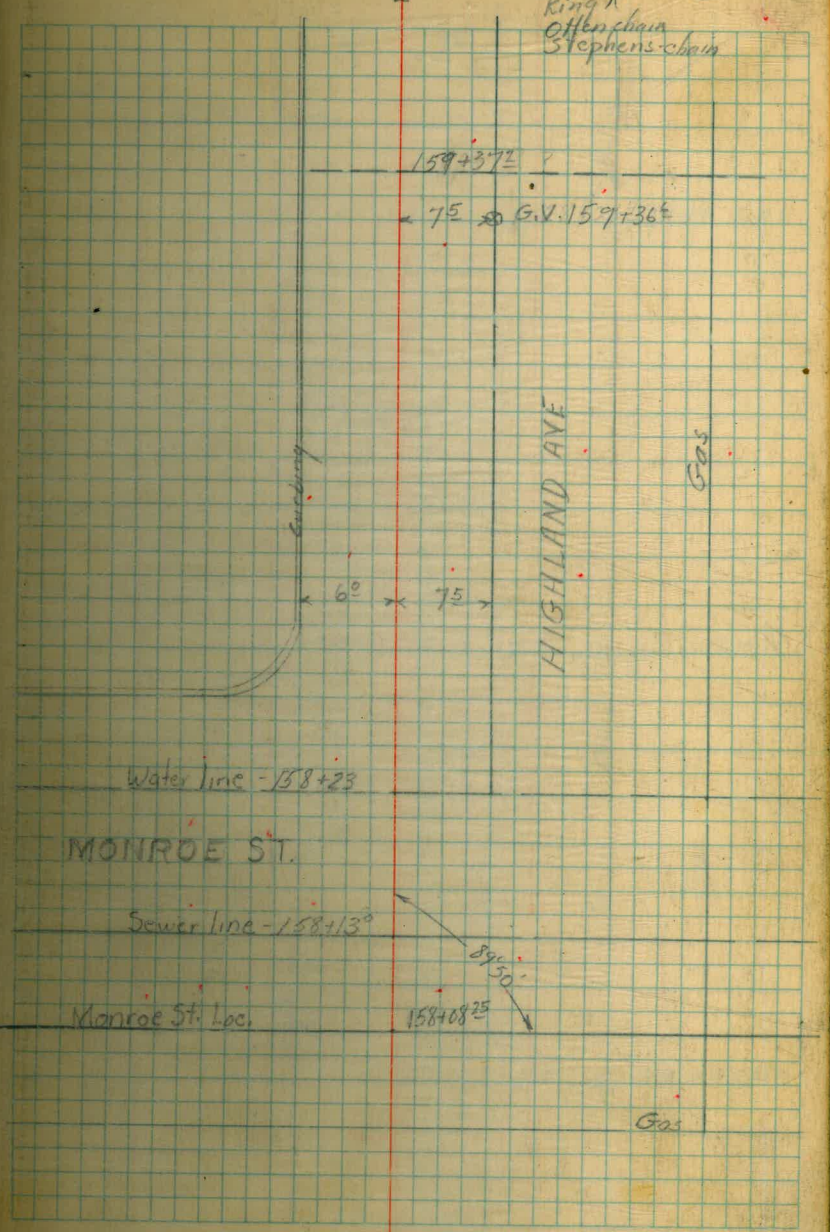
INDEX

Euclid Rl. Loc

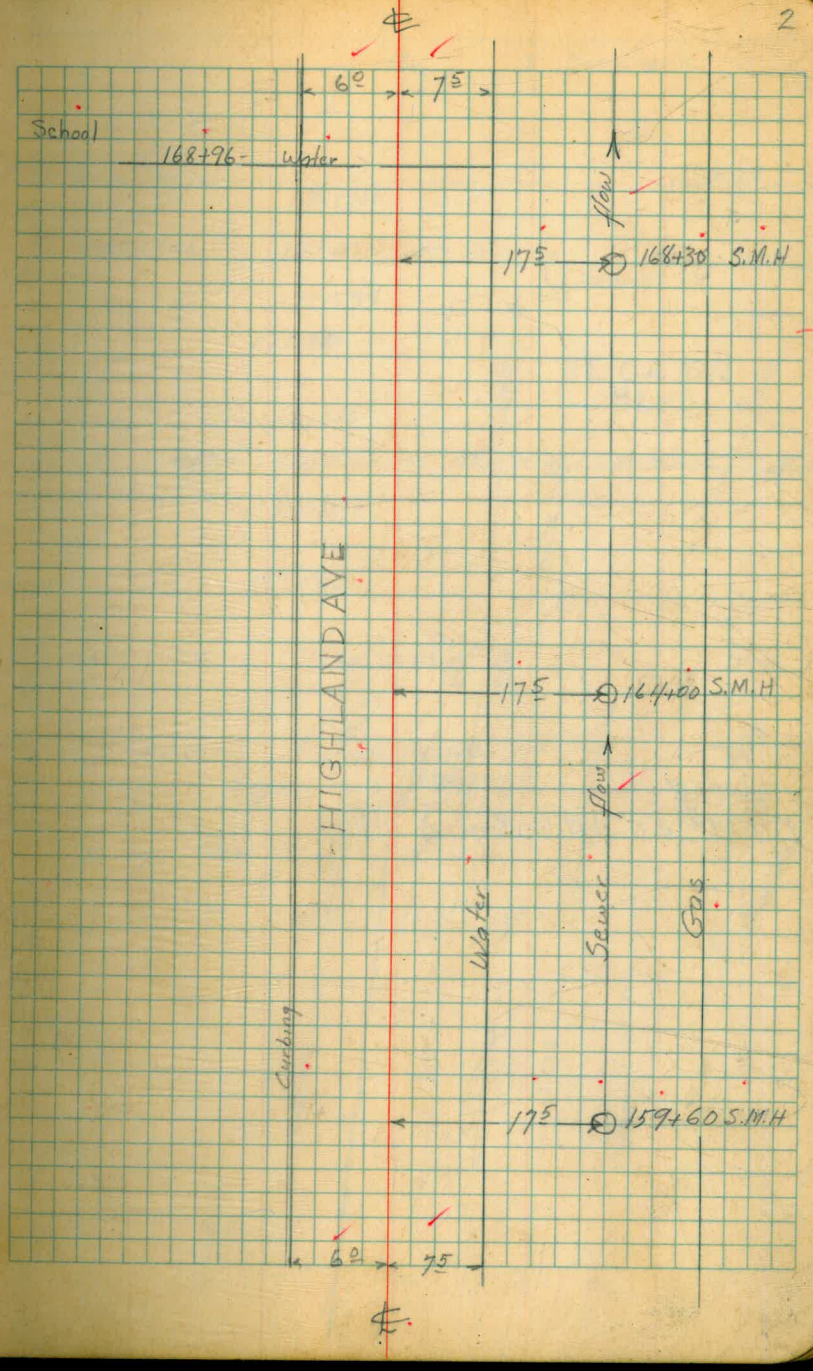
Pipeline loc., South on Highland from Monroe to Polk Ave

Nov. 27, 1944

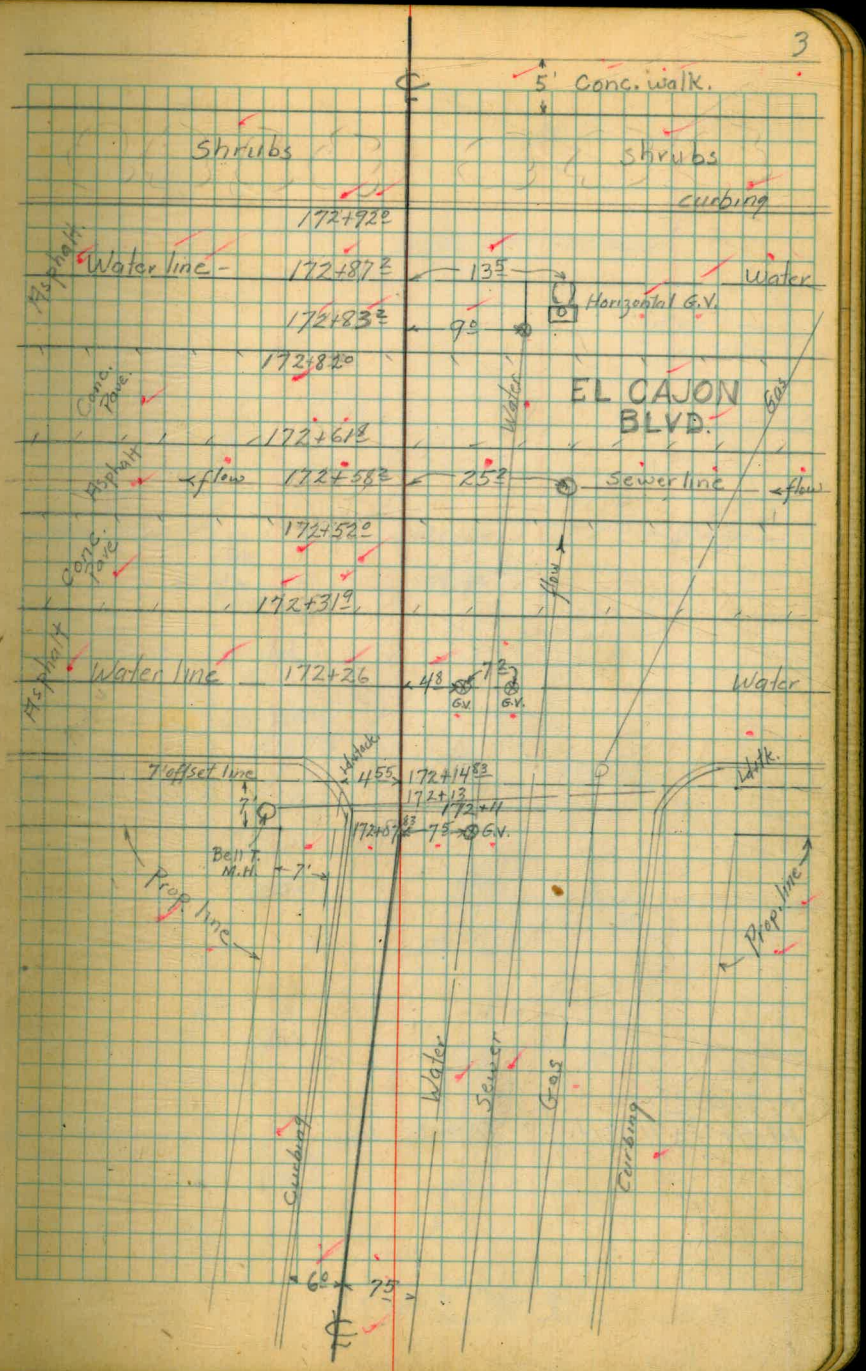
Soper
King π
Offen chain
Stephens chain

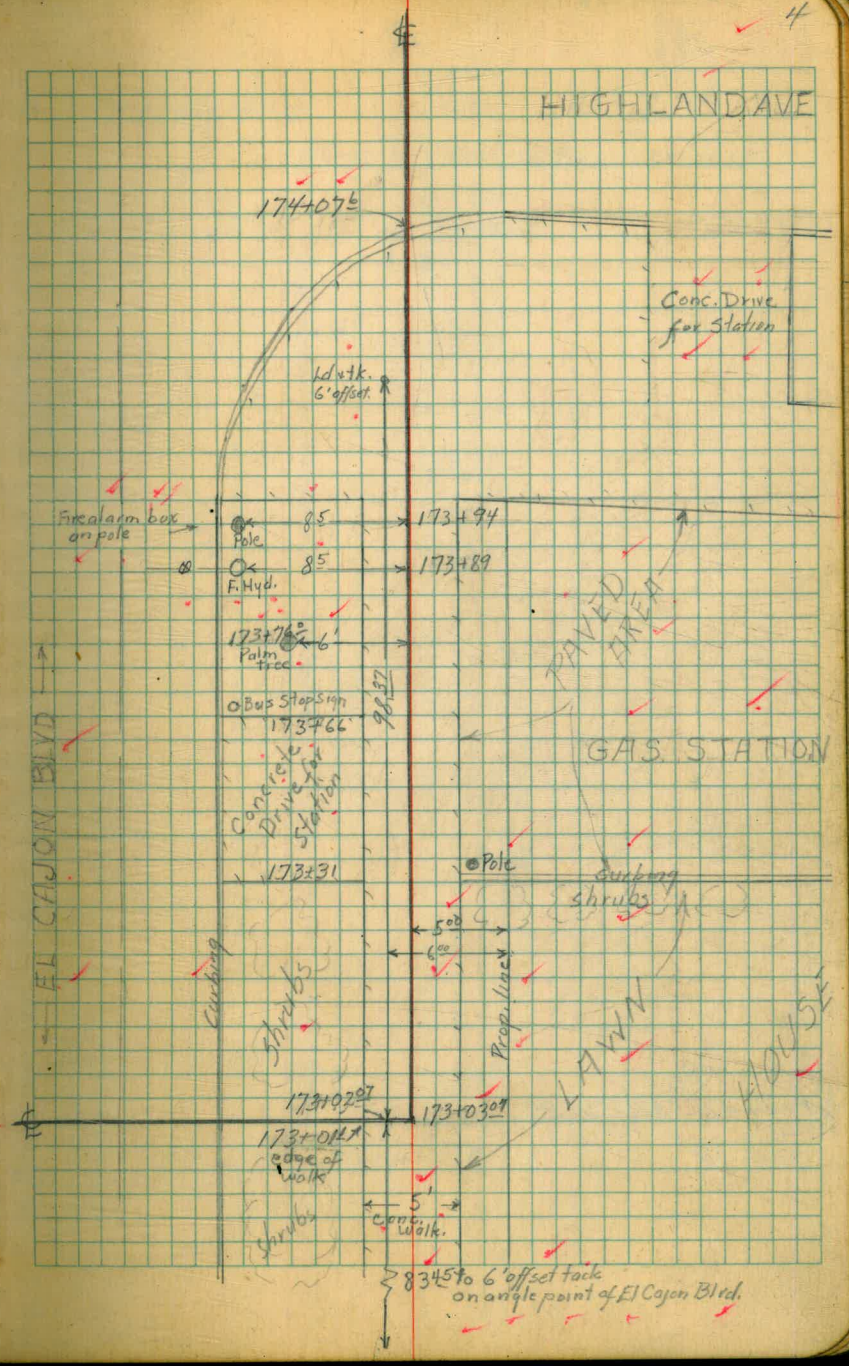


158+08 25 of location on Monroe - book 674 page 52


6°
7½
School
168+96 - Water
Flow
17½
168+30 S.M.H
HIGHLAND AVE
17½
164+00 S.M.H
Flow
Water
Sewer
Gas
Curbing
17½
159+60 S.M.H
6°
7½

172+07.83
13+99.58 Δ 8°31' Lt. (on Prop. line)





173+03.07
14+94.82 Δ 91°19'Lt

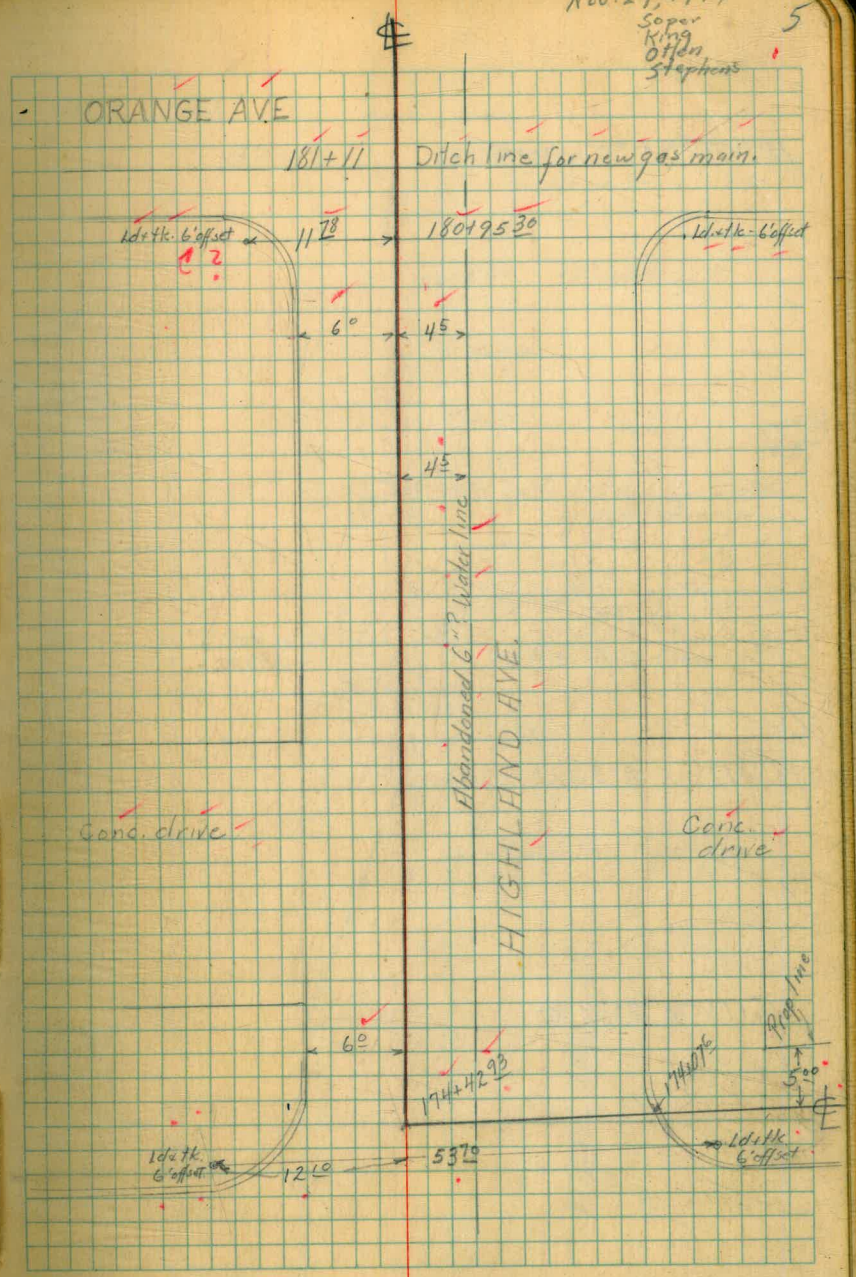
Nov. 29, 1944
Soper
King
Otten
Stephens

180+95 30
15
180+80.30

180+95 30
53
181.48 30

186+17
181+48 30
4 68 70

174+42.93 Δ 99°46' Rt.

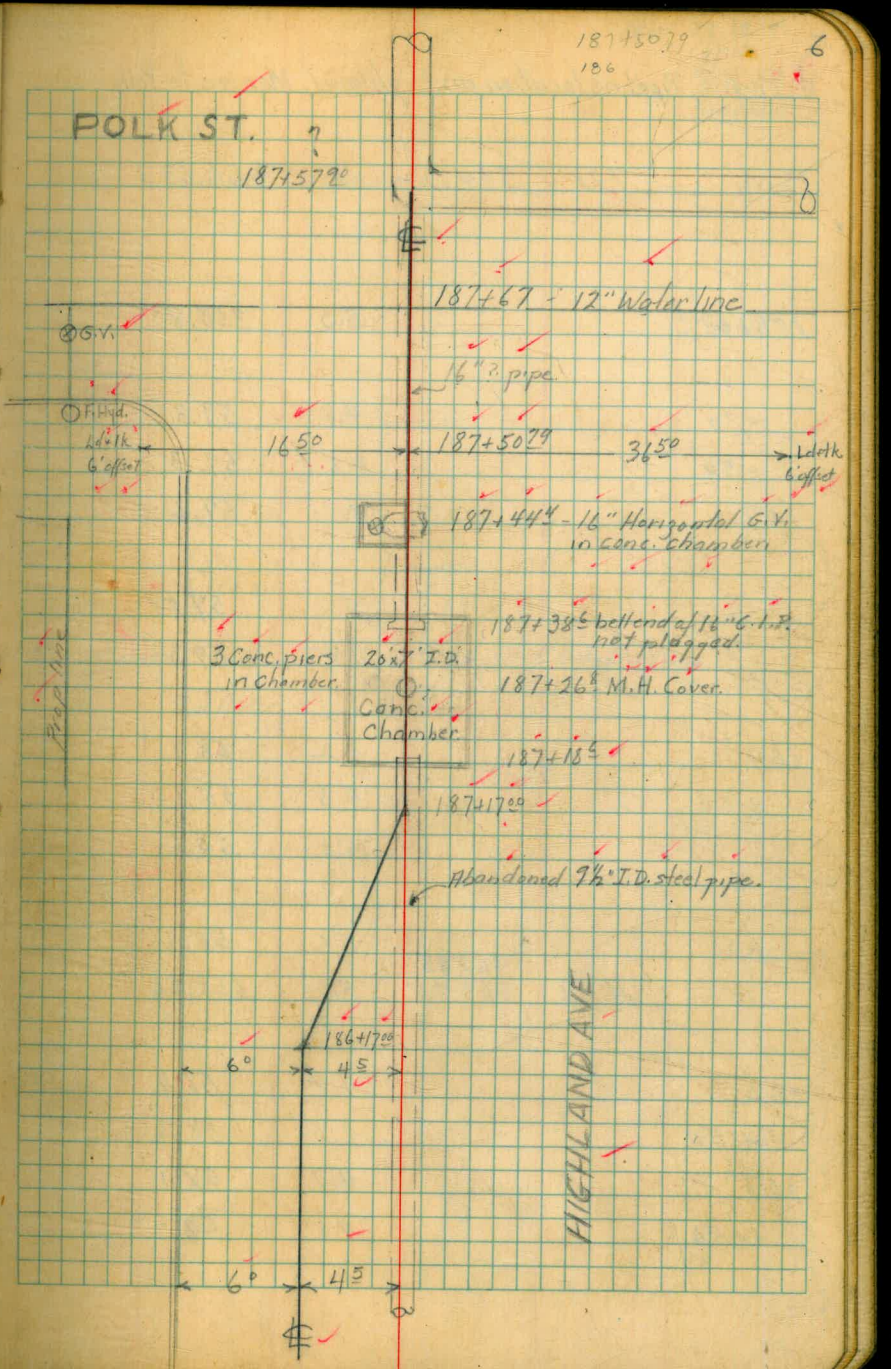


EL CAJON BLVD.

187+75.9 ± ℄ 30" Water Main

187+17.00 ∆ 2°32' Lt

186+17.00 ∆ 2°32' Rt



℄ Profile, Pipeline location on Highland, Monroe to Polk

B.M.	7.28	364.11		356.83
158+08.25			5.3	358.8
+30			4.8	59.3
+50			4.8	59.3
159			4.9	59.2
+50			5.1	59.0
			4.8	59.3
160			5.2	58.9
+50			5.3	58.8
161			5.5	58.6
+50			5.6	58.5
TP	4.49	362.85 363.85	5.75	358.36
162			4.4	58.4
+50			4.5	58.3
163			4.7	58.1
+50			4.8	58.0

B.P.S.E. Cor. 44th & Monroe

Rim of sewer M.H. 17½ Rt 159+60 - 5½ to flow line

		362.85 ✓ ~~363.85~~		
164			4.9	357.9 ✓
			4.6	58.2 ✓
+50			5.1	57.7 ✓
165			5.2	57.6 ✓
+50			5.4	57.4 ✓
166			5.5	57.3 ✓
+			5.7	57.1 ✓
167			5.8	57.0 ✓
+50			5.9	56.9 ✓
168			6.0	56.8 ✓
TP	3.96	360.92 ✓ 361.92	5.89	356.96 ✓ 357.96
			3.8	57.1 ✓
168+50			4.2	56.7 ✓
169			4.3	56.6 ✓
+50			4.5	56.4 ✓
170			4.6	56.3 ✓
+50			4.7	56.2 ✓

Rim of Sewer M.H. 17 Rt 164+00 - 5' to flowline

Rim of Sewer M.H. 175 Rt 168+30 - 6½' to flowline

		360.92 / 361.92		
171+00			4.8	356.1
+50			4.9	56.0
172+07 [83]	Δ		5.4	55.5
+26			5.5	55.4
			6.3	54.6
172+31 [9]			5.18	55.74
172+52 [0]			4.75	56.17
			5.0	55.9
172+61 [8]			4.95	55.97
172+82 [0]			5.01	55.91
			8.7	52.2
172+92			5.15	55.47
172+92			5.14	55.78
173+03 [07]	Δ		4.97	55.95
TP	4.66	360.78 / 361.78	4.80	356.12 / 357.12

Top of stem of ? G.V. 4[8] Rt 172+26

Edge of Pavement

" " "

Rim of sewer M.H. 25[2] Rt 172+58 13[5] to flow line

Edge of Pavement

" " "

Approx. ℄ of Horizontal ? G.V. 13[5] Rt 172+87

Road

Top of curb

		360.78 ✓ 361.78		
173+50			4.6	356.2 ✓
174			4.5	56.3 ✓
+07			4.60	56.18 ✓
+07			5.13	55.65 ✓
+28			4.6	56.2 ✓
174+42.93			4.6	56.2 ✓
175			4.9	55.9 ✓
+50			5.1	55.7 ✓
176			5.3	55.5 ✓
+50			5.6	55.2 ✓
177			5.7	55.1 ✓
+50			5.9	54.9
TP	3.79	358.76 ✓ ~~359.76~~	5.81	354.97 ✓ ~~356.97~~
178			4.1	54.7
+50			4.3	54.5
179			4.4	54.4
+50			4.6	54.2

Top of curb
Road.

		358.76 ✓ ~~359.76~~		
180			4.6	354.0 ✓
+50			5.0	53.8 ✓
+95			5.2	53.6 ✓
181			5.4	53.4 ✓
+06			5.5	53.3 ✓
			4.60	354.16 355.16
+33			4.8	54.0 ✓
+50			4.9	53.9 ✓
+55			5.1	53.7 ✓
+61			4.8	54.0 ✓
182			4.8	54.0 ✓
+50			4.9	53.9 ✓
183			5.0	53.8 ✓
+50			5.1	53.7 ✓
184			5.2	53.6 ✓
TP	4.75	358.51 ✓	5.00	353.76 ✓
+50			4.9	53.6 ✓
185			4.9	53.6 ✓
+50			5.0	53.5 ✓
186			5.1	53.4 ✓
+17.00			5.2	53.3 ✓

B.P. N.W. Cor Highland and Orange Rec elev. 354.16

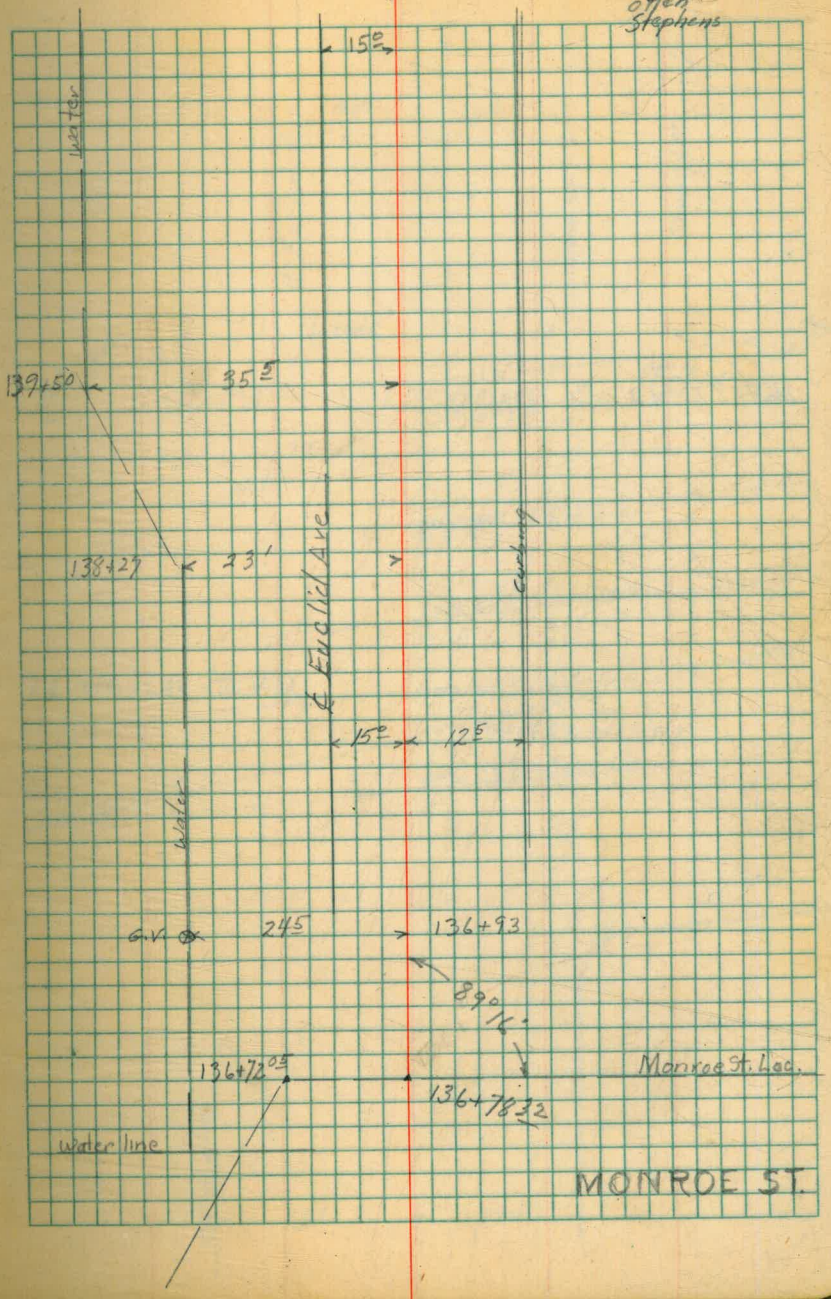
		358.51			
186+50			5.1	353.4	
187			5.1	53.4	
187+17			5.2	53.3	
			11.8	46.7	Floor of conc. chamber
187+38			9.2	49.3	Fl. line of 16" C.I.P in conc. chamber
			8.7	49.8	Stem of 16" Horiz. G.V. (bottom of pipe = 349.0)
187+50 79			5.4	53.1	
			6.5	52.0	Top of stem of F. Hyd. G.V. 26' Lt 187+62
187+75 90			5.6	52.9	- 2.7 to top of 30" pipe (by pipe locator)
Set B.M.			2.80	355.71	Top of F. Hyd. 26' Lt. 187+52
TP	2.83	358.54			
TP	5.39	359.05	4.88	353.66	
			4.90	354.15	ck on BM B.T. N.W. Cor Highland & Orange 354.16

Dec. 1, 1944
Soper
King
Allen
Stephens

Euclid P.L. loc.

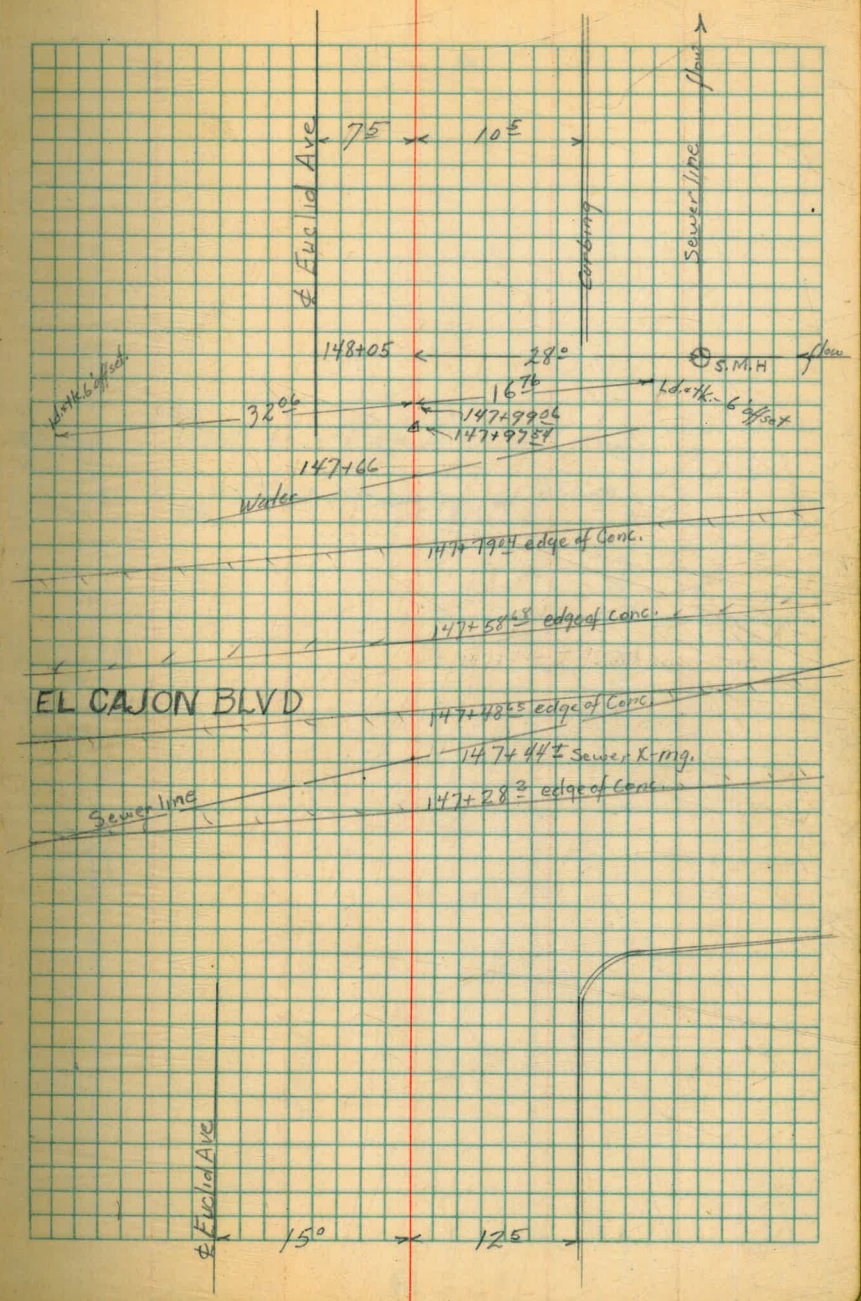
Pipeline location, South on Euclid, Monroe to Myrtle

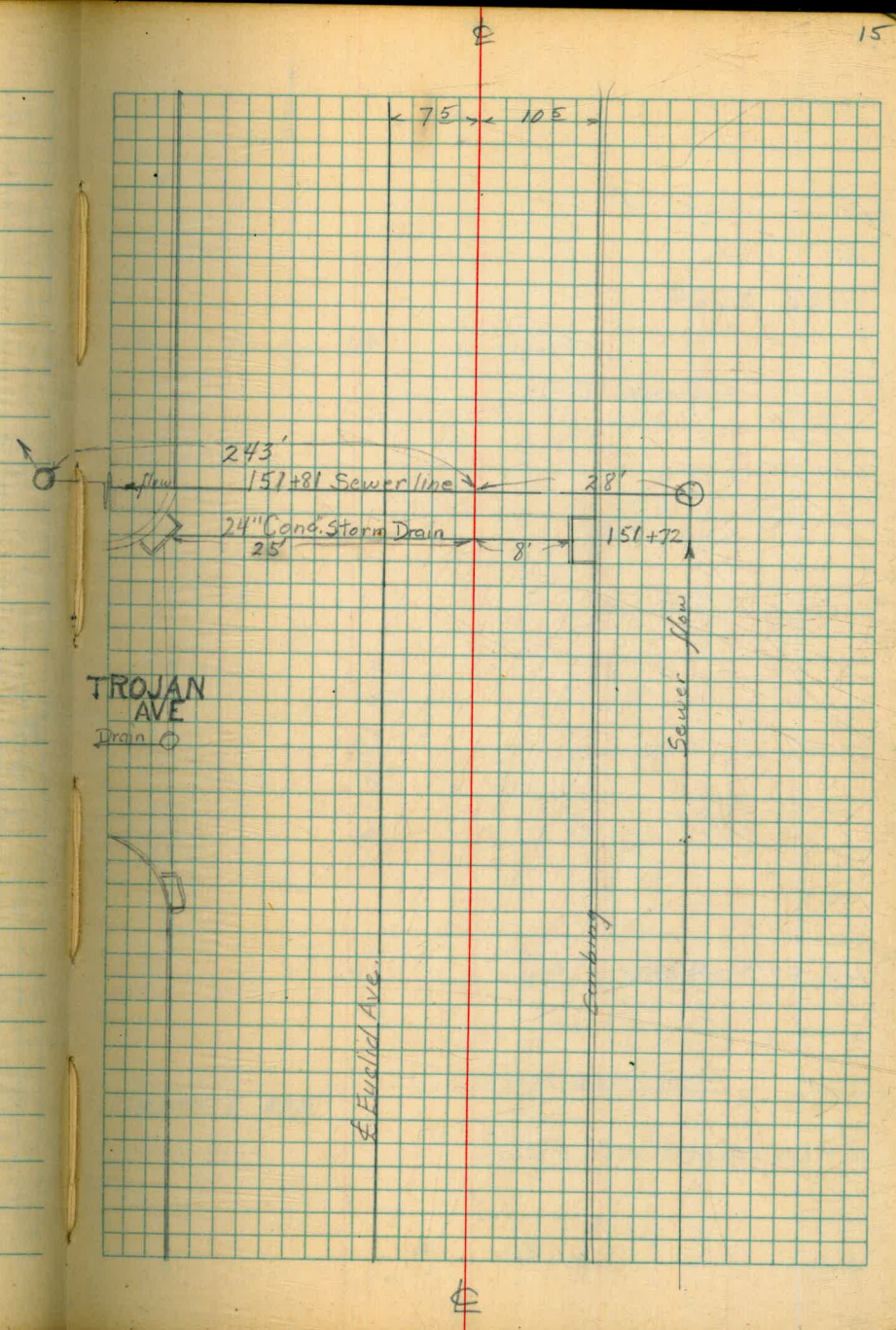
142+16.4 P.O.T.



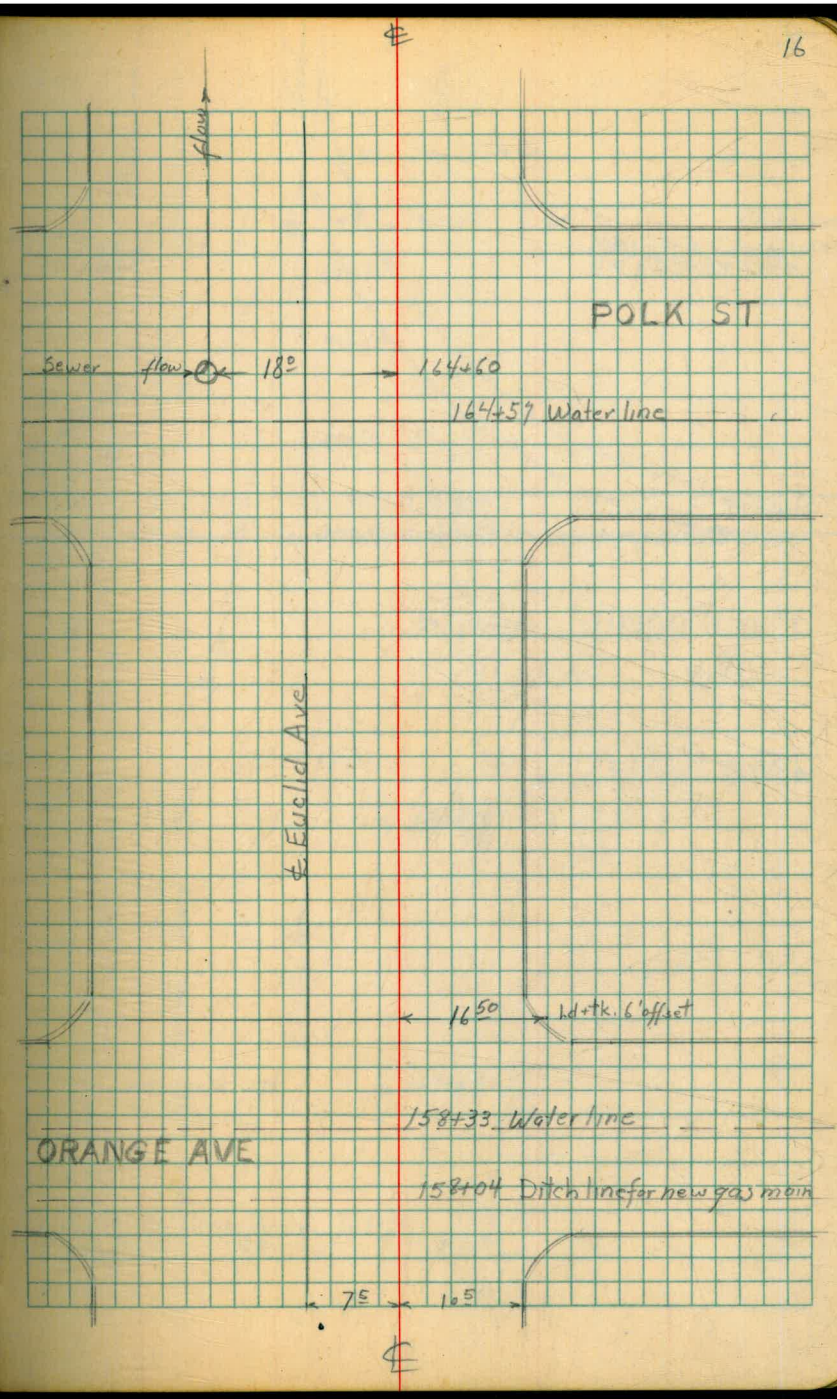
136+78.32 - Location on Monroe - book 674 page

147+97.54 Δ 0°10'17"

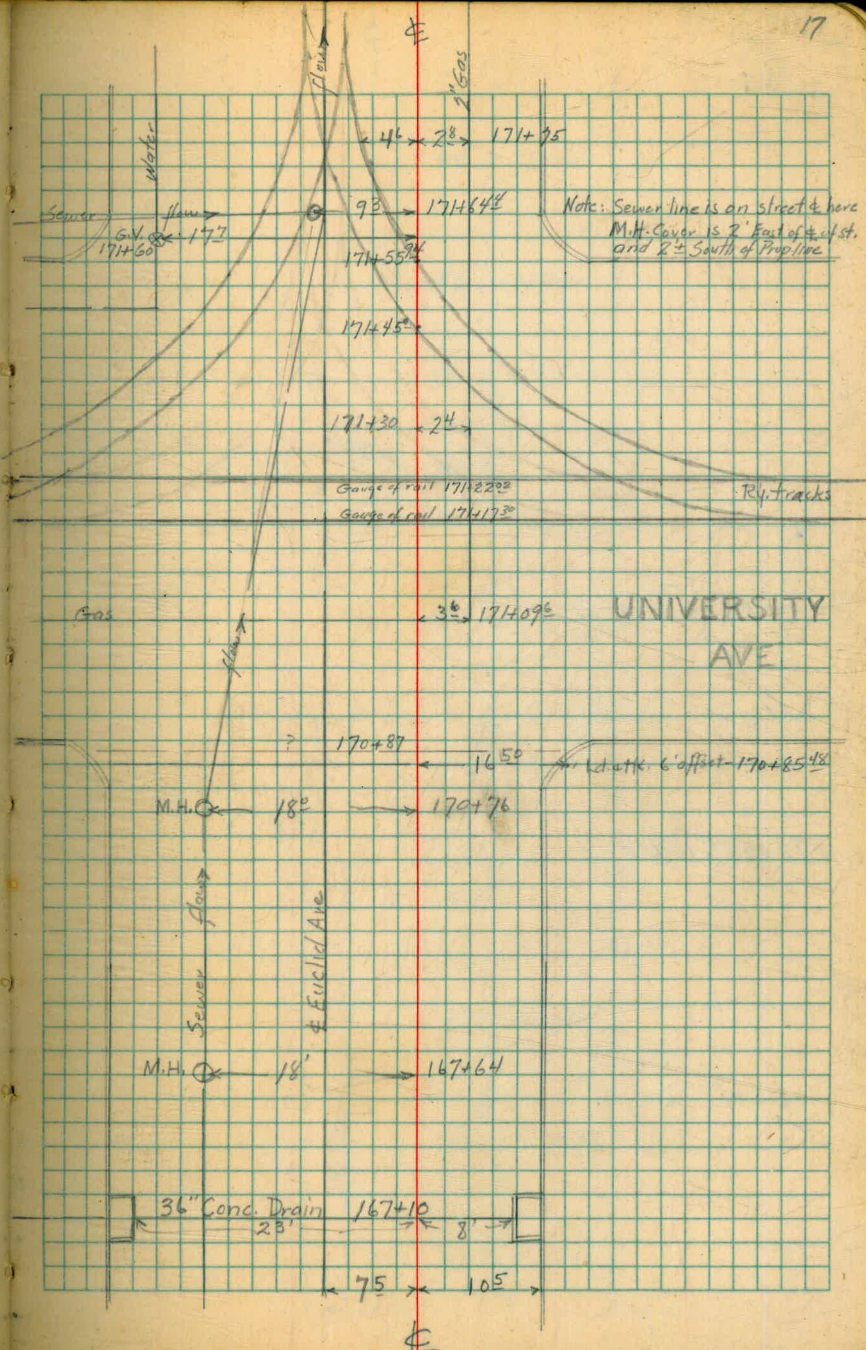



℄
75
105
243'
151+81 Sewer line
28"
24" Cond. Storm Drain
25'
8'
151+72
TROJAN AVE
Drain
Sewer flow
E. Euclid Ave.
Curbing
℄

158+57 1° P.O.T.


℄
flow
POLK ST
Sewer flow
18"
164+60
164+57 Water line
℄ Euclid Ave.
16.50
Wd+tk. 6' offset
158+33 Water line
ORANGE AVE
158+04 Ditch line for new gas main
7.5
16.5
℄

170+85 48 P.O.T.

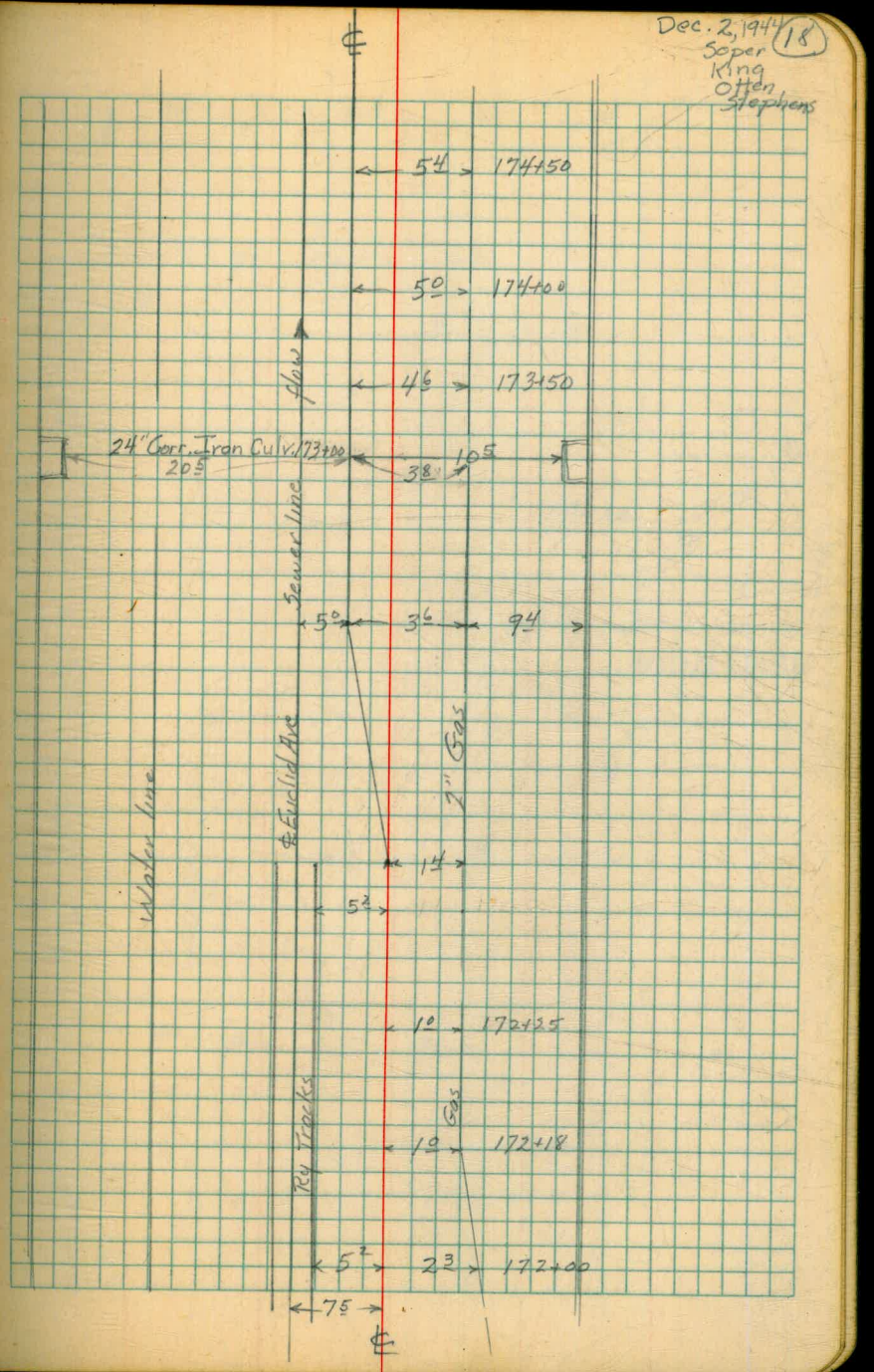


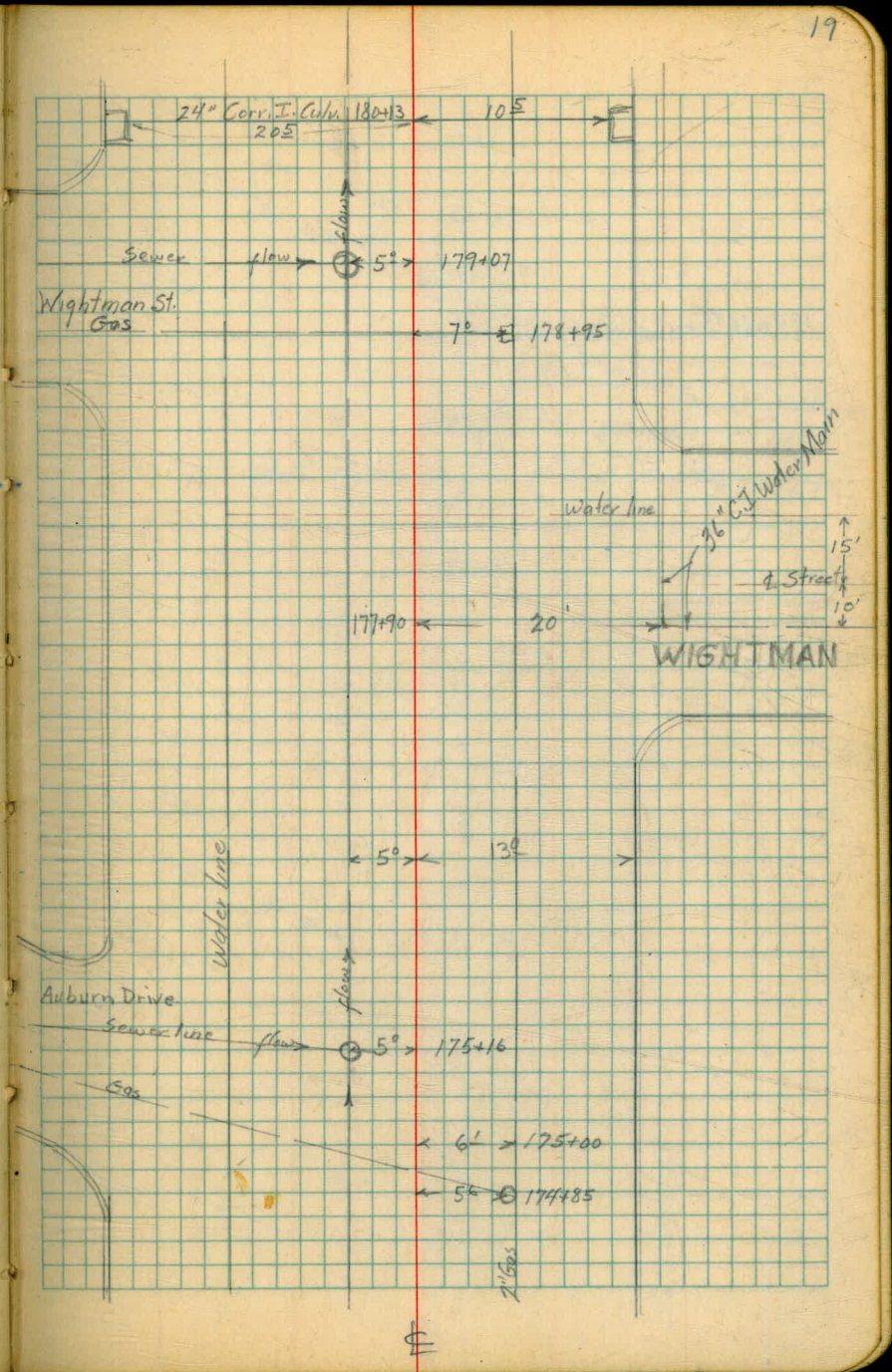
flow
2" Gas
4 6
2 8
171+75
Water
Sewer
flow
9 3
171+64 4
G.V.
171+60
17 7
171+55 94
Note: Sewer line is on street & here M.H. Cover is 2' East of ℄ of st. and 2± South of Prop line
171+45 0
171+30
2 4
Gauge of rail 171+22 02
Gauge of rail 171+17 30
Ry. tracks
Gas
flow
3 6
171+09 6
UNIVERSITY
AVE
170+87
16 50
6' offset - 170+85 48
M.H.
18 0
170+76
Sewer
flow
℄ Euclid Ave
M.H.
18'
167+64
36" Conc. Drain
167+10
23'
8'
7 5
10 5

Dec. 2, 1944 (18)
Soper
King
Otten
Stephens

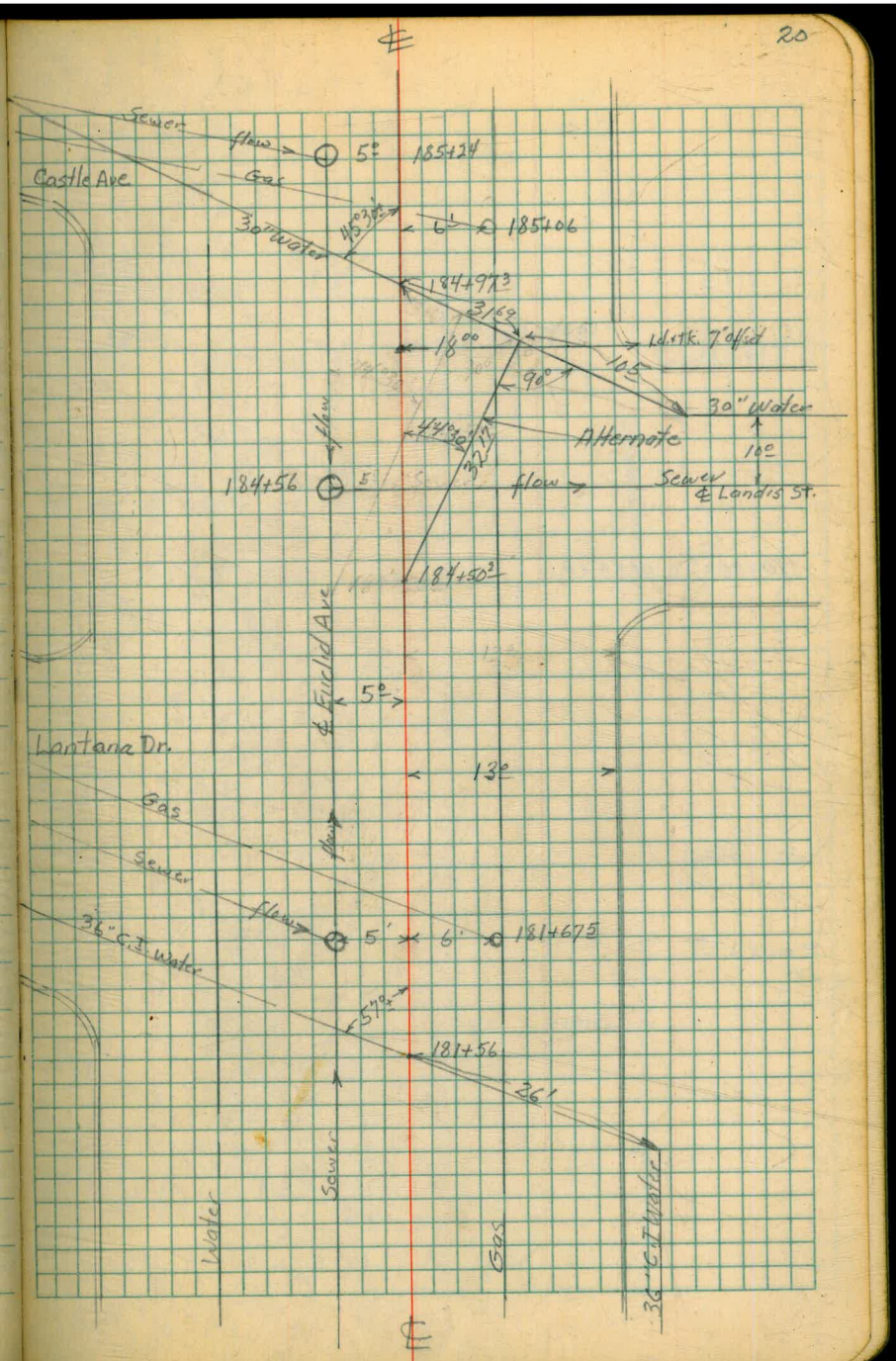
172+85.00 = Δ 4°47' Rt

172+55.00 = Δ 4°47' Lt

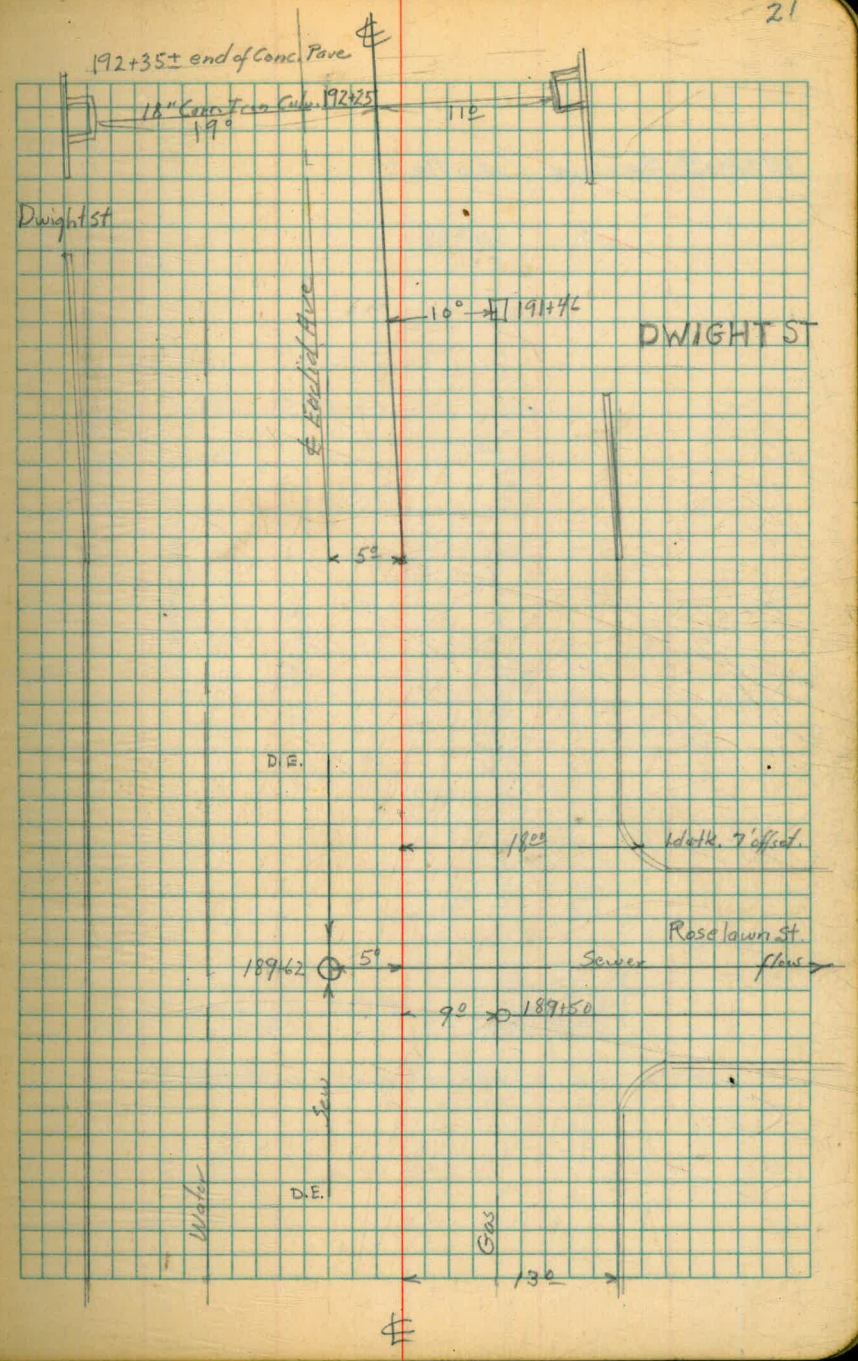



24" Corr. I. Culv. 180+13
20±
10±
Sewer flow
flow
5°
179+07
Wightman St.
Gas
7°
178+95
Water line
16" C.I. Water Main
15'
4 Streets
10'
177+90
20'
WIGHTMAN
5°
13±
Water line
flow
Auburn Drive
Sewer line flow
5°
175+16
Gas
6'
175+00
5°
174+85
2" Gas
℄

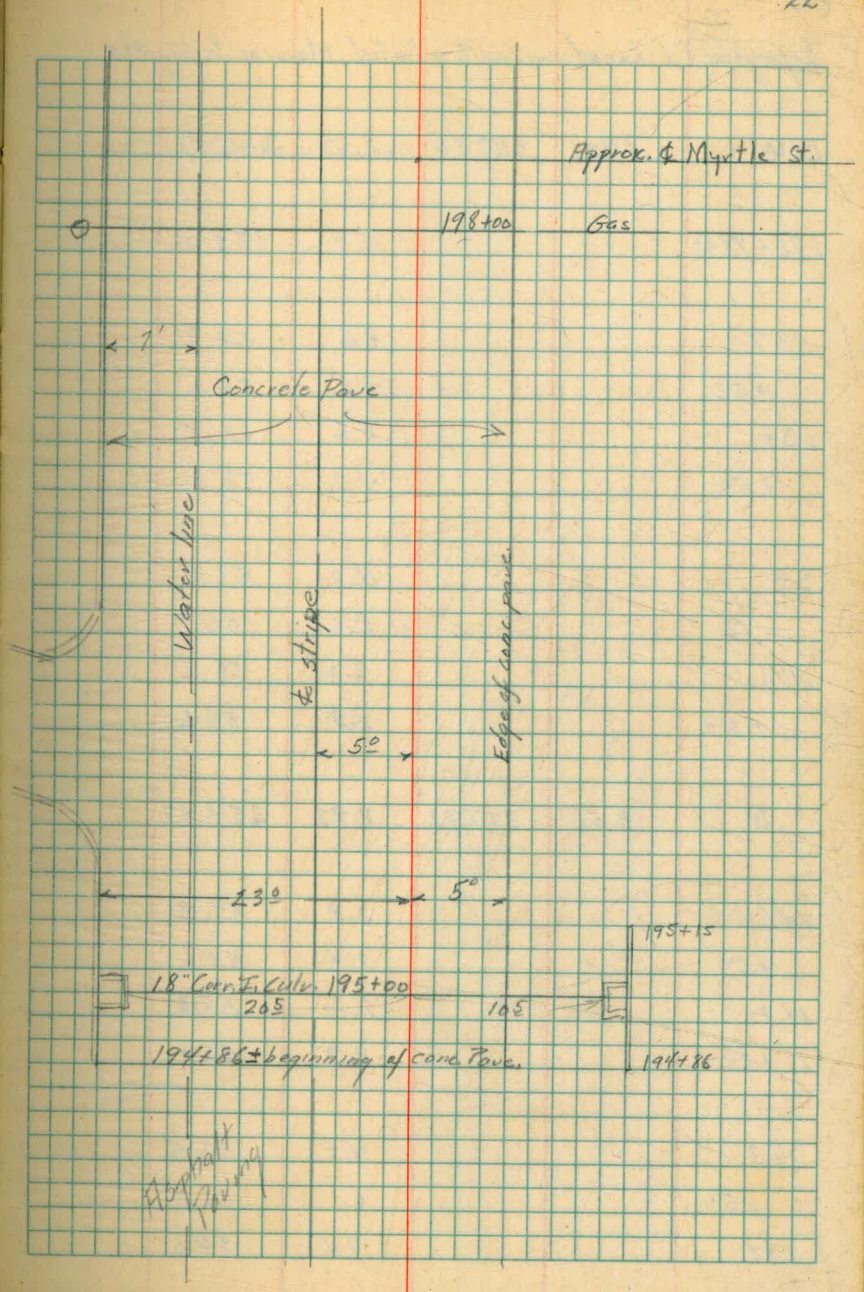
184+80.96 on 7° offset line. Δ 0°11'17".



190+88.5 ± Δ 0°55' Lt



198+10.53 Approx. ℄ of Myrtle St.



Eprofile, P.L. Location, South on Euclid, Monroe to Myrtle

B.M.	1.92	357.40'		355.48
136+78 33			4.4	353.0
137			4.6	52.8
+50			4.8	52.6
138			4.6	52.8
+50			4.2	53.2
139			4.0	53.4
+50			3.6	53.8
140			3.2	54.2
+50			2.8	54.6
TP	3.51	357.98'	2.93	354.47'
141			2.8	55.2
+50			2.4	55.6
142			2.2	55.8
+50			2.9	55.1
143			4.5	53.5
+50			6.1	51.9
144			7.4	50.6

B.P.S.E. Cor. Monroe & Euclid

		357.98			
144+50			8.8	349.2	
145			9.9	48.1	
+50			10.5	47.5	
146			10.8	47.2	
TP	4.13	351.20	10.91	347.07	
146+50			4.3	46.9	
147			4.9	46.3	
+19			5.2	46.0	
$+28^{2}$			4.90	46.30	Edge of conc. Pave.
$+48^{65}$			4.55	46.65	" " " "
$+58^{68}$			4.82	46.38	
$+79^{04}$			5.40	45.80	
			2.6	48.6	Rim of Sewer M.H. on El Cajon, in alley to left of line
			4.2	47.0	" " " " " " " " " " right " "
$147+97^{54}$ Δ			5.7	45.5	

Note: These M.H. Covers are covered with road surfacing.

		351.20		
			5.3	345.9
148+08			5.4	45.8
148+50			5.5	45.7
149			6.1	45.1
+50			6.6	44.6
150			6.9	44.3
PI	5.44	348.26	8.38	342.82
150+50			4.3	44 0
151			4.6	43.7
+50			4.8	43.5
			9.6	38.7
			10.6	37.7
			4.4	43 9
			6.3	42.0

Rim of Sewer M.H. 28' Lt 148+05

A line 24" Conc. Culvert. 8' Rt 151+72

" " " " " 25' Lt 151+72

Rim of Sewer M H 28' Rt. 151+81 - 7.6 to F.L. line

" " " " 243' Lt " 9.4 to F.L. line

		348.26		
152+00			4.8	343.5
+50			4.2	44.1
153			3.6	44.7
+50			3.0	45.3
TP	7.40	352.62	3.04	345.22
154+00			6.8	45.8
+50			6.2	46.4
155			5.6	47.0
+50			4.9	47.7
156			4.3	48.3
+50			3.8	48.8
157			3.1	49.5
+50			2.5	50.1
158			2.1	50.5
TP	4.34	353.93	3.03	349.59
158+50			3.5	50.4
159			3.8	50.1
+50			4.2	49.7

353.93

160			4.8	349.1
+50			5.1	48.8
161			5.6	48.3
+50			6.0	47.9
162			6.5	47.4
+50			7.0	46.9
163			7.4	46.5
PI	1.00	347.40'	7.53	346.40'
163+50			1.3	46.1
164			1.6	45.8
+50			2.2	45.2
			2.5	44.9
165			3.1	44.3
+50			4.8	42.6
166			6.4	41.0
+50			8.0	39.4
167			9.7	37.7
			20.3	27.1
			21.7	25.7

Rim of Sewer M.H. 18' Lt 164+60 - 10.6 to Ft. line

Ft line 36" Conc. Culv. 8' Rt 167+10

" " " " 23' Lt 167+10

		347.40		
167+50			10.3	337.1
			10.3	37.1
168			9.8	37.6
TT	6.82	344.59	9.63	337.77
168+50			6.5	38.1
169			6.0	38.6
+50			5.5	39.1
170			5.0	39.6
+50			4.6	40.0
			4.3	40.3
Set. B.M.			3.95	340.64
170+85 48			4.2	40.4
171+17 30			3.86	40.73
171+22 02			3.25	40.74
171+45 90			4.41	40.18
171+55 94			4.52	40.07

Rim of Sewer M.H. 18'Lt 167+64 3 6/10 to Fl. line

Rim of Sewer M.H. 18'Lt 170+76 7 3/10 to Fl line

B.P.N.W. Cor Euclid and University Elev. not found.

Top of rail

" " "

" " "

" " "

		344.59		
			4.6	340.0
172+00			5.0	39.6
172+55 ºº Δ			6.1	38.5
172+85 ºº Δ			6.9	37.7
173+00			7.1	37.5
			14.8	29.8
			16.5	28.1
173+50			6.4	38.2
174			6.1	38.5
TP	6.29	344.86	6.02	338.57
174+50			6.1	38.8
175			5.7	39.2
			5.5	39.4
175+50			5.5	39.4
176			5.2	39.7
+50			5.0	39.9
177			4.8	40.1
+50			4.6	40.3

Rim of Sewer M.H. 9± Lt 171+64 7± to Fl. line

Fl. line 24" Corr. Iron Culvert 10± Rt 173+00

" " " " " " 20± Lt 173+00

Rim of S.M.H. 5± Lt 175+16 7± to Fl. line

		344.86			
178			4.9	340.0	
+50			5.2	39.7	
179			5.5	39.4	
			55	39.4	Rim of S.M.H 5^{0} Lt 179+07 • 8^{0} to Fl line
179+50			6.0	38.9	
180			6.6	38.3	
180+13			6.8	38.1	
			10.9	34.0	Fl line 24" Cor. Iron Culv. 10^{5} Rt 180+13
			12.2	32.7	" " " " " " 20^{5} Lt "
180+50			6.0	38.9	
181			5.3	39.6	
181+50			4.5	40.4	
B.M.	7.57	347.96	4.47	340.39	B.P. N.E. Cor Euclid and Lantana Dr.
			7.4	40.6	Rim of S.M.H. 5^{0} Lt 181+67^{5}
182			7.0	41.0	
+50			6.4	41.6	

		347.96		
183			5.8	342.2
+50			5.1	42.9
184			4.3	43.7
+50			4.3	43.7
			4.4	43.6
185			4.9	43.1
			5.2	42.8
185+50			5.6	42.4
186			6.5	41.5
+50			7.4	40.6
187			8.2	39.8
+50			9.1	38.9
188			9.9	38.1
+50			10.8	37.2
TP	0.42	337.28	11.10	336.86
189			0.9	36.4
+50			1.6	35.7
			1.8	35.5

Rim of S.M.H. 5 Lt 184+56 13' to fl. line

Rim of S.M.H. 5 Lt 185+24

Rim of S.M.H. 5 Lt 189+62 3' to FA line

		337.28		
190			2.3	335.0
+50			3.3	34.0
190+88 58			3.8	33.5
191			4.1	33.2
+50			4.7	32.6
192			4.9	32.4
			9.4	27.9
			9.5	27.8
192+50			5.1	32.2
193			5.2	32.1
+50			5.2	32.1
194			5.5	31.8
+50			5.8	31.5
195			5.9	31.4
			9.2	28.1
			10.2	27.1
195+50			5.6	31.7
PT	5.07	337.48	4.87	332.41
196			5.1	

Pt line 18" Corr. I. Culv. 11' Rt 192+25
" " 18" " " " 19' Lt 192+25

Pt line 18" Corr. I. Culvert 10½ Rt 195+00
" " " " " " 20½ Lt 195+00

		337.48		
196+50			4.6	332.9
197+00			4.7	32.8
+50			5.2	32.3
198			5.7	31.8
198+10 53			5.8	31.7
Set B.M.	1.77	337.37	1.88	335.60
TP	9.32	343.42	3.27	334.10
TP	5.52	347.39	1.55	341.87
B.M.			6.96	340.43

Top of F. Hyd. 25' Rt 196+70

B.P. N.E. Cor. of Euclid and Lantana (340.39) Rec. 340.46

Line revision - Thorn St. Pipeline Location

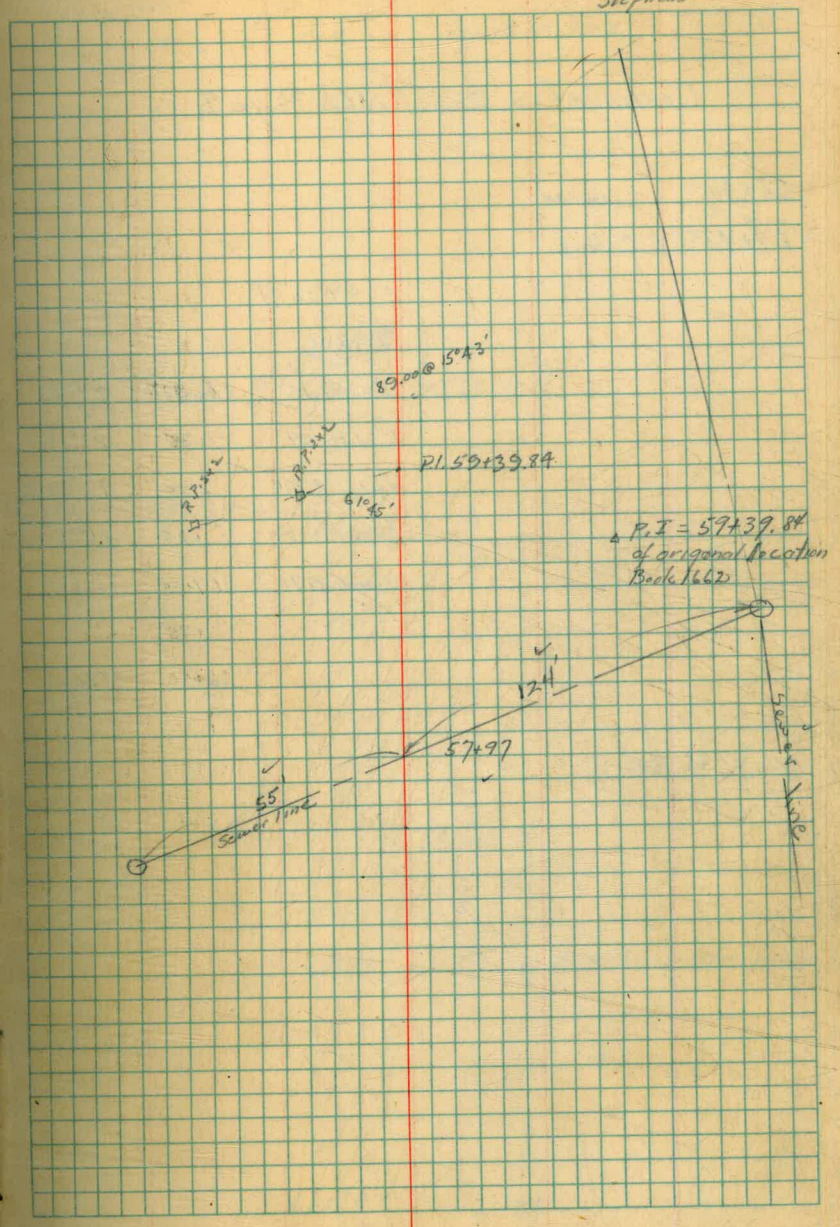
60+89.15 P.C.

Δ=53°01'30"Lt.
R= 350'
T=174.60
L 323.91
def.1= 4.911
def.50=4°05.553
50' chord = 49.95

60+89.15	26°30.75
+50	23°18.5
60+00	19°12.9
+50	15°07.4
59+00	11°01.8
+50	6°56.2
58+00	2°50.7
57+65.24	B.C.

57+65.24 B.C.

Continued from Book 1662 Page 9



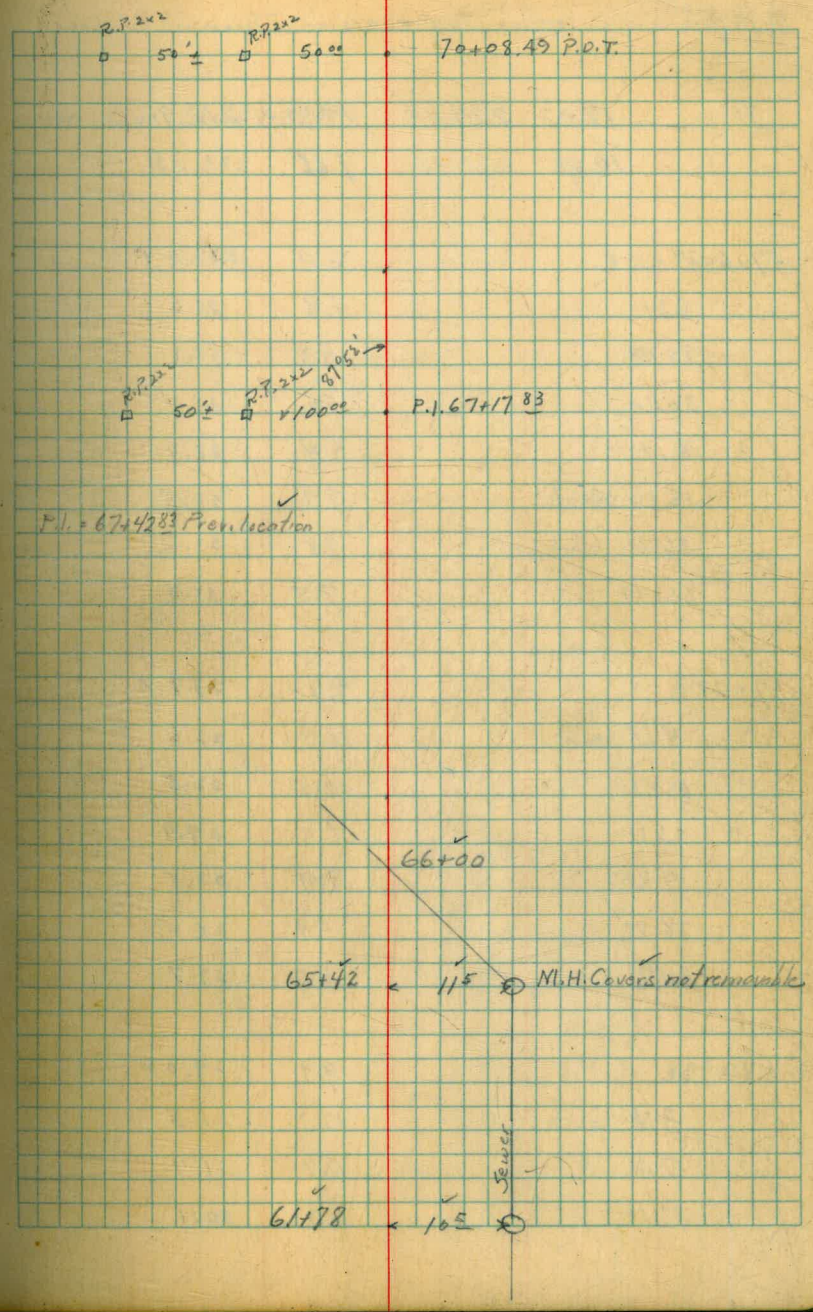
Continued in Book 1662 Page 9

68+34.00 ahead
=
67+97.72 E.C. back.

Δ = 49°00' Rt
R = 200'
T = 91.15
L = 171.04
def.1' = 8.594
def.25' = 3°34.859
25' chord = 24.98

67+97.72	24°30'
+75	21°14.7
+50	17°39.8
+25	14°05.0
67+00	10°30.1
+75	6°55.3
66+50	3°20.4

66+26.68 B.C.



℄ Profile and x-section, line revision, Thorn St. P.I. Loc.

TP	12.03	224.94		212.91
	10.08	233.36	1.66	223.28
57+65.24 B.C. ℄			6.4	227.0
" 6' Rt			7.8	25.6
" 18' Rt			5.3	28.1
" 30' Rt			5.4	28.0
" 8' Lt			5.4	28.0
" 15' Lt Wash			9.9	23.5
" 26' Lt Wash			9.8	23.6
" 35' Lt			7.5	25.9
57+77 ℄			9.7	23.7
" 4' Lt Wash			10.8	22.6
" 12' Lt "			10.5	22.5
" 25' Lt			8.5	24.9
19' Rt			9.9	23.5
28' Rt			5.4	28.0
40' Rt			5.7	27.7
57+93 ℄			9.4	24.0
" 3' Lt Wash			12.1	21.3
" 17' Lt "			11.7	21.7
" 23' Lt			3.3	30.1

On stub. Sta 59+39.84

233.36 ✓

57+93 - 35' Lt	0.0	233.4
" 25' Rt	12.2	21.2
" 47' Rt	5.8	27.6
58+00 ℄ - Wash	13.2	20.2 ✓
" 11' Rt Wash	14.1	19.3
" 13' Rt	11.1	22.3
" 37' Rt	13.5	19.9
" 15' Lt - Wash	12.5	20.9
" 25' Lt	3.3	30.1
" 32' Lt	0.5	32.9
58+06 ℄	7.7	25.7 ✓
" 25' Lt	0.0	33.4
" 7' Rt Wash	13.4	20.0
" 21' Rt Wash	14.6	18.8
" 23' Rt	12.0	21.4
" 35' Rt	13.0	20.4
	4.8	28.6
58+25 ℄	4.7	28.7 ✓
" 27' Lt	+2.8	36.2
" 31' Rt	13.1	20.3
58+32 ℄	4.5	28.9 ✓

Rim of sewer M.H. to Lt of line - 8" to Ft. line El. 219.9 W.W.

233.36 ✓

58+32 - 32' Rt	13.2	20.2
" 15' Lt	1.3	32.1
25' Lt	0.4	33.0
58+36 ℄	7.2	26.2 ✓
" 25' Lt	1.3	32.1
" 13' Rt	8.2	25.2
" 32' Rt	13.1	20.3
58+42 ℄	4.8	28.6 ✓
" 14' Lt	2.0	31.4
" 25' Lt	+2.0	35.4
" 32' Rt	13.2	20.2
58+50 ℄	6.2	27.2 ✓
" 25' Lt	+1.3	34.7
" 42' Rt	15.5	17.9
58+75 ℄	6.0	27.4 ✓
" 27' Rt	18.2	15.2
17' Lt	0.5	32.9
43' Lt	+6.0	39.4
59+00 ℄	10.6	22.8 ✓
" 17' Rt	18.1	15.3

		233.36 ✓		
59+00 - 33' Rt			20.6	12.8
" 33' Lt			+2.5	35.9
TP	3.24	224.88 ✓	11.72	221.64 ✓
59+25 ℄			8.8	16.1 ✓
" 7' Rt			10.4	14.5
" 33' Rt			12.1	12.8
" 31' Lt			+4.8	29.7
			11.2	13.7
B.M.			11.96	212.92 ✓
59+50 ℄			9.7	15.2 ✓
" 22' Rt			12.2	12.7
" 36' Rt			11.5	13.4
" 12' Lt			8.8	16.1
" 32' Lt			0.0	24.9
60+00 ℄			10.6	14.3 ✓
" 35' Rt			10.0	14.9
" 15' Lt			9.5	15.4
" 35' Lt			1.1	23.8
TP			11.96	212.92 ✓
	10.46	223.37 ✓		212.91

Rim of M.H. - Right of 57+97

		223.37		
60+50			7.9	215.5
60+89.15 EC.			7.2	16.2
61+00			7.0	16.4
+20			7.0	16.4
+25			6.1	17.3
+65			3.5	19.9
62+00			2.8	20.6
+50			1.7	21.7
PT	10.87	233.86	0.38	222.99
63+00			10.2	23.7
+18			9.3	24.6
+40			6.1	27.8
+50			6.1	27.8
64+00			7.2	26.7
+50			6.4	27.5
65+00			5.3	28.6
+50			4.1	29.8
+84			3.0	30.9
66+00			1.6	32.3
PT	8.09	240.16	1.79	232.07
66+26.68 EC.			7.4	32.8
+50			7.2	33.0

		240.16 ✓		
66+75		6.8	233.4 ✓	
+83		7.0	33.2 ✓	
+88	Wash	9.0	31.2 ✓	
+95	Wash	8.3	31.9 ✓	
67+00		6.1	34.1 ✓	
+25		5.9	34.3 ✓	
+50		4.2	36.0 ✓	
+75		3.6	36.6 ✓	
+94		3.1	37.1 ✓	
67+97.72 E.C. back		2.0	38.2 ✓	
68+34.00 P.T. ahead.				
Contd in book 1662 - page 23				
P on E.C. hub		2.05	38.1	
ck on old sta 68+00		4.2	236.0 ✓	Rec. 235.9

Line revision - Thorn St. P.L. Loc.

Continued in Book #1662 page

51+22.70 ahead
51+22.10 E.C. Back

Δ = 20°44'30" Rt
R = 150
T = 27.45
L = 54.30
def. 1' = 11.459
def. 25' = 4°46.479
25' chord = 24.97

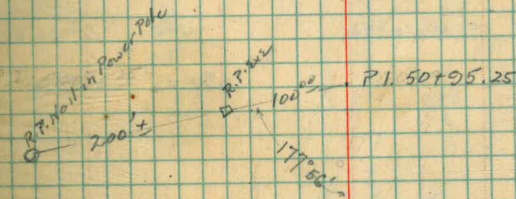
51+22.10 = 10°22.25
51+00 = 6°09.0
50+75 = 1°22.5

50+67.80 B.C.

From Book #1662 page 20

Dec. 12, 1944
Soper
King
Stephens.

No new profile of this
See city Eng. Bk. #1662



Line revision - Thorn St. P.L. Loc. $36+06^{95}$ - $39+70^{25}$

~~$39+99^{31}$~~
=
$39+97^{36}$
+75
+50
+25
36+00

$36+99^{31}$ Ahd
=
$36+97^{36}$ Back E.C.
~~$36+90^{03}$ E.C.~~

New curve data ~~Δ = 63°28' Lt~~

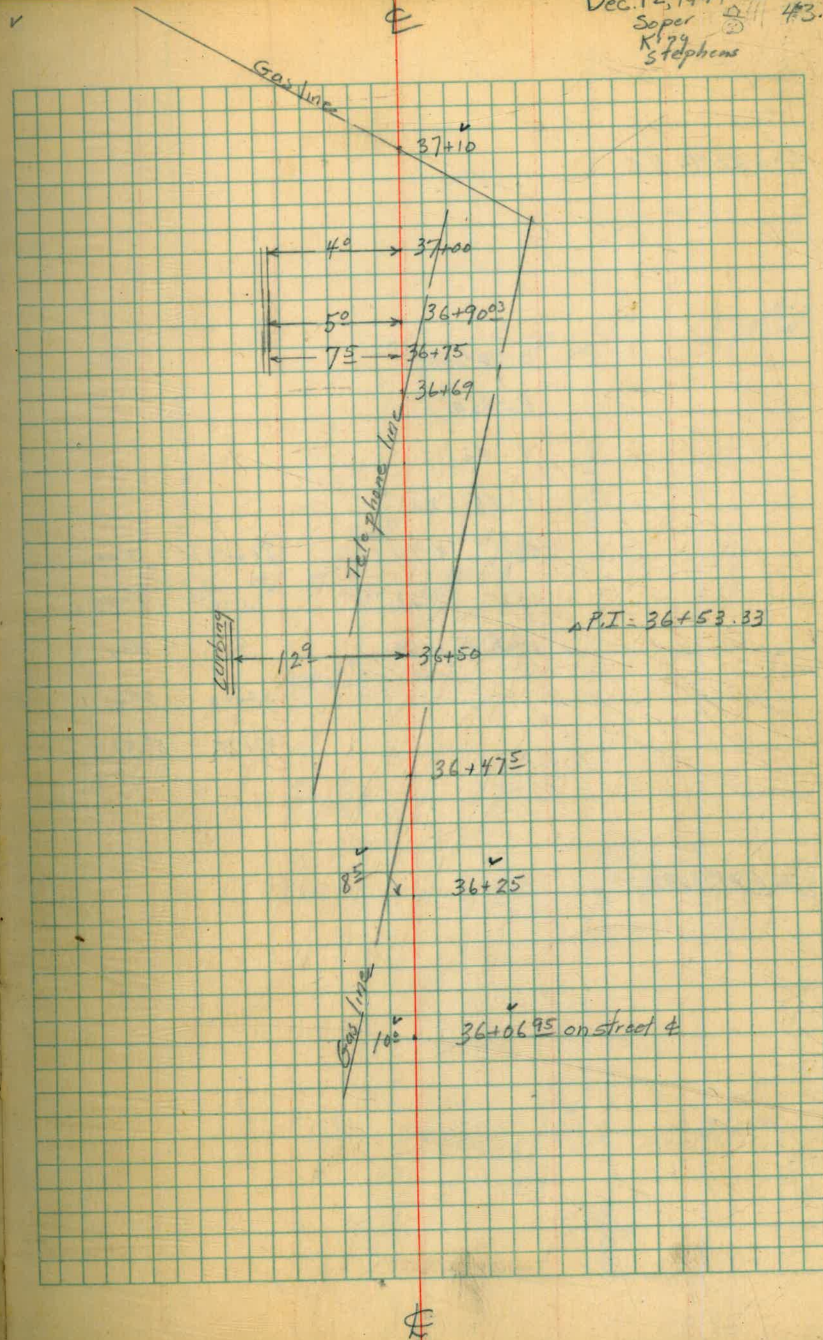
Δ = 63°28'
R = 90'
T = 55^{66}
L = 99^{69}

~~R = 75'~~
~~T = 46.38~~
~~L = 83.08~~
~~def. 1' = 22.918~~
~~def. 25' = 9°32.958~~
~~25 chord = 24.88~~

~~$36+90^{08}$ - 31°44.0~~
~~+75 - 25°58.4~~
~~+50 - 16°25.5~~
~~36+25 - 6°52.5~~

~~$36+06^{95}$ B.C.~~
$35+97^{67}$ B.C. Note: Curve changed to conform to contractors layout sheet.

Dec. 12, 1944
Soper
King
Stephens



38+52.92 E.C.

Δ = 14°00' Rt

R = 350'

T = 42.97

L = 85.52

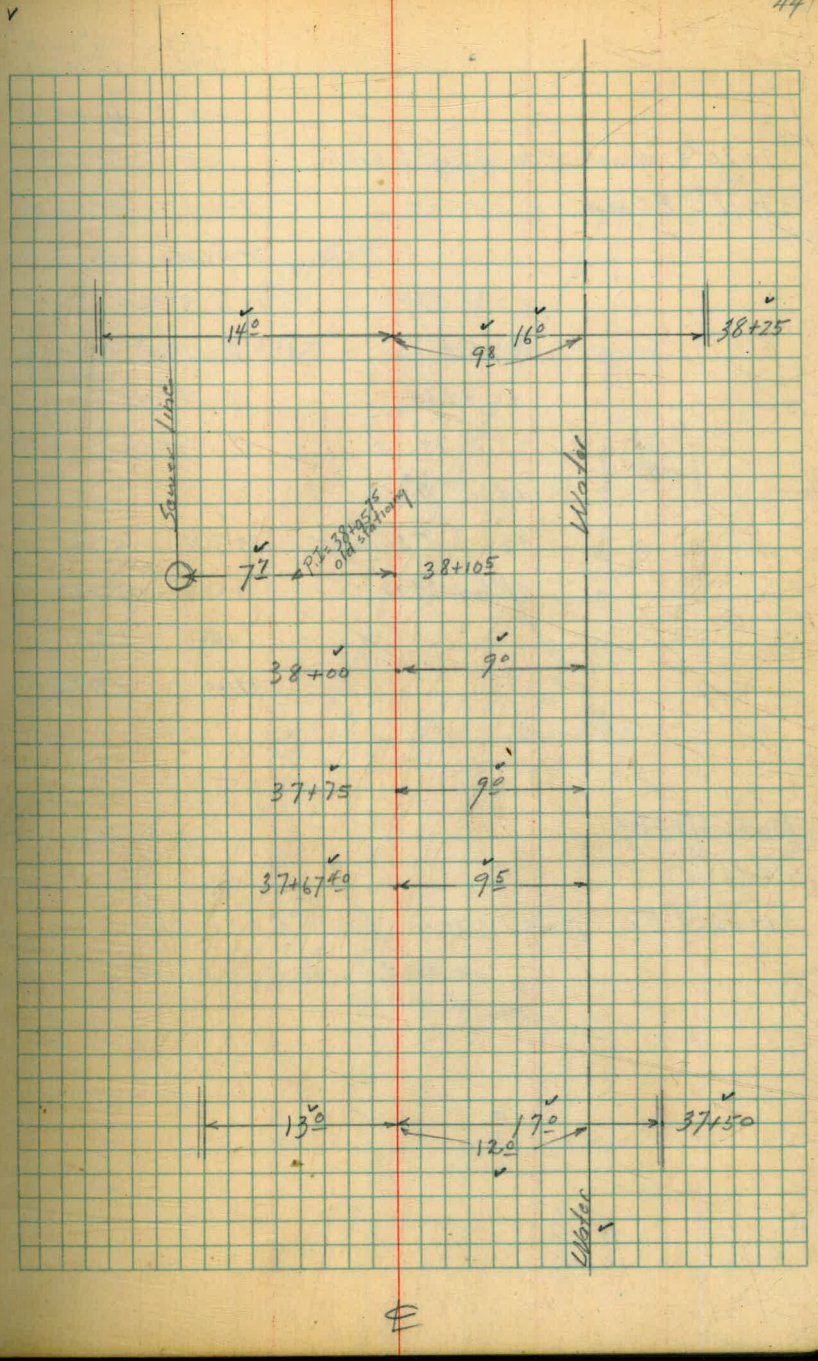
def 1' = 4.911

def 25' = 2°02.777'

25' chord = 24.99

37+52.92	7°00.0
+50	6°45.6
+25	4°42.9
38+00	2°40.1
37+75	0°37.3

37+67.40 B.C.



39+70.25 ahead (Sta. of first location)

39+71.96 E.C back

Δ = 33°09' Rt

R = 150'

T = 44.65

L = 86.79

defl = 11.459

def. 25's = 4°46.479

25's chord = 24.97

38+85.17 B.C.

38+76.24 B.C. Note: curve changed to conform to contractors layout sheet

+80.38 -	16°34.5
+75 -	15°43.1
+50 -	11°44.3
+25 -	7°45.6
39+00 -	3°46.9

New curve data.

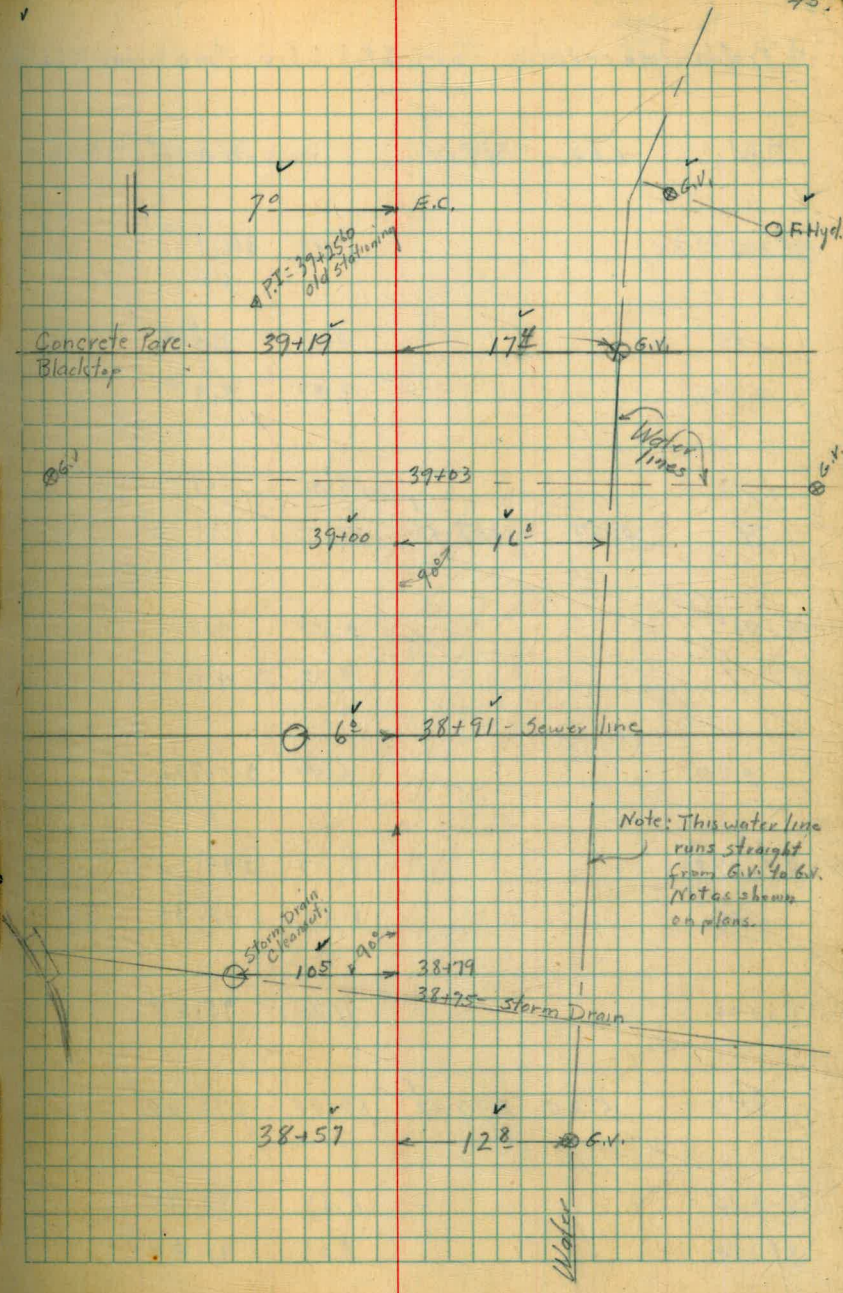
Δ = 33°09'

R = 180'

T = 53.58

L = 104.14

39+71.96 :	16°34.5
+50 -	12°22.4
+25	7°36.1
39+00	2°49.6



& Profile - line revision - Thorn St. P.L. Loc. See book 1662 for Culv. Sewer etc elevs.

N.W.B.P. Thorn & Gregory

B.M.	1.00	319.01		318.01
36+06.95 B.C.			7.93	311.1
+25			9.22	9.98
+50			11.07	7.9
+75			13.06	5.9
TP	0.37	307.16	12.22	306.79
36+90.03			2.40	4.8
37.			3.12	4.0
+50			6.44	300.72
37+67.40			8.07	299.1
+75			8.82	98.3
38+00			11.70	95.5
TP	5.20	299.42	12.94	294.22
38+25			6.67	92.7
38+50			8.03	91.4

		299.42		
38+52.93 E.C.			8.07	291.35
38+85.17 B.C			8.36	91.1
39+00			8.22	91.2
+25			7.61	91.8
+50			6.60	92.8
39+71.96 E.C.			5.77	93.7
39+70.25				
PI	8.03	306.25	1.20	298.22
			2.55	303.70

N.E.B.P. Nile and Thorn. Rec. 303.69

Alternate "C" El Monte PL.

Stadia alternate from Pt #19 (book 674-41) to Pt #30 (book 674-13)

Sta.	Dist.	Mag.	Hor. ∠	Vert. ∠	H.I.	Rod
X 22c to 29c X	993 (995)			+2° 41'	4.8	4.8
X 22c to 28c	(864)			+1° 37	4.8	4.8
X 22c to 27c	(585)			- 4° 30'	4.8	4.8
X 22c to 26c	(505)			- 8° 20'	4.8	4.8
X 22c to 25c	(280)			-18° 57'	4.8	4.8
X 22c to 24c	(240)			-23° 35'	4.8	12.8
X 22c to 23c	(56)			- 20° 48'	4.8	4.8
		S 34° W				
X 21c to 22c X	167 (173)		22° 00' Rt	- 10° 30'	4.8	4.8
X 20c to 21c X	292 (294)			+4° 37'	5.1	5.1
X 19 to 20c X	610 (654)		13° 31' Rt	+ 15° 02'	5.1	5.1

X at Pt. #19 - sight on Pt #22 (Book 674 - 41)

431.1'

384.5'

415.3'

391.9'

228.1

draw

Sta	Dist	Mag	Hor. ∠	Vert. ∠	H.I.	Rod.
⊼38c to 40c				−12°39′	4.8	10.8
	(233)					
		S 1°30′W				
⊼38c to 39c			0°10′Rt	−12°45′	4.8	4.8
	(110)					
		S 1°30′W				
⊼37c to 38c⊼	258		19°27′Lt	−1°04′	4.7	6.7
	(258)					
⊼33c to 37c⊼	588			−8°17′	5.1	5.1
	(600)					
⊼33c to 36c				−10°40′	5.1	5.1
	(495)					
⊼33c to 35c				−10°40′	5.1	5.1
	(416)					
⊼33c to 34c				−16°18′	5.1	14.1
	(118)					
		S 20°15′W				
⊼32c to 33c⊼	158		13°42′Lt	−3°40′	5.0	5.0
	(158)					
⊼31c to 32c⊼	316			−1°02′	5.0	5.0
	(316)					
⊼30c to 31c⊼	405			−0°04′	5.0	5.0
	(405)					
⊼29c to 30c⊼	309			+1°00	5.0	5.0
	(309)					
		S 34°W				

327.9
329.9

334.7

430.2

430.3

436.0

436.5

Sta	Dist.	Mag.	Hor. ∠	Vert ∠	H.I.	Rod
(book 674-13) π 42c to PI #30			37°00' Rt			
= PI # 9 (book 674-78) π 38c to 42c π	417 (421)			−5°55'	4.8	4.8
π 38c to 41c	(272)			−10°29'	48	4.8
		51°30' W				

284.8
286.8 — PI # 9 = 285.8

Euclid Pl.

Line revision - 49th St. Loc. Calley - East of 49th

Void - See page 68

Start of chained survey - assumed sta. 96+40

12/29/44 51

Soper
King
Stephens

℄

107°56'

97+12

26.25

2" pipe filled with conc.
Tack. L.S. 2236
Stake marked Cor. Lot #1139

53°40'

55°38'

Pt. #75 - Book 674-9
Pt. #42 " 674-14

36.25

96+40

Pt. #33 Book 674-13

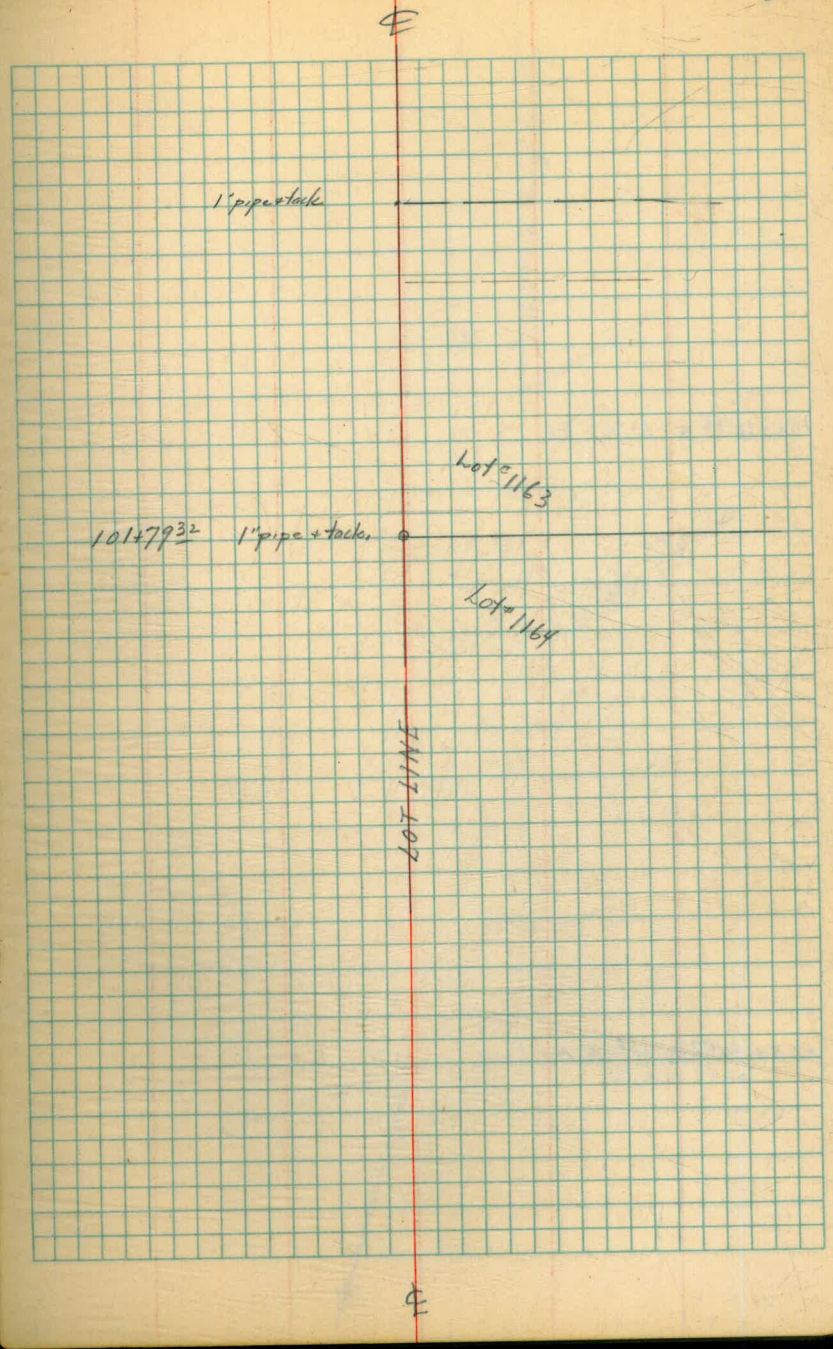
Pt. #68
Book 674-8

Pt. #30
Book 674-13

105+09 60/— P.O.T.

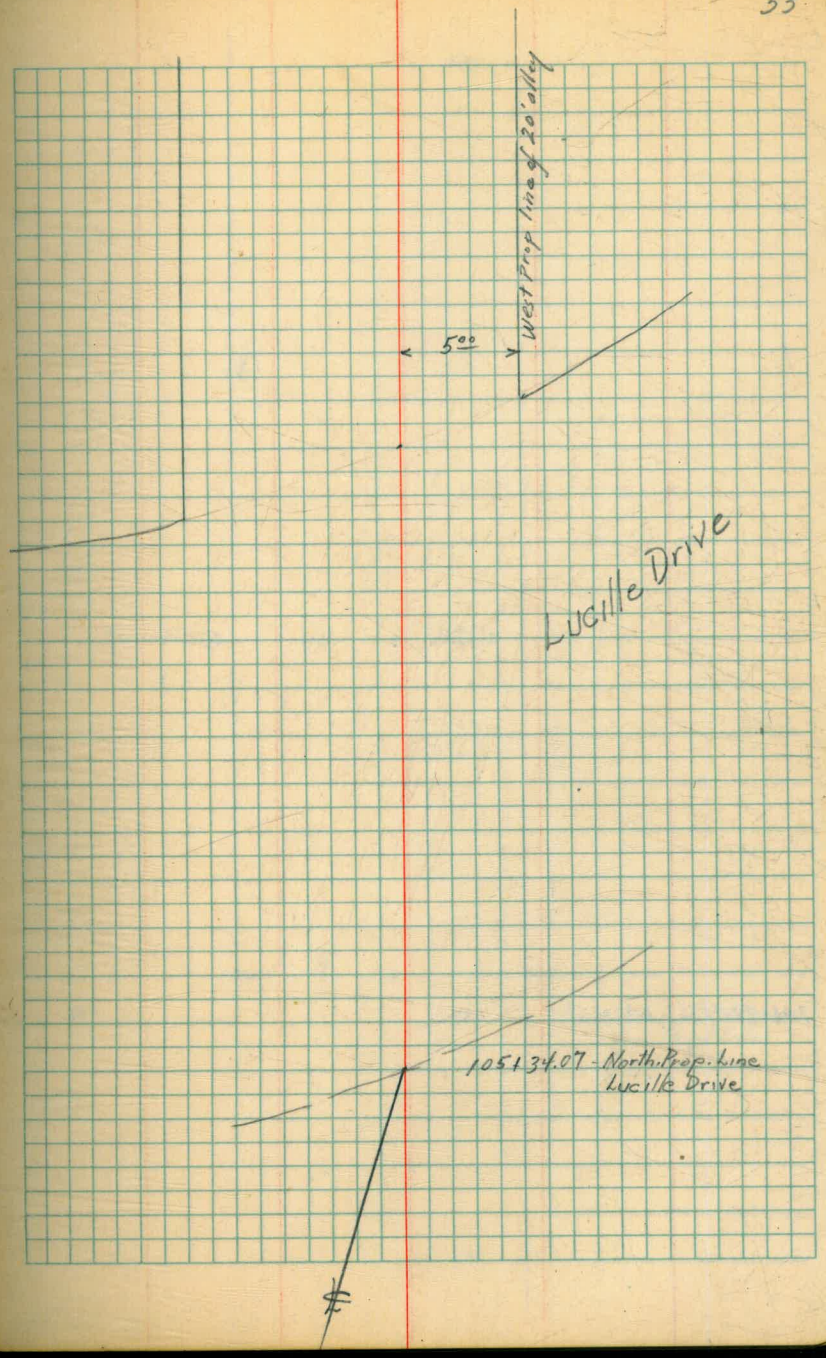
101+79 32/— P.O.T.

98+12 60/— P.O.T.

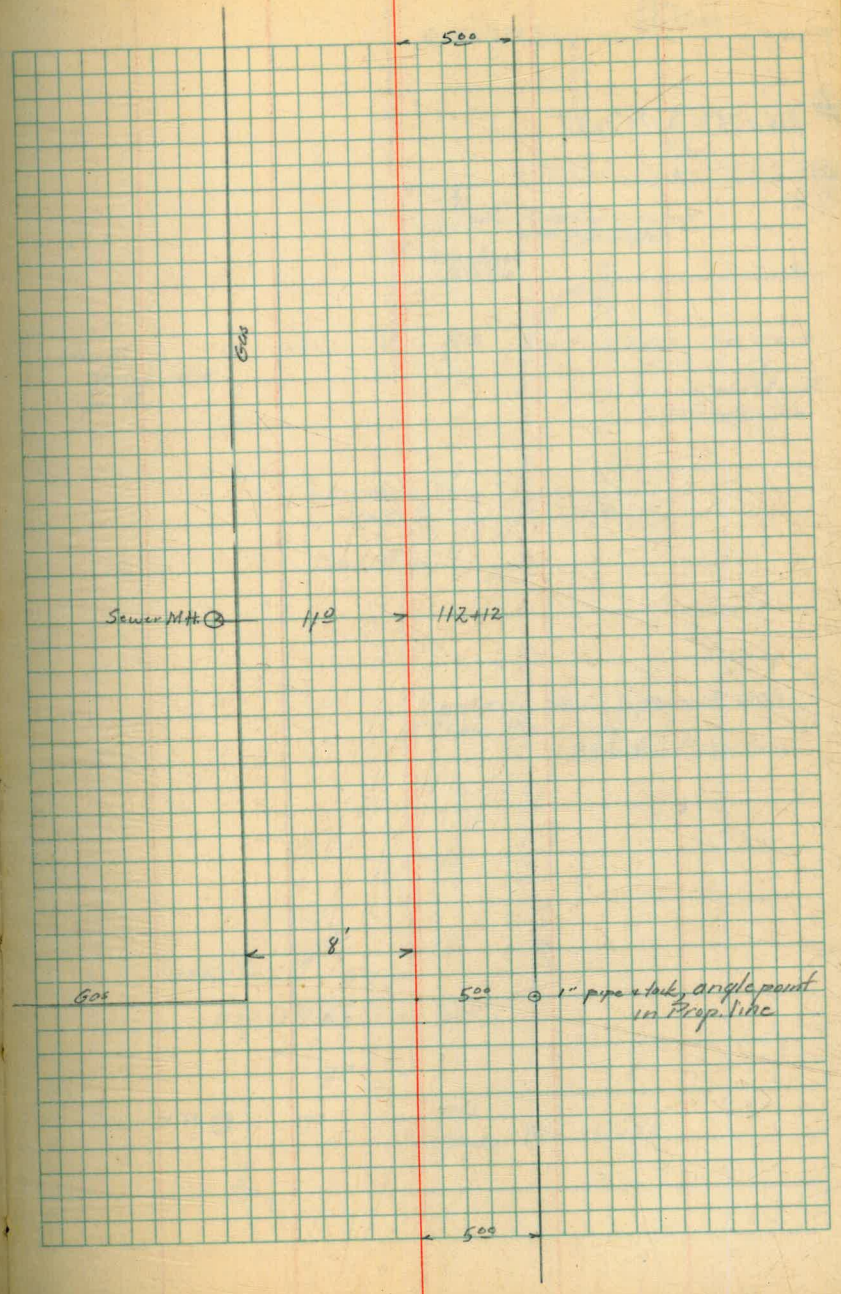


106+16.98 Δ 11°51' Rt

105+34.07 Δ 11°38' Lt.



108+90.90 Δ 0°13'17"



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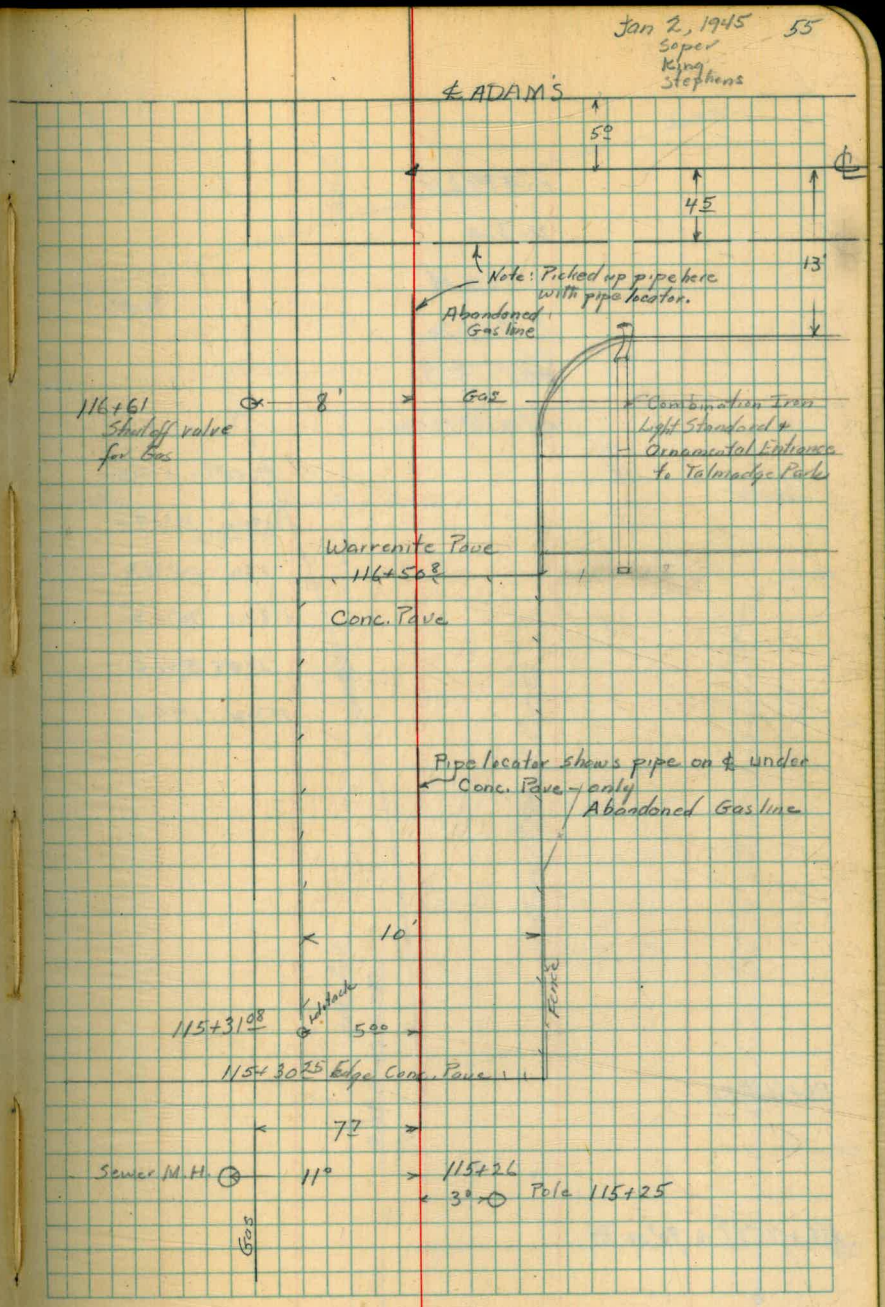
King
Stephens

116+75.87 A 90°00' Rt



Δ = 47°18' Lt

R = 320'

T = 140.14

L = 264.20

def 1' = 5.371

def 50' = 4°28.574

119+50.59 - 23°39.

119+00 - 19°07.3

+50 - 14°38.8

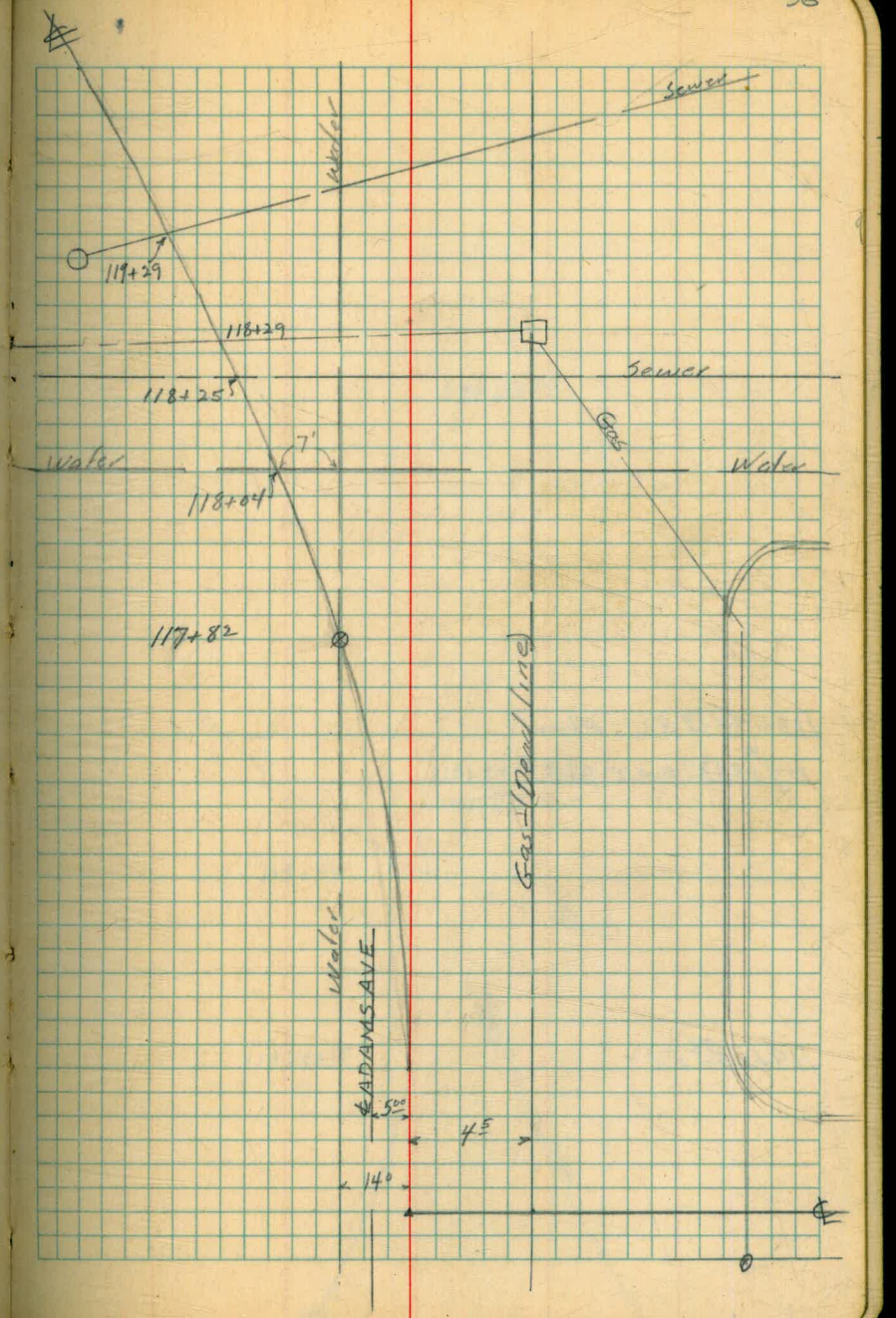
118+00 - 10°10.2

+50 - 5°41.6

117+00 - 1°13.0

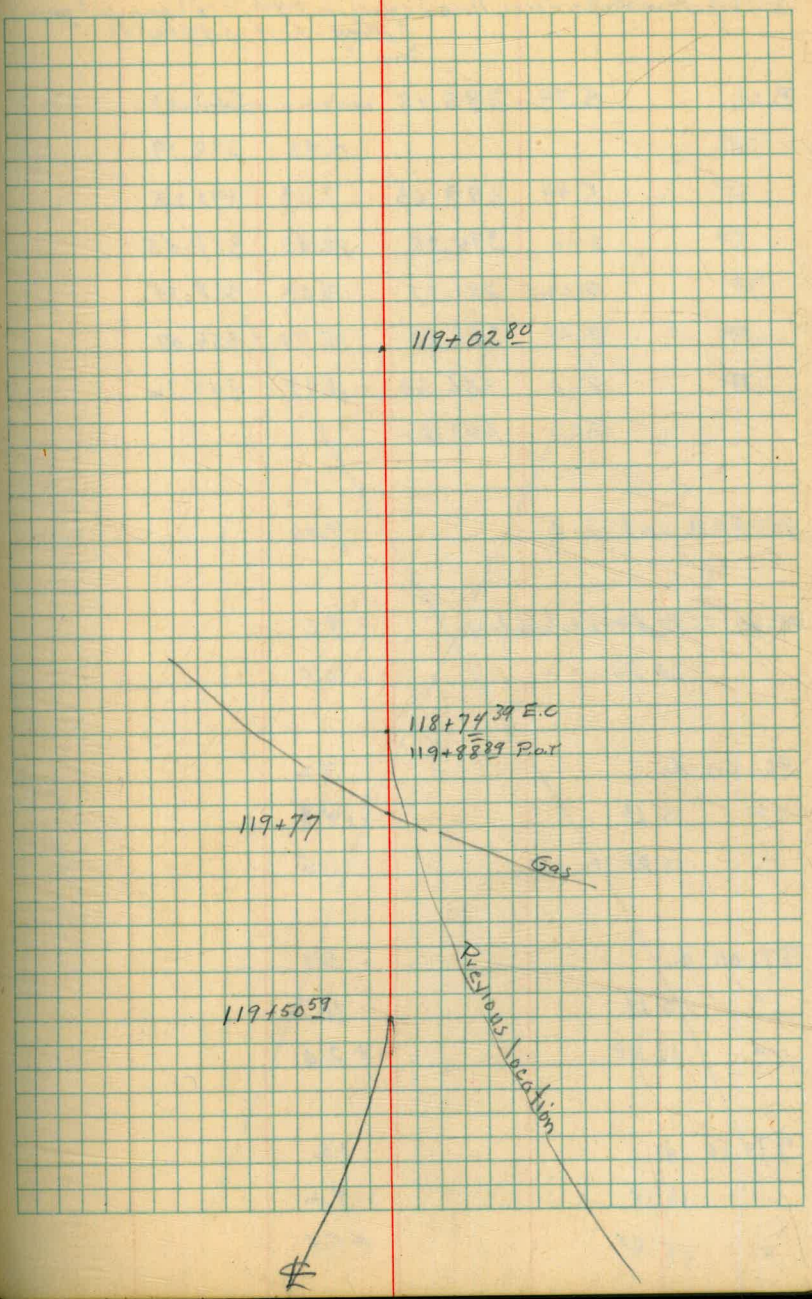
116+86.39 B.C.

116+75.87 Δ 90°00' Rt



118+74 39 E.C. - Ahead
= 119+88 89 P.O.T Back

119+50 59 E.C.



Void - see page 71

℄ Profile + x-section, line revision 44th St - Alignment page 51
(Alley - East of 49th St)

B.M.	5.79	395.12		389.33
TP			0.93	394.19
TP	5.44	399.63	7.38	392.25
TP	2.00	394.25	12.80	381.45
TP	0.32	381.77	13.03	368.74
TP	0.14	368.88	12.79	356.09
TP	0.60	356.69	11.93	344.76
	4.20	348.96		

96+40 △ on hub - ℄ 9.06

96+40 - 15' Rt, at Rt ∠ to back tang. 9.6

" " Lt, " " " " " 10.0

96+50 ℄		7.2
"	15' Lt	14.8
"	15' Rt	1.5
97+00 ℄		5.1
"	15' Lt	11.7
"	15' Rt	+2.0
97+50 ℄		1.6
"	15 Lt	9.6
"	15' Rt	+5.8

Jan. 2. 1945 58
Soper
Kipp
Stephens

B.P.N.E. Cor. Winona + Adams

		348.96		
TP	12.10	360.98 ✓	0.08	348.88 ✓
98+00 ℄			4.0	
" 15' Lt			12.7	
" 15' Rt			+4.6	
TP on hub (98+12 ℄)	9.27	368.88 ✓	1.37	359.61 ✓
98+13 ℄			9.3	
" 15' Lt			18.5	
" 15' Rt			+1.8	
98+50 ℄			5.5	
" 15' Lt			14.0	
" 15' Rt			+2.9	
99+00 ℄			2.3	
" 15' Rt			+7.5	
" 15' Lt			11.3	
TP	12.89	378.06 ✓	3.71	365.17 ✓
99+25 ℄			13.2	
" 15' Lt			21.9	
" 15' Rt			2.1	

Jan. 3, 1945
Soper
King
Stephens

378.06

99+50 ℄			11.6	
" 15' Lt			20.3	
" 15' Rt			0.0	
100+00 ℄			1.4	
" 15' Lt			10.9	
" 7' Rt			+3.1	
15' Rt			+5.5	
⏊	11.98	387.53	2.51	375.55
100+50 ℄			4.0	
" 15 Rt			0.0	
" 15' Lt			9.2	
⏊	9.48	396.45	0.56	386.97
⏊	5.57	397.79	4.23	392.22
100+75 ℄			10.2	
" 15' Lt			14.4	
15' Rt			8.7	
101+00 ℄			8.6	389.2
" 10' Lt			9.5	

		397.79		
101+00	15' Lt		10.6	
"	15 Rt		6.5	
101+50			6.1	391.7
"	15' Lt		7.5	
"	15' Rt		5.5	
102	℄		5.4	92.4
"	15' Lt		6.2	
"	15' Rt		4.4	
102+50	℄		3.4	94.4
"	15' Lt		4.6	
"	15' Rt		3.3	
103+00	℄		2.8	95.0
"	15' Lt		3.6	
"	15' Rt		2.6	
103+50	℄		2.0	95.8
"	15' Lt		2.0	
"	15' Rt		2.0	
104+00			2.3	95.5
TT		4.17	399.88	2.08	395.71

		399.88		
104+50			4.5	95.4
105			4.4	95.5
+30			4.6	95.3
+34.07 Δ			5.5	94.4
+50			5.9	94.0
106			5.9	94.0
+16.98 Δ			5.1	94.8
+50			4.7	95.2
107			5.0	94.9
+50			5.1	94.8
108			5.2	94.7
+50			5.2	94.7
+90.90 Δ			5.8	94.1
109			5.7	94.2
+50			5.8	94.1
110			6.1	93.8
TP	3.37	397.30	5.95	393.93
110+50			3.5	93.8
111			3.3	94.0
+50			4.0	93.3
112			4.4	92.9
			4.52	92.8

Run of Sewer M.H 11' LA 112+12

		397.30		
112+50			4.6	392.7
113			5.1	92.2
+50			5.3	92.0
114			5.6	91.7
+50			6.4	90.9
115			6.7	90.6
+15			7.0	90.3
			7.23	90.1
TP	2.68	391.22	8.76	388.54
115+30 25			2.7	88.5
+50			3.0	88.2
116			3.8	87.4
+50			4.6	86.6
+60			4.7	86.5
116+75 87			4.5	86.7
116+86 39 BC			4.7	86.5
117			5.1	86.1
+50			6.2	85.0
+75			6.7	84.5
			8.7	
118			7.1	84.1
+50			7.8	83.4

Rim of Sewer M.H. IV Lt 115+26

Edge of conc. Pave.

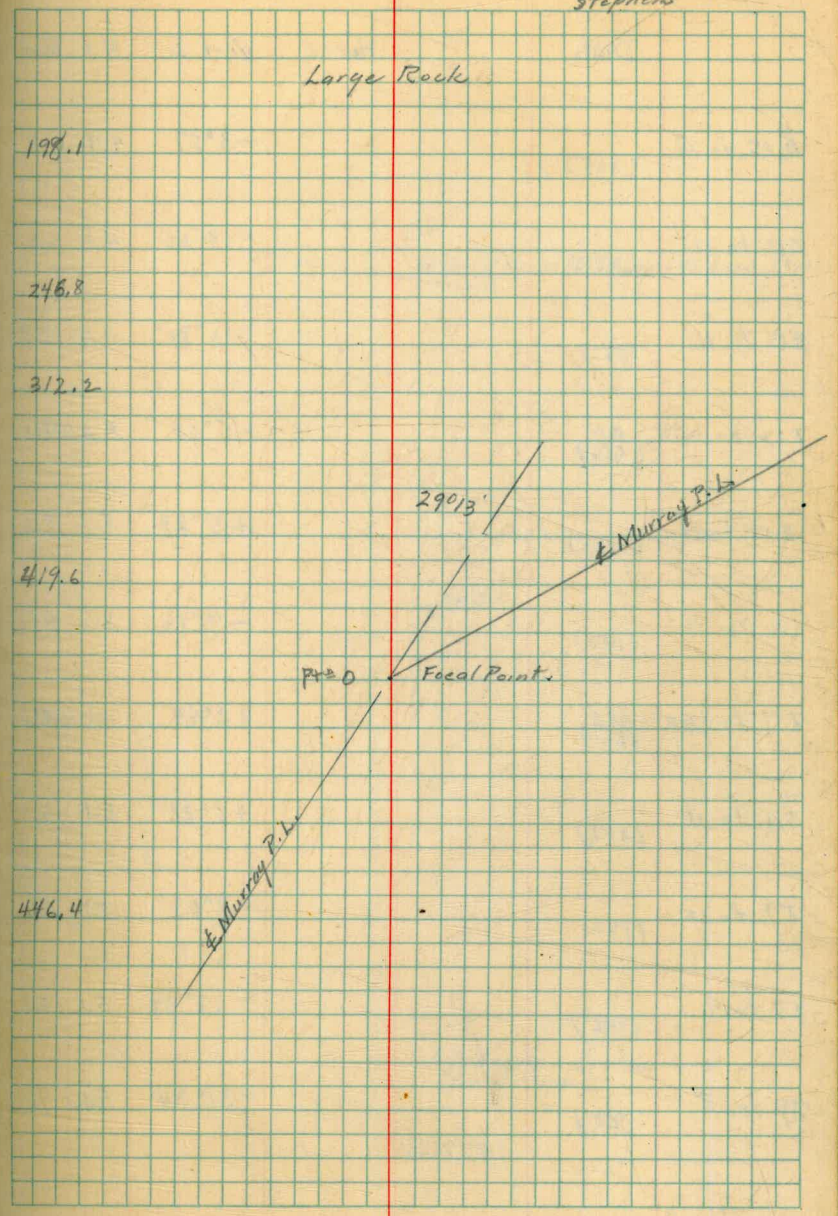
Top of G.V. Stem 117+82

		391.22			
119			8.9	382.3	
+ 50 59			9.8	81.4	
119 + 88 89					
118 + 74 39			10.4	80.8	
TP	3.76	393.77	1.21	390.01	
B.M.			4.46	389.31	N.E.B.P. Winona & Adams 389.33

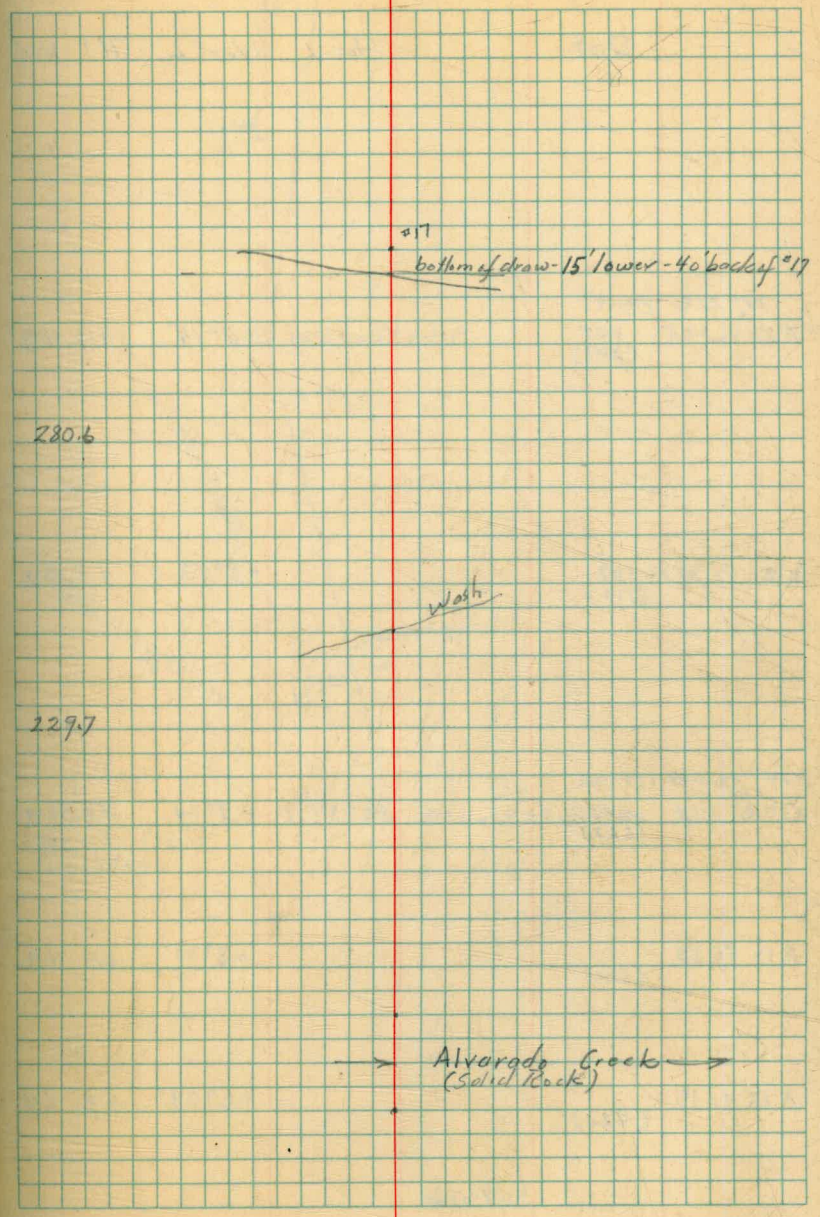
Jan. 8, 1945
Soper
King
Stephens

Stadia alternate line "E" from Focal Point to Pt # 21 C

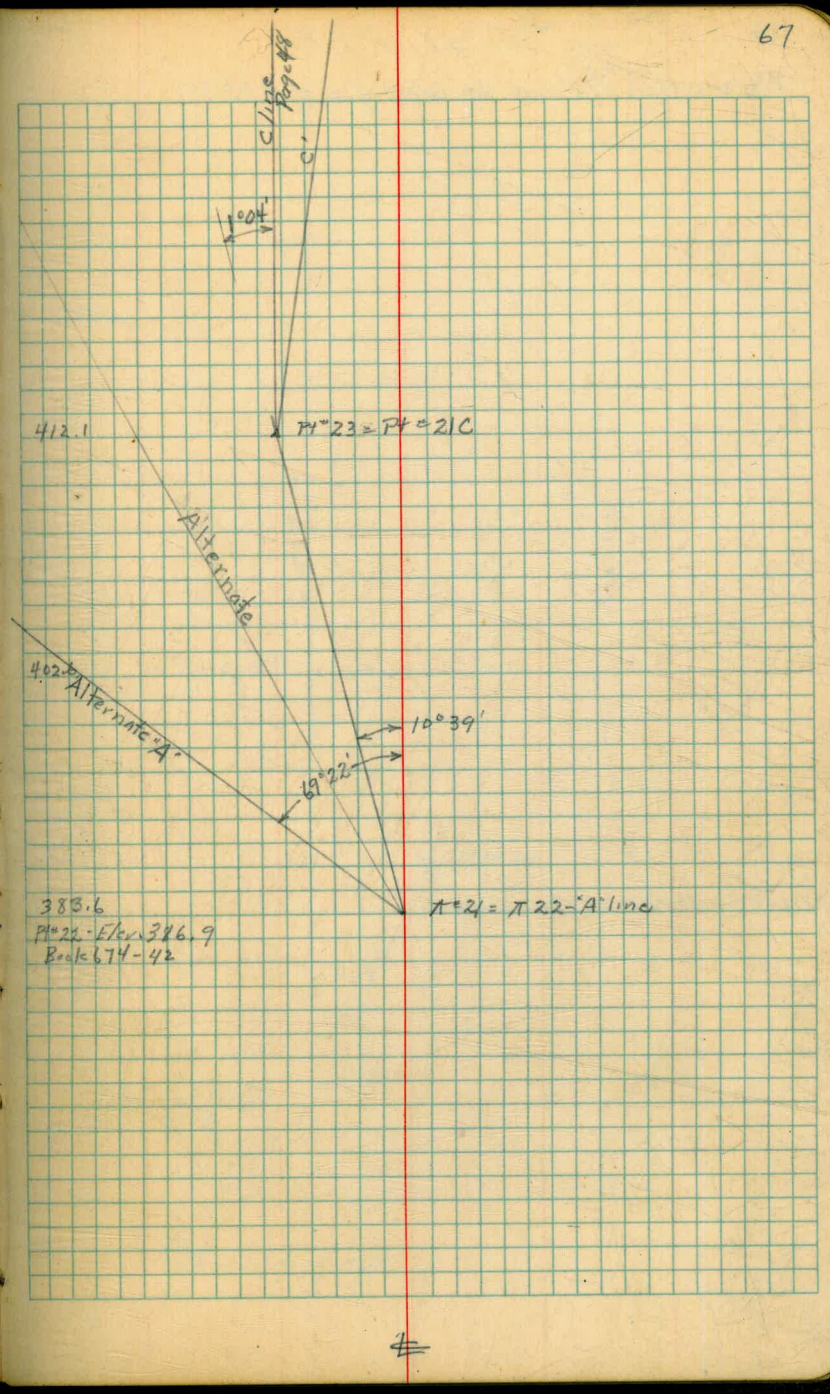
	Dist.		Hor. ∠	Verl. ∠	H.I	Rod
π6 to 7π	147 (163)			-18°22	5.0	5.0
π5 to 6π	252 (268')			-14°22'	4.9	5.1
π2 to 5π	621 (639)			-9°48'	5.0	5.0
π2 to 4	(540)			-9°38	5.0	5.0
π2 to 3	(232)			-10°59'	5.0	5.0
π0 to 2π	539 (546)			-2°51'	5.0	5.0
π0 to 1	(309)	S47°15'W	29°13'Lt	-3°31'	5.0	8.0
π at focal point (Pt 0)						



	Dist.	Hor. ∠	Vert ∠	H.I.	Rod
⊼15 to 18	(365')		−3°57'	4.9	4.9
⊼15 to 17	(278)		−13°05'	4.9	6.9
⊼15 to 16	(56')		−10°30'	4.9	5.9
⊼12 to 15⊼	611 (616)		+5°08'	5.1	9.1
⊼12 to 14	(430')		+5°33'	5.1	5.1
⊼12 to 13	(142')		−9°16'	5.1	5.1
⊼7 to 12⊼	662 (664)		+2°44'	5.1	5.1
⊼7 to 11	(342)		+0°28'	5.1	5.1
⊼7 to 10	(192)		−8°03'	5.1	5.1
⊼7 to 9	(146')		−13°34'	5.1	5.1
⊼7 to 8	(68')	S47°15'W	−31°34'	5.1	7.1



	Dist.		Hor. ∠	Vert. ∠	H.I	Rod
Pt = 21C - page 48						
Π 22 to 23 Π	245 (246)			+2°14'	4.9	4.9
Π 21 to 22 Π	109 (112)			+9°53	4.9	4.9
Π Pt = 22 Book 674-42						
Π 15 to 21 Π	646 (662)		10°39' Lt	+9°04'	4.9	4.9
Π 15 to 20	(600)			+8°21'	4.9	4.9
Π 15 to 19	(520)			+6°03'	4.9	4.9
		S47°15'W.				



Euclid Pl.

Relocation - 10' and 20' West of ℄ of 49th St.

101+00 - Assumed stationing

Feb. 13, 1945
Soper
King
Stephens

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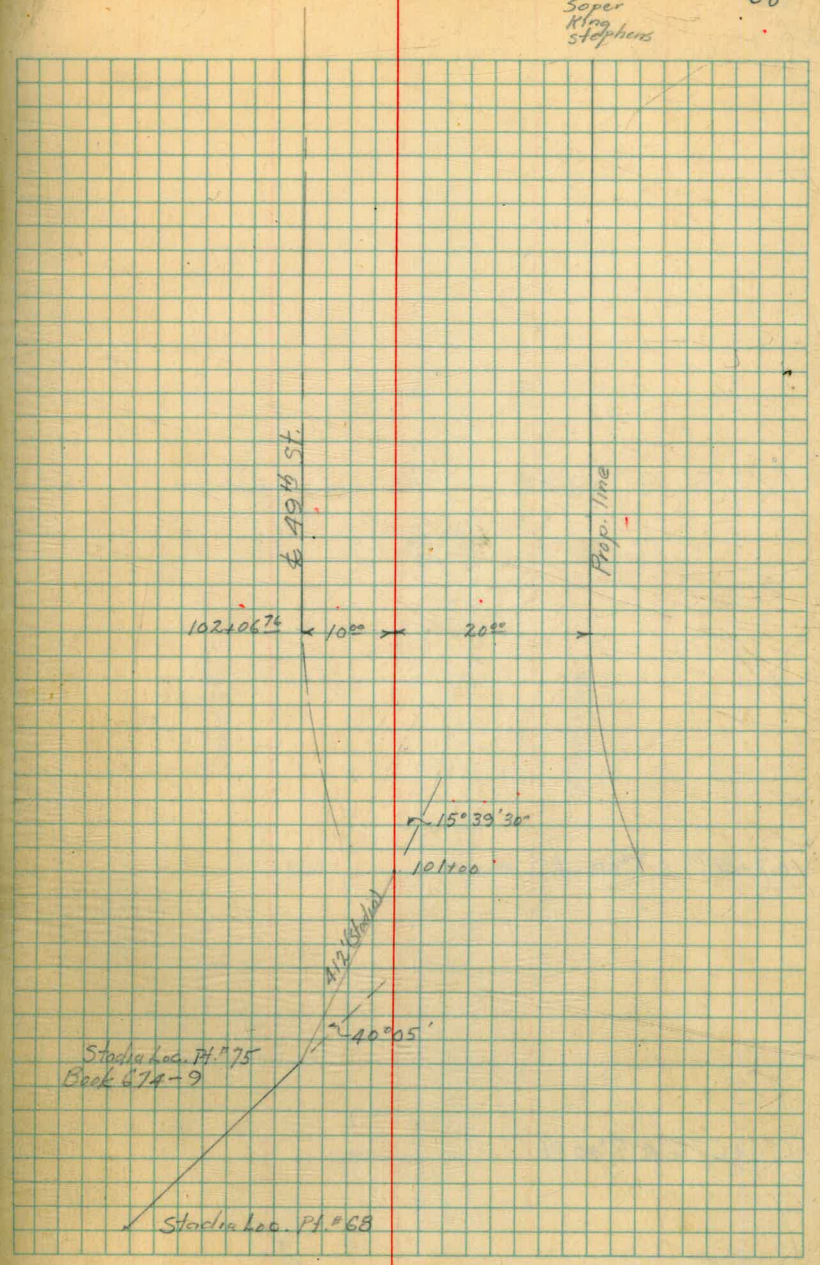
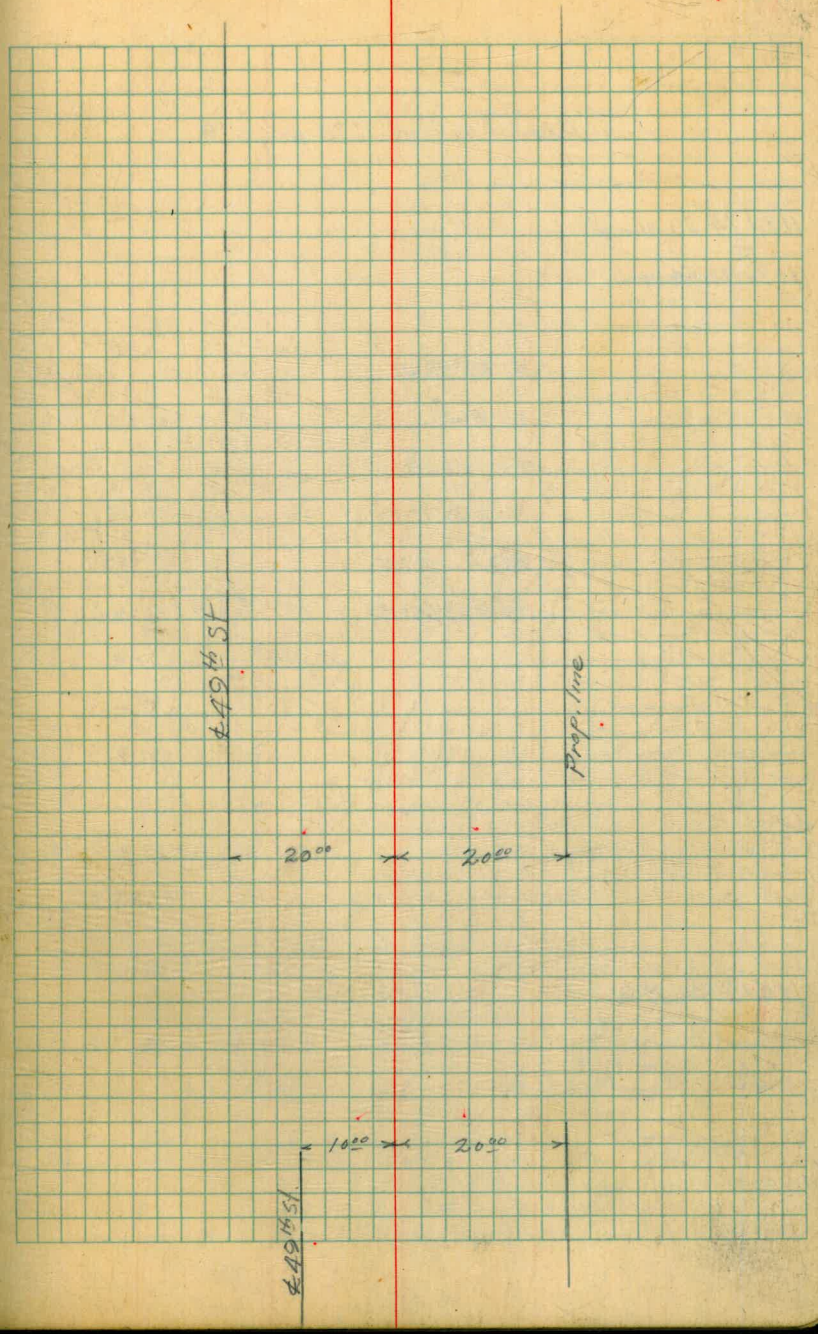


107+81.74 Δ 5°00' Lt

106+67.00 Δ 5°00' Rt.



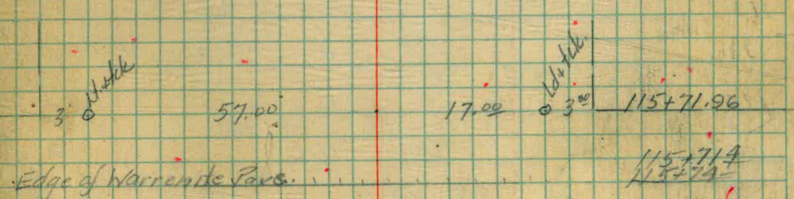
Cont'd in Book 674 page 19

118+74.39 ahead
=
118+74.64 back

Δ = 42°56' Rt
R = 400'
T = 157.29
L = 299.73
def. 1' = 4.297
def. 50' = 3°34.859

+74.64	21°28.0
+50	19°42.2
118	16°07.3
+50	12°32.4
117	8°57.6
+50	5°22.7
116	1°47.8

115+74.91 B.C.



Feb. 13 1945
Soper
King
Stephens

& Profile of relocation - 49th St. Euclid Pk.

B.M.	5.62	394.95		389.33
TP	6.87	398.12	3.70	391.25
TP	4.94	400.12	2.94	395.18
101+00			7.81	392.31
102			5.8	394.32
103			4.8	395.32
104			4.5	395.6
105			4.7	395.4
106			4.8	395.3
+67.00 Δ			4.9	395.2
107			5.0	395.1
+81.74 Δ			5.3	394.8
108			5.3	394.8
109			5.8	394.3
TP	3.08	397.40	5.80	394.32
110			3.8	393.6 EWE (394.6)
111			4.3	393.1
112			4.9	392.5
113			6.3	391.1
114			8.2	389.2
115			10.1	387.3
+74.91			11.6	385.8
TP	3.33	389.59	11.14	386.26
116			4.5	385.1

B.P.N.E. Cor. Winona & Adams

On hub

		389.59			
116+50			5.5	384.1	
117			6.2	383.4	
+50			6.9	382.7	
118			7.7	381.9	
+50			8.4	381.2	
+74.64			8.8	380.8	
	7.18	394.75	2.02	387.57	
d.e. on B.M.			5.45	389.30	Rec. 389.33

Contd in Book 674 Page 58

Pipeline Loc. - 30th St. South from Olive St. West of bridge

0+42.4 ∆ 45°00' Lt

0+28.20 P.O.T. on walk

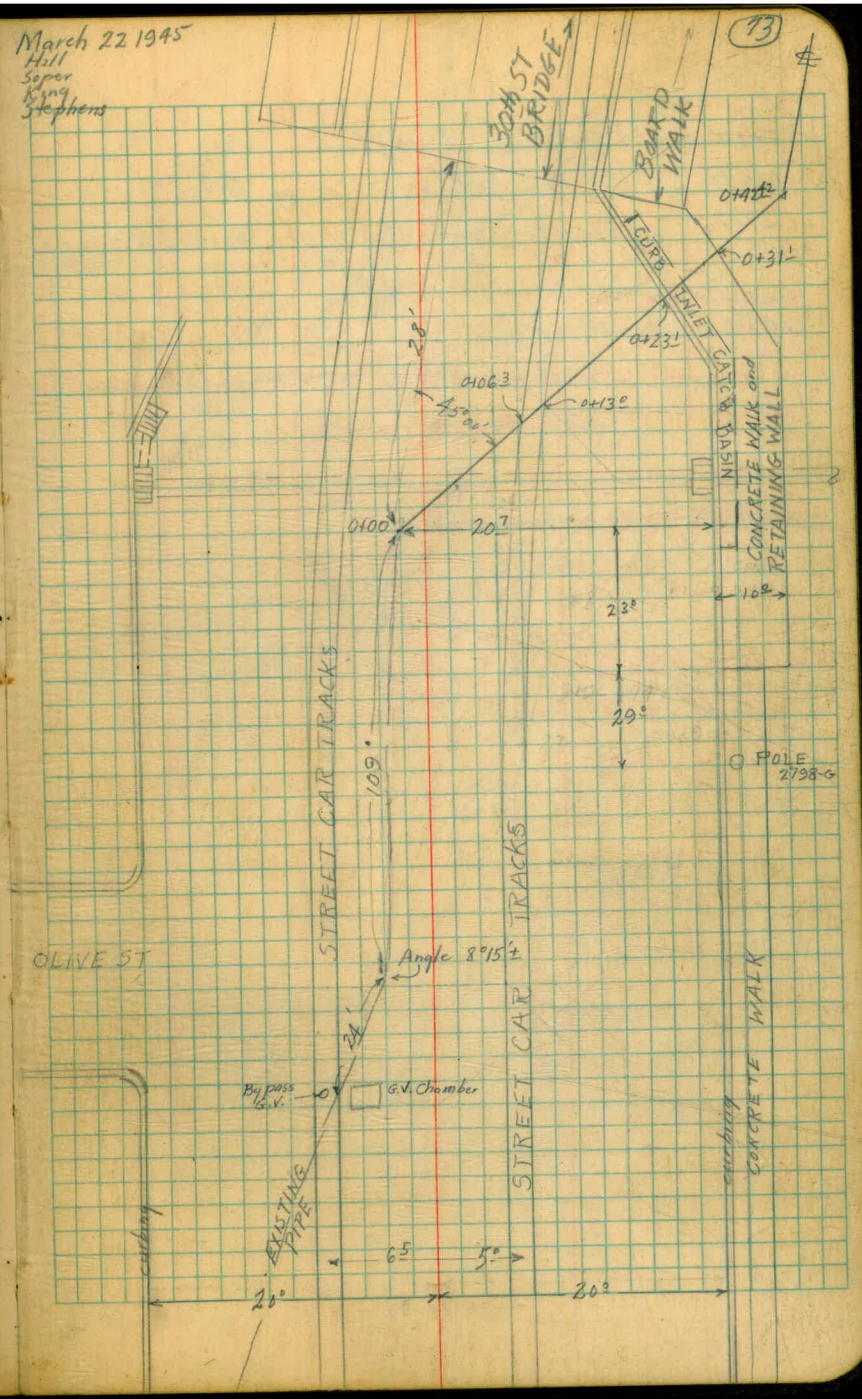
0+02.6 - ℄ of 12" Conc. Culv. - Catch basin 18.2 Lt and 17.8 Rt

0+00 ℄ of existing pipe (by pipe locator), angle 45°00' Rt from existing pipe at South end of bridge

~~Alternate Loc. at North end of bridge~~
~~on page 78~~

FINAL LOCATION BOOK 683-7

March 22 1945
Hill
Soper
King
Stephens



~~7+854 = ℄ of existing pipe. 45°00' Rt~~

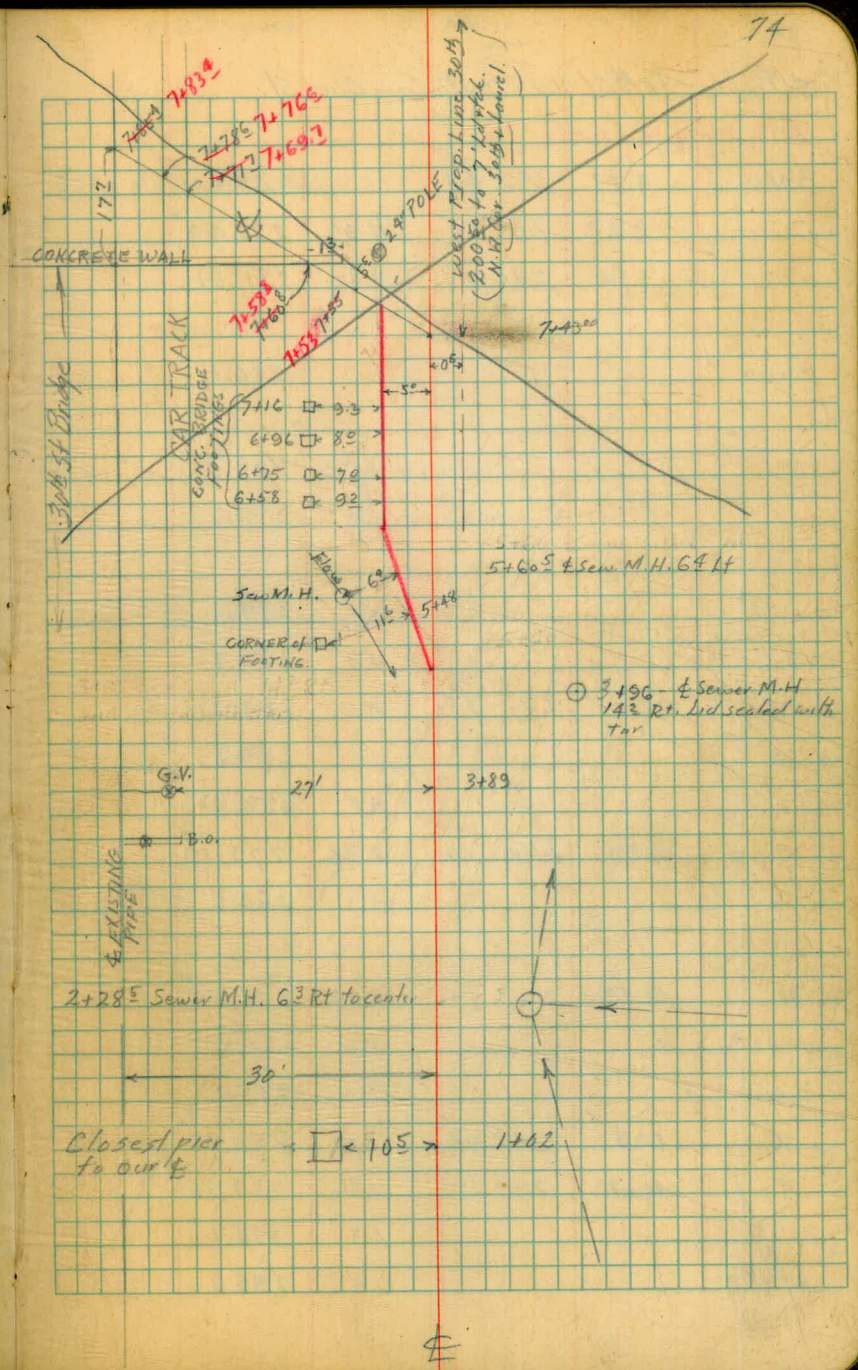
Note; For revised revision of this
relocated alternate see book 683 page 1

~~7+48.14 @ 45°00' Lt~~
~~7+43.00 @ 45°00' Lt~~

~~4-11-45 - Line moved 5' East, Sta 6+40 to 7+98.10~~
~~℄ Profile Page 80~~

~~6+40 - ℄ 2°52' Rt~~

5+40 @ 2°52' Lt



Cold - very windy.

March 23, 1945
Soper
King
Stephens

℄ Profile - 30th St. Loc. South from Olive St.

Alt. profile - page 79

B.M.	4.77	294.48		289.71
	2.24	284.73	11.99	282.49
	3.60	284.91	3.42	281.31
0+00			4.9	280.0
			7.6	277.3
			5.7	279.2
0+23±			5.4	279.4
0+23±			4.7	280.2
0+25±			4.7	280.2
0+25±			5.1	279.8
0+31±			4.9	280.0
TP	2.09	274.68	12.32	272.59
0+31±			11.1	263.6
TP	0.59	263.19	12.08	262.60
0+42			3.0	260.2
0+50			8.0	255.2
TP	1.28	252.06	12.41	250.78
TP	0.07	239.37	12.76	239.30
1+00			1.3	238.1
+38			3.6	235.8

B.P. S.E. Cor. 30th & Kalmia

Fl. Inc. 12" Conc. Culv. 18" Lt. 0+02 ℄

On grating above Conc. Culv. 17.8 Rt 0+02 ℄

Gutter - Top of catch basin inlet - 3.5 to flow line

Top of curbing

" " "

Sidewalk

" - Top of wall

On ground

		239.37		
1+50			5.5	233.9
+88			12.5	226.9
TP	0.08	226.98 ✓	12.47	226.90 ✓
2+00			2.9	224.1

FINAL & PROFILE CONT'D FROM BOOK 683 PAGE 5

2+28			5.7	221.3
			5.1	221.9
			13.8	213.2
2+50			8.7	218.3
TP	2.55	217.05 ✓	12.48	214.50 ✓
3+00			3.7	213.4
+50			7.6	209.5
+75			9.9	207.2
+83			11.0	206.1
+88			14.2	202.9
4+05			14.4	202.7
4+06			11.6	205.5
			11.7	205.4
4+50			11.6	205.5
5+00			5.4	211.7
+25			1.7	215.4
TP	12.88	229.53 ✓	0.40	216.65 ✓

FINAL & PROFILE CONT'D ON PAGE 80 THIS BOOK

~~5+50~~			12.8	216.7

Rim of Sewer M.H. 6 @ Rt 2+28.5 – 8.1 to Flow line.
Fl. line " " " "

Rim of Sewer MH 14 @ Rt 3+96 (old brick M.H. Lid sealed with tar)

		229.53		
5+57			19.0	210.5
			10.1	219.4 ✓
			17.3	212.2
5+69			18.3	211.2
+75			11.1	218.4
6+00			8.1	226.4
TP	12.65	240.65 ✓	1.53	228.00 ✓
TP	12.28	252.58 ✓	0.35	240.30 ✓
		See Book 683		
6+50			7.3	245.3
TP	12.93	264.67 ✓	0.84	251.74 ✓
7+00			0.2	264.5
TP	12.01	276.31 ✓	0.37	264.30 ✓
TP	9.33	285.39 ✓	0.25	276.06 ✓
7+32			7.5	277.9
+43			3.4	282.0
+57			4.7	280.7
+60.8			5.4	280.0
+85.4			5.21	280.2
TP	11.98	294.44 ✓	2.93	282.46 ✓
			4.77	289.67 ✓

Rim of Sewer M.H. 8' Lt. 5+60 - 7½ to Flow line

Fl. line " " " "

Top of conc Retain. wall

ck on B.M. - 30th & Kalmia 289.71

Alternate location - 30th St ℙ.

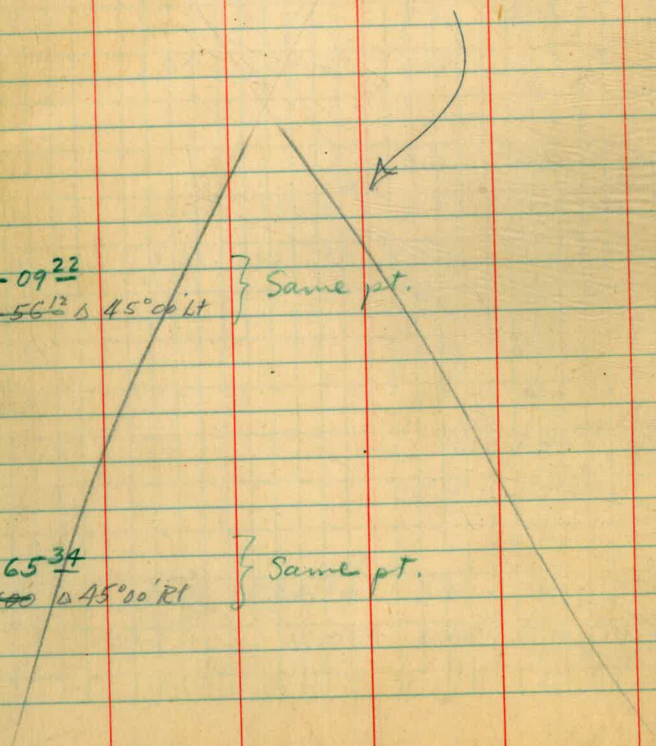
2+20.00 ∠ 3°28' Rt.

~~1+02.95~~ — Ahead }
~~1+69.78~~ 23°52' Rt } Out

Note: Stationing renumbered to eliminate equation. Also line change. A.R.

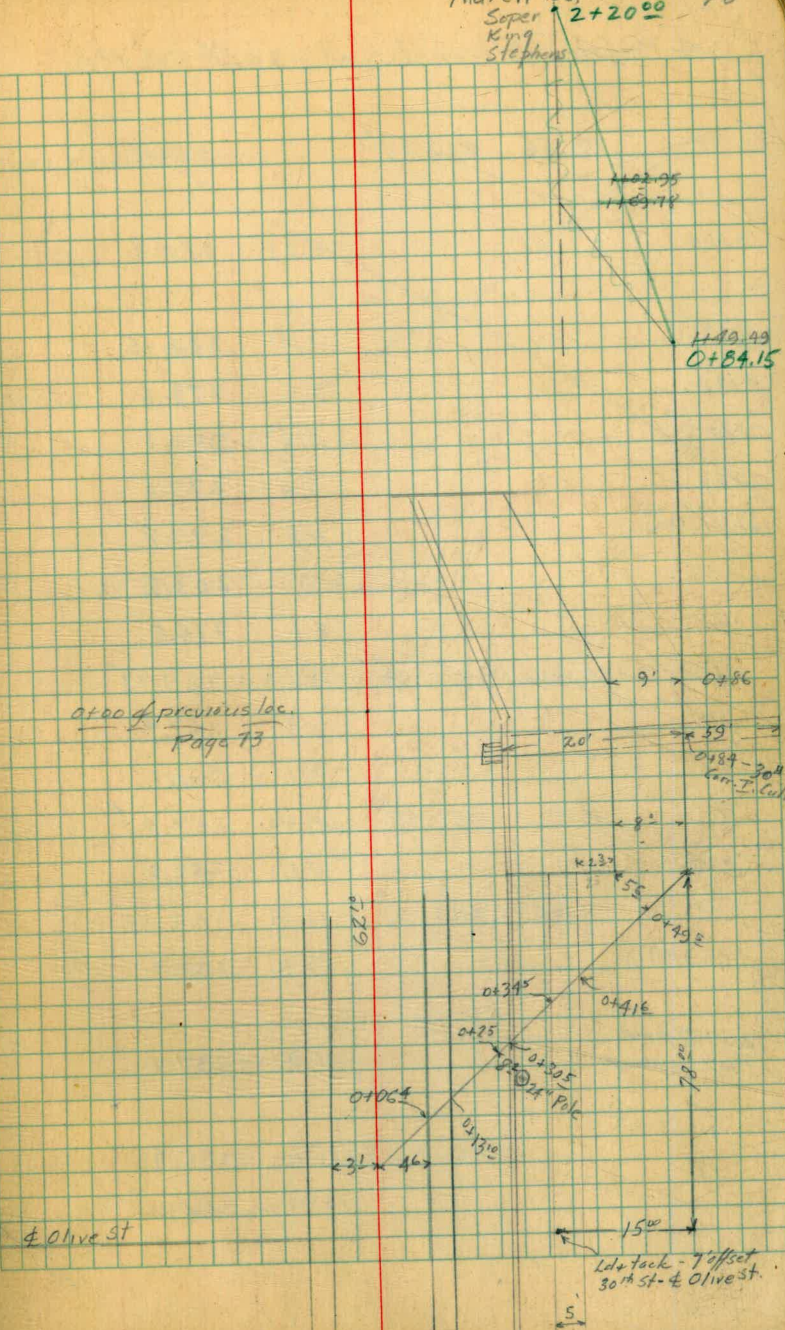
0+84.15 ∠ 2°06' Lt. }
~~1+49.49~~ Δ ~~22°30' Lt~~ } Same pt. as before

BOOK 683-7



$0-09^{22}$ }
~~$0+56^{12}$~~ Δ 45°00' Lt } Same pt.

$0-65^{34}$ }
~~0+00~~ Δ 45°00' Rt } Same pt.



& Profile - Alternate Loc. 30th St. Pl.

TP	2.56	282.56 ✓		280.0
0+00			2.23	280.3
0+13			2.41	280.15
0+30			3.0	279.6
0+30.5			2.5	280.1
0+50			3.0	279.6

FINAL & PROFILE CONTINUED FROM Book 683/8

0-09.22
0+56 = A 0-07.22 SAME ELEV.

			4.8	277.8
			19.1	263.5
0-03.34 0+62			8.1	274.5
TP	0.42	270.19 ✓	12.79	269.77 ✓
0+23.66 0+89			2.3	267.9
0+34.66 1+00			9.1	261.1
TP	0.45	257.70 ✓	12.94	257.25 ✓
0+50.66 +16			5.5	252.2
TP	3.40	248.96 ✓	12.14	245.56 ✓
0+84.15 +49.49 △			9.3	239.7

CONTINUED IN Book 683 PAGE 5

~~1+69.78 back~~			~~11.9~~	~~237.1~~
~~1+02.05 ahead~~				
			13.1	235.9
			10.92	238.0 ✓

0+00 - previous location

Gutter

Top of curb

Fl. line 30" Corr. I. Culv. 20' Lt 0+84

Note: Side slope is 1' horizontal - 1' vertically

65.34 SUBTRACTED FROM STATIONING
SEE PAGE 78 THIS Book

Fl. line 30" Corr. I. Culv. 59' Rt 0+84

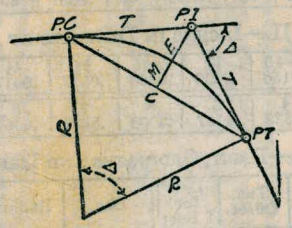
de on sta 1+00 - Rec. 238.1

80 30th St. Pl. Apr. 1-11-45

Profile on Alt. Line - 30th St. Maple Ct. Sta. 5+40 — 774 8.10

B.P. S.E. Cor. Monroe + 44th				356.83	
B.P. N.W. " Highland + Orange				354.16	
B.P. N.E. " Lantana near Euclid				340.46	
B.P. S.E. " Monroe + Euclid				355.48	
B.P. N.W. " Landis + Chamoune				341.00	
B.M. Top Bldg. 5+57	9.44	238.84		219.40	
FINAL & PROFILE CONT'D. FROM PAGE 76 THIS BOOK					
B 5+40			12.5	216.3	
5+50			11.9	216.9	
+58			18.1	210.7	
+70			18.0	210.8	
+76			10.2	218.6	
6+00			3.2	225.6	-2.4/10 & +4.0/10
T.P.	12.28	240.22	0.90	227.94	
FINAL & PROFILE CONT'D. IN BOOK 683 PAGE 3					
Δ ~~6+40~~			~~04.0~~	~~239.2~~	-.47/10 +9.0/17
T.P.	13.05	253.16	0.11	240.11	
6+50			9.8	243.4	-3.7/10 & +10.0/18
T.P.	12.67	264.37	1.46	251.70	
7+06			3.1	261.3	-2.5/8 & +10.0/12
T.P.	12.42	276.38	0.41	263.96	
7+15	VOID		8.4	268.0	-2.5/8 & +10.0/14
7+27			1.4	275.0	-5.0/9 & +7.0/13
T.P.	9.08	285.11	0.35	276.03	
Δ 7+48.10			3.9	281.2	& +1.5/10
Check on T.P.			2.67	282.44	282.46
See Page 77					

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



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 ÷ 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 ÷ (2 x 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′.

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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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