1628

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.

Poplar St. 2-69

Trash Bin 367 Market 70

Alley Blk 274 S.D.L.&T Co. 74

Walker
Wells
Harding
1-14-42

POPLAR ST. CROSS SECTION

from Fairmount Ave -

- to West end, at Estrella Park.

80' wide 12' cbs. 14' ½s

Note: Stations are ℄

	5.58	302.77		297.19	S.E. BP Quince & Fairmount.
IP Poplar & Fairmount	4.04	306.05	0.76	302.01	
N.W.LY Conc. Mon	306.10 x Corrected		0.65	305.40	305.45 = Record Elev.
Sec "A" = 0-1444 = diag Section = M.cb. Fmt. Sec					
S. 30.3 on Gut. of cb. P.C.			5.07	301.03	
" " top cb P.C.			4.23	301.87	
S.L. on Paving.			4.53	301.57	
M cb " "			4.12	301.98	
S ¼ "			3.69	302.41	
℄ " "			3.38	302.72	
N ½ " "			3.16	302.94	
N cb " "			2.81	303.29	
47'- PCC cb. on cb.			2.10	304.00	
" " " Gut.			2.67	303.43	
N.W.L.Y Return					
"A" on cb.			2.13	303.97	
" " Gut-Asphalt Pav.			2.76	303.34	

Red ℄ Plotted 3/12/42 (Revised) — O.K.E.T.

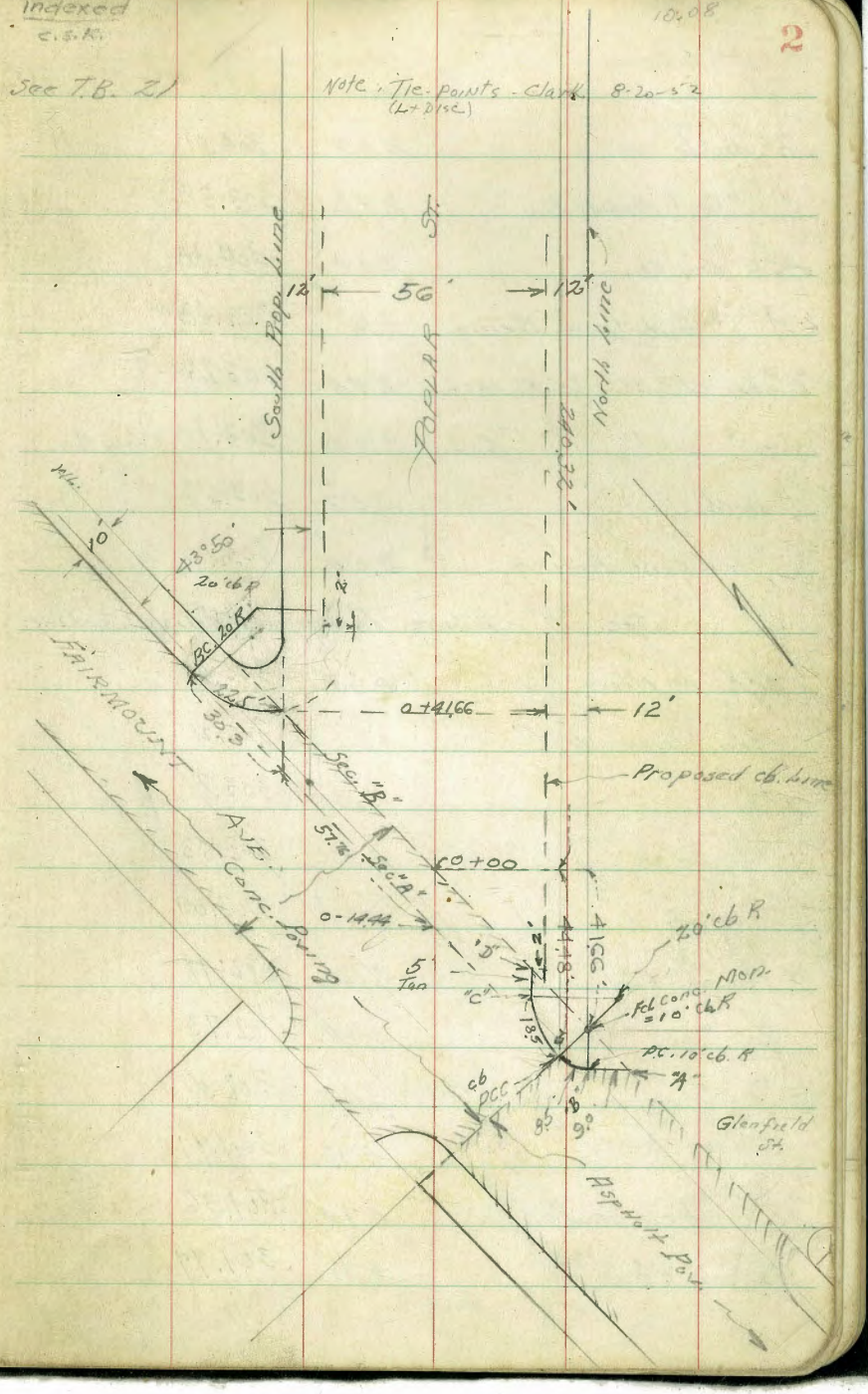
Indexed
C.S.K.

10.08

2

See T.B. 21

Note: Tie points - clark. 8-20-52 (L+Dise.)

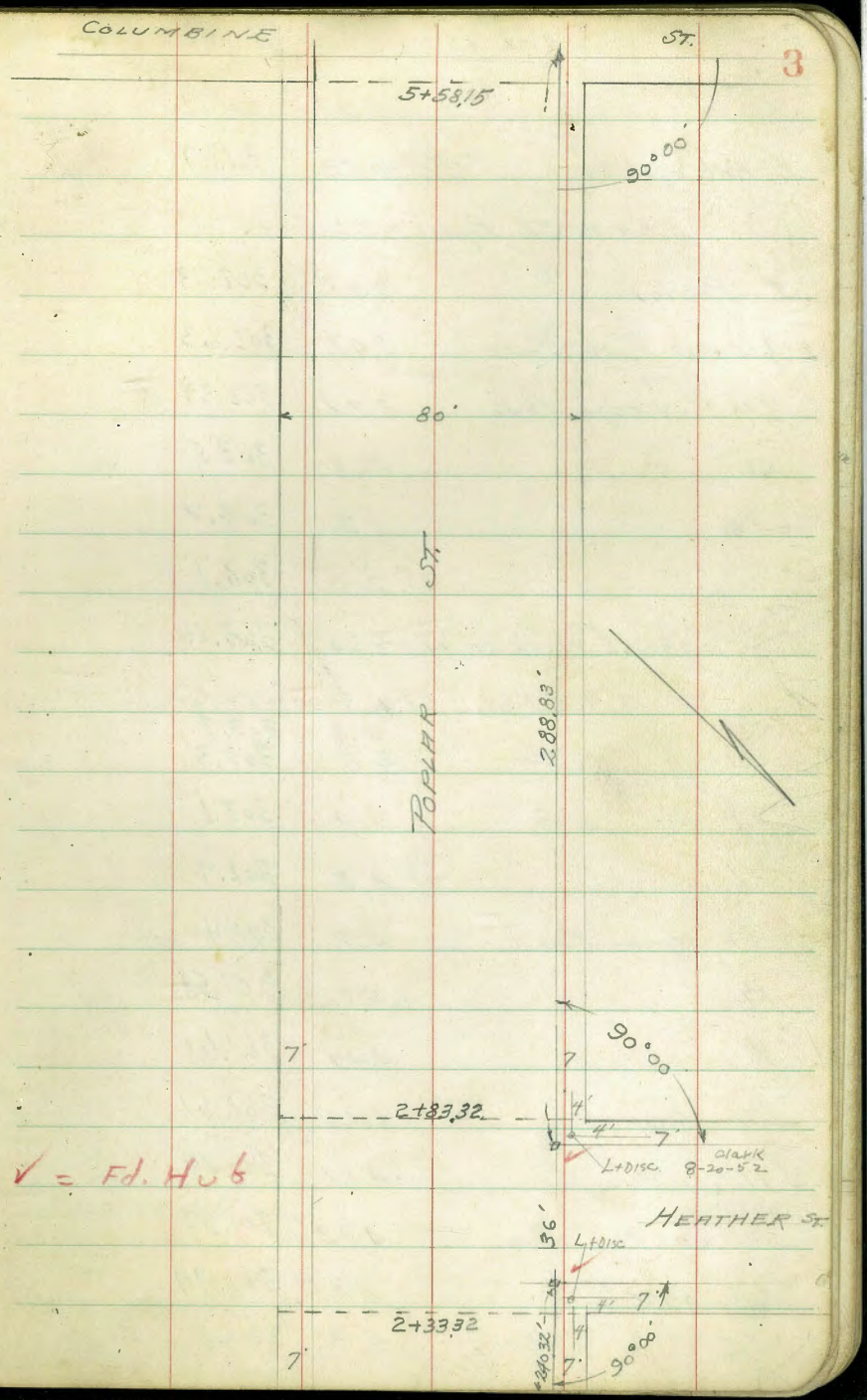


306.10

"B" on cb.	2.09	304.01
" "Gut. Asphalt Pav.	2.72	303.38
PCC on cb.	2.10	304.00
" " Gut. Conc. Paving.	2.67	303.43
"C" on cb - E.C. 20' R. on cb.	2.48	303.62
" " " " "Gut	3.00	303.10 Conc. Pav.
"D" on cb.	2.57	303.53
" "Gut Conc. Paving	3.00	303.10

Sec. "B" - N Line Fairmount - diag. Jaction

N.L. on Mon.	0.65	305.45
N.L. Ground.	0.9	305.2
cb.	2.3	303.8
+3 on cb	2.57	303.53
" " Gut	3.01	303.09
N 1/4 on Pav.	3.12	302.98
℄ " "	3.37	302.73
S 1/4 " "	3.69	302.41
S cb. " "	4.13	301.97
St. at cb. on Pav.	4.74	301.36
" on cb.	4.31	301.79

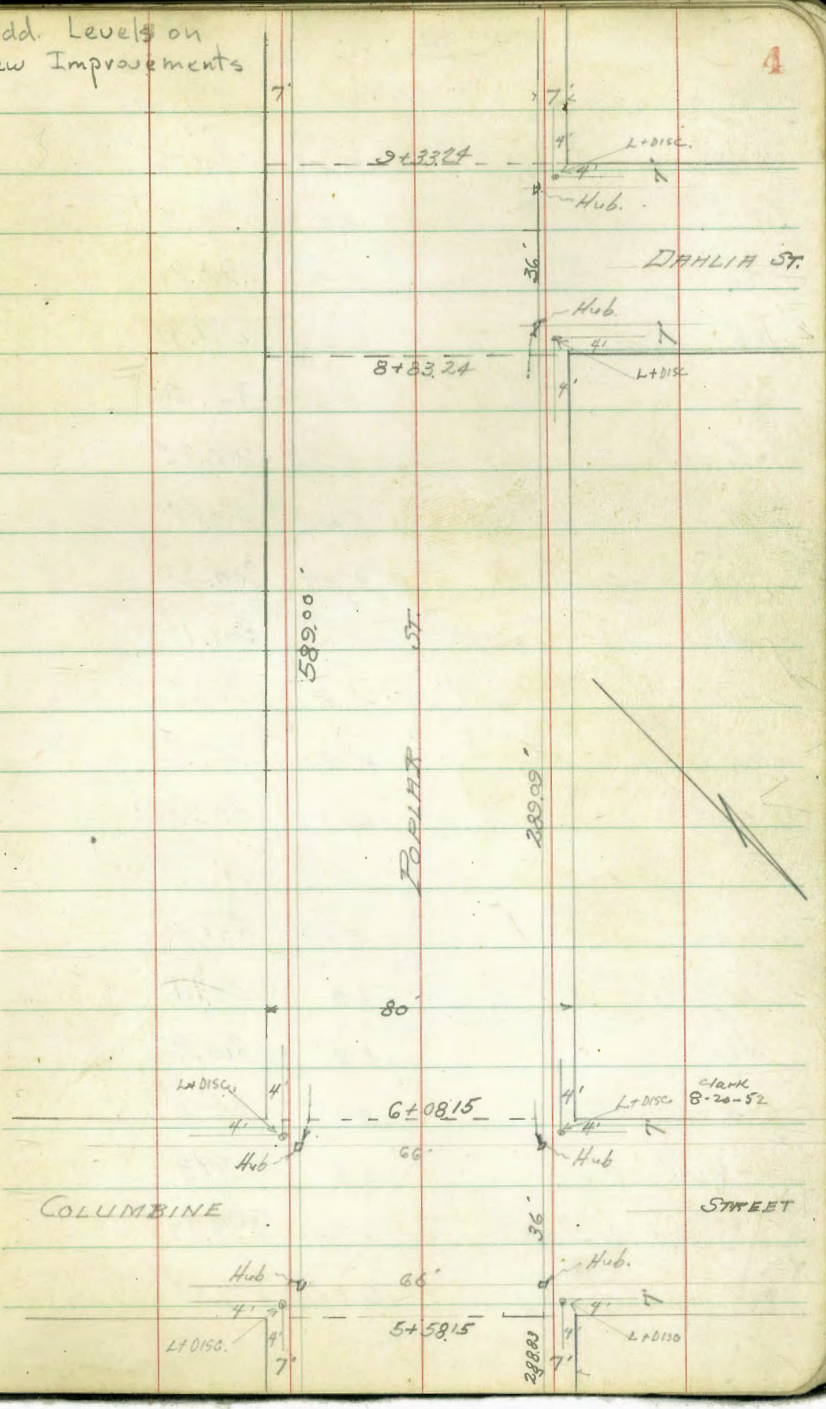


✓ = Fd. Hub

306.10 See B. 1798 P. 50 for Add. Levels on New Improvements

4

℄ SWLY Rf. on Cut		4.91	301.19
℄ Ref. on cb.		4.23	301.87
0+00 = ℄ Poplar & Wlk. Front.			
℄ Poplar		3.37	302.73
N ¼ on Rock Pav.		3.47	302.63
+11 = N edge Pav.		3.71	302.39
cb.		2.6	303.5
+2		1.9	304.2
N		2.0	304.1
0+36 = ℄ Walk on N	-2.54		303.56
0+41.66 = Rf. ∆ to SWly Cor.			
-5		2.8	303.3
N		2.8	303.3
10		3.0	303.1
cb.		4.2	301.9
+1 = N edge Pav.		4.7	301.4
N ¼		4.52	301.58
℄ on "		4.49	301.61
S ¼ " "		4.49	301.61
S cb on Pav		4.61	301.49
S.L. on "		4.73	301.37
S.L. on cb.		4.81	301.79
+5		4.3	301.8



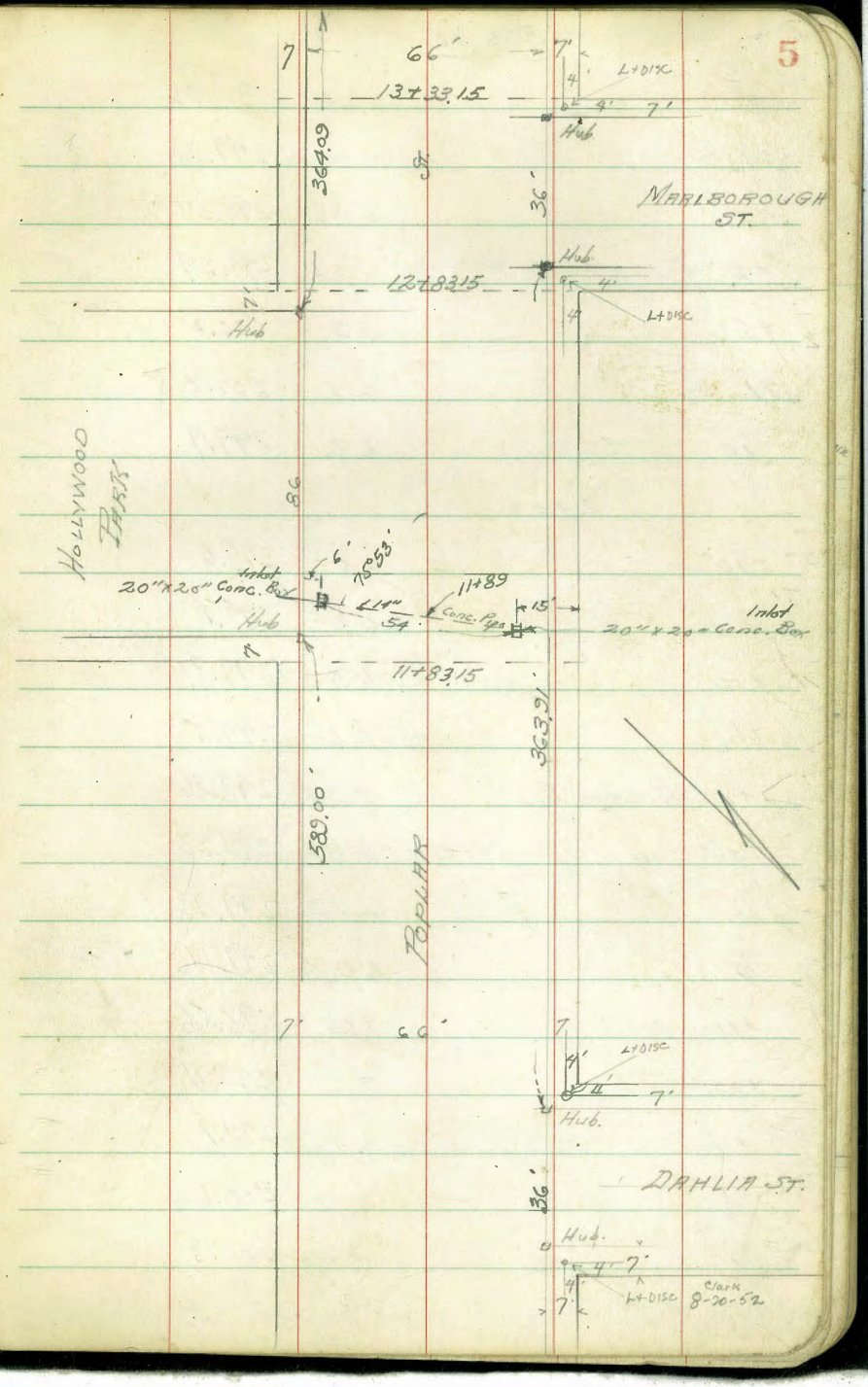
306.10

1+00

S-10	5.5	300.6
SL.	5.4	300.7
+8	5.3	300.8
cb. = Bev.	6.29	299.81
1/2	5.56	300.54
L	5.35	300.75
1/4	5.42	300.68
+11 = N edge Bev	5.87	300.23
N cb.	5.0	301.1
+2	4.6	301.5
N	4.3	301.8
+10	4.1	302.0

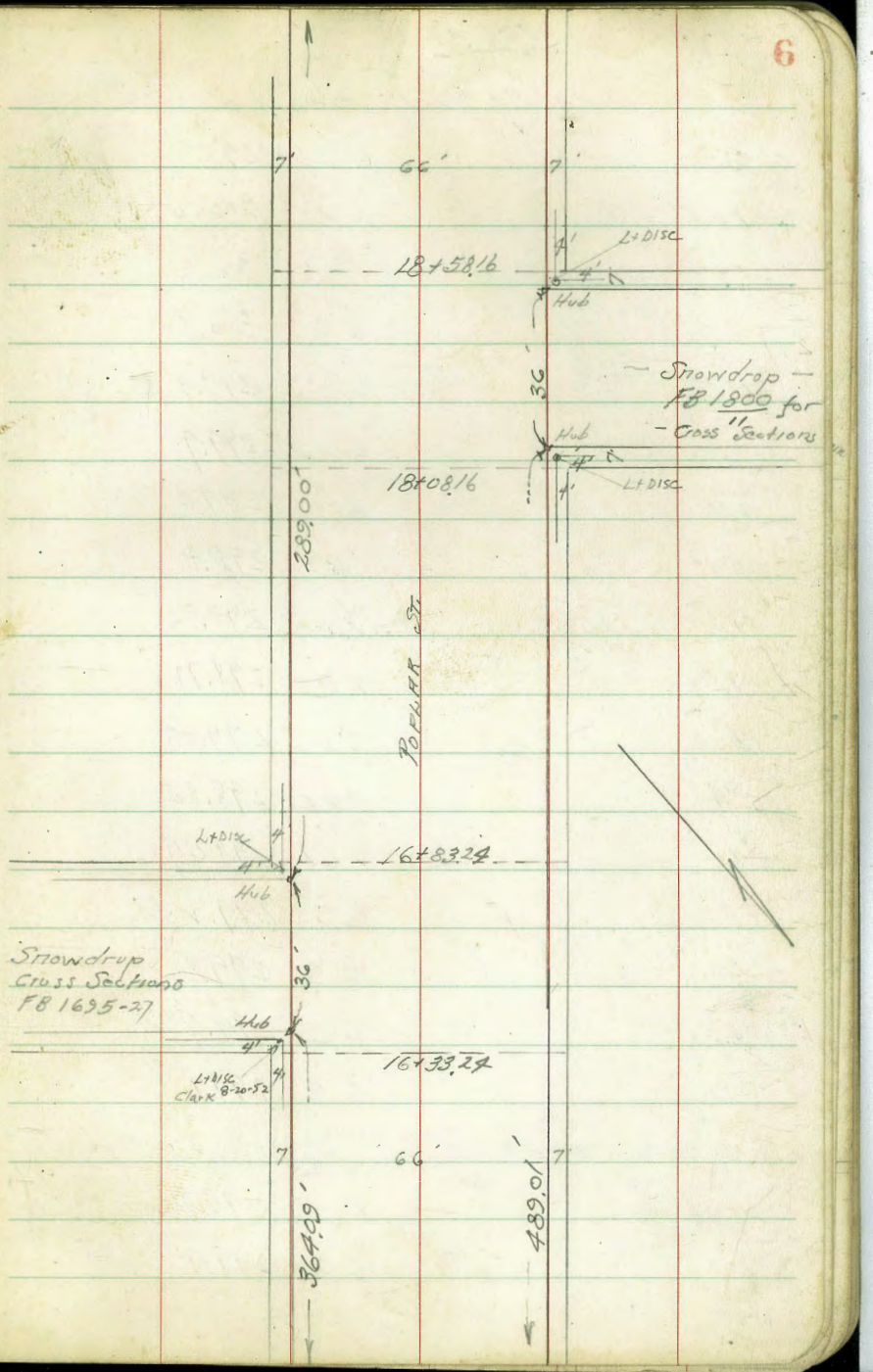
1+50

-10	5.0	301.1
N	5.0	301.1
+11	5.2	300.9
cb.	5.5	300.6
+2	6.8	299.3
73 = N edge Bev	6.78	299.32
1/4	6.21	299.89



306.10

℄		6.08	300.02
S ¼		6.32	299.88
Cb.		6.86	299.24
+2	S edge Pav.	6.81	299.29
+5		5.9	300.2
SL.		6.1	300.0
+10		6.2	299.9
	2+00		
-10		6.5	299.6
5		6.3	299.8
+10		6.3	299.8
Cb.		6.6	299.5
+1	S. edge Pav	7.24	298.86
¼	on "	6.87	299.23
℄		6.77	299.33
½		6.96	299.14
+11	N " "	7.54	298.56
+12		7.7	298.4
N Cb.		6.3	299.8
+1		6.0	300.1
N		5.8	300.3
+10		5.7	300.4



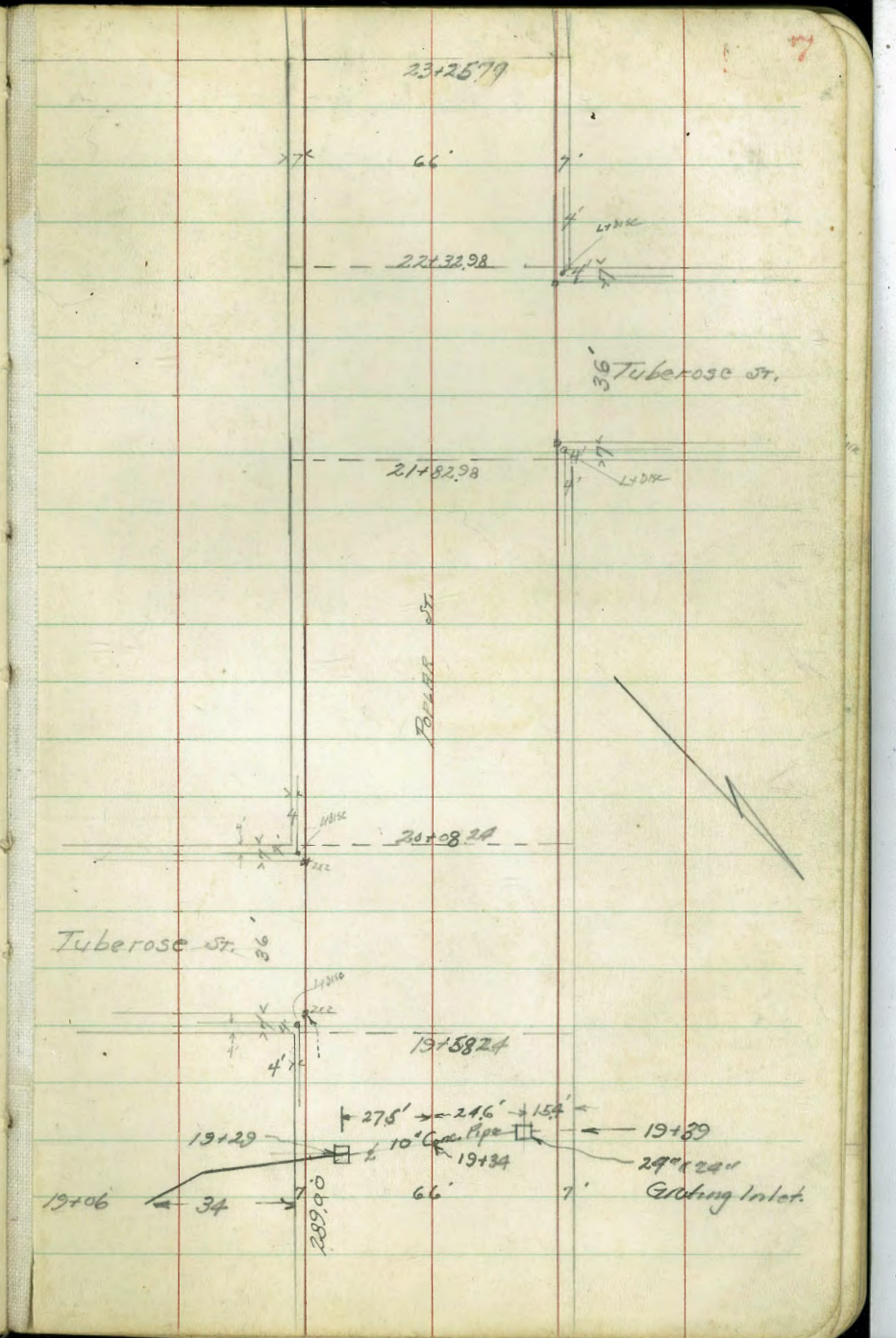
306.10

2+38.32 = E.L. Heather St. on N

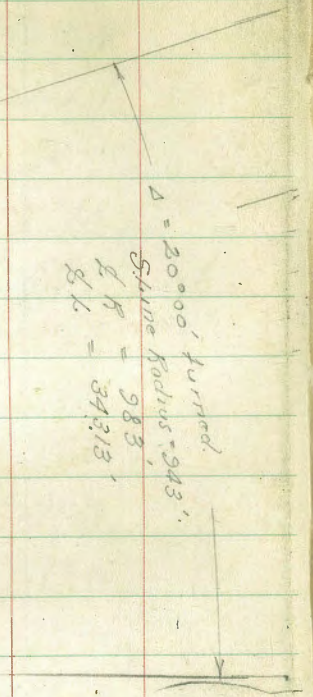
- 200		6.2	299.9
-125		6.1	300.0
-100		6.1	300.0
- 50		6.0	300.1
NL.		6.2	299.9
+10		6.2	299.9
cb.		6.7	299.4
+1		7.7	298.4
+3 = N edge Pav.		7.80	298.30
N 1/4		7.33	298.77
℄		7.10	299.00
S 1/4		7.26	298.84
+11		7.61	298.49
cb.		6.9	299.2
+2		6.3	2998
SL.		6.2	299.9
+10		6.3	299.8

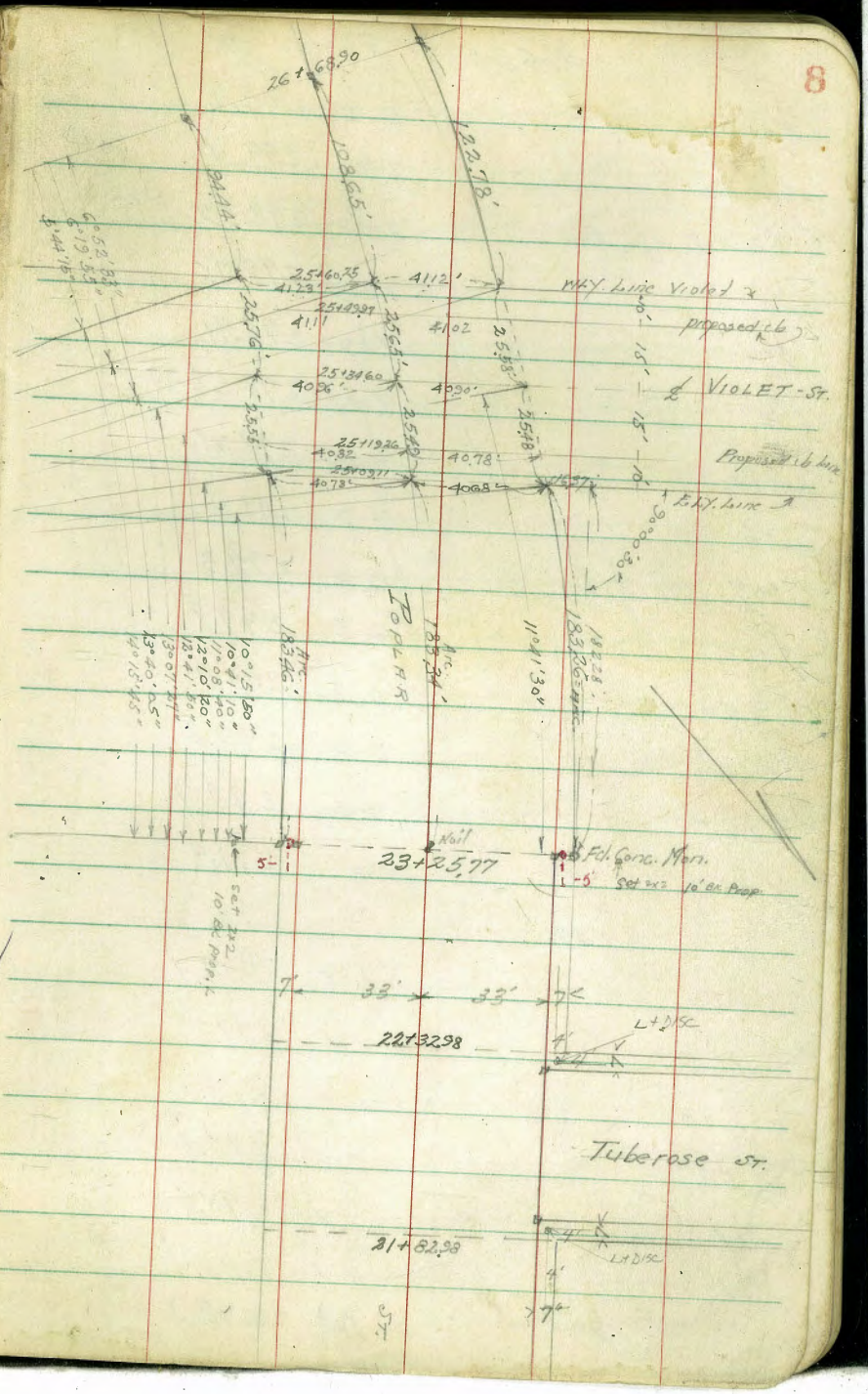
2+43.32 = E cb. Heather

-10		6.3	299.8
S		6.2	299.9



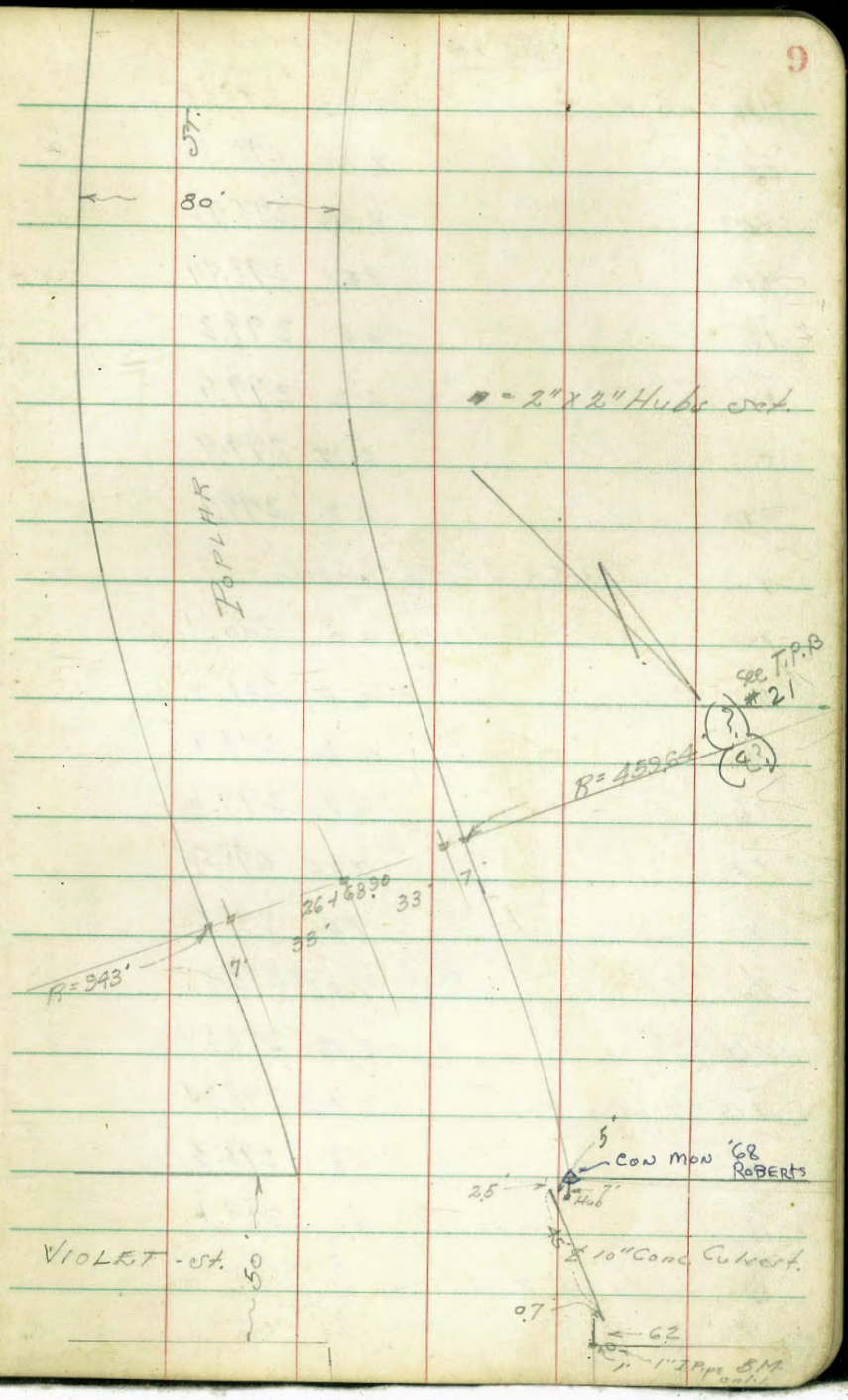
Poplar St.


Δ = 20°00' Turned.
Simple Radius = 943'.
T.P. = 983'.
St. = 343.13'.


26+68.90
122.78'
108.65'
2546.75
41.29'
41.12'
MAY. Line Violet x
2543.97
41.11'
41.02'
2543.60
40.26'
40.30'
& VIOLET-ST.
2541.26
40.32'
40.78'
Proposed C.L. line
2540.71
40.78'
40.68'
E.M.Y. Line 3
110°11'30"
POPLAR ST.
Arc 183.34'
Arc 182.46'
Nail
23+25.77
F.I. Conc. Mon.
Set 3x3 16' Bk. Prop.
33'
33'
22+13.98
L+D/SC
Tuberose ST.
21+82.98
L+D/SC
ST.

306.10 Poplar St.

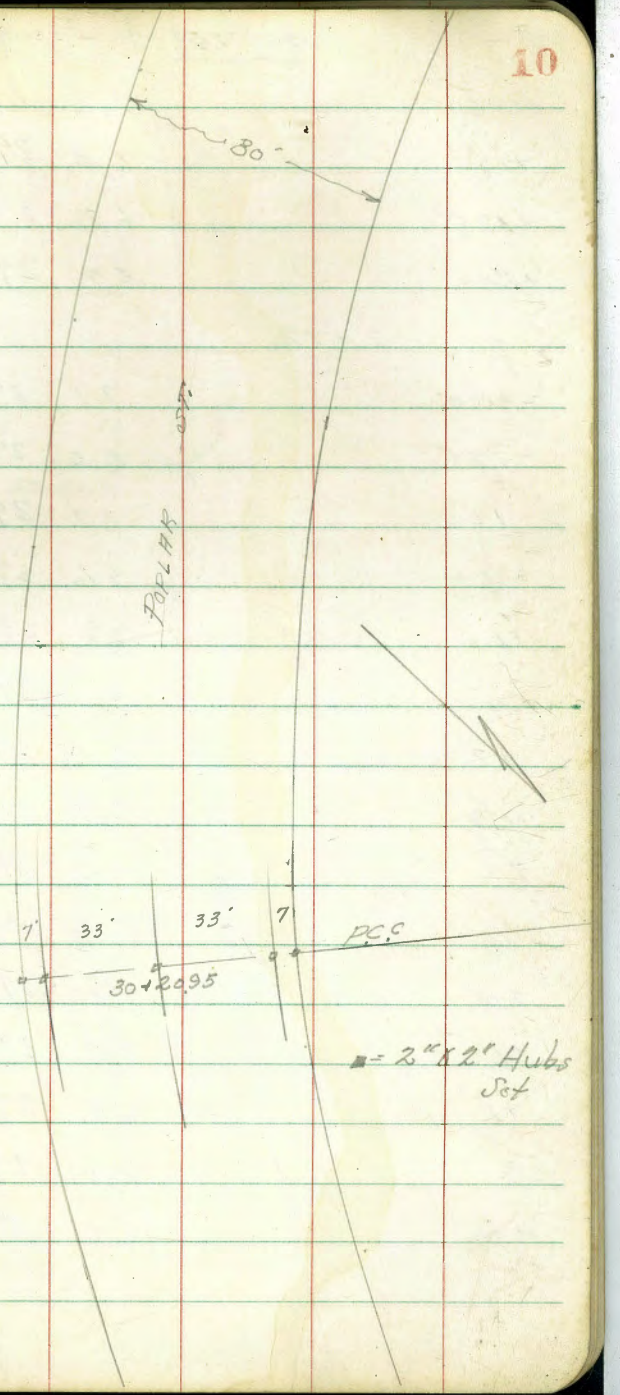
+11	6.2	299.9
c6.	6.7	299.4
+2 - S. edge Pav	7.57	298.53
1/4	7.35	298.75
L	7.19	298.91
1/4	7.42	298.68
+12 - N " "	7.85	298.25
c6.	7.7	298.4
+7	6.8	299.3
N	6.3	299.8
+50	6.2	299.9
+100	6.3	299.8
+125	6.4	299.7
+200	6.6	299.4
2+43		
-200	6.7	299.4
-125	6.4	299.7
-100	6.7	299.4
-50	7.3	298.8
N	7.7	298.4
c6.	7.7	298.4
+2 - N edge Pav.	7.8	298.3



306 10 Poplar St.

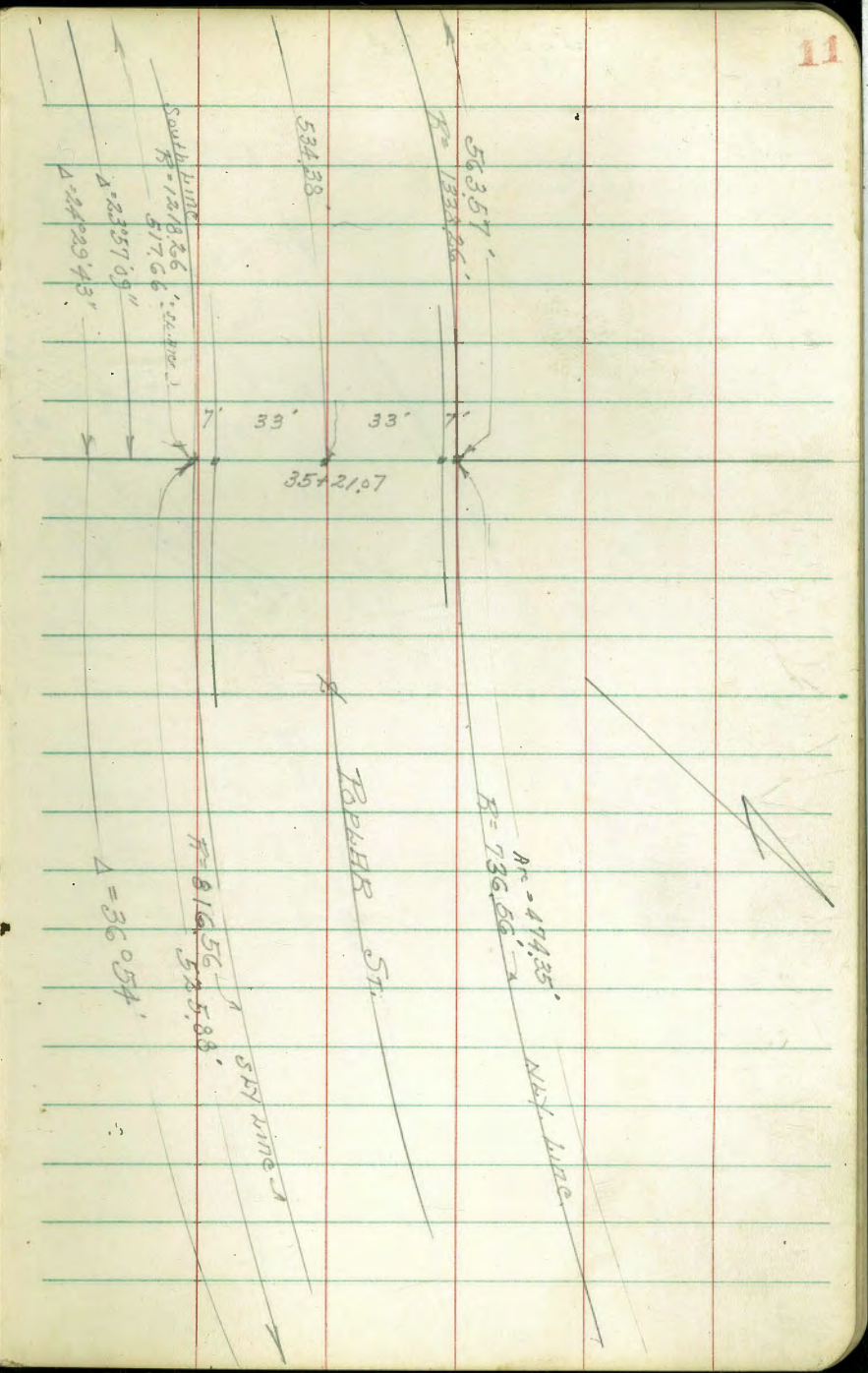
N 1/4 on Pov.	7.45	298.65
℄	7.22	298.88
S 1/4	7.38	298.72
+12	7.61	298.49
cb.	6.8	299.3
S cb +2	6.2	299.9
S	6.2	299.9
+10	6.2	299.9
2+58.32 ℄ Heather		
-10	-6.0	300.1
S	6.1	300.0
+10	6.2	299.9
cb	7.1	299.0
+1	7.55	298.55
1/4	7.45	298.65
℄	7.35	298.75
N 1/4	7.56	298.54
+12 = N edge Pov	7.76	298.34
cb	7.8	298.3
N	8.0	298.1

Cont P-11

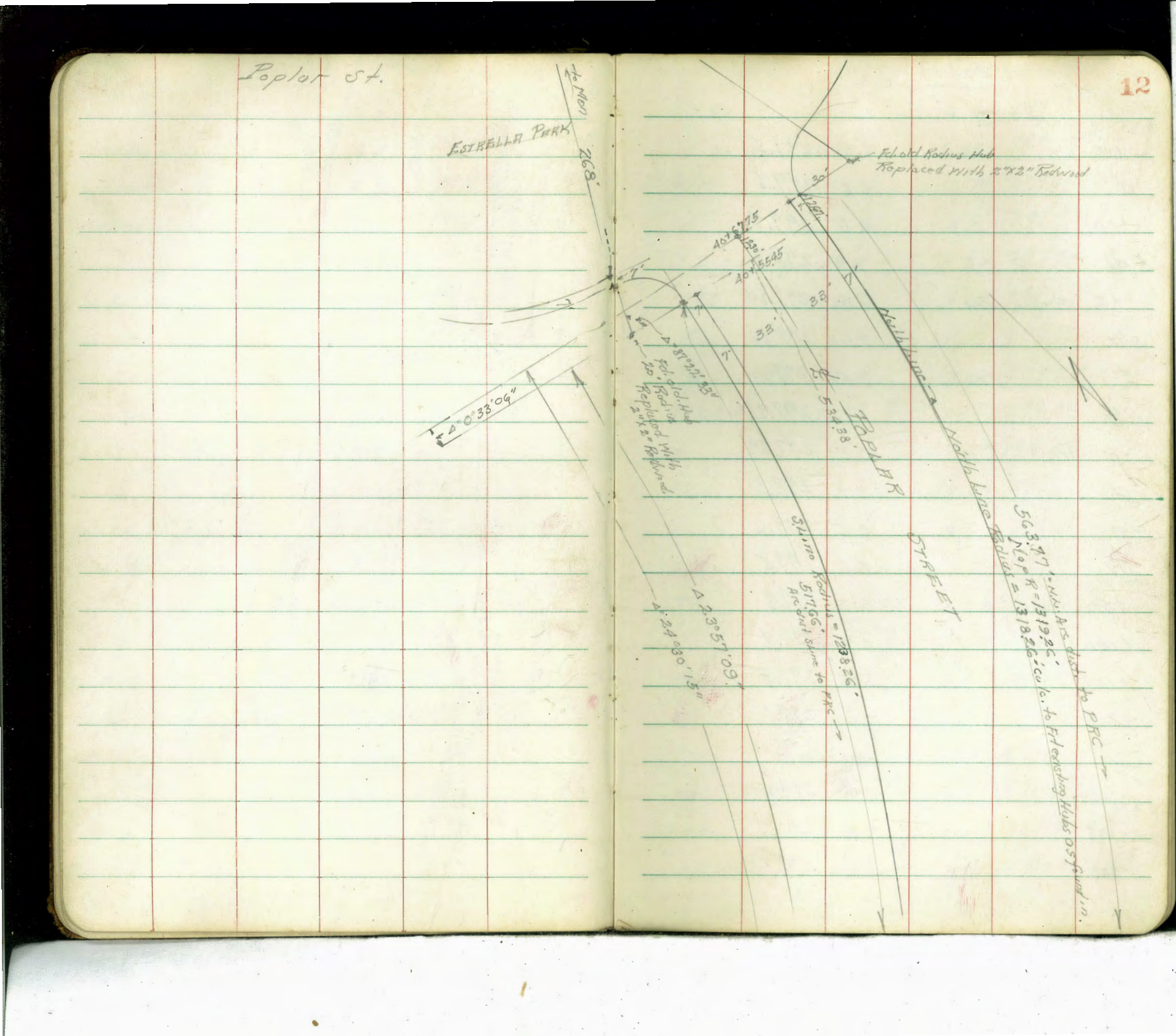


30.6.10 Poplar St

N+50	7.2	298.9
+100	6.4	299.7
+125'	6.3	299.8
+200	6.7	299.4
2+72		
-200	7.1	299.0
-125	6.6	299.5
-100	6.7	299.4
-50	7.6	298.5
N	7.8	298.3
cb.	8.1	298.0
+2 = N edge Pav.	8.10	298.00
N 1/4	7.67	298.43
℄	7.46	298.64
S 1/4	7.55	298.55
+12	7.83	298.27
cb.	7.2	298.9
+2	6.3	299.8
℄	6.5	299.6
+10	6.6	299.5



Poplar St.


to Main
ESTRELLA PARK
268'
Fd. old Radius Hub
Replaced with 2"x2" Redwood
30'
40+67.75
40+55.45
33'
33'
Δ = 87°22'.85"
Fd. old Hub
Replaced with
2"x2" Redwood
Δ = 0°38'.09"
Δ 23°57'.09"
Δ 24°30'.15"
5741.770 Radius = 1238.26'
Arc dist Same to PRC
5663.77' = N.W.A.S. dist. to PRC
Npar R = 1719.26'
Radius = 1318.26' c/c to Fd existing Hubs 0.5' Grad. in.
POPLAR
STREET
5341.38'

30610

2+76

-10		6.6	299.5
S		6.6	299.5
+10		6.6	299.5
cb.		7.3	298.8
+2 = S. edge Por		7.86	298.24
S 1/2		7.60	298.50
L.		7.50	298.60
N 1/2		7.72	298.38
+12 = N " "		8.21	297.89
cb.		7.8	298.3
+8		6.5	299.6
N		6.6	299.5
+50		6.2	299.9
+100		6.7	299.4
+125		6.5	299.6
+200		7.0	298.1
2+83.32 = WL. Heather			
-200'		6.9	299.2
-125		6.4	299.7
-100'		6.6	299.5

30610 — POPLAR St. — 13

N-50		6.2	299.9
N on Copper Dash		6.61	299.49 2"x2" Redwood
+11		6.7	299.4
cb.		7.2	298.9
+2 = N edge Por.		8.31	297.79
N 1/2		7.80	298.30
L.		7.56	298.54
S 1/2		7.65	298.45
+12 = S " "		7.95	298.15
cb.		7.6	298.5
+2		7.0	299.1
S		6.6	299.5
+10		6.2	299.9
TP	2.47 30196	6.61	299.49 NW. Hub Poplar & Heather
3+00			
-10		1.8	300.2
S		2.5	299.5
+10		3.2	298.8
cb.		3.7	298.3
+1		4.0	298.0
+2 = Southedge Por.		3.94	298.02

30196

S ¼	2.65	298.31	
℄	3.54	298.42	
N ¼	3.85	298.11	
+12	4.48	297.48	
cb.	3.2	298.8	
+2	2.7	299.3	
N	2.5	299.5	
+10	2.5	299.5	
3+50			
-10	3.0	299.0	
N	3.1	298.9	
+9	3.3	298.7	
cb.	4.2	297.8	
+1 = N edge Pav.	4.9	297.1	
¼	4.26	297.70	
℄	4.14	297.82	
¼	4.36	297.60	
+11 = S " "	4.61	297.35	
cb.	3.2	298.1	
+1	3.5	298.5	
S	2.8	299.2	
+10	2.8	299.2	

30196 POPLAR ST.

4+00			
-10	3.8	298.2	
S	3.8	298.2	
+10	4.0	298.0	
cb.	4.5	297.5	
+2 = S. edge Pavg.	5.30	296.66	
¼	4.94	297.02	
℄	4.78	297.18	
N ¼	5.03	296.93	
+12 = N " "	5.45	296.51	
cb.	5.0	297.0	
+4	3.8	298.2	
N	3.2	298.8	
+10	3.0	299.0	
4+18 = ℄ Walk on N	3.40	298.56	2' Back of Line on N
4+33.8 = E edge Conc. Ribbon	4.17	297.79	of Line on N.
+40.4 = N " " "	4.18	297.78	
4+50			
-10	4.4	297.6	
N	4.5	297.5	
+10	4.6	297.4	

301.96

N cb.	5.1	296.9
+2 = N edge Paving	6.10	295.86
N ¼	5.72	296.24
℄	5.43	296.53
S ¼	5.52	296.44
+11 = S " "	5.91	296.05
+12	5.7	296.3
cb.	5.1	296.9
+2	4.6	297.4
S	4.3	297.7
+10	4.2	297.8
4+93.3 = ℄ 3' walk on N	5.02	296.94 at Line
5+00		
-10	4.3	297.7
S	4.3	297.7
+10	4.7	297.3
cb.	5.5	296.5
+1 = S. edge Pav.	6.35	295.61
S ¼	6.05	295.91
℄	6.10	295.86
N ¼	6.28	295.68

30196 POPLAR ST.

½ +12 = N edge Pav.	6.66	295.30
N cb.	6.1	295.9
+2	5.7	296.3
N	5.2	296.8
+10	5.0	297.0
5+40		
-10	5.7	296.3
N	5.2	296.8
+9	5.1	296.9
cb	6.0	296.0
+2 = N edge Pav.	7.10	294.86
N ¼	6.71	295.25
℄	6.53	295.43
¼	6.59	295.37
+12 = S. edge Pav	6.95	295.01
cb.	6.2	295.8
+3	5.2	296.8
S	4.9	297.1
+10	5.0	297.0
5+58.15 = F.L. Columbine St.		
-100	5.5	296.5

301.96

-50	5.6	296.4
S	5.3	296.7
+10	5.5	296.5
cb.	6.4	295.6
+2 = S. edge Pav.	7.05	294.91
1/4	6.79	295.17
℄	6.68	295.28
N 1/4	6.86	295.10
+12	7.15	294.81
cb	6.3	295.7
+2	5.7	296.3
N	5.8	296.2
+50	6.2	295.8
+100	6.2	295.8
+200	6.0	296.0
5+68.15 = E cb. Columbia		
-200	6.2	295.8
-150	6.2	295.8
-100	6.2	295.8
-50	6.5	295.5
N	6.2	295.8

301.96. POPLAR ST.

cb.	7.2	294.8
+2 = N edge Pav.	7.21	294.75
N 1/4	6.84	295.12
℄	6.78	295.18
S 1/4	6.92	295.04
+12 = S. edge Pav.	7.28	294.68
cb.	7.3	294.7
+5	7.0	295.0
+7	6.3	295.7
S	5.7	296.3
+50	5.6	296.4
+100	5.6	296.4
5+71		
-100	6.2	295.8
-50	6.6	295.4
S	7.2	294.8
cb	7.3	294.7
+2 = S. edge Pav.	7.28	294.68
S 1/4	6.92	295.04
℄	6.78	295.18
N 1/4	6.84	295.12
+12 = N edge Pav.	7.21	294.75

30196

N cb.		7.2	
N		7.2	294.8
+50		6.8	295.2
+100		6.6	295.4
+150		6.3	295.7
+200		6.3	295.7
	5+83.15 = ℄ Columbine St.		
-200		6.2	295.8
-150		6.3	295.7
-100		6.6	295.4
-50		6.8	295.2
N		7.4	294.6
cb.		7.2	294.8
+2 = N edge Por.		7.15	294.81
N ¼		7.04	294.92
℄		6.91	295.05
S ¼		7.11	294.85
+12 = S " "		7.30	294.66
cb.		7.0	295.0
S.L.		7.0	295.0
+50		6.3	295.7
+100		6.2	295.8

30196 POPLAR ST. 17

5+93		
-100	6.3	295.7
-50	6.7	295.3
SL	7.4	294.6
cb.	7.7	294.3
+2 = S. edge Por.	7.64	294.32
S ¼	7.21	294.75
℄	7.03	294.93
N ¼	7.13	294.83
+12 = Nedge Por.	7.40	294.56
cb.	7.45	294.5
N	7.7	294.3
+50	7.2	294.8
+100	6.7	295.3
+150	6.6	295.4
+200	6.3	295.7
5+97		
-200	6.1	295.9
-150	6.3	295.7
-100	6.6	295.4
-50	6.4	295.6

3/30/96

N		6.9	295.1
cb.		7.5	294.5
+2 = N edge Pav		7.40	294.56
1/4		7.13	294.83
℄		7.03	294.93
1/4		7.21	294.75
+12 = S. " "		7.64	294.32
S		7.7	294.3
+1		7.6	294.4
+6		6.1	295.9
S.L.		5.9	296.1
+50		6.1	295.9
+100		6.2	295.8
	6+08.15 = N.L. Columbine St.		
-100		6.1	295.9
-50		6.0	296.0
S.L.		5.9	296.1
+9		6.2	295.8
cb.		7.0	295.0
+2 = S. edge Pav.		7.8	294.2
S 1/4		7.5	294.5

3/30/96 POPLAR ST.

℄		7.22	294.74
N 1/4		7.31	294.65
+12 = N edge Paving		7.88	294.08
cb.		7.1	294.9
+2		6.8	295.2
N		6.7	295.3
+50		6.5	295.5
+100		6.4	295.6
+150		6.3	295.7
+200		5.9	296.1
T.P.	0.01 297.73	4.24	297.72
	6+50		
-10		2.8	294.9
N		2.9	294.8
+11		3.0	294.7
cb.		3.2	294.5
+2 = N edge P		3.8	293.9
N 1/4		3.60	294.13
℄		3.25	294.48
S 1/4		3.60	294.13
+12 = S " "		4.04	293.69

S.E. Top Hyd. Poplar & Columbine

cb.	3.4	294.3
+2	2.4	295.3
SL.	2.4	295.3
+10	2.4	295.3
6+64 = ℄ 3' Walk on N 6' in st.		
N.L. on Walk.	2.71	295.02
+13 = S. end Walk.	2.90	294.83
7+00		
-10	2.8	294.9
SL.	3.1	294.6
+8	3.4	294.3
cb.	4.1	294.6
+1 = S. edge Pav.	4.44	293.29
S ¼	4.12	293.61
℄	3.89	293.84
N ¼	4.09	293.64
+12 = N " "	4.44	293.29
cb.	3.7	294.0
N	3.0	294.7
+10	2.9	294.8
7+16.5 = ℄ 3' Walk on N		
N.L. on ℄ walk.	3.12	294.61
+12 = South end Walk.	3.60	294.13

-10	3.9	293.8
N	3.9	293.8
+11	4.0	293.7
cb.	4.2	293.5
+2 = N edge Pav.	5.08	292.65
N ¼	4.76	292.97
℄	4.48	293.25
S ¼	4.64	293.09
+13 = S " "	4.82	292.91
cb.	4.6	293.1
+2	4.0	293.7
S	3.6	294.1
+10	3.1	294.6
7+69 = ℄ 3' Walk on S	3.67	294.06
8+00		
-10	3.9	293.8
S	4.3	293.4
+9	4.8	292.9
cb.	5.4	292.3
+1 = S. edge Pav.	5.67	292.06
S ¼	5.25	292.48

29773

℄	5.16	292.57
N ½	5.44	292.29
+10	5.66	292.07
+13 = N edge Pav	5.28	292.45
Cb. on Walk	4.52	293.21
N " "	4.23	293.50
+10 " "	4.07	293.66
8+01.8 = ℄ S' Walk on N 12,5 in St.		
N on ℄ Walk	4.25	293.48
+12.5 " S end Walk	4.53	293.20
8+19.1 = E. edge Cone. Drive on N		
N	4.36	293.37
+7.4 = Bk.	4.61	293.12
+12.5 = S end Drive	4.84	292.89
8+27.1 = W. edge Cone Drive on N		
N	4.35	293.38
+7.4	4.61	293.12
+12.5	4.83	292.90
8+23.1 = ℄ Drive		
N +12.5 = S end Drive	5.28	292.45

29773 POPLAR - St. 20

-10	4.6	293.1
N	4.7	293.0
+11	4.8	292.9
Cb.	5.0	292.3
+2 - N edge Pav	6.40	291.33
N ½	5.92	291.81
℄	5.70	292.03
S ¼	5.83	291.89
+13 = S " "	6.24	291.49
Cb.	6.0	291.7
+3	5.4	292.3
S	5.0	292.7
+10	4.9	292.8
8+83.24 = E.L Double St. 5' Wide		
-10	5.7	292.0
S	5.7	292.0
+10	5.7	292.0
Cb.	6.4	291.3
+1 = S. edge Pav	6.62	291.11
S ½	6.25	291.48
℄	6.08	291.68

	297.73		
N ½		6.17	291.56
+11 - N edge P		6.55	291.18
CL		5.7	292.0
+25		5.1	292.6
N		5.1	292.6
+50		4.9	292.8
+75		4.5	293.2
+100		5.4	292.3
+125		6.1	291.6
+150		6.8	290.9
+200		7.9	289.8
	8+93.24		
-200		8.8	288.9
-150		7.1	290.6
-125		6.5	291.2
-100		5.7	292.0
-75		4.4	293.3
-50		5.0	292.7
HL		5.1	292.6
+9		5.4	292.3
CL		6.3	291.4

	297.73	POPLAR - ST.	
+2 = N edge Pvmt		6.57	291.16
N ¼		6.27	291.46
℄		6.18	291.55
S ¼		6.38	291.35
+13 - S " "		6.69	291.04
CL		6.4	291.33
+25		5.7	292.0
S		5.9	291.8
+10		5.9	291.8
	8+96.24		
-10		5.9	291.8
S		5.9	291.8
+10		5.7	292.0
CL		6.4	291.3
+1 - S edge P		6.69	291.04
S ¼		6.38	291.35
℄		6.18	291.55
N ¼		6.27	291.46
+12 N " "		6.57	291.16
CL		6.7	291.0
N		6.3	291.4

29773

N +50	5.8	291.9
+75	6.0	291.7
+100	6.5	291.2
+125	6.8	290.9
+150	8.1	289.6
+200	8.9	288.8
9+08.24 = ℄ Dublin St		
-200	8.7	289.0
-150	7.2	290.5
-125	6.2	291.5
-100	6.0	291.7
-75	5.8	291.9
-50	5.7	292.0
N	6.1	291.6
cb. = N edge Pav.	6.58	291.15
+2	6.67	291.06
N ½	6.41	291.32
℄	6.37	291.36
S ¼	6.57	291.16
+13 = S " "	6.92	290.81
cb.	6.8	290.9

29773 POPLAR ST.

6+2	6.0	291.7
S	6.1	291.6
+10	6.1	291.6
9+21.24		
-10	6.4	291.3
S	6.3	291.4
+9	6.2	291.5
cb.	7.1	290.6
+1 = S edge Pav.	7.26	290.47
S ¼	6.75	290.98
℄	6.55	291.18
N ¼	6.64	291.09
N ½ +12 = N " "	6.94	290.79
N cb.	6.9	290.8
N	6.4	291.3
+50	6.1	291.6
+75	6.2	291.5
+100	6.6	291.1
+125	7.2	290.5
+150	8.2	289.5
+200	9.6	289.1

297.73

	9+23.24		
-200'		2.3	288.4
-150		7.1	290.6
-125		6.3	291.4
-100		5.8	291.9
-75'		5.4	292.3
-50		5.5	292.2
N.L.		5.8	291.9
+10		5.7	292.0
cb.		6.4	291.3
+2 - N edge Pav.		7.20	290.53
N ½		6.64	291.09
℄		6.58	291.18
S ½		6.75	290.98
+13 = S " "		7.26	290.47
cb.		7.1	290.6
+3		6.2	291.5
S		6.3	291.4
+10		6.4	291.3
	9+33.24 = W.L. Dahlia		St.
-10		6.5	291.2

297.73 POPLAR - St. 23

S.L.		6.6	291.1	
+10		6.5	291.2	
cb.		7.3	290.4	
+1 = S. edge Paving		7.46	290.27	
S ½		6.96	290.77	
℄		6.76	290.97	
IP	5.81	296.78	6.76	290.97	No. 1 & Poplar W.L. Dahlia
N ½			5.94	290.84	
+12 = N edge Pav.			6.51	290.27	
cb.			6.3	290.5	
+3			5.1	291.7	
N			4.8	292.0	
+50			4.7	292.1	
+75			4.5	292.3	
+100			5.0	291.8	
+125			5.3	291.5	
+150			6.5	290.3	
+200			8.6	288.2	
	9+50				
-10			5.5	291.3	
N			5.6	291.2	

N+10	5.7	291.1
N cb.	6.1	290.7
+2 = N edge Paving	6.85	289.93
N ¼	6.33	290.45
℄	6.19	290.59
S ½	6.38	290.40
+13 = S " "	6.78	290.00
cb.	6.78	290.1
+2	6.2	290.6
S	6.1	290.7
+10	6.1	290.7
10+00		
-10	7.0	289.8
S	7.2	289.6
+10	7.3	289.5
cb.	7.7	289.1
+1 = S. edge Path	8.00	288.78
¼	7.52	289.26
℄	7.35	289.43
½	7.52	289.26
+12 = N " "	8.09	288.69

cb.	7.0	289.8
N	7.0	289.8
+10	6.9	289.9
	8.01	288.77
10+35.5 = East edge Conc. Drive on N of in St		
10+40		
-10 on Drive	7.84	288.94
N " "	8.03	288.75
+10.	8.5	288.3
cb.	8.7	288.1
+2 = N edge Paving	9.11	287.67
N ¼	8.60	288.18
℄	8.37	288.41
S ¼	8.41	288.37
+13 = S " "	8.75	288.03
cb.	8.5	288.3
+2	8.0	288.8
S	7.8	289.0
+10	7.6	289.2
10+61.5 = ℄ 4' Walk	8.48	288.30 on Line
11+00		
-10	9.1	287.7
SL.	9.1	287.7

SL +10		9.4	287.4
S cb.		9.6	287.2
+1 = S. edge Paving.		10.00	286.78
S ¼		9.80	286.98
℄		9.68	286.90
N ¼		9.96	296.82
+11' = N " "		10.51	286.27
cb.		9.7	287.1
N		9.6	287.2
+10		9.4	287.4
		10.14	286.64
11+37.6 = E edge Conc Drive on N in Line			
		10.17	286.61
11+492 = W " " " " " " "			
11+50			
-10		9.8	287.0
N		10.1	286.7
cb.		10.7	286.1
+2 - N edge Paving.		11.10	285.68
N ¼		10.72	286.06
℄		10.51	286.27
S ½		10.59	286.19
+12 = S. edge Paving.		10.68	286.10

cb.			10.6	286.2
S			10.5	286.3
+10			10.3	285.9
TP	5.75	293.64	8.89	287.89
				Top Fire Hydt. SE. Poplar + Hollywood Park
11+83.15 = ℄ Hollywood Park on South.				
-50			10.6	283.0
-25			10.4	283.2
-3			10.6	283.0
S			9.5	284.1
+6			7.9	285.7
S6.			7.8	285.8
+3 = S. edge Pav			7.90	285.74
S ½			7.82	285.82
℄			7.62	286.02
N ½			7.87	85.77
+12 N " "			8.43	285.21
cb.			7.7	285.9
N			7.8	285.8
+10			7.4	286.2
			7.08	286.56
11+57.7 = ℄ Conc. Walk on N				on Line

11+89 = ℄ Existing 14" Conc. Culvert

27' Rt. of ℄ = ℄ Existing	8.64	285.00
27' Rt. on Flow Line	10.75	282.89
℄ St. on Pav.	7.66	285.98
27' Lt. on Pav.	8.04	285.60
" " " Flow Line	12.93	281.21
42.4' Lt. = End Pipe on Flow	12.99	280.65
12+00		
-10	7.7	285.9
N	7.8	285.8
cb.	7.9	285.7
+2	7.8	285.8
+3 = N edge Pav.	8.38	285.26
N 1/4	7.95	285.69
℄	7.73	285.91
S 1/4	7.94	285.70
+12 = S " "	8.26	285.38
cb.	7.7	285.9
SL.	11.4	282.2
+2	12.0	281.6
+25	12.8	280.8
+50	11.8	281.8

12+33.15 = ℄ Hollywood Park on South

-50	15.6	278.0
-25	16.2	277.4
-5 = Toe Fill	12.8	280.8
S	10.8	282.8
+5	7.7	285.9
cb.	7.8	285.8
+3 = S edge Pav.	8.19	285.45
S 1/4	7.97	285.67
℄	7.77	285.87
N 1/4	7.87	285.77
+12 = N " "	8.29	285.35
cb	7.6	286.0
N	7.7	285.9
+10	7.7	285.9
12+58.15		
-10	7.3	286.3
N	7.4	286.2
cb.	7.5	286.1
+2 = N edge Pav.	8.18	285.46
N 1/4	7.74	285.90

℄	7.64	286.00
S 1/4	7.80	285.84
+12 = S. edge Pav.	8.00	285.64
Cb.	7.7	285.9
+5	7.7	285.9
S	11.3	282.3
+5	12.7	280.9
+40	16.5	277.1
12+83.15 = Et. Marlborough on N - Mt. Hollywood in S.		
-20	11.7	281.9
-5	12.2	281.4
SL.	11.0	282.6
+6	7.6	286.0
Cb.	7.6	286.0
+2 = S. edge Paving	7.85	285.79
S 1/4	7.67	285.97
℄	7.30	286.34
N 1/4	7.44	286.20
+12 = N edge Paving	7.84	285.80
N Cb.	7.3	286.3
N	6.8	286.8

N+50	6.6	287.0
+100	6.3	287.3
+125	6.7	286.9
12+33.15		
-125	7.0	286.6
-100	6.4	287.2
-50	6.7	286.9
N	6.8	286.8
Cb.	7.4	286.2
+2 = N edge Pav.	7.62	286.02
N 1/4	7.27	286.37
℄	7.14	286.50
S 1/4	7.42	286.22
+12 = S " "	7.74	285.90
Cb.	7.7	285.9
+5	8.1	285.5
S	9.0	284.6
+5	10.1	283.5
+25	9.8	283.8
13+08.15 = ℄ Marlborough on N		
-20	7.6	286.0

293.64

SL.	8.0	285.6
+5	7.8	285.8
cb.	7.4	286.2
+2 = S. edge Sor.	7.58	286.06
5'/4	7.23	286.41
℄ on '	6.93	286.71
N'/4	7.01	286.63
cb.	7.16	286.48
N	7.0	286.6
+50	6.6	287.0
+100'	6.5	287.1
+125'	6.9	286.7
13+18.5		
-125	6.8	286.8
-100	6.6	287.0
-50	6.7	286.9
N	6.8	286.8
cb	7.10	286.54
'/4	6.90	286.74
℄	6.81	286.83
N'/4	7.10	286.54

293.64 POPLAR-ST.

+12 = S. edge Paving	7.46	286.18
cb.	7.3	286.3
SL.	7.3	286.3
+4	8.1	285.5
+10	7.9	285.7
13+23.15 = W.cb. Marlborough St.		
-10	7.4	286.2
S	7.3	286.3
cb.	7.1	286.5
+2 = S. edge Pav.	7.39	286.25
'/4	7.02	286.62
℄	6.73	286.91
'/4	6.84	286.80
+12 N " '	7.11	286.53
cb	6.6	287.0
+5	5.6	288.0
N	5.6	288.0
+50	5.6	288.0
+100	5.9	287.7
+125	6.0	287.6

13+33.5 = ℄ Line Marlborough

-125		5.8	287.8
-100'		5.7	287.9
-50'		5.7	287.9
N		6.0	287.6
+11		5.9	287.7
cb.		6.2	287.4
+2 = N. edge Pav.		7.06	286.58
N ¼		6.68	286.96
℄		6.61	287.03
S ¼		6.88	286.76
+18 = S. " "		72.5	286.39
cb.		71	286.5
S		7.0	286.6
+10		7.0	286.6
13+50			
-10		6.6	286.0
S		6.5	286.1
+9		6.7	286.9
cb		7.00	286.64
+1 = S. edge ℄		7.00	286.64

S ¼		6.60	287.04
℄		6.39	287.25
¼		6.48	287.16
+12 = N. edge Pav.		6.90	286.74
cb.		6.2	287.4
N		5.9	287.7
+10		5.5	288.1
14+00			
-10		4.7	288.9
N		4.8	288.8
+10		5.0	288.6
cb.		5.6	288.0
+2		6.31	287.33
¼		5.76	287.88
℄		5.66	287.98
S ¼		5.92	287.72
cb. = S. edge Pav.		6.30	287.34
S		5.7	287.9
+10		5.4	288.2
		5.65	287.99
14+02.5 = ℄ 2.5' Wall on South		5.21	288.43
+21 = E. edge Conc. Drive			
+29 W. " " "		5.09	288.55

on base
" Back
on South
" "

	4.86	288.78	on Line on South.
14+48.7 = ℄ 2' Walk			
14+50			
-10	4.8	288.8	
S	4.8	288.8	
+10	5.2	288.4	
cb. = S. edge Pav.	5.55	289.07	
¼	5.13	288.51	
℄	4.90	288.74	
N ½	5.06	288.58	
+12 = N edge Paving	5.57	288.07	
cb	4.7	288.9	
+1	4.5	289.1	
N	4.3	289.3	
+10	3.9	289.7	
	4.11	289.53	
14+82 = ℄ 25' Walk on South			on Line
14+83.5 = Beginning Conc. Ret. Wall on ℄ 41' wide			
14+85			
-10	3.1	290.5	
N	3.14	290.56	
+2	3.5	290.1	
cb	4.6	289.0	
+12 = N edge Pav.	5.12	288.52	

N ½	4.68	288.96	
℄	4.65	288.99	
N ½	4.86	288.78	
cb = S. edge Paving	5.22	288.42	
+7	4.48	289.16	
S	4.2	289.4	
+10	4.2	289.4	
	4.06	289.58	
14+88.7 = E edge Drive on South			on Line
+94.9 = W " "	4.15	289.49	
	4.21	289.43	
14+97 = E. edge Drive on South.			on Line
15+02.3 W " "	4.10	289.54	
	3.94	289.70	
15+16 = ℄ 25' Walk on South			on Line.
15+10 = ℄ Walk on N			
-10	4.2	289.4	
S	4.2	289.4	
cb. = S. edge Pav	5.0	288.6	
¼	4.75	28889	
℄	4.54	289.10	
N ½	4.58	289.06	
+12 W " "	4.97	28867	
cb.	4.81	288.83	

	293.64		
+2 on Walk.		3.40	290.24
+2.5 = 4" Ret Wall = Walk		3.21	290.43
N on Walk		3.17	290.47
+10' on Walk		2.94	290.70
		3.24	290.40
15+24 = W end 4" Ret. Wall on N		2.5' in St.	
		3.00	290.64
15+24.5 = E edge Conc. Drive on N		5' Back	
+30.7 = W " " " on N		3.02	290.62
15+50			
-10		3.1	290.5
N		3.2	290.4
+11		3.4	290.2
Cb.		3.9	289.7
+2 = N edge Box		5.05	288.59
1N 1/4		4.49	289.15
L		4.38	289.26
5 1/4		4.62	289.02
+13		4.25	288.69
Cb.		4.7	288.9
+3		4.3	289.3
S		4.3	289.3
+10		4.3	289.3

		293.64	POPLAR-St.		
	16+00				
-10			4.4	289.2	
S			4.0	289.6	
+10			4.3	289.3	
Cb.			4.7	288.9	
+1 = S. edge Box.			5.13	288.51	
1/4			4.66	288.98	
L			4.46	289.18	
1/4			4.54	289.10	
+12 = N " "			4.90	288.74	
Cb.			3.9	289.7	
N			3.0	290.6	
+10			3.2	290.4	
TP	461	293.32	4.23	288.91	S.V.I. Hub Plug Poplar + Sawdrop.
16+33.24 = E. Line Sawdrop on Sawdb.					
-10			3.0	290.3	
N			3.1	290.2	
+10			3.2	290.1	
Cb.			3.8	289.5	
+2 = N edge Box			4.57	288.75	
1/2			4.28	289.04	

29332

℄		4.17	289.15
S'ly		4.44	288.88
+12 = S edge Paving		4.95	288.37
Cb.		4.6	288.7
+3		4.3	289.0
S		4.2	289.1
+50		4.2	289.1
+75		4.2	289.1
+100		4.4	288.9
+140		4.9	288.4
	Drops from Here 16+43.24		
-140		5.0	288.3
-100		4.7	288.6
-75		4.6	288.7
-50		4.4	288.7
S		4.3	289.0
Cb. = S. edge Pav.		4.90	288.42
S'ly		4.46	288.86
℄		4.19	289.13
N'ly		4.36	288.96
+12		4.56	288.76

29332 POPLAR-ST. 33

Cb.		3.8	289.5
+2		3.2	290.1
N		3.0	290.3
+10		2.9	290.4
	16+58.24 = ℄		
-10		2.5	290.8
N		3.0	290.3
+8		3.3	290.0
Cb.		4.2	289.1
+1 = N edge Pav.		4.57	289.75
N'ly		4.34	289.98
℄		4.20	289.12
S'ly		4.53	288.79
S Cb. = S " "		4.75	288.57
S		4.9	288.4
+50		4.2	289.1
+75		4.1	289.2
+100		4.6	288.7
+140		5.2	288.3
	16+67.24		
-140		5.8	287.5

29332

-100		5.0	288.3
-75		4.6	288.7
-50		4.6	288.7
S.L.		5.0	288.3
cb. = S. edge Paving.		5.00	288.32
S ½		4.58	288.74
℄		4.27	289.05
N ½		4.30	289.02
+12		4.55	288.77
cb.		4.3	289.0
+2		3.6	289.7
N		2.9	290.4
+1		2.4	290.9
+10		2.2	291.1
	16+73.24		
-10		2.2	291.1
-1		2.5	290.8
N		2.8	290.5
+10		3.6	289.7
cb		4.4	288.9
+2 = N edge Pav.		4.60	288.72

29332 POPLAR - St. 34

N ½		4.37	288.95
℄		4.27	289.05
S ½		4.61	288.71
+12 = S. edge Pav.		5.05	288.27
cb.		4.9	288.4
+2		4.5	288.8
S.L.		4.3	289.0
+50		4.0	289.3
+75		4.3	289.0
+100		4.5	288.8
+140		5.6	287.7
	16+83.24 = N.L. Sawcut on South		
-140		6.0	287.3
-100		4.7	288.6
-50		4.4	288.9
S.L.		4.4	288.9
+10		4.3	289.0
cb.		4.8	288.5
+2 = S. edge Pav.		5.21	288.11
½		4.64	288.68
℄		4.33	288.99

N ¼	4.38	288.94
+12 = N. edge Pav.	4.53	288.79
N cb	4.2	289.1
+4	3.3	290.0
N	2.7	290.6
+10	2.3	291.0
17+00		
-10	2.4	290.9
N	2.8	290.5
+9	6.3	287.0
cb.	4.3	289.0
+2 = N. edge Pav.	4.53	288.79
N ¼	4.41	288.91
℄	4.38	288.94
S ¼	4.68	288.64
+13 = S " "	5.34	287.98
cb.	5.0	288.3
+2	4.5	288.8
S	4.3	289.0
+10	4.6	288.7

17+50		
-10	5.4	287.9
S	5.2	288.1
+9	5.0	288.3
cb.	5.4	287.9
+1 = S. edge Pav.	5.53	287.79
S ¼	4.92	288.40
℄	4.58	288.74
N ¼	4.69	288.63
+11	4.88	288.44
cb.	3.7	289.6
+2	3.0	290.3
N	3.0	290.3
+10	3.0	290.3
18+08.16 = F.L. Snowdrop on N.		
-140 (AT Crest)	1.4	291.9
-100	2.0	291.3
-50	2.0	291.3
N	3.3	290.0
+10	3.5	289.8
cb.	4.4	288.9

cb. +2 = N. edge Pav.	5.09	288.23
N ¼	4.85	288.47
℄	4.87	288.45
S ¼	5.25	288.07
cb. = S. edge "	5.81	287.51
+2	5.3	288.0
S	5.3	288.0
+10	5.5	287.8
18+18.16 = ℄ cb. Snowdrop on N		
-10	5.4	287.9
S	5.2	288.1
+11	5.4	287.9
cb. = S. edge Pav.	5.88	28744
S ¼	5.32	288.00
℄	4.92	288.40
N ¼	4.86	288.46
+12 = N edge	5.07	288.25
cb.	4.7	288.6
+2	3.7	289.6
N	3.4	289.9
+50	2.1	291.7

+100	2.2	291.1
+140	1.9	291.4
18+28.16		
-140	1.7	291.6
-100	2.6	290.7
-50	3.7	289.6
N	4.9	288.4
cb.	5.1	288.2
+2 = N edge Pav.	5.07	288.25
N ¼	486	288.46
℄	492	288.40
S ¼	5.32	288.00
cb. = S " "	5.88	287.44
+1	5.4	287.9
S	5.2	288.1
+10	5.4	287.9
18+33.16 = ℄ Snowdrop on N		
-10	5.3	288.0
S	5.5	287.8
+10	5.5	287.8
cb.	5.8	287.5
+1 = S edge Pav.	6.00	287.32

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S 1/4		5.45	287.87
℄		5.06	288.26
N 1/4		5.00	288.32
+12 = N edge Rov.		5.3	288.0
cb.		5.1	288.2
N		4.7	288.6
+50		3.5	289.8
+100		2.3	291.0
+140		1.7	291.6
	18+43.16		
-140		2.3	291.0
-100		2.9	290.4
-50		3.8	289.5
N		4.9	288.4
cb.		5.40	287.92
+2 = N edge Rov.		5.40	287.92
N 1/4		5.14	288.18
℄		5.20	288.12
S 1/4		5.55	287.77
+13 = S " "		6.08	287.24
cb.		5.8	287.5

29332 POPLAR-ST. 37

S		5.4	287.9
+10		5.3	288.0
	V8+48.16 = N cb. Snowdrop on N		
-10		5.6	287.7
S		5.7	287.6
+11		5.8	287.5
cb. = S. edge Roving.		6.18	287.14
S 1/4		5.61	287.71
℄		5.28	288.04
N 1/4		5.23	288.09
+12		5.60	287.72
cb.		5.4	287.9
N		4.0	289.3
+50		3.0	290.3
+100		2.3	291.0
+140		2.0	291.3
	18+58.16 = NL. Snowdrop on N		
-140		2.1	291.2
-100		2.6	290.7
-50		3.2	290.1
N		4.2	289.1

N+8	4.4	288.9	
cb.	4.8	288.5	
+2	5.8	287.5	
N 1/4	5.4	287.9	
℄	5.36	287.96	
S 1/4	5.69	287.63	
cb. = S. edge Pav.	6.30	287.02	
+1	5.9	287.4	
S	5.9	287.4	
+10	6.1	287.2	
19+00			
-10	8.0	285.3	
S	6.7	286.7	
+11	6.4	286.9	
cb. = S. edge Pav.	6.73	286.59	
S 1/4	6.15	287.17	
℄	5.77	287.55	
N 1/4	5.85	287.47	
+12 = N. edge Pav.	6.28	287.04	
cb.	5.6	287.7	
+1	5.2	288.1	

N	4.5	288.8	
+10	4.6	288.7	
19+34 = ℄ 10" Conc. Drain			
24.6' Rt. on ℄ Grating	6.53	286.79	
23.6 " " Flow 10" Pipe	8.13	285.19	
℄ on Paving 29"x24"	6.12	287.20	
27.5' Lt. on ℄ Grating	7.59	285.78	
27.5' Lt. " Flow Pipe.	9.44	283.88	
74' Lt. on Flow "	15.4	277.9	outlet
19+30			
-10	4.7	288.6	
N	4.7	288.6	
+10	5.9	287.4	
cb	5.9	287.4	
+3	6.45	286.87	
1/4	6.07	287.25	
℄	6.12	287.20	
S 1/4	6.40	286.92	
+12 = S. edge Pav.	6.93	286.39	
cb.	6.7	286.6	
+1	6.5	286.8	

S L.	6.6	286.7
+5	6.8	286.5
19+58.24 = E.L. S.L. Tuberose on South		
-140	7.2	286.1
-100	6.8	286.5
-50	6.9	286.4
S	6.7	286.6
+10	6.5	286.8
cb.	6.6	286.7
+2 = S. edge Paving	6.90	286.42
S ¼	6.48	286.84
℄	6.21	287.11
N ¼	6.19	287.13
+12 = N " "	6.50	286.82
cb.	5.6	287.7
+2	5.4	287.9
N	5.1	288.2
+10	5.1	288.2
19+68.24		
-10	5.1	288.2
N	5.2	288.1

+10	5.5	287.8
cb.	5.8	287.5
+2 = N. edge Pav.	6.40	286.92
N ¼	6.16	287.16
℄	6.18	287.14
S ¼	6.52	286.80
S cb. = S " "	7.04	286.28
S L.	6.5	286.8
+50	6.7	286.6
+100	7.1	286.2
+140	7.3	286.0
19+83.24 = ℄ Tuberose		
-140	7.6	285.7
-100	7.2	286.1
-50	6.7	286.6
S	7.1	286.2
cb. = S. edge Pav.	6.9	286.4
S ¼	6.51	286.81
℄	6.45	287.17
N ¼	6.18	287.14
+10	6.38	286.94
cb.	5.6	287.7

		29532			
N			5.0	288.3	
+10			5.0	288.3	
TP	7.72	29433	6.71	286.61	SW. Hub. Poplar & Tuberose
			5.89	288.44	
	19+88 = X 2' walk on N. 6' N.L.				
	19+94.29				
-10			6.0	288.3	
N			6.0	288.3	
cb.			6.9	287.4	
+2 = N edge Pav.			7.35	286.98	
N 1/4			7.19	287.14	
℄			7.19	287.14	
S 1/4			7.28	287.05	
+13			7.90	286.43	
cb			7.8	286.5	
S			7.9	286.4	
+50			8.5	285.8	
+100			9.0	285.3	
+140			9.6	284.7	
	19+98.24 = W cb. Tuberose				
-140			8.7	285.6	
-100			8.2	285.1	

	29433	Poplar St.		
-50		7.8	286.5	
S		7.3	287.0	
+11		7.2	287.1	
cb.		7.8	286.5	
+2 = S. edge Pav.		7.96	286.37	
S 1/4		7.58	286.75	
℄		7.21	287.12	
N 1/4		7.20	287.13	
+10		7.38	286.95	
N cb. = N " "		6.90	287.43	
+2		6.6	287.7	
N		6.1	288.2	
+10		6.0	288.3	
	20+08.24 = W.L. Tuberose on South			
-10		5.9	288.4	
N		6.2	288.1	
+10		6.7	287.6	
N cb. = N edge Pav.		6.9	287.4	
+4		7.40	286.93	
N 1/4		7.20	287.13	
℄		7.21	287.12	

	294.33		
S 1/4	7.59	286.74	
+13 = S. edge Boring.	8.00	286.33	
Sch.	7.8	286.5	
+1	7.3	287.0	
SL.	7.4	286.9	
+50	7.7	286.6	
+100	8.1	286.2	
+140 = SL Alley	8.5	285.8	
20+47.3 = ℄ 3' walk on N	6.05	286.28	on line
20+50			
-10	7.2	287.1	
S	7.2	287.1	
+10	7.0	287.3	
cb.	7.4	286.7	
+2 = S. edge Pav.	7.98	286.35	
S 1/4	7.52	286.81	
℄	7.16	287.17	
N 1/4	7.18	287.15	
+10	7.38	286.95	
+12 = N " "	7.0	287.3	
cb.	6.7	287.6	
N	6.3	288.0	
+10	6.0	288.3	

	29433	POPLAR ST.	
	6.22	288.11	
20+73.8 = S edge Conc. Drive on N	6.19		on line
+81.8 = N " " "			" "
21+00			
-10	6.2	288.1	
N	6.4	287.9	
cb.	6.8	287.5	
+2 = N edge Pav. on N	7.29	287.09	
N 1/4	7.10	287.23	
℄	7.18	287.15	
S 1/4	7.46	286.87	
+11 = S " " on S	7.83	286.50	
cb.	7.8	287.0	
S	7.2	287.1	
+10	6.9	287.4	
	6.37	287.96	
21+22.8 = ℄ Conc. Drive on N			on line
	6.26	288.07	
21+42.1 = ℄ Conc. Drive on N			on line
21+50			
-10	7.0	287.3	
S	6.8	287.5	
+9	6.9	287.4	
cb.	7.4	286.9	

Scb+2	=S. edge Pav.	7.62	286.71	
S'l'd		7.23	287.10	
℄		7.01	287.32	
N'l'd		6.96	287.37	
+12	=N edge "	7.25	287.08	
cb.		6.3	288.0	
N		6.2	288.1	
+10		6.1	288.2	
	21+82.98 = EL. Tubercase on N			
-140		4.1	290.2	
-100	"	4.9	289.4	
-65		5.2	289.1	
-50		4.9	289.4	
N		6.0	288.3	
+11		6.3	288.0	
cb.		6.5	287.8	
+2	=N edge Paving	7.21	287.12	
N'l'd		6.65	287.68	
℄		6.62	287.71	
S'l'd		6.96	287.37	
+13		7.31	287.02	

cb.	7.1	287.2	
+2	6.7	287.6	
S	6.5	287.8	
+10	6.6	287.7	
21+92.98			
-10	6.5	287.8	
S	6.4	287.9	
+10	6.6	287.7	
cb.	7.1	287.2	
7.1 = S. edge Pav.	7.22	287.11	
S'l'd	6.87	287.46	
℄	6.53	287.80	
N'l'd	6.55	287.78	
+9	6.79	287.54	
+12 = N edge Pav.	7.09	287.24	
cb.	6.6	287.7	
+3	6.2	288.1	
N	6.1	288.2	
+50	5.1	289.2	
+100	4.7	289.6	
+140	4.0	290.3	

	21+98		
-140		4.3	290.0
-100		5.0	289.3
-50		5.7	288.6
N		6.8	287.5
cb.		6.9	287.4
+2 = N edge P		7.00	287.33
+4		6.66	287.67
N ½		6.48	287.85
℄		6.46	287.87
S ½		6.87	287.46
+13 = S. edge Por.		7.21	287.12
cb.		7.0	287.3
+2		6.5	287.8
S		6.5	287.8
+10		6.4	287.9
	22+07.98 = ℄ Tuberose on N		
-10		6.3	288.0
S		6.6	287.7
+10		6.4	287.9
cb.		6.8	287.5
+1		7.15	287.18

S ½	6.73	287.60
℄	6.37	287.96
N ½	6.36	287.97
+9	6.51	287.82
+12 = N edge Por.	6.90	287.43
cb.	6.8	287.5
N	6.5	287.8
+50	5.3	289.0
+100	4.5	289.8
+132.5 ℄ MH. on Rim	3.65	290.68
+140	3.8	290.5
22+17.98		
-140	4.2	290.1
-100	5.0	289.3
-50	5.7	288.6
N	6.3	288.0
cb.	6.5	287.8
+2 = N edge Young	6.97	287.36
+7	6.50	287.83
N ½	6.31	288.02
℄	6.30	288.03

	29433		
S ½		6.62	287.71
+12 = S edge Pav.		7.05	287.28
cb.		6.9	287.4
+2		6.4	287.9
S		6.2	288.1
+10		6.4	287.9
	22+22.98 = W.cb. Tubevse on ℄		
-10		6.4	287.9
S		6.2	288.1
+10		6.4	287.9
cb.		6.8	287.5
+2 = S edge Paving.		7.05	287.28
S ½		6.59	287.74
℄		6.28	288.05
N ½		6.28	288.05
+10		6.61	287.72
+12 = N " "		6.96	287.37
cb.		6.2	288.1
+2		5.9	288.4
N		5.5	288.8
+50		5.0	289.3

	29433	BOPLHR-ST.	
N +100		3.6	290.7
+140		3.1	291.2
	22+32.98 = W.L. Tuberose on N		
-140		2.3	292.0
-100		3.2	291.1
-50		4.8	289.5
℄ W. Cor on Pipe		5.62	288.71
-+11		5.7	288.6
cb.		5.9	288.4
+2 = N edge Pav.		6.90	287.43
+4		6.61	287.72
N ½		6.25	288.08
℄		6.21	288.12
S ½		6.53	287.80
+12 = S edge Paving		6.96	287.37
cb.		6.6	287.7
+2		6.1	288.2
S		6.0	288.3
+10		6.3	288.0
	22+50		
-10		6.3	288.0

3/4" I.P. + Copper Disk L.S. ± 2236

	2943		
S.		6.0	288.3
+10		5.7	288.6
Cb.		6.5	287.8
+1 = S. edge Pav.		6.75	287.58
S ¼		6.44	287.89
℄		6.14	288.19
N ¼		6.18	288.15
+11 = N edge Pav		6.66	287.67
+12		6.7	287.6
Cb.		5.5	288.8
+1		5.1	289.2
N		4.8	289.5
+10		4.7	289.6
	22+65		
-10		4.0	290.3
N		4.0	290.3
+11		5.0	289.3
Cb		5.3	289.0
+2 = N edge Pav.		6.61	287.72
N ¼		6.12	288.21
℄		6.11	288.27

	2943	Poplar St.	
S ¼		6.38	287.95
+13 = S. edge Paving		6.82	287.51
Cb.		6.4	287.9
+2		5.9	288.4
S		6.0	288.3
+10		6.4	287.9
	23+00		
-10		5.8	288.5
S		5.7	288.6
+10		6.0	288.3
Cb. = S. edge Pav		7.04	287.29
S ¼		6.41	287.92
℄		6.11	288.22
N ¼		6.04	288.29
+9		6.40	287.93
+12 = N edge "		6.61	287.72
Cb.		5.6	288.7
+1		5.2	289.1
N		5.1	289.2
+10		4.6	289.7
	23+25.77 = BC. Lt.		℄ R = 983' Δ = 20° 00'

	294.33		
-10	4.7	289.6	
N = on Conc. Mon	4.83	289.50	
N = " Ground	4.9	289.4	
+10	5.3	289.0	
cb.	5.9	288.4	
+2 = N edge Rdy.	6.75	287.58	
N 1/4	6.20	288.13	
L	6.26	288.07	
S 1/4	6.52	287.81	
cb = S. edge Rdy.	7.00	287.33	
+2	6.2	288.1	
S2.	6.0	288.3	
+10	6.2	288.1	
	23+50		
-10	6.6	287.7	
S	6.2	287.1	
+10	6.4	287.9	
cb. = S edge Rdy	7.13	287.20	
S 1/4	6.70	287.63	
L	6.52	287.81	
N 1/4	6.46	287.87	

	294.33.	Poplar -St.	
+10 = N edge Rdy	7.03	287.30	
+13	6.1	288.2	
cb.	6.0	288.3	
N	5.4	288.9	
+10	5.3	289.0	
	24+00		
-10	6.6	287.7	
N	6.5	287.8	
+10	6.6	287.7	
cb.	7.2	287.1	
+2 = N edge Rdy.	7.57	286.49	
N 1/4	7.48	286.85	
L	7.48	286.85	
S 1/4	7.60	286.73	
cb. = S " "	7.75	286.58	
+3	7.0	287.3	
S	7.0	287.3	
+10	7.0	287.3	
	24+50		
-10	8.0	286.3	
S	7.8	286.5	

		294.33		
+10		7.8	286.5	
S. cb.		8.9	285.4	
+2 =S. edge Por.		9.22	285.11	
S 1/4		8.88	285.45	
℄		8.89	285.44	
N 1/4		8.95	285.38	
+12 = N edge Por.		9.10	285.23	
N cb.		8.5	285.8	
N		8.1	286.2	
+10		8.3	286.0	
	24+85			
-10		9.0	285.3	
N		9.2	285.1	
+11		9.3	285.0	
cb.		9.7	284.6	
+2 = N edge Por.		10.09	284.24	
N 1/4		9.78	284.55	
℄		9.60	284.73	
S 1/4		9.59	284.74	
+12 = S. " "		9.85	284.48	
cb.		9.2	285.1	

		294.33			POPLAR St. 47
S cb. +2			8.6	285.7	
St.			8.5	285.8	
+10			8.5	285.8	
TP	0.39	286.79	7.93	286.40	T.P.=S.E. Top Hyd. Violet + Poplar St.
	25+09.11 = E.L. Violet St.				All sections in Violet St. Note: are parallel to Violet St.
-100			2.8	284.0	
-50			2.6	284.2	
St.			2.4	284.4	
+10			2.4	284.4	
cb.			2.9	283.9	
+2 = S. edge Por.			3.18	283.61	
S 1/4			2.87	283.92	
℄			2.68	284.11	
N 1/4			2.80	283.99	
cb. = N " "			3.28	283.51	
+4			2.5	284.3	
N			2.4	284.4	
+15			3.2	283.6	
+50			2.5	284.3	
+80			2.8	284.0	
+100			1.8	285.0	

	25+19.26 = E. cb. Violet st.		
-100		2.0	284.8
-50		3.0	283.8
N.L.		2.8	284.0
cb = N edge Pav.		3.36	283.43
N 1/4		2.87	283.92
℄		2.84	283.95
S 1/4		3.06	283.73
+8 = S edge Pav.		3.28	283.51
S cb.		3.3	283.5
S.L.		2.4	284.4
+50		2.7	284.1
+100		3.2	283.6
	25+34.6 = ℄ Violet st.		
-100'		3.8	283.0
-50		3.5	283.3
S.L.		3.6	283.2
cb		3.5	283.3
+7 = S edge Pav.		3.29	283.50
S 1/4		3.24	283.55
℄		3.28	283.51

N 1/4		3.41	283.38
+2 = N edge Pav.		3.44	283.35
N.L.		3.40	283.39
+50		3.1	283.7
+100		2.6	284.2
	25+45 = End Existing Paving		
-100		2.9	283.9
-50		3.3	283.5
N.L.		4.0	282.8
+10 = N edge Pav.		4.0	282.8
cb.		4.0	282.8
1/4		4.14	282.65
℄		3.95	282.84
S 1/4		3.75	283.04
+8 - S		3.69	283.10
S		3.7	283.1
+50		3.9	282.9
+100		4.0	282.8
	25+4097 = W. cb. Violet st.		
-100'		3.4	283.4
-50'		4.0	282.8

		28679		
S.L.		3.4	283.4	
cb.		3.5	283.3	
S 1/4		3.7	283.1	
℄		4.8	282.5	
N 1/4		5.0	281.8	
N cb.		4.7	282.1	
N.L.		4.5	282.3	
+50		4.1	282.7	
+100		2.7	284.1	
	2.5+60.25 = W.L. Violet st.			
-100		2.8	284.0	
-50		4.2	282.6	
N.L.		5.6	281.2	
+2		5.4	281.4	
+4		6.6	280.2	
+10		5.7	281.1	
cb.		6.2	280.6	
N 1/4		6.4	280.4	
+9		6.2	280.6	
+13		5.1	281.7	
℄		4.9	281.9	

		28679	Poplar St.	
S 1/4		4.5	282.3	
S cb.		4.3	282.5	
S.L.		4.2	282.6	
+50'		4.1	282.7	
+100'		4.5	282.3	
		All sections including this station.		
	2.5+75 Note.	Radial from here		
-10		4.2	282.6	
S.L.		4.5	282.3	
cb.		4.9	281.9	
1/4		6.1	280.7	
℄		7.9	278.9	
N 1/4		8.0	278.8	
cb.		8.2	278.6	
+11		8.0	278.8	
N		7.3	279.5	
+2		6.6	280.2	
+10		6.4	280.4	
T.P. Poplar + Violet St.	0.16	286.56	0.39 286.40	St. Top Hydt Violet x Poplar sts.
check N.E. I.P. pc			2.47 284.09	
	2.47	286.55	284.08 - B.M.	
			0.01	

Note. After running Levels from Fairmount the starting B.M. did not check B.M. at Violet St by 0.05. So I alternated Notes and used B.M. Map at Fairmount & Poplar which checked the B.M. at Violet by 0.01 as shown.

286.56 - Corrected

NELY end 10" Culvert		4.65	281.90	Location P-9
NWLY " 10" "		6.66	279.89	45' = Total Length of 10" Pipe
	26+00			
-10		6.1	280.5	
N-2		6.5	280.1	
N		7.3	279.3	
+3		8.3	278.3	
cb.		8.5	278.1	
+12		9.0	277.6	
N 1/4		11.0	275.6	
+11		12.9	273.7	
℄		12.8	273.8	
S 1/4		10.8	275.8	
+2		10.5	276.1	
+6		8.3	278.3	
cb.		6.6	280.0	
S		5.8	280.8	
+10		5.3	281.3	
	26+25			
20		8.2	278.4	
-10		15.1	271.5	

286.55 — Poplar - St.

S.L.	11.5	275.1	
+7	7.3	279.3	
cb.	11.3	274.7	
S 1/4	15.8	270.8	
℄	17.6	269.0	
+6 = Top 6" Gas Main	7.9	278.7	
N 1/4	10.9	275.7	
+3	9.0	277.6	
cb.	8.4	278.2	
N	7.6	279.0	
+15	6.2	280.4	
+31 = Garage Floor Conc.	2.3	284.3	
26+50			
-2.7 on Conc. Walk	7.2	279.4	at House
-2.3 " " "	7.3	279.3	S. edge
N	7.8	278.8	
+4	7.8	278.8	
+8	9.4	277.2	
N cb.	9.4	277.2	
N 1/4	9.6	277.0	
+2	9.8	276.8	

		28658		
℄			13.8	272.8
T.P.	284	279.58	2.81	276.74
S'14			11.7	267.9
+3			12.9	268.7
+11			17.7	261.9
cb.			17.7	261.9
SL.			15.3	264.3
+8			17.3	262.3
+27			7.5	272.1
	26+68.9 = PRS			
-25			16.8	262.8
-12			20.9	258.7
-6			21.5	258.1
SL.			18.2	261.4
cb.			12.1	267.5
S'14			6.8	272.8
+7			4.8	274.8
℄			3.9	275.7
℄ on Hub Copper Disk			4.32	275.26
N'14			2.8	276.8
+9			2.8	276.8

		27958		POPLAR ST.
cb.			13	278.3
N			11	278.5
+10			14	278.2
	27+00			
-10			2.4	277.2
N			2.0	277.6
+7			2.2	277.4
cb.			3.6	276.0
+3			4.1	275.5
N'14			4.6	275.6
+5			3.8	275.8
+10			2.4	277.2
℄			2.5	277.1
S'14			3.7	275.9
cb.			7.4	272.2
S			12.8	266.8
+24			24.6	255.0
+30			24.7	254.9
+40			22.0	257.6
	27+40			
-40			21.5	258.1

27958

SL.	8.2	271.4	
cb.	5.0	274.6	
+8	3.2	275.7	
¼	3.8	275.8	
¢	3.4	276.2	
+6	3.4	276.2	
+10	5.3	274.3	
N ¼	5.4	274.2	
cb.	6.2	273.4	
+1	6.2	273.4	
+4	3.9	275.7	
N	3.9	275.7	
+10	4.4	275.2	
	27+50		
-10	6.8	272.8	
+1	7.0	272.6	
+5	7.3	272.3	
+10	9.2	270.4	
cb	9.3	270.3	
+2	8.4	271.2	
¼	8.1	271.5	

27958 POPLAR-ST.

¼+3	8.0	271.6	
+6	6.5	273.1	
¢	5.8	273.8	
¼	5.5	274.1	
cb.	5.6	274.0	
SL.	6.3	273.3	
+12	7.6	272.0	
+25	10.4	269.2	
	27+75		
-25	8.1	271.5	
SL	8.1	271.5	
cb	8.6	271.0	
¼	9.6	270.0	
¢	10.4	269.2	
N ¼	10.5	269.1	
N cb.	11.0	268.6	
N	10.1	269.5	
+15	9.3	270.3	
	28+00		
-15	10.6	269.0	
N	11.6	268.0	

		27958		
cb.			11.8	267.8
¼			11.6	268.0
+2			11.7	267.9
+11			13.7	265.9
℄			14.1	265.5
S¼			13.9	265.7
cb.			13.2	266.4
SL.			11.9	267.7
+25			10.9	268.7
TP	0.97	268.61	11.94	267.64
	28+25			
-25			6.0	262.6
SL.			6.1	262.5
cb.			6.0	262.6
S¼			6.8	261.8
℄			5.8	262.8
+4			5.0	263.6
+12			1.8	268.8
N¼			1.7	266.9
NCb			1.3	267.3
N			1.2	267.4
+15			0.2	268.4

		26861		POPLAR-SL
	28+50			
-15			+0.3	268.9
N			1.4	267.2
+7			2.5	266.1
cb.			2.4	266.2
N¼			2.6	266.0
+3			3.0	265.6
℄			7.0	261.6
+7			8.6	260.0
S¼			11.1	257.5
+7			14.7	253.9
cb.			14.2	254.4
SL.			13.3	255.3
+25			10.1	258.5
	2.8+25			
-30			18.4	250.2
-25			18.8	249.8
-12			25.2	243.4
-6			24.9	243.7
SL.			20.7	247.9
cb.			14.0	254.6
S¼			1.0	267.6

26861			
℄	7.4	261.2	
+5	6.0	262.6	
+9	3.7	264.9	
N 1/4	3.4	265.2	
cb.	3.4	265.2	
+3	3.2	265.4	
+6	2.3	266.3	
N	1.4	267.2	
+10	0.0	268.6	
29+00			
-10	0.7	267.9	
N	1.2	267.4	
+7	2.5	266.1	
cb.	4.2	264.4	
1/4	3.8	264.8	
+5	3.9	264.7	
℄	6.0	262.6	
S 1/4	8.7	259.9	
S cb	12.1	256.5	
S	15.7	252.9	
+45	32.4	236.2	

26861			Poplar St.
29+25			
-40	22.4	246.2	
SL.	12.6	256.0	
cb.	9.8	258.8	
S 1/4	7.5	261.1	
℄	5.1	263.5	
+8	3.7	264.9	
+10	5.0	263.6	
N 1/4	5.0	263.6	
N cb	4.8	263.8	
+4	4.1	264.5	
+8	2.0	266.6	
N	1.7	266.9	
+10	1.5	267.1	
29+50			
-10	3.2	264.7	
N	4.0	264.6	
+4	4.5	264.1	
+10	6.6	262.0	
cb	6.9	261.7	
1/4	5.9	262.7	
+7	6.4	262.2	

		26861		
N¼+9			5.4	263.2
℄			6.2	262.4
S¼			7.9	260.7
S cb			10.2	258.4
SL			12.5	256.1
+30			19.2	249.4
	29+75			
-30			24.3	244.3
-23			20.9	247.7
SL			15.3	253.3
cb			13.4	255.2
S¼			10.3	258.3
℄			8.1	260.5
N¼			7.7	260.9
N cb			8.0	260.6
N			5.8	262.8
+10			5.6	263.0
	30+00			
-10			7.9	260.7
N			7.9	260.7
cb			8.6	260.0
+6			9.2	259.4

		26861	Poplar St.		
+10			12.8	255.8	
N¼			10.7	257.9	
+4			9.1	259.5	
℄			9.2	259.4	
+8			11.0	257.6	
S¼			13.1	255.5	
cb			16.5	252.1	
SL			19.9	248.7	
+26			28.5	240.1	
+52			41.8	226.8	
TP	4.45	25849	14.57	254.04	PCS. ℄ Hub on copper disk. 30+20.95
	30+20.95 = PCS				
-55			34.0	224.5	
-40			29.8	228.7	
S			19.6	243.9	
cb			9.8	248.7	
¼			5.9	252.6	
℄ Ground			4.2	254.3	
+4			3.9	254.6	
49			5.7	252.8	
N¼			3.4	255.1	

	25849		
Ncb.		1.0	257.5
N		0.8	257.7
+5		0.5	258.0
+20		6.2	252.3
	30+50		
-20		15.8	242.7
-5		8.3	250.2
N		7.8	250.7
Ncb.		7.5	251.0
N 1/4		8.2	250.3
+6		9.1	249.4
+8		11.4	247.1
℄		10.8	247.7
+1		10.2	248.3
S 1/4		13.8	244.7
cb.		18.3	240.2
S ℄		22.8	235.7
+15		27.7	230.8
+33		35.8	222.7
+47 = Bottom Wash.		43.0	215.5
+60		37.4	221.1

	25849		Poplar St.	
	30+75			
-53			40.0	218.5
-38 = Bottom Ditch			44.7	213.8
-33			42.0	216.5
S℄			39.4	229.1
+3			26.7	231.8
TP	0.27	245.78	12.98	245.51
+10			11.6	234.2
cb.			14.2	231.6
+3			10.6	235.2
+8			7.7	238.1
S 1/4			6.0	239.8
℄			3.8	242.0
N 1/4			2.4	243.4
N cb.			2.4	244.4
+9			1.2	244.6
N			1.9	243.9
+15			8.7	237.1
TP	0.53	246.04	0.27	245.51
	31+00			
-40			24.3	221.7
-25			21.6	224.4

		24604			
NL.			9.8	236.7	
+5			8.1	237.9	
NCb.			7.1	238.9	
N 1/4			7.6	238.4	
℄			8.4	237.6	
S 1/4			11.1	234.9	
+10			13.2	232.8	
Scb.			15.0	231.0	
SL.			21.2	224.8	
+25			29.2	216.8	
+32 =	Bottom ditch.		34.6	211.4	
+40			31.1	214.9	
+53			26.4	219.9	
	31+25				
-50			26.2	219.8	
-35			31.6	214.4	
-25 =	Bottom Wash		36.5	209.5	
-19			32.3	213.7	
SL.			26.2	219.8	
TP	1.19	23460	1263	233.41	
Cb.			10.0	224.6	

		23460			57
S 1/4			5.3	229.3	
℄			2.3	232.3	
N 1/4			1.4	233.2	
Cb.			3.6	231.0	
NL.			6.9	227.7	
+30			12.1	217.5	
+35 =	Bottom Wash		12.7	216.9	
+50			11.6	223.0	
	31+50				
-40			9.4	225.2	
-23			12.5	217.1	
-10 =	Bottom Wash		20.7	213.9	
N			16.5	218.1	
Cb.			13.2	221.2	
N 1/4			12.2	222.4	
TP	0.34	32247	1247	222.13	
℄			+0.5	223.0	
S 1/4			1.2	221.3	
Scb.			3.5	219.0	
SL.			5.7	216.8	
+16 =	Bottom Wash		13.3	209.2	

		22247			
+18			12.0	210.5	
+30			7.4	215.1	
+45			1.0	221.5	
	31+75				
-46			+1.4	223.9	
-18			8.2	214.3	
-13			11.2	211.3	
-10 = Bottom Wash			14.4	208.1	
SL.			12.5	210.0	
cb.			11.2	211.3	
S¼			9.3	213.2	
℄			8.9	213.6	
N¼			9.4	213.1	
cb. = Bottom Wash			11.2	211.3	
NL.			9.9	212.7	
+5			7.0	215.5	
+20			1.6	220.9	
+39			+4.2	226.7	
	32+00				
-20			+6.2	228.7	
N			1.8	220.3	

		22247	Poplar St.		
N cb.			5.4	217.1	
N¼			9.7	214.8	
℄ on Pos. Pav. Stake			12.27	210.20	
+8			14.7	207.8	
¼			13.2	209.3	
+3 = Bottom Wash			16.4	206.1	
+12			12.7	209.8	
cb.			11.7	210.8	
SL.			8.4	214.1	
+25			+0.6	223.1	
+35			+3.1	225.6	
	32+25				
-26			+1.5	224.0	
SL.			8.5	214.0	
cb.			13.3	209.2	
+4			14.4	208.1	
+10 = Bottom Wash			17.3	205.2	
S¼			16.7	205.8	
℄			10.8	211.7	
TP	12.96	230.13	5.30	217.17	on rock Pay N¼ 32+25
N¼			13.0	217.1	

	23013			
N cb		2.7	222.4	
N		5.3	224.6	
+15		0.0	230.1	
	32+50			
-15		+3.6	233.7	
NL.		2.4	227.7	
cb.		2.6	222.5	
N 1/4		13.0	217.1	
C.		18.9	211.2	
S 1/4		23.5	206.6	
+9 = Bottom ditch		26.2	203.9	
S cb.		23.0	207.1	
SL.		18.1	212.0	
+20		9.3	220.8	
+30		4.3	225.8	
	32+75			
-25		8.3	221.8	
-13		12.4	217.7	
SL.		19.2	210.9	
S cb.		24.1	206.0	
+8' = Bottom ditch.		27.1	203.0	

		23013		Paplor 5#	
S 1/4			23.6	206.5	
C.			20.3	209.8	
N 1/4			14.0	216.1	
N cb.			7.8	222.3	
NL.			1.8	228.3	
+15			+5.2	235.3	
	33+00				
-15			+3.6	235.7	
NL.			4.2	228.9	
N cb.			6.8	223.3	
N 1/4			13.9	216.2	
C.			20.4	209.7	
S 1/4			25.4	204.7	
+12 = Bottom Wash.			28.5	201.6	
S cb.			26.5	203.6	
+6			25.6	204.5	
SL.			22.3	207.8	
+20			14.8	215.3	
+31			9.9	220.2	
TP		12.16	240.57	1.72	228.41	on Peg NL. 32+75

240.57

	33+25		
-25		27.6	213.0
-SL.		36.7	203.9
scb.		38.6	202.0
+2 = Bottom Wash.		39.3	201.3
S¼		35.7	204.9
℄		27.5	213.1
N¼		19.9	220.7
NCb.		13.6	227.0
NL.		8.0	232.6
+9		3.7	236.9
+25		+1.3	241.9
	33+50		
-20		+1.6	242.2
NL		3.1	237.5
+9		6.3	234.3
NCb.		8.0	232.6
N¼		14.7	225.9
℄		21.4	219.2
S¼		28.3	212.3
scb.		34.3	206.3

240.57 Poplar St

scb. + 11		37.8	202.8
SL		39.1	201.5
+11		40.3	200.3
+13 = Bottom Wash		41.4	199.2
+26		35.1	205.5
+40		28.4	212.2
	33+75		
-50		28.6	212.0
-33		35.6	205.0
-26		40.4	200.2
-20		40.6	200.0
-18 = Bottom Wash		42.3	198.3
-5		40.3	200.3
SL		39.0	201.6
cb		34.0	206.6
N¼		25.8	214.8
℄		19.4	221.2
N¼		12.4	228.2
NCb.		6.1	236.5
NL		1.8	238.8
+12		+2.0	242.6
+25		+4.2	244.8

		24057		
	34+00			
-25			+4.8	245.4
-13			+3.2	243.8
NL.			0.4	240.2
cb.			4.6	236.0
N 1/4			10.8	229.8
℄			17.9	222.7
S 1/4			24.8	215.8
cb.			31.3	209.3
SL.			39.0	201.6
+4			41.3	199.3
+20 = Bottom Wash.			46.3	194.3
+25			44.3	196.3
+40			40.0	200.6
	34+25			
-55			40.5	200.1
-40			45.3	195.3
+37 = Bottom Wash.			48.3	192.3
-33			45.3	195.3
SL.			34.5	206.1
S cb.			31.6	209.0

		24057		Poplar St.	61
S 1/4			24.3	216.3	
℄			17.4	223.2	
N 1/4			10.0	230.6	
N cb.			6.2	234.4	
NL.			2.6	238.0	
+13			+1.7	242.3	
+25			+3.4	244.0	
	34+50				
-30			3.8	236.8	
-12			4.6	236.0	
NL.			6.8	233.8	
x cb.			9.0	231.6	
TP.	2.36	230.52	12.41	228.16	
N 1/4			4.6	225.9	
℄			11.0	219.5	
S 1/4			17.2	213.3	
Cb.			21.7	208.8	
SL.			25.4	205.1	
+11			29.0	201.5	
+21			32.7	197.8	
+33			34.8	195.7	
+36 = Bottom Wash			37.7	192.8	

23052

+40		37.3	193.2
+42		34.1	196.4
+50		31.8	198.7
	34+75		
-47 = Toe Cobble Wall		34.3	196.2
-36		35.3	195.2
-35' = Bottom Wash		38.3	192.2
-31 " "		38.3	192.2
-30		37.0	193.5
-8'		36.3	194.2
-5'		32.8	197.7
SL.		30.2	200.3
cb.		26.6	203.9
S1/4		22.1	208.4
℄		16.5	214.0
N1/4		10.1	220.4
NCb.		3.4	227.1
NL.		+1.7	232.2
+13		+3.8	234.3
+25		+4.0	234.5
	35+00		

35+00 23052 Poplar St.

-25		+0.7	231.2
-13		+1.1	231.6
NL.		+0.1	230.6
+5		1.0	229.5
NCb.		4.5	226.0
N1/4		11.4	219.1
℄		18.6	212.0
S1/4		23.3	207.2
Scb.		28.2	201.6
SL.		33.3	197.2
+10.0		37.2	193.3
+26'		38.4	192.1
+30 = Bottom Wash.		40.8	189.7
+32		39.3	191.2
+45		35.8	194.7
	35+21.07 = PRC		
-55'		32.6	197.9
-43'		37.3	193.2
-25		39.4	191.1
-24 = Bottom Wash		41.6	188.9
-20 " "		41.6	188.9

		230.52			
-19			39.7	190.8	
SL			37.5	193.0	
Scb.			33.0	197.5	
S 1/4			27.3	202.2	
℄			18.6	211.9	
N 1/4			12.2	218.3	
cb.			5.3	225.2	
+2			4.5	226.0	
NL.			3.23	227.29	on 2"x2" Redwood Hub & Copper Disk
+12			2.5	228.0	
+25			5.2	225.3	
	35+50				
T.P.	0.39	219.10	11.81	218.71	
-16			2.2	216.9	
NL.			10.5	219.6	
Ncb.			1.5	217.6	
N 1/4			7.2	211.9	
℄			14.1	205.0	
S 1/4			19.3	199.8	
Scb.			25.6	193.5	
SL.			28.3	190.8	

		219.10	Poplar St.		
SL+13			28.7	190.4	
+15 = Bottom Wash.			31.0	188.1	
+17			29.0	190.1	
+25			28.4	190.7	
+35			27.9	191.2	
	35+75				
-35			23.3	195.8	
-20			30.0	189.1	
SL.			30.8	188.3	
+5 = Bottom Wash			32.4	186.7	
+9	"	"	32.4	186.7	
+10			30.8	188.3	
cb.			30.7	188.4	
+13			30.6	188.5	
S 1/4			28.8	190.3	
℄			23.2	195.9	
N 1/4			15.1	204.0	
Ncb.			9.2	209.9	
NL.			9.2	209.9	
+25			14.2	204.9	
T.P.	0.03	207.03	12.10	207.00	

207.03

	36+00		
-25		11.8	195.2
N		7.6	199.4
+10		5.4	201.6
cb.		6.3	200.7
N ¼		12.1	194.9
L		18.5	188.5
S ¼		21.0	186.0
+3 - Bottom Wash.		22.7	184.3
+6		21.7	185.3
S cb.		21.3	185.7
SL.		19.1	187.9
+25		12.1	194.9
	36+25		
-25		9.0	198.0
SL.		19.3	187.7
cb		19.3	187.7
¼		23.0	184.0
+7 - Bottom Wash.		24.2	182.8
L		21.0	186.0
N ¼		16.3	190.7

207.03 Poplar St.

N cb.		17.7	189.3	
NL.		18.7	188.3	
+15		18.7	188.3	
+17 - Bottom Wash		20.1	186.9	
+28		13.7	193.3	
TP	5.49	7.59	199.44	on Reg NL. 36+00
	36+50			
-25		4.5	200.4	
NL.		16.0	188.9	
+8		19.3	185.6	
cb.		19.9	185.0	
+3 - Bottom Wash (NE.)		21.5	183.4	
N ¼		21.6	183.3	
L - Bottom Wash (SE)		24.0	180.9	
S ¼		22.0	182.9	
cb.		20.2	184.7	
SL.		15.5	189.4	
+20		5.0	199.9	
	36+75			
-20		2.8	202.1	
SL.		14.5	190.4	
S cb.		19.2	185.7	

		204.93		
S¼			23.1	181.8
℄			24.7	180.2
+2 = Bottom Wash			25.4	179.5
N¼			22.6	182.3
N Cb.			19.2	185.7
N L.			14.2	190.7
+20			2.8	202.1
	37+00			
-20			4.4	200.5
N L.			12.9	192.0
N Cb.			17.9	187.0
N¼			24.7	180.2
+2 = Bottom Wash.			26.4	178.5
+8			24.7	180.2
℄			24.0	180.9
S¼			23.6	181.3
S Cb.			19.0	185.9
S L.			14.6	190.3
+15			5.7	199.2
+20			2.7	202.2
	37+25			
-16			4.4	200.9

		204.93	Poplar St.	
S L.			12.6	192.3
T P.	4.34	196.99	12.28	192.65
S Cb.			10.5	186.5
S¼			15.9	181.1
℄			17.2	179.8
N¼			17.8	179.2
+5 = S edge Wash			18.9	178.1
+10 N " "			18.5	178.5
+11			16.3	180.7
N Cb.			16.1	180.9
N L.			11.8	185.2
+25			+2.0	199.0
	37+50			
-25			1.4	195.6
N L.			15.8	181.2
N Cb.			17.8	179.2
N¼			19.4	177.6
+2 = N edge Wash			20.1	176.9
+9	S "	"	20.9	176.1
℄			17.6	179.4
S¼			14.2	182.8
S Cb.			9.1	187.9

1969 9

SL.	4.2	192.8	
+20	14.8	201.8	
37+75			
-30	+9.2	206.2	
SL.	5.0	192.0	
scb.	10.4	186.6	
S¼	14.8	182.2	
℄	18.7	178.3	
+3	19.1	177.9	
+5	20.9	176.1	
N¼ = Bottom Wash.	22.2	174.8	
+2	19.2	177.8	
cb	19.6	177.4	
NL.	18.5	178.5	
+25	10.0	187.0	
38+00			
-20	10.4	186.6	
NL.	20.8	176.2	
N cb.	21.8	175.2	
N¼	21.8	175.2	
+3 = Bottom Wash.	23.5	173.5	

1969 9 Poplar St.

N¼ +4	21.7	175.3	
℄	19.6	177.4	
S¼	16.6	180.4	
Scb.	11.8	185.2	
SL.	6.5	190.5	
+15	+2.9	199.9	
38+25			
-15	0.9	196.1	
SL.	8.5	188.5	
scb.	13.7	183.3	
S¼	18.8	178.2	
℄	21.5	175.5	
N¼	23.0	174.0	
+11 = Bottom Wash.	24.8	172.2	
N cb.	23.4	173.6	
NL.	17.8	179.2	
+15	9.4	187.6	
38+50			
-15	4.3	192.7	
NL.	12.9	184.1	
cb.	18.4	178.6	

1969 99

N 1/4		24.8	172.2
L = Bottom Wash		25.9	171.1
S 1/4		22.7	174.3
S Cb.		17.3	179.7
SL.		12.0	185.0
+15		4.6	192.4
	38+75		
-15		8.1	188.9
SL.		15.6	181.4
S Cb.		20.4	176.6
S 1/4		25.3	171.7
L		26.6	170.4
+4 = Bottom Wash.		26.8	170.2
+10		24.7	172.3
N 1/4		22.1	174.9
N Cb.		15.6	181.4
NL.		9.1	187.9
+12		3.1	193.9
	39+00		
-20		0.4	196.6
NL.		8.8	188.2

1969 99 Poplar St. 67

T.B	2.82	187.33	12.48	184.51
N Cb.			6.1	181.2
N 1/4			14.8	172.5
+4			17.1	170.2
L = Bottom Wash			18.3	169.0
S 1/4			16.6	170.7
S Cb.			13.5	173.8
SL.			8.5	179.8
+10			3.5	183.8
	39+25			
-21			+0.5	187.8
SL.			20.0	177.3
Cb.			15.2	172.1
S 1/4			17.3	170.0
L			18.6	168.7
+6 = Bottom Wash.			19.6	167.7
N 1/4			16.6	170.7
+2			14.7	172.6
N Cb.			9.2	178.1
NL.			4.2	183.1
+13			+2.3	189.6

		187.33		
	39+50			
-13			1.9	185.4
NL			8.3	179.0
N cb.			13.3	174.0
N 1/4			18.6	168.7
+9 = Bottom Wash.			20.6	166.7
L			20.1	167.2
S 1/4			18.8	168.5
S cb.			16.1	171.2
SL			11.5	175.8
+20			2.0	185.3
	39+75			
-13			7.5	179.8
SL.			14.2	173.1
S cb.			18.3	169.0
S 1/4			20.2	167.1
L			21.2	166.1
+3 = Bottom Wash.			21.7	165.6
N 1/4			20.4	166.9
N cb.			14.2	173.1
NL.			8.8	178.5
+13			2.5	184.8

		187.33	Poplar St.	
	40+00			
-15			0.0	187.3
NL.			9.1	178.2
N cb.			15.1	172.2
N 1/4			20.8	166.5
+4 = Bottom Wash			22.7	164.6
L	"	"	22.5	164.8
S 1/4	"	"	23.8	163.5
+4	"	"	23.4	163.9
S cb.			20.6	166.7
SL.			16.9	170.4
+12			11.4	175.9
	40+25			
-15			14.2	173.1
SL.			19.8	167.5
+6			21.7	165.6
+9 = Bottom Wash			24.9	162.4
Cb.	"	"	24.8	162.5
S 1/4			23.8	163.5
L			21.0	166.3
N 1/4			18.4	168.9
N cb.			12.6	174.7

		187.38			
N.L.			7.2	180.1	
+10			2.1	185.2	
+18			1.6	185.7	
	40+55.45 = PCC on South.				
-15			12.1	175.2	
N.L.			9.9	177.4	
xcb.			10.1	177.2	
T.P.	1.83	176.89	12.27	175.06	7" Hub on N. North 40+67.55 Sketch P. 12
N 1/4			2.5	174.4	
℄			7.4	169.5	
S 1/4			12.6	164.3	
+5 - Bottom Wash			16.7	161.2	
S cb.			14.7	162.2	
S.L.			12.8	164.1	
+20' on Radius Hub.			8.64	168.25	2"x2" Redwood Copper Disk.
	40+67.75 = PRC on North.				
-20			9.9	167.0	
-13			11.9	165.0	
S.L.			13.6	163.3	
S cb = Bottom Wash.			16.0	160.9	
S 1/4			10.9	166.0	

Rad. ℄ Plotted by W.O. 3/13/42

		176.89	Poplar St.		69
℄ on Conc. Mon.			5.90	170.99	
+11			1.9	175.5	
N 1/4			0.8	176.1	
N cb.			1.2	175.7	2"x2" Hub. Copper Disk.
N.L. on Hub.			2.54	174.35	
+18			5.4	171.5	
+30 on Radius Hub.			3.81	167.08	2"x2" Hub Copper Disk.
T.P. #A	0.90	164.78	13.01	163.88	on Rock. on S.T. Ld Plg - 0.14 South side MH. 9.63 NE. of MH
T.P.	2.05	156.10	10.73	154.05	
Cbk. Conc. Mon. & Estrella Park			6.00	150.10	
FB 1570 Page 14				150.22 0.12 diff.	

Sewer M.H.
Elev. South side Rim MH FB 1570-13 = 154.20
Cap tuck in Ld Plg Above MH. = 154.05 our line 0.15 High

Line Levels in FB 1570-32 Were 0.16 High at 35th + (Lemon Grove Bld. × Federal Bld)

Conclusion: if B.M at 35th × Federal is ok then the above levels check that circuit by 0.01

Note: Culvert to be located before improvement of Poplar St. is made for Approx. 1000'

other Cross Sections beyond 40+67.75' See F.B. 1512

Indexed
C.S.K.

Bliss Notes
Sisson π
Sommermyer
Bega
Hazard

Tentative Location and Levels for
Trash Bin 36" & Market

BM. 12.91 135.17 122.26 NW BP Market & 26"

100 North & Market (80' wide)

℄		℄			
130.6		130.1	130.9	128.5	128.1
4.6		5.1	4.3	6.7	7.1
10			10	11	24

125

132.2	132.8	133.1	126.9	126.6	128.1	original Ground
2.0	2.4	2.1	8.3	8.6	7.1	
10		8	11	24	25	

150 N.

140.2	134.7	135.2	134.8	133.7	124.0	123.6	128.0
+5.2	+0.5	0.0	0.4	1.5	11.2	11.6	7.2
30	26	10		7	10	30	33

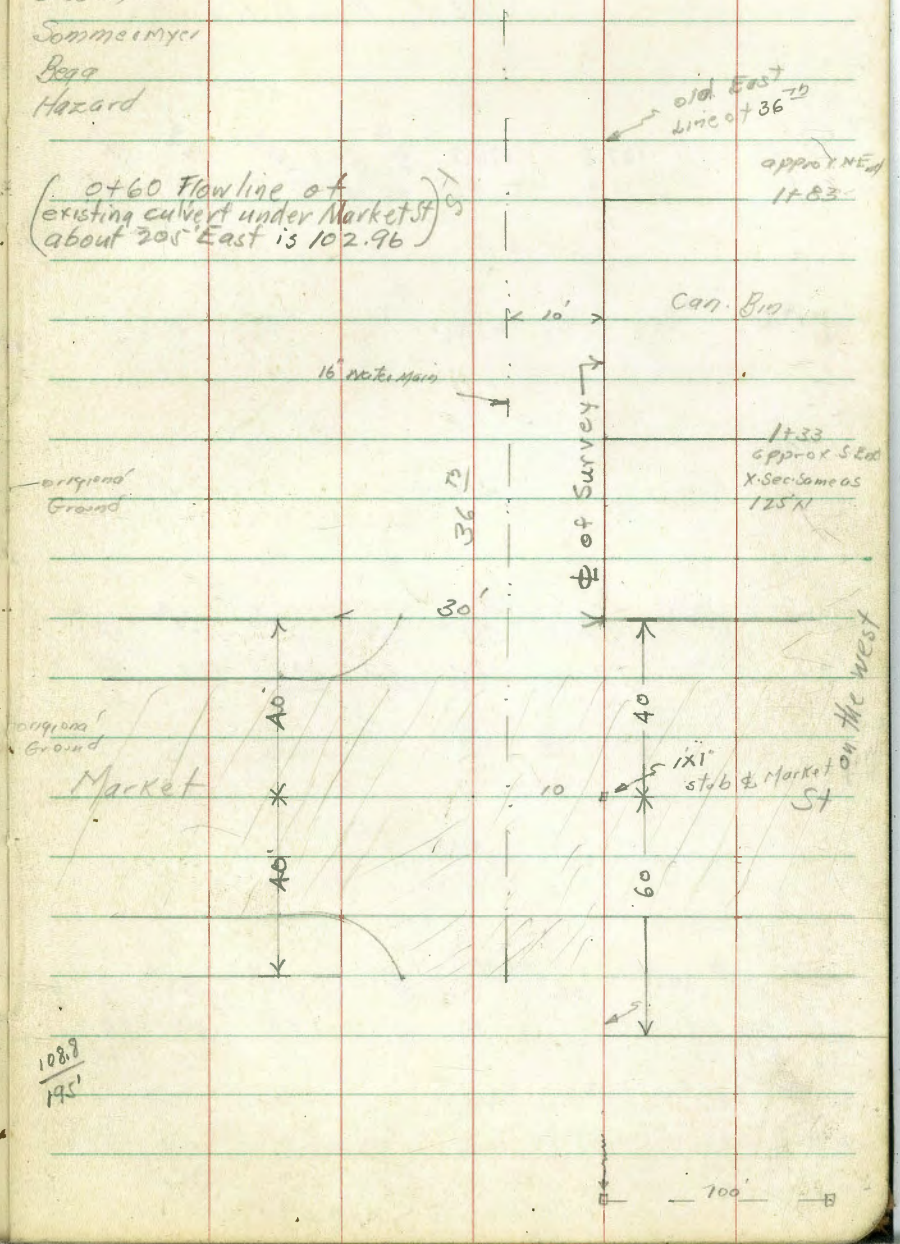
TP 5.72 140.78 0.11 135.06

175 N

140.5	137.1	137.1	136.8	136.5	121.5	120.8	126.8	122.3	119.4
0.3	3.7	3.7	4.3	4.3	19.3	20.0	14.0	18.5	21.4
30	26	10		2	8	30	35	68	88

1088
195'

0+60 Flow line of existing culvert under Market St about 205' East is 102.96



↑ 140.78

4 ℄ RT

183 Y Probable N End

137.5	136.8	136.8	122.5	121.8	120.8	120.8
3.3	4.0	9.0	18.3	19.0	20.0	14.0
10		2	7	21	30	35

200 N

141.5	138.9	138.9	138.5	138.5	127.5	126.9	129.7
+0.7	1.9	1.9	2.3	2.3	13.3	13.9	11.1
30	25	10		1	8	22	25

↑ 147.24

2+25 N

143.6	142.4	140.7	140.7	140.3	140.3	128.8	128.4	127.0
3.5	4.8	6.5	6.5	6.9	6.9	18.4	18.8	20.2
30	25	23	10		2	7	20	35

↑ 147.24

origin of ground

2+50 N

145.9	143.0	142.8	142.7	142.3	128.9	128.9	129.6
1.3	4.2	4.4	4.8	4.9	18.3	18.3	17.6
30	25	10		2	7	21	35

2+75 N

origin of ground

147.7	144.9	144.9	144.7	144.7	132.4	132.0
+0.5	2.3	2.3	3.0	3.0	14.8	15.2
30	24	10		2	4	39

2+90 Approx. S End Bin

148.5	145.7	145.7	144.9	144.9	134.2	132.0	122.0	115.9
+1.3	1.5	1.5	2.3	2.3	13.0	14.2	25.2	32.3
30	24	10		2	5	45	100	175

9. 1383 323

71

+122.26
12.96 +
135.221
.083 −
134.397
12.85 +
147.247

↑ 147.29 ℄

	Rt		3+00		Lt	
148.4	146.0	146.0	144.2	144.2	135.8	135.2
+1.2	1.2	1.2	3.0	3.0	12.4	12
30	24	10		2	4	25

3+25

147.9	146.9	146.4	146.1		138.1	137.9
+0.7	0.3	0.8	1.1		9.1	9.3
30	24	10			h	38

3+93 Approx. N. End Can Bin

148.0	146.7	146.4	146.1	146.1	140.2	139.6	133.5
+0.8	0.5	0.8	1.1	1.1	7.0	7.6	13.7
30	24	10		8	10	25	50

4+00

146.7	145.8	145.9	145.3	145.3	141.2	140.6	137.2
0.5	1.4	1.3	1.9	1.9	6.0	6.6	10.0
30	24	10		6	8	20	27

4+50

146.8	145.5	145.8	145.2	145.0	143.9	143.7	137.2
0.4	1.7	1.4	2.0	2.2	3.3	3.5	10.0
30	24	10		7	10	30	40

↑ 148.63

	Lt		℄		Rt	
			5+00			
145.8	145.7	145.6	145.2	145.0	145.1	
2.8	3.4	3.0	3.4	3.6	3.5	
30	24	10		15	35	

15.94

7+65 S.S. edge of Hill at Low Pt.

124.5	125.7	126.7	129.8	139.9	148.9	151.9
30.9	29.2	28.2	25.1	15	6.0	3.0
30	5 ± edge ex Road		11	40	80	100

8+00

118.6	118.7	125.3	133.0	142.1	149.1	150.6	153.4
36.3	36.7	29.6	21.9	12.8	5.8	4.3	1.5
30	22 ± in Road	20 ± edge ex Road cut Bank		35	42	50	100

8+25

113.5	121.3	133.5	142.8	149.0	152.4	153.8
41.4	33.6	21.4	12.1	5.9	2.5	1.1
33 ± in Road	31 ± edge Road		26	40	70	100

12

147.29
1.55
145.69 TP.
3.00
148.69
5.90
142.23
12.65 +
154.94

4+	T 1549+	R	P+
		8+50	
108.9	115.1	123.5	132.0	143.6	150.8	153.8
46.0	39.8	31.4	22.9	11.3	4.1	1.1
4	90	2/		35	5.8	100
→ in Road		← edge cut Bank				
		8+75				
104.1	108.9	121.8	127.5	136.2	145.1	151.5
50.8	46.0	33.1	27.4	18.7	9.8	3.4
5.3	51	46		25	51	100
→ in road	← edge cut Bank					
		9+10				
99.1	101.9	110.9	120.9	129.0	135.9	145.3	147.6
55	53.0	44.0	34.0	25.9	19.0	9.6	7.3
66. ← in road	64 ← edge cut Bank	30		20	45	80	100

BM. SOT
P.O.T Hub
on Public Line
9+80+-

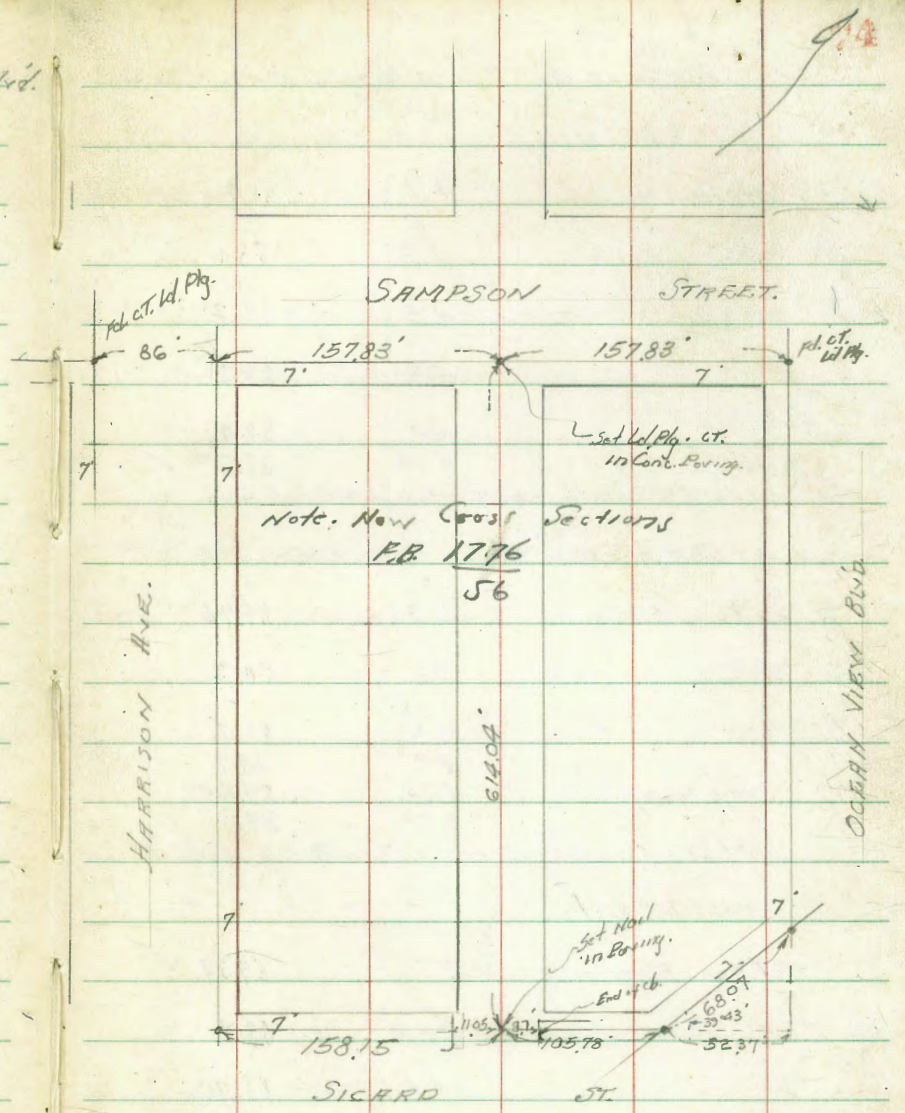
1549FT
30.68 -
12 4.26

Walker
Hugard
Hanlin
4-26-44

Cross Section Alley Blk. # 274
San Diego Land & Town Co.
Between Harrison Ave. and Ocean View Blvd.
from West Line Sicard St
to East " Sampson Street.

			N.E.B.P. Ocean View & 28th St.
2.09	93.14	91.05	
0-10' = W cb Line Sicard St			
-20' on cb.	4.69	88.45	
" "Gut.	5.16	87.98	
N Gut.	5.31	87.83	
+1.3' on cb.	4.88	88.26	
℄ on Paving	5.37	87.77	
S.L.	5.53	87.61	
+1.05=cb.	5.02	88.12	
+12.5' on Gut	5.62	87.52	
" " cb.	5.15	87.99	
0+00 = W.L. Sicard St.			
-1.05=3cb. on Top	4.80	88.34	
" 9 Gut.	5.07	88.07	
℄	5.22	87.92	
+8.7' 7.4' East on West End of cb.	4.80	88.34	
+8.7'=N edge Paving	6.08	88.06	

Red. & Plotted 7-6-1944



Tel.
0+28 = ℄ Pole on N 2.3' in Alley = ℄ Pole 12" dia

0+30

-28 of House	4.7	88.4 on Ground
N	4.7	88.4
℄	4.2	88.2
S	4.8	88.3
+5'	4.4	88.7
	4.44	88.70 ✓

0+46 = ℄ 3' walk on N 1.1' in Alley

0+58 = ℄ Gurage #1 on S. Conc. Floor 3' Back ✓

-3' on Conc. Floor	3.38	89.76 ✓
S	3.9	89.2
℄	4.4	88.7
+7	4.4	88.7
+9' = S edge Gurage #2	3.74	89.40
	3.77	89.37 ✓

0+61 = ℄ Gurage #2 on N 1.1' in Alley Conc. Floor

0+70 = ℄ #3 " " " " " "

N +1' on Floor	3.75	89.39 ✓
+1.7	4.0	89.1
+3	4.4	88.7
℄	4.1	89.0
SL.	3.9	89.2
+3	3.7	89.4
+3 on Floor #1 Gurage	3.36	89.78

0+79 = ℄ Deadman on S. 0.3' Back

Elec. ✓
1+00 = ℄ Pole on S 0.3' Back = ℄

SL.	2.9	90.2
℄	3.3	89.8
+9.5 of Fence	3.1	90.0

0+65 to 1+04 = Picket Fence on N 1.1' in Alley.

	2.42	90.72 ✓

1+09 = ℄ Gurage #4 on N 0.7' in Alley Conc. Floor

	2.56	90.58 ✓

1+17 = ℄ Gurage #5 = N 0.7' in Alley " "

✓ 1+27 = ℄ Tel Pole on N ℄ 1.6' in Alley 10" dia

Ele.? → 1+44 = ℄ Gurage #6 on S 0.6' Back ✓

SL.	2.2	90.9
℄	2.2	90.9
+6	2.3	90.8
+9.4 of Fence	2.0	91.1
N	1.3	91.8
+5	1.3	91.8

✓ 1+25 to 1+31 = chicken shed on N 0.5 in Alley

✓ 1+31 to 1+65 = Wood Fence on N } 0.5' in Alley = E end
0.3' " " = W "
Not in Use Wood Floor

1+70 = ℄ Gurage #7 on N 0.4 in Alley ✓

N + 0.4'	1.4	91.7
℄	1.7	91.4
S	1.3	91.8

1+79 = ℄ Garage #9 on S 0.2' Back Conc. Floor

	on Floor	0.79	92.35 ✓
	Rod = 1.00 #9		92.14 ✓

1+92 = ℄ Garage on S. 0.2' Back Conc. Floor

2+00

S-S'		1.3	91.8
S		1.3	91.8
℄		1.1	92.0
N		1.0	92.1
		0.6	92.5 ✓

2+13 = ℄ Garage #10 on N 0.4' Back Wood Floor

2+25

N		0.8	92.3
+5		1.2	91.9
℄		1.3	91.8
S		1.4	91.7
+5		1.4	91.7 Not used
		0.9	92.2 ✓

2+35 = ℄ Garage #11 on N 0.2' Back dirt Floor

✓ 2+51 = ℄ Tel Poles on N Pole Support = 12" dia 4.5 in Alley

" ✓ " " " " Main Pole 0.4' in Alley = ℄ Pole 12" dia

2+50

-5		1.3	91.8
S		1.5	91.6
℄		1.6	91.5
N		1.6	91.5

N+1		1.2	91.2
+15 in yard.		2.4	90.7
T.P.	7.06	98.57	1.63 91.51

✓ 2+59 = ℄ Shed on S 0.2' in Alley 18' Wide.

✓ 2+73 = ℄ Elec. Pole on South 1.3' in Alley = ℄ 12" Pole

✓ 2+69 to 2+87 = Wood Fence on South 0.4' in Alley

2+75

N-0.3' at shed		6.7	91.9
℄		6.8	91.8
S		6.9	91.7
+10		7.5	91.1
		7.1	91.5 ✓

2+93 = ℄ Garage #12 on South 0.5 in Alley dirt Floor

3+00

-10		7.1	91.5
S		6.7	91.9
℄		6.7	91.9
N		6.9	91.7
+10		7.2	91.4
		7.34	91.23

where N 3+08 = ℄ 2' Conc Walk 0.3' in Alley.

✓ 3+10 to 3+36 = Wood Fence on South } E. end on Line W. = 0.4' in Alley

		7.2	91.4 Not used

3+20 = Garage #13 on N 0.5' Back. dirt Floor ✓

(Continued P-78)

℄ COLUMBINE - South

	+5.15	300.2		295.05	℄ Poplar + Colum.
℄ +100'			-4.22	296.0	
	+5.10	301.1			
+200'			-5.1	296.0	
	+4.70	300.7			
+300'			-5.35	295.3	
	+5.1	300.4			
+400'			-5.1	295.3	
=℄ Poplar					

℄ TUBEROSE South

	+4.15	291.32		287.17	℄ Poplar + TUB.
℄ +100'			-4.75	286.6	
	+4.8	291.4			
+200'			-5.6	285.8	
	+3.4	289.2			
+300'			+6.0	283.2	
	+5.1	288.3			
+350= ℄ Poplar			-5.6	282.7	
+400			-5.6	282.7	

+450	+4.7	287.4	-5.2	282.2
+550	+5.0	287.2	-5.7	281.5
℄ Sycamore	+4.4	285.9	-6.1	279.8

Alley Blk 274

Cont. from P. 76

98.57

3+54 = ℄ Gurage #14 on N 7.3 91.3 Not used 0.3' Back, Dirt Floor

3+61 = ℄ Gurage #15 on South 6.8 91.8 Not used 0.5' in Alley, dirt Floor

3+67 = Gurage #16 on South, dirt Floor, on Line 6.5 92.1

3+30

-10 in yard 7.8 90.8

N 7.2 91.4

℄ 6.8 91.8

S 6.7 91.9

+10 7.0 91.6

3+50

S 6.7 91.9

℄ 7.2 91.4

+8 7.1 91.5

N 7.4 91.2

3+74 = ℄ 6" Tel Pole on N 6.8 91.8 2' in Alley = ℄ Pole

3+86 = ℄ Gurage #17 on North 0.3' Back, dirt Floor.

3+92 = ℄ Elec. Pole on South 6.5 92.1 0.8 in Alley,

3+98 = ℄ Gurage #18 on N 0.4' Back dirt Floor.

3+00

4+00 9857

N 6.5 92.1

℄ 6.5 92.1

S 6.1 92.5

6.5 92.1 Not in use

4+07 = ℄ Gurage #19 on N 0.3' Back, dirt Floor

5.85 92.72

4+09 = ℄ Gurage #20 on South Conc. Floor, 1.3' Back

5.88 92.69

4+20 = ℄ Gurage #21 on South 1.7' Back, Conc. Floor

4+25

-5 5.5 93.1

S 5.9 92.7

℄ 6.1 92.5

N 6.3 92.3

+10 6.4 92.2

5.48 93.09

4+44 = ℄ Conc. Walk on South 2.3' Wide, 0.7' Back

4+53 = ℄ Gurage #22 on South on Line, dirt Floor

-10 6.0 92.6

N 5.9 92.7

℄ 5.6 93.0

S 5.6 93.1

5.5 93.1

4+65 = ℄ Gurage #23 on South 0.4' Back, dirt Floor

5.8 92.8

4+68 = ℄ " #24 on N, 3' Back, dirt Floor

4+75 = ℄ 8" Tel Pole on N. 2.2' in Alley = ℄

S 5.5 93.1

4+75 Cont.

℄		5.5	93.1
N		5.6	93.0
+10 in yard		6.0	92.6 1' in Alley
4+76 to 5+00 = Dble Garage #25 on N, dirt Floor			
4+84 = ℄ Garage		5.4	93.2
4+95 " "		5.5	93.1 dirt Floor
5+00 = ℄ Garage #26 on South.			
N		5.3	93.3
℄		5.5	93.1
S		5.4	93.2
+1' of Garage		5.4	93.2
5+00 to 5+30 = Wood shed on N 1.4 in Alley			
5+27 = Elec Pole on South 0.6 in Alley			
-4 of Fence		5.2	93.4
S		5.0	93.6
℄		5.5	93.1
+8.6 of shed		5.5	93.1
N +10 in yard		5.7	92.9
5+50			
N -10		4.4	94.2
" " 1' East in yard		5.4	93.2

5+50 Cont.

N		5.1	93.5
℄		5.1	93.5
S		4.8	93.8
+5		5.0	93.6
		.44	94.13 Conc.
5+55 = ℄ Garage #27 on South 5' Back Floor			
5+75			
-5		4.5	94.1
S		4.9	93.7
℄		5.3	93.3
+6		5.2	93.4
+9		4.3	94.3
N		4.3	94.3
+6 of House		4.3	94.3
5+83 = ℄ Tel Pole on N 1.3 in Alley = ℄ Pole			
5+95			
-6		4.5	94.1
+1		4.6	94.0
+1		4.6	94.0
+3		5.6	93.0
℄		5.7	92.9
S		5.4	93.2
+5		4.7	93.9

98.57

6+00.04 = E.L. Sampson St

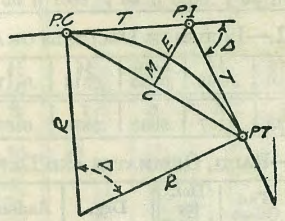
SL. on Cb.		5.55	93.02
" " Conc. Gut.		5.61	92.96
℄ on Conc.		5.87	92.70
N.L. " " Gut.		5.71	92.86
NL. on cb.		5.54	93.03

6+40.0 = E cb Line Sampson

-10 on cb		5.93	92.64
-10' " Gut.		6.56	92.01
NL. " "		6.47	92.10
" on cb		5.87	92.70
℄ on Conc. Box.		6.45	92.12
SL " " "		6.39	92.18
" on cb.		5.79	92.78
+10 " Gut. in Drive		6.31	92.26
TP	5.34 98.16	5.75	92.82
chk. NW BP. Harrison x Sampson		4.15	94.01

157
315 67
157 83

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius = $R = \frac{50}{\sin. D/2}$ (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) $= R \operatorname{vers} \frac{\Delta}{2}$ (6)

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

Long Chord = $C = 2R \sin. \frac{\Delta}{2}$ (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. $\Delta = 62° 10'$ $D = 8° 20'$. 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 91.37. For from Table IV for 1° curve E = 960.6 for 8° 20′ = 960.6 ÷ 8⅓ = 91.27 and from Table V correction = .10 or E = 91.37 ft. Or suppose $\Delta = 32°$ 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					
40	3437.87	.364	1.454	0.50	9	637.28	1.965	7.846	2.70
50	3125.36	.400	1.600	0.55	20	614.56	2.037	8.136	2.80
					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					
20	2455.70	.509	2.036	0.70	10	573.69	2.183	8.716	3.00
30	2292.01	.545	2.181	0.75	30	546.44	2.292	9.150	3.15
40	2148.79	.582	2.327	0.80	11	521.67	2.402	9.585	3.30
50	2022.41	.618	2.472	0.85	30	499.06	2.511	10.02	3.45
					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

Table VI.—Corrections for Sub-Chords and Long Chords.

FOR SUB-CHORDS ADD									Excess of arc per 100 ft.	LONG CHORDS				
D	10	20	30	40	50	60	70	80	90		D	200	300	400	500
4°	.00	.00	.01	.01	.01	.01	.01	.01	.00	.02	1	199.99	299.97	399.92	499.85
6	.00	.01	.01	.02	.02	.02	.02	.01	01	.05	2	199.97	299.88	399.70	499.39
8	.01	.02	.02	.03	.03	.03	.03	.02	.01	.08	3	199.93	299.73	399.32	498.63
10	.01	.02	.03	.04	.05	.05	.05	.04	.02	.13	4	199.88	299.51	398.78	497.57
12	.02	.04	.05	.06	.07	.07	.07	.05	.03	.18	5	199.81	299.24	398.10	496.20
14	.02	.05	.07	.08	.09	.10	.09	.07	.04	.25	6	199.73	298.90	397.26	494.53
16	.03	.06	.09	.11	.12	.12	.12	.09	.05	.33	7	199.63	298.51	396.28	492.57
18	.04	.08	.11	.14	.15	.16	.15	.12	.07	.41	8	199.51	298.05	395.14	490.31
20	.05	.10	.14	.17	.19	.20	.18	.15	.09	.51	9	199.38	297.54	393.86	487.75
22	.06	.12	.17	.21	.23	.24	.22	.18	.10	.62	10	199.24	296.96	392.42	484.90
24	.07	.14	.20	.25	.28	.28	.26	.21	.12	.74	12	198.90	295.63	389.12	478.34
26	.09	.17	.24	.29	.32	.33	.31	.25	.15	.86	14	198.51	294.06	385.22	470.65
28	.10	.19	.27	.34	.37	.38	.36	.29	.17	1.00	16	198.05	292.25	380.76	461.86
30	.11	.22	.31	.39	.43	.44	.41	.33	.19	1.15	18	197.54	290.21	375.74	452.02
32	.13	.25	.36	.44	.49	.50	.47	.38	.22	1.31	20	196.96	287.94	370.17	441.15
34	.15	.28	.40	.50	.55	.57	.53	.43	.25	1.48	22	196.32	285.44	364.06	429.30
36	.17	.32	.45	.56	.62	.64	.59	.48	.28	1.66	24	195.63	282.71	357.43	416.53
38	.18	.36	.51	.62	.70	.71	.66	.53	.31	1.86	26	194.87	279.76	350.30	402.89
40	.21	.40	.56	.69	.77	.79	.73	.59	.35	2.06	28	194.06	276.59	342.69	388.43
42	.23	.44	.62	.76	.85	.87	.81	.65	.38	2.28	30	193.18	273.20	334.61	373.20
44	.25	.48	.68	.84	.94	.96	.89	.72	.42	2.50	32	192.25	269.61	326.08	357.28
46	.27	.52	.75	.92	1.02	1.05	.98	.78	.46	2.74	34	191.26	265.81	317.12	340.73
48	.30	.57	.81	1.00	1.12	1.14	1.06	.86	.50	2.99	36	190.21	261.80	307.77	323.61
50	.32	.62	.89	1.09	1.21	1.24	1.15	.93	.55	3.24	38	189.10	257.60	298.03	305.99
52	.35	.67	.96	1.18	1.31	1.35	1.25	1.01	.59	3.52	40	187.94	253.21	287.94	287.94
54	.38	.73	1.04	1.28	1.42	1.46	1.35	1.09	.64	3.80	42	186.72	248.63	277.51	269.54
56	.41	.78	1.12	1.38	1.53	1.57	1.46	1.17	.69	4.09	44	185.44	243.87	266.78	250.85
58	.44	.84	1.20	1.48	1.65	1.69	1.57	1.26	.74	4.40	46	184.10	239.93	255.78	231.95
60	.47	.91	1.29	1.59	1.76	1.81	1.68	1.35	.80	4.72	48	182.71	233.83	244.51	212.92

Note.—When a chord of less than 100 ft. is used the corrections given in the above table should be added to the nominal length of chord to get the length which should be used in order that the 100 ft. points will check with those obtained by using the standard 100 ft. chord. Thus in locating a 14° curve by 25 ft. chords measure 25'.06 for each chord. Long chords are useful in passing obstacles.

Table VII.—Middle Ordinates for Rails in Feet.

Deg. of Curve	LENGTH OF RAILS							Deg. of Curve	LENGTH OF RAILS.						
	32	30	28	26	24	22	20		32	30	28	26	24	22	20
1°	.022	.020	.016	.013	.011	.009	.008	16°	.356	.313	.273	.236	.200	.170	.139
2	.045	.038	.034	.029	.025	.021	.017	17	.378	.333	.290	.252	.213	.180	.148
3	.067	.058	.051	.044	.037	.031	.026	18	.400	.351	.306	.265	.225	.190	.156
4	.089	.079	.069	.060	.050	.042	.035	19	.423	.371	.324	.280	.238	.201	.165
5	.112	.099	.086	.074	.063	.053	.044	20	.445	.392	.341	.296	.250	.212	.174
6	.134	.117	.102	.088	.076	.064	.052	21	.466	.410	.357	.309	.262	.222	.182
7	.156	.137	.120	.104	.088	.074	.061	22	.487	.430	.375	.325	.275	.233	.191
8	.179	.158	.137	.119	.100	.085	.070	23	.509	.450	.390	.338	.287	.243	.199
9	.201	.175	.153	.133	.112	.095	.078	24	.531	.469	.408	.354	.299	.253	.208
10	.223	.196	.171	.148	.125	.106	.087	25	.552	.486	.424	.367	.311	.263	.216
11	.245	.216	.188	.163	.139	.117	.096	26	.573	.506	.441	.382	.323	.274	.225
12	.268	.236	.206	.179	.151	.128	.105	27	.594	.524	.457	.396	.335	.284	.233
13	.290	.254	.222	.192	.163	.138	.113	28	.618	.545	.475	.411	.348	.294	.242
14	.312	.275	.239	.207	.175	.148	.122	29	.638	.564	.491	.424	.361	.303	.250
15	.334	.295	.257	.223	.188	.159	.131	30	.660	.583	.508	.438	.374	.313	.259

SLOPE REDUCTIONS.

When distances are measured on a slope they may be reduced to the equivalent horizontal distance by the following approximate rule:—subtract from the slope distance the square of the rise divided by twice the slope distance. Thus for a slope distance of 250.3 ft. and a rise of 15 ft. correction=$15^2 \div 2 \times 250.3$=.45 (by slide rule) or horizontal distance=250.3—.45=249.85. When vertical angle=V. A. is measured horizontal distance=slope distance—slope distance (1—Cos. V. A.). Thus for slope distance of 248.7 ft. and V. A. of 4° 20′ from Table VIII Cos=.99714 and correction=1—.99714=.00286 per foot or total of .286×2½ (near enough)=.57 and horizontal distance=248.7—.57=248.13 ft.

TRIGONOMETRICAL FORMULAS.

See fig. (a).

sin. $A=\frac{a}{c}$

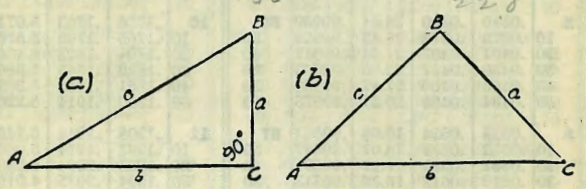
cos. $A=\frac{b}{c}$

tan. $A=\frac{a}{b}$

cot. $A=\frac{b}{a}$

sec. $A=\frac{c}{b}$

cosec. $A=\frac{c}{a}$



Formula for Solving Triangles.

Given	Sought.	Right triangles. See fig. (a).
a, c	A, B, b	$\sin. A=\frac{a}{c}$, $\cos. B=\frac{a}{c}$, $b=\sqrt{(c+a)(c-a)}$
a, b	A, B, c	$\tan. A=\frac{a}{b}$, $\cot. B=\frac{a}{b}$, $c=\sqrt{a^2+b^2}$.
A, a	B, b, c	$B=90°-A$, $b=a \cot. A$, $c=\frac{a}{\sin. A}$.
A, b	B, a, c	$B=90°-A$, $a=b \tan. A$, $c=\frac{b}{\cos. A}$.
A, c	B, a, b	$B=90°-A$, $a=c \sin. A$, $b=c \cos. A$
Given	Sought.	Oblique triangles. See fig. (b).
A, B, a	b	$b=\frac{a \sin. B}{\sin. A}$
A, a, b	B	$\sin. B=\frac{b \sin. A}{a}$
a, b, C	$A-B$	$\tan. \frac{1}{2}(A-B)=\frac{(a-b) \tan. \frac{1}{2}(A+B)}{a+b}$
a, b, c	A	If $s=\frac{1}{2}(a+b+c)$, $\sin. \frac{1}{2}A=\sqrt{\frac{(s-b)(s-c)}{bc}}$, $\cos. \frac{1}{2}A=\sqrt{\frac{s(s-a)}{bc}}$, $\tan. \frac{1}{2}A=\sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$, $\sin. A=\frac{2\sqrt{(s-a)(s-b)(s-c)s}}{bc}$
A, B, C, a	area	$\text{area}=\frac{a^2 \sin. B \sin. C}{2 \sin. A}$.
A, b, c	area	$\text{area}=\frac{1}{2} b c \sin. A$
a, b, c	area	$s=\frac{1}{2}(a+b+c)$, $\text{area}=\sqrt{s(s-a)(s-b)(s-c)}$

Table VIII.—Natural Trigonometrical Functions.

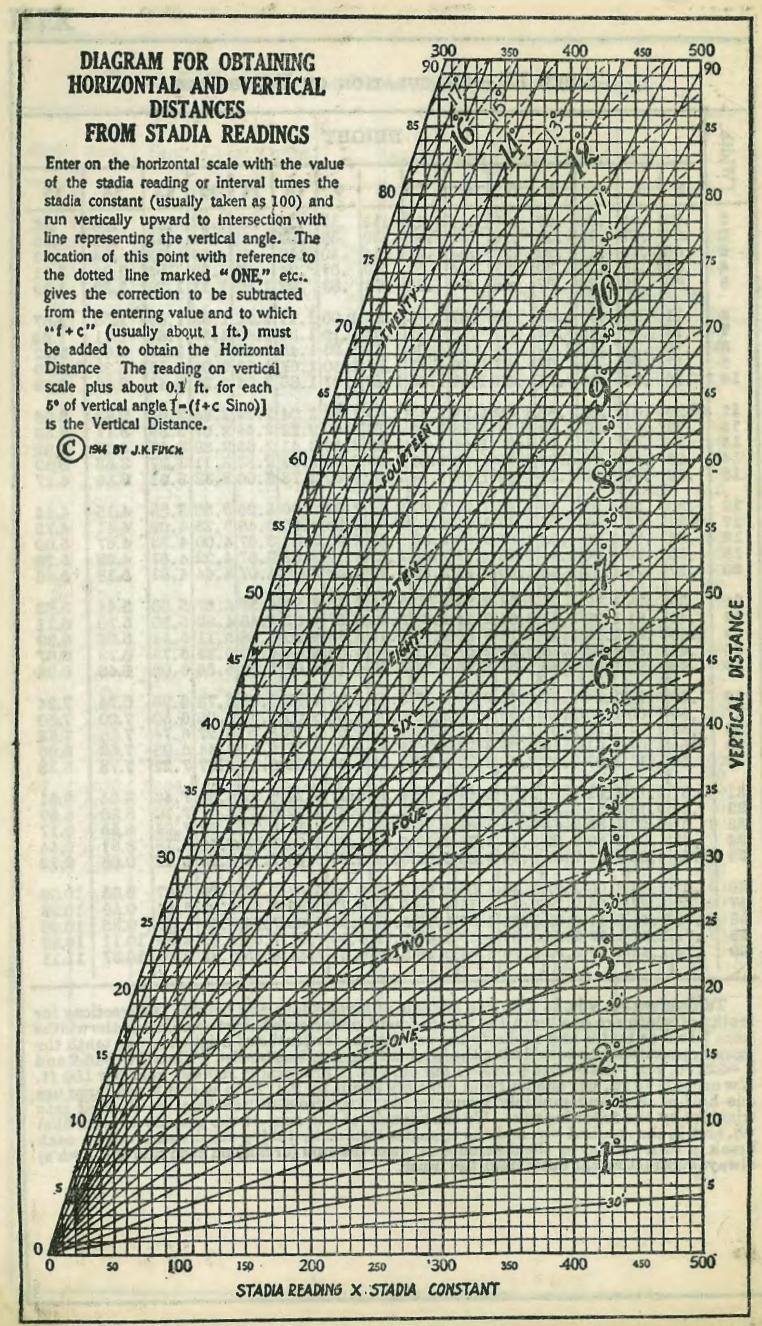
Angle	Sine.	Tan.	Cotg.	Cosin.		Angle	Sine.	Tan.	Cotg.	Cosin.	
°						°					
0	0	0	00	1	90	8	.1392	.1405	7.115	.99027	82
10	.0029	.0029	343.8	I	50	10	.1421	.1435	6.968	.98986	50
20	.0058	.0058	171.9	.99998	40	20	.1449	.1465	6.827	.98944	40
30	.0087	.0087	114.6	.99996	30	30	.1478	.1495	6.691	.98902	30
40	.0116	.0116	85.94	.99993	20	40	.1507	.1524	6.561	.98858	20
50	.0145	.0145	68.75	.99989	10	50	.1536	.1554	6.435	.98814	10
1	.0175	.0175	57.29	.99985	89	9	.1564	.1584	6.314	.98769	81
10	.0204	.0204	49.10	.99979	50	10	.1593	.1614	6.197	.98723	50
20	.0233	.0233	42.96	.99973	40	20	.1622	.1644	6.084	.98676	40
30	.0262	.0262	38.19	.99966	30	30	.1650	.1673	5.976	.98629	30
40	.0291	.0291	34.37	.99958	20	40	.1679	.1703	5.871	.98580	20
50	.0320	.0320	31.24	.99949	10	50	.1708	.1733	5.769	.98531	10
2	.0349	.0349	28.64	.99939	88	10	.1736	.1763	5.671	.98481	80
10	.0378	.0378	26.43	.99929	50	10	.1765	.1793	5.576	.98430	50
20	.0407	.0407	24.54	.99917	40	20	.1794	.1823	5.485	.98378	40
30	.0436	.0437	22.90	.99905	30	30	.1822	.1853	5.396	.98325	30
40	.0465	.0466	21.47	.99892	20	40	.1851	.1883	5.309	98272	20
50	.0494	.0495	20.21	.99878	10	50	.1880	.1914	5.226	.98218	10
3	.0523	.0524	19.08	.99863	87	11	.1908	.1944	5.145	.98163	79
10	.0552	.0553	18.07	.99847	50	10	.1937	.1974	5.066	.98107	50
20	.0581	.0582	17.17	.99831	40	20	.1965	.2004	4.989	.98050	40
30	.0610	.0612	16.35	.99813	30	30	.1994	.2035	4.915	.97992	30
40	.0640	.0641	15.60	.99795	20	40	.2022	.2065	4.843	.97934	20
50	.0669	.0670	14.92	.99776	10	50	.2051	.2095	4.773	.97875	10
4	.0698	.0699	14.30	.99756	86	12	.2079	.2126	4.705	.97815	78
10	.0727	.0729	13.73	.99736	50	10	.2108	.2156	4.638	.97754	50
20	.0756	.0758	13.20	.99714	40	20	.2136	.2186	4.574	.97692	40
30	.0785	.0787	12.71	.99692	30	30	.2164	.2217	4.511	.97630	30
40	.0814	.0816	12.25	.99668	20	40	.2193	.2247	4.449	.97566	20
50	.0843	.0846	11.83	.99644	10	50	.2221	.2278	4.390	.97502	10
5	.0872	.0875	11.43	.99619	85	13	.2250	.2309	4.331	.97437	77
10	.0901	.0904	11.06	.99594	50	10	.2278	.2339	4.275	.97371	50
20	.0929	.0934	10.71	.99567	40	20	.2306	.2370	4.219	.97304	40
30	.0958	.0963	10.39	.99540	30	30	.2334	.2401	4.165	.97237	30
40	.0987	.0992	10.08	.99511	20	40	.2363	.2432	4.113	.97169	20
50	.1016	.1022	9.788	.99482	10	50	.2391	.2462	4.061	.97100	10
6	.1045	.1051	9.514	.99452	84	14	.2419	.2493	4.011	.97030	76
10	.1074	.1080	9.255	.99421	50	10	.2447	.2524	3.962	.96959	50
20	.1103	.1110	9.010	.99390	40	20	.2476	.2555	3.914	.96887	40
30	.1132	.1139	8.777	.99357	30	30	.2504	.2586	3.867	.96815	30
40	.1161	.1169	8.556	.99324	20	40	.2532	.2617	3.821	.96742	20
50	.1190	.1198	8.345	.99290	10	50	.2560	.2648	3.776	.96667	10
7	.1219	.1228	8.144	.99255	83	15	.2588	.2679	3.732	.96593	75
10	.1248	.1257	7.953	.99219	50	10	.2616	.2711	3.689	.96517	50
20	.1276	.1287	7.770	.99182	40	20	.2644	.2742	3.647	.96440	40
30	.1305	.1317	7.596	.99144	30	30	.2672	.2773	3.606	.96363	30
40	.1334	.1346	7.429	.99106	20	40	.2700	.2805	3.566	.96285	20
50	.1363	.1376	7.269	.99067	10	50	.2728	.2836	3.526	.96206	10
					82						74
	Cosin.	Cotg.	Tan.	Sine.	Angle.		Cosin.	Cotg.	Tan.	Sine.	Angle.

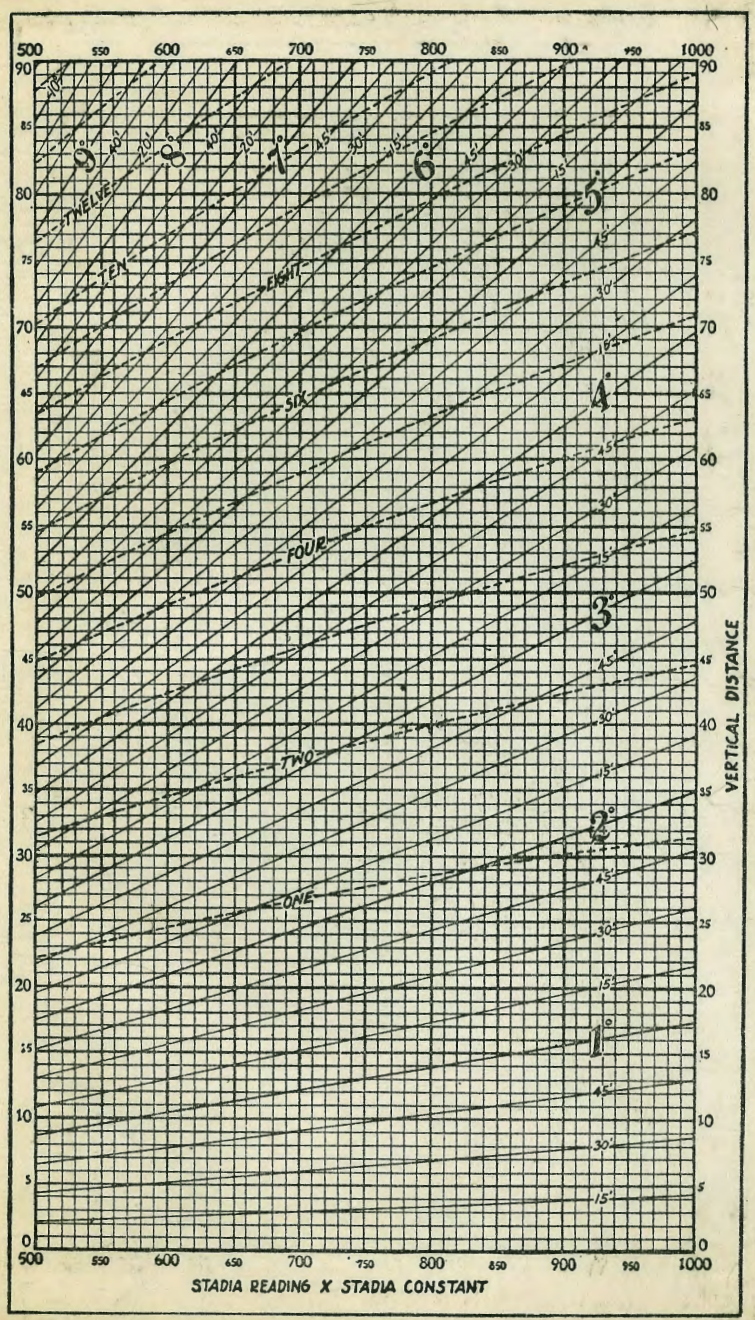
Table VIII.—Natural Trigonometrical Functions.

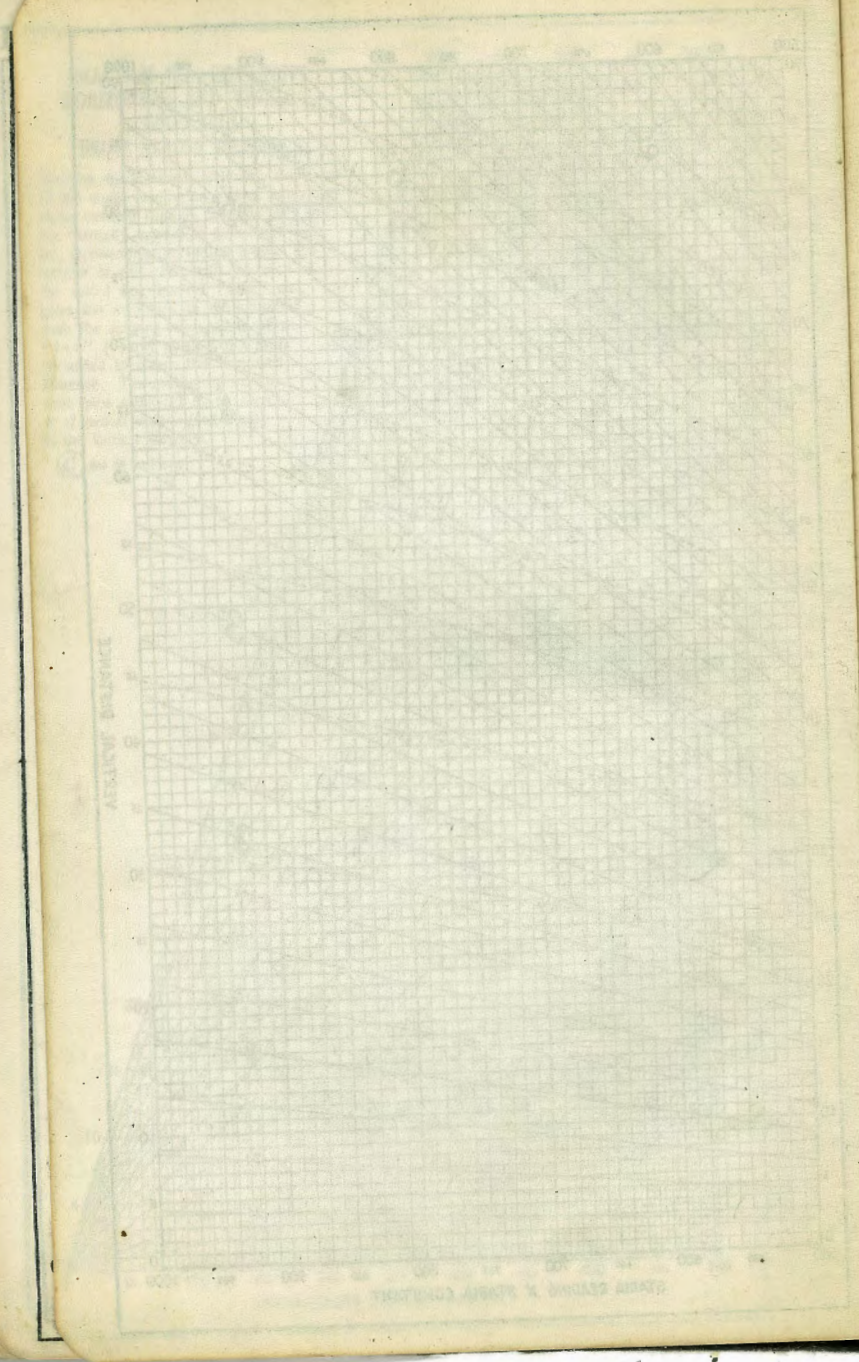
Angle	Sine.	Tan.	Cotg.	Cosin.		Angle	Sine.	Tan.	Cotg.	Cosin.	
°						°					
16	.2756	.2867	3.487	.96126	74	24	.4067	.4452	2.246	.91355	66
10	.2784	.2899	3.450	.96046	50	10	.4094	.4487	2.229	.91236	50
20	.2812	.2931	3.412	.95964	40	20	.4120	.4522	2.211	.91116	40
30	.2840	.2962	3.376	.95882	30	30	.4147	.4557	2.194	.90996	30
40	.2868	.2994	3.340	.95799	20	40	.4173	.4592	2.177	.90875	20
50	.2896	.3026	3.305	.95715	10	50	.4200	.4628	2.161	.90753	10
17	.2924	.3057	3.271	.95615	73	25	.4226	.4663	2.145	.90631	65
10	.2952	.3089	3.237	.95545	50	10	.4253	.4699	2.128	.90507	50
20	.2979	.3121	3.204	.95459	40	20	.4279	.4734	2.112	.90383	40
30	.3007	.3153	3.172	.95372	30	30	.4305	.4770	2.097	.90259	30
40	.3035	.3185	3.140	.95284	20	40	.4331	.4806	2.081	.90133	20
50	.3062	.3217	3.108	.95195	10	50	.4358	.4841	2.066	.90007	10
18	.3090	.3249	3.078	.95106	72	26	.4384	.4877	2.050	.89879	64
10	.3118	.3281	3.048	.95015	50	10	.4410	.4913	2.035	.89752	50
20	.3145	.3314	3.018	.94924	40	20	.4436	.4950	2.020	.89623	40
30	.3173	.3346	2.989	.94832	30	30	.4462	.4986	2.006	.89493	30
40	.3201	.3378	2.960	.94740	20	40	.4488	.5022	1.991	.89363	20
50	.3228	.3411	2.932	.94646	10	50	.4514	.5059	1.977	.89232	10
19	.3256	.3443	2.904	.94552	71	27	.4540	.5095	1.963	.89101	63
10	.3283	.3476	2.877	.94457	50	10	.4566	.5132	1.949	.88968	50
20	.3311	.3508	2.850	.94361	40	20	.4592	.5169	1.935	.88835	40
30	.3338	.3541	2.824	.94264	30	30	.4617	.5206	1.921	.88701	30
40	.3365	.3574	2.798	.94167	20	40	.4643	.5243	1.907	.88566	20
50	.3393	.3607	2.773	.94068	10	50	.4669	.5280	1.894	.88431	10
20	.3420	.3640	2.747	.93969	70	28	.4695	.5317	1.881	.88295	62
10	.3448	.3673	2.723	.93869	50	10	.4720	.5354	1.868	.88158	50
20	.3475	.3706	2.699	.93769	40	20	.4746	.5392	1.855	.88020	40
30	.3502	.3739	2.675	.93667	30	30	.4772	.5430	1.842	.87882	30
40	.3529	.3772	2.651	.93565	20	40	.4797	.5467	1.829	.87743	20
50	.3557	.3805	2.628	.93462	10	50	.4823	.5505	1.816	.87603	10
21	.3584	.3839	2.605	.93358	69	29	.4848	.5543	1.804	.87462	61
10	.3611	.3872	2.583	.93253	50	10	.4874	.5581	1.792	.87321	50
20	.3638	.3906	2.560	.93148	40	20	.4899	.5619	1.780	.87178	40
30	.3665	.3939	2.539	.93042	30	30	.4924	.5658	1.767	.87036	30
40	.3692	.3973	2.517	.92935	20	40	.4950	.5696	1.756	.86892	20
50	.3719	.4006	2.496	.92827	10	50	.4975	.5735	1.744	.86748	10
22	.3746	.4040	2.475	.92718	68	30	.5000	.5774	1.732	.86603	60
10	.3773	.4074	2.455	.92609	50	10	.5025	.5812	1.720	.86457	50
20	.3800	.4108	2.434	.92499	40	20	.5050	.5851	1.709	.86310	40
30	.3827	.4142	2.414	.92388	30	30	.5075	.5890	1.698	.86163	30
40	.3854	.4176	2.394	.92276	20	40	.5100	.5930	1.686	.86015	20
50	.3881	.4210	2.375	.92164	10	50	.5125	.5969	1.675	.85866	10
23	.3907	.4245	2.356	.92050	67	31	.5150	.6009	1.664	.85717	59
10	.3934	.4279	2.337	.91936	50	10	.5175	.6048	1.653	.85567	50
20	.3961	.4314	2.318	.91822	40	20	.5200	.6088	1.643	.85416	40
30	.3987	.4348	2.300	.91706	30	30	.5225	.6128	1.632	.85264	30
40	.4014	.4383	2.282	.91590	20	40	.5250	.6168	1.621	.85112	20
50	.4041	.4417	2.264	.91472	10	50	.5275	.6208	1.611	.84959	10
					66						58
	Cosin.	Cotg.	Tan.	Sine.	Angle.		Cosin.	Cotg.	Tan.	Sine.	Angle.

DIAGRAM FOR OBTAINING HORIZONTAL AND VERTICAL DISTANCES FROM STADIA READINGS

Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE," etc., gives the correction to be subtracted from the entering value and to which "f+c" (usually about 1 ft.) must be added to obtain the Horizontal Distance The reading on vertical scale plus about 0.1 ft. for each 5° of vertical angle [=(f+c Sino)] is the Vertical Distance.







58
66
124

52
57
.5

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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