GRADE BOOK 99

DIETZGEN

ENGINEERS

FIELD BOOK

No. 403

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.

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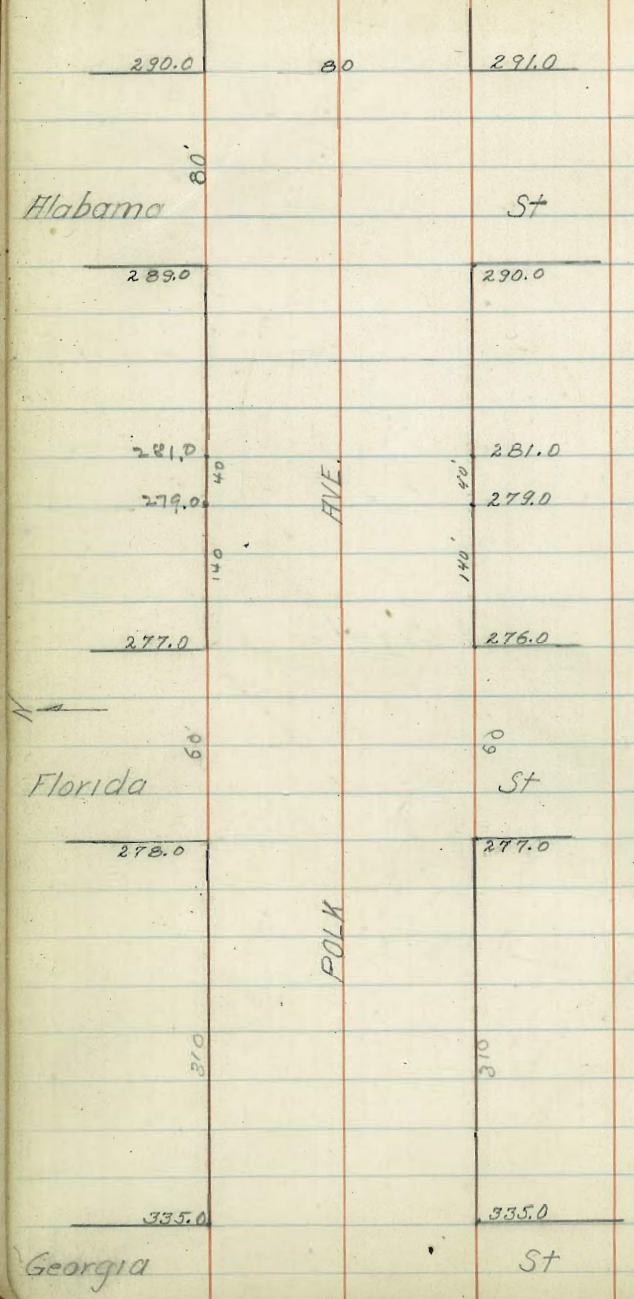
290.0
80
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80'
Alabama
St
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40'
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140'
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Georgia
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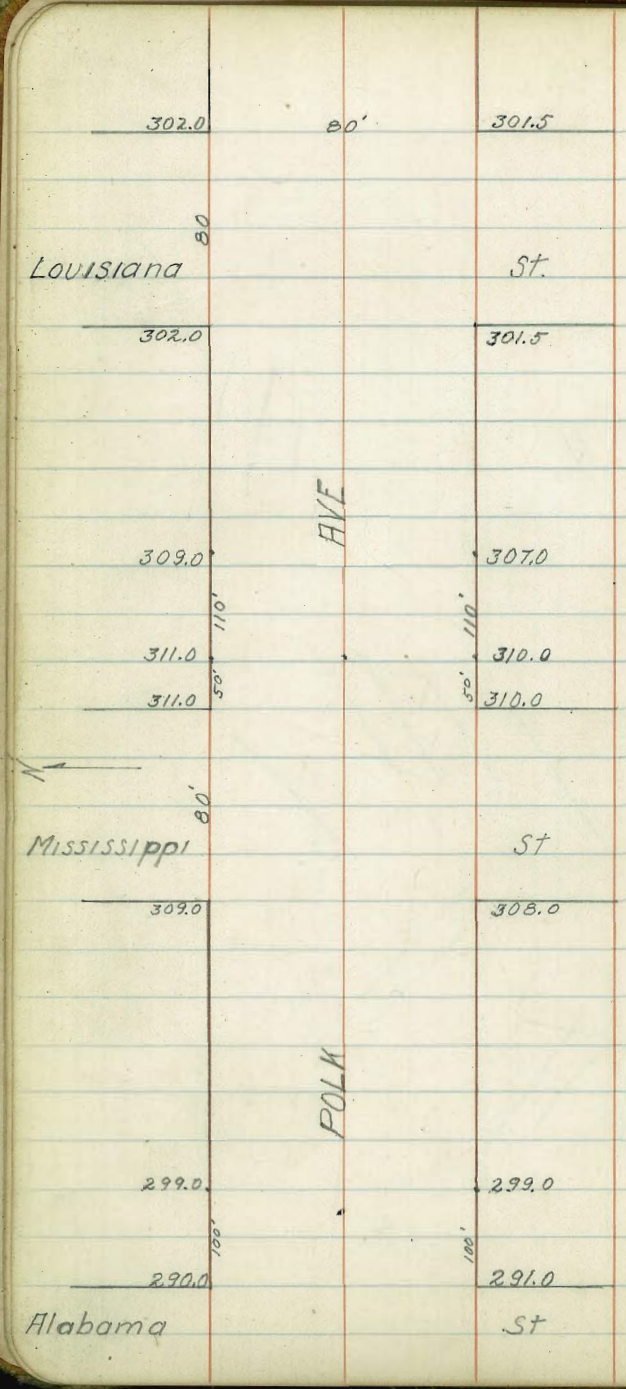
302.0
80'
301.5
80
Louisiana
St.
302.0
301.5
AVE
309.0
307.0
110'
110'
311.0
310.0
50'
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Mississippi
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309.0
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POLK
299.0
299.0
100'
100'
290.0
291.0
Alabama
St

330.0 80' 330.0

80'

Arizona St.

328.0 328.0

AVE.

325.0 325.0

N

80'

Texas St.

323.0 323.0

POLK

302.0 301.5

Louisiana St.

310 = WL Florida	278.25	278.00	277.50	277.50	277.00	277.00	277.25	
304	279.35	279.11	278.63	278.62	278.10	278.12	278.37	
296	280.82	280.57	280.09	280.10	279.59	279.62	279.87	
270	285.61	285.36	284.89	284.92	284.43	284.48	284.73	
237	291.67	291.42	290.98	291.04	289.58	290.66	290.91	
205	297.56	297.31	296.89	296.98	296.55	296.64	296.89	
180	302.15	301.90	301.51	301.61	301.20	301.32	301.57	
156	306.57	306.32	305.94	306.07	305.68	305.81	306.06	
147	309.13	308.90	308.53	308.66	308.29	308.43	308.68	
136	310.25	310.00	309.64	309.78	309.40	309.55	309.80	
129	311.53	311.28	310.93	311.07	310.71	310.86	311.11	
92	318.34	318.09	317.76	317.94	317.60	317.79	318.04	
89	318.89	318.64	318.32	318.49	318.17	318.35	318.60	
68	322.75	322.50	322.19	322.39	322.08	322.28	322.53	
55	325.14	324.89	324.59	324.80	324.50	324.71	324.96	
25	330.65	330.40	330.13	330.36	330.09	330.28	330.53	
13	332.86	332.61	332.35	332.59	332.33	332.57	332.82	
7	333.96	333.71	333.46	333.70	333.44	333.69	333.94	
3' E	334.70	334.45	334.20	334.44	334.19	334.44	334.69	
0+00 = EL. Georgia.	335.25	335.00	334.75	335.00	334.75	335.00	335.25	
	NL	Cib		℄			SL	

309.5 = WL Alabama	288.25	289.00	289.00	289.50	289.50	290.00	290.25
300E	288.66	288.41	288.34	288.88	288.86	289.35	289.60
290E	288.04	287.79	287.76	288.22	288.18	288.65	288.80
260E	286.19	285.94	285.85	286.25	286.15	286.57	286.82
245E	285.27	285.02	284.99	285.27	285.14	285.52	285.77
225E	284.03	283.78	283.62	283.95	283.79	284.13	284.38
190E	281.87	281.62	281.39	281.66	281.43	281.70	281.95
△ 180E	281.25	281.00	280.75	281.00	280.75	281.00	281.25
175E	281.00	280.75	280.50	280.75	280.50	280.75	281.00
160E	280.25	280.00	279.75	280.00	279.75	280.00	280.25
150E	279.75	279.50	279.25	279.50	279.25	279.50	279.75
△ 140E	279.25	279.00	278.75	279.00	278.75	279.00	279.25
135E	279.18	278.93	278.67	278.91	278.67	278.89	279.14
130E	279.11	278.86	278.59	278.82	278.55	278.79	279.04
120E	278.96	278.71	278.43	278.64	278.36	278.57	278.82
110E	278.82	278.57	278.27	278.46	278.16	278.36	278.61
85E	278.46	278.21	277.89	278.02	277.67	277.82	278.07
68E	278.22	277.97	277.59	277.71	277.34	277.46	277.71
59E	278.09	277.84	277.45	277.55	277.16	277.26	277.51
55E	278.04	277.79	277.38	277.48	277.08	277.18	277.43
48E	277.94	277.69	277.27	277.36	276.94	277.03	277.28
35E	277.75	277.50	277.06	277.13	276.69	276.75	277.00
25E	277.61	277.36	276.90	276.95	276.49	276.54	276.79
20E	277.54	277.29	276.82	276.86	276.39	276.43	276.68
8E	277.36	277.11	276.63	276.64	276.16	276.17	276.42
4E	277.31	277.06	276.56	276.57	276.08	276.09	276.34
0+00 = EL Florida	277.25	277.00	276.50	276.50	276.00	276.00	276.25
	WL			℄			52

	WL			℄			SL
= WL Mississippi.							
▽ 299.7 E	309.25	309.00	308.50	308.50	308.00	308.00	308.25
296 E	309.06	308.81	308.32	308.32	307.83	307.95	308.20
285 E	308.51	308.26	307.78	307.80	307.32	307.45	307.69
265 E	307.51	307.26	306.81	306.85	306.39	306.54	306.79
240 E	306.26	306.01	305.58	305.66	305.23	305.39	305.64
225 E	305.51	305.26	304.85	304.94	304.54	304.71	304.96
195 E	304.01	303.76	303.39	303.52	303.10	303.34	303.59
175 E	303.01	302.76	302.41	302.57	302.22	302.43	302.68
160 E	302.25	302.00	301.68	301.85	301.53	301.74	301.99
143 E	301.40	301.15	300.85	301.04	300.74	300.96	301.21
137 E	301.10	300.85	300.56	300.76	300.46	300.69	300.94
128 E	300.65	300.40	300.12	300.33	300.05	300.28	300.53
▽ 100 E	299.25	299.00	298.75	299.00	298.75	299.00	299.25
80 E	297.45	297.20	297.00	298.10	297.10	297.40	297.65
60 E	295.65	295.40	295.25	296.20	295.45	295.80	296.05
31 E	293.04	292.79	292.71	293.44	293.05	293.48	293.73
12 E	291.33	291.08	291.05	291.64	291.49	291.96	292.21
3 E	290.52	290.27	290.27	290.78	290.74	291.24	291.49
▽ 0+00 = EL Alabama.	290.25	290.00	290.00	290.50	290.50	291.00	291.25

C

W.L. L.A. 299.7 E	302.25	302	00	301.62	301.75	301	37	301.50	301.75
275 E	303.50	303	25	302.80	302.86	302	42	302.48	302.73
250 E	304.75	304	50	303.98	303.98	303	47	303.46	303.71
234 E	305.75	305	50	304.73	304.69	304	14	304.09	304.34
215 E	306.50	306	25	305.63	305.54	304	94	304.84	305.09
200 E	307.25	307	00	306.34	306.21	305	57	305.43	305.68
175 E	308.50	308	25	307.52	307.33	306	62	306.41	306.66
160 E	309.25	309	00	308.25	308.0	307	25	307.00	307.25
150 E	309.43	309	18	308.45	308.22	307	50	307.27	307.52
132 E	309.77	309	52	308.81	308.64	307	95	307.76	308.01
116 E	310.06	309	81	309.12	309.00	308	35	308.20	308.45
100 E	310.35	310	10	309.44	309.37	308	75	308.64	308.89
90 E	310.63	310	28	309.64	309.59	309	00	308.91	309.16
76 E	310.78	310	53	309.92	309.91	309	35	309.29	309.54
65 E	310.98	310	73	310.14	310.16	309	63	309.59	309.84
50 E.	311.25	311	00	310.50	310.50	310	00	310.00	310.25
47 E	311.25	311	00	310.50	310.50	310	00	310.00	310.25
30 E	311.25	311	00	310.50	310.50	310	00	310.00	310.25
10 E	311.25	311	00	310.50	310.50	310	00	310.00	310.25
E.L. Mississippi	311.25	311	00	310.50	310.50	310	00	310.00	310.25

W.L. Tex	300 E	323.25	323.00	323.00	323.00	323.25
	295 E	322.90	322.65	322.64	322.62	322.97
	275 E	321.50	321.25	321.22	321.19	321.54
	265 E	320.80	320.55	320.52	320.48	320.73
	250 E	319.75	319.50	319.46	319.41	319.66
	240 E	319.05	318.80	318.75	318.70	318.95
	228 E	318.21	317.96	317.90	317.84	318.09
	222 E	317.79	317.54	317.48	317.41	317.66
	190 E	315.55	315.30	315.21	315.12	315.37
	175 E	314.50	314.25	314.15	314.04	314.29
	160 E	313.45	313.20	313.09	312.97	313.22
	153 E	312.96	312.71	312.58	312.46	312.71
	145 E	312.40	312.15	312.02	311.89	312.14
	138 E	311.91	311.66	311.53	311.39	311.64
	120 E	310.65	310.40	310.25	310.10	310.35
	105 E	309.60	309.35	309.19	309.03	309.28
	90 E	308.55	308.30	308.13	307.95	308.20
	73 E	307.36	307.11	306.92	306.73	306.98
	60 E	306.45	306.20	306.00	305.80	306.05
	45 E	305.40	305.15	304.95	304.72	304.97
	15 E	303.30	303.05	302.82	302.58	302.83
	5' E	302.60	302.35	302.10	301.86	302.11
El Louisiana		302.25	302.00	301.75	301.50	301.75

100 E	331.25	331	00	330.75	331.00	330	75	331.00	331.25
90 E	331.15	330	90	330.65	330.90	330	65	330.90	330.15
75 E	331.00	330	75	330.50	330.75	330	50	330.75	331.00
60 E	330.85	330	60	330.35	330.60	330	35	330.60	330.85
45 E	330.70	330	45	330.20	330.45	330	20	330.45	330.70
28 E	330.53	330	28	330.03	330.28	330	03	330.28	330.53
13 E	330.38	330	13	329.88	330.13	329	88	330.13	330.38
5 E	330.30	330	05	329.80	330.05	329	80	330.05	330.30
EL Arizona	330.25	330	00	329.75	330.00	329	75	330.00	330.25
WL Ariz 299.7	328.25	328	00					328.00	328.25
289	328.14	327	89	327.64	327.89	327	64	327.89	328.14
275	328.00	327	75	327.50	327.75	327	50	327.75	328.00
250	327.75	327	50	327.25	327.50	327	25	327.50	327.75
200	327.25	327	00	326.75	327.00	326	75	327.00	327.25
175	327.00	326	75	326.50	326.75	326	50	326.75	327.00
150	326.75	326	50	326.25	326.50	326	25	326.50	326.75
135	326.60	326	35	326.10	326.35	326	10	326.35	326.60
100	326.25	326	00	325.75	326.00	325	75	326.00	326.25
85	326.10	325	85	325.60	325.85	325	60	325.85	326.10
70	325.95	325	70	325.45	325.70	325	45	325.70	325.95
50	325.75	325	50	325.25	325.50	325	25	325.50	325.75
25	325.50	325	25	325.00	325.25	325	00	325.25	325.60
5 E	325.30	325	05	324.80	325.05	324	80	325.05	325.30
EL Texas	325.25	325	00	324.75	325.00	324	75	325.00	325.25

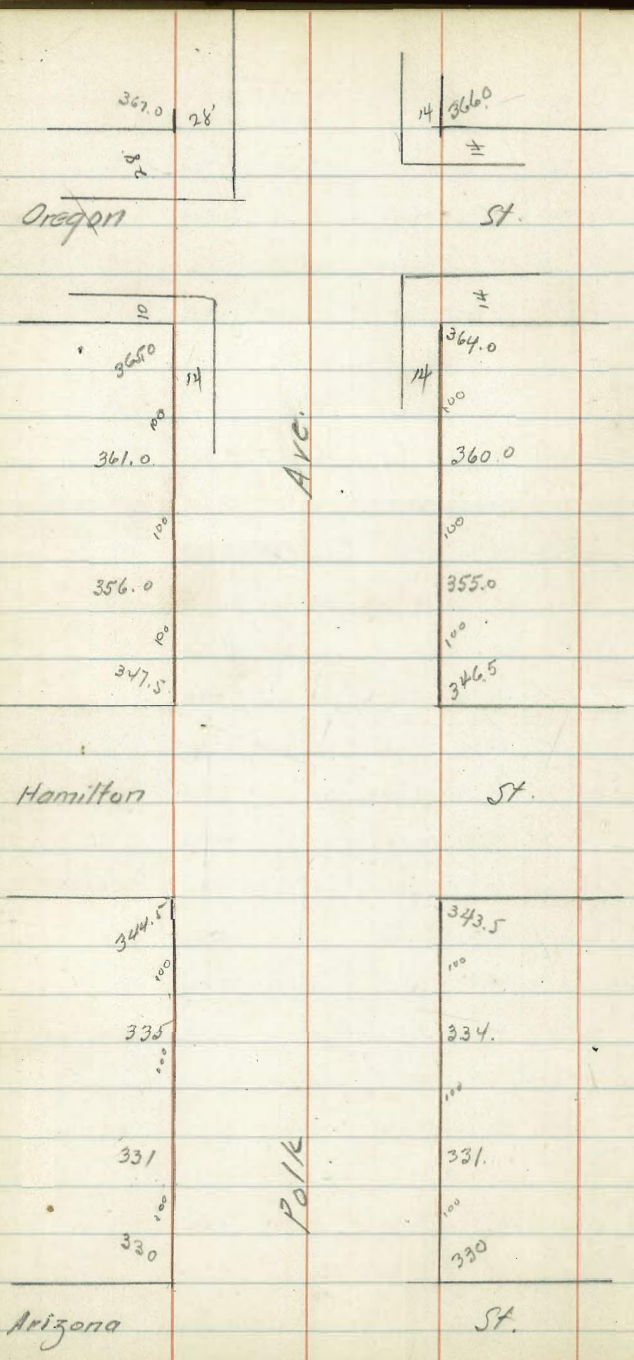
EL Hamilton.	347.75	347	50	347.00	347.00	346	50	346.50	346.75
E Cb	347.50	347	50	346.48	346.48	346	50	346.50	346.50
Gutter	346.50	x	x	x	x x			x x	345.5
E ½	346.5	346	49	345.99	345.99	345	49	345.49	344.5
80' ℄	346.0	346	00	345.50	345.50	345	00	345.00	344.00
W ½	346.00	345	55	344.95	344.95	344	55	344.55	344.0
Gutter	348.50	x	x		x x			x x	342.50
W Cb	344.50	344	50	344.56	344.56	–		343.50	342.50
WL Hamilton 300 E	344.75	344	50	344.00	344.00	343	50	343.50	343.75
275 E	342.38	342	13	341.63	341.63	341	13	341.13	341.38
250 E	340.0	339	75	339.25	339.25	338	75	338.75	339.00
225 E	337.62	337	37	336.87	336.87	336	37	336.37	336.62
210 E	336.20	335	95	335.45	335.45	334	95	334.95	335.20
200 E	335.25	335	00	334.50	334.50	334	00	334.00	334.25
175 E	334.25	334	00	333.56	333.63	333	19	333.25	333.50
155 E	333.45	333	20	332.81	332.92	332	54	332.66	332.90
135 E	332.65	332	40	332.06	331.88	331	89	332.05	332.30
120 E	332.05	331	80	331.50	331.70	331	40	331.60	331.85
101 E	331.29	331	04	330.79	331.04	330	78	331.03	331.28
100 E of Arig.	331.25	331	00	330.75	331.00	330	75	331.00	331.25

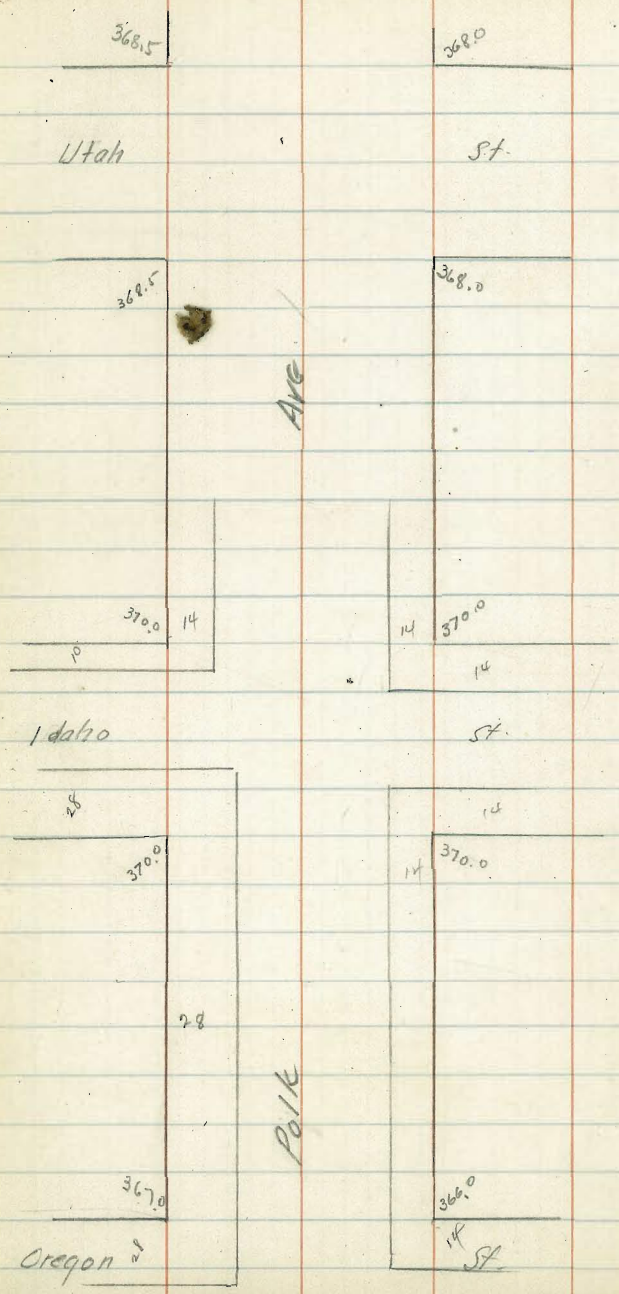
W.L. Oregon 300 E	365.25	365.00	364.50	364.50	364.00	364.00	364.25
295	365.08	364.83	364.33	364.33	363.83	363.83	364.08
265	364.08	363.83	363.33	363.33	362.83	362.83	363.08
250	363.58	363.33	362.83	362.83	362.33	362.33	362.58
225	362.75	362.50	362.00	362.00	361.50	361.50	361.75
200	361.92	361.67	361.17	361.17	360.67	360.67	360.92
180	361.25	361.00	360.50	360.50	360.00	360.00	360.25
175	361.00	360.75	360.25	360.25	359.75	359.75	360.00
150	359.75	359.50	359.00	359.00	358.50	358.50	359.75
125	358.50	358.25	357.75	357.75	357.25	357.25	357.50
100	357.25	357.00	356.50	356.50	356.00	356.00	356.25
80	356.25	356.00	355.50	355.50	355.00	355.00	355.25
75	356.03	355.78	355.28	355.28	354.78	354.78	355.03
50	353.06	352.81	352.31	352.31	351.81	351.81	352.06
25	350.47	350.22	349.67	349.67	349.22	349.22	349.47
10	348.81	348.56	348.06	348.06	347.56	347.56	347.81
El Hamilton	347.75	347.50	347.00	347.00	346.50	346.50	346.75

Not taken

E.L. Oregon

W.L. Kansas 299.8	369.25	369	00	368.75	369.00	368	75	369.00	369.25
293	369.23	368	98	368.73	368.98	368	73	368.97	369.22
275	369.17	368	92	368.70	368.94	368	69	368.92	369.17
225	369.13	368	88	368.59	368.81	368	54	368.75	369.00
200	369.09	368	84	368.54	368.75	368	47	368.67	368.92
165	369.01	368	76	368.47	368.66	368	37	368.55	368.80
150	368.99	368	74	368.43	368.62	368	32	368.50	368.25
135	368.97	368	72	368.40	368.59	368	27	368.45	368.70
105	368.92	368	67	368.34	368.51	368	18	368.35	368.60
70	368.82	368	59	368.27	368.43	368	10	368.23	368.48
55	368.81	368	56	368.24	368.40	368	03	368.18	368.43
30	368.79	368	54	368.18	368.32	367	96	368.10	368.35
8	368.76	368	51	368.14	368.27	367	89	368.06	368.31
EL. UTAH	368.75	368	50	368.12	368.25	367	87	368.00	368.25
W.L. UTAH 300	368.75	368	50	368.12	368.25	367	87	368.00	368.25
294	368.78	368	53	368.15	368.29	367	90	368.04	368.29
250	369.00	368	75	368.40	368.54	368	03	368.33	368.58
225	369.13	368	88	368.53	368.69	368	18	368.50	368.75
200	369.25	369	00	368.67	368.83	368	34	368.67	368.92
175	369.38	369	13	368.81	368.98	368	50	368.83	369.08
150	369.50	369	25	368.94	369.13	368	65	369.00	369.25
125	369.63	369	38	369.08	369.27	368	81	369.17	369.42
100	369.75	369	50	369.24	369.45	368	96	369.33	369.58
75	369.88	369	63	369.35	369.56	369	12	369.50	369.75
50	370.0	369	75	369.48	369.71	369	28	369.67	369.92
25	370.13	369	88	369.62	369.85	369	44	369.83	370.08
EL. IDAHO.	370.25	370	00	369.75	370.00	369	75	370.00	370.25


367.0
28'
28'
Oregon
14
366.0
14
St.
10
365.0
14
80
361.0
100
356.0
80
347.5
Hamilton
14
364.0
100
360.0
100
355.0
100
346.5
St.
Ave.
344.5
100
335
100
331
100
330
Arizona
343.5
100
334.
100
331.
100
330
St.
Polk


368.5
Utah
368.5
Ave
370.0
14
10
Idaho
28
370.0
28
Polk
367.0
Oregon
8

368.0
St.
368.0
14
370.0
14
St.
14
14
370.0
366.0
14
St.

363.5		363.0	
30th		St	
364.0	Ave	363.5	
369.0		369.0	
Kansas		St.	
369.0	Polk	369.0	
368.5		368.0	
Utah.		St.	

366.5 | 366.5

Illinois St

367.0 | 367.0

Ave

366.0 | 366.0

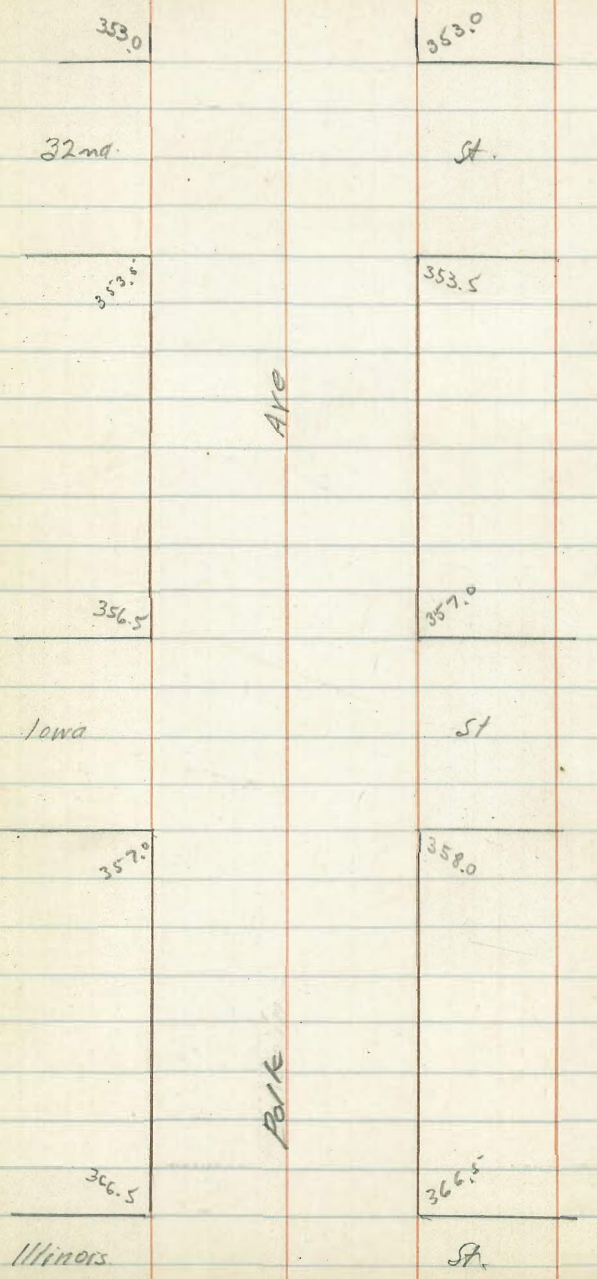
Ohio St.

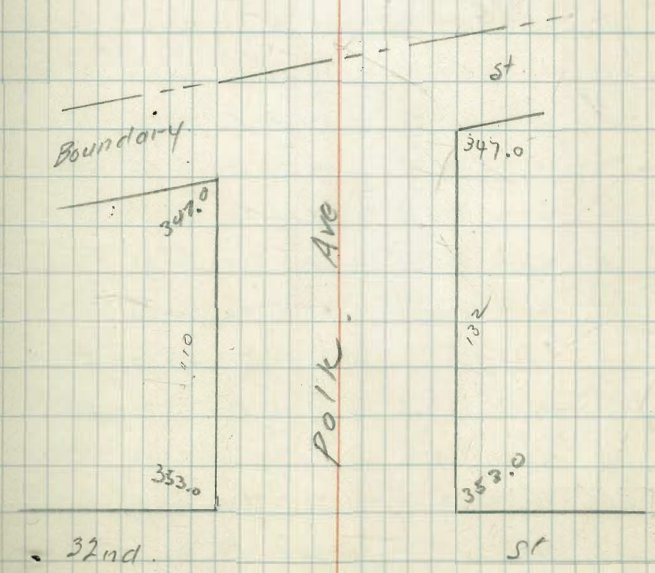
365.5 | 365.5

Polk

363.5 | 363.0

30th St


353.0
353.0
32nd
St.
353.5
353.5
Ave
356.5
357.0
Iowa
St
357.0
358.0
Polk
356.5
366.5
Illinois
St.


St.
Boundary
347.0
347.0
Polk Ave
132
353.0
353.0
32nd
St

Polk

W.L. 30th.	K99.7	364.25	364.00	363.62	363.75	363.37	363.50	363.75	
	295	364.34	364.09	363.70	363.84	363.46	363.59	363.84	
	280	364.59	364.34	363.96	364.10	363.73	363.87	364.12	
	270	364.75	364.50	364.13	364.28	363.91	364.05	364.30	
	245	365.17	364.92	364.55	364.71	364.37	364.50	364.75	
	225	365.50	365.25	364.90	365.06	364.72	364.88	365.13	
	205	365.83	365.58	365.23	365.41	365.08	365.24	365.49	
	195	366.00	365.75	365.40	365.59	365.26	365.42	365.67	
	175	366.33	366.08	365.75	365.93	365.62	365.79	366.04	
	160	366.59	366.34	366.00	366.20	365.89	366.07	366.32	
	145	366.83	366.58	366.25	366.46	366.16	366.34	366.59	
	105	367.50	367.25	366.93	367.16	366.88	367.07	367.32	
	85	367.83	367.58	367.27	367.51	367.24	367.44	367.69	
	65	368.16	367.91	367.62	367.86	367.60	367.81	368.06	
	40	368.59	368.34	368.04	368.30	368.05	368.27	368.52	
	10' E	369.09	368.84	368.55	368.83	368.59	368.82	369.07	
E.L.	Kansas	369.25	369.00	368.75	369.00	368.75	369.00	369.25	

W.L. Ill.	300.2	367.25	367	00	366.75	367.00	366	75	367.00	367.25
	296	367.23	366	98	366.73	366.98	366	73	366.98	367.23
	280	367.17	366	92	366.67	366.92	366	67	366.92	367.17
	260	367.11	366	86	366.61	366.86	366	61	366.86	367.11
	235	367.02	366	77	366.52	366.77	366	52	366.77	367.02
	220	366.98	366	73	366.48	366.73	366	48	366.73	366.98
	200	366.92	366	67	366.42	366.67	366	42	366.67	366.92
	165	366.79	366	54	366.29	366.54	366	29	366.54	366.75
	150	366.75	366	50	366.25	366.50	366	25	366.50	366.75
	135	366.69	366	44	366.19	366.44	366	19	366.44	366.69
W	100	366.58	366	33	366.08	366.33	366	08	366.33	366.58
	55	366.43	366	18	365.93	366.18	365	93	366.18	366.43
	38	366.37	366	12	365.87	366.12	365	87	366.12	366.37
	15	366.30	366	05	365.80	366.05	365	80	366.05	366.30
	5	366.27	366	02	355.77	366.02	365	77	366.02	366.27
EL Ohio		366.25	366	00	365.75	366.00	365	75	366.00	366.25
WL Ohio	299.8	365.75	365	50	365.25	365.50	365	25	365.50	365.75
	295	365.71	365	46	364.21	365.46	365	23	365.46	365.71
	255	365.45	365	20	364.93	365.15	364	91	365.12	365.37
	210	365.15	364	90	364.61	364.82	364	55	364.75	365.00
	170	365.89	364	64	364.33	364.52	364	23	364.42	364.67
	140	364.69	364	44	364.11	364.30	364	00	364.17	364.42
	90	364.35	364	10	363.76	363.92	363	60	363.73	363.98
	40	364.01	363	76	363.40	363.55	363	19	363.33	363.58
	10	363.89	363	64	363.26	363.40	363	03	363.17	363.42
	5	363.79	363	54	363.15	363.29	362	91	363.04	363.29
EL 30th St		363.75	363	50	363.12	363.25	362	87	363.00	363.25

Polk

353.50

	200	354.75	354	50	354.29	354.58	354	37	354.67	354.92
	170	355.05	354	80	354.60	354.90	354	71	355.02	355.27
	145	355.30	355	05	354.86	355.18	354	99	355.31	355.56
	140	355.35	355	10	354.79	355.23	355	04	355.37	355.62
	125	355.50	355	25	355.01	355.39	355	21	355.52	355.77
	100	355.75	355	50	355.33	355.67	355	50	355.83	356.08
	70	356.05	355	80	355.64	356.00	355	84	356.18	356.43
	63	356.12	355	87	355.70	356.07	355	92	356.26	356.51
	42	356.33	356	08	355.93	356.30	356	15	356.51	356.76
	8	356.67	356	42	356.29	356.67	356	53	356.91	357.16
EL Iowa.		356.75	356	50	356.37	356.75	356	62	357.00	357.25
WL. Iowa	300	357.25	357	00	357.00	357.50	357	50	358.00	358.25
	297	357.35	357	10	357.09	357.59	357	59	358.08	358.33
	280	357.88	357	63	357.62	358.10	358	08	358.57	358.82
	260	358.52	358	27	358.23	358.60	358	67	359.13	359.38
	225	359.62	359	37	359.31	359.25	359	69	360.12	360.37
	180	361.11	360	86	360.70	361.10	361	00	361.43	361.68
	145	362.16	361	91	361.78	362.15	362	02	362.39	362.64
	130	362.63	362	38	362.24	362.60	362	46	362.82	363.07
	105	363.42	363	17	363.01	363.35	362	98	363.53	363.78
	80	364.14	363	89	363.78	364.10	363	92	364.23	364.48
	45	365.28	365	03	364.86	365.15	364	94	365.23	365.48
	13	366.34	366	09	365.85	366.11	365	87	366.13	366.38
	5	366.59	366	34	366.10	366.35	366	10	366.36	366.61
EL. Illinois.		366.75	366	50	366.25	366.50	366	25	366.50	366.75

Polk

EL. 32nd		353	00	352.75	353.00	352	75	353.00	
HL. 32nd.	298.3	353.75	353	50	353.25	353.50	353	25	353.50	353.75
	295	353.80	353	55	353.30	353.55	353	31	353.56	353.81
	280	353.95	353	70	353.46	353.72	353	47	353.79	354.04
	255	354.20	353	95	353.72	353.99	353	75	354.02	354.27
	235	354.40	354	15	353.93	354.20	353	98	354.25	354.50
200	E. Iowa.	354.75	354	50	354.29	354.58	354	37	354.67	354.92

Lincoln.

263.0 — 18 — 262.0 — 1

Florida — St.

10 — 263.0 — 14 — 14 — 262.0

AVE — 810

323.0 — 18 — 14 — 323.0 — 18

Georgia — St.

18 — 325.0 — 14 — 18 — 325.0 — 18

331.34 — 330.66

332.70 — 331.90

333.35 — 332.60

333.90 — 332.90

333.80 — 332.74

332.4 — 1.0 — 331.2

LINCOLN

Park — Blvd.

287.0 — 286.0

Mississippi — St

286.0 — 285.0

AVE — 810

289.0 — 287.0

140 — 140

286.0 — 284.0

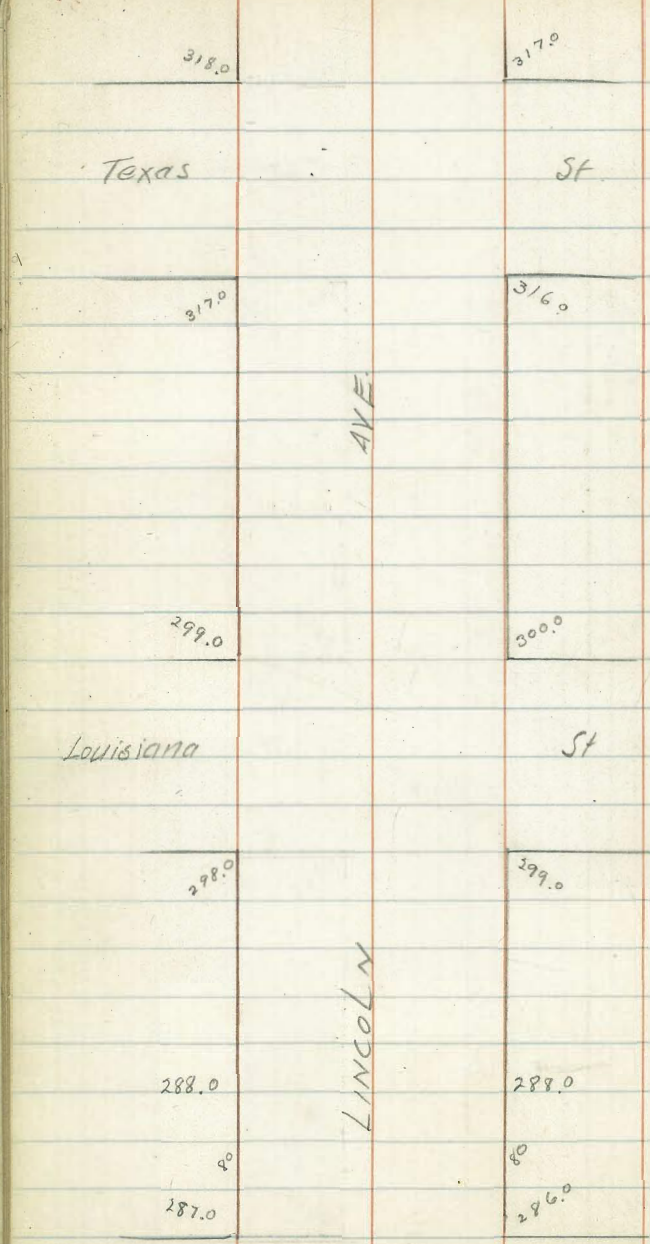
Alabama — St

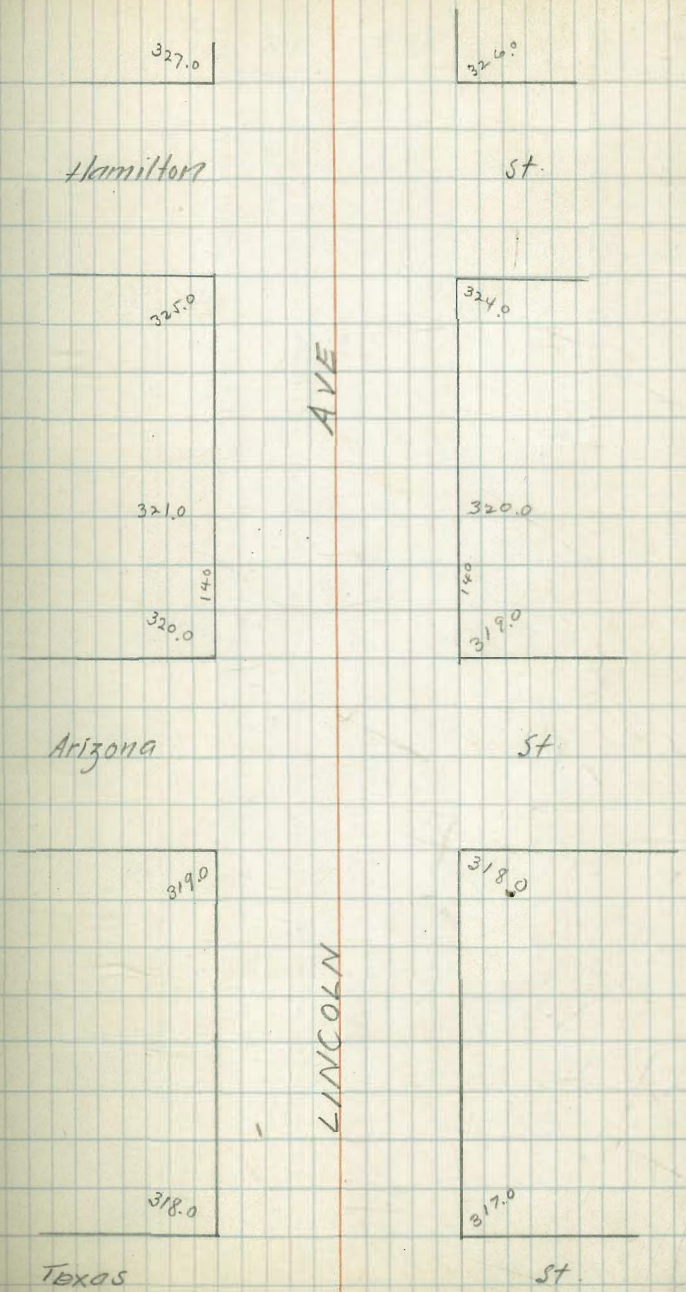
285.0 — 283.0

Lincoln — 810

263.0 — 262.0

Florida — St.


318.0
317.0
Texas
St
317.0
316.0
AVE
299.0
300.0
Louisiana
St
298.0
299.0
LINCOLN
288.0
288.0
8°
8°
287.0
286.0
Miss
St.


327.0
326.0
Hamilton
St.
325.0
324.0
AVE
321.0
320.0
140
140
320.0
319.0
Arizona
St
319.0
318.0
LINCOLN
318.0
317.0
Texas
St.

362.0 | 361.0

Idaho St.

361.0 | 360.0

358.0 | 357.0

140 | 140

352.0 | 351.0

Oregon St

350.0 | 349.0

327.0 | 326.0

Hamilton St.

LINCOLN AVE

367.5 ~~364.5~~ | ~~362.5~~ 361.5

Kansas St

363 ~~362.5~~ | ~~363.5~~ 362.

364.0 | 363.0

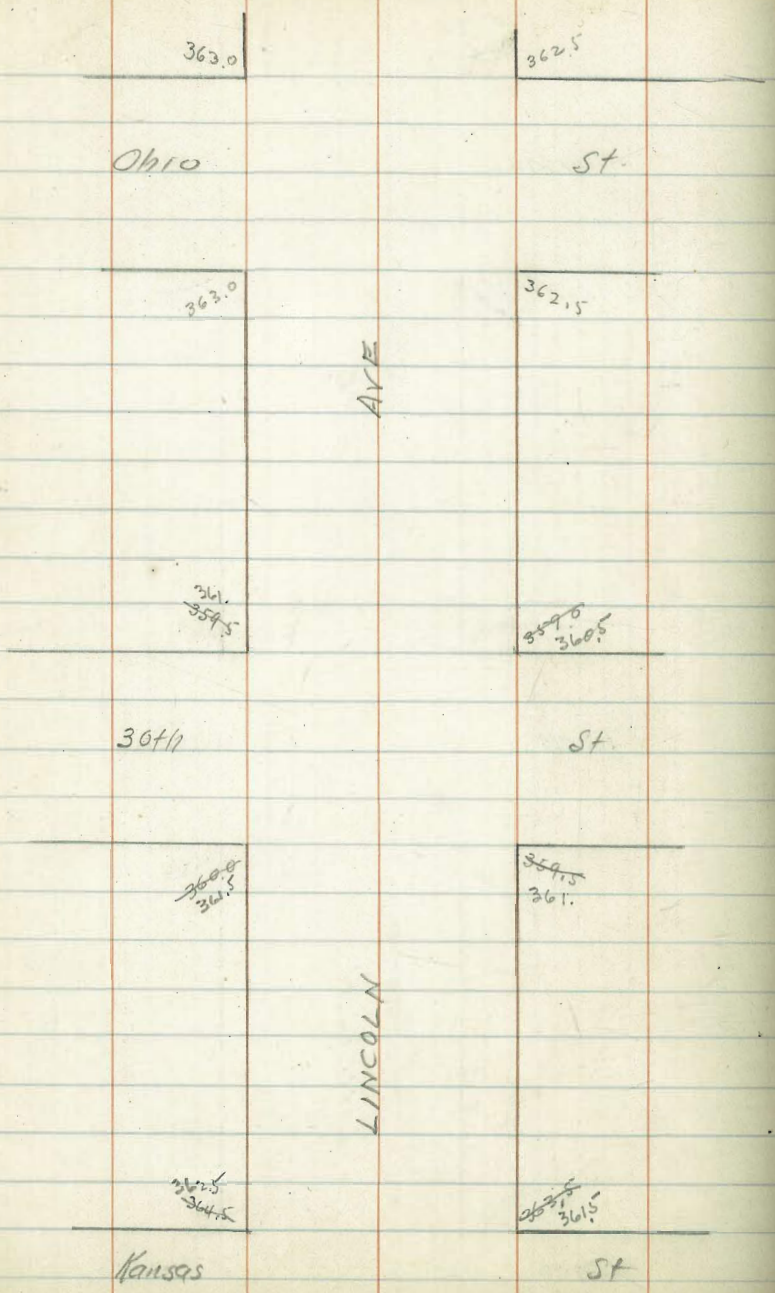
Utah St

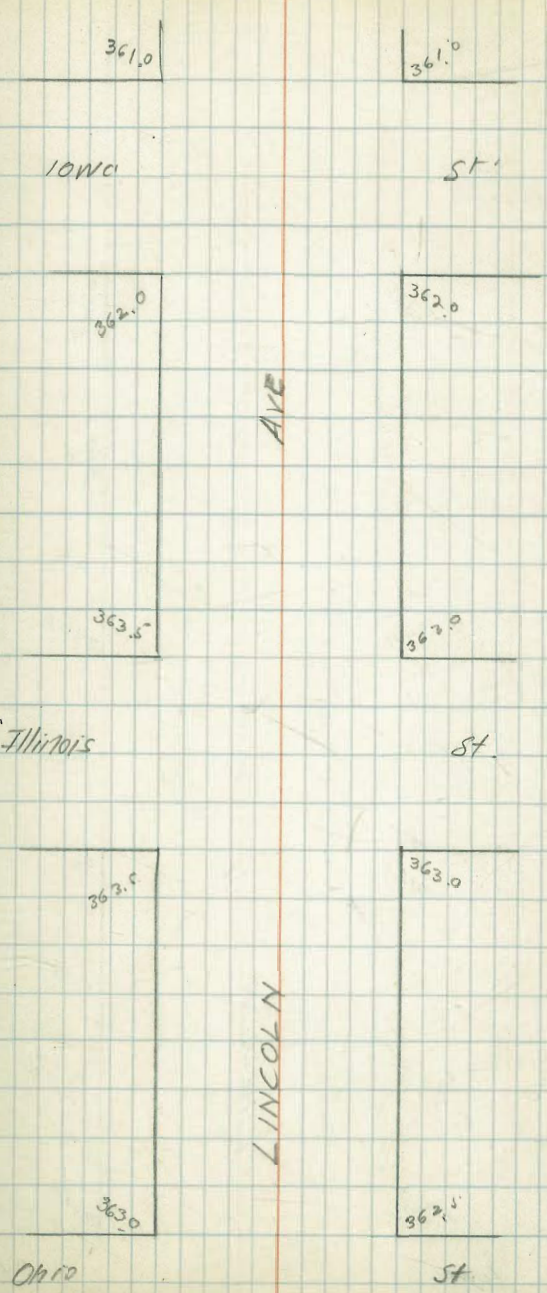
364.0 | 363.0

362.0 | 361.0

Idaho St

LINCOLN AVE


363.0
362.5
Ohio
St.
363.0
362.5
AVE
361.
~~359.5~~
~~359.0~~
360.5
30th
St
~~360.0~~
361.5
~~359.5~~
361.
LINCOLN
~~362.5~~
~~364.5~~
~~362.5~~
361.5
Kansas
St


361.0
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Iowa
St.
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362.0
AVE
363.5
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Illinois
St.
363.5
363.0
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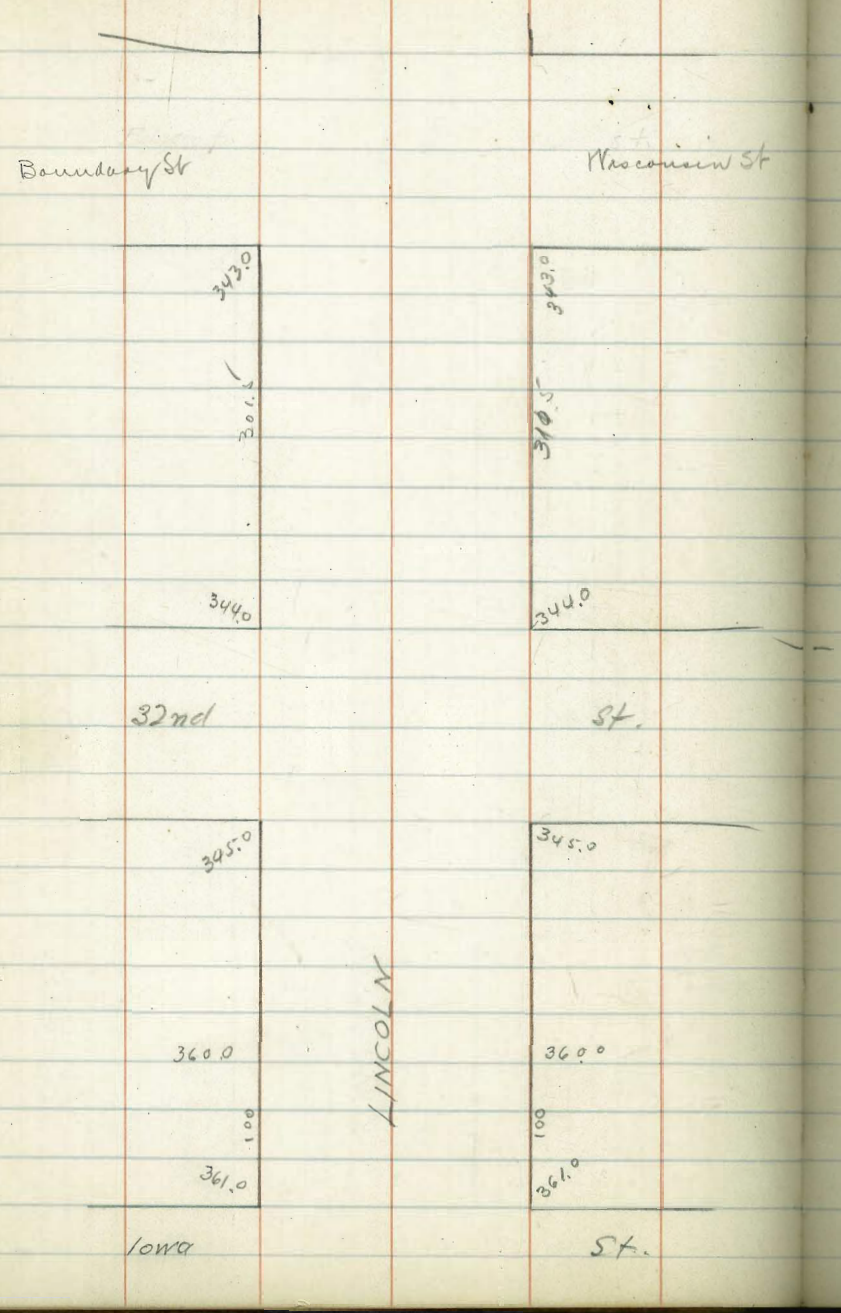
363.0
362.5
Ohio
St


Boundary St
Wisconsin St
343.0
301.5
344.0
32nd
St.
345.0
360.0
100
361.0
LINCOLN
Iowa
St.

LINCOLN

Not to be Graded.

	N	cb	¼	℄	¼	cb	S
W L Georgia 300	325.25	325.00	324.75	325.00	324.75	325.00	325.25
290	325.88	325.63		325.60		325.57	325.82
287	325.95	325.70		325.66		325.62	325.87
270	327.15	326.90		326.80		326.70	326.95
247	328.61	328.36		328.18		328.00	328.25
211	330.88	330.63		330.34		330.04	330.29
209	330.80	330.55		330.46		330.15	330.40
203	331.85	331.60		330.82		330.55	330.80
200	331.59	331.34		331.00		330.66	330.91
175	332.95	332.70		332.30		331.90	332.15
150	333.60	333.35	33	332.98		332.60	332.95
125	334.15	333.90	333.40	333.40	332.90	332.90	333.15
100	334.05	333.80	333.27	333.27	332.72	332.74	332.99 ✓
50	333.35	333.10	332.59	332.53	332.00	331.97	332.22
H E	332.71	332.46	331.95	331.86	331.31	331.26	331.51
E L. Park Brd	332.65	332.40	331.89	331.80	331.25	331.20	331.45

Lincoln

Not to be Graded

Florida	310	263.00	262.50	262.00
	305	263.97	263.47	262.98
	285	267.84	267.38	266.92
	277	269.38	268.94	268.49
	273	270.15	269.72	269.27
	250	274.60	274.20	273.80
	225	279.43	279.08	278.70
	200	284.30	283.97	283.61
	185	287.22	286.89	286.56
	175	288.75	288.85	288.53
	155	293.00	290.80	292.46
	140	295.90	295.67	295.41
	122	299.38	299.17	298.94
	100	303.63	303.50	303.26
	87	306.92	306.04	305.82
	75	308.47	308.38	308.18
	70	309.44	309.35	309.16
	65	310.40	310.33	310.14
	58	311.75	311.69	311.52
	52	312.91	312.86	312.70
	37	315.82	315.79	316.14
	25	318.13	318.12	318.00
	8	321.46	321.43	321.35
E.L. Georgia		323.00	323.00	323.00

Lincoln

			N.C6		¼	½		¼	S.C6.	S
Alabama.	310	285.25	285	00	284.25	284.00	283	25	283.00	283.25
	308	285.11	284	86	284.11	283.86	283	11	282.86	283.11
	280	283.12	282	87	282.14	281.92	281	19	280.97	281.22
	250	280.99	280	74	280.04	279.84	279	14	278.94	279.19
	225	279.22	278	97	278.29	278.11	277	43	277.24	277.49
	200	277.44	277	19	276.53	276.37	275	71	275.55	275.80
	175	275.67	275	42	274.78	274.64	274	00	273.86	274.11
	170	275.31	275	06	274.43	274.29	273	65	273.52	273.77
	135	272.83	272	58	271.97	271.86	271	25	271.15	271.40
	115	271.41	271	16	270.57	270.48	269	88	269.79	270.04
	108	270.92	270	67	270.08	269.99	269	40	269.32	269.57
	100	270.35	270	10	269.52	269.44	268	86	268.77	269.02
	75	268.57	268	32	267.76	267.71	267	14	267.08	267.33
	50	266.80	266	55	266.01	265.97	265	43	265.39	265.64
	25	265.12	264	77	264.25	264.23	263	71	263.69	263.94
	10	263.96	263	71	263.20	263.19	262	69	262.68	262.93
EL Florida.		263.25	263	00	262.50	262.50	262	0	262.00	262.25

Lincoln

			N cb	¼	d	¼		5 cb	
Mississippi	300	286.25	286	00	285.50	285.50	285	00	285.00	285.25
	295	286.34	286	09	285.59	285.58	285	07	285.06	285.31
	275	286.72	286	47	285.93	285.89	285	35	285.31	285.56
	258	287.04	286	79	286.22	286.15	285	59	285.53	285.78
	243	287.32	287	07	286.48	286.39	285	80	285.71	285.96
	218	287.79	287	54	286.91	286.77	286	15	286.03	286.28
	200	288.13	287	88	287.22	287.06	286	40	286.25	286.50
	180	288.50	288	25	287.56	287.37	286	69	286.50	286.75
	155	288.97	288	72	287.99	287.76	287	04	286.81	287.06
	140	289.25	289	00	288.25	288.00	287	25	287.00	287.25
	130	289.03	288	78	288.03	287.78	287	03	286.78	287.03
	115	288.71	288	46	287.71	287.46	286	71	286.46	286.71
	100	288.45	288	20	287.45	287.20	286	45	286.20	286.45
	75	287.86	287	61	286.86	286.61	285	86	285.61	285.86
	58	287.49	287	24	286.49	286.54	285	49	285.24	285.49
	25	286.79	286	54	285.79	285.54	284	79	284.54	284.79
	6	286.36	286	11	285.36	285.11	284	36	284.11	284.36
Alabama		286.25	286	00	285.25	285.00	284	25	284.00	284.25

Lincoln

			N.Ch		¼	℄	¼	S.Ch	
Louisiana	300	298.25	298	00	298.00	298.50	298	50	299.00	299.25
	295	298.03	297	78	297.87	298.26	298	28	298.40	298.65
	250	295.98	295	73	295.77	296.11	296	06	296.15	296.40
	212	294.25	294	00	294.00	294.30	294	20	294.25	294.50
	185	293.02	292	77	292.74	293.01	292	88	292.90	293.15
	150	291.43	291	18	291.11	291.34	291	17	291.50	291.75
	125	290.50	290	25	289.85	290.15	289	95	290.25	290.50
	111	289.66	289	41	289.19	289.48	289	26	289.55	289.80
	103	289.30	289	05	288.82	289.10	288	85	289.15	289.40
	84	288.43	288	18	287.94	288.19	287	95	288.20	288.45
	81	288.30	288	05	287.80	288.05	287	80	288.05	288.30
	80	288.25	288	00	287.75	288.00	287	75	288.00	288.25
	58	287.98	287	73	287.45	287.59	287	27	287.45	287.70
	50	287.88	287	63	287.30	287.44	287	09	287.25	287.50
	40	287.75	287	50	287.12	287.25	286	88	287.00	287.25
	25	287.56	287	31	286.89	286.97	286	55	286.63	286.88
	17	287.46	287	21	286.77	286.82	286	37	286.43	286.68
	16	287.45	287	20	286.75	286.80	286	35	286.40	286.65
	10	287.38	287	13	286.65	286.69	286	22	286.25	286.50
Mississippi		287.25	287	00	286.50	286.50	286	00	286.00	286.25

Lincoln

			N Curb	¼	L	¼	S. Curb	
Texas	300	317.25	317 00	316.50	316.50	316 00	316.00	316.25
	290	316.65	316 40	315.93	315.94	315.45	315.47	315.72
	275	315.75	315 50	315.57	315.08	314.72	314.67	315.92
	225	312.75	312 50	312.14	312.25	311.87	312.00	312.25
	200	311.25	311 00	310.68	310.83	310 50	310.67	310.92
	165	309.15	308 90	308.65	308.85	308.57	308.80	309.05
	150	308.25	308 00	307.81	308.00	308 00	308.00	308.25
	100	305.25	305 00	304.58	305.17	305 00	305.34	305.59
	75	303.75	303 50	303.38	303.75	303 62	304.00	304.25
	50	302.25	302 00	301.93	302.53	302 25	302.67	302.92
	18	300.15	299 90	300.15	300.52	300.49	300.96	301.21
	3	299.43	299 18	299.18	299.67	299 66	300.16	300.41
Louisiana		299.25	299 00	299.00	299.50	299 50	300.00	300.25

Lincoln

		NL	N Curb	N ¼	℄	S ¼	S Curb	SL
WL Hamilton	300	325.25	325.00	324.50	324.50	324.00	324.00	324.25
	275	324.63	324.38	323.95	324.03	323.61	323.38	324.63
	250	324.00	323.75	323.41	323.56	323.22	322.75	323.00
	225	323.38	323.13	322.86	323.10	322.83	322.13	322.38
	200	322.75	322.50	322.31	322.63	322.44	321.50	321.75
	175	322.13	321.88	321.76	322.16	322.05	320.88	321.03
	150	321.50	321.25	321.22	321.69	321.66	320.25	320.50
	140	321.25	321.00	321.00	321.50	321.50	320.00	320.25
	125	321.15	320.90	320.84	321.29	321.23	319.90	320.15
	100	320.97	320.72	320.57	320.93	320.78	319.72	319.97
	75	320.79	320.54	320.30	320.57	320.34	319.54	319.79
	50	320.61	320.36	320.04	320.21	319.89	319.36	319.61
	25	320.43	320.18	319.77	319.86	319.45	319.18	319.43
	10	320.33	320.08	319.61	319.64	319.18	319.08	319.33
EL Arizona		320.25	320.00	319.50	319.50	319.00	319.00	319.25
WL Arizona	300	319.25	319.00	318.50	318.5	318.00	318.00	318.25
	275	319.17	318.92	318.42	318.42	317.92	317.92	318.17
	225	319.01	318.76	318.26	318.26	317.76	317.76	318.01
	200	318.92	318.67	318.17	318.17	317.67	317.67	317.92
	175	318.84	318.59	318.09	318.09	317.59	317.59	317.84
	125	318.68	318.43	317.93	317.93	317.43	317.43	317.68
	100	318.60	318.35	317.85	317.85	317.35	317.35	317.60
	50	318.43	318.18	317.68	317.68	317.18	317.18	317.43
	25	318.35	318.10	317.60	317.60	317.10	317.10	317.35
	4	318.26	318.01	317.51	317.51	317.01	317.01	317.26
Texas		318.25	318.00	317.50	317.50	317.00	317.00	317.25

Lincoln			N. curb		N ¼	℄	S ¼	South	
Oregon	300	350.25	350.00		349.50	349.50	349.00	349.00	349.25
	290	349.48	349.23		348.73	348.73	348.23	348.23	348.48
	275	348.33	348.08		347.58	347.58	347.08	347.08	347.33
	260	347.18	346.93		346.43	346.43	345.93	345.93	346.18
	250	346.42	346.17		345.67	345.67	345.17	345.17	345.42
	225	344.50	344.25		343.75	343.75	343.25	343.25	343.50
	200	342.58	342.33		341.83	341.83	341.33	341.33	341.58
	165	339.90	339.65		339.15	339.15	338.65	338.65	341.90
	152	338.90	338.65		338.15	338.15	337.65	337.65	337.90
	140	337.98	337.73		337.23	337.23	336.73	336.73	336.98
	130	337.21	336.96		336.46	336.46	335.96	335.96	336.21
	119	336.37	336.12		335.62	335.62	335.12	335.12	335.37
	100	334.92	334.67		334.17	334.17	333.67	333.67	333.92
	78	333.23	332.98		332.48	332.48	331.98	331.98	332.23
	72	332.57	332.52		332.02	332.02	331.52	331.52	331.77
	40	330.32	330.07		329.57	329.57	329.07	329.07	331.32
	36	330.01	329.76		329.26	329.26	328.76	328.76	329.01
30' 37 E. Hamilton		327.75	327.00		326.50	326.50	326.00	326.00	326.75
E curb	14	327.00 326.00	327.00 326.00		326.15	326.15	325.65	326.00 325.00	326.00 325.00
E ¼	13	326.25	325.50		326.82	326.82	325.32	324.50	325.75
℄	13	326.00	325.00		325.50	325.50	325.00	324.00	325.00
W ¼	13	325.25	324.50		325.17	325.17	324.67	323.50	324.25
W curb	13	324.00 325.00	324.00 325.00		324.85	324.85	324.35	323.00 324.00	323.00 324.00
W L. Hamilton	14	325.25	325.00		324.50	324.50	324.00	324.00	324.25

Lincoln		N curb		N 1/4	℄	S 1/4		S curb	
Utah	300	364.25	364	.00	363.50	363.50	363	.00	363.00	363.25
	275	364.08	363	.83	.33	.33	362	.83	362.83	363.08
	225	363.75		.50	363.00	363.00		.50	.50	362.75
	200	363.58		.33	362.83	362.83		.33	.33	362.58
	160	363.32		.07	.57	.57		.07	362.07	362.32
	150	363.25	363	.00	.50	.50	362	.00	362.00	362.25
	140	363.18	362	.93	.43	.43	361	.93	361.93	362.18
	100	362.92		.67	.17	.17		.67	.67	361.92
	75	362.75		.50	362.00	362.00		.50	.50	361.75
	50	362.58		.33	361.83	361.83		.33	.33	361.58
	25	362.42		.17	.67	.67		.17	.17	361.42
Idaho		362.25	362	.00	361.50	361.50	361	.00	361.00	361.25
Idaho	300	361.25	361	.00	360.50	360.50	360	.00	360.00	360.25
	275	360.78	360	.53	360.03	360.03	359	.53	359.53	359.78
	250	360.31	360	.06	359.56	359.56	359	.06	359.06	359.31 ✓
	225	359.84	359	.59	359.09	359.09	358	.59	358.59	358.84
	200	359.38	359	.13	358.63	358.63	358	.13	358.13	358.38
	168	358.78	358	.53	358.03	358.03	357	.53	357.53	357.78
	150	358.44	358	.19	357.69	357.69	357	.19	357.19	357.44
	140	358.25	358	.00	357.50	357.50	357	.00	357.00	357.25
	100	356.54	356	.29	355.79	355.79	355	.29	355.29	355.54
	75	355.46	355	.21	354.71	354.71	354	.21	354.21	354.46
	25	353.32	353	.07	352.57	352.57	352	.07	352.07	352.32
Oregon		352.25	352	.00	351.50	351.50	351	.00	351.00	351.25

61.9
62.5
124.4
62

Lincoln

		N curb		N 1/4	℄	S 1/4		S curb	
		N	C/L	1/4	℄	1/4		C/L	S
Kansas	300	363.25	363.00	362.50	362.50	362.00		362.00	362.25
	296	363.26	.01	.51	.51	.01		.01	362.26
	275	363.33	.08	.58	.58	.08		.08	362.33
	250	363.42	.17	.67	.67	.17		.17	362.42
	225	363.50	.25	.75	.75	.25		.25	362.50
	200	363.58	.33	.83	.83	.33		.33	362.58
	175	363.67	.42	362.92	362.92	.42		.42	362.67
	150	363.75	.50	363.00	363.00	.50		.50	362.75
	125	363.83	.58	.08	.08	.58		.58	362.83
	112	363.88	.63	.13	.13	.63		.63	362.88
	75	364.10	.75	.25	.25	.75		.75	363.00
	25	364.17	363.92	.42	.42	.92		.92	363.17
Utah.		364.25	364.00	363.50	363.50	363.00		363.00	363.25

Lincoln

		N curb		N 1/4		℄	S 1/4		S curb	
NL 30th	300	361.75	361.50	361.12		361.75	360.87		361.00	361.25
	280	361.82	.57	.18		.30	.91		.03	361.28
	268	361.86	.61	.21		.33	.94		.05	361.30
	265	361.87	.62	.22		.34	.94		.06	361.31
	253	361.91	.66	.26		.37	.97		.08	361.33
	245	361.93	.68	.28		.39	360.99		.09	361.34
	225	362.00	.75	.34		.44	361.03		.12	361.37
	200	362.08	.83	.41		.50	.08		.17	361.42
	183	362.14	.89	.46		.54	.12		.19	361.44
	175	362.17	.92	.49		.56	.13		.21	361.46
	162	362.21	361.96	.52		.59	.16		.23	361.48
	150	362.25	362.00	.56		.62	.18		.25	361.50
	125	362.33	.08	.63		.69	.24		.29	361.54
	100	362.42	.17	.71		.75	.29		.33	361.58
	75	362.50	.25	.78		.81	.34		.37	361.62
	50	362.58	.33	.85		.87	.39		.42	361.67
	35	362.63	.38	.90		.91	.43		.44	361.69
	18	362.69	.44	361.95		361.95	.46		.47	361.72
EL. Kansas		362.75	362.50	362.00		362.00	361.50		361.50	361.75

Lincoln

		N curb		N ¼		℄		S ¼		S curb	
WL Ohio	298.5	363.25	363	.00	362.62	362.75	362	.37	362.50		362.75
	285	363.16	362	.91	362.53	362.66	362	.28	362.41		362.66
	270	363.06		.81	.43	.56		.18	.31		362.56
	262	363.01		.76	.38	.51		.13	.26		362.51
	250	362.93	362	.68	362.30	362.43	362	.05	362.18		362.43
	242	362.87	362	.62	362.24	362.37	361	.99	362.12		362.37
	210	362.66	362	.41	362.03	362.16	361	.78	361.91		362.16
	193	362.54	362	.29	361.91	362.04	361	.66	361.79		362.04
	175	362.42	362	.17	361.79	361.92	361	.54	361.67		361.92
	161	362.33		.08	.70	.83		.45	.58		361.83
	150	362.26	362	.01	361.63	361.76	361	.38	361.51		361.76
	137	362.17	361	.92	361.54	361.67	361	.29	361.42		361.67
	125	362.09		.84	.46	.59		.21	.34		361.59
	100	362.92		.67	.29	.42	361	.04	361.17		361.42
	85	362.82	361	.57	361.19	361.32	360	.94	361.07		361.32
	75	362.75	361	.50	361.12	361.25	360	.87	361.00		361.25
	50	361.59	361	.34	360.96	361.09	360	.71	360.84		361.09
	20	361.38	361	.13	360.75	360.88	360	.50	360.63		360.88
	4	361.28		.03	.65	.78		.40	.53		360.78
EL 30th		361.25	361	.00	360.62	360.75	360	.37	360.50		360.75

Lincoln

		N curb		N. ¼		℄		S. ¼		S curb	
Illinois	300	363.75	363	50	363.12	363.75	362	87		363.00	363.25
	297	363.75		.50	.12	.25		.87		363.00	363.25
	292	363.74		.49	.11	.24		.86		362.99	363.24
	280	363.72		.47	.09	.22		.84		.97	363.22
	265	363.69		.44	.06	.19		.81		.94	363.19
	253	363.67		.42	.04	.17		.79		.92	363.17
	239	363.65		.40	.02	.15		.77		.90	363.15
	225	363.63		.38	363.00	.13		.75		.88	363.13
	202	363.59		.34	362.96	.09		.71		.84	363.09
	191	363.57		.32	.94	.07		.69		.82	363.07
	181	363.55		.30	.92	.05		.67		.80	363.05
	164	363.52		.27	.89	.02		.64		.77	363.02
	154	363.51		.26	.88	363.01		.63		.76	363.01
	120	363.45		.20	.82	362.95		.57		.70	362.95
	105	363.43		.18	.80	.93		.55		.68	362.93
	90	363.40		.15	.77	.90		.52		.65	362.90
	76	363.38		.13	.75	.88		.50		.63	362.88
	67	363.36		.11	.73	.86		.48		.61	362.86
	58	363.35		.10	.72	.85		.47		.60	362.85
	43	363.32		.07	.69	.82		.44		.57	362.82
	27	363.30		.05	.67	.80		.42		.55	362.80
	12	363.27		.02	.65	.77		.39		.52	362.77
	6	363.26	363	.01	.63	.76		.38		.51	362.76
Ohio.		363.25	363	00	362.62	362.75	362	.37		362.50	362.75

Lincoln

			N curb	N ¼	℄	S ¼	S curb	
W. Iowa	300	362.25	362.00	361.75	362.00	361.75	362.00	362.25
	275	362.38	362.13	361.86	362.10	361.84	362.08	362.33
	250	362.50	362.25	361.98	362.21	361.94	362.17	362.42
	230	362.60	362.35	362.07	362.29	362.01	362.23	362.48
	220	362.65	362.40	362.17	362.33	362.05	362.27	362.52
	200	362.75	362.50	362.21	362.47	362.12	362.33	362.58
	175	362.88	362.63	362.37	362.57	362.22	362.47	362.67
	150	363.00	362.75	362.44	362.63	362.31	362.50	362.75
	140	363.05	362.80	362.48	362.67	362.35	362.53	362.78
	125	363.13	362.88	362.55	362.73	362.40	362.58	362.83
	110	363.20	362.95	362.62	362.79	362.46	362.63	362.88
	100	363.25	363.00	362.66	362.83	362.50	362.67	362.92
	75	363.38	363.13	362.78	362.94	362.59	362.75	363.00
	50	363.50	363.25	362.89	363.04	362.68	362.83	363.08
	33	363.59	363.34	362.97	363.11	362.75	362.89	363.14
	25	363.63	363.38	363.01	363.15	362.78	362.92	363.17
Illinois		363.75	363.50	363.12	363.25	362.87	363.00	363.25

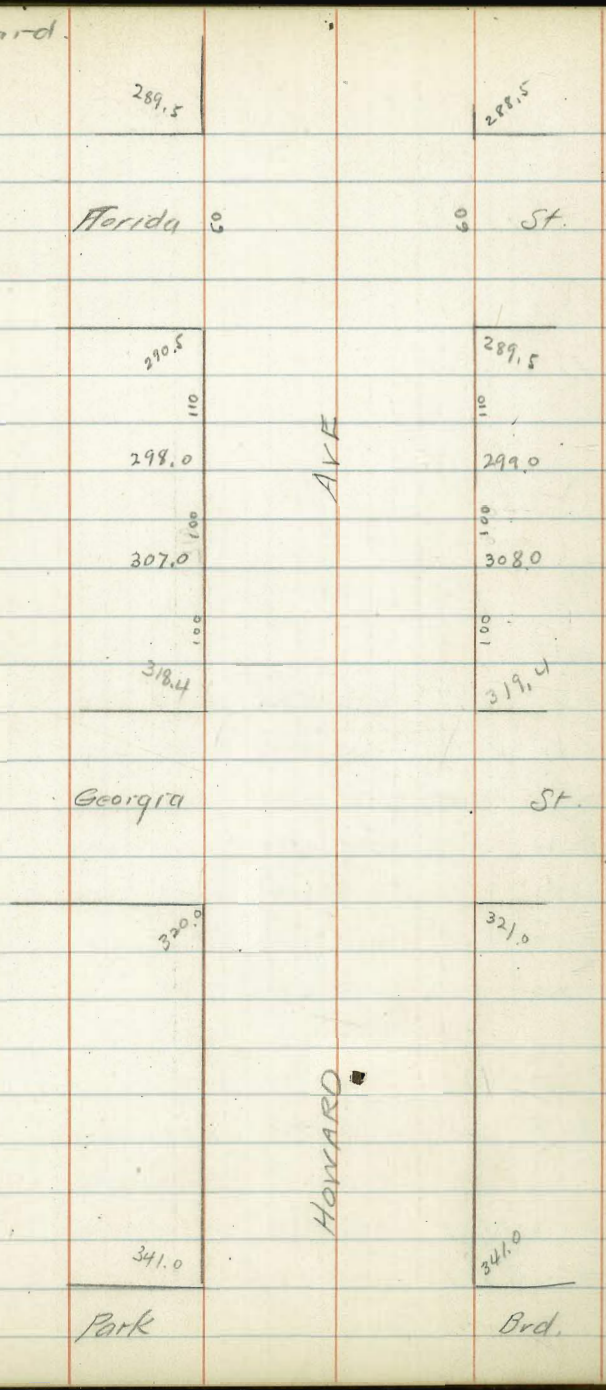
Lincoln

		N curb	N ¼	℄	S ¼	S curb	
WL 32nd.	300	345.25	345.00	344.75	345.00	344.75	345.00	345.25
	294	345.70	345.45	345.20	345.45	345.20	345.45	345.70
	290	346.00	345.75	345.50	345.75	345.50	345.75	346.00
	275	347.12	346.87	346.62	346.87	346.62	346.87	347.12
	250	349.00	348.75	348.50	348.75	348.50	348.75	349.00
	240	349.75	349.50	349.25	349.50	349.25	349.50	349.75
	225	350.87	350.62	350.37	350.62	350.37	350.62	350.87
	200	352.75	352.50	352.25	352.50	352.25	352.50	352.75
	175	354.62	354.37	354.12	354.37	354.12	354.37	354.59
	155	356.12	355.87	355.62	355.87	355.62	355.87	356.12
	125	358.37	358.12	357.87	358.12	357.87	358.12	358.37
	100	360.25	360.00	359.75	360.00	359.75	360.00	360.25
	75	360.50	360.25	360.00	360.25	360.00	360.25	360.50
	50	360.75	360.50	360.25	360.50	360.25	360.50	360.75
	25	361.00	360.75	360.50	360.75	360.50	360.75	361.00
	12	361.13	360.88	360.63	360.88	360.63	360.88	361.13
	4	361.21	360.96	360.71	360.96	360.71	360.96	361.21
EL Iowa.		361.25	361.00	360.75	361.00	360.75	361.00	361.25

Lincoln

		N ⅁	¼	℄	¼	S ⅁	
311.5 = WL Wisconsin on S						343.00	343.25
301.5 WL Wisconsin on N	343.25	343.00	342.76	343.02	342.77	343.03	343.28
275	343.34	343.09	342.85	343.11	342.86	343.12	343.37
250	343.42	343.17	342.93	343.19	342.94	343.20	343.45
225	343.50	343.25	343.01	343.27	343.02	343.28	343.53
200	343.59	343.34	343.09	343.35	343.10	343.36	343.61
175	343.67	343.42	343.17	343.43	343.18	343.44	343.69
150	343.75	343.50	343.25	343.51	343.26	343.52	343.77
125	343.84	343.59	343.34	343.59	343.34	343.60	343.85
75	344.00	343.75	343.50	343.76	343.51	343.76	344.01
60	344.05	343.80	343.55	343.80	343.55	343.81	344.06
40	344.12	343.87	343.62	343.87	343.62	343.87	344.12
25	344.17	343.92	343.67	343.92	343.67	343.92	344.17
EL 32 mp	344.25	344.00	343.75	344.00	343.75	344.00	344.25

Howard.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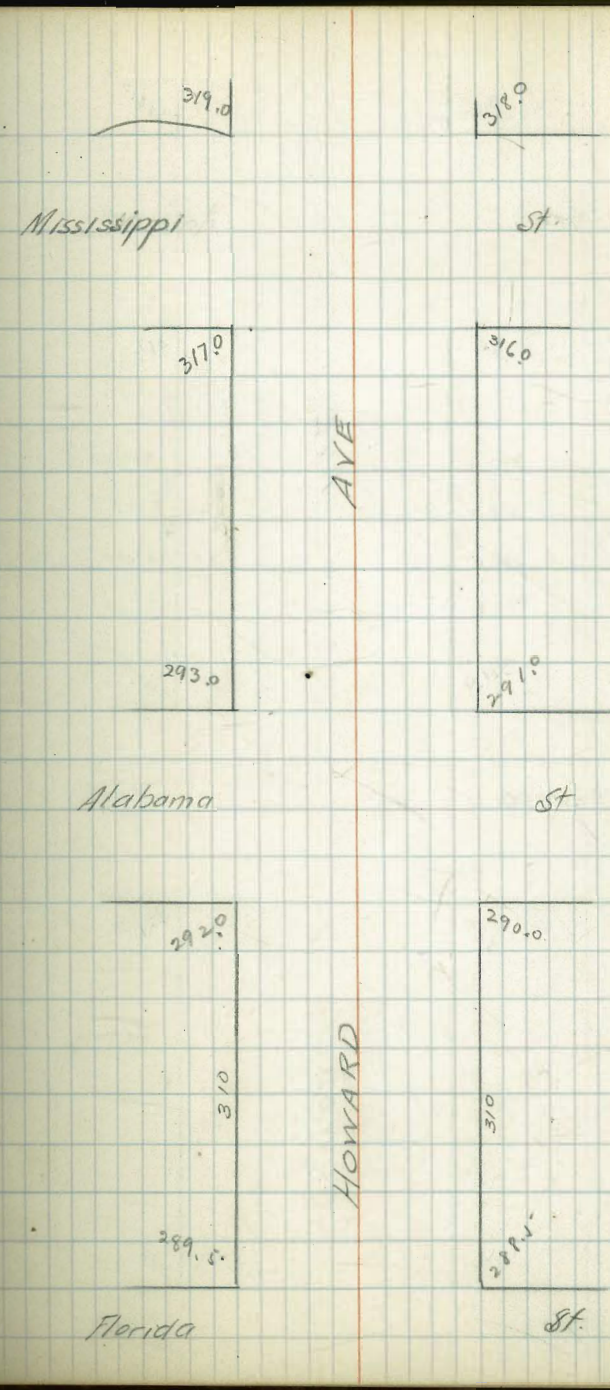
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Alabama St.
292.0
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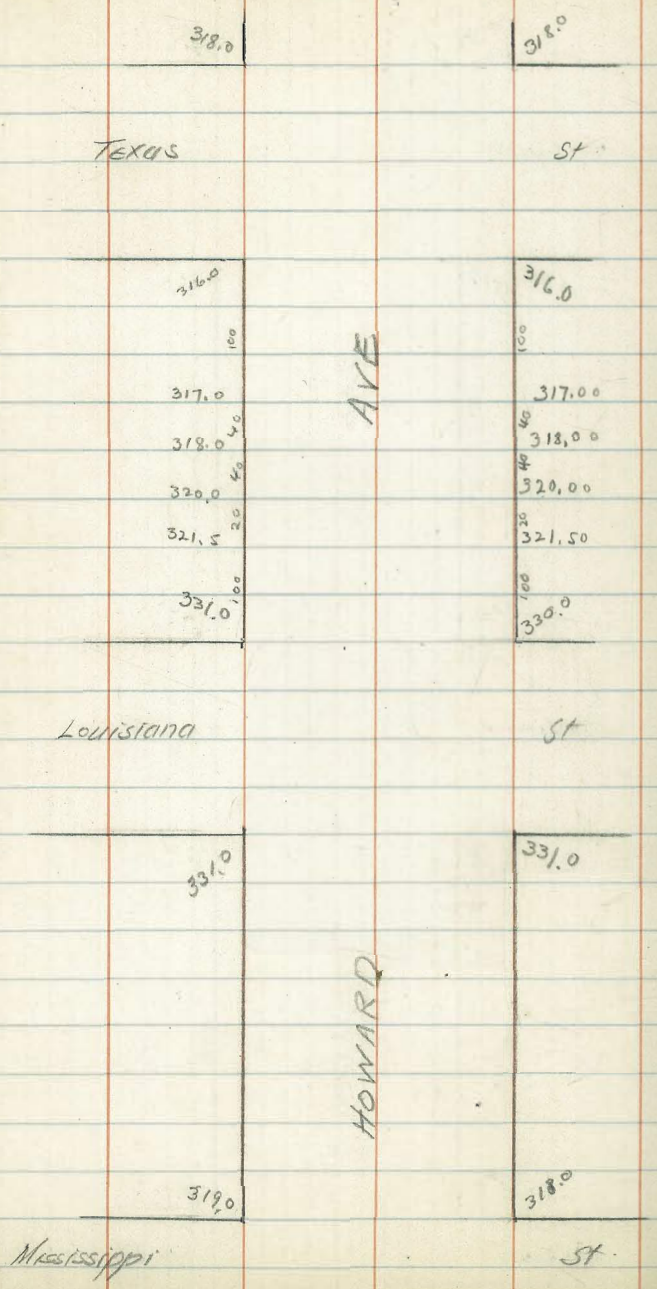
310
310
289.5
288.5
Florida St.
HOWARD AVE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318.0
Texas
St
316.0
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100
100
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317.00
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40
318.00
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40
320.00
321.5
20
321.50
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100
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Louisiana
St
AVE
331.0
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HOWARD
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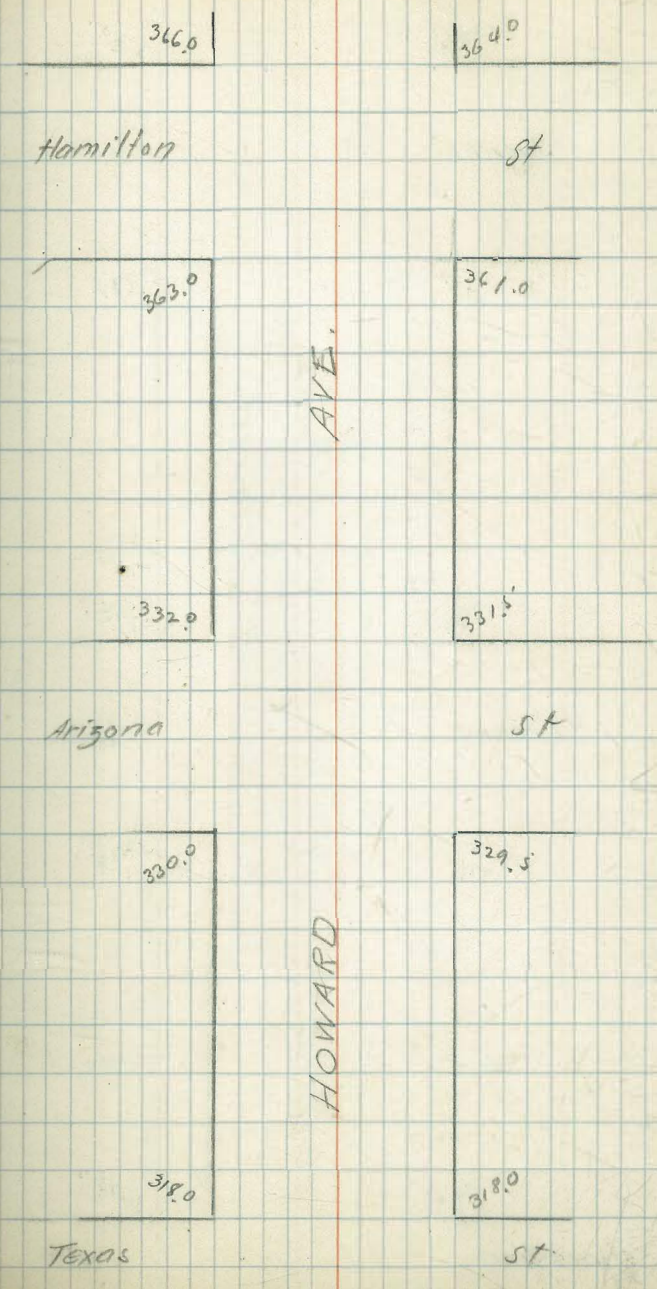
318.0
Mississippi
St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Hamilton
St
363.0
361.0
AVE.
332.0
331.5
Arizona
St
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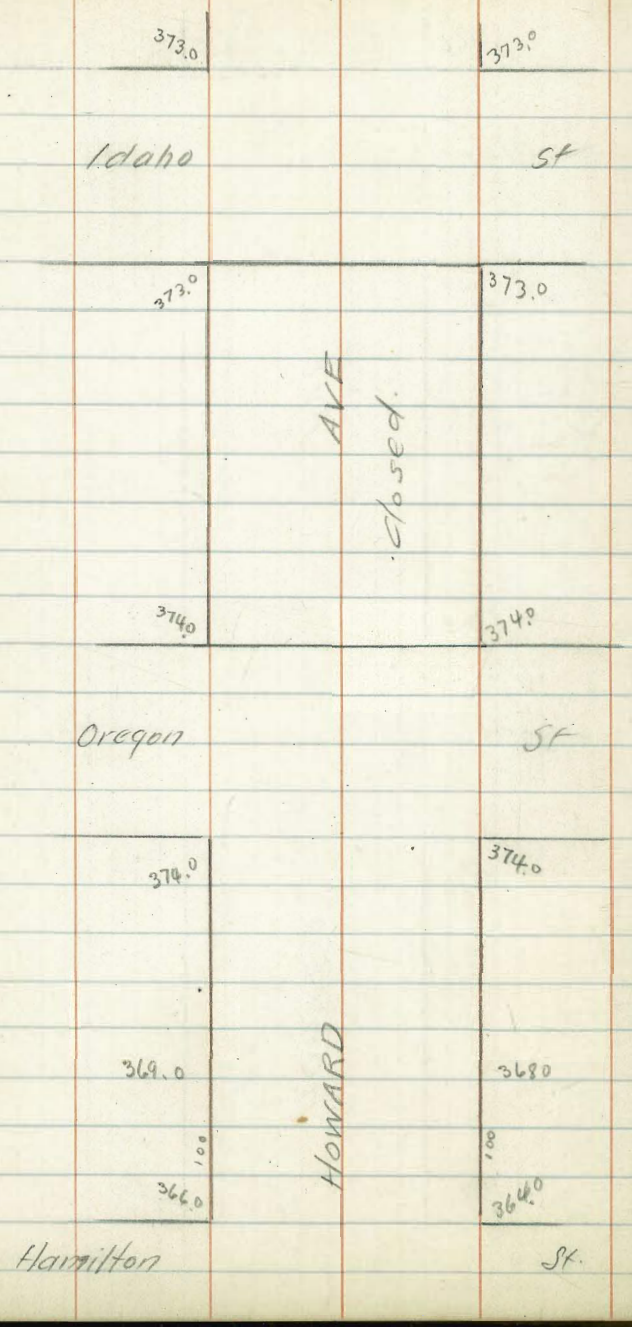
HOWARD
318.0
318.0
Texas
St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373.0
Idaho
St
373.0
373.0
AVE
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374.0
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Oregon
St
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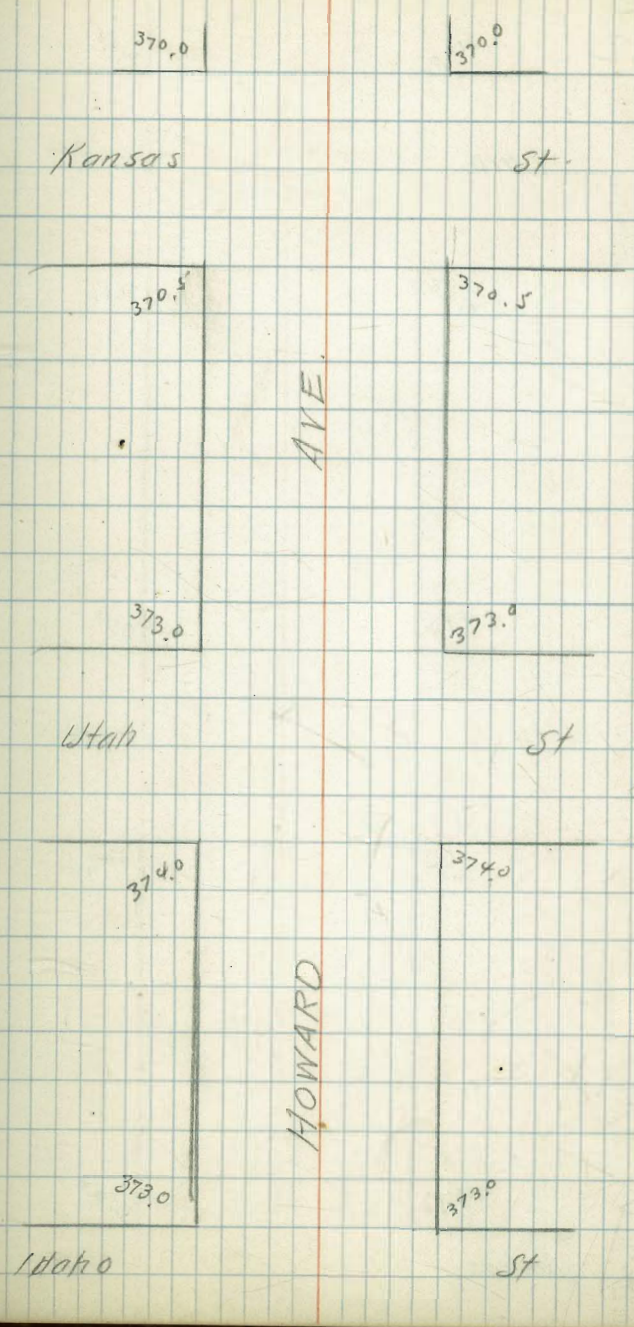
374.0
369.0
368.0
100
100
366.0
364.0
HOWARD
Hamilton
St.


370.0
370.0
Kansas
St
370.5
370.5
AVE.
373.0
373.0
Utah
St
374.0
374.0
HOWARD
373.0
373.0
Idaho
St

364.0

364.5

Ohio St

364.5

365.0

367.0

367.0

30th St

367.4

367.4

370.0

370.0

Kansas St

360.5

360.0

Iowa St

359.5

359.0

360.6

361.0

Illinois St

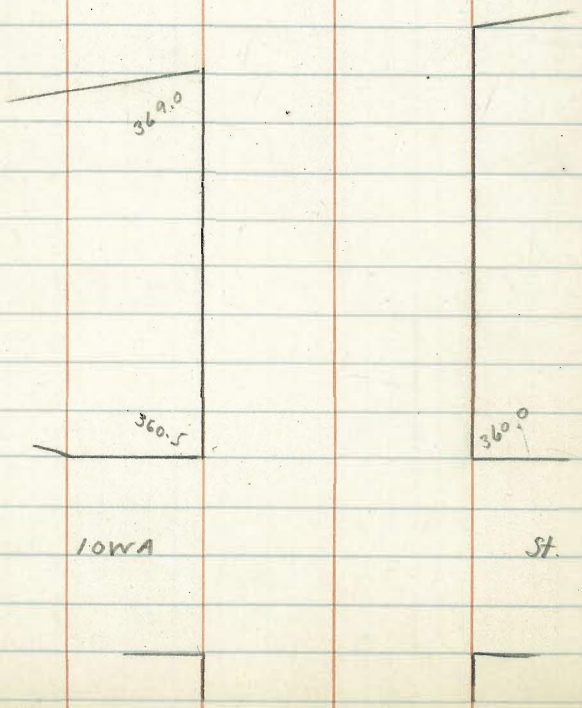
361.0

361.5

364.0

364.5

Ohio St


369.0
360.5
IOWA

360.0
St.

Howard Ave.

Plotted.

		N co	¼	L	¼	S	
Georgia 300	320.25	320.00	320.50	320.5	321.00	321.00	321.25
297	320.46	320.21	320.70	327.71	321.20	321.20	321.45
275	322.00	321.75	322.19	322.28	322.65	322.67	322.92 ✓
250	323.75	323.50	323.88	323.92	324.29	324.33	324.58
225	325.50	325.25	325.56	325.63	326.99	326.00	326.25
200	327.25	327.00	327.25	327.33	327.58	327.67	327.92
175	329.00	328.75	328.94	329.04	329.23	329.33	329.58
150	330.75	330.50	330.63	330.75	330.88	331.00	331.25
125	332.50	332.25	332.31	332.46	332.52	332.67	332.92 ✓
100	334.25	334.00	334.00	334.17	334.16	334.34	334.59
75	336.00	335.75	335.69	336.88	335.44	336.00	336.25
50	337.75	337.50	337.38	337.58	337.46	337.67	337.92
25	339.50	339.25	339.06	339.29	339.10	339.33	339.58
El Park Blvd	341.25	341.00	340.75	341.00	340.75	341.00	341.25

plotted

		N	cb	¼	L	¼	cd	S
Florida	310	290.75	290.50	290.00	290.00	289.50	289.75	
	307	290.96	290.71	290.22	290.24	289.75	289.79	290.04
	275	293.14	292.89	292.55	292.70	292.36	292.94	293.19
	250	294.84	294.59	294.36	294.64	294.41	295.23	295.48
	225	296.55	296.30	296.18	296.57	296.45	297.61	297.86
	200	298.25	298.00	298.00	298.50	298.50	299.00	299.25
	175	300.50	300.25	300.25	300.75	300.75	301.25	301.50
	150	302.75	302.50	302.50	303.00	303.00	303.50	303.75
	125	305.00	304.75	304.75	305.25	305.25	305.75	306.00
	100	307.25	307.00	307.00	307.50	307.50	308.00	308.25
	75	310.10	309.85	309.85	310.35	310.35	310.85	311.10
	50	312.95	312.70	312.70	313.20	313.20	313.70	313.95
	25	315.80	315.55	315.55	316.05	316.05	316.55	316.80
	11	317.40	317.15	317.15	317.65	317.65	318.15	318.40
FL Georgia		318.65	318.40	318.40	318.90	318.90	319.40	319.65

Platte

)		N	C6		¼	℄		¾	S C4	S
Alabama	310	292.25	292	00	291.25	291.00	290	25	290.00	290.25
	300	292.16	291	72	291.18	290.94	290	20	289.95	290.20
	275	291.97	291	72	291.00	290.77	290	05	289.83	290.08
	250	291.76	291	51	290.81	290.61	289	91	289.71	289.96
	225	291.56	291	31	290.63	290.46	289	63	289.59	289.84
	200	291.36	291	11	290.45	290.29	289	60	289.47	289.72
	175	291.16	290	91	290.27	290.13	289	49	289.35	289.60
	165	291.07	290	82	290.20	290.06	289	43	289.30	289.55
	164	291.07	290	82	290.19	290.06	289	43	289.29	289.54
	156	291.01	290	76	290.13	290.00	289	39	289.26	289.51
	150	290.96	290	71	290.10	289.97	289	35	289.23	289.48
+	125	290.76	290	51	289.91	289.81	289	21	289.10	289.35
	100	290.56	290	31	289.72	289.65	289	06	288.98	289.23
	93	290.50	290	25	289.68	289.60	289	03	288.95	289.20
	90	290.47	290	22	289.65	289.58	289	01	288.94	289.19
	82	290.41	290	16	289.59	289.53	288	96	288.90	289.15
	75	290.35	290	10	289.52	289.48	288	92	288.86	289.11
	50	290.15	289	90	289.36	289.32	288	78	288.74	289.99
	25	289.95	289	70	289.18	289.16	288	64	288.62	289.87
Florida St.		289.75	289	50	289.00	289.00	288	50	288.50	289.75

		N Cb		¼	℄	¼	S Cb	
Louisiana 300	331.25	331	00	330.75	331.00	330	75	331.00	331.25
275	330.25	330	00	329.73	330.96	329	69	329.91	330.16
250	329.25	329	00	328.71	329.92	328	63	328.83	329.08
225	328.25	328	00	327.69	327.88	327	57	327.75	328.00
200	327.25	327	00	326.67	326.83	326	50	326.66	326.91
175	326.25	326	00	325.66	325.79	325	44	325.58	325.83
150	325.25	325	00	324.64	324.75	324	38	324.50	324.75
125	324.25	324	00	323.62	323.71	323	31	323.41	323.66
100	323.25	323	00	322.59	322.67	322	25	322.33	322.58
75	322.25	322	00	321.56	321.63	321	19	321.25	321.50
50	321.25	321	00	320.54	320.58	320	12	320.16	320.41
25	320.25	320	00	319.52	319.54	319	06	319.08	319.33
Mississippi	319.25	319	00	318.50	318.50	318	.00	318.00	318.25
Mississippi 300	317.25	317	00	316.50	316.50	316	00	316.00	316.25
275	316.25	315	00	314.48	314.46	313	93	313.92	314.17
250	313.25	313	00	312.45	312.42	311	87	311.83	312.08
225	311.25	311	00	310.43	310.38	309	81	309.75	310.00
200	309.25	309	00	308.41	308.32	307	75	307.66	307.91
175	307.25	307	00	306.39	306.28	305	68	305.58	305.83
150	305.25	305	00	304.37	304.24	303	62	303.50	303.75
125	303.25	303	00	302.35	302.20	301	56	301.42	301.67
100	301.25	301	00	300.33	300.16	299	50	299.33	299.58
75	299.25	299	00	298.31	298.12	297	43	297.25	297.50
50	297.25	297	00	296.29	296.08	295	37	295.16	295.41
25	295.25	295	00	294.27	294.04	293	31	293.08	293.33
Alabama	293.25	293	00	292.25	292.00	291	25	291.00	291.25

	N		ob		¼	℄		¼	ob	S
Nr. Texas	300	316.25	316	00	315.75	316.00	315	75	316.00	316.25
	295	316.45	316	20	315.95	316.20	315	95	316.20	316.45
	275	316.65	316	40	316.15	316.40	316	15	316.40	316.65
	250	316.85	316	60	316.35	316.60	316	35	316.60	316.85
	225	317.05	316	80	316.55	316.80	316	75	316.80	317.05
	200	317.25	317	00	316.75	317.00	316	75	317.00	317.25
	175	317.87	317	62	317.37	317.62	317	37	317.62	317.87
St. here	165	318.12	317	87	317.62	317.87	317	62	317.87	318.12
	160	318.25	318	00	317.75	318.00	317	75	318.00	318.25
	150	318.75	318	50	318.25	318.50	318	25	318.50	318.75
	144	319.25	319	00	318.75	319.00	318	75	319.00	319.25
	125	319.75	319	50	319.25	319.50	319	25	319.50	319.75
	120	320.25	320	00	319.75	320.00	319	75	320.00	319.25
	100	321.75	321	50	321.25	321.50	321	25	321.50	321.75
	75	324.12	323	87	323.75	324.12	324	00	323.62	323.87
	50	327.00	326	25	326.25	326.75	326	75	325.75	326.00
	25	328.87	328	62	328.75	329.37	329	50	327.87	328.12
EL Louisiana		331.25	331	00	331.25	332.00	332	25	330.00	338.25

Plots

			N 66	1/4	E	1/4	S 66	
Arizona.	300.	331.25	331.00	330.75	331.00	330.75	331.00	331.25
	293	330.95	330.70	330.45	330.70	330.45	330.70	330.95
	275	330.17	329.92	329.67	329.92	329.67	329.92	329.17
	250	329.08	328.83	328.58	328.83	328.58	328.83	328.08
	225	328.00	327.75	327.50	327.75	327.50	327.75	328.00
	200	326.91	326.66	326.41	326.66	326.41	326.66	326.91
	175	325.83	325.58	325.33	325.58	325.33	325.58	325.83
	150	324.75	324.50	324.25	324.50	324.25	324.50	324.75
	125	323.67	323.42	323.16	323.42	323.16	323.42	323.67
	100	322.58	322.33	322.08	322.33	322.08	322.33	322.58
	75	321.50	321.25	321.00	321.25	321.00	321.25	321.50
	50	320.42	320.17	319.91	320.17	319.91	320.17	320.42
	25	319.33	319.08	318.83	319.08	318.83	319.08	319.33
	6	318.51	318.26	318.01	318.26	318.01	318.26	318.51
Texas.		318.25	318.00	317.75	318.00	317.75	318.00	318.25

		N	N cb	¼	℄	¼	S cb	S
E L Hamilton		366.25	366.00 365.00	365.25	365.00	364.25	364.00 363.00	364.25
E Curb Gutter		366.00 365.00	364.47	364.72	364.47	363.72	362.47	364.00 363.00
E ¼		365.00	363.99	364.24	363.99	363.24	361.99	363.00
	℄	364.50	363.50	363.75	363.50	362.75	361.50	362.50
W ¼		363.50	363.01	363.26	363.01	362.26	361.01	361.50
W Gutter W Curb		362.00 363.00	362.52	362.77	362.52	361.77	360.52	360.00 361.00
Hamilton	300	363.25	363.00 363.00	362.25	362.00	361.25	360.00 361.00	361.25
	275	360.67	360.42	359.79	359.48	358.76	358.53	358.83
	250	358.08	357.83	357.23	356.96	356.27	356.07	356.32
	225	355.50	355.25	354.68	354.43	353.78	353.61	353.86
	200	352.92	352.67	352.13	351.91	351.29	351.15	351.40
	175	350.33	350.08	349.58	349.39	348.80	348.69	348.94
	150	347.75	347.50	347.03	346.87	346.31	346.23	346.48
	125	345.17	344.92	344.47	344.35	343.82	343.77	344.02
	100	342.59	342.34	341.92	341.83	341.33	341.32	341.57
	75	340.0	339.75	339.37	339.31	338.84	338.86	339.07
	50	337.42	337.17	336.72	336.79	336.35	336.40	336.65
	25	334.83	334.58	334.17	334.27	333.86	333.95	334.20
Arizona		332.25	332.00	331.62	331.75	331.37	331.50	331.75

		N	C	N	C	N	C	S
Oregon	300	374.25	374.00	373.75	374.00	373.75	374.00	374.25
	275	373.60	373.35	373.09	373.31	373.03	373.30	373.55
	250	372.98	372.73	372.44	372.63	372.31	372.50	372.75
	235	372.60	372.35	372.04	372.31	371.88	372.05	372.30
	225	372.35	372.10	371.74	371.94	371.59	371.75	372.00
	212	372.03	371.78	371.44	371.58	371.22	371.36	371.60
	200	371.73	371.48	371.13	371.25	370.88	371.00	371.25
	190	371.48	371.23	370.89	370.98	370.59	370.70	370.95
	175	371.11	370.86	370.48	370.57	370.16	370.25	370.50
	150	370.49	370.24	369.82	369.88	369.44	369.50	369.75
	125	369.87	369.62	369.16	369.19	369.12	368.75	369.00
	100	369.25	369.00	368.50	368.50	368.00	368.00	368.25
	75	368.56	368.25	367.69	367.63	367.06	367.00	367.25
	50	367.75	367.50	366.88	366.75	366.18	366.00	366.25
	25	367.00	366.75	366.06	365.88	365.19	365.00	365.25
E. L. Hamilton		366.25	366.00	365.25	365.00	364.25	364.00	364.25

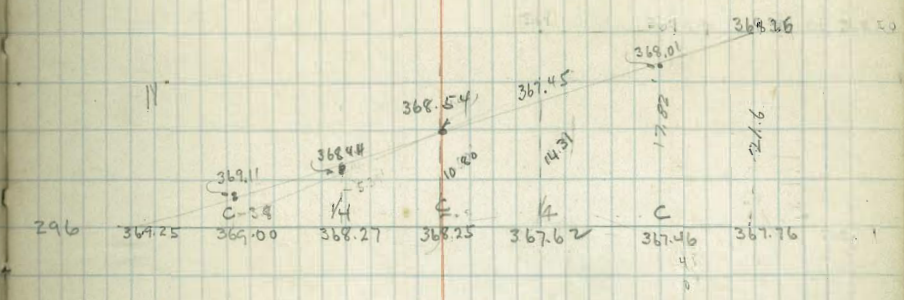
		N	C	½	℄	1½	C	S
Utah.	300	374.25	374.00	373.75	374.00	373.75	374.00	374.25
	290	374.22	373.97	373.72	373.97	373.72	373.97	374.22
	275	374.17	373.92	373.67	373.92	373.67	373.92	374.17
	250	374.08	373.83	373.78	373.83	373.78	373.83	374.08
	225	374.00	373.75	373.50	373.75	373.50	373.75	374.00
	200	373.92	373.67	373.42	373.67	373.42	373.67	373.92
	175	373.83	373.58	373.33	373.58	373.33	373.58	373.83
	165	373.80	373.55	373.30	373.55	373.30	373.55	373.80
	150	373.75	373.50	373.25	373.50	373.25	373.50	373.75
	125	373.67	373.42	373.17	373.42	373.17	373.42	373.67
	100	373.58	373.33	373.08	373.33	373.08	373.33	373.58
	75	373.50	373.25	373.00	373.25	373.00	373.25	373.50
	65	373.47	373.22	372.97	373.22	372.97	373.22	373.47
	50	373.42	373.17	372.92	373.17	372.92	373.17	373.42
	25	373.33	373.08	372.83	373.08	372.83	373.08	373.33
El Idaho.		373.25	373.00	372.75	373.00	372.75	373.00	373.25

		N	C	1/4	CL	1/4	C	S
Kansas	300	370.75	370.50	370.25	370.50	370.25	370.50	370.75
	294	370.80	370.55	370.30	370.55	370.30	370.55	370.80
	275	371.96	370.71	370.46	370.71	370.46	370.71	371.96
	250	371.17	370.92	370.67	370.92	370.67	370.92	371.17
	225	371.38	371.13	370.88	371.13	370.88	371.13	371.38
	210	371.50	371.25	371.00	371.25	371.00	371.25	371.50
	200	371.58	371.33	371.08	371.33	371.08	371.33	371.58
	175	371.79	371.54	371.29	371.54	371.29	371.54	371.79
	160	371.91	371.66	371.42	371.66	371.42	371.66	371.91
	150	372.00	371.75	371.50	371.75	371.50	371.75	372.00
	140	372.08	371.83	371.58	371.83	371.58	371.83	372.08
	125	372.17	371.92	371.71	371.92	371.71	371.92	372.17
	100	372.42	372.17	371.92	372.17	371.92	372.17	372.42
	88	372.52	372.27	372.02	372.27	372.02	372.27	372.52
	75	372.63	372.38	372.13	372.38	372.13	372.38	372.63
	59	372.76	372.51	372.26	372.51	372.26	372.51	372.76
	50	372.83	372.58	372.33	372.58	372.33	372.58	372.83
	40	372.91	372.66	372.42	372.66	372.42	372.66	372.91
	25	373.04	372.79	372.54	372.79	372.54	372.79	373.04
Utah		373.25	373.00	372.75	373.00	372.75	373.00	373.25

	N	C	1/4		1/4	E	S
WL 30 ft 300	367.65	367.40	367.15	367.40	367.15	367.40	367.65
275	367.87	367.62	367.37	367.62	367.37	367.62	367.87
250	368.08	367.83	367.58	367.83	367.58	367.83	368.08
225	368.30	368.05	367.80	368.05	367.80	368.05	368.30
200	368.52	368.27	368.02	368.27	368.02	368.27	368.52
175	368.73	368.48	368.23	368.48	368.23	368.48	368.73
150	368.95	368.70	368.45	368.70	368.45	368.70	368.95
125	369.17	368.92	368.67	368.92	368.67	368.92	369.17
112	369.28	369.03	368.78	369.03	368.78	369.03	369.28
100	369.38	369.13	368.88	369.13	368.88	369.13	369.38
90	369.49	369.24	368.99	369.24	368.99	369.24	369.49
75	369.60	369.35	369.11	369.35	369.11	369.35	369.60
50	369.82	369.57	369.32	369.57	369.32	369.57	369.82
25	370.03	369.78	369.53	369.78	369.53	369.78	370.03
Kansas	370.25	370.00	369.75	370.00	369.75	370.00	370.25

Illinois	N	C	1/4	℄	1/4	C	S
300	361.25	361.00	360.87	361.25	361.25	361.50	361.75
275	361.50	361.25	361.12	361.50	361.50	361.75	362.00
250	361.75	361.50	361.37	361.75	361.75	362.00	362.25
225	362.00	361.75	361.62	362.00	362.00	362.25	362.50
200	362.25	362.00	361.87	362.25	362.25	362.50	362.75
175	362.50	362.25	362.13	362.50	362.50	362.75	363.00
150	362.75	362.50	362.38	362.75	362.75	363.00	363.25
125	363.00	362.75	362.63	363.00	363.00	363.25	363.50
100	363.25	363.00	362.88	363.25	363.25	363.50	363.75
75	363.50	363.25	363.13	363.50	363.50	363.75	364.00
50	363.75	363.50	363.38	363.75	363.75	364.00	364.25
25	364.00	363.75	363.63	364.00	364.00	364.25	364.50
EL Ohio	364.25	364.00	363.87	364.25	364.25	364.50	364.75
		.01	.01	.01	.01	.01	
WL. Ohio. 300	364.75	364.50	364.27	364.75	364.62	365.00	365.25
275	364.96	364.71	364.48	364.94	364.80	365.17	365.42
250	365.17	364.92	364.68	365.12	364.92	365.33	365.58
225	365.38	365.13	364.99	365.21	365.15	365.50	365.75
200	365.58	365.33	365.10	365.50	365.33	365.67	365.92
175	365.79	365.54	365.36	365.89	365.51	365.84	366.09
150	366.00	365.75	365.51	365.87	365.68	366.00	366.25
140	366.09	365.84	365.59	365.90	365.76	366.07	366.32
125	366.21	365.96	365.72	365.96	365.96	366.17	366.42
112	366.32	366.07	365.82	366.16	365.97	366.25	366.50
100	366.42	366.17	365.92	366.25	366.04	366.33	366.58
75	366.63	366.38	366.13	366.44	366.22	366.50	366.75
50	366.83	366.58	366.33	366.62	366.39	366.67	366.92
		25				25	
25	367.04	366.79	366.54	366.81	366.57	366.83	367.08
EL 30th St	367.25	367.00	366.75	367.00	366.75	367.00	367.25
	.00833		.00926	.00975	.00877	.00666	
					33	33	
					39		

	N	C	¼	℄	¼	C	S
296	369.25	369.00	368.27	368.25	367.62	367.46	367.76
275	368.74	368.89	367.70	367.67	367.07	366.93	367.18
250	367.93	367.68	367.02	367.00	366.42	366.30	366.55
225	366.21	366.96	366.35	366.33	365.74	365.67	365.92
200	366.49	366.24	365.67	365.65	365.11	365.04	365.29
175	365.77	365.57	364.99	364.97	364.45	364.41	364.66
150	365.05	364.80	364.32	364.29	363.90	363.78	364.02
125	364.13	364.08	363.69	363.62	363.15	363.15	363.40
100	363.62	363.37	362.96	362.95	362.49	362.52	362.77
75	362.90	362.65	362.03	362.28	361.84	361.89	362.14
50	362.19	361.94	361.66	361.60	361.18	361.26	361.51
25	361.47	361.22	360.93	360.93	360.53	360.63	360.88
EL Iowa	360.75	360.50	360.25	360.25	359.87	360.00	360.25
		.0297	.0271	.0297	.0262	.0252	
IOWA ST 300	359.75	359.50	359.25	359.25	358.87	359.00	359.25
275	359.83	359.58	359.36	359.38	358.94	359.17	359.42
250	359.92	359.67	359.44	359.50	359.02	359.33	359.58
225	360.00	359.75	359.53	359.63	359.09	359.50	359.75
200	360.08	359.83	359.62	359.75	359.16	359.67	359.92
175	360.17	359.92	359.72	359.87	359.24	359.83	360.08
150	360.25	360.00	359.81	360.00	359.31	360.00	360.25
125	360.33	360.08	359.90	360.12	359.38	360.17	360.42
100	360.42	360.17	360.00	360.25	359.46	360.33	360.58
75	360.50	360.25	360.09	360.37	359.53	360.50	360.75
50	360.58	360.33	360.19	360.50	359.65	360.67	360.92
25	360.67	360.42	360.28	360.62	359.69	360.83	361.08
5	360.74	360.49	360.35	360.72	359.74	360.97	361.22
EL. Illinois	360.75	360.50	360.37	360.75	359.75	361.00	361.25
		.0033	.0037	.0052	.0029	.0066	



		cb.		℄	Cor Tracks
39	x	2.09		2.09	2.04
	x	2.06			2.01
40	x	2.03		2.03	1.98
	x				1.95
41	x	1.97		1.97	1.92
	x				1.89
42	x	1.91		1.91	1.86
	x				1.83
43	x	1.85			1.80
	x				1.77
44	x	1.79			1.74
	x				
45	x	1.73			1.68
	x				
46	x	1.67			1.62
	x				
47	x	1.61			1.56
	x				
48	x	1.55			1.50 Not Staked
		1.52			
+76.4 =		1.5		1.5	

Cor tracks 132 201 198 195 192 189 186 183 3

.264 .0006 .01584 764 .04584

132 = BM obs sta 39+60

502 / 6.34 159 / 4.75 4.76 4.78 4.795 4.81 4.825 4.84 4.855 4.87 4.885 4.90 4.915 4.93 4.945 4.96

4.976 4.99 5.015 5.03 5.045 5.06 5.075 5.09 459 / 1.75 / 4.005 / 5.755 1.245 / 4.510 4.525 4.54 4.555

4.57 4.585 4.60 4.615 4.63 4.645 4.66 4.675 4.69 4.705 4.72 4.735 4.75

135 / 4.37 150 / 4.55

187 / 4.74 / 6.61 BM at Lyftor 456 / 2.05 472 / 1.89 489 / 1.72 507 / 2.14 517 / 1.24

365 / 2.96

156 / 5.05 15 / 5.11 106 / 5.56

132 / 502 / 6.35 195 / 4.37 195 / 4.40 192 / 4.43 189 / 4.38 186 / 4.46 4.41 4.35 4.37 4.44 4.38 4.52 4.49 4.91

4.55 4.50 4.94 4.58 4.53 4.97 4.64 456 / 1.79 / 393 / 5.72 5.00 406 / 4.01 176 / 3.96 4.40

4.04 399 4.43 4.07 4.02 4.46

4.10 4.05 4.49 4.13 4.08 4.52 4.16 4.11 4.55 4.19 4.14 4.58

4.17 4.61 4.20 4.64

132 / 468 / 5.95 200 / 3.86 / 4.30 203 / 3.68 / 4.30 199 / 3.94 / 4.14

187 / 228 / 4.15 175 / 240 230 55 / 360 357 354 351 348 345 342 339 336 333 330 327 324 321 318 315

312 309 306 305 / 110 / 392

183 304 / 4.09 302 / 4.26 300 / 4.28 298 / 4.13 296 / 4.24 294 / 4.09 292 / 4.30 290 / 4.33 288 / 4.35 286 / 4.37 284 / 4.40 282 / 4.43 280 / 4.45 278 / 4.26 276 / 4.48 274 / 4.25 272 / 4.55

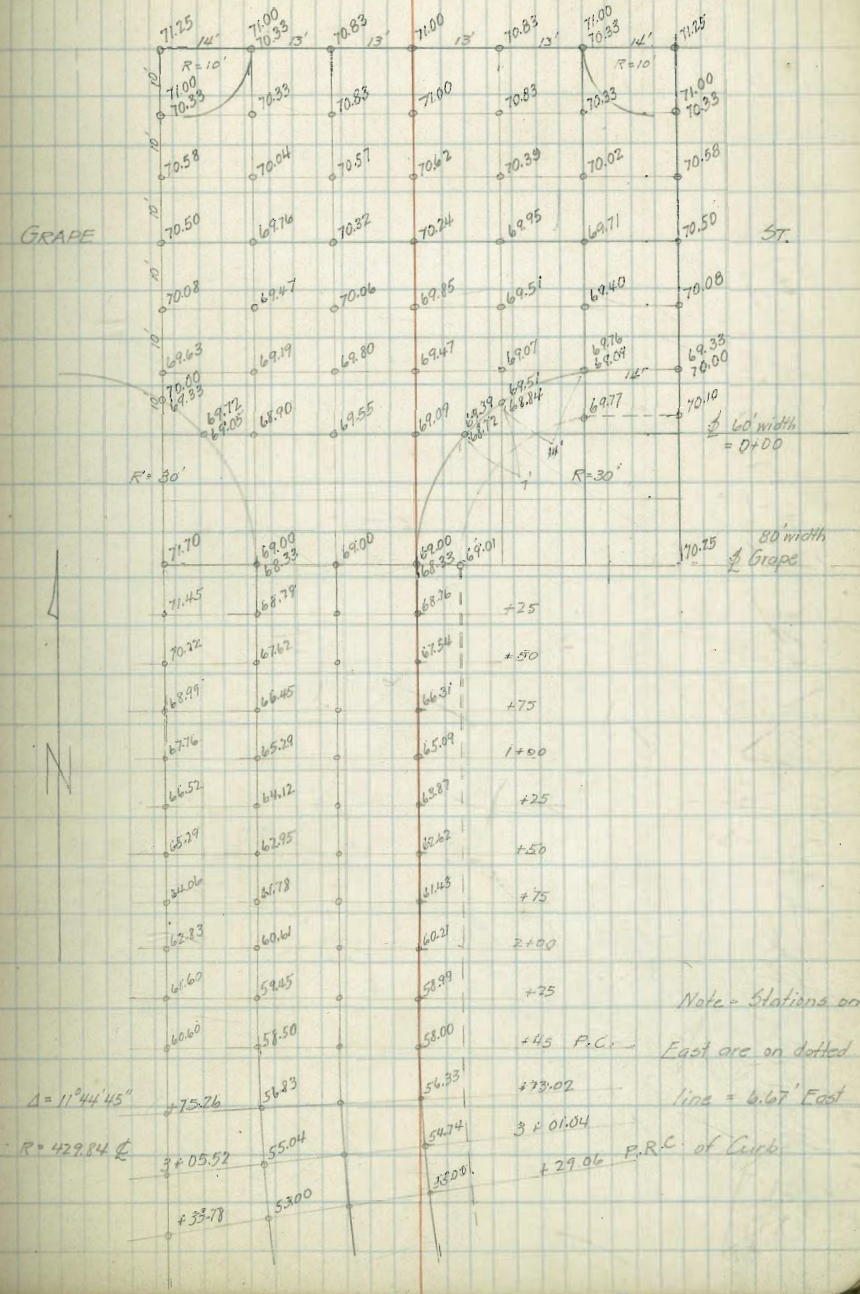
176 / 4.58 173 / 4.61 170 / 4.64 167 / 4.67 164 / 4.69

	S.C.			℄		N.C.	
200 = E.L. Lark	267.75	267.50	267.12	267.75	266.87	267.00	267.75
175	267.37	267.12	266.72	266.82	266.42	266.50	267.75
165	267.23	266.98	266.55	266.63	266.20	266.30	266.55
137.5	266.81	266.56	266.11	266.16	265.71	265.75	266.00
125	266.63	266.38	265.90	265.93	265.45	265.50	265.75
100	266.75	266.00	265.50	265.50	265.00	265.00	265.75
75	267.25	267.00	266.50	266.50	266.00	266.00	266.25
50	268.25	268.00	267.50	267.50	267.00	267.00	267.25
25	269.25	269.00	268.50	268.50	268.00	268.00	268.25
0 = W.L. Ingalls	270.75	270.00	269.50	269.50	269.00	269.00	269.25

1-23-20

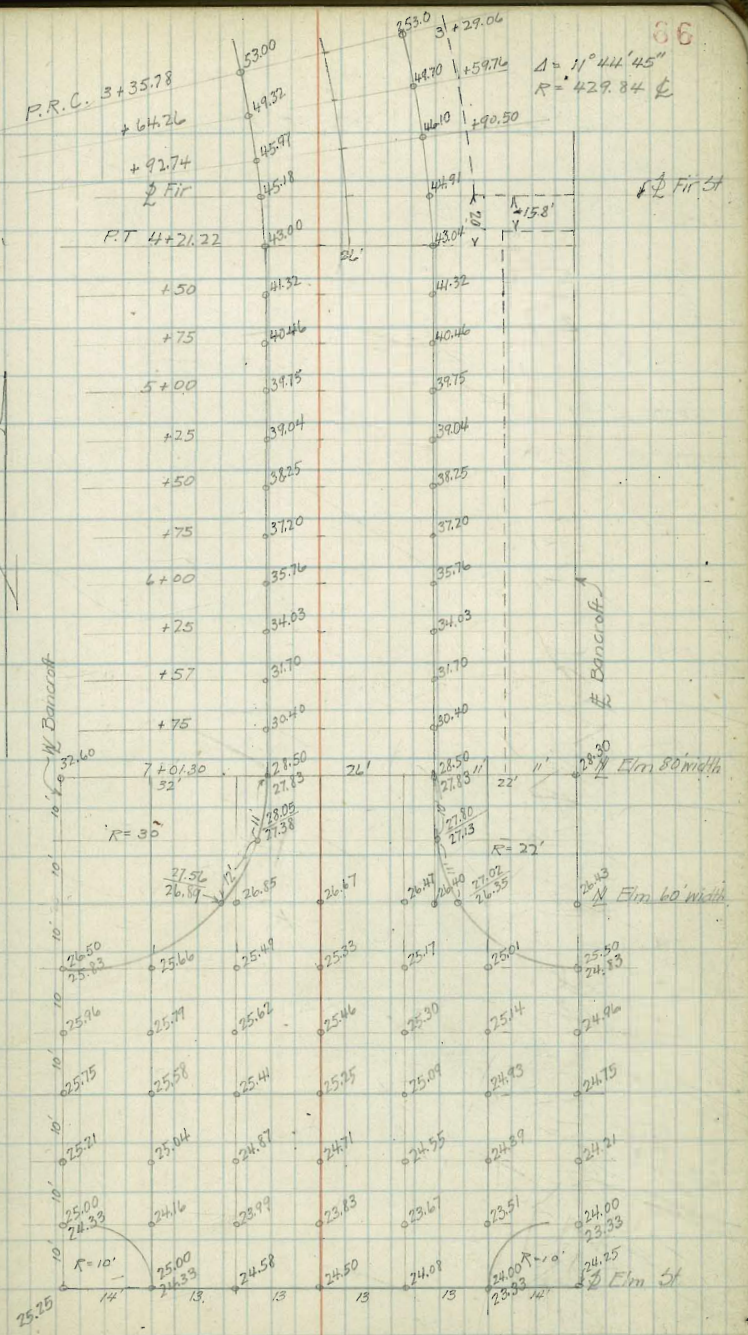
Bancroft St. W Grape to ℄ Elm

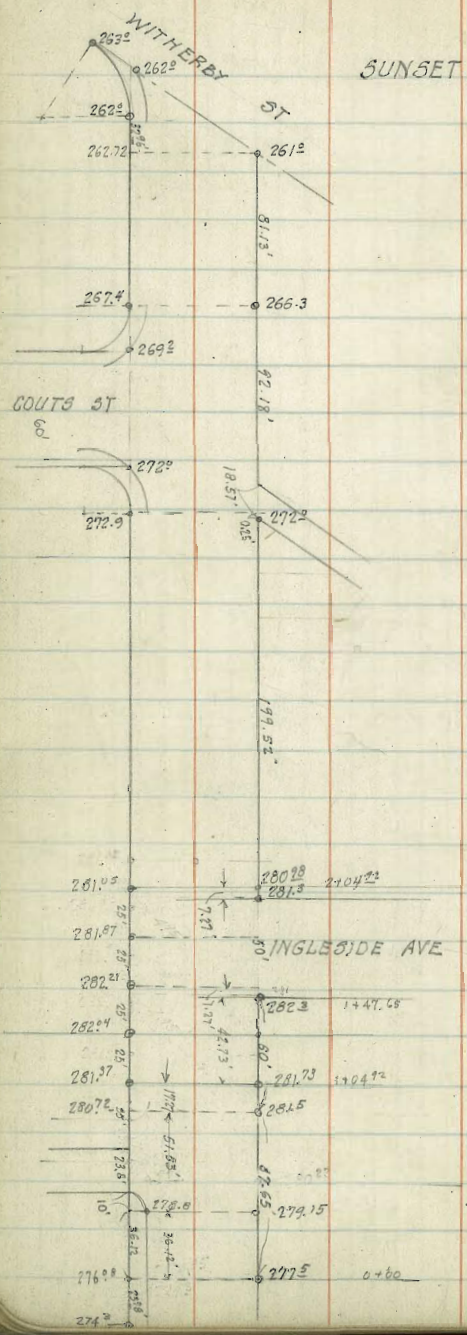
		W Curb	W 1/4	℄	E 1/4	E Curb	
W Grape	271.25	271.00	270.83	271.00	270.83	271.00	271.25
N Curb	71.00	71.00					
N 1/4							
℄ 60' width							
S 1/4							
S Curb							
℄ 60 width							
0+25							
+50							
+75							
1+00							
+25							
+50							
+75							
2+00							
+25							
P.C. +45							
W +75.26	℄ +73.02						
3+05.52	3+01.04						
P.R.C. +36.78	+29.06						



Bancroft St. N Grape to ℄ Elm.

	West prop. line	W. Curb	℄	E. Curb	E prop. line
N ℄					
P.R.C. 3+35.78	3+29.06				
+64.26	+59.78				
+92.74	+90.50				
℄ Fir					
P.T. 4+21.22					
+50					
+75					
5+00					
+25					
+50					
+75					
6+00					
+25					
+57					
+75					
80' width					
N Elm 7+01.30					
60' width					
N Elm					
N Curb					
N ½					
℄					
S ½					
S Curb					
℄ Elm					



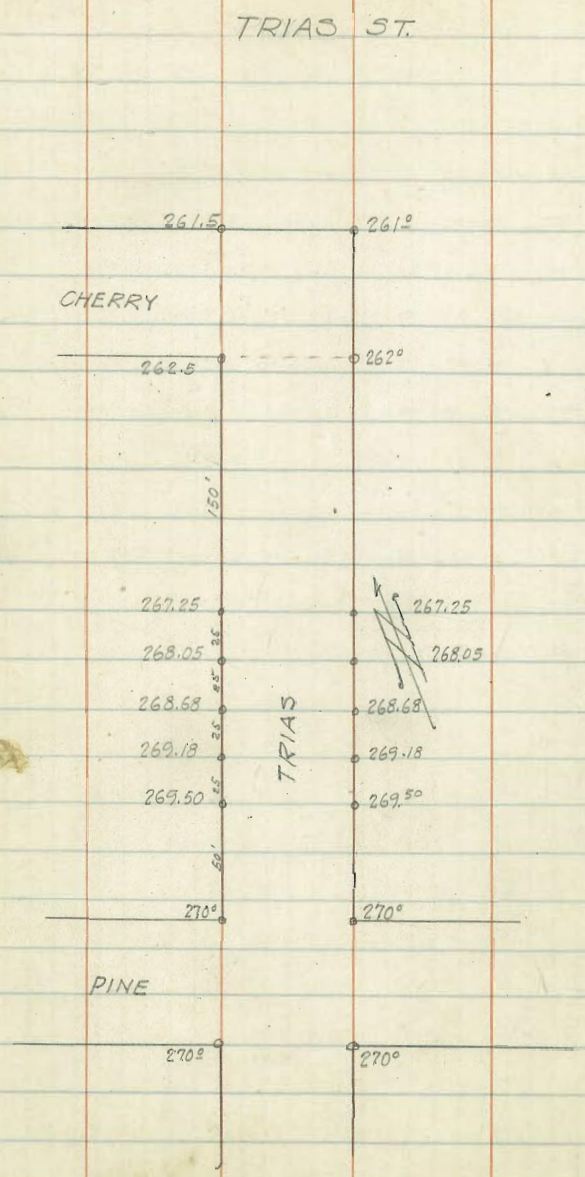

WITHERBY
ST
SUNSET BLVD.
263.2
262.2
262.9
262.72
261.2
61.73'
267.4
266.3
269.2
COUTS ST
60
272.9
272.9
272.2
18.57'
198.52'
281.05
280.28
281.3
2+04.72
281.87
INGLESIDE AVE
282.21
282.3
1+47.68
282.04
281.37
281.73
1+04.92
280.72
281.5
51.65'
23.61
10'
278.8
279.15
276.98
277.5
0+60
274

SUNSET BLVD 8" Gutters.

	B	cb	¼	½	℄	¼	Cb	N
=0.0 147.65 E of Ingleside	276.33	276.08	276.28	276.79	276.98		277.50	277.75
+10	277.18	276.83	276.97	277.39	277.52		277.96	278.21
+36.12	279.05	278.80	278.68	278.98	278.88		279.15	279.40
+40	279.19	278.94	278.86	279.14	279.06		279.33	279.58
+50	279.57	279.32	279.24	279.55	279.49		279.78	280.03
+80	280.68	280.43	280.46	280.79	280.69		281.15	281.40
+87.65	280.97	280.72	280.73	281.11	281.13		281.50	281.75
1+00								
B.V.C. 1+04.92	281.62	281.37	281.26	281.55	281.46		281.73	281.98
1+29.92	282.29	282.04	281.87	282.05	281.88		282.06	282.31
E.L. Ingleside 1+47.65							282.3	282.55
7.72								
1+54.92	282.46	282.21	282.02	282.18	281.91		282.15	282.4
1+79.92	282.12	281.87	281.35	281.69	280.65		280.50	280.80
W.L. Ingleside 1+97.65							281.3	281.55
E.V.C. = W.L. +7.27 2+04.92	281.30	281.05	280.86	281.02	280.81		280.98	281.23

SUNSET BLVD.

	S	Cb	¼	℄	¼	Cb	N
0.0 W.L. Ingleside							
E.V.C. 0+7.27	281.30	281.05	280.86	281.02	280.81	280.98	281.23
+50	279.50	279.25	279.01	279.12	278.86	278.99	279.24
+100	277.39	277.14	276.85	276.90	276.60	276.67	276.92
+150	275.33	275.08	274.74	274.68	274.39	274.34	274.59
P.C. E. Couts 00 +200 27 28'	273.15	272.90	272.51	272.45	272.06	272.00	272.25
Int Cb + PL 2+28.27 27'	272.0	271.9 271.0	270.23	270.40	270.33	270.55	270.80
℄ Couts 27'	270.6	269.65	269.36	269.70	269.11	269.16	269.41
Int. Cb. 28'	268.2 269.2	268.05	268.10	268.28	267.76	267.77	268.02
0+00 E.C. W Couts	267.65	266.40 267.4	266.96	266.87	266.41	266.30	266.55
+40	265.32	265.07	264.53	264.33	263.78	263.61	263.86
E.L. Witherby N +81.13 28.96' PG.	262.97	262.72	262.13	261.86	261.28 261.08	261.00	261.25
				261.50			
E.L. Witherby S. 25.4'	263.0	262.00	261.58				


TRIAS ST.
261.5
261.0
CHERRY
262.5
262°
150'
267.25
268.05
268.68
269.18
269.50
TRIAS
267.25
268.05
268.68
269.18
269.50
270°
270°
PINE
270°
270°

TRIAS ST

Finished Grade

	8" Gutters W W	cb	1/4	℄	50' Wide 10' Walks 1/4	cb	E
N. Line Cherry	261.75	261.50	261.37	261.25	261.13	261.0	261.25
N. Curb	261.50 260.84	261.50 260.84	261.37	261.25	261.13	261.0 26	261.25
N 1/4	261.66	261.09	261.58	261.50	261.34	261.25	261.50
℄	262.0	261.34	261.79	261.75	261.55	261.50	261.75
S 1/4	261.42	261.59	262.00	262.00	261.76	261.75	262.00
S. Curb	261.84 262.50	261.84 262.50	262.21	262.25	261.96	262.0	262.25
S. Line Cherry	262.75	262.50	262.21	262.25	261.96	262.0	262.25
25' S	263.54	263.29	263.02	263.08	262.81	262.88	263.13
50	264.33	264.08	263.83	263.91	263.66	263.75	264.00
75	265.12	264.87	264.64	264.75	264.52	264.63	264.88
100	265.91	265.66	265.46	265.58	265.37	265.50	265.75
125	266.70	266.45	266.26	266.41	266.22	266.38	266.63
150	267.50	267.25	267.08	267.25	267.08	267.25	267.50
175	268.30	268.05	267.88	268.05	267.88	268.05	268.30
200	268.85	268.68	268.51	268.68	268.51	268.68	268.83
225	269.43	269.18	269.01	269.18	269.01	269.18	269.43
250	269.75	269.50	269.33	269.50	269.33	269.50	269.75
275	270.00	269.75	269.58	269.75	269.58	269.75	270.00
300 N. Line Pine	270.25	270.00	269.83	270.0	269.83	270.0	270.25
N. Curb	270.00	270.00 269.33	269.83	270.00	269.83	270.00	270.00
N 1/4	269.83	269.33	269.83	270.00	269.83	269.83	269.83
℄	270.00	269.33	269.83	270.00	269.83	269.33	270.00
S 1/4	269.83	269.33	269.83	270.00	269.83	269.33	269.83
S. Curb	270.00	270.00	269.83	270.00	269.83	270.00	270.00
SL. Pine	270.25	270.00	269.83	270.00	269.83	270.00	270.25

MOORE St 5-7-20

Curb Grade Elevations

	West Cb	W. edge paving	℄	E. edge paving	East Cb	
Int Wy Calif St		52.26 edge paving				
= Sec B + 40.95	− 51.30					53.00 = ctr of curve
	− 50.87					
" C + 81.90		53.03	52.90			
	− 50.46			53.69 edge paving		
" D 1 + 22.85			51.96	53.69	Gutter 54.00	
	− 50.25					
" E + 43.32		53.34	51.50	53.85	" 53.25	54.3
	− 50.04					
" F 1 + 63.80			51.03	53.70	" 52.10	
= 0 + 00	− 49.88					
+ 15		52.88	50.68		" 51.25	
	− 49.80				" 50.80	
Break + + 23	Curb 50.00		50.50	52.57	Curb 51.00	
+ 30	49.87		50.34		" 50.86	
+ 45	49.61	51.13	50.01	51.12	" 50.45	
1 + 00	48.62	49.46	48.78	49.46	" 48.95	
⊥ Clayton-1 + 34.84	48.00	~~49.61~~ 49.67	48.00	49.61	" 48.00	
5 Cb	47.91	~~49.16~~	48.10	~~49.85~~		
5 1/4	47.83					
℄ Clayton	47.75	48.15		48.75 Extra paving		
N 1/4	47.67					
N Cb	47.59					
N Clayton − 0+00	47.50	47.90				
+50	47.34	47.74				
1+00	47.17	47.57				
+50	47.00	47.40				
2+00	46.83	47.23				
+50	46.67	47.07				
⊥ Luther 3+00	46.50					

55.04 End ret Cal

60.53 H.W. Clayton + Cal.

60.53
0.39
60.92
8.65
52.27
4.36
56.63

47.8	48.95	50.25	50.7	51.1	
8.73	48	6.28	5.7	5.4	
E. + 4.5	+ 3.5	+ 0.3	− 0.3	− 2.1	
− 0.5	48.42	49.41	49.5	49.68	50.25
	9.1	7.1	6.7	6.85	6.29
	− 1.4	− 3.1	− 3.5	− 3.5	− 1.7

47.90	47.11	46.97	46.80	46.63	46.47	46.30
9.2	9.4	9.6	9.7	9.9	10.1	10.2
+ 3.7	+ 3.0	+ 3.2	+ 3.1	+ 2.6	+ 4.2	+ 5.0
− 1.3	− 2.1	− 1.7	− 1.6	− 0.7	+ 0.3	+ 0.9

60.53 57.94

48.61	49.46	51.13				
9.33	9.48	6.81				
E + 3.7	+ 2.8	− 0.6				
W − 1.6	− 2.4	− 4.7	52.88	53.37	53.03	
			5.06	4.57	4.91	
	53.85	53.70				
	4.09	4.24				

61.62
6.58
55.04
.88
55.92

52.57
.39
= 1.5

51.65

47.07	47.23	47.40	47.57	47.74	47.90	
4.58	4.42	4.25	4.08	3.91	3.75	
48.15	48.10	48.67	48.66	51.13	52.55	53.37	53.03
7.17	7.22	6.65	5.86	4.19	2.74	1.92	2.24
50.57	53.70	53.85					
2.75	1.62	1.47					

47.42
6.83
54.05

47.40	47.57	47.74	47.90	48.15	48.26	48.76	49.46
6.65	6.48	6.31	6.15	5.90	5.80	5.30	4.57

MOORE ST.

		W. Cb			E Cb
℄ Suth	3+00	46.50	46.90		45.50
S Cb		46.41			
S ¼		46.33			
℄		46.25	46.65		
N ¼		46.17			
N Cb		46.09			
℄ Suth	= 0+00	46.00	46.3		~~45.00~~
	+30	45.60			
	+43	45.43			
	+50	45.34	45.74		
	+80	44.94			
	1+00	44.67	45.07		
	+05	44.61	45		
	+50	44.00	44.40		39.8 = grade at outlet of pipe
	+75	43.68	~~44.08~~ 43.94		
	2+00	43.34	~~43.74~~ 43.74		
	+50	42.68	43.08		
℄ Noell	3+01.4	42.00			42.00
S Cb					
S ¼					
℄					
N ¼					
N Cb					
℄ Noell		42.00			42.00

56.53	45.8	45.14	44.47	43.8	43.14	42.45	41.8
5.74	7.4	8.06	8.73	9.4	10.04	10.77	11.4
50.79	E +5.0	+2.1	+3.5	+6.9	+8.1	+5.6	+3.4
2.6	+1.4	+1.0	+0.6	-4.1	-2.1	-3.1	-3.4
53.20							

45.04

43.08	43.74					
4.96	4.30					
43.94	44.40	45.07	45.74	46.3	46.65	
7.19	6.44	5.77	5.10	4.54	4.19	
50.34	46.90					
	3.94					

MOORE ST.

	W. Cb			E Cb
℄ Noell = 0+00	42.00	42.4		42.00
+50	42.6	43.0		
+80	42.96			
1+00	43.20	43.6		
+30	43.56			
+50	43.80	44.2		
+90	44.28			
2+00	44.40	44.8		
+10	44.52			
+50	~~45.0~~	45.4		
+84	45.41	4		
℄ Est. 3+01.6	45.62	46.02		
6 Cb	45.79			
5 1/4	45.94			
℄	46.10	46.5		
N 1/4	46.26			
N Cb	46.41			
℄ Est 0+00	46.58	46.98		
+50	~~47.18~~	47.62		
1+00	47.78	48.26		
	~~48.38~~			
+50	~~48.20~~	48.90		
+60	Apex 49.00	49.02	P.C.	
+85		49.29		
2+00	48.28			
2+10	48.17	49.45		
2+35		49.50		
+50	47.99			
5030 2+60 Apex		49.45		
℄ Wright ~~3+02.2~~	47.34			
2+85		49.29		
3+10		49.03		

NW.12 W.TIE Estudillo

4621 NW. spk Wright

74

53.20	43.8	44.2	43.0	43.6	44.20	44.8	45.42
39.7	11.4	10.3	10.2	9.6	9.0	8.4	11.6
49.23	+ 0.8	- 1.1	+1.0	+1.6	+2.7	+4.5	+5.8
7.31	- 5.9	- 4.5	-4.5	-3.6	- 3.3	- 0.8	+0.4
57.04							

44.12	46.38	46.28	46.58	46.80	47.05	47.79	47.14
12.99	10.73	10.13	9.53	9.1	9.02	9.32	10.0
57.11	+5.8	+5.8	+5.6	+4.8	+5.1	+6.9	+6.9
	+0.2	+0.6	+0.5	-0.2	-0.8	+0.7	+0.6

50.59	48.79	49.45	49.50	49.45
	1.30	1.14	1.09	1.14

46.21	49.29	49.02	48.26	47.42	46.98	46.50	45.14	46.02
4.04	2.96	3.28	3.99	4.63	5.27	5.75	6.35	6.23
52.25								

44.12	44.40	44.2	42.6	43.0	44.4	5.97	
3.84	3.24	3.84	4.44	5.04	5.64		
48.04					27		

MOORE ST.

	W. Cb			E Cb
℄ Wright = 3+02.2	47.34	~~47.6~~		
3+10		49.03		
S Cb	47.10			
3+35		48.66		
S 1/4	46.89			
3+60		43.18		
℄	46.67			
N 1/4	46.45			
N Cb	46.24			
℄ Wright = 0+00	~~46.00~~	47.95 ~~46.0~~		
+50	~~45.17~~	46.70		
1+00	44.34	45.64		
+50	~~43.51~~	44.58		
2+00	~~42.67~~	43.52		
+50	~~41.84~~	42.46		
℄ Band. = 3+00.5	~~41.00~~	41.40		41.0
S Cb	~~40.74~~			
S 1/4	~~40.49~~			
+50	40.44	~~40.34~~		
℄	~~40.25~~	40.15		
N 1/4	~~40.01~~			
N Cb	~~39.76~~			
℄ Band. = 0+00	~~39.50~~	39.90		39.5
+50	~~38.40~~	38.80		
1+00	~~37.32~~	37.72		
+50	~~36.24~~	36.64		
2+00	~~35.16~~	35.56		
+50	~~34.08~~	34.48		
℄ Coutts 3+01.1	33.00	33.40		33.0

4621. spk NW Wright — 38 W Tic at Bandini — 4175 ±8 — 75

57.11	4458 / 11.2	4497 / 8.6	4414 / 9.4	4321 / 10.3	4247 / 11.1	4164 / 11.9	4058 / 12.96
4621	+ 6.4	+ 7.0	+ 6.9	+ 4.6	+ 3.4	+ 5.2	+ 6.4
7.36	+ 0.3	- 0.7	+ 0.4	- 1.6	- 2.0	- 1.0	0.0
58.56							
13.32							
4074	3923 / 3.7	3842 / 4.27	3717 / 5.3	3604 / 6.4	3496 / 7.5	3386 / 8.6	3278 / 9.67
173	+ 5.4	+ 3.4	+ 4.5	+ 3.4	+ 3.7	+ 2.5	+ 3.5
42.47	- 0.5	- 2.2	- 4.2	- 2.1	- 4.0	- 4.3	- 3.6

4127 — 3448 / 7.31 — 3556 / 6.23 — 3664 / 5.16 — 3772 / 4.07 — 3880 / 2.99 — 3988 / 1.89

4621 / 4416 / 50.67	4775 / 3.92	4670 / 3.97	4564 / 5.0	4458 / 6.09	4350 / 7.4	4246 / 8.21	4140 / 9.27	4065 / 10.04
4621 / 4338 / 50.57	4813 / 2.41	4726 / 1.93	4608 / 1.56	4775 / 2.4	4670 / 3.4			

MOORE ST.

	W Cb	℄			E Cb
℄ Courts 301.1	33.00	33.40			33.0
S Cb	32.56				
S ¼	32.16				
℄	31.75	32.56			
N ¼	31.34				
N Cb	30.94				
W. Courts = 0+00	31.32	31.72			
+50	30.27	30.67			
1+00	29.22	29.62			
+50	28.17	28.57	28.17		28.17
2+00	27.39	27.48	27.12	27.73	27.37
2+46.6 = PC on W.	25.69	26.18	26.15	26.65	26.54
3+00	24.34	24.71	25.02	25.45	25.62
# 3+18.89			24.90 = PC on E	25.40	25.65
℄ With ⅊ 3+28.52	23.75	3+23.7	24.50		

42.47	31.12	30.07	29.02	27.47	27.32	26.39	25.69
9.23	11.3	6.9	7.9	9.0	9.6	10.1	11.2
33.24	+5.1	+5.1	+4.9	+5.4	+6.0	-0.3	-0.4
3.71	-2.2	-1.9	-2.1	-0.9	-	-	
36.95							

26.5	27.5	
10.4	11.6	
+4.9	+4.0	

10.54									
11.73									
22.47									
34	26.18	26.64	27.73	27.48	28.57	29.62	30.67	31.72	32.56
22.13	7.63	7.10	6.08	6.33	5.24	4.19	3.14	2.09	1.26
11.68									
33.81									

22.12	25.40	26.65	26.18	27.48	27.73	28.57	29.62	30.67	
10.15	6.88	5.63	6.10	4.79	4.55	3.91	2.86	1.61	
32.28									

30.67	31.72	32.56	33.40
11.72	10.07	9.23	8.39
4.79			

		S edge		N edge	
0+00		1.0		1.5	
0+40		1.05		1.55	
0+40		1.33		1.74	+5/8"
0+60		2.07		2.24	F 1 5/8"
0+80		2.85	3.13	2.95	4 1/4"
0+97.70 E. Kurtz on N.			4.00		8"
1+50	6.17		6.52		8"
2+00			8.93		1 5/8"
2+20			9.90		00
2+40			10.30		0 1 3/4"
2+60			10.30		
3+00	10.00	9.91 ~~10.10~~	9.50	9.74 ~~9.40~~	
3+60	8.95	9.26	9.30	9.26	

Good

1.62 36K N.W. Kurtz

25
4

27 77

162 390 642 883 100 1020 940 92
9.74 7.56 5.04 2.6 1.46 1.26 2.1 6.2
7.26 -1.5 -1.5 -0.9 -0.1 -0.4 -0.6 +0.5
1.46 617 858 975 995 915 895
1.02 5.3 2.9 1.7 1.5 3.2 6.5
541 -4.3 -4.6 -5.0 -3.4 -0.9 +3.2
1.43 -5.1

on tied N side

1186 398 642 883 980 1020 162 303
7.95 4.43 3.02 2.06 1.66 3.94 2.51
-1.5 -1.5 -0.5 -0.3 -0.1 5.54 2.76

~~000~~ 161 120 NE Kurtz x Tide 202
4.94 3.93 351

102 355 105 155 137 174 209 224
3.82 1.59 4.39 3.89 4.07 3.90 3.33 3.20
5.44

162 365 617 858 955 995 190
1.64 8.41 6.09 3.68 2.71 2.31
1.26

102 174 224 803 390 315 642 583 980 1020
4.73 4.65 4.14 3.36 2.49 3.24 5.53 3.12 2.15 1.75
6.39 3.71 .66 00
1.95

162 390 642 995 883 980 1020
1.07 8.44 5.92 9.39 3.61 2.54 2.14
1.34

1020 990 416 925
3.70 4.00 9.94 4.65
1.30

Good

		Sedge pole	℄	edge pave.
4+00	9.22	9.49 / 9.16	9.57	9.49 / 9.36
4+40	9.48	9.73	9.83	
4+80		10.28	10.10	10.28
5+00			10.86	
5+50	12.40		12.75	12.65
6+00		14.54 / 14.14	14.64 / 14.24	14.54
6+50	15.98	16.23		16.69
6+77.18 = P.C. ∠ Paramount ⊥ S	16.80	17.15	17.56	17.86
7+20.81 = P.C. ✓ ✓	18.09 / 18.12		19.19 / 19.09	19.75

+ 0.8

+1.6

+1.6

+2.7

54'

+1.6

21'

+2.7

27'

+6.9

1054 Mon Witherby + Hancock

3 – 60

43.63

44°57

1543	949	973	100	1216	1454	1669	1786	1975
5.50	6.0	5.7	5.8	2.8	0.9	8.34	7.2	5.3
12.93	+2.6	+0.7	+0.2	-1.4	-1.3	-0.3	-0.2	+0.3
1210	9.22	948	975	1214	1429	1598	1680	1809
25.03	6.2	6.0	5.9	3.0	1.1	9.05	8.2	6.9
1.78	+1.3	-0.7	-2.5	-3.0	-1.6	-0.5	-0.6	+0.2
23.25								
9.61								
32.86								

349

1096

3.49

1054		1320						
19.24		4.15						
22.83		14.35						
4.45	3.86							
18.35	23.07							
8.58								
26.93	1840	936	973	1216	1028	1076	1265	
		4.97	4.02	4.35	4.07	3.59	1.70	

1435	1454	1669	1623
1.1	1.38	2.23	2.69
12.64			
6.28			
18.92			

1054	1975	1786	2.65	1.78	0.28		
10.14	3.68	2.87					
20.73							
20.75	655	565	475	385	295	201	
7.45							
28.20							

1895	1975	1975	7.18	6.37	5.56	4.76	3.95	3.14
7.61	1.71	7.99						
26.82	6.1	27.74						

1.08 BM 7+60
1.62 " 0+00

0+00 1.78 / 4.8 — 1.5
0+50 1.62 / 4.81 — 1.37
1+00 1.50 / 4.43 — 1.26
1+50 1.37 / 4.66 — 1.12
2+00 1.24 / 4.48 — 1.00
2+50 1.20 / 4.63 — 1.055
3+00 1.26 / 4.57 — 1.11
3+50 1.41 / 4.62 — 1.165
4+00 1.47 / 4.46 — 1.22
4+50 1.52 / 4.23 — 1.275
5+00 1.65 / 4.11 — 1.33
5+50 1.63 / 4.12 — 1.385
6+00 1.69 / 4.06 — 1.44
6+50 1.75 / 4.00 — 1.495
7+00 1.81 / 3.94 — 1.56
7+50 — 1.626
8+00 — 1.67
8+50 — 1.725
9+00 — 1.78
9+50 — 1.835
10+00 — 1.89
10+50 — 1.945
11+00 — 2.00
11+50 — 1.97
12+00 — 1.945
12+50 — 1.915

3.87 = BM on pole
1.62 = H.L Tide + Airplane station
5.49

— 4.49 = city flow line at S.L. Tide

9.98 = rod to " - - - -
3.34 to flow line
6.64 cut on top of 4"x4" set on ℄ of Culvert + 5' S. of S.L. of Tide

— 4.23 = city flow line at inlet and of culvert

9.72 = rod at inlet to flow
6.43
3.29 = cut to flow line of main culvert from top of 4"x4" set on ℄ of Culvert + 5' N. of inlet

Flow line of Lip at — is 2' higher than this

10.38 = B.M. gov't.
4.53 = flow line gov't.

10.35
4.12
14.51
5.02
9.49 — 9.98 — 4.49
4.96
+4.53 = gov't flow line at S.L. Tide

2nd Bent +13.5 — +21.5 — +29.5 — W pile +32.7

Moore
Meeler
7/15/20

Curb stakes So. Line Tide St 34+00 to 48+78.38

1.62 BM Tide + Airoplane Sta.

2.83	5.90		34 - 2.4	3.31	+50 - 2.07	3.83	45 - 1.74	4.26
4.45	4.07		+50 - 2.37	3.37	40 - 2.04	3.86	+50 - 1.71	4.35
2.87	1.85		35 - 2.34	3.37	+50 - 2.01	3.89	46 - 1.68	4.54
1.58	4.43		+50 - 2.31	3.90	41 - 1.98	3.92	+50 - 1.65	4.61
3.54	6.26		36 - 2.28	3.93	+50 - 1.95	3.95	47 - 1.62	4.64
5.12			+50 - 2.25	3.96	42 - 1.92	3.98	+50 - 1.59	4.67
3.83			37 - 2.22	3.99	+50 - 1.89	4.01	48 - 1.55	4.71
1.19	BM #33		+50 - 2.19	4.02	43 - 1.86	4.04	+50 - 1.52	4.74
5.02			38 - 2.16	4.05	+50 - 1.83	4.07	+73.38 - 1.5	4.76
6.21			+50 - 2.13	4.08	44 1.80	4.46		
4.11			39 - 2.10	4.11	+50 1.77	4.49		
2.10								
3.80								
5.90								

H.I. = 5.66

		34 - checked .01 high	19+50 = 1.53	5.29	10+50 = 1.935	3.72
1.62	1.62 BM	33 - 2.336	4.554	19 - = 1.555	6.70	10+00 1.885	3.78
4.59	5.20	32 - 2.272	4.618	18+50 = 1.58	6.68	9+50 = 1.835	3.83
6.19	6.82 H.I.	31 - 2.208	4.682	18 - = 1.610	6.65	9+00 = 1.77	3.89
4.17		30 - 2.144	4.746	17+50 1.64	6.62	8+50 = 1.715	3.94
2.82		29 - 2.08	4.81	17 - = 1.665	6.60	8+00 = 1.660	4.00
4.87		28 - 2.016	4.874	16+50 = 1.69	6.57	7+50 = 1.605	4.05
0.79		27 - 1.952	4.938	16 - = 1.720	6.54	7+00 = 1.55	4.69
1.53		26 - 1.888	4.302	15+50 1.75	6.51	6+50 = 1.495	4.74
6.73		25 - 1.824	4.366	15 - = 1.775	6.48	6+00 1.44	4.80
8.26 H.I.		24 - 1.760	4.43	14+50 1.80	6.46	5+50 = 1.385	4.85
		23 - 1.696	5.17	14 - 1.830	6.43	5+00 = 1.33	4.91
		22 - 1.632	5.19	13+50 1.86	6.40	4+50 = 1.275	4.96
		21 - 1.568	5.25	13 - 1.885	3.78	4+00 = 1.22	5.02
		20 - 1.5	5.37	12+50 1.91	3.75	3+50 1.165	5.07
				12 - 1.940	3.72	3+00 1.11	5.13
				11+50 1.97	3.69	2+50 1.05	5.18
				11 - = 2.0	3.66	2+00 = 1.0	5.24

13+00	1.89			184	4.37	2 3/4
13+50	1.86		6.21	181	4.40	2 3/8
14+00	1.835			178	4.43	2 1/8
14+50	1.805			175	4.30	2 3/4
15+00	1.780			173	4.32	4"
	1.755			170	4.35	3"
16+00	1.745			167	4.38	1 1/8"
	1.70			165	4.40	7/8"
17+00	1.67			162	4.43	3/4
	1.64			159	4.46	3/4
	1.6475					
18+00	1.613		1.415	156	4.49	2"
184	1.59			154	4.51	3 7/8"
19+00	1.56					
19+20				150	4.55	1 3/8
	1.53					
20	1.5					
	1.515					
	1.59					
21	1.56			151	4.39	1/8"
				154.5	4.355	3 1/4"
22	1.63			158	4.32	1/8"
				161	4.29	00
23	1.69			164	4.26	00
	1.745			167.5	4.225	2 1/8"
24	1.76			171	4.19	1 3/4"
	1.79		6.21	174	4.16	1 1/2"
25	1.82		4.51	177	4.44	7/8"
			1.90			
	1.85		4.40	180	4.41	1/2"
			5.90			

16+ @ Airplane Sta

172/3.93 175/3.89

Z 1.50 .25 / 4 / 10

5.94 / 5.13 / 1.64

6.23 176/4.97 4.955 4.94 4.925 132/4.91 4.895 4.88 4.865 4.85 — 501/4.26

4.95 4.41 4.97 4.38

162/4.07/5.69 (4.45) 3.92 3.79 3.77 3.80

162/3.81/4.93 1015/3.915 103/3.90 3.885 3.87 3.855 3.84 3.825 3.80 3.795 3.77 3.755 3.74 3.725 3.705 3.69

135/3.58 132/3.61 351 337 317 437 378 334 434 344 330 463 341 347 427 208 324 424 3.645 320 420

162 4.80 89/3.91 86/3.94 83/3.97 80/4.00 78/4.02 76/4.04 73/4.07 73/3.85/5.81 70/2.61 67/2.64 64/2.67 62/2.69 59/2.72 56/2.75

53/2.78 5/4.81 597/4.03/5.77 -4.36

162/4.03/5.65 109/4.56 184/3.91 110/4.55 115/4.50 378 119/4.51 114/4.51 376 115/4.50 117/4.48 373 115/4.50 120/4.45 370 4.44 4.42 367

124/4.41 126/4.39 3.44/2.01/3.93 127/4.37 128/4.36 3.91 129/4.35 130/4.33 3.68 132/4.32 133/4.30 3.65 135/4.29 136/4.28

134/4.26 139/4.25 140/3.84/4.28 145/4.25 3.67

1.02/4.95/6.04 1.15/4.89 4.85 117/4.87 4.83 120/4.84 4.80 123/4.81 4.77 126/4.78 4.74 128/4.76 4.72 131/4.73 4.69 134/4.70 4.66

136/4.65 4.34 139/4.65 4.31 142/4.67 4.28 145/4.69 4.15

162/4.83/6.05/4.46/1.69 155/4.63/6.21

162/4.59/6.41 169/4.46/5.12/4.68 106/5.15 101.5/5.19 100/5.21/5.14/4.91 101.5 103/5.18/5.17/4.94/4.69 104.5/5.15 106/4.95/5.09/4.76

162/4.43/6.25 178/4.27 181/4.24 184/4.21 185/4.17 187/4.14 189/4.11 192/4.08 197/4.04 201/4.01 204/3.98 207/3.95 210/3.92

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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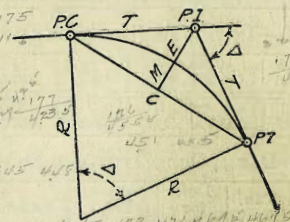

CURVE FORMULAS

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) $=R\,\text{vers}\,\frac{\Delta}{2}$ (6)

External$=E=T\tan\frac{\Delta}{4}$ (7) $=R\div\cos\frac{\Delta}{2}-R$ (8)$=R\times\sec\frac{\Delta}{2}$ (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. $\Delta=62°\ 10'$ $D=8°\ 20'$. 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 $(54.50\div100)^2$=2.16 ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus $(54.50)^2\div(2\times688.26)$=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 Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷ 42=5.5 or D=5° 30′.

Table I.—Minutes in Decimals of a Degree.

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

Table II.—Inches in Decimals of a Foot.

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

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

Table III.—Radii, Ordinates and Deflections.

Deg.	Radius	Mid. Ord.	Tan. Offset	Def. for 1 Foot	Deg.	Radius	Mid. Ord.	Tan. Offset	Def. for 1 Foot
0° 10′	34377.5	.036	.145	0.05′	7°	819.02	1.528	6.105	2.10′
20	17188.8	.073	.291	0.10	20′	781.84	1.600	6.395	2.20
30	11459.2	.109	.436	0.15	30	764.49	1.637	6.540	2.25
40	8594.42	.145	.582	0.20	40	747.89	1.673	6.685	2.30
50	6875.55	.182	.727	0.25					
					8	716.78	1.746	6.976	2.40
1	5729.65	.218	.873	0.30	20	688.16	1.819	7.266	2.50
10	4911.15	.255	1.018	0.35	30	674.69	1.855	7.411	2.55
20	4297.28	.291	1.164	0.40	40	661.74	1.892	7.556	2.60
30	3819.83	.327	1.309	0.45					
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	213.80

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Table VIII.—Natural Trigonometrical Functions.

Angle ′	Sine.	Tan.	Cotg.	Cosin.		Angle ′	Sine.	Tan.	Cotg.	Cosin.	
°						°					
32	.5299	.6249	1.600	.84805	**58**	30	.6225	.7954	1.257	.78261	30
10	.5324	.6289	1.590	.84650	50	40	.6248	.8002	1.250	.78079	20
20	.5348	.6330	1.580	.84495	40	50	.6271	.8050	1.242	.77897	10
30	.5373	.6371	1.570	.84339	30						
40	.5398	.6412	1.560	.84182	20	**39**	.6293	.8098	1.235	.77715	**51**
50	.5422	.6453	1.550	.84025	10	10	.6316	.8146	1.228	.77531	50
						20	.6338	.8195	1.220	.77347	40
33	.5446	.6494	1.540	.83867	**57**	30	.6361	.8243	1.213	.77162	30
10	.5471	.6536	1.530	.83708	50	40	.6383	.8292	1.206	.76977	20
20	.5495	.6577	1.520	.83549	40	50	.6406	.8342	1.199	.76791	10
30	.5519	.6619	1.511	.83389	30						
40	.5544	.6661	1.501	.83228	20	**40**	.6428	.8391	1.192	.76604	**50**
50	.5568	.6703	1.492	.83066	10	10	.6450	.8441	1.185	.76417	50
						20	.6472	.8491	1.178	.76229	40
34	.5592	.6745	1.483	.82904	**56**	30	.6494	.8541	1.171	.76041	30
10	.5616	.6787	1.473	.82741	50	40	.6517	.8591	1.164	.75851	20
20	.5640	.6830	1.464	.82577	40	50	.6539	.8642	1.157	.75661	10
30	.5664	.6873	1.455	.82413	30						
40	.5688	.6916	1.446	.82248	20	**41**	.6561	.8693	1.150	.75471	**49**
50	.5712	.6959	1.437	.82082	10	10	.6583	.8744	1.144	.75280	50
						20	.6604	.8796	1.137	.75088	40
35	.5736	.7002	1.428	.81915	**55**	30	.6626	.8847	1.130	.74896	30
10	.5760	.7046	1.419	.81748	50	40	.6648	.8899	1.124	.74703	20
20	.5783	.7089	1.411	.81580	40	50	.6670	.8952	1.117	.74509	10
30	.5807	.7133	1.402	.81412	30						
40	.5831	.7177	1.393	.81242	20	**42**	.6691	.9004	1.111	.74314	**48**
50	.5854	.7221	1.385	.81072	10	10	.6713	.9057	1.104	.74120	50
						20	.6734	.9110	1.098	.73924	40
36	.5878	.7265	1.376	.80902	**54**	30	.6756	.9163	1.091	.73728	30
10	.5901	.7310	1.368	.80730	50	40	.6777	.9217	1.085	.73531	20
20	.5925	.7355	1.360	.80558	40	50	.6799	.9271	1.079	.73333	10
30	.5948	.7400	1.351	.80386	30						
40	.5972	.7445	1.343	.80212	20	**43**	.6820	.9325	1.072	.73135	**47**
50	.5995	.7490	1.335	.80038	10	10	.6841	.9380	1.066	.72937	50
						20	.6862	.9435	1.060	.72737	40
37	.6018	.7536	1.327	.79864	**53**	30	.6884	.9490	1.054	.72537	30
10	.6041	.7581	1.319	.79688	50	40	.6905	.9545	1.048	.72337	20
20	.6065	.7627	1.311	.79512	40	50	.6926	.9601	1.042	.72136	10
30	.6088	.7673	1.303	.79335	30						
40	.6111	.7720	1.295	.79158	20	**44**	.6947	.9657	1.036	.71934	**46**
50	.6134	.7766	1.288	.78980	10	10	.6967	.6713	1.030	.71732	50
						20	.6988	.9770	1.024	.71529	40
38	.6157	.7813	1.280	.78801	**52**	30	.7009	.9827	1.018	.71325	30
10	.6180	.7860	1.272	.78622	50	40	.7030	.9884	1.012	.71121	20
20	.6202	.7907	1.265	.78442	40	50	.7050	.9942	1.006	.70916	10
							.7071	1.	1.	.70711	**45**
											°
	Cosin.	Cotg.	Tan.	Sine.	Angle.		Cosin.	Cotg.	Tan.	Sine.	Angle.

Table IX.—Calculation of Earthwork.

Width	HEIGHT														
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
1	.02	.04	.06	.07	.09	.11	.13	.15	.17	.18	.20	.22	.24	.26	.28
2	.04	.07	.11	.15	.18	.22	.26	.30	.33	.37	.41	.44	.48	.52	.56
3	.06	.11	.17	.22	.28	.33	.39	.44	.50	.56	.61	.67	.72	.78	.83
4	.07	.15	.22	.30	.37	.44	.52	.59	.67	.74	.81	.89	.96	1.04	1.11
5	.09	.19	.28	.37	.46	.56	.65	.74	.83	.93	1.02	1.11	1.20	1.30	1.39
6	.11	.22	.33	.44	.56	.67	.78	.89	1.00	1.11	1.22	1.33	1.44	1.55	1.67
7	.13	.26	.39	.52	.65	.78	.91	1.04	1.16	1.30	1.42	1.55	1.68	1.81	1.94
8	.15	.30	.44	.59	.74	.89	1.04	1.19	1.33	1.48	1.63	1.78	1.92	2.08	2.22
9	.17	.33	.50	.67	.83	1.00	1.17	1.33	1.50	1.67	1.83	2.00	2.17	2.33	2.50
10	.18	.37	.56	.74	.93	1.11	1.30	1.48	1.67	1.85	2.04	2.22	2.41	2.59	2.78
11	.20	.41	.61	.82	1.02	1.22	1.43	1.63	1.83	2.04	2.24	2.44	2.65	2.85	3.06
12	.22	.44	.67	.89	1.11	1.33	1.56	1.78	2.00	2.22	2.44	2.67	2.89	3.11	3.33
13	.24	.48	.72	.96	1.20	1.44	1.68	1.92	2.16	2.41	2.65	2.89	3.13	3.37	3.61
14	.26	.52	.78	1.04	1.30	1.55	1.81	2.08	2.33	2.59	2.85	3.11	3.37	3.63	3.89
15	.28	.56	.83	1.11	1.39	1.67	1.94	2.22	2.50	2.78	3.06	3.33	3.61	3.89	4.17
16	.30	.59	.89	1.18	1.48	1.78	2.07	2.37	2.67	2.96	3.26	3.56	3.85	4.15	4.44
17	.31	.63	.94	1.26	1.57	1.89	2.20	2.52	2.83	3.15	3.46	3.78	4.09	4.41	4.72
18	.33	.67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	3.67	4.00	4.33	4.67	5.00
19	.35	.70	1.06	1.41	1.76	2.11	2.46	2.82	3.17	3.52	3.87	4.22	4.57	4.92	5.28
20	.37	.74	1.11	1.48	1.85	2.22	2.59	2.96	3.33	3.70	4.07	4.44	4.81	5.18	5.56
21	.39	.78	1.17	1.55	1.94	2.33	2.72	3.11	3.50	3.89	4.28	4.67	5.06	5.44	5.33
22	.41	.81	1.22	1.63	2.04	2.44	2.85	3.26	3.67	4.07	4.48	4.89	5.30	5.70	6.11
23	.43	.85	1.28	1.70	2.13	2.56	2.98	3.41	3.83	4.26	4.68	5.11	5.54	5.96	6.39
24	.44	.89	1.33	1.78	2.22	2.67	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67
25	.46	.92	1.39	1.85	2.31	2.78	3.24	3.70	4.17	4.63	5.09	5.56	6.02	6.48	6.94
26	.48	.96	1.44	1.92	2.41	2.89	3.37	3.85	4.33	4.82	5.30	5.78	6.26	6.74	7.24
27	.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50
28	.52	1.04	1.55	2.07	2.59	3.11	3.63	4.15	4.67	5.18	5.70	6.22	6.74	7.26	7.78
29	.54	1.07	1.61	2.15	2.68	3.22	3.76	4.30	4.83	5.37	5.91	6.44	6.98	7.52	8.06
30	.56	1.11	1.67	2.22	2.78	3.33	3.89	4.44	5.00	5.55	6.11	6.67	7.22	7.78	8.33
31	.57	1.15	1.72	2.30	2.87	3.44	4.02	4.59	5.17	5.74	6.32	6.89	7.46	8.04	8.61
32	.59	1.18	1.78	2.37	2.96	3.56	4.15	4.74	5.33	5.92	6.52	7.11	7.70	8.30	8.89
33	.61	1.22	1.83	2.44	3.05	3.67	4.28	4.89	5.50	6.11	6.72	7.33	7.94	8.55	9.17
34	.63	1.26	1.89	2.52	3.15	3.78	4.40	5.04	5.67	6.29	6.93	7.56	8.18	8.81	9.44
35	.65	1.30	1.94	2.59	3.24	3.89	4.53	5.18	5.83	6.48	7.13	7.78	8.42	9.08	9.72
36	.67	1.33	2.00	2.67	3.33	4.00	4.66	5.33	6.00	6.67	7.33	8.00	8.67	9.33	10.00
37	.68	1.37	2.06	2.74	3.42	4.11	4.79	5.48	6.17	6.85	7.54	8.22	8.91	9.59	10.28
38	.70	1.41	2.11	2.82	3.52	4.22	4.92	5.63	6.33	7.03	7.74	8.44	9.15	9.85	10.56
39	.72	1.44	2.17	2.89	3.61	4.33	5.05	5.78	6.50	7.22	7.95	8.67	9.39	10.11	10.83
40	.74	1.48	2.22	2.96	3.70	4.44	5.18	5.92	6.67	7.41	8.15	8.89	9.63	10.37	11.11

Table gives cu. yds. in 1 ft. of a triangle of given width and height. Corrections for tenths of width are one tenth the values found under each height considering the widths from 1 to 9 as tenths and similarly the corrections for tenths of height are one tenth the figures opposite width considering the heights from 1 to 9 as tenths. Thus if w =16.2 and h =5.3, cu. yds. =1.48+.028+.089 =1.597 cu. yds. or practically 160 cu. yds. per 100 ft. If w exceeds 40 ft., use one half and multiply result by 2, if both w and h are large use one half of each and multiply result by 4. Any cross-section may be divided into triangles by the following rule. To the triangle of the sum of the outside cuts (or fills) =h, and ½ the roadbed =w, add the triangles formed by taking the distance out to each break in turn (=w's) by the difference between the cuts (or fills) on each side of it (=h's) always subtracting the outer from the inner.

Diagram for Obtaining Horizontal and Vertical Distances From Stadia Readings

Enter the horizontal scale with the value of the stadia interval X the stadia constant (usually 100 and run vertically upward to intersection with the line representing the vertical angle. The location of this point with reference to the dotted lines marked "one" &c. gives the correction to be substracted from S f/i to get the horizontal distance. Reading on vertical scale equals vertical distance.

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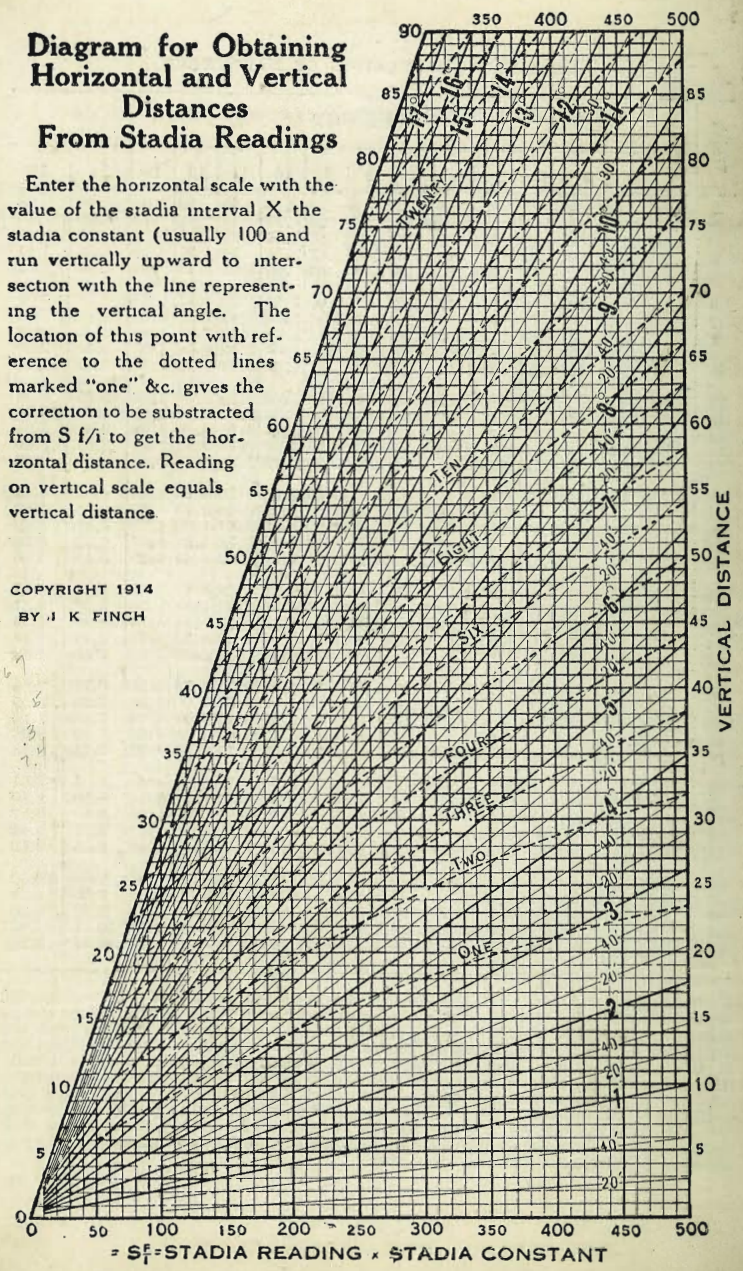

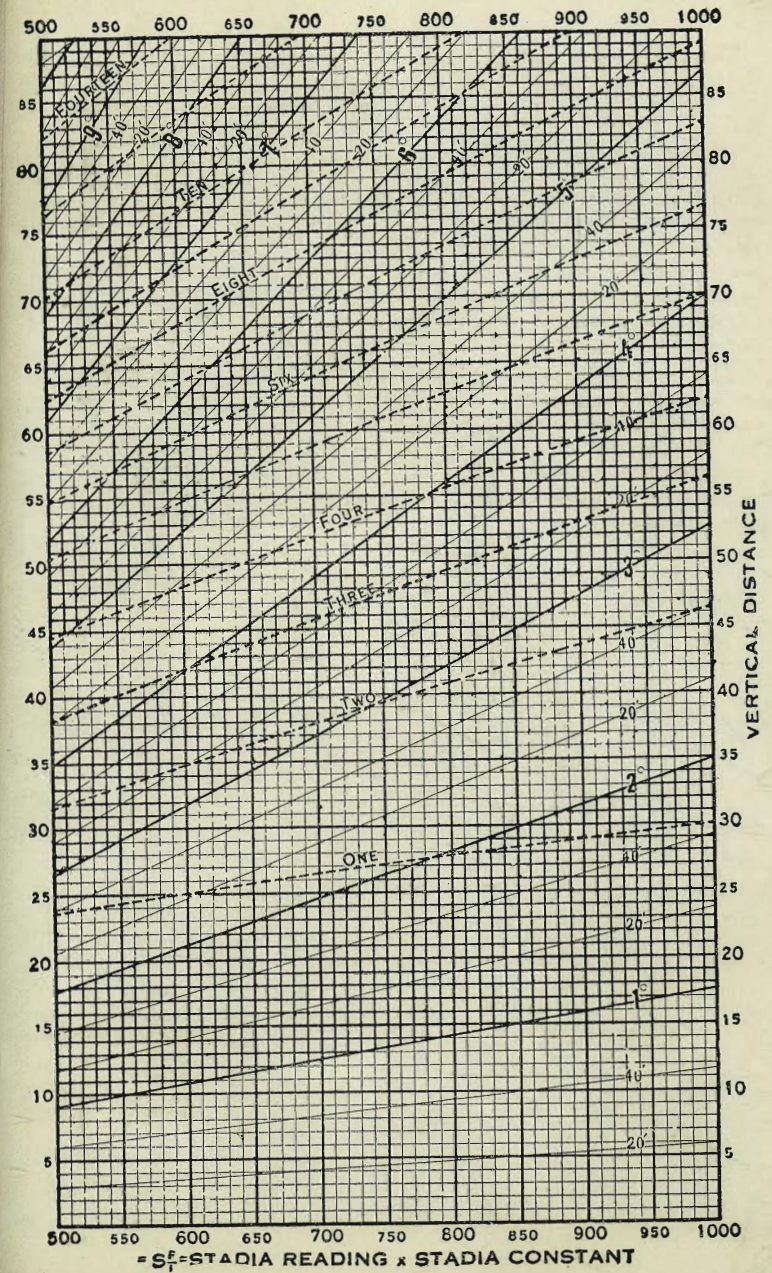

Securities

St car	Ferry	Savage	Coronado	Sugar
14%				
1,000,000				
140,000				
70,000				
210,000				
790,000				

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	25.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

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

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