GRADE BOOK 97

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.

Chicago

H	
0	
1	
2	1
3	1
4	1
5	1
6	1
7	1
8	1
9	1
10	1
11	1
12	2
13	2
14	2
15	2
16	2
17	2
18	2
19	2
20	2
21	2
22	2
23	2
24	
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27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	

E
to be
of roa
examp
30.6 =

Morena Boulevard

11+00		~~19.17~~	19.09
10+50		~~18.75~~	18.65
10		~~18.33~~	18.20
9+50		~~17.92~~	17.76
9+25		~~17.71~~	
9		~~17.50~~	17.31
8+50		~~17.08~~	16.87
8		~~16.67~~	16.42
7+50		~~16.25~~	15.98
7		~~15.83~~	15.53
6+50		~~15.42~~	15.09
6		15.00	14.64
5+50		~~14.92~~	14.59
5		~~14.84~~	14.54
4+50		~~14.76~~	14.49
4		~~14.68~~	14.44
3+50		~~14.60~~	14.39
3		~~14.52~~	14.34
2+50		~~14.44~~	14.29
2		~~14.36~~	14.24
1+50		~~14.28~~	14.19
1		~~14.20~~	14.14
0+50		~~14.12~~	14.09
0+00		~~14.04~~	14.04
N.L. Greenwood		14.00	

+0.83333 %

+0.16 %

17.66 3pk Lt of 10+00
8.89 = Mon at 0+00

2

= 34.93 × 29.92.5 @ 10+95.98 POT.

2513	1855	1766	1813	1797	1780	1688	1647	1665	1563	1527	1469	1472	1464
7.44	6.38	3.44	1.47	2.18	2.69	3.01	3.45	3.51	4.27	4.68	5.01	5.19	5.26
17.66	-0.9	19.90	-0.4	-0.3	-0.5	-0.5	-0.4	-0.7	-1.3	-1.3	-0.8	-0.4	-0.5
	-0.5		-0.9	-1.2	+0.9	-0.4	-1.4	-1.2	-0.8	-2.6	-2.3	-2.5	-2.1

1456	1445	1424	1400	1419	1414	1409	1404	1399	1394	1389	1384
5.34	5.52	5.66	12.80	4.82	4.87	4.82	4.87	4.92	4.97	4.92	4.87
-0.4			4.91	-0.5	-0.5	-0.5	-0.3	-0.3	-0.2	-0.2	+0.1
-2.1	-2.3		18.71	-1.1	-2.0	-2.0	-2.5	-2.5	-2.7	-1.6	-0.7
			17.82								
			8.89								

889	1390	1394	1399	1404	1409	1414	1419	1424	1429	1434	1439	1444
9.78	4.77	4.73	4.78	4.83	4.88	4.53	4.48	4.43	4.38	4.33	4.28	4.23
18.67													

1444	1449	1464	1499	1548	1588	1637	1697	1771	1766	1810	1855
6.48	6.24	6.09	5.34	5.30	4.80	4.41	3.96	3.52	3.07	2.63	2.18
20.72											

1766	1810	1855	1899
6.84	6.40	5.95	5.51
24.50			

× 35.36 × 27.06 @ 5+22.78 POT.

N/L Greenwood

C.T. PAVMT.

26.46

B MON

Morena Boulevard
Linda Avenue

22+28.65PC	19.5	19.71	18.77	18.97	18.0
22	19.5	19.34	18.98	18.86	18.35
21+50	19.53	19.44	19.36	19.08	18.94
21	19.6	19.67	19.74	19.57	19.49
20+50	~~19.9~~	20.04	20.12	20.04	~~19.9~~
20	20.40		20.50	20.40	
19+50	20.46		20.56	20.46	
19	~~20.44~~	20.51	20.62	20.57	~~20.44~~
18+50	~~20.49~~	20.59	20.69	20.59	~~20.54~~
18	20.46	20.65	20.75	20.65	20.97
17+50	20.43	20.56	20.81	20.97	21.05
17+08.01=EC 17+03.38	20.41 Equation	20.56 20.57 20.58	20.86	21.16 21.17 21.18	21.31
16+50		20.59 20.60	20.94	21.20 21.22	
16+00		20.62 20.64	21.00	21.23 21.24	
15+82.04PC	20.54	20.56	20.96	21.12	21.14
15+50	20.49	20.51	20.88	21.03	21.14
15	20.46	20.56	20.75	20.77	20.98
14+50	20.43	20.49	20.63	20.53	20.78
14	20.40	20.40	20.50		20.30
13+50			20.38		
13			20.25		
12+50			20.13	20.03	
12			~~20.00~~ 19.92	19.82	
11+50			~~19.58~~	19.66	
11+00			~~19.17~~	19.09	

-0.7576%
-0.12%
+0.25%
+0.8333%

Ld. + C.T. @ 39.98 x 37.36 x

22.45 2.63 2.13 | 2052 4.61 0.0 | 2044 3.71 -0.2 | 2042 4.14 -0.6 | 2049 4.64 +0.1 | 2046 4.67 0.0 | 2038 4.35 -0.7 | 2043 4.70 -0.2 -0.2 | 2030 4.33 +0.1 -0.1 | 2018 4.95 +0.4 +0.5 | 2004 5.98 +1.9 +1.9

1997 5.20 +0.2 +1.2 | 1980 5.53 -0.7 -0.4 | 1938 5.95 -3.4 -0.6 | 1897 6.16 -1.6 -0.7

22.45 4.53 27.00 | 2051 4.49 +0.1 | 2041 5.54 -0.2 | 2035 5.64 +0.5 | 2048 6.52 +0.5 | 2046 4.64 +0.5 | 2036 5.64 +0.4 | 2043 5.67 -0.2 | 2041 6.57 +0.5 | 2031 6.59 +0.3 | 5.64 0.0

2042 5.94 +0.1 | 2043 6.54 +0.5 | 2041 6.54 +1.4 | 2077 6.23 +1.2 | 2054 6.46 +2.0 | 2049 6.61 +1.5 | 2044 6.58 +2.2 +2.6 | 2036 6.64 +2.1 +2.9 | 2030 6.70 +0.2 +1.7

1997 7.08 -0.9 -0.7 | 1954 7.46 -1.3 -1.1 | 1894 8.06 -1.3 | 1853 9.39 -2.5 | 1845 7.48 -2.7 | 1835 8.63 -1.0 | 1802 8.98 -0.6 | 1852 7.48 -3.2

x 40.72 x 36.86 @ Ld. + C.T.

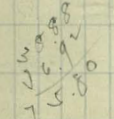
22.50 1945 5.05 | 1977 1.48 | 2003 4.47 | 2015 4.28 | 2028 4.27 | 2040 4.10 | 2053 3.91 | 2047 4.03 | 2056 3.94 | 2077 3.73

2105 3.48 | 2061 3.89 | 2086 3.84 | 2116 3.74

x 38.88 x 36.92 @ Ld + C.T.

22.45 2.88 6.33 | 2116 5.17 | 2056 5.97 | 2057 5.76 | 2056 5.95 | 2089 5.74 | 2060 5.93 | 2061 5.71 | 2064 3.69

40.72
36.86
77.58



Mountain Boulevard

32+00	19.91	20.57	21.24	
31+75	20.16	21.01	21.49	
31+50	20.58	21.32	21.87	
31+25	20.83	21.51	22.07	
31+00	20.91	21.58	22.02	
30+75	21.03	21.53	21.86	
30+50	21.04	21.41	21.63	
30	20.96	21.16		
29+50		20.92		
29		20.67		
28+50		20.42		
28		20.18		
27+50		19.93		
27		19.69		
26+50		19.44		
26		19.20		
25+60		19.00		
25+50		18.96		
25	18.84	18.74	18.64	
24+50	18.48	18.52	18.38	
24	18.30	18.30	18.06	
23+97.29	18.08	18.09	17.71	
23+30	17.98	18.00		
23+20.32 EC	18.02	18.07	17.69	
22+50	19.06	18.61		
22+28.65 PC	19.08	18.77		

Vertical curve

+0.4913%

+0.4348%

−0.0576%

17.43 BM. west ∝ 22+50 spk
2237 · Mon 31+00 Rt

5.95
16.18

17.43
4.70
22.13

Ld. + C.T.

31+50.33 PC Ⓑ 30.22 × 37.70 ×

17.43	18.45	18.50	18.52	18.54	18.76	19.00	19.02	19.04	19.73	19.91	20.22	20.04
4.06	4.81	4.99	5.19	4.95	4.73	4.49	4.25	4.00	3.76	3.51	3.27	3.07
22.49	-1.7	1.87	-0.3	-0.1	+0.2	+0.4	+1.0	+2.4	+2.1	+2.3	+2.3	+2.7
		5.62	-0.7	-0.6	-0.5	-0.9	-0.5	-0.8		-0.2	+0.7	-0.4

3.16	20.72	20.96	21.14	21.02				22.32	22.01	21.57
20.33	21.77	21.19	4.39	3.88				3.81	4.12	4.56
5.80	+2.5	+0.5	-0.1	-0.2				+1.5	+2.7	+3.0
26.13	24.1	21.4	21.03	21.70	20.91	20.67	20.46	22.02	22.03	21.57
			5.09	5.32	5.81	5.53				
			-3.6	-1.2	+1.5	+2.3				

27.20

19.28	17.78	17.95	19.05	18.12	18.76	
7.72	9.32	9.25	7.94	8.18	8.24	
-2.8	+0.6	+0.4	-2.1	-2.3	-1.8	

17.43	17.71	18.54	18.42	18.28	18.14	18.00	17.86
4.82	4.54	3.68	3.83	3.99	4.11	4.25	4.39
22.25							

3.54 3.40 3.26 3.17 2.98 2.97

18.48	18.44	18.06	18.38	18.48	18.64	18.90	19.10	19.34	
3.77	3.81	4.19	3.87	3.77	3.61	3.35	3.14	2.91	
19.34	19.59	19.83	20.05	20.27	20.57	20.87	21.06	21.63	21.16	21.20
5.93	5.68	5.44	5.19	4.95	4.70	4.48	4.21	3.64	4.11	4.07
25.27										

21.86	22.02	21.13	20.65	21.99	
3.41	3.25	4.14	4.62		

22.37	21.07	20.96
2.69	3.00	4.11
25.06		

24.26

21.49	21.68	21.87	21.99	20.95	20.83	20.65	20.54	20.36	
2.77	2.55	2.39	2.27	3.31	3.43	3.61	3.72	3.91	
24.26									

20.16	19.91	
4.10	4.35	

Ld. + C.T.

Ⓑ 34.41 × 44.20 ×

Miramar Boulevard

41+00		9.89				
40+50		9.71				
40		9.53				
39+50		9.35				
39		9.17				
38+50		8.99				
38		8.81				
37+50		8.63				
37		8.45				
36+75		8.36				
36+50		8.33				
36+25		8.42				
36		8.63				
35+75		8.97				
35+50		9.42				
35+25		9.99				
35+00		10.69				
34+75		11.50				
34+50		12.37				
34	14.02	14.12	14.02			
33+50	15.47 15.71	15.87	15.87		15.47	
33	17.30 17.30	17.62	17.91		18.10	
32+75	17.84 18.06	18.50	18.98		19.24	
32+50	18.48 18.76	19.31	19.95		20.04	
32+25	19.04 19.33 19.64	20.00	20.69		21.0	
32+00	19.91	20.57	20.95 21.24		21.57	

+0.360% Vertical curve −3.50% Vertical curve

611 5pt Rt of 38+60
2237 Mon of E.C.

5

2613 | 2141 | 2070 | 1810 | 1569 | 1384 | 1274 | 1049 | 922 | 848 | 818 | 875
1722 | 513 | 586 | 8.03 | 1046 | 1021 | 513 | 3.97 | 5.18 | 5.97 | 6.27 | 6.14
1335 | +2.6 | +1.6 | +1.5 | +1.7 | +3.0 | +0.3 | -1.5 | -1.0 | -1.6 | -1.4 | -1.2 | -1.3
1040 | 20.2 | 1981 | 1930 | +0.5 | +0.6 | -2.8 | -6.0 | -4.6 | -1.4 | -1.2 | -1.3
497 | -5.9 | 6.82 | 8.83
 | +2.2 | +1.9 | +0.8
943 | 943 | 861 | 872 | 882 | 915 | 983 | 981 | 968
105 | 597 | 597 | 561 | 5.45 | 5.72 | 5.07 | 11.89 | 4.71
1045 | -4.2 | -4.0 | -3.9 | -2.8 | 8.8 | -4.2 | -1.1 | -3.3
 | -4.2 | -4.0 | -4.0 | 3.4 | -3.8 | -3.7 | -3.6 | -3.7

Ld & CT.

N 0°W
Z 76.30 × 30 = 27.5 × Rodio Line
38+28.1 Kilo XVIII Le ST.

FC

611 | 891 | 889 | 907 | 875 | 944 | 941 | 998
746 | 4.86 | 4.68 | 4.50 | 4.32 | 4.14 | 3.96 | 3.78
1357

2506 | 2069
439

2237 | 1896 | 2124 | 2008
189 | 550 | 307 | 328
2426

1965 | 1933 | 1904
461 | 493 | 522

1806 | 1995 | 1898 | 1730 | 1791 | 1587 | 1571
6.20 | 4.31 | 5.28 | 6.96 | 6.35 | 8.39 | 8.54

1402 | 1427
10.24 | 11.99

1207 | 1140 | 1058 | 989 | 932 | 887 | 853 | 832 | 823 | 826 | 835 | 853
141 | 428 | 3.09 | 3.79 | 4.36 | 4.81 | 5.15 | 5.36 | 5.45 | 5.42 | 5.33 | 5.16
368
889
4.79

276.30
30
3.06.3°

FB = 871 - X8

32+23.60 E.C. = 30.63 × 38.07 ×

Morrison Boulevard

49	4.89	4.43	3.9~	
48+50	4.80	4.63	4.8~	
48	4.7~	4.8~	4.7~	
47+50		5.02		
47		5.22		
46+50		5.41		
46		5.61		
45+50		5.80		
45+00	6.00	6.00	6.00	X
44+50		6.61		
44		7.21		
43+50		7.8~		
43		8.4~		
42+50		9.03		
42		9.64		
41+75		9.94		
41+70		10.00	9.90	X
41+64		10.00		
41+58		10.00		
41+48		1000		
41+37		1000		
41+30		10.00		X
41+23		9.97		
41+13		9.94		
41+00		9.89		

- 0.3921%

- 1.2121%

level

+0.3605%

5.86 SPR RT OF 44+88

1440 — 10.5

9.90	9.80	9.44	8.83	8.2~	7.6~	7.01	6.41	5.80	5.4~	5.4~	5.0~
10.40	0.68	10.4	1.65	2.24	2.84	3.47	4.09	4.68	4.8~	5.2~	5.4~
-0.3	-3.3	-3.3	-3.5	-2.4	-2.0	-1.3	-0.7	-0.4	-0.4	-1.0	-0.9
-2.7	-4.5	-3.3	-3.6	-3.6	-3.1	-2.2	-2.0	-1.5	-1.7	-1.9	-1.8

4.8~	4.6~	4.3~	4.2~
5.66	5.86	6.05	6.25
-1.8	-3.0	-3.4	-3.1
-1.8	-1.9	-2.0	-2.1

8.05

4.8~	3.9~	4.3~	4.8~	4.7~	4.7~	4.9~	5.1~	5.3~	5.5~	5.7~	5.8~	6.0~
3.96	4.13	4.33	3.82	3.93	3.73	5.01	5.71	5.52	5.32	5.13	4.92	4.82
						10.83						

6.5~	7.1~	7.7~	8.3~	8.9~	9.5~	9.8~	9.9~
4.32	3.72	3.11	2.51	1.90	1.29	1.01	.93

13.57 — 3.69

× 23.59 — 28.73 — OUT 13+89.05 ×

Morena Boulevard

57+50		17.26		+4.0875%
57	150'	15.22		
56+70		13.99		
56+50		13.17		
56	break	11.13		
55+65	break	9.94		
55+30	break *	9.24		
55		8.84		
54+50		8.18		+1.3213%
54		7.52		
53+50		6.86		
53+20	break	6.46		
52+85	break	6.05		
52+50	break	5.75		
52	518	5.38	518	
51+50	5.31 5.02	5.07	466 448	+0.7273%
51	5.44 5.18 5.40	4.65	407 378	
50+78.85' EC	5.30 5.19	4.50	333 350	
50+50	5.08	4.29	391	
50+25	4.98 4.80	4.11	358	
50+10	5.0 4.69	4.00	333	
50	4.74 4.82	4.04	340 347 354	
49+75	4.89	4.14	315	-0.3921%
49+36.53 PC	5.19 4.96	4.29	3.6	
49+00		4.43		

2.76 Spk RT @ 50+75

7

15.55 / 12.73 / 2.82 / 5.53 / 2.35 / 5.46 / 2.79

15.0 | 12.99 | 10.93 | 9.50 | 8.44 | 7.98 | 7.32 | 6.66 | 5.80 | 5.25 | 5.15
1.62 | 2.58 | 1.62 | 6.04 | 6.91 | 7.57 | 1.23 | 2.19 | 9.72 | 10.00 | 10.37
+0.4 | -0.2 | +0.9 | +3.7 | +4.4 | +3.6 | +4.3 | +6.0 | +6.2 | +4.7 | +3.8
-10.1 | -9.0 | -6.8 | -4.5 | -5.9 | -4.0 | -3.9 | -1.9 | -0.7 | +0.2 | -0.4

11.88 | 11.39 | 10.05 | 8.10 | 8.01 | 8.20 | 8.06
+1.5 | -0.5 | -0.7 | -1.7 | -1.6 | -2.4 | -2.8
5.31 | 5.44 | 5.50 | 5.03 | 5.02 | 5.15 | 5.29
5.04 | 2.91 | 2.45 | 3.10 | 3.32 | 3.20 | 3.06
+2.5 | -4.4 | -4.8 | -3.8 | -5.6 | -3.4 | -3.7

2.76 / 1.77 / 17.03 | 3.53 / 8.20 | 5.17 / 8.86

~4.53 | 15.12 / 9.41 | 13.09 / 11.76 | 13.07 / 0.04 / 13.13 / 6.89 / 6.24 | 11.05 / 2.10 | 9.34 | 4.84 / 3.29 | 9.14 / 3.99 | 8.74 / 4.39 | 7.05 / 5.05 | 7.44 / 5.71 | 6.76 / 6.39 | 6.06 / 6.77 | 5.95 / 7.18 ×
4.96 / 2.59 | 5.68 / 2.89 | 5.25 / 3.26 | 5.22 / 3.32 | 4.66 / 3.88 | 4.27 / 4.27 | 5.06 / 3.40 / 5.15 / 3.36
4.96 / 3.58 | 3.47 / 4.92

2.76 / 5.89 / 8.65 | 4.59 / 3.76 | 4.82 / 3.63 | 4.71 / 3.91 | 4.69 / 3.98 | 4.80 / 3.84 | 4.82 / 4.19 | 5.05 / 3.60 | 5.17 / 3.48 | 3.62 / 5.03

2.76 / 5.76 / 8.52 | 3.58 / 4.69 | 3.74 / 4.89 | 3.56 / 4.94 | 3.46 / 5.06 | 3.32 / 5.19 | 3.40 / 5.12 | 3.47 / 5.05 | 3.54 / 4.98 | 3.67 / 4.80 | 3.92 / 4.60

V0758'

Ld. + C.T. @ 29.38 x 38.96 x

49+36.53 / 38 28.17 / 11+08.36

49 36.53 / 38 28.17 / 10 8.36 / 9 27.53 / 17

Ld. + C.T. @ 39.47 x 39.12 x

Monroe Boulevard

64		15.83		
63+50		16.62		
63		17.40		
62+50		18.19		
62		18.97		
61+50	19.56	19.76	19.56	
61	N0.86 N0.54	20.54	N016	N0.0
60+50		21.32		
60+33.45 E.C.	N.33 N0.5	21.58	N0.83	20.83
60+08		21.98		
60+05	N.18 N.53	22.03	N1N8	
59+92		~~22.14~~		
59+87		~~22.18~~		
59+80	N.8N	22.42	N.8N	
59+55	N3.N1 N206	22.46	2196 N1.91	
59+30	2295	22.48	2198	
59+05	N.4N 2269	22.19	2.69 N1.4N	
59+00		~~22.09~~		
58+80	N.28	21.88	21.38	
58+55	N1.4 2170	21.20	20.70 N0.8	
58+50				
58+30	2091	20.41	1991	
58+05.76 P.C.	N0.6 N001	19.51	1901 1896	
57+70		18.08		
57+50	17.5N 17.4N	17.26	16.9N 16.77	

Curve

Vertical

-1.5688%

+4.0875%

2nd MON Lt ox. 59+90 TBS 580-583

18.60	1644	1790	1898	1597	1986	2034	2238	2278	2371	2494
0.70	4.18	1.40	1.14	1.96	7.17	6.39	4.26	3.95	3.52	3.79
19.90	+0.9	+0.7	+1.0	+0.4	+2.1	+4.4	-0.7	+1.0	-3.0	-5.4
1.23	-1.7	-1.9	-1.9	-1.3	-0.3	+0.1	2083	2124	2171	2144
18.38	2048						8.90	8.45	5.01	5.29
11.35	6.28	+0.6					+7.5	+8.5	+4.0	+1.0
15.38	2118			2046	1896	1677				
0.17	4.78				7.97	9.96				
15.55	-7.3				+0.4	+0.8				
					2046	1457				
					4.71	1.97				
					-7.6	-10.6				

2291	2088	2105	2016	2056	1966	1887	1809	1730	1652
2.65	3.23	0.48	5.40	5.00	5.90	6.69	7.47	8.26	9.04
25.56	3.48								
		1577							
		9.83							

2241	19.01	N001	1991	N091	2235	2125	2170	2070
1.62	5.5N	4.8N	4.6N	3.4N	2.15	3.15	3.83	3.83
24.53								

2d. & C.T.

× 48.36 (E) 23.44 ×

N.4N	2168	2198	N.9E	N.96	2196	N.9N	2.1N	2.N3
1.84	2.34	2.55	1.55	1.57	2.57	1.61	2.41	2.00
1.44N	1.49N							
7.11	7.61							

58 05.76
50 78.85
7 26.91

2d. & C.T.

× 39.65

2' from rail joint

Monroe Boulevard

73+50	11.68	
73	11.93	
72+50	12.18	
72	12.43	
71+50	12.68	
71	12.93	
70+50	13.18	−0.50%
70	13.43	
69+54	13.66	
69+50	13.68	
69+35	13.75	
69	13.93	
68+85	14.00	X
68+50	14.04	
68	14.11	
67+50	14.17	
67	14.23	
66+50	14.29	−0.125%
66	14.36	
65+50	14.42	
65	14.48	
64+85	14.50	X
64+65	14.81	
64+50	15.05	−1.5688%
64+00	15.83	

15.33 Mon Rt ox 64+61

1533 / 3.17 / 18.50 — 1327 5.29 +2.0 +0.1 — 1295 5.52 +2.8 +0.3 — 1278 5.57 +3.2 +1.3 — 1245 6.02 +3.5 +1.4 — 1223 6.27 +3.0 +1.6 — 1195 6.52 +3.3 +1.4 — 1173 6.77 +3.8 +2.0 — 1145 7.02 +2.9 +0.9

1533 / 3.20 / 18.60 — 1345 5.17 +2.0 0.0 — 1323 4.59 — 1280 4.10 +0.7 −0.5 — 1254 4.96 +0.9 −1.1 — 1229 4.49 +1.2 −1.7 — 1207 4.63 +1.1 −1.2 — 1203 4.57 +1.0 −0.6 — 1203 4.51 +1.0 −0.4 — 1176 4.44 +1.2 −0.6 — 1172 4.38 +1.3 −0.7 — 1180 4.30 +0.7 −0.8

1385 / 3.15 / +1.2 / −1.4 — 1363 / 4.97 / +0.8 / −0.7

15.73 / 2.70 / 18.43 — 1484 3.48 — 1440 4.03 — 1427 4.11 — 1426 4.14 — 1419 4.24

1413 4.30 — 1402 4.34 — 1401 4.42 — 1394 4.49 — 1389 4.56

Void hub

15.33 / 3.11 / 18.44 — 1363 4.76 — 1355 5.07 — 1333 3.27 / 1860

84 1/2

64+60.61

28.77

62°27' Mon

× 42.48 × 30.88 = 65+34.14

Monroe Boulevard

84	11.62	
83+50	11.78	−0.3344%
83	11.95	
82+85	12.00	
82+50	11.93	
82+00	11.82	
81+80	11.78	
81+50	11.71	
81	11.60	
80+50	11.50	
80	11.39	+0.2143%
79+50	11.28	
79	11.18	
78+50	11.07	
78	10.96	
77+50	10.85	
77	10.75	
76+50	10.64	
76	10.53	
75+85	10.59	
75+50	10.68	
75	10.94	
74+50	11.18	−0.50%
74	11.43	
73+50	11.68	

11.80 + 90k Rt of 75+37
8.89 34' 406 at 79+84.14
8.40 West " " 74+84.14

× 40.86 × 32 ⊡ 79+84.14

× 35.33 × 33.33 ⊡ 74+84.14

Normal Boulevard

93+50	9.06	
93	8.88	
92+60	8.74	
92+50	~~8.77~~	
92	8.94	
91+50	9.11	
91	9.28	
90+50	9.44	
90	9.61	
89+50	9.78	
89	9.94	
88+50	10.11	
88	10.28	
87+50	10.45	
87	10.61	10.4
86+50	10.78	10.58
86+75	10.86	
86+18	10.89	
86+06	10.93	
86+0	10.95	10.95
85+50	11.12	
85+33	11.17	
85	11.28	
84+50	11.45	
84+00	11.62	

+ 0.35%

- 0.3344%

12.75 Spk Pt ox 86.50

10.75	10.56	10.41	10.24	10.05	9.91	9.74	9.59	9.44	9.24	9.05
3.99	3.46	3.73	3.74	4.06	4.23	4.40	4.50	4.78	4.90	5.08
+1.9	+1.8	+2.0	+2.5	+2.6	+2.1	-0.5	0.0	+0.6	+0.6	+0.8
+0.4	+0.5	+0.5	0.0	-0.4	-1.2	-1.7	-3.2	-1.7	-2.3	-2.5

8.97	8.44	8.24	8.24	8.45	8.86
5.23	7.47	4.31	4.51	4.37	4.19
-0.2	4.35	-0.3	-0.5	-0.1	-0.2
-2.5	13.25	-2.8	-5.1	-2.6	-1.8

1658	11.26	11.08	10.92
	7.63	7.80	7.76
	+2.8	+2.7	+3.0
	+0.5	+1.0	+1.2

1345	8.78	8.64	~~8.46~~	8.54	8.01	8.15	8.34	8.51	8.68	8.84	1001	1018	
	4.19	4.81		3.61	4.44	4.27	4.11	3.92	3.77	3.61	3.44	3.27	
1785	10.15	10.75	10.61	10.68	10.56	11.02	11.15	11.35	11.52				
3.32	3.99	5.52	3.66	3.19	5.32	5.15	4.99	4.82	4.65				
16.15													

Monroe Boulevard

103+13		14.83	
103	14.60	14.80	
102+50	14.50	14.70	
102	14.40	14.60	
101+50	14.30	14.50	+0.20%
101+23		14.45	
101	14.20	14.40	
100+50	14.10	14.30	14.10
100+00	13.96	14.20	14.33
99+74.71 EC	13.95	14.15	13.95
99+50	13.90	14.10	
99+00	13.80	14.00	X
98+50		13.29	
98		12.57	+1.4285%
97+50		11.86	
97		11.14	
96+50		10.43	
96+20		10.00	X
96		9.93	
95+50		9.75	
95		9.58	
94+80.24 PC		9.51	
94+50		9.41	+0.35%
94		9.23	
93+50		9.06	

8.93 on PC. H-6

18.70 14.60 14.50 14.48 14.30 14.20 14.10 13.94 13.85

1901 14.70 14.60 14.50 14.40 14.30 14.20 14.10 14.00 14.46

11.37 6.69 13.20 13.30 1.40

13.05 9.03 9.41 9.31 10.19 9.55 9.72 10.23 10.24

2.45 1.957 6.59 17.16 10.24 11.66 11.37 13.09

11.37 13.30 13.19 12.47 11.76 11.04 10.33 9.90 9.23 9.65 9.48 9.41

× 42.32 = 40.23 ×

11.37 10.38 9.90 13.19 9.83 9.65 9.45 9.41 9.41 9.48 9.41 9.31 9.13 9.26

× 10.07 × 31.94 =

Monroe Boulevard

109		21.67		
108+50	no.1	21.00	21.20	
108	no.03	20.33		
107+50	19.37	19.67		
+18.63 POC				
107	18.7	19.00		+ 1.3333 %
106+50	18.03	18.33		
106	17.37	17.67	17.97	
105+50	16.7	17.00		
105+09	~~16.5~~	16.45		
105	16.03	16.33		
104+50	15.37 15.47	15.67	15.37	
104+09		15.12		
104	~~14.97~~ 15.0	15.00	15.17	X
103+94		14.99		
103+79.96 PC	13.86	14.96	14.86	
103+67		14.92		
103+58		14.92		
103+50		14.89		
103+43		14.89		
103+39		14.88		+ 0.70 %
103+35		14.87		
103+31		14.86		
103+21		14.84		
103+19		14.84		
103+13		14.83		

20.84 = 1st Tie hub 107+18.63

10.70 (1st Tie @ P.C.

Mon = 1137 (?)

2107	2107	2103	1937	1837	1803	1737	1637	1603	1537	1437	1403
999	637	7.04	770	8.38	9.04	1.58	37	389	11.55	5.72	5.26
18.37	+5.0	+4.6	+3.5	+2.9	+0.7	+0.3	-0.3	-0.2	-0.5	-0.5	-3.8
+1.5											
19.87	19.4	19.3	19.3	19.1	0.0	0.0	0.0	0.0	0.0	0.0	-2.9

× 38.10 × 23.26 ∠ P.O.C.

1070 / 19.70

1446 / 406

-3.8

1801 / 5.69

-3.2

2W.36

2170	2053	1987	1970	1853	1737	1720	1653	1587
3.14	3.63	4.49	5.16	5.83	6.49	7.16	7.83	8.49

1070 / 977 / 2047

1486 / 5.58

10.70

1485 / 56.5 / 2051

2W.5C / 41.5 / 1.201

1479 / 4.72

× 36.89 × 28.75 □

2' from roll

Morena Boulevard

119+50		41.77			
119+00		40.64			
118+69		39.93			
118+50		39.51			
118+00		38.37			
117+50		37.24			
117+29		36.75			
117+04		36.18			
116+98.6 EC.	35.79	35.89	36.09	36.29	36.39
116+50	34.66	34.96	35.16		35.46
116	33.5N	33.8N	34.0N		34.1N
115+50	3N98	32.68	3N98		3N98
115	31.N6	31.55	31N5		31.86
114+50	30.11	30.41	30.61		
114	N8.99	29.27	N847		
113+50	N7.5N	28.14	N834		
113	N6.7	2700	N7.N0		
112+50	N6.03	26.33	N653		
112+086N. P.O.C.					
112	N5.31	2567	N569		
111+50	N4.7	2500	N5N0		
111	N4.03	24.33	N4.53		
110+50	N3.37	23.67	N399		
110	N2.7	23.00			
109+50	N2.03	22.33			
109+00	N1.39	2167			

+2.27 27%

+1.33330%

OK 31.75 Tie hub W of EC. OK. 29.60 E tie hub @ 112+08.62

5617 1N33 4335 045 4380 11.44 3986 601 3799 357 3450 46.7 3107

4044 1673 E +5.7 W 0.0

3931 1696 +4.0 0.0

3819 563 +1.9 0.0

3704 676 +3.7 0.0

2579 801 +3.4 0.0

2466 9.14 +2.7 0.0

3352 1058 1.4 0.0

3238 11.42 0.0 0.0

3126 1.7N E -0.2N W 0.0

3011 1.86 +1.5 0.0

2898 4.00 +2.1 0.0

2784 5.13 +1.9 0.0

2671 2.17 +1.1 0.0

2557 6.94 +1.9 0.0

2443 7.60 +2.9 0.0

2330 8.27 +3.7 0.0

2216 5.94 +3.6 0.0

2103 9.60 +3.4 +1.0

1990 10.27 +4.3 +1.3

2103 10.44 +4.6 +2.4

1137 5.90 +5.3 +3.2

2190 1253 1443

3589 8.34

3469 7.94

3349 7.09

3227 5.96

3101 4.78

2974 3.69

2846 2.50

× 37.11 × N549

3180 578 3748

2711 0.32

3589 1.59

3469 1.19

3516 2.3N

3400 3.66

3288 4.60

3175 5.73

3061 6.87

2947 8.01

2835 9.1N

N9.N0 1046

N7N0 3 30.70

2653 3.67

2537 4.33

2420 5.00

2453 5.67

2389 6.33

N349 89 2436

N2.70 1.16

N153 1.83

N187 N49

POC

× 61.49 @ 24.29

Monroe Boulevard

	50.31				
	50.48	50.94			
	50.64				
	50.80				
125+66.48	P.C. 5087 5097	51.17	51.37		5147
125+49	5109	51.75			
125+00	+1.40K	51.50	51.40	0.50%	
124+94		51.53		0.50%	
124+66		51.67		1	
124+50		+ 51.75			
124+44		51.78			
124+39		51.80			
124+14		51.93			
124+00		51.65 + 52.00		X	
123+94		51.86			
123+50		+ 50.87			
123+00		+ 49.73			
122+94		49.59			
122+50		+ 48.60			
122+00		+ 47.46			
121+50		+ 46.33			
121+00		+ 45.18		+ 2.2727%	
120+79		44.70			
120+64		44.36			
120+50		+ 44.04			
120		42.91			
119+50		41.77			

N Tie hub 122+00 = B.M. 48.39

60.74 / 9.92 / 50.82 / 8.67 / 59.89

5064	5104	5120	5135	5145	5047	4953	4840
10.10	9.27	8.19	7.94	7.69	8.82	9.96	11.09
00	+0.44			5.94			
51.50	50.87	+7.3	+6.5	+6.6	+5.1	+6.1	+7.8
7.50	9.87						
+4.7	00	+1.0	00	00	00	00	+2.2

× 22.73 × 26.02

4739 / 7.78 / 56.17

4726	4613	4495	4384	4271	4157
2.91	10.04	11.19	1.33	1.46	1.40
+8.5	+7.7	+7.2	+6.5	+5.9	+5.9
+7.0	+4.2	+2.1	+1.0	.0.0	0.0

5040	5097	5030	5064	5045	5021
3.20	5.03	5.20	3.96	3.64	3.49
54.00					

44.22 / 1.42 / 42.8 / 7.9 / 53.38 / 9.20 / 44.18 / 7.15 / 4736 / 60.2 / 4850 / 4.88 / 4963 / 3.75 / 5077 / 2.61 / 5159 / 1.83

5165	5140	5135	5139	5109
1.93	1.93	200	201	229

× 73.44 BM × 22.44 =

Monroe Boulevard

136+00		46.00		
135+50		46.25		
135+27		46.34		
135+0		46.50		
134+50		46.75		
134+0		47.00		
133+50	47.05	47.15	47.25	47.05
133+00	47.33	47.37	47.61	47.66
132+79.26 EC	47.3	47.4	47.60	47.8	47.9
		47.56		
		47.72		
		47.88		
		48.05		
		48.21		
		48.37		
		48.53		
		48.69		
129+23.27 CC		48.85		
		49.02		
		49.18		
		49.34		
		49.50		
		49.66		
		49.83		
		49.99		
		50.15		

-0.50%

15 parts

50.40 Lt. of 128+36

47.69 = ON.

hub @ EC

50.40 / 10.34 / 60.74

54.00

37 App x 2440 x

∴ ct. in pole

Morena Boulevard

143+50		× 41.86	
143+29		41.98	
143+0		× 42.14	
142+64		42.35	
142+50		× 42.43	0.571 %
142+29		42.55	
142+0		× 42.71	
141+50		+ 43.00	
141+00		+ 43.28	
140+84		43.38	
140+50		+ 43.57	
140		× 43.86	
139+50		× 44.14	
139+00		+ 44.43	
138+76.97	P.O.T.		
138+50		× 44.71	
138+00		45.00	X
137+50		+ 45.25	
137+0		× 45.50	
136+50		+ 45.75	
136+35		45.83	
136+31		45.85	0.50 %
136+25		45.88	
136+14		45.93	
136+07		45.97	

136.35 Sta L of P.O.T.

45.46 — 45.56 (9.90, +2.1, 0.0) — 45.30 (9.15, +2.9, 0.0) — 45.05 (9.40, +4.6, 0.0) — 44.88 (9.25, +6.2, 0.0) — 44.51 (9.94, +6.5, 0.0) — 44.43 (10.22, +6.5, 0.0)

44.90 — 44.96 (9.70, +7.5, +3.0) — 44.86 (9.48, +6.7, +2.0) — 44.77 (8.77, +6.0, +1.9) — 44.68 (9.06, +4.8, +3.0) — 44.58 (9.34, +6.7, +2.8) — 44.51 (9.63, +5.8, +2.3) — 44.43 (9.91, +3.5, 0.0) — 44.34 (10.20, +3.0, 0.0) — 44.16 (10.48, +2.8, 0.0)

45.99 — 41.96 — 44.33 (1.66) — 44.04 (3.45) — 43.93 (3.66) — 43.61 (3.98) — 43.43 (3.09) — 43.15 (2.81) — 42.87 (2.52) — 43.76 (2.23) — 44.04 (1.93)

44.85 — 44.46 (5.64) — 44.90 (5.33) — 45.15 (5.10) — 45.40 (4.87) — 45.65 (4.60)

T.C. × 36.58 T.C. × 44.03 ×

Moreira Boulevard

151+0	× 44.73	
150+50	× 44.27	
150+27	44.06	
150+15	43.95	
150+12	43.93	+ 0.909 %
150+06	43.87	
150+00	× 43.82	
149+84	43.67	
149+77	43.61	
149+50	× 43.36	
149+00	× 42.91	
148+94	42.85	
148+50	× 42.45	
148+0	× 42.00	X
147+94.12 P.O.T.		
147+50	41.83	
147+00	× 41.66	
146+74	41.58	+ 0.3333 %
146+50	× 41.50	
146	× 41.33	
145+69	41.23	
145+50	× 41.16	
145	× 41.00	X
144+50	× 41.29	
144	41.57	- 0.5714 %
143+59	41.81	

H1.89 on Fence Post Left of 147+65

H1.8	H2.25	H2.71	H3.16	H3.62	H4.07	H4.53	
E +1.9	+2.7	+2.4	+2.4	+2.9	+2.8	+1.4	
W +1.2	+1.8	+3.0	+2.8	+0.8	−0.3	0.0	

H1.37	H1.88	H2.90	H3.96	H1.13	H1.30	H1.46	H1.63	H1.8	
+2.4	+2.4	+2.8	+2.0	+1.0	+0.9	+1.1	+1.6		
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		

H1.63	H2.17	H3.72	H2.26	H1.81	H2.35	H1.90		

H1.89	H1.73	H1.56	H1.40	H1.23	H1.06	H0.90	H1.17	H1.47	

× 25 × 30 ×

Morena Boulevard

159+54	53.93	
159+31	53.68	
159	53.33 ✓	
158+64	52.93	
158+50	+ 52.78 ✓	
158+00	+ 52.22	
157+94	+ 52.16	
157+50	+ 51.67	+ 1.1111 %
157	+ 51.11	
156+50	+ 50.56	
156	+ 50.00	
155+50	+ 49.44	
155	+ 48.89 ✓	
154+50	+ 48.33	
154	+ 47.78	
153+50	+ 47.22	
153+19	46.88	
153+00	+ 46.67	
152+50	46.11	
152+40	+ 46.00	X
152+00	+ 45.64	
151+70	45.36	
151+65.8	45.33	+ 0.909 %
151+50	+ 45.18	
151+00	44.73	

52.73 Lt ox 158+30
46.87 Rt ox 152

19

Monroe Boulevard

165+50	× 63.41	−0.30%
165+30	× 63.35	
165+10	× 63.17	
165+00	63.00	
164+67	62.45	
164+50	× 62.17	
164	61.33	
163+50	60.50	
163+00	59.67	
162+74	59.23	
162+50	58.83	+1.667%
162	58.00	
161+50	57.17	
161+00	56.33	
160+84	56.07	
160+83	56.05	
160+65	55.75	
160+50	55.50	
160+49	55.48	
160+29	55.15	
160+00	54.67	
159+94	54.57	
159+84	54.40	
159+60	54.00	+0.417%
159+54	53.93	

Morrina Boulevard

	W		E	
	50.34			50.90
	50.71			51.66
	51.29	51.79		
	51.67	51.92		52.11
	52.41			52.41
170+97.39 = PRC across		52.41	52.41	
	53.32		52.73	
	53.83		53.05	
170+84.44 = PC on W	54.34	53.94	53.37	
			53.70	
170+14.69 = PC on E+C	54.83	54.43	54.03	
170.	54.99	54.79	54.46	
169+50	55.81	56.01	55.91	55.81
169		57.23		
168+68.14		58.15		
168+50		58.68		
168+15		59.69		
168+0		60.12		
167+50		61.40		
167+06		62.24		
167+0		62.35		
166+54		62.94		
166+50		62.99		
166+14		63.21		
166+00		63.29		
165+81		63.35		
165+67		63.40		
165+60		63.41		

Vertical curve

-0.30%

6196 Wh ub at PC

6196 3.55 6.51 | 5368 11.83 +7.5 | 5516 1033 +5.4 53 12.51 +8.8 | 5460 1082 +8.3 5422 1318 +9.6 | 5415 11.33 +9.7 5424 13.15 +9.2 | 5367 1184 +11.3 5447 13.09 +8.6 | 5241 1310 +12.2 5422 1379 +6.8 | 5112 1439 +13.7 5104 1447 +4.1 | 5034 1517 +14.1 5036 15.15 +2.4 | 4956 1595 +14.1 | 4878 1673 1203 +14.7

1777 5411 363 5637 | 4968 6.7 +0.9 | 49 7.37 −2.6 | 45 8.87 +2.2

6196 1121 7317 E +6.2 W +3.0 | 5581 1836 +4.7 +1.3 | 5703 1614 +5.0 +2.4 | 5848 1469 +6.4 +4.1 | 5992 1325 +7.2 +1.6 | 6120 1197 +8.7 +0.4 | 6215 11.02 +6.5 −2.7 | 6279 1038 +4.8 −4.6 | 6309

6196 025 6297 | 5403 8.88 T.P. | 5403 1464 5549 | 5434 1.16 | 1.63 2.11 | 2.90 2.57 | 2.41 3.08

5541 326 5547 | 5493 274 | 5305 2.04 | 5239 2.10 | 5370 1.77 | 5211 3.36 | 3.06

5404 3.43 | 5186 3.81 | 5175 3.19 | 5090 4.57 | 5147 | 5114 4.33 | 5017 5.30

5173 3.74 | 5124 4.23 | 5077 4.70 | 5039 5.08

5241 3.16 5557 | 5167 3.90 | 5129 4.28 | 5071 4.86 | 5017 5.40

6196 139 6335 | 5446 8.89 | 5496 8.36 | 5591 7.44 | 5713 6.27 | 5855 4.79 | 6004 3.33 | 6120 2.05 | 6225 1.10 | 6280 0.46

6319 16 | 6321 .04

5088 4750 338

5241 214 5455

367 50.83

1777 7108 1571 8683

50884 50833 16

87 | 235 361 770 696 .621 44 240 696 440 | 23304 3384

5+47 $\frac{5052}{4.92}$ $\frac{5014}{5.33}$ $\frac{4976}{5.71}$ $\frac{4938}{6.09}$ 6.47

$\frac{4925}{5.74}$ $\frac{4930}{6.17}$ $\frac{5001}{5.46}$ $\frac{4963}{}$ $\frac{4922}{6.22}$ $\frac{4887}{6.60}$ $\frac{4849}{6.98}$

5557 $\frac{4874}{5.82}$ $\frac{4930}{6.27}$ $\frac{4887}{6.70}$ $\frac{4843}{7.14}$

54.55 H.D. $\frac{5019}{4.36}$ $\frac{4950}{5.05}$ $\frac{4881}{5.74}$ $\frac{4812}{6.43}$ $\frac{4745}{7.10}$

$\frac{4983}{4.72}$ $\frac{4850}{8.05}$ $\frac{4761}{6.94}$ $\frac{4877}{5.83}$

$\frac{5058}{4812}$
$\frac{4927.56}{6.9}$

Ballive

172+57.39 = S.F. Row 16 47.0 47.45

48.43 48.12

4887 48.78 4881

49.30 50.33 49.50

49.74 49.56 5019

L is on curve west side = 4°25'20 chords = 15.21

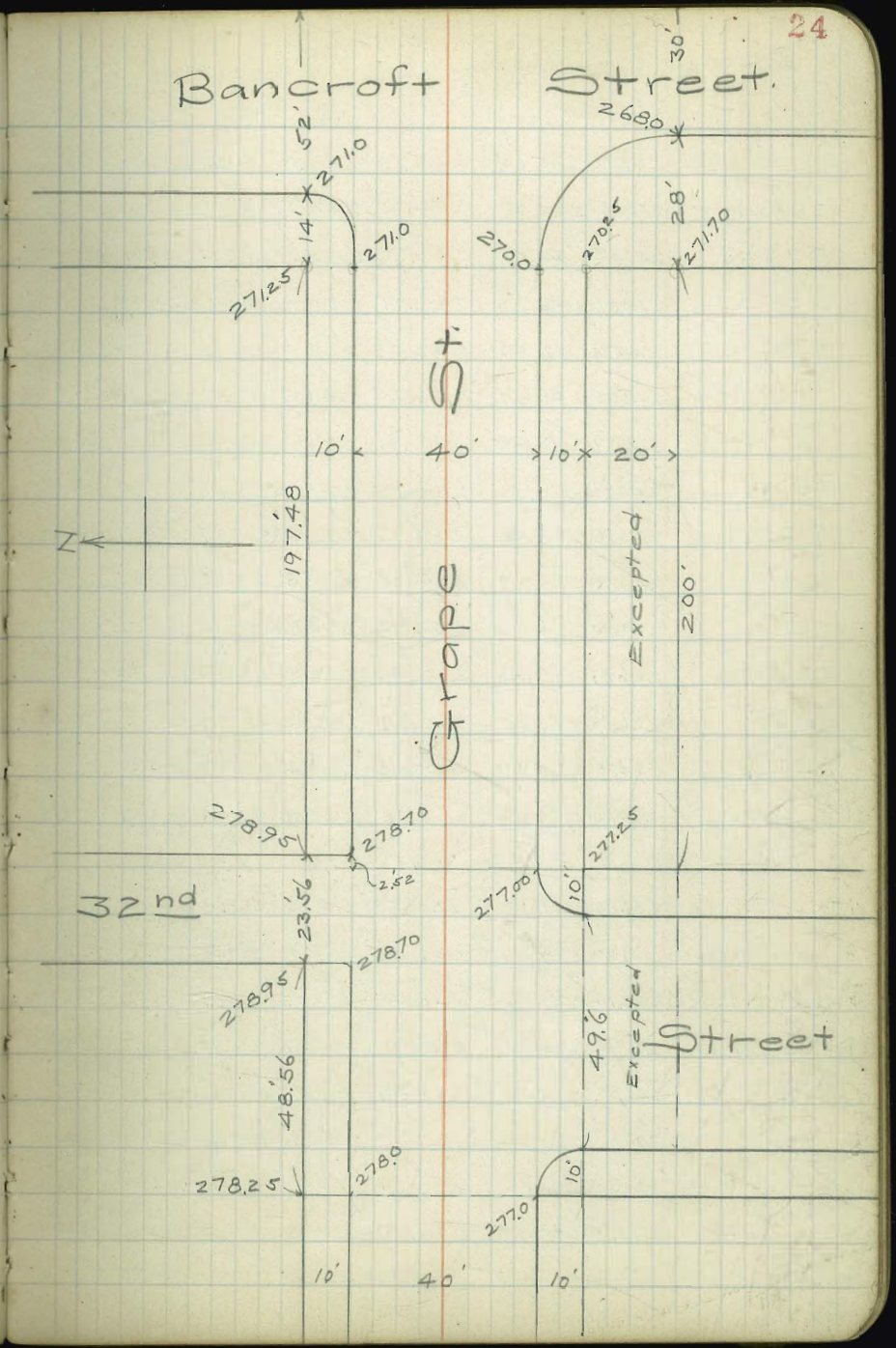
4/26/19

GRAPE ST.

80' wide at present
60' to be graded.
10' walks

W.L. of 32nd St. (Produced North) to W.L. of Bancroft St.

	N	Curb	¼	℄	¼	Curb	S
=W.L. Bancroft.							
165' E. of Sec "A"	271.25	271.00 270.88	270.58	270.50	270.08	270.00 269.88	270.25
115' E. of Sec "A"	273.20	272.95 271.95	272.40	272.35	271.80	271.75 270.75	272.00
105' E. of Sec "A"	273.59	273.34 272.34	272.79	272.72	272.19	272.10 271.10	272.35
(=100' W. of Bancroft)							
65' E. of Sec. "A"	275.15	274.90 273.90	274.30	274.20	273.60	273.50 272.50	273.75
35' E. of Sec "A"	276.32	276.07 275.07	275.44	275.31	274.69	274.55 273.55	274.80
(= 150' W. of Bancroft)							
15' E. of Sec. "A"	277.10	276.85 275.85	276.20	276.05	275.40	275.25 274.25	275.50
35' E on S. } = Sec "A" 32.48 E. on N. } 32.6'	277.68	277.43 276.43	276.76	276.61	275.94	275.77 274.77	276.02
=E.L. 32nd (N.S. Grape)							
2.5' E. of E.L. 32nd	278.95	278.70 277.70	277.90	277.81	277.08	276.91 275.91	277.16
69.6 E. = E.L. 32nd	278.95	277.70	278.02	277.85	277.17	277.00 276.00	277.25
59.6 E = E Curb	278.95	277.70	277.95	277.80	277.25	277.00 276.00	277.00 276.00
47.2 E = E ¼	278.93	278.68 277.68	277.85	277.74	277.34	276.61	276.75
34.8 E. = ℄	278.76	278.51 277.51	277.76	277.67	277.44	277.22	277.00
22.4 E. W ¼	278.57	278.33 277.33	277.66	277.61	277.28	276.61	276.75
10' E. = W. Curb (Produced North)	278.40	278.15 277.15	277.55	277.55	277.13	277.00 276.00	277.00
W.L. of 32nd	278.25	278.00 277.00	277.50	277.50	277.00	277.00 276.00	277.25


Bancroft Street.
52'
271.0
14'
271.0
271.25
10'
40'
10' x 20'
Grape St.
Excepted
200'
197.48
Z
278.95
278.70
2.52
32nd
23.56
278.70
278.95
48.56
278.25
278.0
10'
40'
10'
30'
2680
270.0
270.25
28'
271.70
277.00
10'
272.25
49.6'
Excepted
Street
10'
277.0
10'

BANCROFT ST.

S.L. of Elm to N.L. of Grape.

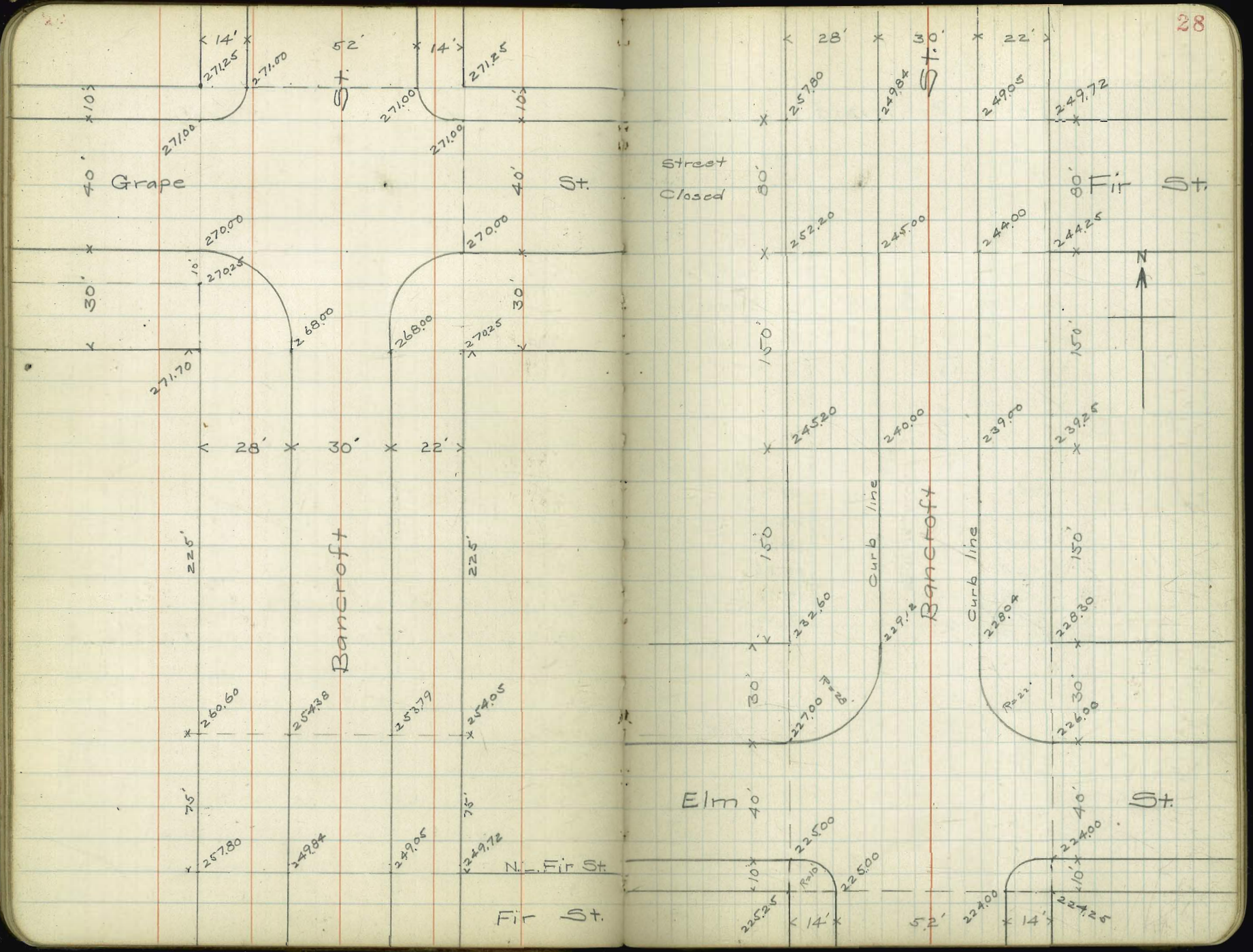
	W	Curb	1/4	℄	1/4	Curb	E.
S.L. of Fir							
300' N	252.20	245.00	244.58	244.50	244.08	244.00	244.25
E. Walk ends.							
284.2 N	251.46	244.47	244.05	243.97	243.55	243.47	243.72
275' N	251.03	244.17	243.75	243.67	243.25	243.17	243.42
250' N	249.87	243.33	242.91	242.83	242.41	242.33	242.58
225' N	248.76	242.50	242.08	242.00	241.58	241.50	241.75
200' N	247.53	241.67	241.25	241.17	240.75	240.67	240.92
175' N	246.37	240.83	240.41	240.33	239.91	239.83	240.08
150' N	245.20	240.00 / 239.33	239.58	239.50	239.08	239.00 / 238.33	239.25
125' N	243.10	238.19	237.77	237.68	237.27	237.17	237.42
100' N	241.00	236.37	235.95	235.86	235.45	235.35	235.60
75' N	238.90	234.56	234.14	234.04	233.64	233.52	233.77
52' N	236.97	232.89	232.47	232.37	231.97	231.84	232.10
50' N	236.80	232.75	232.32	232.22	231.80	231.69	231.95
25' N	234.70	230.93	230.50	230.40	229.97	229.87	230.13
N.L. Elm	232.60	229.12 / 228.45	228.68	228.58	228.13	228.04 / 227.37	228.30
N.L. Elm	232.60	229.12 / 228.45	7.5 228.68	7.5 228.58	7.5 228.13	7.5 228.04 / 227.37	228.30
16' N. of N. Curb	229.50	228.46 / 227.79	10' 227.85	7.5 227.90	7.5 227.45	8.5 227.38 / 226.71	227.10
3' N. of N. Curb	227.10	227.60 / 226.93	14.5 226.33	13' 226.15	13' 226.00	16' 226.57 / 225.90	226.10
N. Curb	227.00 / 226.32	14' 226.16	13' 225.99	13' 225.82	13' 225.65	13' 225.49	14' 226.00 / 225.32
1/4	226.32	14' 226.16	13' 225.99	13' 225.82	13' 225.66	13' 225.49	14' 225.32
℄	226.00	225.84	225.67	225.50	225.34	225.17	225.00
1/4	225.32	14' 225.16	13' 224.99	13' 224.82	13' 224.66	13' 224.49	14' 224.32
S. Curb	225.00 / 224.32	14' 225.00 / 224.32	13' 224.07	13' 223.82	13' 223.57	13' 224.00 / 223.32	14' 224.00 / 223.32
S.L. of Elm	225.25	225.00 / 224.32	224.58	224.50	224.08	224.00 / 223.32	224.25

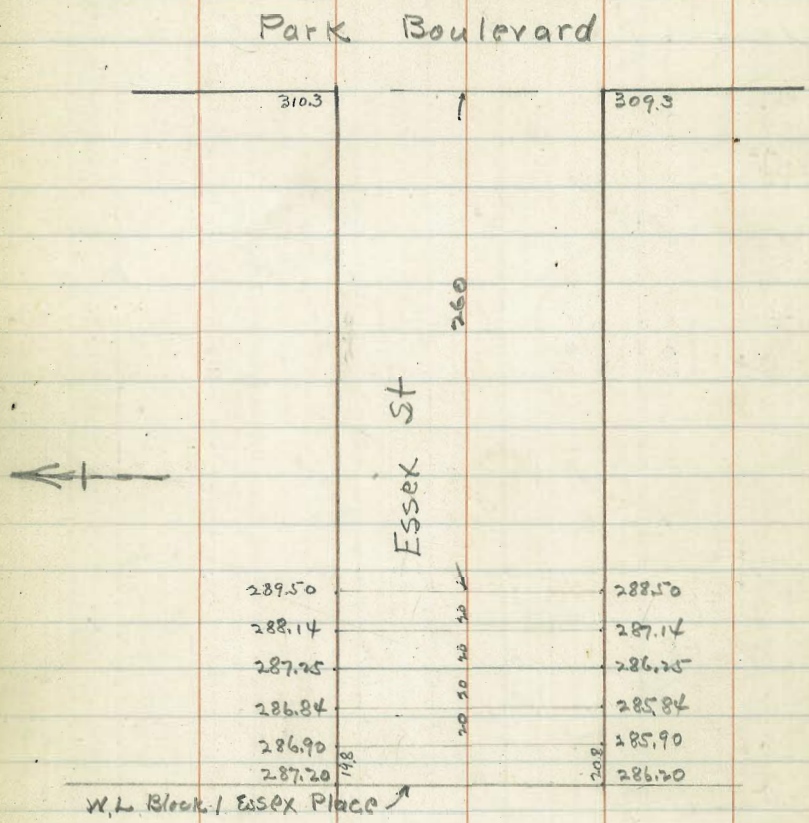
Bancroft St.

	W. Curb	¼	℄	¼	Curb. E.
= S.L. of Grape St.					
300' N	271.70	268.00 / 267.33	267.83	268.00	267.83	268.00 / 267.33	270.25
275' N	270.47	266.49	266.30	266.45	266.27	266.42	
250' N	269.23	264.97	264.77	264.91	264.70	264.84	
225' N.	268.00	263.46	263.24	263.36	263.14	263.26	
200' N	266.77	261.95	261.71	261.82	261.58	261.68	
175' N	265.53	260.43	260.18	260.27	260.01	260.11	
150' N.	264.30	258.92	258.65	258.73	258.45	258.53	
125' N.	263.07	257.41	257.12	257.18	256.89	256.95	
100' N.	261.83	255.89	255.59	255.64	255.32	255.37	
75' N	260.60	254.38	254.06	254.09	253.76	253.79	254.25
50' N	259.67	252.87	252.53	252.54	252.20	252.21	252.61
25' N	258.73	251.35	251.00	251.00	250.63	250.63	251.16
N.L. Fir St.	257.80	249.84	249.47	249.45	249.07	249.05	249.72
N.L. Fir St.	257.80	249.84	249.47	249.45	249.07	249.05	249.72
℄ Fir St	255.00	247.42	247.03	246.97	246.58	246.52	246.98
S.L. of Fir St.	252.20	245.00	244.58	244.50	244.08	244.00	244.25

Bancroft St

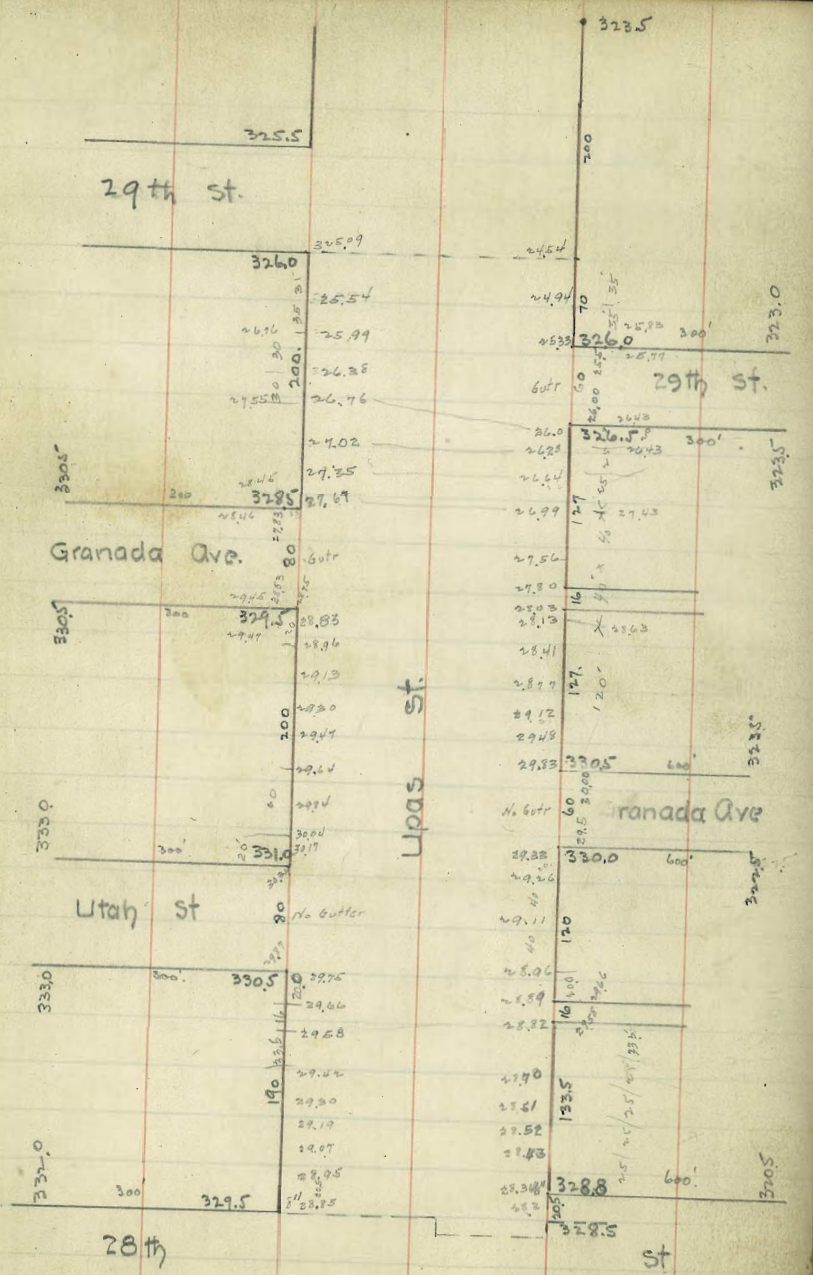
	W	Curb	¼	℄	¼	Curb	E
N.L. Grape	271.25	271.00 (14')	270.83 (13')	271.00 (13')	270.83 (13')	271.00 (14')	271.25
40' N. of S. Curb = N. Curb	271.00 (270.33)	271.00 (270.33)	270.46 (269.98)	270.63	270.46 (269.98)	271.00 (270.33)	271.00 (270.33)
30' N. of S. Curb = N ¼	270.58	269.61	270.08	270.25	270.08	269.63	270.58
20' N. of S. Curb = ℄	270.50	269.26	269.71	269.88	269.71	269.26	270.50
10' N. of S. Curb = S ¼	270.08	268.89	269.33	269.50	269.33	268.91	270.08
= S. Curb 30' N.	270.00 (269.33)	268.54	268.96	269.13	268.96	268.56	270.00 (269.33)
27' N.	270.10	268.43	268.85	269.02	268.85	268.45	
14' N.	270.69	268.63	268.36	268.53	268.36	268.66	270.1
S.L. of Grape	271.70	268.00 (28', 267.96)	267.83 (7.5')	268.00 (7.5')	267.83 (7.5')	268.00 (267.99, 22')	270.25
		(267.33)				(267.33)	


Grape St.
Bancroft
Fir St.
N. Fir St.
Street Closed
Curb line
Elm St.
14'
52'
271.25
271.00
270.00
270.25
268.00
271.70
28'
30'
22'
225'
75'
260.60
254.38
253.79
254.05
257.80
249.84
249.05
249.72
257.80
249.84
249.05
249.72
30'
40'
80'
150'
252.20
245.00
244.00
244.25
245.20
240.00
239.00
239.25
232.60
229.12
228.04
228.30
227.00
226.00
R=28'
R=22'
22.5.00
225.25
R=10'
14'
22.4.00
22.2.25


Park Boulevard
310.3
309.3
260
Essex St
289.50
288.50
288.14
287.14
287.25
286.25
286.84
285.84
286.90
285.90
287.20
286.20
198
208
W.L. Block 1 Essex Place

ESSEX ST

	N.L.	N. curb	N. ¼	℄	S. ¼	S. curb	S.L.
O=WL Pk Blvd	310.55	310.30	309.80	309.80	309.30	309.30	309.55
4 W	310.23	309.98	309.48	309.48	308.98	308.98	309.23
25	308.55	308.30	307.80	307.80	307.30	307.30	307.55
50	306.55	306.30	305.80	305.80	305.30	305.30	305.55
75	304.55	304.30	303.80	303.80	303.30	303.30	303.55
100	302.55	302.30	301.80	301.80	301.30	301.30	301.55
125	300.55	300.30	299.80	299.80	299.30	299.30	299.55
141	299.27	299.02	298.52	298.52	298.02	298.02	298.27
145	298.95	298.70	298.20	298.20	297.70	297.70	297.95
150	298.55	298.30	297.80	297.80	297.30	297.30	297.55
160	297.75	297.50	297.00	297.00	296.50	296.50	296.75
175	296.55	296.30	295.80	295.80	295.30	295.30	295.55
200	294.55	294.30	293.80	293.80	293.30	293.30	293.55
210	293.75	293.50	293.00	293.00	292.50	292.50	292.75
225	292.55	292.30	291.80	291.80	291.30	291.30	291.55
250	290.55	290.30	289.80	289.80	289.30	289.30	289.55
260	289.75	289.50	289.00	289.00	288.50	288.50	288.75
275	288.73	288.48	28798	28798	287.48	287.48	287.73
280	288.39	288.14	28764	287.64	287.14	287.14	287.39
300	28750	287.25	28675	286.75	286.25	286.25	286.50
315	287.19	286.94	28644	28644	285.94	285.94	28619
320	287.09	286.84	28634	286.34	285.84	285.84	286.09
332	287.13	286.88	28638	286.38	285.88	285.88	286.13
340	287.15	286.90	28640	286.40	285.90	28590	28615
350	287.30	287.05	28655	286.55	286.05	28605	286.20
356	287.39	287.14	286.64	28664	286.14	28614	286.39
360	287.45	287.20	286.70	286.70	286.20	286.20	286.45



B.M. SE 28th & Upas 328.80
" NE Utah 331.0
" NW Granada 329.70

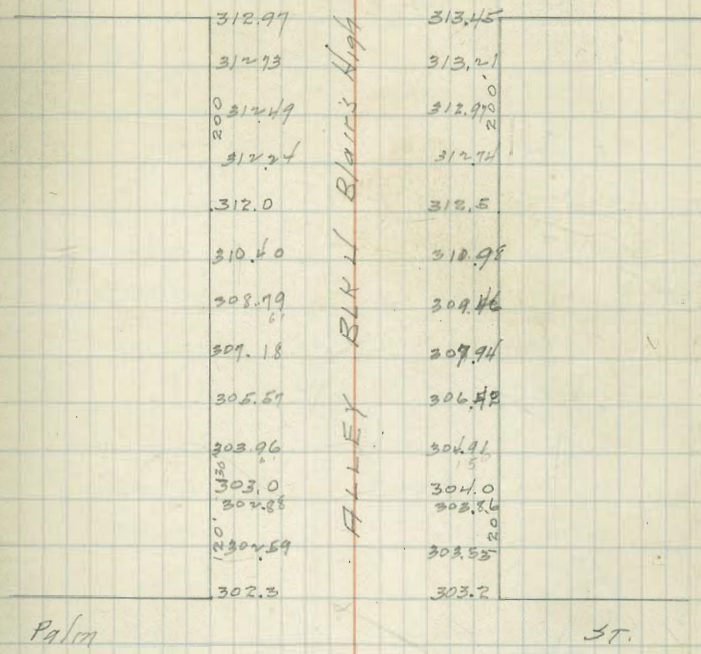
	N curb	N ¼	℄	S ¼	S curb
425	329.84				329.39
400	330.03				329.76
375	330.21				330.13
350 = EL Granada ow S.	330.40	330.26	330.45	330.31	330.50
340 E curb	330.48	330 30	330 45		
330 E ¼	330.55	330 33	330 44		
320 ℄	330 63	330.37	330.44	330 18	
310 W ¼	330.70	330.40	330 44	330.14	
300 W curb	330.78	330.44	330.43	330 09	
290 = W L Granada ow S.	330.85	330.47	330.43	330.05	330.00
270 = EL Utah	331.00	330 56	330.46	330.01	329.91
256 E curb		330.48	330.38	329.94	329.85
243 E ¼		330.40	330.32	329.88	329.79
230 ℄		330 83	330.25	329.82	329.73
217 W ¼		330.26	330 18	329.75	329.67
204 W curb		330.18	330.11	329.69	329.62
190 = W L Utah	330.50	330 10	330.03	329.62	329.55
175	330.42	330.02	329.96	329.55	329.49
150	330 29	329.90	329.84	329.44	329.38
125	330.16	329.77	329.72	329.32	329.27
100	330.03	329.64	329.59	329.21	329.15
75	329.89	329.52	329.47	329.09	329.04
50	329.76	329 39	329.35	328.98	328.93
205 = EL 24th ow S	329.61	329.24	329.21	328.84	328.80
0 = EL 28th ow W	329.50	329.08	329.00	328.58	328.50

	N curb	N ¼	℄	S ¼	S curb
750 = WL 29th on N.	326.00	325.67	325.68	325.34	325.35
735	326.31				325.58
700	326.63				325.81
680 = EL 29th on S	326.88	326.49	326.44	326.04	326.00
670 E curb	327.00				
660 E ¼	327.13				
650 ℄	327.25				
640 W ¼	327.38				
630 W curb	327.50				
620 = WL 29th on S.	327.63	327.18	327.07	326.61	326.50
600	327.88				326.80
575	328.19				327.17
550 = EL Granada on N	328.50	328.10	328.02	327.62	327.54
536 E curb					327.74
523 E ¼					327.94
510 ℄					328.13
497 W ¼					328.32
484 W curb					328.51
470 = WL Granada on N.	329.50	329.13	329.11	328.73	328.72
450	329.65				329.07
425	329.84				329.39

316.96 St. Redwood & Granada

1.27
318.23
.967
308.56
.028
308.54

	313.21	312.99	312.69	312.91	312.74	312.24	312
	5.02	5.50	5.74	5.26	5.5	6.0	6.23
	+2.1	+2.2	+1.4	+1.6	+1.8	+2.0	+1.1
312.5							
5.73							
+1.3							
	310.40	310.98	309.46	308.79	307.18	307.24	
	4.83	4.25	5.77	9.44	11.05	10.29	
	+1.4	+1.2	+0.8	+1.0	+0.6	+0.6	
	305.57	306.42	304.91	303.96	303	304.84	
	3.24	2.42	3.93	4.88	5.84	4.97	
	+0.7	+0.6		+0.3	+0.2	-0.4	
	303.86	302.88	302.59	303.53	302.3	303.2	
	5.0	5.96	6.25	5.31	6.54	5.64	
	-0.8	-0.3	-0.4	-0.8			



12/17/22

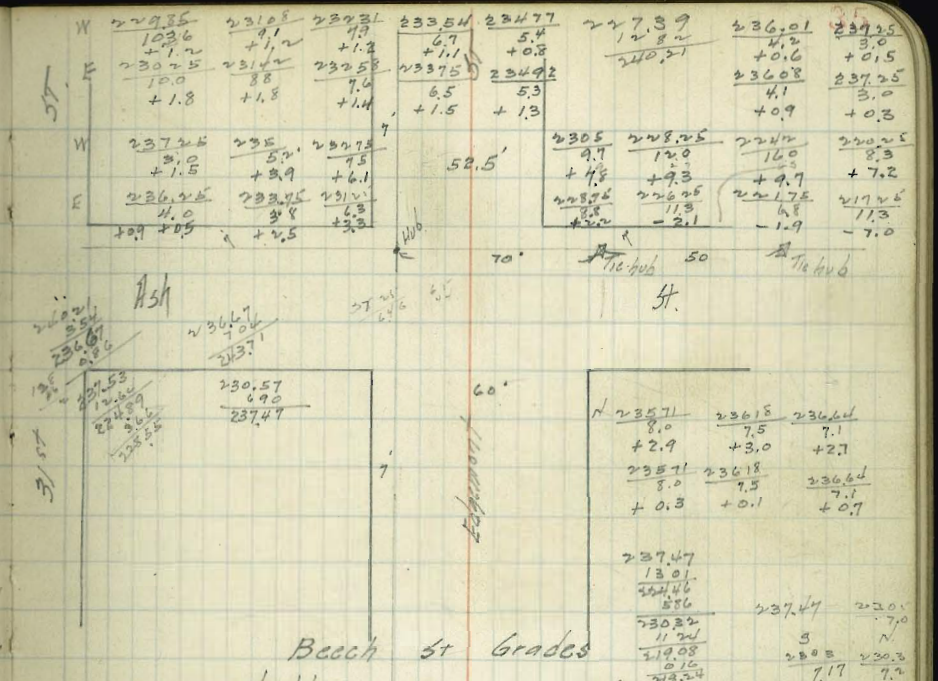
Grades on Edgemont
Ash + Beech

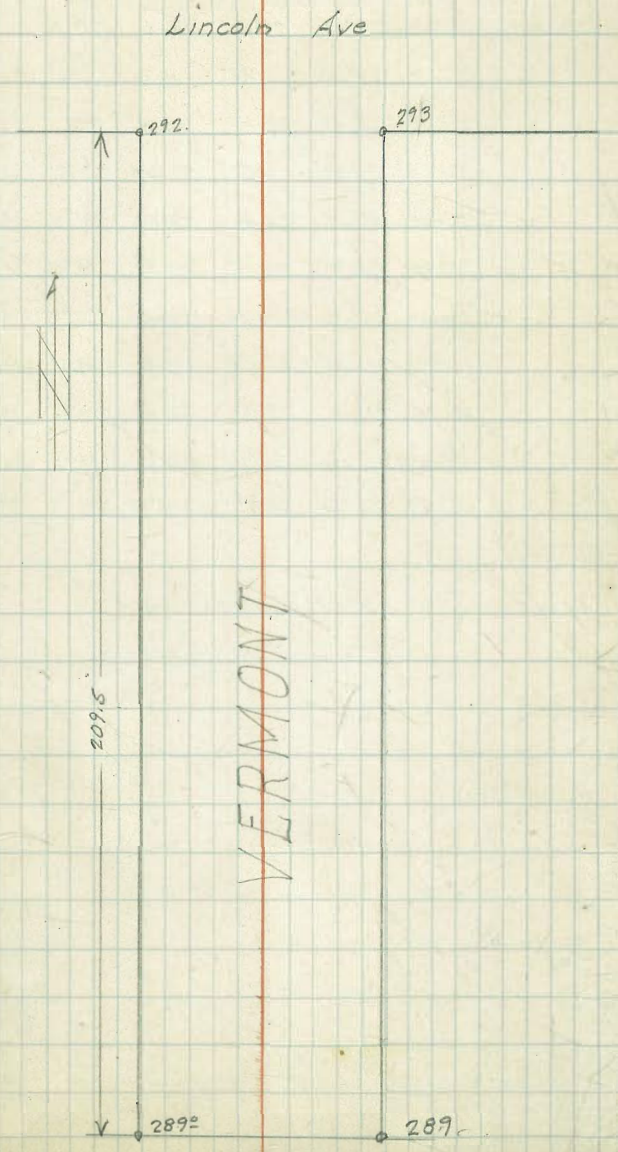
Ash St Grades

		North	South
		Ash St Grades	
EL 31st		235.0	235.0
50' E	+3.2	+2.9 235.46	+0.3 +0.6
100' E	+3.3	+3.0 235.93	+0.4 +0.4
150' E	+3.0	+2.7 236.39	+0.4 +1.0
213.76' E = W.L Edgemont		237.0	237.0
EL		236.0	237.0
		West	East

Edgemont St Grades

250' N. of Rushe Blvd.	+4.2	+3.5	240.0	3'	237.0	-7.0 -6.7
210' - -	+3.9	+3.0	241.0		241.5	-1.9 -1.6
170' - - - break	+3.3	+3.6	238.0		236.0	-2.1 -1.7
127.5' - - -	+2.8	+3.1	240.5		238.5	+2.2 +2.5
85.0' - - -	+1.1	+1.4	239.5		231.0	+3.3 +3.6
42.5' - - -	+3.9	+4.2	243.5		233.5	+7.6 +7.8
NL Ash	+1.5	+1.8	237.0		236.0	+0.5 +0.8
SL -	+0.5	+0.8	237.0		237.0	+0.3 +0.6
50' S	+0.6	+0.9	235.46		235.83	+0.9 +1.2
100' -	+0.8	+1.1	234.57		234.67	+1.3 +1.6
150' -	+1.1	+1.4	233.09		233.5	+1.5 +1.8
200' -	+1.5	+1.6	239.06		239.33	+1.7 +1.9
250' -	+1.2	+1.5	239.83		239.17	+1.8 +2.1
300' - break	+1.5	+1.5	239.6		239.0	+1.8 +2.1
356.03 on W						
354.87 - E		NL Ash				
			238.4		238.80	




Lincoln Ave
292
293
209.5'
VERMONT
289
289

VERMONT ST

80' Wide
25' Walks
7½' Quarters
12" Gutters

S. Line Lincoln Ave to Bridge

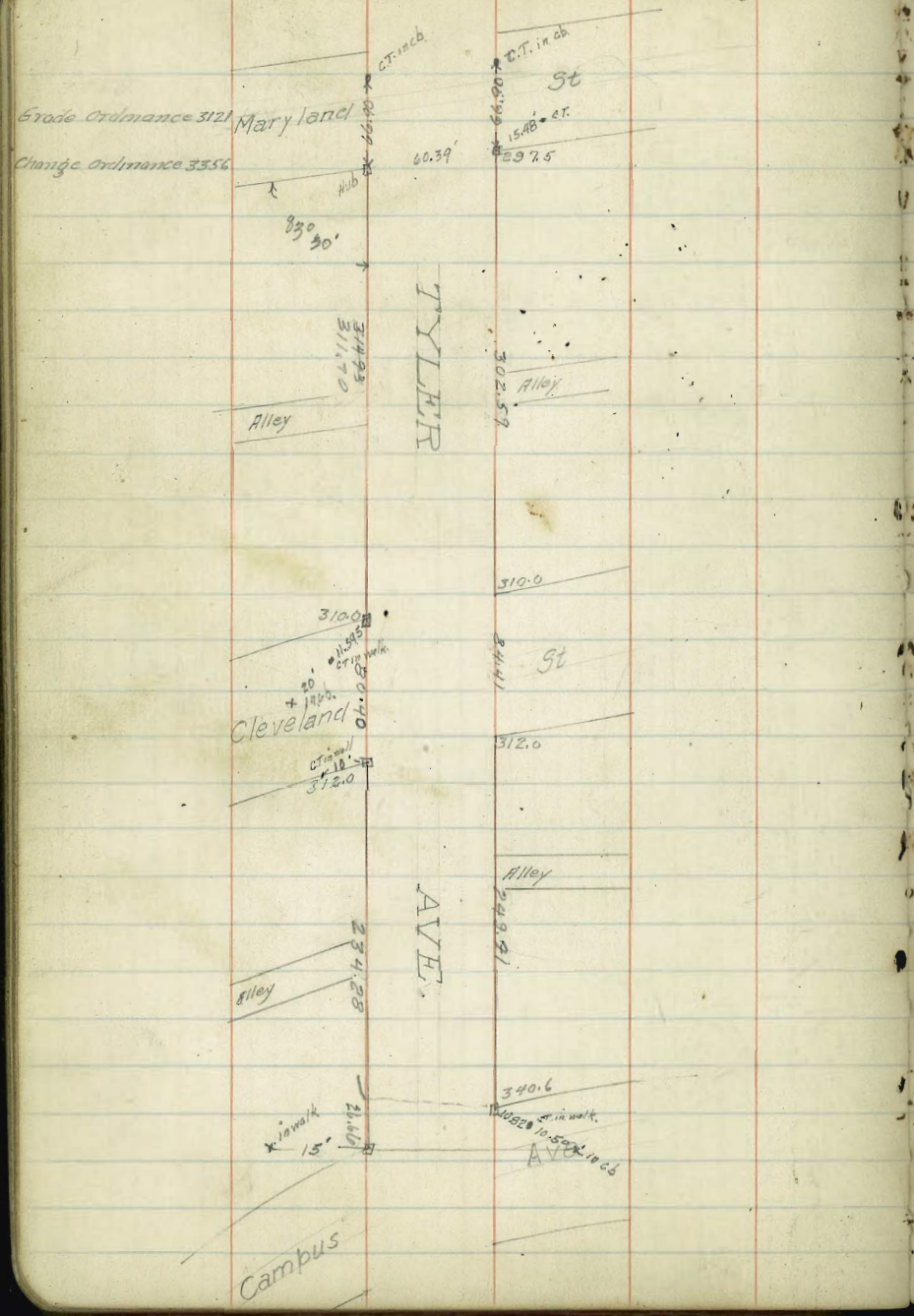
	W.	Cb	¼	℄	¼	Cb	E
S. line Lincoln	292.25	292.0	292.0	292.5	292.50	293.00	293.25
10'S	292.11	291.86	291.84	292.34	292.33	292.82	293.07
25	291.90	291.65	291.61	292.09	292.06	292.53	292.78
50	291.54	291.29	291.23	291.67	291.61	292.05	292.30
75	291.18	290.93	290.84	291.25	291.16	291.58	291.83
100	290.82	290.57	290.45	290.83	290.72	291.10	291.35
125	290.47	290.22	290.07	290.42	290.27	290.62	290.87
150	290.11	289.86	289.68	290.00	289.82	290.14	290.39
175	289.75	289.50	289.29	289.58	289.38	289.67	289.92
200	289.39	289.14	288.91	289.17	288.92	289.19	289.44
210	289.25	289.00	288.75	289.00	288.75	289.00	289.25

Grade Changed.

See Next Page ----

VERMONT ST.

	W	Cb	¼	℄	¼	Cb	E
5 Line Lincoln	92.25	292.00	92.00	292.50	92.50	293.00	293.25
10' S	92.20	291.95	91.95	292.45	92.45	292.95	93.20
25'	92.12	291.87	91.87	292.37	92.37	292.87	93.12
50'	92.00	291.75	91.75	292.25	92.25	292.75	93.00
75'	91.87	291.62	91.62	292.12	92.12	292.62	92.87
100'	91.75	291.50	91.50	292.00	92.00	292.50	92.75
125	91.41	291.16	91.10	91.54	91.49	91.93	92.18
150	91.07	290.82	90.70	91.09	90.97	91.36	91.81
175	90.72	290.47	90.30	90.63	90.46	90.79	91.04
200	90.38	290.13	89.90	90.17	89.95	90.22	90.47
Bridge = 209.5	90.25	290.00	89.75	290.0	89.75	290.00	290.25


Grade Ordinance 3121
Change Ordinance 3356
Maryland
C.T. in cb.
66.90
60.39'
Hub
830 30'
314.39
311.70
Alley
FIFTH
65.20
Alley
St
310.0
310.0
1.5 in walk.
20'
+ 1.2
Cleveland
Ave
C.T. in wall
18"
312.0
312.0
Alley
FOURTH
294.91
Alley
284.28
340.6
5" in walk.
15"
Campus

TYLER ST

Grades N.6

	South Curb		Quarter	Center	Quarter	Curb	North
E. L Maryland				297.00	297.0	297.50	297.71
E. L Maryland 68	296.75	296.80	296.85	297.13	297.20	297.28	298.03
25 East	297.82	297.87	297.62	298.19	298.24	298.81	299.06
50 "	298.84	298.64	298.68	299.24	299.29	299.84	300.09
75 "	299.96	299.71	299.75	300.29	300.33	300.87	301.12
100 "	301.04	300.79	300.81	301.35	301.38	301.91	302.16
125	302.11	301.86	301.88	302.40	302.42	302.95	303.20
150	303.18	302.93	302.94	303.45	303.47	303.98	304.23
175	304.25	304.00	304.01	304.50	304.51	305.01	305.26
200	305.32	305.07	305.07	305.56	305.55	306.04	306.29
225	306.39	306.14	306.14	306.61	306.59	307.08	307.31
250	307.47	307.22	307.20	307.67	307.64	308.12	308.39
275	308.54	308.29	308.27	307.72	308.68	309.15	309.40
295.79	309.43	309.18	309.15	309.60	309.55	310.0	310.25
305.36	309.74	309.49	309.56	310.00	309.75		
314.93	310.25	310.00	309.75				

N.6.

June 18-20
#58.

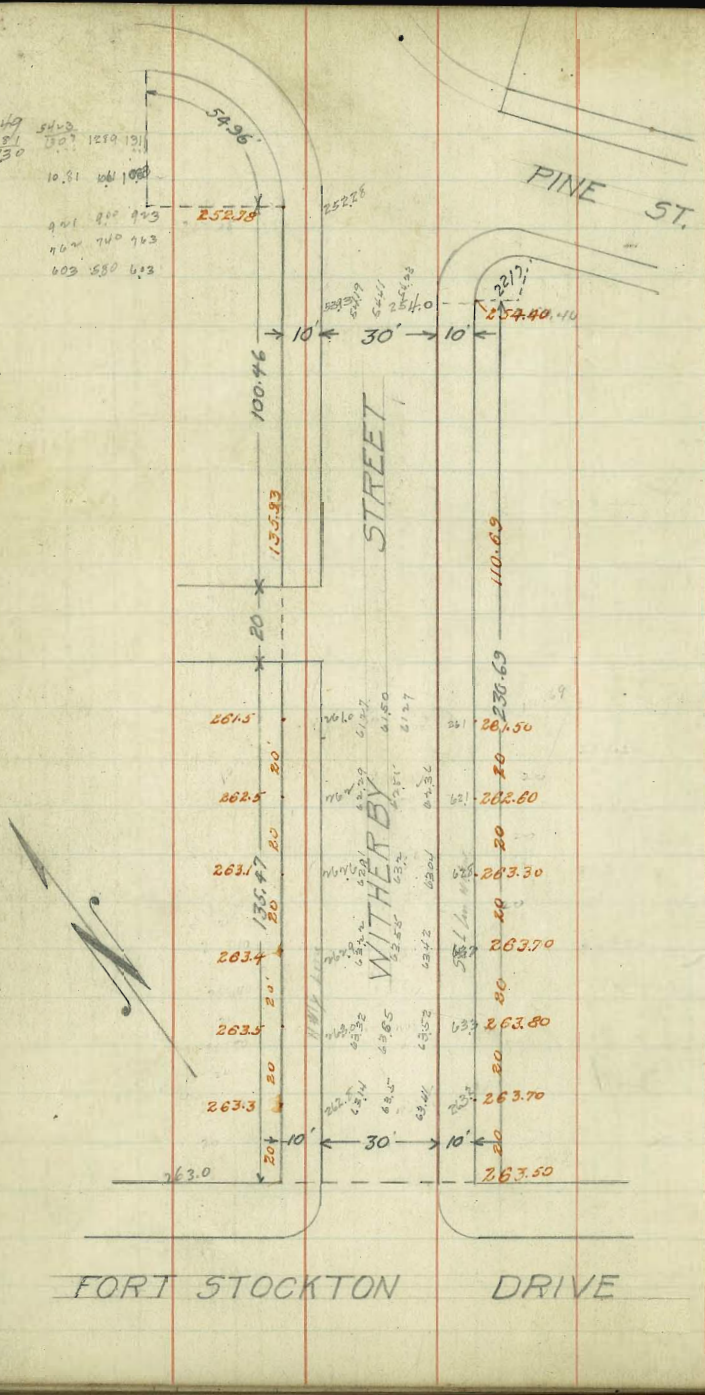
TYLER ST.

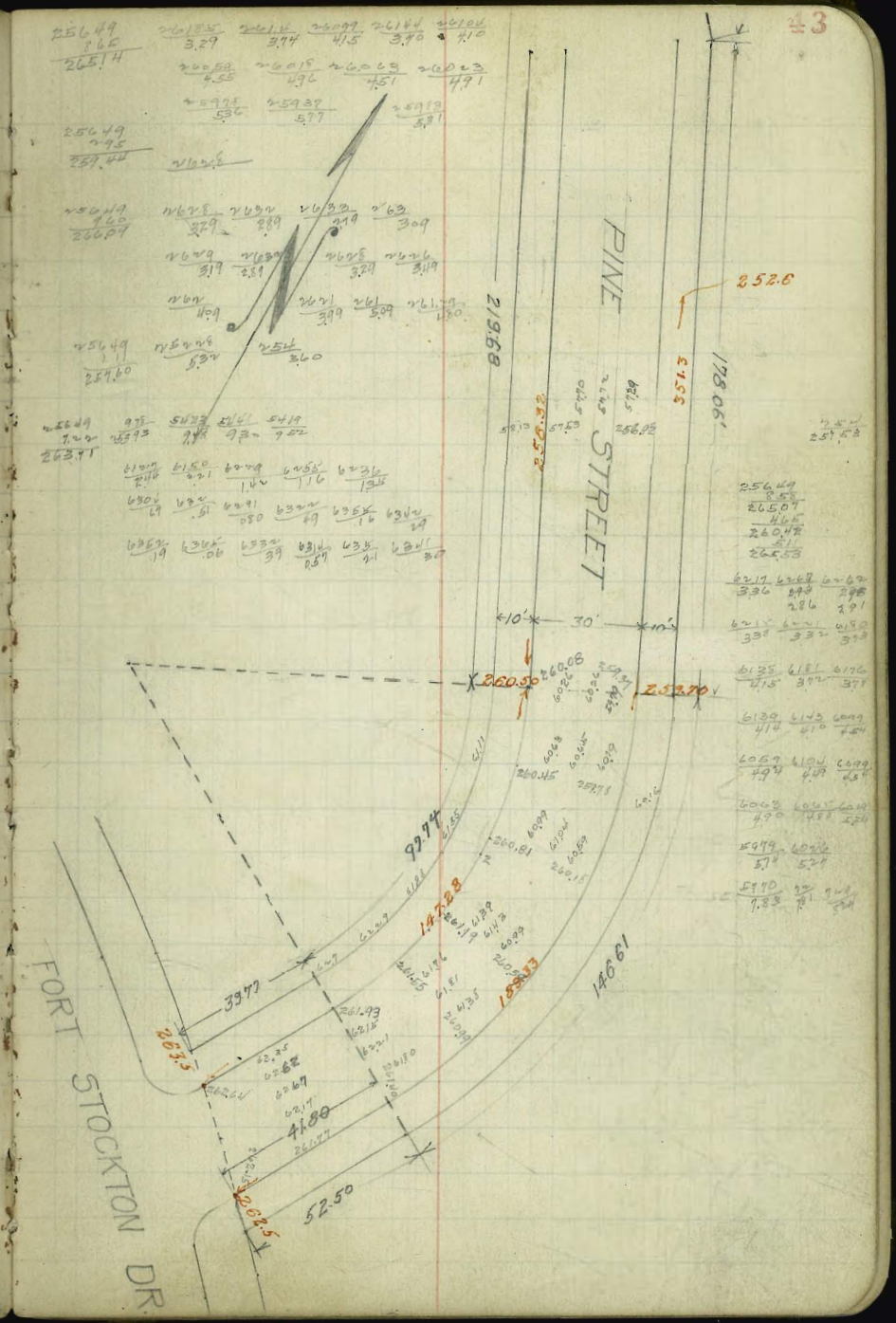
Grades for 12" Gutters 60' Street 14' Side Walks 32' Roadway.

Campus to Cleveland	North	curb	quarter	Center	Quarter	Curb	South
W. L. Campus					340.95	341.40	341.65
E. " 26.66			339.55	341.00			
E. W. L. Campus	340.85	340.60	339.80	339.50	338.70	338.40	338.65
25 W	337.99	337.74	336.94	336.67	335.84	335.59	335.84
50 "	335.12	334.87	334.09	333.82	333.04	332.79	333.02
75	332.26	332.01	331.23	330.98	330.18	329.93	330.20
100	329.40	329.15	328.40	328.14	327.40	327.13	327.38
125	326.53	326.28	325.53	325.30	324.53	324.32	324.57
150	323.67	323.42	322.69	322.46	321.74	321.50	321.75
175	320.81	320.56	319.86	319.62	318.96	318.68	318.93
200	317.94	317.67	316.97	316.77	316.07	315.86	316.11
225	315.08	314.80	314.12	313.95	313.27	313.05	313.30
234.28	314.02	313.73	313.05	312.88	312.20	312.00	312.25
249.41	312.25	312.00	311.75	312.00	311.75		

East

change grades


PINE ST.
WITHERBY STREET
FORT STOCKTON DRIVE
54.96
100.46
135.93
135.47
110.69
236.63
10'
30'
10'
20
252.38
254.40
261.5
262.5
263.1
263.4
263.5
263.3
263.0
261.50
262.60
263.30
263.70
263.80
263.70
263.50


PINE STREET
FORT STOCKTON DR.
89.68
190.18
252.6
351.3
254.32
10'
30'
10'
260.50
252.70
97.74
147.28
140.61
39.77
263.3
41.80
52.50
262.5

256.49 Top Hyd Pine + W. St

Wdy 1999 Ft Bank Dirt

256.49 — 25772 3.94 — 25130 5.26 — 555 251.11 — 25158 5.08 — 25189 4.79 — 25215 4.51 — 25244 4.22

19 — 25566 — 25579 3.51 — 25659 2.75

256.49 — 285 — 259.34

259+44 H.B. — 25315 6.29 — 25591 3.53 — 25740 — 25347 4.13 — 25318 4.42 — 253 4.6 — 25307 4.53

257.60 — 5163 5.97 — 5155 6.05 — 5150 6.10 — 5157 6.03 — 5212 5.48 — 5267 4.93 — 5321 4.39

256.01 — 5286 13.17

256.93 — 5145 5.68 — 5178 5.13 — 5134 5.59 — 5157 5.36 — 5194 4.96 — 5248 4.53

256+49 — 5156 5.37 — 5187 5.08 — 5215 4.80 — 5244 4.51 — 5272 4.23

044 — 256.93

256.49 — 5009 5.90 — 5078 6.08 — 5125 5.62 — 5186 5.32 — 5182 5.05 — 5211 4.76 — 5239 4.48 — 5514 1.73 — 5549 1.38

256.99 — 5588 1.04 — 5635 .57 — 5336 3.49 — 5349 3.36 — 5314 3.68

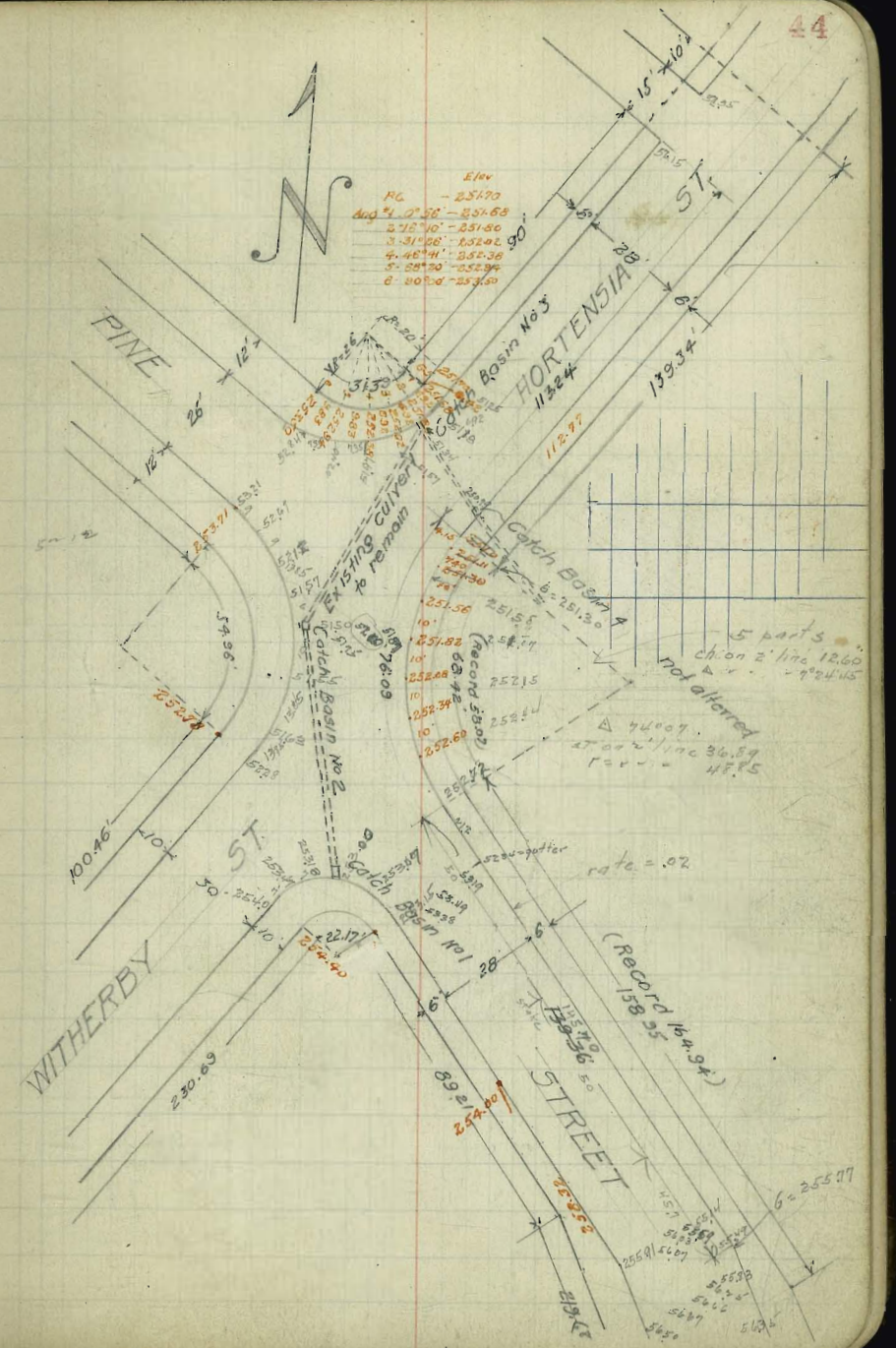
5607 .8 — 5602 .84 — 5559 1.28 — 5667 .20 — 5647 .40

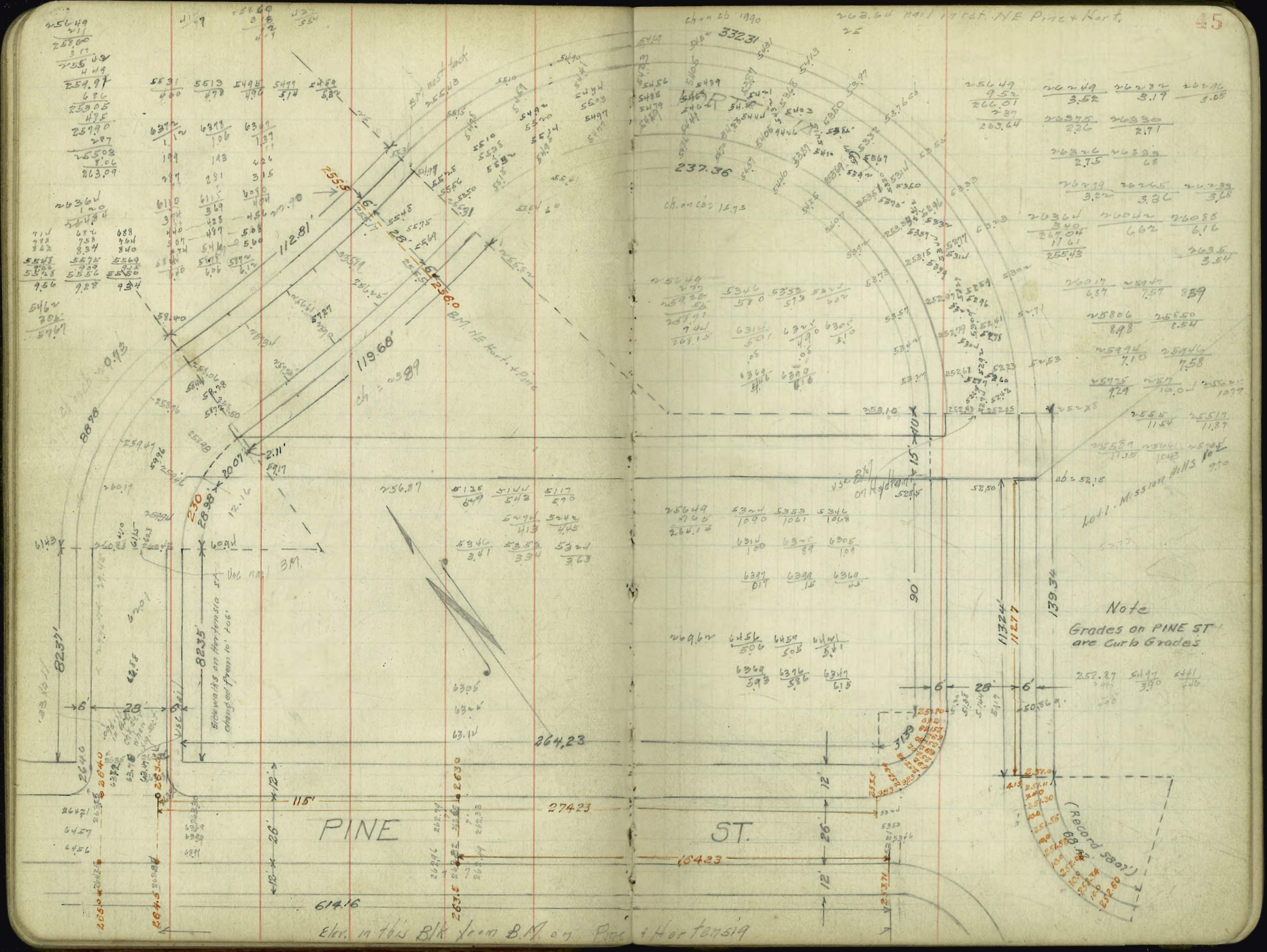
5476 4.11 — 5429 4.58 — 5185 5.02 — 5155 5.29 — 5179 5.05 — 5195 4.92 — 5215 4.72

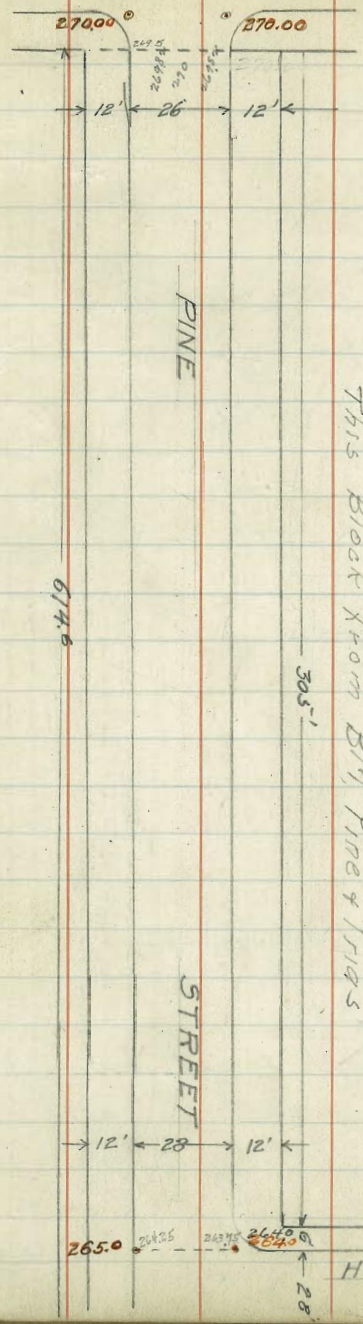
5130 5.57 — 5155 5.29 — 5189 5.00 — 5215 4.74 — 5244 4.45 — 5272 4.16 — 5330 3.57

5443 3.64 — 5381 3.46 — 5400 3.17

5445 .8 — 5453 4.34 — 5155 5.29 — 5180 5.04 — 5237 4.50 — 5282 4.05




PINE
ST.
Note
Grades on PINE ST are Curb Grades
Elev. in this B/K from B.M. on Pine & Hartensia
(Record 580')
332.31
237.36
112.81'
119.68'
256.0
864.23
614.16
64.23
139.34
113.24'
114.27
90'
104.51'
Sidewalks on Hartensia changed from 10' to 6'



Pine st = Curb Grades

This Block X from BM Pine & Trias

270.01 nail / SE. Pine & Trias

N.E. Ft Stockton & Trias.

	N				S
W.L. Atlantic	45	405	425	404	40
50' W				417	
100' W				430	
150' W				442	
200' W = Belt	50	455	475	455	46
½ Belt		442		442	
W.L. Belt	46	43	46	43	45
50' W		426		423	
100' W		421		417	
150' W		417		410	
200' W		412		408	
225 W	43				
		408		397	
		404		390	

40 8+75

357 NW. of Atlantic
7/16
1070

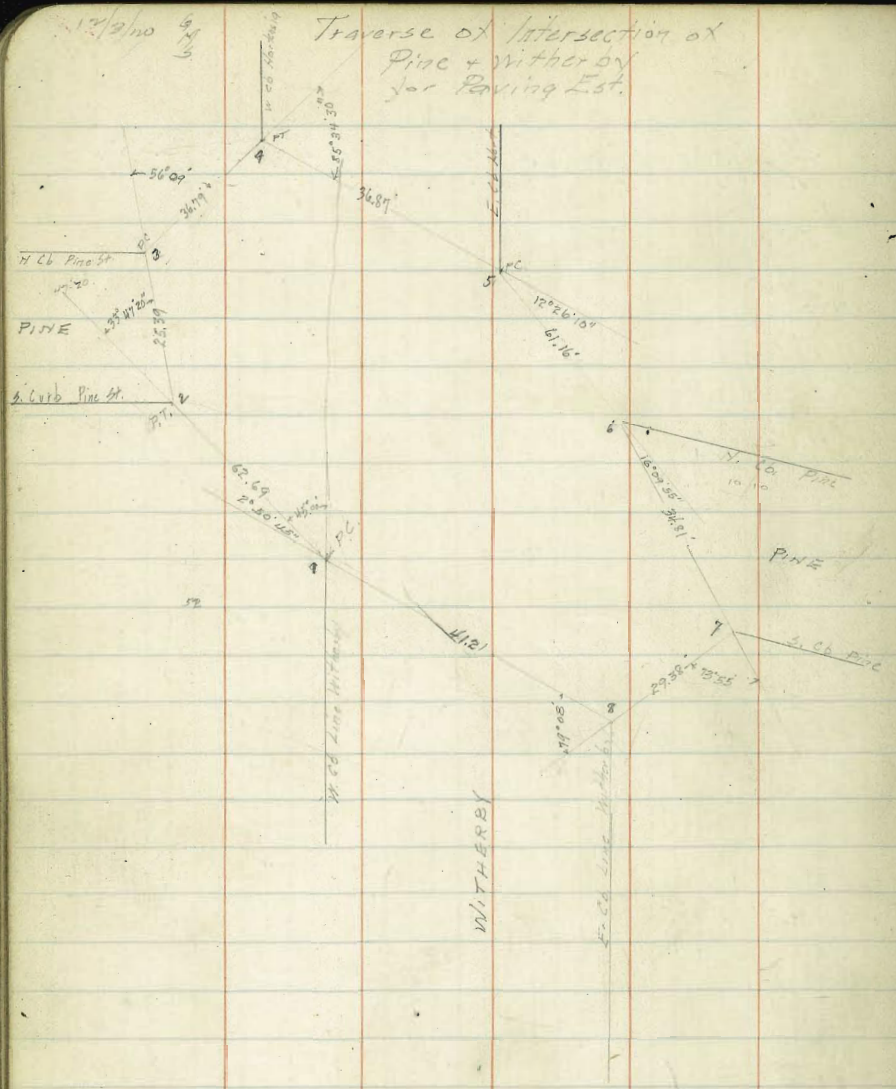
8/26/50 6 Teams 6 Men

47

405	417	430	442	455	442	43	426	420	415	410	405	395
6.4±	6.53	6.20	6.78	6.12	6.28	6.4	6.44	6.4	6.65	6.60	6.65	6.75
-0.9	-0.5	+1.6	+1.9	+1.5	+0.7	+0.8	+0.7	+0.5	-0.2	-0.6	-0.4	-0.2
-0.2	-0.1	+1.6	+1.2	+1.2	+1.2	+0.5	+0.3	0.0	+2.8	-0.5	0.0	+0.3

12/3/no

Traverse of Intersection of Pine & Withers for Paving Est.



12/10/20 Gregory Miller Shaw

Curb at Trias & Cherry

49

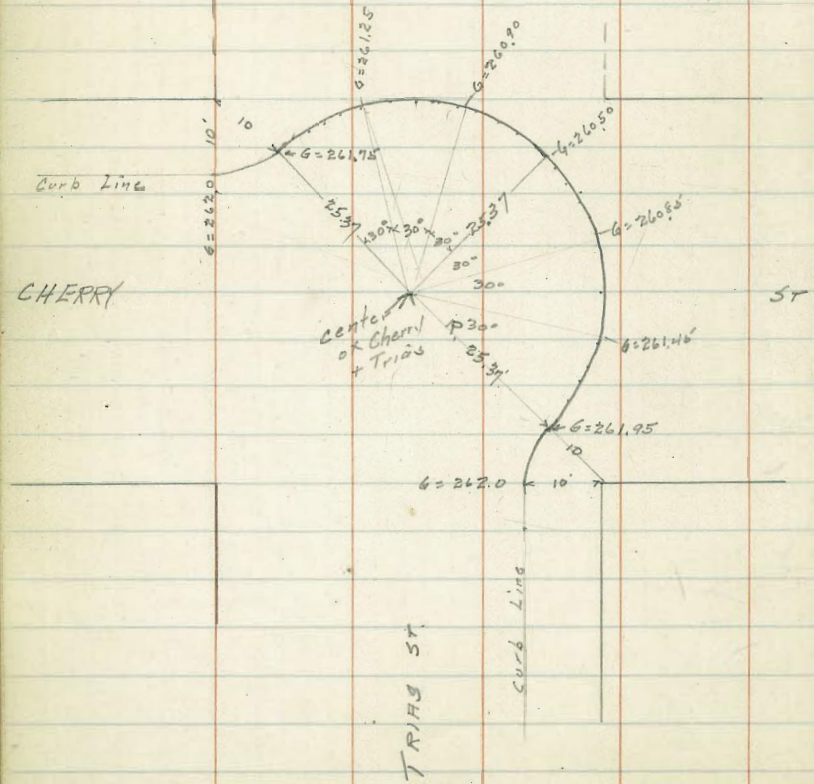
0.67	270.68		270.01	no. 1 Pine & Trias
4.65	266.69	8.64	262.04	

262.0 / 4.69 — 261.95 / 4.94 — 6150 / 5.19

6110 / 5.69 — 6120 / 5.94

6050 / 6.19 — 6090 / 5.79 — 6081 / 5.84 — 6124 / 5.44

6199 / 4.94



5/12/22

GRADES ON LEWIS ST. from Front To First

+75 = WL First on S.			286.5	86.75
+50				86.93
+16 = WL First on N.	87.75	287.5		
Z	87.86			87.30
+45	88.25	288.0	287.45	87.70
+30	88.25	288.0	287.39	87.64
1	87.77		286.83	87.08
+50	86.86		286.59	86.19
+16 = EL on N.	86.26	286.		
EL Front on S.			285.0	85.25

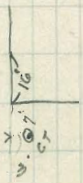
50

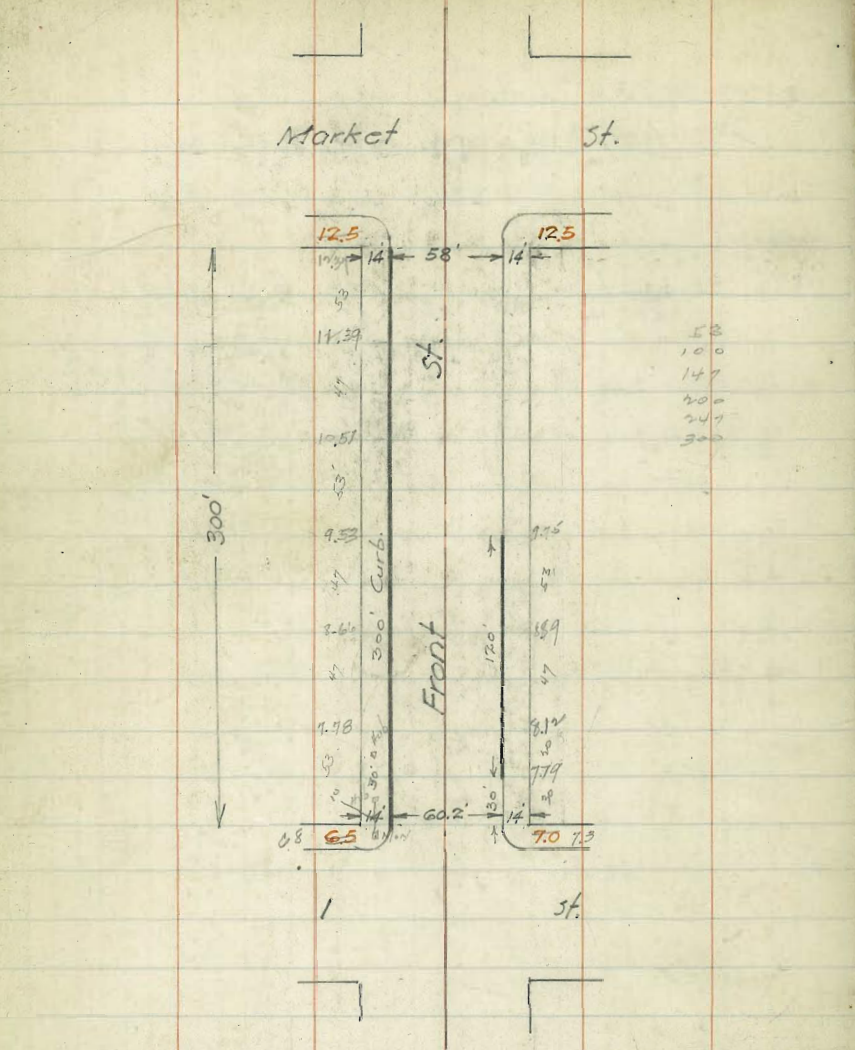
287.97 BP SE 1st & Lewis

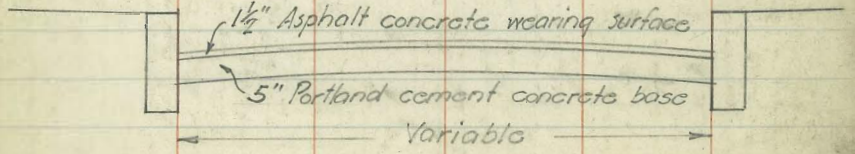
S	8693	8730	8770	8764	8708	8617
	470	433	393	4.00	4.55	546
	36	333	4.1	42	850	40
	+1.1	+1.0 nail	−0.2	−0.2	+1.0 nail	+1.5

N.	8776	8786	8825	8827	8772	8686
	39	3.8	338	338	39	478
	35	31	235	235	35	36
	+0.4	+0.7	+1.0 nail	+1.0 nail	+0.4	+1.2

287.97	8668	87.94	8625
42.2	531	4.05	538
291.99			57
			+0.2







12W46 SW Market & Front.

Sect 50' N. of I

TYLER AVE.

South

E.L. Maryland. 296.5 297.5

+50 on S ✓
+56.8 ✓ N 298.26 ✓ 299.51

1+00 on S ✓
1+6.8 ✓ N 300.02 ✓ 301.28

1+50 on S ✓
1+56.8 ✓ N 301.77 ✓ 303.06

310.05 on S ✓
216.85 ✓ N 303.90 ✓ 305.19

82.3 on N 306.96 307.11

2+99.35 on N ✓
W.L. Cleveland 310.0 310.0

E.L Cleveland 312.0 312.0

+15.13 on N 313.73

+50 on S
+65.13 N 317.63 319.46

+100 on S
115.13 ✓ N 323.27 325.20

1+50 on S
1+65.13 N 328.90 330.93

2+00 on S
2+15.13 ✓ N 334.53 336.67

2+49.41 on N 2 BM, Hons. 338.41

W.L Campus 341.4 340.6
2+60.93 on S

see page 30 for sketch

Cleveland + Tyler SW. opp. 310.27
Campus + Univ Blvd NE 344.36

340.69 BM on X N side Tyler + W Campus

344.36 — 346.24 — 333.25 — 321.69 — 308.78 — 311.17

N 340.85 — 336.92 — 331.18 — 325.46 — 319.71 — 313.95 — 313.1
546 — 939 — 15.13 — 8.71 — 14.45 — 2.29
−0.4 — +1.2 — +4.7 — +4.4 — +2.8 — +0.9

S 341.45 — 338.66 — 334.46 — 329.15 — 323.52 — 317.88 — 312.45
4.66 — 7.65 — 11.53 — 17.16 — 10.64 — 16.28 — 9.42
−0.4 — −0.5 — +2.8 — +5.1 — +3.8 — +3.1 — +0.8

N 310.75 — 307.36 — 305.44 — 303.31 — 301.53 — 299.76
11.42 — 3.81 — 5.73 — 7.86 — 9.64 — 11.41
−0.5 — −3.7 — −1.5 — −0.2 — 0.0 — +1.5

LUTS + MILES 9/26/21 Gregori Moore Miller

310.05 — 309.05 — 306.12 — 304.18 — 300.27 — 298.51
1.42 — 2.42 — 5.02 — 7.25 — 10.90 — 12.66
−0.3 — −0.6 — −1.8 — −2.5 — −6.3 — +0.9

310.20 BM SW Cleveland
0.38
310.58
1.03
309.73
8.34
308.57

N 296.5 — 298.26 — 310.02
1.07 — 1.031 — 8.55

310.20
2.34
312.54

309.90
8.64

310.20
0.47
310.67

310.20
2.34
312.54

309.90
6.77 — 5.18

310.20
0.47
310.67

310.20
5.93
316.13

340.69
306
343.73

310.20
2.53
312.73

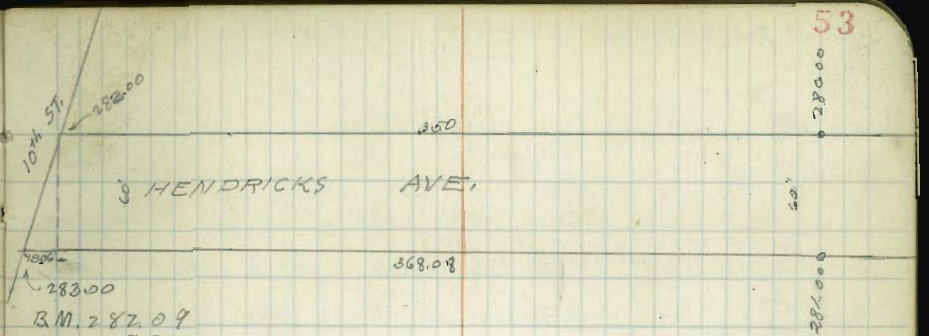
310.0
6
310.6

303.9
6.7

301.77
8.83

300.02
10.58

	N.L	N.C.	N.G	N¼	℄	S¼	SG	S.C.	S.L.
Sec A - E.L. of 10th ST.	282.25	282.00	281.00	282.00	282.50	282.50	282.00	283.00	283.25
1806 E. on S. 00 E on N = 0.0	282.25	282.00	281.00	281.97	282.45	282.42	281.90	282.90	283.15
+25	282.11	281.86	280.86	281.83	282.31	282.29	281.77	282.77	283.02
+50	281.96	281.71	280.71	281.68	282.17	282.15	281.63	282.63	282.88
+75	281.82	281.57	280.57	281.55	282.04	282.02	281.50	282.50	282.75
1+00	281.68	281.43	280.43	281.41	281.90	281.88	281.36	282.36	282.61
1+25	281.54	281.29	280.29	281.27	281.75	281.73	281.21	282.21	282.46
1+50	281.39	281.14	280.14	281.13	281.61	281.60	281.08	282.08	282.33
1+75	281.25	281.00	280.00	280.99	281.47	281.45	280.94	281.94	282.19
2+00	281.11	280.86	279.86	280.85	281.33	281.31	280.80	281.80	282.05
2+25	280.96	280.71	279.71	280.69	281.19	281.18	280.67	281.67	281.92
2+50	280.79	280.54	279.54	280.53	281.02	281.02	280.51	281.51	281.76
2+65	280.74	280.49	279.49	280.48	280.97	280.97	280.46	281.45	281.70



B.M. 282.09
7.37
289.46
6.17
283.29
3.54
286.83

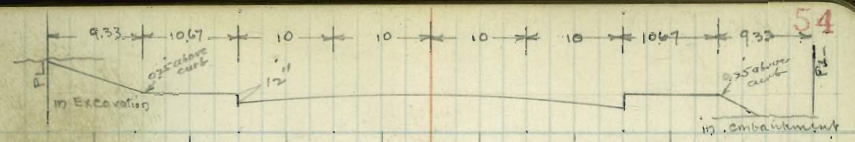
E. Line 10th

S. CB	3.83	283.00 cK	Grade stake
S. Cb	3.5	283.3	Ground
N. Cb	4.2	282.6	"
	50' E on N = 68.06 on S.		
S. Cb	4.4	282.4	"
	100' E on N = 118.06 on S		
S. Cb.	4.5	282.3	"
N. Cb.	4.8	282.0	"
	200' E on N = 218.06 on S		
N. Cb	5.1	281.7	"
S. Cb.	4.5	282.3	"
	250' E on N = 268.06 on S		
S. Cb	5.2	281.6	"
N. Cb	5.3	281.5	"

sidewalk 4' from back of curb

E ST.

186.10 BM	186.0	186.33	186.67	187.0	187.33	187.43	187.38	
444	4.54	4.21	3.87	3.54	3.21	3.11	3.16	
190.54								
	187.18	186.83	186.34	85.71	85.35	8493	FND	
	3.36	3.71	4.20	4.83	5.19	5.61	6.58	
	8306	82.25	81.56					
	7.48	8.29	8.98					
18610	184.50	186	185.50	186	186.18	186.21	185.09	185.33	185.43	184.89
438	6.48	5.98	6.48	4.98	4.80	4.77	4.89	5.15	5.58	6.11
190.98										
	184.50	185.33	185.48	181.75	181.15					
	6.80	7.65	8.50	9.23	9.83					



54

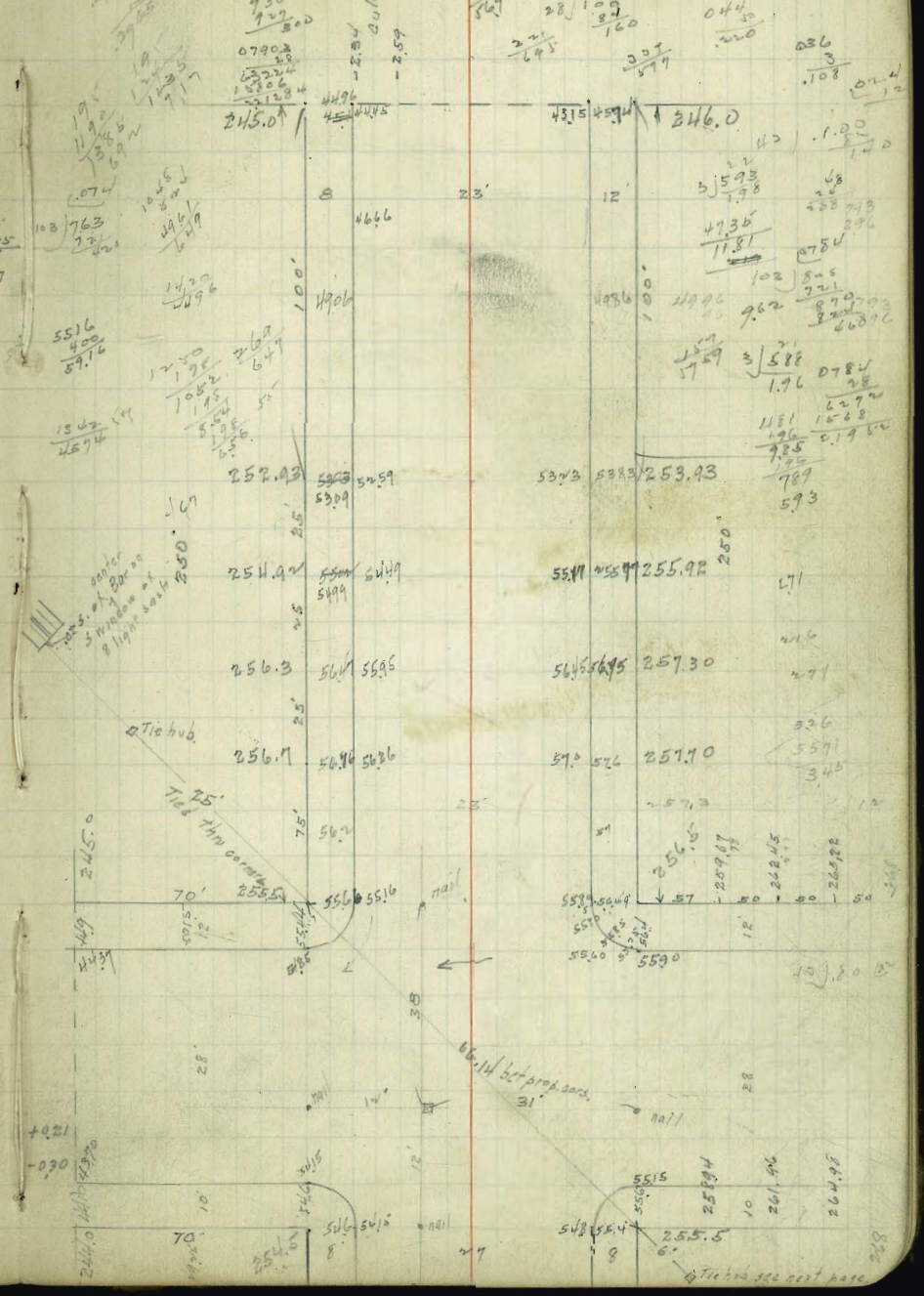
	North	N. curb	N ¼	℄	S ¼	S. curb	South
475 ℄	181.81	181.56	181.21	181.36	181.00	181.15	181.40
450	182.50	182.25	181.87	182.00	181.62	181.75	182.00
425	183.31	183.06	182.66	182.77	182.37	182.48	182.73
410	183.87	183.62	183.21	183.30	182.90	182.99	183.24
400	184.25	184.00	183.58	183.67	183.25	183.33	183.58
380	184.99	184.74	184.30	184.37	183.94	184.01	184.26
375	185.18	184.93	184.49	184.55	184.11	184.18	184.43
365	185.49	185.25	184.79	184.85	184.40	184.46	184.71
350	185.96	185.71	185.25	185.29	184.83	184.87	185.12
325	186.59	186.34	185.86	185.89	185.41	185.43	185.68
300	187.08	186.83	186.33	186.33	185.83	185.83	186.08
275	187.43	187.18	186.65	186.63	186.10	186.09	186.34
250	187.63	187.38	186.84	186.80	186.25	186.21	186.46
225	187.68	187.43	186.87	186.80	186.24	186.18	186.43
200	187.58	187.33	186.74	186.67	186.08	186.00	186.25
175	187.42	187.17	186.55	186.46	185.85	185.75	186.00
150	187.25	187.00	186.37	186.25	185.62	185.50	185.75
125	187.08	186.83	186.18	186.04	185.39	185.25	185.50
100	186.92	186.67	186.00	185.84	185.17	185.00	185.25
75	186.75	186.50	185.81	185.63	184.94	184.75	185.00
50	186.58	186.33	185.62	185.42	184.71	184.50	184.75
25	186.42	186.17	185.44	185.21	184.48	184.25	184.50
8 ℄	186.30	186.05	185.31	185.07	184.32	184.08	184.33
E.L. 30 ft	186.25	186.00	185.25	185.00	184.25	184.00	184.25

E. ST.

190.54	181.0 / 9.54	181. / 179 / v. 180. / 10.54	179.0 / 11.54	
19098	18067 / 1031	17983 / 11.15	179 / 1198	

	North	N. curb	N ¼	℄	S ¼	S. curb	South	
619.5 = W.L. 3154 ow N	179.75	179.00	178.75	179.00	178.75	178.00	178.50	
609.5	179.47	179.17	178.87	179.08	178.79	179.00	179.00	
599.5 = W.L. 3154 ow S	179.58	179.33	178.99	179.16	178.83	179.00	179.25	
575	179.99	179.74	179.40	179.57	179.24	179.41	179.66	10'
560	180.25	180.00	179.66	179.83	179.50	179.66	179.91	
550	180.41	180.16	179.82	179.99	179.66	179.83	180.08	
525	180.83	180.58	180.24	180.41	180.08	180.25	180.50	
500	181.25	181.00	180.66	180.83	180.50	180.67	180.92	
475	181.81	181.56	181.21	181.36	181.00	181.15	181.40	

TORRENCE


246.0
245.0
253.93
255.92
252.93
256.3
256.7
25'
70'
Tie hub
Tie hub see next page

264.03 B.P. N side at P.L.

WELLBORN

TORRENCE

3792 nail in

ST

Tied thru 2 corners

Tie hub

Tie hub in path

255.5

248.0

246.9

246.5

246.9

248.0

254.0

255.5

264.0

263.0

263.5

5 in top fence
This tack is
.05 East of Point

NEALE ST.

269.62 2.80 272.42	W	268.75 3.7 +2.4	267.24 5.18 +2.6	265.92 6.5 +1.1	264.60 7.8 -1.5	263.25 9.2 -2.6
Wellborn 5.5	E	268.75 3.7 +1.3	267.51 4.9 +2.8	266.42 6.0 +3.0	265.32 7.1 +2.2	264.25 8.2 +1.4
Neale HI 272.42 12.89 259.53 261.44	S	268.25	266.0 6.42 +4.0 nail	263.75 8.67 +1.3	257.75 3.7 +1.6	251.75 9.7 +1.2
269.62	N	268.75	266.0 6.4 +1.9	263.25 9.2 -0.4	257.25 4.2 -0.7	251.25 10.2

271.93
0.79
272.72

268
4.72

270.91

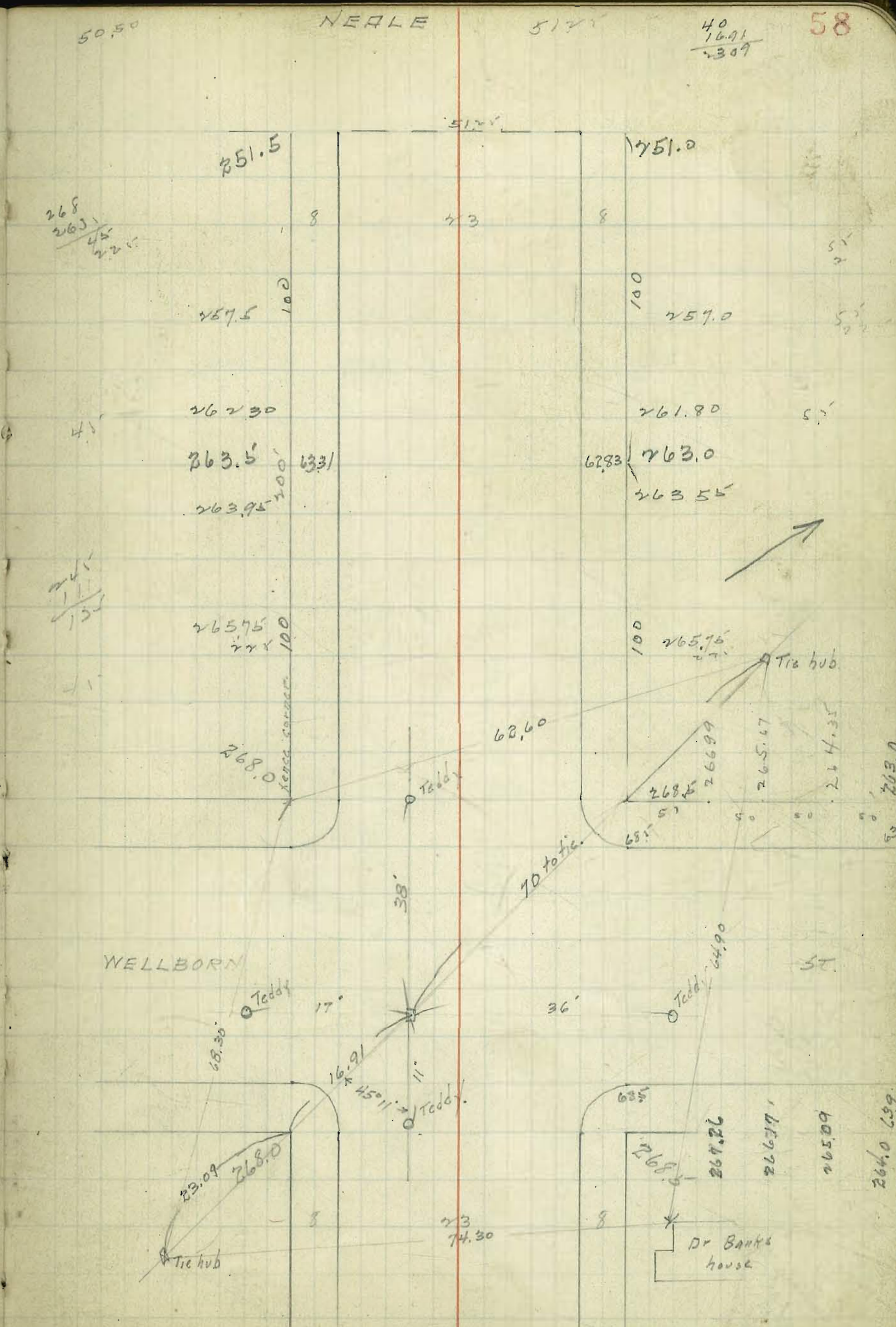
264.58 6.33 — 265.88 5.03 — 267.19 3.42 — 268.50 2.41

265.17 5.74 — 266.28 4.63 — 267.39 3.52 — 268.50 2.41

68.5
0.26
68.74

65.75 2.99 — 263.96 4.79 — 263.31 5.43 — 262.30 6.44 — 57.5 11.24

63.56 5.19 — 62.83 5.91 — 61.80 6.94 — 57 11.74



NEALE

N69.62	S.	N65.25	N64.45	N61.14	N60.84	6119	6255	6602
N96		7.33	10.33	11.4	11.8	11.4	10.03	6.6
274.58		- 0.4	- 0.4	- 0.5	- 0.5	- 0.5	- 0.3	+0.9
	N	N65.58	N64.24	N60.31	N61.16	N61.95	6376	N66.06
		7.00	10.2	12.3	11.4	10.6	8.8	6.5
		+1.4	+1.6	+1.3	+1.1	+1.3	+1.1	+1.0
N49.93		N66.	N67.	N60.99	N60.57	N60.94	6210	6577
049		7.7 N	12.7 N	11.83	12.16	11.78	10.62	695
299.7 N		N65.33	N64.19	6106	6094	6173	6350	6422
		7.39	10.55	11.66	11.84	10.99	9.22	8.22
		685						
		31						
		7.6						

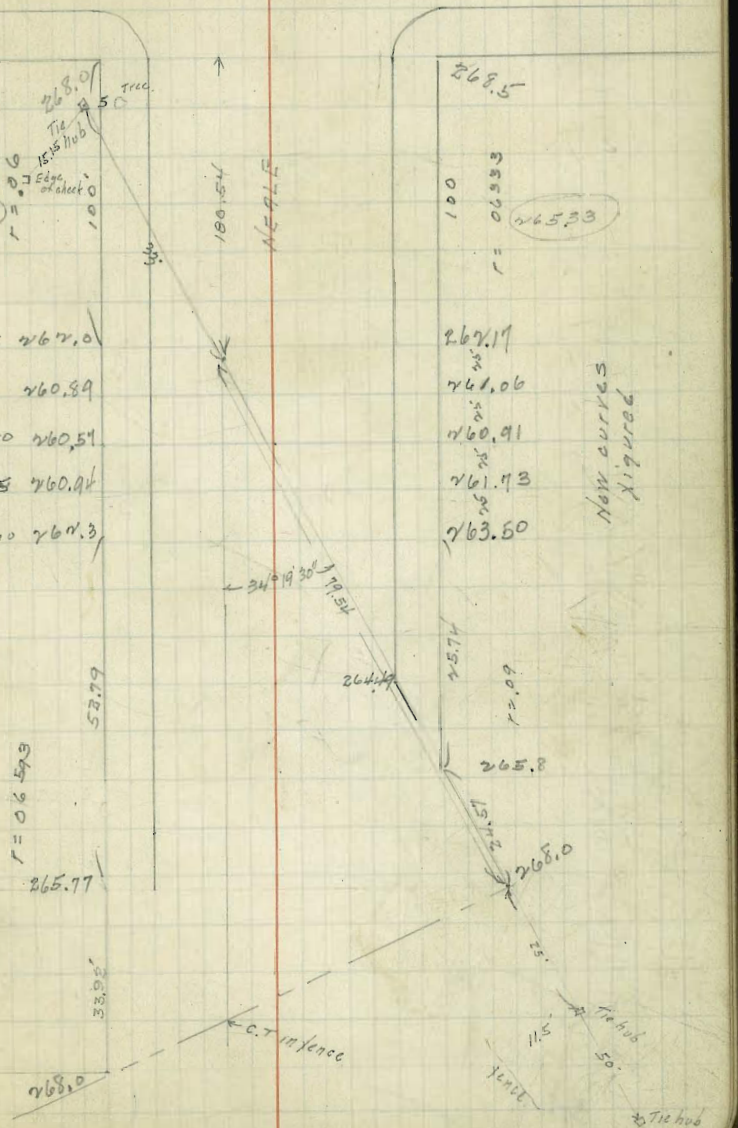
N69.62 SE Wolborne Neale
Top of check Banks home 271.93

N39.92
11.68
226.24
0.0.2
226.26
1.19
225.07
21.76
0.7
21.45

0.65	
270.27	00 + 3.9
18.25	50 3.4
257.02	100 4.0
361.42	150 2.4
1.19	170 + 2.3
249.23	215 + 4.0
1.64	+ 9.7
250.87	
12.95	= MAIL + 6.5
237.92	

13359

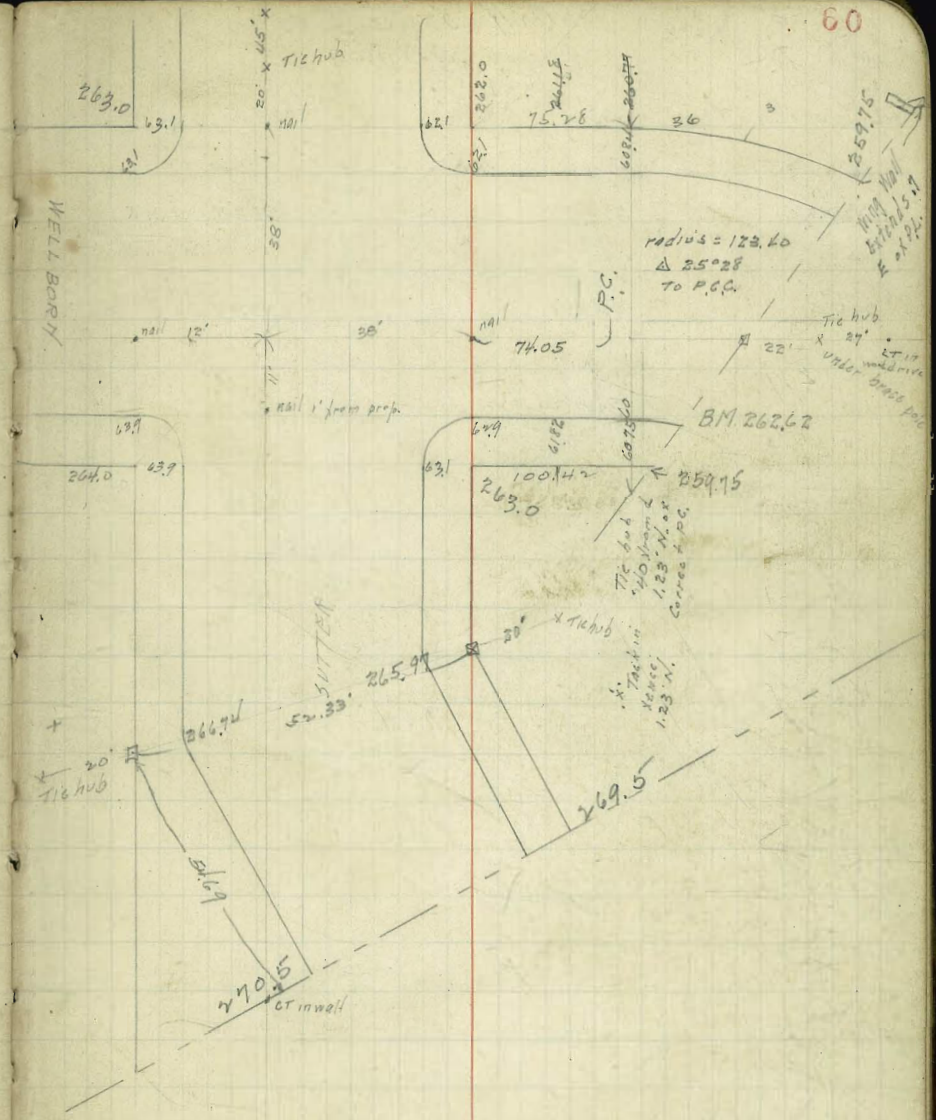
WELLBORN ST.



SUTTER

W	262.25	261.43	261.07	260.83
	10.7	11.0	11.4	12.9
H1	-1.6	-3.5	-5.5	-8.5
E	263.25	261.63	260.0	
	9.7	10.8	11.4	
	+2.0	+3.0	+2.8	
			267	266.21
			+1.6	7.15
				+1.9

631	629	631	629	618.7	607.5
631	4.01	7.81	6.01	9.09	10.16
631	630.10	618.7	608.4
7.81	8.81	9.44	10.07



4/6/22

THORN ST GRADES

29th to Granada — 60' m/c — 10 cbs

	S	N
320.00 EL. Granada	323.0	323.5
250	322.89	323.39
200	322.61	323.11
150	322.34	322.84
100	322.06	322.56
50	321.78	322.28
W.L. 29th	321.5	322.0

321.21 NE 29th & Thorn

5.20
326.41

H.I. 321.51

322.78	322.06	322.34	322.61	322.89	
4.63	4.35	4.1	3.8	3.5	
.15	1.5	2.2	2.3	2.6	
+3.5	+2.8	1.8	1.5	+0.9	
322.53	322.81	323.04	323.36	323.64	
3.9	3.6	3.3	3.0	2.8	
3.8	3.1	2.8	2.8	2.6	

.00555
277
370 | 1500
1350
1500
00555
20
.11100
277.5

321.21	322.28	322.56	322.84	323.11	323.39	323.67
5.67	4.60	4.32	4.04	3.77	3.49	3.38
326.88	322.15	322.38	322.56	322.84	322.89	323
	5.38	5.10	4.82	4.54	4.27	3.98

Grades on NEWPORT AVE DRAIN

				GRADE	CUT
BP	6.05	12.55	6.50		
0+00 = 34.9 W. of E.L. Abbott			6.57	5.98	2.0	3.98
			6.35	6.20	2.17	4.03
+50			6.07	6.48	2.34	4.14
			5.86	6.69	2.51	4.18
1			5.60	6.95	2.68	4.27
			5.37	7.18	2.85	4.33
+50			5.18	7.37	3.02	4.35
			4.96	7.59	3.18	4.41
2					3.35	
			4.54	8.01	3.52	4.49
+50			4.30	8.25	3.69	4.56
			4.10	8.45	3.86	4.59
3			3.88	8.67	4.03	4.64
+33.89 = Cleanout			3.61	8.94	4.26	4.68
+50			3.46	9.09	4.37	4.72
			3.24	9.31	4.53	4.78
4			3.04	9.51	4.70	4.81
			2.81	9.74	4.87	4.87
+50			2.66	9.90	5.04	4.86
			2.46	10.11	5.21	4.90
5			2.24	10.31	5.38	4.93
			2.04	10.51	5.55	4.96
+50			1.77	10.78	5.72	5.06
			1.51	11.04	5.89	5.15
6			1.31	11.24	6.06	5.18
+31.89 = W.L. Bacon			1.03	11.52	6.24	5.28
7.42	12.49		1.50	11.05		BP NE Bacon
+78.39 = C.B.					6.6	
+91.89 = E.L. Bacon			6.48	11.99	6.78	5.21
7			6.42	12.05	6.80	5.25
+50			6.02	12.45	7.24	5.20
8			5.70	12.77	7.69	5.08
+50			5.31	13.16	8.14	5.02
9			4.95	13.52	8.59	4.93
+50			4.59	13.88	9.03	4.85
10 +06.89 = Cleanout			4.15	14.35	9.54	4.81
+50			3.83	14.67	9.92	4.75
11			3.46	15.01	10.37	4.64

NEWPORT DRAIN

	18.47			Grade	
+50		30.5	15.42	10.82	4.60
12		27.0	15.77	11.26	4.51
+50		23.4	16.13	11.70	4.43
+91.89 = N.L. Cable	25.86	19.7	16.50	12.08	4.42
13				12.14	
+38.39 = G.C.B. Cable E.B.L.				12.50	
Eq. +53.89 = 0+00 = E.L. Cable.		88.4	17.02	12.68	4.34
0+50		8.16	17.70	13.36	4.34
1		75.1	18.35	14.04	4.31
1+50		6.84	19.02	14.72	4.30
2		6.18	19.68	15.40	4.28
2+50		5.49	20.37	16.08	4.29
3		4.82	21.04	16.76	4.28
3+15 Clearout #6		4.59	21.27	16.98	4.29
3+50		4.27	21.64	17.45	4.19
4		3.49	22.37	18.13	4.24
4+50		2.80	23.06	18.81	4.25
5		2.17	23.69	19.50	4.19
5+50		1.49	24.37	20.18	4.19
6 = N.L. DeFoe		0.85	25.01	20.86	4.15
BM	13.98	0.84	25.04		
Equation 6+60 = 0+00 E.L. DeFoe.		17.83	26.15	21.8	4.35
6+50				22.28	
7		107.0	28.28	23.97	4.31
7+50				25.05	
8		84.9	30.49	26.14	4.35

N.W. DeFoe × Newport 25.04

NEWPORT DRAIN

		38.98				
7+50					27.22	
3			6.21	32.77	28.32	4.45
+50					29.40	
4 = Cleanout #8			4.99	35.99	30.5	5.49
T.P.	17.45	51.03	0.40	38.58		
5			17.45	38.58	34.55	4.03
					36.58	
6 = W.L. Ebers					38.61	
+46 = Cleanout #9			6.19	44.84	40.5	6.08
0+00=6+60 = E.L. Ebers			5.08	45.96	41.88	4.07
T.P.	17.93	62.47	1.49	49.54		
1			7.13	55.34	51.73	3.51
T.P.	17.94	75.8	0.73	62.24		
2			11.00	64.18	61.58	2.60
T.P.	11.70	85.75	1.13	74.05		
+90			11.70	74.05	70.45	3.60
3 = Cleanout #10				67.48	71.42	Fill 3.96
+50					76.35	
+90			2.33	83.24	80.30	3.1
					81.29	
T.P.	17.65	98.35	0.05	85.70		
5			4.70	93.65	91.14	2.51
	17.44	110.0		97.58		
+50					96.06	
6 = W.L. Froude Cleanout #11			7.81	102.21	101.0	1.21
B.M. N.E. Froude Marl			1.62	108.38	108.38	

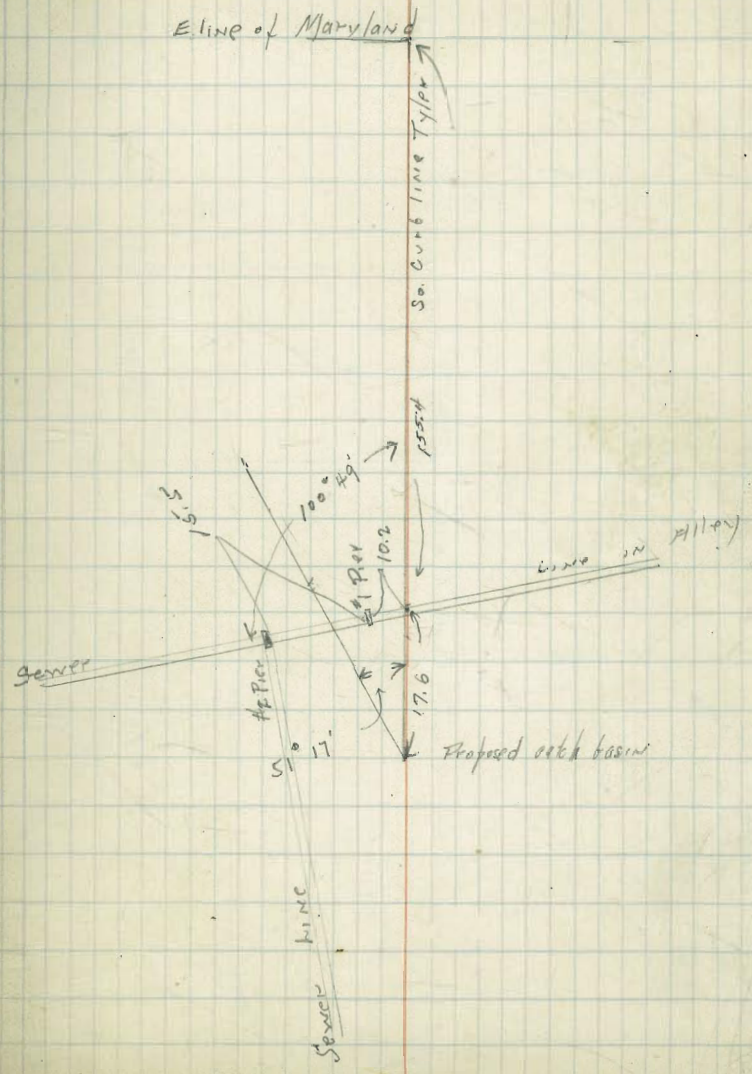
.05=1/2
1.5=1/4
406
44
1624
1624
1786

16
+6

985
14
3940
985
1379

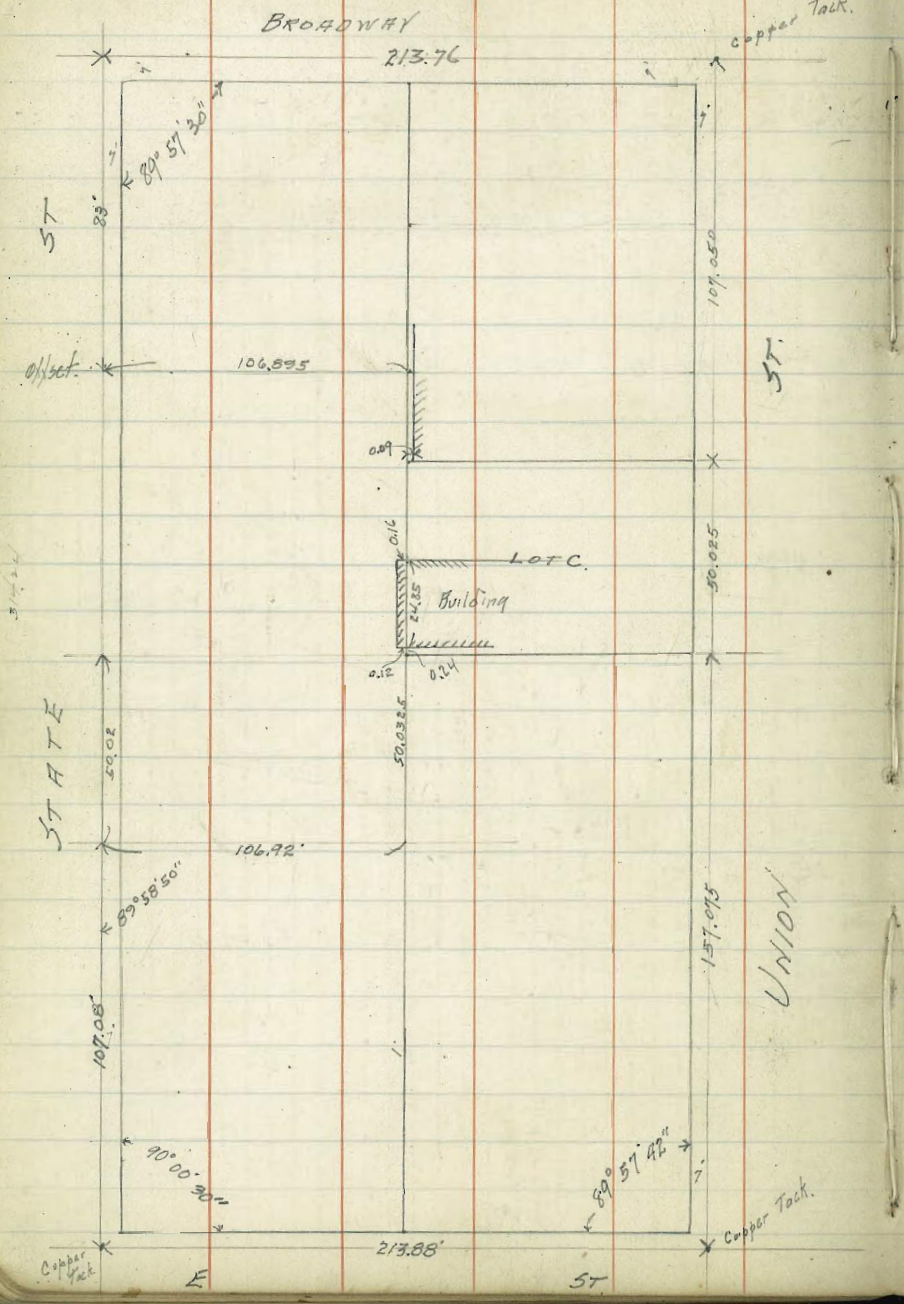
Proposed catch basin & drain
Tyler bet Cleveland & Maryland

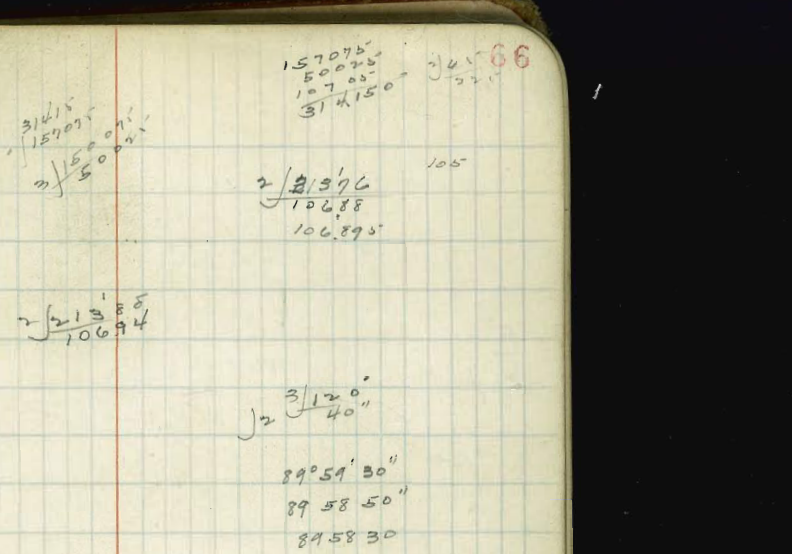
			Notes 5/25/12	310.0 Curb elev. SW Cleveland and Tyler
	0.60	310.60		
Elev. on Sewer at Curb			9.64	300.96
0+00 = 173.0 from El. Maryland		in gutter	8.8	301.8
+09 on Sp. p.l. of Tyler			8.7	301.9
T.P.	0.42	298.02	13.0	297.60
+ 36 approx. toe of slope			11.7	286.3
+ 50			13.6	284.4



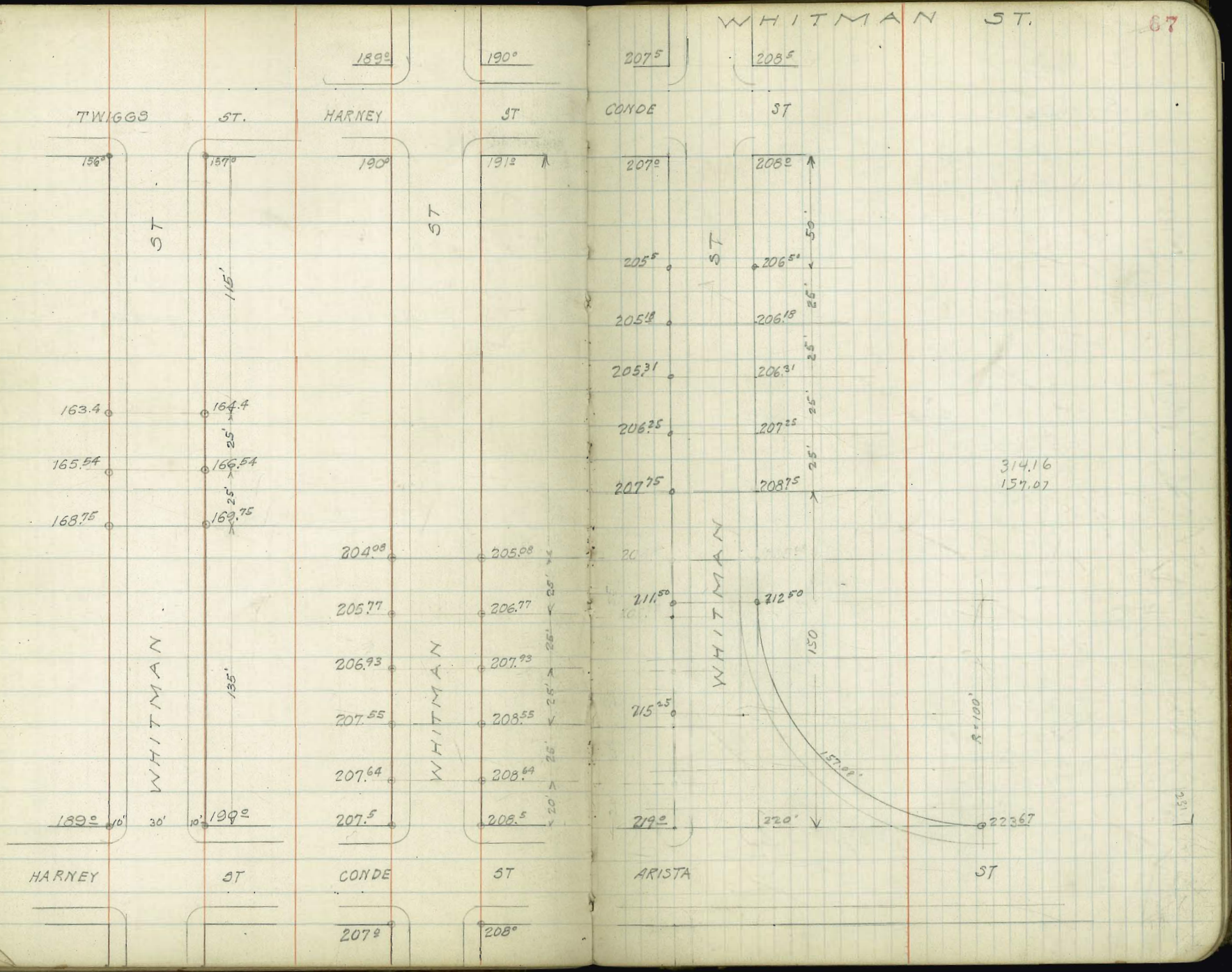
3/14/23 Gregory Moore Miller Shaw

Survey Lot C
BLOCK 55 New San Diego





WHITMAN ST.


TWIGGS ST.
HARNEY ST
CONDE ST
HARNEY ST
CONDE ST
ARISTA ST
WHITMAN ST
156°
157°
190°
191.2
207.5
208.5
207°
208°
205.5
206.54
205.18
206.18
205.31
206.31
206.25
207.25
207.75
208.75
163.4
164.4
165.54
166.54
168.75
169.75
204.08
205.08
205.77
206.77
206.93
207.93
207.55
208.55
207.64
208.64
207.5
208.5
211.50
212.50
215.25
219°
220'
222.67
189°
199°
207°
208°
115'
135'
25'
59'
150
R=100'
157.08'
314.16
157.07

GRADES ON
VERMONT ST
from SL. Lincoln to 209.5' So.

292.06 3pk SW. Vermont + Lincoln
436
296.42

W 292.00 291.5 290.85 290 6.9 z
.19 .42 .07
+1.0 00

292.5 292 290.91
4.42 4.92 6.08
.5 .41 .17

SL Lincoln	292.5	293
	292.39	292.89
+ 50's	292.0	292.5
100'S	291.5	292.0
139'S	291.07	291.76
154.5'S	290.85	290.91
162.5 = PC.	290.75	290.75

292.06
436
296.42

292.89
5.53

292.39
4.08

292.06
436
4.36

4.13
4.41

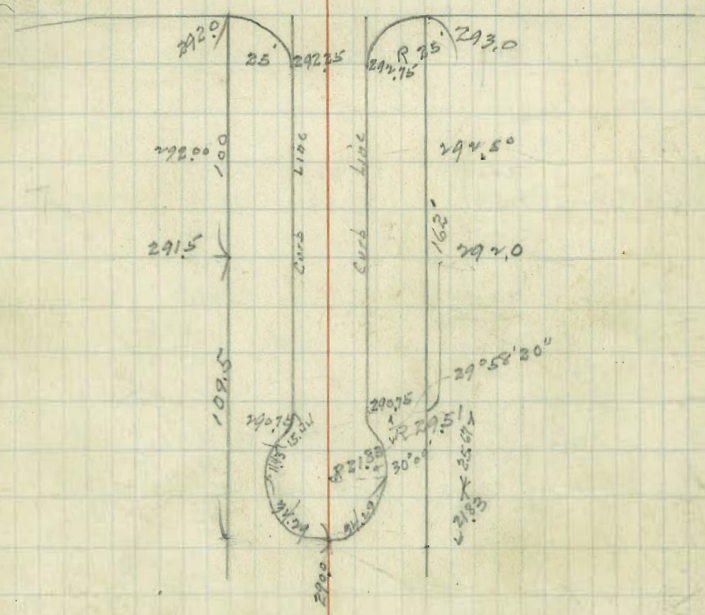
9.16
7.5 | 1.60

5.46 | 1.65 | 1.01.7
54
1080
541
405.0
5.46 | 1080 | 8.19
361
4329
5.45

7.50
89.42

6.20

LINCOLN



34.29
11.43
15.44
61.16
61.17.00
1.20
1.01.23
61.15
1.23
1.84.5

5.47
5.76
6.86
6.12
6.12

5.83.9
5.99
6.13
6.27
6.12

7/31/22

Grades For

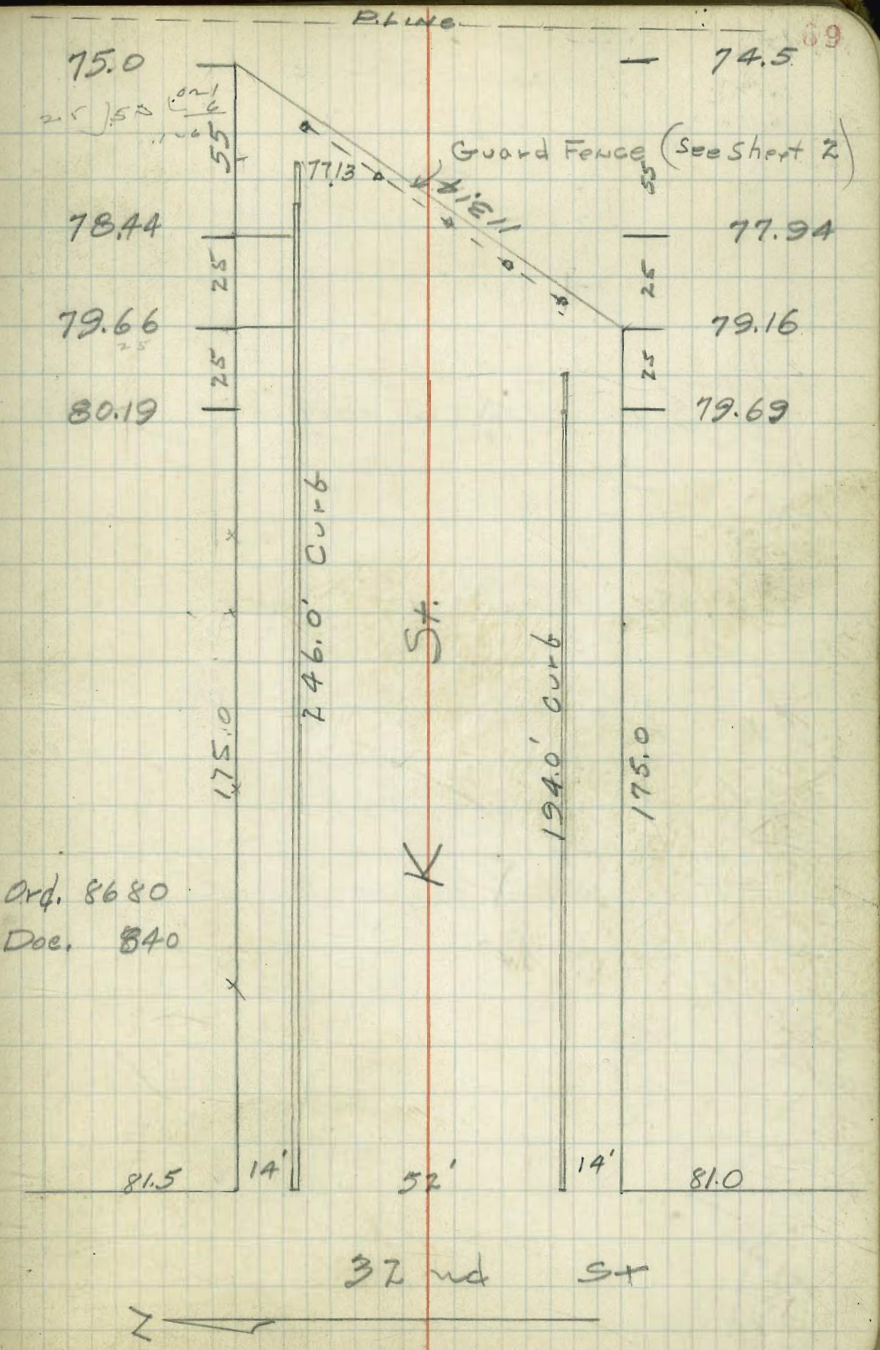
K St 32nd E to P.L.

Woodrop Bills Show

		0+00	0+50	1+00	1+50	1+75
3rd & K BPNW						
81.52 / 4.49 / 86.01	NL.	81.75 / +1.6 / Nail 0.0	81.38 / 463 / +1.4	81.01 / 5.00 / +1.6	80.64 / 5.37 / +2.1	80.44 / 5.57 / +2.0
	S.L.	81.25 / 4.76 / 0.00	80.88 / 5.13 / +0.4	80.51 / 5.50 / +1.1	80.14 / 5.87 / +1.8	79.94 / 6.07 / +1.3
		2+00	2+25	2+80		
	N.L.	79.91 / 6.10 / +2.1	78.69 / 7.32 / +2.7	75.25 / 10.76 / +3.7		
	SL	79.41 / 6.6 / -2.9	78.19	74.75		

81.52 / 3.56 / 85.08 — 81 / 4.08 — 4.52 — 4.96 — 79.69 / 5.39 — 79.19 / 5.79

81.5 / 3.58 — H.P.K. — 4.46 — 80.19 / 4.89 — 79.66 / 5.42 — 78.44 / 6.64 — 77.13 / 7.95



Grades for Mission Drive Ave

Meade & Park NW BP

342.01
7.37
349.38

NL Mission | +50 | 1+00 | 1+50 | 2+00 | 2+50

342.85 | 343.30 | 343.75 | 344.20 | 344.67 | 345.13
6.53 | 6.08 | 5.63 | 5.18 | 4.71 | 4.25
+0.1 | +0.9 | +1.0 | +0.8 | +0.6 | +0.7

3+46
345.75
3.63

Moore Ellis Stow NW

Georgia & L Miss | +50 | 1+00 | 1+50 | 2+00 | 2+48.47

345.05 | 344.53 | 344.01 | 343.51 | 343.00 | 342.85
4.33 | 4.85 | 5.37 | 5.87 | 6.38 | 6.53
+0.7 | +1.5 | +1.5 | +1.5 | +1.9 | +2.0

342.01
7.41
349.42

4.28 | 4.62

342.01
7.53
349.54

4.78 | 4.46 | 5.50 | 4.04 | 4.08 | 4.18 | 4.24

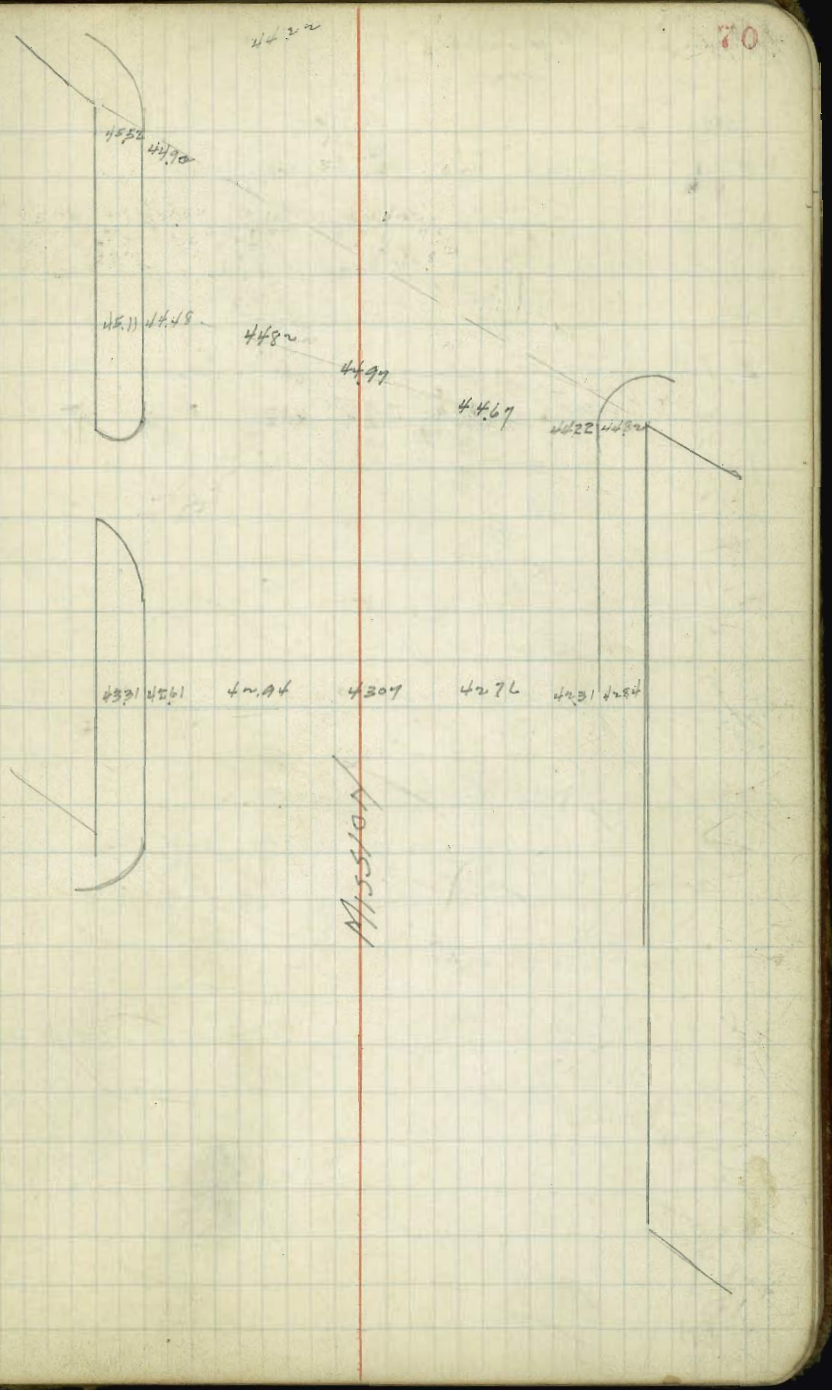
4480
4.56
4936

4.32 | 5.52 | 4.07 | 4.90

4480
5.60
4988

5.34 | 4.91 | 6.98 | 7.51 | 6.51 | 7.01
4.48 | 3.11 | 4.84 | 4.31 | 4.31 | 4.61

4467
5.15 | 4497
4.85 | 4482
5.00 | 4.96
4.06 | 4307
6.75 | 4.84
6.88



80

7/31/10

Grades on State St

Quince to Redwood

Moore
Ellis
Shaw

chicken

188.47
8.23
196.70

BL State 0+50 188.47

1+00	+50	2+00
190.0	191.2	192.2
6.70	5.70	4.70

2+50	2+75	3+00			2+50
191.58	191.35	186.75	185.00	190.48	191.68
5.12	5.35	VV. Line		2+46.5	5.02
0+50	1+13.5	1+50	1+85	2+15	191.63
188.50	190.03	190.75	191.45	191.71	191.55
	6.07	5.95	5.25	4.99	

91.35 91.45 91.58

89.51 10. 10. 15'

1.88.25 15' 90.98

191.58 1867 1895 1904 1914
7.76 4.99 3.58 3.06
194.50

188.47 8717 8782 8814 8880 8960 8985
8.24 5.24 4.59 4.24 3.61 2.81 1.91
196.71
1.64
190.07
5.44
196.21

8965 9096 9091 91 9135 9115 906
5.76 5.96 5.80 5.21 4.86 5.06 5.61
9196 9115 91 9055 8915 8630
4.83 5.06 5.76 5.66 4.06 9.71

1098
8543
4.22
89.45

8664
2.80

356.50
4.70
361.20

LINCOLN

AVE 72

362.9
BP 3E
11/10/16

ST

IOWA

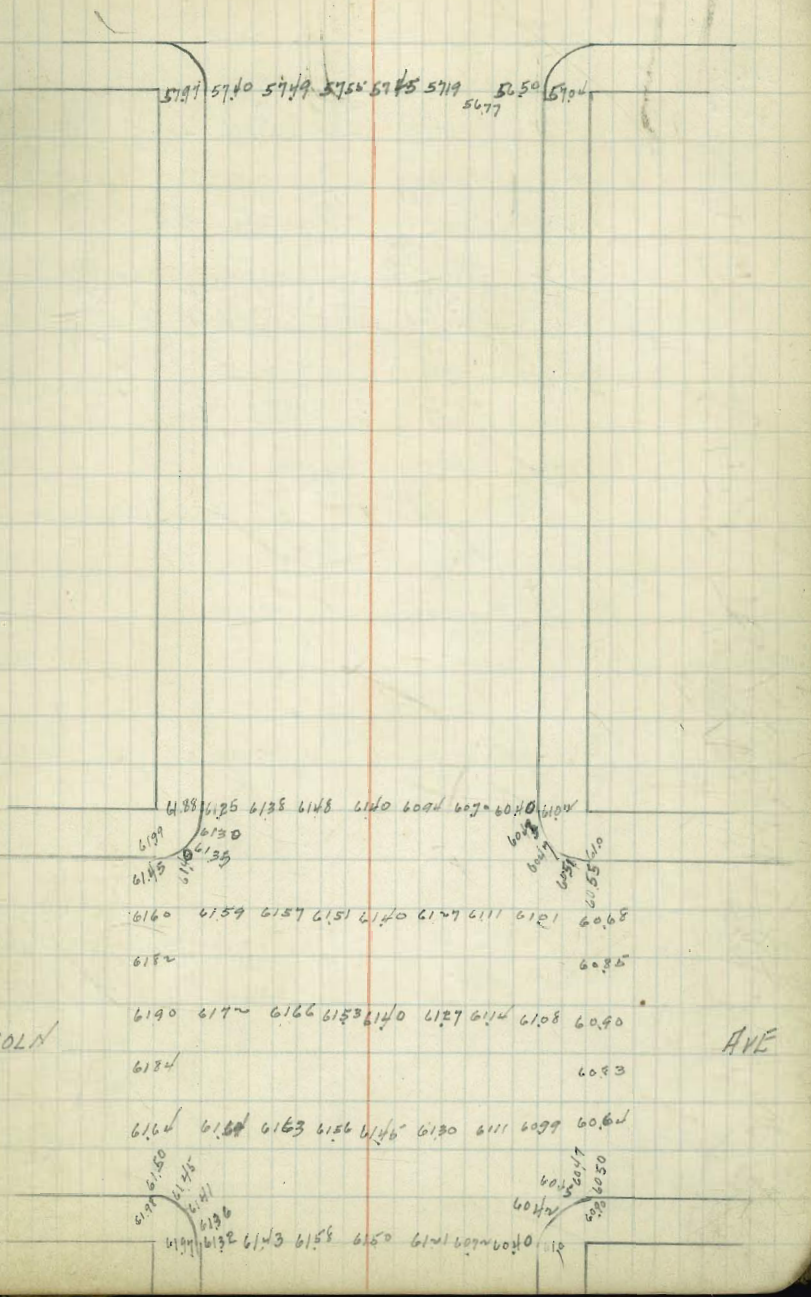
.11 low .31 .12

UNIV

AVE

POLK AVE

LINCOLN AVE



GRADES IN GOODES VILLA ALLEY

303.88 BP. NW Corner

776
311.64
6.59
305.05
3.61
308.66
7.59
300.99
5.01
306.00

303.80
7.84

W

304.66 — 6.98 — +2.0 nail

305.26 — 6.38 — +0.70 stub

305.39 — 6.25 — +0.83 stub

305.27 — 6.37 — +0.48 stub

305.04 — 6.40 — −0.20 stub

304.81 — 6.83 — 5.83 — +1.0 nail

304.58 — 3.98 — 2.98 — +1.0 nail

E

304.66 — 6.98 — 5.13 — +2.93 stub

305.26 — 6.38 — +1.35 stub

6.25 — 4.90 — 3.55 — +1.52 stub

6.37 — 5.08 — +0.91 stub

6.40 — 5.40 — +1.0 nail

3.78 — 2.78 — +1.0 nail

3.98 — 2.98 — +1.0 nail

W

304.40 — 4.16 — 3.16 — +1.0 nail

303.60 — 4.96 — 4.46 — +0.50 nail

302.80 — 5.76 — 4.76 — +1.0

301.88 — 6.68 — 6.00 — +0.38

301.14 — 7.44 — 6.44 — +1.00 nail

300.40 — 5.40 — 4.40 — +1.0 nail

300.07 — 5.93 — 3.93 — +2.0 nail

304.40 — 4.16 — 0.0

4.96 — 5.76 — 4.76 — +0.47 stub — 0.90 cement

6.68 — 5.65 — +1.0 nail

7.44 — 6.04 — +1.0 nail

5.96 — 6.46 — +1.0 nail

5.93 — 4.62 — +1.31 cement

W

299.18 — 6.82 — 4.52 — +2.8 nail

297.26 — 8.76 — 6.83 — +3.42

299.53 — 10.41

299.18 — 6.82 — 4.52 — +11.0 nail

8.71 — 5.07 — +3.68 top of wall

See opposite page.

St Univ.		303.80	303.83
25' S		304.66	304.66
50' S		305.26	305.26
75		305.39	305.39
100		305.27	
150		305.04	
200		304.81	
N 50		304.58	
290' S		304.40	304.40
340		303.6	
390' S		302.80	302.80
450	.31	302.19	
500	.56	301.68	
534.5	.73	301.33	
545.5	.84	300.97	
600' S	00	300.67	1' cut nail in tree 00
605.5	00	300.62	00
615	00	300.16	00
625.5	1' cut	299.0	299.0 00
648.5		295.3	295.39

Upas St Parma

32688
416
331.04

3

E.L. 30th

473 / 2681	.04 high	OK	.09 low	
	471 / 2683	401 / 2703	401 / 2703	
467 / 2637				401 / 2703

5

598 / 2606	.08 low	.07 low	.15 low	
	617 / 2587	601 / 2503	601 / 2490	567 / 2537
648 / 2456				626 / 2478

E.L. Grim

698 / 2466	.14 low	.11 low	.13 low	
	721 / 2440	705 / 2459	715 / 2449	673 / 2491
750 / 2414				734 / 2430

328.99
2.65
331.64

W.L. 31st

265 / 2899	OK	OK	OK	
	286 / 2878	275 / 2889	298 / 2866	265 / 2899
313 / 2851				322 / 2844

37899
230
331.29

W.L. 31st

334 / 2895	.01 low		.03 high	283 / 2896
	300 / 2869	265 / 2904	249 / 2880	
286 / 2843				318 / 2847

E.L. Herman

1035 / 2091	.1 low	.15 low	.12 low	
	2079 / 1057	2094 / 1034	2094 / 1034	986 / 2143
1087 / 2042				1049 / 2080

10/17/22 Gregory Grades in Alley Blk 29 Higgins

~~Miller~~ Moore Ellis

N + S

see page 77 for E & W.

		West	East	
300 N.		205.19	205.75	
265 N	+0.0	206.6	206.9	+1.4 Top wall
230' N	0.0	206.4	206.7	0.36
195 N	0.0	205.55	205.8	+1.0
160 N	+1.0	204.70	204.90	+1.0
140 N.	break +1.0	204.40	204.6	+1.0
120'	+1.0	203.86	204.1	+1.0
100'	+1.0	203.33	203.6	+2.0
80' N.	+1.0 break.	202.8	203.1	+3.52
53.33	+1.0	202.04	202.34	+1.40
26.67	+1.0	201.27	201.57	+2.0
N.L.B 57		200.50 200.36	200.81	

1969 BP. NW 25th & B.

205.53 +0.69 = 206.22

20284 674 20958

201.77 4.26	202.04 3.49	202.8 2.73	203.33 6.25	203.86 5.72	204.40 5.18	
201.57 3.96	202.34 3.19	203.1 2.43	203.86 5.98	204.1 5.48	204.4 4.98	
	1.79 1.40	1.00 .35				
204.7 4.88	205.55 4.03	206.4 3.18	206.6 2.98			
204.9 4.68	205.8 3.78	206.7 2.88	206.9 2.68			

Grades in Alley Blk 39 Higgins

		South		North	
400'W		204.6		204.9	
353.75	+1.0	206.52		206.8	+1.0
307.5	+0.5 Top wall	208.46		208.7	+1.0
261.25	+0.5 Top wall	210.37		210.6	+1.0
215	+1.0	212.3		212.5	+0.5
190'W	+1.0	212.5		212.7	+1.0
165'W	+0.88 stub	211.3		211.5	+1.0
129'W	+1.0	207.35		207.55	+1.0
93'W	+1.0 stub	203.4		203.6	+1.0
80'	+1.15 stub	202.3		202.5	+1.0 Top Stake
60'	+1.0	201.7		201.9	0.0
40'W	+1.0	201.4		201.7	+1.0
W.L. 26th		201.05		201.45	

Levels & Lvs. 3rd to 120' E

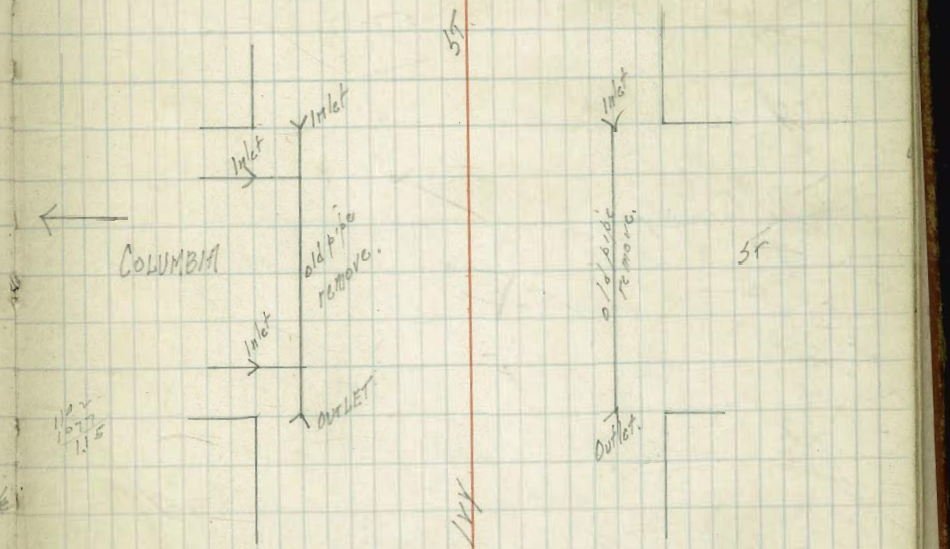
EL. 3rd 193.82

40' E	5.9	187.9
60' -	6.6	187.2
80' -	5.9	187.9
100' -	4.5	189.3
120' -	3.1	190.7
	1.0	192.8

℄ Catch Basin in S gutter is 16' E of E.L. 3rd

2'x2'

Returns all out at 3rd.



196.9W 8.44 205.36 1.14 204.22 10.00 214.22

W01.7 3.46 W01.4 3.46 W10.6 3.62 W10.37 3.85

W02 3.36 W01.1 3.66 W08.4 5.5 W08.47 5.75

W02.5 2.86 W02.3 3.06 W06.8 7.42 W06.5 7.70

W03.6 10.62 W03W 10.82 W04.9 9.92

W07.55 6.64 W07.35 6.87

W11.5 2.72 W11.3 2.92 mo 88

W12.7 1.52 W12.5 1.72

W12.6 1.72 W12.30 1.42

8/1/nw

Curb Elevs Ivy St 5th to 6th

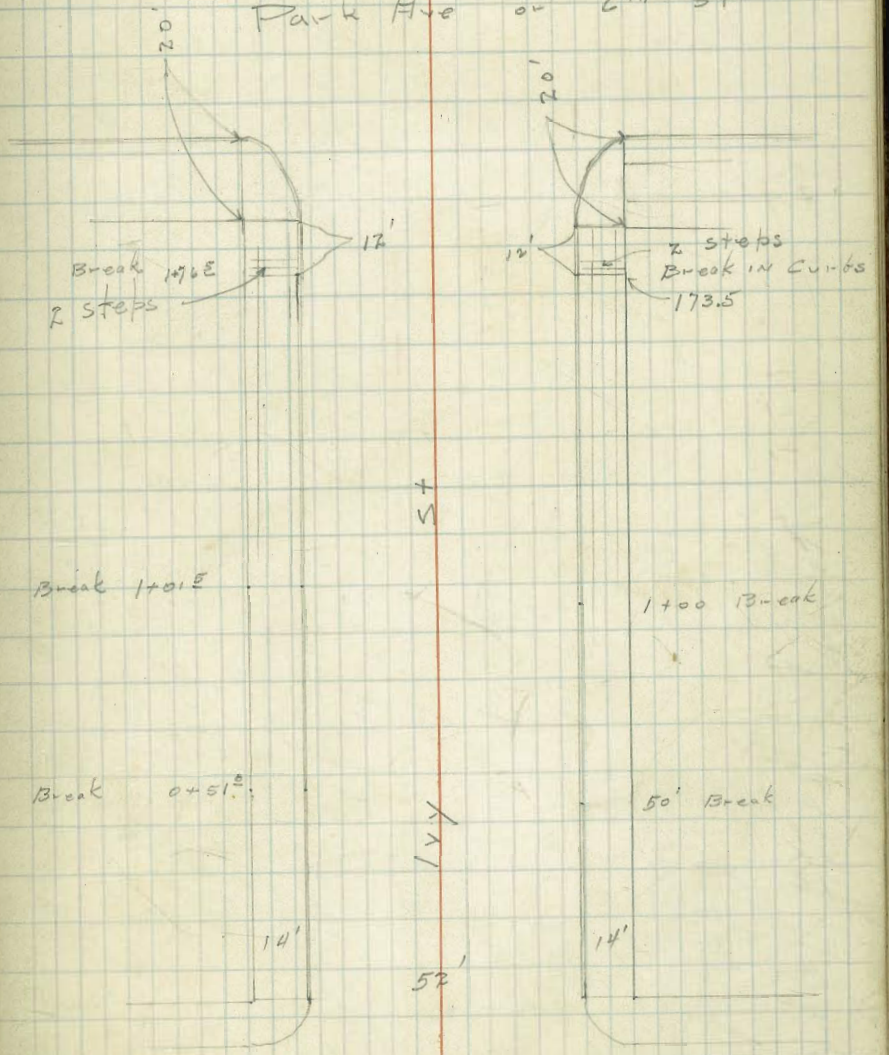
Moore Ellis Straw

NW BD 5 x Ivy n 15.0

SL Ivy	10.7+	225.74		
0+00 = Return S.E. 5th & Ivy			12.80	V 12.94
+ 50 Break			7.77	V 17.97
1 + — Break			4.79	V 20.95
+ 73.5 Break			3.77	V 21.97
+ 73.5			5.31	V 20.43
Return SL Ivy + 6th			7.94	V 17.80
N.L. Ivy				
0+00 NE Return 5th & Ivy			10.80	V 14.94
+ 51			5.73	20.01
1 + 01.5			7.74	V 23.00
+ 76.0			1.72	V 24.02
+ 76.5			3.19	V 22.55
Return NL Ivy + 6th			3.61	V 22.13

Curb Elevs Ivy 3rd to 4th

	0.55	206.04		V 205.49 N.W. 4th & Ivy
W.L. 4th St				
Scb			1.06	V 204.98
N ✓			0.56	V 205.48
T.P.	0.48	193.82	1V.70	193.34
80' W.				
N.cb			2.16	191.66
Scb			2.90	190.92
100' W				
Scb			5.42	188.40
N.cb			5.10	188.72
120' W				
N.cb			6.93	187.09
Scb			6.75	187.27
140' W				
Scb			9.26	184.77
N.cb			9.81	184.21
N.cb = End of Cb and W.	100' W		8.42	185.40
Scb			8.27	185.55



1/12/22 Gregory Rivard Miller Shaw

Levels on ℄ 16is St N. of Douglas

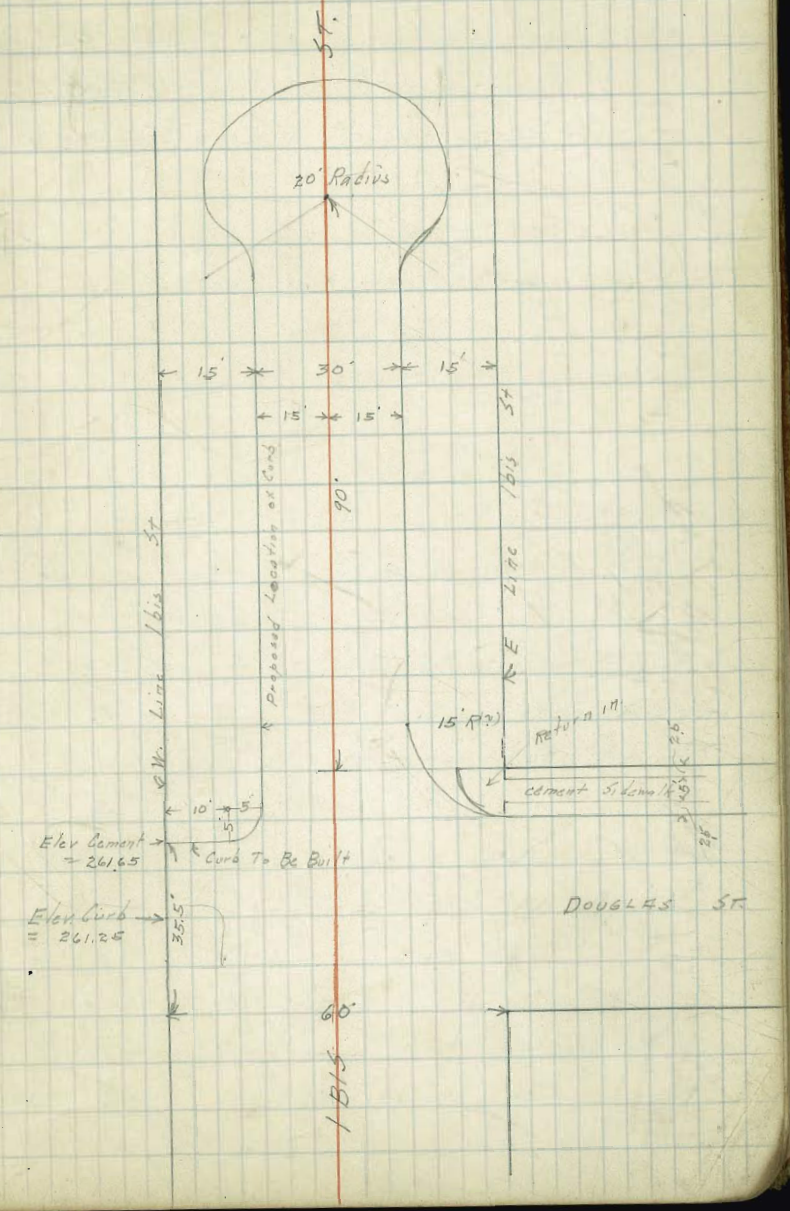
	0.37	266.39	~	266.~ BP H/W Gutterline
NE Return			4.3~	~262.07
N.L. Douglas			5.1	261.3
50' N			8.8	~257.6
90' ~			11.7	~254.7
110' ~			12.4	~254.0

37
~9

79

Proposed Layout for paving 16is St N. of Douglas

355
74.5



#4 OK

#2 OK

#1 2' Left off this culvert as it is only 37' Long
2' Needed on outlet End. Not Located according
to stakes Must come out, or be added to

W

End of rails 94.80 94.80 94.87
94.78 94.78

94.57

94.85

94.5 2
93.9 2
1.35

#15 Headwall on Inlet .7 too low to catch slopes
- - - Outlet 1' - - - - -
Fault of R.M.G. in not checking up plans which are
N.G.

#14 OK for length + grade

#13 OK. - - -

#12 Length O.K. Gas Company crushed two lengths +
repaired same but can not determine whether repair
is OK. Watch out for doing N.G. Line on
Inlet Headwall is poor, rotten in fact.

#11 OK for length + grade

#10 Inlet Headwall .4 low can fix this OK. (Outlet OK

#9 - - .8 - Must raise, Outlet 1.3 low
Headwalls not planned to carry slopes

#8 Inlet Headwall OK Outlet Headwall
1.2 low. Headwalls not planned high enough.

#7 Outlet OK. Inlet Headwall planned too low
Must raise .5 Grade on plan 1' too low

#6 O.K.

#6 Outlet Laid .5 low Needs 1.4 added to Headwall
Inlet - .5 - - .6 - - -
also Ditching

#5 Outlet Headwall needs 1' raise Inlet .5 raise
Headwalls on plans shown outside of road
whereas culv. was too short to go across
at this angle

Report on Culverts Morena Blvd.

Culvert #26 Built 1 high @ inlet with 2 abreast in ctr 41.8' Long Extends 1.8 inside
18" out 4 pipe + rebuild R.W. Needs 8' on outlet 6' on inlet 18" pipe.
or Headwall " " raised 2.8 " " 1.4'

Culvert #25 Laid .75 low at outlet and 1.0 low at Inlet. 40' long
18" out 4 pipe + rebuild Head Outlet on R.W line. Needs 8' on Outlet 6' on Inlet
or Headwall on Outlet raised 2.1 on Inlet 0.9'

Culvert #24 Laid .4 low at Outlet. and .4 high at Inlet 32½ long
36" Will Hold slopes. O.K.

Culvert #23 Washed out. Will replace. Outlet laid 1' too
18" low. Inlet O.K. ~~Outlet~~ Raise Outlet Headwall 1'
when Rebuilt.

Culvert #22 Laid OK Will hold Slopes if built to correct
12" width.

Culvert #21 Laid .5 high at Outlet and 1.3 low at Inlet. 38' long.
12" Add 4 pipe in R.W + rebuild Head Need 6' pipe on Inlet and 10' on outlet or raise
Headwall on inlet 2' No Headwall planned on
Outlet.

Culvert #20 O.K. 12"

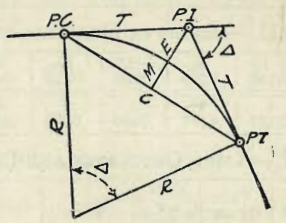
" #19 Laid .6 low at inlet. 1' high at outlet.
12" Headwall at Inlet should be .6 higher to catch
slopes Need 8' pipe at Outlet.

Culvert #18 Laid 1' high at inlet O.K. at outlet
12" O.K. Will hold slopes

Culvert #17 OK at Inlet. Outlet Laid .8' too low. Needs
12" .5' on Headwall to hold slopes

Culvert #16 OK. Built .5 high at both ends

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

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

Tangent=T=Rtan$\frac{\triangle}{2}$ (3) Length of Curve=L=100$\frac{\triangle}{D}$ (4)

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

External=E=Ttan$\frac{\triangle}{4}$- (7) =R ÷ cos $\frac{\triangle}{2}$ —R (8)=Rexsec$\frac{\triangle}{2}$ (9)

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

EXPLANATION AND USE OF TABLES

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

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

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

Externals.—May be found in similar manner to tangents. Thus E for curve above is 115.37 For from Table IV for 1° curve E=960.6 for 8° 20′=960.6 ÷ 8⅓=115.27 and from Table V correction=.10 or E=115.37 Or suppose △=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 VIII.—Natural Trigonometrical Functions.

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

Table VIII.—Natural Trigonometrical Functions.

Angle	Sine.	Tan.	Cotg.	Cosin.		Angle	Sine.	Tan.	Cotg.	Cosin.	
° /						° /					
16	.2756	.2867	3.487	.96126	74	24	.4067	.4452	2.246	.91355	66
10	.2784	.2899	3.450	.96046	50	10	.4094	.4487	2.229	.91236	50
20	.2812	.2931	3.412	.95964	40	20	.4120	.4522	2.211	.91116	40
30	.2840	.2962	3.376	.95882	30	30	.4147	.4557	2.194	.90996	30
40	.2868	.2994	3.340	.95799	20	40	.4173	.4592	2.177	.90875	20
50	.2896	.3026	3.305	.95715	10	50	.4200	.4628	2.161	.90753	10
17	.2924	.3057	3.271	.95615	73	25	.4226	.4663	2.145	.90631	65
10	.2952	.3089	3.237	.95545	50	10	.4253	.4699	2.128	.90507	50
20	.2979	.3121	3.204	.95459	40	20	.4279	.4734	2.112	.90383	40
30	.3007	.3153	3.172	.95372	30	30	.4305	.4770	2.097	.90259	30
40	.3035	.3185	3.140	.95284	20	40	.4331	.4806	2.081	.90133	20
50	.3062	.3217	3.108	.95195	10	50	.4358	.4841	2.066	.90007	10
18	.3090	.3249	3.078	.95106	72	26	.4384	.4877	2.050	.89879	64
10	.3118	.3281	3.048	.95015	50	10	.4410	.4913	2.035	.89752	50
20	.3145	.3314	3.018	.94924	40	20	.4436	.4950	2.020	.89623	40
30	.3173	.3346	2.989	.94832	30	30	.4462	.4986	2.006	.89493	30
40	.3201	.3378	2.960	.94740	20	40	.4488	.5022	1.991	.89363	20
50	.3228	.3411	2.932	.94646	10	50	.4514	.5059	1.977	.89232	10
19	.3256	.3443	2.904	.94552	71	27	.4540	.5095	1.963	.89101	63
10	.3283	.3476	2.877	.94457	50	10	.4566	.5132	1.949	.88968	50
20	.3311	.3508	2.850	.94361	40	20	.4592	.5169	1.935	.88835	40
30	.3338	.3541	2.824	.94264	30	30	.4617	.5206	1.921	.88701	30
40	.3365	.3574	2.798	.94167	20	40	.4643	.5243	1.907	.88566	20
50	.3393	.3607	2.773	.94068	10	50	.4669	.5280	1.894	.88431	10
20	.3420	.3640	2.747	.93969	70	28	.4695	.5317	1.881	.88295	62
10	.3448	.3673	2.723	.93869	50	10	.4720	.5354	1.868	.88158	50
20	.3475	.3706	2.669	.93769	40	20	.4746	.5392	1.855	.88020	40
30	.3502	.3739	2.675	.93667	30	30	.4772	.5430	1.842	.87882	30
40	.3529	.3772	2.651	.93565	20	40	.4797	.5467	1.829	.87743	20
50	.3557	.3805	2.628	.93462	10	50	.4823	.5505	1.816	.87603	10
21	.3584	.3839	2.605	.93358	69	29	.4848	.5543	1.804	.87462	61
10	.3611	.3872	2.583	.93253	50	10	.4874	.5581	1.792	.87321	50
20	.3638	.3906	2.560	.93148	40	20	.4899	.5619	1.780	.87178	40
30	.3665	.3939	2.539	.93042	30	30	.4924	.5658	1.767	.87036	30
40	.3692	.3973	2.517	.92935	20	40	.4950	.5696	1.756	.86892	20
50	.3719	.4006	2.496	.92827	10	50	.4975	.5735	1.744	.86748	10
22	.3746	.4040	2.475	.92718	68	30	.5000	.5774	1.732	.86603	60
10	.3773	.4074	2.455	.92609	50	10	.5025	.5812	1.720	.86457	50
20	.3800	.4108	2.434	.92499	40	20	.5050	.5851	1.709	.86310	40
30	.3827	.4142	2.414	.92388	30	30	.5075	.5890	1.698	.86163	30
40	.3854	.4176	2.394	.92276	20	40	.5100	.5930	1.686	.86015	20
50	.3881	.4210	2.375	.92164	10	50	.5125	.5969	1.675	.85866	10
23	.3907	.4245	2.356	.92050	67	31	.5150	.6009	1.664	.85717	59
10	.3934	.4279	2.337	.91936	50	10	.5175	.6048	1.653	.85567	50
20	.3961	.4314	2.318	.91822	40	20	.5200	.6088	1.643	.85416	40
30	.3987	.4348	2.300	.91706	30	30	.5225	.6128	1.632	.85264	30
40	.4014	.4383	2.282	.91590	20	40	.5250	.6168	1.621	.85112	20
50	.4041	.4417	2.264	.91472	10	50	.5275	.6208	1.611	.84959	10
					66						58
	Cosin.	Cotg.	Tan.	Sine.	Angle.		Cosin.	Cotg.	Tan.	Sine.	Angle.

Elev. on Water Pipe Whitman St.

211.78

219.60
4.07
223.67
12.12
211.55
1.26
212.81
.84
211.97
3.11
215.03
12.82
202.21
2.20
204.41

50	W. of X Arista	Top of Pipe =	218.0
100	" " "	" " "	211.78
150	" " "	" " "	205.41
166	" " "	" " "	204.48
194	" " "	" " "	203.91
250	" " "	" " "	203.91
325	" " "	" " "	207.12
450	" " "	cont. Xing.	
630	" " "		193.09

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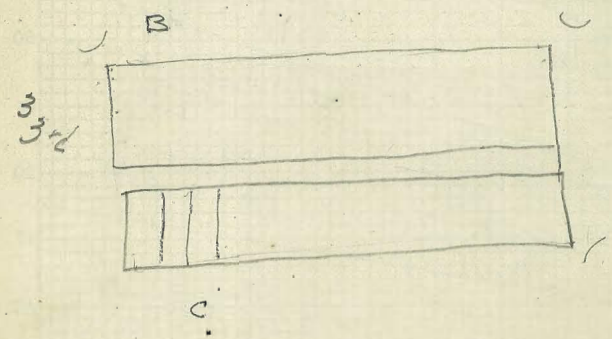

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DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.

For Single Track Embankment.

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

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