

1724

EMERSON

FIELD BOOK

NO. 104



# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning  
Roadway 16 feet wide. Side Slopes 1 on 1.  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be  $30.6 + (20 - 16) \div 2$  or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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6880-L  
FB 1730-2  
5369-L  
6877-83-L

# 1724

INDEXED  
*Completely*

## CITY ENGINEER'S OFFICE

2746.80  
66 68  
180.14

This Field Book is manufactured of a High Grade 50% Rag Paper having a WATER RESISTING SURFACE, and is sewed with Bing Special Enamel Waterproof thread.

Made in U. S. A.



Pages

2-37 - X-Sect. Evergreen - Lytton to Rosecrans

38-47 - X-Sect. Van Nuys - La Mesa Dr. - E. to End.

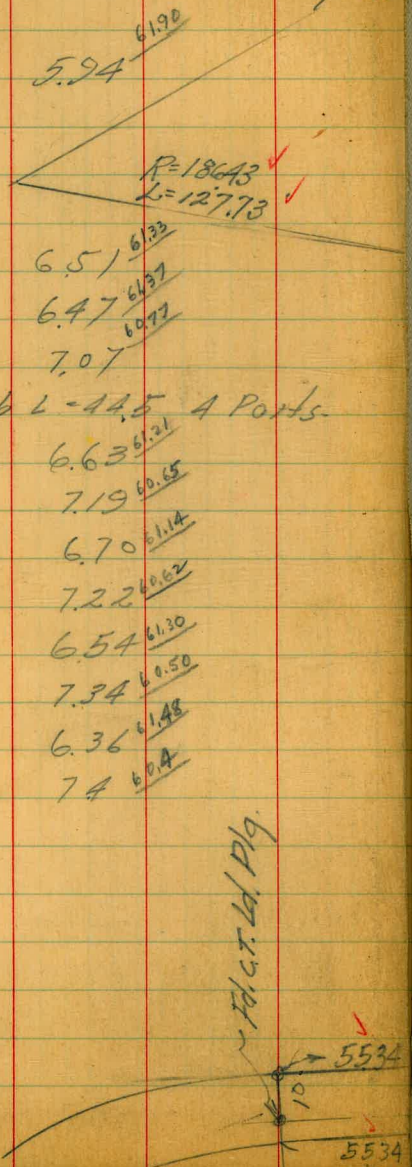


Walker  
Handricks  
Huntley  
Care

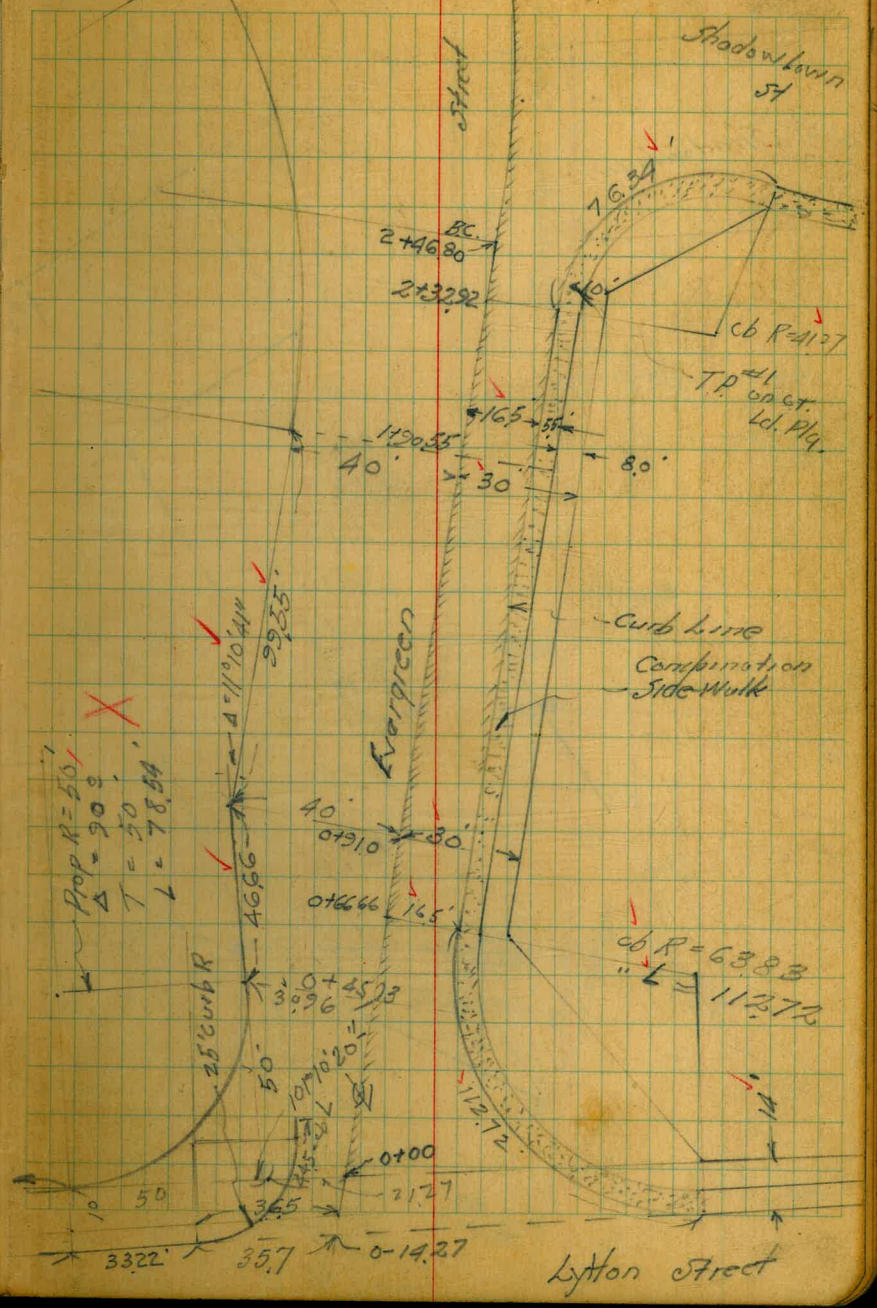
CROSS SECTION - EVERGREEN ST.  
FROM LYTON TO ROSECRANS ST.  
(Stations are R)

7-846	6.68	67.84	61.16
	0-14.27		
689'4 off on cb.	5.94		
			$R=18643$ $L=127.73$
" " "Gut	6.51		
35.74 on cb. = BC.	6.47		
" " "Gut	7.07		
NWLY Rot cb L-44.5 4 Parts.			
① on cb.	6.63		
" "Gut.	7.19		
② " cb	6.70		
" "Gut	7.22		
③ " cb.	6.54		
" "Gut	7.34		
④ " cb = End	6.36		
" "Gut.	7.4		

Cont. P-4



EC. 3+20.51  
Indexed O.S.K. 2





X-Sections  
Evergreen St.

Shadowtown

Evergreen Street

SEVILLE

4+72.70

67.64'

$\Delta = 90^\circ$   
 $R = 43.5'$

10'  $\Delta$  2  
on Id. to Tack

10'  $\Delta$  20'

30'  $\times$  16.5'  $\times$  13.5'

$\Delta = 06.84'$

3+99.82

3+85.58

R=109.85

EC

3+20.51

R=388.20

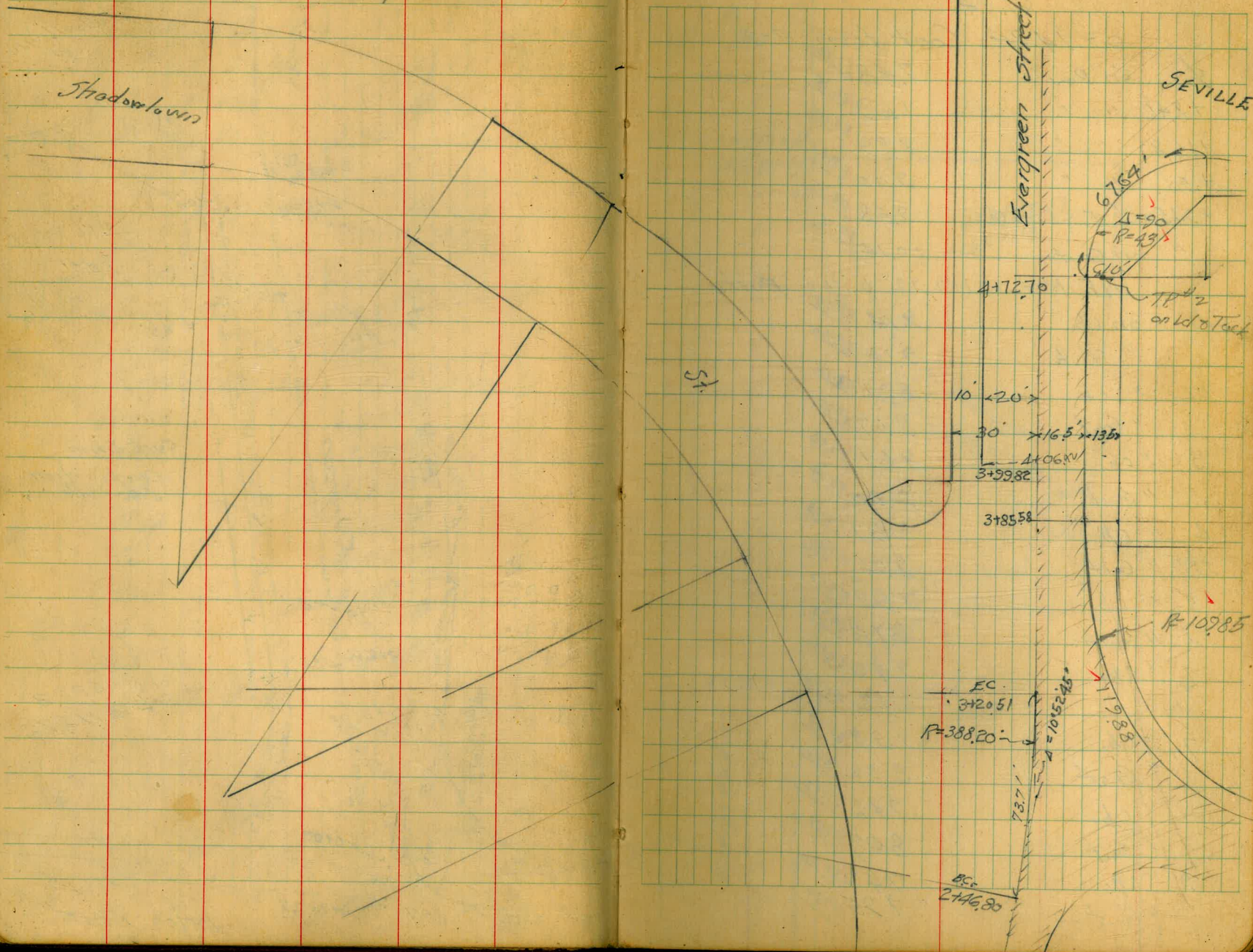
$\Delta = 10.52 \times 25'$

11.938'

73.7'

855  
2+46.80

St.



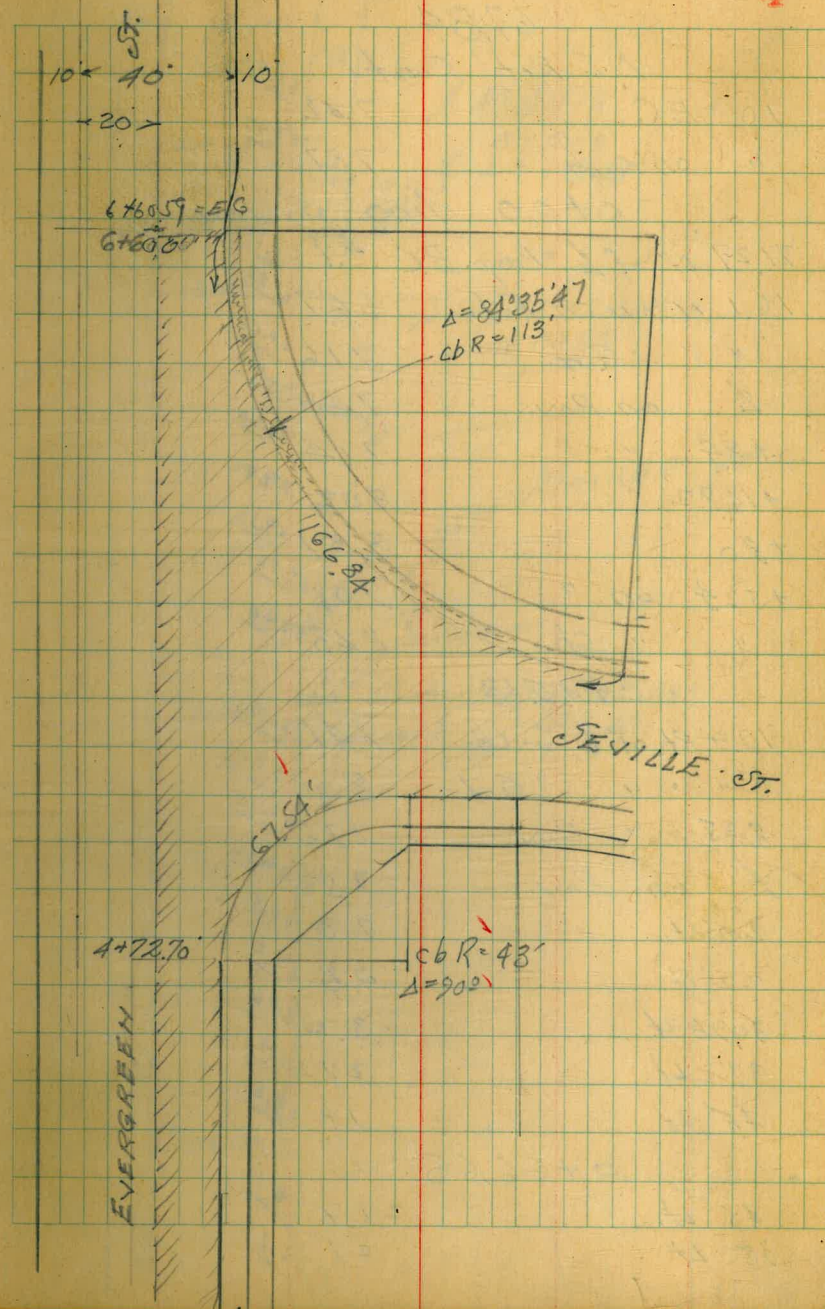


X-Section - Evergreen St

67.84

0 - 14.24 Cont. from P-2

±	on Pav	7.18	$\frac{60.36}{}$
+8.41	" "	7.69	$\frac{60.15}{}$
+16.81	" "	7.89	$\frac{59.95}{}$
+50	" "	9.00	$\frac{58.94}{}$
+24.5	= cb E.C. on cb	9.58	$\frac{58.26}{}$
"	on Gut.	10.14	$\frac{57.70}{}$
NE Ret = 112.72		10	Parts
1	on cb	9.14	$\frac{57.10}{}$
"	Gut	9.78	$\frac{58.66}{}$
2	" cb.	8.91	$\frac{58.93}{}$
"	Gut.	9.57	$\frac{58.27}{}$
3	" cb.	8.61	$\frac{59.23}{}$
"	Gut	9.30	$\frac{58.54}{}$
4	" cb.	8.31	$\frac{59.53}{}$
"	Gut	9.04	$\frac{58.80}{}$
5	" cb.	7.97	$\frac{59.87}{}$
"	Gut	8.73	$\frac{59.11}{}$
6	" cb.	7.70	$\frac{60.14}{}$
"	"	8.42	$\frac{59.42}{}$
7	" cb.	7.53	$\frac{60.31}{}$
"	Gut	8.22	$\frac{59.62}{}$
8	" cb.	7.42	$\frac{60.42}{}$
"	Gut	8.03	$\frac{59.81}{}$
9	" cb.	7.42	$\frac{60.42}{}$
"	Gut.	7.95	$\frac{59.89}{}$





X-Section - Evergreen St

67.84

NE Rot Cont.

10 - E.G.	7.42	$\frac{60.42}{59.97}$
" on Gut.	7.87	

0+00 diag. section.

71.27 N of L = Prop B.C. 4.7  $\frac{63.1}{61.07}$

16.1 N on cb Rot. 6.67

" " Gut. 7.16  $\frac{60.68}{60.44}$

L on Pav. 7.40

+8.4 " " 7.64  $\frac{60.20}{59.84}$

+16.82 " " 8.02

+30 " " 8.51  $\frac{59.33}{58.76}$

+52.4 on " 9.08

" " cb. 8.40  $\frac{58.44}{60.43}$

0+45.13

19.9 Rt. of L on cb. 7.41

" " " Gut. 8.01  $\frac{59.83}{60.08}$

8.25 " " Pav. 7.76

L on Pav. 7.58  $\frac{60.26}{60.15}$

20' Lt. 7.3

22' Lt. 5.8  $\frac{62.0}{64.6}$

30.96 Lt. 3.2

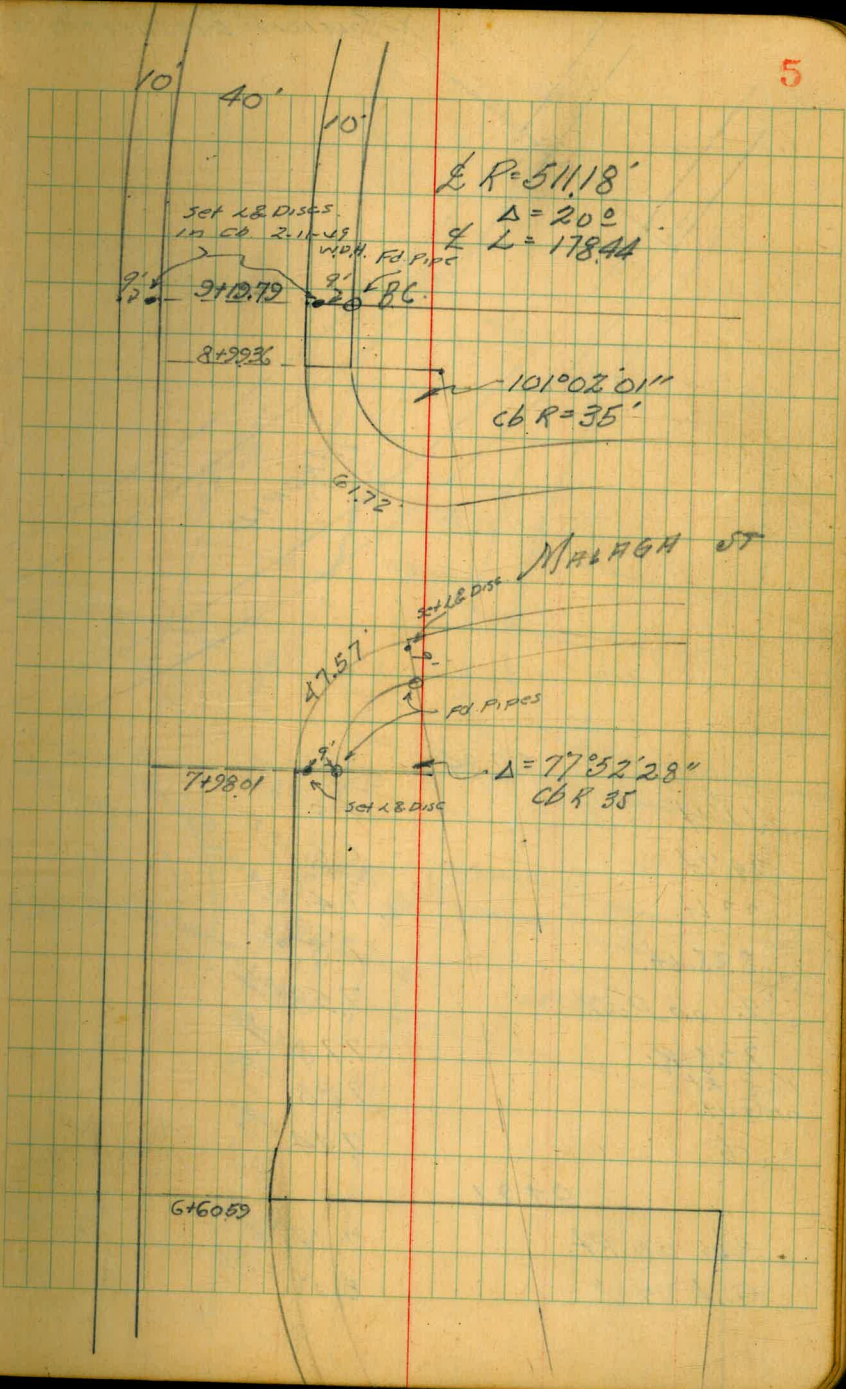
37 Lt. 2.1  $\frac{65.7}{66.0}$

45 Lt. 1.8

0+66.66

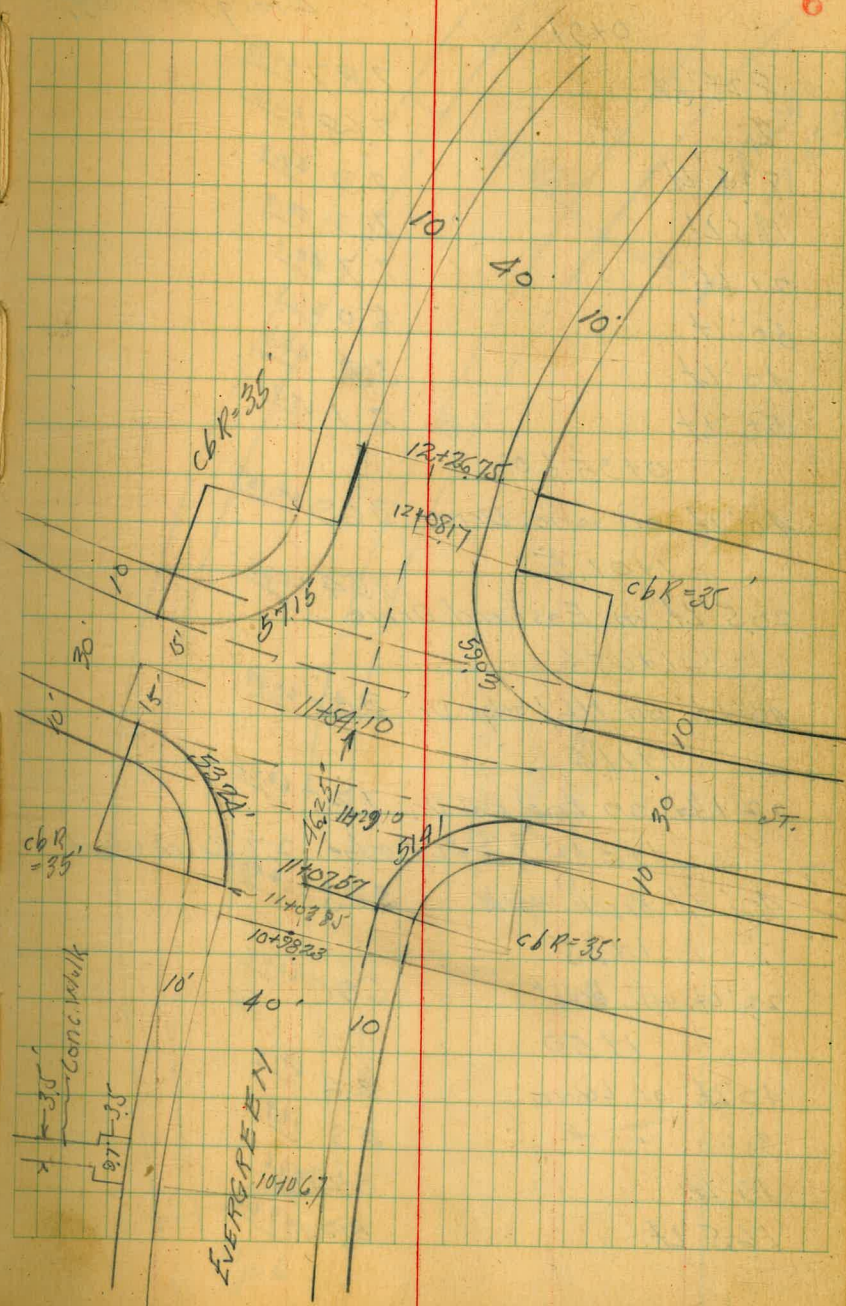
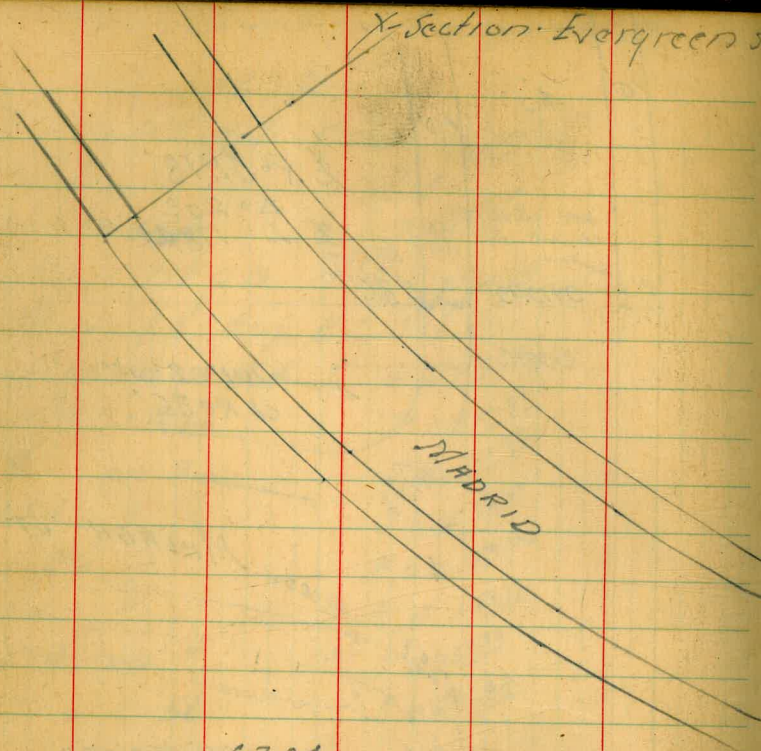
45' Lt. 1.7  $\frac{66.1}{65.1}$

35 Lt. 2.7





X-Section - Evergreen St.



	67.84	
31' Lt.		70.638
24' Lt.		66.612
27' Lt.		74.604
8.25' Lt.		7.8 60.0
to on Pav		7.58 60.26
8.25' R		7.78 60.06
165' Rt. on Gut.		7.88 59.96
" " " "		7.44 60.40
	0191	
cb. on Rt.		7.57 60.27
Gut " "		8.02 59.82



678A X-section  
Evergreen St,

0+91

8.25' Rt.	7.87	$\frac{59.97}{60.16}$
2	7.68	
8.25' Lt.	7.9	$\frac{59.9}{60.1}$
16.5 Lt.	7.9	$\frac{59.9}{61.8}$
21 Lt.	7.7	
30 Lt.	6.0	$\frac{64.5}{65.7}$
40 Lt.	3.3	
50 Lt.	2.1	

0+95.60

40' Lt. on Conc. Drive	3.69	$\frac{64.15}{60.30}$
1+01.5		

20.5' Lt. on East end Drive	7.54	$\frac{63.98}{60.59}$
1+05.6		

40' Lt. on NLY edge Dr.	3.86	$\frac{64.49}{64.49}$
1+11.5		

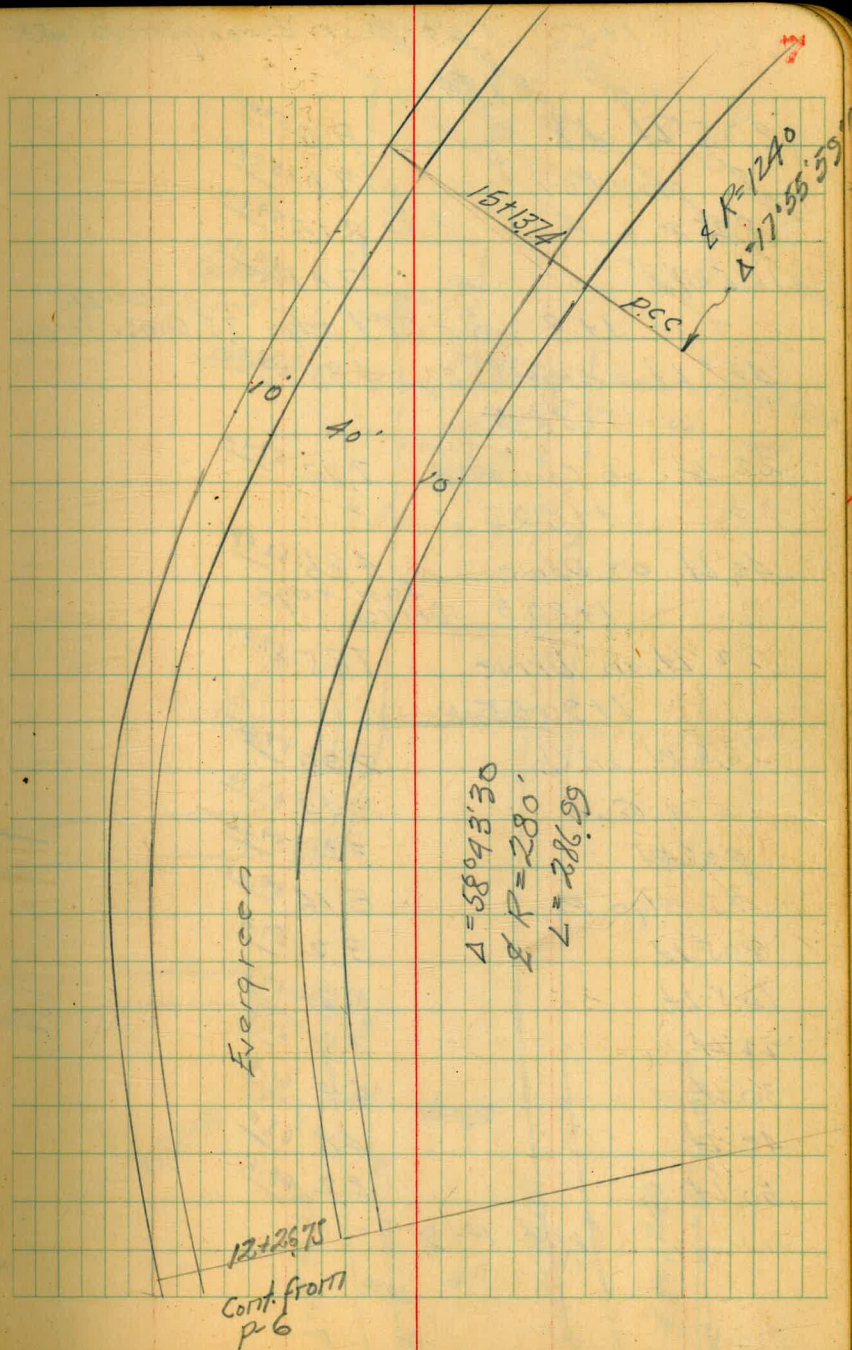
22.1' Lt. on East end Dr.	7.25	$\frac{60.82}{64.12}$
1+31.37 = sly edge	2.7	Brick Walk

40' Lt. Brick Walk	3.35	$\frac{64.12}{61.9}$
1+35		

22' Lt. on Brick	6.90	$\frac{59.6}{59.6}$
1+50		

40' Lt. on Lawn	3.6	$\frac{59.6}{59.6}$
30' " "	5.9	

19' Lt.	8.2	
16.5' Lt.	8.2	





1+50 X-Section Evergreen St.

67.84

8.25' Lt of L	8.0	$\frac{59.8}{59.84}$
L on Pav	8.00	$\frac{59.84}{59.69}$
8.25 R " "	8.15	$\frac{60.03}{60.03}$
16.5 R " "	7.81	

1+80.8 = 51' edge 75' Conc. DRIVE on Lf.

40' Lt. on Conc. Dr. 488  $\frac{62.96}{62.96}$

1+80.5

22' Lt. on Conc. Dr. 7.92  $\frac{59.99}{59.99}$

1+88.3

40' Lt on Drive 486  $\frac{62.98}{62.98}$

1+89.3 East edge DRIVE

22' Lt. on Drive 785  $\frac{59.99}{59.99}$

1+90.55

16.5' Rt. on Cb 7.99  $\frac{59.85}{59.85}$

" " Curb 8.48  $\frac{59.36}{59.36}$

8.25' Rt 8.30  $\frac{59.54}{59.54}$

L edge Pav 8.16  $\frac{59.68}{59.68}$

8.25' Lt 8.2  $\frac{59.6}{59.6}$

16.5' Lt. 8.2  $\frac{59.6}{59.6}$

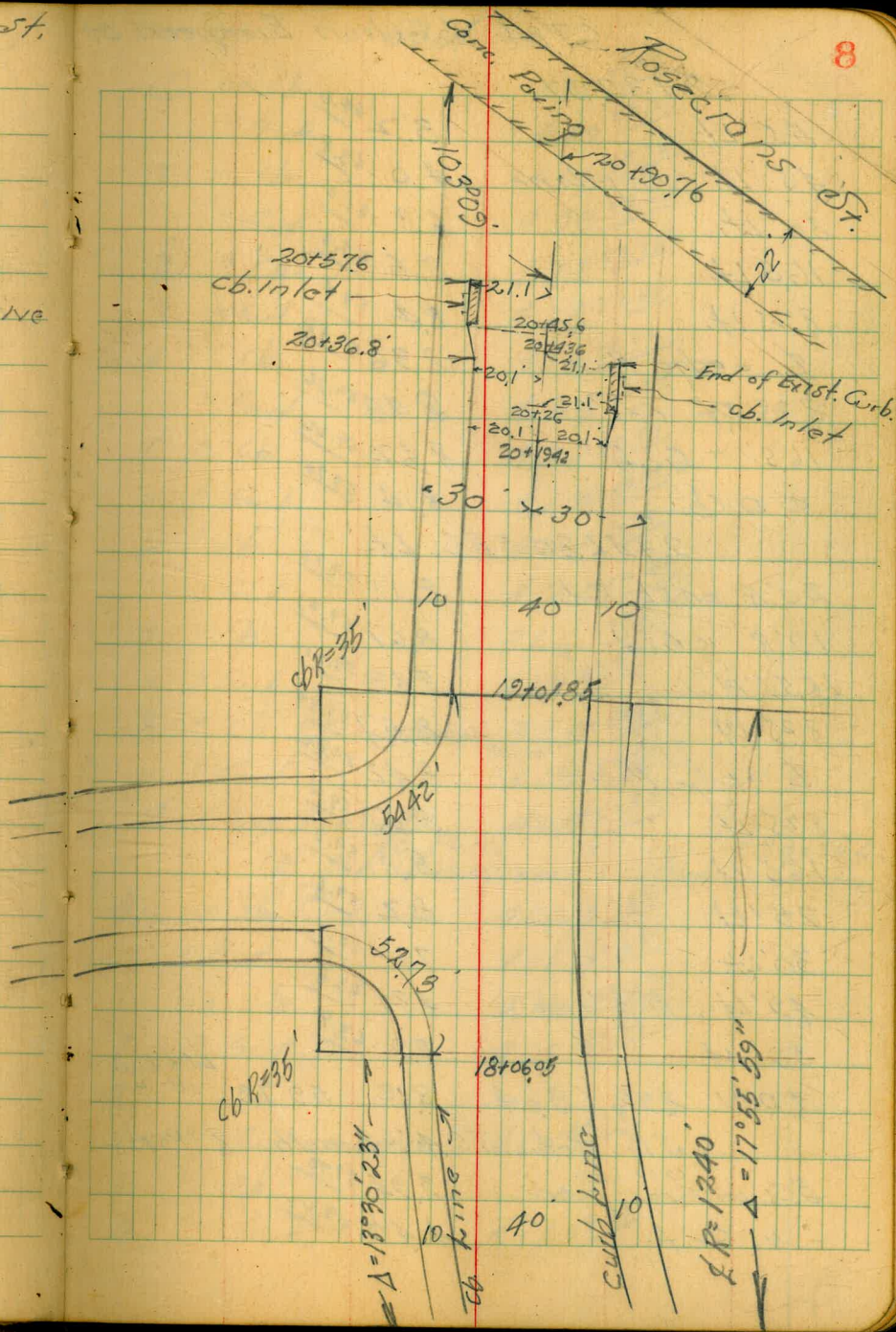
22' Lt. 7.8  $\frac{60.0}{60.0}$

30' Lt. 6.4  $\frac{61.4}{61.4}$

40' Lt 4.8  $\frac{63.0}{63.0}$

50' Lt 3.2  $\frac{64.6}{64.6}$

Cont P-9





## 6784 X-Section Evergreen St.

2+32.92

55' Lt.	3.2	<u>64.6</u>
45' Lt. - Prop Line	4.0	<u>63.8</u>
30' Lt.	6.8	<u>61.0</u>
16.5' Lt.	8.5	<u>59.3</u>
8.25' Lt.	8.4	<u>59.4</u>
L = edge Pav	8.36	<u>59.48</u>
8.25' Rt on "	8.48	<u>59.36</u>
16.5' " Guts	8.62	<u>59.22</u>
on cb.	8.14	<u>59.70</u>
2+46.80 = B.C. Lt.		
20' R on cb Ret.	8.11	<u>59.73</u>
19' R " Guts	8.61	<u>59.23</u>
16.5' R	8.63	<u>59.21</u>
8.25' R	8.57	<u>59.27</u>
L = edge Pav.	8.42	<u>59.42</u>
8.25' Lt	8.6	<u>59.2</u>
16.5' Lt	8.8	<u>59.0</u>
25' Lt.	8.2	<u>59.6</u>
30' Lt.	7.1	<u>60.7</u>
49' Lt. - Prop Line	4.2	<u>63.6</u>
59' Lt	3.9	<u>63.9</u>
T.P. #1 292 6364	8.12	<u>59.72</u>
Ld * Tack P-2		
S.E. Ret. 76.4' = Length 8 Parts.		
B.C. on Evergreen	3.94	<u>59.70</u>
" Guts.	4.42	<u>59.22</u>

6364

① on cb	3.95	<u>59.69</u>
" Guts.	4.40	<u>59.24</u>
2 " cb	3.88	<u>59.70</u>
" " Guts	4.33	<u>59.31</u>
3 " cb	3.79	<u>59.85</u>
" " Guts	4.28	<u>59.36</u>
4 " cb	3.78	<u>59.86</u>
" " Guts	4.26	<u>59.38</u>
5 " cb	3.77	<u>59.87</u>
" " Guts	4.23	<u>59.41</u>
6 " cb	3.76	<u>59.88</u>
" " Guts	4.21	<u>59.43</u>
7 " cb	3.66	<u>59.98</u>
" " Guts	4.17	<u>59.47</u>
8 " cb EC on Shadow Lawn	3.65	<u>59.99</u>
" " Guts.	4.13	<u>59.51</u>
1 st opp Above EC	4.05	<u>59.59</u>
10 Puffs		
S.E. Ret. Evergreen on Shadow Lawn		
119.88 = cb L.		
B.C. on Shadow Lawn	4.09	<u>59.55</u>
" Guts.	4.56	<u>59.08</u>
1 on cb	4.12	<u>59.52</u>
1 " Guts.	4.65	<u>59.99</u>
2 " cb		
2 " Guts in Drive	4.60	<u>59.04</u>
3 " cb		
3 " Guts " "	4.71	<u>58.93</u>



6364 X-Section Evergreen St.

① on cb	4.31	59.23
" " Gut.	4.77	58.87
⑤ " cb	4.37	59.27
" " Gut.	4.84	58.80
⑥ " cb	4.45	59.19
" " Gut.	4.94	58.70
⑦ " cb	4.53	59.11
" " Gut.	4.95	58.69
⑧ " cb	4.57	59.07
" " Gut.	5.02	58.62
⑨ " cb	4.59	59.05
" " Gut.	5.12	58.52
⑩ " on cb	4.69	58.95
" " Gut.	5.20	58.44

2+65.22

64 Lt.	3.3	60.3
54 Lt = Prop Line	3.5	60.1
30 Lt.	4.4	59.2
16.5 Lt.	4.7	58.9
8.25 Lt.	4.4	59.2
L on Pav	4.38	59.26
8.25 R "	4.54	59.10
16.25 R "	4.51	59.10
34.3 Rt. on end of cb	4.27	59.37

2+83.65

50 Rt.	4.26	59.38
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6364

30 Rt.	4.50	59.14
16.5 Rt.	4.66	58.98
8.25 R	4.62	59.02
L on Pav	4.50	59.14
8.25 Lt.	4.5	59.1
16.5 Lt.	4.7	58.9
30 Lt.	4.4	59.2
60 Lt = Prop Line	3.7	59.9
70 Lt.	3.4	60.2

2+89.7 4.5 Lt = d 20H 4.47 59.17

3+02.07

76 Lt.	4.2	59.4
66.5 Lt.	4.4	59.2
30 Lt.	4.0	59.6
21 Lt.	4.7	58.9
16.5 Lt.	4.8	58.8
8.25 Lt.	4.7	58.9
L	4.49	59.15
8.25 Rt.	4.60	59.04
16.5 R	4.78	58.86
30 R	4.59	59.05
59 Rt Gut. of Reb.	4.62	59.02

3+20.51 = E.C.

37.9 Rt Gut of cb	4.80	58.84
30 Rt.	4.80	58.84
16.5 Rt.	4.86	58.78

57 Rt  
M.H.



3+2051 63.64 X-SECTION - EVERGREEN

8.25' R	4.74	<u>58.90</u>
2	4.60	<u>59.04</u>
8.25' Lt	4.8	<u>58.8</u>
16.5' Lt	5.0	<u>58.6</u>
30' Lt	4.7	<u>58.9</u>
64' Lt	4.8	<u>58.8</u>
74' Lt. - Prop Line	10.5	<u>53.1</u>
84' Lt.	13.6	<u>50.0</u>
99' Lt.	12.7	<u>54.9</u>
110' Lt	8.3	<u>55.3</u>

3+50

120' Lt.	18.5	<u>45.1</u>
99' Lt.	21.2	<u>42.4</u>
91' Lt.	20.2	<u>43.4</u>
79' Lt.	17.1	<u>46.5</u>
61' Lt.	5.3	<u>58.3</u>
30' Lt.	5.3	<u>58.3</u>
16.5' Lt.	5.2	<u>58.4</u>
8.25' Lt.	5.0	<u>58.6</u>
2 on Edge Pav.	4.73	<u>58.91</u>
8.25' R	4.86	<u>58.78</u>
16.5' Rt.	4.99	<u>58.65</u>
22.8' Rt. Cut of Ret.	4.99	<u>58.65</u>

3+85.58

Cb. on Rt	4.69	<u>58.95</u>
Cut	5.20	<u>58.44</u>

63.64

8.25' Rt.	5.03	<u>58.61</u>
2	4.90	<u>58.74</u>
8.25' Lt.	5.0	<u>58.6</u>
16.25' Lt.	5.2	<u>58.4</u>
21' Lt.	5.2	<u>58.4</u>
22' Lt.	4.6	<u>59.0</u>
30' Lt.	4.7	<u>58.9</u>
70' Lt.	4.6	<u>59.0</u>

3+99.82

40' Lt.	4.5	<u>59.1</u>
30' Lt.	4.6	<u>59.0</u>
20' Lt.	5.1	<u>58.5</u>
10' Lt.	5.0	<u>58.6</u>
2 on Pav.	4.95	<u>58.69</u>
8.25' R	5.12	<u>58.52</u>
16.5' Lt. Cut	5.29	<u>58.35</u>
Cb.	4.79	<u>58.85</u>

4+06.42 = End Exist. Cb on Lt.

Cb.	4.76	<u>58.88</u>
cut.	4.96	<u>58.68</u>

4+35

Cb. on Rt	4.98	<u>58.66</u>
cut.	5.42	<u>58.22</u>
8.25' Rt.	5.31	<u>58.33</u>
2	5.16	<u>58.48</u>
10' Lt	5.2	<u>58.4</u>

11



6364 X-section  
Evergreen at

20' Lt. Cut	5.17	58.47
21.5' Lt. cb.	4.90	58.74
30' Lt.	4.3	59.3
40' Lt.	4.1	59.5

4+37 = 5LY edge Asphalt Drive

21.5' Lt.	4.90	58.74
30' Lt.	4.22	59.42
40' Lt.	3.90	59.74

4+52 NLY edge Above Drive

21.5' Lt. on cb.	4.99	58.65
30' Lt. on Drive	4.35	59.29
40' Lt. " "	4.04	59.60

4+72.70 = BC. cb Return on Rt.

40' Lt.	4.2	59.4
30' Lt.	4.5	59.1
21.5' Lt. cb.	5.13	58.51
20' Lt. Gut.	5.46	58.18
10' Lt.	5.5	58.1
2	5.35	58.29
8.25 Rt.	5.49	58.15
16.5 Rt.	5.59	58.05
" on cb.	5.12	58.52

4+85 25' & 3.5' Brick Walk

21.5' Lt. on cb.	5.21	58.43
30' Lt. " Walk	4.51	59.13
40' Lt. " "	4.15	59.49

6364

T.P.#2 0.78 59.35 5.07 58.57 <sup>on 2d</sup> <sup>Tack</sup>

JE Ret Sevilla 6764 = 4 Ports

① on cb	0.86	58.49
" " Gut	1.39	57.96
2 " cb.	0.92	58.43
" " Gut	1.38	57.97
3 " cb.	0.93	58.42
" " Gut.	1.41	57.94
4 = EC. on cb.	0.85	58.50
" " Gut.	1.39	57.96

5+00

27.3 Rt Gut. at cb.	1.38	57.97
16.5' Rt	1.56	57.79
8.25	1.39	57.96
2	1.27	58.08
10' Lt.	1.4	57.9
20' Lt. Gut.	1.45	57.90
cb.	1.09	58.26
30' Lt.	0.4	58.9
40' Lt.	0.0	59.3

5+20

40' Lt.	0.1	59.2
30' Lt.	0.7	58.6
cb.	1.40	57.9
25' Lt. Gut.	1.69	57.66
10' Lt.	1.6	57.7



5420

5935

Evergreen St.

2 on Pav.	156	<u>57.79</u>
8.25' R1	1.70	<u>57.6</u>
16.25' R1	1.85	<u>57.50</u>
50' R1	1.43	<u>57.92</u>
5420A 10' Lt = 2	2.5	<u>57.72</u>
on Rim Gas MH.	163	<u>57.72</u>

5440

50' R1	1.44	<u>57.91</u>
20' R	2.17	<u>57.18</u>
16.5' R1	2.20	<u>57.15</u>
8.25' R1	2.03	<u>57.32</u>
2	1.89	<u>57.46</u>
10' Lt	2.0	<u>57.35</u>
20' Lt Cut	2.02	<u>57.33</u>
cb.	1.70	<u>57.65</u>
30' Lt	1.0	<u>58.35</u>
40' Lt	0.3	<u>59.0</u>

5415 Eugenia Bush 23' Lt 25' Lt.

5420 4" Plumosa Palm 25' Lt.

5428 = Bush 25' Lt.

145 " "

185 3' Palm 25' Lt.

5460

40' Lt	0.8	<u>58.5</u>
30' Lt	1.2	<u>58.1</u>
20' Lt. cb.	2.10	<u>57.20</u>
cut	2.38	<u>56.97</u>

5935

8.25' Lt.	2.4	<u>56.9</u>
2	2.27	<u>57.08</u>
8.25' R	2.45	<u>56.90</u>
16.5' R1	2.56	<u>56.79</u>
20' R1	2.57	<u>56.78</u>
75.3' R	1.89	<u>57.46</u>

54623 = JLY edge Asphalt Drive

cb.	2.15	<u>57.20</u>
30'	1.33	<u>58.02</u>

5470.3

cb.	2.32	<u>57.03</u>
30' Lt.	1.51	<u>57.84</u>
40' Lt	1.04	<u>58.31</u>

5480v

49.5' R1	2.79	<u>56.56</u>
20' R1.	3.12	<u>56.23</u>
16.5' R	3.09	<u>56.26</u>
14	2.92	<u>56.43</u>
2	2.72	<u>56.63</u>
10' Lt	2.8	<u>56.5</u>
20' Lt Cut	2.87	<u>56.48</u>
cb.	2.55	<u>56.80</u>
30' Lt	1.7	<u>57.6</u>
40' Lt.	1.2	<u>58.1</u>

5495.6 = 2 25' Brick walk

30' Lt. cb.	2.98	<u>56.37</u>
30' Lt on walk	2.22	<u>57.11</u>
40' Lt " "	1.44	<u>57.91</u>

13



5935

6+00v

40' Lt.	15	<u>57.8</u>
30' Lt.	22	<u>57.1</u>
cb	309	<u>56.26</u>
cut	339	<u>58.96</u>
10' Lt.	3.4	<u>55.9</u>
ℓ	322	<u>56.13</u>
8.25' Rt.	3.44	<u>55.91</u>
16.5' R	3.66	<u>55.69</u>
33.4' R cut at Ref.	3.50	<u>55.85</u>

6+20v

23.5' Rt cut	4.14	<u>55.21</u>
16.5' R	4.11	<u>55.24</u>
8.25' R	3.88	<u>55.47</u>
ℓ	374	<u>55.61</u>
10' Lt.	3.8	<u>55.5</u>
20' Lt cut.	3.93	<u>55.92</u>
cb	362	<u>55.73</u>
30' Lt.	3.1	<u>56.2</u>
10' Lt.	2.3	<u>57.0</u>

6+21.5v edge Asphalt Drive

cb	365	<u>55.76</u>
30' Lt of ℓ	3.23	<u>56.12</u>
40'	2.44	<u>56.91</u>

6+29 = 14v edge Drive

cb	387	<u>55.48</u>
30' Lt	3.38	<u>55.97</u>
40'	2.46	<u>56.89</u>

5935

6+40v

40' Lt	2.6	<u>54.7</u>
30' Lt	3.4	<u>55.9</u>
cb	418	<u>55.17</u>
20' Lt cut	4.48	<u>54.87</u>
10' Lt	4.4	<u>54.9</u>
ℓ on Pav	4.51	<u>55.04</u>
8.25' R	4.43	<u>54.92</u>
16.25' Rt.	4.67	<u>54.68</u>
18.1' Rt. cut at Ref.	4.71	<u>54.64</u>

6+60v = End East Parking

22' Rt on Walk	4.68	<u>54.67</u>
17.5' Rt on cb	4.76	<u>54.59</u>
16.5' R. cut	5.25	<u>54.10</u>
8.25' R	5.06	<u>54.29</u>
ℓ	4.90	<u>54.45</u>
10' Lt	4.9	<u>54.4</u>
20' Lt.	5.02	<u>54.33</u>
cb	4.74	<u>54.61</u>
30' Lt.	3.8	<u>55.5</u>
40' Lt	3.1	<u>56.2</u>

6+55 33' Lt = bush

6+61 33' "

6+74.90v

40' Lt	3.8	<u>55.5</u>
30' Lt	4.5	<u>54.8</u>

60' wide  
10' cbs 10' 1/4s  
This and other sections  
Ahead

14



59.35

cb	5.15	<u>54.20</u>
Gut.	5.45	<u>53.90</u>
1/4 Lt	5.4	<u>53.9</u>
L	5.5	<u>53.8</u>
1/4 R	5.6	<u>53.7</u>
Gut R	5.54	<u>53.81</u>
cb	5.28	<u>54.07</u>
Prop	4.9	<u>54.4</u>
+10	4.6	<u>54.7</u>

NE Rot = <sup>Length</sup> 766.84 4 Parks

BC. on Scaville. <sup>on</sup> cb	0.11	<u>59.24</u>
" " Gut	0.59	<u>58.76</u>
① on cb	1.31	<u>58.04</u>
" " Gut	1.78	<u>57.57</u>
② " cb	2.49	<u>56.86</u>
" " Gut	2.93	<u>56.42</u>
③ <sup>on</sup> " cb	3.58	<u>55.77</u>
" " Gut	3.64	<u>55.71</u>
" " Gut	4.13	<u>55.26</u>

6+81.6' SLY edge Asphalt DRIVE

cb.	5.37	<u>53.98</u>
30' Lt of L	4.72	<u>54.63</u>
40' " "	4.14	<u>55.21</u>

6+89.6'

cb.	5.61	<u>53.74</u>
30' Lt of L	4.92	<u>54.43</u>
40' " "	4.37	<u>54.98</u>

59.35

15

6+77.3 28' Rt & 6" Pulm  
7+08.4 27.6 " " 8 "

7+00.5

40' R	5.3	<u>54.0</u>
30' R	5.7	<u>53.6</u>
cb.	6.12	<u>53.23</u>
Gut	6.39	<u>52.96</u>
1/4 R	6.4	<u>52.9</u>
L	6.3	<u>53.0</u>
1/4 Lt.	6.1	<u>53.2</u>
Gut.	6.24	<u>53.11</u>
cb.	5.93	<u>53.42</u>
30' Lt of L	5.0	<u>54.3</u>
40' Lt " "	4.5	<u>54.8</u>

7+13.3 = 2.7 Brick Walk

cb.	6.30	<u>53.05</u>
30' Lt of L on walk	5.50	<u>53.85</u>
40' " " " "	5.27	<u>54.08</u>

7+23 = SLY edge Asphalt DRIVE on Rt

cb	6.95	<u>52.40</u>
30' Rt of L	6.64	<u>52.71</u>
40' Rt " "	6.40	<u>52.95</u>

7+31 NLY edge Drive

cb.	7.16	<u>52.19</u>
30' Rt of L	6.82	<u>52.53</u>
40' " " "	6.46	<u>52.89</u>



59.35

7+41.5 = SLY edge Asphalt Drive on Lt. ✓

cb.	7.13	<u>52.22</u>
30' Lt. of L on Drive	6.70	<u>52.65</u>
40 " " " "	6.49	<u>52.86</u>

7+49.5 ✓

cb.	7.34	<u>52.01</u>
30' Lt. of E " "	7.04	<u>52.31</u>
40 " " " "	6.80	<u>52.55</u>

7+50 ✓

40' Lt.	6.8	<u>52.5</u>
30' Lt.	7.1	<u>52.2</u>
cb.	7.37	<u>51.98</u>

Gut	7.67	<u>51.68</u>
-----	------	--------------

1/4 Lt	7.6	<u>51.7</u>
--------	-----	-------------

E	7.7	<u>51.6</u>
---	-----	-------------

1/4 R	7.9	<u>51.4</u>
-------	-----	-------------

Gut	8.10	<u>51.25</u>
-----	------	--------------

cb.	7.83	<u>51.52</u>
-----	------	--------------

30' R	7.7	<u>51.6</u>
-------	-----	-------------

40' R	7.6	<u>51.7</u>
-------	-----	-------------

7+89.25 ✓

- 10	8.7	<u>50.6</u>
------	-----	-------------

Prop R	8.9	<u>50.4</u>
--------	-----	-------------

cb.	9.13	<u>50.22</u>
-----	------	--------------

Gut.	9.41	<u>49.94</u>
------	------	--------------

10	9.2	<u>50.1</u>
----	-----	-------------

59.35

E	8.9	<u>50.4</u>
---	-----	-------------

1/4 Lt	8.7	<u>50.6</u>
--------	-----	-------------

Gut	8.79	<u>50.56</u>
-----	------	--------------

cb.	8.53	<u>50.82</u>
-----	------	--------------

Lt = Prop.	7.9	<u>51.4</u>
------------	-----	-------------

110	7.6	<u>51.7</u>
-----	-----	-------------

7+78.45 = E 2.5' Conc. Walk ✓

cb.	8.14	<u>51.21</u>
-----	------	--------------

30' Lt of E on Walk	7.81	<u>51.54</u>
---------------------	------	--------------

40' Lt. " " " "	7.53	<u>51.82</u>
-----------------	------	--------------

8+05.35 = SLY edge Asphalt Drive ✓

cb.	8.98	<u>50.37</u>
-----	------	--------------

30' Lt. of E	8.58	<u>50.77</u>
--------------	------	--------------

40 " " " "	8.25	<u>51.10</u>
------------	------	--------------

8+13.35 = NLY edge " " ✓

cb.	9.25	<u>50.10</u>
-----	------	--------------

30' Lt. on Dr	8.72	<u>50.63</u>
---------------	------	--------------

40 " " " "	8.34	<u>51.01</u>
------------	------	--------------

8+09.25 ✓

- 40' Lt	8.2	<u>51.11</u>
----------	-----	--------------

30' Lt	8.6	<u>50.7</u>
--------	-----	-------------

cb.	9.09	<u>50.26</u>
-----	------	--------------

Gut.	9.36	<u>49.99</u>
------	------	--------------

1/4 Lt.	9.3	<u>50.0</u>
---------	-----	-------------

E	9.4	<u>49.9</u>
---	-----	-------------

1/4 R	9.6	<u>49.7</u>
-------	-----	-------------

16



5935 Evergreen St.

cb	10.1	49.2
22.3' Rt of E-Gut	10.10	49.25
cb	9.80	49.55
30' Rt.	9.9	49.4
40' Rt.	9.6	49.7

SELY Ret. Malaga St. 47.57=L  
4 Parts

8G. on cb	9.42	49.93
" " Gut.	9.72	49.63
① on cb	9.80	49.55
" " Gut	10.09	49.26
② " cb	10.19	49.16
" " Gut	10.47	48.94
③ " cb	10.46	48.89
" " Gut	10.71	48.64
④ " cb EG.	10.75	48.60
" " Gut.	11.05	48.30

T.P.#3 3.67 52.33 10.69 48.66

8+29.25 = SELY edge 25 Brick Walk on Lt.

40' Rt.	3.8	48.5
30' R	2.9	49.6
cb. G	3.3	49.0
1/4	3.1	49.2
E	2.9	49.4
1/4 Lt.	2.8	49.5
Gut.	2.82	49.51
cb.	2.52	49.81

52.33

30' Lt. on Brick Walk	2.10	50.23
40' " " " "	1.78	50.55

8+49.25 ✓

40' Lt.	2.2	50.1
30' Lt.	2.4	49.9
cb.	2.98	49.35
Gut.	3.24	49.09
1/4	3.3	49.0
E	3.5	48.8
1/4 R	3.6	48.7
cb. G	3.7	48.6
30' R	3.8	48.5
40' Rt.	3.9	48.4

8+65.25 = SELY edge 8' Asphalt Drive on Lt. ✓

cb.	3.26	49.07
30' Lt. of E on Drive	2.78	49.55
40' Lt. " " " "	2.51	49.82

8+73.25 = SELY edge 8' ✓

cb.	3.39	48.94
30' Lt. of E on Drive	2.90	49.43
40' " " " " "	2.50	49.83

8+69.25

40' Rt. on cb	4.16	48.17
30' R	4.4	47.9
cb. G	4.1	48.2
1/4 R	4.0	48.3



5233

£	3.8	<u>48.5</u>
1/4 Lt	3.7	<u>48.6</u>
Gut.	3.55	<u>48.78</u>
Cb	3.32	<u>49.01</u>
30' Lt	2.9	<u>49.4</u>
40' Lt	2.5	<u>49.8</u>

8+89.25

40' Lt	2.4	<u>49.9</u>
30' Lt	2.8	<u>49.4</u>
Cb. (Junk)	3.74	<u>48.59</u>
Gut.	3.80	<u>48.53</u>
1/4	3.9	<u>48.4</u>
£	4.1	<u>48.2</u>
1/4	4.2	<u>48.1</u>
Cb.	4.5	<u>47.8</u>
22 1/2' Lt = Gut.	4.49	<u>47.84</u>
Cb.	4.22	<u>48.11</u>
30' Rt.	3.8	<u>48.5</u>
40' R	3.3	<u>49.0</u>

8+76.8 2 Plumosa Palm on Lt 25.5 Lt

+93 " " " " " "

9+108.3 " " " " " 25.3 Lt

+730.5 " " " " " 25.5 "

+48.8 " " " " " 25.5 "

+66.2 " " " " " 25.5 "

+88 = Tel Pole on Lt 23.3 Lt

5233

NELY. Red Cb L 6172' 4 Parts.

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Cb B.C. on Malaga

Gut " "

① on Cb	4.14	<u>48.19</u>
" " Gut.	4.41	<u>47.92</u>
② " Cb.	4.17	<u>48.16</u>
" Gut.	4.46	<u>47.87</u>
③ " Cb.	4.20	<u>48.13</u>
" " Gut.	4.47	<u>47.86</u>
④ " Cb EG. on Evergreen	4.27	<u>48.06</u>
" " on Gut.	4.56	<u>47.77</u>

8+99.36

9+09.25 ✓

40' Rt.	3.1	<u>49.2</u>
30' R	3.6	<u>48.7</u>
Cb.	4.32	<u>48.01</u>
Gut.	4.61	<u>47.72</u>
1/4 Rt.	4.4	<u>47.9</u>
£	4.3	<u>48.0</u>
1/4 Lt.	4.1	<u>48.2</u>
Gut	3.96	<u>48.37</u>
Cb.	3.81	<u>48.52</u>
30' Lt of £	3.1	<u>49.2</u>
40' " "	2.5	<u>49.8</u>

9+12 = 51/2 edge Rippled Braco on Lt

Cb.	3.85	<u>48.48</u>
30' Lt of £	3.12	<u>49.2</u>
40' " "	2.61	<u>49.72</u>



5233

9+24 NLY edge Asphalt Driveway Lt. ✓

cb	3.94	<u>48.39</u>
30' Lt. on Drive	3.15	<u>49.18</u>
40' Lt. " "	2.68	<u>49.65</u>

9+1979 - B.C. ✓

40' Lt	2.7	<u>49.6</u>
30' Lt.	3.3	<u>49.0</u>
cb.	3.93	<u>48.40</u>
Cut	4.10	<u>48.23</u>
1/4 Lt	3.1	<u>48.2</u>
1/4	4.4	<u>47.9</u>
1/4	4.6	<u>47.7</u>
Cut	4.70	<u>47.60</u>
cb.	4.42	<u>47.91</u>
30' R	3.6	<u>48.7</u>
40' R	3.1	<u>49.2</u>

9+4528 ✓

40' R	3.0	<u>49.3</u>
30' R	3.8	<u>48.5</u>
cb	4.57	<u>47.76</u>
Cut	4.76	<u>47.57</u>
1/4	4.8	<u>47.5</u>
1/4	4.6	<u>47.7</u>
1/4	4.4	<u>47.9</u>
Cut	4.13	<u>48.20</u>
cb	4.01	<u>48.32</u>
30' Lt	3.1	<u>49.2</u>
40' Lt	2.4	<u>49.9</u>

5233

9+7077 - SLY edge Asphalt Dr ✓

40' Lt on Drive	2.82	<u>49.51</u>
30' Lt " "	3.33	<u>49.00</u>
cb.	4.07	<u>48.26</u>
Cut	4.23	<u>48.10</u>
1/4	4.1	<u>47.9</u>
1/4	4.6	<u>47.7</u>
1/4	4.8	<u>47.5</u>
Cut	4.81	<u>47.52</u>
cb.	4.64	<u>47.69</u>
30' R of L	3.9	<u>48.4</u>
40' " " "	3.3	<u>49.0</u>

9+76 = SLY edge Asphalt Drive on Rt. ✓

cb.	4.65	<u>47.68</u>
30' Rt of L	3.86	<u>48.47</u>
40' " " "	3.55	<u>48.78</u>

9+90 ✓

cb	4.79	<u>47.54</u>
30' Rt. on Drive	3.76	<u>48.57</u>
40' R. " "	3.66	<u>48.67</u>

9+848 = NLY edge Asphalt Drive on Lt. ✓

cb	4.12	<u>48.21</u>
30' Lt on Drive	3.39	<u>48.94</u>
40' " " "	2.93	<u>49.40</u>

9+26.26 ✓

40' RA	3.7	<u>48.6</u>
30' R	4.2	<u>48.1</u>

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5233

cb.	4.78	<u>47.55</u>
Gut.	5.05	<u>47.28</u>
1/4 Rt	5.0	<u>47.3</u>
E	4.7	<u>47.6</u>
1/4 Lt	4.5	<u>47.8</u>
Gut.	4.40	<u>47.93</u>
cb.	4.21	<u>48.12</u>
30' Lt.	3.4	<u>48.9</u>
40' Lt.	2.6	<u>49.7</u>

10 + 0.7 = 5/4 edge Conc. Walk on Lt. ✓

cb.	4.25	<u>48.08</u>
25' Lt. on walk	3.81	<u>48.52</u>
10 + 16.2 ✓		

cb.	4.30	<u>48.03</u>
25' Lt. on	3.85	<u>48.48</u>
10 + 11.6 ✓		

cb.	4.2	<u>48.1</u>
25' Lt. on Walk	3.80	<u>48.52</u>
30' Lt. "	3.24	<u>49.09</u>
40' Lt. "	2.62	<u>49.71</u>
9 + 92.2 E Sewer 17.4.	4.56	<u>47.77</u>
10 + 21.75 ✓		

40' Lt.	2.7	<u>49.6</u>
30' Lt.	3.4	<u>48.9</u>
cb.	4.32	<u>48.01</u>
Gut.	4.54	<u>47.79</u>

5233

20

1/4	1.7	<u>47.6</u>
E	4.8	<u>47.5</u>
1/4	5.0	<u>47.3</u>
Gut.	5.19	<u>47.14</u>
cb.	4.92	<u>47.41</u>
30' Rt of E	4.7	<u>47.6</u>
35 " "	3.3	<u>49.0</u>
40' R	3.5	<u>48.8</u>

10 + 34 = 5/4 edge Conc. Drive on Lt. 8' wide ✓

cb.	4.43	<u>47.90</u>
30' Lt. on Drive	3.55	<u>48.78</u>
40 " " "	3.09	<u>49.24</u>
10 + 42 ✓		

cb.	4.54	<u>47.79</u>
30' Lt. on Drive	3.60	<u>48.73</u>
40 " " "	3.08	<u>49.25</u>
10 + 47.24 ✓		

40' Rt	3.5	<u>48.8</u>
33	3.8	<u>48.5</u>
32' R	4.6	<u>47.7</u>
cb.	5.02	<u>47.31</u>
Gut.	5.29	<u>47.04</u>
1/4	5.1	<u>47.2</u>
E	4.9	<u>47.4</u>
1/4	4.8	<u>47.5</u>
Gut.	4.76	<u>47.57</u>
cb Broken	4.6	<u>47.7</u>



10+47.24 5233

30' Lt.	3.6	48.7
40' Lt.	2.9	49.9
10+44.7 to 10+50.4 cb No Good on Lt.		
10+7273		

40' Lt.	2.3	50.0
30' Lt.	3.6	48.7
cb.	4.67	47.66
Gut.	4.85	47.48
1/4	5.0	47.3
L	5.2	47.1
1/4	5.3	47.0
Gut.	5.48	46.85
cb.	5.21	47.12
30'R	5.0	47.3
40'R	3.7	48.6

Asphalt 10+86.8 = Bay Drive on Lt. 155' wide		
cb.	4.67	47.66
27' Lt. = Bk on Drive	4.51	47.82
40' Lt.	3.61	48.72

11+02.3 ✓

cb.	4.76	47.57
30' Lt Bk on Drive	4.66	47.67
40 " " " "	3.37	48.96
10+98.23 = EC ✓		

40'R	3.8	48.5
30'R	5.0	47.3
cb.	5.35	46.98
Gut	5.62	46.71

5233

1/4 R	5.4	46.9
L	5.2	47.1
1/4 Lt	5.1	47.2
Gut.	4.98	47.35
cb.	4.76	47.57
30' Lt.	4.6	47.7
40' Lt	3.0	49.3

11+07.57 ✓

40' Lt.	2.3	50.0
30' Lt.	3.8	48.5
cb.	4.82	47.51
Gut	5.08	47.25
1/4	5.2	47.1
L	5.3	47.0
1/4	5.5	46.8
Gut.	5.62	46.71
cb.	5.41	46.92
30' Rt of L	4.9	47.4
40 " " "	3.9	48.4

Staly Return Madrid cb L = 51.41 4 Parts

BC. on Evergreen	5.41	46.92
Gut.	5.62	46.71
⊙ on cb.	5.41	46.92
" " Gut.	5.68	46.65
⊙ " cb	5.42	46.91
" " Gut.	5.73	46.60



52.33

③ on cb	5.45	46.88
" " Gut.	5.75	46.58
④ " cb. EG. on Madrid	5.51	46.82
" " Gut.	5.79	46.54

11+0385 SWLY Ret cb. = 53.24

cb. BS. on Ervigreen	4.78	47.55
Gut.	4.95	47.38

① on cb	4.89	47.44
" Gut	5.13	47.20

② " cb.	4.92	47.41
" " Gut	5.21	47.12

③ " cb.	4.95	47.38
" " Gut.	5.26	47.07

④ cb. EG. on Madrid	4.94	47.39
Gut	5.24	47.09

11+29.10 ✓

40' Rt	5.3	47.0
--------	-----	------

30' Rt	5.4	46.9
--------	-----	------

29' R	5.8	46.5
-------	-----	------

20' Rt	5.8	46.5
--------	-----	------

10' Rt	5.7	46.6
--------	-----	------

∅	5.5	46.8
---	-----	------

10' Lt	5.4	46.9
--------	-----	------

20' Lt	5.4	46.9
--------	-----	------

29' Lt	5.3	47.0
--------	-----	------

31' Lt	4.9	47.4
--------	-----	------

40' Lt	4.0	48.3
--------	-----	------

50' Lt	3.6	48.7
--------	-----	------

52.33

50' Lt 11+391 ✓	5.2	47.1
40' Lt	5.4	46.9
30' Lt	5.4	46.9
20' Lt	5.5	46.7
10' Lt	5.5	46.8
∅	5.6	46.7
20' Lt 15' ahead River MH	5.51	46.82
10' Rt	5.7	46.6
20' R	5.9	46.4
30' R	5.8	46.5
40' R	5.8	46.5
50' R	5.8	46.5

11+54.1 ✓

60' R	6.1	46.2
-------	-----	------

40' "	6.0	46.3
-------	-----	------

30' R	6.0	46.3
-------	-----	------

20' R	6.1	46.2
-------	-----	------

10' R	6.0	46.3
-------	-----	------

∅	6.0	46.3
---	-----	------

10' Lt	5.8	46.5
--------	-----	------

20' Lt	5.8	46.5
--------	-----	------

30' Lt	5.7	46.6
--------	-----	------

40' Lt	5.6	46.7
--------	-----	------

50' Lt	5.5	46.8
--------	-----	------

11+69.1 ✓

56' Lt. Gut.	6.1	46.2
--------------	-----	------

22



197691 5233

40' Lt.	6.2	46.1
30' Lt.	6.1	46.2
20' Lt.	6.2	46.1
10' Lt.	6.2	46.1
♀	6.4	45.9
10' Rt.	6.4	45.9
20 "	6.5	45.9
30 "R	6.5	45.8
40 "	6.5	45.8
59.5 Rt.	6.4	46.9

197791 ✓

50' Rt.	6.2	46.1
40	6.3	46.0
37' Rt.	6.5	45.8
35 "	6.9	45.4
30 "	7.0	45.3
20 "	6.8	45.5
10 "	6.8	45.5
♀	6.8	45.5
10' Lt.	6.6	45.7
103' Lt.	4.2	Back = 9ms NW 6.39 45.94
20' Lt.	6.6	45.7
32' Lt.	6.8	45.5
34' Lt.	6.4	45.9
40' Lt.	6.0	46.3
57' Lt.	5.4	46.9

5233

23

NWLY Ref, cb. 1 = 5715 4 Parks

BC on Madrid cb	5.82	46.51
" cb. Gut.	6.10	46.33
① on cb	6.16	46.17
" " Gut	6.42	45.91
② " cb.	6.49	45.84
" Gut	6.74	45.59
③ " cb.	6.80	45.53
" Gut.	7.09	45.24
4 cb EG on cb.	7.29	45.04
" " Gut.	7.59	44.74

NELY Ref 5903 cb L

cb EG on Madrid	6.20	46.13
Gut.	6.44	45.89
①	6.29	46.04
Gut	6.60	45.73
② cb.	6.68	45.75
Gut	6.84	45.49
③ cb.	7.04	45.29
" Gut	7.31	45.02
4 = EG on cb.	7.66	44.67
" " Gut.	7.96	44.37

12 + 0817 = cb BC on Rt ~

40' Rt.	5.2	47.1
35 R	5.5	46.8
30' R	7.3	45.0



52.33

cb.	7.67	<u>44.66</u>
cut	796	<u>44.37</u>
10'R.	8.1	<u>44.2</u>
↓	7.9	<u>44.4</u>
10' Lt.	7.8	<u>44.5</u>
20' of cut	7.65	<u>44.68</u>
cb.	7.36	<u>44.97</u>
30' Lt.	6.7	<u>45.6</u>
40' Lt.	5.3	<u>47.0</u>

12+26.75 = BC Rt. ✓

40' Lt.	5.8	<u>46.5</u>
34' Lt.	6.3	<u>46.0</u>
30' Lt.	7.4	<u>44.9</u>
27' Lt.	7.9	<u>44.4</u>
cb.	8.13	<u>44.20</u>
cut	8.41	<u>43.92</u>
14' Lt.	8.7	<u>43.6</u>
↓	8.9	<u>43.4</u>
12'R	9.0	<u>43.3</u>
cut	8.89	<u>43.44</u>
cb.	8.61	<u>43.72</u>
30'R of E	8.4	<u>43.9</u>
40'R. " "	6.1	<u>46.2</u>

12+68.54 ✓

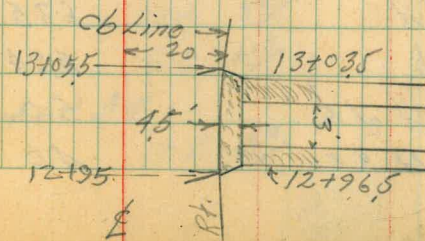
40' Rt.	7.9	<u>44.4</u>
35' "	10.3	<u>42.0</u>

52.33

30'R	10.2	<u>42.1</u>
cb.	10.67	<u>41.66</u>
cut.	10.95	<u>41.38</u>
10'Rt	11.0	<u>41.3</u>
↓	10.7	<u>41.6</u>
10' Lt.	10.6	<u>41.7</u>
cut	10.44	<u>41.89</u>
cb.	10.13	<u>42.20</u>
30' Lt.	9.4	<u>42.9</u>
40' Lt.	8.1	<u>44.2</u>

12+88.54 ✓

40' Lt.	9.3	<u>43.0</u>
30' Lt.	10.3	<u>42.0</u>
cb.	11.17	<u>41.16</u>
cut.	11.47	<u>40.86</u>
10' Lt.	11.5	<u>40.8</u>
↓	11.6	<u>40.7</u>
10'R	12.0	<u>40.3</u>
cut.	11.98	<u>40.35</u>
cb.	11.68	<u>40.65</u>
30'R	11.2	<u>41.1</u>
40'R	10.3	<u>42.0</u>



24



5233

12+95 ✓

21.5 Rt. on cb

12.00 40.3

12+96.5 ✓

cb.

12.12 40.21

24.5 Rt. on DRIVE

11.77 40.56

30' R " "

11.27 41.06

13+03.5 ✓

21.5' Rt on cb

12.50 39.83

24.5 " DRIVE

12.19 40.14

30' Rt " "

11.57 40.76

13+05.5 ✓

21.5' Rt. on cb ✓

12.61 39.72

TP 1/4 2.28 46.11

8.50 43.83 30' Rt on Pipe  
12+26.75

13+08.54 ✓

40' Rt of L

4.6 41.5

30 " " "

5.6 40.5

cb

6.48 39.63

Gut.

6.79 39.32

1/4 Rt.

6.8 39.3

L

6.4 39.7

1/4 Lt.

6.3 39.8

Gut.

6.25 39.86

cb.

5.94 40.17

30' Lt of L

5.0 41.1

40' Lt " "

4.0 42.1

46.11

13+28.54 ✓

40' Lt.

5.0 41.1

30' Lt.

6.1 40.0

cb.

7.00 39.11

Gut.

7.30 38.81

1/4

7.3 38.8

L

7.5 38.6

1/4 Rt.

7.8 38.3

Gut.

7.87 38.24

cb.

7.54 38.57

30' Rt of L

6.5 39.6

40 " " "

5.4 40.7

13+48.54 ✓

40' Rt of L

6.3 39.8

30 " " "

7.5 38.6

cb.

8.60 37.51

Gut.

8.90 37.21

1/4

8.9 37.2

L

8.6 37.5

1/4 Lt.

8.4 37.7

Gut.

8.40 37.71

cb.

8.12 37.99

30' Lt. of L

7.1 39.0

40 " " "

6.0 40.1

13+68.54

40' Lt of L

7.1 39.0

25



13168.54 ✓ 46.11

30' Lt	81	<u>38.0</u>
Cb.	9.18	<u>36.93</u>
Cut	9.97	<u>36.64</u>
1/4 Lt.	9.4	<u>36.7</u>
L	9.7	<u>36.4</u>
1/4 R	9.9	<u>36.2</u>
Cut	9.99	<u>36.12</u>
Cb	9.66	<u>36.45</u>
30' Rt of L	8.5	<u>37.6</u>
40' " " "	7.2	<u>38.9</u>
13173.54 ✓ Beg. 8.6' Wide Corx. Drive on Lt		
Cb. on Drive	9.45	<u>36.66</u>
13174		
30' Lt.	7.96	<u>38.15</u>
13172.14 ✓		
Cb. Lt on Drive	9.85	<u>36.26</u>
13172.7 ✓		
30' Lt. on Drive	8.15	<u>37.96</u>
13178 ✓ Beg. Asphalt Drive on Rt		
Cb.	10.25	<u>35.86</u>
13179.2 ✓		
Cb on Drive	10.33	<u>35.78</u>
2.5' Rt " "	10.19	<u>35.92</u>
30' " " "	9.47	<u>36.64</u>
13187.2 ✓		
Cb on R on Dr	10.77	<u>35.34</u>
25' R on Drive	10.68	<u>35.43</u>
30' " " "	9.75	<u>36.36</u>

46.11

13194.54 ✓

Cb Lt. on Walk	10.64	<u>35.47</u>
30' Lt. of L on Walk	9.38	<u>36.73</u>
13198.54 ✓		
Cb on Walk	10.83	<u>35.78</u>
30' Lt. of L on Walk	9.44	<u>36.67</u>
13188.54 ✓		
40' Rt. of L	8.3	<u>37.8</u>
30' " "	9.7	<u>36.4</u>
Cb.	10.77	<u>35.34</u>
Ent. (Concrete)		
1/4 Rt	11.0	<u>35.1</u>
L	10.7	<u>35.4</u>
1/4 Lt	10.6	<u>35.5</u>
Cut.	10.59	<u>35.52</u>
Cb.	10.30	<u>35.81</u>
30' Lt of L	8.8	<u>37.3</u>
40' Lt " "	8.0	<u>38.1</u>
14113.58		
40' Lt.	9.6	<u>36.5</u>
30' Lt.	10.6	<u>35.5</u>
Cb.	11.76	<u>34.35</u>
Ent.	12.06	<u>34.05</u>
1/4 Lt.	12.0	<u>34.1</u>
L	12.1	<u>34.0</u>
1/4 R	12.4	<u>33.7</u>



14+1358 46.11

Gut	17.43	33.68
cb.	12.14	33.97
30' R	11.0	35.1
40' R	9.3	36.8

13+96.8 = <sup>SLY</sup> edge MH <sup>SEWER</sup>

on Rim	10.95	35.16
13+99 = NELY edge MH <sup>SEWER</sup>		
on Rim	11.95	35.06

T.P. #5 1.61 34.95 12.77 33.34 (Radial)

14+34.72 - Beginning 8' Conc. Drive on Lt.

cb on Drive	1.82	33.13
30' Lt. " "	0.50	34.45
40' " " "	+0.67	34.28

14+42.72 End Drive on Lt. ✓

cb on Drive	2.21	32.74
30' Lt. " "	0.85	34.10
40' " " "	+0.45	34.50

14+3862 ✓

40' R	+0.4	34.5
30' R	1.2	33.7
cb.	2.35	32.60
Gut	2.67	32.28
1/4 Rt.	2.7	32.2
∅	2.4	32.5
1/4 Lt.	2.4	32.5
Gut	2.31	32.64
cb. Lt.	2.00	32.95
30' Lt.	0.63	34.32
40' Lt.	+0.57	34.38

3495

14+55.6 = Beg. 4' Conc. ✓

27

cb.	2.98	31.97
30' Lt. on Walk	2.04	32.91

14+59.6 = End 4' Walk ✓

cb.	3.19	31.76
30' Lt. on Walk	2.26	32.69

14+63.66 ✓

40' Lt.	2.0	32.95
30' "	2.6	32.3

cb.	3.40	31.5
Gut	3.70	31.25

1/4 Lt.	3.7	31.2
∅	3.7	31.2

1/4 R	4.0	30.9
Gut.	4.09	30.86

cb.	3.78	31.17
30' R	3.3	31.6
40' R	1.6	33.3

14+88.7

40' R	3.0	31.9
30' R	4.8	30.1

cb.	5.15	29.80
Gut.	5.45	29.50

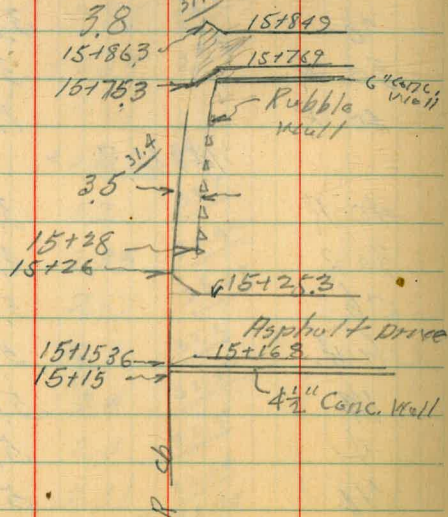
1/4	5.4	29.5
∅	5.1	29.8

1/4	5.1	29.8
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14+887 3495

Cont	5.12	29.83
Cb Lt.	4.83	30.12
30' Lt.	4.8	30.1
40' Lt.	4.4	30.5
15+1374 = P.C.C. ✓		
40' Lt.	5.5	29.4
30' Lt.	5.5	29.4
Cb.	6.12	28.83
Cont.	6.43	28.52
1/4 Lt.	6.4	28.5
1/4	6.6	28.3
1/4 Rt.	6.8	28.1
Cont.	6.90	28.05
Cb.	6.58	28.37
30' Rt.	5.6	29.3
40' "	3.8	31.1



3495

20

15+15		
Cb on Rt.	6.64	28.31
23' Rt on Wall	6.08	28.87
27' " " "	5.82	29.13
30' " " "	5.44	29.51

15+16.8

Cb	6.73	28.22
25' R on Drive	6.59	28.36
30' " " "	5.80	29.15
40' " " "	3.96	30.99

15+25.3

Cb R on Drive	7.16	27.79
24.5 R " "	7.05	27.90
30' " " "	5.93	29.02
40' " " "	4.25	30.70

15+28

23' Rt on Ground at wall	6.4	28.5
23' " " Rock wall	7.1	27.8

15+28.10

40' Rt	4.3	30.6
30' R	6.2	28.7
25' R on Wall	6.5	28.4
24 Ground	7.3	27.6
Cb	7.86	27.09
Cont	8.22	26.73
1/4 R	8.2	26.7



34.95

L	8.0	<u>26.9</u>
1/4	7.7	<u>27.2</u>
Gut.	7.69	<u>27.26</u>
cb.	7.38	<u>27.57</u>
30' H	6.9	<u>28.0</u>
40' H	6.9	<u>28.0</u>

15+62.46 ✓

40' H	8.5	<u>26.4</u>
30' H	8.4	<u>26.5</u>
cb	8.74	<u>26.21</u>
Gut	9.06	<u>25.89</u>
1/4 H	9.1	<u>25.8</u>
L	9.3	<u>25.6</u>
1/4 R	9.5	<u>25.4</u>
⊙ 19' R	9.8	<u>25.1</u>
Gut	9.55	<u>25.40</u>
cb	9.26	<u>25.69</u>
24	8.9	<u>26.0</u>
25' on wall	8.1	<u>26.8</u>
30' R	7.2	<u>27.7</u>
4 "	4.9	<u>30.0</u>

15+75.3 ✓

cb. on wall = cb	9.95	<u>25.00</u>
23' R " "	9.43	<u>25.52</u>
30' R " "	8.18	<u>26.77</u>
40' R " "	6.99	<u>28.62</u>

34.95

29

15+7769 ✓

cb. on Drive	10.02	<u>24.93</u>
30' R " "	8.90	<u>26.05</u>
40 " "	6.99	<u>27.96</u>

15+849 ✓

cb. on Drive	10.44	<u>24.51</u>
30' R " "	9.20	<u>25.75</u>
40 " "	7.21	<u>27.74</u>

15+8682 ✓

40' R	7.8	<u>27.6</u>
30' "	9.3	<u>25.6</u>
cb.	10.58	<u>24.37</u>
Gut.	10.91	<u>24.04</u>
1/4	10.9	<u>24.0</u>
L	10.7	<u>24.2</u>
1/4 Lt	10.5	<u>24.4</u>
Gut	10.40	<u>24.55</u>
cb	10.10	<u>24.85</u>
30' Lt	9.9	<u>25.0</u>
40' Lt	9.8	<u>25.1</u>

16+1118

40' Lt	11.3	<u>23.6</u>
30' Lt	11.1	<u>23.8</u>
cb.	11.50	<u>23.45</u>
Gut	11.79	<u>23.16</u>
1/4 Lt	12.0	<u>22.9</u>



3495

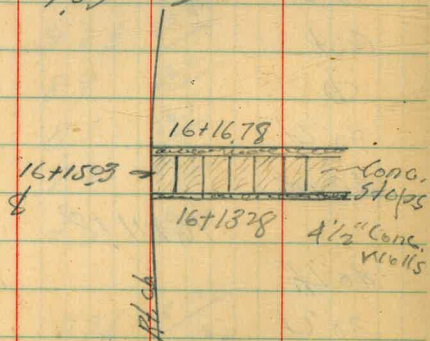
¢	12.1	<u>22.8</u>
10' R	12.2	<u>22.7</u>
cut.	12.28	<u>22.67</u>
cb.	11.97	<u>22.98</u>
30' R	10.5	<u>24.4</u>
40' R	8.3	<u>26.5</u>

16+13.28 ✓

cb.	12.08	<u>22.87</u>
22.5 ft on wall	11.53	<u>23.42</u>
30 " " "	9.97	<u>24.98</u>
40 " " "	7.85	<u>27.10</u>

16+16.78

cb.	12.2	<u>22.71</u>
22.3 ft on wall	11.58	<u>23.37</u>
30 " " "	9.98	<u>24.97</u>
40 " " "	7.89	<u>27.06</u>



3495

16+15.03 = £ Conc. Steps on R

cb. = Bottom Step	12.15	<u>22.80</u>
24.5 ft on "	12.00	<u>22.95</u>
" " " "	11.55	<u>23.40</u>
27.75 " " "	11.46	<u>23.49</u>
9 " " "	11.00	<u>23.95</u>
30.35 ft " "	10.88	<u>24.07</u>
" " " "	10.40	<u>24.55</u>
33.35 " " "	10.27	<u>24.68</u>
" " " "	9.81	<u>25.14</u>

16+35.54 ✓

40' R	9.7	<u>25.2</u>
30 "	11.7	<u>23.2</u>
TD #6 4.15 26.39	12.71	<u>22.24</u>
cb.	4.74	<u>21.65</u>
cut.	5.07	<u>21.32</u>
1/2 R	4.9	<u>21.5</u>
¢	4.7	<u>21.7</u>
1/4 ft.	4.7	<u>21.7</u>
cut.	4.63	<u>21.76</u>
cb.	4.31	<u>22.08</u>
30' ft. of "	4.1	<u>22.3</u>
40 " " "	4.0	<u>22.4</u>

16+59.90

40' ft.	5.4	<u>21.0</u>
30' ft.	5.5	<u>20.9</u>



16+5990 26.39

cb	5.71	20.68
cut	6.02	20.37
1/4 H	6.1	20.3
L	6.1	20.3
1/4 R	6.3	20.1
cut	6.42	19.97
cb.	6.10	20.29
30' R	5.6	20.8
32 "	4.3	22.1
40 "	2.2	24.2

16+84.26 ✓

40' R	3.4	23.0
30' R	6.1	20.3
29 "	6.8	19.6
cb.	7.48	18.91
cut,	7.81	18.58
1/4 R	7.6	18.8
L	7.4	19.0
1/4 Lt.	7.4	19.0
cut	7.34	19.05
cb.	7.09	19.30
30' Lt.	6.7	19.7
40' Lt.	6.8	19.6

17+08.62 ✓

40' Lt.	8.0	18.4
30' Lt.	8.1	18.3

2639

31

cb.	8.40	17.99
cut	8.71	17.68
1/4 Lt	8.7	17.7
L	8.8	17.6
10' R	9.0	17.4
cut.	9.13	17.26
cb.	8.83	17.56
30' Rt	7.1	19.3
40' Rt	5.2	21.2

17+08.42 = beg Conc Drive on Rt.

cb. on Drive	8.82	17.57
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17+09.27 ✓

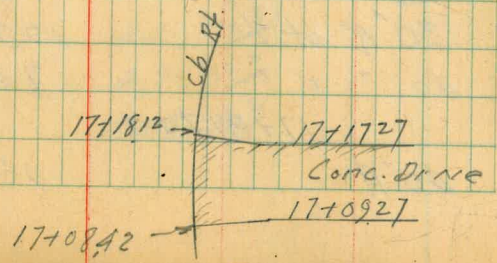
cb.	8.86	17.53
30' Rt. on Drive	7.02	19.37
40' " " "	5.13	21.26

17+17.27 ✓

cb. on Drive	9.34	17.05
30' R " "	7.30	19.09
40' R " "	5.21	21.18

17+18.12 = End Drive

cb. on Rt.	9.39	17.00
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26.39

Evergreen St.

17+32.98

40' R	59	<u>20.5</u>
30' R	84	<u>18.0</u>
cb.	10.19	<u>16.20</u>
Gut.	10.50	<u>15.89</u>
1/4 R.	10.4	<u>16.0</u>
♀	10.1	<u>16.3</u>
1/4 H.	10.1	<u>16.3</u>
Gut.	10.07	<u>16.32</u>
cb.	9.76	<u>16.63</u>
30' Lt. of E	2.5	<u>16.9</u>
40 " " "	2.4	<u>17.0</u>

17+57.34 v

40' Lt. of E	10.8	<u>15.6</u>
30 " " "	10.9	<u>15.5</u>
cb.	11.15	<u>15.24</u>
Gut.	11.45	<u>14.94</u>
1/4 H.	11.4	<u>15.0</u>
♀	11.4	<u>15.0</u>
10' R	11.7	<u>14.7</u>
Gut.	11.88	<u>14.51</u>
cb.	11.56	<u>14.83</u>
30' R of E	10.3	<u>16.1</u>
40 " " "	7.6	<u>18.8</u>

17+81.70 v

40' R	9.6	<u>16.8</u>
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17+81.70 26.39

Evergreen St.

32

30' R	12.2	<u>14.2</u>
28' R	12.9	<u>13.5</u>
cb.	12.96	<u>13.43</u>
TR 47 0.87	15.36	11.90 14.49
Gut.	2.18	<u>13.18</u>
1/4 R.	2.0	<u>13.4</u>
♀	1.7	<u>13.7</u>
1/4 H.	1.6	<u>13.8</u>
cb Gut.	1.78	<u>13.58</u>
cb.	1.52	<u>13.84</u>
30' Lt of E	1.3	<u>14.1</u>
40 " " "	1.2	<u>14.2</u>

18+06.05 v

40' Lt. of E	2.6	<u>12.8</u>
30 " " "	2.7	<u>12.7</u>
cb.	2.75	<u>12.61</u>
Gut.	3.07	<u>12.29</u>
10' Lt.	3.0	<u>12.4</u>
♀	3.1	<u>12.3</u>
10' R	3.2	<u>12.2</u>
cb Gut.	3.56	<u>11.80</u>
cb.	3.26	<u>12.10</u>
29' R	3.1	<u>12.3</u>
30' R.	2.2	<u>13.2</u>
40' R.	70.2	<u>15.2</u>



15.36

18+30

40' R of E	1.2	14.2
30 "	3.2	12.2
29 "	4.0	11.4
cb	4.40	11.0
cut.	4.68	10.68
1/4	4.5	10.9
L	4.3	11.1
1/4	4.1	11.3
20' Lt	4.4	11.0
30' Lt. Cut. Return	4.43	10.93
32.5' Lt on cb "	4.16	11.20
40' Lt	4.3	11.1

NWLY Return cb L = 5273 4 Parts

BC. on Evergreen	2.79	12.57
" " Cut	3.06	12.30
① on cb	3.50	11.86
" " Cut	3.80	11.56
② " cb	4.07	11.29
" " Cut	4.40	10.96
③ " cb	4.72	10.63
" " Cut	4.98	10.38
④ " cb EC.	5.29	10.07
" " Cut	5.56	9.80

15.36

NELY Ret. cb L = 5442 4 Parts. 33

BC. on Michl. Ave	5.94	9.42
cut.	6.28	9.08
① on cb	5.93	9.43
" " Cut.	6.27	9.09
② " cb	6.20	9.16
" " Cut.	6.52	8.84
③ " cb	6.73	8.63
" " Cut	7.06	8.30
④ EC. on Evergreen	7.28	8.08
cut	7.62	7.74

18+53.95 v

50' Lt of E	5.7	9.7
40' " " "	5.5	9.9
30' " " "	5.4	10.0
20' " " "	5.3	10.1
18' " " "	5.4	10.0
L	5.4	10.0
10' R	5.7	9.7
20' R. Cut	5.85	9.51
cb.	5.53	9.83
30' R	5.3	10.1
31' R	4.0	11.4
40' R	2.6	12.8

18+77.9

40' R	4.4	11.0
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18+77.9 ✓ 15.36

30'Rt	5.8	<u>9.6</u>
29'R	6.2	<u>9.2</u>
Cb.	6.69	<u>8.67</u>
Gut	6.99	<u>8.37</u>
10'R	6.8	<u>8.6</u>
♀	6.5	<u>8.9</u>
10'Lt	6.4	<u>9.0</u>
20'Lt	6.7	<u>8.7</u>
30'Lt on Gut	6.53	<u>8.83</u>
32.5'Lt + Cb	6.18	<u>9.18</u>
40'Lt	6.1	<u>9.3</u>

19+101.85 = EC

40'Lt	7.5	<u>7.9</u>
30'Lt	7.3	<u>8.1</u>
Cb.	7.29	<u>8.07</u>
Gut	7.65	<u>7.71</u>
10'Lt	7.7	<u>7.7</u>
♀	7.6	<u>7.8</u>
10'R	7.9	<u>7.5</u>
Gut.	8.14	<u>7.22</u>
Cb.	7.84	<u>7.52</u>
26'R	7.4	<u>8.0</u>
30'R	6.1	<u>9.3</u>
33'R	5.6	<u>9.8</u>
40'R	7.7	<u>7.7</u>

15.36

19+22.88 ✓

34

40'Rt	9.4	<u>6.0</u>
30'"	7.3	<u>8.1</u>
Cb.	8.58	<u>6.78</u>
Gut.	8.90	<u>6.46</u>
10'R	8.6	<u>6.8</u>
♀	8.4	<u>7.0</u>
10'Lt	8.4	<u>7.0</u>
Gut	8.52	<u>6.84</u>
Cb.	8.20	<u>7.16</u>
30'Lt	8.4	<u>7.0</u>
40'Lt	8.3	<u>7.1</u>

19+43.92 ✓

40'Lt	9.1	<u>6.3</u>
30'Lt	9.2	<u>6.2</u>
Cb.	9.07	<u>6.29</u>
Gut.	9.41	<u>5.95</u>
10'Lt	9.2	<u>6.2</u>
♀	9.2	<u>6.2</u>
10'R	9.3	<u>6.1</u>
Gut.	9.51	<u>5.85</u>
Cb.	9.25	<u>6.11</u>
28'R	9.0	<u>6.4</u>
30'R	6.5	<u>8.9</u>
40'R	9.2	<u>6.2</u>



15.36

19+6495 ✓

40'R	10.3	5.1
30'R	6.9	8.5
25'R	9.6	5.8
cb.	9.74	5.62
Gut	10.00	5.36
10'R	2.9	5.5
♀	2.9	5.5
10'Lt.	2.9	5.5
Gut.	10.14	5.22
cb.	9.80	5.56
30'Lt.	9.9	5.5
40'Lt.	9.8	5.6

19+85,98 ✓

40'Lt.	10.3	5.1	
30'Lt.	10.3	5.1	
cb.	10.46	4.90	
Gut	10.74	4.62	
10'Lt.	10.5	4.9	
♀	10.5	4.9	
10'R	10.3	5.1	
Gut	10.41	4.95	
cb.	10.15	5.21	
30'R	8.2	7.2	
40'R	11.1	4.3	
19+8248	on Ritt = MH 0.5'Lt. 18	10.33	5.03

15.36

20+0702 ✓

35

40'R	11.8	3.6				
30'R	8.2	7.2				
cb.	10.55	4.81				
Gut.	10.80	4.56				
10'R	10.7	4.7				
♀	10.8	4.6				
10'Lt	11.0	4.4				
Gut.	11.13	4.23				
cb.	10.83	4.53				
30'Lt.	8.8	6.6				
40'Lt.	10.6	4.8				
TP#8	3.91	8.62	10.65	4.71	4.71	Auto BM #2-D

20+1942

Gut RT	4.26	4.36
cb "	3.94	4.68

20+28.5

40'Lt	4.2	4.4			
30'Lt	4.3	4.3			
cb	4.36	4.26			
Gut	4.66	3.96			
10'Lt.	4.5	4.1			
♀	4.3	4.3			
10'RT.	4.3	4.3			
17'RT	5.58	4.04			
20'"	"	"	"	4.80	3.82
21'RT	"	"	"	4.84	3.78
"	"	"	cb.	4.08	4.54



862

30'R 3.8 4.8

40'R 5.6 3.0

20+26

cb. R 4.07 4.55

Gut. Conc. Gut 4.68 3.94

17'Rt on ' 4.53 4.09

20+31.9 inlet opening on R

Cb on R 4.13 4.49

Gut. 5.08 3.54

17'R 4.61 4.01

20+38.9 inlet opening

Cb 4.17 4.46

Gut. Conc. Gut 5.10 3.52

17'Rt " " 4.62 4.00

20+43.58 = End cb on R ✓

cb. on R 4.17 4.45

Gut Conc. Gut 4.88 3.82

17'Rt 4.39 4.23

20+36.82 ✓

cb Lt. 4.44 4.18

Gut. 4.74 3.88

20+45.57 ✓

cb Lt. 4.55 4.07

Gut. Conc. 5.22 3.90

17'H. on Conc. 4.95 3.67

862

20+57.62 bag opening ✓ 36

cb. Lt. 4.63 3.99

Gut. Conc. 5.57 3.05

17'H. " 5.08 3.54

20+54.62 ✓

cb. Lt. 4.64 3.98

Gut. Conc. 5.57 3.05

17'H. on Conc. 5.12 3.50

20+57.52 = End cb on Lt ✓

Cb 4.62 4.00

Gut. 5.32 3.30

17'H. 5.14 3.48

20+36.82 ✓

10'Rt. 4.40 4.22

E 4.24 4.38

10'Lt. 4.52 4.10

20+57.52 ✓

30'Lt. 4.7 3.9

10'Lt. 4.9 3.7

E 4.8 3.8

10'R 4.8 3.8

20'R 4.9 3.7

21'Rt 4.89 3.79

23'R 4.12 4.50

24'R 4.6 4.0

30'R 4.6 4.0

40'R 4.6 4.0



8.62  
20+70

40'R	4.78	3.84
30'R	4.31	4.31
27'R	4.96	3.66
20'R	5.01	3.61
10'R	5.00	3.62
Σ	5.00	3.62
10'Lt.	5.08	3.54
20'Lt.	5.14	3.48
22'Lt.	4.56	4.06
36'Lt.	4.9	3.7
40'Lt.	5.3	3.2

20+82.7 dug Section Parallel to Pav.

100'Lt. on old Road	5.51	3.11
50 Lt	5.29	3.33
30 "	5.36	3.26
20 "	5.28	3.34
10 "	5.15	3.47
Σ	5.21	3.41
10'R	5.10	3.52
20'R	5.08	3.54
30'R	5.04	3.58
50'R	4.76	3.86
100'R	3.91	4.71

20+90.7 on Edge Pav

100'R	3.62	5.00
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8.62

50'Rt.	4.45	4.17
30'R	4.70	3.92
Σ	4.79	3.83
30'Lt.	4.88	3.74
30'Lt.	4.98	3.64
100'Lt.	5.07	3.55

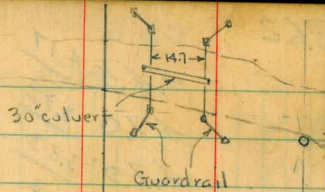
21+13.2 dug Sec. edge Pav

100'Lt.	4.87	3.75
50'Lt.	4.81	3.81
30'Lt.	4.72	3.90
Σ	4.63	3.99
30'Rt.	4.56	4.06
50'Rt.	4.49	4.13
100'R	3.95	4.67

TP#9	1294	21.35	0.21	8.41
TP#10	1192	32.56	0.71	20.64
TP#11	1287	44.64	0.79	31.77
TP#12	882	53.17	0.29	44.35
TP#13	11.17	63.86	0.48	52.62
chk Starting BM		272		61.14
				61.16
				0.02



wash



35 35

T.P. Book 20 - P. 48

Map 928 - 930

916 - 929

st

396.15 T.P.



Van Nuys

Fd. Mon

374.04 T.P.

Hubon Alley

0+00 Fd Mon

La Jolla Mesa

Dr.

21' cold lay strip

60'

Index of  
C.S.K.

X- Sect. Van Nuys - from La Jolla Mesa Dr. - E.

38

Fd. Mon.

11+99.60

89° 50' turned

35 35

st

Van Nuys

Cass

Hubon Alley

11+99.52

30' R.C. Culvert

Guard Rail

80'

333.9 T.P.

wash







3+50

3+00

2+50

2+00

1+50

T.P.

9.06

154.96

2.86

145.90

1+10

0+70

0+45

+	0	149.4	0	0	150.6	0	0	150.4	0	0	149.3	0	0	148.9	0	0	150.2
+	0	148.0	0	0	149.2	0	0	149.4	0	0	148.4	0	0	147.7	0	0	149.6
+	0	146.6	0	0	148.6	0	0	147.6	0	0	148.0	0	0	147.8	0	0	149.3
+	0	145.9	0	0	148.0	0	0	147.7	0	0	147.3	0	0	147.5	0	0	149.0
+	0	145.4	0	0	147.5	0	0	146.6	0	0	147.0	0	0	147.1	0	0	148.8
+	0	145.1	0	0	147.1	0	0	146.2	0	0	147.2	0	0	147.8	0	0	148.3
+	0	143.8	0	0	146.2	0	0	146.0	0	0	146.0	0	0	146.7	0	0	147.6
+	0	143.6	0	0	145.9	0	0	146.3	0	0	145.7	0	0	146.3	0	0	147.4
+	0	143.6	0	0	145.4	0	0	145.9	0	0	145.4	0	0	145.8	0	0	146.8
+	0	143.1	0	0	144.7	0	0	145.1	0	0	145.4	0	0	145.8	0	0	146.8
+	0	143.1	0	0	144.6	0	0	144.3	0	0	144.4	0	0	144.5	0	0	145.5

148.76











9+50

9+38 - 34.7 Lt. = ± 6" Pepper

9+30 - 34.1 Lt. = s.ly. 6" Rock + conc. wall

9+18 - 34.6 Lt. = end fence

9+12 - 36.1 Rt. = ± 3' Conc. walk

9+00

8+93 - 34.3 Lt. = Beg. Lath fence

8+60

8+21 - Top bank on N.L.

8+15 = ± Wash on N.L. + Bank on ±

8+13 - 22.2 Lt. = ± Inlet 30" Culvert

See sketch

8+10 - 13 Lt. = ± outlet of 30" Corr. Iron culvert

	165.4	164.38	163.8	166.8	166.2	161.44	161.4	166.7	165.3	163.1	163.7	162.7	163.5	163.2	162.9	163.8	163.6	162.9	162.9	163.4	163.8	164.1	164.2	165.2	165.9	166.3	166.7	166.7	167.7	168.6
8+10	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
8+13	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
8+15	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
8+21	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
8+60	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
8+93	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+00	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+12	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+18	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+30	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+38	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	
9+50	13	15	20	25	35	13	15	20	25	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	

173.42 ✓







12+85

12+35

11+99.52 = E.L. Cass.

11+80 - 39.6 Rt. = Inlet of 30" Culvert  
(good for E. cb.)

11+76

11+59.52 = #

11+49 - 54 Rt. = outlet of 30" R.C. Culvert

11+49	179.9	172.2	183.3	195.7	182.4
11+59.52	177.7	180.4	178.7	183.6	183.1
11+76	176.3	178.3	174.4	177.9	175.9
11+80	175.9	175.9	174.4	172.8	177.3
11+99.52	173.7	173.2	169.6	170.9	174.0
12+35	170.4	170.2	169.6	169.6	171.6
12+85	169.8	169.7	169.2	169.1	170.8
	169.2	169.5	169.1	169.1	170.7
	168.9	169.2	169.4	169.2	169.7
	166.5	169.0	167.0	166.0	167.5
	163.49	168.9	165.24	165.7	168.3
	167.9	168.9	168.2	165.7	169.0
				168.0	170.2
				168.9	170.5
				167.8	

179.49

30" pipe











Walker  
Hendricks  
Becker  
Johnson  
6-4-47

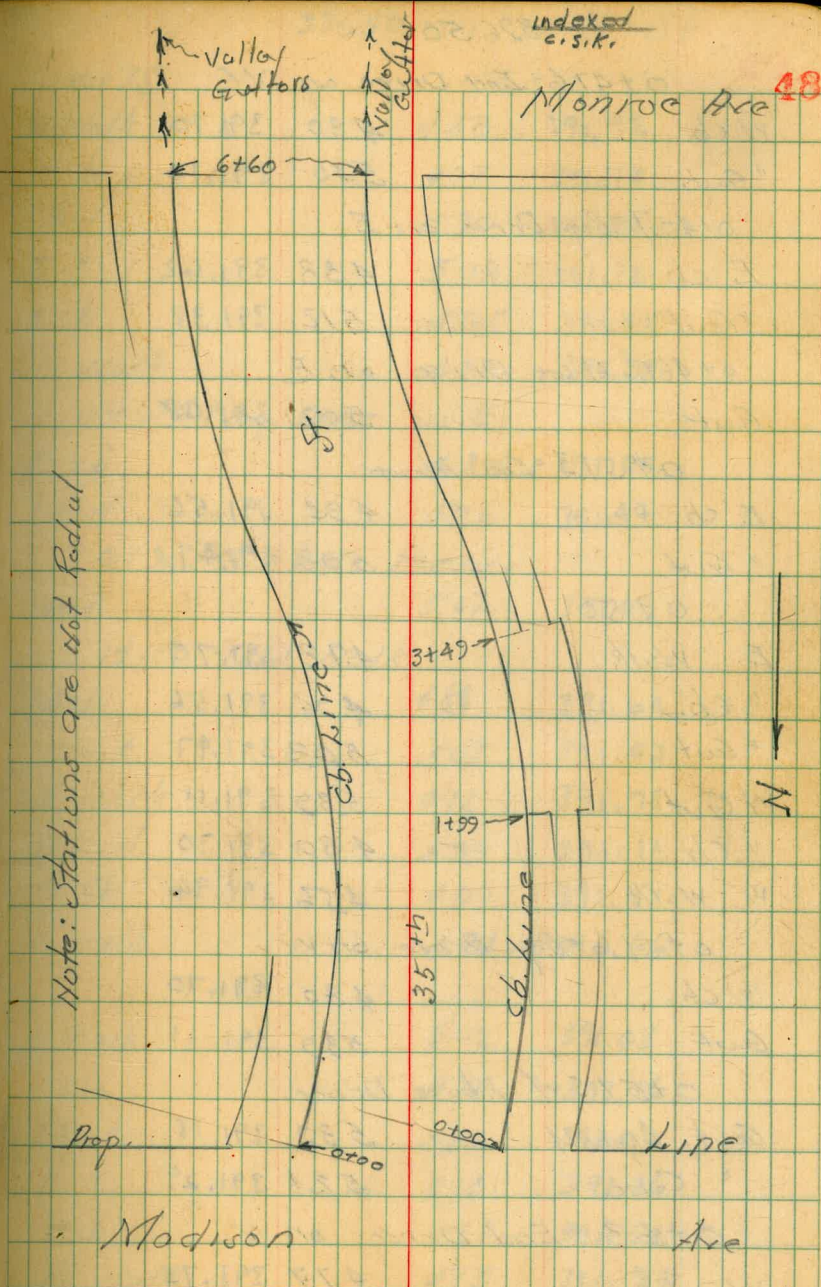
CURB and Gutter Levels  
on 35th St.  
from Madison to Monroe

JEBB Wilson

	4.89	396.40	391.51	6 Monroe
T.P.	5.31	396.17	5.54	390.86
T.P.	4.64	396.50	4.81	391.86
0+00 = St. Madison Stations on cb line see sketch				
0-1.6 = End cb Ret on E				
E 6.1' Lt of cb. on Walk	4.37	392.23		
E. Top cb.	4.54	391.96		
E. Gut.	4.89	391.61		
0+00				
W cb.	4.73	391.77		
" Gut.	5.17	391.33		
6.1' Rt. on Edge Walk	4.58	391.92		
0+25				
W Walk	4.41	392.09		
W cb	4.72	391.78		
W Gut.	5.23	391.27		
E Gut.	4.84	391.56		
E cb.	4.70	391.80		
E Walk	4.60	391.90		
0+39 = Prop. Drive on W				
W cb	4.82	391.68		
Gut.	5.38	391.12		
0+43.6 = E Drive				
W Gut.	5.38	391.12		

Indexed  
C.S.K.

Monroe Ave 48





396.50

0+47.6 = End Drive on W

W cb 4.80 391.70

" Gnt. 5.40 391.10

0+40.7 = Beg. Drive on E

E cb 4.88 391.62

" Gnt. 5.12 391.38

0+46 = End Above Drive on E

Gnt 5.02 391.48

0+51.3 = End Above

E cb 4.94 391.56

" Gnt. 5.03 391.47

0+50

E Walk 4.73 391.77

" cb. 4.94 391.56

" Gnt 5.03 391.47

W Gnt 5.39 391.11

" cb 4.80 391.70

W Walk 4.56 391.94

0+51.6 = Beg. Drive on W

W cb. 4.80 391.70

Gnt 5.39 391.11

0+57.5 = End Above Drive

Gnt. Asphalt 5.32 391.18

" Conc. 5.21 391.29

0+63 = End Drive on W

W cb 4.77 391.73

" Gnt. 5.34 391.16

396.50

35th St

49

0+75

W Walk 4.58 391.92

" cb 4.77 391.73

" Gnt 5.30 391.20

E " 5.08 391.32

E cb 4.95 391.55

" Walk 4.72 391.78

0+91.2 = Beg. Drive on E

E cb 4.83 391.67

" Gnt 5.06 391.44

0+95.7 = End Above Drive

Gnt 5.07 391.43

1+00 = End Walk

E cb. 4.86 391.64

E Gnt 5.07 391.43

E Walk 4.72 391.78

W Gnt. 5.39 391.11

" cb 4.99 391.51

" Walk 4.84 391.66

1+25

W Walk 5.02 391.48

" cb. 5.14 391.36

" Gnt. 5.50 391.00

E " 5.14 391.36

E cb 4.98 391.52

E Walk 4.73 391.77



396.50.

1+35 = Beg. Drive

E cb 5.02 391.48

" Gut 5.07 391.43

1+40 = E Drive

E Drive E Gut 5.04 391.46

1+45.1 = End Drive on E

E cb 4.87 391.63

E Gut 5.01 391.49

1+50

E Walk 4.97 391.73

E cb 4.92 391.58

" Gut 5.04 391.46

W "

" cb 5.21 391.29

" Walk 5.21 391.29

1+75

W Walk 5.24 391.26

W cb 5.25 391.25

W Gut 5.62 390.88

E Gut 5.10 391.40

" cb 4.86 391.64

" Walk 4.87 391.63

2+00

E Walk 4.91 391.59

" cb 4.91 391.59

" Gut 5.14 391.36

396.50

35th St.

50

2+00

1+99 = Beg. Full Width Walk on W

W Gut 5.67 390.83

W cb 5.30 391.20

0.5' Rt. of cb face = Walk 5.23 391.27

6" " " " on Walk 5.23 391.27

2+25

6' Rt of cb 5.02 391.48

.5 - " " 5.18 391.32

W cb 5.26 391.29

W Gut 5.57 390.93

E Gut 5.04 391.46

E cb 4.84 391.66

Walk 4.71 391.89

T.P. 410 395.83 4.77 391.73

2+38.6 = BG. Alley Ret. on E

E cb 4.14 391.69

" Gut 4.45 391.38

2+40.2 NL. Alley on E

E Gut 4.48 391.35

+2' on cb = EG. 4.13 391.70

+6 " Gut 4.34 391.49

+6 " cb = Walk 4.10 391.73

2+48.1

E. Alley on E Gut 4.55 391.28

2+50

W Gut 4.96 390.87

W cb 4.64 391.19

0.5' Rt on Walk 4.56 391.27

6" " " 4.49 391.34



39583

2+54.8

E Gcut	442	391.41
E <sup>Gcut</sup> 22' on cb.	421	391.62
Gcut + 22' " Gcut.	432	392.51
+ 6 " cb.	426	391.57
+ 6 " Drive (Higher)	419	391.64
2+57 = EC. cb Alley on E		
E cb.	426	391.57
" Gcut	450	391.33
2+75		
E Walks.	445	391.38
" cb.	446	391.37
" Gcut	472	391.11
W Gcut	502	390.81
W cb.	477	391.06
0.5' R on Walk	467	391.16
6' R on Walk	444	391.39
3+00		
6' R + W cb. on Walk	474	391.09
0.5' R " Walk	476	391.07
W cb.	490	390.93
W Gcut	518	390.65
E Gcut.	475	391.08
E cb.	466	391.17
E Walk	453	391.30

39583

35th St

3+07.6 - Beg. Drive on E

51

E cb. on Drive	449	391.34
" <del>cut</del> cb	457	391.26
E Gcut.	473	391.10
3+15.6 - End Drive on E.		
E cb in Drive	466	391.17
" Gcut.	477	391.06
3+22.2 = End Drive		
E <sup>cb</sup> on Drive	454	391.29
E cb	468	391.15
E Gcut	476	391.07
3+25		
E Walks	439	391.44
E cb.	469	391.14
" Gcut.	481	391.02
W "	526	390.57
W cb.	491	390.92
0.5' R on Walk	484	390.99
6' " " "	471	391.42
3+49 = End Full width Walk on W		
6' R of cb	490	390.93
0.5' " "	499	390.84
W cb.	506	390.77
" Gcut	533	390.50



39583

3450

W Walk 5.01 390.82

" cb 5.06 390.77

" Cut 5.34 390.49

E Cut 4.96 390.87

" cb 4.86 390.97

" Walk 4.62 391.21

3487 = Beg. Drive on E for Drive  
cb not cut

E cb 4.87 390.96

" Cut 4.94 390.89

34587 = End Above Drive

E Cut 5.03 390.80

E cb 4.80 391.03

3475

E Walk 4.56 391.27

E cb 4.71 391.12

" Cut 4.98 390.85

W " 5.34 390.49

W cb 5.03 390.80

" Walk 4.92 390.91

4400

W Walk 4.90 390.93

W cb 5.08 390.75

W Cut 5.28 390.55

E Cut 4.84 390.99

E cb (same) 4.84 390.99

39583

3545

52

E Walk 4.76 391.07

4425

E Walk 4.65 391.18

" cb 4.86 390.97

" Walk 4.97 390.86

W Cut 5.39 390.44

" cb 5.12 390.71

" Walk 5.01 390.82

4450

W Walk 5.11 390.72

W cb (Higher) 5.01 390.82

W Cut 5.31 390.52

E ~~cb~~ Cut 4.95 390.88

E cb 4.87 390.96

E Walk 4.73 391.10

44392 Beg. Drive on E

E Cut 4.83 391.00

" cb 4.75 391.08

44506 = End Above Drive on E

E Cut 4.96 390.87

E cb 4.82 391.01

FR 382 396.21 394 392.39

4475

E Walk 5.25 390.96

E cb 5.42 390.79

E Cut 5.53 390.69



39621

Wcb 475	5.93	390.28
W Gut	5.53	390.68
W Walk	5.53	390.68
5+00		
W Walk	5.71	390.40
" cb.	5.48	390.73
" Gut	5.88	390.33
E "	5.54	390.67
E cb.	5.38	390.83
" Walk	5.36	390.85
5+08.2 = E.C. Alley Rot on W		
W Gut	5.83	390.38
" cb.	5.44	390.77
5+10.3 N.W. Alley on W		
W Gut	5.83	390.38
+2' on cb.	5.36	390.85
" " Gut	5.63	390.58
+6' on "	5.58	390.63
" " cb.	5.45	390.76
5+26.9		
6' Rt of cb on Gut	5.82	390.39
" " " on cb.	5.71	390.50
" " " " Walk	5.53	390.68
2' Rt on E.C. Alley <sup>cb</sup> Rot	5.73	390.48
" " " " Gut. "	5.98	390.23
Gut.	6.02	390.19

39621

35th St

5+28.6 = E.C. Alley Rot on W		
cb.	5.70	390.51
Gut.	5.97	390.24
5+25		
E cb.	5.38	390.83
E Gut.	5.53	390.68
E Walk	5.25	390.96
5+30 Drive on E		
E Gut	5.58	390.63
E cb.	5.37	390.84
5+41.2 Drive on E		
E Gut	5.64	390.57
E cb.	5.38	390.83
5+50		
W Walk	5.88	390.33
" cb.	5.81	390.40
" Gut	6.05	390.16
E Gut	5.48	390.73
" cb.	5.29	390.92
" Walk	5.25	390.96
5+51.4 Drive on W		
Gut	6.06	390.15
Drive	5.70	390.51
5+64.5		
Gut	6.11	390.10
Drive	5.79	390.42



396.21

	5+60	5.61	390.60
Gut.			
Cb		5.36	390.85
	5+71		
Gut		5.63	390.58
Drive		5.18	391.03
	5+75		
E Walk		5.20	391.01
E Cb		5.34	390.87
" Gut		5.64	390.57
W "		6.10	390.11
" Cb		5.88	390.33
" Walk		5.76	390.45
	6+00		
W Walk		5.75	390.46
" Cb		5.90	390.31
" Gut		6.06	390.15
E "		5.61	390.60
E Cb		5.38	390.83
E Walk		5.29	390.92
	6+10.2		
E Gut		5.74	390.47
E Cb		5.42	390.99
	6+19		
E Gut		5.78	390.43
E Cb		5.36	390.85

396.21 35th

	6+14.2		
W Gut		6.06	390.15
E Cb		5.82	390.39
	6+24.1		
W Gut		6.06	390.15
W Cb		5.79	390.42
	6+25		
W Walk		5.63	390.58
W Cb		5.79	390.42
W Gut		6.08	390.13
E Gut		5.77	390.44
" Cb		5.47	390.74
" Walk		5.33	390.88
	6+50		
E Walk		5.40	390.81
" Cb		5.53	390.68
" Gut		5.92	390.29
W "		6.11	390.10
W Cb		5.81	390.40
" Walk		5.76	390.45
	6+56		
W Walk		5.72	390.49
" Cb		5.81	390.40
" Gut		6.13	390.08



396.21

35th St

6+60 N. Line Monroe

W Walk	5.52	390.69
" " at Cb	5.49	390.72
" Cb	5.64	390.57
" Gut.	6.06	390.15
E "	5.95	390.26
" Cb	5.59	390.62
" Walk at Cb	5.35	390.86
" "	5.30	390.91

Intersection 35th &amp; Monroe

No. Cb Monroe E Gut. 35th	5.93	390.28
" " " W Gut "	6.01	390.20
Q Monroe W Gut "	6.11	390.10
Q " E Gut. "	6.01	390.20
So. Cb Monroe E Gut "	6.04	390.17
" " " W Gut "	6.44	389.77
T.P.	2.80	395.96
B.M.	4.46	391.50

Check B.M.

SEBP Wilson &amp; Monroe

55

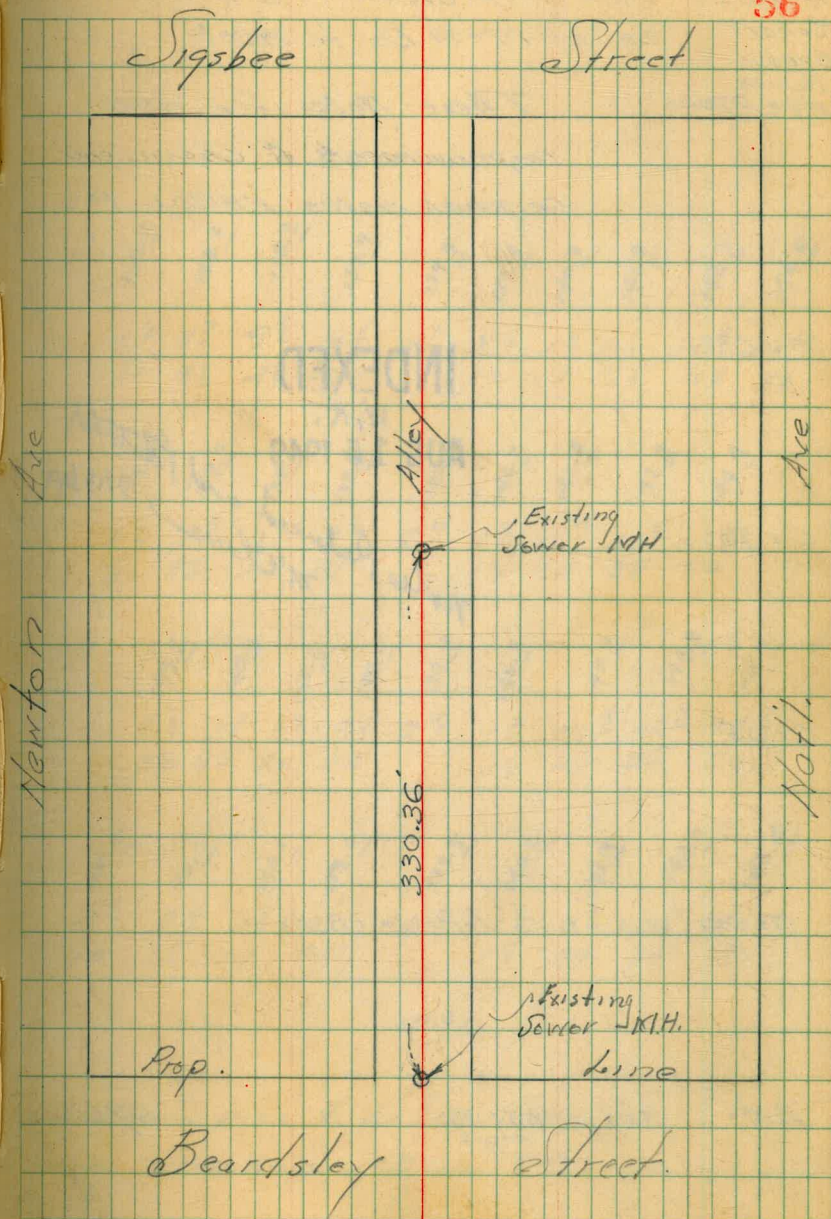


Mulhar Location Existing Sewer M.H.s  
 Hendricks 117 Alley Between Nutt. Ave <sup>And</sup> Newton  
 Becker  
 Johnson Beardsley St West

Blk. 131, Sub for Mannasse & Schiller

Indexed  
 a.s.k.

56





8.10.45 X Sect Van Nays for  
 Hendrick New Improvements & Changes  
 Roberts La Jolla Mesa Dr to West  
 Greer  
 Bunch  
 WOV 25020

These Notes for new  
 improvements & Changes only  
 Original notes FB1801-P3

0+65

INDEXED

W.K.  
 AUG 15 1949

Notes Reduced and Plotted  
 McClaren 9/13/49

0+30

0+05

0+00 W line La Jolla mesa Dr.

BM.

2.31

141.99

11

139.68

57

138.0	138.3	138.2	137.9	139.3	139.4	140.7	141.9	142.3	144.0
2.0	2.7	2.8	2.1	2.7	2.6	1.3	0.1	10.3	12.0
50	35	23	21		17	19	35	45	50

139.4	139.7	139.1	138.8	140.0	140.2	141.8	142.8	144.4
2.6	2.5	2.5	2.1	2.0	1.8	0.2	10.8	12.5
50	35	22	21		18	20	35	50

139.2	140.1	140.2	139.0	139.8	140.3	143.3	144.3	145.2
2.0	1.9	1.8	2.0	2.2	1.7	1.3	12.2	13.0
50	35	24	22		18	29	35	50

139.4	140.0	140.1	139.0	139.8	140.2	141.9	142.0	143.4
2.6	2.0	1.9	2.0	2.2	1.8	0.1	0.0	11.4
50	35	27	22		18	29	35	50

141.99

City Eng'rs Disk & La Jolla Mesa Dr  
 E. So. 7 Van Nays FB1801 P-2



1480

1174 Beg 6" Conc Ret wall on Rt

1471 & Wash

1460

1450

T.P. 483 137.97 6.85 135.14

1400

141.99

130.7	132.3	132.4	133.4	133.5	133.5	133.9	133.7	134.0	136.2	136.8
50	55	29	16	60	16	22	32	35	10	50

133.1  
135.84  
137.67

69  
21  
67  
Gr. Wall Wall

131.2	132.5	132.6	133.7	134.0	134.0	135.0	132.6	133.0	133.1	135.0	137.4
50	55	28	16	60	16	19	25	35	49	50	25

131.7	132.9	133.2	133.9	134.6	134.6	135.8	136.2	137.6	134.3	134.2	134.2
50	55	25	18	51	16	21	31	26	60	61	74

Edge Blm Blm  
Wash Wash Wash

132.3	133.3	133.8	135.0	135.3	136.4	137.2	139.8
50	55	18	50	17	22	35	0

Edge Dr RA 2+20.7

136.2	136.0	136.0	137.5	137.6	139.0	139.8	141.6
50	55	22	17	20	10	34	50

141.99



Van Huys Contd.

2+59 R 8' Conc. Dr. 35 x 11

2+50

2+33 R 8' Conc. Dr. 35.1 RT

2+15 R 9' Conc. Drive 35.1 RT

2+00

1+89

139.97  
K

128.85  
129.77  
11.12 10.20  
50 35.4

129.3 130.0 131.8 131.9 133.5 134.0 135.6  
10.1 10.0 8.2 8.1 5.1 5.0 4.7  
50 35 17 20 35 50

134.94 136.05  
50.15 35.1  
35.1 50

129.7 130.2 131.8 132.4 132.7 134.1 135.19 136.01  
10.12 9.8 8.8 7.5 7.2 5.9 4.7 3.8  
50 35 26 16 21 35.1 36

129.7 131.0 132.6 132.7 133.1 134.3 135.4 136.2  
10.12 9.8 7.4 7.3 6.9 5.7 4.6 3.8  
50 20 20 16 21 35 30

130.3 131.7 132.9 132.1 133.3 134.9 135.5 136.3  
9.7 8.1 7.1 6.9 6.3 5.1 4.4 3.7  
50 30 20 16 26 35 50

139.97  
K



Van Hays Cont'd.

BM

0.30 139.67 139.68

4+79.8 PL.

4+00

3+50

3+26 & 3' Conc. Walk 35.2' Lt.

3+10 & 8.5' Conc. Dr. 35.2' Lt.

3+00

2+83 & 8' Conc. Dr. 35.1' Rt.

139.97  
 $\frac{139.97}{1}$

(CK Starting BM)

121.9  
 $\frac{121.9}{50}$   
 18.1  
 17.1  
 16.1  
 15.1  
 14.1  
 13.1  
 12.1  
 11.1  
 10.1  
 9.1  
 8.1  
 7.1  
 6.1  
 5.1  
 4.1  
 3.1  
 2.1  
 1.1  
 0.1

124.7  
 $\frac{124.7}{50}$   
 14.7  
 13.7  
 12.7  
 11.7  
 10.7  
 9.7  
 8.7  
 7.7  
 6.7  
 5.7  
 4.7  
 3.7  
 2.7  
 1.7  
 0.7

126.5  
 $\frac{126.5}{50}$   
 16.5  
 15.5  
 14.5  
 13.5  
 12.5  
 11.5  
 10.5  
 9.5  
 8.5  
 7.5  
 6.5  
 5.5  
 4.5  
 3.5  
 2.5  
 1.5  
 0.5

127.84  
 $\frac{127.84}{50}$   
 17.84  
 16.84  
 15.84  
 14.84  
 13.84  
 12.84  
 11.84  
 10.84  
 9.84  
 8.84  
 7.84  
 6.84  
 5.84  
 4.84  
 3.84  
 2.84  
 1.84  
 0.84

127.83  
 $\frac{127.83}{50}$   
 17.83  
 16.83  
 15.83  
 14.83  
 13.83  
 12.83  
 11.83  
 10.83  
 9.83  
 8.83  
 7.83  
 6.83  
 5.83  
 4.83  
 3.83  
 2.83  
 1.83  
 0.83

127.7  
 $\frac{127.7}{50}$   
 17.7  
 16.7  
 15.7  
 14.7  
 13.7  
 12.7  
 11.7  
 10.7  
 9.7  
 8.7  
 7.7  
 6.7  
 5.7  
 4.7  
 3.7  
 2.7  
 1.7  
 0.7

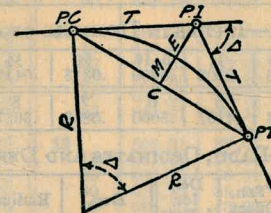
133.72  
 $\frac{133.72}{50}$   
 26.74  
 25.74  
 24.74  
 23.74  
 22.74  
 21.74  
 20.74  
 19.74  
 18.74  
 17.74  
 16.74  
 15.74  
 14.74  
 13.74  
 12.74  
 11.74  
 10.74  
 9.74  
 8.74  
 7.74  
 6.74  
 5.74  
 4.74  
 3.74  
 2.74  
 1.74  
 0.74

139.97



# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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## CURVE FORMULAS

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

$$\text{Tangent} = T = R \tan \frac{\Delta}{2} \quad (3) \quad \text{Length of Curve} = L = 100 \frac{\Delta}{D} \quad (4)$$

$$\text{Middle ordinate} = M = R \left(1 - \cos. \frac{\Delta}{2}\right) \quad (5) = R \text{vers } \frac{\Delta}{2} \quad (6)$$

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

$$\text{Long Chord} = C = 2 R \sin. \frac{\Delta}{2} \quad (10) \quad \Delta = \text{Central Angle}$$

## EXPLANATION AND USE OF TABLES

**Stations.**—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T.  $\Delta = 62^\circ 10'$   $D = 8^\circ 20'$ . From Table IV for  $1^\circ$  curve  $T = 3454.1$  and  $\div 8\frac{1}{3} = 414.49$  ft. From Table V correction = .36 or  $T = 414.85$  ft. P. C. = Sta. P. I. —  $T = 157 + 45.50$ . Also from (4)  $L = 746.00$  and P. T. = Sta. P. C. +  $L = 164 + 91.50$ .

**Offsets.**—Tangent offsets vary (approximately) directly with  $D$  and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft. = 7.27 ft. Distance =  $158 - \text{Sta. P. C.} = 54.50$ , hence offset =  $7.27 \left(\frac{54.50}{100}\right)^2 = 2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26) = 2.16$  ft.

**Deflections.**—Deflection angle =  $\frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For  $c$  ft. = (in minutes)  $.3 \times C \times D^\circ$  or = defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve =  $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$  or  $2^\circ 16.2'$ , or =  $2.50 \times 54.5 = 136.2'$  from Table III. For Sta. 159 deflection angle =  $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$ , etc.

**Externals.**—May be found in similar manner to tangents. Thus  $E$  for curve above is 115.37. For from Table IV for  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$  and from Table V correction = .10 or  $E = 115.37$  ft. Or suppose  $\Delta = 32^\circ$  and  $E$  is measured and found to be 42 ft. What is  $D$ ? From Table IV  $E = 230.9$  and  $\div 42 = 5.5$  or  $D = 5^\circ 30'$ .



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	1/4	3-16	1/2	5-16	3/8	1/2	5/8	3/4	7/8
.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.—RADI, 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					
1					8	716.78	1.746	6.976	2.40
10	5729.65	.218	.873	0.30	20	688.16	1.819	7.266	2.50
20	4911.15	.255	1.018	0.35	30	674.69	1.855	7.411	2.55
30	4297.28	.291	1.164	0.40	40	661.74	1.892	7.556	2.60
40	3819.83	.327	1.309	0.45					
50	3437.87	.364	1.454	0.50	9	637.28	1.965	7.846	2.70
	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
					40	593.42	2.110	8.426	2.90
2									
10	2864.93	.436	1.745	0.60	10	573.69	2.183	8.716	3.00
20	2644.58	.473	1.891	0.65	30	546.44	2.292	9.150	3.15
30	2455.70	.509	2.036	0.70					
40	2292.01	.545	2.181	0.75	11	521.67	2.402	9.585	3.30
50	2148.79	.582	2.327	0.80	30	499.06	2.511	10.02	3.45
	2022.41	.618	2.472	0.85	40	478.34	2.620	10.45	3.60
3					30	459.28	2.730	10.89	3.75
10	1910.08	.655	2.618	0.90	13	441.68	2.839	11.32	3.90
20	1809.57	.691	2.763	0.95	30	425.40	2.949	11.75	4.05
30	1719.12	.727	2.908	1.00	40	410.28	3.058	12.18	4.20
40	1637.28	.764	3.054	1.05	30	396.20	3.168	12.62	4.35
50	1562.88	.800	3.199	1.10					
	1494.95	.836	3.345	1.15	15	383.07	3.277	13.05	4.50
					30	370.78	3.387	13.49	4.65
4					30	359.27	3.496	13.92	4.80
10	1432.69	.873	3.490	1.20					
20	1375.40	.909	3.635	1.25	16	348.45	3.606	14.35	4.95
30	1322.53	.945	3.718	1.30	30	338.27	3.716	14.78	5.10
40	1273.57	.982	3.926	1.35	17	319.62	3.935	15.64	5.40
50	1228.11	1.018	4.071	1.40	18	302.94	4.155	16.51	5.70
	1185.78	1.055	4.217	1.45	19				
5					20	287.94	4.374	17.37	6.00
10	1146.28	1.091	4.362	1.50	21	274.37	4.594	18.22	6.30
20	1109.33	1.127	4.507	1.55	22	262.04	4.814	19.08	6.60
30	1074.68	1.164	4.653	1.60	23	250.79	5.035	19.94	6.90
40	1042.14	1.200	4.798	1.65	24	240.49	5.255	20.79	7.20
50	1011.51	1.237	4.943	1.70					
	982.64	1.273	5.088	1.75	25	231.01	5.476	21.64	7.50
6					26	222.27	5.697	22.50	7.80
10	955.37	1.309	5.234	1.80	27	214.18	5.918	23.35	8.10
20	929.57	1.346	5.379	1.85	28	206.68	6.139	24.19	8.40
30	905.13	1.382	5.524	1.90	29	199.70	6.360	25.04	8.70
40	881.95	1.418	5.669	1.95	30	193.18	6.583	25.88	9.00
	859.92	1.455	5.814	2.00					

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	18.32	10	967.38	81.09	10	1490.7	190.74
20	467.71	19.06	20	975.96	82.53	20	1499.6	192.99
30	476.10	19.75	30	984.53	83.97	30	1508.5	195.25
40	484.49	20.45	40	993.12	85.43	40	1517.4	197.53
50	492.88	21.16	50	1001.7	86.90	50	1526.3	199.82
10	501.28	21.89	20	1010.3	88.39	30	1535.3	202.12
10	509.68	22.62	10	1018.9	89.89	10	1544.2	204.44
20	518.08	23.38	20	1027.5	91.40	20	1553.1	206.77
30	526.48	24.14	30	1036.1	92.92	30	1562.1	209.12
40	534.89	24.91	40	1044.7	94.46	40	1571.0	211.48
50	543.29	25.70	50	1053.3	96.01	50	1580.0	213.86



TABLE VI.—CORRECTIONS FOR SUB-CHORDS AND LONG CHORDS.

FOR SUB-CHORDS ADD										Excess of arc per 100 ft.	LONG CHORDS				
D	10	20	30	40	50	60	70	80	90		D	200	300	400	500
4°	.00	.00	.01	.01	.01	.01	.01	.01	.00	.02	1	199.99	299.97	399.92	499.85
6°	.00	.01	.01	.02	.02	.02	.02	.01	.01	.05	2	199.97	299.88	399.70	499.39
8°	.01	.02	.02	.03	.03	.03	.03	.02	.01	.08	3	199.93	299.73	399.32	498.63
10°	.01	.02	.03	.04	.05	.05	.05	.04	.02	.13	4	199.88	299.51	398.78	497.57
12°	.02	.04	.05	.06	.07	.07	.07	.05	.03	.18	5	199.81	299.24	398.10	496.20
14°	.02	.05	.07	.08	.09	.10	.09	.07	.04	.25	6	199.73	298.90	397.26	494.53
16°	.03	.06	.09	.11	.12	.12	.12	.09	.05	.33	7	199.63	298.51	396.28	492.57
18°	.04	.08	.11	.14	.15	.16	.15	.12	.07	.41	8	199.51	298.05	395.14	490.31
20°	.05	.10	.14	.17	.19	.20	.18	.15	.09	.51	9	199.38	297.54	393.86	487.75
22°	.06	.12	.17	.21	.23	.24	.22	.18	.10	.62	10	199.24	296.96	392.42	484.90
24°	.07	.14	.20	.25	.28	.28	.26	.21	.12	.74	12	199.02	296.33	389.12	478.34
26°	.09	.17	.24	.29	.32	.33	.31	.25	.15	.86	14	198.81	295.63	385.22	470.65
28°	.10	.19	.27	.34	.37	.38	.36	.29	.17	1.00	16	198.55	294.85	380.76	461.86
30°	.11	.22	.31	.39	.43	.44	.41	.33	.19	1.15	18	197.64	290.21	375.74	452.02
32°	.13	.25	.36	.44	.49	.50	.47	.38	.22	1.31	20	196.96	287.94	370.17	441.15
34°	.15	.28	.40	.50	.55	.57	.53	.43	.25	1.48	22	196.32	285.44	364.06	429.30
36°	.17	.32	.45	.56	.62	.64	.59	.48	.28	1.66	24	195.63	282.71	357.43	416.53
38°	.18	.36	.51	.62	.70	.71	.66	.53	.31	1.86	26	194.87	279.76	350.30	402.89
40°	.21	.40	.56	.69	.77	.79	.73	.59	.35	2.06	28	194.06	276.59	342.69	388.43
42°	.23	.44	.62	.76	.85	.87	.81	.65	.38	2.28	30	193.18	273.20	334.61	373.20
44°	.25	.48	.68	.84	.94	.96	.89	.72	.42	2.50	32	192.25	269.61	326.08	357.28
46°	.27	.52	.75	.92	1.02	1.05	.98	.78	.46	2.74	34	191.26	265.81	317.12	340.73
48°	.30	.57	.81	1.00	1.12	1.14	1.06	.86	.50	2.99	36	190.21	261.80	307.77	323.61
50°	.32	.62	.89	1.09	1.21	1.24	1.15	.93	.55	3.24	38	189.10	257.60	298.03	305.99
52°	.35	.67	.96	1.18	1.31	1.35	1.25	1.01	.59	3.52	40	187.94	253.21	287.94	287.94
54°	.38	.73	1.04	1.28	1.42	1.46	1.35	1.09	.64	3.80	42	186.72	248.63	277.51	269.54
56°	.41	.78	1.12	1.38	1.53	1.57	1.46	1.17	.69	4.09	44	185.44	243.87	266.78	250.85
58°	.44	.84	1.20	1.48	1.65	1.69	1.57	1.26	.74	4.40	46	184.10	239.93	255.78	231.95
60°	.47	.91	1.29	1.59	1.76	1.81	1.68	1.35	.80	4.72	48	182.71	233.83	244.51	212.92

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

TABLE VII.—MIDDLE ORDINATES FOR RAILS IN FEET.

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

36.5  
35.7  
197  
769

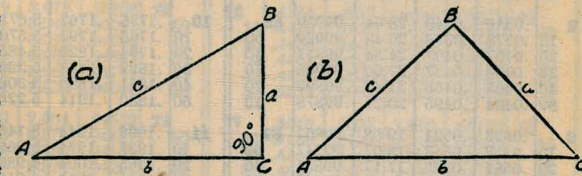
SLOPE REDUCTIONS.

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

See fig. (a).

TRIGONOMETRICAL FORMULAS.

- sin.  $A = \frac{a}{c}$
- cos.  $A = \frac{b}{c}$
- tan.  $A = \frac{a}{b}$
- cot.  $A = \frac{b}{a}$
- sec.  $A = \frac{c}{b}$
- cosec.  $A = \frac{c}{a}$



FORMULA FOR SOLVING TRIANGLES.

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

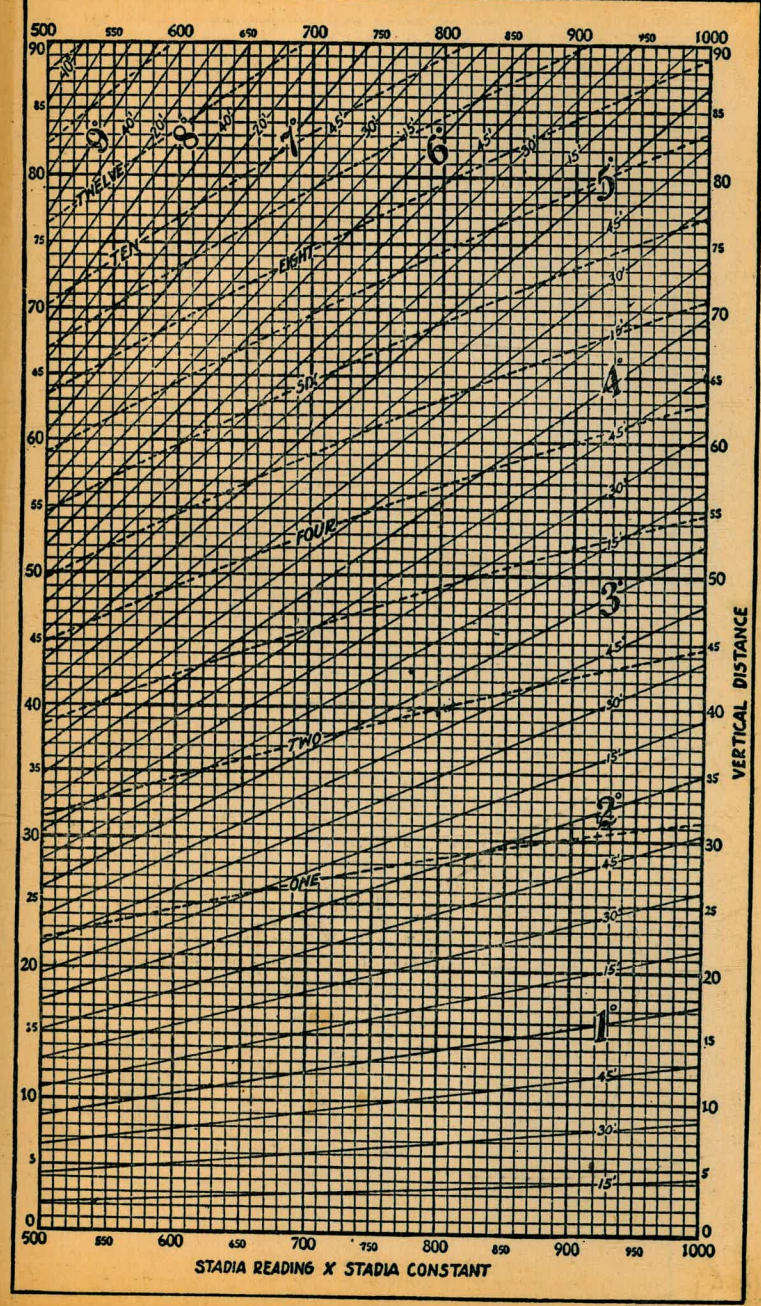
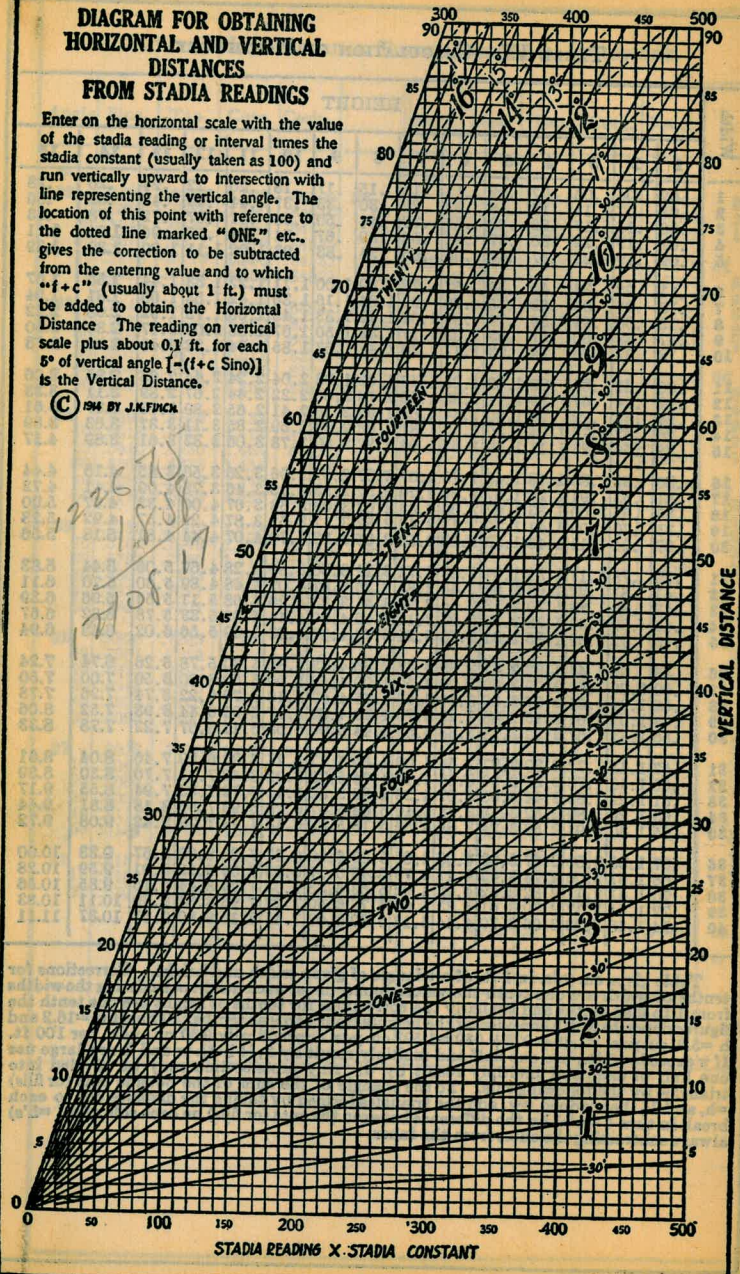


**DIAGRAM FOR OBTAINING  
HORIZONTAL AND VERTICAL  
DISTANCES  
FROM STADIA READINGS**

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

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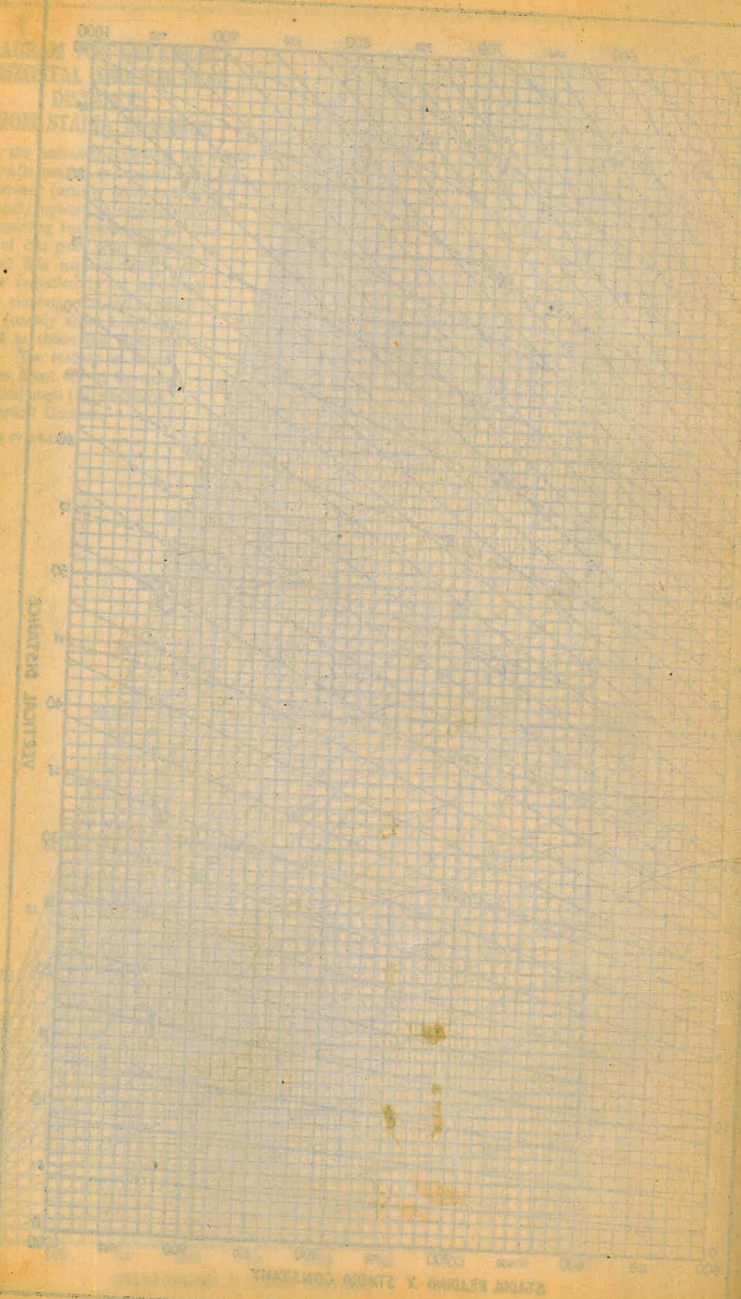
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DISTANCES FROM CENTER OF ROADWAY FOR  
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2  
For Single Track Embankment.

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

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

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