

95

Grades

G 95

TRANSIT-BOOK

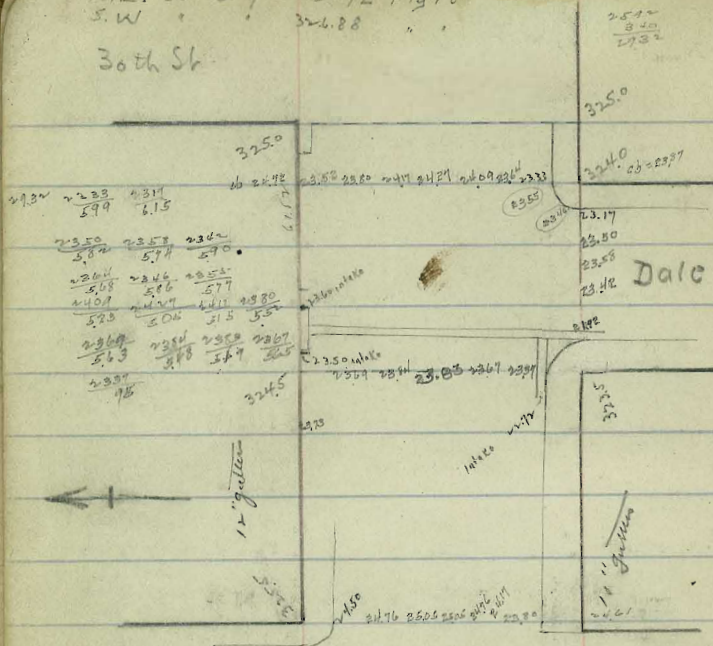
1309

MICROFILMED

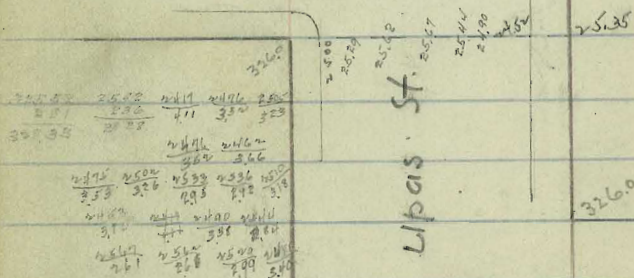
APR 7 1965

N.E. 30th & Upas 325.92 Pig rt.
S.W 326.88

30th St



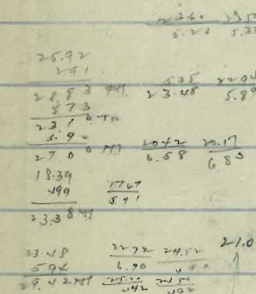
29th St



29th St

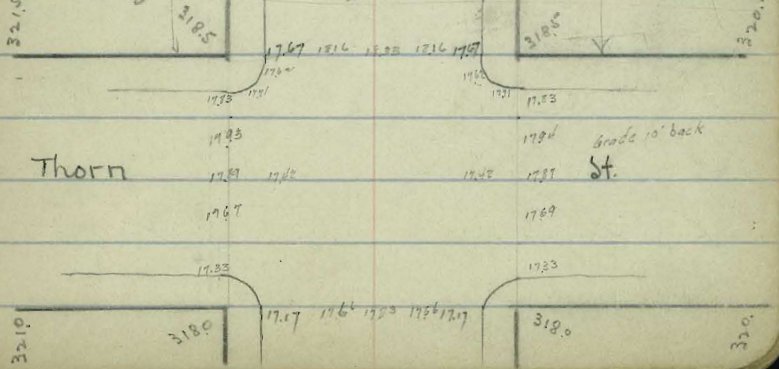
Upas

Photo-Top culvert tube 8"
below Top walk at out let - 3"
at intake



BM 318.39 Pig rt

Thorn



316.00
317.00
319.00

312.07	312.07	312.13	311.97	311.77	311.77	311.77	311.77	311.77	311.77
522		617	702	787	872	957	1042	1127	1212

Thorn

St

3210
3180
314.50
31306
31224
31205
31247

10' Gutters

Dale St

Spruce St.

8" Gutters

314.5

316.00
317.00
319.00

15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
417	417	417	417	417	417	417	417	417	417

Spruce St.

3155
1829
1989
317
1602
17.42
14.65

Alley PL = 1.33 14.12

Alley PL = 279.45 1386
3'So Alley 1359

311.17
536
317.17

1133
585
585

311.82 BM
658
318.40 M

1196
648
338

Redwood

312.0

311.82 BM
708
1870 MI

3

1200	1201	1202	1203
6.41	5.86	5.33	4.81
1283	1225	1266	1218
1201	1202	1203	1204
1205	1206	1207	1208
4.57	4.21	3.86	3.51

314.5
1803
2078 MI
14.57
14.57

1379
1334
279.45
1219

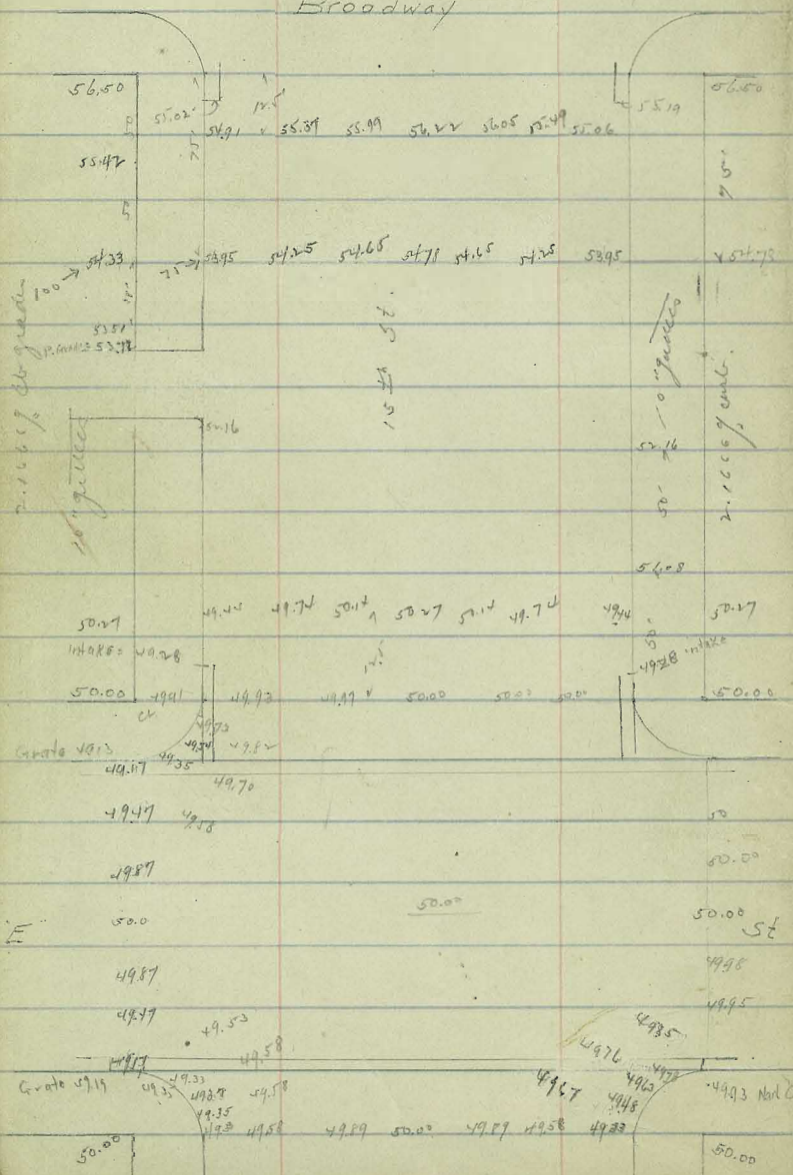
Dale St

St

312.0
311.82 SE
1996

15th St

Broadway



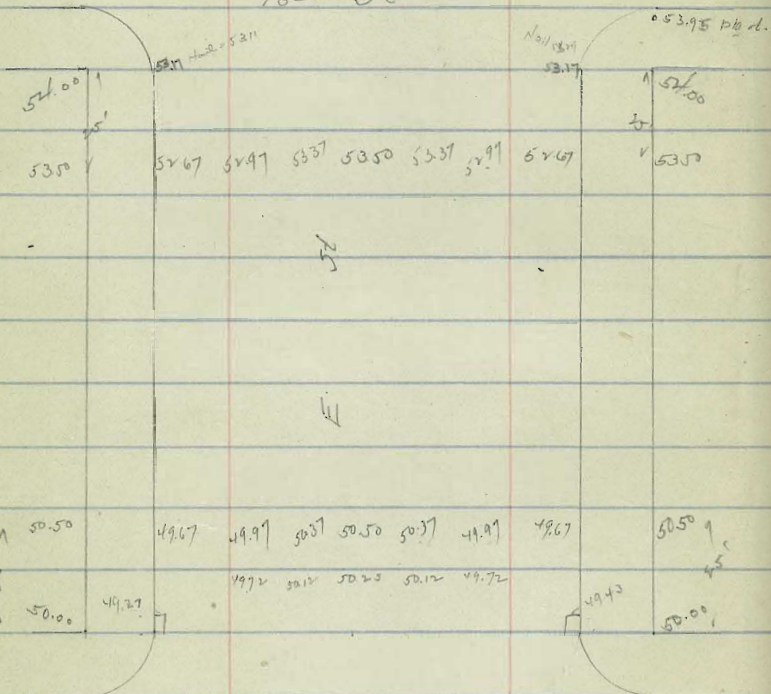
51.45 B.M. NW - 167 F. Plgr.

57.61 B.M. NW - 15th & Broadway - Plgr. Ct.

51.45	5.11						
791	53.72						
59.36	285	53.81	53.95	49.28	51.16		
49.93		3.07	3.01	7.68	420		
7.03							
56.9	53.25	55.42	54.23	55.51	55.73		
	2.94	4.20	6.27	6.11	5.90		
	2.23						
	2.26						
	2.66						
	5.62	5.88	5.48	5.35	6.3		
51.45	5.69						
8.84	49.93						
51.45	5.11	50.0	50.0	50.0	50.0	50.0	50.0
8.76	138	56.2	54.8	53.8	5.88	13.4	0.97
49.93		52.6	51.09	50.0	41.0	39.3	
47.87		5.26	4.54	5.62	55.02	15.19	
57.0	5.42						
57.0	5.42						
59.12	4.1	5.37	5.99	6.5	5.49		
49.93	50.0	49.24	50.0	54.5	51.5	51.78	
6.91	6.77	7.17	6.6	6.66	2.26	2.13	
56.9	55.49	56.05	56.22	55.99	55.37		
	1.43	0.86	0.69	0.92	1.54		
49.93	47.5	47.4	50.0	54.5	51.5	51.78	
53.0	49.19	49.35	49.3	49.91	4.23	4.27	4.18
	4.98	4.97	5.00	4.98	5.00	4.87	4.93
49.2	4.97	4.98	4.97	5.00	4.93	4.93	4.93
4.12	4.22	4.36	4.47	4.62	4.94	4.87	4.36
49.35	4.54	4.73	4.78	4.63	4.98	4.33	5.00
4.59	4.40	4.21	4.16	4.27	4.46	4.61	3.94
54.83							
59.16	5.21						

E St

16th St

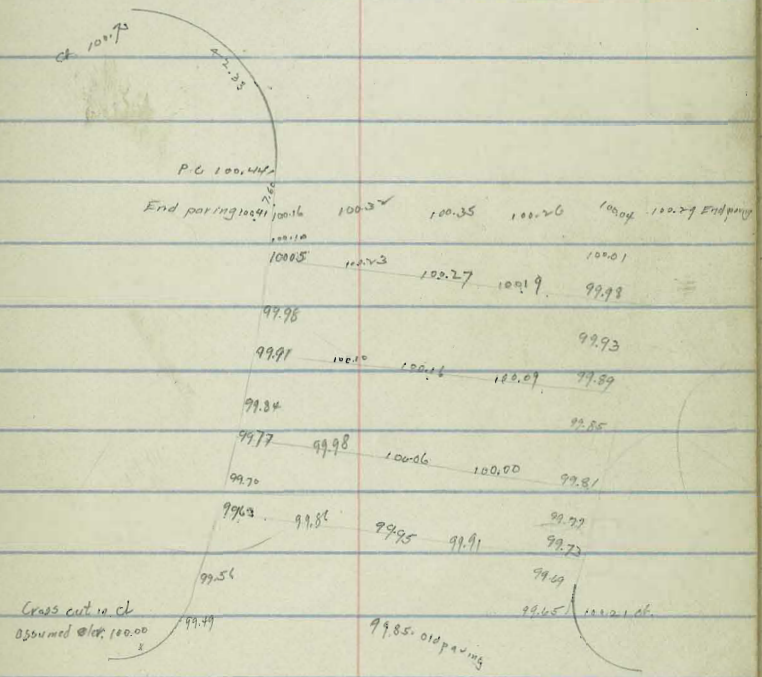


15th St

53.95 3.26 3.07 57.15
 3.17 53.26 53.15 53.11 57.15
 57.12 MI 53.26 53.15 53.11 57.15
 7.22 Nail Ch SE 157E 57.15
 49.90 TP 41.93
 55.80 MI 5.00 7.02 49.27 49.43
 50.97 49.93 7.69 7.53
 50.95 51.96 MI 53.95 1.68 50.29
 48.81 99 48.26 1.68
 55.83 MI 50.95 50.29
 5.67 52.67 2.97 3.37 4.50 49.97 50.37 50.57
 53.95 BM 3.55 3.25 2.85 2.72 6.23 5.85 5.72
 2.27 4.75 4.57 4.93 4.92 50.12 50.11
 56.22 MI 53.27 53.27 4.51 4.22 3.82 4.67
 5.95
 57.06 MI
 53.94 MI

Balboa Park - St paring - assumed elev.

100.00									
5.11	5.97	5.76	5.20	4.97	4.68	5.12			
105.41 M.L.	99.49	99.65	100.21	100.44	100.73	100.27			
	5.21	5.38	5.15	5.12					
100.00 bus									
5.95	9.56	9.62	9.77	9.63	9.70	9.77	9.84	9.91	9.98
105.95 M.L.	6.37	6.32	6.18	6.22	6.21	6.18	6.11	6.04	5.97
	100.05	100.10	100.16	100.04	100.01	99.88	99.88	99.88	99.88
	5.90	5.85	5.79	5.81	5.82	5.92	5.92	5.92	5.92
	9.92	9.89	9.85	9.81	9.70	9.77	9.73	9.69	
106.20 M.L. for S.H.	6.02	6.06	6.10	6.12	99.55	6.18	6.22	6.26	
	0.32	0.35	0.26	0.29	0.27	0.23	0.10	0.16	
	5.88	5.85	5.94	6.01	5.93	5.97	6.10	6.02	
100.96									
5	0.09	100.00	100.00	100.06	99.98	99.86	99.81	99.81	
106.19 M.L.	6.11	6.10	6.10	6.13	6.21	6.33	6.24	6.28	

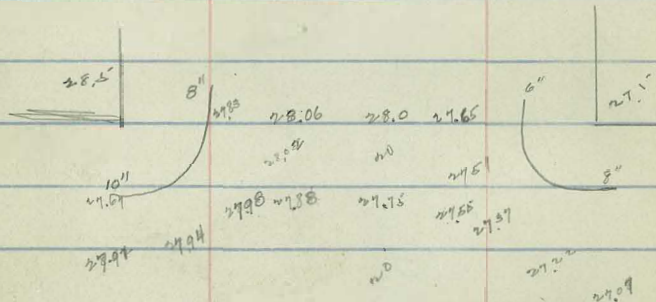


Feb. 19.

Garnet St. Paving

W. L. Cass St. to P. L. Line E. of
Pendleton St. (Pacific Beach)

$\frac{2735}{476}$	$\frac{2656}{582}$	$\frac{269}{20}$	$\frac{2709}{510}$	$\frac{2707}{582}$	$\frac{2702}{488}$	$\frac{2737}{473}$	$\frac{2751}{459}$	$\frac{2764}{405}$	$\frac{2613}{517}$
$\frac{3410}{}$	$\frac{275}{460}$	$\frac{28}{110}$	$\frac{2806}{404}$	$\frac{286}{360}$	$\frac{2805}{404}$	$\frac{2804}{402}$			
$\frac{2735}{471}$	$\frac{415}{279}$	$\frac{2807}{404}$	$\frac{2795}{406}$	$\frac{2792}{412}$	$\frac{2775}{431}$	$\frac{2762}{465}$	$\frac{275}{456}$	$\frac{2737}{419}$	$\frac{2727}{481}$
$\frac{3206}{}$									
	$\frac{2775}{431}$	$\frac{2755}{451}$	$\frac{2753}{418}$						



CASS

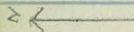
27.0 27.25 27.63 27.5 27.31 27.25 27.0

26.58

27.5'

26'

GARNET



Garnet St.

Berm N E S Berm
N.Edge N E S S.Edge

27.35 Spk SW Cass.
 $\frac{7.05}{35.40}$ M.

273.5W 2755
 $\frac{776}{35.1}$ $\frac{7.0}{27.6}$

	27.20	28.19	28.58	28.97	29.26	29.75	30.14	30.53	30.92
S.	$\frac{7.60}{-0.2}$	$\frac{7.21}{+0.1}$	$\frac{6.82}{+0.3}$	$\frac{6.43}{0.0}$	$\frac{6.04}{-0.2}$	$\frac{5.65}{-0.1}$	$\frac{5.26}{-0.2}$	$\frac{4.87}{-0.4}$	$\frac{4.48}{-0.6}$
N.	-0.6	+0.3	+0.2	+0.7	+1.1	+0.8	+0.8	+0.5	+0.6

400

31.12

$\frac{47.35}{5.24}$	$\frac{26.8}{5.79}$	$\frac{29.93}{1.56}$	$\frac{27.5}{5.09}$	$\frac{28.5}{4.09}$	$\frac{27.35}{5.76}$	$\frac{27.2}{5.61}$
$\frac{32.59}{}$	+0.1	N. +0.3	S. 0.0	$\frac{2.5}{10.57}$	$\frac{33.11}{}$	

350

30.73

$\frac{27.26}{5.24}$	$\frac{28.13}{4.59}$
$\frac{32.90}{}$	

300

30.34

250

29.95

200

29.56

150' E

29.17

100' E

28.78

50' E

28.39

30' E

28.23

E. L. Cass

27.8 27.9 28.00 27.9 27.8

Garnet St.

Berm N. \oplus S. Berm
N. Edge S. Edge

250' 35.95.

200 35.34.

150' E. 34.73.

100' E 34.12.

50' E 33.51.

E.L. Dawes St. 32.7 32.8 32.9 32.8 32.7

(80' wide)
 \oplus Dawes 32.2 ^{32.36} 32.3 32.40. ^{32.36}

W.L. of Dawes St.

500' E 3 31.76 31.90. 31.7

450 31.51.

400' E. of
E.L. of Cass. 31.12.

32.02 - BM. Hub 33' S. E. of Dawes - Hub on Dawes 497 E. of \oplus 10

35.40 HI 31.31 31.70 32.70
3.38 4.09 3.70 8.70
32.02 5.0 -0.3 -0.1 -0.25
No 4.08 4.10 4.25

9.28 35.11 KD 31.7 32.7
41.40 HI 10. 2.4 2.4
2. -0.2 -0.2
No +0.8 +1.0

32.02 32.36 31.85 31.65 31.6
41.40 HI 3.8 4.34 4.54 4.65

32.02 32.5
41.04 8.24

33.30
32.31 33.92 34.53 35.14 35.75
8.09 7.49 6.87 6.26 5.65
-0.25 0.0 +0.9 0.0 -0.1
+1.0 +1.1 +1.2 +1.2 +1.2
Sta. Nos. Lat. Dawes + Everts 5' higher East.

407.50

.0098
390

Garnet St.

Berm N E S Berm
N.Edge S.Edge

50' E. 40.55.

E.L. Everts St. 40.00 39.90

(30' wide)
E Everts. 39.50

W.L. of Everts St. 39.15

500' E. 39.00.

115' E 38.84

450 38.39.

400 37.78.

350 37.17.

300' E 36.56.

250' E. of E.L.
of Dawes St. 35.95.

40.35
40.55 Hub 25' No of E on Everts Ties on Everts are 4.97 East of d. 11

41.40	36.36	36.97	27.58	28.19	38.89
0.85	5.04	4.43	3.87	3.21	2.60
40.65	50	-0.3	-0.5	-0.6	-0.3
8.49	No	+1.0	+0.8	+0.6	+1.2
48.95					

stakes bet. Everts + Panvel are 4.97 too far East.

32.02
30.27
42.52
40.55

3.88
-1.61
3.64
-0.5
+1.1

40.9
36.4
2.5
38.9
2.1
39.6
1.63

40.5
39.0
7.6

Garnet St.

Berm N \approx S. Berm

N.Edge

S.Edge

W.L. Fanuel St.

500' 45.50.
45.45

450 44.95.

400 44.40.

350 43.85.

300 43.30.

250 42.75.

200 42.20.

150 41.65.

100'E 41.10.

50'E. of E.L.
Everts St. 40.55.

4845	3900	4025	4000	4105	4200	4255	4310	4365	4420	4475	4530
So	9.75	8.60	8.05	7.45	6.95	6.40	5.85	5.30	4.75	4.20	3.65
No	-0.15	+0.2	+0.4	+0.4	+0.7	+0.9	+0.6	+0.7	-0.2	-0.5	-0.85
	+12	+165	+1.5	+1.5	+1.35	+1.8	+1.4	+0.9	+0.75	+0.75	+0.45

states bet Everts Fanuel 499 road East.

Hand
493
2.60
-0.2
+1.1

4055
497
4058

4766 H.S.

4520
323
-0.6
+0.4

20 S. WOLKE

46
21

32
15

584.97
580

580
116

572
580
1132

595
500
580

584.97
580
4.97

584.97
580
5.97

584.97
580
6.97

199.7
499.3

579.4
579
5.67

574.32
585.07
579.3
6.37

550.57
521.77
579.3
42.47

47
92.47

574.17
579.3
18.17

594.17
579.3
14.87

Curve Hatch

54.0

53.0

Fresham
53.0
53.0
52.85
50.0 V
49.85
46.85
47.0
47.0

60' Tic 40' Tic
52.0 B.M. 51.86
52.35
49.0
49.35
46.0 46.36

Faniel
46.0
45.85
40.5
40.35
39.5
39.35

60' Tic 40' Tic
45.0
45.35
39.85
39.5
8 St.

Everts
39.5
39.35
33.7
33.55
32.5
32.7
28.5

500'
500'
32.85
32.1
32.5
31.5
31.1
500'

Dawson
32.5
32.7
28.5

8 St.
33.5
32.85
32.1
32.5
31.5
31.1
500'

Cass
27.5

8 St.
26.5

57950
500'
500'
500'

57950
500'
500'

Garnet St.

Berm N E S Berm
 N.Edge S.Edge

300' 49.40'

250' 48.92'

200' 48.44'

150' 47.95'

100' 47.47'

50' E. 46.98'

E.L. Fanuel St. 46.50' 46.50

(80' wide) 46.00 46.00
 E Fanuel St.

45.35 45.75 45.75

W.L. Fanuel St. 45.50'

45.17 Hub of Fanuel St. South 8.90 E of S of Fanuel
 44.33 " " 60' " " " " " " " " " " " "

9.00	16.30	46.78	47.27	47.75	48.24	48.72	
54.20	8	7.67	7.03	6.55	6.06	5.54	
	S ₀	-0.7	0.0	+0.5	+0.5		
	N ₀	+0.45	+0.5	+0.3	+0.2		

Stakes bet Fanuel

Grosham arc 8.90 to far
 east to hit stations
 except break which is ok

46.53	45.20	46.20
	8.3	8.23
	-0.6	+0.3
	+0.4	+0.3

45.41	45.25	45.15	45.96	45.96	46.20
7.59	8.45	8.63	7.94	8.04	7.80
33.50					

Garnet St.

Berm N ⊕ S Berm
N. Edge S. Edge

100' E. 56.5

50' E 55.0

E.L. Gresham St. 53.42 53.5 53.42

(80' wide)
⊕ Gresham St. 52.96 53.0 52.90

W.L. Gresham St.
500' 52.96 52.96 52.16
↑
52.91 52.41 52.21

450 51.71

400 50.92

350 50.13

310' E. ↓ 49.5 49.30

300' E. of E.L.
Fanuel St. 49.40

5277 Hub on Gresham 28 So of ⊕ ex Garnet 48.9 E of ⊕ ex Gresham

5277 15

5271 H1	1172	49.38	49.93	5072	51.51	52.76
S	+0.49	5.81	5.28	4.49	3.70	2.79
N	+0.25	+0.2	-0.15	-0.6	-0.8	-0.85
	+0.9	+0.8	+1.6	0.0	-0.3	+0.1

stakes bet Fanuel & Gresham are 8.8' too far East to fit stations except break which is OK

4521	4220	523
5275 H4	5.0	5.23
53.27	+0.8	-0.6
		-0.2

5310	49.30	52.21	52.42	52.16	52.92	52.96
	1.20	1.54	1.45	1.66	1.10	1.04

5277	5338	52.42	52.8
11.19	+1.50	11.90	10.31
65.14			

Garnet St.

Berm N \oplus S Berm
N.Edge. S.Edge

W.L. Haines St.

500'

68.17

68.50

8.17

67.85

67.85

450

67.0

400

65.5

350

64.0

300

62.5

250

61.0

200

59.5

150

58.0

100' E. of E.L.

Gresham St.

56.50

5194
1079
6273 M1
057

947
5326

5326	5114	5635	5787	5910	6097	6245	6297	6550	6702	6830
6216 TP	9.43	7.91	0.38	4.86	3.32	12.07	10.54	9.01	7.49	6.97
1083 S0	+0.25	+0.17	+0.05	+0.55	+1.0	+1.8	+2.4	+2.5	+2.0	+1.3
7299 No	+1.5	+1.0	+1.2	+1.65	+2.1	+2.0	+2.2	+3.4	+3.0	+2.0

68.44 CL NE cor.

5230	55.27	56.57	58.07	59.57	61.07	62.57	64.07	65.57	67.07	68.50
5230	11.72	10.45	9.22	7.92	5.72	10.92	9.42	7.92	6.42	4.92
	+0.1	-0.2	-0.1	+0.3	+1.2	8.12	+2.3	+2.4	+1.9	+1.2
	+1.2	+1.0	+1.0	+1.4	+1.9	+2.8	+2.1	+3.3	+2.0	+1.9

stakes in this blk are 5.9 foot or East to pit stations
cuts are for corrected positions ne.

63.14	65.3	67.5	69.4	71.1	72.9	74.5	76.2	77.8	79.4	81.0
1.31	6.7	11.8	17.1	22.4	27.7	33.0	38.3	43.6	48.9	54.2
63.83										
63.97										
71.00										

Ticc stakes

62.75	64.5	65.5	66.5	67.5	68.5
1.10	2.0	4.0	5.0	7.0	8.0
+0.5	+2.0	+2.0	+2.0	+2.0	+2.0
3 +0.9	+2.3	+2.2	+2.4	+2.2	

60.75	59.25	57.75	56.25
8.40	10.00	11.90	13.40
+1.6	+1.0	+0.6	+0.4
+1.5	+1.0	+0.8	+0.5

747
1.26
1.55
68.7
11.17
6.10
5.25

16

Garnet St.

Berm N. \oplus S Berm
N Edge S. Edge

68.44 Ct. NE Haines

350	64.15.	
300	64.70.	64.00
250	65.25.	
200	65.80.	
150	66.35.	
100' E	66.90.	
50' E	67.45.	67.05
E.L. Haines St.	68.00.	67.8
(80' wide)		67.67
\oplus Haines St.	68.25.	68.00
		68.21
W.L. Haines St.	68.50.	68.17

2.63	68.30	67.90	67.25	66.70	66.15	65.60	65.05	64.50	63.95
71.07	2.77	3.44	3.82	4.37	4.92	5.47	6.02	6.57	7.12
7.09	0.0	-0.3	-0.4	-0.3	+0.1	+0.5	+1.0	+0.2	-0.3
65.987P.	+0.6	+0.1	+0.7	+0.3	+1.0	+1.3	+1.5	+1.2	+1.0
437									
49.37									

72.00	68.17	68.01
1.03	3.99	

67.44	68.02	67.52	67.9	68.13	67.67	67.8	67.25	67.60
0.90	1.30	1.22	1.44	1.30	1.07	1.54	2.01	1.74
67.34								

Garnet St.

Berm N \oplus S. Berm
N.Edge S.Edge

61.15 on Tra tub 83' Sa. at d

7.09

18

200

65.96

	W	E
68.97K2	62.40	62.85
	6.77	5.85
So	-0.1	-0.1
No.	+0.9	+0.5
	62.20	62.30
	6.07	6.07
	+0.2	+0.1
	+0.3	-0.1
	63.17	64.03
	4.54	3.17
	0.0	+1.1
	0.0	+0.5

150

65.10

69.34	62.15	62.25	62.60	62.60	63.27	64.13	65
	7.19	7.04	6.74	7.13	7.08	6.22	6.5
			70.36				

100

64.23

50' E.

63.37

63.07

E.L. Ingraham

62.60

62.50

(100' wide)
 \oplus Ingraham

62.30

62.50

62.15

W.L. Ingraham)

500' E.

62.40

62.50

450 E

63.05

400' E.

63.60

350' E. of E.L.

Haines St.

64.15

Garnet St.

67.96 3rd SE Jewell.

Berm N. \pm S. Berm
N. Edge S. Edge

E.L. Jewell St.

67.75

6837	6830	6799	6746	6782	6819	6855
0.4	1.57	3.95	5.81	5.2	4.5	4.49
6793	+1.1	+1.0	+1.1	+1.0	+0.7	+0.2
5.11	10.5	14.8	10.9	10.7	11.2	10.5
73.01						
5.01						
6796						

\pm Jewell St.

67.8
68.00
68.25
68.40

W.L. Jewell St

500

68.40
68.45
68.75
68.85

70.36	65.96	66.9	67.10	67.56	67.92	67.49	65.45
2.31	4.84	3.12	3.16	2.79	2.43	2.06	1.90
67.96							

put in

68.50
68.50

67.96	65.40	65.21	67.3	67.9
2.05	2.51	2.70	3.11	3.21
70.01				

450

68.39

400

68.02

350

67.66

300

67.29

260' E

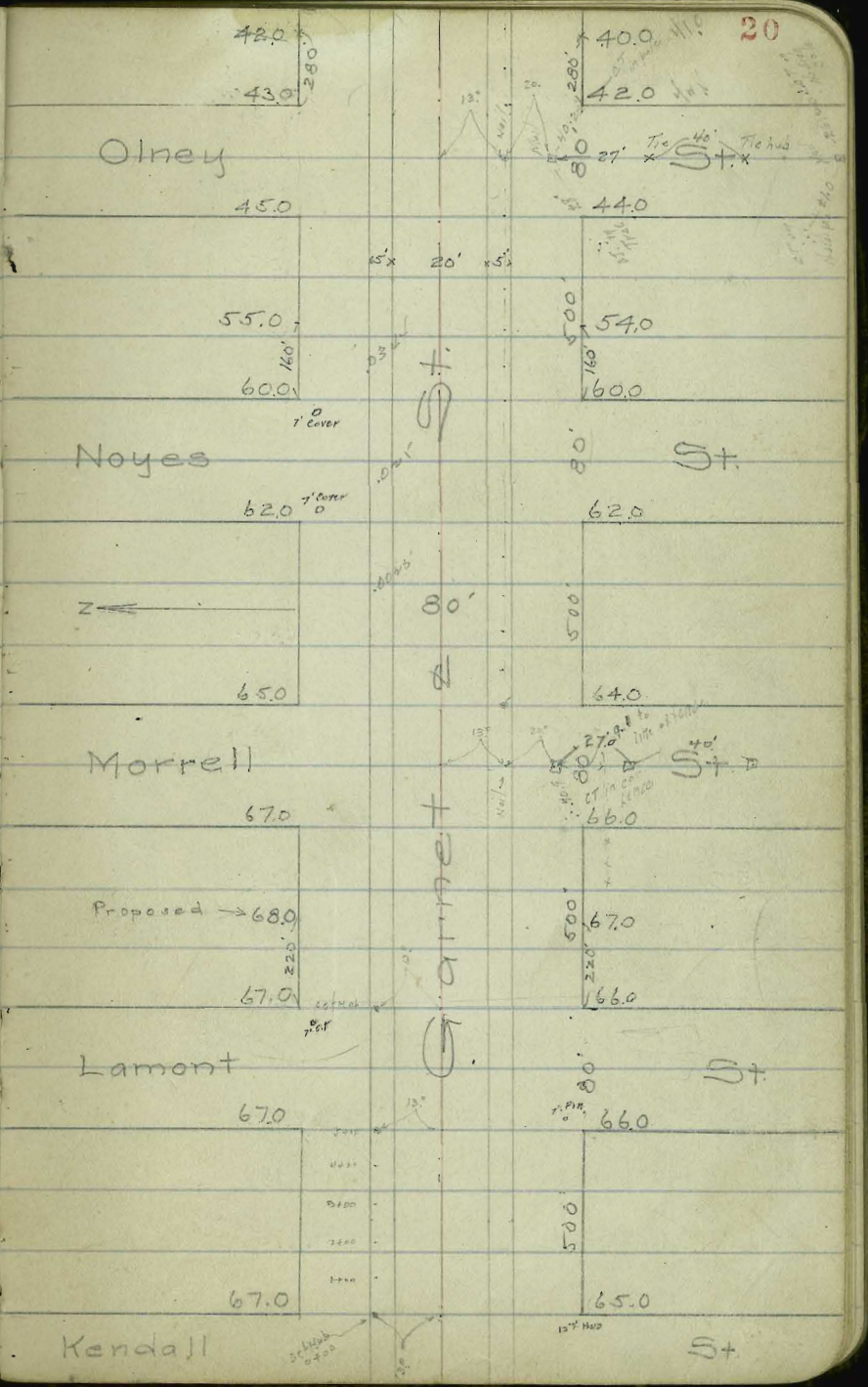
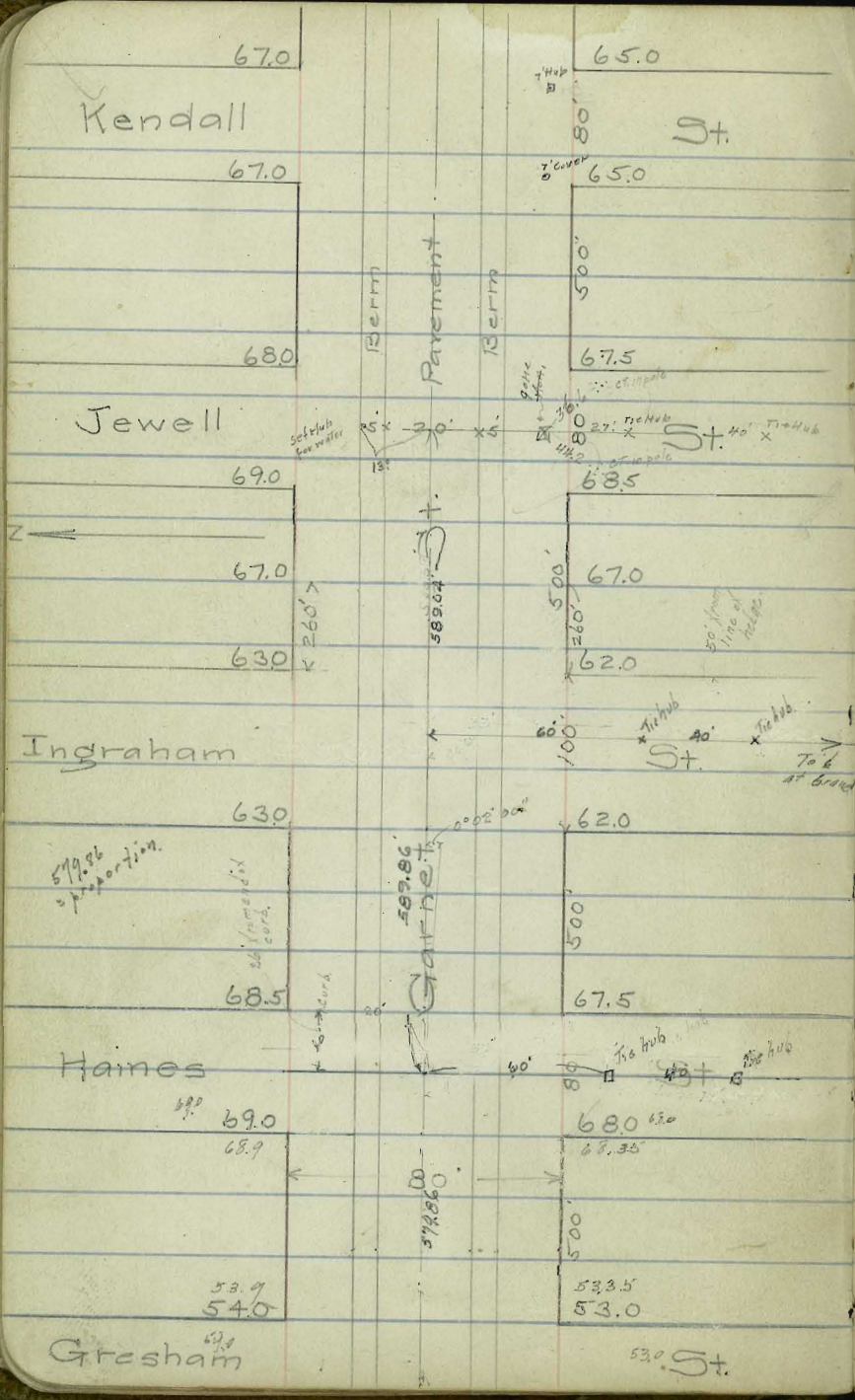
67.00

250'

66.83

200' E. of E.L.
Ingraham

65.96 65.96



Garnet St.

Berm N E S Berm
N. Edge

67.76 Spk SE Jewell

6796	6755	6738	6720	6703	6685	6668	6650	6633	6615
632	2.78	2.70	3.08	3.24	3.43	3.60	3.78	3.95	4.13
7028	+0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.6	-0.5
N	+0.1	+0.7	+0.5	+0.6	+0.5	+0.5	+0.9	+1.0	+0.8

7091	6763	6748	6730	6713	6695	6678	6660	6643	6625
	3.38	3.43	3.61	3.78	3.96	4.13	4.31	4.48	4.66

400 66.35.

350 66.53.

300 66.70.

250 66.88.

200 67.05.

150 67.23.

100 67.40.

50' E 67.58.

6763 6743 6763

E.L. Jewell St. 67.75.

Garnet St.

Berm N & S Berm
N. Edge S. Edge

69.54 Bolt in Hydrant N.E. Kendall.

250' 6625 6595

200' 6620 6590

150' 6615 6585

100' 6610 6580

50' E 6605 6585

E.L. Kendall St. 6600 6570

& Kendall St. 6600

W.L. Kendall St 65.8 65.7
500 6600 6590

450 6618

400' E. of E.L.
Jewell St. 66.35

	6600	6590	6580	Jewel	6605	6600
70.07 M	4.00	4.50	4.80	4.65	4.05	4.05
<u>4.34</u>	<u>4.07</u>	<u>4.27</u>	<u>4.37</u>	<u>4.62</u>	<u>4.07</u>	<u>3.6</u>
65.64 T.P.	-0.5	-0.5	-0.6	-0.7	-0.5	
70.17 M				-0.3		
<u>37.8</u>						
66.39 T.P.						
<u>43.0</u>						
72.69 M						
<u>66.25 T.P.</u>						
<u>1.43</u>						
67.68 M						
<u>1.27</u>						
66.47 T.P.						
<u>67.1</u>						
72.17 M						

	6595	6580	6570	6575	6580	6584	6590	6595
70.25 M	4.58	4.80	4.90	4.95	4.10	4.08	4.00	3.95
<u>1.72</u>	<u>4.30</u>	<u>4.48</u>	<u>4.20</u>	<u>4.15</u>				
68.54	-0.8	-0.9	-0.7	-0.4	-0.5	-0.6	-0.3	-0.1
<u>1.86</u>	<u>1.2</u>	<u>1.0</u>	<u>1.0</u>	<u>1.3</u>	<u>1.5</u>	<u>1.5</u>	<u>1.8</u>	<u>1.8</u>
67.70								

	6605	6590	6585	657
70.91	4.33	4.74	5.1	5.21
<u>4.33</u>				
65.8	4.59	4.53	4.55	4.95
<u>1.59</u>	<u>4.23</u>	<u>4.23</u>	<u>4.25</u>	<u>4.18</u>
70.18				

0.1 lower than shown

bet grades

Garnet St.

Berm N \pm S Berm
N. Edge S. Edge

100' E 66.95 66.55

50' E 66.73 66.33

Set grades of lower than shown

E.L. Lamont St. 66.20 66.50 66.20 66.10

\pm Lamont 66.26 66.50 66.23

W.L. Lamont St. 66.29 66.10

500' 66.30 66.50 66.30 66.20

450 66.45 66.15

400 66.40 66.10

350 66.35 66.05

300 66.30 66.00

250' E. of E.L.

Kendall St. 66.25

66.82 B.P. SW Lamont.

50.07 Lamont & Grand ~~65.82~~ S.W. Garnet & Lamont B.P.
 $\frac{11.79}{62.16 \text{ Ml}}$
 $\frac{1.18}{61.07}$
 $\frac{9.06}{70.07 \text{ Ml}}$

EL	W.L.		
66.30	66.50	66.20	66.10
3.77	3.77	3.87	3.97
+0.2	+0.4	-0.1	-0.5

69.90	66	66.05	66.10	66.15	66.20	66.10	66.33	66.55
4.08	2.80	3.85	3.50	3.75	2.90	2.24	2.01	2.77
66.32	-0.4	-0.3	-0.1	+0.2	-0.1	+0.1	-0.1	0.0
6.52	+1.7	+2.3	+2.2	+2.4	+0.3	+1.2	+1.0	+1.0
72.34								

70.13 66.20 66.00
 $\frac{66.00}{3.93}$

65.82	66.10	66.20	66.27	66.25	66.20	66.13
6.50	6.22	6.02	6.05	6.01	6.12	5.99
72.32						

65.82
 $\frac{50.1}{70.86}$

Set grades 0.1 lower than shown

Garnet St.

Berm N \oplus S Berm
N.Edge S.Edge

W.L. Morrell St

500'

66.50

66.10

1675

450

66.68

66.27

400

66.86

66.46

shown

350

67.04

66.64

than

300

67.21

66.81

lower

250

67.39

66.99

0.2

220

67.50

67.70

Proposed New Grade

Set Grades

200

67.71

67.01

150

67.18

66.98

100' E. of E.L.
Lamont St.

66.95

66.415pt in fence S.W. Morrell.

24

72.24	66.78	67.01	66.99	66.81	66.64	66.46	66.28	66.10
5.98	5.56	5.32	5.35	5.53	5.70	5.88	6.06	6.24
66.47	-0.1	0.0	-0.1	+0.1	+0.1	+0.1	0.0	-0.1
67.23	+0.9	+0.9	+0.9	+0.5	+0.5	+0.2	0.0	-0.3

67.23	66.88	67.08	66.75
5.94	5.44	5.14	6.07
66.38			

Garnet St.
Berm N \oplus S Berm
N.Edge S.Edge

350	6275.		6285
300	6300.	shallow	6310
250	6325.	thin	6335
200	6350.	lower	6360
150	6375.	is	6385
100	6400.	set	6410
50 E	6395	6425.	6395
E.L. Morrell St	6440	6450.	6440
\oplus Morrell St	6546	6550.	
		6612	6592
W.L. Morrell St	6592	66.50.	6672

25

45.5 SW Lined. 6430 6285 6330 6380
 7.87 M. 3.80 4.30 4.80 5.30
 6.87 -0.8 -0.7 0.9 -0.7

65.50 TP.
 26.
 68.10 M.

67.25 H.D.	6410	6325	6360	6385	6310	6285	6260	6235
S	315	340	365	390	415	440	465	490
N	+1.0	+1.1	+0.7	+0.7	+0.5	+0.7	+0.9	+0.6

~~6430~~ 6410 6580 6440 6592
 6.23 6.53 1.53

6641	6641	6440	6495	6370
6747	6747	304	350	397
6725	6747	6516		
		4.77		

Garnet St.
 Berm N & S, Berm
 N. Edge S. Edge

2200 on 6b NW Noyes

.034

6211.41	6225	6160	5980	5631
665	5.80	0.22	2.22	5.77
61.45	-0.3	-0.9	-1.4	-1.1
6213.41				

6225	6210	6185	6160	5960	5785	5616	5420
525	5.12	5.10	5.64	2.50	4.22	5.74	8.60
6200	+0.5	+0.6	+0.3	+0.2	+0.1	+0.1	+0.2
610	+0.6	+0.7	+0.8	+0.4	+0.2	+0.7	+1.0
6210							

6200	6270	6145	6195	6070
619	6.71	6.02	6.52	

6200	6078	5970	5798	5626	5490
619	1.44	1.44	1.21	5.92	1.99

160' 54.50 54.10

150 54.84 54.40

100 56.56 56.16

50 E 58.28 57.88

E.L. Noyes St. 60.00 59.60

& Noyes St. 61.00 60.60

W.L. Noyes St. 500 61.45 62.00 61.60

450 62.25 61.85

400 62.50 62.10

350' E. of E.L. Morrell St. 62.75

show
 that
 lower
 grades
 set

Garnet St.
 Berm N. \oplus S Berm
 N.Edge S.Edge

13.92 spk SE Olney.

27
 $\frac{70.10}{1.1760}$

E. L. Olney St. 42.50. $\frac{42.56}{42.30}$

62.13 4.1
 11.83
 $\frac{50.30}{50.70}$ T.P.
 50.70 M.

5.212
 7.01
 -1.1

50.18
 0.50
 -1.1

47.24
 3.50
 -1.2

44.30
 0.44
 -1.0

42.30
 8.44
 -0.6

\oplus Olney St. 43.50. $\frac{43.30}{42.92}$

62.10
 13.05
 $\frac{49.05}{49.20}$ T.P.
 49.20
 51.86

5.222
 9.18
 0.0
 +1.0

51.85
 10.65
 -0.2
 +0.8

49.95
 12.12
 0.0
 +0.5

48.51
 2.85
 -0.1
 +1.0

47.04
 4.34
 0.0
 +0.8

45.57
 5.79
 -0.1
 +0.9

44.10
 7.26
 +0.1
 +1.0

W. L. Olney St.
 500' 44.50. $\frac{44.10}{44.57}$

62.19
 13.05
 $\frac{49.05}{49.20}$ T.P.
 49.20
 51.86

5.222
 9.18
 0.0
 +1.0

51.85
 10.65
 -0.2
 +0.8

49.95
 12.12
 0.0
 +0.5

48.51
 2.85
 -0.1
 +1.0

47.04
 4.34
 0.0
 +0.8

45.57
 5.79
 -0.1
 +0.9

44.10
 7.26
 +0.1
 +1.0

450 45.97. $\frac{45.57}{45.97}$

62.19
 13.05
 $\frac{49.05}{49.20}$ T.P.
 49.20
 51.86

5.222
 9.18
 0.0
 +1.0

51.85
 10.65
 -0.2
 +0.8

49.95
 12.12
 0.0
 +0.5

48.51
 2.85
 -0.1
 +1.0

47.04
 4.34
 0.0
 +0.8

45.57
 5.79
 -0.1
 +0.9

44.10
 7.26
 +0.1
 +1.0

400 47.44. $\frac{47.04}{47.44}$

350 48.91. $\frac{48.51}{48.91}$

300 50.38. $\frac{49.95}{50.38}$

250 51.85. $\frac{51.45}{51.85}$

200 53.32. $\frac{52.92}{53.32}$

160' E. of E. L.
 Noyes St. 54.50. $\frac{54.10}{54.50}$

Grades 0.2 lower than stam

Garnet St.
Berm N. & S. Berm
N. Edge S. Edge

1992 spk SE Olney

28

400	38.27	38.07
350	39.41	39.21
310	40.32	
300	40.55	40.35
280	41.00	40.77 40.80
250	41.16	40.96
200	41.43	41.23
150	41.70	41.50
100	41.96	41.76
50 E	42.23	42.13 42.03
E.L. Olney St.	42.50	42.30

5074 M	4176	4123	4025	3807						
1000	898	792	280	508						
4070 T.P.	-1.1	-1.3	-1.2	-1.3						
241										
43.15 M.										
51.36	42.30	42.02	41.76	41.50	41.23	40.96	40.80	40.54	39.21	38.07
9.25	9.06	9.33	3.83	4.07	4.36	4.63	4.79	5.24	6.38	7.20
4208	3 +0.1	0.0	-0.2	-0.5	-0.6	-0.6	-0.7	-0.8	-0.5	-0.8
351	N +0.6	+0.8	+0.9	+1.0	+1.0	+1.2	+1.2	+1.1	+1.2	+1.5
45.57										
47.60	47.12	47.86	47.50	47.60	47.03	47.06	40.77	40.22	39.21	38.07
	5.77	5.94	6.00	5.75	5.99	3.26	3.55	4.10	5.01	6.15

Garnet St.
Berm N. e S. Berm
N. Edge S. Edge

34.17 Mor SE of Pendleton

07.9
-08.7

29

250' 27 70 27.50

42.5141 3580 2480
811 7.35 7.35
23.54 TP -0.7 0.

200 29.16 28.96

4559 3624 3580 2480 23.31 3188 3047 2826 2750
1142 8.65 9.74 308 4.54 6.00 7.26 8.92 10.88
34.17 5 -0.5 -0.2 -0.1 40.8. +1.1 +0.5 -0.6 -0.4
37.1 N +1.2 +1.2 +1.3 +2.7 -0.7 +1.2 -0.7 -0.7
37.8

150 30 62 30.42

4424 27.04 2590 2555 2540 2545 2474 2344 2195
7.28 2.42 2.11 2.94 9.84 9.58 10.88 12.34
31.88 20.52 29.06 27.60
24.98 2.10 3.02 5.38
34.17 41.74
636 3.28
405.3 45.54
5.48 41.74
3.78

100'E 32 08 31.88

45.97 MP S end Rat 2nd Rat 50'E 100'E 150E 200E 250E 275E 290E
S 390 297 332 371 4144 4168 40.72 40.54
42.27 42.26 42.65 42.26 4.10 4.46 4.82 5.00
46.20 42.80 42.14 41.79 3.92 4.07 4.13 5.74
40.107 40.60 40.57 40.47 10.18 10.39 10.18 10.74

50'E 33 54 33.31

N end Rat S end Rat 50'E 100E 150E 175E 225E
N 212 247 248 275 292 341 356
43.85 43.50 43.44 43.22 43.05 42.54 42.41
43.25 42.85 42.57 42.39 42.21 42.12 41.94
40.60 40.75 40.92 40.83 40.84 40.44 40.47

E.L. Pendleton St. 34.74 35.00 34.70

275'E 425'E 450 500E W end Rat N end Rat
389 681 7.13 8.82 8.86
42.24 34.16 38.84 37.15 37.61
41.77 38.46 37.88 34.75 37.00
40.31 40.70 40.95 40.40 40.61

E Pendleton 35.50

150.8 BK
41.75

W.L. Pendleton St. 35.55 35.95 35.40

500 36.00 35.90 35.90

450 37.14 37.04 36.84

400'E of E.L. Olney St. 38.27

50' in depth and 100' in
11.60
Berm N. e S

Garnet St.
Berm N. \oplus S. Berm
N. Edge S. Edge

2518 56k pole No. 5750 at 174 20.19 E.C.

297.45 1806.30
73
60.
430.45 1746.30
6000

430.49
73
357.49

1746.30
1720.19
26.11

30

15400

17.38

27.58	26.11	25.13	24.05	22.84	22.07	21.59	20.98	20.45	21.45	22.21
12.90	11.77	11.6	11.29	10.8	10.4	10.1	9.8	9.5	9.2	8.9
26.11	-1.6	25.24	-0.9	-1.8	2.24	0.77	1.36	2.86	3.84	2.09
	-0.6	2.25	2.02	2.02	2.15	2.15	1.55	1.82	2.02	2.09
		2.82	4.32	5.06	3.56	4.29	2.79	6.52	5.02	
		-0.5	+0.7	+1.1	-1.0	-2.8	+1.4	+1.1	-4.9	

15447.93 PC

18.22 18.27 18.77 19.27 19.52

Tic 400
x 37.16
Tic 400
x 22.96
10⁰⁰
P.C.

18.82 19.04 20.32

stakes set 10' from Berm on Stations

16400

19.55 19.80 20.30 21.04

1st from E.C 1° 39' 09" short 18.45 Long 21.63

20.28 20.53 21.78

2nd 3° 41' 56" 23.21 26.78
2518 2045 2175
1000 3000 5000

16410

21.02 21.27 21.77 22.52

7° 47' 30"
9° 50' 17"
11° 53' 04"
14° 06' 25.13 28.99

21.46 21.70 23.25

A 28° 12'

17400

22.18 22.43 23.23 23.98

R = 350

2518
427
29.53
26.11
33.4

17+20.19 EC

23.07 23.32 23.82 24.32 24.57

24.18 26.21 27.7
25.28 Tic 30.95 Tic

E.L. Quincy

17+46.30

24.05 24.22 24.58 24.89 25.04

2518 2402 2302 2432 2459
201 200 200 275 233
21.77
24.22 24.32 22.13 24.21 24.53 14.50 14.07 15.27
30.5 3.93 4.34 5.04 6.00 6.14 7.17 8.20 9.00
90⁰⁰
59-51-30"

Ctr. Quincy

17+76.30

25.45

19.27
11.7
30.04
30.95
25.28
15.
71.23

18+06.30 =

297.45 = EL Pac Beach 26.11 26.21 26.31 26.41 26.11

250' E. of E.L.
Pendleton St.

27.70

Grand Ave.

11+ 87.47 = EL Lee St	12.09	
1w+00	1w.08	
12+ 17.47 = Ctr Lee St	12.07	
	1w.06	
12+ 47.47 = Y.L. Lee St	12.05	1185
1w50	1w.05	
1w x 96	1w.03	
13+00	12.02	1182
	12.30	
13+16	<u>12.00</u>	1180
13+25	12.26	
13+46		
13+50	12.99	
13+56	<u>13.11</u>	
14+00	14.45	
14+50	15.91	
14+75	1054 16.64 1654	
15+00	1713 17.38 1747	

31

1728 1422 0293	1172 1284	112 57 127 165 72	10074 1260 40293 432	16 1627 1627 1730 270 2190	117 1237 424 574
1758	0272 1462 154	117 197 165 72	122 1150 1285 1688	73 1730 270 2190	1688 427 427 1.9
2531	1718 8.16 -0.6 -2.5	1521 7.63 +2.8 -2.5	1424 11.09 +7.5 -2.0	1222 3.36 +2.0 -1.4	1150 4.33 +2.7 -1.3
			1325 1325 1615		1285 4.30 +2.7 -0.8
			2044		1688 4.27 +2.9 -1.9
	1713 3.81	1747 2.97	1654 3.80	1531 4.63	1438 6.04
	1w.05 4.35 16.80 6.50 10.00	1w.45 11.78 2.23 9.55	9.50 7.50 1.00	1.00 1.00	

Grand Ave

1000
510

1618 N.D.	1289	1291	1292	1295	1297	1299	1300	12	1201
1000	324	327	325	322	321	319	318	418	417
628	-1.0	-1.2	-1.9	-2.2	-2.1	-2.2	-2.2	-2.0	-1.9
1637	1189	1191	1188	1185	1187	1199			
514	429	427	425	423	421	419	1301		
1058	No. -2.0	-2.0	2.4	-2.5	-2.1	-2.2	3.17		
485							-2.0		
1743									

1205	1208	1212	1216	1219	1222	1225	1228	1232	1235
538	534	531	529	524	521	518	517	511	508
50	-1.5	-1.1	-1.2	-1.3	-1.4	-1.4	-1.5	-1.3	-1.6
No.	1305	1308	1312	1316	1319	1322	1325	1328	1335
	438	434	431	429	424	421	418	417	411
	-2.3	-2.9	-2.9	-2.6	-2.4	-2.2	-2.3	-1.8	-2.4

1206	1212	1208	1215	1217	1218	1212	1219	1221	1214
598	511	516	509	507	507	512	508	505	510

1216	1219	1220	1217	1218	1225	1226	1221	1222	1225
528	501	500	507	506	497	496	503	509	492

1225	1226	1231	1228	1225	1234	1228	1225	1228	1231
484	506	553	456	458	505	540	476	476	473

1245	1217	1215	1218	1251	1318
534	472	469	530	533	466

3+50

1318	1285	1251
	1270	
1316	1282	1248

4+00

1312	1279	1245
	1266	
1308	1275	1244

4+50

N 1305	1272	1238
	1263	
N 1301	1269	1236

5+00

1295	1266	1231
	1259	
1295	1262	1228

5+50

1294	1259	1225
	1256	
1288	1255	1221

Break 6+00

1252

6+00.21

P.C.

1301

1285	1286	1201
1280	1284	1200
1299	1283	1199

6+50

1281	1214	1199
------	------	------

7+00

1295

1279	1245	1214	1195
1293	1277	1210	1193

7+50

1291

1275	1241	1203	1191
1299	1223	1206	1189

8+00

1237

Grand Ave

9.51 B.M. to Hub at P.C.

1743
7.51

12.09	12.43	17.43
5.04	3.00	4.26
So. +2.9	-2.7	14.68
13.34	13.43	2.25
4.04	4.00	14.90
-3.5	-3.3	

17.84	4	13.22	12.55
8.51		4.62	5.74
7.13			

9.51	12.70	13.05	12.90	12.80	12.01
7.74	4.60	4.24	4.50	4.41	
17.30					

1+24 12.86

1+62 12.83

2+02 12.80

2+27 12.79
2+28.57 = End of N Grd. 13.01

2+35.8 = N. end Bridge 13.00
Break. 12.78
13.00

2+45.57 = End of So grd 12.77 12.89 12.59

2+56 12.77
12.76
12.76

2+76.03 = P.C. 12.75

2+88.59 = stake 13.08 12.93 12.78

3+00 12.73

3+18.59 = New P.C. 12.89 12.89 12.56

3+50 12.85
12.70

→

25 35

20 + 69.1
30.9
31.1

Grand Ave

20 + 00 13.13
13 10 1289

20 + 19.08 = New Apt 1932

20 + 50 13.10
13.06 1290

21 + 00 13.07
13.03 1289

21 + 50 13.03
12.99 1288

0 + 00 = 22 + 05.97 13.00
12.95 ✓ 1290

0 + 50 12.80
12.85
12.92

0 + 68 12.90
12.94
13.00

0 + 77.5 = End Ho Crd

0 + 79 12.89

0 + 88 = End Br 12.93

1 + 00 12.88

1 + 24 12.86

1286	1286	1283	1284	1290	1283
1.94	2.10	2.07	2.53	2.00	1.97
-3.1	-3.1	-2.0	-2.5	-2.0	-2.3
-5.7	-2.8	-4.0	-3.6	-3.4	-3.4

17.30	1290	1283	1287	1298
4.0	4.37	4.33	4.31	

1299
1280
1284

29.70 x Tie Hub 32.76 x Tie Hub

X

Grand Ave.

16+00	13 40 13 38	1300
16+50	13 37 13 34	1317
17+00	13 34 13 30	1314
17+50	13 31 13 27	1311
18+00	13 27 13 24	1307
18+50	13 24 13 21	1304
18+61.44 = $\frac{1}{2}$ Bond st.	13 20	
18+91.44 = $\frac{1}{2}$ Bond st.	13 18	
19+00	13 20	1300
19+21.44 = $\frac{1}{2}$ Bond st	13 15	
19+50	13 17 13 13	1297
20+00	13 14 13 13 13 10	

$\frac{430}{1058}$ SW. curb Bond

1480	12 27	13 00	10 58	13 04	13 07	13 11	13 14	13 17	13 20
	1 13	1 30	2 07	2 21	2 27	2 34	2 41	2 48	2 55
	30 = 1.2	- 3.0	15.85	- 2.4	- 2.4	- 2.1	- 1.7	- 1.3	- 1.9
	No = 3.2	- 2.1		- 2.6	- 3.5	- 3.7	- 2.9	- 2.5	- 2.6
1784	13 05	12 07	12 10	13 14	12 17	12 21	12 24	12 27	12 30
	4 79	4 27	4 20	4 20	4 57	4 53	4 50	4 47	4 50

Grand Ave.

13+00	16.59	16.29
13+50	15.48	15.22
13+64 = ctr of track on S.	15.17	
13+82	14.77	
13+90	14.60	
14+00	14.38	14.18
14+21 = ctr of Track on N	13.92	
14+40	13.91 13.50	13.24
14+50	13.49	13.29
14+89.70 = APT. $0^{\circ} 03' 20''$ R.	13.46	13.28
15+50	13.44 13.42	13.24
16+00	13.40 13.38	

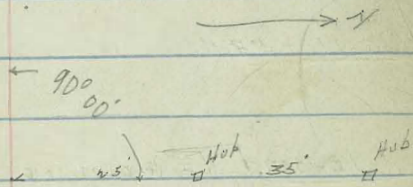
11.90 No 25' Hub at D

37

15.85	13.22	12.25	11.90	13.29	14.15	15.29	16.39
	-2.1	-1.7	23.00	9.71	8.20	7.42	6.61
	-2.1	-1.7		-0.6	-1.0	-0.7	-1.5
				+0.4	+0.4	-0.1	0.0

22.15	15.23	14.50	13.87	12.37
	6.74	9.63	8.21	8.79

17.26	13.34	13.26
	4.30	4.46



$\frac{107.0}{100} = 1.07$
 $\frac{82.0}{100} = 0.82$
 $\frac{35.2}{100} = 0.352$
 $\frac{26.7}{100} = 0.267$

Balboa Ave. 0.88
0.17

0.17
 1.07
 0.82
 0.352
 0.267

10+00	22.92 22.88	20.89
10+50	22.51 21.82	20.31
10+87	20.72	
10+90	20.65	
11+00	21.30 20.04	21.10
11+46.3		
11+50	20.09	19.89
11+95.7 E.L. Rose Con. Road.	18.98 ✓	19.99
12+35.7 W.L. Rose Con. Road	18.00	17.8
Break		
12+50	17.69	17.59
Nick-12+24.8 } $\Delta 10\frac{1}{2}$ R		
Bob-12+62.45 = Pueblo Line	17.43	17.23
12+35		
13+00	16.59	

23.00	17.03	17.6	18.77	19.89	21.10	22.31	23.52
0.71	5.77	5.2	4.23	3.11	1.90	1.59	1.33
22.29	+6.8	0.8	-0.5	+1.0	+1.2	+1.5	+1.7
12.51	+1.7	+0.4	-0.5	+0.3	+1.2	+1.7	+1.6
31.90							
22.51	22.51	21.00	19.99				
	5.77	6.74	7.65				
19.99	21.00	18.77	17.03	17.33	16.44		
22.15	22.15	3.28	4.22	4.82	5.66		

TIC
 x 56' 21' TIC Tech in Cont. Return from PL. 01/13/44

Balboa Ave.

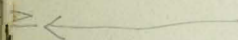
6+50	32.91 31.31	3001
7+00	31.00 28.70	3050
7+50	29.99 28.89	3154
7+75.41	△ 2'02	
7+86.1	E. Pasadena St. 28.02	
7+97.1	W. Pasadena St. 27.80	
8+00	28.59	3197
8+08.1	W.L. Pasadena St. 27.49	✓
8+50	27.35 26.46	
9+00	26.14 25.25	
9+50	24.93 24.04	
10+00	23.94 22.85	

34.28 No Tie at D

21.90	2498	2554	2715	2837	2959	3080	3201
	1017	896	775	653	531	410	289
	+1.6	+1.7	+1.6	+1.3	+0.7	+1.0	+0.2
	+1.7	+0.9	+1.9	+1.4	+1.1	+0.1	-0.1

21.43	3090	2969	2847	2725
	753	0.13	8.74	9.85
			9.96	11.18
	2725	2604	2482	2360
	39	16	28	30
	27.64			

x 59' x 25'
10'00



1926

Balboa Ave.

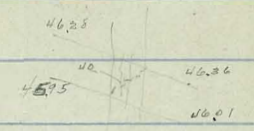
48.52 spt on W.L. ROW,

46.01	44.16	45.38	46.59	47.8	48
	4.15	3.23	2.02	0.81	
	-2.0	-1.9	-1.8	-1.4	
	-0.9	-0.8	-0.5	-0.7	

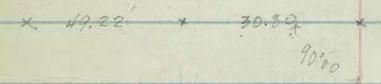
46.54	47.90	46.89	46.59
50.49	2.67	8.80	3.90

48.52	48	47.72	47.14	47.24	46.93	46.25
49.39	1.57	1.67	2.05	2.17	2.61	3.14

45.48	44.76	43.05
3.91	5.13	6.34



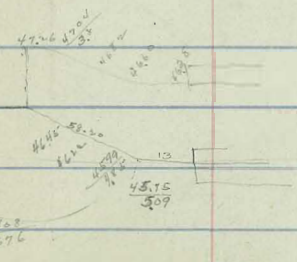
8+37.24 ~~SL Balboa & Row~~ 45.90



0+00 W.L. ROW = PRC on 50 48.00
 HPP 47.08
 1/2 stake 47.22

48.52 46.33 47.20
 50.84 46.28 end paving 60.00 = bottom at stringers
 46.00

0+50 P.C. on 47.14
 46.44
 45.85
 46.93
 46.85

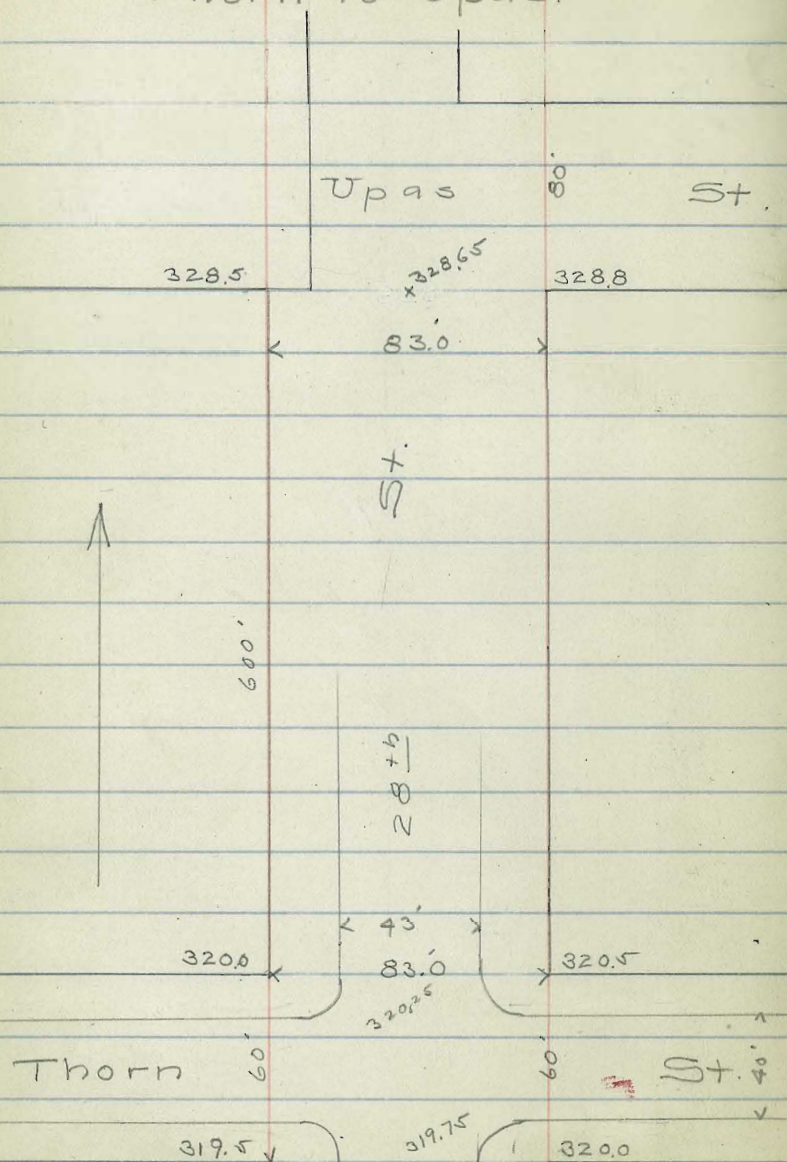


1+00 45.58
 44.64

1+50 44.96
 43.43

2+00 43.15
 42.22

28th Street
Thorn to Upas.



See Rungec
for Grades

28th St. Grading
Thorn to Upas.

44

S. h. Upas St.

25' 50.

50' 50.

75' 50.

100' 50.

125' 50.

150' "

175' "

200' "

225' "

has grades

R.

N.

28th St. Grading
Thorn to Upas.

45

250' S. of Upas

275' S.

300' S

325' S.

350' S.

375' S.

400' S.

425' S.

450' S.

475' S.

28th St. Grading
(Thorn to Upas.)

46

500' S. of S.L.
Upas St.

525' S.

550' S.

575' S.

N.L. of Thorn St.
600' S.

No. Curb

No. Quarter

☉ Thorn

So. Quarter

So. Curb

S.L. Thorn

TIDE STREET



	S.	S. curb and gutter	1/4	±	1/4	n. curb no gutter	N.
8+50	197	1.77 1.05	155	1.77	169	1.66	167
8+00	197	1.67 1.00	150	1.67	162	1.61	157
7+50	186	1.61 0.94	144	1.61	158	1.55	157
7+00	181	1.56 0.89	139	1.56	153	1.50	146
6+50	175	1.50 0.83	133	1.50	147	1.44	140
6+00	169	1.44 0.77	127	1.44	141	1.38	134
5+50	164	1.39 0.72	122	1.39	136	1.33	129
5+00	158	1.33 0.66	116	1.33	130	1.27	123
4+50	153	1.28 0.61	111	1.28	125	1.22	118
4+00	157	1.27 0.55	105	1.27	119	1.16	112
3+50	147	1.17 0.50	100	1.17	114	1.11	107
3+00	136	1.11 0.44	094	1.11	108	1.05	101
2+50	131	1.06 0.39	089	1.06	103	1.00	096
2+00	125	1.00 0.33	083	1.00	097	094	090
1+50	136	1.11 0.44	094	1.12	109	1.06	102
1+00	146	1.21 0.54	104	1.23	120	1.17	113
0+50	157	1.32 0.65	115	1.35	132	1.29	125
0+00	168	1.43 0.76	126	1.46	143	1.40	136
W. line Kurtn	175	1.50 0.83	133	1.50	147	1.44	140

35.01

47

Tide Street

48

	S	S curb	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	N curb	N
17+50	1.89	1.64 0.97	1.47	1.64	1.61	1.58	1.54
17	1.92	1.67 1.00	1.50	1.67	1.64	1.61	1.57
16+50	1.94	1.69 1.02	1.52	1.69	1.66	1.63	1.59
16	1.97	1.72 1.05	1.55	1.72	1.69	1.66	1.62
15+50	2.00	1.75 1.08	1.58	1.75	1.72	1.69	1.65
15	2.03	1.78 1.11	1.61	1.78	1.75	1.72	1.68
14+50	2.06	1.81 1.14	1.64	1.81	1.78	1.75	1.71
14	2.08	1.83 1.16	1.66	1.83	1.80	1.77	1.73
13+50	2.11	1.86 1.19	1.69	1.86	1.83	1.80	1.76
13	2.14	1.89 1.22	1.72	1.89	1.86	1.83	1.79
12+50	2.17	1.92 1.25	1.75	1.92	1.89	1.86	1.82
12	2.19	1.94 1.27	1.77	1.94	1.91	1.88	1.84
11+50	2.22	1.97 1.30	1.80	1.97	1.94	1.91	1.87
11	2.25	2.00 1.33	1.83	2.00	1.97	1.94	1.90
10+50	2.19	1.94 1.27	1.77	1.94	1.91	1.88	1.84
10	2.14	1.89 1.22	1.72	1.89	1.86	1.83	1.79
9+50	2.08	1.83 1.16	1.66	1.83	1.80	1.77	1.73
9	2.03	1.78 1.11	1.61	1.78	1.75	1.72	1.68
8+50	1.97	1.72 1.05	1.55	1.72	1.69	1.66	1.62

Tide Street

49

	S.	S. curb	1/4	¢	1/4	N. curb	N.
26+50	2.17	1.97 1.75	1.75	1.97	1.89	1.86	1.82
26	2.14	1.89 1.72	1.72	1.89	1.86	1.83	1.79
25+50	2.10	1.85 1.18	1.68	1.85	1.82	1.79	1.75
25	2.07	1.82 1.15	1.65	1.82	1.79	1.76	1.72
24+50	2.04	1.79 1.12	1.62	1.79	1.76	1.73	1.69
24	2.01	1.76 1.09	1.59	1.76	1.73	1.70	1.66
23+50	1.98	1.73 1.06	1.56	1.73	1.70	1.67	1.63
23	1.94	1.69 1.02	1.52	1.69	1.66	1.63	1.59
22+50	1.91	1.66 0.99	1.49	1.66	1.63	1.60	1.56
22	1.88	1.63 0.96	1.46	1.63	1.60	1.57	1.53
21+50	1.85	1.60 0.93	1.43	1.60	1.57	1.54	1.50
21	1.81	1.56 0.89	1.39	1.56	1.53	1.50	1.46
20+50	1.78	1.53 0.86	1.36	1.53	1.50	1.47	1.43
20	1.75	1.50 0.83	1.33	1.50	1.47	1.44	1.40
19+50	1.78	1.53 0.86	1.36	1.53	1.50	1.47	1.43
19	1.81	1.56 0.89	1.39	1.56	1.53	1.50	1.46
18+50	1.83	1.58 0.91	1.41	1.58	1.55	1.52	1.48
18	1.86	1.61 0.94	1.44	1.61	1.58	1.55	1.51
17+50	1.89	1.64 0.97	1.47	1.64	1.61	1.58	1.54

Tide Street

50

	S	S curb	1/4	4	1/4	N curb	N
35+50	256	2.31 1.64	214	2.31	228	225	221
35	259	2.34 1.67	217	2.34	231	228	224
34+50	262	2.37 1.70	220	2.37	234	231	227
34	265	2.40 1.73	223	2.40	237	234	230
33+50	262	2.37 1.70	220	2.37	234	231	227
33	259	2.34 1.67	217	2.34	231	228	224
32+50	255	2.30 1.63	213	2.30	227	224	220
32	252	2.27 1.60	210	2.27	224	221	217
31+50	249	2.24 1.57	207	2.24	221	218	214
31	246	2.21 1.54	204	2.21	218	215	211
30+50	243	2.18 1.51	201	2.18	215	212	208
30	239	2.14 1.47	197	2.14	211	208	204
29+50	236	2.11 1.44	194	2.11	208	205	201
29	233	2.08 1.41	191	2.08	205	202	198
28+50	230	2.05 1.38	188	2.05	202	199	195
28	226	2.01 1.34	184	2.01	198	195	191
27+50	223	1.98 1.31	181	1.98	195	192	188
27	220	1.95 1.28	178	1.95	192	189	185
26+50	217	1.92 1.25	175	1.92	189	186	182

Tide Street

51

	S	S.Curb	¼	⊕	¼	N.Curb	N
44+50	2.01	1.76 1.09	159	176	173	170	166
44	2.04	1.79 1.12	162	179	176	173	169
43+50	2.07	1.82 1.15	165	182	179	176	172
43	2.10	1.85 1.18	168	185	182	179	175
42+50	2.13	1.88 1.21	171	188	185	182	178
42	2.16	1.91 1.24	174	191	188	185	181
41+50	2.19	1.94 1.27	177	194	191	188	184
41	2.22	1.97 1.30	180	197	194	191	187
40+50	2.25	2.00 1.33	183	200	197	194	190
40	2.28	2.03 1.36	186	203	200	197	193
39+50	2.32	2.07 1.40	190	207	204	201	196
39	2.35	2.10 1.43	193	210	207	204	199
38+50	2.38	2.13 1.46	196	212	209	206	202
38	2.41	2.16 1.49	199	215	212	209	205
37+50	2.44	2.19 1.52	202	219	216	213	209
37	2.47	2.22 1.55	205	222	219	216	212
36+50	2.50	2.25 1.58	208	225	222	219	215
36	2.53	2.28 1.61	211	228	225	222	218
35+50	2.56	2.31 1.64	214	231	228	225	221

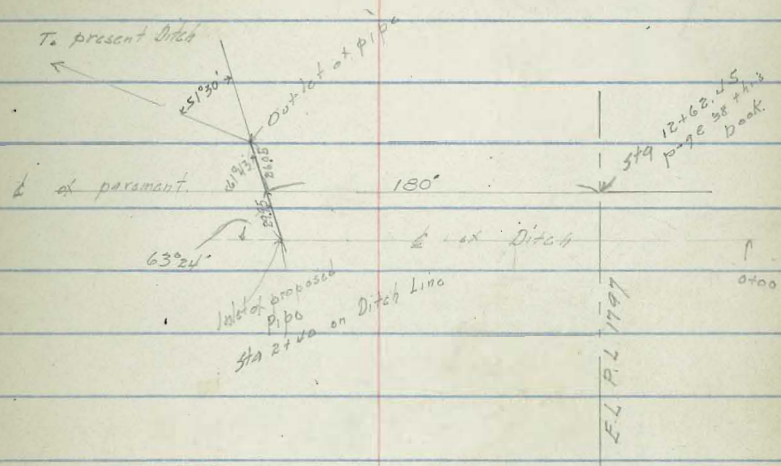
Tide Street.

52

	S	Scrub and gutter	1/4	±	1/4	Now no gutter	N
Purple line	1.75	1.50 0.23	133	150	147	146	140
48 + 66.64	1.76	1.51 0.24	134	150	147	146	140
48 + 50	1.77	1.52 0.25	135	151	148	145	141
48	1.80	1.55 0.28	138	154	151	148	144
47 + 50	1.83	1.58 0.21	141	157	154	151	147
47	1.86	1.61 0.24	144	160	157	154	150
46 + 50	1.89	1.64 0.27	147	163	160	157	153
46	1.92	1.67 1.00	150	166	163	160	156
45 + 50	1.95	1.70 1.03	153	169	166	163	157
45	1.98	1.73 1.06	156	172	169	166	162
44 + 50	2.01	1.76 1.09	159	176	173	170	176

10/29/29
 Moore Miller Shaw
 Survey & Levels
 Ditch + Pipe on GRAND
 Ave. West. of Rose
 Canon.

Paving at Apt	19.18	17.43
0+00 = bottom of Ditch	1.0	18.2
+25	1.1	18.1
+50	1.3	17.9
+60	2.4	16.8
1	3.5	15.7
+50	4.0	15.2
2	5.3	13.9
+40 = Apt = Inlet	6.0	13.2
2+58.62 = sedge of paving	5.3	13.9
2+81.28 = H ✓ ✓ ✓	5.43	13.75
+96 = Apt = outlet.	7.0	12.2
3+00	7.3	11.9
+75	8.7	10.5
H	9.5	9.4
+50 = Ditch to Creek	10.6	8.6



FLORIDA

ST

262.0

263.0

150

150

20

20

140

140

LINCOLN

AVE

283.0

285.0

ALABAMA

ST

ALABAMA

ST

284.0

286.0

LINCOLN

140

287.0

289.0

AVE

140

285.0

286.0

MISSISSIPPI

ST

MISSISSIPPI

ST

286.0

287.0

80'

80'

288.0

288.0

LINCOLN

AVE

299.0

298.0

LOUISIANA

ST

LOUISIANA

57

300.0

299.0

LINCOLN

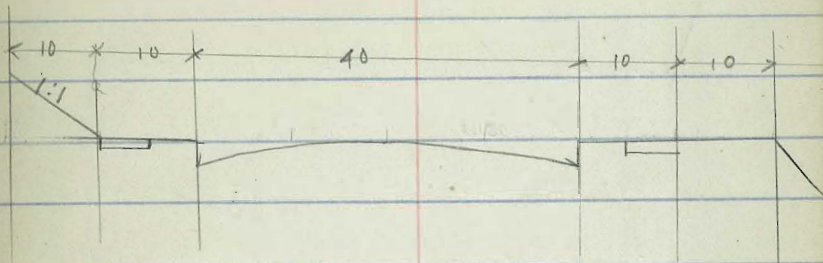
AVE

316.0

317.0

TEXAS

57



Figured July 7-22 Book 10 P 307.

LINCOLN AVE
20' Walks - 12" Gutters 40' Roadway

	S	S	S ^b	1/4	1/4	1/4	c ^b	1/2	N
F.L. Florida	62.25	62.13	62.00	62.10	62.5	62.5	63.00	63.13	63.25
10'E	62.93	62.81	62.67	62.69	63.14	63.21	63.71	63.84	63.96
25'	64.04	63.92	63.69	63.71	64.23	64.25	64.77	64.90	65.12
50	65.64	65.52	65.39	65.42	65.96	66.01	66.54	66.67	66.79
75	67.33	67.21	67.08	67.14	67.70	67.76	68.32	68.45	68.57
100	69.02	68.90	68.77	68.85	69.43	69.52	70.10	70.23	70.35
108	69.56	69.44	69.31	69.40	69.99	70.07	70.66	70.79	70.91
115	70.04	69.92	69.79	69.88	70.47	70.57	71.16	71.29	71.41
135	71.41	71.28	71.15	71.25	71.86	71.97	72.58	72.71	72.83
170	73.77	73.65	73.52	73.65	74.29	74.42	75.06	75.19	75.31
200	75.80	75.68	75.55	75.70	76.37	76.53	77.19	77.32	77.45
225	77.49	77.37	77.24	77.43	78.10	78.29	78.96	79.09	79.21
250	79.19	79.07	78.94	79.13	79.83	80.04	80.74	80.87	80.99
280	81.22	81.10	80.97	81.19	81.91	82.15	82.87	83.00	83.12
308	83.11	82.99	82.86	83.11	83.86	84.11	84.85	84.98	85.10
310=W.L. Alabama	83.25	83.13	83.0	83.25	84.00	84.25	85.00	85.13	85.25

LINCOLN AVE.

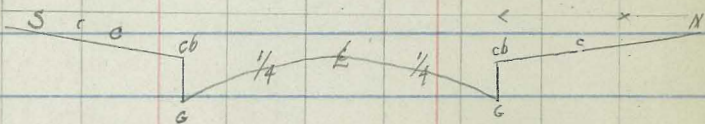
58

E.L.	S	C	cb	1/4	2	1/4	cb	c	N
Alabama	84.25	84.13	284.00	84.25	285.00	85.25	286.00	86.13	86.25
25'E.	84.79	84.67	84.54	84.79	85.54	85.79	86.54	86.67	86.79
50'	85.49	85.37	85.24	85.49	86.24	86.49	87.24	87.37	87.49
75	85.86	85.74	85.61	85.86	86.61	86.86	87.61	87.74	87.86
100	86.39	86.27	86.14	86.39	87.14	87.39	88.14	88.27	88.39
115	86.71	86.59	86.46	86.71	87.46	87.71	88.46	88.59	88.71
130	87.13	86.91	86.78	87.03	87.78	88.03	88.78	88.91	89.03
140	287.25	287.13	287.00	87.25	288.00	88.25	289.00	89.13	89.25
155	87.06	86.94	86.81	87.04	87.76	87.99	88.72	88.85	88.97
180	86.75	86.63	86.50	86.68	87.39	87.56	88.25	88.37	88.50
200	86.50	86.38	86.25	86.41	87.06	87.21	87.88	88.01	88.13
218	86.28	86.16	86.03	86.15	86.78	86.90	87.53	87.66	87.78
243	85.96	85.84	85.71	85.80	86.39	86.48	87.09	87.20	87.32
258	85.77	85.65	85.52	85.59	86.16	86.22	86.79	86.91	87.03
275	85.56	85.44	85.31	85.35	85.89	85.92	86.47	86.60	86.72
295	85.32	85.20	85.07	85.07	85.58	85.59	86.09	86.22	86.34
300 = W. Missisyp	85.25	85.13	285.00	85.00	85.50	85.50	286.00	86.13	86.25

E line	S	c	cb	1/4	E	1/4	cb	c	N
Mississippi	86.25	86.13	86.00	86.00	86.50	86.50	87.00	87.13	87.25
10'E	86.50	86.37	86.25	86.22	86.68	86.65	87.13	87.26	87.38
16E	86.65	86.53	86.40	86.35	86.80	86.75	87.20	87.33	87.45
17	86.68	86.56	86.43	86.37	86.82	86.77	87.21	87.34	87.46
25	86.88	86.76	86.63	86.55	86.97	86.87	87.31	87.44	87.56
40	87.25	87.13	87.00	86.87	87.25	87.12	87.50	87.63	87.75
50	87.50	87.37	87.25	87.09	87.43	87.28	87.63	87.76	87.88
58	87.70	87.58	87.45	87.26	87.59	87.41	87.73	87.86	87.98
81	88.25	88.13	88.00	87.75	88.00	87.75	88.00	88.13	88.25
84	88.45	88.33	88.20	87.94	88.19	87.94	88.18	88.31	88.43
103	89.40	89.28	89.15	88.88	89.09	88.82	89.05	89.18	89.30
111	89.80	89.68	89.55	89.26	89.47	89.19	89.40	89.53	89.65
125	90.50	90.38	90.25	89.95	90.19	89.85	90.05	90.18	90.30
150	91.75	91.63	91.50	91.17	91.34	91.01	91.18	91.31	91.43
185	93.50	93.38	93.25	92.88	93.01	92.64	92.77	92.90	93.02
212	94.85	94.73	94.60	94.20	94.30	93.90	94.00	94.13	94.25
250	96.75	96.63	96.50	96.06	96.11	95.67	95.72	95.85	95.97
295	99.00	98.88	98.75	98.25	98.26	97.76	97.77	97.90	98.02
See = WL Louisiana	99.25	99.13	99.00	98.50	98.50	98.00	98.00	98.13	98.25

LINCOLN AVE

E. line	5	10'	10'	10'	10'	10'	10'	10'	10'	10'	N.
	c	cb	1/4	E	1/4	cb	c				
Louisiana	300.25	300.13	300.00	99.50	99.50	99.00	299.00	99.13	99.25		
3'E	0.41	0.29	0.16	99.67	99.67	99.17	99.18	99.31	99.43		
18	1.21	1.09	0.96	0.79	0.51	300.05	300.08	300.21	300.33		
50	2.98	2.80	2.67	2.25	2.33	01.92	02.00	2.13	2.25		
75	3.97	3.87	3.74	3.63	3.75	3.37	3.50	3.67	3.75		
100	5.60	5.48	5.35	5.00	5.17	4.83	5.00	5.13	5.25		
150	8.27	8.15	8.02	7.75	8.00	7.74	8.00	8.13	8.25		
165	9.07	8.95	8.82	8.57	8.84	8.62	8.90	9.03	9.15		
200	10.92	10.80	10.67	10.50	10.83	10.67	11.00	11.13	11.25		
225	12.25	12.13	12.0	11.88	12.25	12.12	12.50	12.63	12.75		
275	14.92	14.80	14.67	14.63	15.08	15.04	15.50	15.63	15.75		
2900	15.72	15.60	15.47	15.45	15.93	15.91	16.40	16.53	16.65		
300 = W.L.											
Texas	16.25	16.13	316.00	16.00	16.50	16.50	317.00	17.13	17.25		



189°

190°

TWIGGS

ST

HARNEY

ST

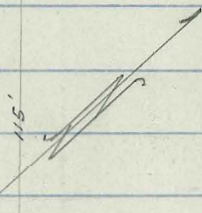
156°

10

157°

190°

191°



ST

163.4

164.4

165.54

166.54

169.73

169.75

204.00

205.00

205.77

206.77

206.93

207.93

207.53

208.53

207.64

208.64

189°

190°

207°

208°

WHITMAN

135'

.231

HARNEY

ST

CONDE

ST

190°

191°

207°

208°

207°

208°

CONDE

ST

207°

208°

205.5

206.5

205.18

206.18

205.31

206.31

206.25

207.25

207.75

208.75

R 100'

217°

220°

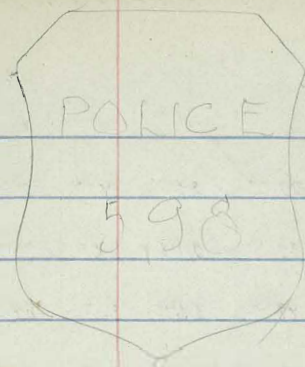
ARISTA

ST

	3/8	cb	1/4	1/2	3/4	cb	N
5 line Twigs	56.25	56.00	56.00	56.50	56.50	57.00	57.25
25' E	57.25	57.10	57.10	57.60	57.60	57.10	57.35
50	59.47	59.22	59.22	59.72	59.72	60.22	60.47
75	61.08	60.83	60.83	61.33	61.33	61.83	62.08
100	62.68	62.43	62.43	62.93	62.93	63.43	63.68
115	63.65	63.4	63.40	63.90	63.90	64.4	64.65
125	64.51	64.26	64.26	64.76	64.76	65.26	65.51
140	65.79	65.54	65.54	66.04	66.04	66.54	66.79
150	67.07	66.82	66.82	67.32	67.32	67.82	68.07
165	69.00	68.75	68.75	69.25	69.25	69.75	70.00
175	70.50	70.25	70.25	70.75	70.75	71.25	71.50
200	74.25	74.00	74.00	74.50	74.50	75.00	75.25
225	78.00	77.75	77.75	78.25	78.25	78.75	79.00
250	81.75	81.50	81.50	82.00	82.00	82.50	82.75
275	85.50	85.25	85.25	85.75	85.75	86.25	87.00
300 = W.L. Harney	89.25	89.00	89.00	89.50	89.50	90.00	90.25

7.50
 3.75

	S	cb	¼	£	¼	cb	N
W.L. Harney	89.25	89.00	89.00	89.50	89.50	90.00	90.25
W. Cb	89.00 88.00	89.00 88.00	89.00	89.50	89.50	90.00 89.00	90.00 89.00
W ¼	89.00	88.25	89.25	89.75	89.75	89.25	90.00
£	89.50	88.50	89.50	89.00	90.00	89.5	90.50
E ¼	89.50	88.75	89.75	89.75	90.25	89.75	90.50
E Cb	89.00 90.00	89.00 90.00	90.00	90.50	90.50	90.00 91.00	90.00 91.00
E.L. Harney	90.25	90.00	90.00	90.50	90.50	91.00	91.25



	S	CB	1/4	2.	1/4	CB	N
E line Harney	190.25	190.00	90.00	90.50	90.50	191.00	191.25
25' E	92.21	91.96	91.96	92.46	92.46	92.96	93.21
50'	94.16	93.91	93.91	94.41	94.41	94.91	95.16
75	96.12	95.87	95.87	96.37	96.37	96.87	97.12
100	98.07	97.82	97.82	98.32	98.32	98.82	99.07
125	200.03	99.78	99.78	200.28	200.28	200.78	201.03
150	1.99	1.74	1.74	2.24	2.24	2.74	2.99
175	3.94	203.69	3.69	4.19	4.19	4.69	4.94
180	4.33	204.08	4.08	4.58	4.58	205.08	5.33
	.39						
200	5.68	5.43	5.43	5.93	5.93	6.43	6.68
205	6.02	5.77	5.77	6.27	6.27	6.77	7.02
225	6.95	6.70	6.70	7.20	7.20	7.70	7.95
230	7.18	6.93	6.93	7.43	7.43	7.93	8.18
250	7.68	7.43	7.43	7.93	7.93	8.43	8.68
255	7.80	7.55	7.55	8.05	8.05	8.55	8.80
275	7.87	7.62	7.62	8.12	8.12	8.62	8.87
280	7.69	7.64	7.64	8.14	8.14	8.64	8.69
300-W.L. Cande	7.75	207.50	7.50	8.00	8.00	208.50	8.75

	S	cb	1/4	¢	1/4	cb	N
W.L. Conde	207.75	207.50	7.5	208.0	8.0	208.50	208.75
W Curb	207.50 206.5	207.50 206.5	7.5	8.0	8.0	8.50 7.5	8.5 7.5
W 1/4	7.12	6.37	7.37	7.87	7.87	7.37	8.12
¢	7.25	6.25	7.25	7.75	7.75	7.25	8.25
E 1/4	6.87	6.13	7.12	7.63	7.63	7.13	7.87
E. Cb	6.0 7.0	6.0 7.0	7.0	7.5	7.5	7.0 8.0	7.0 8.0
E.L. Conde	7.25	7.0	7.0	7.5	7.5	8.0	8.25

	S	cb	1/4	2	1/4	cb	N
E.L. Condo	207.25	7.0	7.0	7.50	7.50	8.0	8.25
25'E	6.50	6.25	6.25	6.75	6.75	7.25	7.50
50	5.75	5.50	5.50	6.00	6.00	6.50	6.75
75	5.43	5.18	5.18	5.68	5.68	6.18	6.43
90	5.51	5.26	5.26	5.76	5.76	6.26	6.51
100	5.56	5.31	5.31	5.81	5.81	6.31	6.56
115	5.55	5.30	5.30	5.80	5.80	6.30	6.55
125	6.50	6.25	6.25	6.75	6.75	7.25	7.50
142	7.52	7.27	7.27	7.77	7.77	8.27	8.52
150	8.00	7.75	7.75	8.25	8.25	8.75	9.00
175	9.88	9.63	9.63	10.13	10.13	10.63	10.88
200	11.75	11.50	11.50	12.00	12.00	12.50	12.75
225	13.63	13.38	13.38	13.88	13.88	14.29	14.54
250	15.50	15.25	15.25	15.74	15.75	16.23	16.48
275	17.37	17.12	17.21	17.86	17.96	18.59	18.84
292	18.65	18.40	18.75	19.64	20.00	20.88	21.13
300- W.L. Arista	19.25	19.00	19.84	21.33	22.04	23.67	23.92

IDAHO

ST

KANSAS

OHIO

ST

370.0

370.0

369.0

369.0

366.0

366.0

AVE

AVE

AVE



368.0

368.5

367.4

363

367.0

367.0

UTAH

ST

30TH

ST

ILLINOIS

ST

368.0

368.5

363.5

362.5

366.5

366.5

POLK

POLK

POLK

369.0

369.0

365.5

365.5

358.0

357.0

KANSAS

ST

OHIO

ST

IOWA

ST

S. Line	S. C. B.	S. 1/4	2.	N. 1/4	N. C. B.	N. Line	
E.L. Idaho	370.25	370.0	369.75	370.00	369.75	370.0	370.25
25'E	70.08	69.89	69.60	69.85	69.61	69.88	70.13
50	69.92	69.67	69.45	69.71	69.48	69.75	70.00
75	69.75	69.50	69.29	69.56	69.34	69.63	69.89
100	69.58	69.33	69.13	69.42	69.21	69.50	69.75
125	69.42	69.17	68.98	69.27	69.07	69.38	69.69
150	69.25	69.00	68.82	69.12	68.93	69.25	69.50
175	69.08	68.83	68.66	68.98	68.80	69.13	69.38
200	68.92	68.67	68.51	68.83	68.63	69.00	69.25
225	68.75	68.50	68.35	68.69	68.53	68.88	69.13
250	68.58	68.33	68.19	68.54	68.39	68.75	69.00
300 = W.L. Utah	368.25	368.0	67.87	368.25	68.12	368.5	368.75

	S line	S 66.	S 1/4	4	1/4	C6	N Line
EL. Utah	368.25	368.0	67.87	368.25	66.12	368.5	368.75
8' E	68.28	68.03	67.89	68.27	68.14	68.51	68.76
30' E	68.35	68.10	67.96	68.33	68.18	68.55	68.80
55'	65.43	68.13	68.03	68.39	68.23	68.59	68.84
70	68.48	68.23	68.07	68.43	68.27	68.62	68.87
105	68.60	68.35	68.18	68.51	68.34	68.67	68.92
135	68.70	68.45	68.27	68.59	68.40	68.72	68.97
150	68.75	68.50	68.31	68.63	68.44	68.75	69.00
165	68.80	68.55	68.35	68.66	68.47	68.77	69.02
200	68.92	68.67	68.46	68.75	68.54	68.83	69.08
225	69.00	68.75	68.53	68.81	68.59	68.87	69.12
275	69.17	68.92	68.68	68.94	68.70	68.96	69.21
293	69.23	68.98	68.73	68.98	68.73	68.99	69.24
300 = W L Kansas	369.25	369.0	368.75	369.0	369.75	369.0	369.25

POLK AVE

70

	S line	S 1/4	S 1/4	2	N 1/4	N 1/4	N. Line
E. L. Kansas	369.25	369.0	368.75	369.0	368.75	369.0	369.25
10'E	69.18	68.83	68.58	68.82	68.56	68.80	69.05
40'	68.58	68.33	68.05	68.27	67.98	68.20	68.45
65	68.17	67.92	67.61	67.81	67.50	67.70	67.95
85	67.83	67.58	67.26	67.44	67.12	67.30	67.55
105	67.50	67.25	66.91	67.08	66.74	66.90	67.15
145	66.83	66.58	66.21	66.34	65.97	66.10	66.35
160	66.58	66.33	65.95	66.07	65.68	65.80	66.05
175	66.33	66.08	65.69	65.79	65.40	65.50	65.75
195	66.00	65.75	65.34	65.43	65.01	65.10	65.35
205	65.83	65.58	65.16	65.24	64.82	64.90	65.15
225	65.50	65.25	64.81	64.88	64.44	64.50	64.75
245	65.17	64.92	64.46	64.51	64.05	64.10	64.35
270	64.75	64.50	64.03	64.05	63.58	63.60	63.85
280	64.58	64.33	63.85	63.87	63.38	63.40	63.65
295	64.33	64.08	63.59	63.59	63.10	63.10	63.35
300 = W.L. 30 th St.	364.25	364.0	363.50	363.50	363.00	363.0	363.25

12/24/19
Gregory Miller
Levels under Santa Fe
Xing, Balboa Ave

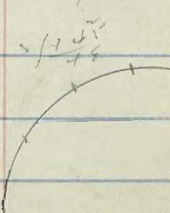
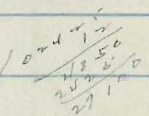
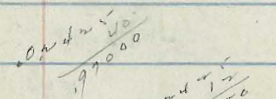
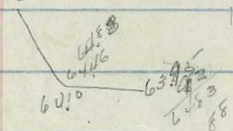
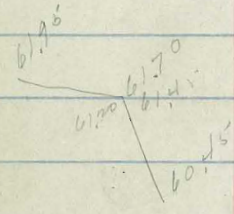
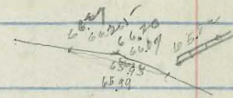
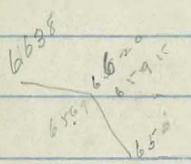
48.50
48.42

	3.66	37.94		34.28	34
	12.13	49.47	0.58	37.96	
150' West of Santa Fe R. W.			5.06	44.43	padding
100' - - - - -			3.33	45.66	v -
50' - - - - -			2.61	46.88	v -
00 = v - - - - -			1.50	47.99	v -
			0.95	48.54 = B.M.	
0+45.5 = West End of Old Culv.			3.07	46.42 = floor	
TP.	48.9	53.85	0.51	48.98	
				12.83	
			62.81 = base of rail.		

POLK AVE

	S	CB	1/4	1/2	3/4	CB	N
E.L. 30 th	363.75	363.5	363.12	363.25	62.97	363.0	363.25
5' E	63.78	63.53	63.16	63.29	62.91	63.04	63.29
20	63.88	63.63	63.26	63.40	63.03	63.17	63.42
40	64.02	63.77	63.40	63.55	63.19	63.33	63.58
60	64.35	64.10	63.75	63.93	63.58	63.75	64.00
140	64.68	64.43	64.11	64.30	63.98	64.17	64.42
170	64.88	64.63	64.33	64.53	64.22	64.42	64.67
210	65.15	64.90	64.61	64.83	64.54	64.75	65.00
255	65.35	65.20	64.93	65.16	64.89	65.13	65.38
295	65.78	65.47	65.21	65.46	65.21	65.46	65.71
300 = W.L. OHIO	365.75	365.5	365.25	365.5	365.25	365.5	365.75
E.L. OHIO	366.25	366.0	365.75	366.0	365.75	366.0	366.25
5' E	66.27	66.02	65.77	66.02	65.77	66.02	66.27
15'	66.30	66.05	65.80	66.05	65.80	66.05	66.30
30'	66.38	66.13	65.88	66.13	65.88	66.13	66.38
55'	66.43	66.18	65.93	66.18	65.93	66.18	66.43
100	66.58	66.33	66.08	66.33	66.08	66.33	66.58
135	66.70	66.45	66.20	66.45	66.20	66.45	66.70
150	66.75	66.50	66.25	66.50	66.25	66.50	66.75
165	66.80	66.55	66.30	66.55	66.30	66.55	66.80
200	66.92	66.67	66.42	66.67	66.42	66.67	66.92
220	66.98	66.73	66.48	66.73	66.48	66.73	66.98
235	67.03	66.78	66.53	66.78	66.53	66.78	67.03
260	67.11	66.86	66.61	66.86	66.61	66.86	67.11
280	67.18	66.93	66.68	66.93	66.68	66.93	67.18
296	67.24	66.99	66.74	66.99	66.74	66.99	67.24
300 = W.L. ILLINOIS	367.25	367.0	366.75	367.0	366.75	367.0	367.25
E.L. ILLINOIS	366.75	366.5	366.25	366.5	366.25	366.5	366.75
5' E	66.61	66.36	66.11	66.35	66.10	66.34	66.59
13	66.38	66.13	65.89	66.11	65.87	66.09	66.34
45	65.47	65.22	64.99	65.15	64.92	65.07	65.32
90	64.48	64.23	64.02	64.10	63.88	63.97	64.22
105	63.77	63.52	63.32	63.35	63.14	63.17	63.42
130	63.07	62.82	62.62	62.60	62.40	62.38	63.63
145	62.64	62.39	62.20	62.15	61.96	61.91	62.16
180	61.65	61.40	61.23	61.10	60.92	60.80	61.05
225	60.37	60.12	59.97	59.90	59.59	59.37	59.62
260	59.38	59.13	59.00	58.70	58.55	58.27	58.52

	S	CB	1/4	1/2	3/4	CB	N
280	358.22	358.57	58.44	58.10	57.96	57.63	57.88
297	58.33	58.08	57.96	57.59	57.46	57.09	57.34
300 = W.L. IOWA	358.25	358.0	357.88	357.5	357.37	357.0	357.25



1.0242
1986
968
11616

4116
4032
84
42
4032
42
1074

1.02099
55000
5325
17500
15975
15250

Distance from stake to
stake for roadway, slope 1 to 4
Ground level, the cut or fill
by the double entry method
left column and top row. The number in
table in same row and column gives distance
to cut or fill and distance in table. Setup
amount if cut, elevation in table. Setup
rod at stake and find distance in table. Setup
rod at stake and find distance in table. Setup
rod at stake and find distance in table. Setup

IMPROVED TABLES AND INFORMATION

To find the degree of curve with a radius may be found by dividing the (or external) angle by 2. The distance from a point on the tangent to the curve is very nearly the square of the radius divided by twice the radius.

18.06
17.28
86
297
383

1440
1158
282

1.0195
1420
1420
2680
2538
1420
1420

1.0195
1420
1420
2680
2538
1420
1420

1.0195
1420
1420
2680
2538
1420
1420

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

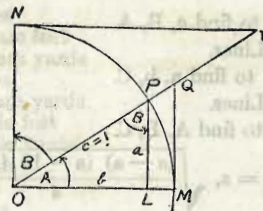


TABLE II
TRIGONOMETRIC FORMULÆ

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \frac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \quad \cos \frac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Lines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

TABLE II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

Given a, b, C; to find c, B, A.

Use Law of Lines.

Given A, B, c; to find a, b, C.

Use Law of Lines.

Given a, b, c; to find A, B, C.

$$\text{Let } \frac{a+b+c}{2} = s, \sqrt{\frac{(s-a)(s-b)(s-c)}{s}} = r$$

$$\cos \frac{1}{2} A = \sqrt{\frac{s(s-a)}{bc}}$$

$$\tan \frac{1}{2} A = \frac{r}{s-a}$$

$$\tan \frac{1}{2} B = \frac{r}{s-b}$$

$$\tan \frac{1}{2} C = \frac{r}{s-c}$$

Area of a triangle:

$$\text{Area} = \frac{1}{2} ab \sin C$$

$$\text{Area} = \sqrt{s(s-a)(s-b)(s-c)}$$

PRISMOIDAL FORMULA.

$$\text{Vol.} = \frac{h}{6} (B+b+4M)$$

h = altitude; b, B = bases; M = midsection

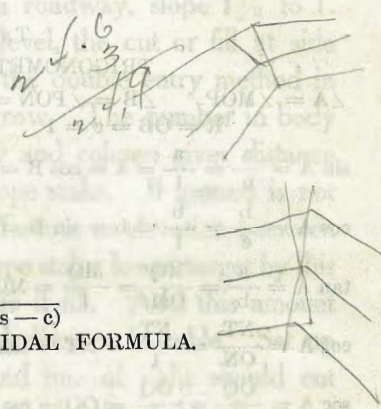


TABLE III
INCHES AND FRACTIONS OF AN INCH IN DECIMALS OF A FOOT

	0	1	2	3	4	5	6	7	8	9	10	11
$\frac{1}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{1}{8}$	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271
$\frac{3}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{1}{4}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375
$\frac{5}{16}$	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427
$\frac{3}{8}$	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479
$\frac{7}{16}$	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531
$\frac{1}{2}$	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583
$\frac{9}{16}$	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635
$\frac{5}{8}$	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688
$\frac{11}{16}$	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740
$\frac{3}{4}$	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792
$\frac{7}{8}$	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844
$\frac{15}{16}$	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896
$\frac{1}{2}$	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.0000
	0	1	2	3	4	5	6	7	8	9	10	11

TABLE IV
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links
360°	= 21600'	= 1296000"
Radius	= arc of 57.2957790°	
Arc of 1° (radius = 1)	= .017453292	
Arc of 1' (radius = 1)	= .000290888	
Arc of 1" (radius = 1)	= .000004848	

$$\pi = 3.141592654$$

$$\sqrt{\frac{1}{4}} = 0.564190$$

$$\frac{\pi}{4} = 0.785398163$$

$$\sqrt[3]{\frac{6}{\pi}} = 1.240700982$$

$$\frac{\pi}{6} = 0.523598776$$

$$\pi^2 = 9.869604401$$

$$\sqrt{\frac{4}{\pi}} = 1.128379167$$

$$\frac{1}{\pi^2} = 0.101321184$$

$$\frac{\pi}{6} = 0.523598776$$

$$\sqrt{\pi} = 1.772453851$$

$$\frac{4\pi}{3} = 4.188790205$$

$$\frac{1}{\pi} = 0.3183099$$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

$$\text{Probable error of a single observation} = 0.6754 \sqrt{\frac{\sum v^2}{n-1}}$$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULAE.

$$\text{Horizontal Distance} = R - R \sin^2 a + C \cos a$$

$$\text{Vertical Distance} = R \frac{1}{2} \sin 2a + C \sin a$$

$$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

344
20 640

995) 19 200
19 995
6000

TABLE VI (continued)
SINES, COSINES, TANGENTS, COTANGENTS (continued)

sec	sin 0'	tan 0'	sin 10'	tan 10'	sin 20'	tan 20'	sin 30'	tan 30'	sin 40'	tan 40'	sin 50'	tan 50'	sec
46	7193	1.0355	7214	1.0416	7234	1.0477	7254	1.0533	7274	1.0599	7294	1.0661	43
47	314	.0724	333	.0786	353	.0850	373	.0913	392	.0977	412	.1041	42
48	431	.1106	451	.1171	470	.1237	490	.1303	509	.1369	528	.1436	41
49	547	.1504	566	.1571	585	.1640	604	.1708	623	.1778	642	.1847	40
50	660	.1918	7679	1.1988	7698	1.2059	7716	1.2131	7735	.2647	7753	1.2276	39
51	771	.2349	790	.2423	808	.2497	826	.2572	844	.3111	862	.2723	38
52	880	.2799	898	.2876	916	.2954	934	.3032	951	.3597	969	.3190	37
53	986	.3270	8004	3.351	8021	3.452	8039	.3514	8056	.4106	8073	.3680	36
54	8090	.3764	107	.3848	124	.3934	141	.4019	158	.4641	175	.4193	35
55	192	.4281	208	.4370	225	.4460	241	.4550	258	.5204	274	.4733	34
56	290	.4826	307	.4919	323	.5013	339	.5108	355	.5798	371	.5301	33
57	387	.5399	403	.5497	418	.5597	434	.5697	450	.6426	465	.5900	32
58	480	.6003	496	.6107	511	.6212	526	.6319	542	.7090	557	.6534	31
59	572	.6643	587	.6753	601	.6864	616	.6977	631		646	.7205	30
60	660	1.7321	8675	1.7437	8689	1.7556	8704	1.7675	8718	1.7797	8732	1.7917	29
61	746	.8040	760	.8165	774	.8291	788	.8418	802	.8546	816	.8676	28
62	829	.8807	843	.8940	857	.9074	870	.9210	884	.9347	897	.9486	27
63	910	.9626	923	.9768	936	.9912	949	2.0057	962	2.0204	975	2.0353	26
64	988	2.0503	9001	2.0655	9013	2.0809	9026	.0965	9038	.1123	9051	.1283	25
65	9063	.1445	075	.1609	088	.1775	100	.1943	112	.2113	124	.2286	24
66	135	.2460	147	.2637	159	.2817	171	.2998	182	.3183	194	.3369	23
67	205	.3559	216	.3750	228	.3945	239	.4142	250	.4342	261	.4545	22
68	272	.4751	283	.4960	293	.5172	304	.5386	315	.5605	325	.5826	21
69	336	.6051	346	.6279	356	.6511	367	.6746	377	.6985	387	.7228	20
70	397	.7475	9407	2.7725	9417	2.7980	9426	2.8239	9436	2.8502	9446	2.8770	19
71	455	.9042	465	.9319	474	.9600	483	.9887	492	3.0178	502	3.0475	18
72	511	3.0777	520	3.1084	528	3.1397	537	3.1716	546	.2041	555	.2371	17
73	563	.2709	572	.3052	580	.3402	588	.3759	596	.4124	605	.4495	16
74	613	.4874	621	.5261	628	.5656	636	.6059	644	.6470	652	.6891	15
75	659	.7321	667	.7760	674	.8208	681	.8657	689	.9136	696	.9617	14
76	703	.40108	710	.40611	717	.41126	724	.41653	730	.42193	737	.42747	13
77	744	.3315	750	.3897	757	.4494	763	.5107	769	.5736	775	.6382	12
78	781	.7046	787	.7729	793	.8430	799	.9152	805	.9894	811	5.0658	11
79	816	.1446	822	.52257	827	5.3093	833	5.3955	838	5.4845	843	.5764	10
80	9848	5.6713	9853	5.7694	9858	5.8708	9863	5.9758	9868	6.0844	9872	6.1970	9
81	877	.63138	881	.64348	886	.65606	890	.66912	894	.68269	899	.69682	8
82	903	7.1154	907	7.2687	911	7.4287	914	7.5958	918	7.7704	922	7.9530	7
83	925	8.1443	929	8.3450	932	8.5555	936	8.7769	939	9.0098	942	9.2553	6
84	945	9.5144	948	9.7882	951	10.078	954	10.385	957	10.711	959	11.059	5
85	962	11.430	964	11.826	967	12.250	969	12.706	971	13.197	974	13.727	4
86	976	14.300	978	14.924	980	15.605	981	16.350	983	17.169	985	18.075	3
87	986	19.081	988	20.206	989	21.470	990	22.903	992	24.542	993	26.432	2
88	994	28.636	995	31.242	996	34.368	997	38.189	997	42.964	998	49.104	1
89	999	57.290	999	68.750	999	85.940	999	114.58	1.000	171.88	1.000	343.77	0
sec	60'	60'	50'	50'	40'	40'	30'	30'	20'	30'	10'	10'	sec
cos	cos	cot	cos	cot	cos	cot	cos	cot	cos	cot	cos	cot	

62.20
62.76
62.30
63.27
97
48
87
43
62.93

TABLE VII
RODS IN FEET AND INCHES

Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches	Rods	Feet Inches
1	16-6	21	346-6	41	676-6	61	1006-6	81	1336-6
2	33-0	22	363-0	42	693-0	62	1023-0	82	1353-0
3	49-6	23	379-6	43	709-6	63	1039-6	83	1369-6
4	66-0	24	396-0	44	726-0	64	1056-0	84	1386-0
5	82-6	25	412-6	45	742-6	65	1072-6	85	1402-6
6	99-0	26	429-0	46	759-0	66	1089-0	86	1419-0
7	115-6	27	445-6	47	775-6	67	1105-6	87	1435-6
8	132-0	28	462-0	48	792-0	68	1122-0	88	1452-0
9	148-6	29	478-6	49	808-6	69	1138-6	89	1468-6
10	165-0	30	495-0	50	825-0	70	1155-0	90	1485-0
11	181-6	31	511-6	51	841-6	71	1171-6	91	1501-6
12	198-0	32	528-0	52	858-0	72	1188-0	92	1518-0
13	214-6	33	544-6	53	874-6	73	1204-6	93	1534-6
14	231-0	34	561-0	54	891-0	74	1221-0	94	1551-0
15	247-6	35	577-6	55	907-6	75	1237-6	95	1567-6
16	264-0	36	594-0	56	924-0	76	1254-0	96	1584-0
17	280-6	37	610-6	57	940-6	77	1270-6	97	1600-6
18	297-0	38	627-0	58	957-0	78	1287-0	98	1617-0
19	313-6	39	643-6	59	973-6	79	1303-6	99	1633-6
20	330-0	40	660-0	60	990-0	80	1320-0	100	1650-0

TABLE VIII
LINKS IN FEET AND INCHES

Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches	Links	Feet Inches
1	0-7.92	18	11-10.56	35	23-1.20	52	34-3.84	69	45-6.48	86	56-9.12
2	1-3.84	19	12-6.48	36	23-9.12	53	34-11.76	70	46-2.40	87	57-5.04
3	1-11.76	20	13-2.40	37	24-5.04	54	35-7.68	71	46-10.32	88	58-0.96
4	2-7.68	21	13-10.32	38	25-0.96	55	36-3.60	72	47-6.24	89	58-8.88
5	3-3.60	22	14-6.24	39	25-8.88	56	36-11.52	73	48-2.16	90	59-4.80
6	3-11.52	23	15-2.16	40	26-4.80	57	37-7.44	74	48-10.08	91	60-0.72
7	4-7.44	24	15-10.08	41	27-0.72	58	38-3.36	75	49-6.00	92	60-8.64
8	5-3.36	25	16-6.00	42	27-8.64	59	38-11.28	76	50-1.92	93	61-4.56
9	5-11.28	26	17-1.92	43	28-4.56	60	39-7.20	77	50-9.84	94	62-0.48
10	6-7.20	27	17-9.84	44	29-0.48	61	40-3.12	78	51-5.76	95	62-8.40
11	7-3.12	28	18-5.76	45	29-8.40	62	40-11.04	79	52-1.68	96	63-4.32
12	7-11.04	29	19-1.68	46	30-4.32	63	41-6.96	80	52-9.60	97	64-0.24
13	8-6.96	30	19-9.60	47	31-0.24	64	42-2.88	81	53-5.52	98	64-8.16
14	9-2.88	31	20-5.52	48	31-8.16	65	42-10.80	82	54-1.44	99	65-4.08
15	9-10.80	32	21-1.44	49	32-4.08	66	43-6.72	83	54-9.36	100	66-.000
16	10-6.72	33	21-9.36	50	33-0.00	67	44-2.64	84	55-5.28	101	66-7.92
17	11-2.64	34	22-5.28	51	33-7.92	68	44-10.56	85	56-1.20	102	67-3.84

TABLE X.
MIDDLE ORDINATES OF RAILS
Length of Rail (feet)

C	R	30	28	26	24	22	20	C	R	30	28	26	24	22	20
o /	Feet	Inch	Inch	Inch	Inch	Inch	Inch	o	Feet	Inch	Inch	Inch	Inch	Inch	Inch
0-20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0-40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1-0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1-20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1-40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2-0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2-20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2-40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3-0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3-20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3-40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4-0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4-20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4-40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE XI.
SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

TABLE XII.
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise	Slope	Horizontal Distance	Correction	Rise
0°00'	100.000	0.000	0.000	8°00'	99.027	0.973	0.139
15'	99.999	0.001	0.004	15'	98.965	1.035	0.143
30'	99.996	0.004	0.009	30'	98.902	1.098	0.148
45'	99.991	0.009	0.013	45'	98.836	1.164	0.152
1 00'	99.985	0.015	0.017	9 00'	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00'	99.939	0.061	0.035	10 00'	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00'	99.863	0.137	0.052	11 00'	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00'	99.756	0.244	0.070	12 00'	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00'	99.619	0.381	0.087	13 00'	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00'	99.452	0.548	0.105	14 00'	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00'	99.255	0.745	0.122	15 00'	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

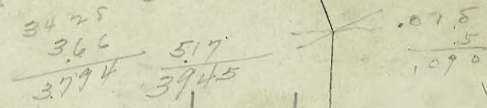
For each foot take one one-hundredth of each reading.

TABLE XIII.
MINUTES IN DECIMALS OF A DEGREE.

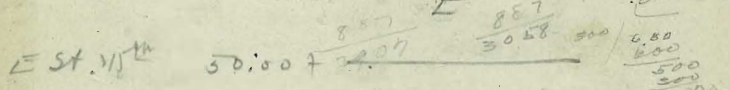
0 30'	.00833	10' 30"	.17500	20' 30"	.34167	30' 10"	.50833	40' 30"	.67500	50' 10"	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000

Level
Rains
U.S. Geol. Survey BM
Elev above sea
2.5' Datum

15th & Bundy N.W. Pigt. 57.61



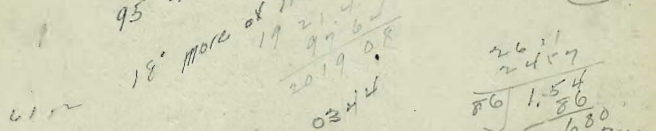
SW 15th Bundy 56.5
SE 15th Bundy 52.5



E 1/4 SW 1/4 50.00
E 1/4 SW 1/4 54.00

NW 1/4 E 50.946
SW 1/4 E 59.95

95' of Cement
18' more of Iron Pipe



1158.1
3765
1195.75

1233.7
29000
24674
43260
37011
62490

1880
705
5930

460 floor 30.75
484 25.28
481 12.00
483 = Top stringer 69.23

1175 2092
2350 30
47000 3121
3059

2979
2917
4907
225
46
1410
10810

33
25
58
Sta. of Br. W. 2+35.8
Top stringer 12.52
Floor 12.75

1053
677
1735
400
1273
1300

453
1254
10226
1130
1130
12430

53
37
0684
1420
1126
224

5.50
458
620
488
1320

6905
509
245
2517
2083
1460

117
31857
3280
255.77

1265
25
1293
119575
3794
123369

1735
483
1252
32
1265
2206
440
966
942
5700
5664
560

515
235
83
113
249
33
1079
250
1112
262
1122

0006
35
0008
0030
0030
0300
51
0000

00067
37
536
201
125

Sta. of Br. W. 2+35.8
Top stringer 12.52
Floor 12.68

East End
100067
37
536
201
125