

1685



ENGINEERS'  
LEVEL BOOK

No. 410F

# 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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# 1685

## CITY ENGINEER'S OFFICE

The paper stock of this book is made of a high grade 50% rag paper having a water resisting surface. This book is sewed with Bing Special Enamel Waterproof Thread.

Made in U. S. A.



Yabash Canyon Freeway Cross Section "2"  
Imperial Ave to 40<sup>th</sup> + Redwood

indexed  
c.s. 11.

750

735

65+0

64+50

64+15

BM 2.47 32.04

64+0 Sec # 1682 Page 73

Alignment L Line #1684

Lt

Rt

May 2, 45  
Simon  
81.55  
Rt 0560 70

2

Station	Lt	Rt
750	+3.2 140-SECOR BR TOP WALL	+0.9 40
735	-7.7 170-Wash	+1.0 40
65+0	-6.5 150-Wash	+1.0 40
64+50	-6.7 145-Wash	+1.5 40
64+15	-5.8 135-Wash	+2.8 100
	18.0	26.8
	19.8	26.8
	20.0	26.6
	19.5	27.0
	19.7	27.8
	22.8	27.8
	26.8	27.8
	26.6	27.8
	27.0	27.8
	27.8	27.8

SP. of N Row  
Bridge 11/13/46  
1 in per 16.1

32.04

Note: - Rt + Lt. are Red + Above - Below  
From Sta. 64+15 to 190+84.67

68+0

+50 = RR

67+0

+50

TP 10.73 41.26 1.51 30.53

66+0

3204

-80 300  
90

-17 285  
90

-84 259  
100

288  
12.2

-120 302  
50

-137 285  
40

-39 260  
40

283  
11.7

-220 355  
50

-50 318  
40

-39 260  
40

276  
11.1

-18 362  
13.5-RR  
0.710

-10 363  
10

-44 295  
22

-38 261  
29

276  
11.0

33 580  
15

49 364  
1-RR

70 343  
1

114 299  
1

266  
11

+87 462  
15

-0.2 362  
9

+23 365  
18-RR  
0.710

+60 350  
24

-82 268  
11

+217 580  
87

+110 415  
29

+16 350  
33

+70 369  
40

356  
19.0

+207 580  
124

+263 627  
83

+157 500  
52

+80 379  
12

371  
10.5

+241 605  
136

+241 605  
136

+227 570  
75

+225 528  
89

371  
10.5

Lt.

Rt.

Rt.

3

Habash Canyon Freeway L

TP 0.67 44.86 1272 43.69

+50

+20 POT 3.49 52.92 07% HUB

7070

TP 480 56.41 0.91 51.61

+50

6970

TP 1267 52.02 1.91 39.35

68750

41.26

4

Lt.

St

Rt

-22.4	-12.8	-18.2	-18.2	-1.3	8.7	-1.6	-5.0	9.0
102	77	57	41	8	27	27	65.0	100 = Board
237	259	355	349	517	529	548	509	455
-29.6	-27.0	-19.8	-18.0	-1.9	5.5	+1.5	-2.0	9.0
140	94	88	88	16	1	50	100	100
-19.3	19.5	34	36	54.3	55.5	56	55	55
-35.0	-34.8	-19.4	-17.1	-0.3	2.1	+1.9	+1.4	10
135	110	85	45	15	1	50	10	10
		ARR	ARR					
238	236	35	36	49	50.9	54	53.6	
-27.5	-27.3	-15.8	-14.8	-1.5	1.1	+3.2	+2.7	
120	92	52	32	10	1	50	100	
		ARR	ARR					
231	231	27	35	38	41.6	46.5	49.5	40
-18.5	-18.5	-13.9	-6.3	5.8	10.4	50	80	100
115	92	70	41	20	1	50	80	100
		ARR	ARR					
327	302	358	358	359	409	502	53.9	
-8.0	-9.8	-5.2	-4.9	-4.8	0.6	+9.5	+13.2	
81	85	54	28	17	1	50	100	
		Top Cut	ARR	ARR				
		Bank	ARR					
					52.02			
					41.26			

TP 2.65 36.20 11.81 32.55

+50

72+0

+50

71+0

70+80

44.36

Lt.

R

Rt.

5

210	212	292	324	441	588	622
-54	-57	36	180	+117	+264	+205
100	70	27	180	65	91	138

355	260	272	350	402	536	585
+10.5	-9.0	-7.2	9.4	+5.1	+18.6	+21.5
122	191	72	45	51	61	101

122-4.88  
0.776

353	250	250	358	380	480	543
-10.5	100	-100	86	+3.1	+15.0	+18.5
103	74	59	51	15	48	103

103-4.88  
0.776

103 = Board  
Perce

320	348	262	331	384	405	480	520
-55	81	-120	-55	60	+21	+10.5	+11.1
100	89	61	12	35	35	60	97

89-4.88  
0.776

97 = Board  
Perce

301	341	275	327	361	447	505
-76	+20	-57	117	+10	+120	+198
100	84	80	117	27	56	106

84-4.88  
0.776

106 = Board  
Perce

44.36

+75

+2631 BC

74+0

+50

72+0

36.20

Lt.

Rt.

Rt.

6

282  
-3.4  
100

297  
-0.9  
82

302  
-0.4  
40

306  
5.6

304  
-0.2  
3.5

310  
+0.4  
80

318  
+1.2  
100

292  
-0.2  
100

292  
-0.7  
40

292  
6.78  
07/11.5

312  
+1.8  
55

379  
+8.5  
88

349  
+5.5  
132

291  
-0.7  
100

291  
-0.7  
40

298  
6.4

301  
+0.6  
37

351  
+5.2  
68

505  
+20.7  
83

504  
+20.6  
120

280  
-0.7  
100

287  
-0.7  
40

287  
7.5

297  
+1.0  
25

432  
+14.5  
63

607  
+33.0  
104

270  
-1.3  
100

283  
-0.8  
40

291  
7.1

335  
+4.4  
80

465  
+17.4  
88

644  
+52.5  
118

36.20



77+0

+50

76+0

+50

75+0

36.20

Lt.

Z

Rt.

7

7/3  
-1.0  
100

3/6  
-0.5  
40  
1/2 = 1/4 Hour

3/8  
-0.3  
50

3/8  
4.1

3/8  
+1.7  
10

3/4  
+2.3  
54.5  
1/4 Hour

3/8  
+5.7  
100

3/5  
-0.7  
90  
1/4 = 1/10 per Garage

3/5  
0.0  
40

3/5  
4.6

3/5  
+1.0  
10

3/5  
+4.1  
100

2/8  
-3.1  
100

3/2  
-0.4  
40

3/6  
4.6

3/2  
+0.1  
40

3/8  
+2.1  
100

2/8  
-6.0  
100

3/5  
-0.5  
10

3/10  
6.2

3/4  
+0.4  
50

3/6  
+2.6  
100

out under house

3/10  
4.6

36.20

+50

79+0

TP 10.93 43.44 3.69 32.51

+50

78+0

77+50

36.20

Lt.

Rt.

Rt.

8

355  
+2.2  
100

339  
+0.6  
40

33.5  
10.1

342  
+1.4  
40

351  
+1.8  
100

352  
+1.3  
100

334  
-0.3  
40

33.7  
9.7

341  
+0.4  
40

353  
+1.6  
100

13.14

332  
+0.5  
100

318  
-0.9  
40

33.7  
9.5

343  
+1.6  
40

364  
+2.7  
100

\*

331  
+0.2  
80

315  
-1.4  
40

33.9  
9.3

342  
+1.3  
40

365  
+3.7  
80

82.9 + 54.1  
House

5.11 + 1.1  
Cone. Porch

309  
-1.4  
100

312  
-0.6  
40

32.3  
9.9

337  
+1.4  
40

362  
+1.1  
100

36.20

82+08

TP 4.42 43.18 4.68 38.76

+59.06 EC

81+0

+50

80+0

43.44

07 Nov  
81+59.06 EC

Lt		Rt
366	380	402
-1.4	-0.0	+3.2
100	100	100

384	372	387.6	392	418
-0.4	-0.9	4.8	+0.9	+6.0
100	100	100	100	100

376	364	35.6	374	391
+1.2	+0.8	7.8	+1.8	+3.5
100	100	100	100	100

368	345	34.9	361	369
+1.0	-0.5	8.6	+1.2	+1.1
100	100	100	100	100

364	362	347	354	351
+1.7	+1.5	8.7	+0.7	+1.0
100	100	100	100	100

43.44

35-11-1864

89+0

TP 10.47 75.78 0.89 65.31

+65

TP 12.60 66.20 1.29 53.60

83+29

82+93

TP 12.61 54.89 0.90 42.28

82+50

4318

L

R

Rt

41.5 43.9 68.1 60.5 79.2 85.1  
-15.8 110 -13.5 97 77 +10.8 98 +19.7 76 +27.8 120

75.78

50.2 50.2 50.2 57.3 66.1 77.3 85.2  
-7.1 100 -6.6 50 -7.0 65 8.9 28 +8.8 28 +20.0 55 +28.4 100

66.20

42.8 42.9 48.6 49.1 61.2 70.7 76.5  
-6.8 100 -6.7 40 5.3 16 -0.6 16 +1.6 37 +26.8 87 +27.0 112

39.7 39.7 41.8 42.0 45.8 66.3  
-2.1 100 -2.1 82 13.1 14 +0.2 14 +4.0 43 +24.5 103

42.28

38.1 38.1 38.5 39.7 43.1 48.1  
+0.2 100 -0.1 40 47 +1.2 40 +4.6 75 +10.8 100

4318

TP. 8.32 94.79 0.88 86.47

+70

TP 12.50 87.35 0.93 74.85

85+26<sup>53</sup> = North Curb of Market

-82  
115

+8196 = South Curb of Market

+50

+26

75.78

Lt.

Rt.

Rt.

May 9. 15  
Sideron  
Bliss  
of Barre  
8299

11

94.79

352

558

792

8545

802

71

702

731

-57.5  
117

-296  
85

-6.0  
43

1.9

-4.7  
24

-14.3  
70

-132  
88

-12.3  
106

FLY HALL

87.35

682

782

713

642

650

674

702

712

+68  
95

+88  
84

+6.3  
41

-0.8  
78

10.76

+2.4  
73.5

+5.1  
91

+6.6  
109

SCB

571

572

601

629

643

800

922

-58  
100

-5.9  
91

-2.8  
45.3

12

90  
5.53

+1.4  
19

+17.1  
67

+39.0  
120

SCB

550

572

601

694

792

929

1011

-144  
100

-12.0  
65

-9.6  
37

64

+10.5  
40

+23.5  
78

+27.7  
112

SCB

552

552

582

746

882

990

-21.7  
112

-19.6  
90

-16.2  
40

1.2

+12.4  
41

+24.4  
102

SCB

Market

75.78

88+10

T.P. 8.02 56.49 13.02 48.47

+50

T.P. 2.60 61.99 12.25 58.89

87+0

86+65 1.03 71.14 12.78 70.11

IP 1.03 71.14 12.78 70.11

86+38

T.P. 1.93 82.89 12.69 80.96

T.P. 3.42 93.65 4.56 90.23 on 4  
90.5 Hub

86+0

+90 Profile 46 90.2  
94.79

Lt. Rt.

50.7  
100  
47.1  
48  
45.2  
41  
46.0  
14.9  
41.5  
65.2  
70  
89.3  
85  
112.8  
89

17.5 F.H. WASH

56.49

41.2  
100  
41.1  
76  
39.1  
46  
35.2  
17  
46.3  
9  
11.5  
66.9  
28  
84.6  
57  
113.5  
104  
+62.8

17.5 F.H. WASH

61.49

41.3  
100  
38.1  
55  
36.3  
38  
37.3  
18  
57.3  
13.8  
73.1  
27  
111.4  
84  
113.0  
92  
113.1  
100  
+55.8

17.5 F.H. WASH

40.2  
100  
39.2  
45  
36.6  
26  
58.2  
11  
83.1  
25  
112.2  
72  
112.3  
100  
104.2  
104.2  
104.2  
100  
+48.5

17.5 F.H. WASH

36.2  
105  
35.9  
80  
35.9  
39  
60.3  
44  
71.2  
11.7  
82.6  
24  
100  
46  
104.4  
87  
104.2  
100  
+33.2  
+33.0

17.5 F.H. WASH

80.96

34.5  
100  
37.5  
41  
42.5  
60  
61.5  
44  
81.3  
7.5  
89.2  
8  
91.5  
40  
88.6  
81  
81.9  
100  
+55.5

17.5 F.H. WASH

93.65

94.79

Habash Canyon Freeway "L"

90+50

90+0

T.P. 12.00 67.09 1.40 55.09

+50

89+10<sup>10</sup>

on E  
Hub

+86

88+50

56.49

Station	Value	Calculation	Station	Value	Calculation
433	-15.4	12°-Fly Wash	433	17.8	105°-Fly Wash
403	-18.6	6.5	403	-10.3	6.1
353	-21.0	55°-Fly Wash	372	-28.9	50°-Fly Wash
380	-21.0	30°-Fly Wash	363	-24.9	33°-Fly Wash
518	-7.2		534	-7.6	
81	8.1		611	6.0	
612	+2.7		678	+4.7	
714	+12.4		825	+2.4	
90	+3.0		1025	+4.4	
1097	+50.9		1102	+49.8	
433	433		433	433	
403	403		403	403	
353	353		353	353	
380	380		380	380	
518	518		518	518	
81	81		81	81	
612	612		612	612	
714	714		714	714	
90	90		90	90	
1097	1097		1097	1097	
433	-11.9	108	433	1.6	
403	-14.0	6	403	+5.1	8
353	-16.9	50°-Fly Wash	353	+15.7	36
380	-17.8	29	380	+25.9	80
518	1.6		518	+4.4	98
81	+1.6		81	99.3	
612	+5.1		612	67.9	
714	+15.7		714	738	
90	+25.9		90	825	
1097	+4.4		1097	95.7	
433	433		433	95.7	
403	403		403	102	
353	353		353	16.7	
380	380		380	22.5	
518	518		518	80	
81	81		81	82.3	
612	612		612	77.9	
714	714		714	95.7	
90	90		90	102	
1097	1097		1097	102	
433	-4.8	100	433	9.7	
403	-7.1	55	403	+1.5	10
353	-9.9	45°-Fly Wash	353	+19.8	23
380	-8.8	30°-Fly Wash	380	+30.2	38
518	9.7		518	+43.6	80
81	9.7		81	77	
612	+1.5		612	78	
714	+19.8		714	97	
90	+30.2		90	98	
1097	+43.6		1097	98	
433	433		433	433	
403	403		403	403	
353	353		353	353	
380	380		380	380	
518	518		518	518	
81	81		81	81	
612	612		612	612	
714	714		714	714	
90	90		90	90	
1097	1097		1097	1097	
433	0.422	100	433	13.8	
403	1.30	51	403	13.8	
353	-1.0	41°-Fly Wash	353	13.8	
380	-5.0	14°-Fly Wash	380	13.8	
518	13.8		518	13.8	
81	13.8		81	13.8	
612	13.8		612	13.8	
714	13.8		714	13.8	
90	13.8		90	13.8	
1097	13.8		1097	13.8	

56.49

TP 6.34 68.92 10.19 68.58

+85

+68

+50

3/10

TP 12.63 78.77 0.95 66.14

20780

90+50

67.09

439  
-295  
130

435  
-286  
104

422  
-250  
108  
324  
-287  
98 = W/Wash  
302  
-287  
81 = Elv Wash  
452  
-217  
30  
67  
11.7  
+10.4  
16  
775  
+22.2  
41  
893  
+12.0  
80  
1091  
+26.0  
100  
1031

432  
-295  
106  
390  
-344  
91 = W/Wash  
390  
-344  
71 = Elv Wash  
437  
-297  
33  
5.4  
+24.4  
35  
978  
+28.2  
81  
897  
+16.3  
103  
817  
+26.9  
132  
1032

434  
-281  
100  
382  
-338  
81 = W/Wash  
382  
-338  
67 = Elv Wash  
500  
-220  
42  
598  
-122  
19  
6.8  
+23.4  
34  
954  
+25.5  
55  
846  
+12.6  
95  
773  
+6.8  
115  
803  
Don

434  
-258  
125  
422  
-270  
94  
372  
-320  
69 = W/Wash  
402  
-290  
45 = Elv Wash  
520  
-172  
55  
962  
96  
+10  
24  
732  
-40  
68  
682  
+126  
103  
818  
+29.5  
139  
987  
+139.5  
139

435  
-207  
121  
418  
-244  
83  
380  
-262  
76 = W/Wash  
380  
-262  
76 = Elv Wash  
642  
-209  
51.3  
+0.645  
16  
629  
38  
+6.8  
57  
816  
+50.3  
81  
712  
+22.5  
98  
867  
+59.0  
147  
1032  
+55.3  
120

78.77

67.09



T.P. 12.52 89.66 0.76 77.14

+45

93+0

T.P. 10.84 77.90 1.86 67.06

+75

+40

92+15

68.92

380  
168  
125 = W/MAS

	Lt.	A	Rt.	15
		89.66		
	422	350	422	125
	120	105	85	105
	442	330	442	125
	105	85	50	105
	463	314	463	125
	50	25	50	105
	628	149	628	125
	25	0.2	25	105
	772	0.2	772	125
	96	184	96	125
	26	26	26	105
	1075	478	1075	125
	50	50	50	105
	121	437	121	125
	90	90	90	105
	125	480	125	125
	93	93	93	105
	1225	525	1225	125
	100	100	100	105
	425	276	425	125
	135	135	135	105
	392	306	392	125
	105	105	105	105
	417	286	417	125
	100	100	100	105
	435	264	435	125
	51	51	51	105
	465	234	465	125
	31	31	31	105
	70	7.9	70	125
	83	131	83	125
	19	19	19	105
	935	236	935	125
	11	11	11	105
	122	520	122	125
	93	93	93	105
	1225	525	1225	125
	100	100	100	105
	372	228	372	125
	105	105	105	105
	392	254	392	125
	100	100	100	105
	408	240	408	125
	75	75	75	105
	431	217	431	125
	40	40	40	105
	455	193	455	125
	23	23	23	105
	648	41	648	125
	26	26	26	105
	802	159	802	125
	26	26	26	105
	925	277	925	125
	54	54	54	105
	1192	549	1192	125
	96	96	96	105
	1205	560	1205	125
	116	116	116	105
	385	227	385	125
	115	115	115	105
	385	227	385	125
	93	93	93	105
	412	208	412	125
	88	88	88	105
	422	183	422	125
	41	41	41	105
	453	169	453	125
	26	26	26	105
	612	7.7	612	125
	24	24	24	105
	772	167	772	125
	24	24	24	105
	990	278	990	125
	87	87	87	105
	1145	538	1145	125
	88	88	88	105
	1105	493	1105	125
	108	108	108	105
	385	227	385	125
	110	110	110	105
	385	227	385	125
	87	87	87	105
	413	217	413	125
	48	48	48	105
	402	208	402	125
	28	28	28	105
	436	204	436	125
	28	28	28	105
	640	49	640	125
	33	33	33	105
	780	140	780	125
	23	23	23	105
	905	265	905	125
	54	54	54	105
	1092	484	1092	125
	83	83	83	105
	1058	418	1058	125
	103	103	103	105

6892

Lt. A Pt

785

443	443	488	505	767	948	1065	1332	1348
-504	-504	-460	-443	-131	6.0	+118	+384	+400
115	106	101	76	29		29	82	100

+60

441	441	475	495	786	952	996	1067	1313	1325
-511	-511	-477	-457	-166	5.6	+44	+116	+261	+573
115	98	94	72	25		11	42	91	106

94+32

440	440	472	479	697	953	1020	1169	1317
-493	-493	-454	-454	-226	7.5	+87	+236	+384
115	92	84	71	34		50	80	106

7P 12.25 100.81 1.10 88.56

100.81

+90

423	433	474	474	652	826	934	1083	1371
-407	-393	-352	-352	-174	7.1	+108	+257	+445
127	89	87	67	33		62	67	100

93+65

445	445	460	508	606	813	996	1115	1261	1287
-368	-368	-348	-303	-207	8.4	+183	+302	+448	+474
100	74	66	57	37		34	81	97	115

89.66

89.66

+75

1°51'50"

- 43.9  
178  
S.E. Cap  
Bridg

548

TP

9.73

108.35

2.19

98.62

492

95+50

0°57.87'

-45.5  
138

= 25+23 2' Ahead  
eg 35+91 2' Back

B.C. Hub

723<sup>07</sup>

out

P.O.T.  
Hub

95+10

100.81

LT

CL

RT

531  
-45.5  
139  
582  
-40.5  
90  
582  
-40.5  
77  
755  
-23.5  
44  
902  
-8.0  
15  
98.7  
9.7  
+13.4  
57  
112.1  
+28.2  
77  
126.9  
+31.8  
100  
130.5

492  
-45.5  
117  
532  
-41.0  
84  
602  
-35.3  
63  
672  
-26.9  
46  
822  
-11.0  
20  
942  
6.1  
+7.0  
21  
101.1  
+13.1  
41  
109.8  
+36.7  
82  
131.2  
+40.0  
100  
134.2

492  
-43.1  
133  
502  
-42.2  
106  
532  
-39.1  
77  
592  
-33.1  
54  
792  
-12.1  
22  
932  
7.79  
+10.6  
23  
103.6  
+24.7  
58  
117.2  
+29.2  
85  
132.8  
+42.4  
100  
135.4

432.8  
7.45

472  
-47.3  
118  
532  
-41.8  
82  
532  
-41.8  
87  
672  
-28.0  
40  
832  
-12.0  
18  
952  
5.7  
+11.4  
40  
106.5  
+38.6  
82  
133.2  
+41.6  
100  
136.2

100.81

TP 1.06 73.27 13.02 72.21

TP 0.58 85.23 12.97 84.65

TP 1.73 97.62 12.46 95.89

+70 5° 15.89  
-546  
132 468

+50 4° 32.77  
-494  
164 542

+25 2° 38.75  
-479  
150 572

+60 2° 45.29  
108.35

Lt. E Rt.

550	548	563	565	905	1014	1062	986	964	920
-464 117	-466 104	-460 59	-450 55	-109 19	7.0	+48 20	-28 65	-50 88	-94 100
544	538	538	838	838	1088	1048	1016		
-194 98.2 Par	-300 74.6 Sly Par	-300 58	-200 38	4.5	+51 28	+10 70	-28 100		
563	690	881	1004	1024	1152	1140			
-468 91 Sly Par	-332 60	-150 33	-27 8	5.9	+13 46	+109 99			
551	552	562	682	912	1008	1173	1234	1236	
-480 118 Sly Par	-479 104	-464 78	-319 80	-119 84	-43 8	5.2	+142 48	+203 70	+805 100

108.35

97+05

463  
-33.2  
140

498	552	549	553	557	795	902	920	833	809	806
-29.7	-24.4	-24.6	-24.0	-23.9		+10.5	+12.5	+13.8	+14.4	+14.0
110	96	99.14	35.5	12		10	40	82	84	100
		1/100	1/100							

99 120 Profile 12.5 43.08  
98 + 95.46 = 7 Curve

+50

+26<sup>3</sup> Profile 6.20 55.58  
NW Edge Federal Property

9840

+60<sup>3</sup> Profile 6.15 55.63  
S. Edge Paving Federal

BM

9.94 51.84  
BM. 87  
NW 35<sup>th</sup> Federal  
Record 51.87

+50

453  
-10.0  
1.0

97+30 out

TP 1.15 61.78 12.64 60.63

Lt.

455  
-1.41  
1.38  
466  
-1.30  
94  
499  
-9.7  
89  
494  
-10.2  
12  
552  
-4.2  
13  
596  
2.2  
Identified  
575  
-2.50  
NY Pav  
579  
-1.7  
54 Pav  
577  
-1.9  
Bar Vert. Cut

470  
-8.2  
10.5  
616  
-4.5  
89  
535  
-2.6  
30  
521  
-4.0  
10  
561  
5.7  
799  
0.0  
18-HH Pav  
565  
+0.4  
62-54 Pav  
561  
0.0  
73  
587  
+2.1  
1.6  
561  
+3.0  
91  
Bar Vert. Cut

496  
-6.7  
1.44  
489  
-7.4  
71  
550  
-0.8  
12  
552  
-0.5  
16-HH Pav  
558  
5.95  
558  
0.0  
26-54 Pav  
556  
-0.2  
10  
605  
+4.7  
45  
662  
+10.4  
13  
681  
+12.3  
99-Bar Vert. Cut

495  
-5.5  
81  
548  
-0.5  
71  
556  
+0.3  
50-HH Pav  
556  
+0.3  
21-3  
556  
+0.3  
7-54 Pav  
553  
6.5  
553  
6.5  
553  
0.0  
553  
+9.1  
1.4  
731  
+1.7  
38  
754  
+2.0  
1.50  
732  
+1.8  
89  
754  
+2.0  
1.5  
100-Bar Vert. Cut

0.8

61.78

TP. 10.10 10.85 ✓ 11.03 50.75 ✓

150

+25 Profile 11.3 50<sup>S</sup>

101 & Wash

+75 Profile 11.4 50<sup>A</sup>

150

+30 Profile 11.8 50<sup>E</sup>

100+0

472  
-0.2  
131  
478  
-0.5  
105  
Fly Wash

30+50

472  
-1.9  
123  
477  
-1.3  
121  
Fly Wash

6178

Lt.

R

RT

21

End Roll No. 3.

Checked a.m. 5/21/45  
Plotted to here 5/24/45  
Q.M.

50<sup>S</sup>  
-0.6  
130  
50<sup>S</sup>  
-1.4  
83  
50<sup>S</sup>  
-0.5  
41  
50<sup>S</sup>  
11.3  
50<sup>S</sup>  
0.5  
17  
476  
-2.9  
21  
50<sup>S</sup>  
0.8  
25  
50<sup>S</sup>  
-0.9  
60  
478  
-2.7  
17  
Fly Wash

492  
+2.6  
105  
492  
+2.6  
74  
492  
+3.1  
40  
482  
+1.4  
14  
462  
0.0  
09-Fly Wash  
462  
15.1  
472  
+1.2  
19-Fly Wash  
512  
+4.5  
32  
520  
+3.3  
63  
505  
+3.8  
80  
505  
+3.8  
100  
Fly Wash

482  
+0.1  
117  
492  
+0.8  
71  
452  
-1.6  
53-Fly Wash  
472  
-0.5  
30-Fly Wash  
482  
13.4  
482  
0.0  
16  
503  
+2.5  
39  
482  
+0.3  
89  
505  
+2.4  
84  
529  
+1.5  
30  
Fly Wash

492  
+1.8  
80  
460  
-2.1  
65-Fly Wash  
460  
-2.1  
55-Fly Wash  
470  
-1.1  
52  
492  
+1.2  
13  
482  
13.7  
505  
+2.0  
74  
505  
+1.0  
73  
508  
+2.7  
74  
563  
+8.9  
77  
Fly Wash

472  
-1.9  
118  
482  
-1.1  
85  
466  
-1.5  
76  
445  
-1.5  
90  
505  
+0.5  
30  
492  
12.2  
505  
+0.4  
39  
508  
+1.2  
86  
520  
+7.4  
77  
562  
+6.7  
85  
Fly Wash

6178

103+0

+90

+67.86 = FC

10.23 50.62 27.406

+15

102+0

60.85

St.

St.

Rt.

-0.2  
117  
546

-0.6  
67  
543

+1.2  
40  
560

61  
540

+0.4  
29  
552

+0.6  
45  
559

+0.7  
75  
555

+1.5  
97  
561

-0.6  
115  
532

+1.4  
52  
553

+1.9  
8  
557

71  
530

-0.4  
50  
504

-0.5  
50  
506

-2.7  
100  
511

+4.0  
116  
556

+5.0  
94  
556

+4.7  
29  
553

+3.7  
12  
543

102  
506

+0.2  
23  
508

+0.5  
22  
511

+1.2  
23  
555

-1.6  
116  
528

-0.5  
64  
538

+0.8  
21  
547

+2.0  
70  
552

70  
539

-0.1  
1  
503

-1.7  
21  
512

-0.8  
20  
521

-1.8  
23  
521

+1.4  
102  
551

+0.7  
23  
510

+0.6  
29  
523

92  
517

-2.1  
23  
496

+1.2  
55  
505

-0.8  
100  
502

+1.5  
25  
502

60.85



TP 12.79 95.13 0.85 82.34

105+17

+85

TP 12.55 83.19 0.75 70.64

+50

TP 12.31 71.39 1.77 59.08

104+0

105+50

60.85

St.

St.

Rt.

23

879  
+81  
105

878  
+80  
87

828  
+80  
50

815  
+17  
21

810  
8.4

788  
-10  
15

562  
-286  
82

563  
-225  
100

793  
+76  
105

802  
+86  
96

770  
+54  
83

764  
+48  
36

716  
116

659  
-57  
21

597  
-119  
47

550  
-166  
82

550  
-166  
100

83.19

742  
+150  
105

743  
+149  
88

715  
+131  
53

645  
+51  
25

594  
110

577  
-17  
31

530  
-41  
57

563  
-31  
110

71.39

604  
+54  
100

567  
+17  
38

557  
+07  
101

552  
59

542  
-08  
88

557  
+87  
80

542  
-08  
120

542  
100

539  
-03  
96

538  
-04  
90

542  
66

548  
+06  
27

546  
+04  
88

548  
+06  
110

60.85

137.09 B.C. Rt.

107+0

+50

106+0

105+50

95.13

Lt.

L

Rt.

24

-95  
100

813  
80

-100  
80

-90  
88

905  
429  
87 H6

+27  
41

+15  
75

-09  
118

-15  
100

858  
87

-06  
46

-05  
27

892  
53

+04  
43

-03  
90

-65  
105

-24  
15

860  
73

-07  
23

-05  
27

877  
67

-19  
87

-280  
128-Top

-16  
100

862  
80

-13  
80

-05  
34

873  
73

-15  
44

-291  
102-Top

+05  
100

865  
85

+04  
33

893  
33

860  
91

-11  
27

587  
273

93-Top

587  
100

95.15

+45 POC 492 100.86 07 Hub

+25

109+0

+50

TP 11.82 105.78 1.17 93.96

108+0

107+50 0° 27.72

95.13

Lt.

Δ

Rt

633

650

695

933

141.8

1081

1074

1104

-38.5

-38.8

-38.9

-38.5

40

+8.3

+8.6

+8.6

100

100

100

100

100

100

100

100

637

775

806

959

1002

1049

1067

1069

-36.5

-37.3

-37.6

-37.3

5.6

+4.7

+6.5

+6.7

105

105

105

105

105

105

105

105

790

812

876

923

969

997

1005

1010

-17.9

-15.7

-9.3

-4.6

8.9

+2.8

+4.6

+4.1

100

88

54

28

100

43

87

100

105.78

807

834

884

898

914

937

993

995

-10.7

-8.0

-5.0

-1.6

3.7

+2.8

+2.9

+8.4

100

86

56

26

100

38

90

100

815

863

895

905

909

912

931

914

-9.3

-6.3

-2.1

-0.4

4.2

+0.8

+2.2

+0.5

100

83

70

30

100

40

77

125

95.13

+50

672  
-258  
107

111+0

674  
-260  
108

+50

645  
-207  
100636  
-217  
65=H/Wash635  
-217  
81=F/Wash755  
-102  
27

85.3

97.2  
+12.4  
84120.1  
+34.8  
63126.3  
+41.0  
84127.6  
+42.3  
100

110+0

645  
-272  
100?647  
272  
50637  
-282  
12=F/Wash885  
-34  
11=Top of  
Bank91.2  
13.9110.3  
+18.4  
73117.2  
+25.8  
70120.2  
+28.5  
100

109+50

644  
-358  
100664  
-362  
100=F/Wash740  
-262  
14970  
-32  
13=Top of  
Bank100.3  
5.6100  
+7.8  
83132  
+13.0  
73144  
+14.2  
100

10578

10578

+50

TP 5:45 128.43 2.12 122.98

+20.84 = F.C.

11340

TP 11:78 125.10 2.44 118.32

+50

TP 12:03 115.76 2.05 103.73

11240

105.78

09 F.C. Hub  
113+20.84

68.4  
54  
140 = Fly Wash

68.0  
52.1  
122 = Fly Wash

66.1  
54.5  
110 = Fly Wash

bt

2

RT

73.5  
51.8  
120  
22.2  
53.1  
90 = Fly Wash  
0.26  
23.7  
32  
13.3  
120  
20  
1.85  
3.1  
32.5  
7.2  
24  
38.1  
13.8  
76  
148.1  
22.8  
100

70.9  
53.1  
89 = Fly Wash  
75.5  
47.5  
57  
87.2  
25.8  
48  
16.1  
6.9  
75  
128.43  
122.98  
120  
15  
on Hus  
136.4  
13.4  
46  
143.7  
20.7  
82  
146.7  
22.7  
100

68.7  
51.4  
87  
68.7  
51.4  
73 = Fly Wash  
70.6  
40.5  
59  
96.3  
28.8  
37  
110.1  
10.0  
19  
120.1  
5  
0  
128.1  
79  
34.5  
18.6  
53  
45.5  
25.5  
100

67.9  
43.0  
110 = Fly Wash  
69.1  
41.8  
76 = Fly Wash  
71.4  
39.5  
44  
85.2  
25.7  
47  
110.2  
4.9  
18.8  
38  
137.7  
26.8  
70  
143.6  
32.7  
100

66.1  
34.5  
87  
67.5  
33.1  
74  
67.5  
33.1 = Fly Wash  
76.3  
24.2  
49  
88.0  
14.1  
23  
100.6  
5.2  
112.5  
11.9  
18  
126.9  
26.3  
50  
135.1  
34.5  
75  
139.0  
32.8  
100

105.78

150

Lt	¢	Rt
133	117 1/2	37 1/2
-439 113	112	+200 33
72 1/2	117 1/2	45 1/2
-440 79	112	+286 55
81 1/2	117 1/2	50 1/2
-351 82	112	+321 75
100 1/2	117 1/2	54 1/2
-164 27	112	+37.3 100

11510

Lt	¢	Rt
22 1/2	121 1/2	38 1/2
-486 113	7.2	+173 29
14 1/2	121 1/2	46 1/2
-489 78	7.2	+256 33
74 1/2	121 1/2	53 1/2
-422 83	7.2	+319 100
99 1/2	121 1/2	
-215 37	7.2	

170

Lt	¢	Rt
12 1/2	117 1/2	37 1/2
-452 113	11.0	+200 27
11 1/2	117 1/2	46 1/2
-455 75	11.0	+200 38
92 1/2	117 1/2	51 1/2
-245 38	11.0	+328 100

150

Lt	¢	Rt
12 1/2	118 1/2	31 1/2
-464 107	9.7	+126 20
12 1/2	118 1/2	39 1/2
-465 87	9.7	+208 26
84 1/2	118 1/2	48 1/2
-241 47	9.7	+300 89
	118 1/2	51 1/2
	9.7	+324 100

11410

Lt	¢	Rt
71 1/2	122 1/2	34 1/2
-518 120	5.6	+118 24
70 1/2	122 1/2	46 1/2
-520 78	5.6	+232 81
70 1/2	122 1/2	50 1/2
-162 60	5.6	+281 100
01 1/2	122 1/2	
-214 28	5.6	

12843

12843

118+0

TP 4.92 120.43 12.92 115.51

750

117+0

750

116+0

128.43

May 29-45  
S. 5500  
Bliss  
Orbann  
8999

Lt

¢

Rt

29

772	832	952	1142	376	603	662	702
-370	-315	-197	5.5	+227	+454	+513	+560
104	54	32		33	64	78	100

755	816	982	1135	302	551	663
-380	-370	-149	14.8	+168	+415	+527
111	53	23		23	60	100

764	849	982	1129	292	534	630
-36.5	-280	-140	15.5	+164	+405	+501
104	50	24		24	66	100

752	805	905	1002	1132	334	455	542	588
-37.5	-347	-226	-128	15.2	+202	+324	+410	+456
114	70	40	23		36	52	78	100

741	738	878	068	1155	322	460	521	575
-41.5	-418	-27.8	-88	12.8	+166	+304	+375	+420
108	83	18	15		26	30	75	100

128.43

+50

120+0

+50

110+0

118+50

12043

Lt

£

Rt

30

802	892	902	1095	272	452	683	795
-28.6	-19.8	-11.8	10.9	+17.2	+56.7	+58.8	+70.0
105	57	26		28	53	98	116

785	832	942	1082	272	433	602	782
-29.5	-24.8	-14.0	12.4	+19.1	+58.2	+57.0	+70.0
105	62	28		50	53	75	110-Top

785	882	942	1082	282	442	633	752
-29.5	-25.1	-13.7	12.3	+20.8	+58.8	+56.7	+67.7
126	47	19		30	51	78	109

782	833	932	1132	372	552	672	762
-35.0	-30.4	-20.5	6.7	+23.3	+41.4	+54.2	+62.7
100	17	28		37	60	83	110-Top

776	803	013	1156	322	552	702	732
-38.0	-35.3	-14.3	4.0	+16.4	+40.0	+54.5	+57.5
104	54	21		24	52	85	100

12043



12340

+50

12240

+50

T.P. 10.64 125.05 6.02 114.91

12140

120.43

Lt.

Rt.

Rt.

31

566  
-196  
100

073  
-122  
72

135  
-59  
82

119.5 ✓  
55

205  
+11  
25

172  
-18  
82

263  
+68  
82

295  
+100  
100

15 = 80 + 100

940  
-235  
114

965  
-210  
86

091  
-84  
85

117.5 ✓  
7.5

288  
+113  
32

380  
+20.5  
78

402  
+232  
114

880  
-271  
104

934  
-217  
67

999  
-152  
29

115.5 ✓  
9.9

279  
+128  
61

388  
+28.7  
52

512  
+361  
81

553  
+492  
106

939  
-176  
104

953  
-182  
45

010  
-105  
83

111.5 ✓  
13.5

351  
+224  
65

533  
+418  
66

623  
+508  
88

653  
+688  
100

125.05

831  
-309  
104

913  
-227  
47

021  
-119  
81

114.0 ✓  
6.4

353  
+213  
81

500  
+360  
58

656  
+576  
85

705  
+566  
100

120.43

TP 12.92 133.93 3.98 121.07 125105.90  
 on 180. Hub

125105<sup>90</sup> BC

750

12940

750

+ 30

12505

			133.99		
-8.8	53.6	3.98	+8.4	+15.0	+26.4
100	37	on 116	30	88	105
-9.0	6.8	4.3	+5.7	+14.8	+25.1
100	44		32	67	100
-10.4	5.1	5.3	+7.4	+18.4	+38.5
106	30		38	82	114
-7.9	6.9	8.7	+7.1	+14.1	+28.0
100	80		38	69	100
-6.1	6.3	13.2	+6.7	+13.1	+26.0
104	37		30	60	100

12505

TP. 11.47 14150 336 130.03

07 EC-106  
127+93.92

+43<sup>93</sup> EC

12740

+50

12640

125+50

133.99

Lt. 8 Rt.

141.50

-10.5  
10.2  
19.5  
38  
-5.4  
38  
24.6  
3.36  
on Hub  
130.0  
+4.3  
28  
34.3  
+1.6  
79  
46.6  
+2.4  
100  
51.4

-9.4  
10.2  
19.4  
38  
-1.9  
38  
23.9  
5.2  
120.0  
+2.7  
20  
31.5  
+8.4  
77  
37.2  
+15.6  
80  
144.4  
+20.6  
100  
49.4

-10.7  
10.5  
18.1  
40  
-5.5  
40  
23.3  
5.2  
120.0  
+5.2  
34  
34.4  
+1.6  
90  
43.2  
+17.8  
100  
46.1

-9.0  
10.8  
16.1  
30  
-7.0  
76  
18.1  
30  
-5.3  
30  
22.2  
8.3  
125.2  
+8.7  
20  
29.4  
+6.1  
40  
31.8  
+20.6  
100  
45.9

-7.9  
100  
15.2  
-8.5  
90  
13.1  
-4.1  
38  
18.1  
11.8  
122.2  
+5.5  
40  
27.2  
+11.7  
82  
33.9  
+20.4  
100  
45.6

133.99

130+0

+50

129+0

+50

128+0

19/50

133-  
193  
430KkH=8  
193

135-  
150  
150  
430KkH=8  
193

072	082	132	335	1350	402	464	522
-380	-378	-288	-23	56	+450	+105	+168
133- 193	88- 88	157	14	1350	402	87	113

912	922	050	209	318	1351	372	541
-144	-132	-309	-157	-29	5.8	+1.5	+190
135- 193	90- 90	74	14	23	1351	28	116

955	075	103	245	1948	365	454	551
-393	-813	-145	-105	6.7	+1.7	+8.6	+203
380	92	53	21	17	365	57	110

922	909	181	312	1320	415	502	551
-184	-241	-139	-21	7.5	+7.5	+160	+211
184	71	48	20	44	415	86	112

195	201	273	1331	401	496	573
-136	-130	-57	8.4	+7.6	+16.5	+242
110	97	40	1331	47	78	112

19/50

+50

132+0

+50

131+0

130+50

14.50

Lt.	St.	Pt.
912	153.7	46.7
-36.0	7.8	+13.0
120		82
911		
-36.6		
82		
014		
-32.3		
67		
12.8		
43		
224		
-11.3		
24		
153.7		
39.8		
+6.1		
13		
46.7		
+13.0		
82		
55.2		
+21.5		
104		
911		
-35.6		
130		
956		
-36.6		
75		
12.8		
-19.8		
13		
23.2		
-9.0		
20		
9.3		
132.2		
38.5		
+6.3		
12		
44.0		
+14.8		
40		
45.5		
+13.3		
82		
53.2		
+21.0		
100		
913		
-41.5		
130		
912		
-41.5		
95		
21.2		
-14.5		
33		
5.8		
135.7		
+4.6		
44		
+15.0		
93		
55.9		
+20.2		
120		
910		
-38.9		
130		
963		
-38.0		
80		
07.8		
-27.5		
69		
22.9		
-12.4		
84		
32.2		
-24		
4		
6.2		
135.3		
+3.9		
40		
46.8		
+11		
100		
910		
-47.8		
117		
942		
-17.6		
85		
11.4		
-25.4		
84		
20.6		
-16.2		
17		
33.8		
-3.0		
22		
4.7		
136.8		
+4.3		
34		
43.9		
+7.1		
81		
52.2		
+15.9		
116		

14.50

Lt.

S

Rt.

+25

982  
-343  
143

992  
-331  
100  
96. Hyman  
-256  
14  
106  
40  
13.7  
16.4  
388  
+12.1  
50  
+16.2  
77  
+20.1  
100

134+0

919  
-376  
120  
120. Hyman

803  
-352  
115  
100  
-285  
70  
-152  
38  
10.6  
382  
+27  
5  
450  
+95  
51  
+17.8  
104

+75

966  
-110  
156  
156. Hyman

998  
-878  
128  
011  
-368  
96  
-295  
58  
-154  
30  
8.5  
386  
+10  
4  
402  
131  
23  
470  
194  
22  
+19.0  
108

TP. 10.00 146.06 5.44 136.06

146.06

+50

992  
-364  
78  
035  
-323  
83  
144  
-214  
75  
218  
-140  
21  
5.7  
1350  
382  
+29  
76  
432  
+154  
83  
512  
+180  
100  
532

133+0

982  
-368  
132  
982  
-368  
110  
002  
-348  
107  
008  
-347  
79  
225  
-125  
26  
6.5  
1350  
1388  
+38  
422  
+72  
78  
471  
+127  
51  
552  
+204  
108

141.50

141.50

67

8

RT

082  
-23.8  
115

+45

T.P. 0.51 133.98 12.59 133.47

025  
-32.0  
114

+25

135+0

022  
-4.8  
120

+75

998  
-139.4  
138

134+90

146.06

042  
-22.8  
97

002  
-22.8  
97

025  
-25.5  
53

005  
-27.5  
31

203  
-7.7  
16

1280  
6.0

422  
+14.8  
38

482  
+20.0  
85

512  
+23.2  
100

895  
-55.0  
110

001  
-3.4  
110

101  
-24.4  
51

235  
-11.4  
28

1345  
11.6

413  
+6.8  
13

463  
+16.8  
80

515  
+17.0  
100

023  
-39.0  
117

993  
-42.0  
115

013  
-40.0  
98

107  
-21.6  
49

311  
-10.9  
24

1413  
4.8

433  
+20.0  
11

442  
+5.6  
48

512  
+10.6  
100

022  
-10.3  
87

202  
-2.8  
59

392  
-2.5  
28

412  
-2.7  
17

1425  
3.6

435  
+1.0  
40

522  
+10.8  
101

013  
-38.0  
91

027  
-36.6  
91

202  
-19.3  
31

315  
-7.8  
25

392  
-0.3  
6

1393  
6.8

436  
+4.2  
40

492  
+10.6  
83

542  
+15.6  
110

146.06

TP. 11.68 128.22 6.48 116.54 ✓ 137+10 Large Rock

137+10

+65

136+25

550  
-55  
110

+90

TP. 1.96 123.02 12.92 121.06

135+60

133.98

Walkers Point  
57+25 Elev 120.21  
#1657-3 120.20

RT

575  
-63  
103  
075  
-70  
75  
045  
-97  
71  
055  
-98  
76  
065  
-75  
79  
1132  
9.3  
+98  
285  
+280  
423  
+486  
593  
100

050  
-06  
110  
060  
-05  
76  
035  
-30  
32  
045  
-78  
32  
1065  
16  
5  
095  
+30  
4  
203  
+28  
360  
+295  
59  
549  
+484  
94  
582  
+577  
105

550  
-55  
80  
030  
-83  
78  
032  
-79  
44  
040  
-71  
41  
075  
-85  
7  
119  
+144  
26  
255  
+120  
54  
412  
+375  
76  
530  
+428  
100

280  
-143  
110  
045  
-142  
98  
015  
-172  
87  
035  
-159  
13  
1190  
4.0  
+119  
29  
300  
+276  
58  
465  
+350  
100  
542

065  
-165  
97  
015  
-215  
95  
035  
-197  
81  
1227  
123.02  
11.3  
+154  
30  
440  
+222  
54  
519  
+295  
100

133.98



+60

TP 12.77 151.82 1.22 139.05

138+20

137+87

TP 12.29 140.27 0.24 127.98

137+60

137+35

128.22

050  
249  
142 = NY Wats

060  
153  
110

075  
32.8  
56 = FLY Wats  
155  
-34.8  
53  
217  
-18.6  
42  
133  
-7.3  
19  
140.3  
11.5 + 110  
26  
513  
605  
+20.2  
48  
663  
+20.0  
76  
705  
+20.2  
100

065  
-28.9  
130  
060  
-29.3  
78  
059  
-29.5  
45  
266  
-8.8  
20  
135.4  
4.9  
420  
+6.6  
16  
576  
+22.2  
48  
627  
+27.3  
89  
620  
+27.5  
88  
651  
+29.7  
100

060  
-24.3  
102  
060  
-24.3  
87 = FLY Wats  
125  
-17.8  
34  
130.2  
10.0  
445  
+14.7  
48  
453  
+15.5  
70  
718  
+4.5  
120

062  
-15.3  
87  
060  
-19.3  
84 = NY Wats  
050  
-17.0  
58  
037  
-18.5  
81 = FLY Wats  
122  
-10.0  
28  
122  
6.0  
261  
+4.2  
18  
309  
+8.7  
31  
515  
+29.3  
72  
582  
+26.7  
100

070  
-10.1  
100  
065  
-11.0  
81  
037  
-13.1  
78 = NY Wats  
051  
-11.0  
19 = FLY Wats  
143  
-8.9  
11  
117.1  
11.1  
249  
+7.8  
25  
315  
+14.5  
50  
615  
+50.5  
90  
730  
+55.9  
100

128.22

June 4-45

135

272  
-243  
100

265  
-251  
191

265  
-251  
81

332  
-177  
86

370  
-146  
49

425  
-98  
134

458  
-58  
151.5

502  
+64  
23

635  
+48  
81

699  
+188  
100

140+0

201  
-327  
105

273  
-260  
89

328  
-205  
83

392  
-134  
44

454  
-79  
21

533  
4.7

622  
+89  
24

662  
+136  
54

743  
+310

150

182  
-328  
132

165  
-249  
102

265  
-250  
98

329  
-186  
81

432  
-88  
25

515  
65

622  
+105  
27

682  
+172  
84

743  
+228  
104

T.P. 7.55 158.02 1.35 150.47

139+25

105  
-386  
100

272  
-220  
88

338  
-154  
41

432  
-89  
19

492  
2.6

605  
+163  
31

707  
+215  
87

721  
+225  
100

138+90

094  
-314  
100

112  
-298  
78

243  
-115  
51

323  
-84  
36

140.8  
11.0

452  
+44  
13

635  
+227  
53

662  
+259  
96

678  
+270  
100

151.82

151.82

TP. 12.95 168.40 2.07 155.95

+50

141+25

+95

+72

140+55

158.02

41

4

RT

41

168.40

40.5  
-14.6  
108  
34.1  
-20.8  
78  
40.9  
-14.1  
73  
47.2  
-12.8  
88  
154.3  
3.7  
67.4  
+13.1  
60  
72.4  
+18.1  
61  
79.7  
+25.1  
100

30.5  
-21.8  
112  
33.1  
-18.8  
82  
38.3  
-14.6  
71  
42.7  
-9.2  
60  
46.5  
-5.4  
22  
161.9  
6.1  
65.3  
+13.4  
87  
70.2  
+18.0  
73  
67.2  
+15.3  
100

21.5  
-20.5  
112  
36.9  
-14.0  
82  
42.3  
-7.6  
51  
149.2  
8.1  
61.5  
+11.6  
45  
62.8  
+12.9  
67  
51.5  
+1.7  
100 = Bot. Mark.

21.8  
-10.8  
100  
31.4  
-7.5  
75  
35.8  
-2.8  
67  
37.8  
-0.8  
90  
35.2  
-3.4  
78  
188.6  
19.4  
43.9  
+5.3  
42  
48.3  
+9.7  
70 = Bot. Mark.  
63.4  
+15.0  
100

28.7  
-19.3  
109  
31.2  
-16.8  
88  
31.3  
-16.7  
88  
37.8  
-10.8  
87  
43.3  
-4.7  
80  
148.0  
10.0  
50.5  
+12.5  
27  
54.0  
+4.0  
50  
58.0  
+10.0  
67  
67.1  
+19.1  
104

158.02

144+0

+50

143+0

+50

142+0

16840

Lt.

Lt.

Rt.

42

562	413	493	542	1627	684	751	812	872
-265 130	-214 78	-134 50	-78 38	5.7	+5.7 76	+124 73	+192 88	+215 107

351	442	512	542	1613	662	792	872
-231 100	-160 69	-101 38	-71 33	7.1	+5.1 12	+186 58	+262 100

351	452	512	542	1625	728	812	872
-274 110	-167 89	-114 37	-81 24	5.9	+10.3 37	+191 72	+250 103

342	301	482	562	1631	682	733	812	842
-287 106	-240 71	-151 42	-67 16	5.3	+5.5 16	+102 42	+182 82	+212 100

325	372	425	492	1592	665	752	812
-267 103	-212 89	-166 50	-92 28	9.2	+7.3 18	+160 80	+220 100

16840

146+0

+50

TP. 3.82 170.20 2.02 166.38

145+0

+50

144+28.88 8.0

168.40

181  
-48.2  
168

112  
-48.1  
134

235  
-42.5  
109

435  
-22.4  
388

487  
-17.3  
438

598  
-6.2  
462

166.0  
4.2

707  
+4.7  
30

752  
+9.2  
162

831  
+17.1  
185

183  
-48.0  
123

398  
-31.5  
117

455  
-20.8  
208

583  
-8.0  
288

166.3  
3.9

231  
+6.8  
39

801  
+14.1  
119

866  
+20.3  
115

170.20

165  
-48.0  
144

397  
-34.8  
87

441  
-21.4  
123

525  
-12.9  
46

582  
-6.4  
22

164.5  
3.9

695  
+15.9  
24

720  
+18.5  
82

870  
+24.5  
100

390  
-24.0  
100

455  
-17.4  
86

532  
-9.8  
88

563  
-6.7  
22

1630  
5.4

721  
+9.1  
30

769  
+13.1  
19

893  
+25.3  
104

393  
-24.0  
100

440  
-19.6  
12

519  
-11.9  
11

557  
-7.9  
23

1636  
4.83

683  
+4.7  
13

789  
+15.3  
58

843  
+10.7  
81

869  
+23.2  
106

16840

Lt.

R

Rt.

TP. 1292 16952 0.83 156.60

148+0

147 +65 = Bottom of Draw

TP. 0.06 157.43 12.83 157.37

147 +10

+90

146+50

170.20

End Roll No 4.

305	435	505	522	1552	612	676	692
-219	-119	-119	-227	2.0	+5.6	+12.2	+14.0
105	89	50	21		26	57	108

325	346	392	141.5	442	469	950.8	515
-109	-69	-18	159	+3.4	+5.4	+80.3	+100
110	76	35	31	31	53	80	100

Bottom of Draw

232	246	462	164.1	673	668	632	610
-40.4	-89.5	-180	6.1	+3.2	+2.7	-0.8	-4.1
136	118	41		27	58	89	100

240	375	522	573	668	682	702	682
-89.1	-25.5	-110	-5.4	+3.7	+5.1	+7.0	+5.6
118	73	43	18	12	25	59	104

254	434	538	162.9	652	702	745	193
-87.5	-19.5	-9.1	7.3	+2.2	+4.4	+11.6	+16.4
100	57	28		5	18	27	103

170.20

RT. June 6-45 44

Checked to here  
7/6/45.  
a.m.

+40

42.23  
-42.0  
139

149+0

+75

+50

148+23

169.52

Lt.

Rt.

Rt.

21- 208 437 580 165-  
-110 -36.9 -21.1 -7.1 4.4 +1.6 +11.7 +16.4  
128 88 60 40 25 2.9 2.9 10.1

283 341 456 575 1625-  
-36.9 -28.5 -17.0 -15.1 6.9 +6.1 +11.5 +18.5  
166 76 44 15 16 16 11.5 11.5

292 325 464 557 163.5-  
-33.6 -31.0 -17.1 -15.8 6.0 +3.8 +7.3 +12.3 +18.0  
100 91 58 30 6 10 8 8 12.0 12.0

249 372 501 593 624 165.2-  
-40.4 -27.8 -15.1 -5.9 -2.8 4.3 +4.4 +8.7 +13.2  
128 88 60 40 25 2.9 2.9 7.3 10.5

281 392 575 612 164.2-  
-36.6 -24.9 -7.2 -3.0 4.8 +5.6 +9.5 +8.0  
117 84 44 20 14 14 9 10.8

169.52

750

$$\begin{array}{r} 272 \\ -237 \\ \hline 112 \end{array}$$

$$\begin{array}{r} 303 \\ -211 \\ \hline 100 \end{array}$$

151+0

$$\begin{array}{r} 268 \\ -266 \\ \hline 133 \end{array}$$

$$\begin{array}{r} 248 \\ -286 \\ \hline 112 \end{array}$$

750

$$\begin{array}{r} 261 \\ -280 \\ \hline 120 \end{array}$$

T.P.

7.08

166.30

10.30

159.22

150+0

+68

$$\begin{array}{r} 199 \\ -395 \\ \hline 115 \end{array}$$

169.52

Lt.

St.

Pt.

$$\begin{array}{r} 312 \\ -201 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 312 \\ -199 \\ \hline 88 \end{array}$$

$$\begin{array}{r} 334 \\ -180 \\ \hline 86 \end{array}$$

$$\begin{array}{r} 424 \\ -90 \\ \hline 83 \end{array}$$

$$\begin{array}{r} 451 \\ -63 \\ \hline 25 \end{array}$$

$$\begin{array}{r} 149 \\ +51 \\ \hline 19 \end{array}$$

$$\begin{array}{r} 570 \\ +133 \\ \hline 196 \end{array}$$

$$\begin{array}{r} 632 \\ +78 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 712 \\ +190 \\ \hline 89 \end{array}$$

$$\begin{array}{r} 204 \\ +190 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 742 \\ +200 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 268 \\ -266 \\ \hline 110 \end{array}$$

$$\begin{array}{r} 268 \\ -266 \\ \hline 84 \end{array}$$

$$\begin{array}{r} 303 \\ -281 \\ \hline 74 \end{array}$$

$$\begin{array}{r} 312 \\ -162 \\ \hline 77 \end{array}$$

$$\begin{array}{r} 415 \\ -118 \\ \hline 54 \end{array}$$

$$\begin{array}{r} 129 \\ +91 \\ \hline 23 \end{array}$$

$$\begin{array}{r} 625 \\ +166 \\ \hline 46 \end{array}$$

$$\begin{array}{r} 702 \\ +252 \\ \hline 89 \end{array}$$

$$\begin{array}{r} 786 \\ +274 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 809 \\ +274 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 261 \\ -280 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 285 \\ -255 \\ \hline 96 \end{array}$$

$$\begin{array}{r} 339 \\ -309 \\ \hline 60 \end{array}$$

$$\begin{array}{r} 412 \\ -127 \\ \hline 30 \end{array}$$

$$\begin{array}{r} 479 \\ -62 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 122 \\ +142 \\ \hline 31 \end{array}$$

$$\begin{array}{r} 683 \\ +191 \\ \hline 50 \end{array}$$

$$\begin{array}{r} 732 \\ +258 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 799 \\ +268 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 809 \\ +268 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 245 \\ -343 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 299 \\ -79 \\ \hline 90 \end{array}$$

$$\begin{array}{r} 315 \\ -253 \\ \hline 74 \end{array}$$

$$\begin{array}{r} 402 \\ -184 \\ \hline 44 \end{array}$$

$$\begin{array}{r} 498 \\ -70 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 127 \\ +126 \\ \hline 29 \end{array}$$

$$\begin{array}{r} 642 \\ +193 \\ \hline 81 \end{array}$$

$$\begin{array}{r} 751 \\ +214 \\ \hline 82 \end{array}$$

$$\begin{array}{r} 825 \\ +257 \\ \hline 100 \end{array}$$

$$\begin{array}{r} 199 \\ -395 \\ \hline 97 \end{array}$$

$$\begin{array}{r} 282 \\ -310 \\ \hline 92 \end{array}$$

$$\begin{array}{r} 332 \\ -255 \\ \hline 70 \end{array}$$

$$\begin{array}{r} 452 \\ -135 \\ \hline 39 \end{array}$$

$$\begin{array}{r} 540 \\ -54 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 101 \\ +97 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 691 \\ +170 \\ \hline 65 \end{array}$$

$$\begin{array}{r} 764 \\ +260 \\ \hline 120 \end{array}$$

$$\begin{array}{r} 854 \\ +260 \\ \hline 120 \end{array}$$

169.52



153 + 0

+75

+40

152 + 09

151 + 77

166.30

47

47

47

283	291	307	452	538	1592	683	767	857
-312	-301	-208	-145	-6	6.8	+220	+172	+263
112	100	82	79	82		220	172	101
27	295	440	512	1602	698	782	862	
323	300	440	440	5.9	+94	+185	+102	
112	100	38	37		10	102	102	
265	295	407	473	572	1616	681	798	899
-350	-320	-209	-143	-42	4.7	+65	+182	+283
104	85	82	43	16		65	182	109
269	282	368	495	1592	624	695	747	816
-328	-315	-229	-109	6.6	+17	+98	+150	+219
120	89	88	10		15	83	13	83
265	253	285	412	496	1559	636	746	819
-285	-277	-264	-132	-54	11.3	+86	+196	+169
188	80	83	38	16		86	89	100

166.30

T.P. 591 163.40 881 157.49

155+0

+50

+25

154+0

+50

166.30

St.

29

Sept 8-15  
5000  
5110  
06000  
8999

48

163.40

442  
-130  
107  
488  
-81  
75  
528  
-41  
38  
1562  
24  
612  
+42  
33  
703  
+134  
91  
825  
+256  
110

407  
-128  
120  
441  
-111  
70  
478  
-77  
53  
515  
-39  
31  
155.5  
10.8  
614  
+59  
35  
671  
+116  
58  
820  
+265  
110

394  
-150  
119  
434  
-110  
89  
465  
-78  
52  
503  
-41  
26  
1544  
11.9  
585  
+42  
36  
702  
+158  
67  
809  
+265  
107

382  
-126  
119  
407  
-151  
86  
451  
-107  
55  
500  
-5  
38  
1552  
10.5  
635  
+77  
33  
714  
+154  
64  
834  
+276  
111

364  
-219  
164  
410  
-173  
178  
452  
-161  
47  
500  
-8  
24  
1583  
8.0  
659  
+76  
32  
735  
+152  
89  
858  
+275  
110

166.30

+50

+21<sup>25</sup> P.O.T. on Hub

6.13

157+0

+50

156+0

+50

163.40

Lt.

2

Rt.

49

39.9  
-17.8  
108

51.6  
-1.1  
79

55.4  
-2.4  
63

56.1  
-1.6  
27

57.7  
5.7

59.7  
+2.0  
74

64.3  
+6.6  
23

70.7  
+15.0  
58

79.5  
+21.8  
107

47.2  
-11.1  
100

55.2  
-3.1  
86

55.0  
-2.5  
90

58.3  
5.1

62.7  
+4.4  
27

64.7  
+6.4  
52

73.2  
+14.9  
80

81.4  
+23.1  
111

45.1  
-11.9  
103

54.2  
-2.8  
71

55.1  
-1.0  
67

54.5  
-2.5  
38

57.0  
5.4

58.3  
+1.2  
14

65.9  
+8.9  
60

75.8  
+18.8  
87

84.8  
+22.4  
119

49.5  
-7.0  
100

52.4  
-4.1  
89

54.4  
-2.1  
43

56.5  
6.9

59.3  
+2.8  
30

63.3  
+6.8  
70

67.2  
+10.7  
69

80.8  
+24.3  
104

52.1  
-4.1  
100

53.2  
-3.0  
70

53.8  
-1.3  
68

54.5  
-1.7  
8

56.2  
7.2

63.6  
+7.4  
37

71.5  
+15.3  
74

82.7  
+26.5  
106

163.40

160+0

+50

159+0

T.P. 8.92 169.78 2.54 160.86

+50

158+0

163.90

H.

A

H.

50

59.5	56.5	57.2	59.5	164.2	70.2	82.2	95.2
-14.1	-8.1	-7.9	-5.1	4.9	+5.2	+17.8	+5.2
113	98	64	81		30	88	100

47.5	56.4	58.5	59.2	164.4	67.1	73.1	82.6	92.4
-16.9	-8.0	-5.9	-4.5	5.4	+2.7	+8.7	+1.8	+2.8
104	75	48	16		15	39	70	102

45.4	48.4	56.4	59.0	162.0	65.0	68.1	75.5	88.0
-16.6	-13.1	-5.6	-5.0	7.8	+5.0	+6.7	+1.3	+2.6
100	90	65	88		11	55	53	100

169.78

38.8	50.9	57.4	159.6	63.5	66.5	76.2	87.5
-20.8	-8.7	-2.2	3.8	+3.0	+7.0	+1.6	+2.8
114	79	15		8	51	72	108

43.3	54.9	55.3	158.8	64.4	68.5	80.4
-15.5	-8.9	-8.5	4.6	+5.6	+9.7	+2.6
100	59	77		51	56	52

163.90

125

162+0

+50

T.P.

12.92

178.65

4.05

165.73

Large Rock  
6' x 16' x 2'

161+0

160+50

169.78

11.

Rt.

51  
June 19 45

41.7	43.8	43.0	47.0	55.2	166.0	74.3	80.3	200.7
-24.3 12.2	-22.2 80	-24.0 5.3	-19.0 4.8	-10.1 3.3	12.6	+8.3 2.0	+22.3 8.8	+54.7 10.1

42.1	42.7	47.2	56.1	166.0	74.5	82.5	200.5
-23.9 11.7	-23.0 8.0	-18.8 4.9	-9.9 2.8	12.6	+8.5 2.1	+16.6 5.3	+54.6 10.4

41.3	43.3	47.2	56.2	165.0	76.0	90.0	203.8
-23.7 11.8	-21.7 7.7	-17.8 4.8	-8.7 2.2	13.6	+11.0 3.2	+25.0 7.9	+38.4 11.2

178.65

41.6	40.2	61.1	166.5	69.5	73.9	77.8	88.5	202.1
-25.0 11.8	-31.4 8.8	-5.5 3.0	3.2	+2.9 1.7	+7.3 2.7	+11.2 4.3	+22.0 8.6	+38.5 11.1

39.0	57.8	63.2	165.5	67.8	72.5	87.4	99.5
-26.6 11.8	-7.8 6.4	-2.1 2.2	4.2	+2.2 1.4	+6.9 3.3	+21.8 7.8	+34.0 10.3

169.78

465  
-29.3  
110

+75

465  
-29.3  
168  
472  
-28.7  
72  
492  
-26.2  
62  
551  
-29.2  
48  
648  
-11.0  
36  
758  
9.0

28

837  
+7.9  
64908  
+15.0  
801062  
+30.4  
107

+50

462  
-29.0  
110  
467  
-28.5  
77  
514  
-23.8  
54  
635  
-11.6  
34

3.4

823  
+7.1  
30942  
+19.0  
722062  
+31.0  
108

163+0

452  
-27.6  
112  
477  
-28.3  
85  
492  
-23.8  
58  
605  
-12.5  
28  
712  
-1.8  
7

5.6

792  
+6.2  
29928  
+19.8  
892045  
+31.5  
104

+75

445  
-24.7  
122  
453  
-24.0  
87  
488  
-20.5  
52  
535  
-15.7  
36  
620  
-7.3  
77

9.3

769  
+7.6  
19835  
+14.2  
472052  
+36.6  
110

+50

432  
-26.0  
117  
439  
-25.3  
88  
459  
-23.9  
54  
492  
-20.0  
49  
549  
-14.2  
39

9.4

770  
+7.8  
22894  
+20.2  
872037  
+34.5  
103

178.65

178.65

+70

ZP. 13.33 19 0.77 121 177.44

+30

165 to Profile 81

+85

+50

164+10

178.65

H.

X

Rt

1302	588	633	722	823	1842	902	969	2062
-264 124	-255 92	-211 88	-122 32	-71 9	6.4	+60 82	+125 55	+222 100
558	529	528	567	611	690	1792	130.77	857
-186 111	-216 105	-213 90	-177 79	-133 70	-64 13	9.2	+113 26	+212 62
482	527	575	623	683	769	881	2037	
-194 103	-146 89	-108 59	-58 17	10.3	+86 19	+198 48	+374 101	
476	492	533	611	693	831	881	2023	
-217 112	-201 82	-160 63	-82 20	9.3	+148 41	+188 46	+550 100	
472	472	512	545	591	771	812	912	2052
-245 126	-238 77	-205 84	-172 48	-126 31	6.9	+95 22	+197 61	+285 106

178.65

+28<sup>14</sup>

213  
+56  
110

167+03<sup>14</sup>

680  
-24  
101

= 166+78<sup>14</sup> ahead  
166+59:21 T.S.

+40

166+10

143	154	613	654	642	166?	640	762	822
+76	+87	+06	-13	-20	241	+30	+95	+155
97	84	51	29=NY Wash	12=FY Wash		26	85	100

670	622	629	642	689	171?	750	822	895	938
-84	-89	-87	-69	-27	127	+47	+116	+184	+228
87	65=NY Wash	43=FY Wash	23	14		19	47	75	100

600	625	629	745	180 <sup>91</sup>	812	924	914	2094
-204	-178	-186	-58	1036	+68	+120	+170	+240
110=Wash	77	10	18	on Hob	25	47	71	104

595	623	679	752	850	1875	929	979	2094
-280	-252	-201	-118	-17	33	+54	+104	+219
110=Wash	896	85	32	7		23	57	108

611	733	775	820	186?	901	954	2092	2072
-250	-121	-92	-49	41	+64	+87	+188	+205
115	72	47	27		19	87	85	100



+53.4

TP. 12.73 214.69 0.99 201.96

+28.4

TP. 12.65 202.95 0.47 190.30

168+03.4

+78.4

+53.4

Lt. 2 Rt.

636	828	965	201.7	203.5	206.0	05.7	202.5
-399 117	-207 88	-89 44	-18 27	11.2	+2.5 53	+2.2 74	-1.0 102

214.69

603	645	802	933	962	982	198.0	965	961	913
-103 137	-88 110	-172 72	-47 49	-18 37	+02 19	50	-1.4 21	-1.9 81	-6.7 100

202.95

629	756	908	926	942	186.0	822	848	749
-231 119	-104 100	+49 54	+63 31	+10 15	4.8	-2.8 53	-1.2 72	-6.1 100

742	852	810	776	173.2	245	202	692
+10 100	+120 81	+72 40	+44 19	17.6	-28 26	-40 70	-8.6 100

729	788	714	656	166.0	672	723	744
+69 100	+124 75	+54 40	-0.4 20	24.8	+127 27	+63 93	+8.4 100

2.7 mark

+80

$$\begin{array}{r} 60.9 \\ -193 \\ \hline 132 \end{array}$$

+50

+28.4 C.S.

$$\begin{array}{cccc} TP & 12.62 & 226.73 & 0.58 & 214.11 \end{array}$$

$$\begin{array}{r} 169+03 \\ \hline 172 \end{array}$$

+78.14

21469

H

L

R

66.8	25.5	50.9	240.2	209.8	242	37.9	42.4	43.9
-43.0	-34.2	-18.9	-9.6	16.9	+14.4	+28.1	+27.6	+34.0
106	79	40	20	29	29	82	88	100

61.8	68.8	86.0	05.2	212.0	25.4	32.6	38.9
-57.0	-44.0	-26.8	-9.4	13.9	+12.6	+19.8	+25.2
131	96	54	12	26	26	80	100

64.5	14.6	84.5	00.2	06.5	215.6	23.6	230.6	31.0
-57.1	-4.0	-31.0	-15.4	-9.1	11.08	+8.0	+16.0	+15.4
113	84	22	25	21	30	30	81	101

226.73

62.0	77.5	93.7	05.0	212.3	14.0	24.1	21.6
-49.5	-54.8	-18.6	-6.5	2.4	+7.5	+11.8	+9.3
120	83	52	26	41	41	82	102

60.9	75.9	90.5	03.0	207.1	12.6	14.1	15.1
-48.9	-34.8	-17.7	-3.9	7.0	+4.9	+6.4	+5.4
125	85	54	29	29	37	87	100

21469

+30.70 C.S.

T.P. 12.32 238.13 0.92 225.81

+75

+50

+25

170+0

226.73

Lt.

Z

Rt

57

100	76.0	06.3	10.2	223.5	32.2	45.8	50.0	50.8
-53.5	-17.5	-17.2	-4.2	14.6	+8.9	+22.3	+26.5	+27.4
125	98	6.1	9		15	87	77	100

68.7	74.2	96.5	15.0	224.2	42.0	41.8	44.2	44.0
-55.5	-50.0	-27.6	-8.3	2.5	+17.8	+17.6	+20.0	+20.6
120	95	49	16		51	46	72	100

63.5	70.5	81.5	91.0	06.7	223.1	39.2	42.1	46.7	47.3
-59.5	-52.6	-41.6	-31.5	-16.4	3.6	+16.3	+20.0	+20.6	+21.2
141	107	75	58	32		33	51	80	100

60.2	67.2	76.7	90.0	07.5	218.0	27.2	40.5	46.0	46.3
-57.8	-50.8	-41.3	-38.0	-10.6	8.7	+9.4	+22.6	+28.0	+28.5
132	110	84	58	24		20	49	80	100

63.2	71.0	83.5	203.1	211.9	25.5	37.4	43.5	44.0
-48.7	-40.9	-38.3	-8.8	14.8	+17.6	+25.5	+27.6	+28.0
130	107	76	23		26	52	78	100

226.73

79. 4.92 241.00 2.05 236.08

172 + 15.75

+ 90.75

+ 65.75

+ 40.75

171 + 15.75

238.13

Lt

Z

Rt

58

675	835	955	149	278	241.00	458	519	562
-680	-52.0	-104	-207	-78	2.5	+10.2	+16.8	+21.1
164	118	85	52	22		33	82	101.

663	840	930	209	2333	447	544	561
-670	-49.8	-99.5	-124	4.8	+11.4	+21.1	+22.8
158	110	71	32		28	57	100

out 6.7

718	929	116	228	2294	390	455	529	524
-576	-36.5	-172	-66	8.7	+9.6	+16.1	+21.5	+22.0
130	77	40	15		21	38	81	100

out

238.13

+40<sup>75</sup> S.T.173+15<sup>75</sup>+30<sup>75</sup>+65<sup>75</sup>+40<sup>75</sup>

241.00

102	102	845	048	272	2352	438	512	625
-645	-645	-507	-304	-728	576	+86	+16.0	+273
166	140	107	67	21	on Hub 27	27	51	109

out 4.6

675	678	945	123	318	2372	465	570	592
-696	-694	-127	-249	-64	3.8	+93	+19.8	+22.7
163	138	93	64	18		30	79	100

out 3.4

675	987	531	276	2372	462	521	577
-707	-57.5	-247	-96	3.8	+90	+15.5	+20.5
166	85	57	28		33	65	100

241.00

Hobash Canyon Freeway

+59.65

+34.65

TP. 1.14 229.82 12.32 228.68

174+09.65

+84.65

-62.5  
147

173+59.65 T.S.

241.00

Lt.

L

Rt.

157	268	987	128	224.4	305	442	564	622
-48.7	-47.6	-26.2	-11.6	5.7	+6.1	+19.8	+32.0	+87.8
117	102	55	22	-	8	71	77	100

777	787	885	065	185	227.1	411	545	627
-50.0	-49.0	-38.6	-20.6	-8.6	2.7	+14.0	+37.4	+55.6
113	98	75	42	18	-	29	68	100

229.82

out 12.0

702	762	022	191	232.1	445	532	607
-62.5	-56.5	-30.5	-13.4	8.3	+14.8	+20.0	+28.0
132	107	60	25	-	30	80	95 = 111 Hour

out 6.8

241.00

184.<sup>65</sup>

759.<sup>65</sup>

134.<sup>65</sup>

175+09.<sup>65</sup>

184.<sup>65</sup>

229.82

180  
-482  
147

181	821	909	065	168	226.3	381	455	578	643
-476	-431	-363	-198	-9.5	35	+124	+192	+315	+820
130	120	85	35	22		22	38	70	100

805	876	071	128	225.9	365	401	472	492	559
-153	-883	-188	-8.0	39	+10.6	+148	+213	+24.0	+30.0
132	88	10	16		21	81	39	5	7

196	831	862	078	222.6	240	358	361	513	616
-130	-395	-364	-152	77	+14	+132	+135	+287	+390
141	112	8	31		8	22	27	57	80

178	888	978	078	220.9	225	353	358	553	598
-139	-332	-235	-13.0	89	+16	+144	+145	+344	+325
	88	61	28		7	25	29	44	87

778	988	101	218.4	340	368	521	579
-410	-126	-7.7	114	+15.6	+18.7	+31.7	+39.5
118	67	30		26	42	77	77

229.82

T.P. 0.38 211.03 12.53 210.65

+25

81.7  
-35.3  
115

177+0

81.7 80.2 81.7 83.5 211.03  
-35.3 36.8 35.3 35.5  
93 80 73 29  
212.0  
6.2 17.2 44.0  
7 39.2 53.5  
219.5  
3.9 11.7 28.3 56.8  
2.6 54 78 63.2  
106.17 HWSH

+70

80.3 80.3 82.2 90.9 11.3 219.9  
-39.5 39.5 37.4 20.9 8.5  
112 101 78 45 17  
3.4 16.9 21.8 57.8 63.2  
31 46 78 100

140

79.4  
-34.0  
125

79.8 80.9 83.8 213.4  
-33.6 23.5 9.8  
96 85 46  
19.4 37.2 45.8 61.4 62.8  
19 44 65 93 100

T.P. 5.36 223.18 12.00 217.82

176+0.8 C.S.

78.2  
-12.6  
140

78.6 87.2 97.3 06.0 11.8 221.0  
-42.1 32.1 23.7 15.0 5.7  
114 91 67 35 12  
8.78 9.5 19.5 39.8 63.2  
24 46 90 100

223.82

223.82



+50

179+0

+75

+50

178+0

T.P. 4.32 202.66 12.69 198.34

+87 Profile 16.2 194.8

+50

211.03

$\frac{012}{112}$  +14.7  
 $\frac{972}{78}$  +10.3  
 $\frac{912}{48}$  +4.5  
 $\frac{072}{27}$  +0.5  
 $\frac{1862}{1}$  16.0  
 $\frac{0805}{18}$  +4.8  
 $\frac{932}{75}$  +6.7  
 $\frac{992}{118}$  +13.0

$\frac{026}{130}$  +6.5  
 $\frac{905}{108}$  +4.5  
 $\frac{085}{70}$  +0.4  
 $\frac{033}{58}$  -2.8  
 $\frac{085}{23}$  -1.6  
 $\frac{1861}{1}$  16.6  
 $\frac{086}{16}$  +0.5  
 $\frac{089}{31}$  +2.8  
 $\frac{953}{72}$  +7.2  
 $\frac{028}{105}$  +1.7  
 $\frac{122}{111}$  +2.6  
 $\frac{022}{126}$  +2.8  
 $\frac{870}{90}$  +1.8  
 $\frac{023}{83}$  -1.2  
 $\frac{041}{84}$  -2.4  
 $\frac{049}{28}$  -1.6  
 $\frac{1865}{1}$  16.2  
 $\frac{067}{15}$  +0.7  
 $\frac{081}{17}$  +2.2  
 $\frac{903}{44}$  +3.8  
 $\frac{025}{80}$  +1.0  
 $\frac{2122}{111}$  +2.7  
 $\frac{082}{130}$  -0.8  
 $\frac{859}{91}$  -1.2  
 $\frac{021}{83}$  -1.2  
 $\frac{041}{84}$  -2.4  
 $\frac{049}{28}$  -1.6  
 $\frac{1880}{1}$  16.2  
 $\frac{067}{15}$  +0.7  
 $\frac{081}{17}$  +2.2  
 $\frac{953}{44}$  +3.8  
 $\frac{2059}{68}$  +1.0  
 $\frac{175}{105}$  +1.7  
 $\frac{122}{111}$  +2.6

$\frac{038}{144}$  -9.3  
 $\frac{818}{70}$  -1.9  
 $\frac{805}{60}$  -1.2  
 $\frac{847}{54}$  -8.0  
 $\frac{1921}{1}$  10.0  
 $\frac{989}{33}$  +6.2  
 $\frac{063}{45}$  +1.3  
 $\frac{122}{76}$  +3.5  
 $\frac{355}{100}$  +3.2

$\frac{012}{100}$  -2.7  
 $\frac{012}{85}$  -2.7  
 $\frac{792}{97}$  -2.9  
 $\frac{860}{66}$  -2.4  
 $\frac{970}{51}$  -1.8  
 $\frac{2090}{1}$  2.0  
 $\frac{201}{32}$  +11.7  
 $\frac{310}{65}$  +22.9  
 $\frac{501}{120}$  +4.7

211.03

Lt.

Rt.

Rt.

Sept 25-15  
 51.500  
 81.55  
 086.77  
 80.97  
 63

181+0

+75

T.P. 12.84 239.26 0.36 226.92

+50

T.P. 12.43 226.78 0.12 214.35

T.P. 12.31 214.47 0.50 262.16

180+0

+75

202.66

482	474	492	416	348	239.26	293	170	102	963
+147	+154	+107	+86	+0.8	3	-97	-170	-238	-377
100	88	57	27	10		30	48	79	130

455	418	396	360	228	209	181	952	940
+172	+154	+112	+76	10.9	-75	-153	-337	-344
130	83	57	25		20	10	97	120

239.26

400	342	347	314	242	219.5	150	959	919	904	905
+205	+152	+152	+11.9	+54	7.3	-65	-236	-276	-291	-295
112	95	80	50	20		21	64	91	104	133

226.78

214.47

238	176	105	035	199	95	892	897	872	912	953
+239	+177	+106	+26	2.8	-4.8	-107	-102	-122	-37	-66
118	85	51	20		1	36	56	100	100	124

134	058	007	938	188	891	883	308	956	958
+250	+174	+123	+54	14.3	+6.7	-61	+22	+52	+71
116	78	51	24		28	45	72	92	125

202.66

+38.93

182+13.93

T.P. 12.48 27460 0.30 262.12

+88.93

+63.93

T.P. 12.76 262.42 0.42 249.66

181+38.93 C.S.

T.P. 10.86 250.08 0.04 239.22

239.26

Lt.

R

Rt

65

71.9	70.3	69.3	64.3	63.9	265.1	64.3	59.8	58.8
+6.7 10.2	+5.4 77	-0.8 85	-0.8 78	-1.1 20	9.5	-0.8 55	-0.5 59.8	-0.6 100

67.0	62.9	63.1	64.4	264.6	64.6	60.2	57.0	55.0	53.1
+2.4 117	-1.7 100	-1.5 80	-0.2 23	10.0	0.0 11	-1.1 58	-2.6 79	-2.6 97	-1.5 107

60.9	61.4	61.5	60.7	258.9	55.3	54.4	48.8	42.8
+2.0 114	+2.5 82	+2.6 75	+1.8 19	3.5	-0.5 53	-1.5 81	-10.1 81	-16.1 104

59.5	58.8	56.7	53.2	252.6	51.1	46.4	37.8	32.8	29.8
+6.9 122	+6.1 83	+4.1 40	+0.6 13	9.8	-0.9 18	-6.2 46	-14.8 81	-19.8 98	-22.8 110

57.0	54.2	52.9	48.9	245.2	39.9	33.9	25.8	19.5
+1.1 118	+8.3 86	+6.1 54	+3.0 25	4.14 on Hub	-6.0 21	-12.0 79	-20.1 84	-31.4 118

262.42

checked to here  
7/7/45.

250.08

TP. 614 296.26 0.36 284.12

+63.93 = My Garden Plot on 2

+38.93

183+13.93

+88.93 = My Garden Plot on 2

TP. 12.19 284.48 2.31 272.29

182 +63.93

274.60

Wt. Δ Rt

290.26

90.0 90.0 88.5 85.8  
 +81.102 +73.81 +58.85 +41.30  
 1.7 -49.74 -72.78 -92.80 -129.105

88.5 86.0 88.0 84.2 82.6 82.8  
 +66.100 +61.70 +61.39 +42.38 +27.16 +0.515  
 2.6 -1.518 -47.48 -60.71 -11.5109

83.5 83.5 80.0 80.0  
 +38.100 +38.70 +04.62 +04.22  
 4.8 -20.61 -53.82 -60.86 -16.2101

81.2 81.2 79.2 78.0 76.0  
 +135.100 +135.77 +5.042 +27.46 +27.8  
 10.3 -8.344 -8.482 -16.70 -7.104

284.48

74.0 73.8 72.9 67.6  
 +90.100 +88.83 +79.41 +26.19  
 9.6 +0.428 +0.659 +1.390 -1.405

274.60



750

TP. 1.63 267.82 12.90 266.19

+33<sup>55</sup> C.S.

185+03<sup>55</sup>

TP. 0.68 279.09 11.85 278.41

+73<sup>56</sup>

185+40

290.26

Lt.

Rt.

68

898	868	805	749	2632	580	391	447	487	522
+267 100	+159 90	+174 48	+117 22	46	-51 13	-241 50	-185 89	-145 93	-103 104

912	860	807	742	2662	583	485	375	428	567
+250 100	+207 77	+145 41	+87 18	1290	-79 22	-177 41	-287 89	-238 97	-95 128

932	888	818	780	2739	653	612	502	367	418
+207 108	+158 79	+88 89	+50 17	61	-77 21	-119 40	-248 85	-263 93	-216 124

2950	920	865	810	2755	707	612	555	460
+195 116	+165 89	+111 58	+55 28	14.8	-4.8 19	-14.9 53	-200 67	-295 100

947	813	818	2781	705	622	483
+166 105	+92 52	+33 21	12.2	-75 94	-15.2 63	-298 94

290.26

+75

866	816	752	652	532	250.8	556	674	184.0	833
+358	+308	+244	+144	+24	17.0	+48	+16.6	+27.6	+32.5
100	75	47	27	10		23	54	46	97

+50

882	802	730	662	261.3	492	492	651	821
+270	+191	+117	+54	6.5	-11.4	-11.6	+5.8	+20.8
104	81	82	16		29	29	58	100

+25

892	832	710	728	666	260.5	503	482	619	721	712
+286	+228	+164	+122	+60	7.2	-10.2	-12.3	+1.3	+11.5	+16.6
107	71	46	28	13		16	26	84	88	100

187+0

90	822	792	714	261.2	442	442	613	702	716
+284	+214	+176	+97	6.1	-17.0	-16.9	-0.4	+9.0	+9.9
104	85	81	20		29	40	67	89	108

+75

914	862	811	738	674	261.2	526	412	412	532	652
+297	+245	+194	+121	+5.7	6.1	-4.1	-19.8	-19.8	-8.0	+3.4
112	80	54	24	14		11	38	44	85	104

267.82

267.82

TP. 13.10 285.83 4.83 272.73

+34.67 C.S.

+20 Profile

7.4

70.2

189+0

+75

+50

TP. 11.95 277.56 2.21 265.61

+25

188+0

267.82

Lt.

Δ

Rt. June 27-45  
70

285.83

9 1/2 8 1/2 6 7/8 1 5/8 7 5/8 2 2 1/2 7 1/2 2 1/2 8 5/8 8 1/2 9 3/4  
+18.5 120 +8.4 81 -5.5 63 13.0 98 +3.2 9 +4.83 on Hub 0.0 2.1 +13.2 2.8 +6.5 54 +20.5 72

87 80 60 66 69 72 79 84 87 92  
+14.8 97 +8.0 70 -11.4 83 -5.8 28 -7.7 76 5.4 5 2 1/2 4 +7.2 78 +13.5 34 +6.0 54 +20.5 80  
9 1/4 8 3/4 6 1/8 6 1/2 5 8/8 2 1/2 8 3/4 8 1/2 8 1/2 9 1/2 9 1/2  
+21.8 118 +13.4 66 -1.7 41 -11.5 24 8.0 26 8.0 26 1/2 10.0 +13.4 25 +17.2 57 +21.7 86  
8 7/8 7 1/2 7 1/2 8 1/2 8 1/2 8 1/2 8 1/2 8 1/2 8 1/2 8 1/2 8 1/2 8 1/2  
+19.7 105 +11.4 62 -11.1 24 26 1/2 10.0 +11.4 30 +18.1 70 +21.2 89

277.56

8 1/2 7 1/2 6 7/8 5 3/4 5 3/4 3 26 1/2 7 1/2 8 1/2 8 1/2 8 1/2  
+23.5 102 +12.5 81 +3.2 41 -9.7 21 -9.7 18 3.7 3.7 +9.8 28 +15.8 41 +18.1 73 +21.5 86

86 76 69 62 53 53 25 63 71 80 82  
+31.1 100 +24.2 54 +13.8 40 +7.8 27 -1.6 13 -1.8 5 12.3 12.3 +8.7 11 +16.2 42 +25.4 81 +26.5 75

267.82



BM. 3.46 303.05 NW S.P.  
 40<sup>th</sup> + Redwood  
 302.97 Record  
 0.08 error

190 +84<sup>67</sup> T.S

+54<sup>67</sup>

196+24<sup>67</sup>

+ 11 Profile 7:1  
 T.P. 10.90 306.51 0.80 295.61

+29<sup>67</sup>

T.P. 11.70 296.41 1.12 284.71

189+64<sup>67</sup>

285.83

Lt. Rt.

Note: - Rt + Lt are Rods  
 + Above - Below &  
 84 + 15 to 190 + 84.67

0/3	0/8	02-	302.9	0/9	02.4	03-
-0.7 160	-0.4 154	+0.1 20	4.49 on 11.6	-0.1 18	+0.4 29	+1.0 60

987	993	300.5	300.9	300.8	301.4	03-
-2.2 10.8	-1.1 74	-0.4 93	5.6	-0.1 22	+0.5 80 = 11.6 feet 11.6 feet	

898	908	963	986	299.8	992	300.7
-1.0 100	-0.9 74	-0.5 81	-1.2 82	6.7	-0.6 36	+0.9 79

825	743	843	868	912	292.3	306.51
-4.8 130	-1.8 100	-0.8 70	-0.5 50	-1.1 29	4.1	-2.2 16
						+2.0 46
						+6.7 77

798	732	732	818	845	282.5	296.41
-0.7 110	-0.1 72	-0.6 82	-0.7 48	+2.0 15	3.3	-2.2 10
						-0.9 21
						+4.7 23
						+11.2 63
						+14.8 84

285.83

Habash Canyon Freeway = 40th St.  
North of Redwood.

193+0

+50

192+0

+50

191+0

BM

5.25

308.22

302.99

N.M.B.P.  
Redwood + 40th

Latex

30401

4.15

26-Cb

30333

4.9

26-Gutter

30421

4.0

30355

4.7

26-Gutter

30452

3.90

26-Cb

30364

4.58

26-Cb

30330

5.3

26-Gutter

30420

4.2

30333

4.9

26-Gutter

30358

4.40

26-Cb

30318

5.04

26-Cb

30214

5.8

26-Gutter

30322

6.50

30217

5.5

26-Gutter

30322

5.00

26-Cb

30333

4.9

26

30330

5.2

26

30229

5.3

26

30228

5.4

30217

6.1

26

30217

6.0

26

30218

6.1

26

30233

6.9

26

30225

6.6

26

30226

6.6

21

30225

6.8

30117

6.5

22

30226

6.6

29

30217

6.5

26

30229

6.6

26

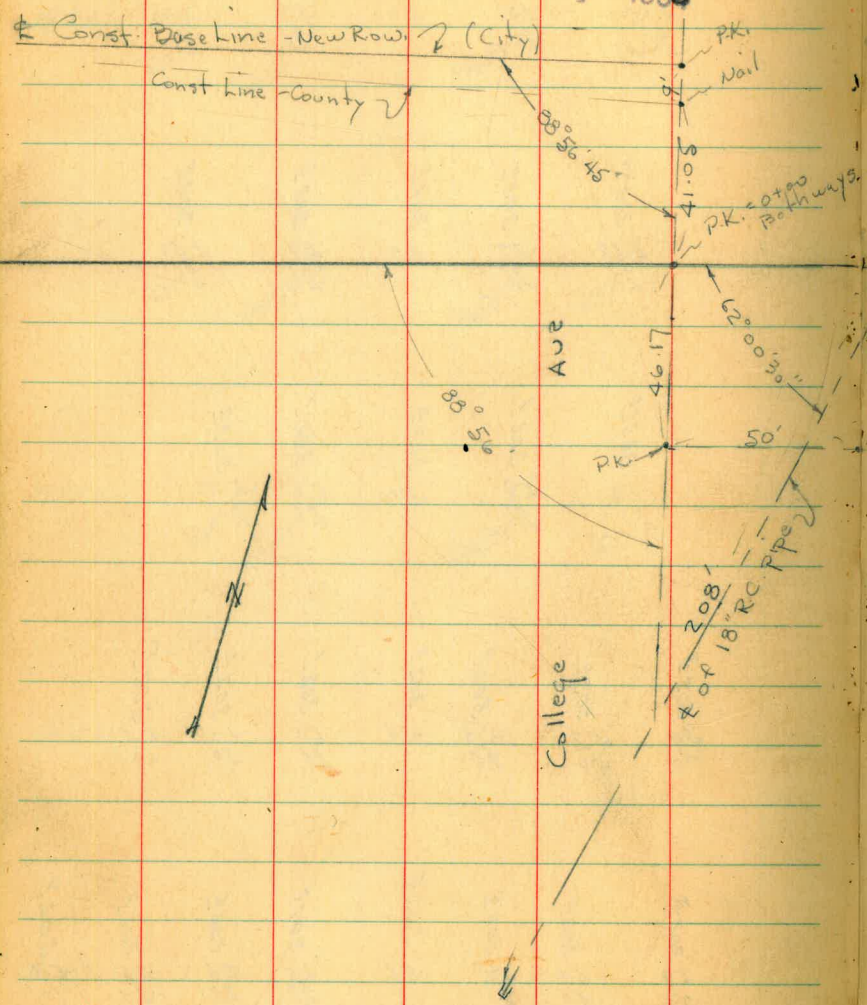
Rt. = E

72

308.22

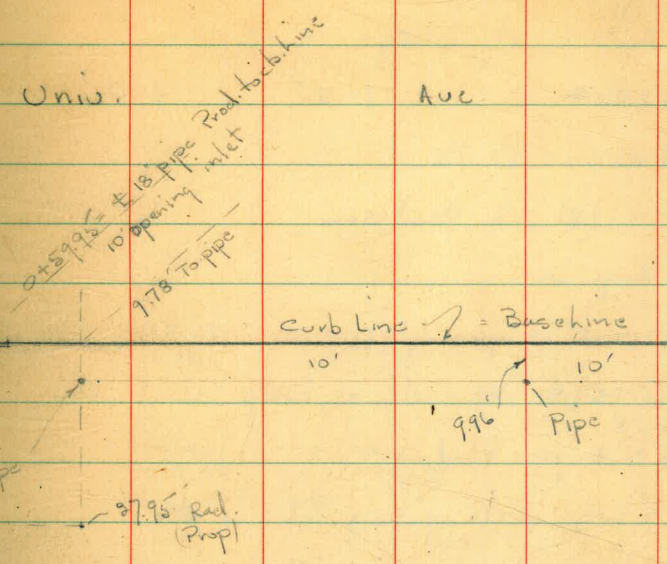
Plotted 7/5/44.  
Checked 7/9/44.m

INDEXED  
 JER  
 FEB 8 1955



I.E. of outlet = 314.58

75



X-Sections along S. curb Line of

Univ. Ave - at College Ave

W.O. 21004 2-7-55 7.0.

See Sketch - P. 73

0+69 - 4' RT =  $\pm$  Deadman

0+68 - Beg. Dr

0+67.4 = end of opening

0+65.5 - 59.8 Rt. = Wly of Pump Island - Conc

0+59.95 =  $\pm$  pipe Prods

0+57.4 = wly. of 10' opening inlet + Box

0+56.8 = Beg. cb.

0+54' - 35' Rt. =  $\pm$  P. pole # P 371011

0+50 - 34' Rt. =  $\pm$  Signal Base - 2'x4' Conc base

0+43 - 37.4 + 48.3 Rt =  $\pm$  Deadman

0+40

0+20

0+00 - cuts to S. ave along  $\pm$  of College. Prod

Beg. line to E.

B.M. =  $\square$  in wly. of n.w. inlet 322.22

College + Univ. - New Row. Data

See B. 2388 - P. 1

Lt.

$\pm$  =

Rt.

14.58 I.E.

74

curb line

23.27 15	22.80 got	23.63 Top	23.87 10 Eor. of Newwalk	22.79 59.8 = Top
-------------	--------------	--------------	-----------------------------------	---------------------

19.46 I.E. of Pipe + Box	22.78 got grate	23.56 Top cb
--------------------------------	-----------------------	-----------------

29.07 15	22.86 got	23.52 Top	23.5 10	21.7 50
-------------	--------------	--------------	------------	------------

22.89 15	22.41	21.47 25	20.87 47 got at end of K.C. Roll	21.29 Tip	22.5 100	22.1 150
-------------	-------	-------------	---	--------------	-------------	-------------

22.80 25	22.24	21.54 25	20.88 47	21.1 75	21.1 100	20.1 150
-------------	-------	-------------	-------------	------------	-------------	-------------

end. pave

22.78 50.05	22.83 41.05	22.62 25	22.16	21.68 25	21.31 46.17	21.01 100	20.92 150	21.35 200
----------------	----------------	-------------	-------	-------------	----------------	--------------	--------------	--------------

New City  $\pm$   
To W.

Approx.  
end of  
New pave

Low  
Spot

300' by not noted.  
Actual Elev. shown.

1+50

1+00

0+52

0+32.5

0+00 = E College

Beg. Sect to W. of E of College

2+25 = end.

1+84 = end Dr.

1+49 = Beg. Dr.

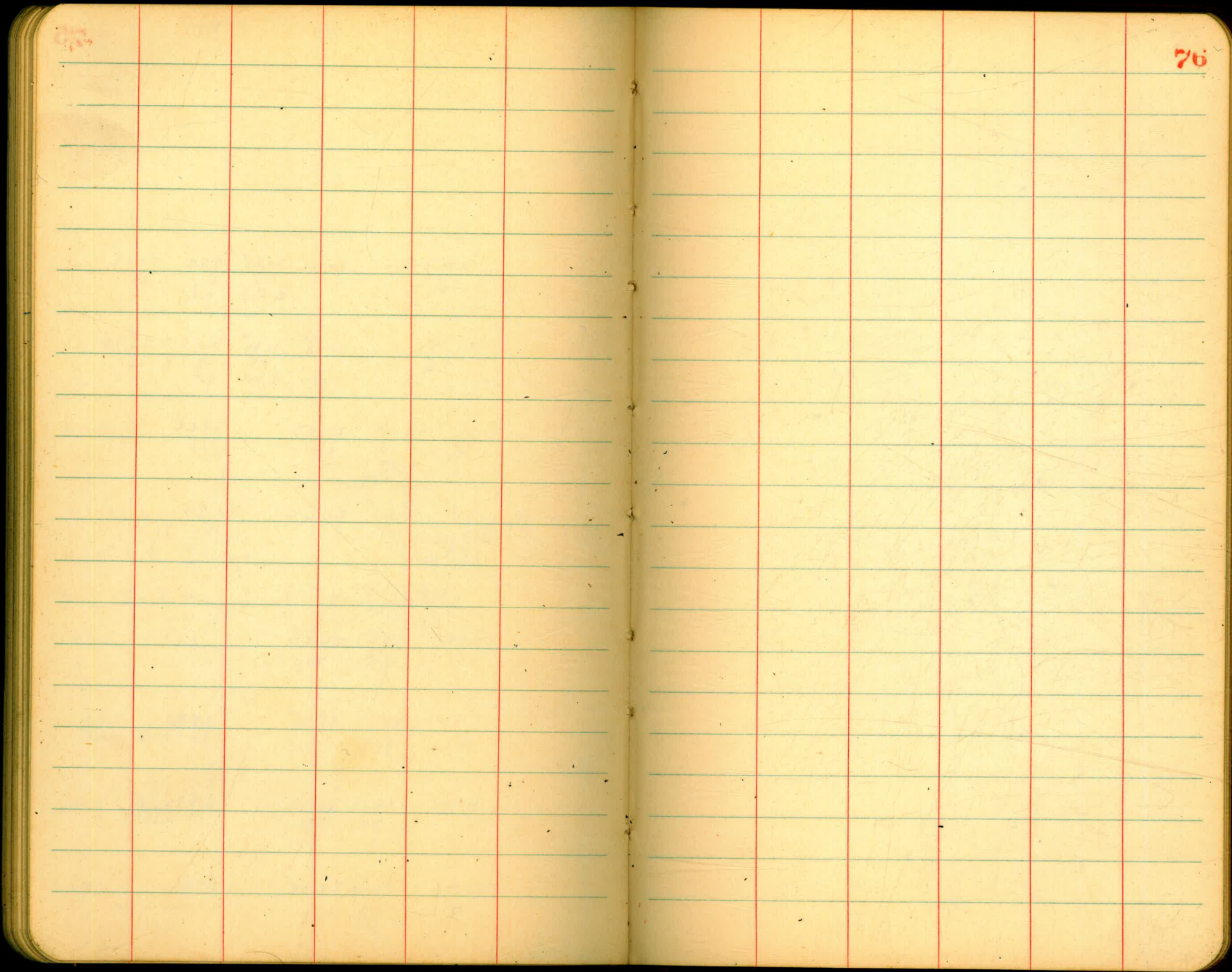
1+03.3 = end Dr.

Lt.

E

Rt.

20.7  
2521.3  
2521.3  
2522.1  
10020.2 20.65  
2.5  
E Roll20.5 21.35  
0.8  
E Roll  
cb.21.2 22.03  
3 1.5  
E Top  
Roll21.9 21.50 20.78 21.25 21.62  
75 Top 51-gut. 15  
AC. Roll end of pave26.33 25.57 26.22  
15 gut Top25.43 24.73 25.35 25.57  
15 gut Top 10 = walk - end.24.73 24.10 24.72 24.96  
15 gut Top 10 = walk23.84 23.48 24.08 24.32  
15 gut Top 10 = edge New  
wall









SLOPE OF A ROAD CURVE

RECORDING TABLE

DATE

TIME

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

SLOPE

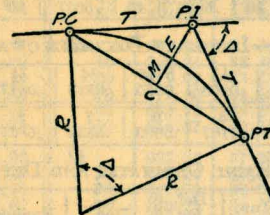
SLOPE

SLOPE

SLOPE

# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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## CURVE FORMULAS

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

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

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

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

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

## 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 — Sta. P. C. = 54.50, hence offset =  $7.27 (54.50 \div 100)^2 = 2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26) = 2.16$  ft.

**Deflections.**—Deflection angle =  $\frac{1}{2} D$  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 91.37. For from Table IV for  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 91.27$  and from Table V correction = .10 or  $E = 91.37$  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  $D = 5^\circ 30'$ .

DISTANCES FROM CENTER OF ROADWAY FOR  
CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½  
For Single Track Embankment.

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

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

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