

79

1059



---

ENGINEERS  
FIELD BOOK  
No. 403

---



# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

1059

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.

Copyright, 1914, by Eugene Dietzgen Co.

1 + 57.6  
 2 + 57.6  
 3 + 57.6  
 4 + 57.6  
 5 + 57.6  
 6 + 57.6  
 7 + 57.6  
 8 + 57.6  
 9 + 57.6  
 10 + 57.6  
 11 + 57.6  
 12 + 57.6  
 13 + 57.6  
 14 + 57.6  
 15 + 57.6  
 16 + 57.6  
 17 + 57.6  
 18 + 57.6  
 19 + 57.6  
 20 + 57.6  
 21 + 57.6  
 22 + 57.6  
 23 + 57.6  
 24 + 57.6  
 25 + 57.6  
 26 + 57.6  
 27 + 57.6  
 28 + 57.6  
 29 + 57.6  
 30 + 57.6  
 31 + 57.6  
 32 + 57.6  
 33 + 57.6  
 34 + 57.6  
 35 + 57.6  
 36 + 57.6  
 37 + 57.6  
 38 + 57.6  
 39 + 57.6  
 40 + 57.6



MIC

11  
2003

1



Gregory  
11/19

CROSS SECTION OF  
Morena Blvd  
Continued from Book 1057

H.I. 47.44  
151+70

-5	40.9
W	44.2
+5	44.3
+12	44.4
+15	43.6
+25	44.1
+30 = E	44.1
+5	43.4

151+94

-5	45.1
E	44.7
+5	44.7
+15	44.6
+25	44.8
+30 = W	44.7
+5	42.2

152+50

-5	45.5
W	45.6
+5	45.6
+15	45.6
+21	46.5
+25	47.5

+30 = E  
+5

48.7  
48.4

152+94

-5  
E  
+5  
+15  
+25  
+30 = W  
+1  
+2  
+5

48.2  
47.8  
47.3  
46.5  
46.3  
46.2  
46.4  
46.5  
47.6

T.P. 750 48.01 153+19 6.93

-5  
-3  
-1  
W  
+5  
+8  
+15

40.51  
47.6  
47.6  
46.6  
46.6  
46.6  
47.1

+19  
+28  
+30 = E  
+5

47.5  
48.7  
50.4  
51.0

153+50

-5

51.4



48.01

E				50.9
+5				49.9
+10				48.9
+12				47.7
+15				47.4
+25				46.9
+30=W				46.6
+1				46.7
+3				47.9
+5				48.2
T.P.	12.23	59.72	0.52	47.49
		154+00		
-5				48.7
-3				48.5
-2				47.3
W				47.1
+5				47.4
+15				47.9
+17				48.0
+18				47.0
+25				50.8
+27				51.9
+30=E				52.3
+5				51.8
		154+50		
-5				54.4

3

E				53.7
+5				52.6
+6				52.4
+10				50.8
+14.5				48.8
+15				48.6
+25				47.8
+30=W				47.8
+1				48.0
+2				49.2
+5				49.5
			155+00	
-5				50.5
-2				50.2
-1				48.7
W				48.3
+5				48.6
+15				49.2
+17				49.4
+19				51.6
+25				53.2
+30=E				54.9
+5				55.6
			155+50	
-5				57.4
-2				57.6



5972

E	57.0
+5	54.7
+6	54.2
+9	54.5
+12	50.6
+15	50.2
+25	49.4
+30 = W	49.4
+1	49.7
+3	52.0
+5	52.1
156+00	
-5	54.3
-3	54.3
W	50.5
+4	49.9
+5	50.0
+15	50.8
+18	51.2
+22	55.6
+25	56.6
+28	57.6
+30 = E	58.4
+5	58.6
156+50	
-5	58.8

4

E	57.3
+5	56.3
+8	55.7
+11	52.2
+15	51.7
+25	50.7
+26	50.8
+30 = W	51.2
+3	55.8
+5	55.8
157+00	
-5	56.7
-3	56.8
W	51.6
+5	51.0
+15	51.7
+18	51.9
+22	55.9
+25	56.7
+30 = E	58.0
+5	58.3
157+50	
-5	57.1
E	57.5
+5	57.7
+10	54.7



5972

+13	52.3
+15	52.1
+25	51.6
+28	51.2
+30 = W	51.8
+3	56.5
+5	56.4
157+94	
-5	56.4
-3	56.4
-1	52.1
W	51.9
+5	51.8
+15	52.6
+18	53.0
+20	55.0
+25	56.8
+30 = E	57.5
+5	57.8
158+14	
-5	57.5
E	57.5
+5	57.0
+9	54.4
+11	53.2
+15	52.8

B.M. 52.73 Left o x 158+30 RR spk Fence post

+25	52.2
+27	52.0
+30 = W	52.3
+1	52.6
+3	56.6
+5	56.5
158+26	
-5	52.3
W	52.1
+5	52.3
+15	52.8
+17	52.9
+19	54.8
+25	56.3
+30 = E	57.0
+5	57.1
158+64	
-5	55.2
E	55.2
+5	55.4
+6	55.4
+12	53.8
+15	53.1
+20 = W	52.3
+2	52.1
+5	50.2



59.72

159+00

-5	50.6
-2	52.4
W	52.8
+5	53.1
+15	53.7
+25	54.5
+30=E	54.8
+5	55.2

159+31

-5	55.4
E	54.5
+5	53.8
+10	53.1
+15	53.0
+17	53.4
+25	53.2
+30=W	53.1
+2	52.8
+5	50.5

159+54

-5	51.0
-2	53.3
W	53.4
+5	53.5
+15	52.9

18  
157/6.74  
94

6

+25	52.7
+30=E	52.9
+5	52.8

159+84

-5	49.3
E	49.4
+3	51.6
+5	51.8
+15	53.3
+25	53.7
+30=W	53.2
+5	50.8

159+94 = 2 1.6 x 2.4 box old

-18	44.3
-5	51.4
-2	52.8
W	53.1
+5	53.3
+15	53.7
+19	52.8
+25	47.1
+26	46.1
+30=E	47.3
+5	48.7

160+04

-5	49.7
----	------



59.72

-3	49.5
-2	50.4
E	51.1
+5	52.2
+10	54.0
+15	54.0
+25	53.5
+30=W	53.2
+2	53.0
+5	51.0

160+29

-5	51.1
W	53.7
+5	54.3
+15	54.3
+25	54.0
+30=E	52.2
+4	50.5
+5	50.3

160+49

-5	51.0
-3	51.5
E	53.5
+2	54.6
+5	54.6
+15	54.6

+25	54.5
+30=W	54.5
+5	52.6

160+50

-5	46.9
-1	48.9
W	54.7
+5	54.7
+15	54.7
+25	54.6
+29	54.5

+30=E	53.5
+3	51.5
+5	51.1

160+65

-5	51.8
-2	52.1
E	53.8
+2	54.7
+5	54.7
+15	54.9
+25	54.9
+26.9	54.9
+29	48.5
+30=W	47.7
+5	50.4



59.72

160+83

-5	49.4
W	49.9
+2	51.7
+2.1	54.9
+5	55.0
+15	55.1
+25	54.9
+29	54.9
+30 = E	54.5
+2	53.6
+5	53.6

160+84

-5	53.7
-1	53.8
E	54.3
+1	55.1
+5	55.1
+15	55.1
+25	55.0
+30 = W	54.9
+5	54.1

160+99

-5	55.1
W	55.1
+5	55.2

+15	55.1
+25	55.5
+30 = E	55.6

+5

55.2

161+37 = d of Traveled Road to West.

-5	56.8
E	56.1
+5	56.3
+15	55.9
+25	55.8
+30 = W	55.5
+5	55.1

162+00

-5	57.8
W	57.0
+5	57.0
+15	57.1
+18	57.4
+25	56.9
+30 = E	57.0
+5	57.3

162+36

-5	60.7
E	60.2
+5	60.2
+10	60.2
+12	58.6
TP	57.60

10.60

6820

2.12



68.20

+15	57.9
+18	57.6
+25	58.3
+30 = W	59.1
+5	59.5

162 + 74

-5	61.3
W	61.0
+5	60.1
+10	59.7
+13	58.6
+15	59.8
+18	59.5
+23	62.4
+25	62.4
+30 = E	62.5
+5	64.0

162 + 99

-5	62.8
E	62.8
+5	62.1
+9	61.0
+15	60.7
+23	59.6
+25	60.1
+30 = W	61.0
+5	60.9

163 + 50

-5	59.8
W	60.1
+5	60.3
+15	60.6
+18	60.8
+21	62.1
+25	62.5
+30 = E	63.2
+5	64.2

164 + 00

-5	64.9
E	64.6
+4	62.5
+5	62.4
+15	62.1
+25	61.1
+30 = W	60.5
+5	59.9

164 + 49

-5	60.0
W	60.5
+2	61.0
+5	61.5
+15	61.5
+18	61.7



+25		62.7
+30 = E		63.4
+5		64.4
	164+67	
-5		66.0
E		65.1
+5		64.5
+10		63.9
+12		62.1
+15		61.8
+25		61.7
+30 = W		61.7
+1		61.6
+5		60.5
	165+05	
-5		64.6
W		64.1
+5		64.1
+15		64.9
+19		68.2
+25		69.1
+30 = E		69.9
+5		70.9
	165+19	
-5		71.9
E		70.7

+5		69.7
+11		68.5
+14		65.7
+15		65.4
+25		64.8
+30 = W		64.5
+5		64.6
	165+44	
-5		64.7
W		64.0
+5		64.3
+15		65.0
+17		65.2
+20		67.3
+25		68.2
+30 = E		69.2
+5		70.2
	165+62	
-5		70.5
E		69.4
+5		68.1
+10		66.9
+12		64.6
+15		63.6
+20		63.8
+25		63.4



68.20

+	+30=W		63.1
+	+5		63.1
		165+81	
	-5		61.6
-	W		62.4
	+5		62.8
+	+15		63.6
+	+19		65.0
+	+25		65.6
+	+30=E		66.1
+	+5		68.0
+		166+14	
+	-5		66.9
+	E		67.1
	+5		65.6
-	+11		62.9
W	+15		62.5
+	+25		61.9
+	+30=W		61.6
+	+5		60.1
+		166+54	
+	-5		61.2
+	W		61.8
	+5		62.1
-	+15		62.6
E	+15		63.1

11

	+20		64.4
	+25		66.5
	+29		67.4
	+30=E		67.6
	+5		67.8
		167+06	
	-5		69.5
	E		68.6
	+6		67.8
	+10		67.1
	+13		64.6
	+15		64.2
	+25		63.5
	+30=W		63.2
	+5		63.2
		167+50	
	-5		62.5
	W		62.6
	+5		62.8
	+15		63.1
	+16		63.1
	+20		65.5
	+25		66.3
	+30=E		67.0
	+5		67.8



68.20

168+00

-5

E

+5

+10

+13

+15

+25

+30 = W

+5

66.2

65.8

65.6

65.5

63.1

62.8

62.5

62.6

62.9

168+15

-5

W

+5

+9

+15

+16

+21

+25

+30 = E

+5

62.5

62.3

62.3

62.3

62.8

63.0

65.4

65.7

66.0

66.2

168+50

-5

E

+5

+15

63.1

63.0

62.7

62.2

B.M. at Left 168+10 3rd Fence post 63.38

12

+25

+30 = W

+5

T.P. 1.84

65.22

4.82

62.1

62.3

61.8

63.38

168+68.14 Δ pt 1°20'33" Left.

-5

W.

+3

+5

+15

+25

+30 = E

+5

5.7

3.2

4.0

4.0

3.6

3.1

2.7

2.4

59.5

62.0

61.2

61.2

61.6

62.1

62.5

62.8

169+00

-5

E

+5

+14

+15

+25

+30 = W

+5

3.7

3.8

4.1

4.3

3.6

3.9

3.1

5.6

61.5

61.4

61.1

60.9

61.6

61.3

62.1

59.6

169+50

-5

W

+5

6.3

3.1

3.5

58.9

62.1

61.7



6522

+15	3.1	62 1
+17	4.3	60 9
+25	4.5	60 7
+30=E	4.3	60 9
+5	4.3	60 9

170+00

-5	4.3	60 9
E	4.5	60 7
+5	4.3	60 9
+10	3.9	61 3
+15	1.9	63 3
+25	2.2	63 0
+29	2.5	62 7
+30=W	3.2	62 0
+3	4.8	60 4
+5	5.3	59 9

170+30

W	2.1	63 1
+2	1.5	63 7
+5	1.4	63 8
+15	1.4	63 8
+25	3.2	62 0
+30=E	3.3	61 9

170+60

E	3.6	61 6
+5	3.4	61 8
+9	3.1	62 1

13

+12	1.2	64 0
+15	0.9	64 3
+25	0.9	64 3
+30=W	0.3	64 9

171+00

W	0.3	64 9
+5	0.4	64 8
+15	0.5	64 7
+19	0.7	64 4
+22.5	3.4	61 8
+25	3.6	61.6
+30=E	3.0	62 2

171+30

E	3.2	62 0
+3	4.1	61 1
+5	3.2	62 0
+10	0.4	64 8
+15	0.4	64 8
+25	0.4	64 8
+30=W	1.1	64 1

171+47

W	2.3	62 9
+5	0.4	64 8
+15	0.2	65 0
+31	0.7	64 4
+45	2.5	62 7



65.22

+30=E 4.6 60 6

171+66.23 = PC.

E 7.7 57 5

+5 4.2 61 0

+10 1.2 64 0

+15 0.7 64 5

+24 1.0 64 2

+25 1.7 63 5

+30=W 5.5 59 7

171+77

W 7.3 57 9

+5 4.7 60 5

+8 2.0 63 2

+15 1.6 63 6

+22 1.8 63 4

+25 4.3 60 9

+30=E 8.5 56 7

+3 10.3 54 9

171+92

-5 11.2 54 0

E 9.8 55 4

+5 8.7 56 5

+15 7.6 57 6

+20 7.5 57 7

+25 10.0 55 2

+30=W 12.1 53.1 inside Row

+5 13.2 52 0

14

T.P. 2.19 55.75 11.66 53.56

172+00

W 4.5 51 3 inside Row

+5 4.8 51 0

+15 2.1 53 7

+25 1.5 54 3

+30=E 2.1 53 7

172+06

E 3.4 52 4

+5 3.6 52 2

+14 3.9 51 9

+15 4.8 51 0

+25 5.2 50 6

+30=W 5.1 50 7

172+32

W 5.5 50 3

+5 5.6 50 2

+15 6.0 49 8

+25 6.1 49 7

+30=E 6.5 49 3

172+

= E.C.

6 is up on Wing Wall

T.P. 4.73 51.71

chk

8.3 47.5 on Floor of Culvert

8.77 46.98

3.14 48.57

split in  
pole  
No. 2  
Bulb  
next side  
Row



8/6/19 Gregory  
Mapper  
Show

CROSS SECTION OF  
RADIO DRIVE  
from W.L. of 60th ST  
To East End

40' wide P.CBs  
6' 1/4's

11.32

249.82

238.50

PI. hub  
at 60th St

W.L. 60th ST.

All distances given are on Center Line

No.		6.9	242.9
cb.		8.8	41.1
1/4		11.1	38.7
c		11.8	38.0
1/4		13.2	36.6
cb		14.9	34.9
So.		17.4	32.4
+25		20.9	22.9
-25		26.7	23.1
-7		18.7	31.1
So.		17.2	32.6
cb.		14.7	35.1
1/4		13.2	36.6
c		11.6	38.2
1/4		10.8	39.0
+1		9.8	40.0
cb		8.6	41.2
No.		6.7	43.1
1/4		6.9	42.9
cb		8.7	41.1
1/4		10.5	239.3

Sections on 60th St are taken  
parallel to East + West Lines  
of same. Use 10' for r.t. Angle  
distances bet sections on either  
section.

12' E of W.L.

24' E of W.L.

249.82

c	11.1	38.7
1/4	12.6	37.2
cb	13.9	35.9
So.	17.1	32.7
+5	18.8	31.1
+25	27.1	22.7
-25	27.3	22.5
-11	22.9	26.9
So.	19.1	32.7
cb	14.5	35.3
1/4	12.6	37.2
c	11.5	38.3
1/4	10.6	39.2
cb	8.8	41.0
No.	6.8	43.0
1/4	7.0	42.8
cb	8.7	41.1
1/4	10.2	39.6
c	11.6	38.2
1/4	12.5	37.3
cb	12.2	35.6
So	17.1	32.7
+25	28.1	21.4

36' E of W.L.

E.L. of 60th ST



249.8v

1108' E of F.L. 60<sup>th</sup> = 0+00

-25	27.5	222.3
-10	24.0	258
So	18.6	31.2
cb	13.8	36.0
1/4	12.2	37.6
C	11.1	38.7
1/4	10.2	39.6
cb	8.6	41.2
No.	7.0	42.8

0+25

No.	5.9	43.9
+3	6.5	43.3
+6	9.0	40.8
cb	9.7	40.1
1/4	10.3	39.5
C	10.8	39.0
1/4	11.5	38.3
cb	12.2	37.6
So.	14.0	35.8
+15	18.3	31.5

0+55

-10	14.5	35.3
So.	13.1	36.7
cb	12.3	37.5
1/4	11.7	38.1

249.8v

RADIO

16

C	11.0	238.8
1/4	9.8	400
cb	8.0	418
No.	6.3	435

0+80

No.	5.3	445
cb	6.8	430
+3	8.5	413
1/4	9.0	40.8
C	9.7	40.1
1/4	10.2	39.6
cb	10.9	38.9
So.	12.0	37.8
+10	13.0	36.8

1+00

-10	11.6	38.2
So.	10.2	39.6
cb	9.4	40.4
1/4	8.8	41.0
C	8.2	41.6
1/4	7.8	42.0
+3	6.8	43.0
+4	5.7	44.1
cb	5.1	44.7
No.	4.0	245.8



249.82

1+25

No.	1.9	247.9
cb	3.3	46.5
+1	3.6	46.2
+2	5.1	44.7
+4	6.0	43.8
1/4	6.1	43.7
c	6.1	43.7
1/4	6.2	43.6
cb	7.2	42.6
So.	7.7	42.1
+10	9.5	40.3

1+50

-10	8.5	41.3
So.	6.6	43.2
cb	5.6	44.2
1/4	3.7	46.1
c	3.9	45.9
1/4	4.1	45.7
+1	4.1	45.7
cb	1.5	48.3
No.	0.1	249.7

1+75

No.	+0.8	250.6
+5	+0.3	250.1
cb	0.5	249.3

249.82

RADIO

17

+2

+5

1/4

c

1/4

+4

cb

So.

+10

-10

So.

cb

+3

1/4

c

1/4

+15

+4

cb

No.

No

cb

+W

+W

+5

1.0

3.2

3.3

2.9

2.8

4.4

5.0

6.5

8.4

2+00

8.0

6.2

4.3

3.8

2.4

2.3

2.6

2.6

1.0

0.6

+1.0

+2.4

+0.7

+0.2

1.8

242.8

46.6

46.5

46.9

47.0

45.4

44.8

43.3

41.4

2+00

41.8

43.6

45.5

46.0

47.4

47.5

47.2

47.2

48.8

49.2

250.8

250.2

250.5

250.0

248.0



249.24

1/4		1.8	248.0
C		1.6	48.2
1/4		1.5	48.3
+3		2.5	47.3
off		3.0	46.2
So.		5.0	44.8
+10		6.7	43.1
	2+50		
-10		5.9	43.9
So.		4.1	45.7
ch		2.6	47.4
1/4		0.2	49.6
C		0.4	49.4
1/4		0.5	49.3
+1		0.5	49.3
T.P.	12.05	0.34	249.48
+4		10.1	51.4
ch		9.4	52.1
No.		8.1	53.4
	2+83.24 = Δ pt = 0400		
No.		6.5	56.0
ch		8.3	53.2
+2		10.4	51.1
1/4		10.4	51.1
C		10.1	51.4
+3		10.1	251.4

RADIO

18

1/4	261.53	10.9	250.6
ch		12.7	48.8
So.		13.8	47.7
+1.0		15.7	45.8
	0 + 27.04		
-10		14.7	46.8
So.		12.8	48.7
ch		11.5	50.0
1/4		9.7	51.8
+1		9.1	52.4
C		9.2	52.3
1/4		9.5	52.0
+2		9.4	52.1
+4		7.5	54.0
ch		6.9	54.6
No.		5.1	56.4
	0 + 52.04		
No.		4.3	57.2
ch		6.1	55.4
+3		6.8	54.7
+5		8.8	52.7
1/4		8.8	52.7
C		8.7	52.8
1/4		8.7	52.8
+2		9.7	51.8
ch		10.9	250.6



261.53

so	12.4	249.1
+10	14.0	47.5
	+ 77.04	
-10	13.7	47.8
so	14.0	49.5
cb	10.8	50.7
1/4	8.3	53.2
c	8.2	53.3
1/4	8.5	53.0
+2	6.3	55.2
cb	5.1	56.4
No.	3.1	58.4
	+ 02.04	
No.	2.9	58.6
cb	4.4	57.1
+3	5.4	56.1
1/4	7.9	53.6
c	7.8	53.7
1/4	7.6	53.9
cb	9.4	52.1
+3	10.4	51.1
so.	11.6	49.9
+10	13.3	48.2
	+ 27.04	
-10	12.3	49.2
so.	10.9	250.6

R#010

19

261.53

+5	10.2	251.3
<del>cb</del>	8.9	52.6
1/4	7.0	54.5
c	7.0	54.5
1/4	7.3	54.2
+2	5.4	56.1
cb	4.6	56.9
No.	2.9	58.6
	+ 52.04	
No.	2.0	59.5
cb	3.6	57.9
+3	4.4	57.1
1/4	6.4	55.1
c	6.4	55.1
1/4	6.2	55.3
cb	7.7	53.8
so.	9.6	51.9
+10	11.3	50.2
	+ 77.04	
-10	10.4	51.1
so.	8.5	53.0
+5	7.8	53.7
cb	6.8	54.7
1/4	5.1	56.4
c	5.4	56.1
1/4	5.5	256.0



+2	3.0	257.9
cb	2.6	58.9
No.	0.8	60.7
2+02.04		
No.	0.0	61.5
cb	1.6	59.9
+4	2.4	59.1
1/4	4.6	52.9
c	4.6	56.9
1/4	4.4	57.1
+2	4.5	57.0
cb	6.4	55.1
so.	8.1	53.4
+10	9.9	51.6
2+27.04		
-10	9.2	52.3
so.	6.8	54.7
+5	6.2	55.3
cb	5.2	56.3
+4	3.9	57.6
1/4	3.6	57.9
c	3.9	57.6
1/4	3.9	57.6
+3	1.9	59.6
cb	1.1	60.4
No.	+0.7	462.2

2+52.04		
No.	+1.5	263.0
cb	0.1	61.4
<del>1/4</del>	1.2	60.3
1/4	3.4	58.1
c	3.2	58.3
1/4	3.1	58.4
cb	4.9	56.6
+6	6.7	54.8
so	7.3	54.2
+10	9.0	52.5
2+77.04		
-10	8.9	52.6
so.	6.9	54.6
cb	4.7	56.8
1/4	2.8	58.7
c	3.1	58.4
1/4	3.3	58.2
+2	0.8	260.7
cb	+0.7	262.2
No.	+1.8	263.3
3+02.04		
No.	+1.4	262.9
cb	0.1	61.4
+3	1.2	60.3
1/4	3.6	257.9



	261.53		
C		32	258.3
1/4		21	58.4
db		51	56.4
So.		70	54.5
+10		87	52.8
	3+27.04		
-10		85	53.0
So.		70	52.5
db		57	53.8
1/4		24	58.1
C		37	57.8
1/4		40	57.5
+3		20	59.5
db		11	60.4
T.P.	11.58	269.33	3.98 257.74
No.		75	61.8
	3+52.04		
No.		77	61.6
db		93	60.0
1/4		120	57.3
C		117	57.6
1/4		116	57.7
db		136	55.7
So.		157	53.6
+10		171	282.2

	269.33	R4010	251	21
		3+77.04		
-10		17.4	251.9	
So.		15.2	54.2	
db		13.6	55.7	
1/4		11.4	57.9	
C		11.6	57.7	
1/4		11.9	57.4	
+1		11.7	57.4	
db		9.5	59.8	
No.		8.2	61.1	
	4+02.04			
No.		8.0	61.3	
db		9.4	59.9	
+4		11.6	57.7	
1/4		11.5	57.8	
C		11.2	58.1	
1/4		11.3	58.0	
+2		12.8	56.5	
db		13.7	55.6	
So.		15.6	53.7	
+25		25.1	44.2	
	4+10			
-25		26.2	43.1	
So.		17.2	52.1	



269.33

4+27.0d

-10	15.3	254.0
So.	13.9	55.4
cb	12.5	56.8
1/6	10.4	58.9
c	10.6	58.7
1/2	10.8	58.5
cb	9.1	60.2
No.	7.9	61.4

4+52.0d

No.	6.4	62.9
cb	8.0	61.3
+4	9.4	59.9
1/4	9.3	60.0
c	9.3	60.0
1/4	8.9	60.4
cb	11.0	58.3
So.	12.6	56.7
+10	14.2	55.1

4+77.0d

-10	11.5	57.8
So.	10.4	58.9
cb	9.1	60.2
1/4	7.4	61.9
c	7.5	61.8
1/6	7.7	261.6

269.33

RADIO

22

cb	6.2	263.1
+3	4.8	64.5
No.	4.2	65.1

5+02.0d

No.	2.6	66.7
cb	3.8	65.5
+5	6.1	63.2
1/4	5.9	63.4
c	5.6	63.7
1/6	5.3	64.0
cb	7.1	62.2
So.	8.7	60.6
+10	10.4	58.9

5+47.0d

-10	8.9	60.4
So.	7.0	62.3
cb	5.5	63.8
1/4	3.8	65.5
c	4.1	65.2
1/6	4.4	64.9
cb	1.9	67.4
No.	0.8	268.5

5+52.0d

No.	+0.5	269.8
cb	1.6	267.7
1/4	3.5	265.8



269.33

c	31	266.2
1/4	2.9	66.4
cb	4.6	64.7
So.	6.1	63.2
+10	7.5	61.8
	5+77.04	
-10	7.2	62.1
So.	5.7	63.6
cb	4.0	65.3
1/4	2.4	66.9
c	2.5	66.8
1/4	2.9	66.4
+4	1.4	67.9
cb	0.7	68.6
No.	+0.2	269.5
	6+02.04	
No.	0.3	69.0
cb	1.0	68.3
+2	1.2	68.1
+3.5	2.3	67.0
1/4	2.6	66.7
c	2.4	66.9
1/4	2.0	67.3
+2	3.2	66.1
cb	4.4	64.9
So.	5.1	263.5

269.33

RADIO 23

+10	7.5	261.8
	6+27.04	
-10	7.2	62.1
So.	6.2	63.1
cb	5.0	64.3
1/4	2.8	66.5
c	3.0	66.3
1/4	3.3	66.0
+2	3.1	66.2
+4.5	1.4	67.9
cb	1.3	68.0
No.	+0.6	267.9
	6+52.04	
No.	0.6	68.7
cb	2.0	66.7
+2	2.8	66.5
+5	4.2	65.1
1/4	4.1	65.2
c	4.1	65.2
1/4	4.0	65.3
cb	5.9	63.4
So.	6.5	62.8
+10	7.4	61.9
	6+77.04	
-10	9.5	59.8
So.	7.5	261.8



26933

T.P.	9.54	275.40	347	265.86	on Meridian
db			12.3	263.1	
1/4			10.7	64.7	
c			10.3	65.1	
1/2			10.3	65.1	
db			9.6	65.8	
No			8.1	67.3	
	6+87.0 ↓				
No.			9.0	66.4	
db			9.8	65.6	
1/4			10.2	65.2	
c			10.6	64.8	lowest pt.
1/2			11.2	64.2	✓ ✓
db			13.0	62.4	✓ ✓
So.			14.5	60.9	✓ ✓
+10			16.1	59.3	✓ ✓
	6+95.				
No.			9.3	66.1	lowest pt.
db			9.8	65.8	
	7+020 ↓				
-10			13.5	61.9	
So.			12.4	63.0	
db			11.4	64.0	
1/4			9.7	65.7	
c			10.0	65.4	
1/4			9.8	265.6	

27540

RADIO 24

db	9.4	266.0
No	8.9	66.5
	7+27.0 ↓	
No.	5.8	69.6
db	7.0	68.4
+3	6.9	68.5
+4.5	8.4	67.0
1/4	8.4	67.0
c	8.4	67.0
1/2	8.2	67.2
db	9.3	66.1
So.	10.5	64.9
+10	12.1	63.3
	7+52.0 ↓	
-10	11.5	63.9
So.	9.3	66.1
+6	8.1	67.3
db	7.1	68.3
1/4	6.1	69.3
c	6.3	69.1
1/4	6.6	68.8
+4	4.2	71.2
db	4.1	71.3
No.	2.9	77.25



27540

7+77.0 ↓

No.	+0.3	275.7
cb	1.1	74.3
+2	1.0	74.4
1/4	4.0	71.4
C	4.1	71.3
1/4	3.6	71.8
+4	3.6	71.8
cb	4.2	71.2
So	6.3	69.1
+10	8.9	66.5

8+02

-10	5.5	69.9
So.	4.4	71.0
cb	3.2	72.2

8+09.94 = N.L. of BURIAN ST

-10	6.7	68.7
So.	4.8	70.6
cb	2.7	72.7
1/4	1.4	274.0
T.P.	9.27	283.03
C	1.64	273.76
1/4	1.5	73.5
1/4	8.8	74.2
+3	7.3	75.7
cb	7.0	76.0
No.	5.3	277.7

28303

RADIO 25

2.7 E of N.L.

C	N.B. Watch Grade	11.0	272.0	= Top of Wooden Water Main
No.	10.69 E of N.L. = N.C.B.	5.2	277.8	

N.B. GRADE MUST BE 7.2  
No Lower than 1' above

cb	66	76.4
+3	70	76.0
+4	8.4	74.6
1/4	8.2	74.8
C	8.9	74.1
1/4	8.6	74.4
cb	10.0	73.0
So.	12.0	71.0
+10	13.9	69.1

25.21' E of cb = 1/4

-10	14.2	70.8
So.	10.1	72.9
+6	9.1	73.9
cb	8.3	74.7
1/4	6.8	76.2
C	6.8	76.2
1/4	6.7	76.3
+2	6.6	76.4
+4	5.0	78.0
cb	4.8	278.2



283.03

+3	3.6	279.4
No.	2.9	80.1
25.21' E of 1/4 = C		
No.	1.4	81.6
cb	4.1	78.9
1/4	5.0	78.0
C	5.5	77.5
1/4	5.2	77.8
+2	5.1	77.9
cb	6.1	76.9
So	9.1	73.9
+10	11.2	71.8
7' E of 1/4		
N	2.4	80.6
cb	4.2	78.8
28.75' E of 1/4 = Δ pt		
-10	10.7	72.3
So.	8.2	74.8
cb	5.1	77.9
+3	4.1	78.9
1/4	3.7	79.3
C	4.2	78.8
1/4	3.8	79.2
cb	3.0	80.0
No.	1.6	281.4
T.P.	8.58	289.91
	1.70	281.33 on stab

289.91

RADIO

26

13.96 E of Δ pt.		
No.	9.0	280.9
cb.	9.7	80.2
16.96 E of Δ pt.		
cb	10.1	79.8
No.	6.8	83.1
= E cb.		
No.	6.5	83.4
+5	7.6	82.3
cb	9.5	80.4
+1	10.0	79.9
1/4	10.2	79.7
C	10.5	79.4
1/4	10.3	79.6
cb	10.8	79.1
So.	13.7	76.2
+10	17.0	72.9
= E.L. Burian St.		
-10	17.5	72.4
So.	14.4	75.5
cb	11.9	78.0
1/4	10.2	79.7
C	10.3	79.6
1/4	10.4	79.5
+2	10.3	79.6
+4	8.7	281.2



289.91

cb	8.2	281.7
No	63	836
25' E of BURIAN		
No.	5.7	843
cb	8.2	81.7
+2	8.5	81.4
+4	10.2	79.7
1/2	10.2	79.7
c	10.2	79.7
1/4	10.2	79.7
cb	12.8	77.1
So.	15.3	74.6
+10	18.1	71.8
50' E		
-10	18.1	71.8
So.	15.9	74.0
cb	13.4	76.5
1/2	10.2	79.7
c	10.1	79.8
1/4	10.1	79.8
+3	10.1	79.8
+4	8.5	81.4
cb	7.7	82.2
No.	5.8	84.1
75' E		
No.	5.3	284.6

289.91

RADIO

27

cb	7.5	282.4
+3	9.9	80.0
1/4	10.0	79.9
c	10.0	79.9
+4	9.8	80.1
1/4	10.8	79.1
cb	19.3	76.6
So.	15.3	74.6
+10	17.5	72.4
100' E		
-10	17.0	72.9
So.	14.9	75.0
cb	13.6	76.3
1/2	10.5	79.4
+2	9.8	80.1
c	9.9	80.0
1/4	9.9	80.0
+2	9.8	80.1
cb	7.2	82.7
No.	4.6	85.3
125' E		
No.	3.8	86.1
+5	5.8	84.1
cb	6.3	83.6
+2	7.0	82.9
+4	9.3	280.6



289.91

1/4	9.6	280.3
c	9.6	80.3
1/4	9.9	80.0
cb	12.9	77.0
So.	14.8	75.1
+10	16.9	73.0
150' E		
-10	16.1	73.8
So.	14.1	75.8
cb	11.8	78.1
1/4	9.0	80.9
c	8.9	81.0
1/4	9.0	80.9
+4	6.2	83.7
cb	5.4	84.5
No.	3.2	86.7
175' E		
No.	1.2	88.7
cb	4.0	85.9
+2	4.5	85.4
1/4	7.6	82.3
c	7.7	82.2
1/4	7.5	82.4
cb	9.9	80.0
+3	11.3	78.6
So.	12.5	77.4

289.91

R4010

28

+10	15.0	274.9
200' E		
-10	13.5	76.4
So	11.2	78.7
cb	8.6	81.3
1/4	6.2	83.7
c	6.3	83.6
1/4	6.4	83.5
+4	3.4	86.5
cb	3.0	86.9
No.	0.5	89.4
225' E		
No.	+0.5	290.4
cb	1.5	88.4
+2	2.1	87.8
+5	5.3	84.6
1/4	5.3	84.6
c	5.2	84.7
1/4	5.3	84.6
cb	7.0	82.9
So.	9.8	80.1
+10	12.3	77.6
250' E		
-10	12.2	77.7
So.	8.9	81.0
cb	6.0	283.9



289.91

+3	46	285.3
1/6	42	85.7
C	41	85.8
1/4	39	86.0
+3	0.8	89.1
cb	0.0	89.9
No.	+2.6	292.5
275' E		
No.	+2.4	292.3
cb	+0.6	290.5
+3	0.1	89.8
1/4	32	86.7
C	33	86.6
1/4	3.4	86.5
+3	3.5	86.4
cb	51	84.8
So	8.6	81.3
+10	11.8	78.1
210' E		
-10	9.6	80.3
So	7.1	82.8
cb	3.9	86.0
+3	2.6	87.3
1/4	2.6	87.3
C	2.6	87.3
1/4	2.2	287.7

289.91

RADIO

29

cb	+1.7	291.6
No	+3.5	293.4
350' E		
No	+2.7	292.6
+3	+1.6	291.5
cb	+0.7	290.6
+3	1.0	88.9
1/4	3.1	86.8
+1	4.0	85.9
C	3.9	86.0
1/4	3.8	86.1
+2	3.9	86.0
cb	6.1	83.8
So	8.7	81.2
+10	11.2	78.7
375' E		
-10	12.0	77.9
So	9.7	80.2
cb	7.1	82.8
+4	5.0	84.9
1/4	5.0	84.9
C	5.0	84.9
+5	5.2	84.7
1/4	4.4	85.5
+2	1.7	88.2
cb	0.5	289.4



289.91

+5		0.0	289.9
No		+1.4	291.3
	400' E	0.0	289.9
No		0.0	89.9
+3		0.9	89.0
cb		1.7	88.2
+4		2.8	87.1
1/4		4.8	85.1
+2		5.8	84.1
C		5.5	84.4
1/4		5.4	84.5
+2		5.6	84.3
cb		7.9	82.0
So.		10.0	79.9
+10		11.7	78.2
	425' E		
-10		11.2	78.5
So.		9.9	80.0
cb		8.1	81.8
+4		6.3	83.6
1/4		6.0	83.9
C		6.0	83.9
+5		6.1	83.8
T.P.	10.51	293.16	284.65
1/4		10.7	84.5
+3		8.4	786.8

295.16

RADIO

30

cb		7.1	288.1
+6		6.4	88.8
No		5.2	90.0
	450' E	*	
No		5.9	89.3
+3		7.5	87.7
cb		8.0	87.2
+3		9.0	87.2
1/4		10.8	84.4
C		10.8	84.4
1/4		10.8	84.4
cb		12.8	82.4
+4		14.1	81.1
So		14.6	80.6
+10		16.3	78.9
	475' E		
-10		15.5	79.7
So.		13.3	81.9
+7		12.6	82.6
cb		12.1	83.1
1/4		10.0	85.2
C		10.0	85.2
1/4		10.4	84.8
cb		7.2	88.0
+5		6.6	88.6
No		5.2	290.0



295.16

500' E

No.	46	290.6
+3	57	89.5
cb	63	88.9
1/4	94	85.8
c	90	86.2
1/4	8.9	86.3
cb	10.9	84.3
So.	12.3	82.9
+10	14.7	80.5

525' E

-10	13.4	81.8
So.	11.4	83.8
cb	9.8	85.4
1/4	7.5	87.7
c	7.6	87.6
1/4	7.9	87.3
cb	5.2	90.0
No.	3.5	91.7

550' E

No.	2.2	93.0
cb	3.7	91.5
+2	4.1	91.1
+4	6.6	88.6
1/4	6.6	88.6
c	6.3	88.9

295.16

RADIO

31

1/4	60	289.2
cb	7.4	87.8
So	8.4	86.8
+10	10.9	84.3

575' E

-10	9.7	85.5
So.	7.8	87.4
cb	6.6	88.6
1/4	5.0	90.2
c	5.3	89.9
1/4	5.4	89.8
cb	3.0	92.2
No.	1.6	93.6

600' E

No.	1.2	94.0
cb	2.5	92.7
1/4	2.8	92.4
1/4	4.8	90.4
c	4.9	90.3
1/4	4.9	90.3
cb	4.6	90.6
So	6.2	89.0
+10	7.3	87.9
	8.6	78.6



295.16

625' E

-10	8.3	286.9
50.	6.9	88.3
cb	6.0	89.2
1/4	4.4	90.8
C	4.6	90.6
1/4	4.9	90.3
+2	4.9	90.3
+4	2.9	92.3
cb	2.5	92.7
No.	1.2	94.0

650' E

No.	2.2	93.0
cb	3.4	91.8
+2	3.6	91.6
+4	5.1	90.1
1/4	5.3	89.9
C	5.2	90.0
1/4	4.5	90.7
cb	5.0	90.2
50	6.8	88.4
+10	8.8	86.4

675' E

-10	8.5	86.7
50.	7.3	87.9
cb	6.6	288.6

295.16

RADIO

32

+3	5.9	289.3
1/4	5.9	89.3
C	6.9	88.9
1/4	6.5	88.7
+2	6.6	88.6
+4	4.5	90.7
cb	4.2	91.0
No.	4.0	91.2

700' E

No.	5.4	89.8
cb	6.0	89.2
+3	7.3	87.9
1/4	7.4	87.8
C	7.2	88.0
1/4	7.0	88.2
cb	7.5	87.7
50	8.1	87.1
+10	9.0	86.2

711' E

-10	10.4	84.5
50	8.4	86.8
cb	8.0	87.2
1/4	7.2	88.0
C	7.6	87.6
1/4	7.5	87.7
+2	7.7	287.5



29516

+4		6.1	289.1
db		5.9	89.3
No.		5.4	89.8
	721' E		
No.		11.1	84.1 - bottom
db		10.4	84.8
1/4		8.0	87.2
C		7.9	87.3
1/4		7.9	87.3
+3		8.9	86.3
db		11.3	83.9
So.		12.6	82.6
+10		13.7	81.5
	725' E		
-10		15.3	79.9
So.		14.2	81.0
db		13.2	82.0
1/4		8.1	87.1
C		8.0	87.2
1/4		8.0	87.2
+3		8.7	86.5
db		10.5	84.7
+3		11.2	84.0
No.		10.8	84.4
	732' E		
No		7.6	287.6

18" pipe necessary.

29516

RADIO 33

db		9.2	286.0
+3		8.3	86.9
1/4		7.9	87.3
C		7.7	87.5
1/4		7.9	87.3
+2		8.3	86.9
db		11.8	83.4
+4		13.6	81.4
So.		14.4	80.8
+10		15.2	80.0
	740' E		
-10		14.5	82.7
So		12.1	83.1
+4		12.0	83.7
db		9.2	86.0
1/4		7.4	87.8
C		7.6	87.6
1/4		7.8	87.4
+3		7.8	87.4
db		6.4	88.8
No.		5.2	90.0
	750' E		
No.		5.3	89.9
db		6.4	88.8
+4		7.8	87.4
1/4		7.7	287.5



295.16

c	7.5	287.7
1/4	7.2	87.9
cb	9.1	86.1
So.	9.8	85.4
+10	9.6	85.6
765.25' E = Δ pt. = 0+00		
-10	9.2	86.0
So.	8.2	87.0
cb	7.4	87.8
1/4	7.0	88.2
c	7.3	87.9
1/6	7.5	87.7
+4	6.2	89.0
cb	5.9	89.3
No.	5.2	89.0
T.P.	167	298.06
+26.55 E ox Δ pt.		
No.	2.0	296.1
cb	8.0	90.1
+3	8.5	89.6
+4	9.4	88.7
1/4	9.6	88.5
c	9.6	88.5
1/4	9.2	88.9
cb	10.5	87.6
So.	11.3	86.8
+10	14.3	2 85.8

298.06

RADIO 34

+51.55		
-10	12.4	285.7
So.	10.9	87.2
cb	9.6	88.5
+4	8.1	90.0
1/4	8.2	89.9
c	8.5	89.6
1/4	8.4	89.7
+1	7.8	90.3
+4	5.5	92.6
cb	5.3	92.8
No.	4.2	93.9
+46.55		
No.	2.2	95.9
cb	3.4	94.7
+2	4.2	93.9
+4	6.7	91.4
1/4	7.5	90.6
c	7.4	90.7
1/4	7.1	91.0
+3	7.6	90.5
cb	8.9	89.2
So.	10.5	87.6
+10	12.3	285.8



298.06

1+01.55

-10	12.2	285.9
So.	10.3	87.8
cb	8.8	89.3
1/4	6.6	91.5
c	6.9	91.2
1/4	6.6	91.5
+2	5.7	92.4
+1	3.6	94.5
cb	3.0	95.1
No.	1.3	96.8

1+26.55

No.	1.3	96.8
cb	3.3	94.8
+2	3.7	94.4
+5	6.6	91.5
1/4	6.8	91.3
c	6.6	91.5
1/4	6.9	91.4
+4	8.6	89.5
cb	9.1	89.0
So.	10.5	87.6
+10	11.8	86.3

1+51.55

-10	11.8	86.3
So.	10.3	287.8

298.06

RADIO

35

cb	9.0	289.1
+3	8.0	90.1
1/4	6.7	91.4
c	6.5	91.6
1/4	6.7	91.4
+2	6.4	91.7
cb	3.7	94.4
No.	1.5	96.6

1+76.55

No.	2.2	95.9
cb	4.7	93.4
+3	5.3	92.8
1/4	6.5	91.6
c	6.5	91.6
1/4	6.4	91.7
+1	8.1	90.0
cb	8.3	89.8
So.	9.7	88.4
+10	11.8	86.3

2+01.55

-10	11.5	85.6
So.	10.1	88.0
cb	8.4	89.7
1/4	6.3	91.8
c	6.5	91.6
1/4	6.6	291.5



298.06

+2	4.8	293.3
cb	4.8	93.3
No.	2.5	95.6
2+26.55		
No.	2.4	95.7
+4	3.7	94.4
cb	3.9	94.2
+2	4.1	94.0
+5	6.4	91.7
1/4	6.4	91.7
c	6.2	91.9
1/4	6.1	92.0
cb	8.1	90.0
So.	10.3	87.8
+10	13.8	84.3
2+51.55		
-10	13.5	84.6
So.	10.2	87.9
cb	8.1	90.0
1/4	5.5	92.6
c	5.8	92.3
1/4	5.9	92.2
+2	5.7	92.4
cb	2.9	95.2
+6	2.9	95.4
No.	1.6	296.5

298.06

RADIO

36

2+76.55		
No.	1.3	296.8
+2	2.2	95.9
cb	2.7	95.4
+3	5.2	92.9
1/4	5.3	92.8
c	5.3	92.8
1/4	5.5	92.6
cb	8.9	89.2
So.	11.4	86.7
+10	14.1	84.0
3+01.55		
-10	12.3	85.8
So.	10.2	87.9
cb	8.0	90.1
+3	7.4	90.7
1/4	5.6	92.5
+3	4.3	93.8
c	4.3	93.8
1/4	4.3	93.8
+5	4.1	94.0
cb	3.0	95.1
No.	0.4	97.7
<del>2+31.55</del>		
No.	0.0	98.1
+5	2.5	295.6



298.06

cb	2.8	2953
1/4	2.6	955
c	2.6	955
1/4	6.1	920
cb	6.8	913
So.	8.5	896
+10	9.7	884
3+36.55		
-10	11.8	863
So.	12.2	859
cb	9.4	887
1/4	7.5	906
c	3.5	946
3+40.55		
-30	21.0	77.1
-20	21.5	76.3
So.	10.6	875
cb	7.9	902
1/4	6.2	91.9
c	2.9	95.2
+2	1.5	96.3
1/4	2.0	96.1
cb	11.2	95.9
+3	12.1	296.0
No.	+1.0	299.1

CORRECT

1049.13

SEE BOOK

NOTES

3+40.55

SECT 1011

X

298.06

RADIO

37

3+50.55 for slope so. side

-30	15.5	282.6
-20	17.4	80.7
-12	21.5	76.6
-7	16.7	81.4
So.	13.7	84.4
3+65.55		
No.	1.0	97.1
+1	1.5	96.6
cb	1.4	96.7
1/4	1.3	96.8
c	4.9	93.2
1/4	8.7	89.4
cb	12.1	86.0
So.	19.0	79.1
+4	21.2	76.9
+11	18.3	79.8
+17	15.8	82.3
3+85.55		
-20	14.0	84.1
-10	14.3	83.8
-7	19.4	78.7
-3	20.5	77.6
So	18.6	79.5
cb	15.3	82.8
1/4	10.3	87.6

creek

= creek

= creek



298.06

c	66	291.5
1/4	4.9	93.2
+3	1.7	96.4
cb	1.6	96.5
No.	13	96.8
4+01.55		
No.	1.0	97.1
cb	1.2	96.9
1/4	2.1	96.0
c	6.3	91.8
1/4	10.5	87.6
cb	13.4	84.7
So.	17.3	80.8
+2	19.9	78.2
+7	19.6	78.5
+12	16.2	81.9
+20	15.6	82.5
4+21.55		
-21	13.2	84.9
-14	19.4	78.7
-7	14.2	83.9
So.	12.4	85.7
cb.	10.3	87.8
1/4	8.5	89.6
c	4.6	93.5
+5	1.4	296.7

Either a channel change or retaining wall necessary.

-creek

-creek

298.06

RADIR

38

1/4	1.1	297.0
cb	1.1	97.0
T.P.	7.77	304.54
No.	1.29	296.77
	7.6	96.9

4+33.55 for slopes on So.

-21	24.8	79.7
So.	15.7	88.8

4+41.55

No.	4.5	99.7
+5	7.5	96.7
cb	7.9	96.6
1/4	7.5	96.7
c	7.7	96.8
1/4	11.5	93.0
cb	13.7	90.8
So.	16.9	87.6
+7	18.6	85.9
+15	23.0	81.5
+20	23.0	81.5

4+51.55 = App. 4+56.05 Book 1049-13

-20	18.6	85.9
-11	17.4	87.1
So	15.1	89.4
cb	14.6	91.9
1/4	10.6	93.9
+11	8.2	296.3



304.54

C <sub>1/4</sub>	7.8	296.7
1/4	8.0	96.5
cb	7.8	96.7
+2	7.2	97.3
+5	4.8	99.7
N	4.7	299.8
	4+76.55	
N	4.3	300.2
cb	5.2	299.3
+1	8.1	96.4
1/4	8.0	96.5
C	8.0	96.5
1/4	7.9	96.6
+2	8.1	96.4
cb	10.2	94.1
So	12.1	92.4
+10	14.7	89.8
	5+01.55	
-10	12.3	92.2
So.	10.5	94.0
+5	9.4	95.1
cb	7.8	96.7
1/4	8.1	96.4
C	8.2	96.3
+3	8.0	96.5
1/4	5.7	298.8

304.54

39

cb	4.2	300.3
No.	3.6	301.0
	5+26.55	
No.	2.8	301.7
+4	4.3	300.2
cb	4.5	300.0
1/4	5.3	299.2
+3	6.1	98.4
C	8.0	96.5
1/4	7.9	96.6
cb	7.7	96.8
+1	7.7	96.8
+5	9.7	94.8
So.	10.5	94.0
+10	13.0	91.5
	5+51.55	
-10	14.2	90.3
-4	13.2	91.1
So.	11.8	92.7
+5.5	8.1	96.4
cb	8.1	96.4
1/4	8.2	96.3
+3	8.3	96.2
C	6.9	97.6
+2	5.5	299.0
1/4	4.4	300.1



304.54

cb	4.6	299.9
+3	3.1	301.4
No	2.1	302.4
5+76.55		
No	2.2	302.3
cb	3.8	300.7
+1	4.6	299.9
1/4	4.6	299.9
+4	4.6	299.9
c	6.3	98.2
+2	8.2	96.3
1/4	8.0	96.5
cb	7.7	96.8
+4	7.7	96.8
So.	9.8	94.7
+10	12.8	91.7
6+01.55		
-10	9.9	94.6
So.	8.6	95.9
+3	7.3	97.2
cb	7.6	96.9
1/4	7.9	96.6
+4	8.2	96.3
c	6.4	98.1
+1	5.1	99.4
1/4	5.6	298.9

304.54

RADIO

40

cb	4.1	300.4
No.	2.9	301.6
6+23.55		
No.	4.4	300.1
cb	5.7	298.8
1/4	6.7	97.8
c	7.4	97.1
+1	8.3	96.2
1/4	8.1	96.4
cb	8.0	96.5
+5	7.9	96.6
So.	9.4	95.1
+10	10.3	94.2
6+45.83 = W.L. WINNETT ST 60' wide		
-10.	10.1	94.4
So.	9.5	95.0
B.M.	9.51	295.03 <sup>High SW</sup>
+4	8.1	96.4 <sup>Winnet</sup>
cb	8.1	96.4
1/4	8.1	96.4
c	8.1	96.4
1/4	7.5	97.0
cb	7.1	97.4
No.	6.4	298.1

12.29 307.32

24" pipe necessary/ Draw to North



307.32

N. Cb. Minnetta parallel to Minnetta

No.	10.3	297.0
ob	10.7	96.6
1/4	10.7	96.6
c	10.8	96.5
1/4	10.7	96.6
ob	10.8	96.5
So.	11.9	95.4
+5	12.0	95.3

N 1/4

-5	12.0	95.3
So.	11.7	95.6
ob	10.7	96.6
1/4	10.5	96.8
c	10.5	96.8
1/4	10.5	96.8
ob	10.5	96.8
No.	10.4	96.9
	10.5	96.8

Center

No.	9.8	97.5
ob	9.8	97.5
1/4	10.0	97.3
c	10.2	97.1
1/4	10.4	96.9
ob	10.5	96.8
So.	11.2	96.1
+5	11.7	295.6

307.32

RADIO

41

E 1/4

-5	11.7	295.6
So	11.3	96.0
ob	10.5	96.8
1/4	10.1	97.2
c	9.9	97.4
1/4	9.8	97.5
ob	9.5	97.8
No.	9.4	97.9

E. Cb

No.	9.2	98.1
ob	9.5	97.8
1/4	9.5	97.8
c	9.7	97.6
1/4	10.0	97.3
ob	10.2	97.1
So.	10.7	96.6
+5	11.3	96.0

5' E of E. Cb.

-5	11.1	96.2
So	10.8	96.5
ob	10.0	97.3
1/4	9.9	97.4
c	9.7	97.6
1/4	8.8	98.5
ob	8.7	98.6
No.	8.2	299.1



Regular HO SECTIONS AGAIN E. L. WINNETT = 0+00

No.	7.0	300.3
cb	7.5	299.8
1/4	7.6	99.7
+3	7.9	99.4
c	9.5	978
1/2	9.5	978
cb	9.6	977
So.	10.1	972
+5	10.3	97.0
	+25	
-5	96	97.7
So	87	986
cb	83	99.0
1/2	7.7	99.6
c	7.4	299.9
1/4	6.3	301.0
cb	5.7	01.6
No.	4.7	07.6
	+50	
No.	3.0	04.3
cb	4.1	03.7
1/4	5.1	302.2
c	6.4	300.9
1/4	1.5	300.8
+3	6.4	300.9

cb	7.4	299.9
So	86	98.7
+5	9.6	97.7
	+75	
-5	9.9	97.4
So.	87	98.6
cb	7.4	299.9
+3	6.1	301.2
1/2	6.0	1.3
c	5.8	1.5
+2	5.5	1.8
+4	4.5	2.8
1/4	4.2	3.1
cb	3.3	4.0
No.	1.6	5.7
	+100	
No.	1.5	5.8
cb	3.0	4.3
1/4	3.8	3.5
c	5.5	1.8
1/2	5.9	1.4
+1	5.9	301.4
1/4	7.1	300.2
So.	8.9	298.4
+5	9.7	297.6



307.32

1 + 25' E

-5	9.7	297.6
So.	8.8	298.5
cl	7.3	300.0
<del>H</del> +3	5.8	15
1/4	5.7	16
C	5.3	20
1/4	3.8	3.8
cl	2.6	4.7
No.	1.7	5.6

1 + 50

No.	1.3	6.0
cl	2.5	4.8
1/4	3.3	3.8
+4.5	4.9	2.4
C	5.1	2.7
1/4	5.4	1.9
cl	6.3	301.0
So.	7.8	299.5
+5	8.7	298.6

2 + 80

-5	7.0	300.3
So.	6.4	300.9
cl	5.4	1.9
1/4	4.6	2.7
C	4.4	302.9

307.31

RADIO 43

1/4	3.2	304.1
cl	2.2	5.1
No.	0.6	6.7

2 + 50

No.	0.6	6.7
cl	1.8	5.5
1/4	2.8	4.5
+3	3.3	4.0
+4.5	3.9	3.4
C	4.2	3.1
1/4	4.4	2.9
cl	5.1	2.7
So.	6.2	1.1
+5	6.8	0.5

2 + 75

-5	6.2	1.1
So.	6.0	1.3
cl	5.2	2.1
1/4	4.6	2.7
C	4.5	2.8
1/4	4.6	2.7
cl	2.9	4.4
No.	1.7	5.6

3 + 80

No. - Top bank	4.8	4.5
+1 = bottom -	3.6	303.7



307.32

cb	3.7	303.6
1/4	4.0	33
c	4.3	3.0
1/4	4.5	2.8
cb	4.9	2.4
So	5.5	1.8
+5	5.7	1.6
3+25		
-5	5.3	2.0
So	5.2	2.1
cb	4.5	2.8
1/4	4.3	3.0
c	4.2	3.1
1/4	4.1	3.2
cb	3.4	3.9
+6.7 = bottom bank	3.0	4.3
No. = Top	1.9	5.4
3+50		
No. = -	1.6	5.7
+1.5 = bottom	2.8	4.5
cb	3.0	4.3
1/4	3.7	3.6
c	3.9	3.4
1/4	4.0	3.3
cb	4.3	3.0
So	5.0	2.3
+5	5.1	302.2

307.34

RADIO

44

3+75		
-5	4.5	302.8
So = Gate to House	4.3	3.0
cb	3.5	3.8
1/4	3.5	3.8
c	3.3	4.0
1/4	2.9	4.1
cb	1.9	5.4
+6.7 = bottom	1.7	5.6
No. Top	0.8	6.5
4+00		
No. = ✓	+0.2	307.5
+1.1 = bottom	0.7	6.6
cb	1.1	6.2
1/4	2.2	5.1
c	2.2	5.1
1/4	2.5	4.8
cb	3.0	4.3
So	3.0	4.3
+0.1	3.6	3.7
+5	3.7	3.6
4+25		
-5	4.8	4.5
So	4.9	4.6
+1.5	1.6	5.7
cb	1.1	6.2
1/4	0.9	306.4



307.32

c		0.5	306.8
+4		0.4	306.9
T.P.	11.51	0.43	306.89
1/4		10.9	7.5
cb		10.7	7.7
+6.7 = bottom		10.6	7.8
No. = Top		9.6	8.8
	4+50		
No. = ✓		7.9	10.5
+1.3 = bottom		9.1	9.3
cb		9.7	8.7
1/4		10.1	8.3
c		10.7	7.7
1/4		10.9	7.5
cb		11.3	7.1
+7		11.6	6.8
So.		12.7	5.7
+5		12.9	5.5
	4+75		
-5		11.9	6.5
-1		11.7	6.7
So.		10.9	7.5
cb		10.0	8.4
1/4		9.7	8.7
c		9.2	9.2
1/4		8.8	309.6

318.10

RADIO

45

H		8.0	310.4
+6.5 = bottom		7.5	10.9
No		6.6	11.8
	4+98		
No.		5.9	12.5
+1.3		6.6	11.8
cb		7.1	11.3
1/4		7.5	10.9
c		8.0	10.4
	5+00		
No.		5.6	12.8
cb		6.2	12.2
1/4		6.7	11.7
c		8.0	10.4
1/4		8.4	10.0
cb		8.7	9.7
So.		9.9	8.5
+0.5		10.7	7.7
+5		10.8	7.6
	5+25		
-5		10.2	8.2
-So.		9.4	9.0
+4		9.1	9.3
+5		8.2	10.2
cb		7.7	10.7
1/4		7.5	310.9



318.40

c		7.1	311.3
1/4		6.3	12.1
db		5.5	12.9
No.		4.6	13.8
	5+50		
No. = Gate		3.2	15.2
db		2.8	14.6
1/4		4.4	14.0
c		6.3	12.1
1/4		6.6	11.8
db		7.7	10.7
+5		9.3	9.1
So.		9.5	8.9
+1		10.6	7.8
+4		10.8	7.6
	5+60		
So. = Gate		10.1	8.3
	5+75		
-5		11.0	7.4
-1		11.1	7.3
So.		10.5	7.9
+1		10.0	8.4
db		8.2	10.2
1/4		7.1	11.3
c		6.7	11.7
1/4		5.1	313.3

318.40

RADIO

46

db		1.0	314.4
No.		2.9	15.5
	6+00		
No.		2.4	16.0
db		3.6	14.8
1/4		5.0	13.4
c		6.8	11.6
1/4		7.2	11.2
db		9.7	8.7
So.		10.1	8.3
+5		10.2	8.2
	6+25		
-5		9.7	8.7
So.		9.0	9.4
db		8.2	10.2
1/4		7.1	11.3
c		7.0	11.4
1/4		5.4	13.0
db		3.8	14.6
No.		4.2	16.2
	6+50		
No.		1.8	16.6
db		4.0	14.4
1/4		5.5	12.9
+3		6.7	11.7
c		6.7	311.7



31840

1/4	6.7	311.7
db	7.7	10.7
So	8.1	10.3
+5	8.5	9.9
	6+75	
-5	7.9	10.5
So	7.4	11.0
db	6.7	11.7
1/4	6.0	12.4
C	5.9	12.5
+4	5.5	12.9
1/5	4.3	14.1
db	3.1	15.3
No.	1.2	17.2
	7+00	
No.	+0.4	18.8
db	1.2	17.2
1/4	2.6	15.8
C	4.2	14.2
1/4	4.6	13.8
db	5.1	13.3
So	5.7	12.7
+5	6.5	11.9
	7+25	
-5	4.6	13.8
So	3.6	14.8

RADIO

47

db	2.9	15.5	
1/4	2.3	16.1	
C	2.1	16.3	
TP 1234	328.85	1.89	316.51
1/4	11.1	17.8	
db	9.6	19.3	
No	8.2	20.7	
	7+50		
No	6.5	22.4	
db	7.9	21.0	
1/4	8.6	20.3	
C	10.5	18.4	
1/4	10.8	18.1	
db	11.1	17.8	
So	12.3	16.6	
+5	12.9	16.0	
	7+75		
-5	10.8	18.1	
So	9.8	19.1	
db	9.1	19.8	
1/4	8.7	20.2	
C	8.3	20.6	
+2	7.1	21.8	
1/4	6.6	22.3	
db	5.6	23.3	
No.	4.5	24.4	



328.85

8+00

No	2.9	15	326.9
cb	4.4		24.5
1/4	5.2		23.7
c	6.6		22.3
1/4	7.1		21.8
cb	7.4		21.5
so	8.1		20.8
+5	8.7		20.2

8+25

-5	7.3		21.6
so	6.8		22.1
cb	5.7		23.2
1/4	5.6		23.3
+4	5.5		23.4
c	4.3		24.6
1/4	3.5		23.4
cb	2.6		26.3
No	1.2		27.7

8+50

No.	0.1		28.8
cb	1.3		27.6
1/4	2.2		26.7
c	3.0		25.9
+2	4.4		24.5
1/4	4.6		24.3

cb.

so.

+5

-5

so.

76

cb

1/4

+5

c

1/4

cb

T.P.

No.

No.

cb

1/4

+3

c

1/4

cb

so.

+5

RADIO.

28

4.7 324 2

3.9 23 0

6.5 22 4

8+75

5.6 23 3

4.9 24 0

3.7 25 2

3.8 25 1

3.8 25 1

3.4 25 5

2.6 26 3

1.8 27 1

0.9 28 0

11.23

339.37

0.71 328.14

9.6 27 8

9+00

9.7 29 7

11.0 28 4

11.8 29 6

12.9 26 5

13.1 26 3

13.1 26 3

13.8 25 6

15.2 24 2

15.7 23 7



339.57

$$9 + 20.45 = \Delta pt = 0 + 00 \text{ (H)}$$

-5	15.5	323.9
50.	14.9	24.5
db	13.8	25.6
1/4	12.8	26.6
c	12.6	27.0
1/4	12.3	27.1
db	11.0	28.4
1/0	9.8	29.6

0 + 28.85

1/0	8.6	31.0
db	9.2	30.2
1/4	10.1	29.3
+1	11.2	28.2
c	11.6	27.8
1/4	11.7	27.7
db	12.6	26.8
50.	13.4	26.0
+5	14.2	25.2

0 + 53.85

-5	13.7	25.7
50.	12.8	26.6
db	11.6	27.8
1/4	11.1	28.3
c	10.8	28.6
1/4	9.4	30.0

37.4

RADIO

49

db	8.6	30.8
1/0	7.0	32.4
1 + 03.85		
No.	5.7	33.7
db	7.2	32.2
1/4	9.8	31.6
c	8.7	30.7
+1	9.7	29.7
1/4	10.1	29.3
db	10.6	29.0
+3	11.3	28.1
50.	11.7	27.7
+5	12.5	26.9
1 + 53.85		
-5	12.7	26.7
50	11.8	27.6
+4	11.2	28.2
db	9.9	29.5
1/4	9.4	30.0
+5	9.2	30.2
c	8.2	31.2
1/4	7.3	32.1
db	6.3	33.1
No.	4.7	34.4
1 + 03.85		
No.	4.4	35.0



339.37

df	6.1	333.3
1/4	7.2	332.2
c	8.2	31.2
+1	8.9	30.5
1/4	9.2	30.2
cb	9.6	29.8
So	10.9	28.5
+5	12.0	27.4

2+28.85

-5	11.6	27.8
So	10.5	28.9
cb	8.8	30.6
1/4	8.4	31.0
c	8.1	31.3
1/4	6.7	32.7
cb	5.6	33.8
No.	4.2	35.2

2+43.85

No.	5.0	34.4
cb	6.5	32.9
1/4	7.3	32.1
c	7.6	31.8

2+58.85

No.	3.8	35.6
cb	5.5	33.9
1/4	6.7	32.7

RADIO

50

+2	7.2	332.0
c	7.6	31.8
1/4	7.9	31.5
+2	8.0	31.4
cb	8.8	30.6
So	10.2	29.0
+5	11.2	28.2

2+48.85

-5	11.2	28.2
So	10.1	29.3
cb	8.7	30.7
1/4	8.1	31.3
c	7.9	31.5
+1	7.1	32.3
1/4	6.1	33.3
cb	5.0	34.4
No.	3.7	35.7

3+03.85

No.	3.3	36.1
cb	4.7	34.7
1/4	5.6	33.8
+5	6.2	33.2
c	7.2	32.2
1/4	7.7	31.7
cb	8.0	31.4
So	9.5	29.9
+5	10.3	29.1



337.37

3+53.85

-5	8.8	330.6
So.	7.8	316
+4	7.6	318
cb	6.3	331
1/4	6.3	331
c	5.8	336
+1	5.0	344
1/4	4.4	350
cb	3.6	358
No.	2.2	372
3+78.85		
No.	2.1	373
+2	3.0	364
cb	3.5	359
1/4	4.4	350
+5	4.9	345
c	5.8	336
1/4	5.9	335
cb	6.1	333
So.	7.2	322
+5	8.0	314
4+03.85		
-5	8.2	312
So.	7.3	321
cb	6.1	333

RAD16

51

1/4	5.9	335
c	5.8	336
1/4	4.6	348
cb	3.8	356
TP 11.44	345.01	580
No.	7.8	372
4+28.85		
No.	8.4	366
+1	9.1	359
cb	9.7	353
1/4	10.3	347
c	11.1	339
1/4	11.3	337
cb	11.5	335
So.	12.9	321
+5	13.0	320
4+33.85 - N. end of 18' garage dirt/floor		
4+53.85		
-5	12.2	328 = same elev as garage floor
So.	12.1	329
cb	9.8	352
1/4	9.9	351
c	10.1	349
1/4	8.5	365
cb	8.1	369
No.	7.9	371



34501

4+78.85

No	5.7	339 3
cb	6.4	38 6
1/4	7.3	37 7
+2	7.5	37 5
+4	8.8	36 2
c	8.8	36 2
1/4	8.8	36 2
cb	9.2	35 8
+3	10.6	34 6
so.	10.9	34 1
+5	10.9	34 1

5+03.85

-5	10.6	34 4
so.	9.7	35 3
cb	8.5	36 5
1/4	8.4	36 6
c	8.1	36 9
+4	7.8	37 2
1/4	6.8	38 2
cb	6.0	39 0
No.	5.2	39 8

5+28.85

No.	5.2	39 8
cb	6.2	38 8
1/4	7.1	37 9

34501

RADIO

52

c	8.2	336 8
1/4	8.6	36 4
+3	8.7	36 3
cb	10.0	35 0
so.	11.7	33 3
+5	12.9	32 1

5+53.85

-5	12.8	32 2
so.	11.1	33 9
cb	9.3	35 7
+4	8.3	36 7
1/4	8.3	36 7
c	8.3	36 7
+3	7.2	37 8
1/4	6.9	38 1
cb	6.2	38 8
No.	5.3	39 7

6+03.85

No.	4.5	340 5
cb	5.6	39 4
1/4	6.2	38 8
c	7.5	37 5
1/4	7.6	37 4
cb	8.9	36 1
so.	11.0	34 0
+5	14.6	32 4



345.01

6+53.85

-5	11.4	333.6
50.	9.9	35.1
cb	8.0	37.0
1/4	6.7	38.3
c	6.6	38.4
1/2	5.4	39.6
cb	4.5	40.5
No	3.5	41.5

6+78.85

No	2.2	42.8
cb	3.9	41.1
1/4	5.3	39.7
c	5.7	39.3
1/2	6.2	38.8
+1	6.1	38.9
cb	7.0	38.0
50	9.2	35.8
+5	10.2	34.8

7+03.85

-5	10.0	35.0
50.	8.7	36.3
cb	6.5	38.5
1/4	5.6	39.4
c	5.4	39.6
+2	5.2	39.8

345.01

RADIO

53

+3

1/2

cb

No.

No.

cb

1/4

c

1/2

cb

50

+5

-5

50.

cb

1/4

c

1/2

+4

cb

No.

No.

No.

40

3.4

2.4

1.2

+0.2

1.6

2.5

4.5

4.7

5.8

8.2

9.3

8.2

6.55

4.7

3.8

3.4

2.7

8.2

6.9

5.4

5.6

341 0

41 6

42 6

43 8

345.2

43 4

42 5

40 5

40 3

39 2

36 8

35 7

36 8

338.46 on hub.

40 3

41 2

41 6

42 3

43 1

44.4

45.2

45.7

7+35.85

7+67.86 = W.L. ATTIX 57 60' WIDE

12.86 351.32?

W.Cb.



+6	6.6	344.7
+7	8.0	43.3
cb	8.2	43.1
1/4	9.3	42.0
C	9.5	41.8
1/4	10.0	41.3
cb	10.6	40.7
So	12.6	38.7
+5	14.3	37.0
-5	13.7	397.6
So.	12.8	38.5
cb	10.7	40.6
1/4	9.9	41.4
C	9.3	42.0
1/4	9.0	42.3
cb	8.2	43.1
+4	6.0	45.3
No.	5.4	45.9
No.	5.5	46.0
+4	6.0	45.3
+6	7.6	43.7
cb	7.9	43.4
1/4	8.8	42.5
C	9.2	42.1

W 1/4

Center

1/4	9.8	341.5
cb	10.7	40.6
So.	11.4	39.9
+5	12.4	38.9
-5	11.2	39.1
So.	11.0	40.3
cb	10.0	41.3
1/4	9.3	42.0
C	8.7	42.6
1/4	8.3	43.0
cb	7.7	43.6
+2	7.2	44.1
+4	5.4	45.9
No.	4.8	46.5
No.	4.3	347.0
+3	4.8	46.5
+5	6.9	44.4
cb	7.4	43.9
1/4	8.0	43.3
C	8.5	42.8
+6 1/4	9.1	42.2
cb	10.2	41.1
So	10.7	40.6
+5	11.0	40.3

E 1/4

E. Cb



35/32

E.L. ATTIX ST = 0+00

-5	11.5	339 8
So	10.8	40 5
cb	10.0	41 3
1/4	8.7	42 8
c	8.5	42 8
1/4	7.8	43 5
cb	7.1	44 2
+3	6.6	44 7
+6	4.7	46 6
No.	4.2	47 1
0+25		
No.	3.5	47 8
+4	6.2	45 1
cb	6.9	44 4
1/4	7.2	44 1
c	7.6	43 7
1/4	7.7	43 6
cb	8.9	42 4
So.	10.5	40 8
+5	11.9	39.4 = wash
0+50		
-5	11.0	340.3 = v
So	9.8	41.5
cb	8.5	42.8
1/4	7.2	44 1

+4

c

1/4

cb

+4

+5

No

No

+3

+4.5

cb

1/4

c

1/4

cb

So.

+5

-5

So

cb

1/4

c

+3

1/4

RADIO 55

6.2 345-1

6.2 45 1

6.3 45 0

6.2 45 1

5.7 45 6

3.7 47 6

3.0 48 3

0+75

2.8 48 3

3.2 48 1

4.7 46 6

5.4 45 9

5.1 46 2

5.4 45 9

7.1 44 2

8.6 42 8

10.2 41 1

10.6 40 7 = wash

1+00

10.4 40 9 = wash

8.9 42 4

7.4 43 9

6.2 45 1

5.4 45 9

4.3 47 0

4.1 47 2



351.32

RADIO 56

cl		4.2	347.1
+5 +4		3.9	47.4
+5		2.3	49.0
No.		2.0	49.3
T.P.	12.95	362.87	1.40
			344.92
			No. Hub Δ pt.
		+ 22.38 = Δ pt. = 0+00	
No.		13.2	349.7
+4		15.0	47.9
cl		15.2	47.7
1/2		15.1	47.8
c		16.5	46.4
1/4		17.6	45.3
cl		18.8	44.1
50		20.7	42.2
+5		21.4	41.5
	0+26.42		
-10		20.5	42.4
5		19.8	43.1
cl		17.9	45.0
1/4		16.8	46.1
c		16.0	46.9
1/4		14.3	48.6
cl		14.3	48.6
+4		13.8	49.1
N		12.3	50.6

0+51.42

D.	11.2	351.7
+4	13.2	49.7
cl	13.2	49.7
1/4	13.2	49.5
c	15.9	47.0
1/4	17.5	45.4
+4	19.0	43.9
cl	19.0	43.9
5	19.1	43.8
+10	19.6	43.3

0+74.42

-10	18.8	44.1
5	18.4	44.5
cl	18.0	44.9
1/4	17.3	45.6
c	17.1	45.8
1/2	14.7	48.2
+2	13.7	49.2
cl	12.9	50.0
17	13.0	49.9
N	11.5	51.4

+1.42 = W.L. Paradise St 60 wide

	11.1	51.8
	12.2	50.5
	12.6	50.3



362.87

1/4	13.2	349.7
c	15.6	47.3
1/4	17.1	45.8
cb	17.5	45.4
3	18.1	44.8
+10	18.1	44.8
	W. Curb	
-10	18.0	44.9
3	17.8	45.1
cb	17.2	45.7
1/4	16.1	46.8
c	14.6	48.3
1/4	12.8	50.1
cb	12.1	50.8
+6	11.9	51.0
1/4	11.2	51.7
	W 1/4	
N	10.5	52.4
+3	11.4	51.5
cb	11.6	51.3
1/4	12.2	50.7
c	13.6	49.3
1/4	15.6	47.3
cb	16.6	46.3
3	17.9	45.0
+10	18.3	44.6

RADIO

57

Center

-10	18.2	344.7
3	16.6	46.8
cb	15.7	47.2
1/4	14.5	48.4
c	13.0	49.9
1/4	11.3	51.6
cb	11.6	51.3
+4	11.6	51.3
N	9.1	53.8
	E 1/4	
N	8.7	54.2
+4	10.0	52.9
cb	10.3	52.6
1/4	10.9	52.0
c	12.2	50.7
1/4	13.7	49.2
cb	15.1	47.8
3	16.3	46.6
+10	17.7	45.2
	E Cb	
-10	17.2	45.7
3	15.7	47.2
cb	13.3	49.6
1/4	12.5	50.4
c	11.5	51.4



362.87

1/4	10.2	352.7
cb	9.9	53.0
+4	9.8	53.1
N	8.1	54.8
E. L. PARADISE = 0+00		
N	7.8	55.1
+4	9.2	53.5
cb	9.5	53.4
1/2	9.8	53.1
c	11.1	51.8
1/4	12.2	50.7
cb	13.2	49.7
5	15.6	47.3
+10	16.5	46.4
0+25'		
-10	15.9	47.0
5	14.2	48.7
cb	12.2	50.7
1/4	11.0	51.9
c	10.0	52.9
1/2	8.6	54.3
cb	8.3	54.6
+3	8.2	54.7
+5	7.1	55.8
N	5.9	57.0

RADIO 58

0+50		
N	4.5	358 4
+5	7.0	55 9
cb	7.1	55 8
1/4	7.2	55 7
c	8.8	54 1
1/4	10.1	52 8
cb	11.2	51 7
5	13.4	49 5
+10	15.5	47 4
1+00		
-10	13.6	49 6
5	11.5	51 4
cb	10.5	52 4
1/4	8.4	54 5
c	6.9	56 0
1/4	5.2	57 7
cb	5.4	57 5
N	3.1	59 8
1+50		
N	1.6	61 3
+5	3.6	59 3
cb	3.7	59 2
1/4	3.6	59 3
c	4.8	58 1
1/4	5.8	57 1



362.87

ct	7.4	355 7
S	8.7	54 2
+10	10.5	52 4
	2+00	
-10	10.1	52 8
S	7.5	55 4
ct	6.1	56 8
1/4	4.4	58 5
C	2.3	59 6
1/4	1.7	61 2
ct	1.6	61 3
N	+0.7	363.6
	2+50	
N	+2.5	365.4
+5	0.0	62 9
ct	0.0	62 9
1/4	0.2	62 7
C	1.7	61 2
1/4	3.1	59 8
ct	4.8	68 1
S	6.9	56 0
+10	9.2	53 7
	2+75	
-10	6.9	56 0
S	4.6	58 3
ct	2.7	60 2

R4010

59

1/4	1.4	361 5
C	0.5	62 4
T.P.	12.06	374.11
1/4	0.82	362.05
ct	10.0	64 1
ct	9.9	64 2
+4	9.8	64 3
N	7.5	66 6
	3+00	
N	7.2	66 9
ct	8.4	65 7
1/4	8.7	65 4
C	10.6	63 5
1/4	11.6	62 5
ct	12.8	61 3
S	13.9	60 2
+10	15.0	59 1
	3+50	
-10	15.5	60 6
S	11.6	62 5
ct	11.1	63 0
1/4	9.3	64 8
C	8.0	66 1
1/4	6.8	67 3
ct	6.9	67 2
N	5.3	68 8



374.11

4+00

N	3.6	370.5
db	5.0	69 0
1/4	5.4	68 7
c	7.0	67 1
1/4	7.6	66 5
db	8.9	65 2
S	10.3	63 8
+10	12.9	61 2

4+50

-10	12.1	62 0
S	10.2	63 9
db	8.6	65 5
1/4	7.2	66 9
c	6.4	67 7
+2	5.2	68 9
1/4	5.1	69 0
db	4.7	69 4
N	3.6	70 5

4+75

N	3.9	70 2
db	4.4	69 7
1/4	4.6	69 5
c	5.7	68 4
+2	6.8	67 3
1/4	7.5	66 6

RADIO

60

db

S

+10

-10

S

db

1/4

c

+2

1/4

db

N

N

+7

db

1/4

+3

c

1/4

db

S

+10

9.0

10.7

12.0

5+00

11.7

10.7

9.3

7.7

6.6

5.1

4.4

3.6

1.4

5+25

1.9

2.9

4.2

4.6

4.9

6.7

8.0

9.5

10.5

11.0

365 1

363 4

62 1

62 4

63 4

64 8

66 4

67 5

68 0

69 7

70 5

72 7

72 2

71 2

69 9

69 5

69 2

67 4

66 0

364.6

363.6

63 0



374.11

5+50

	1	
-10	10.7	363.4
5	9.9	64.2
cb	9.0	65.1
1/4	7.4	66.7
c	6.7	67.4
+3	4.5	69.6
1/4	4.3	69.8
cb	3.8	70.3
N	1.5	72.6

6+00

N	0.6	73.5
cb	1.7	72.4
1/4	3.6	70.5
+5	4.2	69.9
c	5.4	68.7
1/4	6.1	68.0
cb	8.0	66.1
5	9.0	65.1
+10	9.2	64.9

6+50

-10	8.2	65.9
5	7.9	66.2
cb	6.9	66.2
1/4	4.9	69.2
+5	4.0	70.1

RADIO

61

c	2.6	371.5
1/4	2.1	72.0
cb	0.4	73.7
T.P.	10.13	381.88
N	6.9	75.1

6+75

N	7.0	374.9
cb	8.2	73.7
1/4	9.9	72.0
+5	10.4	71.5
c	12.1	69.8
1/4	13.3	68.6
cb	14.3	67.6
5	15.2	66.7
+10	15.2	66.7

7+00

-10	14.3	67.6
5	14.2	67.7
cb	14.1	67.8
1/4	12.6	69.3
c	10.9	71.0
1/4	9.8	72.1
cb	7.6	74.3
N	6.7	75.2

7+1/2

N	5.2	76.7
---	-----	------

brook  
bat port



381.88

cb	5.9	376 0
+3	8.0	73 9
1/4	8.2	73 7
ctr.	8.7	73 2
1/4	11.4	70 5
+2	12.4	69 5
cb	12.8	69.1 creek
5	12.7	69.2
+10	12.5	69.4
	7+75	
-10	12.1	69 8
5	11.7	70 2
cb	11.3	70 6
1/4	10.9	71 0
c	10.2	71 7
1/4	9.7	72 2
cb	8.1	73 8
N.	7.0	74 9
	7+88	
N	6.5	75 4
cb	8.1	73 8
1/4	9.5	72 4
c	9.9	72 0
1/4	10.6	71 3
cb	11.0	70 9
5	11.3	70 6
+10	11.7	70 2

12" pipe at 7+50

RADIO

62

	8+00	
-10	11.7	370 2
5	11.6	70 3
cb	10.6	71 3
1/4	9.4	72 5
+5	9.3	72 6
c	7.5	74 4
1/4	6.6	75 3
cb	5.1	76 8
N	3.7	78 2
	8+22.21 = Δ PT = 0+00	taken on radius
	0.6	81 3
	2.0	79 9
	3.4	78 5
	4.7	77 2
	5.3	76 6
	7.4	74 5
	8.1	73 8
	8.2	73 7
	10.0	71 9
	11.5	70 4
	0+53.19	
-10	10.3	71 6
5	9.6	72 3
cb	6.9	75 0
1/4	6.0	75 9

Ann 5



381.88

c	5.7	376.2
+1	3.9	78.0
1/4	3.0	78.9
cb	1.7	80.2
N	0.4	81.5

1+03.19

N	+0.5	382.4
cb	0.7	81.2
1/4	2.0	79.9
+1	3.3	78.6
c	4.3	77.6
1/4	4.7	77.2
cb	7.3	74.6
S	8.4	73.5
+10	9.2	72.7

1+28.19

-10	9.0	72.9
S	7.7	74.2
cb	6.2	75.7
1/4	4.1	77.8
+3	2.8	79.1
c	2.6	79.3
1/4	2.5	79.4
+2	2.4	79.5

T.P.	12.09	391.81	2.16	379.72
+4			10.3	381.5

391.81 RADIO

63

cb	10.1	381.7
N	8.8	83.0

1+53.19

N	8.1	83.7
cb	9.4	82.6
+2	10.8	81.0
1/4	11.4	80.4
c	11.5	80.3
+2	11.8	80.0
1/4	13.6	78.2
cb	15.6	76.2
S	17.2	74.6
+10	17.3	74.5

1+78.19

-10	16.8	75.0
S	16.0	75.8
cb	13.9	77.9
1/4	12.5	79.3
c	10.7	81.1
1/4	10.0	81.8
cb	9.9	81.9
+3	8.0	83.8
N	7.1	84.7

2+03.19

N	6.2	85.6
+6	7.3	384.5



391.81

cb	8.8	383.0
1/4	8.3	83.5
c	10.0	81.8
1/2	11.3	80.5
cb	13.2	78.6
5	15.3	76.5
+10	16.2	75.6
	2+28.19	
-10	15.5	76.3
5	14.0	77.8
cb	12.0	79.8
1/2	10.5	81.3
c	9.4	82.4
1/4	7.7	84.1
cb	7.4	84.4
+3	7.2	84.6
+6	5.7	86.1
N	5.0	86.8
	2+53.19	
N	4.3	87.5
+2	5.7	86.1
cb	6.0	85.8
1/2	6.8	85.0
c	8.5	83.3
1/4	9.8	82.0
cb	11.0	80.8

RADIO

64

5	12.9	378.9
+8	13.9	77.9
	2+78.19	
-10	15.0	76.8
5	13.2	78.6
cb	10.7	81.1
1/4	8.7	83.1
c	7.6	84.2
1/4	5.8	86.0
cb	5.0	86.8
N		✓
	2+99.94 = Δ pt = 0+00	(K)
N	4.1	87.6
cb	5.0	86.8
1/4	6.7	85.1
c	8.5	83.3
1/4	10.0	81.8
cb	11.5	80.3
5	13.8	78.0
+10	14.0	77.8 creek
	0+27.54	
-10	12.8	79.0
5	11.0	80.8
cb	9.2	82.6
1/4	7.7	84.1
c	6.5	85.3



391.81

1/4		5.3	386.5
cb		3.6	88.2
N		3.2	88.6
	0+52.54		
N		0.6	91.2
+1		2.0	89.8
cb		1.9	89.9
1/4		3.5	88.3
C		4.6	87.2
1/4		5.4	86.4
cb		7.1	84.7
S		9.3	82.5
+10		11.2	80.6
	0+77.54		
-10		10.6	81.2
S		8.1	83.7
cb		6.2	85.6
1/4		4.4	87.4
C		3.3	88.5
1/4		1.9	89.9
+3		0.6	91.2
cb		0.8	91.0
T.P.	8.58	398.99	1.40 390.41 ✓
+5		7.9	391.1
N		6.5	92.5

RADIO

65

	1+27.54		
N		6.0	393 0
cb		6.8	92 2
+3		6.8	92 2
1/4		8.3	90 7
C		9.5	89 5
1/4		10.8	88 2
cb		11.4	87 6
S		14.3	84 7
+10		17.1	81 9
	1+52.54		
-10		15.0	84 0
S		13.4	85 6
cb		11.6	87 4
1/4		10.3	88 7
C		8.8	90 2
1/4		7.8	91 2
+3		6.6	92 4
cb		6.4	92 6
+7		6.3	92 7
N		5.2	93 8
	1+77.54		
N		4.7	94 3
+1		5.8	93 2
cb		5.7	93 3
+3		5.9	93 1



398.99

1/4			7.1	391.9	
c			7.9	91.1	
1/4			9.1	89.9	
cb			10.5	88.5	
S			12.5	86.5	
+10			14.8	84.2	
			2 + 00.05 = Δ pt = 0 + 00		(L)
-10			15.7	83.3	creek
S			13.5	85.5	
cb			11.5	87.5	
1/4			9.7	89.3	
c			8.1	90.6	
1/4			7.1	91.9	
cb			5.5	93.5	
N			5.2	393.8	
T.P.	8.00	402.02	4.97	391.02	T.P. N. of Δ
		0 + 28.51			
N			5.4	396.6	
+4			7.3	94.7	
cb			7.1	94.6	
1/4			7.8	94.2	
c			9.8	92.2	
1/4			11.3	90.7	
cb			12.9	89.1	
S			15.1	86.9	
+10			18.1	83.9	creek bottom

RADIO

66

					0 + 53.51			creek bot
				-10	17.5	384	5	
				S	13.6	88	4	
				cb	10.1	91	6	
				1/4	9.3	92	7	
				c	8.1	93	8	
				1/4	6.6	95	4	
				cb	6.1	95	6	
				+3	6.3	95	7	
				N	4.3	97	7	
					0 + 78.51			
				N	3.3	98	7	
				+5	5.3	96	7	
				cb	5.1	96	4	
				1/4	5.6	96	5	
				+1	6.3	95	7	
				c	7.1	94	7	
				1/4	8.1	93	9	
				cb	9.5	92	5	
				S	12.1	89	9	
				+10	15.1	86	8	
					1 + 03.51			
				-10	13.5	88	5	
				S	11.5	90	5	
				cb	9.1	92	9	
				1/4	7.5	94	5	



C	6.5	395.5	
+3	6.1	95.9	
1/2	4.9	97.1	
cb	4.9	97.1	
N	3.0	99.0	
1+28.51			
N	2.1	99.6	
cb+4	2.8	99.2	
+6	4.1	97.6	
cb	4.6	97.4	
1/2	4.8	97.2	
C	7.0	95.0	
1/2	8.9	93.1	
cb	10.3	91.7	
S	11.7	90.3	
+10	14.3	87.7	creak bot.
1+38.5			
-10	14.2	87.8	✓ ✓
S	11.6	90.4	
cb	10.1	91.6	
1+45.5			
-10	13.9	88.1	creak bot
S	14.3	87.7	✓ ✓
+4	11.5	90.5	
cb	10.5	91.5	

	-10	10.0	392.0	
	S	14.0	88.0	creak bot.
	cb	10.2	91.8	
	1/2	9.1	92.9	
	C	7.6	94.4	
	1/2	4.6	97.4	
	cb	3.9	98.1	
	+3	3.8	98.2	
	N	1.2	400.8	
1+63.51				
	N	0.3	401.7	
	+4	2.5	99.5	
	cb	2.3	99.7	
	+3	2.4	99.6	
	1/2	2.9	99.1	
	C	4.6	97.4	
	1/2	6.8	95.2	
	cb	8.3	93.7	
	S	10.1	91.9	
	+7	13.1	88.9	creak bot
	+11	10.0	92.0	
2+28.51				
	-10	11.6	390.4	creak bot
	S	7.6	94.4	
	cb	6.0	96.0	

It will at this pt be over 4" on so. line a wall or pipe will be necessary from 1+70 creak bot is on S. line or Road should be put next N. Line at 5t.



40204

1/4			4.2	397.8
c			~.9	99.1
+4			1.9	400.1
1/6			0.4	401.6
T.P.	12.58	412.32	228	399.74 ✓
ch			10.6	401.7
+4			10.5	1.8
+5			9.4	2.9
N			8.2	4.1
		→ +53.51		
N			8.2	4.1
+3			8.6	3.7
+6			10.2	1.9
ch			10.5	1.8
1/4			10.7	1.6
c			12.7	99.6
1/6			14.5	97.8
ch			15.9	96.4
5			19.9	93.4
+4			21.7	90.6 creek
+8.5			20.2	92.1
		→ +78.51		
-10			18.7	93.6
-7			20.7	91.6 creek
5			17.7	94.6
ch			15.8	96.5

wall or road change  
necessary here

412.32

RADIO

68

1/4	13.8	398 5
c	12.2	400 1
+3	10.9	01 4
1/4	10.7	1 6
ch	10.6	1 7
+4	8.4	3 9
N	8.1	4 1
		3+00.02 = Δ pt = 0+100
N	7.7	4 6
ch	8.5	3 8
+1	9.7	2 6
1/4	9.9	2 4
ch	10.0	2 3
1/4	13.0	398 3
ch	14.8	97 5
5	15.7	96 6
+6	18.3	94 0 creek
		0+28.13
-5	17.4	94 9 creek
5	16.0	96 3
+1	14.6	97 7
ch	13.6	98 7
1/4	12.9	99 4
c	12.4	99 9
+4	11.9	400 4
1/4	10.6	01 7

(M)



412.32

cb		10.1	402.2	
N		8.8	3.5	
	0+43.13			
N	12" pipe needed	9.6	2.7	
cb	here across road	9.7	2.6	
1/2		10.9	1.4	
C		11.7	400.6	
1/6		12.2	400.1	
cb		12.9	99.4	
S		14.8	97.5	
+5		17.0	95.3	crack.
	0+78.13			
-10		13.5	98.8	crack.
S		12.8	99.5	
cb		11.5	400.8	
1/6		10.2	02.1	
C		8.6	3.7	
1/4		6.9	5.4	
cb		6.3	0.0	
+4		6.7	5.6	
N		6.0	6.3	
	1+28.13			
N		1.4	10.9	
+1		3.0	9.3	
cb		2.9	9.4	
1/4		3.8	8.5	

RADIO

89

C		53	407	0	
1/4		7.0	5	3	
cb		8.5	3	8	
S		10.5	1	8	
+10		10.9	1	4	crack.
	1+78.13				
-10		8.6	3	7	crack 156'
S		6.5	5	8	
cb		4.5	7	8	
1/4		3.2	9	1	
C		2.3	10	0	
1/2		1.2	4	1	1
T.P.	11.92 423.19	10.5	4	1	27
cb		12.2	11	0	
+4		12.1	11	1	
N		10.1	13	1	
	2+03.13				
N		8.7	14	5	
+4		11.0	12	2	
cb		10.7	12	5	
1/2		11.0	12	2	
C		12.4	10	8	
1/4		13.7	9	5	
cb		15.3	7	9	
S		17.1	6	1	
+10		19.6	3	6	crack.



423.19

2+53.13

-10	18.4	404.8	arock
S	15.2	8.0	
cl	13.5	9.7	
1/4	12.2	11.0	
C	10.7	11.5	
1/4	9.1	14.1	
cl	8.7	14.5	
+5	8.4	14.8	
N	6.7	16.5	

2+78.13

N	5.6	17.6	
cl + 4	7.3	15.9	
cl	7.6	15.6	
1/4	8.1	15.1	
C	9.9	13.3	
1/4	11.2	12.0	
cl	12.9	10.5	
S	14.3	8.9	
+10	18.0	5.2	arock

3+03.13

-10	14.2	9.0	
S	12.0	11.2	
cl	10.3	12.9	
1/4	8.9	14.3	
C	8.0	15.2	

RADIO

70

1/4	6.2	417.0
cl	6.2	17.0
+4	5.6	17.6
N	4.1	19.1

3+53.13

N	1.3	21.9
cl	3.4	19.8
1/4	4.0	19.2
C	5.7	17.5
1/4	6.7	16.5
cl	8.6	14.6
S	10.4	12.8
+10	13.6	9.6

4+03.13

-10	9.4	13.8
S	6.9	16.3
cl	5.0	18.2
1/4	3.8	19.4
C	2.8	20.4
1/4	1.5	21.9
TP	835	430.51 ✓
cl	1.23	421.96 ✓
+4	8.8	421.5
N	7.1	23.2
N	6.7	23.6

4+28.13

N	5.2	425.1
---	-----	-------



440.46  
56.13  
479.51

430.31

+4	5.6	424.7
+5	7.4	22.9
cl	7.5	22.8
1/4	7.2	23.1
c	9.0	21.3
1/4	10.1	20.2
cl	11.3	19.0
5	12.7	19.6
+10	14.2	16.1
-10	17.6	12.7
5	13.03	17.23
cl	11.7	18.6
1/4	10.7	19.6
c	9.2	21.1
1/4	8.3	22.0
cl	6.6	23.7
N	6.5	23.8
N	3.3	27.0
+3	3.3	27.0
+5	5.2	25.1
cl	5.3	25.0
1/4	5.3	25.0
c	7.2	23.1
1/4	8.4	21.9

4+49.51 = Dpt = 0+00

(N)

Road from this  
Apple to Orange  
should be shifted

0+30.62

RADIO

71

cl	10.3	420 0
5	14.2	15 9
+3	15.4	14 9
+10	11.6	18 7
-10	12.0	18 3
-5	13.5	16 8
5	10.9	19 4
cl	8.1	22 2
1/4	6.2	24 1
c	5.1	25 2
1/4	3.7	26 6
cl	3.2	26 9
N	1.0	29 3
N	40.1	430 7
+5	1.5	28 8
cl	1.9	28 4
1/4	2.2	28 1
c	3.9	26 4
1/4	5.4	24 9
cl	7.3	23 0
5	10.9	19 4
+3	12.2	18 1
+10	8.2	28 1

0+55.62

0+80.62

JEE Book 1049-14 for new notes



430.31

1+05.62

-10		6.5	423.8
-3		10.8	19.5 creek
S or E		9.6	20.7
ch		5.1	25.2
1/4		3.9	26.4
C		2.1	27.9
1/4		0.7	429.6
ch		0.0	30.3
T.P.	929	439.24	0.30 429.95 ✓
+5		8.7	430.5
N or W		6.7	32.5
		1+30.62	
W		6.1	33.1
+1		7.0	32.3
ch		7.5	31.7
1/4		8.6	30.6
C		9.5	29.7
1/4		10.8	28.4
ch		12.5	26.9
E		16.9	22.3
+3		18.0	21.2 creek
+10		14.7	24.5

RADIO

72

1+59.75 = Δpt = 0+100

0

+10		12.2	427.0
E		16.0	23.2 creek
ch		12.6	26.6
1/4		10.6	28.6
C		9.2	30.0
1/4		7.7	31.5
ch		6.0	33.2
W		5.7	33.5
		0+29.33	
W		2.5	436.7
+2		4.0	35.2
ch		4.6	35.2
1/4		4.8	34.4
C		6.6	33.2
1/4		8.2	31.0
ch		10.8	28.4
E		13.6	25.6 creek
+5		11.1	28.1
		0+54.33	
-10		7.6	31.2
E		9.9	29.3 creek
ch		7.0	32.2
1/4		5.7	33.5
C		4.5	34.7
1/4		3.1	36.1

Book 1049



439.24

cb		31	436.1
W		1.4	37.8
	0+94.33		
W		+0.4	439.6
cb		1.0	38.2
1/4		1.6	37.6
c		2.6	36.6
1/4		3.6	35.6
cb		5.5	33.7 creek
+5		5.6	33.6 ✓
E		4.8	34.4
+10		3.4	35.8
	1+19.33		
-10		0.4	438.8
E		2.2	37.0
+5		3.6	35.6 creek
cb		3.5	35.7 ✓
1/4		1.7	36.5
T.P.	11.46	0.03	439.21
c		11.7	439.0
1/4		10.6	40.1
cb		10.5	40.2
+4		9.5	41.2
W		9.2	41.5

RADIO

73

1+49.33

W		7.0	443.7
cb+5		7.6	43.1
cb		9.5	41.2
1/4		9.0	41.7
c		10.3	40.4
1/4		11.3	40.4
cb		11.5	39.2 creek
E		11.2	39.5
+10		9.3	41.4
	1+79.33		
-10		6.1	444.6
E		7.2	43.5
cb		8.5	42.2 creek
1/4		7.4	43.3
c		6.8	43.9
1/4		6.6	44.1
cb		6.5	44.2
W		5.6	45.1
	2+29.33		
W		2.6	48.1
cb		3.1	47.6
1/4		3.5	47.2
c		3.9	46.8
1/4		4.0	46.7
cb		3.9	46.8



450.67

E		3.5	47.2	
+5		3.4	47.3	
<del>2+54.33</del>				
-5		1.8	48.9	
E		1.7	49.0	
cl		1.8	48.9	
1/4		1.7	49.0	
C		1.6	49.1	
1/2		1.7	49.5	
cl		2.0	48.7	
T.P.	11.12	460.18	1.61	449.06
+3		10.2	450.0	
W		9.9	450.3	
<del>3+04.33</del>				
W		7.7	452.5	
+6		8.1	52.1	
cl		8.7	51.5	
1/4		7.5	51.7	
C		8.3	51.9	
1/2		8.0	52.2	
cl		7.3	52.9	
E		6.9	53.3	
<del>3+29.33</del>				
E		5.6	454.6	
cl		6.6	53.6	
1/4		6.9	53.3	
C		6.8	53.4	

RADIO

74

1/2	6.7	452.5
cl	6.0	54.2
W	5.6	54.6
<del>3+53.33 = 5L of ORANGE ST.</del>		
W	5.12	455.6 on hub
cl	5.6	54.6
1/4	5.8	54.4
C	5.6	54.6
1/4	4.9	53.3
cl	4.6	55.6
E	4.8	55.4



8/27/19 Gregory

CROSS SECTION OF  
ORANGE ST  
from W.L. Radio Drive  
to 3L. of Mallard St.

460.18

W. L. RADIO DRIVE Produced

This intersection is taken on lines parallel  
to E-W lines of Radio Dr.

S  
cb  
1/4  
C  
1/4  
cb  
N

5.1	455.1
5.2	55.0
5.1	55.1
4.8	55.4
4.3	55.9
3.6	56.6
3.6	56.6

SEE BOOK 1049

W. Curb Radio produced

N  
cb  
1/4  
C  
1/4  
cb  
S

3.6	456.6
2.9	57.3
3.0	57.2
3.9	56.3
5.0	55.2
5.6	54.7
5.6	54.6

W 1/4

S  
cb  
1/4  
C  
1/4  
cb  
N

5.7	454.5
5.3	54.9
4.2	56.0
3.2	57.0
2.2	58.0
2.1	57.8
3.8	56.4

Center

N  
cb  
1/4  
C  
1/4  
cb  
+3  
1/4  
cb  
3

4.0	456.2
4.6	57.6
2.1	58.1
2.1	57.8
3.6	56.6
3.9	56.3
5.1	55.1
5.6	54.6

E 1/4

S  
cb  
1/4  
4.9  
C  
1/4  
cb  
N

5.0	455.2
4.9	55.3
3.8	56.4
2.8	56.4
2.7	56.5
2.6	57.6
3.4	56.8
4.0	56.2

N  
cb  
1/4  
C  
1/4  
cb  
S

S  
cb  
1/4  
C  
1/4  
cb  
N

C  
1/4  
cb  
3.0

S  
cb  
1/4  
+8  
C

J.P.  
1/4  
cb  
N

N  
cb  
1/4  
C  
1/4  
cb  
S

S  
cb  
1/4  
C  
1/4  
cb  
N

N

E Cb

3.6	456	6
3.0	57	2
3.1	56	8
3.7	56	5
4.1	56	1
4.9	55	3
4.6	55	6

E. L. RADIO

4.9	455	3
4.0	56	1
3.7	56	5
3.3	56	9
2.1	58	1
2.7	57	5
3.6	56	6

SECTION A.

3.3	456	9
3.4	56	8
2.4	57	8
2.6	57	6

SEE SKETCH P.76

SECTION B x

3.7	456	5
3.5	56	7
3.2	57	0
3.2	57	0
2.5	57	7

67.4 463.7

15' E of B

3.18	457	00
6.0	57	7
6.6	57	1
7.1	56	6

30' E of B

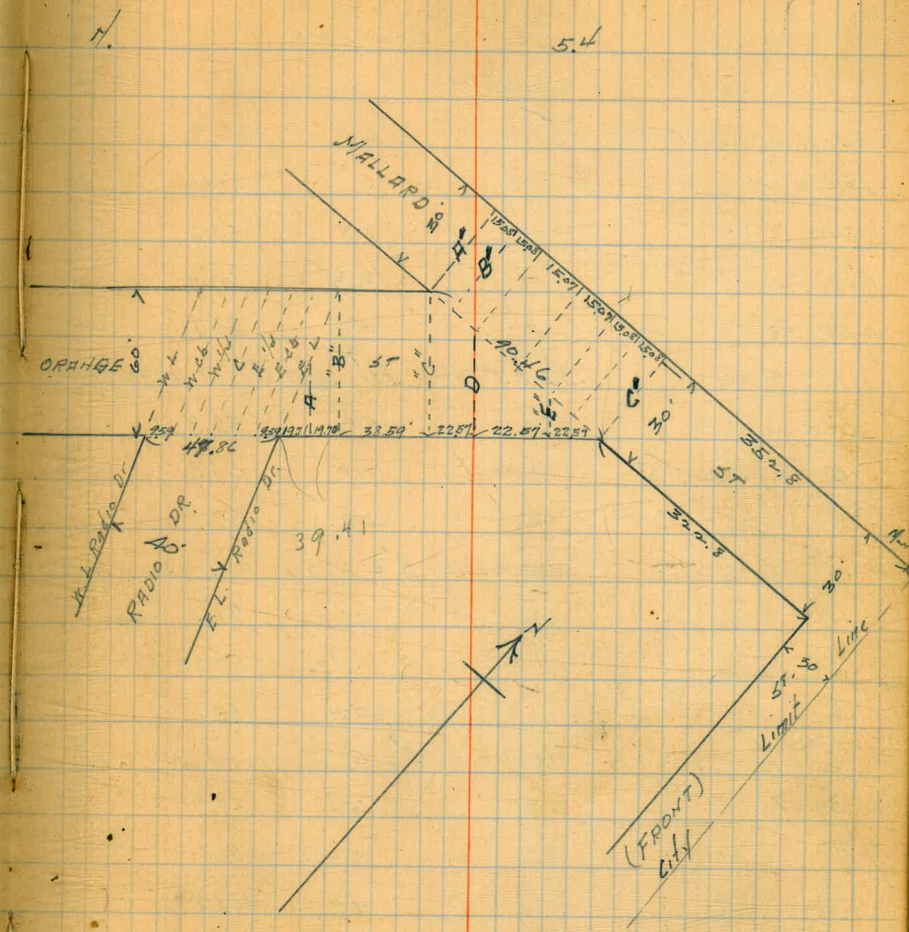
7.1	56	6
7.0	56	7
6.8	56	9
6.2	57	5
6.0	57	7
5.4	58	3
5.8	57	9

37.59' E of B

6.3	457	4
6.4	57	3
6.3	57	4
6.2	57	5
5.7	58	6
4.9	58	8
4.8	58	9
6.0	57	7
5.3	58	4



dr	4.2	459.5
1/4	4.3	59.4
+8	5.0	58.7
0	6.0	57.7
1/4	6.2	57.5
dr	6.3	57.4
3	6.2	57.5
22.57' E = SECT D		
5	5.8	56.9
dr	5.9	56.8
1/4	5.5	57.2
0	5.9	56.8
1/4	5.9	56.8
45.14' E of "C" = SECT E		
1/4	3.9	59.8
dr	3.9	59.8
3	4.5	59.2
S.L. of MALLARD ST.		
3	3.8	59.9
dr	4.1	59.6
1/4	3.9	59.8
+5	3.8	59.9
+6	2.8	60.9
0	3.9	59.8
1/4	5.9	57.8
dr	5.2	458.5





8/27/19 Gregory

CROSS SECTION OF  
MALLARD ST.  
FROM NE ORANGE TO  
CITY BOUNDARY

46374

50' W of SECTION A'	6.2	457.3
100' ✓ ✓ ✓ ✓	6.1	57.6
150' ✓ ✓ ✓ ✓	4.7	59.0
200' ✓ ✓ ✓ ✓	3.3	60.4
250' ✓ ✓ ✓ ✓	5.3	58.4

SECTION A' see sketch page 96

S	5.2	58.3
C	6.2	57.3
N	5.9	57.8
15.08' E = B' = Ncb of Orange		
N	4.1	59.6
C	6.1	57.6
S	5.2	58.5

15.08' E of B' = N 1/4 of Orange

S	5.8	57.9
C	5.6	58.1
N	4.9	58.8

15.08' E of N 1/4 = C of Orange

N	4.4	59.3
C	3.7	60.0
S	3.8	59.9

9' E of center of O

S	2.7	61.0
+11	2.3	461.4

SEE BOOK 1049-17

C	2.9	460.8
N	3.9	59.8

10' E of center of Orange

N	4.0	59.7
C	2.9	60.8
+5	2.3	61.4
+14	2.5	61.2
S	3.8	59.9

15.07' E of Ctr of O = S 1/4 of Orange

S	3.9	59.8
+3	3.6	60.1
+5	3.2	61.5
C	3.0	60.7
N	4.2	59.5

15.07' E of S 1/4 = Scb of O

N	4.7	59.0
C	3.9	59.8
+10	3.7	60.0
S	4.1	59.6

15.08' E of Scb = S L of O = SECT C'

S	3.8	59.9
C	4.2	59.5
N	3.9	59.8

30' E of SECT C'

N	4.9	58.8
C	4.2	59.5



+3		3.6	460.1
S		4.4	59.3
	50' E		
S		5.1	58.6
+13		5.1	58.6
C		6.0	57.7
N		6.4	57.3
	75' E		
N		8.0	55.7
C		7.8	55.9
S		7.2	56.5
	100' E		
S		8.8	54.9
+7		9.4	54.3
C		9.5	54.2
N		10.1	53.6
	125' E		
N		11.0	52.7
C		10.6	53.1
S		9.4	54.3
	150' E		
S		9.2	54.3
C		10.6	53.1
N		10.6	53.1

12" PIPE  
NEEDED

		170' E	
1			
N		9.7	454.0
C		8.8	54.9
+7		7.4	56.3
S		6.9	56.8
		190' E	
S		6.7	57.0
C		7.6	56.1
N		8.5	55.2
		200' E	
N		8.0	55.7
C		6.4	457.3
+10		4.8	58.9
S		4.6	59.1
		215' E	
S		4.6	59.1
+8		5.1	58.6
C		6.6	57.1
N		7.0	56.7
		225' E	
N		5.2	58.5
C		5.8	57.9
S		5.7	58.0
		235' E	
S		5.5	58.2
C		4.9	58.8



463.74

N		43	459.4
	255' E		
N		47	59.0
C		38	59.9
S		43	59.4
T.P.	668	468.81	1.61 462.13 ✓
	275' E		
S		58	63.0
+12		51	63.7
C		57	63.1
+7		55	63.3
N		66	62.2
	285' E		
N		60	62.8
+6		54	63.4
C		55	63.3
+5		53	63.5
S		59	62.9
	300' E		
S		69	61.9
C		64	62.4
N		66	62.2
	322.8' E = (Front) 5' 30' W.		
N		41	64.7
C		57	63.1
S		51	63.7

79

7.5' E of last sect.

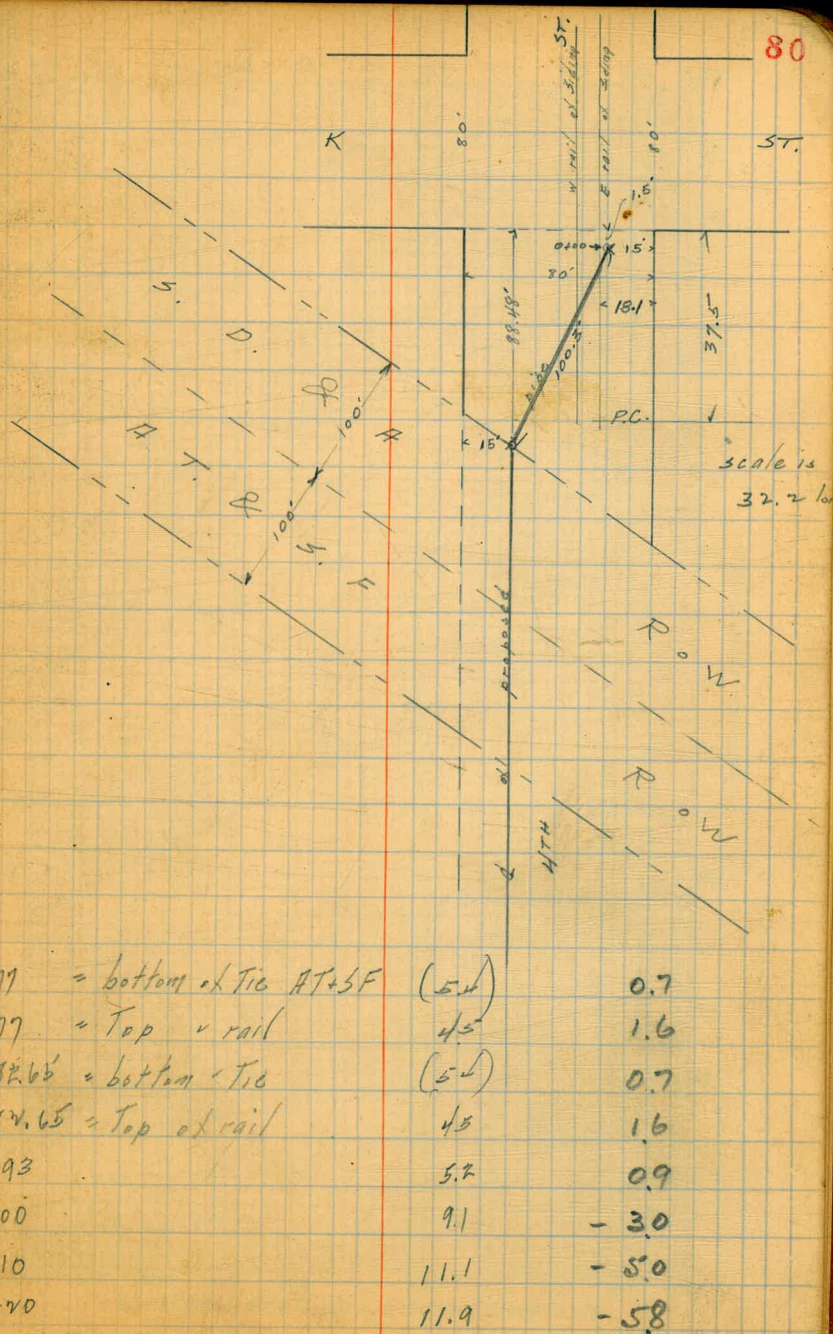
S	50	463.8
+7	56	63.2
C	52	63.6
N	34	65.4
	center of (Front)	
N	31	65.7
C	49	63.9
S	29	65.9
	E.L. (Front) = City Line	
S	2.2	66.6
C	42	64.6
N	311	465.70 on Main NE 20' City
	50' E of City Line on Co. Rd	1.4 67.4
	100' ✓ - - - ✓ - - -	2.6 66.2
	150' ✓ - - - ✓ - - -	6.6 62.2



10/3/19 Gregor Miller Shaw  
 Proposed Drain  
 4th + K to Bay

B.M	474	6.13	139
on Asphalt E. Gutter 4th + SLK	5.6	0.5	
5 - K + EL 4th	5.4	0.7	
Ch E and ret. SE. 4th + K.	4.7	1.4	
5 - - - - -	4.7	1.4	
0+00 of proposed pipe	5.6	0.5	
0+06.2 = bottom ties	(6.4)	-0.3	
0+06.2 = Top rail = ground	5.4	0.7	
0+15.8 = bottom tie	(6.3)	-0.2	
0+15.8 = Top rail = ground	5.35	0.78	
0+50	5.3	0.8	
1+00.3 = Δ pt.	5.9	0.2	
1+75	6.2	-0.1	
1+57.6 = bottom of Tie SD+4	(5.7)	0.4	
1+57.6 = Top of rail	4.7	1.4	
1+63.2 = bottom of Tie	5.7	0.4	
1+63.2 = Top of rail	4.7	1.4	
1+68.	6.1	0.0	
1+68.5	7.4	-1.3	
1+93 = inlet wooden box	7.9	-1.8	
1+93.1	5.7	0.4	
2+00	5.4	0.7	
2+11	5.6	0.5	
2+31	4.9	1.2	
2+72	5.3	0.8	

B.P. SW  
 4th + K



4+77 = bottom of Tie AT+SF	(5.4)	0.7
4+77 = Top of rail	4.5	1.6
2+82.65 = bottom Tie	(5.4)	0.7
2+84.65 = Top of rail	4.5	1.6
2+93	5.2	0.9
3+00	9.1	-3.0
3+10	11.1	-5.0
3+20	11.9	-5.8



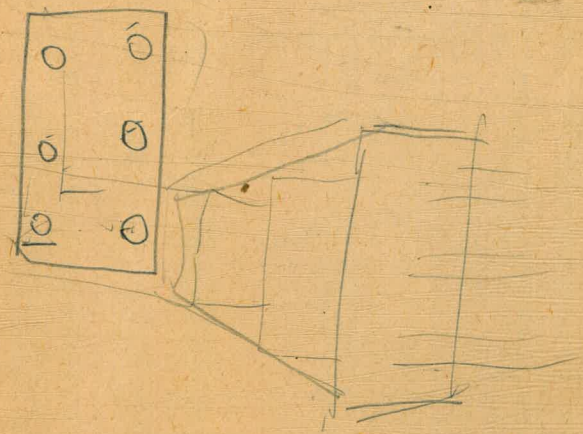
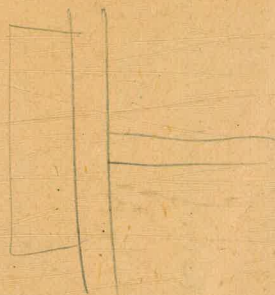
KSE in track E = 6' from center  
S " " = 10 " "

1579

74.00  
28.19  
40.50  
98746 | 400000  
394984  
501600  
493730  
78700

work

98833 | 200000  
197666  
233400  
197666  
357340



0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
0  
1  
2  
3  
4  
5  
6  
7  
8  
9  
0

to  
of  
ple  
3.9.



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.

Copyright, 1914, by Eugene Dietzgen Co.

170 + 30  
170 + 40  
171  
+ 30  
+ 47

125  
+ 55  
+ 80  
100  
+ 30

170  
190  
200  
215  
225  
235  
255  
300

25 26  
26 17

25 96  
22  
13.96

3 + 50.55  
- 30 15.5  
- 20 17.4  
- 12 21.5  
- 7 16.7  
50. 12.2

4 + 32  
50. 11.2