

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 $1\frac{1}{2}$ see inside of back cover.

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CITY ENGINEER'S OFFICE

MICROFILMED

APR 12 1965

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

Made in U. S. A.

MISSION Beach Sewer

137+95 end C.I.

INDEXED
WK
NOV 12 1948

136+35 Special JOINT Beg. C.I.

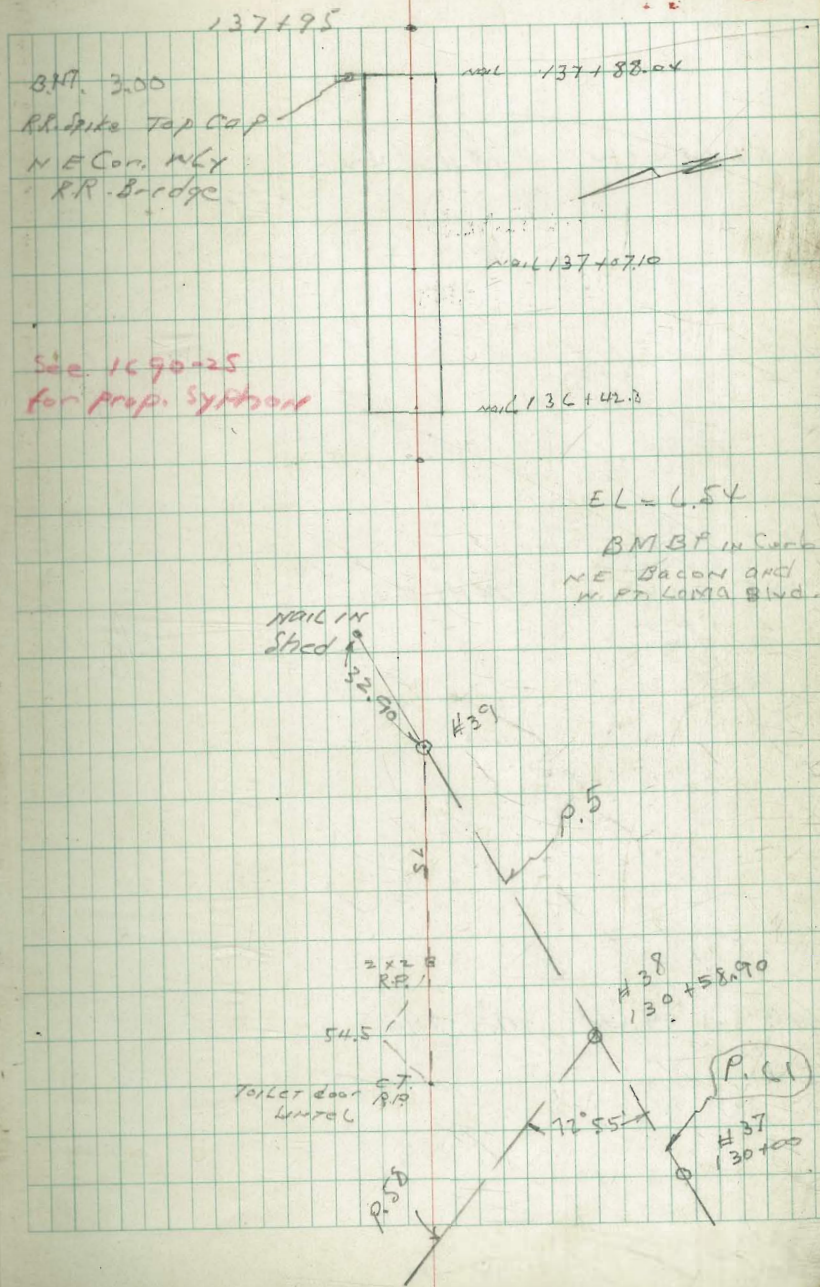
$132 + 90.63$
 $132 + 89.93 = \text{Eq.}$ M.H. #39
 $\Delta = 30^\circ 41' \text{ Rt.}$

130+58.9 M.H. #38

130+60 M.H. #37

2,55 S of E

1



255 S of E

2

151 + 64.5 ~

M.H. #42

○

145 + 64.5 ~

M.H. #41

○

139 + 64.5 ~

M.H. #40

○

B.M. mark
Top 1' x 4"
approx. 10'
S. of S. edge
old RR FILL
- 3.30

160+86 Ball end C.I.

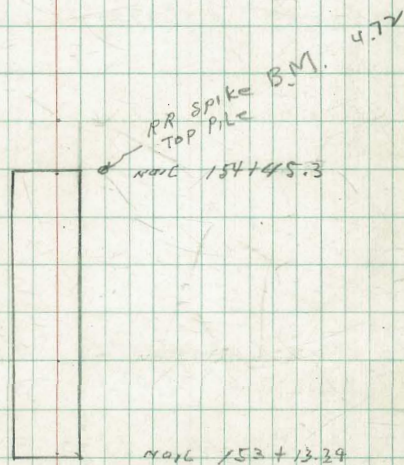
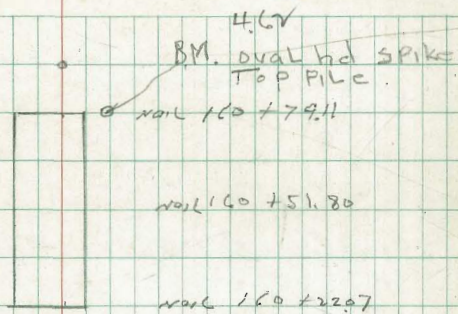
160+14 Special Joint Beg C.I.

157+64.52 M.H. #43

154+51 Ball JT. end C.I.

153+07 Spec JT. Beg. C.I.

n 2,55 5 of Φ 3



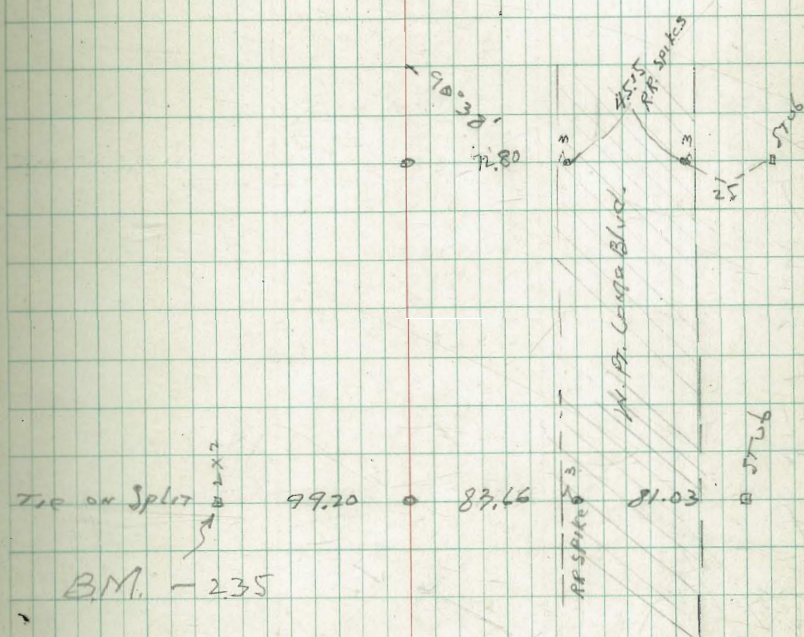
178+54.20 JUNCTION AT FANTOSO Blvd.
WEST OF EXISTING SEWER

175+00.1X Δ 1°23' LT. M.H. #4C

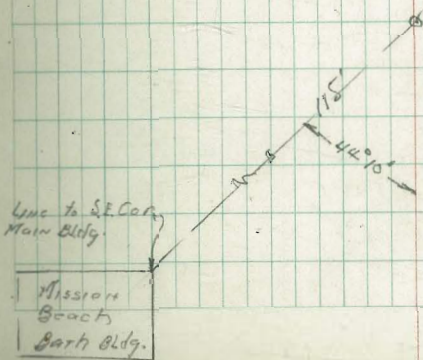
170+00.05 Δ 6°37'30" LT M.H. #45

163+80 = Δ 2°41'30" LT M.H. #44
2°47'30" LT.

OFFSETS
10' South



B.M. - 235



Mission Beach Sewer
FL. Grades

F.L.

MC 5

+25

$$\begin{array}{r} -0.47 \\ 11.83 \\ 7.59 \\ \hline C4.14 \end{array}$$

132

$$\begin{array}{r} -0.45 \\ 11.81 \\ 7.33 \\ \hline C4.48 \end{array}$$

+75

$$\begin{array}{r} -0.47 \\ 11.78 \\ 7.17 \\ \hline C4.21 \end{array}$$

+50

$$\begin{array}{r} -0.40 \\ 11.76 \\ 6.78 \\ \hline C4.98 \end{array}$$

11.37 π P.60

+25

$$\begin{array}{r} -0.37 \\ 11.73 \\ 5.25 \\ \hline C6.48 \end{array}$$

Reset 1-12-46

$$\begin{array}{r} -0.37 \\ 11.74 \\ 5.48 \\ \hline C6.26 \end{array}$$

131

$$\begin{array}{r} -0.35 \\ 11.71 \\ 4.99 \\ \hline C6.72 \end{array}$$

1-10-XC,

+75

$$\begin{array}{r} -0.37 \\ 11.68 \\ 4.94 \\ \hline C6.74 \end{array}$$

130+589

M.F. #38

Beq. 0.10%

CSX BIM BP
482
11.36 π

$$\begin{array}{r} -0.30 \\ 11.66 \\ 4.91 \\ \hline C6.75 \end{array}$$

134

+75

+50

+25

133

132 + 90.63
 132 + 89.93 = Eq. 30° 43' RT. N.H. #39

+75

132 + 50

6.54
 4.89

11.43

7.94

3.49

5.78

9.27 T = 1-7-XL

C 5.02

C 5.02

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A.L.

Reset

6

1-7-46

-0.65

9.81

4.79

C 5.02

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4.88

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N.R. Con.
 Bacon f
 RM. BP IN CURB N. RT LOM9

6.54

4.96

11.50

6.04

5.46 RT.

3.70

9.16 T

C 4.71

C 4.71

C 4.71

C 4.71

C 4.71

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-0.57

9.84

5.37

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-0.55

9.82

5.16

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1-3-XC

SET 1-7-XC

136

$$\begin{array}{r}
 -0.85 \\
 10.00 \\
 4.97 \\
 \hline
 C 5.03
 \end{array}$$

$$\begin{array}{r}
 -0.85 \\
 10.12 \\
 5.62 \\
 \hline
 C 4.50
 \end{array}$$

+75

$$\begin{array}{r}
 -0.82 \\
 9.97 \\
 4.96 \\
 \hline
 C 5.01
 \end{array}$$

$$\begin{array}{r}
 -0.82 \\
 10.09 \\
 5.12 \\
 \hline
 C 4.17
 \end{array}$$

+50

$$\begin{array}{r}
 -0.80 \\
 9.95 \\
 5.29 \\
 \hline
 C 4.22
 \end{array}$$

$$\begin{array}{r}
 -0.80 \\
 10.07 \\
 5.47 \\
 \hline
 C 4.20
 \end{array}$$

+25

$$\begin{array}{r}
 -0.77 \\
 9.92 \\
 4.43 \\
 \hline
 C 5.49
 \end{array}$$

$$\begin{array}{r}
 -0.77 \\
 10.04 \\
 4.54 \\
 \hline
 C 5.50
 \end{array}$$

135

$$\begin{array}{r}
 -0.75 \\
 9.90 \\
 4.43 \\
 \hline
 C 5.47
 \end{array}$$

$$\begin{array}{r}
 -0.75 \\
 10.02 \\
 4.54 \\
 \hline
 C 5.48
 \end{array}$$

+75

$$\begin{array}{r}
 9.16 \\
 5.30 \\
 3.86 \\
 5.29 \\
 \hline
 9.15 \times
 \end{array}$$

T.P

$$\begin{array}{r}
 -0.72 \\
 9.87 \\
 4.61 \\
 \hline
 C 5.26
 \end{array}$$

$$\begin{array}{r}
 -0.72 \\
 9.99 \\
 4.71 \\
 \hline
 C 5.28
 \end{array}$$

+50

$$\begin{array}{r}
 -0.70 \\
 9.84 \\
 5.30 \\
 \hline
 C 4.56
 \end{array}$$

$$\begin{array}{r}
 -0.70 \\
 9.97 \\
 5.40 \\
 \hline
 C 4.57
 \end{array}$$

134 + 25

9.16 x

$$\begin{array}{r}
 -0.67 \\
 9.83 \\
 4.70 \\
 \hline
 C 5.13
 \end{array}$$

$$\begin{array}{r}
 -0.67 \\
 9.94 \\
 4.80 \\
 \hline
 C 5.14
 \end{array}$$

9.27 x 1.7 x C

5

4

3

2

1 Bent

+423 w. end bridge

+35 Beg. 24" c.i. pipe w. w. end bridge

136+25

$$\begin{array}{r}
 -0.96 \\
 \underline{1.21} \\
 1.12 \\
 \hline
 C 0.49
 \end{array}$$

$$\begin{array}{r}
 -0.95 \\
 \underline{1.20} \\
 1.06 \\
 \hline
 C 0.54
 \end{array}$$

1-2-46
Cut offs

$$\begin{array}{r}
 -0.93 \\
 \underline{1.58} \\
 0.91 \\
 \hline
 C 0.67
 \end{array}$$

3.00 = BM

4.23

9.23

10.05

-0.82 T.P.

1.47

+0.65 = A

$$\begin{array}{r}
 -0.92 \\
 \underline{1.57} \\
 0.95 \\
 \hline
 C 0.62
 \end{array}$$

$$\begin{array}{r}
 -0.90 \\
 \underline{1.55} \\
 0.71 \\
 \hline
 C 0.84
 \end{array}$$

$$\begin{array}{r}
 -0.89 \\
 \underline{1.84} \\
 +0.53 \\
 \hline
 C 2.07
 \end{array}$$

1-2-46

-0.88 out

9.15 A

$$\begin{array}{r}
 -0.87 \\
 \underline{10.07} \\
 6.53 \\
 \hline
 C 3.37
 \end{array}$$

$$\begin{array}{r}
 -0.87 \\
 \underline{10.74} \\
 6.73 \\
 \hline
 C 3.41
 \end{array}$$

9.27 A

1-2-46

+50

138+25

138+00 Set

137+95 End 24" C.I. Pipe E of E end bridge

137+88.04 E. end bridge

4 Beart

8

7

6

9.15 T End.
 6.15
 3.00 T P on BM.
 3.50 spike
 P.1
 6.50 T

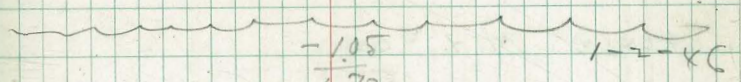
-1.10
 7.66
 5.12
 C 2.54

-1.07
 7.63
 3.80
 C 3.83
 -1.06

1-3-46
Windy

7.62
 3.31
 C 4.31

OUT



-1.05
 1.70
 0.61
 C 1.09

1-2-46

-1.03
 1.68
 0.96
 C 0.72

-1.01
 1.66
 1.60
 C 0.06

-0.99
 1.64
 0.96
 C 0.68

-0.98
 1.63
 0.89
 C 0.74

0.65 T

+25

13 140

+75

13 +64.6M M.H. #40

+50

+25

139

138+75

$$\begin{array}{r} -1.27 \\ 7.20 \\ 5.44 \\ \hline C 1.70 \end{array}$$

$$\begin{array}{r} -1.25 \\ 7.18 \\ 4.49 \\ \hline C 2.49 \end{array}$$

$$\begin{array}{r} -1.25 \\ 7.81 \\ 5.13 \\ \hline 4.68 \checkmark \end{array}$$

B.M. = 3.00

2.93

5.93 π

pushed out

by CONTR. EQUIPMENT

$$\begin{array}{r} -1.24 \\ 7.15 \\ 6.12 \\ \hline C 1.03 \end{array}$$

$$\begin{array}{r} -1.21 \\ 7.14 \\ 5.45 \\ \hline C 1.09 \end{array}$$

$$\begin{array}{r} \text{Reset} -1.22 \\ 7.78 \\ 6.84 \\ \hline C 0.94 \end{array}$$

$$\begin{array}{r} -1.21 \\ 7.77 \\ 6.21 \\ \hline C 1.50 \end{array} \quad \text{Reset} \quad 12-28-45$$

4.56 π

$$\begin{array}{r} -1.20 \\ 7.76 \\ 4.79 \\ \hline C 2.97 \end{array}$$

$$\begin{array}{r} -1.17 \\ 7.73 \\ 4.78 \\ \hline C 2.95 \end{array}$$

$$\begin{array}{r} -1.15 \\ 7.71 \\ 5.26 \\ \hline C 2.45 \end{array}$$

$$\begin{array}{r} -1.13 \\ 7.69 \\ 5.55 \\ \hline C 2.14 \end{array}$$
4.56 π

1-3-46

+25

142

+75

+50

+25

141

+75

140+50

$$\begin{array}{r} -1.47 \\ 7.14 \\ \hline 4.26 \\ C 2.88 \end{array}$$

$$\begin{array}{r} 5.93 \\ T.P. \ 5.30 \\ \hline 0.63 \\ 5.04 \\ \hline 5.67 \times \end{array}$$

$$\begin{array}{r} -1.45 \\ 7.12 \\ \hline 3.87 \\ C 3.25 \end{array}$$

$$\begin{array}{r} -1.42 \\ 7.35 \\ \hline 5.34 \\ C 2.05 \end{array}$$

$$\begin{array}{r} -1.40 \\ 7.33 \\ \hline 5.96 \\ C 7.37 \end{array}$$

$$\begin{array}{r} -1.37 \\ 7.30 \\ \hline 5.99 \\ C 1.31 \end{array}$$

$$\begin{array}{r} -1.35 \\ 7.28 \\ \hline 4.80 \\ C 2.48 \end{array}$$

$$\begin{array}{r} -1.32 \\ 7.25 \\ \hline 6.98 \\ C 0.27 \end{array}$$

$$\begin{array}{r} -1.30 \\ 7.23 \\ \hline 5.07 \\ C 2.16 \end{array}$$

5.93 x

+55

144

+75

+50

+25

143

+75

142 +50

-1.67

7.34

4.11

C 3.23

-1.65

7.32

5.05

C 2.27

-1.62

7.29

4.57

C 2.72

-1.60

7.27

4.89

C 2.38

-1.57

7.24

4.96

C 2.28

-1.55

7.22

5.40

C 1.82

-1.52

7.19

4.33

C 2.86

-1.50

7.17

4.70

C 2.47

5.67 x

146

+75

+64.62 M.H. #41

+50

+25

145

+75

144+50

5.62 π

8.92

-3.30 ✓

check
to BM.
1x4
P2
-3.30
$$\begin{array}{r} -4.85 \\ 7.47 \\ 4.47 \\ \hline C 3.00 \end{array}$$

$$\begin{array}{r} -1.82 \\ 7.44 \\ 4.25 \\ \hline C 3.17 \end{array}$$

$$\begin{array}{r} -1.81 \\ 7.43 \\ 4.23 \\ \hline C 3.00 \end{array}$$

$$\begin{array}{r} -1.80 \\ 7.47 \\ 4.41 \\ \hline C 3.00 \end{array}$$

$$\begin{array}{r} 5.47 \\ 8.97 \\ \hline \text{check to BM.} -3.30 \end{array}$$

$$\begin{array}{r} -1.77 \\ 7.44 \\ 4.33 \\ \hline C 3.11 \end{array}$$

$$\begin{array}{r} -1.75 \\ 7.42 \\ 4.39 \\ \hline C 3.03 \end{array}$$

$$\begin{array}{r} -1.72 \\ 7.39 \\ 3.97 \\ \hline C 3.42 \end{array}$$

$$\begin{array}{r} -1.70 \\ 7.37 \\ 4.55 \\ \hline C 2.82 \end{array}$$

5.47 π

148

+75

+50

+25

147

+75

+50

146+25

5.32 T

- 2.05

7.37

4.13

C 3.24

- 2.02

7.34

4.19

C 3.15

- 2.00

7.32

4.15

C 3.17

offsets
10' S

- 1.97

7.29

4.20

C 3.09

- 1.95

7.27

4.21

C 3.00

- 1.92

7.24

4.14

C 3.10

TP

5.32

4.14

1.18

4.22

5.62 T

- 1.90

7.52

4.39

C 3.13

- 1.87

7.49

4.28

C 3.21

150

5.86x

4.49

- 2.25

xP.

1.17

8.11

4.15

4.69

C 3.42

+75

5.32x

- 2.22

7.54

4.83

C 3.51

+50

- 2.20

7.52

3.92

C 3.60

+25

- 2.17

7.49

4.45

C 3.22

149

- 2.15

7.47

4.20

C 3.27

+75

- 2.12

7.44

4.08

C 3.36

+50

- 2.10

7.42

4.00

C 3.36

148+25

- 2.07

7.39

3.79

C 3.60

+75

151 + 646 MA # 47

+50

+25

151

+75

+50

150 + 25

$$\begin{array}{r} -2.42 \\ 8.28 \\ 4.96 \\ \hline C 3.22 \end{array}$$

$$\begin{array}{r} -2.41 \\ 8.27 \\ 4.84 \\ \hline C 3.43 \end{array}$$

$$\begin{array}{r} -2.40 \\ 8.26 \\ 4.52 \\ \hline C 3.74 \end{array}$$

$$\begin{array}{r} -2.37 \\ 8.23 \\ 4.76 \\ \hline C 3.47 \end{array}$$

$$\begin{array}{r} -2.35 \\ 8.21 \\ 4.64 \\ \hline C 3.57 \end{array}$$

$$\begin{array}{r} -2.32 \\ 8.18 \\ 4.91 \\ \hline C 3.27 \end{array}$$

$$\begin{array}{r} -2.30 \\ 8.16 \\ 4.77 \\ \hline C 3.39 \end{array}$$

$$\begin{array}{r} -2.27 \\ 8.13 \\ 4.67 \\ \hline C 3.40 \end{array}$$

5.81 π

+2669 # Bent

+13.39 W. end Bridge

153+07 Beg. 24" C.I. pipe

153

+75

+50

+25

152

B.M. RR Spike Top SE Pile

154+45

17

4.74

0.63

5.35 x

F.L. grades

- 2.58

7.93

2.27

C 5.66

offset
spikes

3' South

- 2.56

7.91

2.33

C 5.58

12-28-45

- 2.55 OUT

- 2.52

8.38

C 3.4

C 2.08

- 2.50

8.32

4.25

C 2.11

- 2.47

8.33

5.25

C 3.08

4.72 B.M.

1.14

5.86 x

- 2.45

8.31

4.77

C 3.54

154 + 45.3 E. end Bridge

#8 +30.8

#7 +16.1

#6 154 + 00.9

#5 +86.5

#4 +71.3

#3 +56.4

#2 153 + 41.7

F.L.

18

- 2.70
8.05
2.42
C 5.63

- 2.48
8.03
2.38
C 5.65

- 2.67
8.02
2.41
C 5.61

- 2.65
8.00
2.39
C 5.61

- 2.64
7.99
2.39
C 5.60

- 2.62
7.97
2.41
C 5.56

- 2.61
7.96
2.35
C 5.61

- 2.59
7.94
2.30
C 5.44

Cuts to
F.L. and
3' S of E

5.35 x

+25

$$\begin{array}{r} - 2.87 \\ 8.23 \\ \underline{4.21} \\ C 2.02 \end{array}$$

156

$$\begin{array}{r} - 2.85 \\ 8.21 \\ \underline{5.88} \\ C 2.33 \end{array}$$

+75

$$\begin{array}{r} - 2.82 \\ 8.18 \\ \underline{5.54} \\ C 2.64 \end{array}$$

+50

$$\begin{array}{r} - 2.20 \\ 8.10 \\ \underline{5.41} \\ C 2.75 \end{array}$$

+25

$$\begin{array}{r} - 2.77 \\ 8.13 \\ \underline{5.29} \\ C 2.84 \end{array}$$

Reset C 2.84

155

BM Middle
Bridge
4.72
0.04
5.36 x

$$\begin{array}{r} - 2.75 \\ 8.11 \\ \underline{4.87} \\ C 3.24 \end{array}$$

+75

$$\begin{array}{r} - 2.72 \\ 8.08 \\ \underline{5.29} \\ C 2.79 \end{array}$$

12-19-45

154 + 51 end 24" C. I. pipe

- 2.70

158

$$\begin{array}{r} - 3.05 \\ 7.59 \\ 4.94 \\ \hline C 2.25 \end{array}$$

+75

$$\begin{array}{r} - 3.02 \\ 7.52 \\ 5.11 \\ \hline C 2.25 \end{array}$$

157 + 646 M.H. #43

$$\begin{array}{r} - 3.01 \\ 7.55 \\ 5.18 \\ \hline C 2.37 \end{array}$$

+50

$$\begin{array}{r} - 3.00 \\ 7.54 \\ 5.20 \\ \hline C 2.34 \end{array}$$

+25

$$\begin{array}{r} - 2.97 \\ 7.51 \\ 4.98 \\ \hline C 2.53 \end{array}$$

157

$$\begin{array}{r} - 2.95 \\ 7.49 \\ 5.00 \\ \hline C 2.49 \end{array}$$

+75

$$\begin{array}{r} 4.54 \pi \\ - 2.92 \\ 7.46 \\ 5.00 \\ \hline C 2.46 \end{array}$$

156 + 50

$$\begin{array}{r} - 2.90 \\ 8.26 \\ 6.04 \\ \hline C 2.22 \end{array}$$

$$\begin{array}{r} 5.36 \pi \\ 6.04 \\ - 0.08 \text{ T.P.} \\ \hline 5.22 \\ 4.54 \pi \end{array}$$

160

- 3.25^{out} - Reset C 2.85

+75

$$\begin{array}{r} - 3.22 \\ \underline{7.70} \\ 4.48 \\ C 2.87 \end{array}$$
 Reset C 2.49

+50

$$\begin{array}{r} 4.54 \\ \underline{4.89} \\ - 0.35 \text{ TP} \\ \underline{5.53} \\ 5.18 \text{ x} \\ \underline{0.55} \\ 4.63 \end{array}$$

$$\begin{array}{r} - 3.20 \\ \underline{7.74} \\ 4.80 \\ C 2.94 \end{array}$$

+25

$$\begin{array}{r} 4.62 \\ \underline{4.62} \end{array}$$
 BM Ely
x.C2 Bridge

$$\begin{array}{r} - 3.17 \\ \underline{7.71} \\ 4.35 \\ C 3.36 \end{array}$$

159

$$\begin{array}{r} - 3.15 \\ \underline{7.69} \\ 4.99 \\ C 2.70 \end{array}$$

+75

$$\begin{array}{r} - 3.12 \\ \underline{7.52} \\ 5.16 \\ C 2.50 \end{array}$$

+50

$$\begin{array}{r} - 3.10 \\ \underline{7.64} \\ 5.11 \\ C 2.53 \end{array}$$

158 +25

4.54 x

$$\begin{array}{r} - 3.07 \\ \underline{7.61} \\ 5.17 \\ C 2.44 \end{array}$$

161

160+80 end 24" C.I. Pipe

21. RR Spike
SE Pile = 4.74
15V+45

160+79.11 E. end Bridge

For cutoffs
4.72
0.24
x.96
5.22
- 0.26
5.45
5.19
5.45
- 0.26
1.09
0.83 x

#3

5.19
0.57
x.62 = 4.62
oval hd. spike
SE top pile
160+80

#4

#1 BENT

160+77 W. end Bridge

160+14 Beg. 24" C.I. Pipe

4.62 oval hd. spike FL.
0.76 160+80
5.58 x

- 3.35
8.73
5.32
C 3.61

12-17-45

- 3.335

Rods
4.16 = FL. nail on pile

- 3.33

- 3.32

4.15 = FL. nail on pile

12-15-45

- 3.30

- 3.28

4.11 = FL. nail

- 3.27

4.10 = "

- 3.26 out

167

- 3.55

9.13

5.71

C 3.42

+75 ~

- 3.52

9.10

5.45

C 3.65

+50

- 3.50

9.08

5.73

C 3.95

+25

- 3.47

9.05

4.94

C 4.11

167

- 3.45

9.03

5.32

C 3.67

+75

- 3.42

9.00

5.37

C 3.63

+50

- 3.40

8.98

5.48

C 3.50

167 + 25

- 3.37

8.95

5.35

C 3.60

5.58 x

165

+75

+50

+25

164

163 + 80 A 2° 47' 30" LT M.A. # 24

+50

163 + 25

$$\begin{array}{r} - 3.75 \\ 9.35 \\ \underline{5.13} \\ C 4.23 \end{array}$$

$$\begin{array}{r} - 3.72 \\ 9.32 \\ \underline{5.13} \\ C 4.19 \end{array}$$

$$\begin{array}{r} - 3.70 \\ 9.30 \\ \underline{5.44} \\ C 3.80 \end{array}$$

$$\begin{array}{r} 5.58 \\ TP \rightarrow 5.45 \\ \underline{0.13} \\ 5.47 \\ \underline{5.60} \pi \end{array}$$

$$\begin{array}{r} - 3.67 \\ 9.25 \\ \underline{5.45} \\ C 3.80 \end{array}$$

$$\begin{array}{r} - 3.65 \\ 9.23 \\ \underline{5.38} \\ C 3.85 \end{array}$$

$$\begin{array}{r} - 3.63 \\ 9.21 \\ \underline{5.50} \\ C 3.71 \end{array}$$

$$\begin{array}{r} - 3.60 \\ 9.18 \\ \underline{6.17} \\ C 3.01 \end{array}$$

$$\begin{array}{r} - 3.57 \\ 9.15 \\ \underline{6.05} \\ C 3.10 \end{array}$$

$$\begin{array}{r} 5.58 \\ \underline{2} \pi \end{array}$$

167

$$\begin{array}{r} -3.95 \\ 9.55 \\ \hline 5.37 \\ C 4.18 \end{array}$$

+75

$$\begin{array}{r} -3.92 \\ 9.52 \\ \hline 5.29 \\ C 4.23 \end{array}$$

+50

$$\begin{array}{r} -3.90 \\ 9.50 \\ \hline 5.30 \\ C 4.20 \end{array}$$

+25

$$\begin{array}{r} -3.87 \\ 9.47 \\ \hline 4.93 \\ C 4.54 \end{array}$$

166

$$\begin{array}{r} -3.85 \\ 9.45 \\ \hline 4.94 \\ C 4.51 \end{array}$$

+75

$$\begin{array}{r} -3.82 \\ 9.42 \\ \hline 4.54 \\ C 4.88 \end{array}$$

+50

$$\begin{array}{r} -3.80 \\ 9.40 \\ \hline 5.03 \\ C 4.37 \end{array}$$

165 + 25

$$\begin{array}{r} -3.77 \\ 9.37 \\ \hline 5.30 \\ C 4.01 \end{array}$$

5.60 x

169

+75

+50

+25

168

+75

+50

167 + 25

$$\begin{array}{r} -4.15 \\ 11.67 \\ 4.09 \\ \hline C 7.58 \end{array}$$

$$\begin{array}{r} -4.12 \\ 11.64 \\ 4.16 \\ \hline C 7.48 \end{array}$$

$$\begin{array}{r} -4.10 \\ 11.62 \\ 4.76 \\ \hline C 6.80 \end{array}$$

$$\begin{array}{r} -4.07 \\ 11.59 \\ 5.24 \\ \hline C 6.35 \end{array}$$

$$\begin{array}{r} -4.05 \\ 11.57 \\ 5.04 \\ \hline C 5.53 \end{array}$$

$$\begin{array}{r} -4.02 \\ 11.54 \\ 6.56 \\ \hline C 4.98 \end{array}$$

$$\begin{array}{r} -4.00 \\ 7.60 \\ 4.78 \\ \hline C 4.82 \end{array}$$

$$\begin{array}{r} -3.97 \\ 9.57 \\ 5.33 \\ \hline C 4.24 \end{array}$$

$$\begin{array}{r} 5.60 \\ 4.78 \\ 0.82 \\ 6.70 \\ \hline 7.52 \times \end{array}$$

$$5.60 \times$$

171

$$\begin{array}{r} -4.35 \\ 13.36 \\ \underline{4.98} \\ C 8.35 \end{array}$$

+75

$$\begin{array}{r} -4.27 \\ 13.33 \\ \underline{4.87} \\ C 8.51 \end{array}$$

+50

$$\begin{array}{r} -4.30 \\ 13.31 \\ \underline{4.88} \\ C 8.43 \end{array}$$

+25

$$\begin{array}{r} -4.27 \\ 13.28 \\ \underline{4.65} \\ C 8.63 \end{array}$$

170 + 00.05 Δ C. 37' 30" LT. M.H. #45

11.36

9.01

-2.35

B.M. 2x2
P.V.

+75

$$\begin{array}{r} -4.25 \\ 13.20 \\ \underline{4.66} \\ C 8.60 \end{array}$$

$$\begin{array}{r} -4.25 \\ 11.77 \\ \underline{3.17} \\ C 8.60 \end{array} \text{ check out}$$

+50

$$\begin{array}{r} -4.27 \\ 11.74 \\ \underline{3.49} \\ C 8.45 \end{array}$$

$$\begin{array}{r} -4.20 \\ 11.72 \\ \underline{3.76} \\ C 7.96 \end{array}$$

169 + 25

$$\begin{array}{r} -4.17 \\ 11.69 \\ \underline{3.93} \\ C 7.76 \end{array}$$
7.50 *

173

-4.55
12.40
4.59
C 7.81

+75

-4.52
12.37
4.79
C 7.58

+50

-4.50
12.35
4.80
C 7.55

+25

-4.47
12.32
4.54
C 7.79

T.P. 4.44 7.85 5.60 3.41

172

-4.45
13.40
5.60
C 7.84

+75

-4.42
13.43
5.52
C 7.91

+50

-4.40
13.41
5.25
C 8.16

171+25

9.01

-4.37
13.38
5.00
C 8.38

175 + 0014 Δ 1° 23' LT M.H. # 46

+75

+50

T.P. 4.50 7.49 4.80 2.99

+25

174

+75

1

+50.

173 + 25

7.85

$$\begin{array}{r}
 -4.75 \\
 12.24 \\
 \hline
 4.70 \\
 C 7.54
 \end{array}$$

$$\begin{array}{r}
 -4.72 \\
 12.21 \\
 \hline
 5.16 \\
 C 7.05
 \end{array}$$

$$\begin{array}{r}
 -4.70 \\
 12.19 \\
 \hline
 4.81 \\
 C 7.88
 \end{array}$$

$$\begin{array}{r}
 -4.67 \\
 12.52 \\
 \hline
 4.82 \\
 C 7.66
 \end{array}$$

$$\begin{array}{r}
 -4.65 \\
 12.50 \\
 \hline
 4.97 \\
 C 7.53
 \end{array}$$

$$\begin{array}{r}
 -4.67 \\
 12.47 \\
 \hline
 4.57 \\
 C 7.50
 \end{array}$$

$$\begin{array}{r}
 -4.60 \\
 12.05 \\
 \hline
 4.91 \\
 C 7.54
 \end{array}$$

$$\begin{array}{r}
 -4.57 \\
 12.42 \\
 \hline
 5.10 \\
 C 7.13
 \end{array}$$

177

+75

T.P. 4.32 6.30 5.51 1.98

+50

+25

-4.95

11.25

3.89

C 7.36

-4.92

11.22

3.94

C 7.28

-4.90

12.39

5.51

C 6.88

-4.87

12.36

5.34

C 7.02

-4.85

12.34

5.49

C 6.85

-4.84

12.31

5.33

C 6.98

-4.80

12.29

5.08

C 7.21

-4.77

12.26

4.75

C 7.51

175+25

7.49

check to BM SPIKE 323 307 308

+54.20 JUNCTION

+25

178

+75

+50

177 + 25

6.30

~~-5.10~~
~~11.40~~

-8.97
11.37
2.40
C 5.27

-5.05
11.35
6.30
C 8.11

-5.02
11.37
6.35
C 5.94

-5.00
11.30
6.95
C 7.35

-4.97
11.27
3.81
C 7.40

M. B. Pressure Line
 Beg. at Capistrano place

r = P.C.C. = Line change See P. 67

+75

+50

+25

INDEXED

WK

NOV 12 1948

1+00 BC:RT

0+72.5 JANA

0+45 A 22°30' RT

0.58 nail BIM
 4.99 Capistrano
 staked 2-14-48 5.57 = 111 Bayside wk.

0+11.24 A 45° LT = Line change for
 Harvey Cole pump plan

1.75 from Pump house Cor
 instead of 3'

0+10

Beg. RT Capistrano Pl.

F.L.

32

-7.22

12.74

3.90

C 8.87

-7.25

12.82

4.55

C 8.27

-7.29

12.80

4.10

C 8.70

-7.32

12.89

5.13

C 7.22

-7.36

12.93

5.32

C 7.01

-7.40

12.97

4.26

C 8.71

-7.44

13.01

5.60

C 7.41

-7.50

13.07

4.92

C 8.13

-7.51

13.10

5.00

C 7.41

2+00
P.C.C.

1+00
R 730 ft

12' FLOW
edge wave 0+10

10
0+11.24
45° LT

CUTS AT 7'
AND 19' AT
90° FROM
0+45

Capistrano
place

Line change
See P. 67

3+10
R=1175 RT.

25'

19'

19'

19'

19'

19'

19'

15'

9.77

chisel x R.F.S

114

114

Eg 4+00
4+18
d=165.1 ft.

32

5+00

+75

4+50

+25

4+00

4+00 = P.C. = ~~11°15'~~ LT = 809, Curve Left
4+07.3

3+75

3+50

3+25 = P.R.C.

3+00 E.C. = 11°15' Rt Curve T.

2+75

2+50

2+25

- 6.79
12.78
5.13
C 7.65

12.81
5.06
C 7.75

- 6.86
12.85
5.08
C 7.77

12.88
4.97
C 7.91

- 6.93
12.92
4.99
C 7.93

12.92
4.92
13.13
5.20
C 7.93 ✓

5.99
4.92
11.07
5.28
6.35
5.70

0.59 = 0.58

Cuts
1-31-XC

Nail B.M.
near Pump

- 6.97
12.97
5.34
C 7.83

- 7.00
13.20
4.70
C 8.50

- 7.03
13.23
5.05
C 8.18

on walk

offsets W 12'

2-14-XC

- 7.07
13.27
4.69
C 9.08

- 7.12
13.32
3.78
C 9.58

- 7.15
13.35
4.60
C 8.73

- 7.18
13.38
5.17
C 8.21

5.57 x P.32
3.90
1.67 T.P.
4.53
C.20 x

8+00

+75

7+50

+25

7+00

+75

6+50

+25

6+00

5+75

5+50

5+25

F.L.

- 6.37
12.58
4.91
C 7.67

- 6.44
12.72
4.95
C 7.77

- 6.51
12.79
5.07
C 7.72

- 6.58
12.86
5.15
C 7.71

- 6.65
12.93
5.20
C 7.73

- 6.72
13.00
5.21
C 7.77

T.P.

- 6.40
12.68
4.84
C 7.84

- 6.47
12.75
5.04
C 7.71

- 6.54
12.82
5.09
C 7.73

- 6.61
12.89
5.21
C 7.68

- 6.68
12.96
5.14
C 7.82

- 6.75
13.03
5.20
C 7.83

8+00
C.21
4.91
1.36 T.P. Chisel
4.98
CROSS
C.28 X

C.28 X
5.20
1.08
4.91
T.P.
CROSS
X = 5.99

11+00

+75

10+50

+25

10+00

+75

9+50

+25

9+00

Break

+75

8+50

+25

- 5.63

$$\begin{array}{r} 11.84 \\ 5.30 \\ \hline C 6.54 \end{array}$$

11.91

$$\begin{array}{r} 5.29 \\ \hline C 6.62 \end{array}$$

- 5.78

$$\begin{array}{r} 11.99 \\ 5.18 \\ \hline C 6.81 \end{array}$$

12.00

$$\begin{array}{r} 5.10 \\ \hline C 6.90 \end{array}$$

- 5.93

$$\begin{array}{r} 12.14 \\ 5.15 \\ \hline C 6.99 \end{array}$$

12.21

$$\begin{array}{r} 5.15 \\ \hline C 7.06 \end{array}$$

- 6.08

$$\begin{array}{r} 12.29 \\ 5.05 \\ \hline C 7.24 \end{array}$$

12.30

$$\begin{array}{r} 5.01 \\ \hline C 7.35 \end{array}$$

- 6.23

$$\begin{array}{r} 12.44 \\ 4.91 \\ \hline C 7.53 \end{array}$$

- 6.26

$$\begin{array}{r} 12.47 \\ 4.92 \\ \hline C 7.55 \end{array}$$

- 6.30

$$\begin{array}{r} 12.51 \\ 4.98 \\ \hline C 7.53 \end{array}$$

- 6.33

$$\begin{array}{r} 12.54 \\ 4.98 \\ \hline C 7.56 \end{array}$$

13 + 17.55 $\Delta = 22^\circ 30'$ Rt

13 + 00

12 + 50

12

+ 72.5

11 + 45 $\Delta = 23^\circ$ Lt.

11 + 37.10 PRC $\Delta 3^\circ 48'$ Lt. of T.
END CURVE
3' off WALK

F.L.

- 4.98
10.63
4.61
C 6.02

- 5.03
10.68
4.80
C 5.88

- 5.18
10.83
6.09
C 4.74

- 5.33
10.98
5.03
C 5.95

- 5.50
11.15
4.80
C 6.31

- 5.52
11.17
4.83
C 6.34

36

17' out Chisel = $\frac{10.63}{4.71}$
C 5.92

- 5.41 P. 37 ✓
11.06
6.17
C 4.89

5.55 = H.I.
4.76 E. COM
0.89 T.P. edge walk
5.32 Sand wood Gxhd
C 6.21 π

$\Delta = 63^{\circ}09'Lt$
 $R = 250$ 6.8754
 $L = 275.54$

14 + 72.44 B.C. left

14 + 47.39

14 + 22.34 $\Delta = 22^{\circ}30' Rt.$

13 + 94.45

13 + 66.57 $\Delta = 22^{\circ}30' Rt.$

13 + 42.06

See 1146-74
for Ties

F.L.

B.M. P. 39 37

-119
 $\frac{5.52}{433.41}$

-4.54
 $\frac{8.85}{3.51}$
 $C 5.28$

4.33
 $\frac{1.65}{}$

7.94
 $10.90 \rightarrow 2.68$

1-23-XC

-4.59
 $\frac{10.24}{4.93}$
 $C 5.31$

1-24-XC

2.68
 $\frac{2.97}{5.65}$

-4.67
 $\frac{10.32}{5.01}$
 $C 5.31$

-4.75
 $\frac{10.40}{4.72}$
 $C 5.68$

-4.83
 $\frac{10.48}{3.43}$
 $C 7.00$

$ch 10.48$
 $17.007 = \frac{4.71}{5.77}$

-4.90
 $\frac{10.55}{4.75}$
 $C 5.80$

16+20 $10^{\circ}54.5$
Break

- 4.07
 8.40
 4.92
 C 1.48

16+00 $14^{\circ}37.0$

- 4.13
 8.46
 4.13
 C 2.33

15+75 $11^{\circ}45.12$

- 4.21
 8.54
 5.03
 C 2.91

15+50 $8^{\circ}53.24$

- 4.28
 8.61
 5.15
 C 3.46

15+25 $6^{\circ}01.36$

- 4.36
 8.69
 4.46
 C 4.23

15+00 $3^{\circ}09.48$

- 4.43
 8.76
 3.97
 C 4.79

X.33 = 1.1

$$17+64.95 \quad 31^{\circ}34.50$$

$$17+47.98 = E.C. = E.g.$$

$$17+25 \quad 28^{\circ}56.5$$

$$17+00 \quad 20^{\circ}04.56$$

$$16+75 \quad 23^{\circ}12.67$$

$$16+50 \quad 20^{\circ}20.76$$

$$16+40 \quad 19^{\circ}12.0$$

$$= 6'' \text{ Blowoff \& Gate Valve}$$

F.L.S.

B.M. B.P. N.E. Cor. Curb
San Diego Pl. & Mission Blvd. **39**

- 1.19

$$\begin{array}{r} - 2.55 \\ \underline{6.88} \\ 4.04 \\ C 2.85 \end{array}$$

$$\begin{array}{r} - 2.82 \\ \underline{7.15} \\ 4.20 \\ C 2.95 \end{array}$$

$$\begin{array}{r} - 3.12 \\ \underline{7.45} \\ 4.35 \\ C 3.10 \end{array}$$

$$\begin{array}{r} - 3.42 \\ \underline{7.75} \\ 4.05 \\ C 3.70 \end{array}$$

$$\begin{array}{r} - 3.72 \\ \underline{8.05} \\ 3.82 \\ C 4.22 \end{array}$$

$$\begin{array}{r} - 3.83 \\ \underline{8.10} \\ 3.85 \\ C 4.31 \end{array}$$

4.33 H.1 ✓

$$\Delta = 31^{\circ}05' \text{ RT}$$

$$R = 370$$

$$T = 102.90 \quad \text{K. 245C}$$

$$L = 200.73$$

19+92.84 B.C.R.T.

19+80 = Break

19+50

19+00

18+50

18+00

F.L.

40

$$\begin{array}{r} 0.28 \\ 9.64 \\ 7.19 \\ \hline C 2.45 \end{array}$$

$$\begin{array}{r} 6.90 \\ 4.38 \\ 2.52 \text{ T.P. } 19+80 \\ 7.40 \\ \hline 9.90 \times \end{array}$$

$$\begin{array}{r} + 9.01 \\ 6.89 \\ 4.38 \\ \hline C 2.51 \end{array}$$

$$\begin{array}{r} - 0.35 \\ 7.25 \\ 4.90 \\ \hline C 2.35 \end{array}$$

$$\begin{array}{r} - 0.95 \\ 7.85 \\ 5.51 \\ \hline C 2.34 \end{array}$$

$$\begin{array}{r} - 1.54 \\ 8.44 \\ 5.99 \\ \hline C 2.45 \end{array}$$

$$\begin{array}{r} 4.33 \\ 4.94 \\ 0.29 \text{ T.P.} \\ 6.61 \\ \hline 6.90 \times \end{array}$$

$$\begin{array}{r} - 2.13 \\ 9.03 \\ 6.38 \\ \hline C 2.55 \end{array}$$

F.L.

+75 14°06.34

+50 12°10.20

+25 10°14.06

21+00 8°17.92

+75 6°21.78

+50 4°25.54

+25 2°29.40

-

20+00 0°33.26

plan changed
C 5.22
$$\begin{array}{r} 4.14 \\ 5.78 \\ 2.27 \\ \hline C 1.51 \end{array}$$

$$\begin{array}{r} 3.61 \\ 6.31 \\ 4.47 \\ \hline C 1.84 \end{array}$$

$$\begin{array}{r} 3.08 \\ 6.84 \\ 4.81 \\ \hline C 2.03 \end{array}$$

$$\begin{array}{r} 2.55 \\ 7.37 \\ 5.17 \\ \hline C 2.20 \end{array}$$

$$\begin{array}{r} 2.02 \\ 7.90 \\ 5.55 \\ \hline C 2.35 \end{array}$$

$$\begin{array}{r} 1.49 \\ 8.43 \\ 6.06 \\ \hline C 2.37 \end{array}$$

$$\begin{array}{r} 0.96 \\ 8.91 \\ 6.60 \\ \hline C 2.30 \end{array}$$

$$\begin{array}{r} 0.43 \\ 9.49 \\ 7.08 \\ \hline C 2.41 \end{array}$$

9.92 x

22 + 49.9 = #3

22 + 34.10 Cap #2

$\frac{22 + 18.90}{22 + 19.33} = \text{Eq. 1st Cap at } \overset{\text{North}}{\text{Bulkhead}}$

22 + 17.63 = Break = N. Bulkhead Bridge

22 + 15 = Beg. 14" to $\overset{w}{\text{10"}}$ C.I. Redocera

21 + 93.57 E.C. 15° 32.50

F.L.

42

5.05
4.87
2.87
C 200 nail

out

9.92 π

4.54
5.38
4.10
C 1.22

23 + 45.7 #9

23 + 30 #8

23 + 13.3 #7

22 + 98 #6

22 + 82 #5

22 + 66.10 #4

F.L.

43

24 + 40.7 #15

24 + 24.6 #14

24 + 08.4 #13

23 + 92.5 #12

23 + 77.3 #11

23 + 61.4 Cap #10

25 + 37.3

#21

25 + 21.2

#20

25 + 0.5

#19

24 + 88.9

#18

24 + 73

#17

24 + 56.9

Cap #16

26 + 33.1

#27

26 + 17.2

#26

26 + 0.13

#25

Break

558

25 + 85.1

#24

25 + 69

#23

25 + 53.2

Cap #22

27 + 29.6

27

27 + 13.5

27

26 + 97.3

31

26 + 81.3

30

26 + 65.3

29

26 + 49.3

Cap # 28

F. 6.

47.

28 + 254

#39

28 + 094

#38

27 + 933

#37

Break

6.34

27 + 776

#36

27 + 616

#35

27 + 457

Cap #34

29 + 21.0

45

29 + 05.7

44

28 + 89.7

43

28 + 73.8

42

28 + 57.7

41

28 + 41.5

Cap # 40

FL

49

2 30 + 17.8 #51

2 30 + 16.7 #50

2 29 + 85.7 #49

2 29 + 69.8 #48

2 29 + 53.7 #47

2 29 + 37.6 Cap # 46

30 + 98.5

False cap

Bey. Steel spar

30 + 97.8

56

30 + 81.8

55

30 + 65.8

54

30 + 49.7

53

30 + 33.8

Cap # 52

31 + 75.1

#59

31 + 59.2

#58

31 + 43.1

Cap # 57

31 + 42.1

False Cap

END Steel Spac

31 + 26.9

False Cap

31 + 13.4

False Cap

32+71

#65

32+55

#64

32+39

#63

32+23.2

#62

32+07.0

#61

 $\frac{3}{4}$ " Air Vent ValveBreak

6.51

31+91.1

Cap #60

33 + 67.3

#71

33 + 51.5

#70

33 + 35.2

#69

33 + 19.3

#68

33 + 03.2

#67

Break

33 + 87.1

cap #66

FL

54

5.86

F.L.

55

34 + 632 #77

34 + 473 #76

34 + 313 #75

34 + 152 #74

33 + 99 #73

33 + 833 Cap #72

36+80 Break

36+39.8 = 143 LT #88 S. end Bridge

END 12" W.P. PIPE
Beg 12" C.I. "

36+23.7 #87

36+07.3 #86 Break

35+91.1 #85

35+75.3 Cap # 84

F.L.

7.62 X

57

0.67
2.95
5.52
C 1.33

1.62
6.00
4.19
C 1.90

7.62 X

4.38

3.24

check to
BM BP
in curb
at S. end
Bay Bridge

3.22

0.02

2.40
5.22
3.77
C 1.45

2.369

(Break)

38+40 = END 12" C.I. & Beg. 18" V.C. pipe

38+00

37+75

37+51.58 = $\Delta 14^{\circ} 52'$
 $\Delta 2^{\circ} 52'$ LT = True E.C.

37+37.74 = $9^{\circ} 54' 40''$
 $\Delta 12^{\circ} 00'$ LT

37+23.9 = $4^{\circ} 57' 20''$ LT
 $\Delta 12^{\circ} 00'$ LT

37+100 = $\Delta 2^{\circ} 52'$ LT = True B.C.

Staked on Curve

F.L.

58

From P.S. 9

8.26 X + 0.35

6.45 7.91

181 T.P. 5.60

5.81 22.31

7.92 X + 0.44

7.82

6.09

C 7.73

+ 0.49

7.77

6.30

C 1.47

+ 0.53

7.73

6.45

C 1.28

+ 0.55

7.07

5.95

C 7.12

+ 0.58

7.04

6.14

C 0.90

+ 0.61

7.01

6.11

C 0.90

Con. Lug & Collar

37+51.58
 $2^{\circ} 52'$ LT

37+37.74
 12° LT

37+23.9
 $\Delta 12^{\circ}$ LT

37+100
 $2^{\circ} 52'$ LT

36+30.8
 $1^{\circ} 43'$ LT

$\Delta = 29^{\circ} 00'$

$R = 80$

$L = 41.52$

$ch = 13.84$

def. $4^{\circ} 57' 20''$

$9^{\circ} 54' 40''$

$14^{\circ} 52'$

NOT SET
THIS way.
order of Haylor

M.B. Bridge

36
22.189
22.189
22.189

11.37 P.P. Co

40

$$\begin{array}{r}
 + 0.03 \\
 \hline
 11.34 \\
 \hline
 6.37 \\
 \hline
 C 4.97
 \end{array}$$

+75

$$\begin{array}{r}
 + 0.08 \\
 \hline
 11.42 \\
 \hline
 6.49 \\
 \hline
 C 4.93
 \end{array}$$

T.P.

$$\begin{array}{r}
 11.37 \\
 \hline
 6.49 \\
 \hline
 4.88 \\
 \hline
 3.58 \\
 \hline
 8.26 \times
 \end{array}$$

+50

$$\begin{array}{r}
 + 0.13 \\
 \hline
 8.73 \\
 \hline
 3.95 \\
 \hline
 C 4.78
 \end{array}$$

+25

$$\begin{array}{r}
 + 0.18 \\
 \hline
 8.08 \\
 \hline
 4.19 \\
 \hline
 C 3.89
 \end{array}$$

39+00

$$\begin{array}{r}
 + 0.23 \\
 \hline
 8.03 \\
 \hline
 4.51 \\
 \hline
 C 3.52
 \end{array}$$

38+70

$$\begin{array}{r}
 + 0.29 \\
 \hline
 7.97 \\
 \hline
 5.05 \\
 \hline
 C 2.92
 \end{array}$$

= Last of 10' offsets
 Bey 5' "

41 + 64.50 M.H. # 38
Δ 72° 55' Lt.

+ 50

+ 25

41 + 00

+ 75

+ 50

40 + 75

F.L.

60

- 0.30
11.57

- 0.27
11.44
4.84
C 6.80

- 0.22
11.59
4.58
C 7.01

- 0.17
11.54
4.63
C 6.91

- 0.12
11.49
5.40
C 6.03

- 0.07
11.44
5.12
C 6.32

- 0.02
11.39
0.08
C 5.31

6.54 BM BP

4.83

11.37 X

M.H. # 37 to # 38

130+58.9 M.H. # 38

130+29.45

130+60 M.H. # 37

F.L.

61

- 0.30
11.66
4.91
C 6.75

1-10-46
- 0.14
11.50
4.82
C 6.48

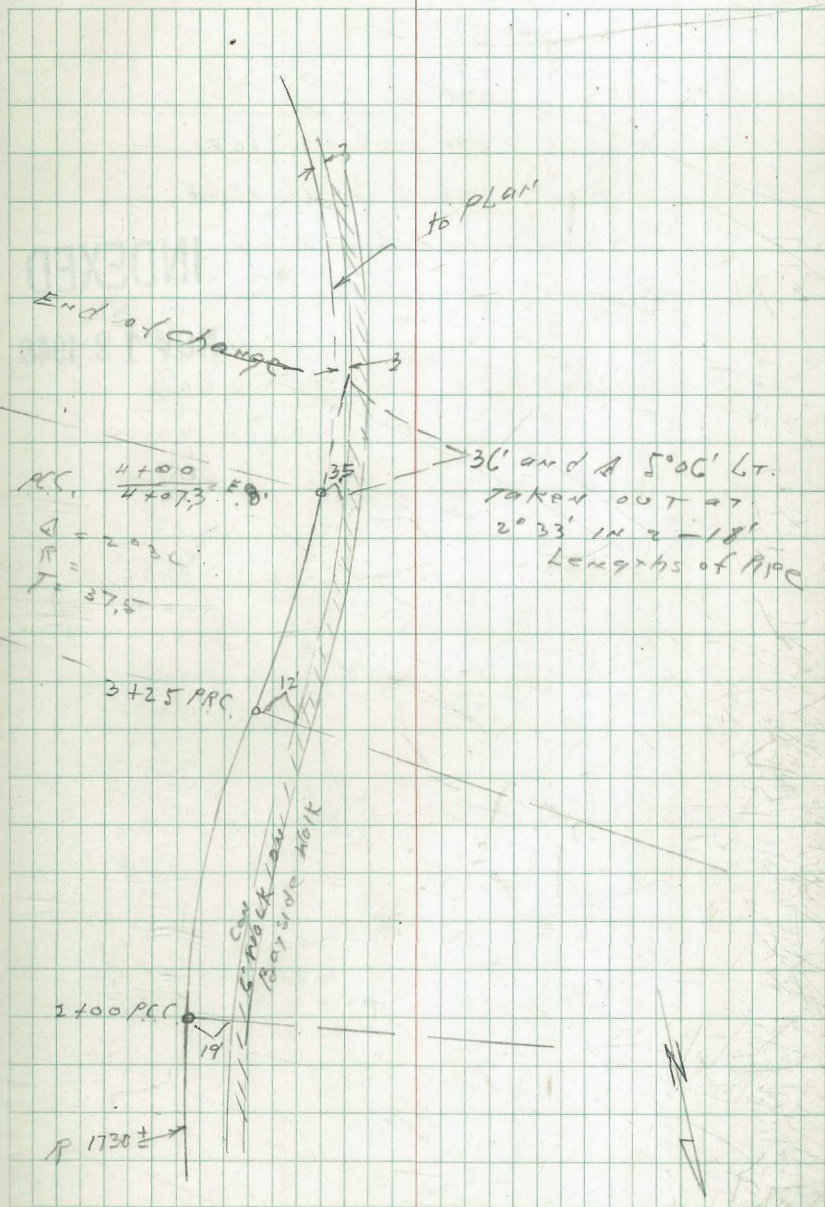
11.36 T
P5
+ 0.02
11.34
4.75
C 6.59

Line change to eliminate
 2 - 11'15" AS shown
 on p. 32
 and acct. of Secondary
 Wood Bulkhead outside of
 Main Wood Bulkhead on
 E.L. of Bayside walk

PCC 4400 10'18"
 3775 0°52'
 3450 0°26'

PCC = 2125 4°47'30"
 3 3°50'
 175 2°52'30"
 150 1°55'
 125 0°57'30"

PCC: 4400



PCC 4400
 4407.3
 $\Delta = 2030$
 $R = 37.5$

36' and a 5'00' Lt.
 TAKEN OUT AT
 2°33' IN 2-18'
 Lengths of PIPE

3+25 PRC

2+00 PCC

P 1730 ±

Check & set Ret Cb grades
on sly side of Talbot.

at SCOTT ST

114 BP	173	2978	2805	Kosacra Bessamen
T.P.	110	17.91	12.97	16.81
T.P.	402	14.50	7.43	10.28

checked back by
Smayo O.K.

INDEXED

WK

NOV 12 1948

hly Ret, cb	9.50	9.70	10.10
	5.00	4.80	4.40
	4.02	3.91	3.12
	C 0.38	C 0.89	C 1.28

Sly Ret, cb	9.10	8.72	8.25
	5.20	5.78	6.25
	5.64	5.80	5.11
	F 0.24	F 0.08	C 1.14

49.31 S of Cb Ret ^{wr cb} 10.07 ^{Ecb} 9.82
4.68

Pay 9.74 ^{part} 9.49

C Moore
Sexton
M. H. H. Co
Beggs

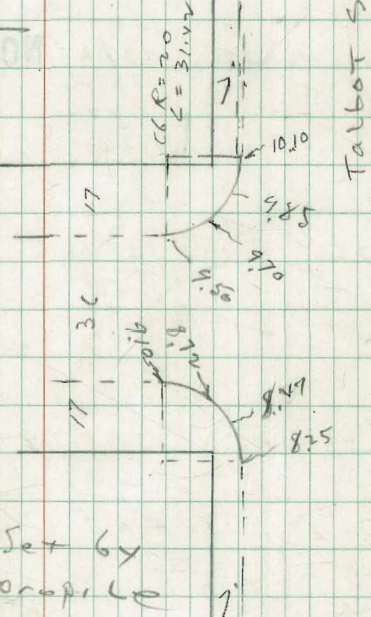
Dan Allen

63

3-26-46

Job
45254

SCOTT ST.



Grades Set by
Clark Back Profile

CUTS ON CLOVE
EMERSON TO FENELON

W

INDEXED

WK

NOV 12 1948

0 0 5 N.L. Emerson 138.90
5.50
5.70
F 0.70

138.20
6.2
10.5
F 4.3

0 4 12.5 138.60
5.8
7.9
F 2.1

138.10
6.30
12.0
F 5.7

0 4 25 G. F. C. 138.50
5.9
10.4
F 4.5

138.00
6.4
13.8
F 7.4

0 4 75 138.00
6.4
9.8
F 3.4

137.50
6.90
15.0
F 8.1

1 4 25 137.50
6.9
5.5
C 1.4

137.00
7.4
10.7
F 2.8

1 4 75 G. B. C. 137.00
7.40
2.0
C 5.4

136.50
7.9
4.6
C 3.3

2500
C.S. 7-10-46.
E.B.
Allen W.O. #13

64

NWly
C.C. Man 1.54 155.27 153.08 Dickens
T.P. 1.27 144.40 12.04 143.18

T.P. 5.52 142.70 7.27 137.18 = Top
Top end curb
SEly C.C.
Clove & Fenelon = Curb

W

E

8 27 1 87.5 137.10
12.63 7.3
2.3
C 5.0

136.40
8.0
3.8
C 4.2

T.P. 142.7 = 41.7

17 46 2 100 137.50
13.21 5.2
2.5
C 2.7

136.11
8.3
7.2
C 1.1

Align. on Pav. for PAINT
on Imperial

3474 to 3674

CSM
C.S.
W.M.
E.B.
9-25-46

Curve #1

at 3474

$\Delta = 47^{\circ}26'$

R 200

T 87.80

Ch 41.2

INDEXED
WK
NOV 12 1948

Curve #2

$\Delta = 34^{\circ}32'$

R 400

T 134.88

Ch 52.5

Curve #3

$\Delta = 12^{\circ}42'$

R 400

T 44.8

Ch 29.52

Ex 2.44

65

Curve #4

$\Delta = 56^{\circ}32'$

R 180

T 98.90

Ch 45.20

Ex 25.1

Curve #5

at 3674 + Imp.

$\Delta = 57^{\circ}04'$

R 185

T 78.80

Ch 35.99

Ex 20.1

Levels Top of 6" CI Water Main
at Weeks + Buenos

B.M. NW
7' Mon, 7.25 33.57 26.32 Buenos Weeks

Top pipe Nly Weeks 7.79 25.78

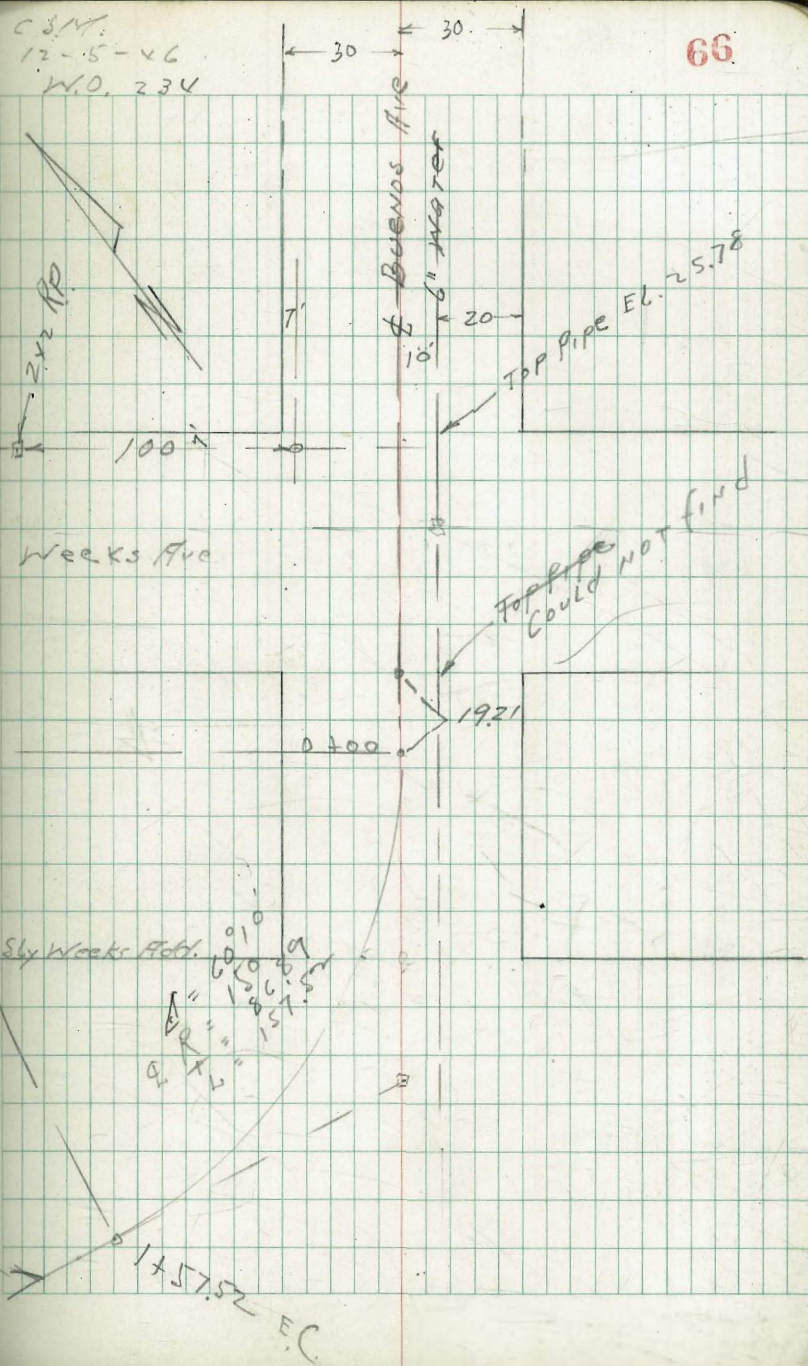
Sly

INDEXED
WK
NOV 12 1948

8 of 201
Proposed Pav.

C.S.M.
12-5-46
W.O. 234

66



Levels on

Lt

¢

Rr

67

1125

$\frac{5.8}{10}$

6.3

$\frac{6.9}{10}$

1100

$\frac{5.5}{10}$

5.9

$\frac{6.6}{10}$

175

$\frac{5.9}{10}$

$\frac{5.2}{7}$

5.5

$\frac{6.0}{10}$

N. edge
Present Rd.

150

$\frac{6.5}{12}$

$\frac{4.8}{6}$

5.2

$\frac{5.7}{10}$

125



$\frac{4.6}{10}$

4.9

$\frac{5.0}{10}$

0100 B.C.P.T.

$\frac{3.3}{10}$

2.8

$\frac{3.9}{10}$

B.M.
NW 7 Mar
Buenos
Weeks

4.61

30.93

26.32

30.93

1 + 57.52 E.C.

1 + 50

30.93

Present Rd

$\frac{6.3}{10}$

6.6

$\frac{7.1}{10}$

$\frac{6.7}{10}$

6.6

$\frac{7.1}{10}$

30.93

Grades on Buenos Ave
 Morena Blvd. Sly to S.L. Weeks

60' wide
 10' C.B.
 20' R

E. c.b.

W. c.b.

2 + 10 24.02
 6.68
6.68
 0.0

25.56
 7.14
7.78
 F 0.64

INDEXED

WK

NOV 12 1948

17 60 24.79
 7.91
6.15
 C 1.76

24.45
 8.25
8.04
 C 0.21

14 10 23.56
 7.14
9.48
 F 0.34

23.33
 9.34
7.37
 C 2.0

04 60 22.33
 10.37
9.50
 C 0.87

22.22
 10.48
8.48
 C 2.0

04 10
 c.b. E.C. 21.10
 11.60
10.08
 C 1.52

21.10
 11.60
8.60
 C 3.0

04 00
 S.L. Blvd. 20.85
 11.85
10.20
 C 1.65

20.98
 11.72
8.72
 C 3.0

C Moore
 San Antonio
 W.M. 12-6-46
 E.B.

0.7 surface
 0.4 Crown 69

NW 7 Men 628

32.70

28.32

B.M. Buenos Weeks

Set B.M. Chisel Cross or Cap
 25' E from NELY Cor of
 Weeks + Buenos 3.45

29.25

E. C6

W. C6.

Sty Weeks
Add.

0+73	25.60
	<u>7.10</u>
	9.15
	<u>2.05</u>

25.0
<u>7.70</u>
6.70
<u>2.10</u>

0+415	26.16
	<u>6.58</u>
	6.01
	<u>0.53</u>

25.56
<u>7.14</u>
6.18
<u>2.10</u>

0+10	26.72
C6. E.C.	<u>5.98</u>
	4.60
	<u>0.13</u>

26.12
<u>6.58</u>
4.58
<u>2.0</u>

0+00	26.90
Sty weeks	<u>5.80</u>
	4.32
	<u>1.48</u>

26.30
<u>6.40</u>
4.40
<u>2.0</u>

2+70	27.50
no weeks	<u>5.20</u>
	2.1
	<u>0.10</u>

26.90
<u>5.80</u>
7.14
<u>1.34</u>

2+60	27.25
C6 B.C.	<u>5.45</u>
	3.93
	<u>1.52</u>

26.68
<u>6.02</u>
7.25
<u>1.23</u>

Set curb grade for Water Services
staked on CB Line & 35.

Begg W O 31031

Sherman

Bunch

La Playa 0+00

INDEXED

WK

NOV 12 1948

Haines

75

12.30 31.76

19.46 BM NE
Rivera d La Playa
BP.

new & Existing Haine St for City
from Moreland to La Playa

3+48 29.7 East Side

3.1
2.2
C 0.9

2+98 28.6

3.2
2.6
C 0.6

2+70 New 28.5

3.3
2.8
C 0.5

2+35 28.4

3.4
2.3
C 1.1

1+85 New 28.2

3.6
3.0
C 0.6

34 61

0.85
37.76 check on
CB on West
end at
582.77

1+40 New 27.9

3.9
2.1
C 1.8

5+12

34 6

33.4

1.2

C 0.1

0+67 27.8

4.0
2.6
C 1.4

4+53

34 6

31.0

3.6

3.7

C 0.3

4.22 34.61 30.39 1.37 31.76

0+18 27.7

4.1
2.5
C 1.6

3+97

29.2

2.6

1.4

C 1.2

0+00 27.6

4.2
2.3
C 1.9

31.76

H1

Curb Grades Water Services

TP	3.89	31.70	12.24	19.46	BM
			6.80	27.81	

4+41

29.5
<u>5.1</u>
5.5
<u>0.4</u>

3+85 New

27.9
<u>6.7</u>
6.5
<u>0.2</u>

3+40 New

27.7
<u>6.9</u>
7.1
<u>0.3</u>

2+63

27.5
<u>7.1</u>
7.5
<u>0.4</u>

2+03

27.2
<u>7.4</u>
7.6
<u>0.2</u>

1+27

27.6
<u>7.3</u>
0.3

1+11

26.9
<u>7.7</u>
7.3
<u>0.4</u>

5+44

33.4
<u>2.2</u>
1.0

0+66

26.8
<u>7.8</u>
7.1
<u>0.7</u>

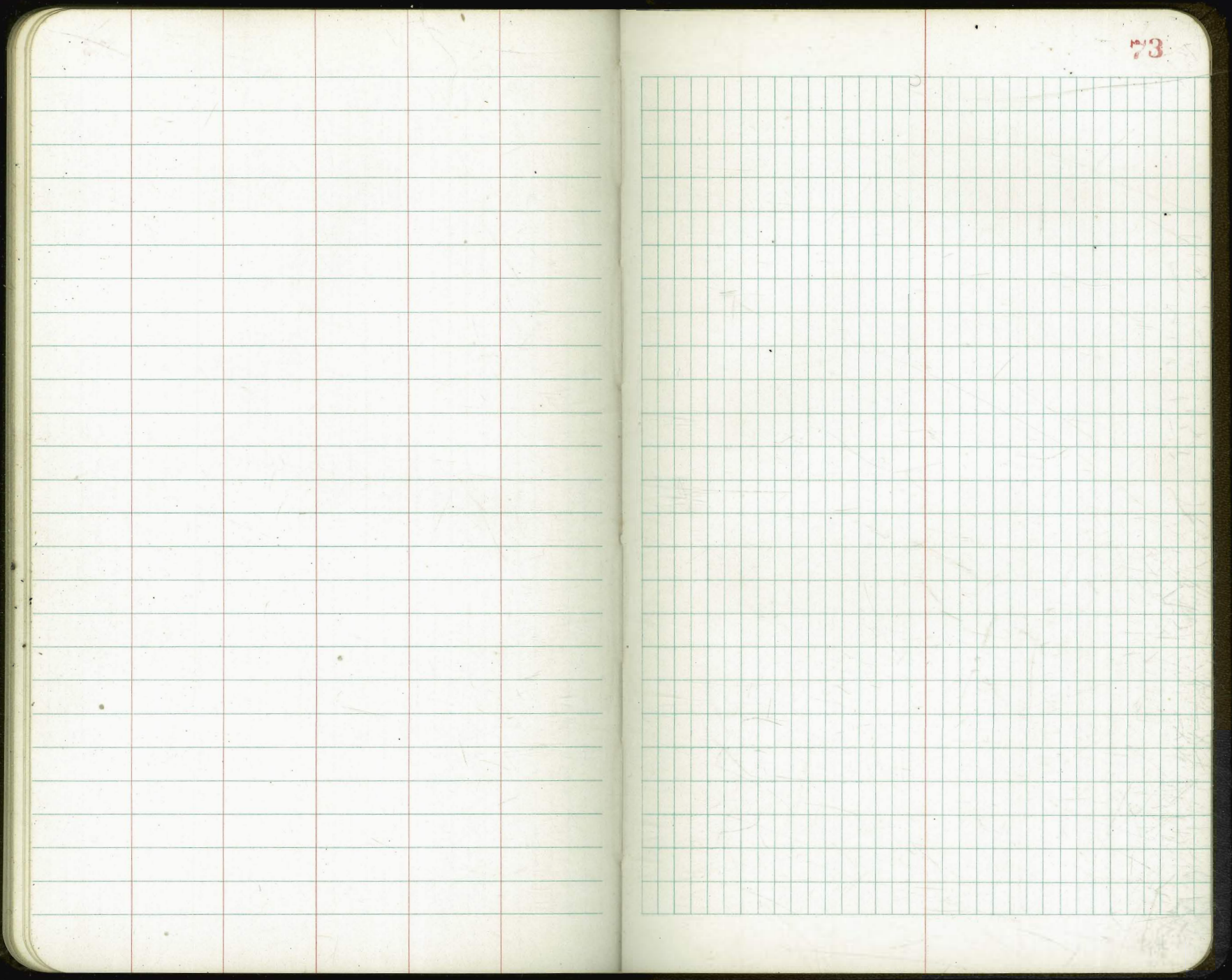
4+94

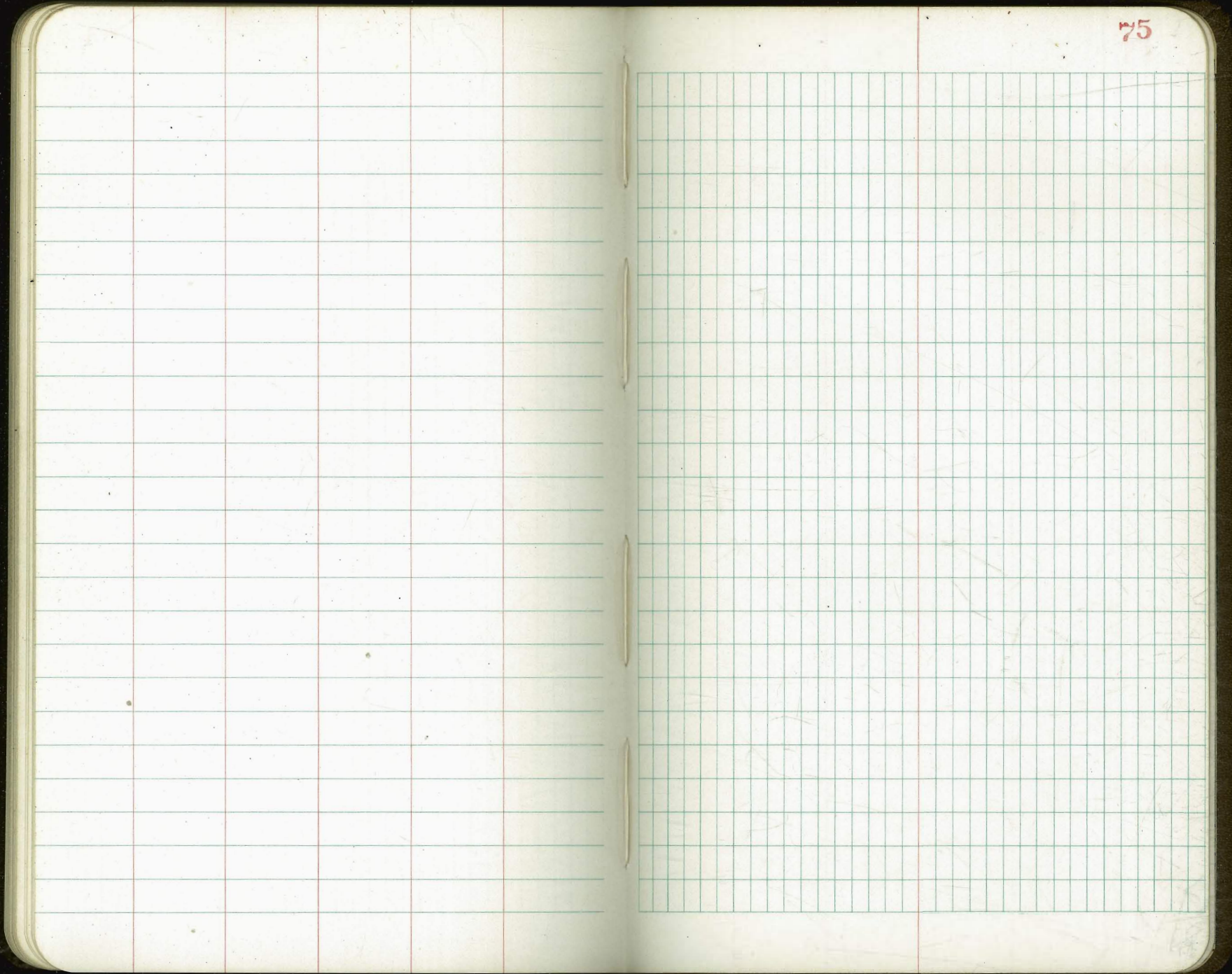
31.8
<u>2.8</u>
3.6
<u>0.8</u>

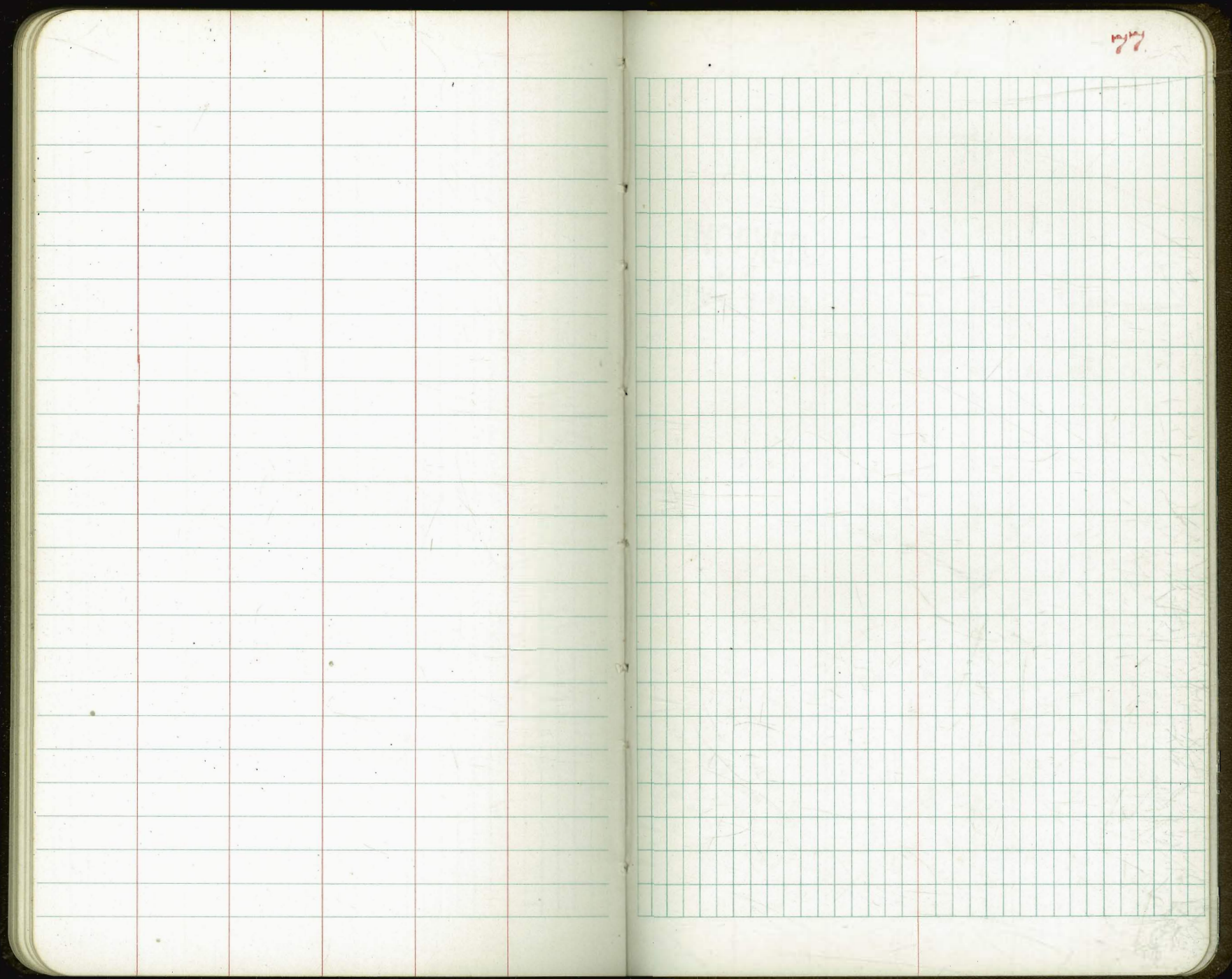
3+61

Haines West side for city

72







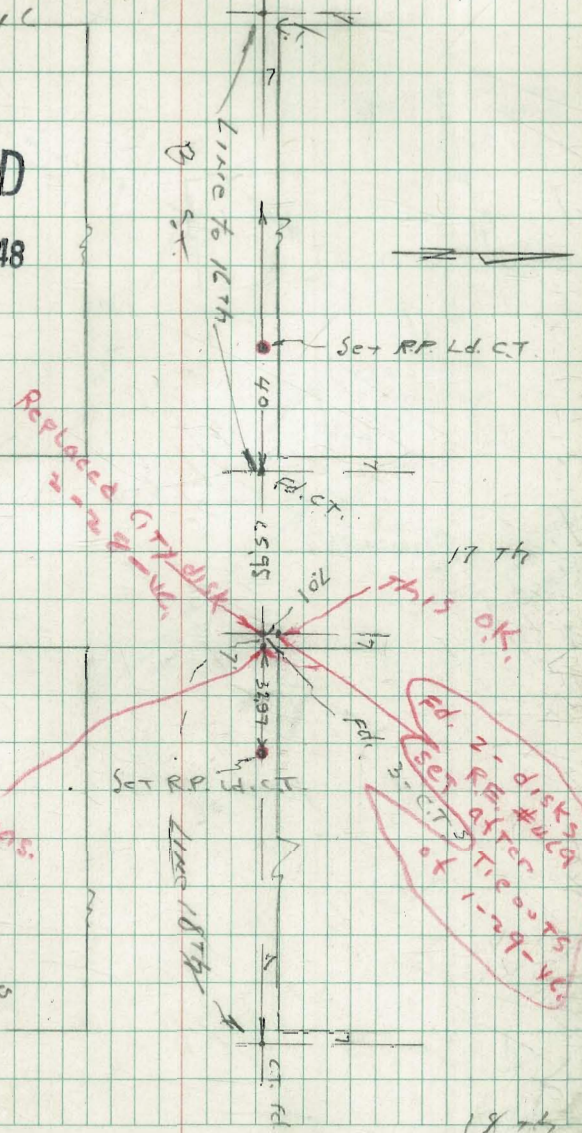
12

Tie out N.W. and N.E. T. 16³

at 17th and B St. plotted - c.s.k.

C.S.M. - C.S. - W.M. 16th
1-29-46

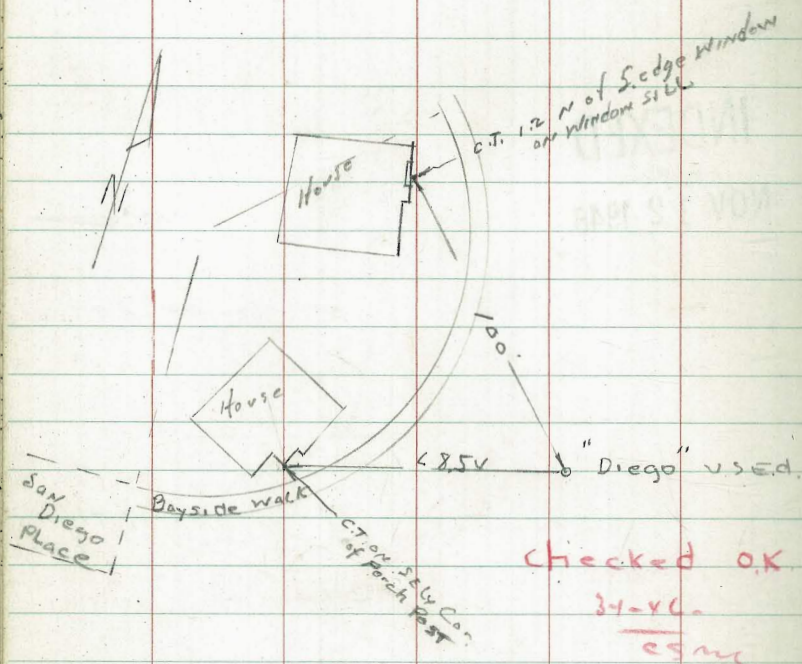
INDEXED
WK
NOV 12 1948



This means:
Now 703
(Between tacks
c.p. is 7' both ways
from P.L. c.t. is
103 E of E.L. 17th)
c.s.k.

4181

Tie "Diego" v.s.E.D. 1-17-46



indexed
e.s.k.

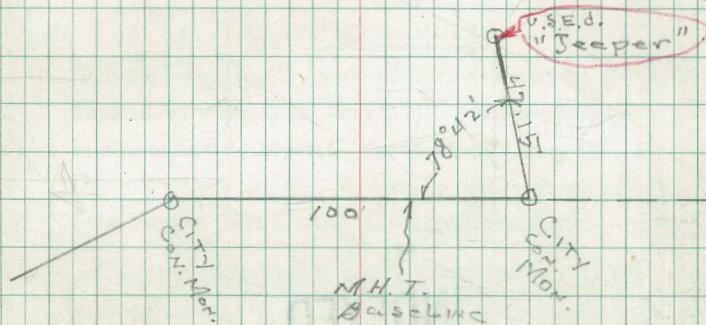
79

Tie "Jeep" v.s.E.D. to Mission
Bay M.H.T. Baseline

C.M. Moore
Sant Menckey
Mc Moore

1-3-46

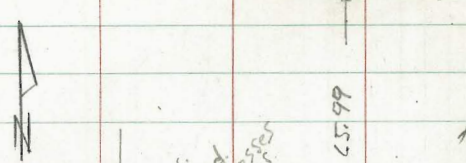
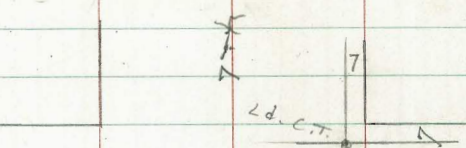
checked OK. 3-1-46
CSM



plotted - as is K.

Tie out S.E. Cor.

774 + K esm 12-15-45

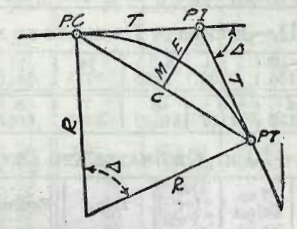


Replaced: G.F.I. disk
2-28-46

INDEXED
WK
NOV 12 1948

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) = $R + \cos \frac{\Delta}{2} - R$ (8) = $R \text{exsec} \frac{\Delta}{2}$ (9)
- Long Chord = $C = 2 R \sin \frac{\Delta}{2}$ (10) Δ = 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° curve $T = 3454.1$ and $\div 8 \frac{1}{3} = 414.49$ ft. From Table V correction = .36 or $T = 414.85$ ft. P. C. = Sta. P. I. - $T = 157 + 45.50$. Also from (4) $L = 746.00$ and P. T. = Sta. P. C. + $L = 164 + 91.50$.

Offsets.—Tangent offsets vary (approximately) directly with D and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft. = 7.27 ft. Distance = $158 - \text{Sta. P. C.} = 54.50$, hence offset = $7.27 (54.50 \div 100)^2 = 2.16$ 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 115.37. For from Table IV for 1° curve $E = 960.6$ for $8^\circ 20' = 960.6 \div 8 \frac{1}{3} = 115.27$ and from Table V correction = .10 or $E = 115.37$ ft. Or suppose $\Delta = 32^\circ$ and E is measured and found to be 42 ft. What is D ? From Table IV $E = 230.9$ and $\div 42 = 5.5$ or $D = 5^\circ 30'$.

1190-17 O.B. drainage

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 $41.9 + (20 - 16) \div 2$ or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.