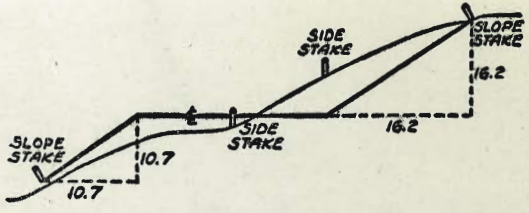




# 339  
Grade



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING  
SLOPE 1 TO 1. ROADWAY OF ANY WIDTH

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	0
1	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	1
2	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70	2.80	2.90	2
3	3.00	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.80	3.90	3
4	4.00	4.10	4.20	4.30	4.40	4.50	4.60	4.70	4.80	4.90	4
5	5.00	5.10	5.20	5.30	5.40	5.50	5.60	5.70	5.80	5.90	5
6	6.00	6.10	6.20	6.30	6.40	6.50	6.60	6.70	6.80	6.90	6
7	7.00	7.10	7.20	7.30	7.40	7.50	7.60	7.70	7.80	7.90	7
8	8.00	8.10	8.20	8.30	8.40	8.50	8.60	8.70	8.80	8.90	8
9	9.00	9.10	9.20	9.30	9.40	9.50	9.60	9.70	9.80	9.90	9
10	10.00	10.10	10.20	10.30	10.40	10.50	10.60	10.70	10.80	10.90	10
11	11.00	11.10	11.20	11.30	11.40	11.50	11.60	11.70	11.80	11.90	11
12	12.00	12.10	12.20	12.30	12.40	12.50	12.60	12.70	12.80	12.90	12
13	13.00	13.10	13.20	13.30	13.40	13.50	13.60	13.70	13.80	13.90	13
14	14.00	14.10	14.20	14.30	14.40	14.50	14.60	14.70	14.80	14.90	14
15	15.00	15.10	15.20	15.30	15.40	15.50	15.60	15.70	15.80	15.90	15
16	16.00	16.10	16.20	16.30	16.40	16.50	16.60	16.70	16.80	16.90	16
17	17.00	17.10	17.20	17.30	17.40	17.50	17.60	17.70	17.80	17.90	17
18	18.00	18.10	18.20	18.30	18.40	18.50	18.60	18.70	18.80	18.90	18
19	19.00	19.10	19.20	19.30	19.40	19.50	19.60	19.70	19.80	19.90	19
20	20.00	20.10	20.20	20.30	20.40	20.50	20.60	20.70	20.80	20.90	20
21	21.00	21.10	21.20	21.30	21.40	21.50	21.60	21.70	21.80	21.90	21
22	22.00	22.10	22.20	22.30	22.40	22.50	22.60	22.70	22.80	22.90	22
23	23.00	23.10	23.20	23.30	23.40	23.50	23.60	23.70	23.80	23.90	23
24	24.00	24.10	24.20	24.30	24.40	24.50	24.60	24.70	24.80	24.90	24
25	25.00	25.10	25.20	25.30	25.40	25.50	25.60	25.70	25.80	25.90	25
26	26.00	26.10	26.20	26.30	26.40	26.50	26.60	26.70	26.80	26.90	26
27	27.00	27.10	27.20	27.30	27.40	27.50	27.60	27.70	27.80	27.90	27
28	28.00	28.10	28.20	28.30	28.40	28.50	28.60	28.70	28.80	28.90	28
29	29.00	29.10	29.20	29.30	29.40	29.50	29.60	29.70	29.80	29.90	29
30	30.00	30.10	30.20	30.30	30.40	30.50	30.60	30.70	30.80	30.90	30
31	31.00	31.10	31.20	31.30	31.40	31.50	31.60	31.70	31.80	31.90	31
32	32.00	32.10	32.20	32.30	32.40	32.50	32.60	32.70	32.80	32.90	32
33	33.00	33.10	33.20	33.30	33.40	33.50	33.60	33.70	33.80	33.90	33
34	34.00	34.10	34.20	34.30	34.40	34.50	34.60	34.70	34.80	34.90	34
35	35.00	35.10	35.20	35.30	35.40	35.50	35.60	35.70	35.80	35.90	35
36	36.00	36.10	36.20	36.30	36.40	36.50	36.60	36.70	36.80	36.90	36
37	37.00	37.10	37.20	37.30	37.40	37.50	37.60	37.70	37.80	37.90	37
38	38.00	38.10	38.20	38.30	38.40	38.50	38.60	38.70	38.80	38.90	38
39	39.00	39.10	39.20	39.30	39.40	39.50	39.60	39.70	39.80	39.90	39
40	40.00	40.10	40.20	40.30	40.40	40.50	40.60	40.70	40.80	40.90	40
41	41.00	41.10	41.20	41.30	41.40	41.50	41.60	41.70	41.80	41.90	41
42	42.00	42.10	42.20	42.30	42.40	42.50	42.60	42.70	42.80	42.90	42
43	43.00	43.10	43.20	43.30	43.40	43.50	43.60	43.70	43.80	43.90	43
44	44.00	44.10	44.20	44.30	44.40	44.50	44.60	44.70	44.80	44.90	44
45	45.00	45.10	45.20	45.30	45.40	45.50	45.60	45.70	45.80	45.90	45
46	46.00	46.10	46.20	46.30	46.40	46.50	46.60	46.70	46.80	46.90	46
47	47.00	47.10	47.20	47.30	47.40	47.50	47.60	47.70	47.80	47.90	47
48	48.00	48.10	48.20	48.30	48.40	48.50	48.60	48.70	48.80	48.90	48
49	49.00	49.10	49.20	49.30	49.40	49.50	49.60	49.70	49.80	49.90	49
50	50.00	50.10	50.20	50.30	50.40	50.50	50.60	50.70	50.80	50.90	50

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

MICROFILMED

APR 16 1965

DIRECTIONS FOR USE OF TABLES

TABLE No. XIV

Distance of slope stake from side of shoulder  
stake for any width roadway, slope 1% in 10  
If ground is nearly level for cut or fill, the

IMPROVED TABLES  
AND  
INFORMATION

TABLE No. VIII

To find Tangent and External for curve of  
any other degree divide by degree of curve and  
add correction found in column of constants  
Degree of curve with a given T may be found  
by dividing tangent for external, square T by  
given tangent (see example).  
The distance from a point on the tangent to  
the curve is very nearly the square of the tangent  
length divided by twice the radius.

0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	1
11	1
12	1
13	1
14	1
15	1
16	1
17	1
18	1
19	1
20	2
21	2
22	2
23	2
24	2
25	2
26	2
27	2
28	2
29	2
30	3
31	3
32	3
33	3
34	3
35	3
36	3
37	3
38	3
39	3
40	4
41	4
42	4
43	4
44	4
45	4
46	4
47	4
48	4
49	4
50	5

Distance  
ground  
column  
side sta  
cut or f  
If it do

Roberts  
Cota  
Morales  
12-1-54

Rough Grades No. Side Allegheny  
Reo to Sea Breeze

W.O.# 32007

♀

♂

1+60	<del>21</del> 216.44 216.34 F0.10	217.97 216.82 C 1.2	4+00	223.88	227.10 224.64 C 2.5
------	--	---------------------------	------	--------	---------------------------

1+20	212.93 212.68 F0.25	215.34 213.00 C 2.3	3+60	224.17 F0.20	227.16 224.88 C 2.3
------	---------------------------	---------------------------	------	-----------------	---------------------------

0+80 /	209.62 208.84 F0.78	211.79 209.95 C 1.8	3+20	223.89 224.03 F0.20	225.25 224.49 C 0.8
--------	---------------------------	---------------------------	------	---------------------------	---------------------------

0+40	208.31 207.95 F0.36	210.5 209.27 C 1.2	2+80	223.14 222.94 F0.20	225.00 223.54 C 1.5
------	---------------------------	--------------------------	------	---------------------------	---------------------------

0+00		208.37 207.90 C 0.5	2+40	221.83 221.63 F0.20	223.68 222.09 C 1.6
------	--	---------------------------	------	---------------------------	---------------------------

0-13.91	Prolongation Wly Line Reo	207.77 206.68 C 1.1	2+00	219.58 219.48 F0.10	222.08 219.79 C 2.3
---------	------------------------------	---------------------------	------	---------------------------	---------------------------

£

6+40	217.87	223.87 218.54 C 5.3
------	--------	---------------------------

6+00	218.28	224.19 218.95 C 5.2
------	--------	---------------------------

5+60	219.29	224.64 219.96 C 4.7
------	--------	---------------------------

5+20 PVC	220.55	226.29 221.22 C 5.1
----------	--------	---------------------------

4+80 EVC	221.81	227.10 222.51 C 4.6
----------	--------	---------------------------

4+40	223.07	227.12 223.80 C 3.3
------	--------	---------------------------

£

9+00	222.76	225.46 223.63 C 1.9
------	--------	---------------------------

8+60	221.33	224.51 222.00 C 2.5
------	--------	---------------------------

8+20 PVC	220.33	224.02 220.90 C 3.1
----------	--------	---------------------------

7+70	219.34	223.70 220.00 C 3.7
------	--------	---------------------------

7+20 EVC	218.43	223.40 219.10 C 4.3
----------	--------	---------------------------

6+80	217.93	223.94 218.60 C 5.3
------	--------	---------------------------

1+25 W

3+74.75 W

~~1+05~~ ⑥ 1+00  
1+00

~~248.23~~  
~~-237.91-~~  
245.92 C 8.32  
237.24  
C 6.7

245.92  
244.24  
C 1.7

3+54.75 ④  
3+45

~~272.84~~  
~~-266.00-~~  
C 6.9

271.7  
270.88 269.71  
C 0.5

0+35 ①  
0+50

237.44  
~~-230.73-~~  
C 6.7

239.58  
237.59  
C 2.0

3+05 ③  
2+90

268.02  
~~-261.90-~~  
C 6.1

270.6  
268.14 266.91  
C 2.5

0+29.20  
0+23

£ 234.21  
232  
£ 230.30  
230.00  
F 0.30

236.77  
234.00  
C 28

TP-269.17

2+65

265.23  
264.66 263.43  
C 0.5

EL, Westport  
0+00

£ 227.10

227.50  
227.26  
C 0.2

2+25

261.56  
260.47 259.27  
C 1.1

9+78.80  
9+62.80 off. cb  
BC Westport

£ 225.13

226.55  
225.80  
C 0.8

1+85 W

1+85 P/C ②  
1+65

253.77  
~~-247.89-~~  
C 5.9

256.47  
255.55 254.44  
C 0.9

9+40

1+50

251.23  
250.89  
C 0.3

Grade Stakes For Storm Drain  
 Alleghany  
 between Hancock & Westport

			0+94 Inlet	22516 217.03 C 8.13
			0+72 BRK	22328 215.17 C 8.11
			0+64 BRK	22086 214.81 C 6.05
	♀	27742 274.79 C 2.63	0+40	21809 214.69 C 3.40
4+47.75	CB BC Sea Breeze			
4+25	27328	27672 274.20 C 2.52	0+16 BRK	21752 214.57 C 2.95
3+85	27183	2747 272.90 C 1.8	0+00 Exist Drain So. Side St.	21656 213.90 C 2.46

Robert Curb Stakes Alleghany  
 Cota Reo to Sea Breeze  
 Morales  
 Kelly  
 12-23-54 No. #32007

0+80	(209.95)	210.75 209.92 F0.83	2+00	219.79 219.50 F0.29
------	----------	---------------------------	------	---------------------------

0+60	(209.51)	209.97 209.37 F0.60	1+80	218.39 217.90 F0.49
------	----------	---------------------------	------	---------------------------

0+40		209.27 209.55 F0.22	1+60	216.82 216.61 F0.21
------	--	---------------------------	------	---------------------------

0+20		208.60 208.34 F0.26	1+40	215.02 214.73 F0.29
------	--	---------------------------	------	---------------------------

0+00		207.90 207.57 F0.33	1+20	(213.00) 213.17 212.99 F0.18
------	--	---------------------------	------	---------------------------------------

Begin Curb	(Extension of Sly. Line Reo) (206.68) -12.25	207.49 207.06 F0.43	1+00	(211.09) 211.66 211.12 F0.54
------------	--	---------------------------	------	---------------------------------------

BM SNBP 206.89 Alleghany  $\frac{1}{2}$  Reo



3+20

224.49  
224.49  
GRADE

4+40

223.80  
223.76  
F0.34

3+00

224.06  
223.82  
F0.24

4+20

224.28  
223.90  
F0.38

2+80

223.75  
223.54  
C 0.21

4+00

224.64  
224.16  
F0.48

2+60

222.96  
222.93  
C0.03

3+80

224.84  
224.48  
F0.36

2+40

222.09  
221.92  
F0.17

3+60

224.88  
224.57  
F0.31

2+20

221.03  
220.37  
F0.66

3+40

224.76  
224.53  
F0.21

5+80

219.41  
21903  
F0.38

7+00

21892  
218.80  
C0.12

~~220.31~~  
~~218.80~~  
~~C1.51~~

5+60

219.76  
21946  
F0.50

6+80

21860  
218.60  
GRADE

~~220.03~~  
~~218.60~~  
~~C1.43~~

5+40

220.57  
22032  
F0.25

6+60

LOW POINT

218.52  
218.27  
F0.25

5+20 PVC

221.22  
22071  
F0.51

6+40

218.54  
218.28  
F0.26

4+80 EVC

222.51  
22212  
F0.39

6+20

218.67  
218.40  
F0.27

4+60

223.16  
22272  
F0.44

6+00

218.95  
218.67  
F0.28

8+80

222.75  
222.65  
F0.10

#1

232.79  
~~231.57~~  
C 1.72

8+60

222.00  
221.86  
F0.14

#1

228.43  
228.42  
F0.01

8+40

221.38  
221.20  
F0.18

9+62.80 cb BC  
westport

227.26  
226.47  
F0.79

8+20 PVC

220.90  
220.83  
F0.07

9+40

225.80  
225.46  
F0.34

7+70

220.00  
219.87  
F0.13

9+20

224.64  
224.37  
F0.27

7+20 EVC

219.10  
218.92  
F0.18

9+00

223.63  
223.34  
F0.29

1750

25092  
250.89  
C0.03

2+85

26661  
266.48  
C0.13

1400

24426  
244.24  
C0.02

2+65

26473  
264.66  
C0.07

0750

23762  
237.59  
C0.03

2+45

26265  
262.64  
F0.01

0723 Westport

CB BC

23408  
234.00  
C0.08

2+25

260.47  
260.36  
Fall

#3

23334  
232.82  
C0.52

2+05

25830  
258.10  
C0.20

#2

23256  
231.80  
C0.76

1+85 P/C

25558  
255.55  
C0.03

4+05

27376  
273.64  
C 0.12

3+85

27303  
272.90  
C 0.13

#3

277 43  
275.82  
C 1.61

3+65

271.98  
271.90  
F 0.08

#2

276 46  
275.42  
C 1.04

3+45

270.88  
270.35  
F 0.53

#1

27530  
275.07  
C 0.23

3+25

269.60  
269.22  
F 0.38

4+47.75 Cb BC  
Sea Breeze

27472  
274.79  
F 0.07

3+05

268.14  
267.91  
F 0.23

4+25 EK

27437  
274.20  
C 0.19

Roberts  
Cota  
Morales  
Kelly

Curb Stake Euclid Avenue  
Churchward to Manzanares  
5420-B

	186.05 185.86 ✓ C 0.19	186.35 186.17 186.07 186.07 C 0.28 C 0.10	1730	183.13 182.67 F 0.46	183.25 182.25 F 1.00
--	------------------------------	---	------	----------------------------	----------------------------

#1	186.23 185.97 ✓ 185.91 ✓ C 0.26	186.28 186.12 C 0.16	1710	184.05 183.01 F 1.04	184.17 182.95 F 1.22
----	---------------------------------------	----------------------------	------	----------------------------	----------------------------

#2	186.33 186.20 ✓ 185.96 ✓ C 0.13	186.20 186.12 C 0.08	0790	184.73 184.07 F 0.66	184.85 184.49 F 0.36
----	---------------------------------------	----------------------------	------	----------------------------	----------------------------

#3	186.50 186.40 ✓ 186.01 ✓ C 0.10	186.15 186.10 ✓ 186.10 C 0.05 185.47 F 0.63	0770	185.30 184.19 F 1.11	185.42 184.77 F 0.65
----	---------------------------------------	--	------	----------------------------	----------------------------

#4	186.62 186.48 186.05 ✓ C 0.14	186.04 / 186.04 185.97 184.96 F 0.07 F 1.08	0750	185.63 184.68 ✓ F 0.95	185.75 185.45 F 0.30
----	-------------------------------------	---	------	------------------------------	----------------------------

#5 E.L. on Churchward	186.09 ✓ 186.52	186.0 185.89	0730 PIC	185.78 185.45 ✓ F 0.33	185.97 185.96 F 0.01
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BM

184.86 S. cb BP  
Imperial Churchward

#2

176.09  
17568 ✓  
F0.41

//////

#1 END CB.

171.65  
16950  
F2.15171.65  
17025  
F1.40

#1

176.86  
17657 ✓  
F0.29

//////

2+65 cb BC on Euclid  
on RL Hablans172.71  
17116  
F1.55172.71  
17135 ✓  
F1.36

2+12 EVC

cb BC on Euclid  
on left  
Manzaneros177.72  
17743 ✓  
F0.29177.72  
17675 ✓  
F0.97

2+385

//////

175.21  
17385  
F1.36175.21  
17426 ✓  
F0.95

1+90

179.68  
17888 ✓  
F0.80179.80  
17834 ✓  
F1.46#5 EVC on  
Manzaneros174.50  
17423

//////

1+70

181.00  
18070 ✓  
F0.30181.12  
18065 ✓  
F1.07

#4

174.92  
17489 ✓  
C0.03

//////

1+50

182.24  
18174 ✓  
F0.50182.35 ✓  
18079  
F1.56

#3

175.42  
175.30 ✓  
F0.12

//////

Roberts  
Cota  
Kelly  
1-3-55  
W.O. # 20123

Stakes for Kensington Drain

Van Dyke to End  
(Used Stations on Plans)

2575-D

13

4+73.24BC

327.67  
320.49  
C 7.20

4+50

330.43  
323.01  
C 7.42

4+10

332.94  
327.37  
C 5.57

4+00

333.74  
328.32  
C 5.42

3+77.78EC

334.43  
330.12  
C 4.31

3+61.57BC

331.30

5+05E(END)

318.25  
317.00  
C 1.25

34.05

3344/drain cross in cb 8957FB1729



Between Vista & Van Dyke

14

2151.65 BRK

34497  
341.00  
C 3.97

3146 BRK

336 00  
332.20  
C 3.80

2144 BRK

34510  
341.70  
C 3.40

3136 BRK

336 47  
332.58  
C 3.89

2120 EC

34580  
342.33  
C 3.47

3126 BRK

336 58  
332.79  
C 3.79

2111.79 BC

34624  
342.48  
C 3.76

2178.58 EC

337 17  
333.39  
C 3.78

1785.01 EC

34670  
343.02  
C 3.68

2170.27 BC

338 05  
333.49  
C 4.56

1768.59 BC

34678  
343.40 34250  
C 3.38  
9  
C 4.28

2162.95 BRK

340 89  
335.80  
C 5.09

1767-  
34570  
342.40  
C 3.31

342.29 End of 1-11-55

1+00

34846  
34415  
C 4.31

0+88.86 ~~cleanout~~

34878  
34419  
C 4.59

0+67.94 BC

34906  
34428  
C 4.78

0+44.86 EC

34834  
34436  
C 3.98

3+61.57 BC

33606 LINE  
33130 CHANGE  
C 4.76

45' Rad  
152

0+33.08 BC

34764  
34441  
C 3.23

3+56 BRK

33600  
33167  
C 4.33

0+19.70

~~21' 1/2" Gate 3' 11.00~~  
~~Curtain Wall~~

34740  
34447  
C 2.93



$$\begin{array}{r} 347.11 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 342.11 \\ - .80 \\ \hline \end{array}$$

$$\begin{array}{r} 16 \\ 05 \\ \hline 72 \\ \hline 342.90 \end{array}$$

$$\begin{array}{r} 342.90 \\ + 0.40 \\ \hline 343.40 \end{array}$$

$$\begin{array}{r} 343.50 \\ - 1.89 \\ \hline \end{array}$$

$$\begin{array}{r} 342.61 \\ - .89 \\ \hline \end{array}$$

1.69

345.19

$$\begin{array}{r} 342.61 \\ - 1.69 \\ \hline 344.30 \end{array}$$

$$\begin{array}{r} 344.88 \\ - .52 \\ \hline \end{array}$$

$$\begin{array}{r} 344.30 \\ - 1.69 \\ \hline \end{array}$$

$$\begin{array}{r} 342.61 \end{array}$$

1751.04 Q Street

$$\begin{array}{r} 346.56 \\ - 346.56 \\ \hline \end{array}$$

$$\begin{array}{r} 342.70 \\ - 342.80 \\ \hline \end{array}$$

$$\begin{array}{r} 342.86 \\ - 343.76 \\ \hline \end{array}$$

1735.96 G &amp; Inlet Grate 345.97

$$\begin{array}{r} 347.00 \\ - 347.00 \\ \hline \end{array}$$

$$\begin{array}{r} 347.00 \\ - 347.00 \\ \hline \end{array}$$

$$\begin{array}{r} 343.00 \\ - 343.90 \\ \hline \end{array}$$

1725

$$\begin{array}{r} 346.89 \\ - 346.89 \\ \hline \end{array}$$

$$\begin{array}{r} 344.05 \\ - 344.05 \\ \hline \end{array}$$

$$\begin{array}{r} 342.84 \\ - 342.84 \\ \hline \end{array}$$

Robert  
Cota  
Morales  
Kelly  
1-7-55  
W.O. # 20008

Grades For Gutter So. Side  
Broadway  
11th to 12th

Return S.E. Corner  
Broadway & 11th

17

0+91.18 BRK

Drains →  
←

72.07  
71.54  
C0.53

BC on Bdwy

71.39  
70.77  
C0.62

0+75

71.98  
71.39  
C0.59

1+82.35 Exist Gutter Drain  
12th

I.E. 70.63

0+50

71.89  
71.15  
C0.74

1+50

71.76  
70.95  
C0.81

0+25

71.72  
70.91  
C0.81

1+25

71.93  
71.20  
C0.73

0+00 Exist Gutter Drain  
11th

I.E. = 70.67  
✓

1+00

72.06  
71.45  
C0.61

BM

NWBP 10th & Broadway 67.01

EC + 2.3 to near  
edge Gutter Drain

$$I.E. = 70.27$$

EC on 11th

71.34  
70.32  
C 1.02

#2

71.36  
70.47  
C 0.89

#1

71.35  
70.62  
C 0.73

Roberts  
Cota  
Moralez  
Kelly  
1-25-55  
N.O. #31948

Rough Grade Stakes "F" Street

Quail to Boundary

11379-L  
FB 2305 PJ.1

19

155.4  
153.13 ←  
C 23

3+90+ Bdry  
cb B on R

2+55 cb B on R  
39# 14349  
142.97  
C 0.5

ENST 143.47  
143.50

151.34

154.9

3+71.13 cb B on R  
Bdry

150.35  
C 1.0

150.82  
C 1.1

2+10 142.70  
142.54  
F 0.2

143.20  
142.21  
F 1.0

3+35 cb B on R  
39#

ENST 146.67  
146.70

1+60 142.40  
142.16  
F 0.2

142.90  
141.28  
F 1.6

3+30

148.60  
145.60  
C 3.0

1+10 142.10  
140.38  
F 1.7

143.32  
142.60  
C 0.7

3+10

146.37  
143.84  
C 2.5

0+60 141.94  
141.80  
C 0.1

144.31  
142.30  
C 2.0

2+90

144.64  
143.18  
C 1.5

cb B on R  
OHQ Quail ENST 141.50  
141.54

142.00  
142.17

BM 142.95 NWBP Quail & F

Roberts Curb Stakes "F" Street  
1-27-55 Quail to Boundary

20

End Alley Ret  
wly

142.50	143.00
141.49	142.18
F 1.01	F 0.82

2+90 PIC

143.83
143.18
C 0.65

End Alley Ret  
Ely

142.38	142.88
140.38	142.45
F 2.00	F 0.43

2+55

143.55
142.97
C 0.58

CB  
EXISTS

Alley Rad  
1+23 on Lt.

SC. 142.17	Alley 142.22
141.17	141.11
F 1.06	F 1.11

2+10

142.70
142.57
F 0.11

143.20
143.01
F 0.19

Alley Rad  
1+20.50 on Rt.

SC. 142.67	Alley 142.72
141.51	141.51
F 1.16	F 1.21

1+60

142.40
142.04
F 0.36

142.90
142.48
F 0.42

1+10

142.10	142.60
140.80	142.06
F 1.30	F 0.54

0+60

141.75	142.30
141.80	141.85
C 0.15	F 0.45

1+44.50 Alley Rad  
Rt

St. 142.81	Alley 142.84
142.16	142.16
F 0.65	F 0.68

0+00 west line "F"

Alley Rad St. 142.81	Alley 142.34
141.65	141.65
F 0.66	F 0.69

#1 END CB Lt	151.43 151.13 C0.30	3191.01 CBBC Rt	153.13 152.05 F1.08
-----------------	---------------------------	-----------------------	---------------------------

3+7.13 CB.B.C. on Lt	150.35 150.11 F0.24	150.82 150.02 F0.80
-------------------------	---------------------------	---------------------------

3+30 EVL	145.60 145.30 F0.30	////
----------	---------------------------	------

3+20	144.59 144.46 F0.13	////
------	---------------------------	------

3+10	143.95 143.84 C0.11	////
------	---------------------------	------

3+00	143.85 143.38 C0.47	////
------	---------------------------	------

#1 END CB. on Rt	////	153.25 152.42 F0.83
---------------------	------	---------------------------



Roberts  
Cota  
Morales  
Kelley  
1-4-55  
WA#20911

Rough Grades Camino De La Costa

at Electric

11602-2

cb Rough →

8946 8835 8835  
88.40 88.40 87.76 86.93  
0+92.92 ✓ C1.1 C0.6 C1.4

8897 8793 8793  
88.00 88.00 87.17 86.30  
0+72.92 87.70 C1.0 C0.7 C1.6  
F0.30

8753 8734 8734  
87.48 87.48 86.59 85.80  
0+52.92 87.07 GRADE C0.7 C1.5  
F0.41

8815 8681 8681  
86.79 86.79 86.00 85.39  
0+32.92 86.41 C1.4 C0.8 C1.4  
F0.38

8580 8580  
0+12.92 85.49 85.48 85.42 84.96  
84.98 84.98  
F0.31 F0.3 F0.4 GRADE

849 8480 8480 85.04  
cb BC 84.80 84.80 84.77  
0+00 SW corner 84.70 C0.1 F0.3  
F0.10

cb BC 88.67 88.41  
1+13.25 SE Corner  
9013 88.53  
1+04.35 C1.5  
~~8810~~

Roberts  
Cota  
Moralez  
Kelley  
1-4-55  
WO.# 20911

Rough Grades La Canada  
at Electric

Rough Grades Via Del Norte

23

0+80.13

cb

93.25  
✓

93.04  
✓

cb  
↓

0+68

93.43  
9308  
F0.35

9402  
93.43  
C0.6

9378  
93.17 93.17  
9280  
C0.8 F0.37

0+48

92.85  
9244  
F0.41

9298  
92.85  
C0.1

92.69 92.69  
9227 9226  
F0.4 F0.43

0+28

91.57  
9114  
F0.43

9155  
91.57  
GRADE

9226  
91.66 91.66  
9150  
C0.6 F0.16

0+00

89.15  
✓

89.59  
✓

0+88.16  
cb  
MEET  
EXIST  
97.80  
✓

0+63.96

9774  
97.30 97.30  
9728 C0.4  
F0.02

0+43.96

9694 9725  
96.65 96.65  
C0.29 C0.6

0+23.96

95.71 95.71  
9518 9367  
F0.53 F2.0

0+11.03

94.69 94.69  
9437 9314  
F0.32 F1.5

cb  
Rough  
97.64  
9611  
F0.9

96.70 96.70  
9634 9573  
F0.36 F1.0

96.24 96.24  
9593 9600  
F0.31 F0.2

95.47 95.47  
9476 9279  
F0.71 F2.7

94.60 94.60  
9422 9280  
F0.38 F1.4

Roberts  
Cota  
Morales  
Kelley  
2-7-55  
W.O. # 20911

Grades For Storm Drain  
Electric & Camino De La Costa

1+09.72 BC

8658  
82.39  
C 4.19

1+00

8654  
82.74  
C 4.10

0+75

8640  
82.71  
C 3.69

0+50

8657  
82.94  
C 3.63

0+25

8645  
83.17  
C 3.28

Inv. Nly Side Electric 0+00

8652  
83.40  
C 3.12

Inv. East Side Electric

8738  
84.44  
C 2.94

VOID  
CHANGE

2+26.02 Exist. G  
outlet

81.32

2+00

8474  
81.56  
C 3.18

1+75

8828  
81.79  
C 6.49

1+50

8672  
82.02  
C 4.70

1+25

8674  
82.25  
C 4.19

Roberts  
Cota  
Moore  
Morales  
2-11-55  
W.O. #6248

Curb Grades Electric  
at Camino de la Costa

25

	W	E	N	E
1+25	85.87 8536 F0.51	<del>8731</del> <del>86.92</del> <del>86.39</del>	on camino BC. de la Costa 85.04 8425 F0.79	88.41 8768 F0.73
1+00	86.24 85.74 C0.30	87.31 86.92 86.39	#1 85.37 8472 F0.65	87.75 8766 F0.09
0+75	86.05 86.01 C0.04	87.00 86.86 F0.14	#2 85.59 8492 F0.67	87.18 8665 F0.53
0+50	86.09 86.09 GRADE	87.09 86.85 F0.24	#3 85.76 8508 F0.62	86.90 8674 F0.16
0+25	86.16 86.03 F0.13	87.17 8701 F0.16	1457 EC <sup>on Rt</sup> 85.77 8497 F0.80	<del>87.75</del> <del>8768</del> <del>F0.73</del>
0+00	86.23 ✓	87.25 ✓	1428 EC <sup>on Rt</sup> <del>87.31</del> <del>86.92</del> <del>86.39</del>	86.86 86.82 C0.04

Roberts  
Cote  
Moore  
Morales  
2-14-55  
W.O.# 20911

Grads Stakes Storm Drain - Electric  
at Camino De La Costa

2+73.67 Exist.

→ 81.01 26.

2+50

85.09  
80.31  
C 4.78

1+00

86.57  
83.14  
C 3.43

2+31.27 Cleanout  
53° 19.8' left.

88.30  
81.53  
C 6.77

0+75

86.40  
83.44  
C 2.96

2+25

88.28  
81.61  
C 6.67

0+60.5 Cleanout  
87° 34.8' left.

86.33  
83.62  
C 2.71

2+00

86.89  
81.92  
C 4.97

0+50 cb line West  
side Electric

86.40  
83.80  
C 2.60

1+75

87.23  
82.22  
C 5.01

0+25

87.06  
84.21  
C 2.85

1+50

86.36  
82.53  
C 3.83

0+00 cb line East  
side Electric

87.38  
84.62  
C 2.76

1+25

86.70  
82.83  
C 3.87

Roberts  
Cebu  
Monsie  
2-14-55  
W.D. # 2413

Grade Stakes Sewer Euclid Ave.  
at Federal

5576-B

27

1+26.25

22596  
215.67  
C10.29

1+04 MH

22574  
215.58  
C10.16

0+78

22486  
214.43  
C10.43

0+52

22360  
213.28  
C10.32

1+93 DE

22688  
215.94  
C10.94

0+26

22244  
212.14  
C10.30

1+70.75

22658  
215.85  
C10.73

0+00 <sup>EXIST</sup>  
DE

22124  
211.00  
C10.24

1+48.5

22627  
215.76  
C10.51

Roberts  
 Kiser  
 Moore  
 Morales  
 3-15-55  
 W.O.# 31716

Stakes For Alley Blk. 2, Mountain View

11371 L

Exceptions { 0.50 on Lt or West  
 0.25 on Rt or East }

1+10	34712 346.57 C 0.55	34741 346.87 C 0.54	2+20	35255 350.97 C 1.58	35162 351.27 C 0.35
------	---------------------------	---------------------------	------	---------------------------	---------------------------

0+90 PVC	34628 345.81 C 0.47	34626 346.11 C 0.15	2+00	35160 350.44 C 1.16	35058 350.74 F 0.16
----------	---------------------------	---------------------------	------	---------------------------	---------------------------

0+65	34549 344.95 C 0.55	34561 344.25 C 1.36	1+80	34977 34922 F 0.55	35047 350.07 C 0.40
------	---------------------------	---------------------------	------	--------------------------	---------------------------

0+40	34568 344.10 C 0.98	34538 344.40 C 0.98	1+60	34932 348.95 C 0.37	35032 349.25 C 1.07
------	---------------------------	---------------------------	------	---------------------------	---------------------------

0+20	34515 343.49 C 1.66	34496 343.71 C 1.25	1+40	34771 347.97 F 0.26	34830 348.27 C 0.03
------	---------------------------	---------------------------	------	---------------------------	---------------------------

No. Line 0+00 Wightman	343.07	343.03	1+30	34772 347.49 C 0.23	347.96 347.79 C 0.17
---------------------------	--------	--------	------	---------------------------	----------------------------

cb 24340

243310

3+40	35161 35190 F0.29	35239 352.20 C0.19	4+50	35050 349.44 C1.06	349.69 349.67 F0.02
3+20	35194 35190 C0.04	35247 352.20 C0.27	4+30	35007 350.00 C0.07	35034 350.30 C0.04
3+00	35201 351.82 C0.19	35230 352.12 C0.18	4+20	35045 350.35 C0.10	35066 350.65 C0.01
2+90	35206 351.78 C0.28	35211 352.08 C0.03	4+00	35242 350.97 C1.45	351.27 351.14 F0.13
2+60	35188 351.56 C0.32	35188 351.86 C0.02	3+80	351.44 351.10 F0.34	35222 351.74 C0.48
2+40	35224 351.33 C0.91	35188 351.63 C0.25	3+60	351.75 351.38 F0.37	35230 352.05 C0.25



5+70	35046 348.10 C 2.36	34840 347.80 C 0.60		
5+60	35044 348.42 C 2.02	34905 348.12 C 0.93		
5+50	35046 348.57 C 1.89	34903 348.27 C 0.76		
5+25	34934 348.75 C 0.59	34973 348.50 C 1.23		
2 5+00	34999 348.93 C 1.06	34974 348.74 C 1.00	cb 34724	346.67 cb
2 4+70 EVC	349.15 349.04 F 0.11	34924 349.13 F 0.11	So. Line 346.91 6+00.25 Univ.	346.62

Roberts  
Rorer  
Mondler  
Moore  
4-8-55  
W. O. 2006

Soap Box Derby Track  
Collier Park

see Plans

Set All finish Grade

Roberts Stake Drain La Jolla Shores Dr.  
Rorer  
Moore  
Mosalez  
5-16-55  
W.O.#2129

P.L. 1298

5572-B

32

0+62

224.63  
218.00  
C 6.63

0+40

231.55  
224.04  
C 7.51

0+20

237.70  
229.52  
C 8.18

0+00

238.92  
235.00  
C 3.92

BM

239.45 Rim Sewer  
MH

## Roberts Grade Stakes for Storm Drain

Kiser  
Moore  
Moralez  
5-22-55  
12199-L

Euclid &amp; Olvera

1+00

12199-L

115.07

113.51

C 1.56

2+50

120.34

118.41

C 1.93

0+75

114.67

112.70

C 1.97

2+25

119.87

117.60

C 2.27

0+50

113.99

111.89

C 2.10

1+99.80 EC

120.84

116.75

C 4.09

0+25

113.96

111.08

C 2.88

1+73.32 BC

118.19

115.89

C 2.30

0+06.3

cleanout

114.34

110.47

C 3.87

1+50

117.32

115.13

C 2.19

0+00

END EXIST.

CULVERT

EUCLID

110.43

1+25

115.84

114.32

C 1.52

BM 110.43 INVERT

3+75

12431  
122.46  
C 1.85

5+25

13787  
125.72  
C 12.15

3+50

12200  
121.65  
C 0.35

5+00

14038  
125.32  
C 15.06

3+28.50 BC

122.02  
120.95  
C 1.07

4+75

14007  
124.92  
C 15.15

3+14.22 BC

12136  
120.49  
C 0.87

4+50 BRK

13860  
124.52  
C 14.08

3+00

12149  
120.03  
C 1.46

4+25 BRK

13237  
124.03  
C 8.34

2+75

12092  
119.22  
C 1.70

4+00

12845  
123.26  
C 5.19

6+80 END PIPE

13359  
12820  
C 5.39

6+65.06 EC

13429  
127.96  
C 6.336+29.55<sup>Mid</sup> Mid point13711  
127.39  
C 9.72

5+94.03 BC

13577  
126.82  
C 8.95

5+75

13515  
126.52  
C 8.63

5+50

13548  
126.12  
C 9.36

Roberts  
5-24-55  
W.O. #32293

Rough Grades Roanoke  
Sea Breeze to Calle Gaviota

			25487	253.6
			251.00	247.00
			EC on Calle Gaviota C 3.9	C 6.6
			25664	25568
			BC on Roanoke 253.11	252.88
			Σ + 92.92 C 3.5	C 2.8
1+50	259.78 257.78 C 2.0	258.33 255.25 F 3.0		
			261.29	259.92
			255.88	255.88
1+10 EVC	25806 256.88 C 1.2	257.29 257.66 F 0.4	3+50 C 5.4	C 4.0
			263.75	261.27
			257.72	257.72
0+70	257.48 253.72 C 1.8	259.27 256.52 C 2.8	3+10 C 6.0	C 3.6
			262.85	257.93
			258.84	258.88
0+30 PVC	255.55 254.00 C 1.6	258.85 254.43 C 4.4	2+70 C 4.0	F 1.0
			260.59	256.51
			259.16	259.38
0+00 EC on Roanoke	254.19 ✓ 252.50 C 1.7	258.31 252.50 C 5.8	2+30 C 1.4	F 2.8
			259.99	259.00
			258.68	255.9
BC on Sea Breeze	252.66 250.88 C 1.8	257.34 250.10 C 7.2	1+90 PVC C 1.3	F 3.1

BM 244.12 NWBP Sea Breeze & Winchester

Cont'd From Page 36

37

Ely side Calle Gaviota

No. End  
1+00

251.00  
249.10  
F 1.9

0+35 BRK

247.87  
245.48  
F 2.4

So. End  
0+00

246.10  
246.00  
C 0.10



R. berts  
5-31-55  
W.D.#20611

Grade Stakes for Storm Drain  
Euclid, E. Logan  
12138-L

38

1+25

110.59  
100.27  
C10.32

2+75

107.45  
96.97  
C10.48

~~108.71~~  
~~96.97~~  
C11.14

1+00

108.89  
100.82  
C8.07

2+50

108.46  
97.52  
C10.94

~~108.74~~  
~~97.52~~  
C11.22

0+75

104.48  
101.37  
C3.11

2+25

108.66  
98.07  
C10.59

0+40.92 EC

102.62  
102.12  
C0.50

2+00

109.22  
98.62  
C10.60

0+15.13 BC

107.69  
102.69  
C5.00

1+75

109.68  
99.17  
C10.51

0+00

First Culvert

103.02

1+50

109.99  
99.72  
C10.27

105.07  
117  
10390.

3+82.92 END  
CULVERT

10390  
94.60  
C 9.30

~~11396~~  
~~94.60~~  
C 19.26

3+75

~~94.77~~

3+50

10461  
95.32  
C 9.29

~~11642~~  
~~95.32~~  
C 21.10

3+25

10544  
95.87  
C 9.57

~~11367~~  
~~95.87~~  
C 17.80

3+00

10646  
96.42  
C 10.04

~~11083~~  
~~96.42~~  
C 14.41

STAKE VENER ROANOKE - SEA BREEZE TO  
CALLE GAVIOTA

W.O. #32393

6-01-55.

LATERALS PG. 41

2195 LAT. LT. & RT.

258.13  
242.28  
C 14.15

255.23  
241.68  
C 13.55

1+25

258.20  
242.17  
C 16.03

254.11  
241.58  
C 12.53

2147.96 M.H.

2135 LAT. LT.  
2130 LAT. RT.

1+00

257.89  
242.08  
C 15.81

0+85 LAT. LT.

252.85  
241.48  
C 11.37

2125

2120 LAT. LT.

0+75

257.11  
241.98  
C 15.43

251.76  
241.38  
C 10.38

2100

0+50

256.85  
241.88  
C 14.97

250.72  
GRADE 241.28  
C 9.44

1+75

1460 LAT. RT.

0+25

256.21  
241.98  
C 14.43

241.18

1+50

0+00 EXT. M.H. (SEA BREEZE)

A+25 1/2 LOT RT	253.62 242.88 C 10.74		
A+00	255.16 242.78 C 12.38	5+46.06 (STUB END)	250.15 245.41 CA. 69
B+75 3460 LOT RT	256.38 242.68 C 13.70	5+20.99	249.02 244.31 CA. 71
B+50	257.24 242.58 C 14.66	4+95.92 M.H. CALLE GAVIOTA	247.84 243.16 CA. 68
B+25	257.84 242.48 C 15.36	A+75	248.70 243.08 C 5.62
B+00	258.33 242.38 C 15.95	A+50	251.43 242.98 C 8.45

LATERALS

2495 LAT #3 (RT.)  
 258.75  
 249.85  
 C8.90

1.2

2495 LAT #6 (LT.)  
 261.20  
 251.92  
 C9.28

2440 LAT #7 LT.  
 259.58  
 250.18  
 C9.40

2430 LAT #2 (RT.)  
 255.97  
 249.52  
 C6.45

2420 LAT #8 (LT.)  
 258.97  
 249.58  
 C9.39

1460 LAT #1 (RT.)  
 257.99  
 250.78  
 C7.21

1425 LAT #5 (RT.)

258.79  
 251.95  
 C6.84

0485 LAT #9 (LT.)  
 255.72  
 GRADE 246.30  
 C9.42

3460 LAT #4 (RT.)

261.35  
 252.98  
 C8.37

Roberts  
June 6, 1955  
WD. # 20611

GRADE STAKES STORM DRAIN

Euclid & Logan  
5736 B

43

1725

109.56  
104.64  
C 4.92

1700

112.81  
104.31  
C 8.50

0+75

114.10  
103.99  
C 10.11

0+4630 EC

114.00  
103.62  
C 10.38

0+2710 BC

113.98  
103.37  
C 10.61

0+60

103.02

1758.30 END

106.75  
105.08  
C 1.67

Roberts  
Rorer  
Moore  
Moralez  
9-21-55  
WA #32330

Grade Stakes Alley Block 95  
Ocean Bay Beach

44

		627		470	444
		115		376	390
0+95 Sewer Lat (2) on Right		C 5.12	2+20	C 0.94	C 0.54

	619	627		473	471
	5.77	6.02		3.93	4.10
0+95	C 0.42	C 0.25	2+00	C 0.80	C 0.61

	690	742		533	503
	6.33	6.58		4.15	4.36
0+70	C 0.57	C 0.84	1+80	C 1.18	C 0.67

	697	761		515	563
	6.89	7.14		4.44	4.68
0+45	C 0.08	C 0.47	1+60	C 0.71	C 0.95

	786			525	544
	7.45	7.70		4.80	5.04
0+20 BRK	C 0.41	7.68	1+40	C 0.45	C 0.40
		F 0.02			

				555	597
	8.10	8.15		5.21	5.46
0+00	8.07		1+20 PK	C 0.34	C 0.51

TBM

PK Alley and  
765 w/ly 7' line Bacon

3+75	354 2.98 C 0.56	365 2.98 C 0.67	5+25	260 2.53 C 0.07	267 2.53 C 0.14
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3+50 BRK	365 3.05 C 0.60	372 3.05 C 0.67	5+00	262 2.60 C 0.02	273 2.60 C 0.13
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3+20	387 3.22 C 0.65	434 3.22 C 1.12	4+75	346 2.68 C 0.78	280 2.68 C 0.12
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2+90 BRK	420 3.40 C 0.80	394 3.40 C 0.54	4+50	429 2.75 C 1.54	312 2.75 C 0.37
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2+65	437 3.53 C 0.84	396 3.57 C 0.39	4+25	333 2.83 C 0.50	368 2.83 C 0.85
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2+40 EYC	533 3.66 C 1.67	419 3.74 C 0.45	4+00	363 2.90 C 0.73	339 2.90 C 0.49
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EL. Abbott  
6+0020

2.39  
2.47

2.36  
2.43

5+80 BRK

2.42  
2.36  
C 0.06

2.54  
2.36  
C 0.18

5+70 Sewer Lat. (D) on right

2.27  
-2.50  
C 4.77

5+50

2.45  
2.31  
F 0.14

2.45  
2.39  
F 0.06

Roberts  
Korer  
Moore  
Moralet  
6-24-55  
W.O.# 21379

Grade Stakes for Storm Drain  
Lot 63 Ex Mission Lands of S.D.  
5770B

47

1+25  
10785  
106.59  
C 1.26

1+00  
11050  
106.92  
C 3.58

0+75  
11253  
107.25  
C 5.28

2+29.23  
END  
Exit

105.23  
✓

0+50  
11187  
107.58  
C 4.29

2+00

10816  
105.61  
C 2.55

0+25  
11054  
107.90  
C 2.64

1+75

10800  
105.94  
C 2.06

Exit on  
0+00 Euclid  
10824  
✓

1+50

106.99  
106.27  
C 0.72

Roberts  
6-30-55  
W.O. #21004

Tough Grades College Area  
101242

BM 325.99

48

1+65

Prop. db 322.60      323.19      323.09  
Pipe 321.49      320.91      322.31  
F 1.1      F 2.28      F 0.78

1+33.75

3223  
CO 322.30      323.01      322.91  
GRADE 320.70      322.06  
F 2.31      F 0.85

3+48.61

326.85

0+84.35

322.73      322.63  
320.83      321.91  
F 1.90      F 0.72

3+186.1 EC

325.90  
325.58  
F 0.32

0+34.95

322.45      322.35  
321.10      321.86  
F 1.35      F 0.49

2+73.46

324.70  
323.79  
F 0.91

0+00 EC

322.15      322.00  
321.34      320.99  
F 0.81      F 1.01

2+28.30

323.85  
322.39  
F 1.46

0-32

322.05  
321.96  
F 0.09

1+83.15

Prop db 322.80  
Pipe 322.7  
F 0.1

323.30  
321.24  
F 2.06

322.22

Robert  
7-1-55  
W.O. #62431

Grade Stakes For Sewer  
Eureka & Ruby  
12422L

49

1+25	143.16 135.64 C 7.52	3+00	161.55 155.92 C 5.63
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1+00	143.77 135.05 C 8.72	2+75	156.80 152.42 C 4.38
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0+75	143.71 134.46 C 9.25	2+50	154.20 148.92 C 5.28
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0+50	143.31 133.88 C 9.43	2+25	149.45 145.42 C 4.03
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0+25	142.13 133.29 C 8.84	2+00	146.10 141.92 C 4.18
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0+00	Exit 132.70 ✓	1+61.24 M <sup>2</sup> 1	141.25 136.49 C 4.76
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139.30

3+91.91 MH #2

176.29  
168.78  
C 7.51

3+50

170.04  
162.92  
C 7.12

3+25

165.38  
159.42  
C 5.96

Roberts  
Moore  
Morales  
7-5-55  
W.O.# 32334

Grade Stakes Alley BK 44 Pac. Bch.

11338-2

51

				9356	9200
				92.26	91.96
			2+70 P/C	C 1.32	0004
	9124	9124			
	Sew. lat. 84.42	89.28			
1+20	2.54 C 6.82	C 1.96			
		88.98			
		88.66			
		F 0.32			
				9282	
				91.76	91.46
	8941		2+45	C 1.06	91.41
	88.79	88.49			F 0.05
0+95	C 0.62	88.40			
		F 0.09			
				9206	9098
				91.26	90.96
	8855		2+20	C 0.80	0002
	88.29	87.99			
0+70	C 0.26	87.93			
		F 0.03			
				9192	9070
				90.77	90.47
	8820		1+95	C 1.15	C 0.23
	87.80	87.50			
0+45	C 0.40	87.48			
		F 0.02			
				9097	9002
				90.27	89.97
	8784	87.37	1+70	C 0.70	C 0.05
	87.30	87.00			
0+20 BRK	C 0.54	C 0.37			
				9148	8969
				89.78	89.48
			1+45	C 1.70	C 0.21
0+00 Cass	86.76	86.52			

BU SEBP Loring & Cass 90.27

4+00	9636 95.97 C 0.39	9585 95.67 C 0.18
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3+75	9550 95.16 C 0.34	9518 94.86 C 0.32
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3+50 EVC	9467 94.35 C 0.32	9466 94.05 C 0.61
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3+30	9404 93.73 C 0.31	9418 93.43 C 0.75
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3+10	9438 93.17 C 1.21	9380 92.87 C 0.93
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2+90	9404 92.69 C 1.35	9286 92.39 C 0.47
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4+97.66 Dawes	98.30 98.26
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97.98

4+77.66 BRK	99.78 98.35 C 1.43
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98.55  
98.05  
C 0.50

4+57.66 BRK	99.45 97.85 C 1.60
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97.57  
97.55  
C 0.02

4+25	97.23 96.79 C 0.44
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96.86  
96.49  
C 0.37

Roberts  
Rorer  
Moore  
Morales  
6-12-55  
W.O.# 32392

Grade Stakes Sewer Upshur & Scott  
11853-L

53

MH#2  
1+24.04 Upshur  
503  
-2.80  
C 7.83

1+91 (3) Rt

663  
1.75  
C 4.88

1+00  
439  
-3.97  
C 8.36

1+87 (4) Lt

693  
1.25  
C 5.68

0+75  
377  
-5.20  
C 8.97

1+75

623  
-1.59  
C 7.82

0+50  
320  
-6.42  
C 9.62

1+50

568  
-2.18  
C 7.86

0+25  
299  
-7.65  
C 10.64

1+37 (2) Lt

568  
0.08  
C 5.60

MH#1  
0+00 shafter

307  
-8.87  
C 11.94

1+29 (1) Rt

482  
0.40  
C 4.42



2+75  
834  
+0.79  
C 7.55

3+50  
1110  
+2.59  
C 8.51

2+50  
792  
+0.20  
C 7.72

3+39 (9) Lt  
1043  
4.64  
C 5.79

2+41 (5) Rt  
781  
2.88  
C 4.93

3+25  
1007  
+1.98  
C 8.09

2+37 (6) Lt  
777  
2.38  
C 5.39

3+14 (8) Rt  
994  
4.58  
C 5.36

2+25  
734  
-0.40  
C 7.74

3+00  
921  
+1.39  
C 7.82

2+00  
672  
-0.99  
C 7.71

2+89 (7) Lt  
866  
3.51  
C 5.15

4+75

1171  
+4.85  
C7.26

4+69 (10) Lt

1365  
6.70  
C6.95

4+50

1189  
+4.20  
C7.69

4+25

1207  
+3.95  
C8.12

5+04.10 D.E.

1156  
+4.74  
C6.82

3+94.10 MH #3  
Scott & Upshur

1191  
+3.64  
C8.27

4+99 (12) Rt

1229  
6.35  
C5.94

3+75

1202  
+3.18  
C8.84

4+89 (11) Lt

14.17  
6.80  
C7.37

Roberts  
Korer  
Moore  
Morales  
7-18-55  
W.O.# 32148

Rough Grade Stakes  
Pringle to Keating

Linwood St,

7860-L

167.09  
166.9

163.19  
164.8

56

1710

17218  
167.05  
C 5.13

166.10  
165.88  
F 0.22

2+15

15868  
155.70  
C 2.98

15887  
155.05  
C 3.82

0+90

17263  
167.20  
C 5.43

166.20  
166.03  
F 0.17

1+95

16470  
160.00  
C 4.70

16220  
158.50  
C 3.70

0+70

17314  
167.40  
C 5.74

166.12  
166.10  
GRADE

1+75

16486  
163.25  
C 1.61

16295  
161.90  
C 1.05

6+50

1735  
167.60  
C 5.9

165.87  
165.71  
C 0.16

1+55

16882  
165.50  
C 3.32

16511  
164.00  
C 1.11

0+30 P/C

1732  
167.75  
C 5.4

165.81  
165.19  
C 0.62

1+35

16977  
166.60  
C 3.17

16556  
165.40  
C 0.16

0+00

Pringle

168.00

164.20

1+15

17165  
167.00  
C 4.65

166.05  
165.84  
F 0.21

BM 164.32 20' E. ST. S. y. Cor. Pringle & Linwood

155.60  
234  
155.26

2+93 CBC Rt

136.71

2+91 CBC Lt

136.75

2+35 EVC

153.26  
151.00  
C 2.26

159.12  
150.60  
C 8.52

Rough Grades Wawona Drive  
 Oliphant to Capistrano  
 2732-D

		100.02			104.00
0+74.16 PVC	89.48	90.48	1+94.16 EVC	93.78	94.78
	88.84	C 9.54		922	C 9.22
	F 0.64			F 1.6	

		98.74			102.82
cb EC on 0+60.08 Right	88.75	C 10.19	1+74.16	94.10	98.10
				9260	C 6.72
				F 1.50	

	98.37				102.47
cb EC on 0+50.25 Left	86.43		1+54.16	94.17	95.17
	C 1.94			9093	C 7.30
				F 3.24	

	87.87				102.27
PVC on 0+28.03 Left	84.51		1+34.16	93.26	94.86
	C 3.37			9082	C 7.71
				F 3.04	

0+17.08 Prop. Line Capistrano					101.77
			1+14.16	93.10	94.10
				9144	C 7.67
				F 1.66	

0+0.903 7' Line Capistrano					101.05
on E 0+00 at 90° to NE Corner Wawona & Capistrano			0+94.16	91.58	92.58
				8932	C 8.47
				F 2.26	

83.50  
 84.00  
 84.50

BM 83.23 SE. 7' d. ect Wawona & Capistrano

8700

59

3+94.16

88.67  
8589  
F 2.789557  
89.67  
C 5.90

5+74.16

86.88  
76.3  
F 10.6

3+74.16

88.99  
8710  
F 1.899402  
89.79  
C 4.03

5+54.16 PVC

87.18  
71.3  
F 15.7

3+54.16

89.40  
8820  
F 1.209520  
90.40  
C 4.80

5+35.10

cb. BC  
on  
Right89.96  
88.50  
87.1088.35  
88.50  
GRADE

3+34.16 PVC

89.91  
8757  
F 2.349592  
90.91  
C 5.01

5+00

87.67  
77.10  
F 10.5788.67  
88.64  
GRADE

3+00

90.86  
8800  
F 2.869873  
91.86  
C 6.87

4+50

88.12  
82.68  
F 5.4493.16  
89.12  
C 4.04

2+50

92.24  
88.82  
F 3.429940  
93.24  
C 6.16

4+44.16 PVC

88.44  
85.6  
F 2.89534  
87.44  
C 5.90

Top Hgd. → 88.34

3 6+77.75 END EAST  
CURVE  
ON  
LEFT

3 6+51.40 85.12

6+44.16

3 6+34.16 85.28  
80.83  
F 4.45

3 6+14.16 85.69  
80.68  
F 5.0

25+97.16 86.33  
78.0  
F 8.3

Roberts  
Rorer  
Moore  
Moralez  
7-22-55  
W.O.# 32392

Grade Stakes Water Meters  
Upshur Street  
11853L

1+24 (5) Rt

78  
7.5  
C0.3

1+20 (4) Lt

80  
7.9  
C0.1

0+70 (3) Rt

92  
8.7  
C0.5

0+45 (2) Lt

99  
9.7  
C0.2

0+20 (1) Rt

111  
9.9  
C1.2

slly line  
0+00 Scott

(12.99)

61

5' East of EC on shaft (11) Lt

31  
2.7  
C0.4

No. 8 pole 85' (10) Rt

3.6  
30  
F0.6

2+35 (9) Lt

51  
4.9  
C0.2

2+22 (8) Rt

60  
5.3  
C0.7

1+73 (7) Rt

70  
6.4  
C0.6

1+10 (6) Lt

68  
6.6  
C0.2



Roberts  
7-25-55  
W0,20611

Grade Stakes for Storm Drain  
5752 B

Olvera St.

62

1+56.45 EC

132.87  
130.31  
C 2.56

3+00

137.30  
132.25  
C 5.05

0+97.55 BC

130.79  
129.51  
C 1.28

2+75

136.66  
131.91  
C 4.75

0+75

130.40  
129.21  
C 1.19

2+50

136.10  
131.57  
C 4.53

0+50

130.38  
128.87  
C 1.51

2+25

135.10  
131.24  
C 3.86

0+25

130.32  
128.54  
C 1.78

2+00

134.21  
130.90  
C 3.31

End Exist  
0+00 Drain

128.20  
✓

1+75

133.15  
130.56  
C 2.59

Roberts  
Rorer  
Moore  
Morales  
7-26-55  
W.O.#32392

Rough Grade Stakes Scott Street  
Talbot to Cañon  
11852L

64

1+00	11.79 10.70 C 1.09	10.30 10.17 C 0.13	0-05 <sup>EC cb</sup> on Right	11.79 511.00 C 0.79	11.79 10.92 C 0.97
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0+75	12.54 10.62 C 1.92	10.29 10.10 C 0.19	2+05 <sup>EC cb</sup> on Right	11.89 510.50 C 1.39	11.89 10.32 C 1.57
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upshut

0+50	12.46 10.53 C 1.91	10.02 9.79 F 0.23	2+00 <sup>EC cb</sup> on Left	11.36 511.00 C 0.36	
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0+25	12.60 10.47 C 2.13	9.95 9.31 F 0.64	1+75	12.33 10.92 C 1.41	11.05 10.40 C 0.65
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0+10 <sup>EC cb</sup> on Right	////	9.90 9.57 F 0.33	1+50	11.80 10.85 C 0.95	10.70 10.32 C 0.38
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Talbot

0+00 <sup>EC cb</sup> on Lt	11.92 10.40 C 1.52	////	1+25	11.75 10.77 C 0.98	10.48 10.25 C 0.23
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12.99

1+25	1289 11.75 C 1.14	
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1+00 Exit cb on Right	1367 12.00 C 1.67	11.50 C 0.73
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0+75	1388 11.87 C 2.01	1243 11.38 C 1.05
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0+50	1406 11.75 C 2.31	1174 11.26 C 0.48	Exit cb on Left	11.00
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0+25	1318 11.62 C 1.56	1179 11.14 C 0.64	1+75	1213 11.25 C 0.88
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0+00 Exit cb on Left	1277 11.50 C 1.27	1711	1+50	1251 11.50 C 1.01
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Roberts Grade Stakes for Water Laterals  
Roanoke Street  
10965L  
Rorer  
Moore  
Munales  
7-27-55  
W.O. # 32393

66

94 as built  
3+85 (W) Rt

25464  
25358  
C 1.06

3+20 (W) Rt

25774  
25741  
C 0.33

53 as dug  
2+55 (W) Rt

25944  
25915  
C 0.29

49 as dug  
1+90 (W) Rt

25900  
25891  
F 0.09

18 as dug  
1+20 (W) Rt

25779  
25765  
F 0.14

cb EC at  
0+00 sea breeze

Tough Grades Shafter & Upshur  
Cañon to Scott

11850L & 11851L

1+05	2.70 22 F0.5	372 2.64 C1.08	#5	3.95 3.63 F0.32	415 4.00 C0.15
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0+80	2.52 2.57 GRADE	372 2.53 C1.19	#4	370 334 F0.36	371 3.55 C0.16
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0+55	2.68 2.45 C0.23	375 2.42 C1.33	#3	340 287 F0.53	352 3.21 C0.31
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0+30	2.65 2.32 C0.33	370 2.31 C1.39	#2	325 285 F0.40	336 2.96 C0.40
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<del>0+05</del> cb EC	<del>2.20</del>	<del>2.20</del>	#1	3.05 2.43 F0.62	333 2.82 C0.51
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0+00 nly Line Cañon	2.17	2.19	1+34.64 Prop BC cb BC	2.85 2.49 F0.36	344 2.78 C0.66
---------------------	------	------	--------------------------	-----------------------	----------------------

2.52

12.99

4700	767 7.44 C0.23	773 7.58 C0.35
------	----------------------	----------------------

3775	719 6.88 C0.31	734 6.97 C0.37
------	----------------------	----------------------

3750	710 6.31 C0.79	654 6.35 C0.19
------	----------------------	----------------------

3725	635 5.75 C0.60	611 5.73 C0.38
------	----------------------	----------------------

Prop E.C. cbEC = 2+9.684	532 4.75 C0.57	516 5.03 F0.11
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#6	4.36 3.73 F0.63	499 4.91 C0.08
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5726.90	cb Bc at Scott	10.32	10.82
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5700	1047 9.70 C0.77	1045 10.05 C0.40
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4775	935 9.14 C0.21	1003 9.44 C0.59
------	----------------------	-----------------------

4750	892 8.57 C0.35	935 8.82 C0.53
------	----------------------	----------------------

4725	829 8.01 C0.28	839 8.20 C0.19
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Roberts  
Korer  
Moore  
Morales  
7-28-55  
WO #32296

Curb Grades Wawona Street

Capistrano to corner  
2732D

0+50.25 EC Lt

86.43  
86.10  
F0.33

1+54.16

94.20  
94.17  
C0.03

96.78  
95.17  
C1.61

#2 Rt

90.78  
87.75  
C3.03

1+34.16

93.88  
93.86  
C0.02

97.14  
94.86  
C2.28

#1 Rt

94.11  
87.13  
C6.98

1+14.16

93.10  
92.74  
F0.36

95.63  
94.10  
C1.53

PRC  
0+28.03 Left

85.44  
84.51  
C0.93

0+94.16

91.58  
91.13  
F0.45

95.11  
92.58  
C2.53

Exist cb  
0+09.03 Left

FB 279858  
83.50  
84.01  
8399

0+74.16 P/C

89.48  
89.20  
F0.28

92.82  
90.48  
C2.34

#0 Exist cb  
Rt (at 34.16)

City Forces  
Exist  
87.00  
86.96  
F0.04  
85.95

0+60.08 Rt  
cb EC

89.61  
88.75  
C0.86

one  
0+00 at 90° to N.E. Prop Corner Wawona & Capistrano

88.53

87.40  
87.38  
F0.02

3+00	9093 90.86 C 0.07	9223 91.86 C 0.37	4+50	88.12 87.52 F 0.60	89.12 88.94 F 0.18
------	-------------------------	-------------------------	------	--------------------------	--------------------------

2+75	91.55 91.30 F 0.25	9282 92.55 C 0.27	4+14.16 EVC	88.44 88.03 F 0.41	89.46 89.44 C 0.02
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2+50	92.24 92.04 F 0.20	9334 93.24 C 0.10	3+94.16	88.67 88.44 F 0.23	89.84 89.67 C 0.17
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2+25	92.93 92.71 F 0.22	9422 93.93 C 0.29	3+74.16	89.03 88.99 C 0.04	90.19 89.99 C 0.20
------	--------------------------	-------------------------	---------	--------------------------	--------------------------

1+94.16 EVC	93.78 93.65 F 0.13	9527 94.78 C 0.49	3+54.16	89.93 89.40 C 0.53	90.75 90.40 C 0.35
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1+74.16	94.10 94.00 F 0.10	96.10 95.84 F 0.26	3+34.16 PC	90.17 89.91 C 0.26	91.29 90.91 C 0.38
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#3 Exstcb

→ 88.10  
✓

#2

88.56  
88.13  
C 0.43

6+04.16

86.74  
86.00  
C 0.74

#1

88.25  
87.93  
F 0.32

5794.16

86.90  
86.33  
C 0.575735.10<sup>cb R</sup>  
Rt88.35  
87.32  
F 1.03

5784.16

86.64  
86.57  
F 0.075725<sup>4</sup>  
only87.44  
87.23  
F 0.21

5774.16

86.88  
86.31  
F 0.575715<sup>W/M</sup>  
R87.95  
88.67  
F 0.72

5764.16

87.06  
86.47  
F 0.59

5700

87.67  
87.43  
F 0.24

4775

87.90  
87.38  
F 0.52

5754.16 PVC

87.18  
86.66  
F 0.524760<sup>W/M</sup>  
R

6+77.76

82.95

1777

~~Exist d = 85.23~~

6+51.41

85.12

1777

~~6+45~~  
with  
it

8573

8530

C 0.43

6+44.16

1777

8575

8535

C 0.40

6+34.16

1777

8617

85.46

C 0.71

6+24.16

1777

8650

85.69

C 0.81

6+14.16

1777

Roberts  
7-29-55  
No. # 32392

Curb Grades Scott Street  
Talbot to Cañon  
11852L

73

0+50	10.59 10.55 C 0.04	10.02 9.78 F 0.24	2+05 @ BBC 2+00	11.12 11.00 C 0.12	10.58 10.52 C 0.06
0+25	10.47 10.47 GRADE	9.95 9.61 F 0.34	1+75	11.08 10.92 C 0.16	10.40 10.39 F 0.01
0+00 Lt EC 0+10 Rt	10.40 10.38 F 0.02	9.90 8.45 F 0.45	1+50	10.88 10.85 C 0.03	10.32 10.27 F 0.05
#3	10.45 10.37 F 0.08	9.85 8.26 F 1.59	1+25	10.77 10.75 F 0.02	10.28 10.25 C 0.03
#2	11.90 10.50 C 1.40	9.55 7.82 F 1.73	1+00	10.70 10.49 F 0.21	10.21 10.17 C 0.04
#1 Exit on Left	10.61 10.50	9.20 7.78 F 1.42	0+75	10.62 10.46 F 0.16	10.14 10.10 C 0.04

0+01Lt  
 EC 0-05Rt  
 → 11.50  
 11.27  
 F0.23

11.10  
 10.98 ←  
 C0.12

#2  
 11.53  
 11.24  
 F0.29

11.13  
 10.95  
 C0.18

11.74  
 11.50  
 C0.24  
 1+50

////

#1  
 11.60  
 11.31  
 F0.29

11.26  
 10.85  
 C0.41

11.92  
 11.75  
 C0.17  
 1+25

////

on upshor  
 BC Exits Lt  
 11.68  
 11.68

11.23  
 10.82  
 C0.41

12.05  
 12.00  
 C0.05  
 Exit court  
 1+00 BRK

11.50  
 11.41

on upshor  
 EC Exits Lt  
 11.47  
 11.17

11.86  
 10.32  
 C0.84

12.17  
 11.87  
 C0.30  
 0+75

11.38  
 11.29  
 F0.09

#2  
 11.54  
 11.10  
 C0.44

10.71  
 10.45  
 C0.26

11.86  
 11.75  
 C0.11  
 0+50

11.30  
 11.26  
 C0.04

#1  
 11.14  
 11.03  
 C0.11

10.69  
 10.55  
 C0.14

11.77  
 11.62  
 C0.15  
 0+25

11.27  
 11.14  
 C0.13

Exist  
2400 Lt

11.00

11.16

1117

1475

1128

11.23

00.03

1177

Roberts Curb Grades - Shafter & Upshur  
 7-29-55 Cañon to Scott  
 WD. #32392 118502 & 11851K

				375	400
			#5	370	400
1705	298 2.70 C0.28	292 2.64 C0.28		C0.05	GRADE
				368	
			#4	3.62	3.55
0780	263 2.57 C0.06	260 2.53 C0.07		C0.06	344 F0.11
				342	
			#3	3.40	3.21
0755	255 2.45 C0.10	255 2.42 C0.13		C0.02	309 F0.12
				345	305
			#2	3.25	2.96
0730	232 220 F0.12	248 2.31 C0.17		C0.20	C0.09
				318	291
			#1	3.05	2.82
0705 cb EC	220 172 F0.58	222 2.20 C0.02		C0.13	C0.09
				285	301
			173414 cb BC	2.85	2.78
#1 Nly Line 0700 Cañon	2.17 173 F0.44	2.19 204 F0.15		GRADE	C0.23

3+75	704 6.88 C0.16	709 6.97 C0.12	5+2690 <sup>cb</sup> Scott	10.32 ✓	10.82 ✓
3+50	643 6.31 C0.12	635 6.35 GRADE	5+00	988 9.70 C0.18	1030 10.05 C0.25
3+25	599 5.75 C0.24	592 5.73 C0.19	4+75	937 7.14 C0.23	957 7.44 C0.13
2+91.84 <sup>cb</sup> EC	542 5.00 C0.42	4.91 4.89 F0.02	4+50	864 8.57 C0.07	900 8.82 C0.18
#7	442 4.36 C0.06	11777	4+25	804 8.01 C0.03	832 8.20 C0.12
#6	401 3.95 C0.06	1711	4+00	760 7.44 C0.16	765 7.58 C0.07

Roberts  
Rorer  
Moore  
Morales  
PO-5-85  
W.O.#62435

Grade Stakes Sewer Guy St.  
Crowell N.Wly  
5751-B

78

1+25

19522  
187.88  
C 7.34

1+00

19498  
187.76  
C 7.28

0+75

19511  
187.53  
C 7.58

0+50

19550  
187.35  
C 8.15

0+25

19617  
187.18  
C 8.99

Exist MH  
0+00 Crowell

187.00  
9.00 ✓

196.02

1+52 DE.

19182  
187.06  
C 4.76



Roberts

INDEXED

10-12-55

OCT 30 1956

Grades For Looking, Linwood  
Pringle to Mission Hills Blvd  
Profile 2350

stakes on Prop. Line

79

~~1+05~~

~~163.61~~

~~164.61~~

END PROFILE GRADE

154.0

157.4

2+65

147.3

155.0

F 6.7

C 2.4

0+80 EVC

164.7

165.9

2+20

157.8

164.2

161.9

165.7

155.8

158.8

F 2.8

C 0.2

F 2.0

C 5.4

0+60

165.3

168.0

2+00

159.7

165.2

162.8

166.3

159.3

160.3

F 2.5

C 1.7

C 0.4

C 4.9

0+40

(2' inside) 165.5

167.3

1+80

160.4

165.5

163.2

166.6

159.9

161.4

F 2.3

C 0.7

F 0.5

C 4.1

0+20

(2' inside) 165.4

167.3

~~1+55~~

~~161.47~~

~~162.47~~

163.8

166.75

162.54

166.3

F 1.6

C 0.5

159.4

163.54

Pringle  
0+00

163.19 Actual

167.09 Actual

1+30

F 3.1

C 2.8

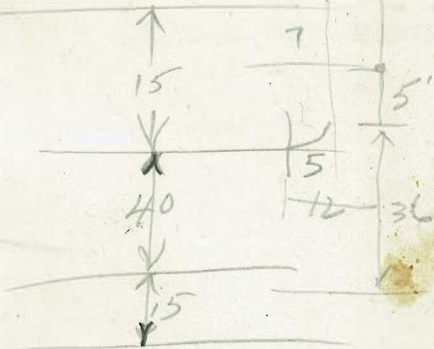
164.8

166.9

164.32 BM Sta Pq 56

570

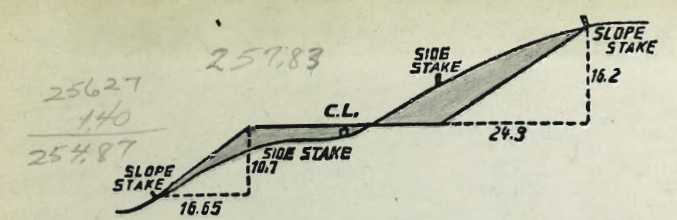
8210  
5  
7710



285  
325  
610  
315

8100  
3  
7800

11,17  
 8883  
 Rec - 206.89 SW  
 Rancho 223.10 SE  
 227.05 SW  
 741.49 SW  
 87.00  
 85.86  
 7.14  
 349.04  
 77.10  
 58  
 71.3  
 206.82  
 67  
 207.49  
 85.86  
 67  
 168.4  
 60.2  
 675  
 2208  
 301.4  
 211  
 1987  
 131  
 231.38  
 675  
 227.63  
 86.17  
 85.80  
 204  
 394  
 622



**DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.**  
 SLOPE 1 1/2 TO 1. ROADWAY OF ANY WIDTH.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0.00	0.15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1.65	1.80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3.45	3.60	3.75	3.90	4.05	4.20	4.35	2
3	4.50	4.65	4.80	4.95	5.10	5.25	5.40	5.55	5.70	5.85	3
4	6.00	6.15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7.50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9.00	9.15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10.65	10.80	10.95	11.10	11.25	11.40	11.55	11.70	11.85	7
8	12.00	12.15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13.50	13.65	13.80	13.95	14.10	14.25	14.40	14.55	14.70	14.85	9
10	15.00	15.15	15.30	15.45	15.60	15.75	15.90	16.05	16.20	16.35	10
11	16.50	16.65	16.80	16.95	17.10	17.25	17.40	17.55	17.70	17.85	11
12	18.00	18.15	18.30	18.45	18.60	18.75	18.90	19.05	19.20	19.35	12
13	19.50	19.65	19.80	19.95	20.10	20.25	20.40	20.55	20.70	20.85	13
14	21.00	21.15	21.30	21.45	21.60	21.75	21.90	22.05	22.20	22.35	14
15	22.50	22.65	22.80	22.95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24.15	24.30	24.45	24.60	24.75	24.90	25.05	25.20	25.35	16
17	25.50	25.65	25.80	25.95	26.10	26.25	26.40	26.55	26.70	26.85	17
18	27.00	27.15	27.30	27.45	27.60	27.75	27.90	28.05	28.20	28.35	18
19	28.50	28.65	28.80	28.95	29.10	29.25	29.40	29.55	29.70	29.85	19
20	30.00	30.15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31.50	31.65	31.80	31.95	32.10	32.25	32.40	32.55	32.70	32.85	21
22	33.00	33.15	33.30	33.45	33.60	33.75	33.90	34.05	34.20	34.35	22
23	34.50	34.65	34.80	34.95	35.10	35.25	35.40	35.55	35.70	35.85	23
24	36.00	36.15	36.30	36.45	36.60	36.75	36.90	37.05	37.20	37.35	24
25	37.50	37.65	37.80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39.00	39.15	39.30	39.45	39.60	39.75	39.90	40.05	40.20	40.35	26
27	40.50	40.65	40.80	40.95	41.10	41.25	41.40	41.55	41.70	41.85	27
28	42.00	42.15	42.30	42.45	42.60	42.75	42.90	43.05	43.20	43.35	28
29	43.50	43.65	43.80	43.95	44.10	44.25	44.40	44.55	44.70	44.85	29
30	45.00	45.15	45.30	45.45	45.60	45.75	45.90	46.05	46.20	46.35	30
31	46.50	46.65	46.80	46.95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48.45	48.60	48.75	48.90	49.05	49.20	49.35	32
33	49.50	49.65	49.80	49.95	50.10	50.25	50.40	50.55	50.70	50.85	33
34	51.00	51.15	51.30	51.45	51.60	51.75	51.90	52.05	52.20	52.35	34
35	52.50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54.00	54.15	54.30	54.45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55.50	55.65	55.80	55.95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57.00	57.15	57.30	57.45	57.60	57.75	57.90	58.05	58.20	58.35	38
39	58.50	58.65	58.80	58.95	59.10	59.25	59.40	59.55	59.70	59.85	39
40	60.00	60.15	60.30	60.45	60.60	60.75	60.90	61.05	61.20	61.35	40
41	61.50	61.65	61.80	61.95	62.10	62.25	62.40	62.55	62.70	62.85	41
42	63.00	63.15	63.30	63.45	63.60	63.75	63.90	64.05	64.20	64.35	42
43	64.50	64.65	64.80	64.95	65.10	65.25	65.40	65.55	65.70	65.85	43
44	66.00	66.15	66.30	66.45	66.60	66.75	66.90	67.05	67.20	67.35	44
45	67.50	67.65	67.80	67.95	68.10	68.25	68.40	68.55	68.70	68.85	45
46	69.00	69.15	69.30	69.45	69.60	69.75	69.90	70.05	70.20	70.35	46
47	70.50	70.65	70.80	70.95	71.10	71.25	71.40	71.55	71.70	71.85	47
48	72.00	72.15	72.30	72.45	72.60	72.75	72.90	73.05	73.20	73.35	48
49	73.50	73.65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50