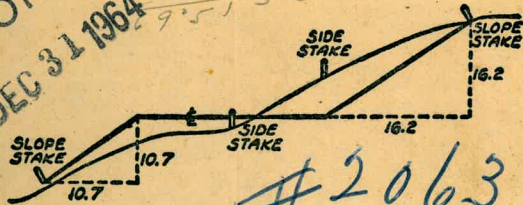


TRANSIT BOOK



MICROFILMED  
DEC 31 1964



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.

W  
159 165 Walkers 500' ch.  
No. feet - #s Pull - correction  
100 - 24 - 0  
150 - 25 - 0  
200 - 30# - 0  
250 - " - 4.02  
300 - " - 4.07  
350 - " - 4.12  
400 - " - 4.20  
450 - " - 4.30  
500 - " - 4.43







TABLE II — Continued  
TRIGONOMETRIC FORMULÆ (continued)

in any triangle:

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

Use Law of Lines.

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

Use Law of Lines.

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

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

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

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

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

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

Area of a triangle:

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

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

PRISMOIDAL FORMULA.

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

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

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

	0	1	2	3	4	5	6	7	8	9	10'	11	
1/16	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219	1/16
1/8	.0104	.0938	.1771	.2604	.3438	.4271	.5104	.5938	.6771	.7604	.8438	.9271	1/8
3/16	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323	3/16
1/4	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375	1/4
5/16	.0260	.1094	.1927	.2760	.3594	.4427	.5260	.6094	.6927	.7760	.8594	.9427	5/16
3/8	.0313	.1146	.1979	.2813	.3646	.4479	.5313	.6146	.6979	.7813	.8646	.9479	3/8
7/16	.0365	.1198	.2031	.2865	.3698	.4531	.5365	.6198	.7031	.7865	.8698	.9531	7/16
1/2	.0417	.1250	.2083	.2917	.3750	.4583	.5417	.6250	.7083	.7917	.8750	.9583	1/2
9/16	.0469	.1302	.2135	.2969	.3803	.4635	.5469	.6302	.7135	.7969	.8802	.9635	9/16
5/8	.0521	.1354	.2188	.3021	.3854	.4688	.5521	.6354	.7188	.8021	.8854	.9688	5/8
11/16	.0573	.1406	.2240	.3073	.3906	.4740	.5573	.6406	.7240	.8073	.8906	.9740	11/16
3/4	.0625	.1458	.2292	.3125	.3958	.4792	.5625	.6458	.7292	.8125	.8958	.9792	3/4
13/16	.0677	.1510	.2344	.3177	.4010	.4844	.5677	.6510	.7344	.8177	.9010	.9844	13/16
7/8	.0729	.1563	.2396	.3229	.4063	.4896	.5729	.6563	.7396	.8229	.9063	.9896	7/8
15/16	.0781	.1615	.2448	.3281	.4115	.4948	.5781	.6615	.7448	.8281	.9115	.9948	15/16
1	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167	1.000	1
	0	1	2	3	4	5	6	7	8	9	10	11	

TABLE IV — RADII, ORDINATES AND DEFLECTIONS

Deg.	Radius	Mid. Ord.	Tan. Offset	Def. for 1 Foot	Deg.	Radius	Mid. Ord.	Tan. Offset	Def. for 1 Foot
0° 10'	34377.5	.036	.145	0.05'	7°	819.02	1.528	6.105	2.10'
20	17188.8	.073	.291	0.10	20'	781.84	1.600	6.395	2.20
30	11459.2	.109	.433	0.15	30	764.49	1.637	6.540	2.25
40	8594.42	.145	.582	0.20	40	747.89	1.673	6.685	2.30
50	6875.55	.182	.727	0.25					
1	5729.65	.218	.873	0.30	8	716.78	1.746	6.976	2.40
10	4911.15	.255	1.018	0.35	20	688.16	1.819	7.266	2.50
20	4297.28	.291	1.164	0.40	30	674.69	1.855	7.411	2.55
30	3819.83	.327	1.309	0.45	40	661.74	1.892	7.556	2.60
40	3437.87	.364	1.454	0.50					
50	3125.36	.400	1.600	0.55	9	637.28	1.965	7.846	2.70
					20	614.56	2.037	8.136	2.80
2	2864.93	.436	1.745	0.60	30	603.80	2.074	8.281	2.85
10	2644.58	.473	1.891	0.65	40	593.42	2.110	8.426	2.90
20	2455.70	.509	2.036	0.70					
30	2292.01	.545	2.181	0.75	10	573.69	2.183	8.716	3.00
40	2148.79	.582	2.327	0.80	30	546.44	2.292	9.150	3.15
50	2022.41	.618	2.472	0.85	40	521.67	2.402	9.585	3.30
					50	499.06	2.511	10.02	3.45
3	1910.08	.655	2.618	0.90	11	478.34	2.620	10.45	3.60
10	1709.57	.691	2.763	0.95	30	459.28	2.730	10.89	3.75
20	1719.12	.727	2.908	1.00	12	441.68	2.839	11.32	3.90
30	1637.28	.764	3.054	1.05	13	425.40	2.949	11.75	4.05
40	1562.88	.800	3.199	1.10	14	410.28	3.058	12.18	4.20
50	1494.95	.836	3.345	1.15	30	396.20	3.168	12.62	4.35
4	1432.69	.873	3.490	1.20	15	383.07	3.277	13.05	4.50
10	1375.40	.909	3.635	1.25	30	370.78	3.387	13.49	4.65
20	1322.53	.945	3.718	1.30	16	359.27	3.496	13.92	4.80
30	1273.57	.982	3.926	1.35	30	348.45	3.606	14.35	4.95
40	1228.11	1.018	4.071	1.40	17	338.27	3.716	14.78	5.10
50	1185.78	1.055	4.217	1.45	18	319.62	3.935	15.64	5.40
					19	302.94	4.155	16.51	5.70
5	1146.28	1.091	4.362	1.50	20	287.94	4.374	17.37	6.00
10	1109.33	1.127	4.507	1.55	21	274.37	4.594	18.22	6.30
20	1074.68	1.164	4.653	1.60	22	262.04	4.814	19.08	6.60
30	1042.14	1.200	4.798	1.65	23	250.79	5.035	19.94	6.90
40	1011.51	1.237	4.943	1.70	24	240.49	5.255	20.79	7.20
50	982.64	1.273	5.088	1.75					
					25	231.01	5.476	21.64	7.50
6	955.37	1.309	5.234	1.80	26	222.27	5.697	22.50	7.80
10	929.57	1.346	5.379	1.85	27	214.18	5.918	23.35	8.10
20	905.13	1.382	5.524	1.90	28	206.68	6.139	24.19	8.40
30	881.95	1.418	5.669	1.95	29	199.70	6.360	25.04	8.70
40	859.92	1.455	5.814	2.00	30	193.18	6.583	25.88	9.00

Note. Chord Deflection = 2 times tangent deflection.







TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

These corrections are to be added to the approximate values, found by dividing the tangent, or external, for a 1° curve (Table VIII) by the degree of curve, in order to obtain the true tangents, or externals. Intermediate values may be obtained by interpolation.

FOR TANGENTS ADD

Central Angle	DEGREE OF CURVE															
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°		
10°	.03	.06	.09	.13	.16	.19	.22	.25	.28	.31	.34	.38	.42	.46		
15°	.04	.10	.14	.19	.24	.29	.34	.39	.45	.51	.53	.58	.63	.68		
20°	.06	.13	.19	.26	.32	.39	.45	.51	.58	.65	.72	.79	.84	.90		
25°	.08	.16	.24	.33	.40	.49	.58	.67	.75	.83	.90	.99	1.06	1.14		
30°	.10	.19	.29	.39	.49	.59	.69	.79	.89	.99	1.09	1.20	1.29	1.39		
35°	.11	.22	.34	.47	.58	.69	.79	.81	.92	1.04	1.29	1.42	1.54	1.66		
40°	.13	.26	.40	.53	.67	.80	.93	1.06	1.20	1.34	1.49	1.64	1.79	1.94		
45°	.15	.30	.44	.60	.76	.91	1.06	1.21	1.37	1.52	1.70	1.87	2.04	2.21		
50°	.17	.34	.51	.68	.85	1.02	1.19	1.36	1.54	1.72	1.91	2.10	2.29	2.48		
55°	.19	.38	.57	.76	.95	1.14	1.32	1.52	1.72	1.92	2.14	2.35	2.56	2.77		
60°	.21	.42	.63	.84	1.05	1.27	1.49	1.71	1.94	2.17	2.38	2.60	2.83	3.07		
65°	.23	.46	.69	.93	1.16	1.40	1.64	1.88	2.13	2.38	2.63	2.88	3.13	3.39		
70°	.25	.51	.76	1.02	1.28	1.54	1.80	2.06	2.33	2.60	2.88	3.16	3.44	3.72		
75°	.27	.56	.83	1.12	1.40	1.69	1.98	2.27	2.57	2.87	3.16	3.47	3.78	4.09		
80°	.30	.61	.91	1.22	1.53	1.84	2.15	2.46	2.78	3.10	3.44	3.78	4.12	4.46		
85°	.33	.66	1.00	1.33	1.68	2.02	2.36	2.70	3.05	3.40	3.77	4.14	4.55	4.89		
90°	.36	.72	1.09	1.45	1.83	2.20	2.57	2.94	3.32	3.70	4.10	4.50	4.91	5.32		
95°	.39	.79	1.19	1.55	2.00	2.40	2.80	3.20	3.61	4.02	4.40	4.98	5.38	5.83		
100°	.43	.86	1.30	1.74	2.18	2.62	3.06	3.50	3.95	4.40	4.88	5.37	5.85	6.34		
110°	.51	1.03	1.56	2.08	2.61	3.14	3.67	4.21	4.76	5.31	5.86	6.43	7.01	7.60		
120°	.62	1.25	1.93	2.52	3.16	3.81	4.45	5.11	5.77	6.44	7.12	7.80	8.50	9.22		

FOR EXTERNALS ADD

Central Angle	DEGREE OF CURVE															
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°		
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020		
15°	.003	.007	.010	.014	.018	.023	.027	.032	.035	.039	.043	.047	.051			
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083		
25°	.009	.018	.027	.036	.046	.056	.065	.074	.083	.093	.106	.120	.127	.135		
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188		
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264		
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341		
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445		
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550		
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700		
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851		
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.711	.845	.922	1.01		
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17		
75°	.095	.182	.266	.353	.440	.528	.618	.707	.797	.877	1.07	1.18	1.29	1.39		
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62		
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.78	1.91		
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20		
95°	.174	.350	.522	.706	.885	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58		
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96		
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96		
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32		

9°  
5.32

.1564  
2.341  
6.256  
4.692  
5.3176



12

$\frac{12}{12}$

$\frac{12}{12}$

18

9974

110

9974

997

109.71

$\frac{.72}{8}$   
 $\frac{5.76}{8}$

$\frac{.12}{.06}$   
 $\frac{.72}{8}$   
 $\frac{.72 \times .8}{8}$

71257

34.35

359.285

215571

71857

21857

295524

223.7267695



Pole Plum - Fenelon to Garrison

~~SEBP~~ Plum + Fenelon 92.64

X Sect 9th - Johnson ave - North -

N.W. BP. Johnson + 10<sup>th</sup> 282.44 ~~149004~~

<del>190.00</del>	1.90	4.10	5480.80
	<u>07</u>	1.69	1790.04
	1.83	2.41	390.76
	<u>10</u>		
	1.73	1.69	3.15
	<u>07</u>	<u>22</u>	5
	1.66	1.91	3.30 ✓
	<u>07</u>	15	16
	1.59	2.06 ✓	3.46 ✓
	<u>07</u>	16	15
	1.52	2.22 ✓	3.61 ✓
	<u>07</u>	15	16
	1.45	2.37 ✓	3.87 X
	<u>06</u>	1.6	15
	1.39	2.53 ✓	4.02
		15	
		2.62 ✓	
		16	
		2.84 ✓	
		15	
		2.99 ✓	
		16	
		3.15 ✓	

520 272.86

Nail on Pole of 95	4.97	278.16	4.08	273.19
SOUTH 7' 1/2 FT	4.71	277.27	9.71	272.96

023 282.67 282.44

SEBP - Plum + Fenelon 12<sup>04</sup> 104<sup>68</sup> 92.64

NWBP Johnson + 10<sup>th</sup> 282.44



Sub-division check

War Memorial

57° 44      26  
 89      36  
 45 26 +  
 55  
 100 26

89  
 36

22 54 30  
 56

297.92 - 2x2 on base line  
~~301.23~~ 301.23 - BM on Flag Pole base

98 24  
 9 ) 196 48  
 35 34 30  
 171 09  
 163 21  
 81 40 30  
 1 00

295.39  
 97.74  
 298.21      95'

101.02  
 298 40  
 19  
 26

027  
 189

97.56      89 58 35  
 97  
 2 ) 195 52  
 112  
 56

44 83  
 97'  
 97'

S 0° 22' E  
 N 89 35 E  
 57

89 40  
 89 40 30  
 179 21

89.38 40  
 89 34.95  
 94 02 30  
 180 04

95.8



18.1  
4.3  
13.8

55.90  
0.45  
55.45  
11.94

47.78 - BM Webster Francis N. L. E.

35<sup>th</sup> Ocean View  
SE Hyd

4602 6838  
12.87  
58.89

Franklin & Pardee

13' Mon 5889 72.60

7584 1090

716 70.68  
68.68 2.43

7068 68.25 4608 4608  
1.25 12.87 5.26  
58.95 51.14 51.08  
12.87 47.99

4602 69.50 4608 4608  
506 12.84 480 12.62 3.09  
5109 56.66 989 63.72 9.92 53.83

13' Mon Francis Franklin 2  
56.87 4.97 63.25 7.21 58.78  
1085 739 65.99 0.35 58.60  
4602 58.95 46.08

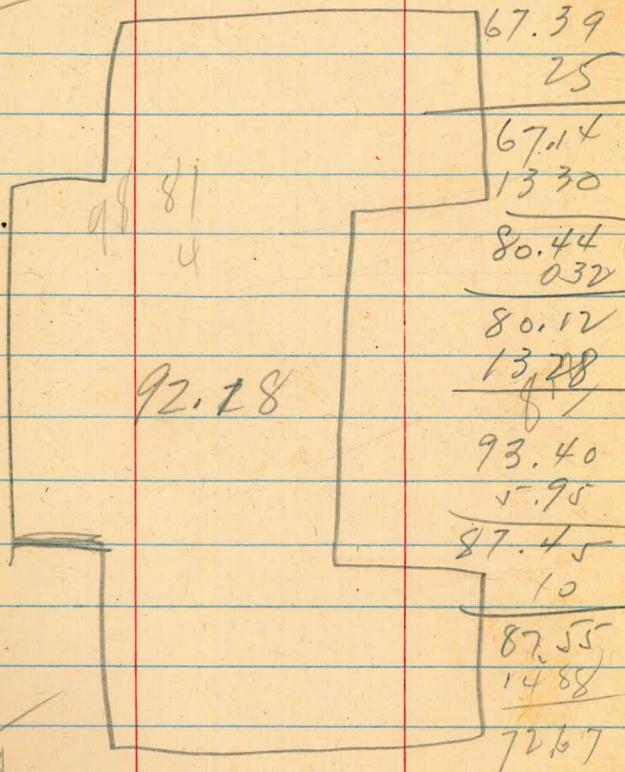
Francis O.V. N.E. 7 C.T. 12.87 5889 5.06 4602  
406 5109

0.21 56.87 10.85 46.02  
1.25 69.50 12.84 56.66

SE Hyd 35<sup>th</sup> O.V. 225 69.50 68.25  
2.00 70.68 7.16 68.68

3.24 75.84 72.60

12.05  
2.83  
14.88



3.14  
32  
6.28  
9.42  
100.48



90° 01' 15"

1326  
218

"  
1108

523

Sunset Cliffs Monaco

11.08

825

370<sup>v</sup>

S.E.P.

5562

311

4608

14.19

3008

5485

34

6393

94.8

180 02 35

10

5568

90 01 30

74.08

4738

9333

174

90 01 15

248.08

5316

5426

24-42-30

650  $\overline{) 1.300}$   
1300

49 25 0

74.07 30

50  $\overline{) 1.000}$   
1000

98 49 30

62

49

13



45836

$$\begin{array}{r}
 4.5836 \\
 375 \overline{) 1718.8734} \\
 \underline{1500} \\
 2188 \\
 \underline{1875} \\
 3137 \\
 \underline{3000} \\
 1373 \\
 \underline{1125} \\
 2484
 \end{array}$$

6.2  
 4.9  
 1.3  
 ↓ fall per 50

3.62

$$\begin{array}{r}
 172 \\
 89 \\
 \hline
 83
 \end{array}$$

6.48

$$\begin{array}{r}
 171 \\
 122 \\
 \hline
 49
 \end{array}$$

$$\begin{array}{r}
 397 \\
 120 \\
 \hline
 277
 \end{array}$$

$$\begin{array}{r}
 162 \\
 095 \\
 \hline
 f67
 \end{array}$$

8 27  
 29874

235.49

582

$$\begin{array}{r}
 4,5836 \\
 6242 \\
 \hline
 91672
 \end{array}$$

183344

91672

275016

$$\begin{array}{r}
 286108312 \\
 240 \\
 \hline
 106
 \end{array}$$

46

1° 07' 12"

11° 12'

$$\begin{array}{r}
 114 \\
 497 \\
 \hline
 611
 \end{array}$$

$$\begin{array}{r}
 6.11 \\
 293 \\
 \hline
 3.18
 \end{array}$$

543

8.61

① 1° 07' 12"

② 2-14-24

③ 3-21-36

④ 4-28-48

⑤ 5-36

⑥ 6-42-12

⑦ 7-49-24

⑧ 8-56-36

⑨ 10-03-48

⑩ 11-12

1° 5' 20"

40

-5.88

0.0135

-5.8935

0.0135

-5.9070

0.0135

-5.9205

0.0227

-5.9332

0.0162

5.9494

0.0162

5.9656

0.0162

5.9818

0.0162

5.9980

0.0162

6.0142

0.0192

6.0334

0.0152

6.0486

0.0152

6.0638

0.0152

6.0790

0.0152

6.0942

0.0152

6.1094

0.0152

6.1246

0.0152

6.1398

0.0152

6.1450

0.0152

6.1602

0.0152

6.1754



Florida & Howard

(290.59)  
290.29

290.59  
12.74  
303.33  
0.46

290.59  
12.74  
303.33  
0.46  
302.87

303.33  
65  
302.68  
303.33  
79  
302.54  
4 out

298.94  
304.82

15.62  
15.91  
15.62

15.62  
15.91  
15.62  
126.58  
15.62  
298.342

926  
8.16  
7.06  
4-08  
3.33  
706

10 39 16  
7) 74 34 43  
240  
274 103  
21  
64

10 39 16  
21 18 32  
31 57 48  
42 37 04  
53 16 20  
63 55 36  
74 34 52  
9 26  
65 08

15.62  
18.16  
9372  
1562  
12496  
1562  
2836592

1366  
225  
1591

1366  
1562  
2732  
8196  
6830  
1366  
213.3692  
1803  
334  
5  
6

4  
60) 283.68  
240  
43  
4-43  
9026



970

100

6-20

6 20 30

4  $\overline{) 25.22}$  120  
24 82

2 49

976

97.60

5 38

953

74

8 27

2.3

96.86

50

9-19

275  
18

1.02

96.36

8-16

112  $\overline{) 2.30}$

50

95.86

25

50

117  $\overline{) 200.50}$  900  
117 830

84  
18  
672  
84  
1512

92.79

93.15



Thomas & Mission Blvd NEBP 3.04  
 0.07  
 5.02  
 6.12

45° 22-24

301'46"  
 0 31  
 40320

85-54  
 80-25-54  
 77-16  
 72-39

1-49-30  
 0-58-45

279

Howard & Illinois

328

SEBP 361.01

Howard & Ohio SEBP 364.47

18  
 95  
 27.5  
 13.8  
 41.3  
 359.96

18  
 25.7  
 44

82

94.41  
 7.654  
 17.87

17.9  
 28.9  
 14.5

17.9  
 12.1  
 29.0  
 14  
 30  
 45

27.7

13.9

20108

7.33

51.33

68.37

65.65

94.5  
 26.54  
 78.0

23.4  
 13.7  
 36.1

26  
 23.7  
 35

17.9  
 11.07

29.6

14.8

44.4

17.9

9.5

27.4

13.7

41.1

77 18.



16379  
108

127

NW 7' L&T

155.01

193.37

184.58

Cabrillo of Pearl

163.24

RT

LT

162.71

163.77

164.45

165.78

166.30

168.75

168.00

169.28

P.L. 2" Pipe  
on t

P.L. 169.49

171.50

185.45

12.83

172.62

0.68

173.30

11.22

162.08

4.27

157.81

184.58

11.27

185.45

12.83

173.02

0.68

173.70

11.22

162.48

4.27

154.95

1.22

163.22

8.27

0.68

173.70

11.70

1.27

185.85

-12.83

T

T

Pearl

NW 7' L&T

154.95

162.00

173.02

184.58

BM 2" PL Pipe

169.28



Slipstakes San Diego  
River Bridge

334.58

335.12

341.59

340.11

371.85

6.16

378.01

8.62

386.63

3.91

+ 2.78

- 1.13



119.28  
.652  
175.807  
559  
170.21

126.03 SE 7' L + Chalcedony + Walnut

119.93 F.P.

Redwood St. 32<sup>nd</sup> to Herman

295.21 NE 7' L + Herman  
3.83  
299.047

295.21  
9.50  
299.717  
12.79  
287.47  
2.83  
290.307  
12.97  
277.83

170.25

X Section Montezuma

454.38 S.W. top of Fire Hyd. Linda Pasco + Campanille  
1.72  
456.107  
5.65  
450.45 2" Pipe of Montezuma + Campanille  
8.13  
458.587  
3.08  
455.50  
9.75  
460.257  
9.31  
450.94 2" Pipe of Montezuma 55<sup>th</sup> St.

456.10  
5.38  
450.72 0+40 Ch. of Campanille  
456.10  
5.65  
450.45 5' L + 0+80 E.C. of Carbon East Side

~~CATALINA~~

260.68 B.P. Catalina + Santa Barbara  
~~PARK BLVD.~~

240.50 S.W. B.P. Park + Gate #1 Hospital (Nasal)

295.21



Redwood St. (Bridge)

N.E. BR.  
 Hornum x  
 Redwood  
 195.21  
6.34  
 295.55 X  
 13.00  
 282.55 Nail in Pole  
0.44  
 282.99 X  
 10.91  
 272.08 Rim of M.H.  
0.39  
 272.47 X  
11.99  
 260.48  
2.59  
 263.07 X

Redwood St.

272.08 Rim of M.H.  
0.69  
 272.77

Redwood St.

~~272.08 Rim of M.H.~~  
~~2.40~~  
~~269.68~~

272.08 Rim of M.H.  
2.46  
 274.48

282.55 Nail in Pole  
10.47  
 293.02

88039

84.82

1761.78  
 704.312  
 352356  
704.712  
 74.7170898

628.5

1.35

593.5

528

36

88.8

99.38

82.8

1058

10263

.63

30789

6157.8

64.6569

64.66

55

84555



Start 4 St. Pennsylvania to Univ.

283.87 N.W. BP. 6<sup>th</sup> + Univ.  
284.10

251.50 N.W. BP. Myrtle + Alabama

236.00 S.W. BP. Cypress + Florida

0.89  
236.89  $\pi$   
12.75

224.14  
1.01

225.15  $\pi$   
13.15

212.00  
0.57

212.57  $\pi$   
13.63 NE.

198.94 7 Lxt. Myrtle + Florida

11.68

~~211.32~~  $\pi$

210.62  
1.08

209.54  
8.95

218.49

209.24 Lxt & Merle in 3'S. of S.L. of  
Kenwood

La Jolla Cliffs (Sub)

389.55 <sup>15</sup> 65

0.73  
390.28  $\pi$

12.81  
377.47

1.27

378.24  $\pi$

5.76

373.08 Concrete

1.769

380.77  $\pi$   
7.92

392.85 on

380.77

1.87

378.90

5.67

384.57  $\pi$

4.05

380.52 Lxt. L.S. 2236

380.74

5.76

374.98

373.08

380.77

8.92

371.85

S.W. car  
on hub



Midway Drive  
BM = NW headwall

EL = 3100      401

F = 0.13

~~39.53~~

39.53 Garnett Everts

13.4	13.4
9.8	9.8
<u>3.6</u>	<u>3.6</u>
13.4	12.6

4/89°2  
22°29-

13.4	13.4
13.8	9.4
<u>13.4</u>	<u>4.0</u>

5.7	13.4
<u>7.7</u>	9.8
13.4	<u>3.6</u>
2.2	
<u>11.2</u>	



La Jolla Cliff Highway 101  
306

stakes for water line  
Redwood + Hermitan

BM = NW 1/4 + T Redwood + Hermitan 295.21

Elev at surface      Grade

0+00    293.6      C-3.3

0+40    293.6

0+80    293.5

1+20    293.6

9.10    358.01    1+60    293.8

1.09    367.11    12.55    366.02

1.45    378.57    13.30    377.12    2+00    294.4

1.05    390.42    12.46    389.47

4.29    (401.83)    12.88    397.54

1.54    (410.52)    7.97    408.88

5.84    (416.85)    -0.41    411.01

13.15    411.42    1.80    398.27

10.42    (400.077)    <sup>BM</sup>    389.65

+

+



Ties Murray Canyon

335.00 @ 1040'

Correction = .10

334.76 horiz dist

334.76

146.15 @ 6°11'

No correct.

145.30 = horiz

145.30

500.43 @ 7°18'

Correct = .43

495.95 = horiz

495.95

30.00 level

30.00

494.28 @ 1°32'

Correct = .43

493.67 horiz

493.67

NT4 LINE PUEBLO #1187

240 @ 1°56'

239.86

500.00 horiz

correct .43

500.00

99943

240

399772

199886

√398632



Trash dump Road  
Murray Canyon

0+00 = & Camp Eliot Road

	Horiz L	vert dist
	L = 48°02' NW	L dist
Δ 1	48°02'	0 2402 202
Δ 2	39°21' RT	3494 192 (119.5)
Δ 3	69°42' LT	5413.5 119 (160.5)
Δ 4	40°05' RT	6474.0 161.5 (160)
Δ 5	51°34' LT	8490 216 (317.5)
Δ 6	25°58' RT	12407.5 318'
Δ 7	17°05' RT	12493.5 86'
Δ 8	35°20' LT	14427.5 134 (365.5)
Δ 9	22°52' RT	17493 367
Δ 10	19°13' LT	20497 304
Δ 11	9°59' LT	24458.5 361.5 (232.5)
Δ 12	31°17' LT	26491 233
Δ 13	27°13' LT	29464 273
Δ 14	21°02' LT	30468 104
Δ 15	26°09' LT	32417.5 149.5
Δ 16	15°18' LT	33414.5 97
Δ 17	37°29' RT	35427.5 213
Δ 18	20°30' LT	38466.5 339
Δ 19	9°51' LT	39454.5 88



Horiz L.

Δ 20	20° 27' RT	41+23.5	169 (101.5)
Δ 21	22° 50' LT	42+25	102
Δ 22	47° 44' RT	43+34	109
Δ 23	78° 10' LT		
Δ 24	39° 09' RT		
	91° 16' RT.		

347 @ 2° 10'

100' @ 10° 00'

Levels for Refusee  
Murphy Road

11.50	474.88	0.47	463.38
12.62	463.85	0.18	451.23
		55	Δ 17 (15+26)
		10.38	441.03
12.21	451.41	0.40	439.20
			Δ 15
13.42	439.60	1.04	(32+16.5) 426.18
11.40	[427.22]	0.05	415.82
13.26	[415.87]	0.41	402.61
		55	Δ 12
		5.55	(26+90) 397.47
10.18	403.02	0.15	392.84
12.92	392.99	0.42	380.07
12.73	380.49	0.27	367.76
		(5.5)	ON Δ 10
		1.75	(20+96) 366.28
12.75	368.03	0.14	355.28
12.42	355.42	0.38	343.00
12.03	343.38	0.24	331.35
8.22	331.59	0.14	323.37
12.36	323.51	0.17	311.15
12.71	311.32	-0.13	298.61
			Δ 2.
7.45	298.74	-9.64	291.29
0.93	300.93	π	300.00

Nail in pit  
& Murray

(assumed)  
Road - EL, 300.00



Stake Sawer Crossover <sup>March 13, 07</sup>  
 Camino del Rio - Proposed Murray  
 Canyon Sawer - No. 20008

Grade = 0.17%

1+54.0

18.66

1+15.5

18.59

0+77.0

18.53

stub end  
of line

0+38.5

18.46

3.84 527.20

6.46 531.04 0.34 524.58

11.74 524.92 0.21 513.18

0+00 = MH #36

18.40

13.35 (513.39) 0.31 500.04

12.96 500.35 0.20 487.39

13.07 (487.59) -0.31 474.57

BM = Hub. First

EL. = 24.70

474.88 ↑

PAT. NORTH

127



L Torrey Pine Road

Let curb slot 5 pence  
Torrey pine rd 85.11

		0.85	89.76
5.50	90.61	5.41	85.11
6.20	90.53	7.24	84.33
5.62	91.57 π	2.53	85.96
3.30	(89.49)	7.78	85.19
2.76	92.97	13.29	90.21
3.15	103.50 π	11.37	100.33
2.77	111.44	7.66	108.67
2.79	116.38	-6.19	113.59
2.99	119.78	12.64	116.79
3.65	129.43	10.90	125.78
0.74	136.68 π	12.60	135.94
0.48	148.54 1	12.19	148.26
8.14	160.45 π		152.31 (B)

LET 30  
COR PUMP  
STAT

Nail in Pole  
9+00 on Lt  
100.33  
Nail in Pole  
9+60 on Lt  
108.67  
BT Torrey  
COR PUMP

Nail in Pole 3+28 6' Lt

S.P. 19 L+T  
Prospect L  
Torrey Rd.



X-SECTION ~ TORREY PINES

96.28 B.P. N.W. COR. VIKINGWAY  
7.11 + TORREY PINES

103.39  $\pi$   
2.56

100.83  
0.12

100.95  $\pi$   
8.44

92.51  
4.64

97.15  $\pi$   
7.02

90.10 B.P. NW 1/4 Sec 54,  
3.13

93.23  $\pi$   
9.94 -

83.29  
5.19 +

88.43  $\pi$   
9.31 -

79.17

Nail in Road

93.23  
0.18 T.P. on Drive  
93.05

79.17 EC

1.96  
81.13  $\pi$   
7.93  
73.20

81.13

5.82  
75.31

75.29 Nail in Pole

75.27 Nail in Pole  
2.35

77.62  $\pi$   
11.74

65.88  
1.29

67.17  $\pi$   
12.63 ~~BP~~

54.49 BP,  
1.73

56.24

4.17

52.07 Fire Plug

2.96  
55.03  $\pi$

4.64

50.39

5.95

56.34  $\pi$   
2.23  
54.11

52.07

3.76

55.83

5.50

50.33



Storm Drain  
47th + Federal

6.91 (155.23) 148.32

4.02 (160.597) 12.27 156.57  
    *& nail*

0.90 136.82 135.92

Nail-intersection E 47th + Storm Drain

1.29 *& Nail sp 47th*

156.57

9.98 157.86 0.80 147.88

~~53~~

*T.P. in bottom*

~~12.76~~

135.92

12.59 0.25 136.09

13.25 136.34 0.18 123.09

11.87 123.27 0.62 111.40

9.62 112.02 102.40

B.M. Chenik X 130 East E L + T



Rough Grades March 2 51  
Chatsworth Blvd. Coronado etc

+ 35<sup>04</sup>

6 + 15<sup>04</sup>

+ 95<sup>04</sup>

+ 75<sup>04</sup>

+ 55<sup>04</sup>

+ 35<sup>04</sup>

5 + 15<sup>04</sup>

+ 78<sup>00</sup>

4 + 43,80.

4 + 0960

+ 75<sup>40</sup>

+ 41<sup>20</sup>

3 + 07<sup>20</sup>

+ 71<sup>25</sup>

2 + 36<sup>27</sup>

1 + 89<sup>02</sup>

1 + 41<sup>81</sup>

0 + 94<sup>54</sup>

0 + 47.27

0 + 00

+ 35<sup>04</sup>

8 + 15<sup>04</sup>

+ 95<sup>04</sup>

+ 75<sup>04</sup>

+ 55<sup>04</sup>

+ 35<sup>04</sup>

7 + 15<sup>04</sup>

+ 95<sup>04</sup>

+ 75<sup>04</sup>

6 + 55<sup>04</sup>



BM = BP  
NE Cor. Chatsworth  
40' to line 201.61

Grades - Chatsworth L

200.33  
199.35  
0.98

Left  
South

Right  
North

Curve in Chatsworth -

0° 38' 51"

1° 52' 51"

3° 06' 51"

5° 06' 44"

7° 06' 37"

7° 18' 27" (short to prop to North -)

8° 20' 37"

9° 34' 37"

11° 09' 11"

12° 43' 45"

14° 18' 19"

16+86.51 202.25

16+60.95 200.49

16+35 199.71

16+09 198.33

End existing curb return

201.24

2nd chord on curb

200.45  
200.24 F 0.19

1st chord on curb

199.35  
200.33 C 0.98

Begin Curb return on North  
B.C.C.

198.58  
200.53 C-1.95

15+89 197.20

15+69 197.14  
195.83 F-1.31

198.39  
200.58 C-2.19

15+37 195.61  
193.85 F-1.76

195.62  
201.35 C-5.73

15+05 194.10  
192.32 F-1.78

194.60  
195.98 C-1.38

14+85 193.13  
191.14 F-1.99

193.43  
192.27 F-1.16

14+54 191.43  
190.40 F-1.43



## Chollas Road

+50	2° 26' 53.2"	
12+00	2° 18' 17.5"	
+50	2° 09' 41.8"	$\Delta = 8^{\circ} 50' 40''$
11+00	2° 01' 06.1"	$\frac{1}{2}\Delta = 4^{\circ} 25' 20''$
+50	1° 52' 30.4"	T: 773.36
10+00	1° 43' 54.7"	L: 1543.65
+50	1° 35' 19.0"	Ext: 29.86
9+00	1° 26' 43.3"	def per foot =
+50	1° 18' 07.6"	.171887'
8+00	1° 09' 31.9"	PI = 11+68.87
+50	1° 00' 56.2"	BC = 3+95.51
7+00	0° 52' 20.5"	FC, 19+39.16
+50	0° 43' 44.8"	D = 0° 17' 12"
6+00	0° 35' 09.1"	
+50	0° 26' 33.4"	
5+00	0° 17' 57.7"	
+50	0° 09' 22.1"	
4+00	0° 0' 46.3"	
B.C.	3+95.51	

 $\frac{1}{2}$  curve = 771.82

Midpoint Curve = 11+67.34

def to M.P. = 2° 12' 40"

19+39.16 4° 25' 20"

19+00 4° 18' 36.3"

+50 4° 10' 00.6"

18+00 4° 01' 24.9"

+50 3° 52' 49.2"

17+00 3° 44' 13.5"

+50 3° 35' 37.8"

16+00 3° 27' 02.1"

+50 3° 18' 26.4"

15+00 3° 09' 50.7"

+50 3° 01' 15.0"

14+00 2° 52' 40.3"

+50 - 2° 44' 04.6"

13+00 - 2° 35' 28.9"



X-section Chollas Road

X-section  
Chollas Road

Hub + Disk			2.24	238.62
	4.76	290.86	5.99	236.10
	3.36	342.09	13.05	238.73 (246.96)
L+T 54" Sewer	4.82	251.78	5.20	246.95
	2.62	252.15	5.67	249.53
T.P. Hub + Disk E.C.	8.95	255.20	8.00	246.25
	8.00	255.24	13.04	246.25
	5.60	259.29	6.47	253.69
	1.96	260.16	9.74	258.20
	5.65	267.94	5.83	262.29
	2.97	268.12	10.92	265.15
	0.47	276.07	12.89	275.60
T.P. L+T B.C. & University (284.00)	4.49	288.49	6.55	284.04
T.P. Nail in Pole Right of sign Board.	4.35	290.59	6.15	286.24
	4.37	292.39	5.45	298.02
T.P. = Chollas X 0+00 Chollas Road (15.20)	5.45	293.47	5.21	298.02
B.M. = L+T B.C. & University	9.23	293.23	-	284.00
	+	+	-	01-



Storm Drain 43rd JUNIV -  
 BM. NW COR. 41st & Washington  
 EL: 335.49-

238.62  
 - 7.92

Hub & 37+66.49

241.54 T

13.04

228.50

- 2.85

231.35 T

12.81

218.54

Hub & 39+08.73 F.C.

6.12

224.66 T

10.89

213.77

Hub & 42+62.05 POT.

5.67

217.44 T

9.47

209.97

2.59

212.56 T

17.95

199.61

3.92

203.53 T

9.68

198.85

1.73

206.58 T

1.88

204.70

1.73

206.43 T

10.30

196.13

4.98

200.21

9.76

190.45

219.44

1.34

218.10

Hub & 44+66.38 A

TP = 340.90

21+13.58

330.61 - C 8'9"

21+44.02

330.31 - C - 8'0"

21+74.46

330.00

C 7'20"

22+04.90

329.70

C 6'25"

BC  
 22+35.34 -

329.40

Grade

stake



Cross section Pyncheon  
 - Hogan to Ocean view  
 NE. ob return Hogan + Pyncheon 118.69

TP - BP - S.W. Cor Ocean view + 47 <sup>th</sup> St			0.61	(116.49) 116.42
	11.95	117.03	0.06	105.08
	3.75	105.14	10.32	101.39
	5.10	111.71	11.87	106.61
BM: Nail in Pole SW Cor. Pyncheon + T. St	259	118.48		115.89
		$\bar{x}$		



June 20, 51

Cross-section Alley 132K 20  
Fairmount Addition

BP. N.W. C.R. Euclid + Univ.

5.65

(-0.03)  
340.65

1.33

346.30

2.47

349.97

TP = 4x7' S.W. 1st Euclid + Polk.

2.47

347.44

R. 51

344.97

7.66

347.48

11.93

339.82

7.33

351.75

1.03

344.42

BM = BP NW COK Euclid + Univ.

4.77

345.45

BM.  
340.68

x



June 21, 51

X-section Alley BIK B - Montclair  
Thorn to Redwood  
Between Vancouver + Hallar

ADA

BM = S.W. B.P. Vancouver + Redwood.

9.74 299.98

1.02 309.72 5.73 308.70

5.32 314.42 4.39 309.11

7.14 313.50 2.81 306.36

7.97 309.17 0.75 301.20

BM = S.W. B.P. Vancouver + Redwood.

1.97 301.95 299.98

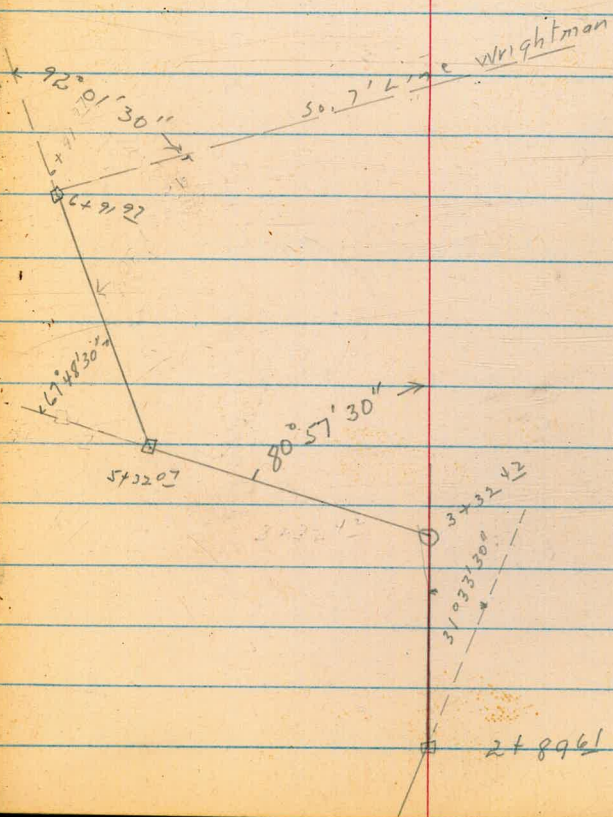
ADA

A



JUNE 22, 1951 -  
 STORM Drain Nile + University -  
 H.O. 20928 -

			ST. BM)
		9.22	(322.16)
3.64	329.38	0.26	325.74
13.31	326.00		312.69
		12.74	292.18
2.87	304.92	12.19	302.05
1.55	314.24	0.03	312.69
12.20	312.72		300.52
Alley line			
		3.86	292.16
4.91	296.02	12.55	291.11
4.03	303.66	7.66	299.63
6.77	307.29	5.54	300.52
0.37	306.06	4.64	305.69
4.36	310.33	6.00	305.97
0.19	311.97	12.88	311.78
2.46	324.61		322.15
	↑		



S. W. 13 P  
 Nile + University



July 25, 1951

Cross section Alley BIR 19  
 Ocean Beach - Coronado + Del Mar  
 Froude to Ebers -

		10.97	186.34	0.53	175.37
		13.36	175.90	0.17	162.54
		12.79	162.71	0.12	149.92
TP Nail in Pole 95 KT R+50		12.60	150.04		137.44
		12.88	127.04	0.04	114.16
		12.53	114.20	0.38	101.67
		8.05	102.05	1.11	94.00
S.E. 7'x7' LAT Ebers + Del Mar.		13.00	95.11	4.83	82.11
		13.36	86.94	0.42	73.58
		13.17	74.00	0.21	60.83
		13.19	61.04	0.27	47.85
BM: N.W. 139 SUNSET Cliffs + Del MAR -		12.09	48.12		36.03
			T		



50.

268  
28

No. 1

El. Surface Top

3+00

(out)

4.62

2+60

6.37  
5.26  
C-1.11

2+20

5.93  
5.90  
C-0.03

1+75

6.29  
6.63  
F 0.34

7.07  
6.00  
C-1.07

6.90  
6.81  
C-0.09

1+30

6.22  
7.36  
F-1.14

7.51  
7.61  
F 0.10

0+85

7.60  
8.08  
F 0.48

8.68  
8.42  
C-0.26

0+40

8.66  
8.81  
F-0.15

10.50  
9.23  
C-1.27

end curb

9.49  
9.45

9.96  
9.93



Cross-section Bay Park Village

June 26, 57

TP <sub>3</sub> Spike in Pole SW cor Erie + Jellert	7.10	73.94	3.08	66.84
TP <sub>2</sub> Spike in Pole Westerly end Kane on <sup>Erie</sup>	13.92	69.92	3.88	56.00
TP <sub>1</sub> Spike Pole SW. Cor. Erie + Lister	8.68	59.88	1.50	51.20
BM = BP SW cor Milton + Erie	10.67	52.70		42.03
				(46.77)
TP <sub>2</sub>			7.86	46.55
TP <sub>4</sub> Cor Brickwell (NE) Denver + Jellert	7.32	54.41	2.84	47.09
TP <sub>3</sub> Spike in Pole SW cor Denver + Kane	9.30	49.93	1.64	40.63
TP <sub>2</sub>	9.88	42.27	4.57	32.39
TP <sub>1</sub> spike in street sign Denver + Milton	2.08	36.96		34.88
TP <sub>2</sub>			1.54	46.47
<del>TP<sub>1</sub></del> & Mon end Chicago at			5.5	
			13.40	34.61
TP <sub>6</sub> No where	11.72	48.01	2.97	36.29
TP <sub>5</sub> Spike in Pole S.W. cor Chicago + Jellert	10.30	39.26	0.56	28.96
TP <sub>4</sub> & PI Mon. Chicago + Kane	8.57	29.52	3.99	20.95
TP <sub>3</sub> spike in Pole NE cor Chicago + Lister	2.88	24.94	3.51	22.06
TP <sub>2</sub> & Point Milton + Chicago	4.75	25.57	14.14	20.82
TP <sub>1</sub> spike in street sign Denver + Milton	0.08	34.96	8.58	34.88
S.W. BP cor. Milton + Erie	1.43	43.46		42.03

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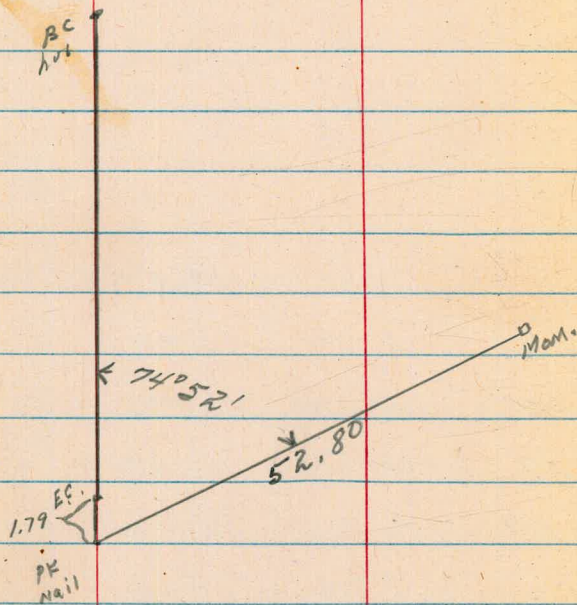


TP <sub>7</sub> & Mon. end Frank Post			5.84	111.13
TP <sub>1</sub>	10.66	116.97	0.37	106.31
TP <sub>5</sub> Spike Pole SW COR Frank Post + Jelle TI	13.33	106.68	5.73	93.35
TP <sub>4</sub> Spike pole SW COR Frank +	8.37	99.08	6.05	90.71
TP <sub>3</sub> RR Spike Pole SW COR Lister + Frank	12.47	96.76	2.83	84.29
FR <sub>1</sub> RR Spike Pole SW COR Lister + Frank Post	13.33	87.12	1.12	73.79
TP <sub>2</sub>	12.54	74.91	0.41	62.37
TP <sub>1</sub>	9.33	62.78	0.38	53.45
BM = BP SW COR Milton and ERIE	11.80	53.83		42.03
		X		
TP ON 4"x4" post at end of ERIE			0.85	73.09

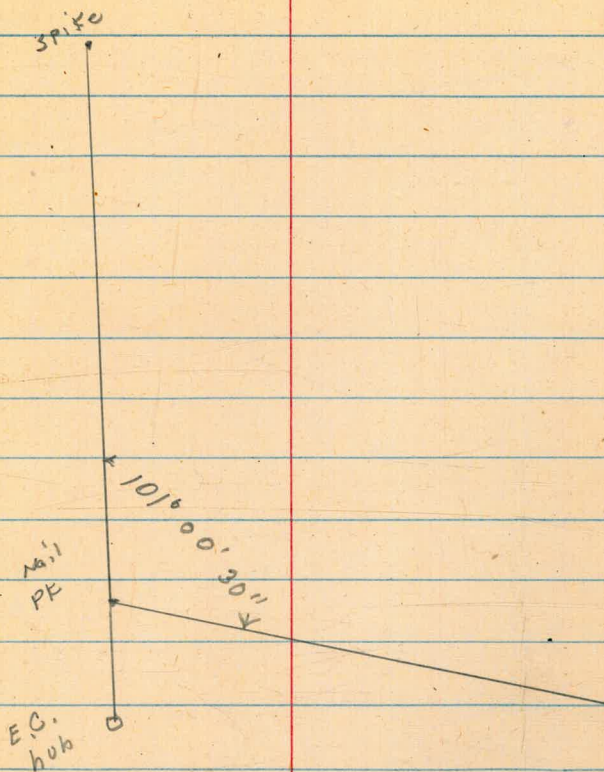
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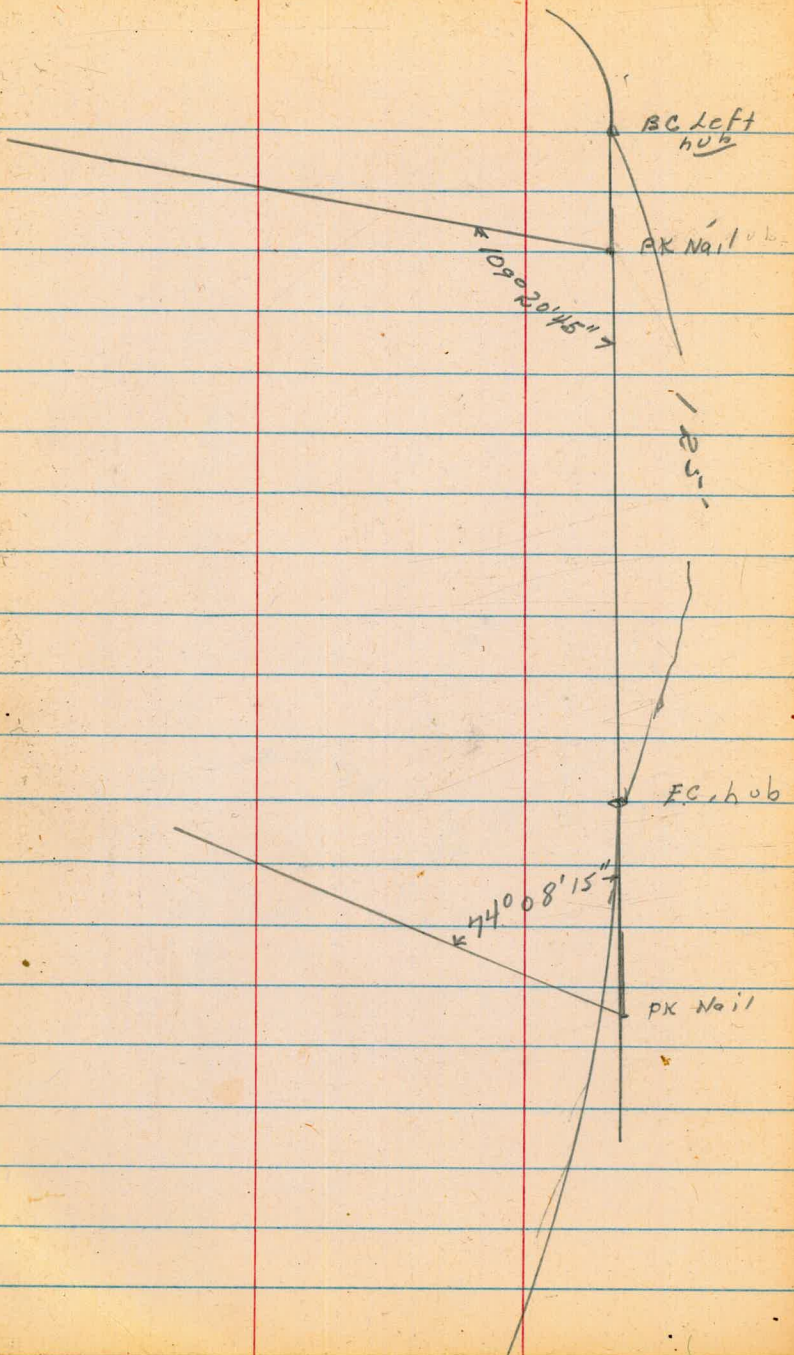
①



②









LT: East.

2420 279.66

1480 279.54

1440 279.42

1400 279.30

0460 279.18

0420 279.06

0400 = Soline Polk 279.30

Pave alley BIK 175 - City, Hts -

RT = West

279.36

279.24

279.12

279.00

278.88

278.76

278.42



LT: east

RT: West

3+80

279.55

279.25

3+60

279.75

279.45

3+40

279.87

279.57

3+20

279.92

279.62

3+00

279.90

279.60

2+60

279.78

279.48



W.O. 3/852

LT = West.

Save B.I.C 175 = C+Y/H+S -  
RT = EAST -

Cut or Fill

Elev Stake

Elev. Grade -  
8

Cut or Fill

EL, STAKE

El. Gr.

17875

278.86  
8 67  
FO.19

282.15  
279.16  
C 2.99

17550

8 80  
278.48  
C 0.32

037

037  
278.78  
C 1.59

1722.5

F 0.22

277.88

278.10  
2 88  
F 0.22

7.88

028

028  
278.70  
C 1.88

(32.5') (1.38)

0+90 (E.V.C)

7.56  
277.72  
7 56  
F 0.16

7.56

067

0 67  
278.02  
C 2.65

0+70

8 67  
277.37  
C 1.30

8.67

069

0 69  
277.67  
C 3.02

0+50

7 59  
276.79  
C 0.80

7.59

28.14

1 14  
277.09  
C 9.05

0+30

6 44  
275.97  
C 0.47

7.644

9.70

7 26  
276.27  
C 3.43

0+10

5 26  
275.04  
274.94  
C 0.82

275.86

78.09

8 09  
275.24  
C 2.85

0+00 = N. Line  
Lincoln

274.11  
273.91

C. T. 87

C 1.87  
276.94  
9 25  
F 2.09

275.07  
275.02

0-5

273.92 273.91

275.04

275.02

BM = B.P. N.W. corner Lincoln & Alabama = 284.61



	LT: West		RT: East	
	Cutover fill	El. stake	Cutover fill	El. stake
		El. Gr.		El. Gr.
5+00		379.90 379.00 C0.90		279.30 279.30 C.00
4+60		279.12 889 FO.23		308 279.42 C3.66
4+20		087 279.24 C1.63		129 279.54 C1.70
3+80		995 279.36 C0.59		059 279.66 C0.93
3+40		987 279.48 C0.39		041 279.78 C0.63
3+00 (E.V.C.)		279.60 919 FO.41		105 279.90 C1.15
2+80		279.62 956 FO.06		078 279.92 C0.86
2+60		027 279.57 C0.70		098 279.87 C0.11
2+40		973 279.45 C0.28		042 279.75 C0.67
2+20 <sup>0</sup> (B.V.C.)		992 279.25 C0.67		280 54 279.55 C0.99



LT = West

RT = East

Cut or fill

El. Stake

El. Gr.

Cut or fill

El. Stake

El. Gr.

6+00<sup>2</sup> S.L. Polk.

278.42

Estab. Gr.  
279.30

5+80 (BK)

9.55  
278.76  
C0.79

0.27  
279.06  
C1.21

5+40

278.88  
8.05  
F0.83

0.58  
279.18  
C1.40



540 Ke 330' Sewer  
54<sup>th</sup> Laurel

2+30  
~~1+75~~ - 267.50

2+05  
~~1+50~~ 266.68

1+80  
~~7+25~~ 265.85

1+55  
~~1+00~~ 265.03

1+30  
~~0+75~~ 264.20

1+05  
~~0+50~~ 263.38

0+80  
~~0+25~~ 262.55

54<sup>th</sup> Laurel  
MH#1

0+55  
~~0+00~~ 261.73

0+27.5  
~~0-27.5~~ 261.35

0+00  
~~0-55~~ 260.95



LPE  $\frac{3785}{3730}$  270.54

$\frac{3745}{2790}$  270.26

MHT 2  $\frac{3705}{2750}$  269.98

$\frac{2780}{2725}$  269.15

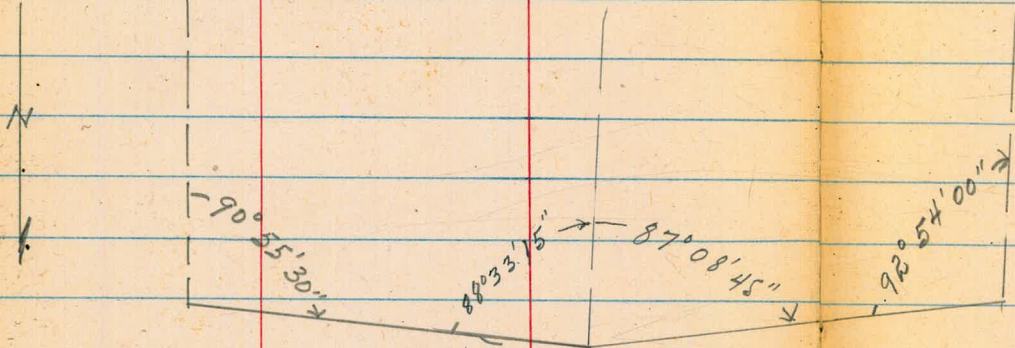
$\frac{3755}{2700}$  268.33



MT Hope Cemetery  
Aug 21, 51

0.16  
278

Road





Pave Niagara Ave - Elyline  
 Venice to W14 line Catalina  
 W.O. #

North Curb North Gutter North Quarter

42 Portland Concrete  
 North = Left - South = Right

Sub Grade South Quarter South Gutter South Curb

2+02 <sup>73</sup>	204.61	203.94	204.24	203.92 ✓	204.23	203.93 ✓
1+82 <sup>73</sup>	207.94	207.27	207.64	207.40 ✓	207.79	207.56 ✓
1+62 <sup>73</sup>	210.56	209.89	210.31	210.12 ✓	210.52	210.38 ✓
1+42 <sup>73</sup>	212.56	211.89	212.30	212.10 ✓	212.53	212.35 ✓
1+22 <sup>73</sup>	213.91	213.24	213.59	213.32 ✓	213.68	213.43 ✓
1+12 <sup>73</sup>	214.34	213.67	213.76	213.66 ✓	213.98	213.68 ✓
0+77 <sup>73</sup>	215.45	214.78	215.03	214.66 ✓	214.93	214.58 ✓
0+42 <sup>73</sup>	216.56	215.89	215.98	215.66 ✓	215.87	215.47 ✓
prop 130 on south						
0+25	217.23	216.57	216.72	(216.26)	216.51	215.90 ✓
0+00: Elyline Venice	218.18	217.49 217.53		(217.38) 217.52		(216.78) 216.57 217.00



	North Curb	North Gutter	North Quarter	Sub Grade	South Quarter	South Gutter
3+82 <sup>73</sup>	172.34	171.67	174.97	171.65 ✓	171.97 ✓	171.67 ✓
3+77 <sup>89</sup>	Water lateral on North					
3+62 <sup>73</sup>	174.86	174.19	174.49	174.17 ✓	174.49	174.79 ✓
3+42 <sup>73</sup>	177.80	177.13	177.43	177.11 ✓	177.43	177.13 ✓
3+22 <sup>73</sup>	181.14	180.47	180.84	180.60 ✓	180.98	180.75 ✓
3+02 <sup>73</sup>	184.89	184.22	184.61	184.38 ✓	184.79	184.58 ✓
2+93	Water lateral on North					
0 2+57 <sup>73</sup>	193.80	193.13	193.46	193.18 ✓	193.53	193.26 ✓
0 2+12 <sup>73</sup>	202.71	202.04	202.31	201.97 ✓	202.26	201.94 ✓
0 2+09	Water lateral on North					



Top exist curb on nos 146.81

Return on No	North Curb	North Gutter	North Quarter	Sub Grade	South Quarter	South Gutter
Oil ⑩ Return on No	148.38	147.77				
Return on So-						
CB 130 on North 5+65 <sup>21</sup>	149.95	149.28				
CB return on south 5+49 <sup>66</sup>						152.25 ✓
5+34 <sup>02</sup>						
5+02 <sup>73</sup>	158.83	158.16	158.55	158.32 ✓	158.72	158.51 ✓
4+82 <sup>73</sup>	161.56	160.89	161.26	161.02 ✓	161.41	161.18 ✓
4+62 <sup>73</sup>	164.04	163.37	163.75	163.52 ✓	163.92	163.70 ✓
4 Alley to south 4+42 <sup>73</sup>	166.30	165.63	165.97	165.69 ✓	166.04	165.78 ✓
4+23 <sup>73</sup>	168.32	167.65	167.95	167.63 ✓	167.95	167.65 ✓
4+02 <sup>73</sup>	170.23	169.56	169.86	169.54 ✓	169.86	169.52 ✓



15'

SOUTH PROP LINE  
TOP CURB = 167.23  
GUTTER = 166.73

5' SUB GRADE = 165.94

SOUTH PROP LINE  
CURB = 166.77  
GUTTER = 166.47

20'

3' RD

TOP CURB = 167.20

GUTTER GRADE = 166.53

17'

3' RD

5' SUB GRADE = 165.75

GUTTER GRADE = 165.08

5' SUB GRADE = 165.38

SOUTH CURB

SOUTH CURB

SOUTH CURB



## Murray Canyon Sewer

Station	Invert El	Stake El	Cut
5+85	19.39		
5+60	19.35		
5+35	19.30		
5+10	19.26		
4+85	19.22		
4+60	19.88		
MH # 1			
4+35	19.14		
4+25	19.12		
MH # 1			
4+00	19.08		
3+75	19.04		
3+50	18.99		
3+25	18.95		
3+00	18.91		
2+75	18.87		
2+50	18.82		
2+25	18.78		
2+00	18.74		
1+75	18.70		
1+54	18.66		

Station	Invert El	Stake El	Cut
10+70	20.21		
10+45	20.17		
10+20	20.13		
9+95	20.09		
9+70	20.04		
9+45	20.00		
9+20	19.96		
8+95	19.92		
MH # 2			
8+70	19.88		
8+60	19.86		
8+35	19.81		
8+10	19.77		
7+85	19.73		
7+60	19.69		
7+35	19.64		
7+10	19.60		
6+85	19.56		
6+60	19.52		
6+35	19.47		
6+10	19.43		



Station. Invert el. Stake el. COT

14487	20.93		
14469	20.90		
14451	20.87		
14433	20.84		
14415	20.81		
13497	20.78		
13479	20.75		
13461	20.72		
13443	20.69		
13432	20.67		
13420	20.64		
12495	20.59		
12470	20.55		
12445	20.51		
12420	20.47		
11495	20.43		
11470	20.38		
11445	20.34		
11420	20.30		
10495	20.26		

Rails

1/2" Steel  
Rail #1

MH #3

Station Invert el. Stake el. COT

18489	21.60		
18464	21.56		
18439	21.52		
18414	21.48		
17489	21.43		
17464	21.39		
17439	21.35		
MH #4			
17414	21.31		
END Rails			
17403	21.29		
16485	21.26		
16467	21.23		
16449	21.20		
16431	21.17		
16413	21.14		
15495	21.11		
15477	21.08		
15459	21.05		
15441	21.02		
15423	20.99		
15405	20.96		

Rails



Station	invert el	stake el	CUT
23+82.13	22.45		
23+57.13	22.40		
23+32.13	22.36		
23+07.13	22.32		
MH#5 22+82.13	22.29		
22+64	22.24		
22+39	22.20		
22+14	22.16		
21+89	22.11		
21+64	22.07		
21+39	22.03		
21+14	21.99		
20+89	21.94		
20+64	21.90		
20+39	21.86		
20+14	21.82		
19+89	21.77		
19+64	21.73		
19+39	21.69		
19+14	21.65		

Station	invert el	stake el	CUT
28+75	24.46		
28+50	24.25		
28+25	24.04		
28+24(T)			
28+00	23.83		
27+75	23.62		
27+50	23.41		
27+25	23.20		
MH#6 27+00	22.99		
26+82.13	22.98		
26+57.13	22.92		
26+32.13	22.88		
26+10	22.84		
26+07.13	22.84		
25+82.13	22.79		
25+57.13	22.74		
25+32.13	22.70		
25+07.13	22.66		
24+82.13	22.62		
24+57.13	22.57		
24+32.13	22.53		
24+07.13	22.49		



Station invert el stake el cut.

34+77.38 29.72

34+42.38 29.41

34+07.38 29.09

33+72.38 28.78

33+37.38 28.47

32+02.38 28.15

32+47.38 27.84

32+32.38 27.52

31+97.38 27.21

31+62.38 26.89

MH#7

31+27.38 26.58

31+00 26.35

30+75 26.14

30+50 25.93

30+25 25.72

30+00 25.51

29+75 25.30

29+50 25.09

29+25 24.88

29+00 24.67

Station invert el stake el cut

39+79.76 31.28

39+54.76 31.23

39+29.76 31.18

39+04.76 31.13

38+79.76 31.08

38+54.76 31.03

38+29.76 30.98

38+04.76 30.93

37+79.76 30.88

37+54.76 30.83

37+29.76 30.78

37+04.76 30.73

36+79.76 30.68

36+54.76 30.63

36+29.76 30.58

36+04.76 30.53

35+79.76 30.48

MH#8.

35+54.76 30.43

35+29.76 30.38

35+04.76 30.33

35+12.38 30.04



Station invert el stake el CUT

46+57.40 43 42

46+22.40 42 51

45+87.40 41 62

~~MH#10~~

45+52.40 40 71

45+25 40 24

44+90 39 65

44+55 39 05

44+20 38 46

43+85 37 86

43+50 37 27

43+15 36 67

42+80 36 08

42+45 35 48

42+10 34 89

41+75 34 29

41+40 33 70

41+05 33 10

40+70 32 51

40+35 31.91

~~MH#9~~

40+00 31.32

Station invert el stake el CUT

53+58.43 65.99

53+23.43 64.72

52+88.43 63.45

52+53.43 62.18

52+18.43 60.91

51+83.43 59.64

51+48.43 58.37

51+13.43 57.10

50+78.43 55.83

50+43.43 54.56

50+08.43 53.29

49+73.43 52.02

~~MH#11~~

49+38.43 50.75

49+02.40 49.79

48+67.40 48.88

48+32.40 47.97

47+97.40 47.06

47+62.40 46.15

47+27.40 45.24

46+92.40 44.33



Station	Invert el	Stake el	Cut
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59+70.44	76.45		
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59+44.91	76.06		
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59+09.91	75.54		
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58+74.91	75.01		
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58+39.91	74.49		
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58+04.91	73.96		
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57+69.91	73.44		
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57+34.91	72.91		
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56+99.91	72.39		
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56+64.91	71.86		
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56+29.91	71.34		
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55+94.91	70.81		
----------	-------	--	--

55+59.91	70.29		
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55+24.91	69.76		
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54+89.91	69.24		
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54+54.91	68.71		
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<del>MHE 12</del> 54+19.91	68.19		
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53+93.43	67.26		
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W<sup>o</sup> 31866 - Aug 13, 1952  
 X-sec EL Paseo Grande etc  
 La Jolla shores drive

		4.05	31.34	7.20	27.29
BM. L/DISK. LS# 2201 -	Prop line PL S.W. COR Camino Del Ora + La Jolla Shores Dr -	side shot		6.80	27.69
		10.65	34.49	2.71	23.84
		12.44	26.55	0.30	14.11
BM. L/DISK. LS# 2201-15 <sup>6</sup> Lt. 21769 <sup>4</sup> (EL Paseo G-		7.50	14.41	3.94	6.91
		7.65	10.85	4.45	3.20
BM "D" NW Ret. Center Ret. Del Ora + EL Paseo Gr.		4.63	7.65	3.94	3.02
		4.55	6.96	5.21	2.41
		5.20	7.62	6.01	2.42
BM "D" NW COR - Midpoint Ret. + EL Paseo Grande Frescotta		5.05	8.43	6.80	3.38
		3.00	10.18	4.29	7.18
		4.13	11.57	3.52	7.44
		5.02	10.96	4.79	5.94
TP,		4.90	<10.737		5.83
				2.86	7.44
TP. - ON curb Near EC. Ave La Playa + EL Pas.		4.47	10.30	3.96	5.83
		6.80	9.79	3.60	2.99
BM. BP. Slyend Seawall - La Jolla Shores		3.08	<6.597		3.51



	La Jolla Shores Beach				(3.51)
Starting BM.	End Sea Wall			3.08	3.50
		4.69	6.58	7.97	1.89
		4.47	9.86	12.09	5.39
BM. chisel "A" Wly BC	Ave De La Playa S.W. Ret + La Jolla Shores Dr.	0.58	17.48	4.07	16.90
	+ Vallejos	5.52	20.97	2.18	15.45
BM. chisel "A" Midpoint	La Jolla Shores Dr	6.12	17.63	7.05	11.51
		2.88	18.56	10.28	15.68
BM - Chisel "A" Midpoint	Frescotta + S.W. Ret. La Jolla Shor.	3.29	(25.96)	8.67	22.67



49.00  
6.01  
42.99

42.98  
6.01  
48.99

Sam  
Tex

TP<sub>11</sub> 20.90 - Water Valve. (12-15-5)

6.50 27.68

BM = Coast + Geodetic S.W. Cor + Camino Del Collado  
La Jolla shores

0.60 34.18 12.39 33.58  
2.99 45.97 42.98

TP<sub>10</sub> - 26.57 around STA. 13+85 ±

- skip -

TP<sub>5</sub> on hub on angle point

6.58 35.29

TP<sub>8</sub> 6.62 41.87

8.91 35.25

TP<sub>7</sub> City Eng (R.E. #29) Bench Mon. Torrey Pine

0.34 { 44.16 } 7.86 43.82

BM 2' West Lamp post #8300 - in lawn - La Jolla sh

3.05 51.68 6.41 48.63

TP<sub>5</sub> 12.8 55.04 10.61 53.76

B.P. N.E. Cor Calle De La Plata + Torrey Pines 9.56 64.37 3.01 54.81

8.24 57.82 0.07 49.58

12.84 49.65 2.47 36.81

Side Shot - Top F.H. La Jolla Sh + Paseo Delrode

6.35 32.93

TP<sub>9</sub> #8 - FB2171 H' SW Cor Ave De la Playa + Wly 13C. La Jolla Shores Dr

11.85 39.28 0.20 27.43

10.73 { 27.63 } 16.90



BR NECOR Calle De La Plata

SS. ON 13M MONI.

11.57

55.18

0.39

(54.81)

54.79

6.56

4862

0.79

43.61

S.S. TP<sub>2</sub> ON WAY UP

7.59

36.81

ON LI. Hub. TP<sub>9</sub>.

9.09

44.40

1.89

35.31

Side shot F.H. La shores Dr J.P. DiRado

↑

4.28

3292

10.93

37.20

1.21

26.27

Side shot TP<sub>11</sub> Meter Valve

6.51

20.97

BM #8. 1/4 S.W. Cor. Wily BC

La Jolla shores  
Ave de la Playa

10.58

27.48

16.90

          
↑



Ryan Curbs.

4.23	3.53	4.73	3.03
5.26	7.76	4.99	2.50
5.08	7.49	3.98	2.41
4.97	6.39	4.82	1.42
4.65	6.24		1.59
<hr/>		4.65	0.57
4.82	5.22	4.88	0.40
2.78	5.28	4.64	2.53
5.76	7.17	4.91	1.41
4.91	6.32	5.06	1.41
4.42	6.47		2.05

TP 2.05  
TP = 2.36

ONE <sup>↑</sup> BRIDGE  
LUNCH

TP = 2.52 (2.53)  
TP 2.05

2.42: BP S.W. Return opposite Main  
gate Ryan Across Harbor Dr

TP = 2.45 Tape Kod.

5.70	7.26	4.93	1.56
4.90	6.49	1.59	

to Harbor  
+ Laurel

Every B. Civic Center way



11/11/11

1

2

3

Main Gate

4

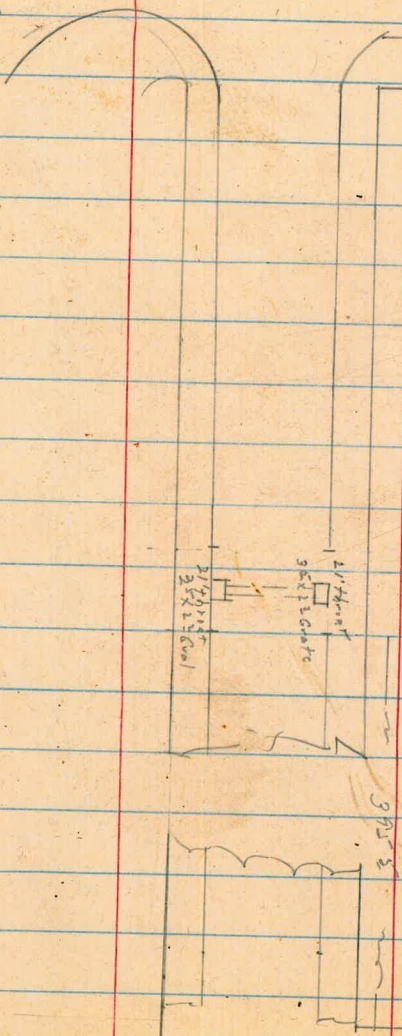


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Gate-29/03

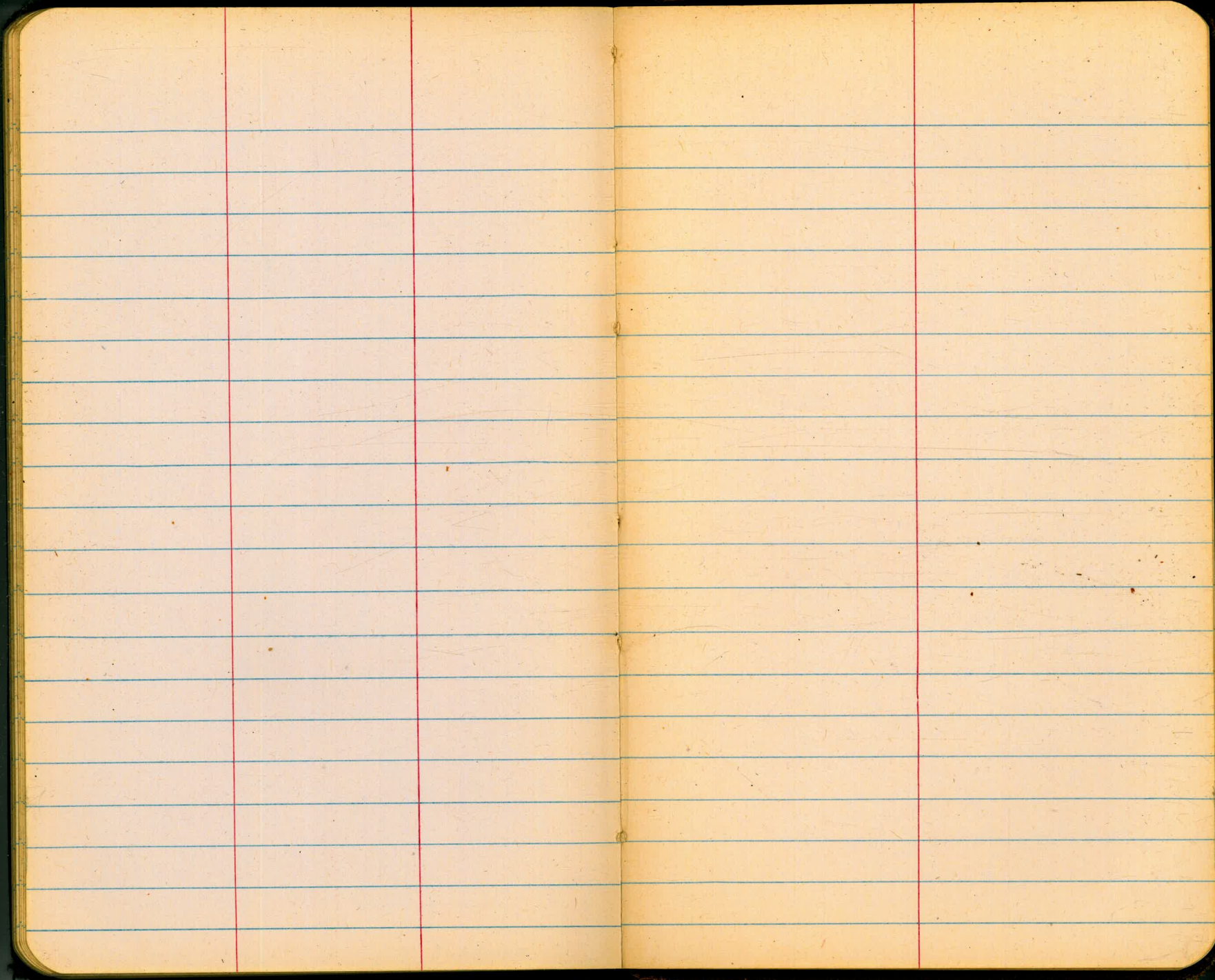
10 11 12  
5320

McK. Riley St



Redwood.







250  
-96  
P



11# flat } on Reel  
27# suspended }

8.5# flat

22# suspended

in Basement

12, 154, 874

418 4-21-21 6618 R



391  
1.13  
278

6.18  
1278  
896 = 9.0  
4.2

9.0  
121  
4.3

1.5  
3

72  
3.9

6.20  
278  
8.98

7.8

35 39 91  
27 78 42

9 0 11.7 11.7 2.4  
4.7 7.3 3.0

4.3  
2.2  
6.5  
3.5

6.2

90 10.8  
5.0  
16.2

30.5  
3.5  
3.8  
3.1

6.24  
2.78  
9.02

3.9  
7.2

2.28  
2.0  
1.08

11.1  
5.6

16.7

6.25  
278  
9.03

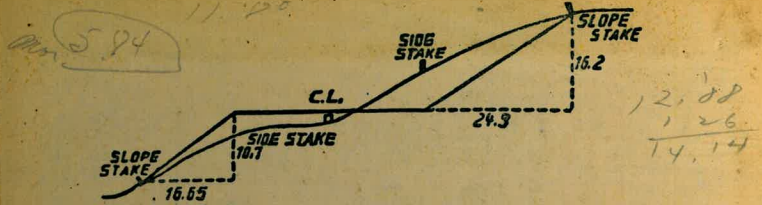
9.0  
1.9  
4.1  
2.0  
6.1  
3.1

9.1  
4.4  
4.7  
2.3

9.0  
4.3  
4.7  
2.1  
1.3

11.2  
1.9  
3.6  
3

10.1



**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	71.20	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

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