



#703

# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburg Toronto

Distances from Center of Roadway for Cross-Sectioning  
Roadway 16 feet wide. Side Slopes 1 on 1.  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be  $30.6 + (20 - 16) \div 2$  or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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HIDDEN VALLEY - STAKES FOR CONSTRUCTION AND  
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	+	π	-	Elev. Stake	Elev. Grade
BM.	6 <sup>th</sup> Ave + Friars Road Pipe Line				
	2.27	44.69		42.42	Nail 19761 Pole # 2675 Set on loc. cut See F8573-P.59
0-16			12.0	32.7	25.87 26.00
0+00			12.2	32.5	26.00
+50			12.1	32.6	26.40
1+00			11.4	33.3	26.80
+50			9.6	35.1	27.20
2			8.6	36.1	27.60
+31 <sup>1</sup> / <sub>2</sub>			8.0	36.7	27.85
+50			6.6	38.1	28.00
+75			7.0	37.7	28.08
3			6.4	38.3	28.17
+25			5.8	38.9	28.25
+50			5.7	39.0	28.34

cuts

6.7
6.5
6.2
6.5
7.9
8.5
8.8
10.1
9.6
10.1
10.6
10.7



π  
44.69

+75		5.3	39.4	28.42
4		5.0	39.7	28.51
+25		4.9	39.8	28.59
+50		4.2	40.5	28.68
+74 <sup>29</sup> BK = 05 <sup>13</sup> ahead		4.4	40.3	28.78
+50		2.3	42.4	28.92
TP.	6.60	48.99	2.30	42.39
+73 <sup>36</sup>		6.4	42.6	29.00
+89 <sup>29</sup>		7.4	41.6	30.44
5+05 <sup>08</sup>		7.2	41.8	33.00
+20 <sup>87</sup>		7.4	41.6	34.04
+68 <sup>87</sup>		5.4 7.6	43.6 41.4	37.80
+89 <sup>87</sup>		5.3	43.7	38.20
6+00 <sup>87</sup>		4.7	44.3	<del>38.0</del> 39.0
+15 <sup>25</sup> BC RT		4.2	44.8	<del>38.0</del> 39.0
+16 <sup>87</sup>				

Cuts

11.0	
11.2	
11.2	
11.8	
11.5	
13.5	
13.6	
11.2	
8.8	
7.6	
5.9	5.8
	5.1
6.3	5.3
6.8	5.8



	+	T 48.99	-	ElorStärke	ElorGacke
	+48.82				
	+50		5.1	43.9	38.20
	+64.87		2.0	43.0	38.0
	7		4.8	44.2	38.0 <sup>Bit</sup>
	+50		5.6	43.4	37.00
	8		8.1	40.9	36.00
	40.87		9.3	39.7	35.18
			6.59	42.40	✓

Cots

3

5.9' 5.7

5.0'

6.2'

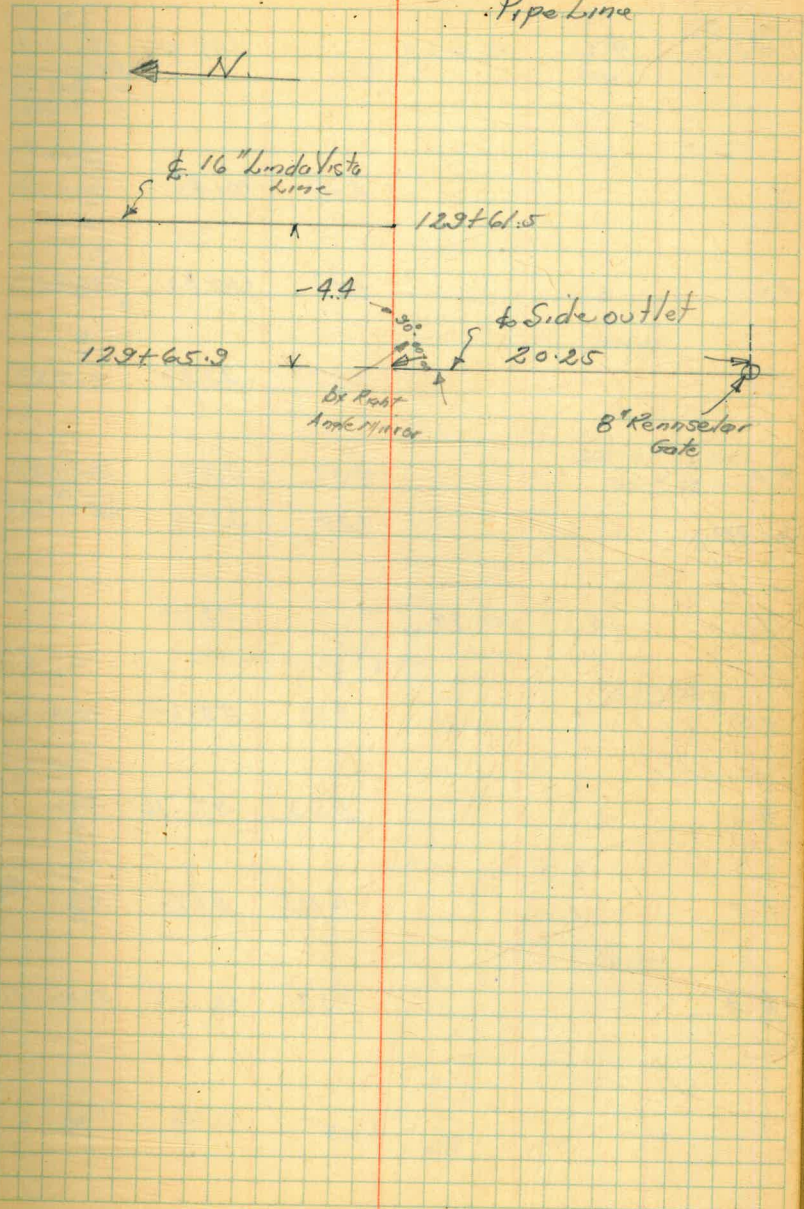
6.4'

4.9'

4.5'



← Mission Valley  
Pipe Line 4









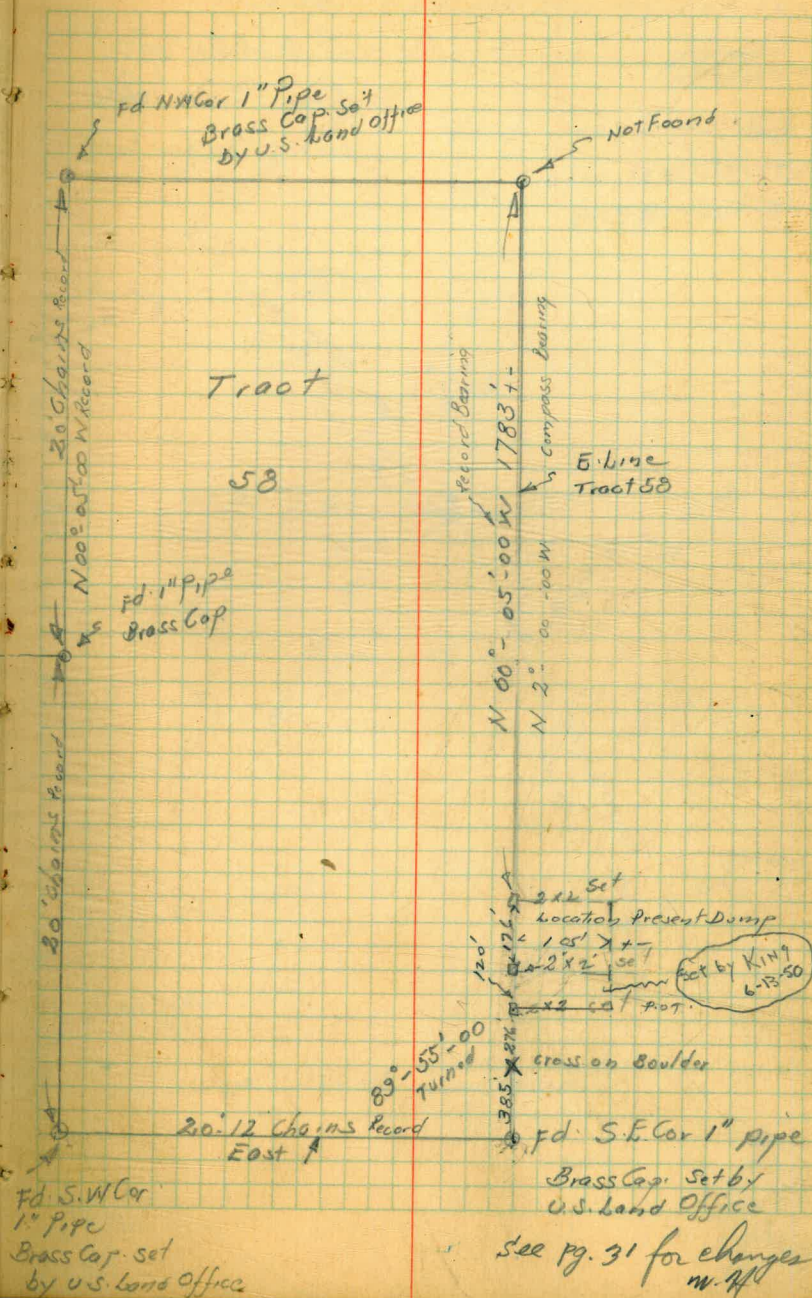
Bliss Sept-Oct  
King 1946

Davis

Survey Tract 58 Sections 24+25  
Township 17 South Range 4 East San Bernardino  
Meridian: For Location of City Dump Moreno Lake

NOTE: SEE BK 306 pg 50

Tract 57



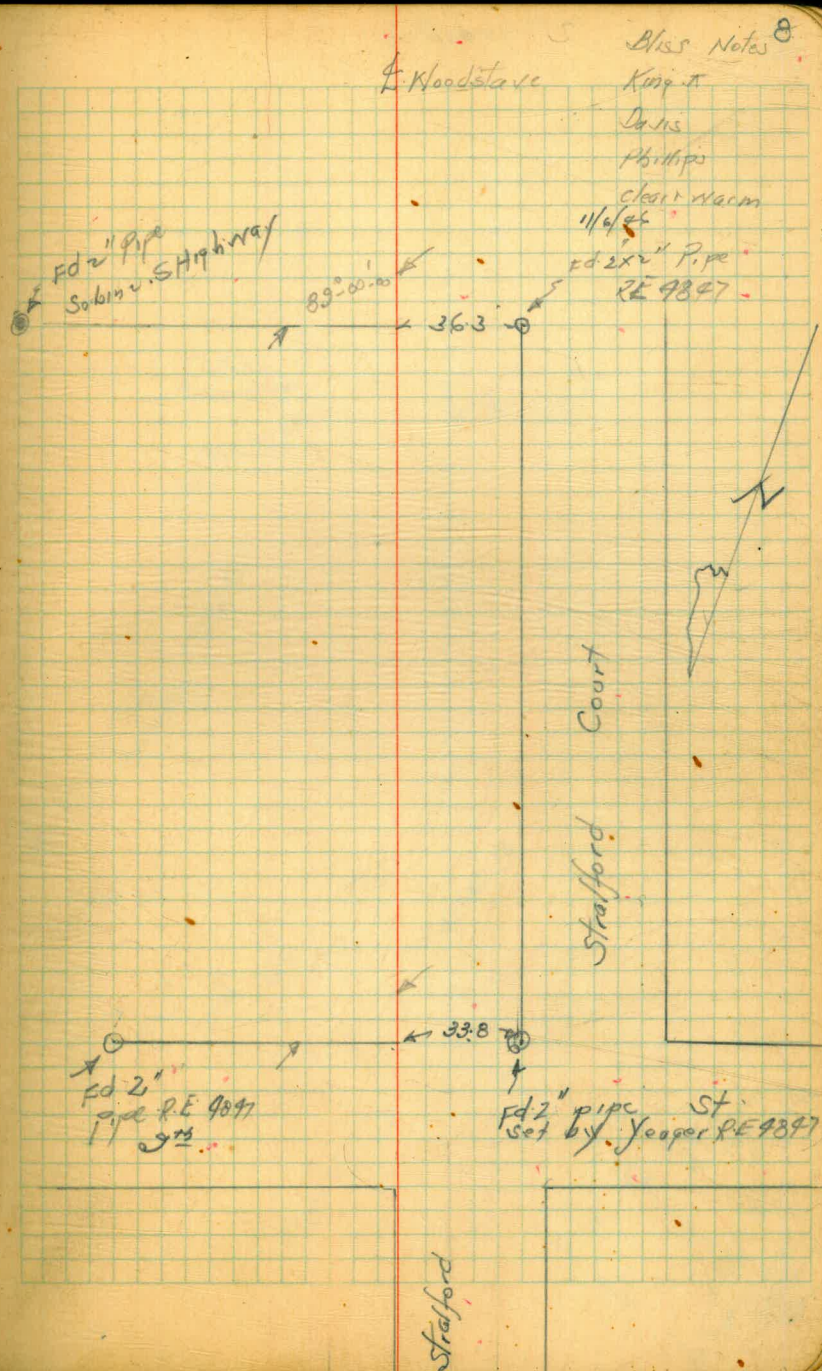
See pg. 31 for changes  
m. H.







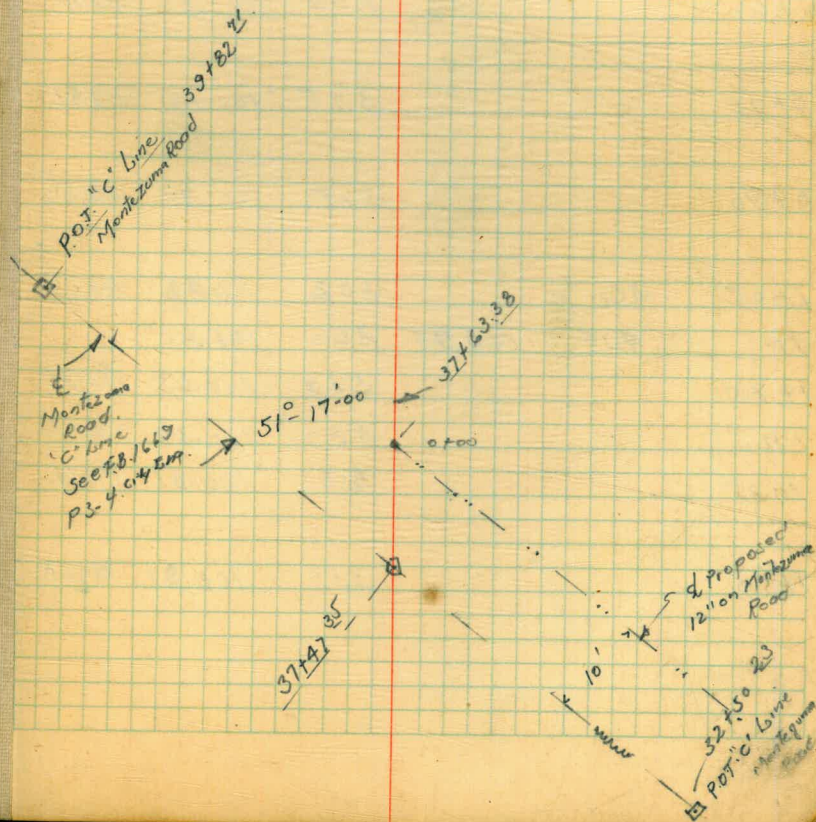
Lockwood Mesa - Torrey Pines.  
 Survey to locate Woodstave  
 Pipe line Through School Site  
 in Del Mar West of Grand Ave. South  
 of 3<sup>rd</sup> St.





E line  
Piercedst  
FD to pipe  
L.S.

Void





City cottages at Treatment plant  
 12/23/46 Grades for Septic line.

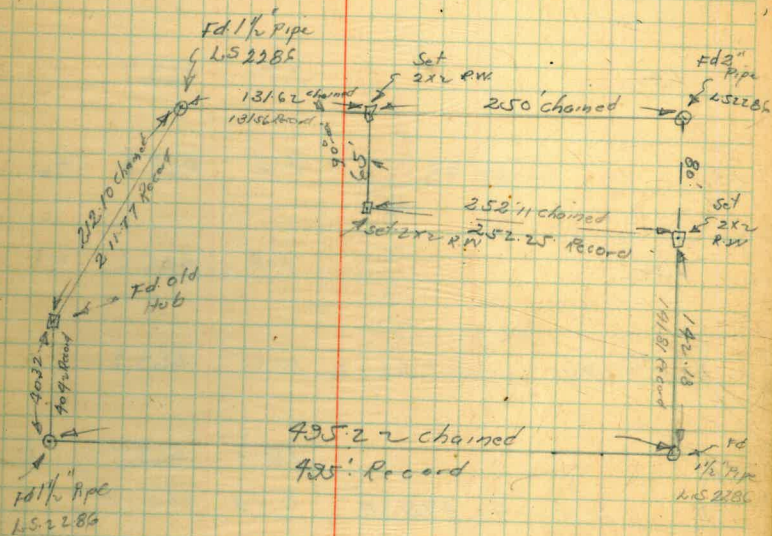
	4.90	104.90	100.00	Elev Grade	
0700				100.	Assumed Elev. Outlet Pipe Guts Bottom Ditch
0715		2.95	101.95	99.625	2.825
0720	80.52	2.28	102.12	99.50	2.312
0730 <sup>S</sup>		2.59	101.81	99.48	2.83
0741 <sup>5</sup> EC		3.00	101.40	99.47	2.93
0760		3.04	101.36	99.45	2.93
0775		3.25	101.15	99.41	2.24
0790		3.15	101.35	99.39	2.36
1405	80	3.52	100.88	99.36	2.02
TP	9.14	105.94	2.60	101.80	
1715		5.29	100.65	99.34	1.81
1725		5.62	100.32	99.33	1.99
1735		5.37	100.57	99.31	1.74
1750		5.13	100.81	99.27	2.04



Bliss Survey Curtis Property La Mesa Colony  
King Parcel 18. 1.9 Acres. Record Map 876  
Phillips

12/23/96

cloudy & cool





after benching E Profile San Vicente 2 P.C. V.  
from 9+87<sup>15</sup> to 14+21<sup>55</sup> M.P.

+21 <sup>85</sup>	EC.		11.4	462.0	-1
14			10.3	463.1	-1.5
+50			9.7	463.7	✓
13			4.4	469.0	-2.6
+50			7.8	465.6	+1.6
+29 <sup>98</sup>	P.C.C.		10.2	463.2	
12			10.3	463.1	-1.5
T.P.	8.04	473.38	0.79	465.84	
+50			1.7	464.4	-1.8
11+6			2.6	463.5	-1.3
+50			3.5	462.6	+1.1
10+0			0.9	465.2	-1
9+87 <sup>15</sup>	0.03	466.13		466.10	

12/23/46

12

\* Cross on Boulder L.Lt  
30°-26'-30"

Δ 24°-46'-00"

R

T

L

LC 190.38

□ 2x2" Hub Set P.C.C.

Δ 12°-56'-33"

R 1075

T 121.93

L 242.83

• Nail-Ed P.C.

L 4°-53'-33" L



13

Reprofile Lockwood Mesa  
Torrey Pines Pipe line Sta 124+50

Sta.

B.M. N.W. Cor 1st Stratford 103.39 ✓  
6.67 ✓ 110.06 ✓

124+50	12.8	97.3 ✓
125+00	12.0	98.1 ✓
125+50	11.0	99.1 ✓
126+00	9.5	100.6 ✓
126+50	7.5	102.6 ✓
127+00	5.6	104.5 ✓
127+50	4.7	105.4 ✓
128+00	3.5	106.6 ✓
128+50	2.1	108.0 ✓
128+83		
129+00	0.6	109.5 ✓
TP#1	1.24 ✓	108.82 ✓
	9.57 ✓	118.39 ✓
129+50	7.1	111.0 ✓
130+00	5.9	112.5 ✓
130+50	4.8	113.6 ✓
130+67.5	4.7	113.7 ✓
131+00	4.6	113.8 ✓
131+45	3.6	114.8 ✓
131+47	4.7	113.7 ✓
131+49	3.4	115.0 ✓
131+53.2	2.8	115.6 ✓
132+00	5.6	112.8 ✓

May 20, 1947

Rainey K.  
King  
Nichols  
Wells

13

New 1" Water Service 90° to Pipe line

Angle pt. to Lt.

Air Valve Angle Pt. to st.



14  
Sta. Reprofilo Lockwood Mesa  
Torrey Pines Pipeline From Sta 124+50  
to Sta

	118.39		
132+47.63	8.8	109.6	✓
133+00	8.8	109.6	✓
133+50	10.1	108.3	✓
134+00	10.1	108.3	✓
T.P.#2	11.01	107.38	✓
10.72	118.10		✓
134+50	9.0	109.1	✓
135+00	7.1	111.0	✓
135+50	4.9	113.2	✓
136+00	3.0	115.1	✓
T.P.#3	2.98	115.62	✓
7.53	123.15		✓
136+50	4.8	118.4	✓
137+00	2.5	120.7	✓
137+04			
137+50	3.9	119.3	✓
138+00	4.7	118.5	✓
138+50	6.6	116.6	✓
139+00	8.2	115.0	✓
139+50	9.1	114.1	✓
140+00	8.1	115.1	✓
140+50	7.0	116.2	✓
141+00	5.4	117.8	✓
T.P.#4	4.87	118.28	✓
10.10	128.38		✓

Angle pt. to Lt.

Air Valve



Reptile Lockwood Mesa  
Torrey Pines Pipeline Sta 12A+50  
to Sta

Sta.

128.38

141+50	9.1	119.3
142+00	8.5	119.9
142+50	8.8	119.6
143+00	9.0	119.4
143+50	7.9	120.5
144+00	6.5	121.9
144+50	6.2	122.2
145+00	6.5	121.9
145+50	6.6	121.8
146+00	6.6	121.8
146+38	6.3	122.1
146+39	6.6	121.8
146+86 <sup>80</sup>	4.8	123.6
147+00	4.2	124.2
TP#5	4.39 ✓	123.99 ✓
12.25 / 136.24 ✓		
147+39	10.5	125.7
147+43	9.9	126.3
147+50	9.8	126.4
148+00	6.4	129.8
148+46 <sup>36</sup>	3.6	132.6
149+00	2.3	133.9
149+50	1.3	134.9
150+00	0.4	135.8

Angle Pt. to Lt.

Angle pt. to rt.



Sta.

136.24

T.P. #6

1.24 - 135.00 -

105.5 - 145.55 -

150+50	8.6	137.0 ✓
151+00	7.5	138.1 ✓
151+50	5.8	139.8 ✓
151+53	5.70	139.85 ✓
151+63	5.7	139.9 ✓
151+65	4.8	140.8 ✓
151+68	5.4	140.2 ✓
151+80	5.2	140.4 ✓
151+83	4.6	141.0 ✓
151+91	4.3	141.3 ✓
151+94	5.1	140.5 ✓
152+00	5.2	140.4 ✓
152+50	3.8	141.8 ✓
153+00	3.2	142.4 ✓
153+14	4.3	141.3 ✓
153+50	2.4	143.2 ✓
154+00	1.4	144.2 ✓
154+50	0.4	145.2 ✓
T.P. #7	0.37 -	145.18 -
	9.38 -	154.56 -
155+00	8.3	146.3 ✓
155+50	7.7	146.9 ✓

center G.V. Chamber



Sta.

159.56 ✓

156+00	7.2	147.4 ✓
156+50	6.2	148.4 ✓
157+00	5.1	149.5 ✓
157+50	3.9	150.7 ✓
158+00	2.4	152.2 ✓
158+50	1.0	153.6 ✓
159+00	0.1	154.5 ✓
TP#8	0.08 ✓	154.48 ✓

10.48 ✓ 164.96 ✓

159+50	10.1	154.9 ✓
160+00	9.4	155.6 ✓
160+50	8.5	156.5 ✓
161+00	7.3	157.7 ✓
161+50	5.9	159.1 ✓
162+00	4.3	160.7 ✓
162+50	2.7	162.3 ✓
163+00	0.8	164.2 ✓
TP#9	0.93 ✓	164.03 ✓

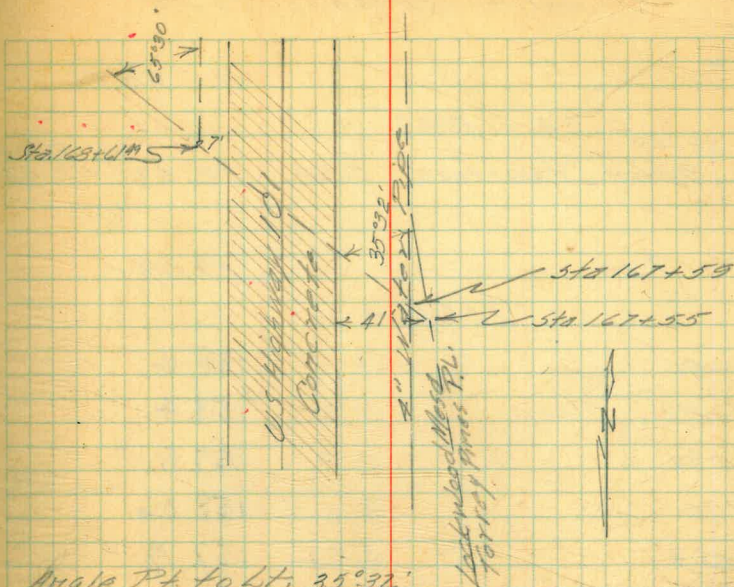
7.26 ✓ 171.29 ✓

163+50	5.2	166.1 ✓
164+00	4.5	166.8 ✓
164+50	3.8	167.5 ✓
165+00	3.8	167.5 ✓
165+50	4.2	167.1 ✓



Sta.

	171.29		
166+00	5.0	166.3	✓
166+50	5.5	165.8	✓
166+53	6.0	165.3	✓
166+68	11.9	159.4	✓
T.P.#10	12.20	159.09	-
	3.96	163.08	-
166+94	6.8	156.3	✓
167+00	6.0	157.1	✓
167+41	7.3	155.8	✓
167+47	8.8	154.3	✓
167+55	8.3	154.8	✓
T.P.#11	BM. Check	3.96	159.09
	11.65	170.74	-
T.P.#12	6.71	164.03	-
	0.00	164.03	
T.P.#13	9.54	154.49	✓
	1.08	155.57	✓
T.P.#14	10.38	145.19	-
	1.78	142.97	
T.P.#15	11.96	135.01	-
	1.28	136.29	-
T.P.#16	12.30	123.99	✓
	1.89	125.88	✓
T.P.#17	10.25	115.63	-

Angle Pt. to Lt.  $35^{\circ}32'$ 

Post opp Sta 167+50 (Old Elev. 158.39)



Sta.

T.P.#17

115.63 ✓

0.24 115.87 ✓

B.M. 9th + Stratford 3.24 112.63 (112.64) <sup>Corr</sup>

T.P.#18

159.09 ✓

2.52 161.61 ✓

167+86 3.2 158.4 ✓

167+89 3.2 158.4 ✓

167+91 3.8 157.8 ✓

168+00 3.55 158.06 ✓

168+24 3.82 157.79 ✓

168+25 3.1 158.5 ✓

168+28 3.2 158.4 ✓

168+29 3.90 157.71 ✓

168+53 4.59 157.02 ✓

168+61.49 4.9 156.7 ✓

169+00 6.9 154.7 ✓

169+50 9.6 152.0 ✓

169+92 16.7 <sup>Top</sup> 149.9 ✓13.0 <sup>Top</sup> 148.6 ✓

170+00 12.0 149.6 ✓

T.P.#1 12.38 149.23 ✓

0.06 149.29 ✓

170+50 2.0 147.3 ✓

171+00 4.7 144.6 ✓

171+50 7.0 142.3 ✓

W Edge of concrete U.S. 101

E Edge Concrete

Angle pt. T.P. 65°30'

Culvert 90° to Pipeline 42" C.I.



20. Reprofile Lockwood Mesa Torrey Pine  
Sta Pipeline Sta. 124+50 to Sta

20

	149.29 ✓		
172+00	9.7	139.6 ✓	
172+50	12.1	137.2 ✓	
T.P. #2	12.66	136.63 ✓	
	0.69	137.32 ✓	
173+00	2.6	134.7 ✓	
173+50	5.1	132.2 ✓	
174+00	7.6	129.7 ✓	
174+50	10.3	127.0 ✓	
175+00	12.7	124.6 ✓	
T.P. #3	12.75	124.57 ✓	
	1.59	126.16 ✓	
175+50	4.3	121.9 ✓	
176+00	6.8	119.4 ✓	
176+50	8.9	117.3 ✓	
177+00	11.6	114.6 ✓	
177+13	12.3	113.9 ✓	
T.P. #4	14.0	124.56 ✓	
	11.30	135.86 ✓	
T.P. #5	0.83	135.03 ✓	
	5.77	140.80 ✓	
T.P. #6	0.72	140.08 ✓	
	1.48	141.56 ✓	
177+3A	2.6	139.0 ✓	
177+41	2.4	139.0 ✓	

Angle Pt. To Lt. Up Bank



Reprofile Lockwood Mesa Torrey Pines  
Pipeline Sta. 124+50 to Sta.

141256'

177+45.2L	4.4	137.2 ✓
178+00	4.8	136.8 ✓
178+50	5.4	136.2 ✓
179+00	5.8	135.8 ✓
179+50	6.5	135.1 ✓
180+00	7.9	133.7 ✓
180+50	8.0	133.6 ✓
181+00	9.6	132.0 ✓
T.P.#7	8.81 -	132.75 -

2.12 x 134.87 ✓

181+50	3.5	131.4 ✓
182+00	4.7	130.2 ✓
182+50	7.4	127.5 ✓
183+00	8.6	126.3 ✓
183+50	9.2	125.7 ✓
184+00	9.4	125.5 ✓
184+50	10.1	124.8 ✓
185+00	11.2	123.7 ✓
T.P.#8	10.34 -	124.53 -

3.11 - 127.64 -

185+50	5.6	122.0 ✓
186+00	6.2	121.4 ✓
186+50	5.3	122.3 ✓
187+00	5.0	122.6 ✓

Air Valve



127.64 - 127.64

187+50	5.5	122.1
188+00	6.3	121.3
188+50	7.7	119.9
189+00	9.2	118.4
189+50	10.5	117.1
190+00	11.8	115.8
T.P.#9	10.79	116.85

0.43 - 117.28

190+50	2.3	115.0
191+00	3.5	113.8
191+50	4.5	112.8
192+00	5.0	112.3
192+50	6.2	111.1
193+00	7.0	110.3
193+50	8.0	109.3
194+00	8.1	109.2
194+50	9.3	108.0
195+00	10.4	106.9
T.P.#10	10.33	106.95

2.67 - 109.62

195+50	3.5	106.1
196+00	4.4	105.2
196+50	5.5	104.1
197+00	6.4	103.2

See Pg. 49



Reprofile Lockwood Mass Torrey Pines  
Pipeline Sta 124+50 to Sta.

	109.62	109.62	
		9.1	100.52
197+21		6.3	103.3
		Line	
To TBM on Guinea End of	5.20	104.42	-
	8.26	112.68	-
T.P.#11		1.49	111.19
	10.24	121.43	-
T.P.#12		2.12	119.31
	8.38	127.69	-
T.P.#13		1.41	126.28
	8.75	135.03	-
T.P.#14		1.32	133.71
	9.11	142.82	-
T.P.#15		5.66	137.16
	12.32	149.48	-
T.P.#16		0.65	148.83
	12.40	161.23	-
B.M. on Post T.P.#11 P.18	2.16	159.07 (159.09)	

End of Pipe Start Stake - see page 49



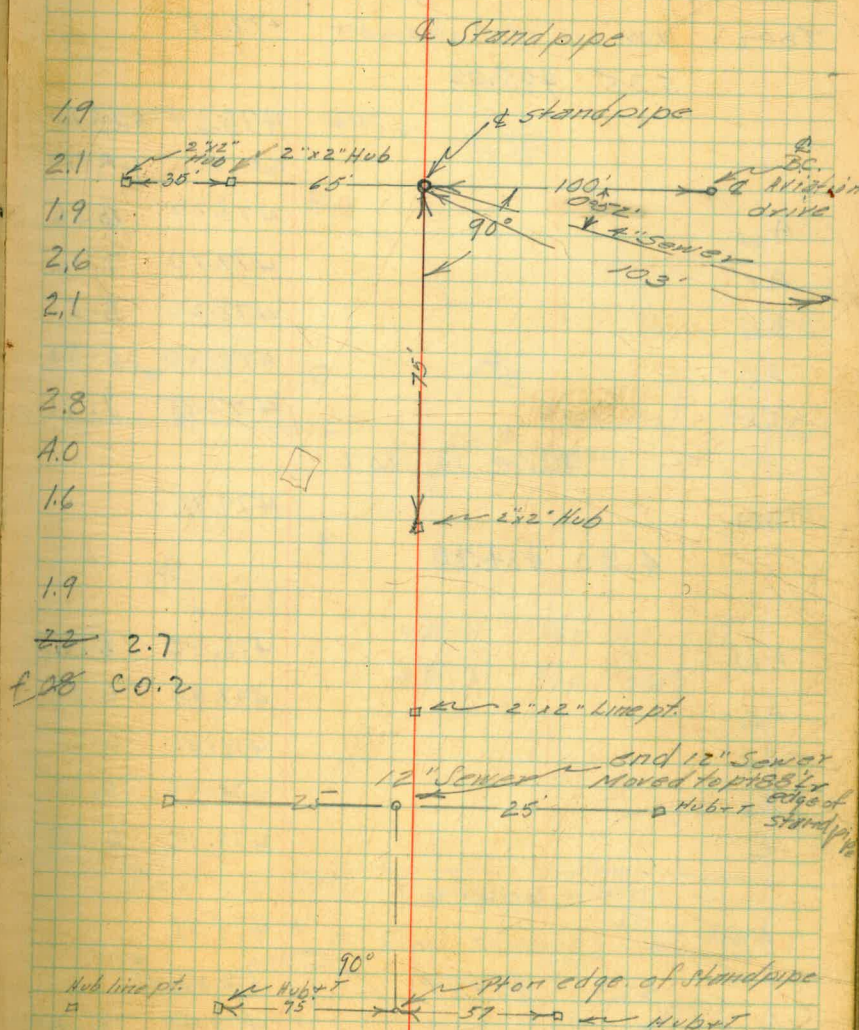
Encanto Stand Pipe

Elev.

B.M. of Standpipe		480.23	
5.10	485.33		
"B" Spt.	5.2	480.1	478.2
"B" N pt.	5.0	480.3	478.2
"A" W pt.	5.2	480.1	478.2
"A" E pt.	5.0	480.3	477.7
4 R.R. S off	5.2	480.1	478.0
4" Sewer			
0+00	23.5 ft	480.5	477.7
0+40	4.5	480.8	476.8
0+80	7.7	477.6	476.0
12" Sewer			
0+00	pt. 40 ft	480.4	478.5
0+30 <sup>75</sup>	5.2	480.2	477.5
0+71 <sup>5</sup>	9.0	476.3	476.1
Set T.B.M. N.W. corner			
conc. <del>foundation</del>	5.62	479.71	
B.M. on 4 BC Aviation Dr.	7.09	478.24	

Cuts

Reference Pts.





Encanto standpipe  
Foundation & Drains - Construction

TBM	N.W. cor. valve chamber	479.71	
	5.35	485.06	5.35
	6.72		
	478.34	477.70	
	GR. EL.	GR. ROD	
A <sub>W</sub>		478.20	6.86
A <sub>E</sub>		477.70	7.36
B <sub>N</sub>		478.20	6.86
B <sub>S</sub>		478.20	6.86
C		477.95	7.11

June 13, 1947

TBM		479.71	
	4.99	484.70	
		(.2 HIGH)	
A <sub>W</sub>		478.40	6.30
A <sub>E</sub>		477.90	6.80
B <sub>N</sub>		478.40	6.30
B <sub>S</sub>		478.40	6.30
C		478.15	6.55

6.16.47

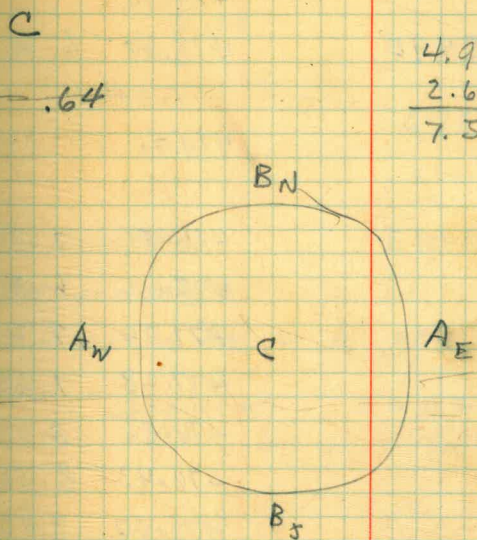
TBM		479.71	
	5.23	484.94	(.2 HIGH)
A <sub>W</sub>		478.40	6.54
A <sub>E</sub>		477.90	7.04
C		478.15	6.79
TOP ROCK		478.62	6.32
	5.23	479.71	TBM

6.12.47

Keyser

Fair  
warm  
windy

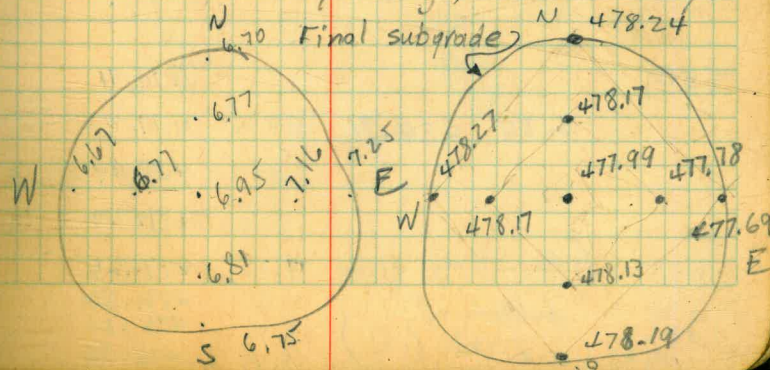
25



Fair but hazy,  
warm, windy.

480.8 Top backfill  
481.2 Top slab

Fair, extremely hazy, warm, windy





Encanto Stand pipe  
Foundation - Construction

TBM				479.71	
	5.19	484.90		478.62	6.28
TBM				479.71	
	5.22	484.93		481.20	3.73
				478.62	6.31
0+00	SEWER (4")			477.70	7.23
0+20				477.28	7.65
+40				476.85	8.08
+60				476.43	8.50
+80				476.00	8.93

TBM				479.71	
	5.09	487.80		478.97	5.83
				480.99	3.81
				481.20	3.60
				481.10	3.70

TBM				479.71	
	5.20	484.91	5.20	479.71	
				480.99	3.92
				481.20	3.71
0+00	(Existing grade		7.25	477.66	
+30	bottom of		8.05	476.86	
+35	ditch (12")		8.70	476.21	
+49			8.55	476.36	

Fair but hazy, cool, windy  
Keyser 6.17.47 (26)

484.90  
478.62  
6.28

6.18.47  
cloudy, cool, windy

Top concrete  
Bot concrete  
Subgrade AE = 4" SEWER INVERT  
4" sewer S = 0.2125

6.19.47  
cloudy to partly cloudy, cool, windy

TOP OF BOTTOM STEEL  
TOP OF TOP STEEL  
TOP OF CONCRETE (EDGE)  
TOP OF CONCRETE (UNDER TANK)

check back on B.M.

TOP OF TOP STEEL  
TOP OF CONCRETE

478.46

477.70



6.23.47

ENCANTO STAND PIPE FOUNDATION  
- CONSTRUCTION

12" Pipe } for estimate - trench was excavated  
81' long, with cut  $\frac{0.2+1.9+2.7}{3} = 1.6$

Trench 26" wide, 1.6' deep, 81' long

$$= \frac{2.17 \times 1.6 \times 81}{27} = 10.4 \text{ c.y.}$$

$$\text{Sump } \frac{(4-2.17) \times 4 \times 3.5}{27} = .9 \text{ c.y.}$$

4" pipe CUT  $\frac{2.8+4.0+1.6}{3} = 2.8'$   
 $\frac{2.8 \times 84 \times 1.4}{27} = 12.2 \text{ c.y.}$

TBM 479.71

5.19 484.90

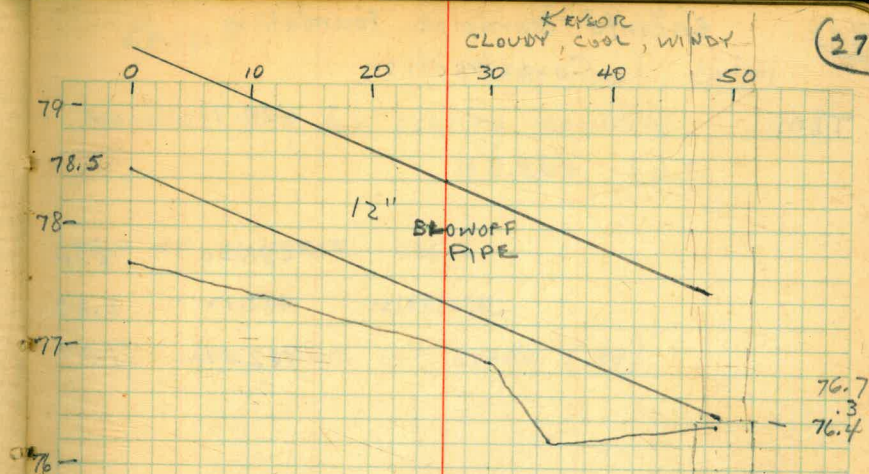
481.20 3.70

481.12 3.78

476.70 8.20

475.90

478.50 6.40



TOP OF CONCRETE (EDGE)

" " " (INTERIOR)

TOP OF SLAB FOR SUMP - F.L. PIPE 0+49

F.L. 12" PIPE 0+00

6.40  
1.08  
5.32



Encanto Standpipe Foundation  
Construction

TBM

3.63

483.34

479.71

481.20

2.14

481.12

2.22

482.11

1.23

Keyser

6-24-47

28

Cloudy, cool, calm

Beautiful day for pouring concrete.

TOP OF CONCRETE - EDGE

" " " INTERIOR

11  $\frac{7}{8}$  inches above int grade. (.99')



## Elevs on Base Encanto Stand P. pc

BM	4.70	484.41		479.71	
0+10			3.22	481.19	F.001
0+20			3.24	481.17	F.003
0+30			3.21	481.20	Grade
0+40			3.22	481.19	F.001
0+50			3.23	481.18	F.002
0+60			3.23	481.18	F.002
0+70			3.22	481.19	F.001
0+80			3.22	481.19	F.001
TP	3.17	484.36	3.22	481.19	
0+90			3.17	481.19	F.001
1+00			3.16	481.20	Grade
1+10			3.18	481.18	F.002

484.36

Elev

29

1+20	3.18	481.18	F.002
1+30	3.17	481.19	F.001
1+40	3.19	481.17	F.003
1+47 <sup>2</sup> = 0+00	3.18	481.18	F.002
Check BM	4.65	479.71	
		Bliss	
		Leonard	
		F.001	
		7/2/47	



# Elevations Base of Encanto Standpipe

B.M. NW Cor. Valve Chamber		479.71
5.23	484.94	
S quadrant	3.76	481.18
W quadrant	3.72	481.22
T.P. #1	3.75	481.19
4.12	485.31	
N quadrant	4.12	481.19
E quadrant	4.10	481.24
4.10	485.31	
B.M.	5.60	479.71

## Check Elevs. Encanto Stand Pipe.

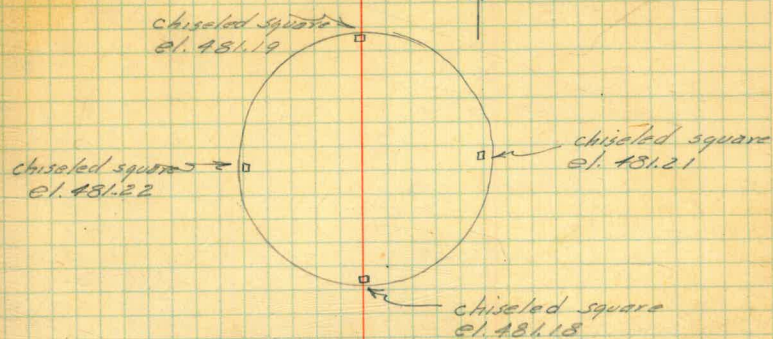
Base

Oct 20/47

B.M.	4.89	484.60	479.71	Bliss Leonard Baker NW Cor Valve Chamber
W Quad		3.40	481.20	
N "		3.43	481.17	
T.P.	2.51	484.86	2.25	482.35
E Quad		3.655	481.205	
S Quad		3.69	481.17	
check B.M.		5.15	479.71	

July 28, 1947

Raimy  
King  
Nixon  
Baker 30



NOTE: SEE ALSO PAGES 47-8-48 for  
CHECK ELEV'S. (LATER DATES.)

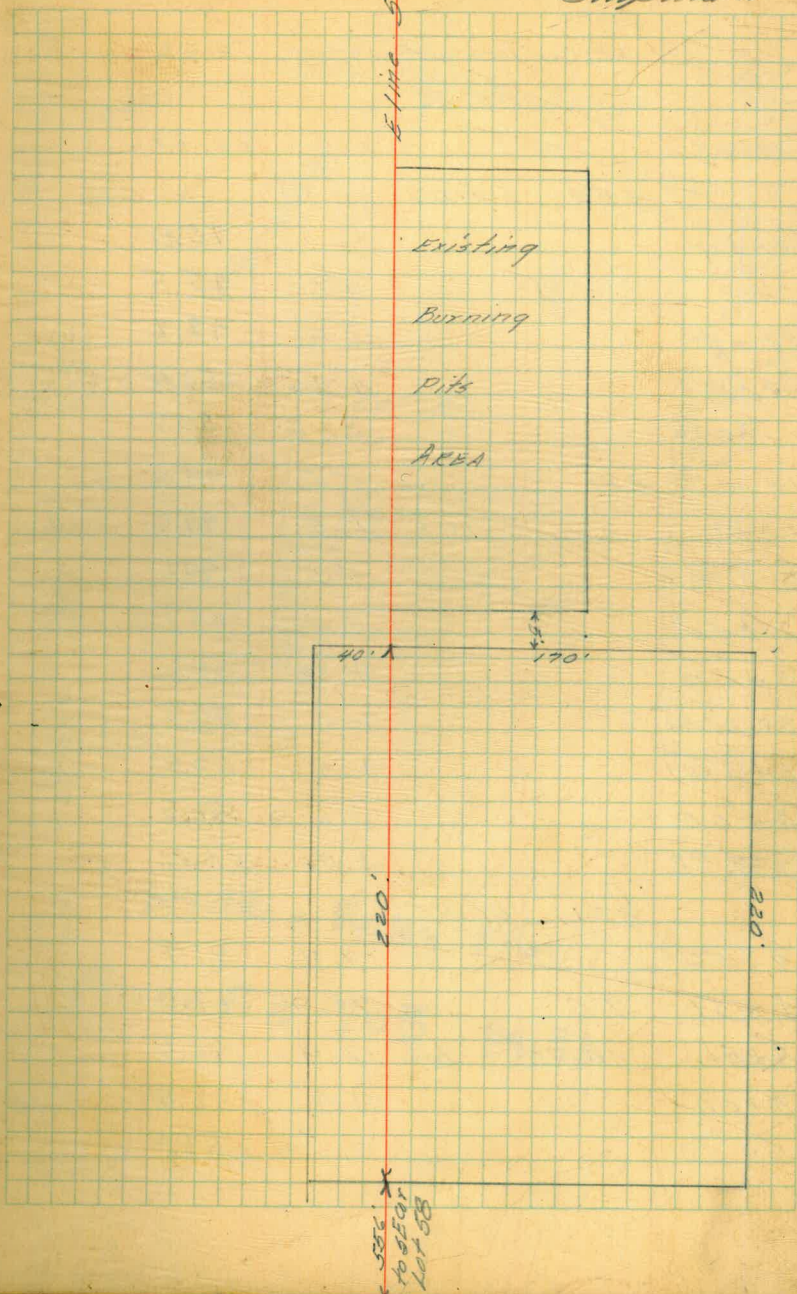


Location of Burning Pit  
Morena Reservoir

See page 6  
for Notes by King (W.H.)

June 22, 1958

Reilly 31  
Shipman





B.M. B.P.	N.E. Cor. Torrey Rd. & Colledale	Plate	54.69
	1.07	55.76	
T.P. #1		9.19	46.57
	8.50	55.07	
0+00		10.1	45.0
0+08		9.6	45.5
0+50		6.9	48.2
0+85 <sup>15</sup>		4.45	50.6
1+08 <sup>22</sup>		5.05	50.0
1+14 <sup>29</sup>	4 PT	5.5	49.6
1+50		5.5	49.6
2+00		5.5	49.6
2+50		5.2	49.9
3+00		4.9	50.2
3+26 <sup>25</sup>		4.6	50.5
3+50		4.5	50.6
4+00		3.6	51.5
T.P. #2		3.56	51.51
	9.34	60.85	
4+50		9.0	51.9
4+51	7'5	10.1	43.9
4+51	44.5N	10.1	14.9
5+00		8.4	52.5
5+50		7.5	53.4

R.S.

10/20/47

NOTES REDUCED

NOTES

Sept. 26, 1947

Raimy 32

King

Nieman

Note: From pipe finder  
it is impossible to determine  
whether 24" C.I. Culvert crosses  
road. There is no inlet.

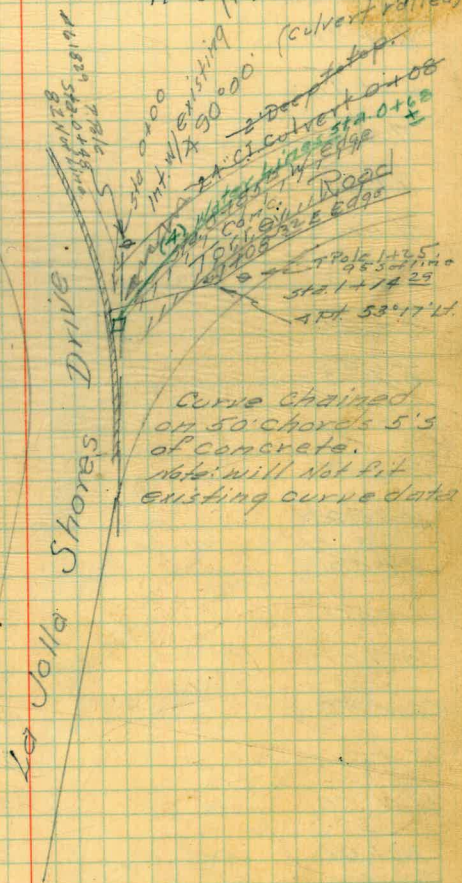
RAIMY SAYS CULVERT  
PROBABLY DOES NOT CROSS  
AT 0+08. IF  
IT IS ABANDONED, IT IS  
(culvert red)

wedge conc.

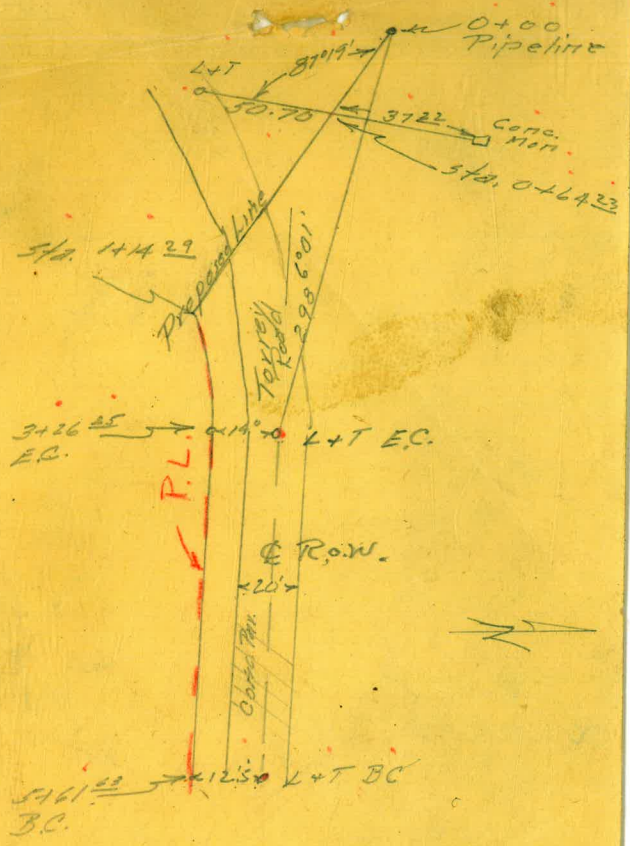
Edge conc.

RAIMY CHECKED ELEV.  
DUG UP 16" WATER MAIN  
AT 0+00 ON 3-11-48  
& FOUND TOP OF PIPE  
2.9' BELOW GROUND  
SURFACE.

R.S.

mt. w/ 2 conc. drain  
36"





Hidden Valley P.L.

File in F.B. 70B, pg. 32



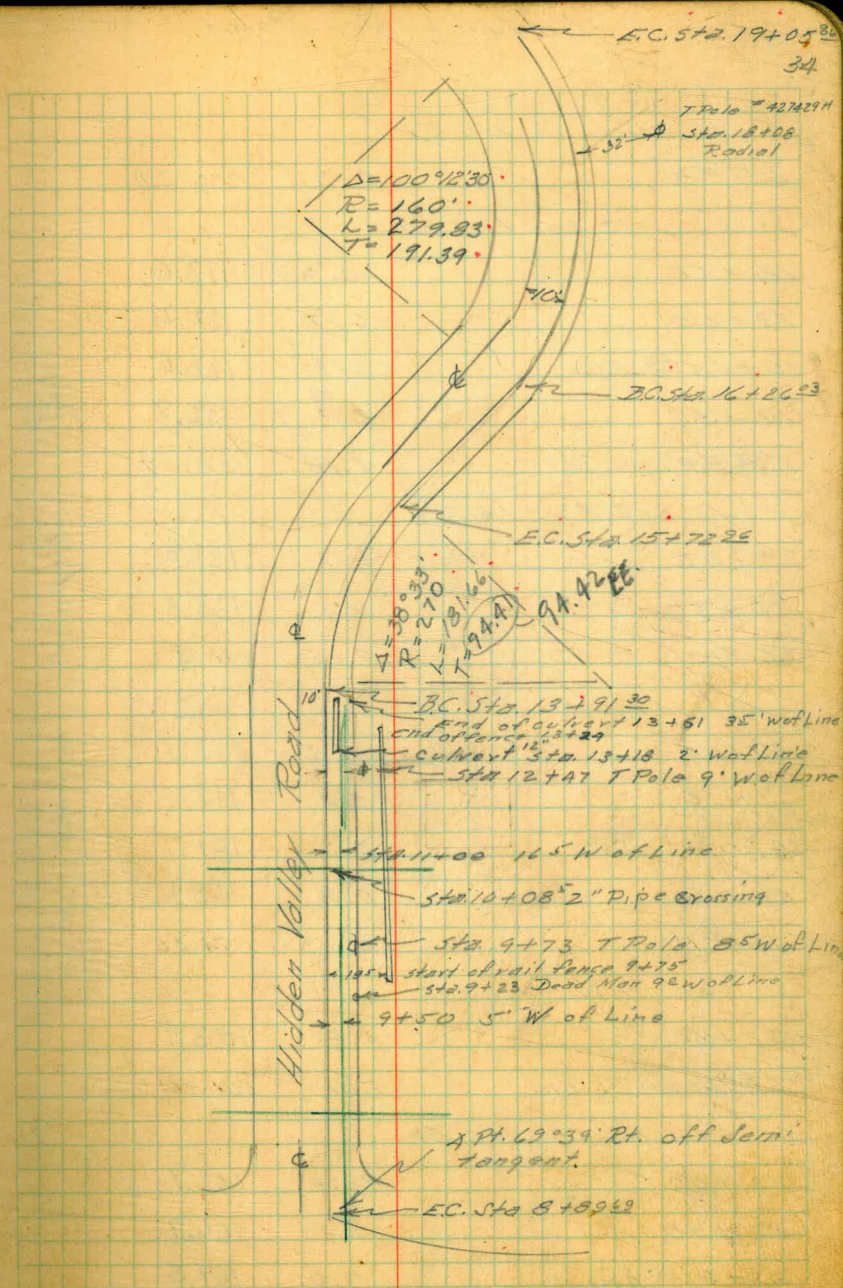




## Hidden Valley Road Pipeline

	69.06		
T.P.#4		0.86	68.20
	12.14	80.34	
13+00		12.0	68.3
13+18		10.3	70.0
13+20		9.1	71.2
13+50		6.9	73.4
13+91 <sup>30</sup> BC.		2.8	77.5
14+00		1.9	78.4
T.P.#5		0.21	80.13
	12.48	92.61	
14+50		9.5	83.1
15+00		4.5	88.1
T.P.#6		0.22	92.39
	12.04	104.43	
15+50 EC.		11.1	93.3
15+72 <sup>26</sup>		8.6	95.8
16+00		5.9	98.5
16+26 <sup>23</sup> BC.		3.4	101.0
16+50		1.4	103.0
T.P.#7		0.18	104.33
	12.18	116.51	
17+00		9.2	107.3
17+50		5.6	110.9
18+00		2.0	114.5

NOTES RECORDED 10/20/47 R.B.



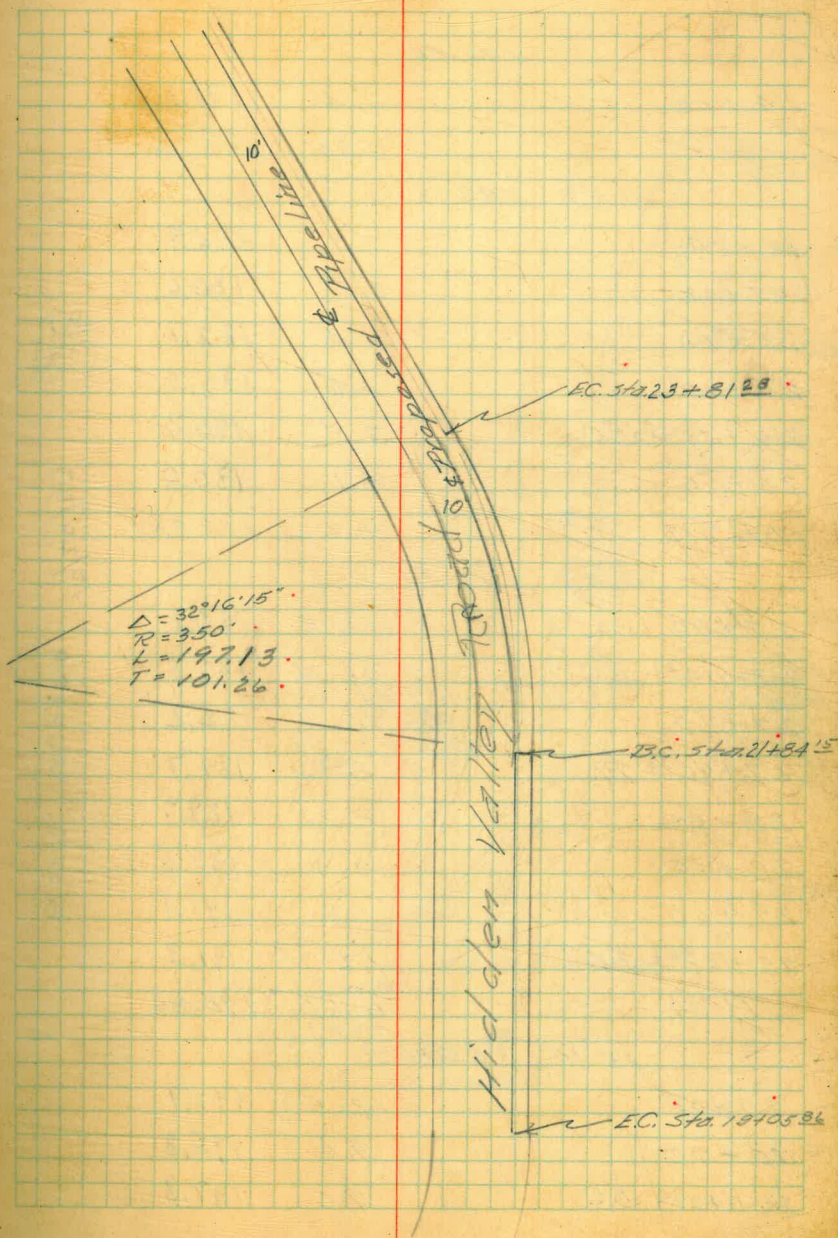


	116.51		
T.P.#8		0.31	116.20
	12.65		128.85
18+50		10.3	118.6
19+00		6.7	122.2
19+05 <sup>86</sup> E.C.		6.3	122.6
19+50		2.1	126.8
T.P.#9		0.18	128.67
	12.83		141.50
20+00		9.7	131.8
20+50		3.2	138.3
T.P.#10		0.15	141.35
	12.84		154.19
21+00		10.5	143.7
21+50		5.4	148.8
21+84 <sup>85</sup> B.C.		2.5	151.7
22+00		0.8	153.4
T.P.#11		0.13	154.06
	9.11		163.17
22+50		4.8	158.4
T.P.#12 on P.I. Pin		1.21	161.96
	10.58		172.54
23+00		10.4	162.1
23+50		5.8	166.7
23+81 <sup>86</sup> E.C.		3.0	169.5

B.P.

10/20/47

NOTES REVISED



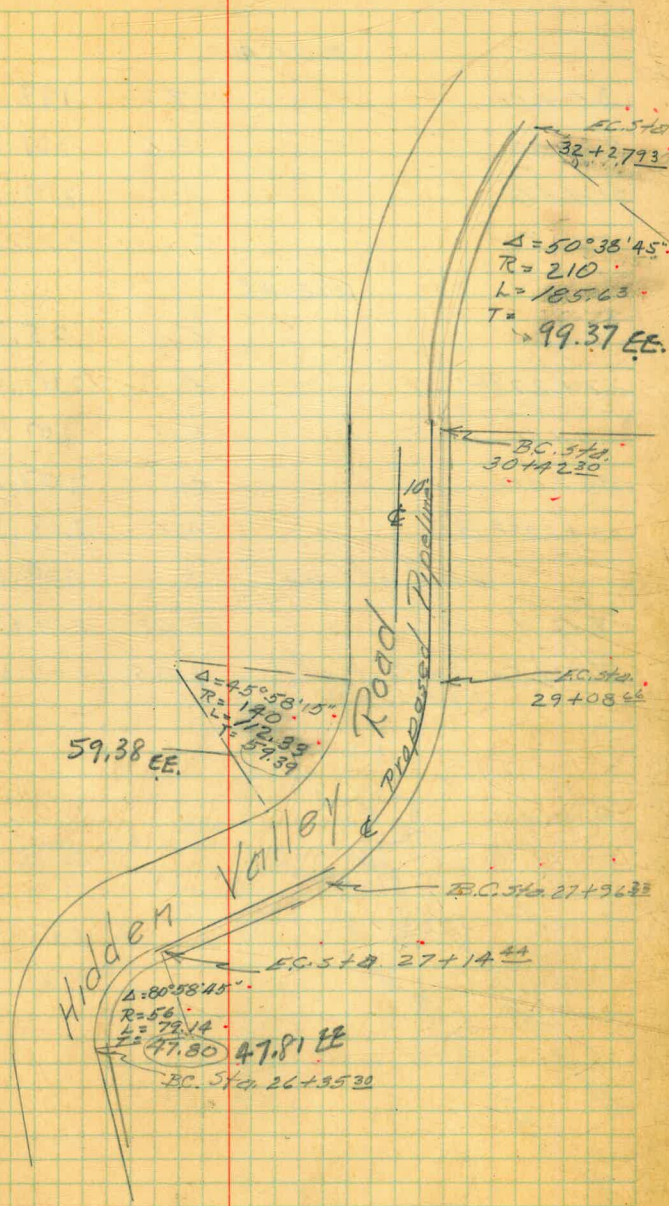


	172.59		
24+00		1.4	171.1
		0.38	172.16
	11.97		184.13
24+50		2.7	176.4
25+00		3.5	180.6
25+50		1.4	182.7
26+00		1.6	182.5
26+55 <sup>30</sup> B.C.		3.5	180.6
26+50		4.1	180.0
T.P. #13		4.22	179.91
	12.99		192.90
27+00		12.8	180.1
27+14 <sup>49</sup> E.C.		12.4	180.5
27+50		10.7	182.2
27+96 <sup>33</sup> B.C.		8.2	184.7
28+00		8.2	184.7
28+50		4.1	188.8
29+00		1.8	191.1
29+08 <sup>66</sup> E.C.		1.6	191.3
T.P. #14		0.60	192.30
	13.10		205.40
29+50		12.5	192.9
30+00		9.6	195.8
30+42 <sup>33</sup> B.C.		7.6	197.8

R/S

10/20/47

NOTES REDUCED

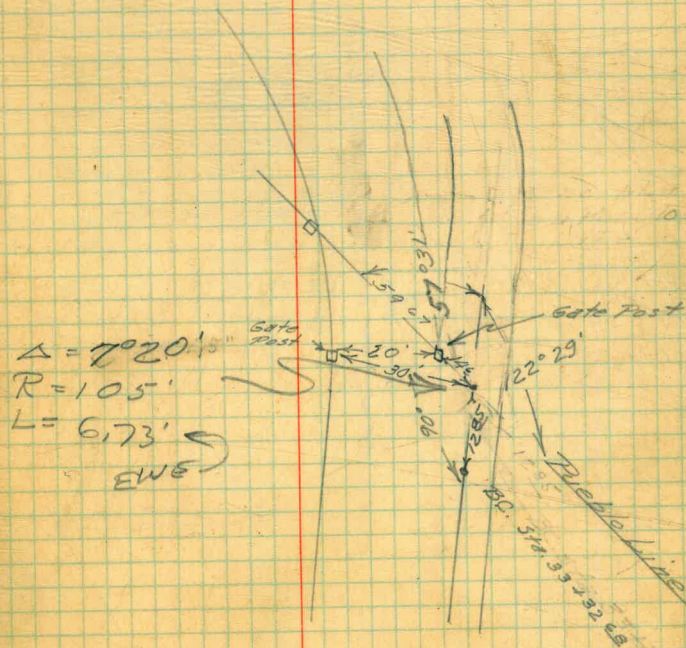




	205.40		
30+50	7.2	198.2	
31+00	3.6	201.8	
31+50	1.1	204.3	
T.P. #15	0.21	205.19	
7.26	212.45		
32+00	6.7	205.8	
32+27.23	5.5	207.0	
32+50	5.1	207.4	
33+00	4.7	207.8	
33+32.68 B.C.	4.0	208.5	
End of line	3.4	209.1	
B.C. &	4.02	208.43	
T.B.M. set in Post at d. of road	2.85	209.60	

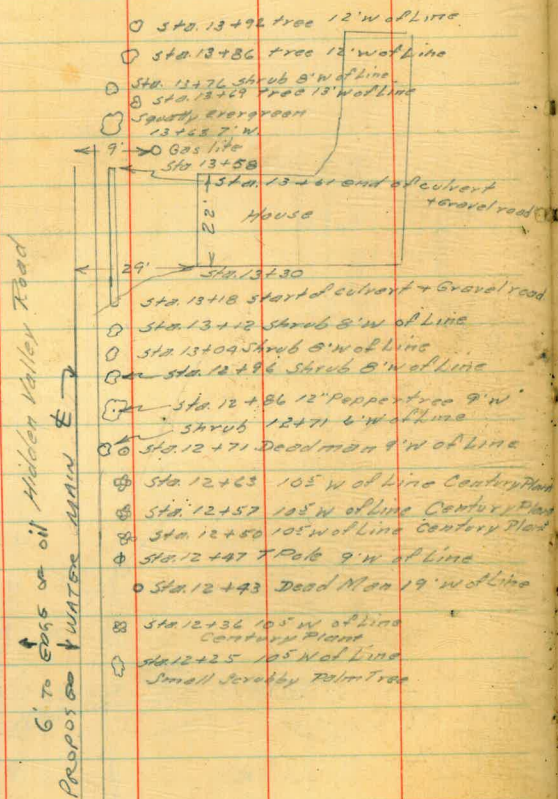
10/20/47  
RPS

NOTES RECALC

from  
MAD  
208.41Treato Hidden Valley Rd. + Pueblo  
line



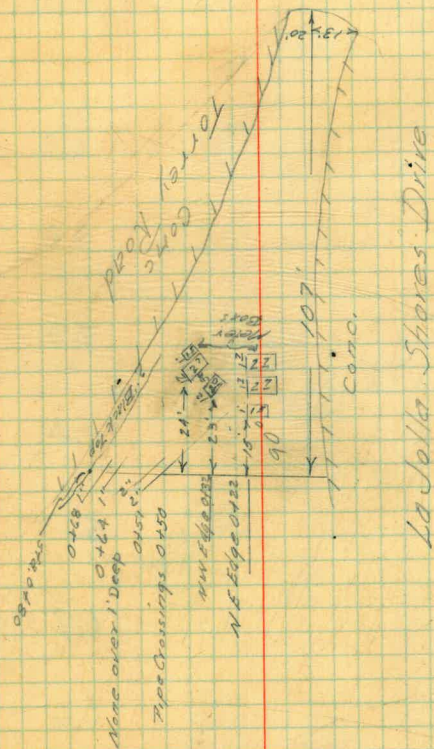
Hidden Valley Road  
Tie to House etc.



Oct. 21, 1947

Rainey  
King  
Nichow

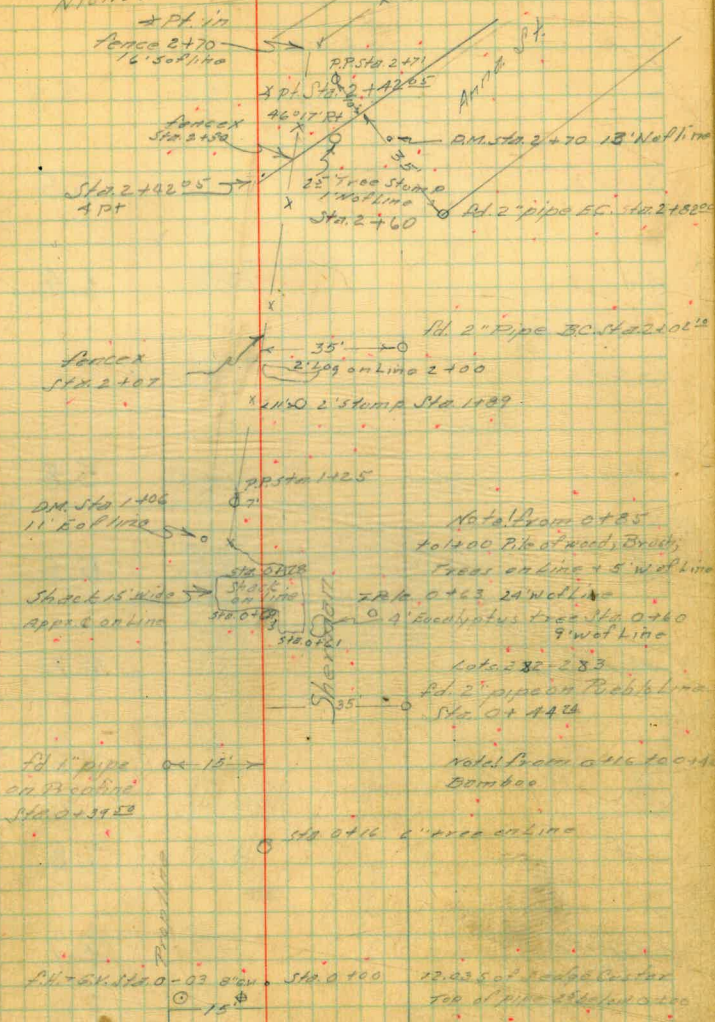
Tie to Pavement Intersection





Max. Nine Area lat 278		5.27	
	7.13	12.40	
TP#1		1.29	11.11
	4.63	15.74	
TP#2		8.15	7.59
	5.80	13.39	
0+00		7.1	6.3
0+50		6.6	6.8
1+00		6.4	7.0
1+38		9.0	4.4
1+50		8.3	5.1
2+00		6.7	6.7
2+225 4PT		6.8	6.6
2+50		6.6	6.8
3+00		6.8	6.6

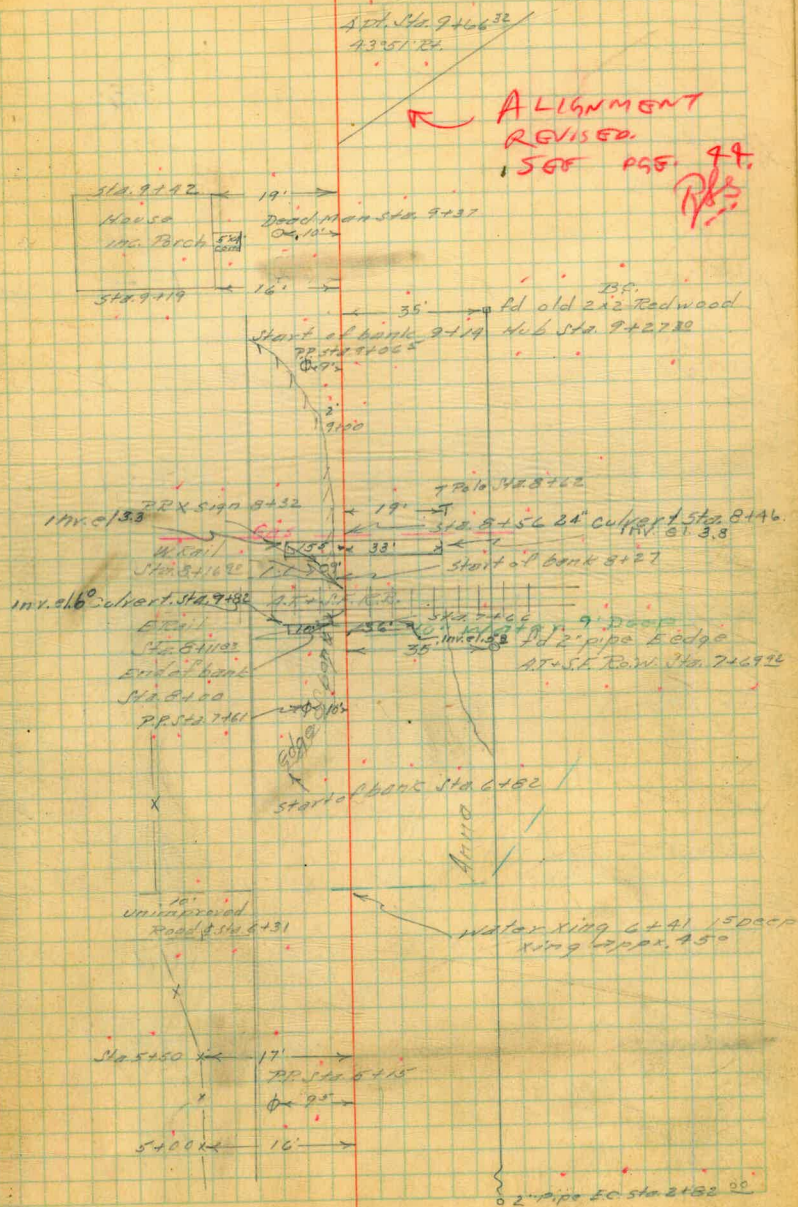
NOTES REVERSED BY S.W.F.

Nov. 2, 1947 Rainy  
Oct. 30, 1947 K. 79  
Narrow



	13.39		
3+50		7.6	5.8
3+62		7.9	5.5
3+83		7.0	6.4
TP#3		5.78	7.61
	8.23	15.89	
4+00		10.0	5.8
4+15		10.0	5.8
4+50		7.6	8.2
5+00		8.0	7.8
5+28		8.0	7.8
5+50		7.1	8.7
6+00		7.9	8.5
6+50		7.2	8.6

NOTES REVISION BY E.W.E.





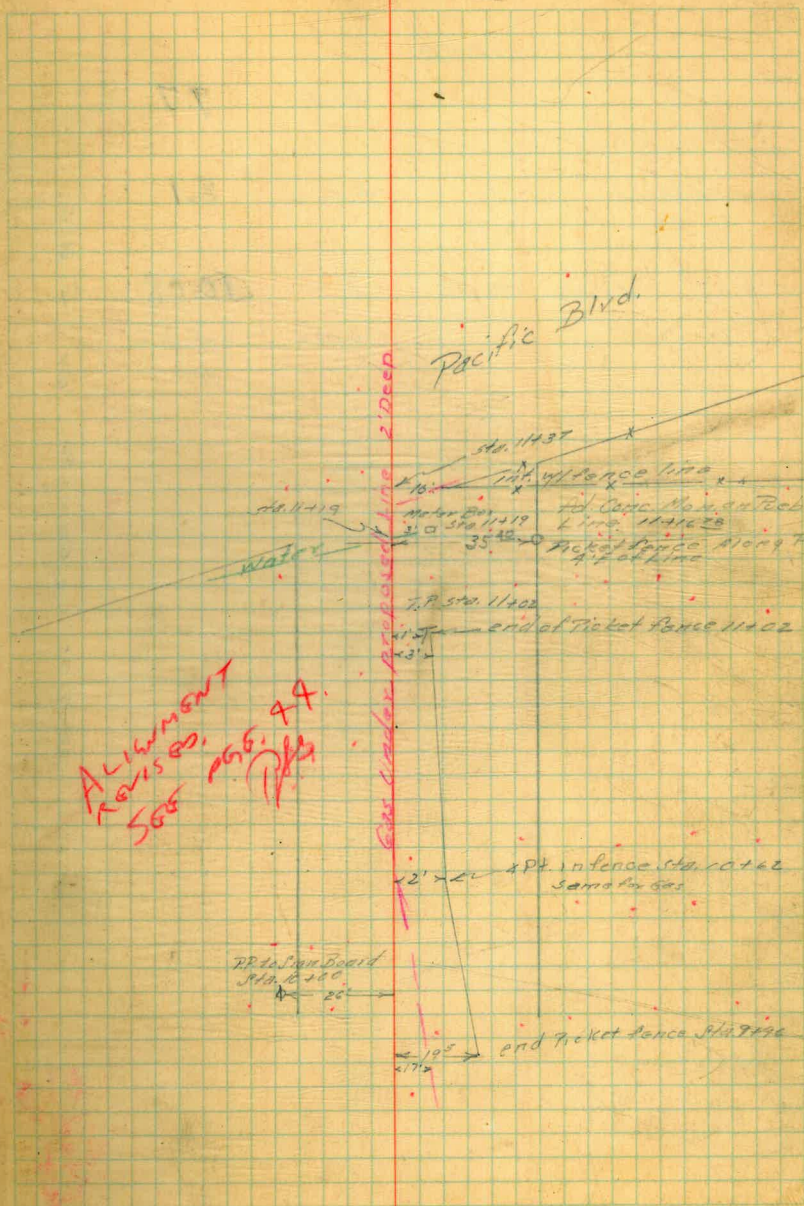
	15.84		
7+00		6.3	9.5
7+00 4'S		7.8	8.04
7+50		4.7	11.1
7+50 4'S		8.1	7.74
8+00		2.4	13.4
8+11 <sup>22</sup> R Rail		1.54	14.30
8+16 <sup>22</sup> W Rail		1.57	14.27
8+50		2.8	13.0
8+50 10'S		9.8	6.04
9+00		4.9	10.9
TP#4		5.42	10.42
	1.66	12.08	
9+50		2.2	9.9
9+66 <sup>22</sup> A Pt.		3.9	8.2
10+00		4.4	7.7
10+50		5.0	7.1

S.W.S.

BY

NOTES ABOVE

REVISE  
PAGE 49





42

ANNA ST

12.08

11400

4.4

7.7

114628

4.0

8.1

11437

Eline Pacific

2.0

10.08

To B.M.

6.82

5.26

SEE REVISION PAGE 44  
 NOT FOR REVISION BY G.M.G.

42

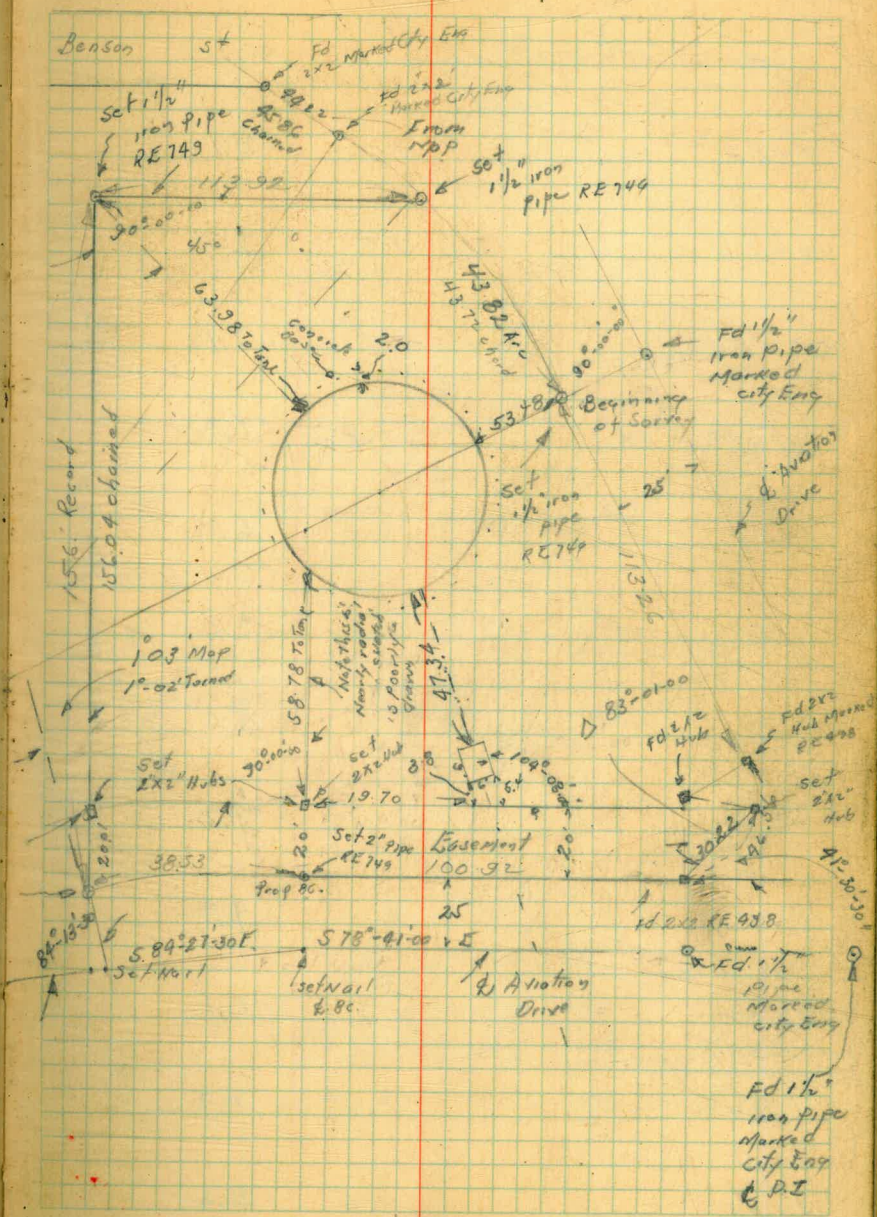


Bliss  
 Leonard  
 Baker  
 11/18/47

Survey of Incanto Standpipe Prop  
 a Portion of Lot 162 Encina de San Diego  
 0.54 Acres - Note Ties from Benson  
 St. were disregarded and Survey was  
 Made from Aviation St. Drive Starting  
 from B.C. & Axis of Elevated Tank  
 Benson St. ties were disregarded on the  
 advice of Mr. Eckenrode City Eng's office

Set  
 1 1/2"  
 Pipe  
 RE 746

07-10-48  
 02-05-47





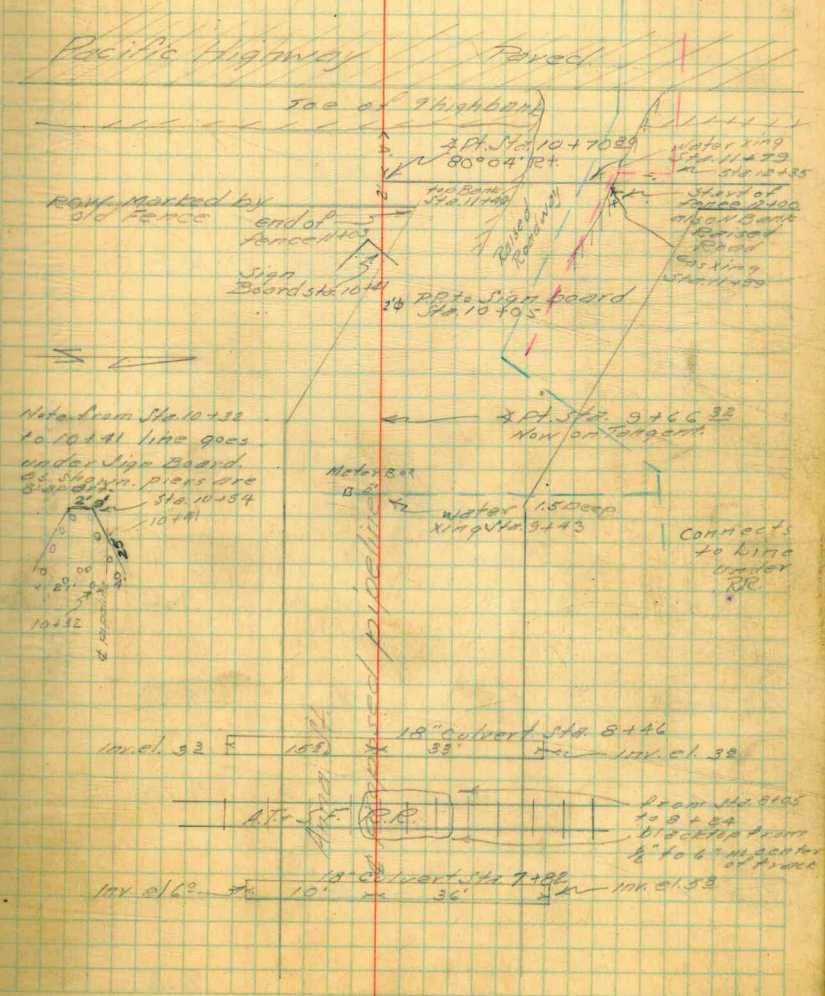
Station	Left Side	Right Side
F. Rail AT+SE RR		14.30
	2.51	16.81
9+66 <sup>32</sup>	8.7	8.1
10+00	9.3	7.5
10+50	9.7	7.1
10+70 <sup>30</sup> + Pt.	10.8	6.0
11+00	10.6	6.2
11+09	9.5	7.3
11+32	8.8	8.0
11+40	7.6	9.2
11+50	7.4	9.4
12+00	6.7	10.1
12+28	10.9	5.9
12+50	11.6	5.2

still

1/19/48

NOTES REDUCED

Note: for entire length of line fence maintains average distance out of 2' unless noted





45

## Armed. H. Profile and Alignment

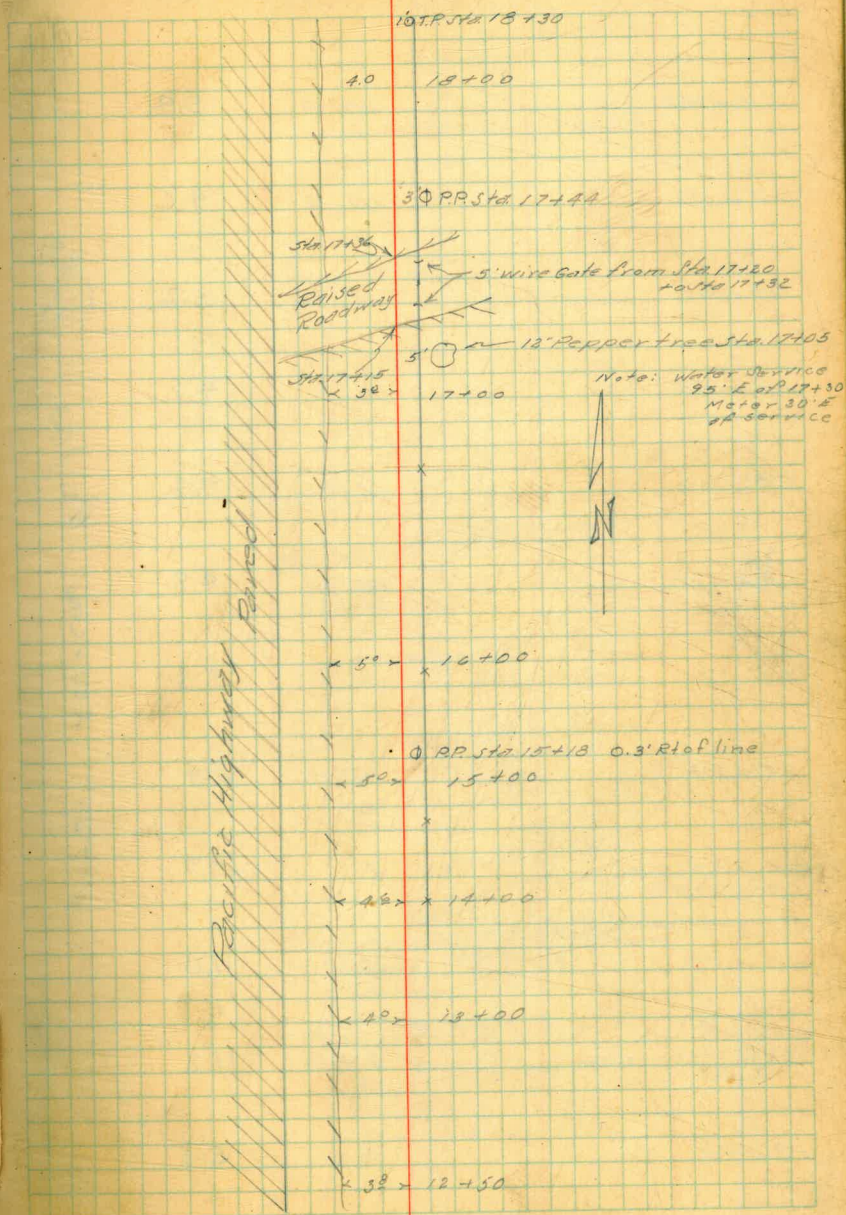
	16.81		
13+00	11.7	5.1	
13+50	12.1	4.7	
14+00	12.1	4.7	
14+50	11.7	5.1	
15+00	11.7	5.1	
15+50	12.1	4.7	
T.P. #1	4.14	12.67	
	2.77	15.44	
16+00	10.8	4.6	
16+50	10.7	4.7	
17+00	10.7	4.7	
17+15	5.5	9.9	
17+36	6.9	8.5	

S.P.

1/19/48

NOTES RECORDED

45





46

Anna St. Profile  
and Alignment

15.44

17+42	10.0	5.9
17+50	10.8	4.6
18+00	12.2	3.2
18+50	11.2	4.2
19+00	11.0	4.4
19+50	10.6	4.8
20+00	10.1	5.3
20+23	10.0	5.4
20+35	4.7	10.7
20+50	4.4	11.0
20+63	4.2	11.2
20+72	9.6	5.8

P.S.

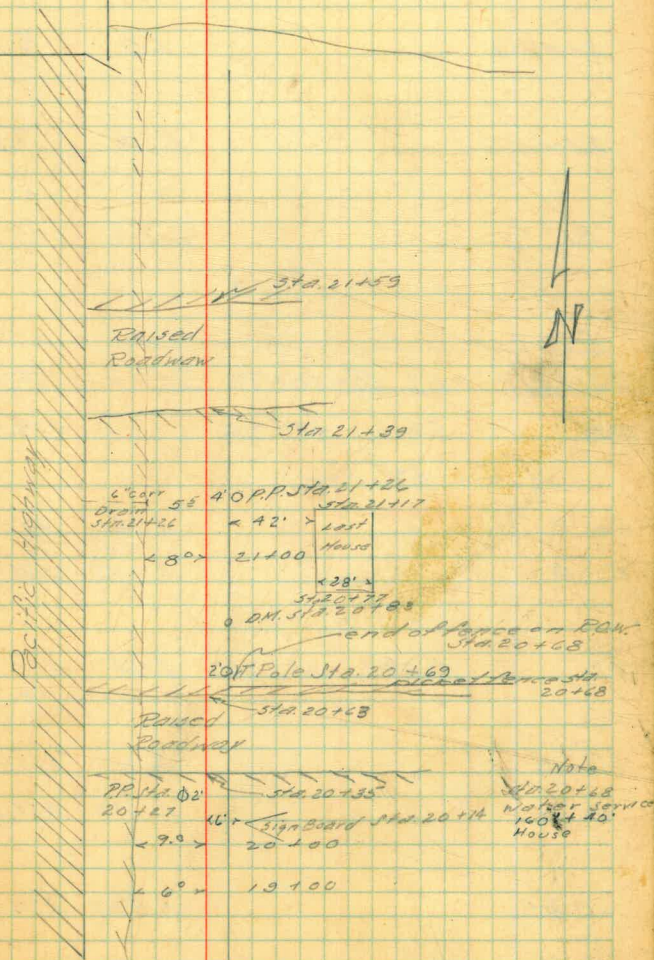
11/21/98

REMOVED

NOT SET

46

## Cudabys' Slough





	15.44			
21+00		10.2	5.2	
21+31		10.5	4.9	
21+39		7.0	8.4	
21+50		6.8	8.6	
TP #2		2.64	12.80	
	2.69 15.49			
	+ 1.07272			
COND. MATH. N. LINE		10.23	05.26	

No 703  
 R. S. U. C. 500  
 1/21/48  
 P.S.

CHECK ELEV. S ENCANTO STAND PIPE

BM	5.608	485.318		479.71	NW CR VAL CHAMBER
	(TANK 67E FULL)				
So. □		4.180	481.138		✓
E. □		4.142	481.176		✓
W	5.039	485.243	5.114	480.204	✓
Nor □		4.100	481.143		✓
W. □		4.073	481.170		✓
GK BM		5.537	479.706	= 479.71	✓

DEC. 27, 1951

Bastin  
Leonard  
Powell

SEE Pg 30 for Orig's



	+	±	-	Elev	Leonard Baker 1/26/48
BM	5.27	484.98		479.71	
S			-3.84	481.14	
W			3.81	481.17	
TP	5.28	485.59	4.67	480.31	
N			4.44	481.15	
E			4.41	481.18	
check BM			5.88	479.71	

Tank 65' Full

CHECK ELEV. ON BASE OF ENCANTO STANDPIPE.

	+	±	-	Elev	Leonard Nieman Shipman 3-24-48
B.M.	+5.75	485.96		479.71	
E.			-4.28	481.19	
N.			-4.31	481.15	
T.P.	+4.59	485.04	-4.95	480.51	
W.			-3.87	481.17	
S.			-3.895	481.145	
check B.M.			-5.88	479.71	

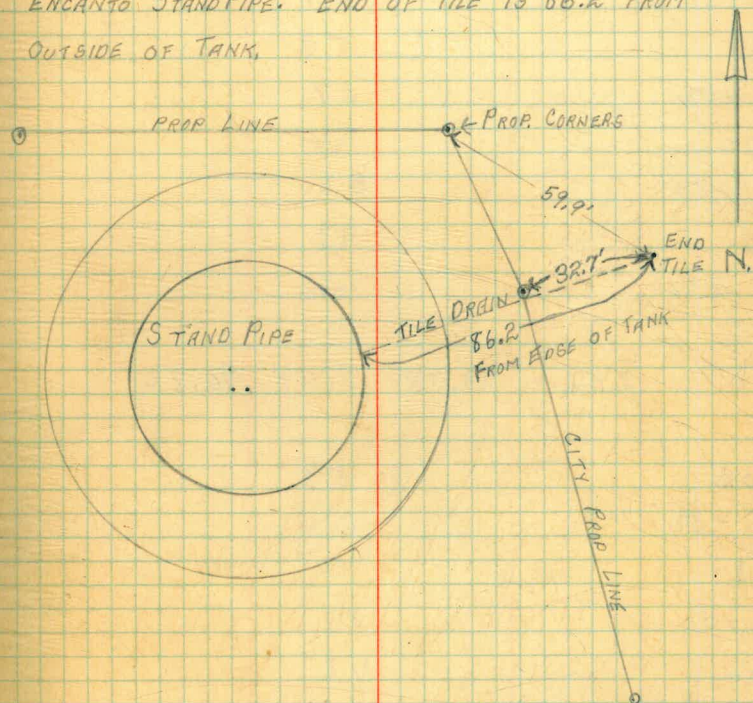
TANK 67.3 FULL.

Elev. Encanto Stand Pipe.

48

LEONARD  
NIEMAN  
SHIPMAN  
MARCH 24, 1948.

LOCATION OF 4" DRAIN TILE ON EAST SIDE OF  
ENCANTO STANDPIPE. END OF TILE IS 86.2' FROM  
OUTSIDE OF TANK.



CHAIN TIES MADE TO CITY PROP. CORNERS, FROM TILE END.  
59.9' TO NE PROP. CORNER, AND 32.7' TO CORNER  
AT B.C. OF ST. CURVE.



Profile - Top Pipe - Hackwood Mesa - Torrey Pines

T.B.M. 0.33 104.75 104.42

Cont'd. from Pg. 22

197+50 3.0

198 4.1

+50 5.1

199 5.9

+50 6.7

200 7.4

+50 8.2

201 9.1

+50 10.2

T.P. 2.52 98.78 8.49 96.26

202 5.3

+50 6.0

203 7.1

+50 8.1

204 9.2

T.B.M. 3.45 93.75 8.48 90.30

204+50 5.5

205 6.6

+50 7.3

New steel P.L.

See Page 23

King-Notes 49  
Leonard T  
Nienow-Rod

Top Meter Box - 7' R + 204 + 05 - 2 Meter Boxes



Top Pipe  
93.75

206+00			8.5	
+50			9.5	
207+00			10.2	
+50			11.2	
208			12.3	81.4

T.P.	022	87.29	6.68	87.07
------	-----	-------	------	-------

208+50			7.1	
209			8.1	
+50			9.4	
210			10.6	
+50			12.1	
211			13.2	

T.P.	1.93	76.94	12.28	75.01
------	------	-------	-------	-------

211+50			3.8	
212			4.6	
+50			5.8	
213			7.3	
+50			8.6	
214			10.8	
+50			11.2	
215			12.1	

207+50

Stake 60' LT. to 208



Top Pipe  
76.94

215+50			13.0	
216			14.1	
T.B.M.	0.12	67.77	9.69	67.25
216+50			5.7	
217			6.7	
+50			8.1	
218			9.4	
+50			10.6	
T.P.	2.19	58.00	11.56	53.81
219			3.2	
+50			4.4	
220			5.1	
+50			5.8	
221			6.3	
+50			6.8	
222			7.7	
+50			8.9	
223			10.0	
+50			10.9	
224			11.9	
+50			12.7	
225			13.7	

51

New Cor Porch 215490 - 6' Pt

217403 Meter - Pt.

217439 " 2t.

217440 - 2" Water x 511g

225404 - 2" Water x 511g



## Top Pipe

		58.00		
T.P.	1.35	48.47	10.91	47.09
T.B.M.	8.32	45.82	10.94	37.50
225+50			3.4	
226			4.4	
+50			5.4	
227			6.4	
+50			8.0	
228			9.1	
+50			11.0	
229			12.9	
+50			13.5	
230			13.9	
T.P.	6.95	41.15	11.62	34.20
230+50			9.0	
231			9.5	
+50			10.6	
232			11.6	
+50			12.6	28.6
T.B.M.			11.67	29.48
B.M.			1.31	39.84

52

Rt 225+50 - 30' - Top lot stake

227+66 Meter Bx - Lt. 6'

6' Lt. 232+50

Conc. Porch 60' ht 229+00



T.P.	3.79	37.99	34.20
------	------	-------	-------

233+00		10.4
+50		11.7
234+00		13.2
+50		14.5
235+00		15.8
+50		16.7
236+00		17.6
+15 <sup>5</sup>		18.0
+16 <sup>2</sup>		

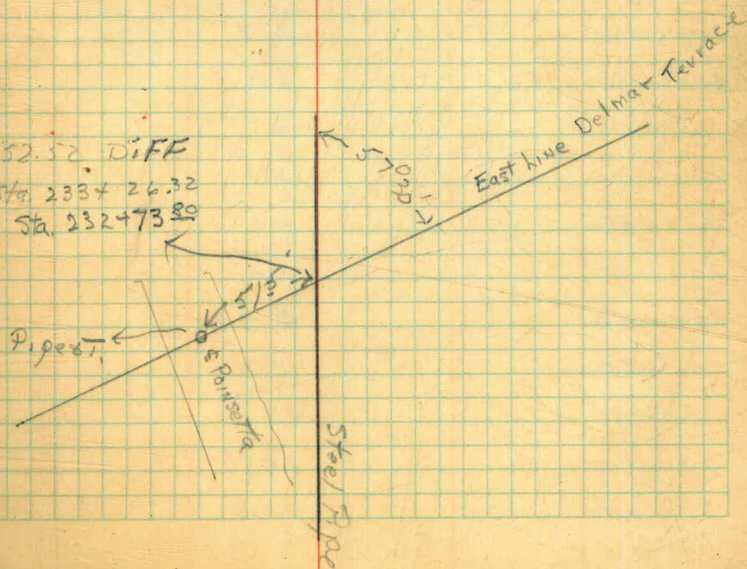
T.P.	+2.49	30.20	10.28	27.71
T.B.M.			6.95	23.25



End of 21" steel pipe - laid-3-17-48  
 Began C.I. Pipe - 18" - 12" Reducer

Hub 11' 2" Sta 236+15

52.52 DIFF  
 Old Sta. 233+26.32  
 New Sta. 232+73.80





Det Mar Pipeline  
Profile top of ground

BM. offset sta. 197+50 104.42

2.24 106.66

197+50 4.0

198+00 5.0

198+50 5.8

199+00 7.1

199+50 8.1

200+00 8.4

200+50 9.1

201+00 10.3

T.P. #1 9.39 97.27

0.54 97.81

201+50 2.7

202+00 3.2

202+50 4.1

203+00 5.3

203+50 6.3

204+00 7.2

204+50 8.8

205+00 9.7

205+50 10.7

206+00 12.1

206+50 12.7

Mar. 25, 1948 Rainey  
King  
Baker

54



Del Mar Pipeline  
Grnd. Profile

55

97.81

T.P.#2 12.30 85.51

0.14 85.65

207+00 1.2

207+50 2.2

208+00 3.3

208+50 4.7

209+00 5.5

209+50 6.9

210+00 7.9

210+50 9.4

211+00 10.4

211+50 11.9

212+00 12.6

T.P.#3 12.27 73.38

1.12 74.50

212+50 2.3

213+00 3.3

213+50 4.6

214+00 6.6

214+50 7.1

215+00 8.4

215+50 9.2



Dec Mar Pipeline  
Grnd Profite

	74.50		
216+00		10.3	
216+50		11.3	
217+00		12.2	
T.P.#4		12.06	62.44
	0.06	62.50	
217+50		0.6	
218+00		2.4	
218+50		3.9	
219+00		5.0	
219+50		7.0	
220+00		7.5	
220+50		8.2	
221+00		9.0	
221+50		9.4	
222+00		9.5	
222+50		10.7	
223+00		11.7	
T.P.#5		10.94	51.56
	0.54	52.10	
223+50		3.2	
224+00		4.5	
224+50		4.9	
225+00		5.7	



Del Mar Pipeline  
Grnd. Profile

57

52.10

225+50		7.6	
226+00		9.1	
226+50		10.2	
226+67	Toe	10.2	
226+72	Top	7.3	
227+00		7.3	
227+50	House 15' N	7.7	
227+52	Top	8.0	
227+60	Toe	11.4	
228+00		12.9	
T.P.#6		10.41	41.69
	0.56	42.25	

228+50		5.3	
229+00		7.6	
229+50		8.6	
230+00		8.7	
230+50		8.5	
231+00		9.3	
231+50		9.6	
232+00		10.5	
232+50		11.3	
T.P.#7		9.65	32.60
	1.97	34.57	



Del Mar Pipeline  
Grnd Profile

34.57

233+00			3.4	
233+50			5.7	
234+00			6.3	
234+50			8.4	
235+00			9.1	
235+50			10.3	
236+00			12.2	
236+167 End			12.8	
T.B.M.P			11.28	23.29
			32.70	
	7.67	40.37		
T.P.#1			2.73	37.64
	11.64	49.28		
T.P.#2			2.06	47.22
	10.60	57.82		
T.P.#3			1.56	56.26
	11.81	68.07		
			0.72	68.35



Profile Country Club  
 S. 5095  
 drive on <sup>1</sup>/<sub>4</sub> mile. PAVEMENT

59

Reck on edge of road		392.67
0.02		392.69
5448	3.8	388.9
6400	10.3	382.4
T.P.	13.10	379.59
0.17		379.76
6450	3.2	376.6
7400	9.0	370.8
T.P.	12.21	367.55
0.02		367.57
7450	2.6	365.0
8400	8.2	359.4
T.P.	13.02	354.55
0.16		354.71
8450	1.0	353.7
9400	6.7	348.0
9450	12.3	342.4
T.P.	12.55	342.16
0.13		342.29
10400	5.2	337.1
10450	10.4	331.9
T.P.	12.82	329.47
0.44		329.91
11400	2.4	327.5
11450	5.9	324.0

See p. 65.



3022

323.91

12+00		8.6	321.3
12+50		10.7	319.2
13+00		12.7	317.2
T.P.		12.74	317.17

0.35 317.52

13+50		2.3	315.2
14+00		4.4	313.1
14+50		6.7	310.8
15+00	on 0.50 curb	10.2	307.3
T.P.		13.00	304.52

0.97 305.49

15+50		3.3	302.2
16+00		8.0	297.5
16+58 <sup>00</sup> curb.		12.1	293.4

Corr. 293.4

Pepita Way

Water Meter N.H.

Pepita Way

Water M.

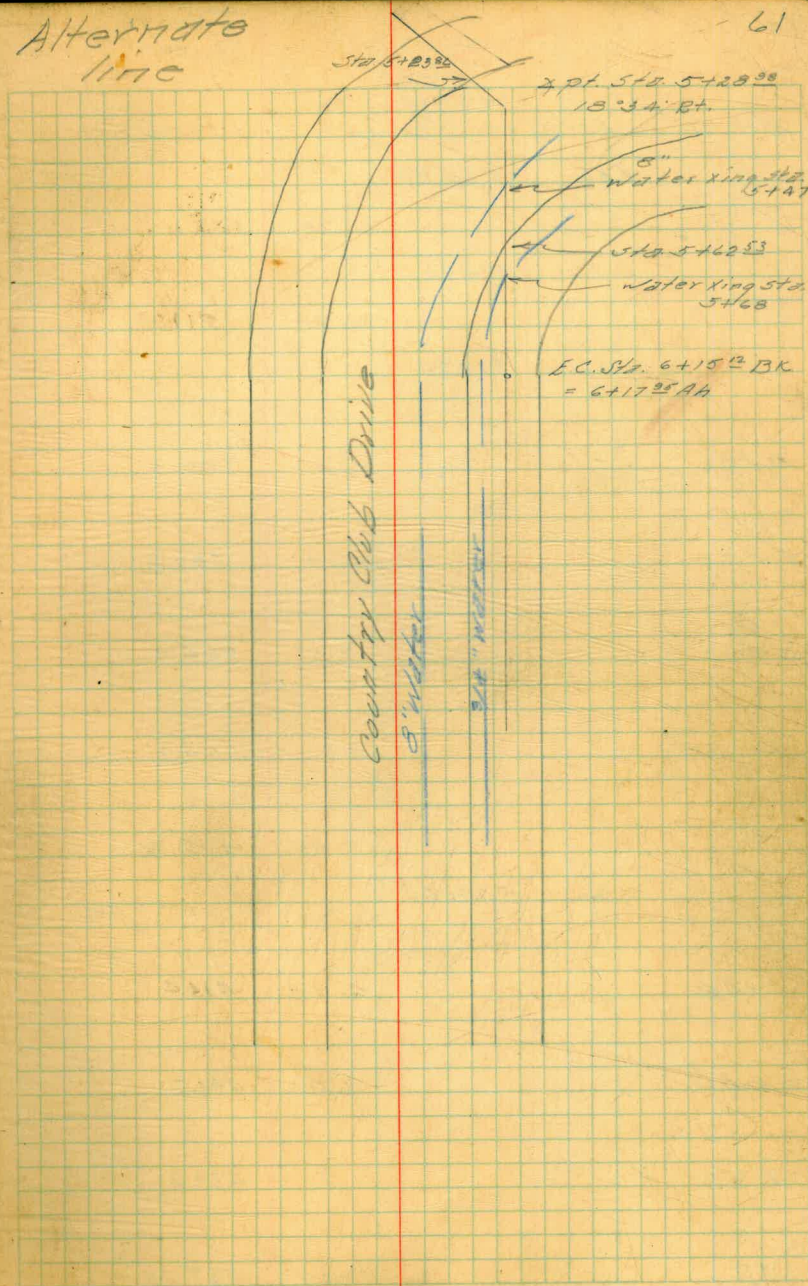
Water M.



			392.67
1.52	394.19		
5+28 <sup>28</sup>	x pt.	3.70	390.49
5+50		5.84	388.35
5+62 <sup>23</sup>	edge conc.	7.36	386.84
5+66		7.0	387.2
5+00		11.1	383.1
6+15 <sup>18</sup>	BK = 6+17 <sup>25</sup> Ah	11.95	382.24

Alternate  
line

61

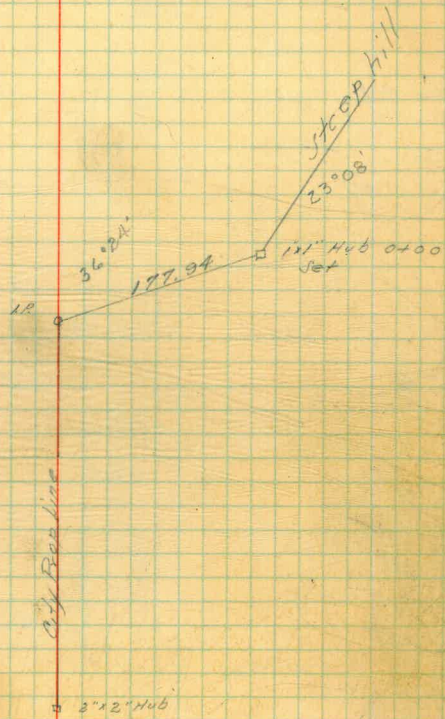




Mar 29, 1948

Rainey  
King  
Baker

62



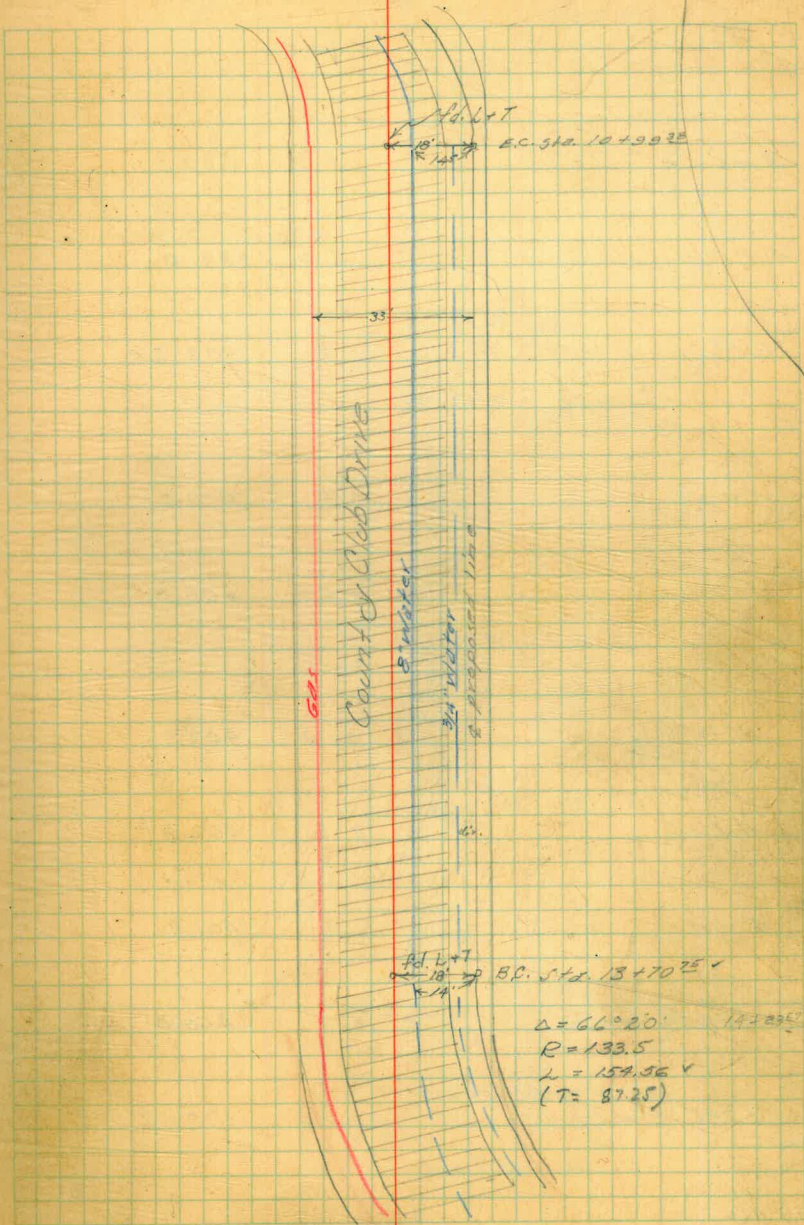
			Rainey Baker
	E <sup>nd</sup> on Rainey Pl.		
BM on rock at N <sup>W</sup> end of house			532.06
4.82	536.88		
		12.77	524.11
0.79	524.30		
		12.98	511.92
0.32	512.24		
0+00		11.9	500.3
0+03		11.4	500.8
0+13		7.3	504.9
0+18		7.9	504.3
T.P.		12.48	499.76
0.90	500.66		
0+36		6.3	494.4
0+50		9.0	491.7
0+58		11.7	489.0
T.P.		12.89	487.79
0.82	488.59		







		441.97		
T.P.			12.87	429.10
	1.22	430.32		
T.P.			12.79	417.53
	0.01	417.54		
T.P.			13.08	404.46
	0.26	404.72		
2+50			4.3	400.4
2+67			13.2	391.5
T.P.			12.94	391.78
	1.73	393.51		
3+00			4.2	387.3
3+14			8.8	384.7
3+14	bottom		9.7	383.8
3+19			9.7	383.8
3+21			8.7	384.9
3+50			13.0	380.5



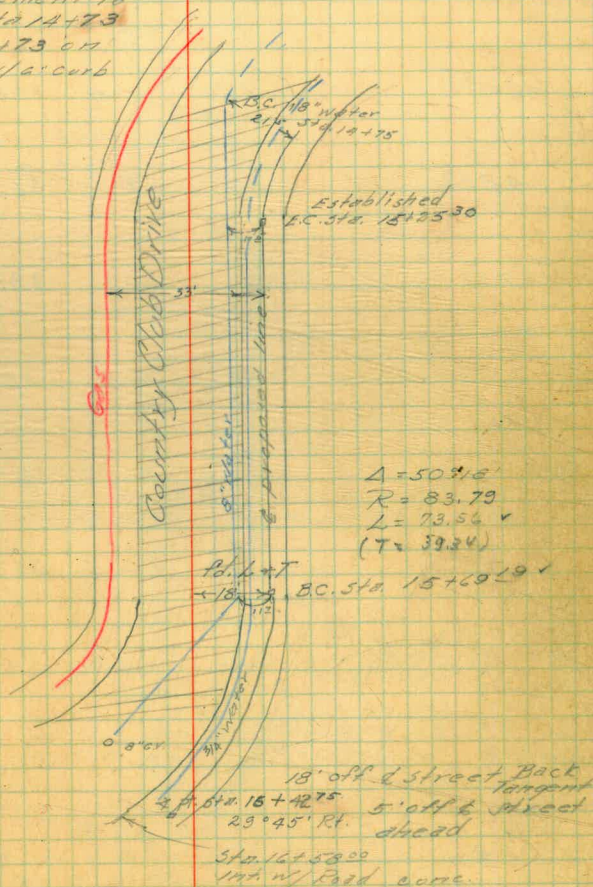


	393.51		
3+60		13.2	380.3
4+00		2.5	391.0
T.P.		1.31	392.20
	10.72	402.92	
4+39		1.9	401.0
T.P.		0.07	402.85
	2.67	405.52	
4+50		3.4	402.1
4+70		2.8	402.6
4+84		3.6	401.9
5+01.50 P.O.T.		5.5	400.0
T.B.M. on Rock	6' w/ road, 15+54.152	12.85	392.67
	0.18	392.85	

Mar. 29, 30  
1948

Rainey  
King  
Baker 65

Note! Pavement is  
wide to Sta 14+73  
from 14+73 on  
20' wide w/ a curb





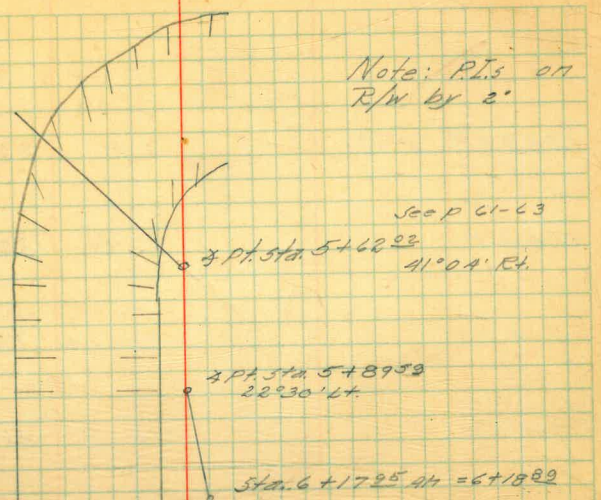




Realignment  
Country Club Drive

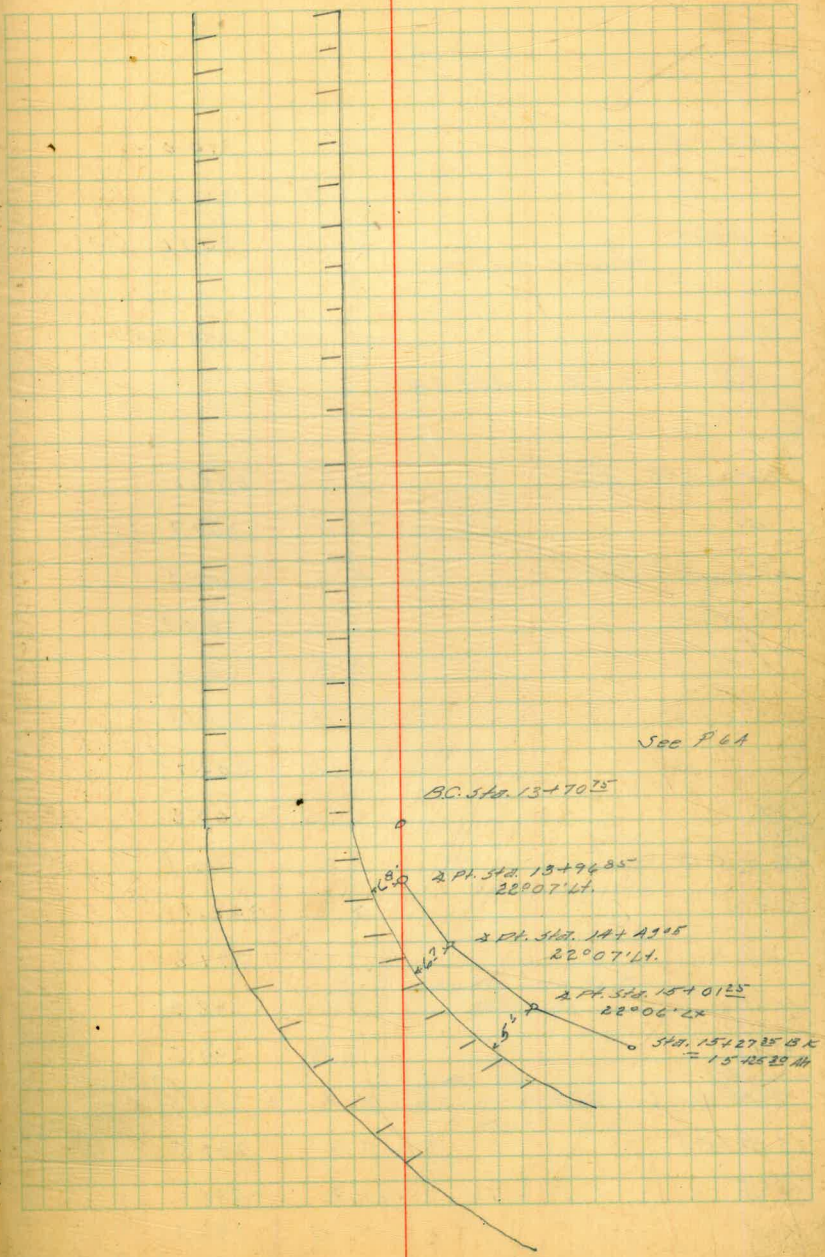
67

	368.46		
7+50		3.0	365.5
8+00		9.8	358.7
T.P.		13.06	355.40
	0.46	355.80	
8+50		3.5	352.4
8+90 <sup>00</sup> B.C.		7.2	348.7
9+00		8.2	347.7
9+50		13.9	342.0
T.P.		12.26	343.60
	0.24	343.84	
10+00		6.9	336.9
10+50		11.7	332.1
T.P.		12.95	330.89
	0.76	331.65	





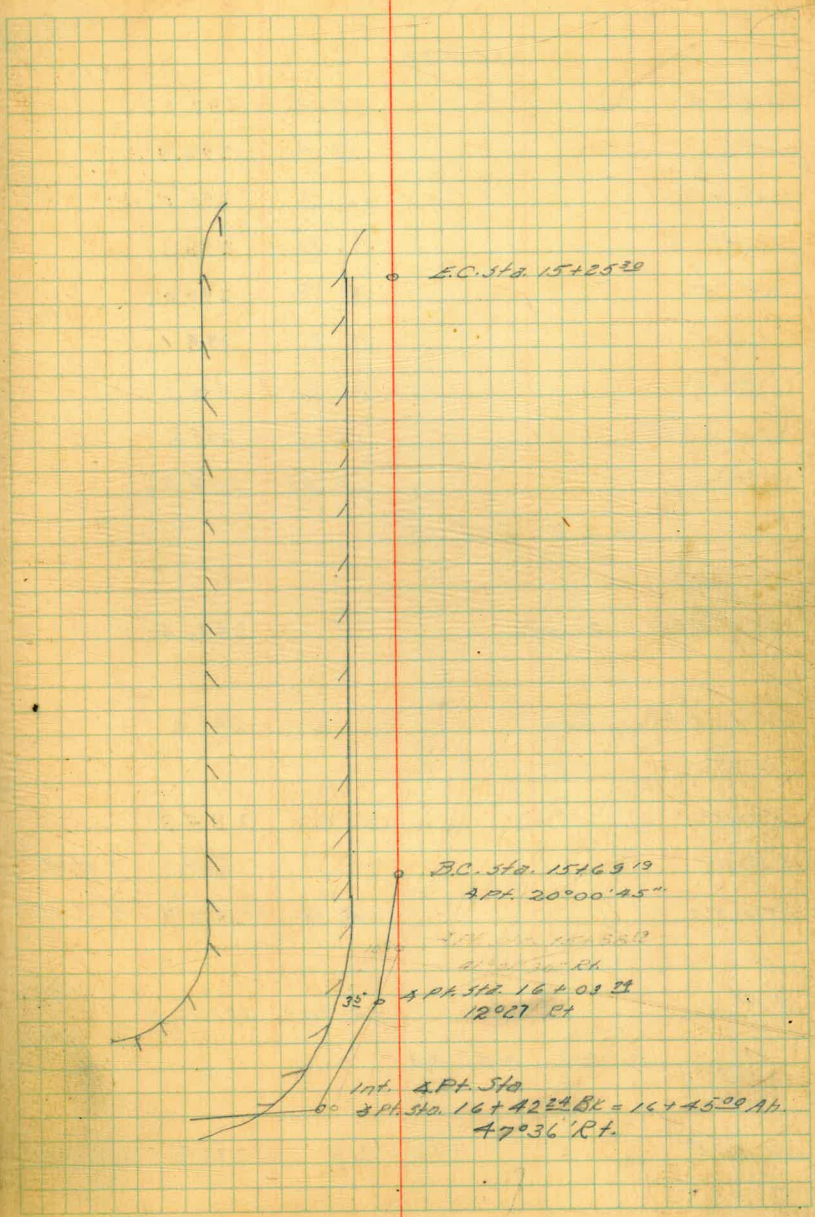
	331.65		
10+99 <sup>38</sup> E.C.	3.3	328.3	
11+50	6.8	324.8	
12+00	10.6	321.0	
12+50	12.9	318.7	
T.P.	12.70	318.95	
	0.20	319.15	
13+00	3.2	316.0	
13+50	4.5	314.6	
13+70 <sup>25</sup> B.C.	5.2	314.0	
14+00	6.1	313.0	
14+25	6.5	312.6	
14+50	7.1	312.0	
2.5	7.0	312.1	





3/9.15

14+75	9.1	310.0
	7.9	311.2
15+00	11.5	307.6
T.P.	12.41	306.74
0.54	307.28	
15+25 <sup>30</sup> EC	2.2	305.1
2'S	4.0	307.7
15+69 <sup>2</sup> BC	4.6	302.7
2'S	2.6	304.7
3'N	6.3	301.0
15+75	4.4	302.9
2'S	2.6	304.7
3'N	6.5	300.3
16+00	7.2	300.1
4'S	5.2	302.1
2'N	7.5	297.8
16+17	8.5	298.8
3'S	7.8	299.5
7'N	11.1	296.3
16+185	9.8	297.5
3'S	9.2	298.1
6'N	11.0	296.3





307.28

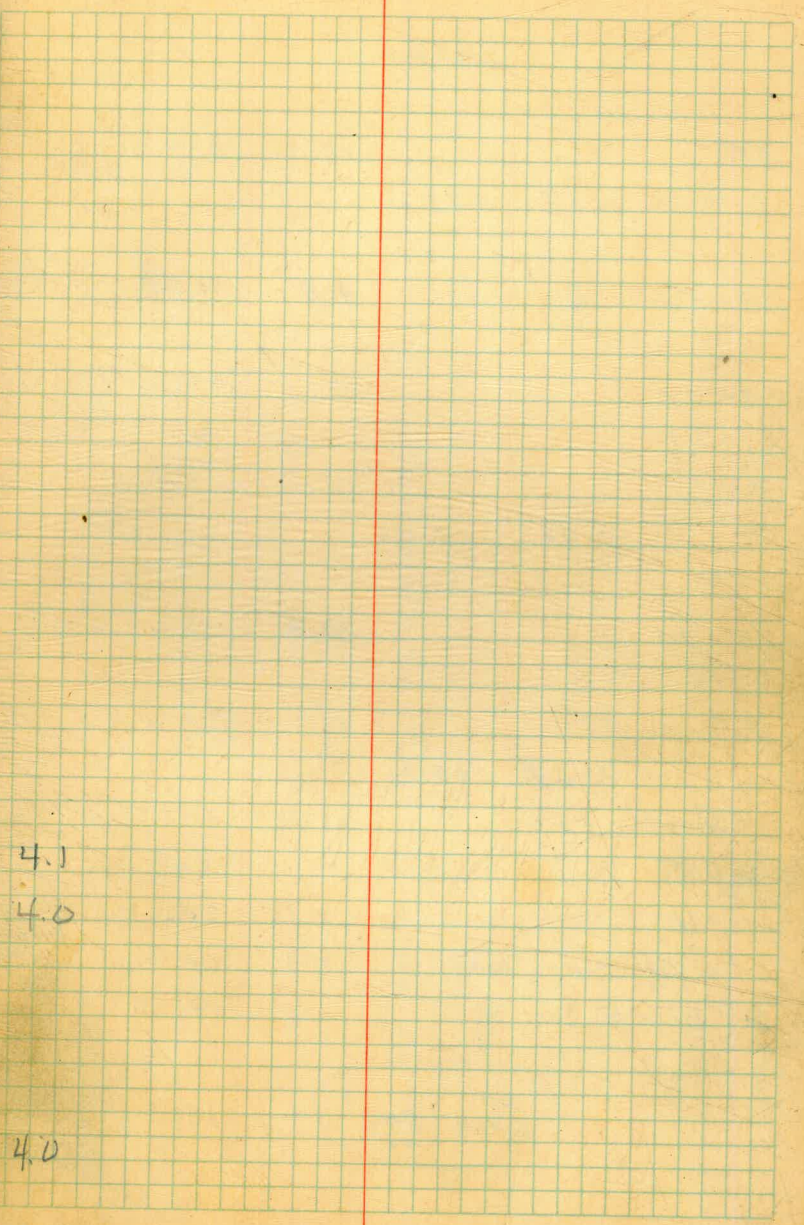
16+24	10.2	297.1	
4'S	8.4	298.9	
5'N	11.3	296.0	
16+25	9.0	298.3	
5'S	8.3	299.0	
1.3N	5.2	298.1	
5'N	11.2	296.1	
16+27.5	11.5	295.8	
T.P.	12.82	294.46	

0.67 295.13

16+58.00 curb	17	293.4	
16+58.00 street	2.2	292.9	
17+00	6.8	288.3	
17+25		284.6	280.5
17+50	14.4	280.7 <sup>39</sup>	276.7
T.P.	12.90	282.23	

0.57 282.80

18+00	9.8	273.0	269.0
-------	-----	-------	-------



4.1  
4.0  
4.0



	282.80			
T.P.		12.51	270.29	
	0.37	270.66		
18+50		4.9	265.8	261.8
19+00		12.5	258.2	253.8
19+21			255	250.5
T.P.		12.57	258.09	
	0.95	259.04		
19+50		0.3	250.7	246.3
T.P.	3.14	12.30	246.74	
	2.67	249.41		
19+83 <sup>24</sup> SPT		3.9	245.5	241.4
20+03			243.3	239.6
20+18 <sup>24</sup> End		7.1	242.3	
E.V. Chant <sup>24</sup> Top of pipe		8.46	240.95	
B.M. B.P. S.E. Cor		3.71	245.70	

OR  
WHAT S-75?

Cut

4.0

4.4

5.0

4.4

4.1

3.4

Exd Work



Hidden Valley  
for Construction

+ Calle De Plata

B.M. B.P.N.E. Cor. Torrey Pines 54.69

	1.07	55.76	Out to Pipe	Stake	Both of Pipe Grades	
0+00						
0+50			7.6	48.2	44.6	
0+75			5.6	50.2	45.7	
1+142 <sup>23</sup> BK			6.3	49.5	45.8	
1+142 <sup>23</sup> Ah			6.4	49.4	45.8	
F.H.			Ⓢ 6.3			
1+50			6.6	49.2	45.9	
T.P.			5.95	49.81		

7.07 56.88

2+00			7.7	49.2	46.0	
2+50			7.3	49.6	46.2	
3+00			7.0	49.9	46.5	
3+26 <sup>25</sup> E.C.			7.0	49.9	46.7	
3+50			6.8	50.1	46.8	
4+00			5.7	51.2	46.9	
4+40			5.0	51.9	45.0	
4+60			5.2	51.7	45.0	
5+10			4.5	52.4	48.7	
5+61 <sup>63</sup> B.C.			3.2	53.3	50.0	
6+00			2.4	54.5	51.0	
T.P.			2.01	54.87		

9.31 64.18

June 22, 1948

Rainey  
Baker  
West

72

Cut

3.6

4.5

3.7

3.6

3.3

3.2

3.4

3.4

3.2

3.3

4.3

6.9

6.7

3.7

3.3

3.5



June 25, 1948 Rainey  
Baker  
West 73

	64.18		STAKE	Bot Pipes GRADE	Cut
6+50		9.3	54.9	51.1	3.8
6+90		9.2	55.0	51.2	3.8
7+00		8.9	55.3	51.4	3.9
7+30		7.3	56.9	52.0	4.9
7+50		6.8	57.4	53.2	4.2
8+00		4.9	59.3	56.4	2.9
8+50		2.5	61.7	58.1	3.6
TBM. Spike in P.P.	NW Cor. T.P. #1 V.H.K.	1.73	62.45	62.46	
	5.99	68.45			
8+89 <del>2</del> 3 H. split		5.0	63.5	59.4	4.1
9+00		5.0	63.5	59.8	3.7
9+50		4.7	63.8	60.0	3.8
10+00		4.3	64.2	60.2	4.0
10+50		3.7	64.8	60.7	4.1
11+00		3.1	65.4	61.2	4.2
11+50		2.9	65.6	61.6	4.0
12+00		2.4	66.1	62.0	4.1
12+25		2.3	66.2	62.2	4.0
12+ T.P. #1		1.46	66.99		
	12.84	79.88			
12+50		13.0	66.8	63.0	3.8
13+00		10.5	69.3	64.0	5.3
13+50		6.1	73.7	69.4	4.3
2		6.2	73.6		



			£ FLAV.	Bot Aps Grass
	79.83		STAKES	
13+75		3.8	76.0	72.0
£		3.8	76.0	
13+91 <sup>50</sup> BC.		1.9	77.9	73.5
£		2.2	77.6	
14+00		1.2	78.6	74.3
£		1.3	78.5	
T.P.		0.26	79.57	
	12.30	91.87		
14+25		10.7	81.2	76.8
£		10.8	81.1	
14+50		8.1	83.8	79.4
£		8.1	83.8	
14+75		5.7	86.2	81.0
£		5.7	86.2	
15+00		3.3	88.6	84.2
£		3.3	88.6	
15+25		1.0	90.9	86.8
£		1.1	91.8	
T.P.		0.32	91.55	
	12.61	104.16		
15+50		10.9	93.3	89.4
£		10.9	93.3	
15+72 <sup>24</sup> E.C.		8.7	95.5	91.4
£		8.5	95.7	

CUT  
4.0

4.4

4.3

4.4

4.4

4.4

4.4

4.1

3.9

4.1



			± ELEV +	STAKE	B.T. PIPE GRADE
	104.16				
16+00		5.9	98.3	93.9	
±		5.9	98.3		
16+26.93 B.C.		3.4	100.8	96.2	
±		3.3	100.9		
16+50		1.0	103.2	98.4	
±		1.1	103.1		
T.P.		0.31	103.85		
	12.49	116.34			
16+75		11.1	105.2	100.7	
±		10.9	105.4		
17+00		9.1	107.2	102.9	
±		8.9	107.4		
17+25		7.0	109.3	104.9	
±		7.0	109.3		
17+50		5.2	111.1	106.9	
±		5.1	111.2		
17+75		3.2	113.1	108.6	
±		3.3	113.0		
18+00		1.6	114.7	110.4	
±		1.6	114.7		
T.P.		0.42	115.92		
	12.78	128.70			
18+25		12.3	116.4	112.4	
±		12.2	116.5		

Cut  
4.4

4.6

4.8

4.5

4.3

4.4

4.2

4.5

4.3

4.0

F.H. STKD @ 18+40<sup>86</sup> 4/19/55  
 STA 18+40<sup>86</sup> Hidden Valley Rd  
 = STA 4+43<sup>16</sup> & Road 6826-L  
 BEATTY  
 SHOREY  
 MARTELL  
 Kellinger

BM. 035	55.00		54.69
TD 5.58	57.21	3.41	51.63
TD 12.35	70.42	0.14	57.07
TD 19.29	83.58	0.13	70.29
TD 12.12	96.68	0.02	83.56
TD 12.00	109.56	0.12	96.56
TD 10.00	119.41	0.15	109.41
± of pipe 18+40		1.86	117.55=117.5
⊕ F.H.		0.75	118.66 118.0
Set TBM. R. Pole R-61758		1.20	118.21

Flange C07  
 Pol. EUC 43

± 18+40 interpolated 117.5  
 Bottom of pipe 113.7



			<u>± ELEV</u>	<u>STAKE</u>	<u>BST PIPE GRADES</u>	<u>CUT</u>
	128.70					
18+50		10.5	118.2	114.5	3.7	
±		10.5	118.2			
18+75		8.8	119.9	116.1	3.8	
±		8.7	120.0			
19+05 <sup>86</sup> EC		6.3	122.4	118.2	4.2	
±		6.4	122.3			
19+50		2.1	126.6	122.8	3.8	
±		1.9	126.8			
TP		0.09	128.61			
	12.89	141.50				
20+00		9.6	131.9	128.0	3.9	
±		9.5	132.0			
20+50		4.2	137.3	133.8	3.5	
±		4.0	137.5			
TP		0.33	141.17			
	12.64	153.81				
21+00		11.4	142.4	138.9	3.5	
±		11.3	142.5			
21+50		6.5	147.3	144.0	3.3	
±		6.4	147.4			
21+84 <sup>55</sup> BC		3.2	150.6	147.1	3.5	
±		3.1	150.7			
22+00		1.7	152.1	148.6	3.5	
±		1.5	152.3			



			± ELEV	Bot PIPE GROSS	Cut
			STAKE		
	153.81				
	441				
T.P.		0.21	153.60		
	12.68	146.28			
22+25		11.7	144.6	151.0	3.6
±		11.6	154.7		
22+50		9.3	157.0	153.3	3.7
±		9.1	157.2		
22+75		6.9	159.4	155.6	3.8
±		6.8	159.5		
23+00		4.4	161.9	157.9	4.0
±		4.4	161.9		
23+25		2.2	164.1	160.2	3.9
±		2.0	164.3		
T.P.		0.14	166.14		
	12.84	178.98			
23+50		12.4	166.6	162.5	4.1
±		12.3	166.7		
23+81 <sup>25</sup> E.C.		9.7	169.3	165.3	4.0
±		9.5	169.5		
24+00		8.1	170.9	167.2	3.7
±		7.9	171.1		
24+50		3.7	175.3	171.5	3.8
±		3.6	175.4		
25+00		0.5	178.5	174.5	4.0
±		0.5	178.5		



			± Elev	Bot Pipe GRADE	Cut
			± STAKES		
	178.98				
T.P.		0.55	178.43		
	7.77	186.20			
25+50		6.3	179.9	175.9	4.0
±		6.2	180.0		
26+00		5.6	180.6	176.0	4.6
±		5.6	180.6		
26+35 <sup>30</sup> B.C.		5.4	180.8	176.1	4.7
±		5.3	180.9		
26+50		5.3	180.9	176.1	4.8
±		5.2	181.0		
26+75		4.7	181.5	176.1	5.4
±		4.7	181.5		
27+00		4.1	182.1	176.2	5.9
±		4.0	182.2		
27+14 <sup>44</sup> E.C.		3.6	182.6	177.0	5.6
±		3.6	182.6		
T.P.		0.30	185.90		
	9.90	195.80			
ck. to B.M.		4.56	191.24	191.22	



Profile New Alignment  
Country Club Drive

392.69		
5+62 <sup>02</sup>	4.2	388.5
5+89 <sup>59</sup>	7.3	385.4
6+00	8.8	383.9
6+12 <sup>25</sup>	10.5	382.2

317.52

13+70 <sup>25</sup> L	3.6	313.9
13+96 <sup>25</sup> 2PT	4.3	313.2
14+49 <sup>05</sup>	5.7	311.8
14+60	5.8	311.7
15+01 <sup>25</sup> 2PT	9.8	307.7
15+25 <sup>30</sup>	12.5	305.0

305.49

15+69 <sup>19</sup>	2.8	302.7
15+83	5.4	300.1
16+03 <sup>24</sup> 2PT	7.5	298.0
16+42 <sup>25</sup> BK	10.3	295.2

See p 59

See p 60

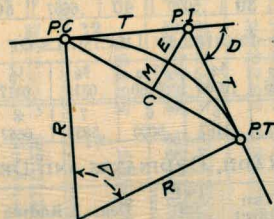
See p 60



Encanto stand pipe  
 Elev of hub of tank 480.23  
 B.M. on pipe B.E. Aviation Dr  
 Elev. 478.24

## DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

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### CURVE FORMULAS

- Radius  $= R = \frac{50}{\sin. \frac{D}{2}}$  (1) Degree of Curve  $= D$  and  $\sin. \frac{D}{2} = \frac{50}{R}$  (2)  
 Tangent  $= T = R \tan \frac{\Delta}{2}$  (3) Length of Curve  $= L = 100 \frac{\Delta}{D}$  (4)  
 Middle ordinate  $= M = R(1 - \cos. \frac{\Delta}{2})$  (5)  $= R \text{vers} \frac{\Delta}{2}$  (6)  
 External  $= E = T \tan \frac{\Delta}{4}$  (7)  $= R \div \cos. \frac{\Delta}{2} - R$  (8)  $= R \text{exsec} \frac{\Delta}{2}$  (9)  
 Long Chord  $= C = 2 R \sin. \frac{\Delta}{2}$  (10)  $\Delta =$  Central Angle

### EXPLANATION AND USE OF TABLES

**Stations.**—Given P. I. = Sta. 161 + 60.35 to find Sta. of P. C. and P. T.  $\Delta = 62^\circ 10'$   $D = 8^\circ 20'$ . From Table IV for  $1^\circ$  curve  $T = 3454.1$  and  $\div 8\frac{1}{3} = 414.49$  ft. From Table V correction = .36 or  $T = 414.85$  ft. P. C. = Sta. P. I.  $- T = 157 + 45.50$ . Also from (4)  $L = 746.00$  and P. T. = Sta. P. C.  $+ L = 164 + 91.50$ .

**Offsets.**—Tangent offsets vary (approximately) directly with  $D$  and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft. = 7.27 ft. Distance = 158 - Sta. P. C. = 54.50, hence offset =  $7.27 (54.50 \div 100)^2 = 2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26) = 2.16$  ft.

**Deflections.**—Deflection angle =  $\frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For  $c$  ft. = (in minutes)  $.3 \times C \times D^\circ$  or = defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve =  $.3 \times 54.5 \times 8\frac{1}{3} = 136.2'$  or  $2^\circ 16.2'$ , or =  $2.50 \times 54.5 = 136.2'$  from Table III. For Sta. 159 deflection angle =  $2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$ , etc.

**Externals.**—May be found in similar manner to tangents. Thus  $E$  for curve above is 115.37. For from Table IV for  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$  and from Table V correction = .10 or  $E = 115.37$  ft. Or suppose  $\Delta = 32^\circ$  and  $E$  is measured and found to be 42 ft. What is  $D$ ? From Table IV  $E = 230.9$  and  $\div 42 = 5.5$  or  $D = 5^\circ 30'$ .



