

# 757



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.

SE Cor W/2  
PL 1299

SW Cor W/2  
PL 1299

100' 50 EC.  
18' wide

8+32.44 BOT

L+98.09

97' 10" Nor  
to P1

✓ 18 - m. 20.  
 ✓ 24 m. 20 11/9/48  
 " 26 m. 20 11/22/48  
 " 33 m. 20 2/11/49  
 ✓ 53 m. 20 5/2/49  
 ✓ 55 dd 1/6/50

**DIRECTIONS FOR USE OF TABLES**

TABLE No. XIV

Distance of slope stake from side or shoulder stake for any width roadway, slope 1% to 1. If ground is level, level the cut or fill at side

**IMPROVED TABLES AND INFORMATION**

If it does not make the slight adjustment necessary.

TABLE No. VIII

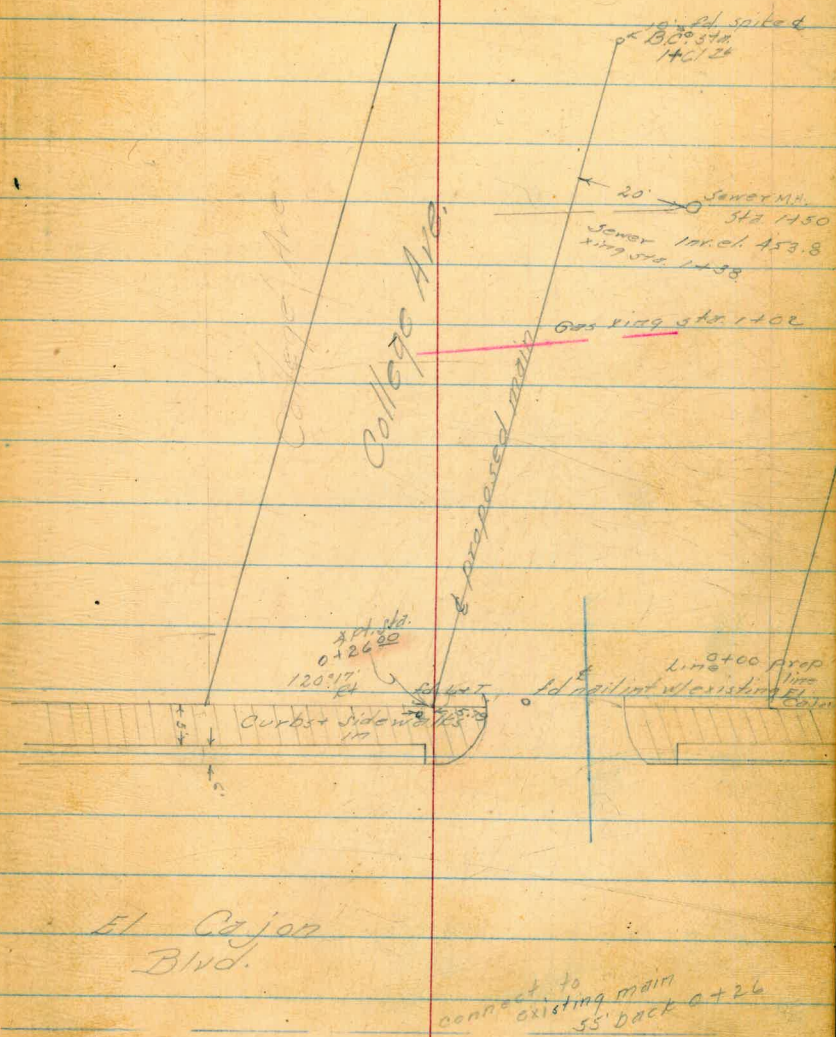
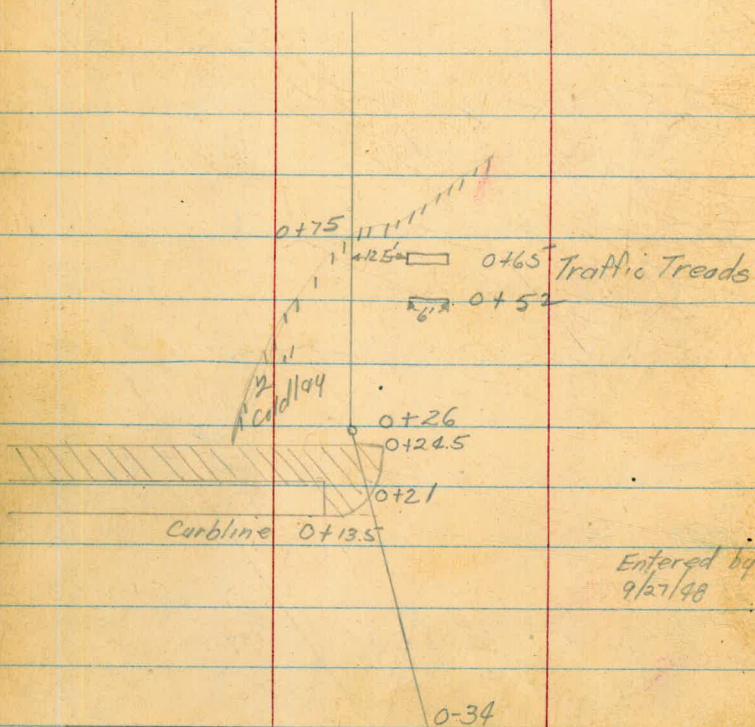
To find Tangent and External for curve of any other tables, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given I may be found by dividing tangent (or external), opposite I by given tangent (or external). The distance from a point on the tangent to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

Call  
J. C. Clark  
in Am  
6050

# College Ave. Pipeline

1.

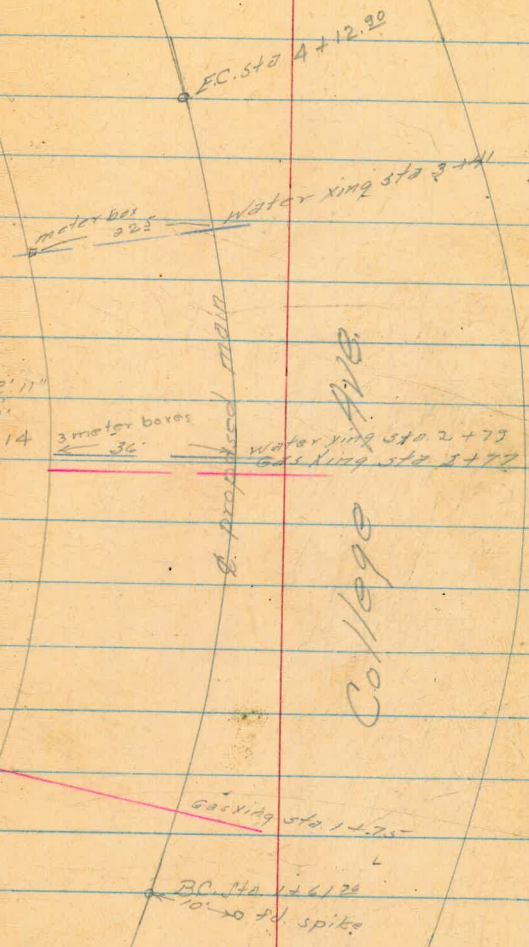
Sketch of Curb, Sidewalk, and Pavement  
at El Cajon Blvd and College Ave.



El Cajon  
Blvd.

connect to  
existing main  
55' back 0+26

$\Delta = 32^{\circ}42'11''$   
 $R = 440'$   
 $L = 251.14$



Proposed Road  
College Ave.

EC. sta 4+12.90

meter box 225  
Watering sta 3+44

3 meter boxes 30'  
Watering sta 2+75  
Garaging sta 2+72

Garaging sta 1+75

BC. Sta 1+61.20  
10' x 10 ft spike

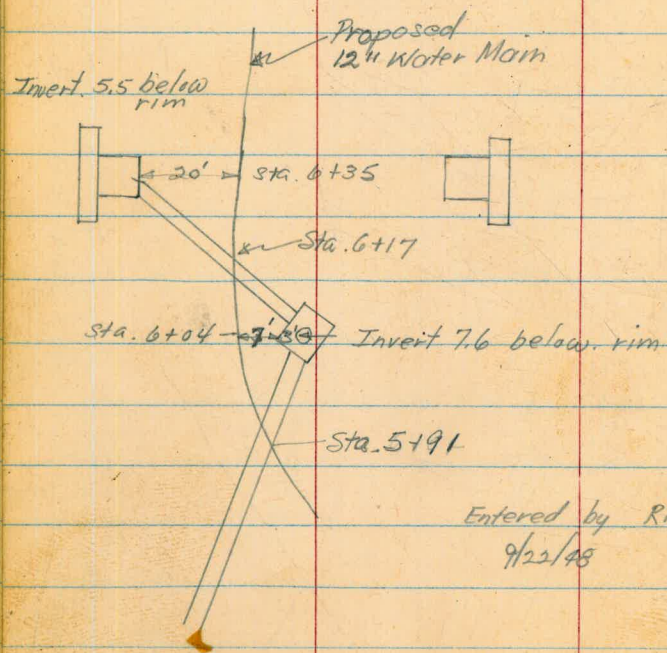
3.

BC. Sta. 574824  
← 10' → H. 6 x T. 4

College Ave.

EC. Sta. 441320  
← 10' → file 4

Sketch of Catch Basin



Entered by RM  
9/22/48

4

College Ave.

ES Sta. 6+10.62  
P.C. Hub + T

$$\Delta = 32^{\circ}42'11''$$

$$R = 460$$

$$L = 262.53'$$

BC Sta. 5+48.26



end of line  
S propline Estelle  
Sta. 11+10.25 Estelle 5  
← 50' Water  
Sta. 10+97  
Sta. 10+85.25 rd. Hubert  
← 50' →

College Ave

EC Sta. 8+10.52

Profile  
College Ave. Pipeline

Rainey  
Sept. 10, 1948 King 6.

B.M.	B.P.	N.W. Cor.	+ El. Cynjon College Ave	465.27
	1.70	466.97		
0+00			2.6	464.4
0			2	
0+23			2.8	464.2
0+26 <sup>29</sup>	3 Pt		2.6	464.4
0+50			2.6	464.4
1+00			3.9	463.1
1+50			5.0	462.0
1+61 <sup>26</sup>	BC.		5.3	461.7
2+00			6.3	460.7
2+50			7.9	459.1

		466.97		
3+00			9.9	457.1
3+50			12.9	454.1
T.P.			12.85	454.12
	1.16	455.28		
4+00			4.9	450.4
4+12 <sup>30</sup> BC.			6.1	449.2
4+50			9.3	446.0
T.P.			12.87	442.41
	4.84	447.27		
5+00			6.1	441.2
5+48 <sup>00</sup> BC.			9.1	438.2
5+63			9.0	438.3

44727

6+00		6.6	440.7
Rim N.H. 6+05		8.93	438.34
6+50		4.3	443.0
7+00		3.1	444.2
7+50		3.6	443.7
8+00		4.7	442.6
8+10 <sup>52</sup> EC.		5.0	442.3
8+50		6.6	440.7
8+75 2+00		8.1	439.2
9+00		11.0	436.3

	447.27		
9+30		12.9	434.4
9+50		11.5	435.8
10+00		8.0	439.3
10+50		4.9	442.4
10+73		2.4	444.9
11+10 <sup>65</sup>		1.3	446.0
T.P.		1.30	445.97
3.26	449.23		
		8.46	440.74
			Corr. 440.74

Reduced 9/13/48 R.A.M.

Sept. 30, 1948 Rainey 18  
 King  
 Adams  
 Rogers

		+ El Cajon			
BM. B.P. NW cor. College		465.27			
3.24		468.51			
0-34		3.7	464.8	460.0	4.8
0+00		4.0	464.5	460.0	4.5
0+26	BK.	3.6	464.9	460.0	4.9
0+26	AK.	3.7	464.8	460.0	4.8
0+50	<sup>75</sup>	4.2	464.3	460.0	4.3
1+00		5.0	463.5	459.3	4.2
1+50		6.5	462.0	457.9	4.1
1+61 <sup>20</sup>	BC.	6.8	461.7	457.6	4.1
2+00		7.8	460.7	456.6	4.1
2+50		9.5	459.0	454.7	4.3
3+00		11.5	457.0	452.0	5.0
T.P.		12.35	456.16		
1.39		457.55			
3+50		3.5	454.1	448.4	5.7
4+00		7.2	450.4	444.8	5.6
4+12 <sup>90</sup>	FC.	8.3	449.3	443.9	5.4
4+50		12.0	445.6	441.1	4.5

Oct. 4, 1948

Rainey  
Baker  
King  
Adams  
Rogers

11

	457.55				
TP		11.12	446.23		
	1.04		447.47		
5+00		6.3	441.2	438.2	3.0
5+25			439.3	436.7	2.6
5+48.06 RC.		9.2	438.3	435.6	2.7
ck to 4'		9.4	438.1		
T.P.M.		9.72	437.95		
	8.26		446.01		
5+75		7.8	438.2	434.5	3.7
6+00		4.4	441.6	432.5	7.1
6+50		2.3	443.7	434.5	9.2
7+00		1.2	444.8	434.5	10.3
8+50		2.0	444.0	434.8	9.2
8+00		2.6	443.4	435.1	8.3
8+10.62		3.2	442.8	435.2	7.6
8+50		5.7	440.3	435.4	4.9
9+00		9.2	436.8	435.7	1.1
9+50		9.7	436.3	436.0	0.3
10+00		6.0	440.0	436.3	3.7
10+50		3.4	442.6	438.4	4.2

Head wall of drain 60' RT. 7+00

446.01

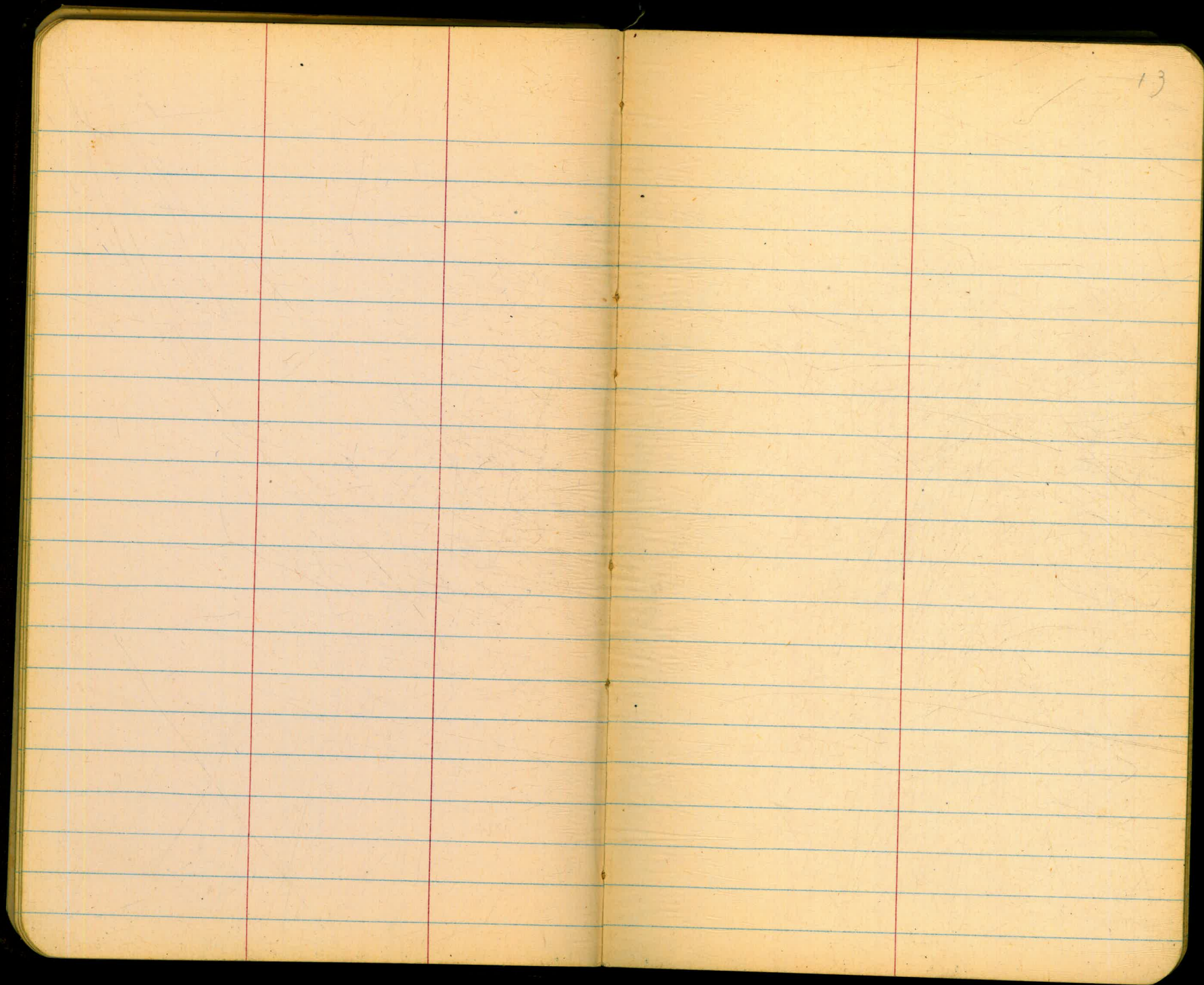
10+8065      0.6      445.5    439.7    5.8

10+91<sup>10</sup>      +0.3      446.3    440.1    6.2

10+96<sup>44</sup>      +0.8      446.8    440.3    6.5

ck to 4      0.0







N side

0+40	6.1	430.1
0+80	5.9	430.3
1+20	5.9	430.3
Edge bldg	5.7	430.5
Wedge bldg	5.6	430.6
	5.4	430.8

Reduced 10/1/98 RM

Profile Top Pipe - Delta St. P.L. 12"

 Rainey  
 King  
 Baker  
 Adams  
 Rogers

10-21-48

16

	6.13	79.80		73.67	B.M. CONC. MON. 418 Delta
76450			14.0	65.8	
76472			14.1	65.7	
77100			13.2	66.6	
+50			13.1	66.7	
78100			12.7	67.1	
+50			12.3	67.5	
78172			12.7	67.1	
79106			11.2	68.6	
79143			10.3	69.5	
79168			10.7	69.1	
80141			11.1	68.7	
80178			12.2	67.6	
81100			12.6	67.2	
81129			12.3	67.5	
81150			12.4	67.4	
82100			13.2	66.6	
T.P.	0.36	72.29	7.87	71.93	

Profile Top Piper-Delta St. P.L.

10-21-48

17

72.29

82+55			7.7	64.6
82+95			8.2	64.1
83+45			8.5	63.8
84+00			9.1	63.2
84+45			9.1	63.2
85+10			10.4	61.9
85+45			11.7	60.6
86+00			12.1	60.2
86+50			12.0	60.3
86+95			13.3	59.0
T.P.	0.06	63.44	8.91	63.38
87+30			5.7	57.7
87+50			6.2	57.2
88+00			7.9	55.5
88+50			9.4	54.0
89+05			10.9	52.5
89+40			12.2	51.2

4.5

63.44

P9+58			12.3	51.1
91+50				
T.P.	1.91	56.19	9.14	54.28
90+00			6.6	49.6
90+50			7.6	48.6
91+00			9.1	47.1
91+50			10.6	45.6
92+05			11.6	44.6
T.P.	3.15	49.17	10.17	46.02
92+50			5.8	43.4
92+95			7.2	42.0
93+50			8.0	41.2
94+00			7.9	41.3
94+50			8.4	40.8
B.M.			4.4	45.03

S.W. Cor. 239 & Delta 9

Profile 4' offsets -  
6" P. line - College Way

Kainer  
King 15-29-40  
Baker  
Adams  
Rogers

19

44074

B.M.	1.78	467.05		465.27		
T.P.	0.79	455.22	12.63	454.43		
0 to 0			6.3	448.9	449.3	3.1
+50			10.8	444.4	446.3	2.0
1 to 0			12.4	442.8	444.0	2.3
T.P.	0.35	443.16	12.41	442.81		
1 +50			2.2	441.0	442.5	2.0
2 +00			6.2	437.0	439.4	2.5
2 +50			9.5	433.7	436.3	2.5
3 +00			11.3	431.9	433.3	2.5
T.P.	4.16	434.37	12.95	430.21		
3 +50			5.2	429.2	430.2	2.5
4 +00			5.1	429.3	429.6	3.2
Bo Honi Drain			9.2	425.2		
4 +50			5.9	428.5	424.6	3.9
5 +00			5.7	428.7	424.6	4.1
F. 5 +50			5.8	428.5	428.8	3.2
T.P.	8.86	441.28	19.5	432.42		
			0.59	440.69		
						3.5





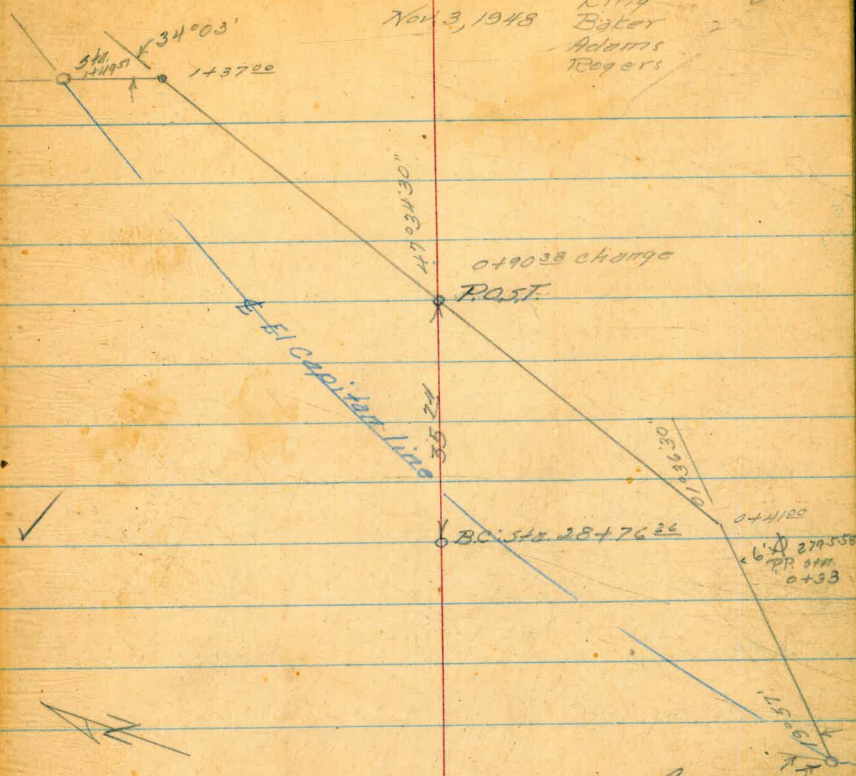
Realignment El Capitán  
line at Road Int.  
Alvarado Canyon

Rainey  
King  
Baker  
Adams  
Regers  
Nov. 3, 1948

21

40' SW. of PP 450676  
on N side road  
B.M. R.R. spike at 1/4 pt. inflexion 132.43

	9.58	142.03		
T.P. #1			0.35	141.68
	10.29	151.97		
T.P. #2			0.21	151.76
	12.16	162.92		
0-50 on top pipe			2.3	161.6
0-25 on pipe			3.6	155.3
T.P. #3			12.16	151.76
	11.75	153.51		
0-70.6 on pipe			3.1	150.4
0+00 on pipe			5.1	148.4
0+15			8.1	145.4
0+33			9.4	144.1
0+41 3/4 pt.			10.2	143.3
0+50			11.6	141.9
0+53			12.0	141.5
0+55			13.3	140.2
T.P.			12.63	140.88
	1.55	142.43		



County road survey

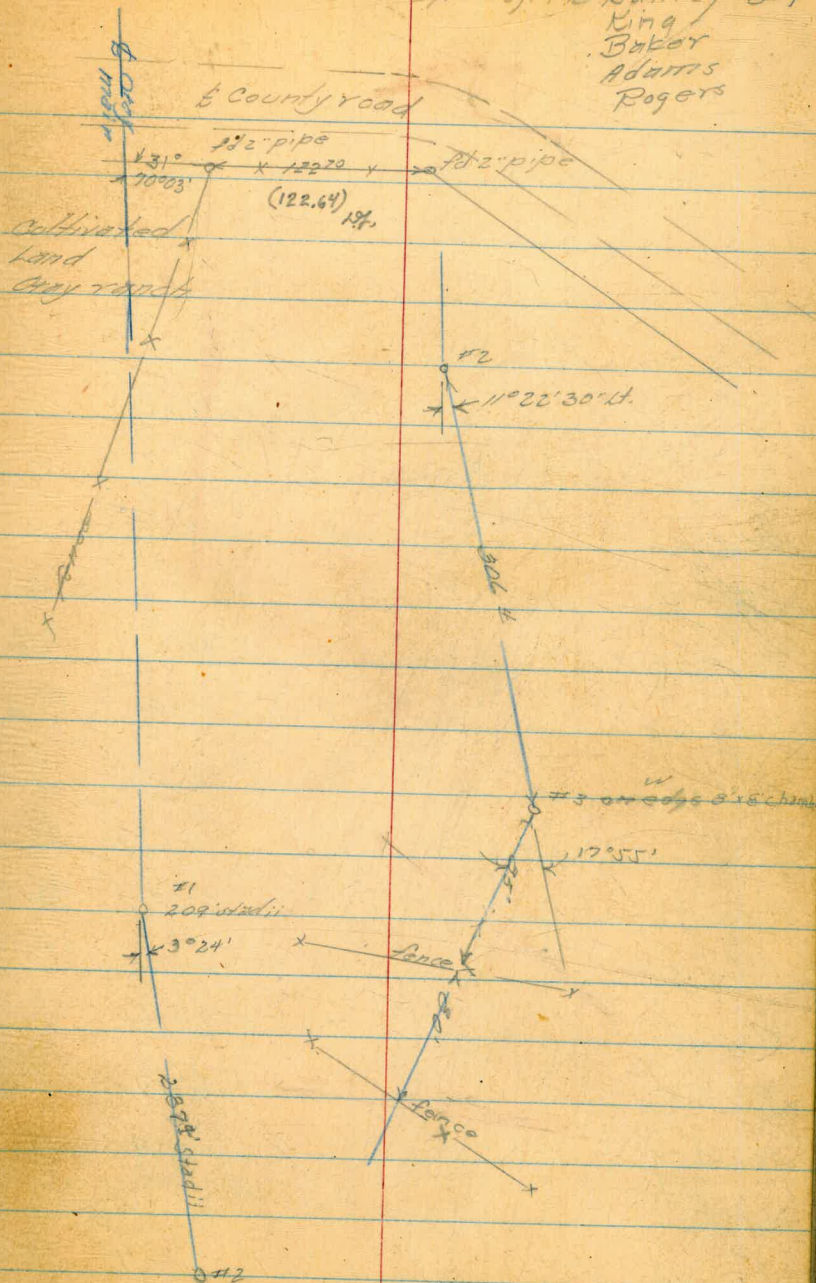
See detail  
this end see  
next page





Telegraph Canyon  
alignment of Existing  
pipeline & Easement

Nov. 3, 1945 Rainey 24  
King  
Baker  
Adams  
Rogers



Trias st water grade  
from left

Nov. 9, 1948

Rainey  
King  
Baker  
Adams  
Rogers

25

LP SE Cor. Candy S.D. Bld.		31.87			
	6.38	38.35			
T.P.		1.39	36.96		
	9.46	46.42			
		11.66	34.76		
	12.87	47.63			
0+00		2.8	44.8	44.7	3.6
0+50		5.5	42.1	42.5	3.1
1+00		8.2	39.4	39.8	3.1
1+50		11.8	35.8	36.6	2.7
		12.29	35.34		
	2.49	37.83			
2+00		4.0	33.8	33.9	3.4
2+50		6.5	31.3	31.5	3.3
3+00		9.2	28.6	29.5	2.6
3+50		11.1	26.7	27.7	2.5
4+00		11.4	26.4	26.7	3.2
4+50		11.2	26.6	25.9	4.2
5+00		10.1	27.7	25.0	6.2

prop 0+35  
into Jefferson

3783

5+50		9.4	28.4	24.2	7.7
6+00		9.2	28.6	23.4	8.7
6+50		10.3	27.5	22.6	8.4
6+80		12.3	25.5	22.2	6.8.5' N of N line Hancock
	⑤	11.9	25.9	22.2	3.7
6+80 f.H.	⊕	11.0	26.8	22.2	4.6 8' W of E prop line
ck to N curb return	Moore	10.0	27.8		

Nov.-Dec. 1948.

LEONARD  
WEST  
MAYHE

27

TELEGRAPH CANYON,  $\frac{1}{4}$  SEC. 64 RANCHO DE LA NACION.

RETRACEMENT OF CITY PROPERTY BOUNDARY.

TRAVERSE OF LINE BETWEEN  $\frac{1}{4}$  SEC'S 64 AND 41,

63 AND 42, AND LOTS 65 AND 40, RANCHO DE LA NACION.

20+81 N. EDGE OILED COUNTY ROAD

20+06 S. EDGE OILED COUNTY ROAD

17+30.5 FENCE. E.P.W.

19+75.58 FD. 2 $\frac{1}{2}$ " X 2 $\frac{1}{2}$ " PIPE FILLED WITH CEMENT & T.  $\leftarrow 9.62' \rightarrow$

17+74.6 WIRE FENCE TO WEST FROM CORNER

17+70.38 FD. 2 $\frac{1}{2}$ " X 2 $\frac{1}{2}$ " PIPE FILLED WITH CEMENT & T.  $\leftarrow 10.14' \rightarrow$

15+94 FD. 2X2 HUB & T UNDER FENCE 7.70 RT.  $\leftarrow 7.61' \rightarrow$

8' X 8' VALVE BOX  
ON OTAY PIPE LINE

Blow off pipe  
& line to corner.

14+07<sup>80</sup> CENTER OF EXISTING OTAY PIPE LINE

ANGLE FROM LINE TO C. OF RD. 23° 18' 30"

8' X 8' POST ON FENCE 7.35 RT.

13+22 FENCE TO EAST, 4.5 RT.

12+73 CENTER OF OLD STAVE LINE DITCH.

9+92 FD. 2X2 HUB & T. 0.29' RT.

FENCE TO N. AND W.

8+64.32 CORNER FENCE POST ON LINE.

0+00 = 2X2" HUB, S.E. COR.  $\frac{1}{4}$  SEC. 64.

MAGNETIC BEARING N 55° 30' W. OBSERVED.

BEARING OF LINE N 19° W. RECORD.

FOUND IN GULLY, ON LINE, TO SOUTH.

3' X 3' POST, SCRIBED 65 ON NW AND 40 ON NE SIDES  
VERY OLD, BADLY WEATHERED. STADIA 1561' FROM 0+00

FOUND VERY OLD 3' X 3' POST STANDING IN

3' X 3'  
POST

DENSE GROWTH OF BRUSH IN CANYON, AT

A STADIA DISTANCE OF 2644.5' N. OF

POST BELOW. SCRIBED 62, 42

LINE ESTABLISHED BY WIGGLING IN ON LINE

BETWEEN THIS POST AND THE 2X2 HUB AT 0+00.

RECENTLY RESET. DIGGING EVIDENCE ALL AROUND IT.  
NOTE: POST IS IN SANDY GULLY AND APPEARS TO BE

FD. OLD 3' X 3' POST SCRIBED 65 | 42 0.2' RT.

12+87 2X2 HUB & TACK 3.6' LT.

20+82.57

ROAD STA. 153+53.66

CENTER LINE OF NEW COUNTY ROAD

ANGLE FROM LINE OF TRAVERSE TO

B.C. POINT ON ROAD TO E. IS 107° 50' 15"

20+51

FENCE TO E. & W., COBBED WIRE

(TRAVERSE OF LINE, CONT'D.)





STADIA DISTANCES:

4" PIPE, WEST TO R" PIPE:

722' AT 3°47' = 718.8'

606' AT 2°06' = 605.2'

FD. 2" PIPE, CEMENT & C. NAIL, ON LINE. TOTAL. 1324.0'

63 42  
CENTER OF LOTS 64 41 RESET CORNER ON LINE WITH 3x4 POST, EAST. OLD 3x8 POST IS 6.54' S. OF LINE.

291' AT 3°55' = 289.6' - 6.6 = 283.0'

735' AT 1°35' = 732.4'

960.7' TOTAL

FD. OLD 3x8 POST, 5' N. OF LINE.

360' AT 0°25' = 360.0'

FD. OLD 3x8 POST, CHAINED, 1.0' S. OF LINE. 1320.7' TOTAL

1187' AT 2° = 1185.6'

126' AT 2°10' = 125.8'

FD. NEW 1 1/4" PIPE AT FENCE COR. 2.1' S. OF LINE. 2632.1' TOTAL

413' AT LEVEL. = 413.0'

574' AT 3°10' = 572.2'

560' AT 2°40' = 558.8'

1131' AT 4°12" = 1124.9'

FD. 1 3/8" PIPE, CONCRETE & C. NAIL. USED FOR LINE. 5301.0' TOTAL

(NOTE: A STADIA DISTANCE OF 982' = 978.06' WHEN CHAINED)

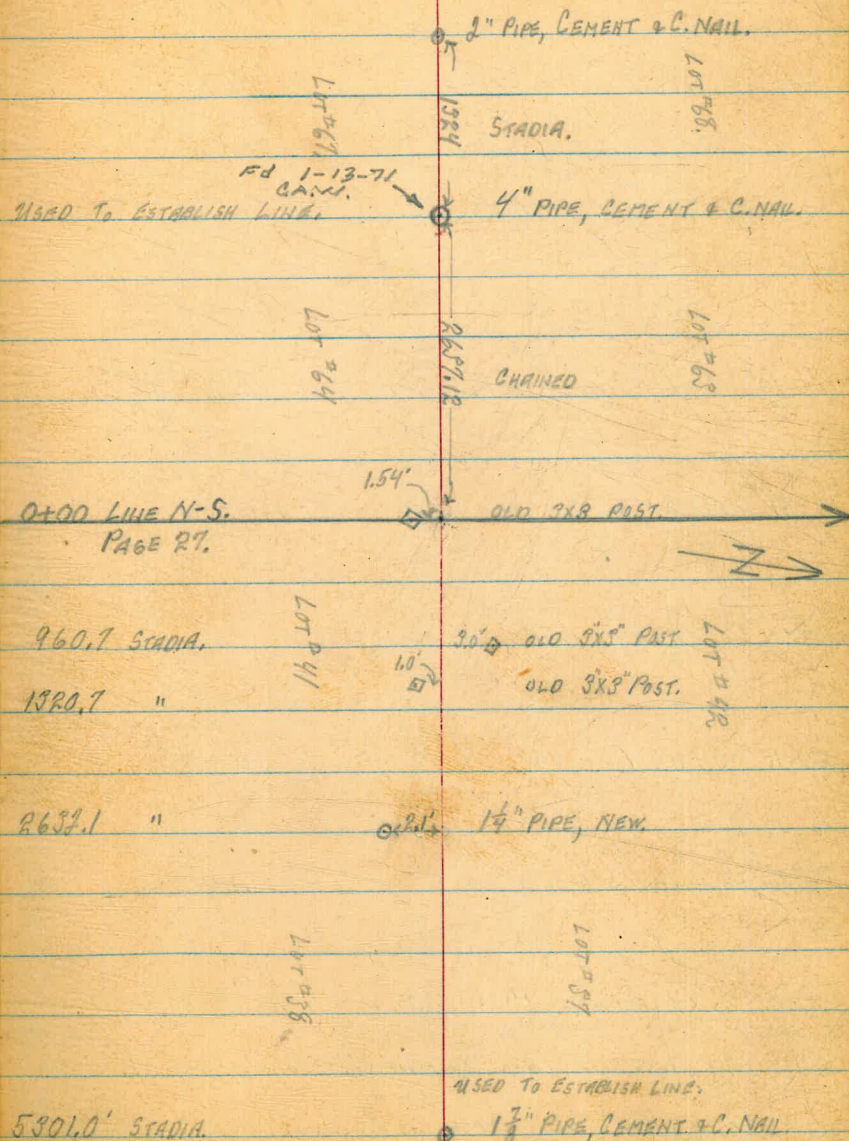
FEB. 4-9, 1949.

LEONARD WEST HAYNE. 29.

RANCHO DE LA NACION.

TRAVERSE OF E.-W. LINE BETWEEN 1/4 SEC'S

68	65	42	37
67	64	41	38



8+22 BARRED WIRE FENCE N-S.

APPROX END OF CURVE.

7+87.10 CENTER OF PIPE.  $\angle$  1° 21' RT. SET 1 1/2" HUB RT.

P.L. IS ON CURVE.

7+10 CENTER OF EXISTING OTAY P.L.  $\angle$  117° 26' LT.

6+81 P.O.T. ON TOP OF BANK OF LIGHT COLORED DIRT.

6+52.8 BARRED WIRE FENCE N-S.

P.O.T. 3+57

P.O.T. 0+61.29 ON TOP OF BANK OF GULLY.

0+00 3x4" REDWOOD POST, 5' LONG, SET AT INTERSECTION OF N-S LINE, PAGE 27, AND E-W LINE, PAGE 29.

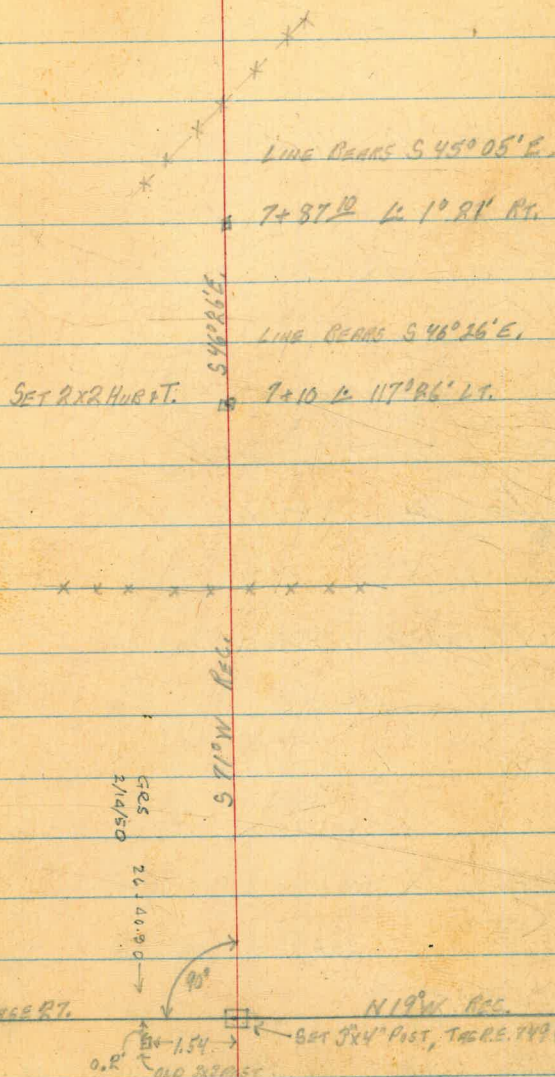
ORIGINAL 3x3" POST RECENTLY RESET BY OTHERS, WAS REMOVED AND LEFT BESIDE NEW CORNER.

FEB. 9, 1949.

LEONARD  
WEST  
TRINE.

50.

RANCHO DE LA NACION.  
TRAVERSE OF OTAY PIPE LINE IN LOTS 64 AND 41



N-S. LINE, PAGE 27.

N 19° W

3x4" PIST. THERE WAS AN OLD ROAD.

CORNER IS IN BOTTOM OF GULLY, ABOUT 530 FT. N. OF OLD ROAD.

18+24 CENTER OF PIPE APPROX R. 5' RT.

PIPE LIES ON CURVE

17+65<sup>93</sup>  $\triangle$  11° RR' 30" LT. Pt<sup>20</sup> SET BY RAINY

LINE BEARS S 60° 15' 30" E

17+65<sup>93</sup> L 11° 22' 30" LT.

16+99<sup>8</sup> BLOW OFF ON LINE.

15+58 BARBED WIRE FENCE

14+86<sup>5</sup> AIR VALVE  
BLOW OFF ON LINE.

14+80<sup>87</sup>  $\triangle$  3° 48' LT. Pt<sup>#1</sup> SET BY RAINY.  
VALVE R. 8 LT.

SEE PAGE 24.

14+72 2" W.L. TO LT. TO CITY CARPENTER'S HOUSE.

13+37 BARBED WIRE FENCE. N-S.

12+75.5 BARBED WIRE FENCE. E-W.

12+58.5 S. EDGE OILED P.V.M.T.

12+37 N. EDGE OILED P.V.M.T. COUNTY ROAD

12+23<sup>8</sup> BARBED WIRE FENCE. E-W.

12+18<sup>82</sup> STA 148+56<sup>85</sup> ON NEW COUNTY ROAD SURVEY

12+15 P.O.T.

11+87<sup>6</sup> BLOW OFF ON P.L. CENTER OF PIPE .6' RT.

LINE BEARS S 45° 55' E.

○ R.O.

14+80<sup>87</sup> L 3° 48' LT.

2" W.L.

VALVE

OILED

ROAD

○ R.O. ON LINE

LINE BEARS S 45° 45' E.

FAR 10, 1949

LEONARD  
WEST  
PAYNE.

52.

ENTER LOT #41, RANCHO DE LA NACION.

21+41<sup>54</sup> INTERSECTION WITH E. LINE OF LOT 64.

LINE BEARS S42° 30' E.

20+81<sup>73</sup>

△ 5° 39' RT.

CENTER OF SHAFT ON  
AIR VALVE.

20+76<sup>45</sup>

E. EDGE OF VALVE CHAMBER

20+70<sup>35</sup>

W. EDGE OF CONCRETE VALVE CHAMBER.

20+64<sup>76</sup>

AIR VALVE ON LINE

LINE BEARS S47° 49' E.

20+57<sup>95</sup>

△

12° 26' 30" RT.

19+64 P.O.T.

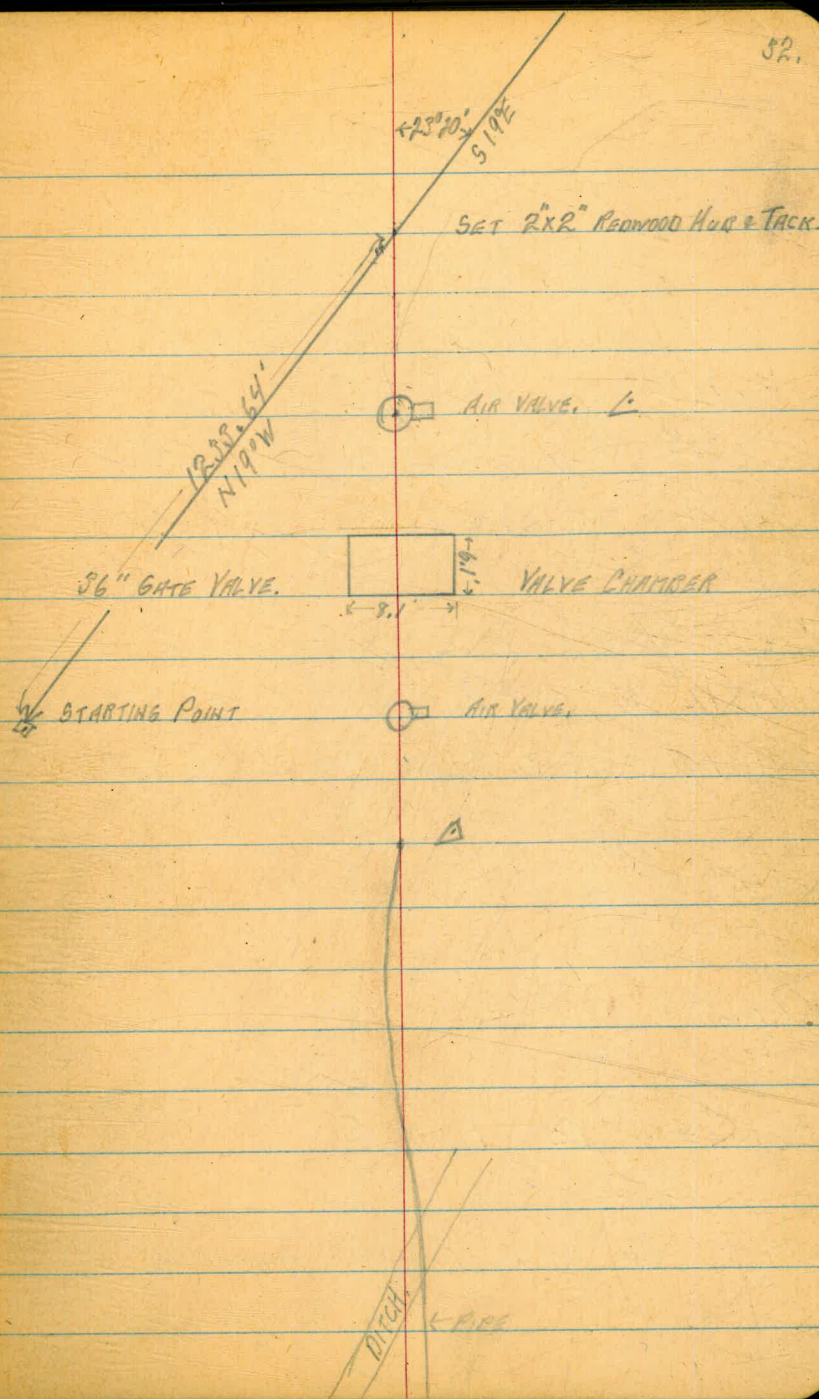
19+04<sup>±</sup>

CENTER OF PIPE ON LINE.

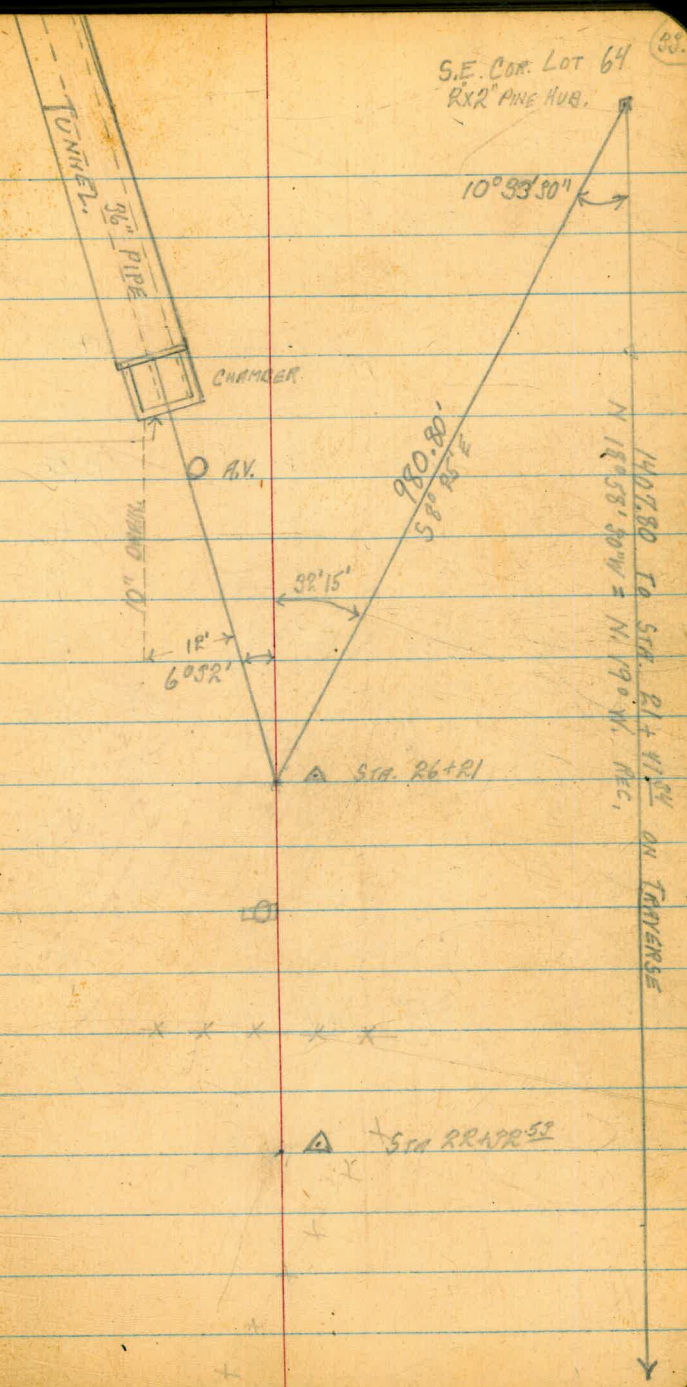
18+75

CENTER OF DITCH WHERE OLD WOOD

STAKE LINE HAS BEEN REMOVED



- P.L. LIES OFF CENTER IN TUNNEL.
- 28+86<sup>00</sup> FACE OF TUNNEL PORTAL.
  - 28+77<sup>40</sup> TUNNEL PORTAL, PAINTED STA. 298+17.1  
OUTER EDGE CONCRETE CHAMBER AT
  - 28+70<sup>70</sup> AIR VALVE ON P.L.
  - 27+76 END OF 10" DRAIN TILE FROM TUNNEL. 120' LT.
  - 26+21 Δ 32°15' RT. TO  $\frac{1}{4}$  SEC. COR. SE. COR. LOT 64.
  - 26+21 Δ 6°32' LT. TO CENTER OF TUNNEL
  - 24+89 BLOW OFF ON LINE.
  - 22+35 FENCE TO E.-W.  
LINE BEARS S 40°40' E
  - 22+32<sup>52</sup> Δ 1°40' RT.
  - 21+58 NAIL SET BY RAINEY. FENCE N.-S.  
LINE BEARS S 42°20' E



ALVARADO

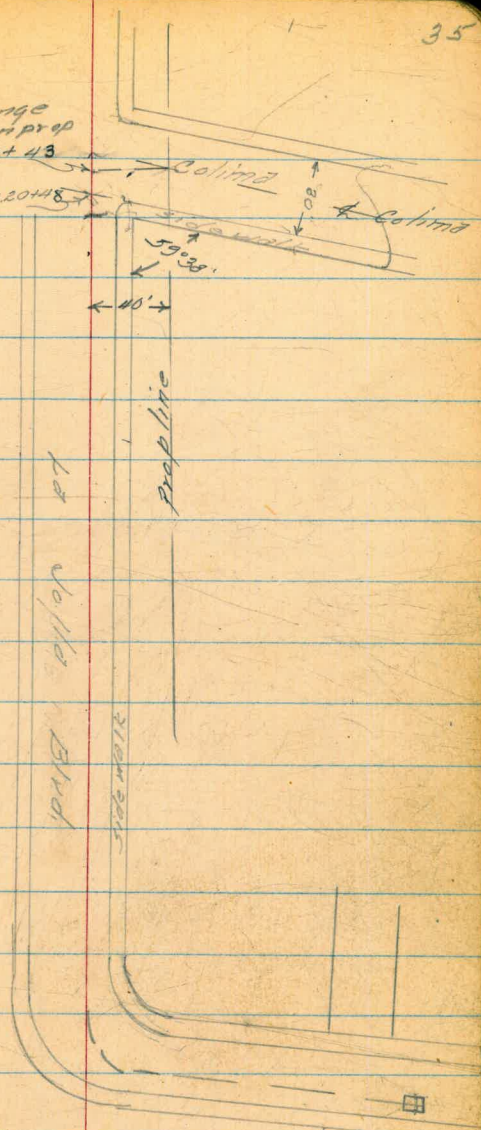
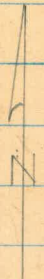
34

	13.00	145.45		132.45		
	6.55	151.69	0.31	145.14		
0+00			2.4	<del>148.2</del>	145.4	3.9 ✓
0+176			3.7	148.0	137.1	10.9
T.P.	0.38	139.64	13.03	<del>138.66</del>	116.0	
0+386			7.24	131.8	118.3	13.5
0+411			9.8	129.2	116.0	13.2
T.P.	5.48	133.47	11.05	<del>121.9</del>		
1+00			11.1	122.4	116.0	6.4
1+32			9.8	124.0	116.0	8.0
1+37 Bx			8.1	125.4	116.0	9.4
1+37 AH			6.8	126.7	116.0	10.7
1+495			4.1	129.4	125.3	4.1
T.P.	8.69	141.70	0.46	133.01		
			9.25	132.45		

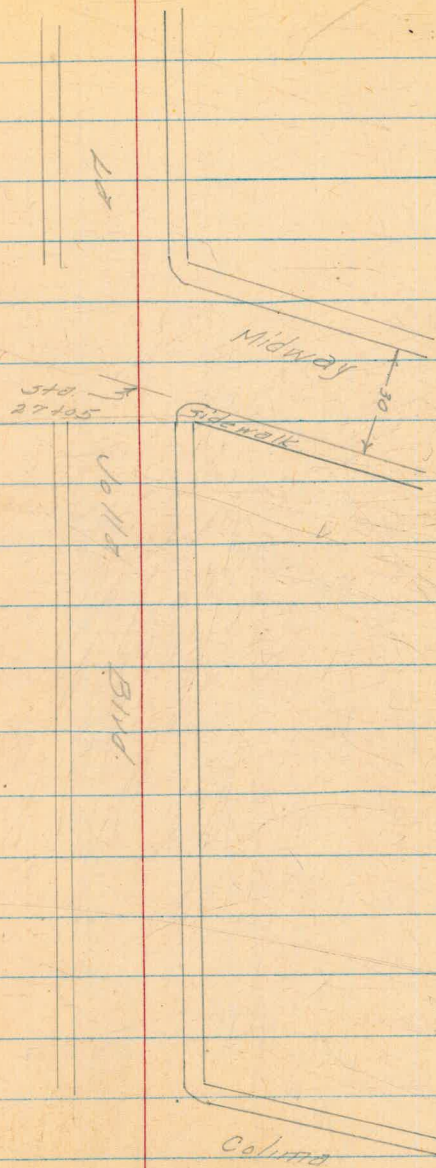
Relined portion of  
La Jolla Supply Line

35

Due to angle  
of int. & int. on prop  
line Sta. 20+43  
actually  
defined  
over distance.



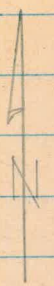
0400  
Start of work  
06  
overpass





Sta 40190

Bird rock



Lat 30 15

Sta 33143

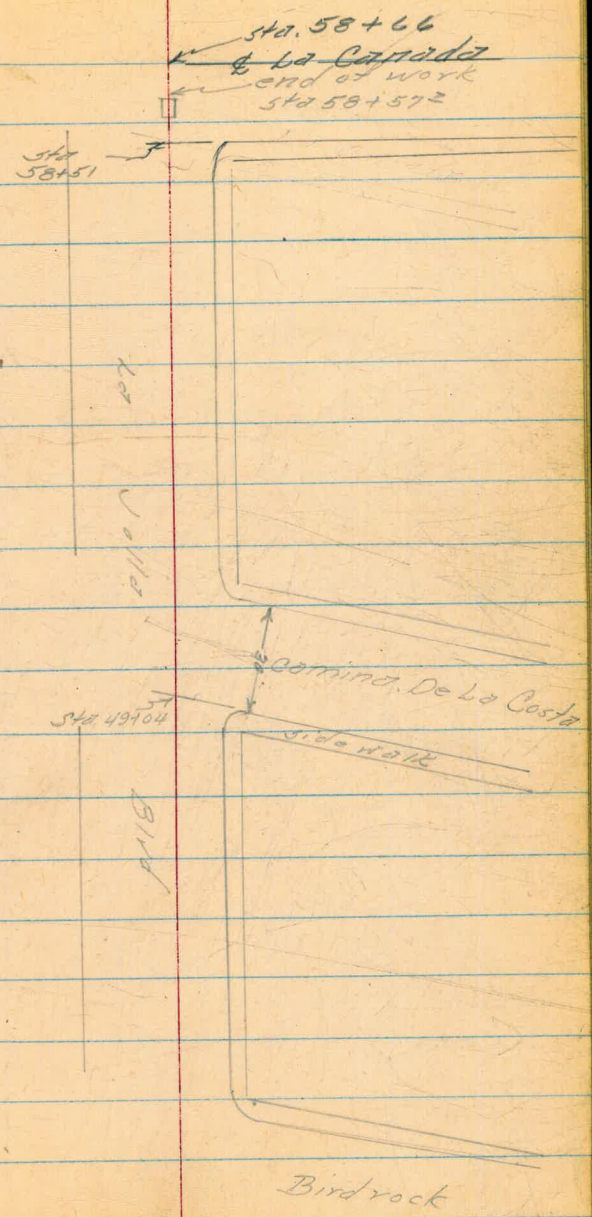
Forward

Bird

Midway

Midway

Relining portion  
of La Jolla Supply Line



Cuts over (8) offsets  
 El Capitan lowering

KING 3-2-49  
 Shapman  
 West

39

650 138.95

13245

133200

6.4 132.5 116.0

16.5 Westside (8)

144450

6.6 132.3 121.5

10.8 " (8)

T.P.

6.66 133.07 12.54 126.41

144450 (8)

8.2 124.9 121.5 5.4

1430

9.1 124.0 116.0 8.0

1400

6.8 122.3 116.0 6.3

8457

9.9 123.1 116.0 7.1

1330.00  
 17.00  
 1313.00

Pacific Beach Res. Site  
See Topo Map 181

King West Shipman 3-2-49

40

B.M.	5.84	464.31		458.47
0+00			6.0	458.3
0+14 - Top bank			9.2	455.1
0+26 - Edge Par.				
T.P.	0.79	453.91	11.19	453.12
0+50 Edge Par.			4.0	449.91
0+62			6.3	447.61
0+90			21.3	432.61
1+50			6.1	447.8
2+00			3.3	450.6
2+50			1.9	452.01
T.P.	0.00	452.01	1.90	452.01
3+00			4.1	447.91
3+50			7.9	444.11
T.P.	0.05	444.13	7.93	444.08
3+85			5.7	438.43
				GPS

Top City Mon.

Conc. Mon  
El. 458.47

6  
7

0+00

0+26

La Jolla Blvd.

0+50

## Pacific Beach Res. site

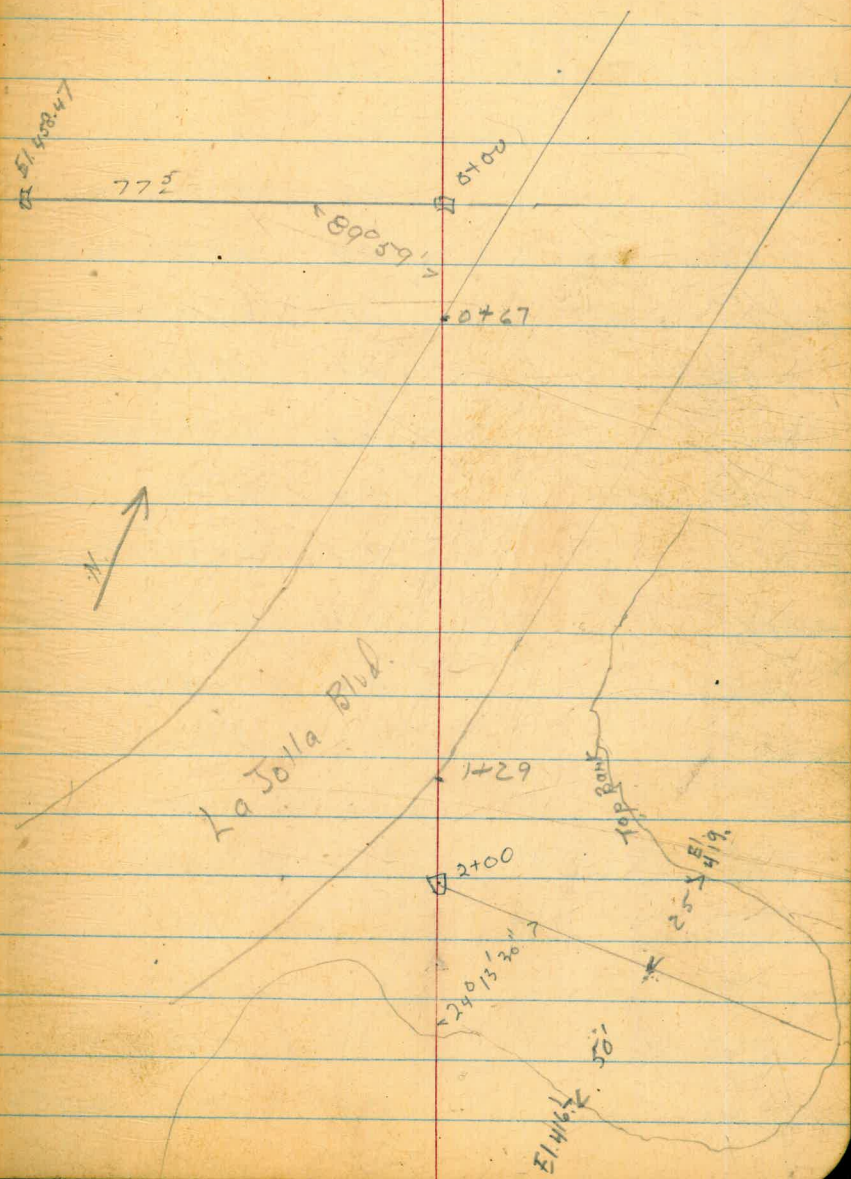
See Topo. Map # 181

B.N.1	5.84	464.31	458.47
8+00			6.0
	0.79	453.91	11.19 453.12
0+50-Top Bank			5.6 448.3
0+67 Edge Pav.			12.5 441.4
T.P.	0.12	441.39	12.64 441.27 ✓
1+29-Edge Pav.			4.4 436.99
1+50			6.6 434.8
T.P.	0.10	428.39	13.10 428.29 ✓
2+00			2.6 425.80
2+35.			6.8 421.59
2+50			8.9 419.50
2+80			13.0 415.39
3+00			19.8 408.6

GRS 3/9/49

King  
Shipman  
West 3-2-49

4

123  
89

APRIL 13, 1949

BEATTY  
BAKER  
ROGERS

42

GRADES SET FOR  
VENTURA BLVD. PIPELINE

C.M.	4.55	07.38	① OFFSET	11.84 02.83	CONC. MEN & PLVD STA 41+50± PLAN GRADE	E. Profile			
						Red	EL		
40+01 <sup>42</sup> B. SEE NOTE PAGE 50									
40+01 <sup>62</sup> AX PT. (22½° RT)	4.4	03.0	-01.00	C40	4.3	03.1			
40+64 <sup>14</sup> X PT (22½° LT)	4.6	02.8	-00.97	C38	4.7	02.7			
41+00	4.8	02.6	-00.95	C36	4.8	02.6			
+50	4.9	02.5	-00.93	C34	4.9	02.5			
42+00	4.8	02.6	-00.90	C35	5.1	02.3			42+02 End dirt on & LT
+50	4.8	02.6	-00.87	C35	4.9	02.5			4+0.6 END " 4' RT
43+00	4.7	02.7	-00.85	C36	4.7	02.7			
+18 <sup>83</sup> (B.C)	4.9	02.5	-00.82	C33	4.9	02.5			
+50	4.2	03.2	-00.83	C40	4.3	03.1			
44+00	4.7	02.7	-00.81	C35	4.7	02.7			
+50	4.6	02.8	-00.78	C36	4.6	02.8			
45+00	4.2	03.2	-00.76	C42	4.2	03.2			
+50	4.6	02.8	-00.73	C35	4.6	02.8			X-section
+66	3.0	03.2			4.2	03.2	03.2	03.2	03.2
+75	3.5	03.0			2.8	04.6	4.2	4.2	4.2
+79							6	6	6
+83 <sup>50</sup> (E.C)	3.9	03.5					04.5	04.6	03.4
							2.9	2.5	4.0
							6	6	4
							03.6	03.6	03.6
							3.8	3.8	3.8
							6	6	6
46+00	3.8	03.0	-00.71	C43	4.0	03.4			

4-13-69

43

## Ventura Blvd (Cont'd.)

#		07.38	⑥				E. Rod	E. E.L.
46+50	4.32	07.36	4.34	03.04	-00.68	C37	4.3	03.1 ✓
47+00			4.0	03.4	-00.66	C41	4.0	03.4 ✓
+50			3.9	03.5	-00.64	C41	3.9	03.5 ✓
48+00			4.6	02.7	-00.62	C32	4.7	02.7 ✓
+50			4.7	02.7	-00.59	C32	4.7	02.7 ✓
49+00			4.4	03.0	-00.57	C36	4.4	03.0 ✓
+50			4.3	03.1	-00.55	C37	4.3	03.1 ✓
50+00			4.1	03.3	-00.53	C38	4.2	03.2 ✓
+50			3.8	03.6	-00.50	C41	3.8	03.6 ✓
51+00			3.4	04.0	-00.48	C45	3.4	04.0 ✓
+50	4.77	08.33	3.80	03.56	-00.45	C41	3.8	03.6 ✓
52+00			5.2	03.1	-00.43	C35	5.1	03.2 ✓
+50			4.9	03.4	-00.40	C38	5.0	03.3 ✓
53+00			4.9	03.4	-00.38	C38	4.7	<sup>03.6</sup> <del>04.6</del>
+50			5.0	03.3	-00.36	C37	5.0	03.3 ✓
54+00			4.5	03.8	-00.34	C41	4.6	03.7 ✓
+50			4.6	03.7	-00.31	C42	4.6	03.7 ✓
55+00			4.7	03.6	-00.29	C39	4.7	03.6 ✓
+50			4.5	03.8	-00.26	C41	4.5	03.8 ✓

4-13-49

44

## Ventura Blvd (Cont'd)

56+00		08.33	⑥	2.5	03.8	-00.24	C40	4.6	03.7	✓
P +50	4.74	08.33		4.74	03.59	-00.21	C38	4.7	03.6	✓
57+00				4.4	03.9	-00.19	C42	4.4	03.9	✓
+50				4.2	04.1	-00.16	C42	4.2	04.1	✓
58+00				4.4	03.9	-00.14	C40	4.5	03.8	✓
+50				4.7	03.6	.12	C37	4.7	03.6	✓
59+00				4.6	03.7	-00.10	C38	4.6	03.7	✓
+50				4.4	03.9	.08	C40	4.4	03.9	✓
60+00				4.2	04.1	-00.05	C40	4.2	04.1	✓
+253 (3C)				4.1	04.2	.02	C40	4.1	04.2	✓
+50				4.2	04.1	0.2	C40	4.2	04.1	✓
61+00				4.5	03.8	00.00	C38	4.4	03.9	✓
P +50	320	07.21		4.32	04.01	.29	C40	4.3	04.0	✓
62+00				3.8	03.4	-00.47	C39	3.9	03.3	✓
+50				4.3	02.9	.71	C36	4.2	03.0	✓
63+00				4.4	02.8	-00.94	C37	4.3	02.9	✓
+50				4.8	02.4	-01.17	C36	4.8	02.4	✓
+76 <sup>1/2</sup> EC.				2.8	02.4		C32	4.9	02.3	✓
64+00				4.8	02.4	-01.41	C38	4.9	02.3	✓
+18 (Begin Excav.)				4.6	02.6	-01.52	C42	4.7	02.5	✓

64+23 Begin dirt App. Rec  
64+43 End " " "



4-13-49

45

Ventura Blvd

	07.21			± Rod	± Elev.
64+50			-01.64	43	02.9 ✓
789			-01.82	40	03.2 ✓
64+93.58	Face of Curb		-02.45 -01.80	4.87	02.34 ✓
"	Gutter		02.45 -01.80	5.51	01.70 ✓
65+28.06	± of PIPE		-02.00	5.91	01.30 ✓
Top of 16" PIPE				9.23	Top - 02.02 ± - 02.73 Bottom - 03.44
OK TP		5.47	1.74	-1.68	
					BASE of STREET LIGHT
65+28	Grade @ 16" PIPE		-03.28		
64+41	Bottom of 12" Y		-01.70		
64+93.58	Revised Grade		02.45		

4-15-49  
Same Party

STA 6+33  
STAKE OUT FOR VALVE BOX  
VENTURA BLVD

IP	6.02	07.70	01.68	Base of STREET LIGHT SUBGRADE	
⑤ E. SE COR		5.17	02.53	-03.93	C646
⑤ E. NE COR		5.27	02.43	-03.56	C599
⑤ N. NE COR		5.25	02.45	-03.56	C601
⑤ S. SE COR		5.25	02.45	-03.93	C638
⑤ N. NW COR		5.30	02.40	-03.36	C576
⑤ S. SW COR		5.13	02.57	-03.73	C630
⑤ W. NW COR		5.41	02.29	-03.36	C567
⑤ W. SW COR		5.92	01.78	-03.73	C651

Bottom pipe 01.65  
1.5  
-03.15  
+02.85  
6.00

Highest elev of  
Bot. Slab as placed -02.82  
Elev. Top of Slab +03.68  
6.50

IP	5.60	07.28	01.68		
		10.10	-00.82		
		10.20	-02.92		
		10.12	-02.84		
		10.29	-03.01		
		8.99	-01.71		
	4.60		03.68		→ Top of Deck Slab EL.

April 29<sup>th</sup> 1949

NW Cor Slab as poured  
SW Cor " "  
NE Cor " "  
SE Cor " "  
Bot of VAL

2-18-49

47

## VENTURA BLVD. (Cont'd)

B.N.	5.35	04.53	6' OFFSET		CHIS X. ON CURB 0+68±	2 Roo	EL.	
				-0.82				
0+73 <sup>06</sup>			6.07	-01.50	GRADE BOTTOM PAV. -05.1			0+73 <sup>06</sup>
1+00			6.15	-01.62	-05.1	C35	6.15 -1.62	
+05 <sup>19</sup> Edge Pavt.				-01.52				
+50			5.7	-01.2	-05.0	C38	5.6 -1.1	
+95 <sup>06</sup> (Top Conc Wall)							5.03 -0.5	CONCRETE PAVING
2+00			4.9	-00.4	-05.0	C46	4.9 -0.4	0+94 <sup>2</sup> ← 780
+06 <sup>2</sup> Top Conc Wall							4.84 -0.31	1+00 ← 2°
+50			4.7	-00.2	-05.0	C48	4.7 -0.2	1+05 <sup>10</sup> ← 15
3+00			4.3	+00.2	-04.9	C51 ✓	4.3 +0.2	
+50			3.9	00.6	-04.9	C55	4.0 +0.5	
4+00			3.6	00.9	-04.9	C58	3.8 +0.7	
+41 <sup>3</sup> 12" TEE				00.9	-04.8	C57		(See 12" Spur Line pg. 51)
+50			3.6	00.9	-04.8	C57	3.6 +0.9	
5+00			3.6	00.9	-04.5	C54	3.6 +0.9	
HP +50	5.87	07.31 ✓	3.09	01.24 ✓	-04.3	C57	3.1 01.4 ✓	
6+00			5.3	02.0	-04.0	C60	5.4 +1.9	
+50			4.9	02.4	-03.8	C62	5.0 +2.3	
7+00			4.8	02.5	-03.5	C60	4.9 +2.4	
+50			4.8	02.5	-03.3	C58	4.7 +2.6	

4-18-49

48

## VENTURA BLVD (CONT'D)

	07.31	⑥				ERod	EL		
8+00		4.6	02.7	-03.0	C57	4.5	2.8		
CK BM		04.93	02.38	11.39 15 02.38 014					
+50		4.5	02.8	-02.8	C56	4.4	2.9		
9+00		4.4	02.9	-02.5	C54	4.4	2.9		
+50		4.7	02.6	-02.5	C51	4.8	2.5		
10+00		4.9	02.4	-02.5	C49	4.8	2.5	5° LT. to Dirt.	
① +50	4.28	06.95	4.64	02.67	-02.5	C52	4.7	2.6	1° LT. to Dirt.
11+00		4.6	02.4	-02.4	C48	4.8	2.2	2° RT. to Dirt.	
+50		4.8	02.2	-02.4	C46	5.2	1.8	6° RT. to Dirt.	
+88						5.6	1.4		
+93						4.8	2.2		
12+00		5.0	02.0	-02.4	C44	5.0	2.0	12+00 Dirt @ E Road Appr.	
+21						4.7	2.3	12+21 Dirt @ E	
+27						5.4	1.6		
+50		5.6	01.4	-02.4	C38	5.9	1.1	Dirt. 15' RT.	
13+00		5.7	01.3	-02.3	C36	5.8	1.2		
+50		5.4	01.6	-02.3	C39	6.0	1.0		
14+00		5.9	01.1	-02.3	C34	5.9	1.1		

4-18-49

49

## VENTURA BLVD CONT'D

	06.95	⑥					± Rad	± EL	
14+50		5.7	01.3	-02.3	C36	5.7	1.3		
15+00		5.9	01.1	-02.2	C33	5.9	1.1		
+50		5.9	01.1	-02.2	C33	5.9	1.1		
15+55 <sup>68</sup>	(EC) 5.71	06.75	5.91	01.04	-02.2	C32	5.9	1.1	
16+00		5.6	01.2	-02.2	C34	5.6	1.2		
+50		5.3	01.5	-02.2	C37	5.2	1.6		
17+00		5.5	01.3	-02.1	C34	5.5	1.3		
+50		5.6	01.2	-02.1	C33	5.7	1.1		
18+00		5.8	01.0	-02.1	C31	5.9	0.9		
+50		5.7	01.1	-02.1	C32	5.7	1.1		
19+00		5.0	01.8	-02.0	C38	5.1	1.7	18+80	Dirt 8' LT. & 2' RT.
+50		5.7	01.1	-02.0	C31	5.8	1.0	19+03	" " " " "
20+00		5.6	01.2	-02.0	C32	5.6	1.2		
+20						5.5	1.3		Begin Dirt Approach Rd
+22						5.2	1.6		
+48						5.1	1.7		End " " " "
21+50	6.24	07.35	5.64	01.11	-02.0	C31	5.7	1.1	
21+00		6.3	01.1	-01.9	C32	6.3	1.1		
+50		6.3	01.1	-01.9	C32	6.2	1.2		

4/18/49.

50

## VENTURA BLVD (Contd.)

	07.35	⑥				ERD	E PL
22+00		6.3	01.1	-01.9	C30	6.3	1.1
+50		6.0	01.4	-01.9	C32	6.1	1.3
23+00		5.7	01.7	-01.8	C35	5.7	1.7
+50		5.9	01.5	-01.8	C33	5.9	1.5
24+00		5.4	02.0	-01.8	C38	5.4	2.0
+50		4.9	02.5	-01.8	C42	4.9	2.5
25+00		5.6	01.8	-01.7	C35	5.6	1.8
+50		5.1	02.3	-01.7	C40	5.1	2.3
P	5.68	07.87	5.16	02.19	ON CONC MON 02.10		
26+00		5.5	02.4	-01.7	C41	5.5	2.4
+60		5.3	02.6	-01.6	C42	5.3	2.6
26+90.6 (12" G.V. Placed.)		5.4	02.5	-01.6	C41	5.4	2.5
27+00							
27+18.35 & PT. (22 1/2° RT)		5.4	02.5	-01.5	C40	5.4	2.5
27+80.85 B (40° 22 1/2° LT)		5.7	02.2	-01.5	C37	5.5	2.4
27+81.09 A							
CR P		5.34	02.53 = 02.41				

Note

EQUATION DUE TO USING 25' FROM E OF BLVD  
IN PRELIM. SURVEY, & 26.08 FROM E OF BLVD  
IN CONSTRUCTION SURVEY.

40+01.42 BACK  
27+81.09 AHEAD

12 20.35 = Length of Bridge + 200 ft.

25+14 Begin Dirt 5° RT

25+50 Begin Dirt 5° LT

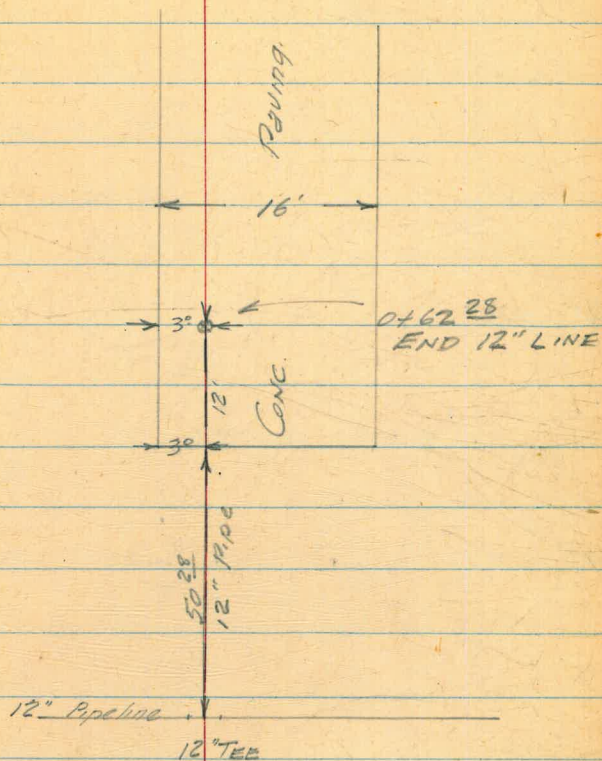
27+18.4  
27.6  
26+90.6

4-19-49

51

## VENTURA BLVD (CONT'D)

HP	03.89	04.79	②	00.90	(4+50.6)	
					GRADE	
4 Tee @ 4+412			3.9	00.9	-04.8	c57
0+14			4.2	00.6	-04.8	c52
0+38.28			5.1	-00.3	-04.7	c44
0+62.28 (END OF LINE)			③LT 5.4	-0.06	-04.6	c40
			③RT 5.6	-0.08	-04.6	c38



4-19-49

52

## Ventura Blvd. (Contd.)

## Elevations at High Points

IP	4.52	08.53	⑥ GRD STR. 4+50		GRADE
			Top Pipe	Bottom Pipe	
60+00			7.56	00.97 -00.13	-00.05
+50			7.47	01.06 -00.04	-00.03
61+00			7.48	01.05 -00.05	00.00
+50			7.67	00.86 -00.24	-00.23
62+00			7.82	00.71 -00.39	-00.47

IP	4.64	07.68	⑥ GRD STR. 46+50		Grade
			Top Pipe	Bottom Pipe	
45+00			6.87	00.81 -00.29	-00.76
+50			6.81	00.87 -00.23	-00.73
46+00			6.91	00.77 -00.33	-00.71
+50			6.84	00.84 -00.26	-00.68
47+00			7.06	00.62 -00.48	-00.66
+50			7.21	00.47 -00.63	-00.64
48+00			7.29	00.39 -00.71	-00.62



5-2-69

50

VENTURA BLVD (CONT'D)

GRADE SET FOR AIR VALVE STA. 46+50

BM

4.60 0743

02.83

CONC  
MON.

Grade

471

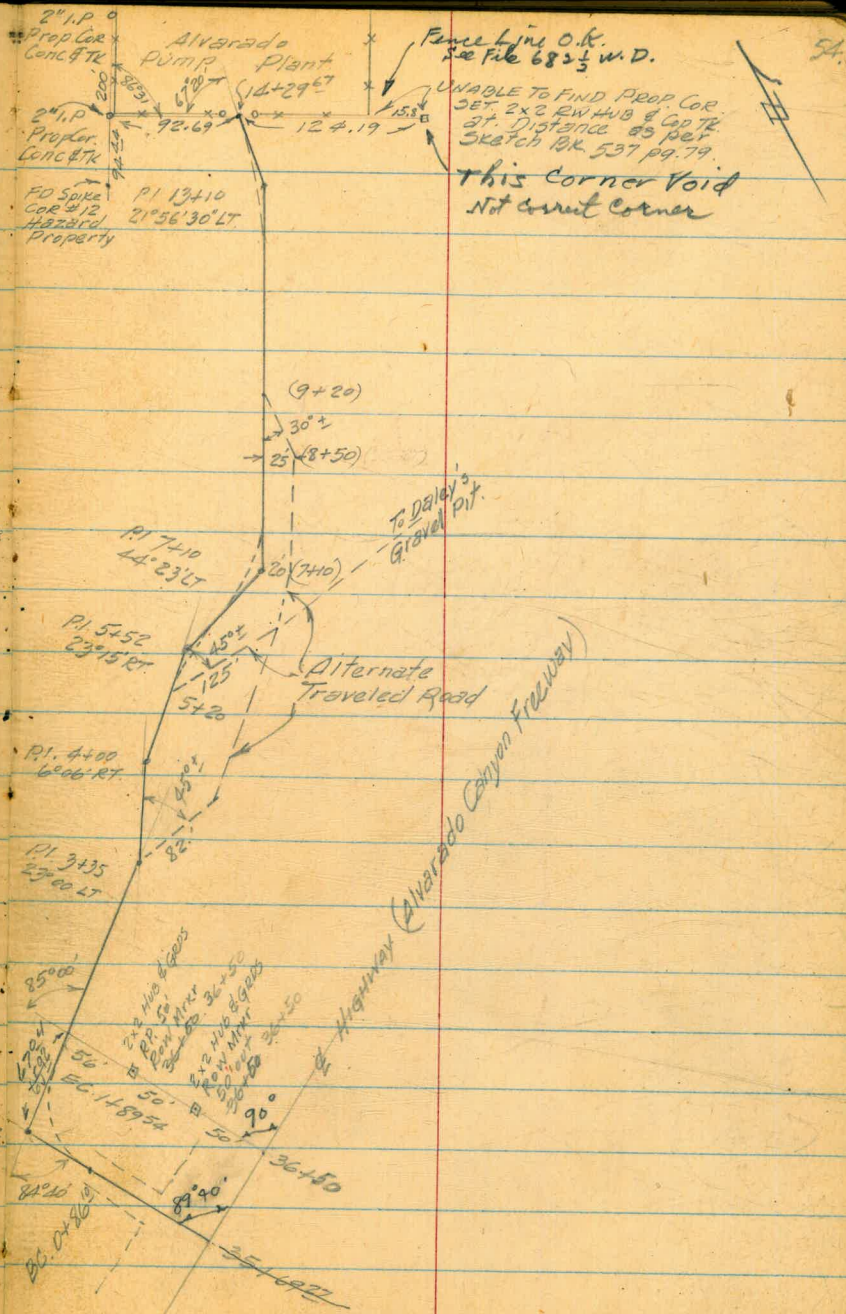
02.72

0410

F138

ALIGNMENT OF PRESENT ROAD  
FROM FREEWAY TO ALVARADO PUMP PLANT

Nov. 4 1949  
Beatty  
Rogers  
Finney



67°20' RT 92.69 To 2" I.P. (W. COR.)

14+29.67

END OF ROAD AT GATE  
(Entrance to Pump Plant Site)

13+10

P.I. 21°56'30" LT EXT = 9.00

7+10

P.I. 44°23' LT EXT = 15.00

5+52

P.I. 23°15' RT EXT = 5.00

4+00

P.I. 6°06' RT EXT = 0

3+35

P.I. 23°00' LT EXT = 0

1+89.54 EC

1+50.62 P.I.

0+86.10 P.C.

0+00

D = 84°40' RT  
R = 70.00  
T = 64.52  
L = 103.44  
E = 25.00

= STA 35+69.27 (Highway Sta)  
(Computed)

Cloudy Cold

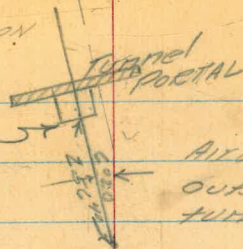
1-12-50  
1-13-50

KIMOT  
SHIPMAN  
West  
Rainey Notes

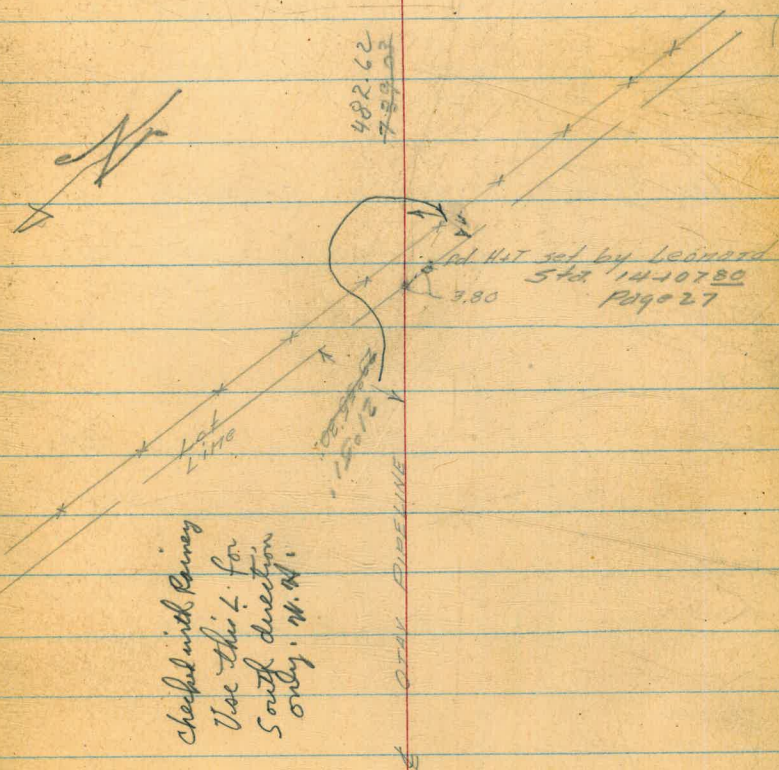
Alignment of OXY PIPELINE from  
City property East to Tunnel Portal  
TELEGRAPH CANYON

55

Sta 298  
+171



Air valve 6.74  
outside box at  
tunnel portal



Checked with Rainey  
Use this L. for  
South direction  
only, N.W.

OXY PIPELINE

Sept. 6 1950

BEATTY  
LEONARD  
BAKER

56

8" MAIN IN

SEMINOLE DRIVE 238<sup>2</sup> Nor & ACORN ST To BIK 19"

SPRINK  
IN POLE  
SE. COR  
ACORN

BM	4.54	470.22	465.68	
0+00	Top 8" C.I. PIPE	8.97	461.25	
0+00			465.4	
+50		4.75	465.5	465.2 C48
1+00		4.40	465.8	465.0 C53
+50		4.84	465.4	464.7 C52
2+00		4.93	465.3	464.5 C52
+2865	8x6 CROSS	5.08	465.1	464.3 C53
+5865	So. Prop Acorn ST.			464.2
2+78 <sup>6</sup>	(5) FH 27 <sup>5</sup> from E St	5.57	464.65	464.10 C06
3+00		6.3	463.9	464.0 C44
+50		6.0	464.2	463.7 C50
4+00		6.4	463.8	463.4 C49
+50		6.6	463.6	463.2 C49
5+00		8.0	462.2	462.9 C38
+30		8.2	462.0	462.7 C38
	Blue Top Top Curb	7.93	462.29	

SEPT 21, 1950  
BEATTY  
LEONARD

HORNBLEND  
LAMONT TO MORREL

GRADES SET ON CURPS FOR METERS

B.M.	4.56	64.59	60.03		
0+89 <sup>3</sup> So.		6.54	58.05	57.9 C02	
1+07 <sup>4</sup> Nor		5.84	58.75	58.2 C04	
1+37 <sup>3</sup> So.		7.60	56.99	56.8 C02	
1+63 <sup>5</sup> So		8.13	56.46	56.2 C03	
1+69 <sup>5</sup> Nor		6.71	57.88	56.9 C10	
2+18 <sup>4</sup> Nor		7.34	57.25	56.1 C12	
2+34 <sup>5</sup> So		9.58	55.01	54.9 C01	
2+62 <sup>5</sup> So		9.82	54.77	54.7 C01	
3+36 <sup>4</sup> Nor	7.48	61.53	10.55	54.05	55.0 C18
4+02 <sup>5</sup> So		7.67	53.86	53.7 C02	
4+04 <sup>5</sup> Nor		5.02	56.51	54.5 C20	
ck B.M.		1.50	60.03		



44+78<sup>19</sup>

1° 09' R

40+41<sup>20</sup>

7° 01' R

39+12<sup>01</sup>

5° 20' R

38+09<sup>35</sup>

2° 22' L

37+90<sup>31</sup>

73° 14' L to PL. Cor 96<sup>22</sup> left

34+24<sup>63</sup>

4° 01' 30" R

33+30 4" BV

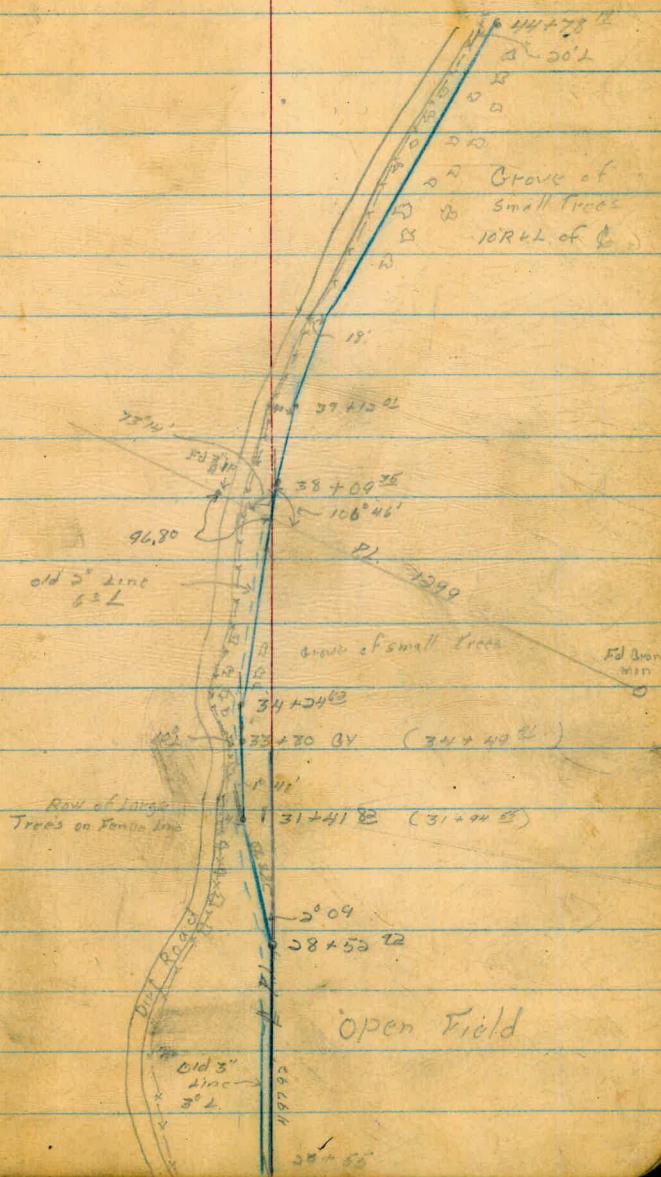
pipe line on top of ground

31+41<sup>22</sup>

1° 41' R

28+52<sup>22</sup>

2° 09' L



West  
Kemp  
Jacobs

27 June 62 60

66+33 <sup>19</sup>

7° 22' E

end of Trees

Moved by CIVILIAN  
8± EAST  
6-30-52

78 53 L  
Ed Bon man  
2742

62+96 <sup>20</sup>

0° 37' R

Fence 14° L

53+37 <sup>21</sup>

1° 56' R

Fence 10° L

49+89 <sup>62</sup>

0° 45' 30" L

105 L Dead Man  
Power Pole / line 90°  
Cross Fence

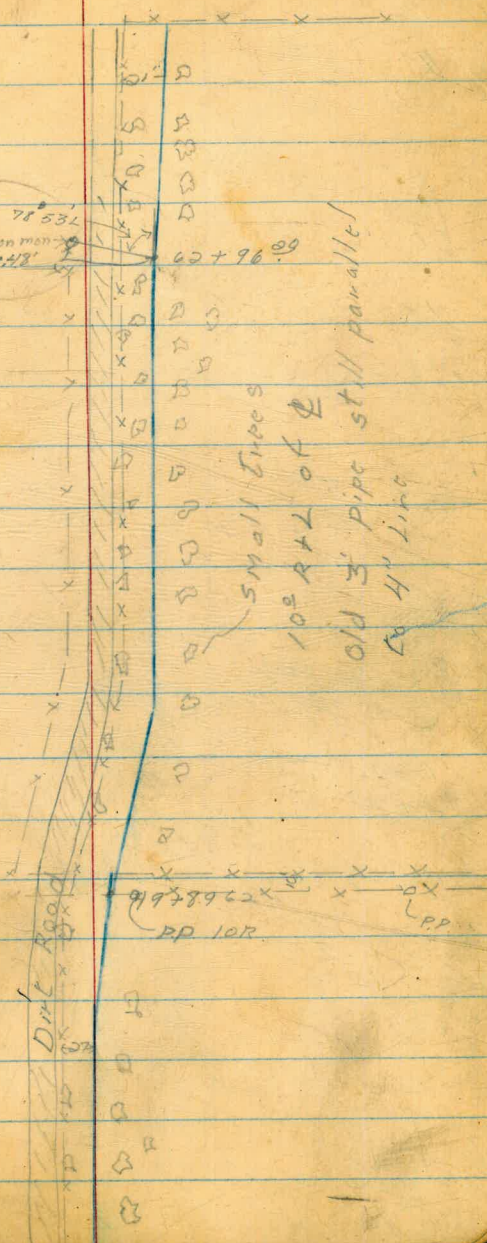
Riding Stable  
106 L

47+99 <sup>12</sup>

1° 49" L

Fence 27 L

44+78 <sup>13</sup>





81+12 <sup>42</sup>

12° 11' R

80+33 <sup>59</sup>

2° 32' R

Ø Pipe on  $\perp$  Traverset

78+90

Ø Pipe 7° L

78+24

Ø Pipe 8° L 90° Bend

76+98 <sup>65</sup>

3° 27' 30" R

74+96 <sup>65</sup>

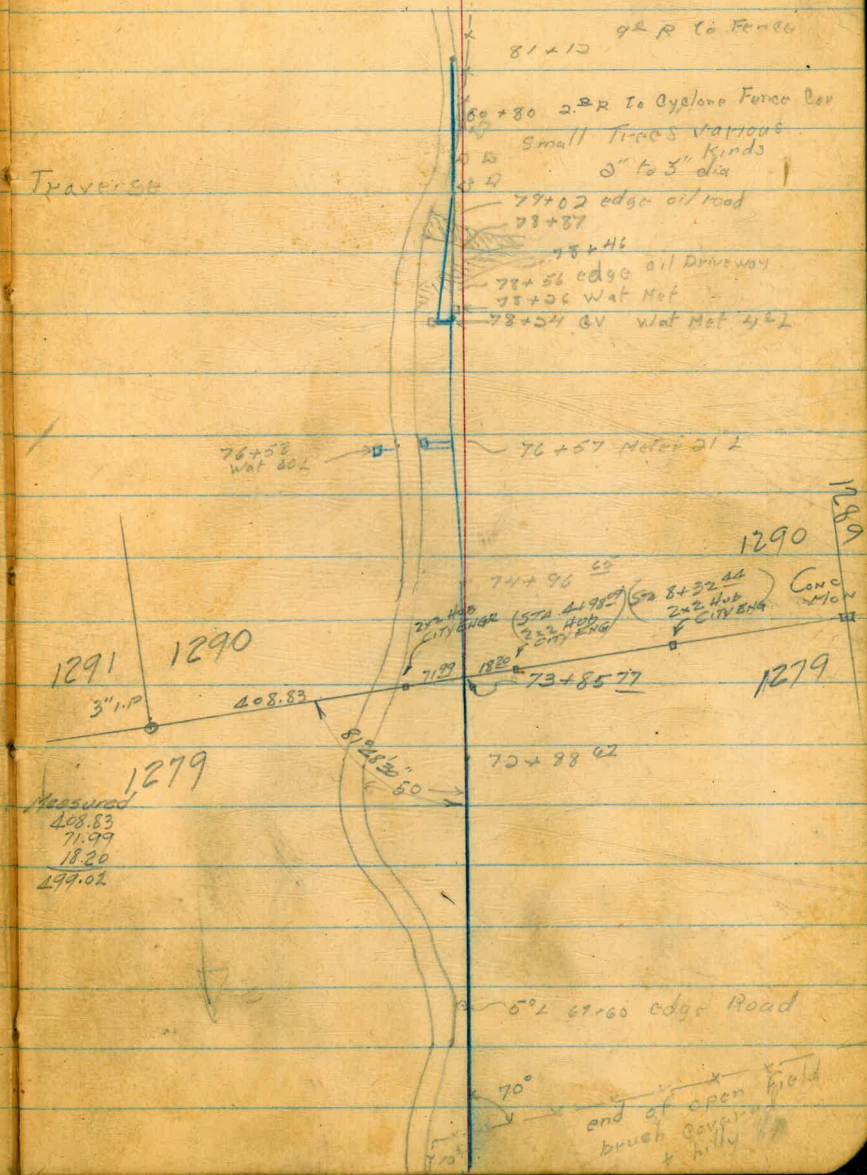
2° 18' L

72+88 <sup>62</sup>

2° 18' L

67+64 <sup>71</sup>

2° 36' 30" L



97.10  
83.87  
75+85.77

Measured  
408.83  
71.99  
18.20  
499.02

1290  
1279  
Cano  
MOW

70°  
end of open field  
bush cover  
& hilly

West  
Kemp  
Varonfakis

30 June 52 62

11° 48' R to Property Pipe

90+35<sup>67</sup>

End of Pipe Line

88+59<sup>82</sup>

12° 17' R

85+92

Pipe Line Curved 26

50 L of Travoussis Line

84+98<sup>99</sup>

29° 14' L

83+06<sup>69</sup>

2° 01' 30" L

81+88<sup>2</sup>

8° 54' L

90+34<sup>Wat Met</sup>  
18 L

5 Pile Rail Fence  
30 L

87+34<sup>3</sup> Pipe Line 27° 50' L

85+92 Pipe Line 26° 2' L

Fd 1/2 IP 80  
27 1/2 L

Fd 1/2 IP 100  
28 3/4 L

84+89<sup>2</sup> A Wat met

84+95<sup>3</sup> B Water Met

50 R to Fence

62 R to Fence

90 R Prop. Cor

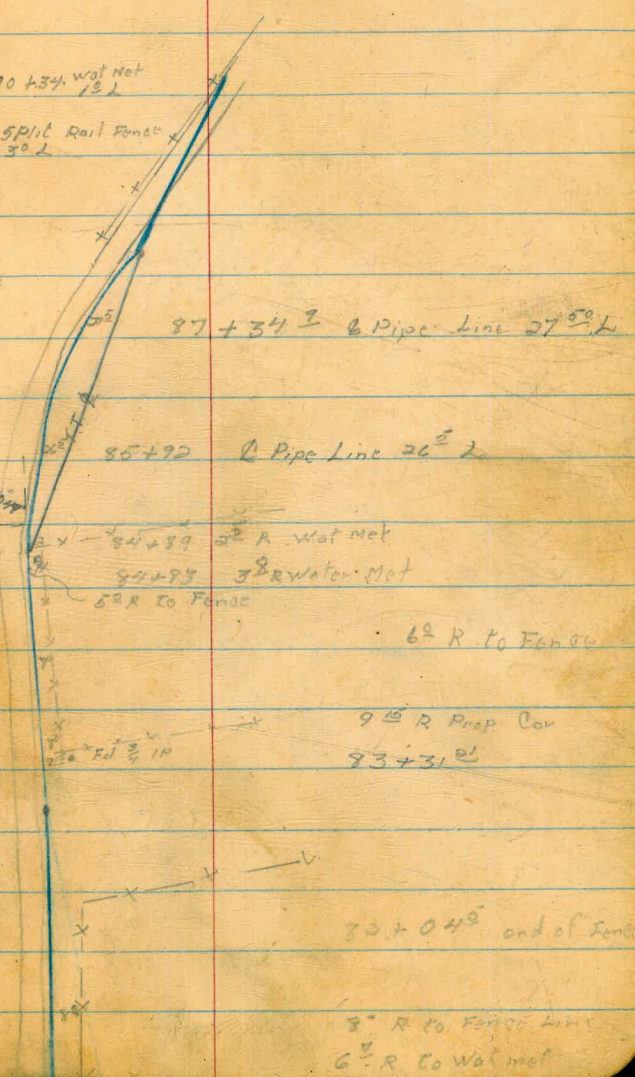
83+31<sup>2</sup>

Fd 1/2 IP

82+04<sup>5</sup> end of fence

8° R to Fence Line

6° R to Wat met



4" STEEL WATER LINE  
IN P.L 1290

TIE TO P.L COR. 1290, 1289, 1265, 1266

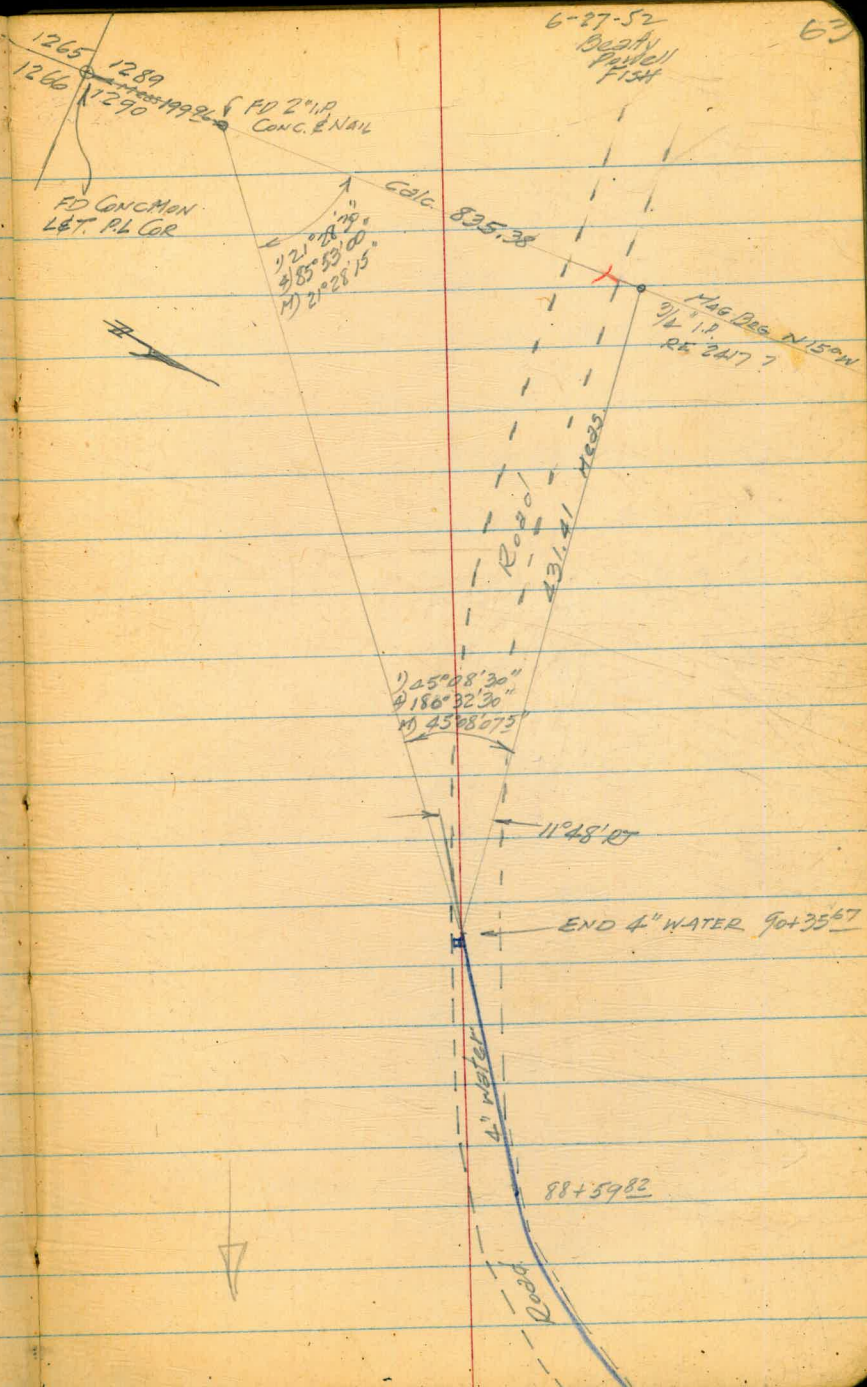
To 3/4" I.P. prop. Cor

11°48' RT

90+35.67 End 4" water

12°17' R

88+59.82



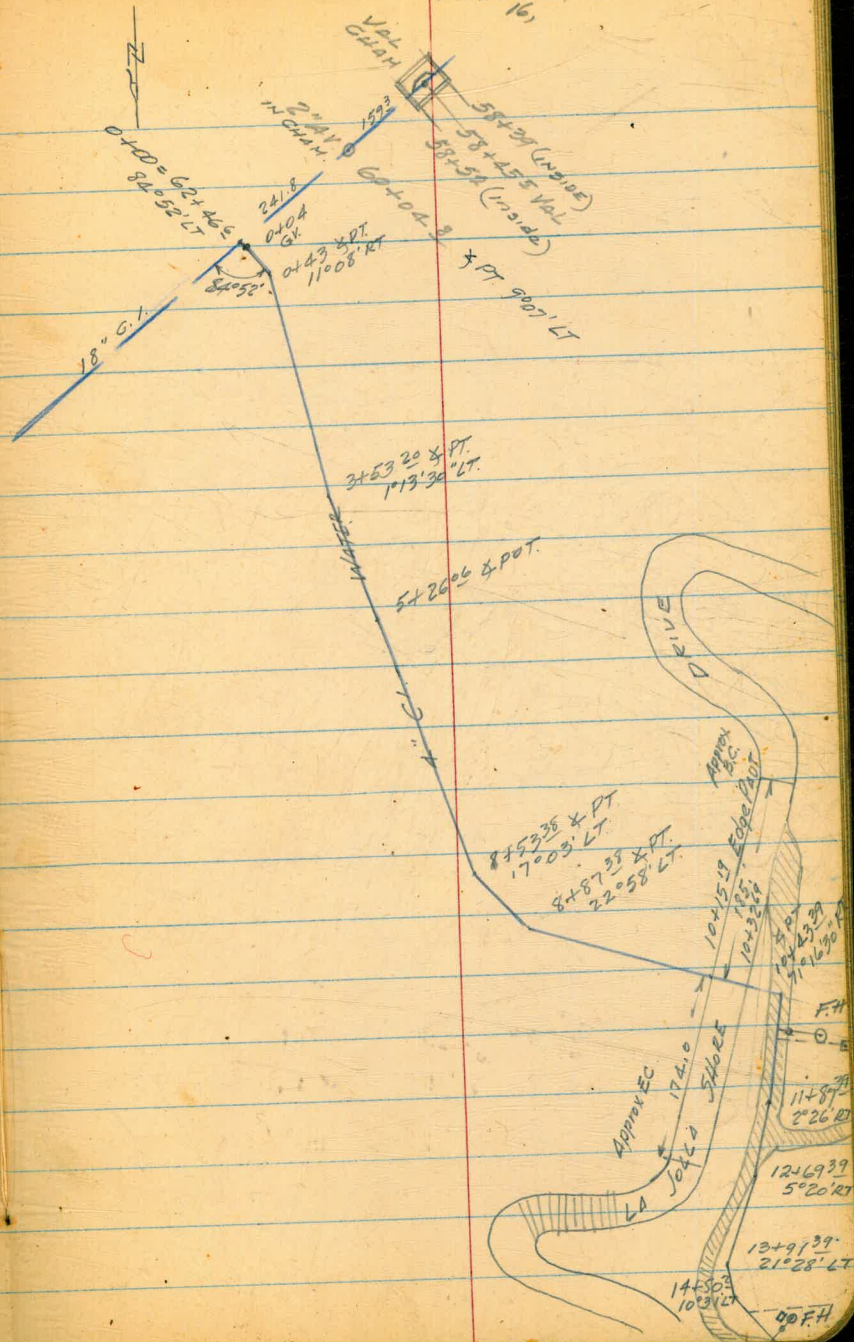


LOCATION 4" C.I. WATER  
IN P.L. 1298

MAR. 11 1953  
16

65.

- 14+61<sup>05</sup> TEE & End 4" WAT 470 LT. TO G.V. 720 LT. TO F.H.  
 14+59 65 LT. TO LARGE WAT MET. BOX (Empty) LARGE METER  
 14+47<sup>32</sup> 45° Y in Pipe?  
 14+20<sup>50</sup> X PT 10°31' LT.  
 13+91<sup>39</sup> X PT 21°28' LT. } 4" C.I. on Trestle  
 12+69<sup>39</sup> X PT 5°20' RT }  
 11+87<sup>39</sup> X PT 2°26' RT  
 10+51<sup>4</sup> 433 LT TO MET. BOX  
 10+49<sup>2</sup> TEE 23 LT TO G.V. 145 LT TO F.H.  
 10+44<sup>89</sup> G.V.  
 10+43<sup>39</sup> X PT 71°16'30" RT  
 10+32<sup>69</sup> W. " " "  
 10+15<sup>19</sup> E. Edge Conc Pavt La Sella Shore Dr  
 8+87<sup>38</sup> X PT 22°58' LT.  
 8+53<sup>35</sup> X PT 17°03' LT.  
 5+26<sup>06</sup> POT.  
 3+53<sup>20</sup> X PT 1°13'30" LT.  
 0+43 X PT 11°08' RT  
 0+04 G.V. VAL Riser pipe.  
 0+00 = 62+46 on 18" C.I. 82°54' LT. TO 4" C.I.



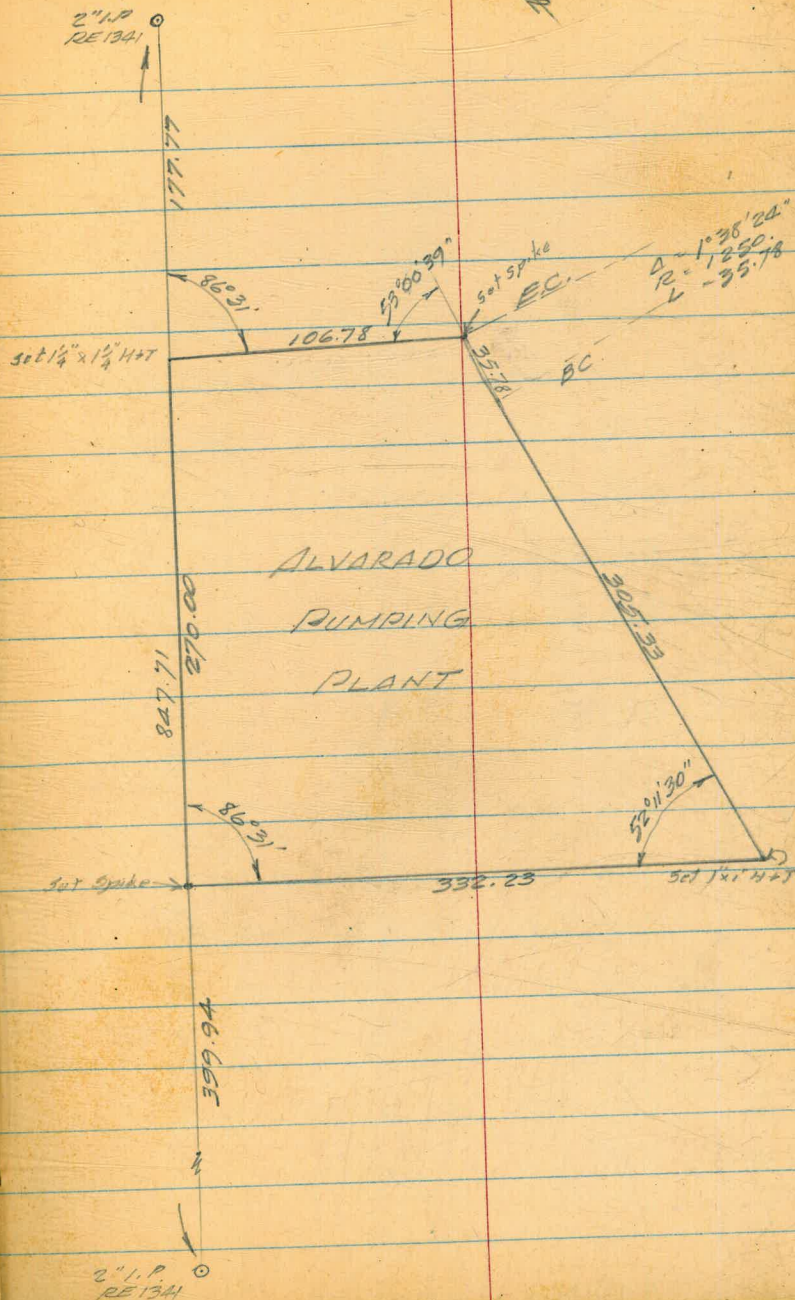


PROPOSED PROPERTY COR'S  
ALVARADO PUMP PLANT  
FLAGGED

(As per plan )

WEST party 7/27/55

67



Elev's Top of 6" C.I.  
ROANOKE & HOPKINS

June 7 1956  
Beatty  
Smith.

68.

BM	0.39	201.06	200.67	City Dist. plan 3/69-D
CK TP		0.33	200.73 = 200.80	
0400 = 50' Wly DC Curb Ret. W. side Hopkins				
0404	Top 6" C.I.	14.52	186.54 ✓	
"	Exc. Grd line	10.67	190.39 ✓	
0431	Top 6" C.I.	11.70	189.36 ✓	
"	Exc. Grd line	9.25	191.81 ✓	
0453	F.H. Take off	10.0	191.06 ✓	
"	Top 6" F.H. GV	8.55	192.51 ✓	
35				
0488	Top 6" C.I. & Hopkins	10.10	190.96 ✓	
"	Exc. Grd line	7.15	194.91 ✓	
69	TP	2.22	196.36	6.92 194.14
1450	Top 6" C.I.	5.72	190.64 ✓	
"	Exc. Grd line	2.8	193.56	
1496	Top 6" C.I.	8.42	187.94	
	Exc. Grd line	5.0	191.36	
TP	6.81	200.95	2.22	194.14
CK. BM		0.27	200.68 = 200.67	

Top F.H. SW. Cor Hopkins & Roanoke

PK nail in fence post NW. Cor, above

@ Roanoke

8.72  
6.3  
14.52

8.7



ELEV. TO 6" C.I. PIPE  
ROANOKE & DEANVILLE ST.  
0+00 = WLY CB. B.C. DEANVILLE

BM	1.16	201.37	200.21
0+00	TOP 6" C.I.	13.33	188.04
"	EXC. GRD. LINE	9.10	192.27
0+38	TOP 6" C.I.	12.91	188.46
"	EXC. GRD. LINE	5.53	195.84
0+61	TOP 6" C.I.	12.22	189.15
"	EXC. GRD. LINE	5.05	196.32
CK. BM	1.16	200.21 = 200.21	

BM	1.90	218.75	216.85
13+94	TOP 6" C.I.	10.13	
"	EX. GRD. LINE	6.6	212.2
CK. GRD.	2.65	216.10 = 216.15	

6/7/56

SHOREY  
KEMP  
SMITH

69

HUB MK'D 10+25 3' BK PROP. SLY. SIDE  
ROANOKE ST.

HUB MK'D 14+80 3' BK. PROP. SLY.

STA. 13+94 IMPROVEMENT SHEET STA.

HUB MK'D 14+80 3' BK. PROP. NLY MK'D CO.

EL CAPITAN P.L.  
REALIGNMENT & LOWERING  
AT CROSSING OF ALVARADO  
FREEWAY

(NOTE: See Pg. 21) (4 FILE 3548)

69°13' RT to 3+80  
68°35' RT to 3+72.5 End Trestle  
66°37' RT to 3+50  
61°42' RT to 3+00  
56°49' RT to 2+50  
54°26' RT to 2+27 Access MH.  
51°58' RT to 2+00  
51°45' RT to 1+96.66 Begin Trestle  
55°45' RT to AUA M.M.H. 370  
RT

1+49.51 Δ PT

1+37 Δ PT 34°03' LT

0+88.75 POT intersect of "A" Line  
(Hwy Dept.)

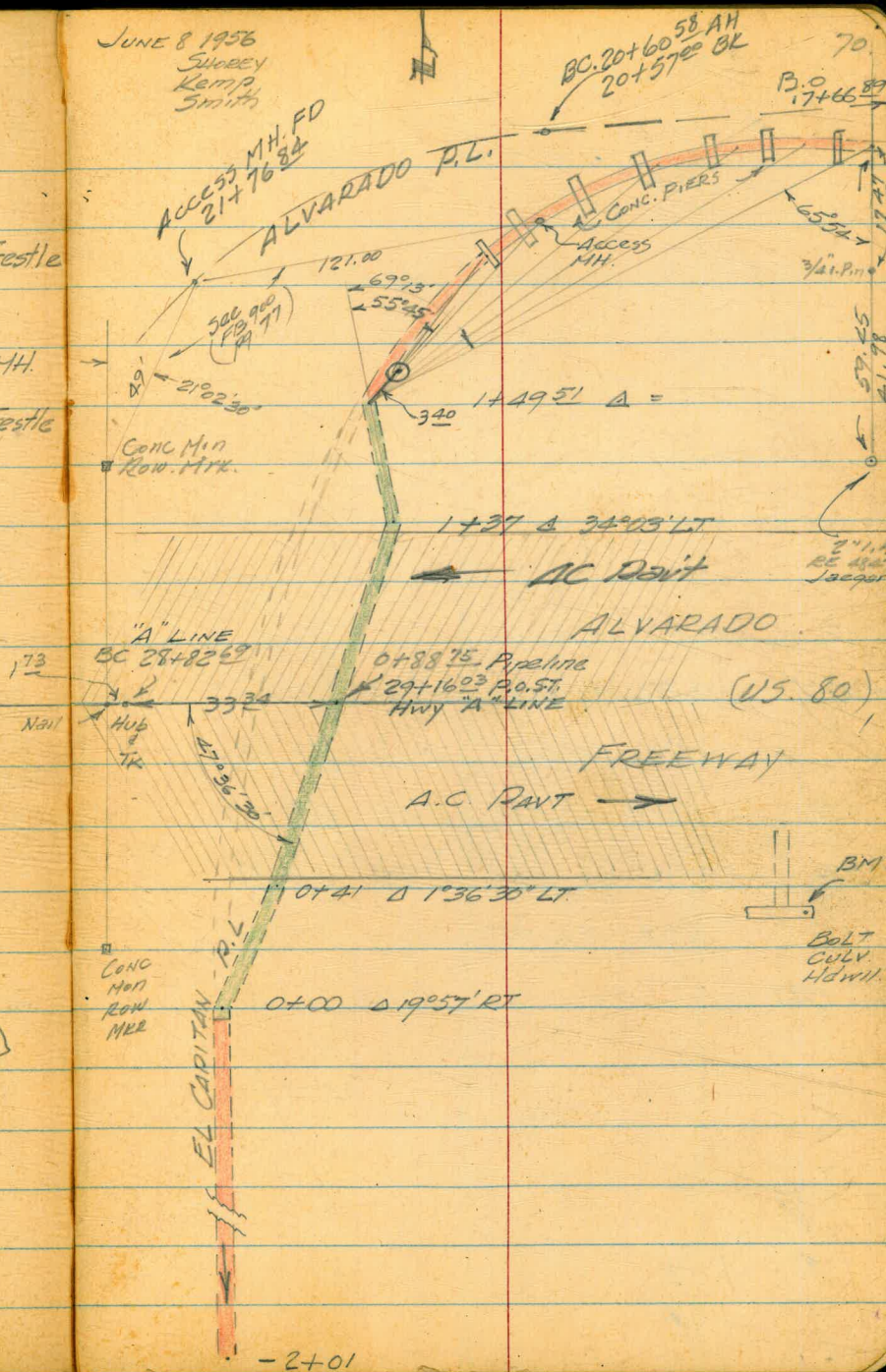
0+41 Δ PT 1°36'30" LT

0+00 Δ PT 19°57' RT

PRELIMINARY  
NOT USED  
SEE FB 871-30

-2+01

JUNE 8 1956  
Shokey  
Kemp  
Smith



-2+01

ELEV. & STATION  
 ALVARADO PIPELINE  
 STA'S AS PER CONTRACTORS PIPE PLANS  
 4-3171-2 SHEET NO 2 OF 2 SHEETS

B.M.	7.34	119.50	112.155
20+60	54 AH	EQ. B.C.	
STA. 20+57	69 BK		
20+94 <sup>99</sup>	Top 36" PIPE	9.75	109.75
CK. B.M.	7.34	112.16	= 112.155

BM.	10.22	81.40	71.18	CHRIS H NE COR Wingwall Bridge
CK BM	10.06	81.26	10.20	
TD	11.70	90.52	2.48	78.78
STA. 58+33 <sup>58</sup>	00 A.C.	3.53	85.99	
STA. 58+33 <sup>58</sup>	Top pipe	7.93	82.59	
TD	3.72	81.25	12.99	77.53
CK BM		10.04	71.21	= 71.20

9/16/56  
 SHOREY  
 KEMP  
 SMITH

CALIF. HWY. BM # 70 (SEE PG. 72)

TOP OF BARE JOINT

8/28/56  
 same party

- See FB 872-45  
 FB 916-52  
 Mon

} 409.4' Ely of AVA. STA 62+12.98  
 + 09.40  
 58+33.58

EL CAPITAN P.L.  
Profile

JUNE 12, 1956  
BEATTY  
SMITH.

72

BM #24	0.19	112.34.	112.15.	
			0.31	112.03 = 112.13
			3.92	108.42 = 108.53
BM #25	1.29	106.28.	7.35	104.99 = 105.09
BM #26	0.80	104.55.	2.53	103.75 = 103.76
IP	1.95	97.75.	8.75	95.80.
IP	3.62	92.40	8.97	88.78.
IP	1.79	91.34.	2.85	89.55
IP	7.89	99.23.	0.00	91.34.
IP	8.75	107.69.	0.29	98.94.
IP	8.67	116.22.	0.14	107.55.
CK BM	8.50	120.66.	4.06	112.16 = 112.155
IP	9.02	129.68.	0.00	120.66.
IP	8.89	138.35.	0.22	129.46.
IP	9.30	146.75.	0.90	137.45.
IP	9.38	155.51.	0.62	146.13.
			0.06	155.48 <sup>s</sup> City Datum
			+6.12	
			161.58 <sup>9</sup>	USGS
IP	13.34	164.22.	4.63	150.88.

BR NE Val Chamber 75" Val El Capitan P.L.

Chis x SW Cor Val Chamb. Murray P.L. Conn.

Chis x NW Cor MANIFOLD Val Chamber

Chis x SW side val Cham. W side <sup>Alvarado</sup> pump plant

BR on AVA Chamber 400' Wly Pump Plant

on top Hwy post A-39+65

Calif Hwy BM #70 - 30' RT Sta 30+36 "P" Line  
Bolt with nut in Conc Culv Hdwall 30' side of road  
City Datum

= El 161.6. Top of pipe 0-50 (see pp. 21.)

Top 1/2 W.P. 25' Wly 0-40

6/20/52. H6

EL CAPITAN P.L.  
Profile

6/15/56

73

		164.22.		
P	13.21	176.90.	0.53	163.69.
P	13.40	189.90.	0.40	176.50.
P	12.47	202.02.	0.35	189.55.
P	2.35	203.99.	0.38	201.64.
-2+01	Top pipe	1.90		202.09
"	Groundline	0.1		203.9
-1+85	"	5.9		198.1
P	0.02	<del>190.72</del> <sup>1329</sup>	<del>1227</del> <sup>190.70</sup>	
-1+60	Groundline	1.2		189.5
-1+36	Top pipe	9.37		181 <sup>35</sup>
"	Groundline	9.4		181 <sup>3</sup>
P	0.14	<del>178.10</del> <sup>9</sup>	12.76	<del>177.96</del> <sup>8</sup>
-1+00	Groundline	8.1		170.2
P	0.14	<del>165.44</del> <sup>6</sup>	12.80	<del>165.30</del> <sup>6</sup>
0-75	Top pipe	2.96		162 <sup>48</sup>
"	Groundline	2.9		162 <sup>5</sup>
0-50	Top pipe	10.02		<del>155.42</del> <sup>6</sup> = 155.46
"	Groundline	10.0		155 <sup>4</sup>
P	0.94	<del>153.66</del> <sup>3</sup>	12.72	<del>152.72</del> <sup>3</sup>
CK P		153.56	2.73	150.88 = 150.88

OK. Fieldwork  
Beatty  
6/21/56

150.88  
2.74  
153.66  
12.72  
165.44  
165.30

165.30  
12.40  
175.10  
177.96  
190.72  
190.70  
17.29  
203.99  
1.9

202.09 Top Pipe

Red & v c/22/56 H6

6/15/56

74

EL CAPITAN P.L.  
Profile

		153.56.		
0-25	Top pipe	5.00	148 <sup>56</sup>	
"	Ground line	4.7	148 <sup>9</sup>	
0-10	Grd line	7.6	146 <sup>0</sup>	
0-05	Top of old pipe	10.14	143 <sup>42</sup>	
0+00	2 PT Top new pipe	11.75	141 <sup>81</sup>	
0+025	Top new pipe	13.20	140 <sup>36</sup>	
0+04	Ground line	12.60	141 <sup>0</sup>	
0+08	"	14.4	139 <sup>2</sup>	
IP		1.64	142.44	12.76
IP		1.03	130.52	12.95
IP		7.74	125.14	13.12
CK BM.			12.97	112.17 = 112.16
0+41	Gutter Ground line	8.4	116 <sup>7</sup>	
0+41	Top of pipe	3.22 11.52	113 <sup>6</sup>	
0+455	A.C Shldr	7.88	117 <sup>26</sup>	
0+89	" E Rd	7.42	117 <sup>72</sup>	
1+335	" Shldr	8.21	116 <sup>93</sup>	
1+37	Gutter Grd line	8.6	116 <sup>5</sup>	
1+47	Ground line	0.0	125 <sup>1</sup>	
IP		2.86	130.78	1.22
			123.92	

Red &amp; dk 6/22/56 H6

EL CAPITAN P.L.  
Profile

6/15/56

75

	130.78				
1+49 <sup>51</sup>	Groundline	5.2	125 <sup>6</sup>		
SET TBM		1.80	128.98	Conc Row marker 50' Nth of BC	
			- 13.02		
			115.96	Elev. Top of Access M.H. Sta 21+76 <sup>84</sup> Alvarado P.L. (see pg. 900 pg. 77)	
SET TBM	1.04	127.74	4.08	126.70	x on rim of AVA M.H.
1+58	Groundline	1.9	125 <sup>8</sup>		
1+86		8.4	119 <sup>3</sup>		
1+90		9.7	118 <sup>0</sup>		
1+96 <sup>66</sup>	on Conc block	10.71	117 <sup>03</sup>		
1+96 <sup>66</sup>	Top of pipe	11.04	116 <sup>70</sup>	} w. end of Trestle 5-piers	
2+00	Top pipe	11.44	116 <sup>30</sup>		
11)	0.08	116.52	11.30	116.44	
2+27	Top pipe	3.05	113 <sup>41</sup>	Access M.H. @ 11:00 o'clock	
2+50	Top pipe	5.58	110 <sup>94</sup>		
3+00	Top pipe	11.35	105 <sup>17</sup>		
11)	0.49	104.00	13.01	103.51	
3+50	Top pipe	4.65	99 <sup>35</sup>		
3+72 <sup>5</sup>	Top pipe	8.23	95 <sup>77</sup>	E End Trestle	
3+80	Groundline	8.3	95 <sup>7</sup>		

EL CAPITAN P.L.  
Profile

6/15/56

76

104.00  
IP 12.56 115.90 0.66 103.34

IP 5.94 120.90 0.94 114.96

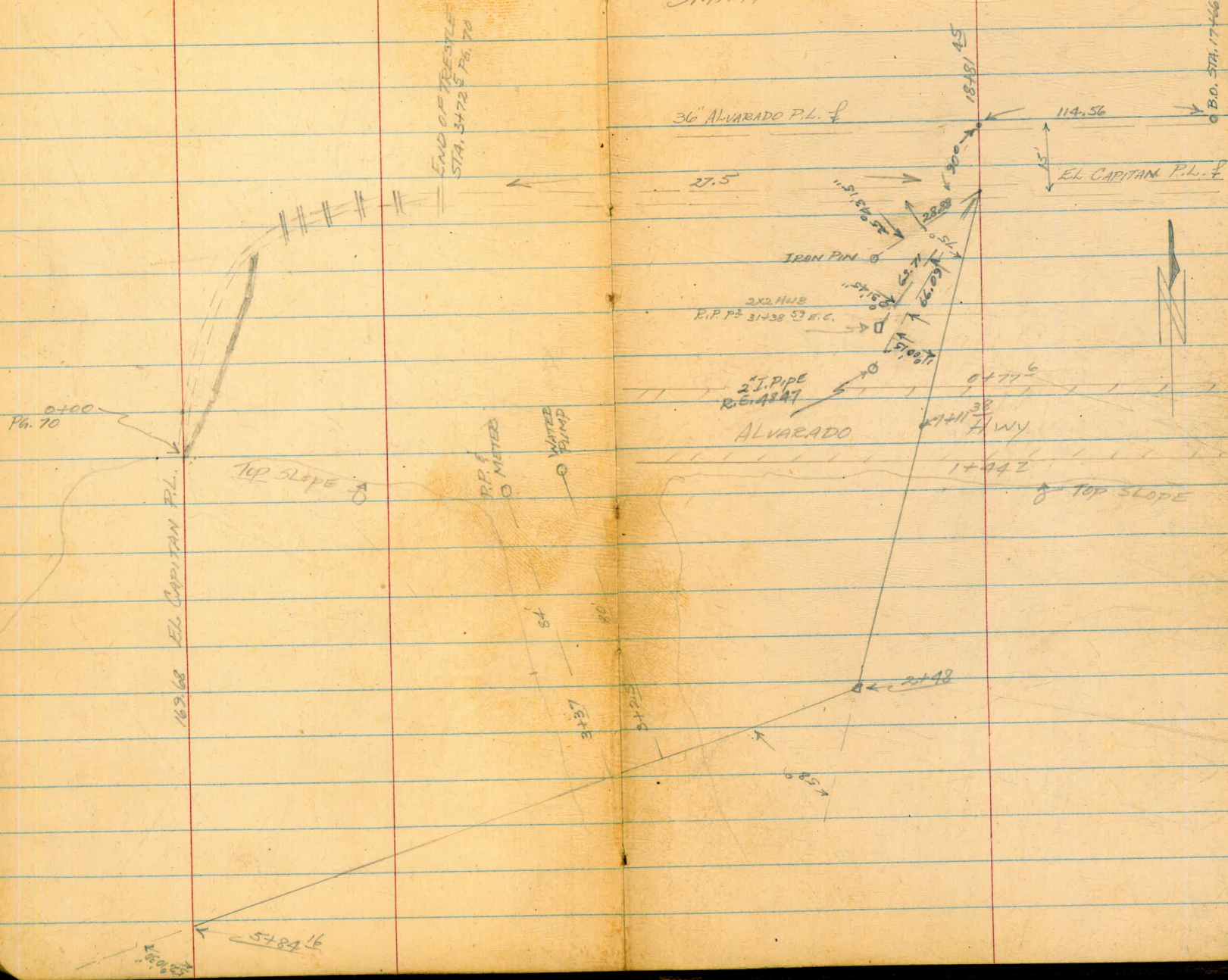
CK BM 8.73 112.17 = 112.16 Bolt in culv. hdwll.



EL CAPITAN P.L.  
REALIGNMENT, & PROFILE & X-SECTION

8/20/56  
SHOREY  
KEMP  
SMITH

77





EL CAPITAN P.L.  
REALIGNMENT, PROFILE & X SECTIONS  
(CONT'D)

192.42

2+28		4.6	137 <sup>B</sup>
2+48	ΔPT. 58° RT. 90° BK. TAN	10.7	131 <sup>I</sup>
"	" " 90° FWD. TAN	10.7	131 <sup>I</sup>
TP	0.09 129.58 <sup>V</sup>	12.93	129.49 <sup>V</sup>
2+79	TOE OF SLOPE	12.6	117 <sup>E</sup>
3+00		13.3	116 <sup>3</sup>
3+15	TOE OF SLOPE	11.7	117 <sup>I</sup>
TP	12.90 140.31 <sup>V</sup>	2.17	127.41 <sup>V</sup>
3+50		8.1	132 <sup>E</sup>
TP	12.16 152.08 <sup>V</sup>	0.39	139.92 <sup>V</sup>
TP	13.19 161.52 <sup>V</sup>	3.70	148.38 <sup>V</sup>
4+00		8.9	152 <sup>I</sup>
TP	12.73 173.34 <sup>V</sup>	0.96	160.61 <sup>V</sup>
4+50		40.4	173 <sup>I</sup>
TP	12.11 184.22 <sup>V</sup>	1.23	172.11 <sup>V</sup>
4+71		2.6	181 <sup>E</sup>
TP	13.02 197.01 <sup>V</sup>	0.23	183.99 <sup>V</sup>
4+85		11.4	185 <sup>E</sup>
5+00		7.4	189 <sup>E</sup>
5+50		4.4	192 <sup>E</sup>
5+70		2.7	194 <sup>3</sup>
5+78		4.8	192 <sup>E</sup>
5+84 <sup>16</sup>	END	4.6	192 <sup>4</sup>
5+84 <sup>16</sup>	END TOP EL. CAPITAN P.L.	5.00	192 <sup>00</sup>
TP	0.20 184.22 <sup>V</sup>	12.99	184.02 <sup>V</sup>
TP	0.32 171.41 <sup>V</sup>	13.13	171.09 <sup>V</sup>

(CONT'D NEXT PAGE)

8/20/56

SHOBEY  
KEMP  
SMITH

LI

RT

79

156 <sup>E</sup>	147 <sup>E</sup>	139 <sup>E</sup>	125 <sup>I</sup>	115 <sup>I</sup>	115 <sup>3</sup>
+14.2	+4.6	-2.9	17.3	27.3	27.0
50	32	18	16	43	50
	139 <sup>E</sup>	135 <sup>E</sup>	128 <sup>4</sup>	127 <sup>2</sup>	127 <sup>2</sup>
	3.0	6.8	14.0	15.2	15.4
	50	20	27	43	50
121 <sup>E</sup>	117 <sup>9</sup>	117 <sup>9</sup>	120 <sup>B</sup>	116 <sup>9</sup>	113 <sup>I</sup>
8.2	11.7	11.7	8.8	12.7	15.9
55	47	34	20	10	50
			133 <sup>3</sup>	133 <sup>I</sup>	130 <sup>4</sup>
			7.0	6.6	9.4
			50	16	13
			155 <sup>E</sup>		149 <sup>B</sup>
			5.0		146 <sup>5</sup>
			50		141 <sup>0</sup>
			181 <sup>3</sup>		140 <sup>3</sup>
			+8.0	+7.5	11.8
			50	45	28
					50
					100
					117
					161 <sup>E</sup>
					155 <sup>3</sup>
					146 <sup>0</sup>
					22.0
					27.3
					100 5 NAT. PIPE
					12.6
					176 <sup>4</sup>
					168 <sup>I</sup>
					166 <sup>4</sup>
					161 <sup>E</sup>
					20.6
					28.3
					30.6
					35.5
					50
					89
					78
					100 A
					188 <sup>2</sup>
					184 <sup>2</sup>
					179 <sup>I</sup>
					173 <sup>E</sup>
					160 <sup>4</sup>
					8.8
					12.8
					17.3
					23.5
					36.3
					13
					22
					31
					50
					84
					202 <sup>9</sup>
					201 <sup>E</sup>
					198 <sup>9</sup>
					+5.9
					4.6
					+1.9
					50
					45
					30
					211 <sup>0</sup>
					206 <sup>2</sup>
					+14.0
					+9.0
					50
					33
					214 <sup>E</sup>
					201 <sup>B</sup>
					197 <sup>E</sup>
					+17.6
					+4.8
					+0.6
					50
					18
					10
					186 <sup>3</sup>
					174 <sup>2</sup>
					10.7
					22.8
					19
					50

EL CAPITAN P.L.  
(CONT'D)

4.32

171.91✓

2+28 TP 3.09 161.40✓ 13.10 158.31✓

2+48 CK.TP 10.57 150.83=150.88✓

SEE Pg. 73

"

TP

2+79

3+00

3+15

TP

3+50

TP

TP

4+00

TP

4+50

TP

4+71

TP

4+85

5+00

5+50

5+70

5+78

5+84<sup>1</sup>

5+84<sup>16</sup>

TP

TP

Colima St. 20+47 to side  
30' st.

Midway 27+65 - 30' - 50' end

Forward 33+43 - 30' - 50'

Bird Rock 40+90 - 30'

Camina De La Costa 4 49+04  
58+51 end  
La Canada 58+61 end

0+40

6+50

1+49

-240 T/P

-1+85

-1+69

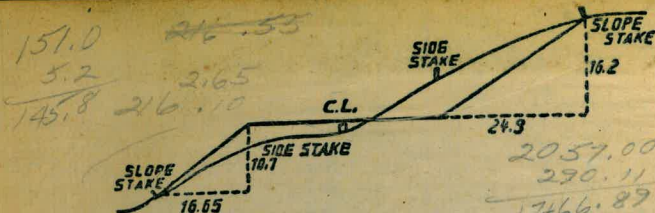
-1+36 T/P

-1+00

-0+75 T/P

-0+50 T/P

-0+25 T/P



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

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

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