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)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

545

This Field Book is manufactured of a high grade **50%** Rag Paper having a **WATER RESISTING** surface.

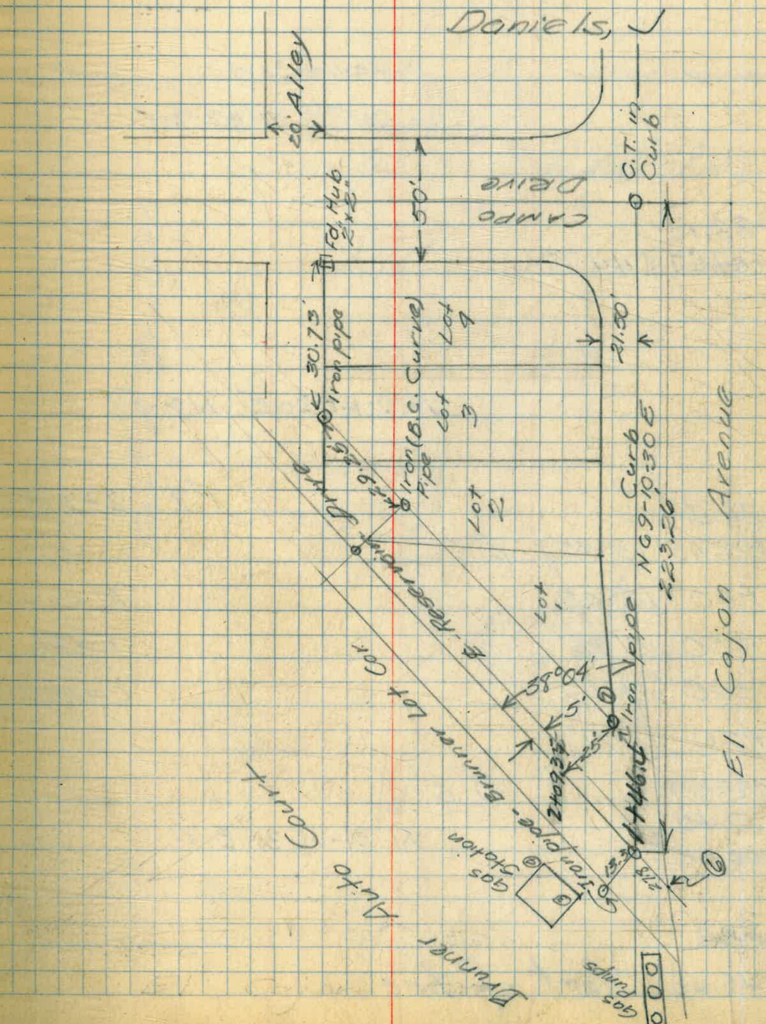
Index.

LOCATION OF 24INCH PIPE LINE FROM EL CAJON AVE. TO HIGH-PRESSURE RESERVOIR. College Reservoir Site

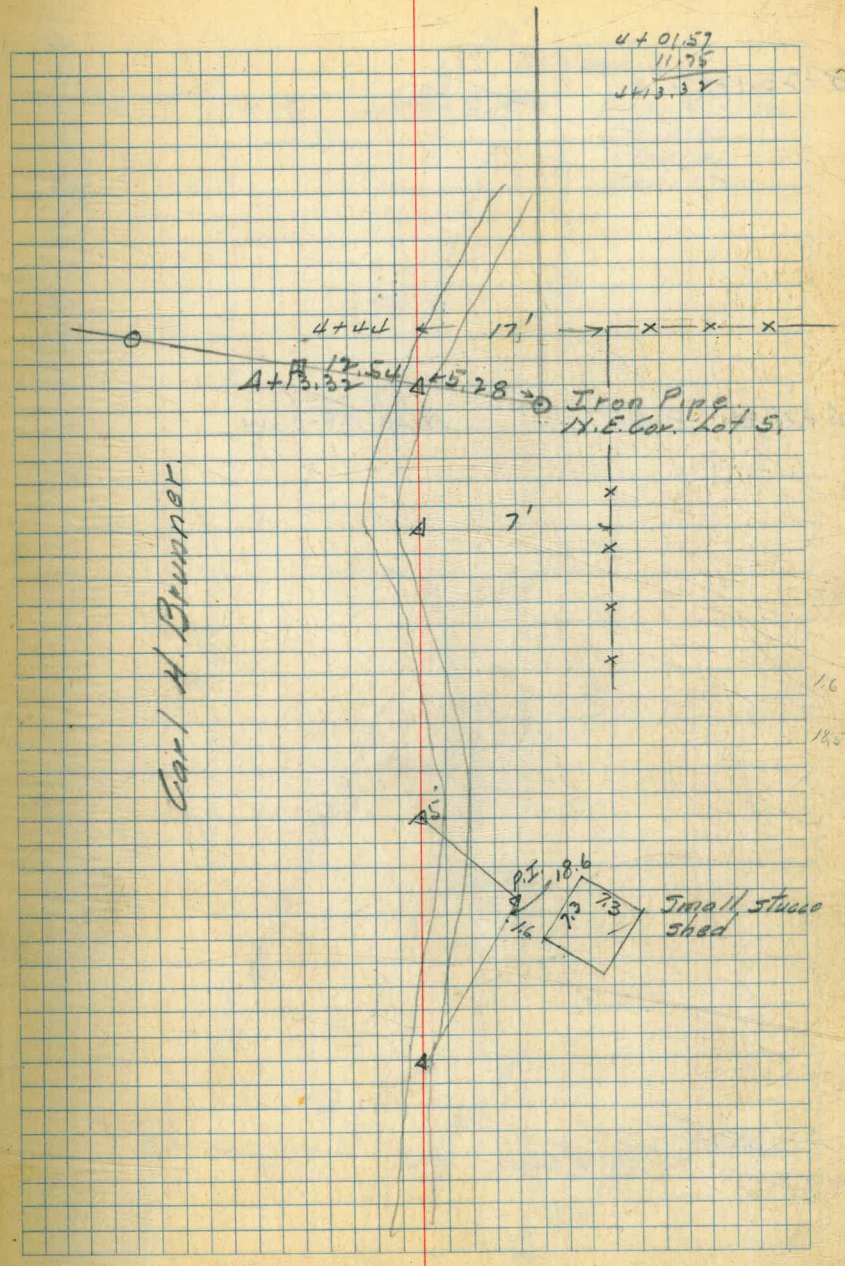
August 14, 1936
Converse, G.
Nasi, K
Daniels, J

Mag. Dec. 14°30'

Sta.	Obj.	Dis.	Angle
0+00	B.C. Curve		0°
	① C.T. (Curb	223.26	141°56
	② Iron Pipe Brunner Lot	13.3	97°28'
	③ S.E Cor.	17.45	93°19'
	④ N.E Cor. Sta.	20.90	58°11'
	⑤ End of line of Gas Pumps	29.40	149°3'
	(3 pumps - 10' long stand)		
	⑥ P.o. curb	27.8	180°
	⑦ Iron Pipe	30.83	-8°47'
	25' offset from ⑦	62.95	



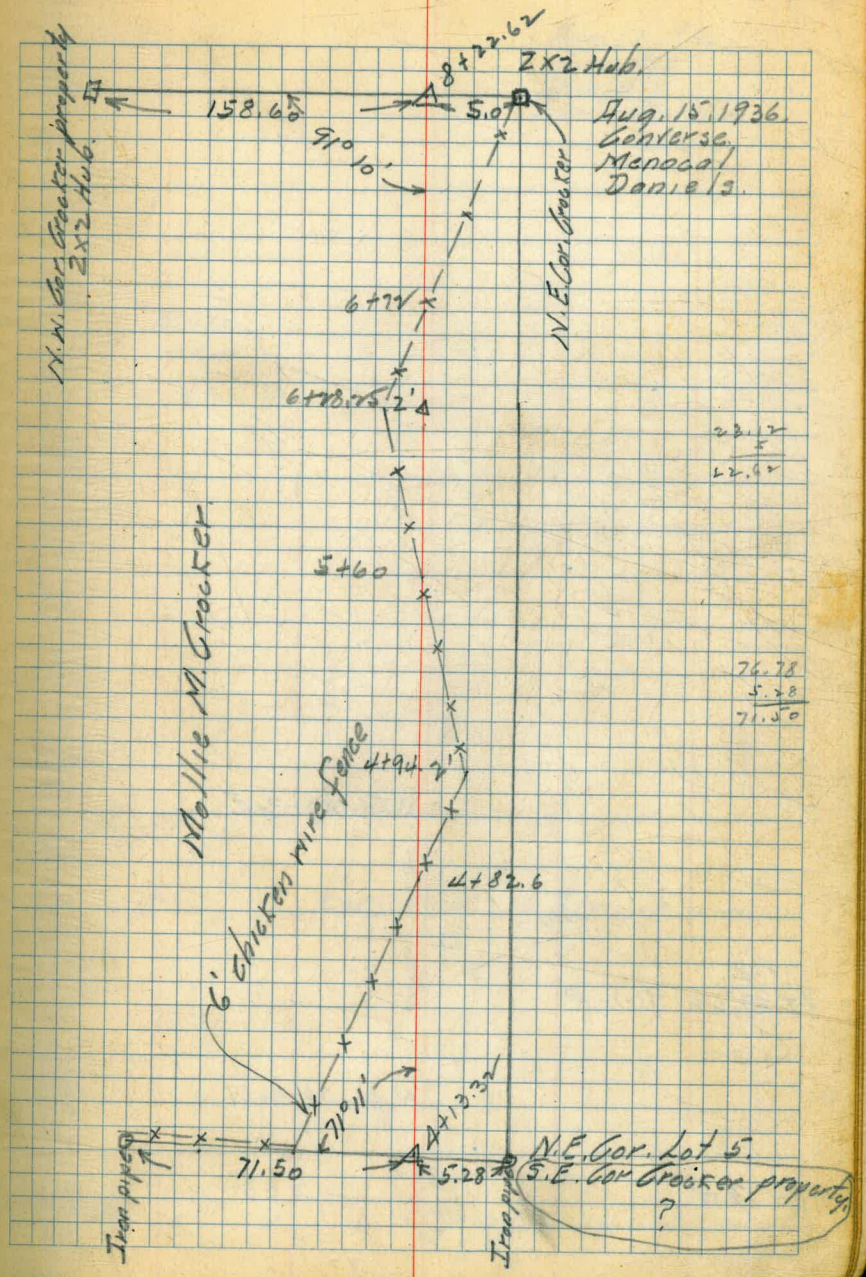
Sta	Defl. ∠	Dis.	Bear.	Mag. Bear.	Alinement
			N.40-46-30 W.		
			N 47-30 W.		
3+88.10					
~~1+01.57~~	Δ 44-28 L.				
			N. 3-41-30 E.	N. 2°-0' E	
3+36.4					P.I. 2+29.99
~~3+22.65~~	13°42'		E.C.		Δ=27°25' L
3+00	12°0'				R=395
+50	8°16'				T=96.35
2+00	4°19'				L=189.01
1+50	1°11' L				
~~1+33.64~~			B.C.		
1+47.40 =			N. 31-06-30 E.		
3+00.00					
~~0+00~~					
1+46.60	Start of line.				



8+23.12 P.O.T.

6+78.75 P.O.T. N.40-46-30W.

4+01.57



Aug. 17. 1936
Converse
Daniels
John T. Costello

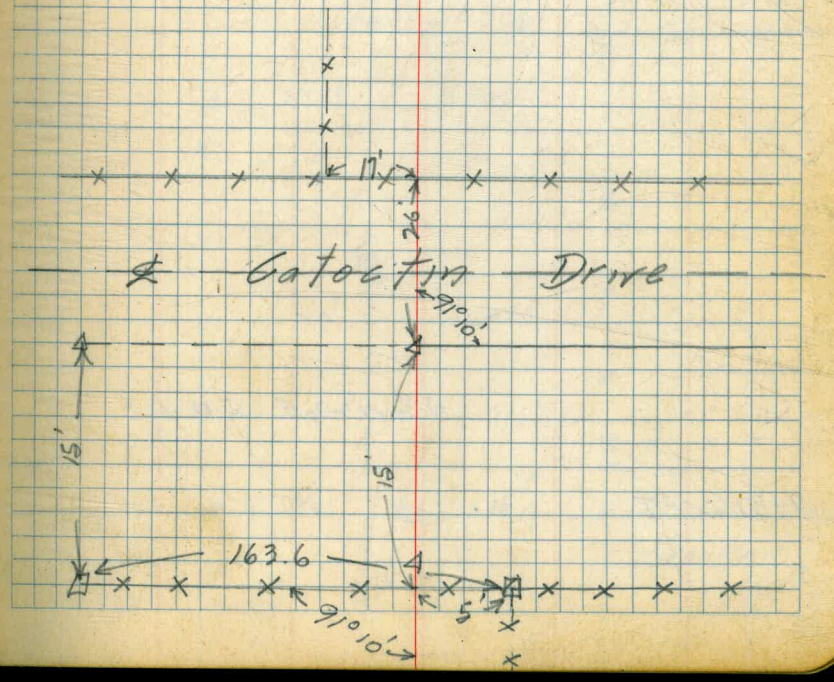
91-10
40-46-30
50-23-30

N. 50-23-30 E.

P.I.
8+37.62 91-10 R.

N. 40-46-30 W

8+23.12



14+00 8-26 ✓

Δ = 51-46 Lt.

+50 6-24 ✓ R = 705

T = 342.07

13+00 4-22 ✓ L = 636.97

D 50' = 2°02'

+50 2-20 ✓ 11+92.77

+ 36.97

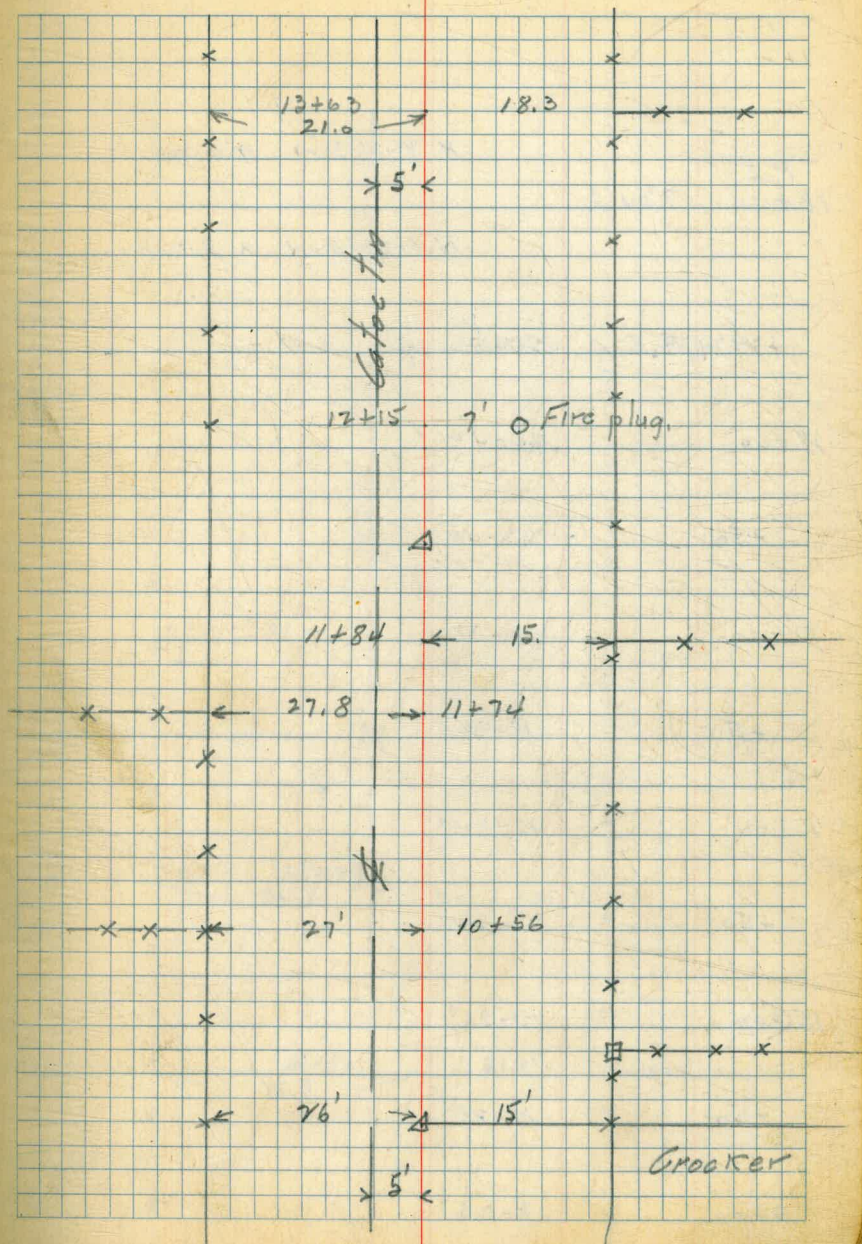
18+29.74

12+00 0°18' ✓

11+92.77 B.C.

N. 50-13-30 E. N 48-10 E

8+37.62 P.I



P.I.

N. 8-26-30W. N.10-20W.

P.I.
18+40.00 7°04'L.

N.1-22-30W. N.3-20W.

+29.74 E.G. 25-53

18+00 24-42 ✓

+50 22-40 ✓

17+00 20-38 ✓

+50 18-36 ✓

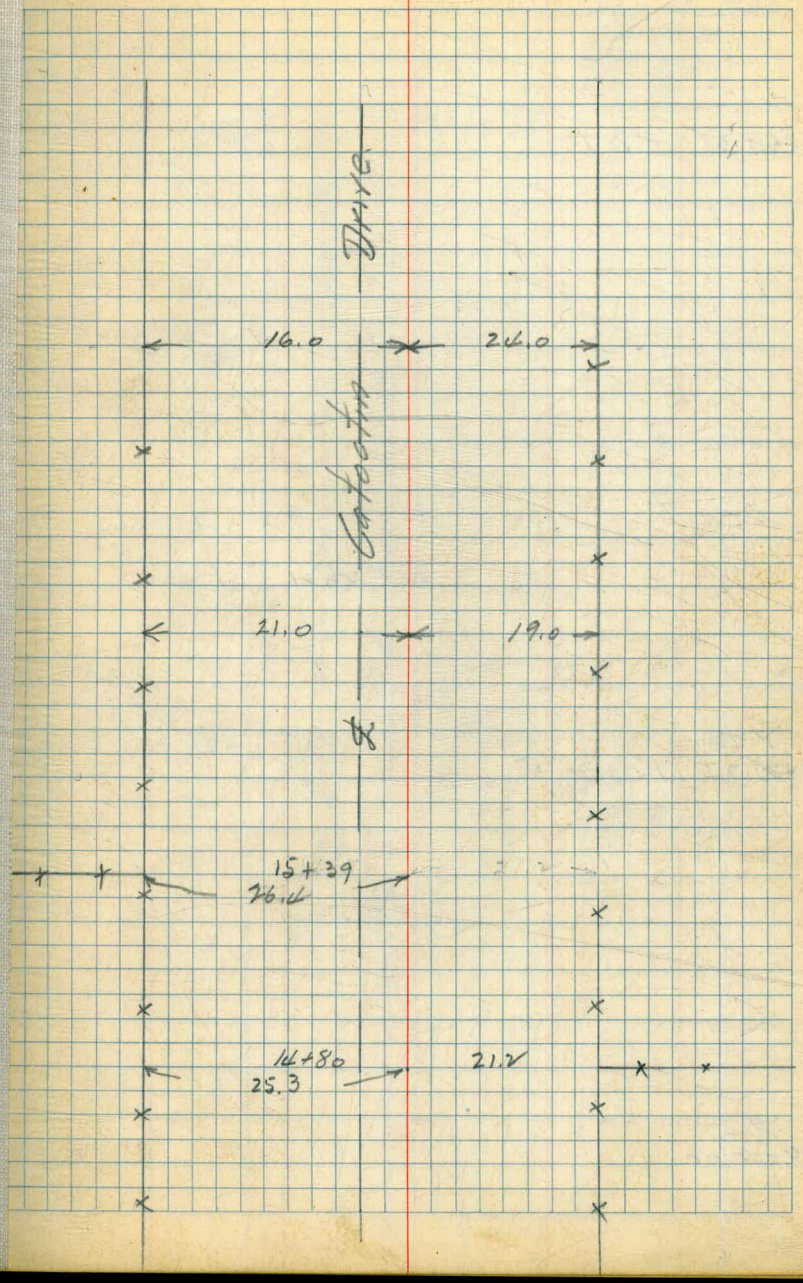
16+00 16-34 ✓

+50 14-32 ✓

15+00 12-30 ✓

+50 10-28 ✓

14+00 8-26 ✓



Aug. 18, 1936.
Converse
Daniels
Costello

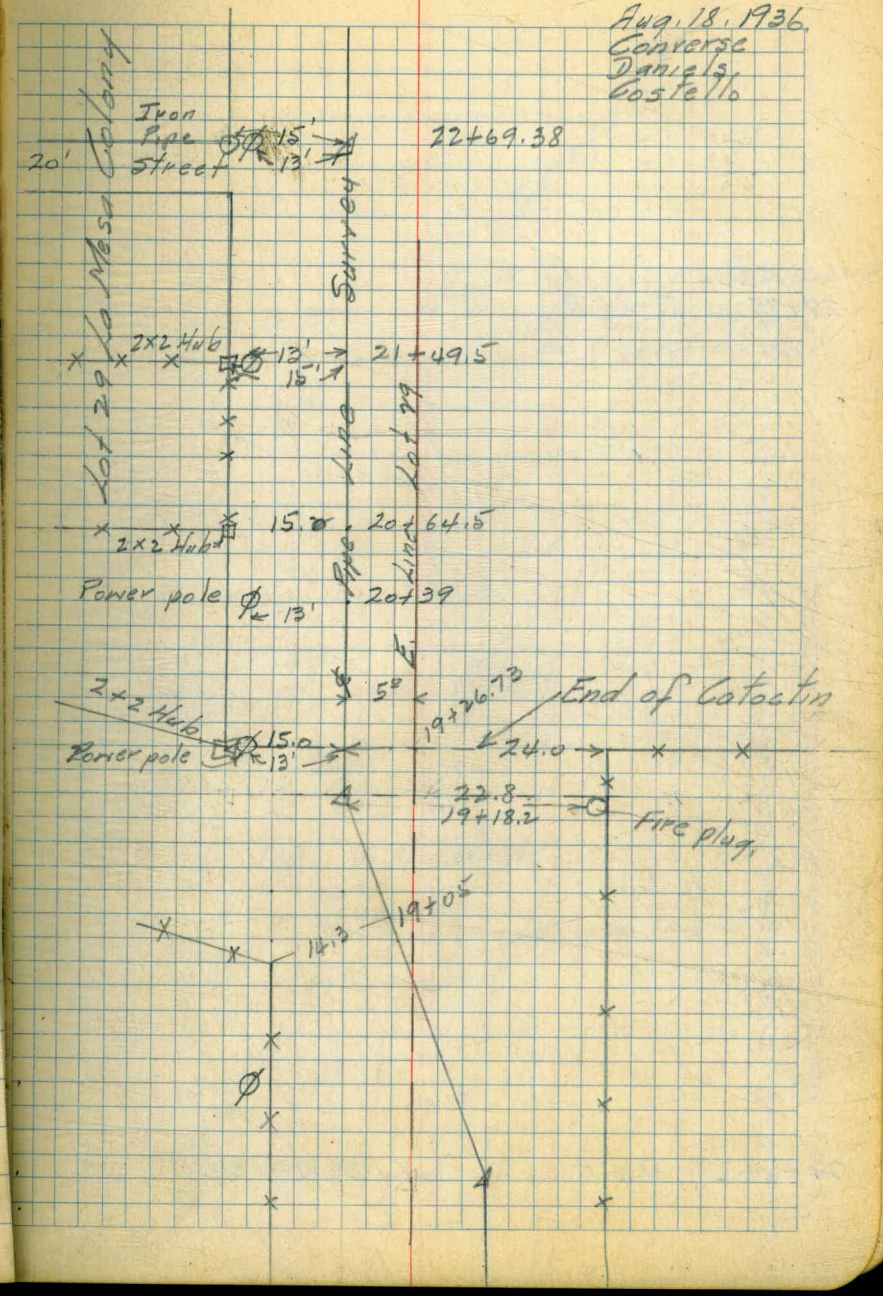
22+69.38 P.O.T.

N. 1° 76' W

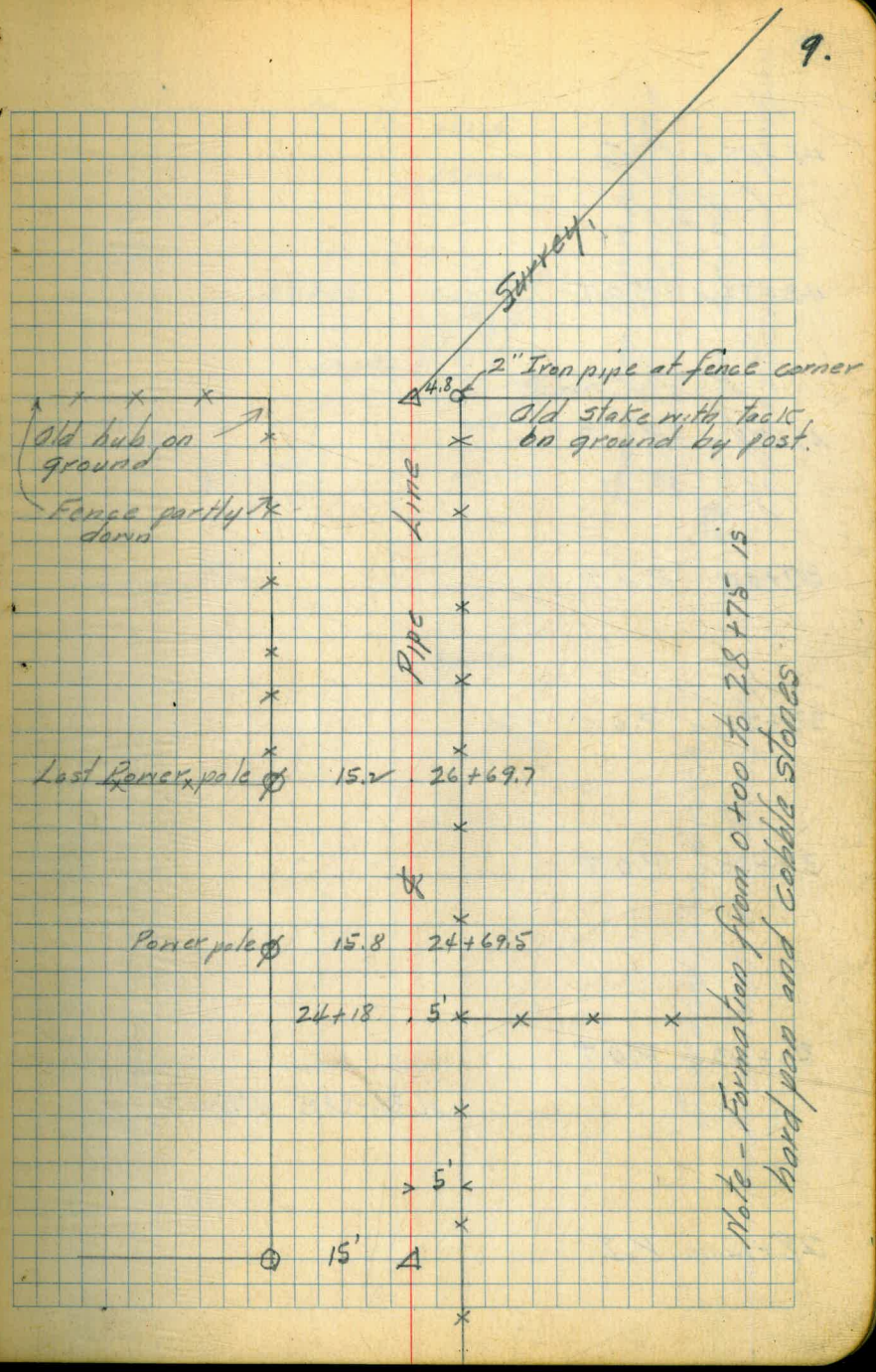
P.I.
19+21.73 7°00'30" R.

N. 8-26-30 W

P.I.
18+40.00



P.I.
28+75.00 37-54 R.



22+69.38 P.O.T. N. 1-26 W N 2-40 W

48+65.0 P.O.T.

43+85.0 P.O.T.

41+88.0 P.O.T.

37+00 P.O.T.

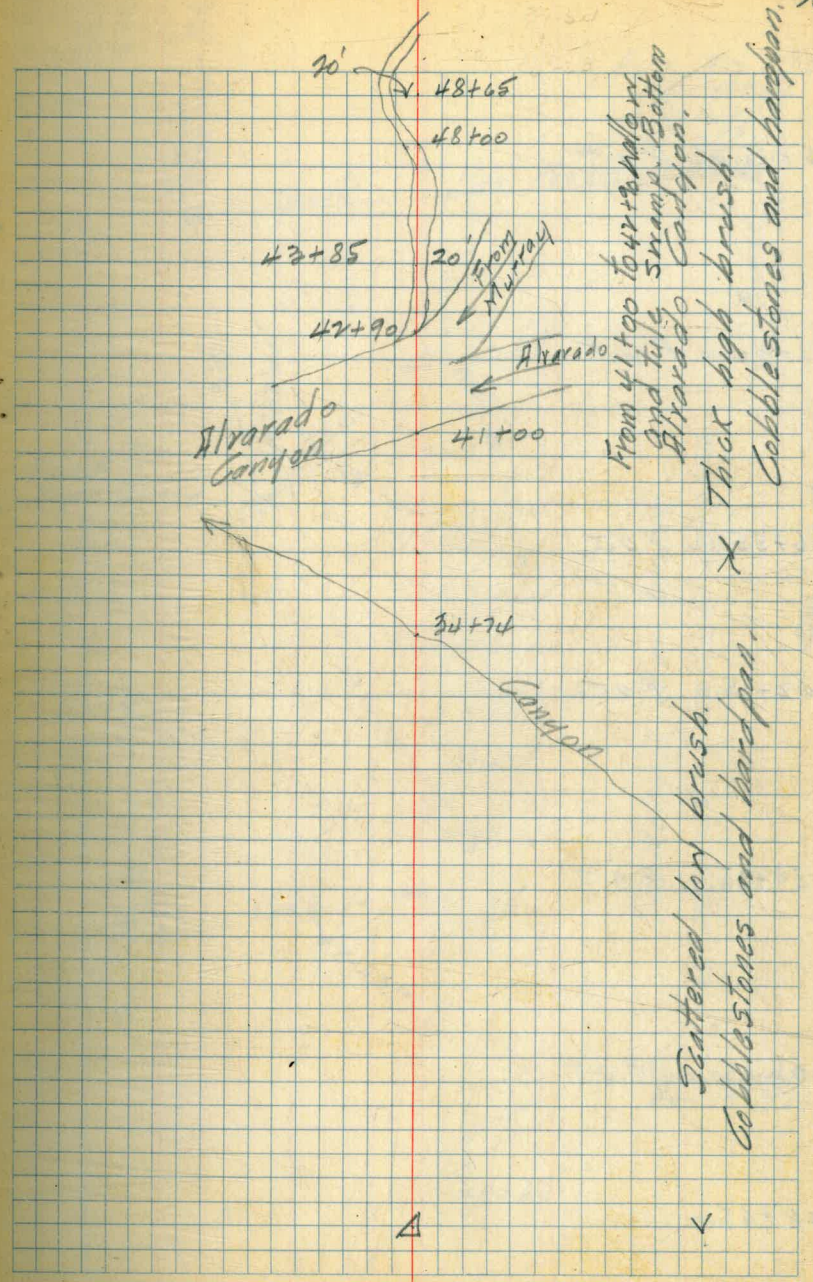
33+25.0 P.O.T.

32+30.0 P.O.T.

30+23.0 P.O.T

N. 36-28 E. N. 35-00 E

28+75.00 P.I.



75+45.00 P.O.T.

71+00.0 P.O.T.

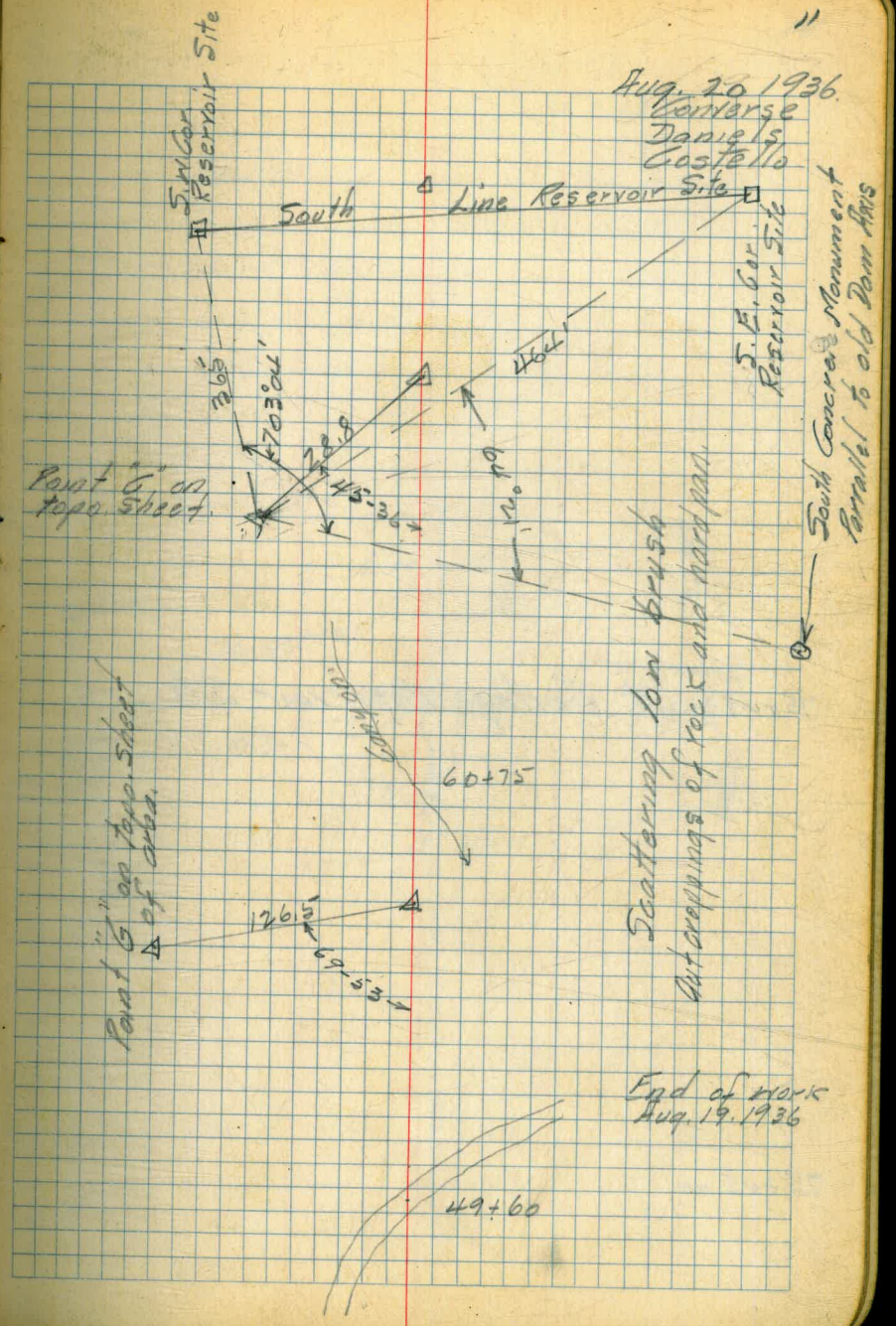
66+55.42 P.O.T.

62+15.0 P.O.T.

59+35.0 P.O.T.

55+50.0 P.O.T.

48+65.0

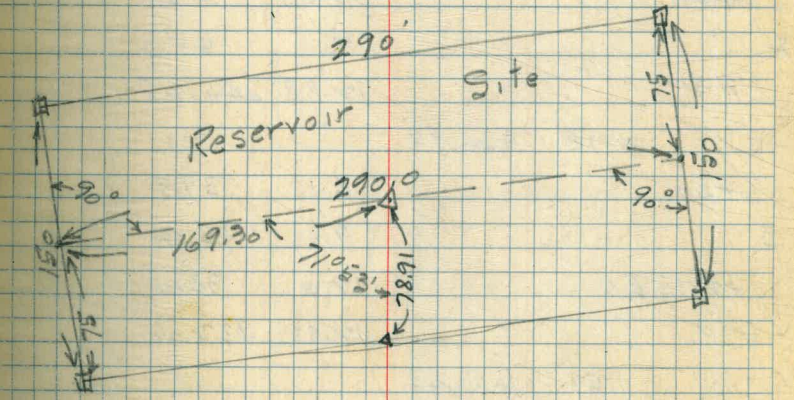


75+49.31 ℄ College Reservoir Site.

75+45.00

168.67
83
49.30

75+49.31



Aug. 19. 1936.
Converse.
Daniels
Costello.

Profile levels on line for 24" pipe Line from El Cajon Ave to College Reservoir Site.

City Datum

B.M				452.46
	4.67	457.13		
			2.1	456.0
1+46.4				
~~0+00~~			2.3	455.8
+96.4				
+50			6.3	50.8
2+46.4			8.2	48.9
~~+336.4~~ ~~B.C.~~			9.9	47.2
+96.4				
~~+50~~			10.4	46.7
2			13.1	44.0
P.T.			17.88	44.25
	0.73	446.98		
+50			5.1	39.9
3			9.8	35.2
+77.65 E.C.			12.0	33.0
T.P.			12.92	432.06
	1.57	433.63		
+67			4.1	29.5
4+01.57 P.I.			5.4	28.2
+75			5.4	28.2
+65			4.1	29.5
T.P.			0.22	433.41
	12.01	445.42		
5			11.3	34.1
+45			4.7	40.7
	18.98		16.0	

Plug in curb on El Cajon at S.W. Cor. Rolando Blvd. on El Cajon. City Engr. F.B. #1501 - p. 26. On El Cajon Ave. pavement opposite 0+00

City Datum = 00
U.S.G.S. " = 6.12

Bottom drain

		445.47		
T.P.			0.78	444.64
	12.73	457.37		
5+75			11.4	46.0
6			8.9	48.5
+28.25 P.O.T.			6.5	50.9
7			5.4	52.0
8			4.6	52.8
+23.17 P.O.T.			4.4	53.0
+37.67 P.I.			4.4	53.0
9			4.6	52.8
10			4.6	52.8
11			4.6	52.8
B.M.			4.45	452.97
T.P.			2.75	454.67
	6.66	461.28		
B.M.			2.35	458.93
B.M.				452.97
	4.10	457.07		
11+97.77 B.C.			5.1	51.9
12			5.2	51.8
+50			5.2	51.8
13			5.2	51.8
+50			5.3	51.7
14			5.5	51.5
	14.83		5.73	

Roadway on Catoctin Drive

Spike in Power pole #75696. 8' R. Sta. 11+71

2 nails in Power pole #75699. Elev. 458.93. C.T.J. Engr. Field Book 1501 - p 76.

		457.07		
14+50			5.4	451.6
15			5.1	51.9
+50			4.9	52.1
16			4.7	52.8
+50			3.5	53.5
17			2.7	54.3
+50			2.5	54.5
18			2.5	54.5
+29.74	E.C.		2.6	54.4
+40.			2.7	54.3
T.P.			2.74	454.28
	4.18	458.46		
19			4.5	54.0
+21.73	P.I.		4.7	53.8
B.M.			3.33	455.13
20			5.1	53.4
21			5.1	53.4
22			5.1	53.4
23			5.4	53.1
24			6.0	52.5
T.P.			5.99	452.47
	3.99	456.46		
25			5.5	51.0
26			5.6	50.9
27			5.0	51.5
	8.17		8.73	

Power pole #7754-13' L. Sta. 19+27.

		456.46			
28			3.3	453.2	
+75.01 P.I.			2.8	53.7	
29			3.4	53.1	
30			12.0	44.5	
T.P.			12.28	444.18	✓
	0.05	444.23			
+73			2.7	41.5	
B.M.			0.91	443.32	
+50			6.9	37.3	
T.P.			12.80	431.43	✓
	0.31	431.74			
31			2.1	29.6	
+50			8.9	20.8	
T.P.			12.97	418.77	✓
	0.21	418.98			
32			5.7	13.3	
+30			11.5	07.5	
T.P.			12.75	406.23	✓
	0.07	406.30			
+50			3.1	403.2	
T.P.			13.03	393.27	✓
	0.50	393.77			
33			4.6	389.2	
+45			9.9	83.9	
T.P.			12.73	381.04	✓
	1.14		26.86		✓

1"x1" stake 30' R. Sta 30+00. Circle of rocks.

				381.04
	0.89	381.93		
+51			10.9	71.0
T.P.			12.83	369.10 ✓
	5.86	374.96		
+79			19.5	355.5
+34			21.9	353.1
+36			24.0	51.0
+43			26.2	48.8
+50			24.2	50.8
35			24.7	50.3
+47			21.5	53.5
+73			11.5	63.5
36			6.2	68.8
+43			1.2	73.8
37			4.7	70.3
+76			9.7	65.3
T.P.			12.32	362.64 ✓
	0.05	362.69		
+60			2.6	60.1
+70			5.8	56.9
38			8.7	54.0
T.P.			12.44	350.25 ✓
	1.74	351.99		
39			3.1	48.9
B.M.			1.40	350.59
	8.54		37.59	

374.96
12.7
362.3
0.7
365.0
7.5
357.5

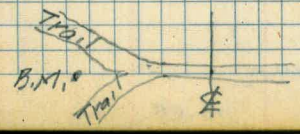
352.0
3.1
356.0
2.5
353.5
7.2
8
369.0

Bottom canyon

1x1 peg on ℄ Sta. 37+42. Top about .3' above gro.

1x1 peg on ℄ at 38+69.

1x1 peg 30' R 39+35.



		351.99		
39 +35			5.2	346.8
+70			9.9	42.1
40			9.3	42.7
+50			8.0	44.0
41			9.3	42.7
+50			8.7	43.3
T.P.			8.87	343.12 ✓
	5.82	348.94 ✓		
42			6.5	42.4
+85			5.6	43.3
+90			4.2	44.7
43			4.0	44.9
+70			3.1	45.8
44			2.3	46.6
45			1.5	46.4
T.P.		✓	1.86	347.08 ✓
	6.48	353.56		
46			5.8	47.8
47			4.9	48.7
48			3.5	50.1
+65			1.0	52.6
T.P.		✓	0.20	353.36 ✓
	10.70	364.06		
49			11.6	52.5
+60			11.3	52.8
	23.00		10.93	

1"x1" peg on ℄ Sta. 41+36.

Aug. 20. 1936
Converse
Daniels
Coste No

Top station stake

Top guard stake 48+65

		364.06		
49 +90			6.6	357.5
50			6.0	58.1
+55			1.5	62.6
T.P.			0.09	363.97
	1X.32	376.29		
+80			8.8	67.5
51			7.0	69.3
+50			3.0	73.3
T.P.			0.19	376.10
	1X.69	388.79		
52			9.1	79.7
+30			5.1	83.7
T.P.			0.35	388.44
	1X.89	401.33		
+50			1X.0	89.3
53			7.5	93.8
+50			0.9	400.4
T.P.			0.05	401.28
	1X.58	413.86		
54			8.0	05.9
T.P.			0.05	413.81
	1X.91	426.72		
55			10.8	15.9
+50			6.3	40.4
56			6.6	40.1
	63.39		0.73	

Peg at 50+61

Peg at 51+65

		476.77		
57			2.9	423.8
T.P.			0.34	426.38
	11.76	437.64		
B.M.			11.79	426.35
+25			11.3	26.3
58			8.3	29.3
+40			6.6	31.7
59			5.1	32.8
+35			5.5	32.1
60			14.3	23.3
+70			18.2	19.4
+50			29.2	08.4
+60			24.8	12.8
61			18.3	19.3
+70			13.0	24.6
T.P.			0.11	437.53
	12.30	449.83		
62			2.2	47.6
T.P.			0.15	449.68
	12.91	436.59		
+15			11.2	51.4
+40			5.2	57.4
T.P.			0.05	436.54
	12.71	475.25		
63			5.9	69.3
	49.18		0.65	

Top large rock 15' R. 57+30

Bottom canyon.

Peg at 61+62

Peg at 62+10

Peg at 62+65

		475.25		
T.P.			0.04	475.21
	17.84	488.05		
+30			13.0	75.0
+50			7.2	80.8
T.P.			0.14	487.91
	17.60	500.51		
64			10.0	490.5
B.M			0.45	500.06
+70			5.1	495.4
T.P.			0.01	500.50
	17.65	513.15		
+55			11.3	501.9
T.P.			0.11	513.04
	17.99	576.03		
65			17.3	13.7
+75			5.8	20.2
+50			0.3	75.7
T.P.			0.17	575.86
	17.63	538.49		
66			4.0	34.5
+10			1.5	37.0
T.P.			0.07	538.42
	17.68	551.10		
+43			4.6	46.5
+55			3.5	47.6
	76.39		0.50	

Top rock 45 R 64+21 Topo. point "E"
Elev. 501 U.S.G.S.

Peg at 65+53

Aug. 21, 1936.
Converse.
Daniels
Costello

		551.10		
T.P.			0.07	551.03
	13.03	564.06		
67			10.1	54.0
+25			2.7	61.4
T.P.			0.15	563.91
	12.98	576.89		
+50			13.0	63.9
+75			7.3	69.6
68			1.6	75.3
T.P.			0.05	576.84
	13.02	589.86		
+40			5.5	84.4
T.P.			0.07	589.79
	12.91	602.70		
69			6.8	595.9
T.P.			0.06	602.64
	13.01	615.65		
+45			12.1	603.5
70			4.2	11.4
T.P.			0.21	615.44
	12.90	628.34		
+45			8.3	70.0
71			7.0	76.3
T.P.			0.07	628.27
	12.42	640.69		
	90.27		0.68	

Peg at 67+50

		640.69		
B.M.			11.98	628.71
+60			10.0	30.7
+70			7.8	32.9
72			6.1	34.6
+45			5.4	35.3
73			6.2	34.5
T.P.			0.48	640.21
	17.81	658.02		
+45			10.9	47.1
74			4.2	48.8
T.P.			0.48	657.54
	17.25	664.89		
+50			11.3	53.6
75			5.2	59.7
T.P.			3.59	661.30
	17.72	674.02		
+49.31			10.6	663.4
B.M.			1.07	672.95
B.M.			8.90	665.12

Top rock. Topo. point "C". 20' L. 70+81
Elev. 635.0 U.S.G.S.

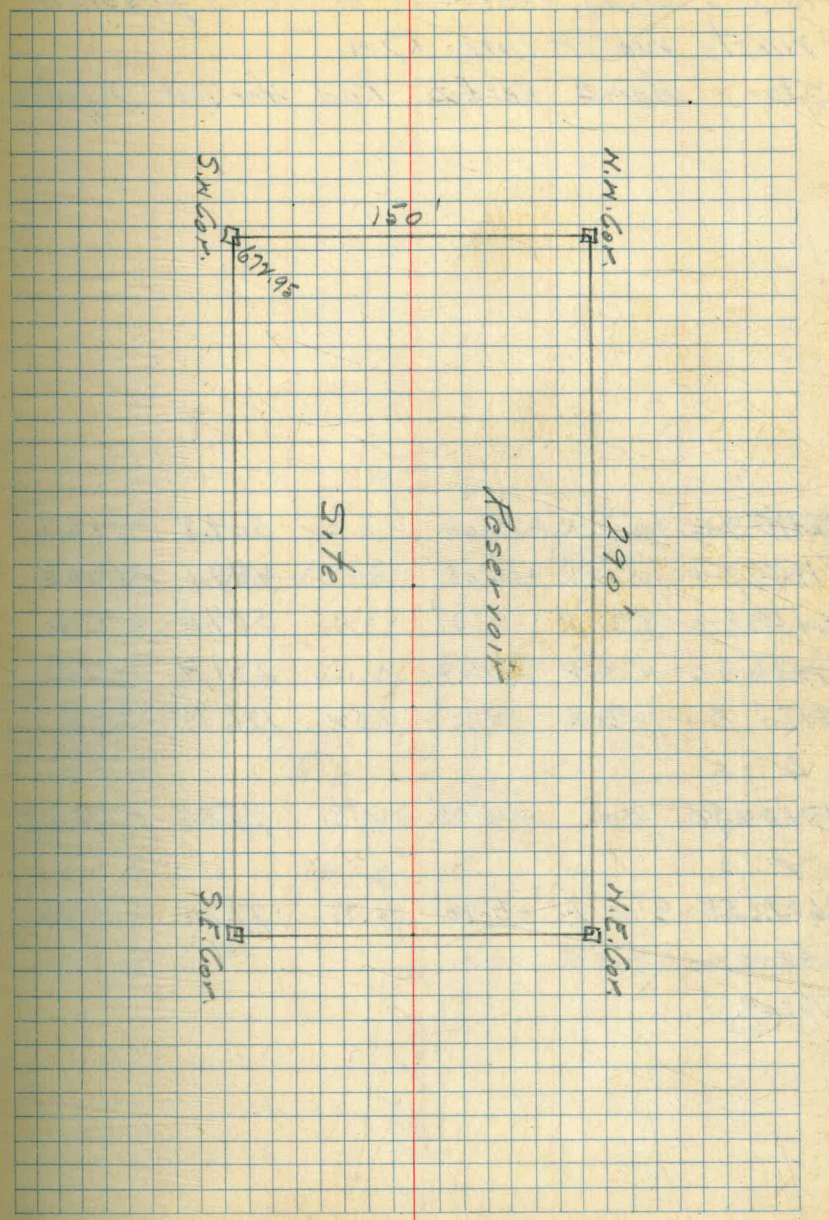
End of line on ℄ proposed reservoir.
Top 1"x1" hub with tack at S.W. Cor. Reservoir Site.
" 1"x1" " " " " N.E. " " "

Cross-section of Reservoir Site.

674.02 City Datum

	South Line		℄ Reservoir		North Line	
0+00 = west line of Reservoir Site.						
00	1.07	672.95	+4.8	678.8	+11.6	685.6
0+20	3.8	670.2	+7.1	76.1	+8.4	82.4
40	6.2	67.8	0.4	73.6	+5.5	79.5
60	8.6	65.4	3.0	71.0	+2.2	76.2
80	10.8	63.2	4.8	69.2	0.9	73.1
1+00	13.0	61.0	6.1	67.9	5.8	68.2
+20	15.3	58.7	7.7	66.3	8.3	65.7
+40	16.9	57.1	9.1	64.9	11.2	62.8
+60	18.6	55.4	10.2	63.8	13.6	60.4
+80	18.2	55.8	10.8	63.2	14.6	59.6
2+00	16.7	57.3	10.5	63.5	14.7	59.3
+20	14.8	59.2	9.0	65.0	14.9	59.1
+40	13.6	60.4	7.0	67.0	13.3	60.7
+60	12.2	61.8	4.5	69.5	12.3	61.7
+80	10.4	63.6	2.1	71.9	8.7	65.3
+90	9.7	64.3	+0.3	74.3	8.90	665.12

2+90 = east line Reservoir Site.



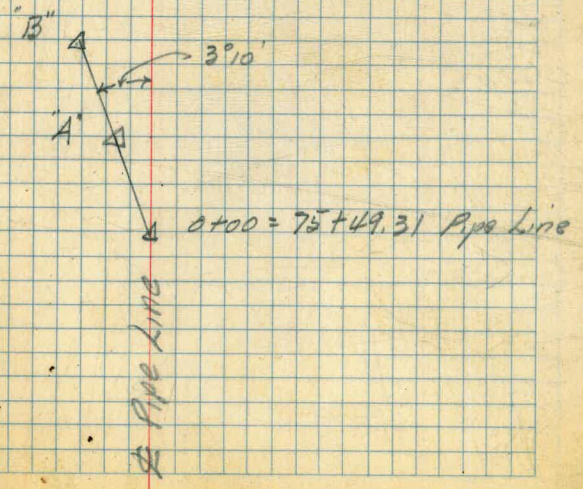
Stadia line from proposed Reservoir Site to Murray Reservoir to locate possible waste water line R/W.

Sta.	Hor. ∠	Vert. ∠	Rod.	Hor. Dist.	Dif. elev.	Elev.
						5274
82+10	B-5	14°30'R	-13°04'	5.32	504.8	-117.1	5339
81+44	B-4	12°35'R	-14°08'	4.67	439.1	-110.6	5439 ✓
80+40	B-3	9°35'R	-15°36'	3.50	334.8	-90.6	5755
79+26	B-2	11°30'R	-17°19'	2.43	221.4	-62.0	6173 ✓
78+31	B-1	12°30'R	-12°10'	1.32	126.14	-27.2	6446
	B" △						
77+04.90		00	-10°26'	0.81	78.35	-14.42	6475
	A △						
✓76+26.55		3°10'∠	-3°20'	0.78	-77.24	-4.5	6589
					155.59		6589
							6634

0+00 = 75+49.31

B-5 about high water line of Reservoir

540 U.S.G.S.



Alternate Line "B" for location of pipe line from El Cajon Ave. via 67th St. to proposed College Reservoir above Murray.

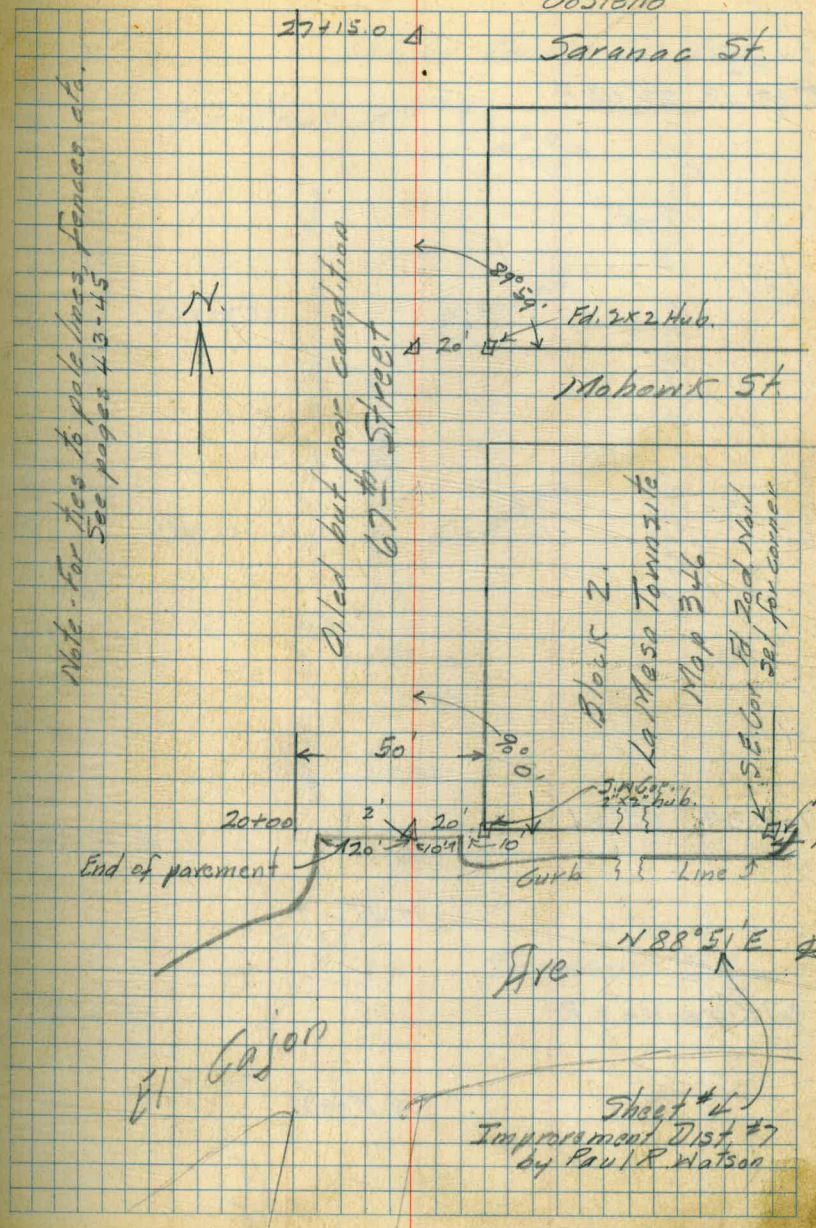
Bearing Mag.

23+69.97 P.O.T.

N.1°09'W N.0°30'W

20+00.0

Sept. 16, 1936.
Converse
Remmen
Costello



P.I.
37+31.49 22°03'R

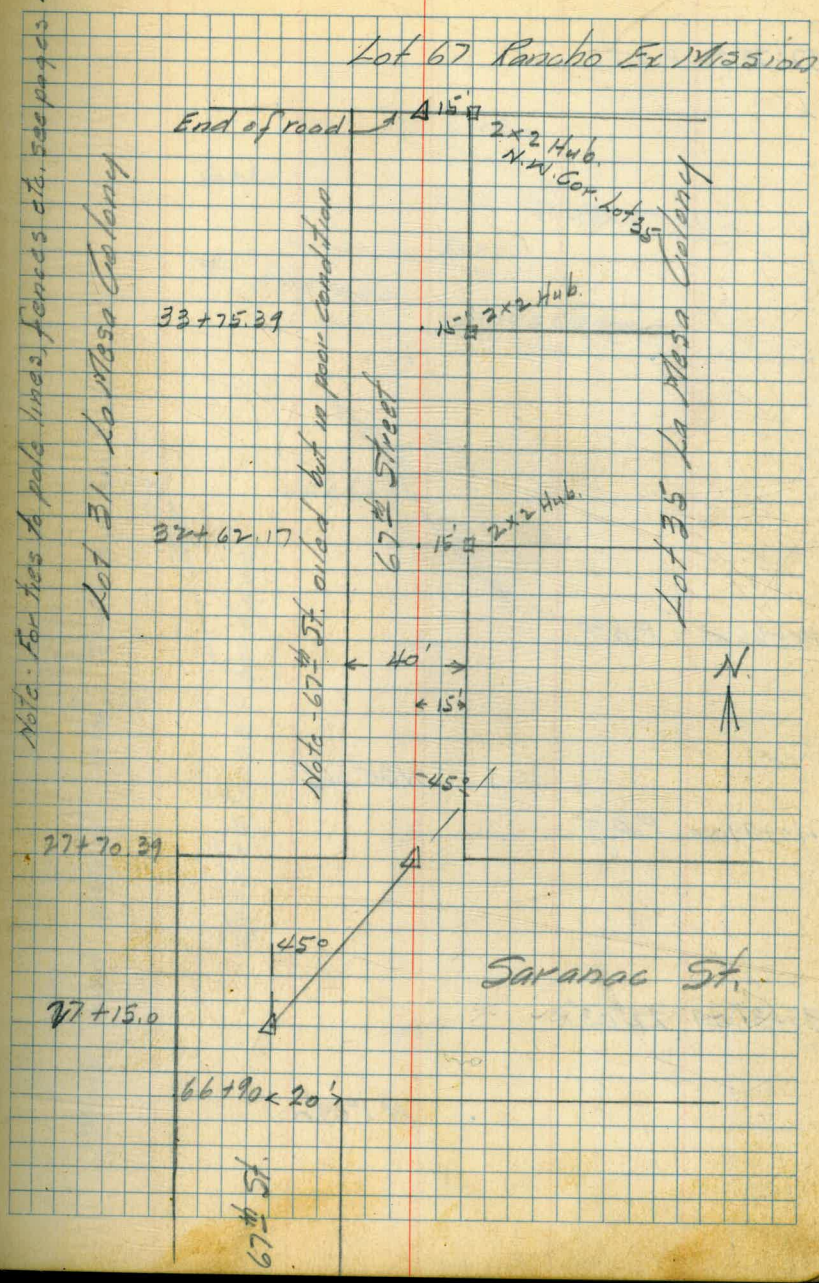
N.1°09'W

P.I.
27+70.39 45°0'L.

N.43°51'E

P.I.
27+15.0 45°0'R.

N.1°09'W



57+79.80 P.O.T.

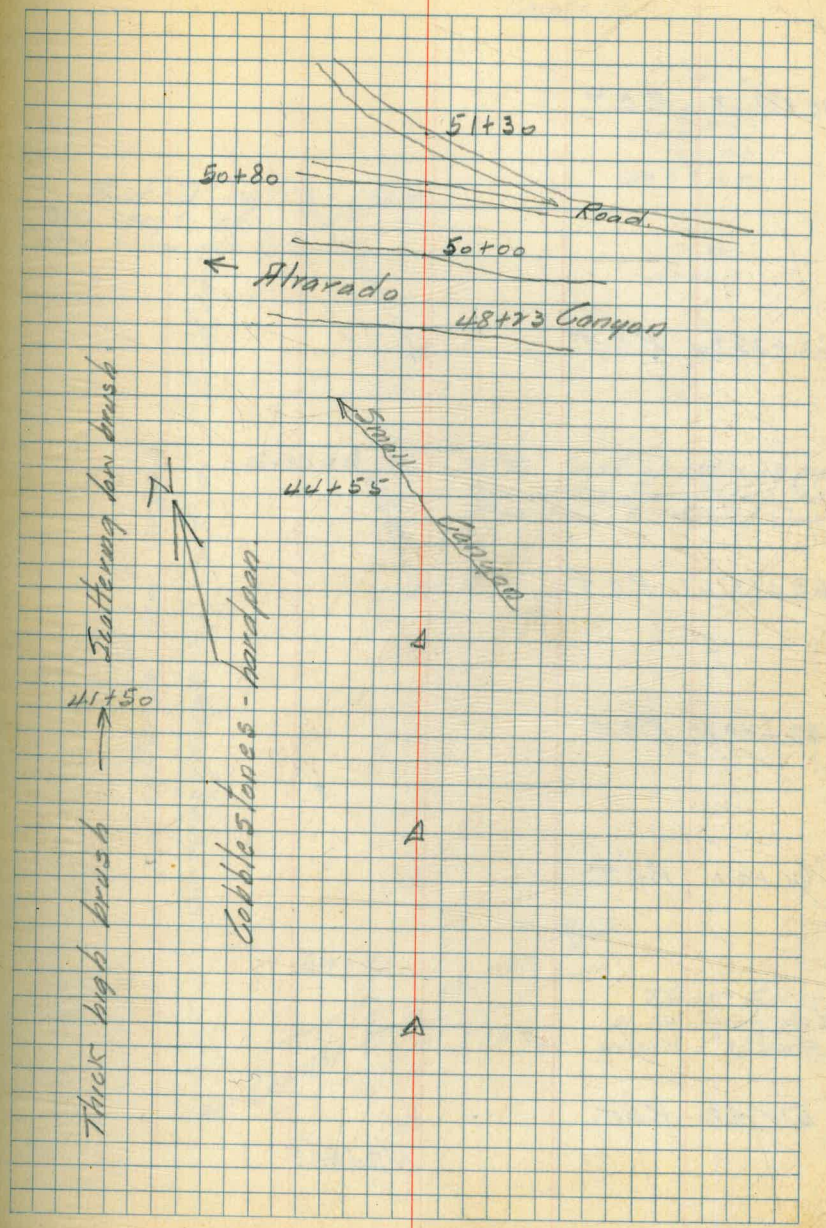
47+66.48 P.O.T.

N.70°54'E

40+99.00 P.O.T.

37+31.49 72°03'R

N.1°09'W



70+89.68 P.O.T.

66+25.34 P.O.T.

63+65.67 P.O.T.

62+09.67 P.O.T.

60+00 P.O.T.

57+79.80 P.O.T.

N.20°50'E

Sept. 17, 1936.
Converse
Remmen
Costello

30

97.22
62+09.67
63+08.91
21.09
63+33.00

35.22
15+23.18

Point "D" on topo sheet of area below dam by G.H.C.

36°54'
56.16

15+23.18
35.22

112°37' Point on Williams pipe line survey from El Capitan Pipe Line to Murray Dam.

Scattered live brush.
Outcroppings of rock and hardpan

59+35
Canyon from Murray Dam
58+75

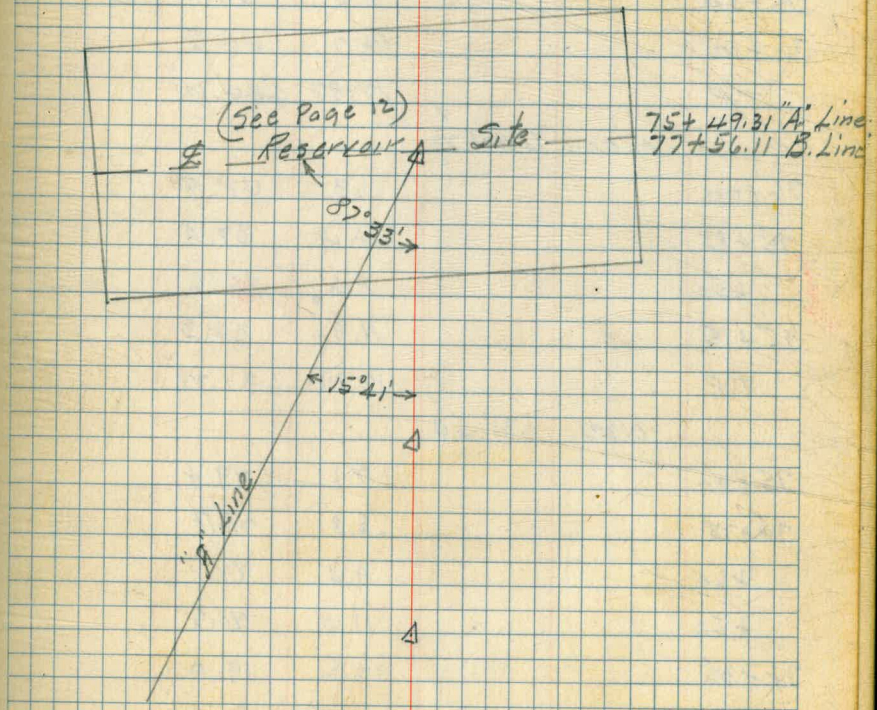
Thick willows in canyon bottom about 1" of water.

87-33
15-d1
71+52

77+56.11 College Reservoir Site Center Line

74+00 P.O.T.

70+89.68 P.O.T.



Profile levels on "B" Line from El Cajon Ave. via 67th St. to proposed College Reservoir.

Sept. 17. 1936.
Converse
Remmen
Costello.

B.M.				665.12
	4.22	669.34		
77+56.11			5.9	663.4
+20			8.8	660.5
77+00			11.4	57.9
T.P.			13.07	656.27
	0.90	657.17		
76+50			6.5	50.7
76+10			12.7	44.5
T.P.			12.97	644.20
	0.00	644.20		
76+00			1.3	42.9
75+85			4.4	39.8
+50			8.6	35.6
75+15			11.9	32.3
T.P.			12.99	631.21
	0.33	631.54		
75+00			2.1	29.4
74+75			5.8	25.7
+60			9.4	22.1
+50			11.0	20.5
74+35			12.5	19.0
T.P.			13.08	618.46

Top 1"x1" hub at N.E. Cor. proposed College Reservoir Site.

End of "B" Line.

				618.46 ✓
	0.14	618.60 ✓		
74+00			5.3	13.3
73+55			10.1	08.5
+45			13.0	05.6
T.P.			13.01	605.59 ✓
	0.14	605.73 ✓		
+25			2.6	603.1
73+00			4.9	600.8
72+80			7.0	598.7
+50			9.5	96.2
T.P.			12.89	592.84 ✓
	0.06	592.90 ✓		
72+00			0.7	92.2
71+60			4.1	88.8
+40			6.4	86.5
71+00			11.4	81.5
T.P.			12.76	580.14 ✓
	0.17	580.31 ✓		
70+75			2.4	77.9
+50			5.3	75.0
70+15			10.5	69.8
T.P.			12.86	567.45 ✓
	0.83	568.28 ✓		
B.M.			2.90	565.38

Top of rock 22' L. Sta. 69+85

		568.78		
70+00			1.4	566.9
T.P.			13.03	555.25
	0.51	555.76		
69+50			2.0	53.8
69+00			13.0	42.8
T.P.			17.80	542.96
	0.08	543.04		
68+75			5.2	37.8
+40			12.6	30.4
T.P.			12.40	530.64
	0.20	530.84		
68+00			7.0	23.8
T.P.			13.01	517.83
	0.38	518.21		
67+50			2.6	15.6
67+00			10.1	508.1
T.P.			12.75	505.46
	0.28	505.74		
66+50			6.2	499.5
+30			9.2	96.5
T.P.			13.04	492.70
	0.60	493.30		
66+00			5.0	88.3
65+70			12.9	80.4

		493.30		
T.P.			13.04	480.76
	0.15	480.41		
65+45			4.5	75.9
65+00			10.3	70.1
T.P.			12.61	467.80
	0.09	467.89		
64+75			1.0	66.9
+40			4.2	63.7
64+00			8.4	59.5
63+85			9.3	58.6
+35			12.6	55.3
B.M.			10.29	457.60
T.P.			13.08	454.81
	0.23	455.04		
63+75			2.0	53.0
63+00			7.0	48.0
62+80			10.4	44.6
+75			11.8	43.2
+60			13.5	41.5
T.P.			12.76	442.78
	0.64	443.42		
+20			6.2	36.7
+05			10.0	32.9
62+00			11.3	31.6

Top rock 16' R. Station 63+35

		447.97		
T.P.			17.96	429.96
	0.07	430.03		
61+75			6.5	23.5
+50			11.5	18.5
T.P.			13.04	416.99
	0.06	417.05		
61+00			13.6	403.4
T.P.			12.84	404.21
	0.77	404.93		
60+50			13.5	391.4
T.P.			12.66	392.27
	0.48	392.75		
60+70			7.1	85.7
60+00			11.7	81.1
B.M.			11.07	381.68
T.P.			12.73	380.02
	0.16	380.18		
59+70			5.5	374.7
+50			10.7	69.5
+35			11.6	68.6
59+10			13.4	66.8
58+75			11.5	68.7
+50			10.0	70.2
T.P.			9.98	370.73

Top guard stake Sta. 61+00

Top rock 36'L. Station 59+90

North edge slough in canyon.
Center canyon.
South edge slough.

				370.73
	11.77	382.00		
58+30			9.7	72.3
58+00			8.3	73.7
57+50			5.5	76.5
57+00			5.4	76.6
56+50			5.7	76.3
+30			4.6	77.4
56+00			4.6	77.4
55+35			5.1	76.9
55+00			3.6	78.4
T.P.			3.34	378.66
	3.49	382.15		
54+80			2.9	79.3
+65			3.4	78.8
+30			1.0	81.2
54+00			1.2	81.0
53+50			4.2	78.0
53+00			8.3	73.9
52+50			11.2	71.0
52+15			13.3	68.9
T.P.			12.87	369.28
	0.06	369.34		
52+00			2.0	67.3
51+50			5.6	63.7

		369.34		
51+35			7.0	362.3
51+00			8.1	61.2
50+95			8.3	61.0
+75			9.8	59.5
+45			8.2	61.1
+20			8.8	60.5
B.M.			8.85	360.49
T.P.			12.37	356.97
	3.77	360.74		
50+00			5.8	54.9
49+85			6.7	54.0
+45			6.0	54.7
49+00			6.3	54.4
48+70			6.6	54.1
+65			8.3	52.4
+25			8.4	52.3
+15			5.7	55.0
48+00			6.1	54.6
47+90			6.5	54.2
+75			5.5	55.2
+45			4.5	56.2
47+00			4.7	56.0
46+50			3.1	57.6
46+00			0.5	60.2

Top 1"x1" peg 30' L. Station 50+50

Bottom Alvarado Canyon.

		360.74		
T.P.			0.60	360.34
	10.33	370.67		
45+60			6.4	64.3
+30			5.2	65.5
+10			5.5	65.2
45+00			7.0	63.7
44+80			6.7	64.0
+60			5.2	65.5
+55			6.7	64.0
+35			3.0	67.7
T.P.			0.04	370.63
	12.95	383.58		
+20			12.0	71.6
+10			8.2	75.4
44+00			6.4	77.2
43+70			0.6	83.0
T.P.			0.06	383.52
	13.05	396.57		
W5			6.1	90.5
T.P.			0.32	396.23
	12.89	409.12		
+25			12.6	96.5
+15			11.0	398.1
43+00			7.0	402.1

Bottom small canyon.

		409.17		
B.M.			9.05	400.07
T.P.			0.05	409.07
	17.55	421.62		
42+65			9.8	11.8
+25			3.1	18.5
T.P.			0.16	421.46
	17.75	434.21		
42+00			10.8	23.4
41+50			5.3	28.9
+15			3.7	31.0
41+00			1.4	32.8
T.P.			1.40	437.81
	8.37	441.18		
40+90			8.0	33.2
+65			8.2	33.0
+40			5.6	35.6
40+00			4.7	36.5
39+80			3.7	37.5
+40			7.0	39.2
39+00			0.9	40.3
T.P.			0.78	440.40
	9.31	449.71		
38+90			8.7	41.0
+40			7.0	42.7
38+00			6.2	43.5

Top 1"x1" peg 25' R. Station 43+00

		449.71		
37+65			5.0	44.7
+45			6.3	43.4
37+31.49	P.I.		5.9	43.8
37+00			5.9	43.8
36+50			5.5	44.2
B.M.			5.47	444.24
	8.06	457.30		
36			8.0	44.3
35			7.8	44.5
34			6.7	45.6
33			5.2	47.1
32			3.8	48.5
31			3.6	48.7
30			3.8	48.5
T.P.			3.77	448.53
	7.52	451.05		
29			3.3	47.7
28			4.9	46.1
27+70.39	P.I.		5.0	46.0
+29			5.0	46.0
27+15.00	P.I.		5.5	45.5
27			4.9	46.1
26			3.8	47.2
25			2.6	48.4

On oiled road at angle point.

Nail in power pole # P.77036. 25' L. Sta. 36+35.

E. 12" Corr. Iron Culvert pipe Flow line 8.5 left 443.1
Flow line 26.0 right 444.9

		451.05		
26			1.8	49.2
T.P.			1.76	449.29
	7.30	456.59		
23			7.1	49.5
22			6.5	50.1
21			5.2	51.4
B.M.			4.22	452.37
20			3.4	53.2
			2.4	54.2
T.P.			3.00	453.59
	1.23	454.82		
T.P.			12.79	442.03
	0.03	442.06		
T.P.			0.21	441.85
	12.16	453.99		
B.M.			1.62	452.37

Nail in power pole #P-74270. 25' L. Sta. 20+75
Edge El Cajon Ave. pavement
Elev. pavement on ℄ El Cajon Ave.

Plug in curb at S.W. Cor. El Cajon Ave. and Rolando Blvd. Recorded elev. City Engr. field book #1501-p26

Rec. elev. 452.46
-.37
.09

Note - For alignment see pages 27-28

Sept. 18, 1936.
Converse
Remmen
Costello.

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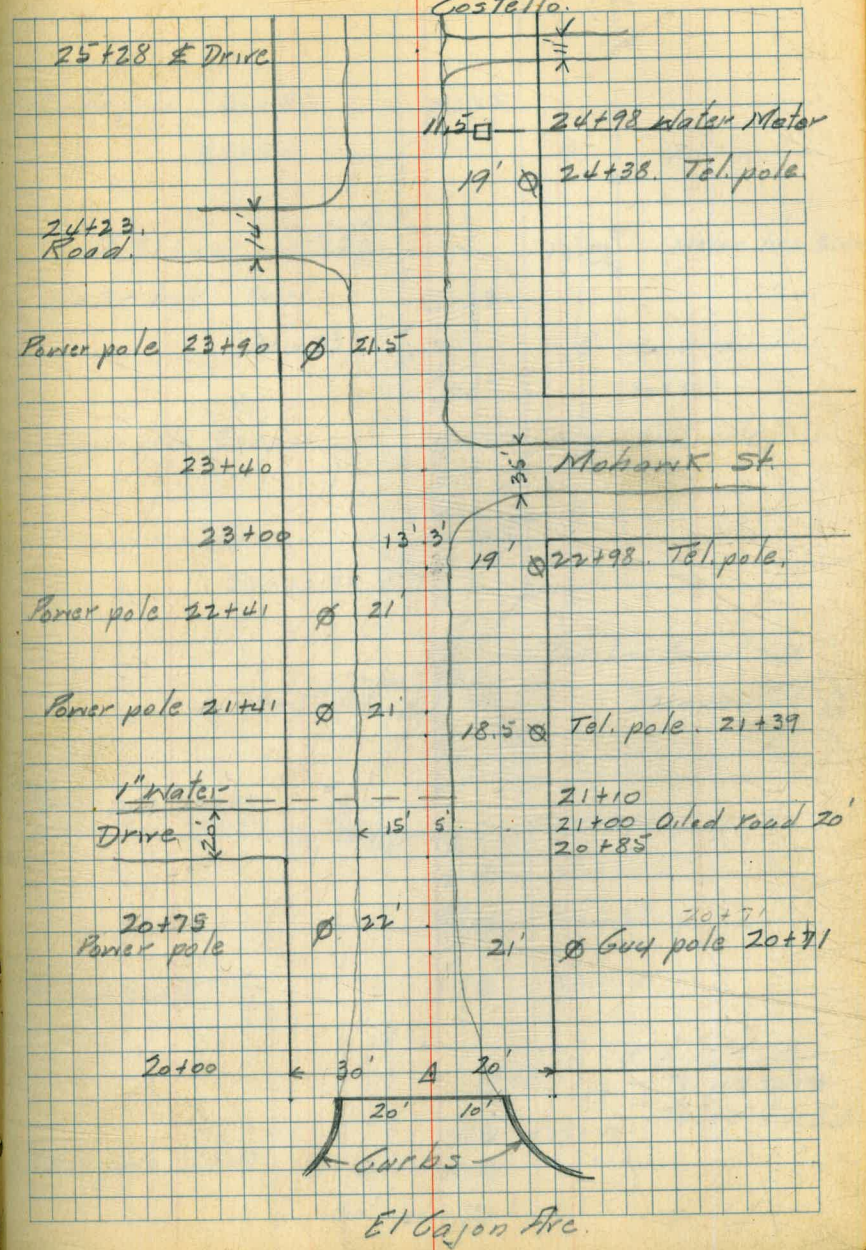
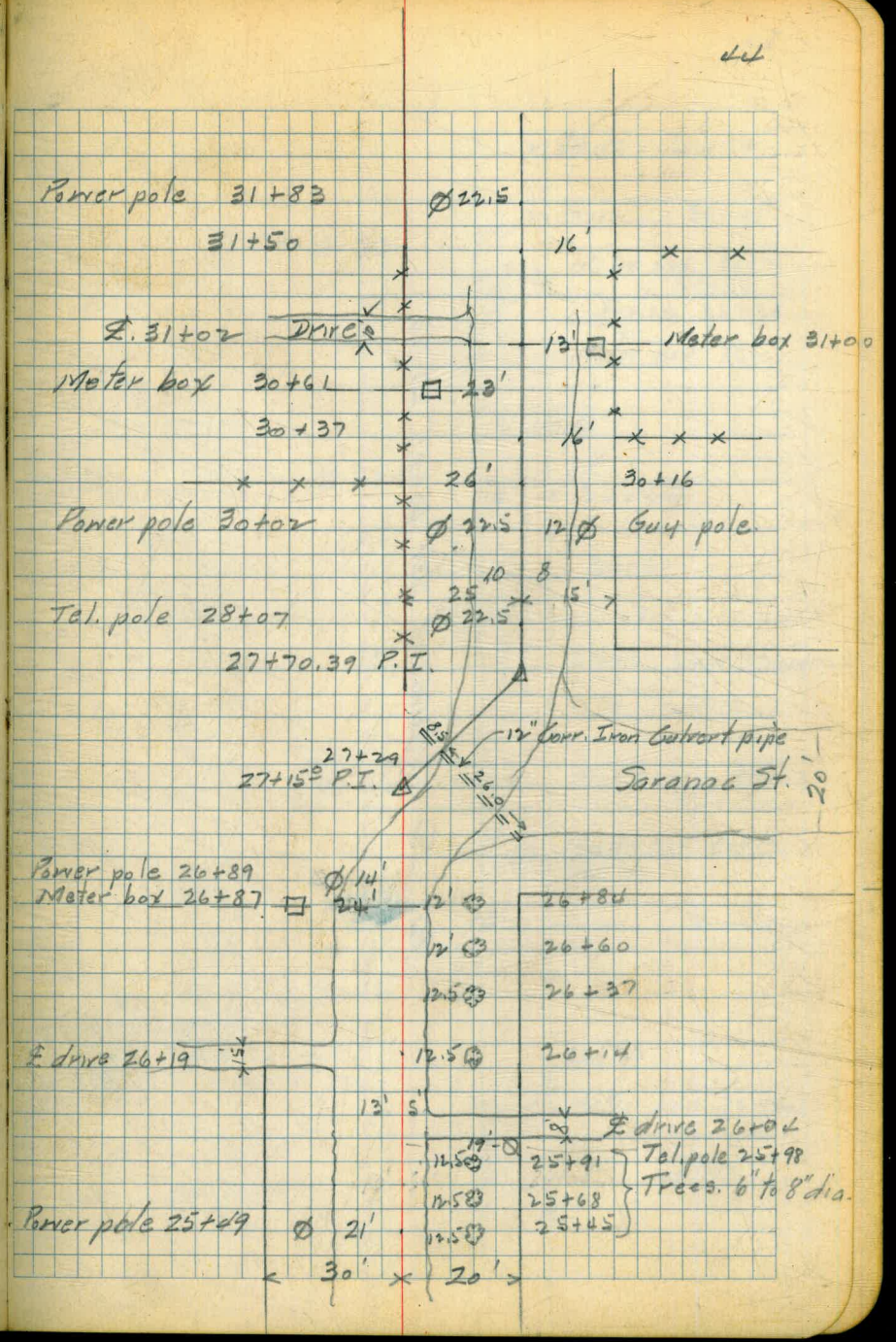
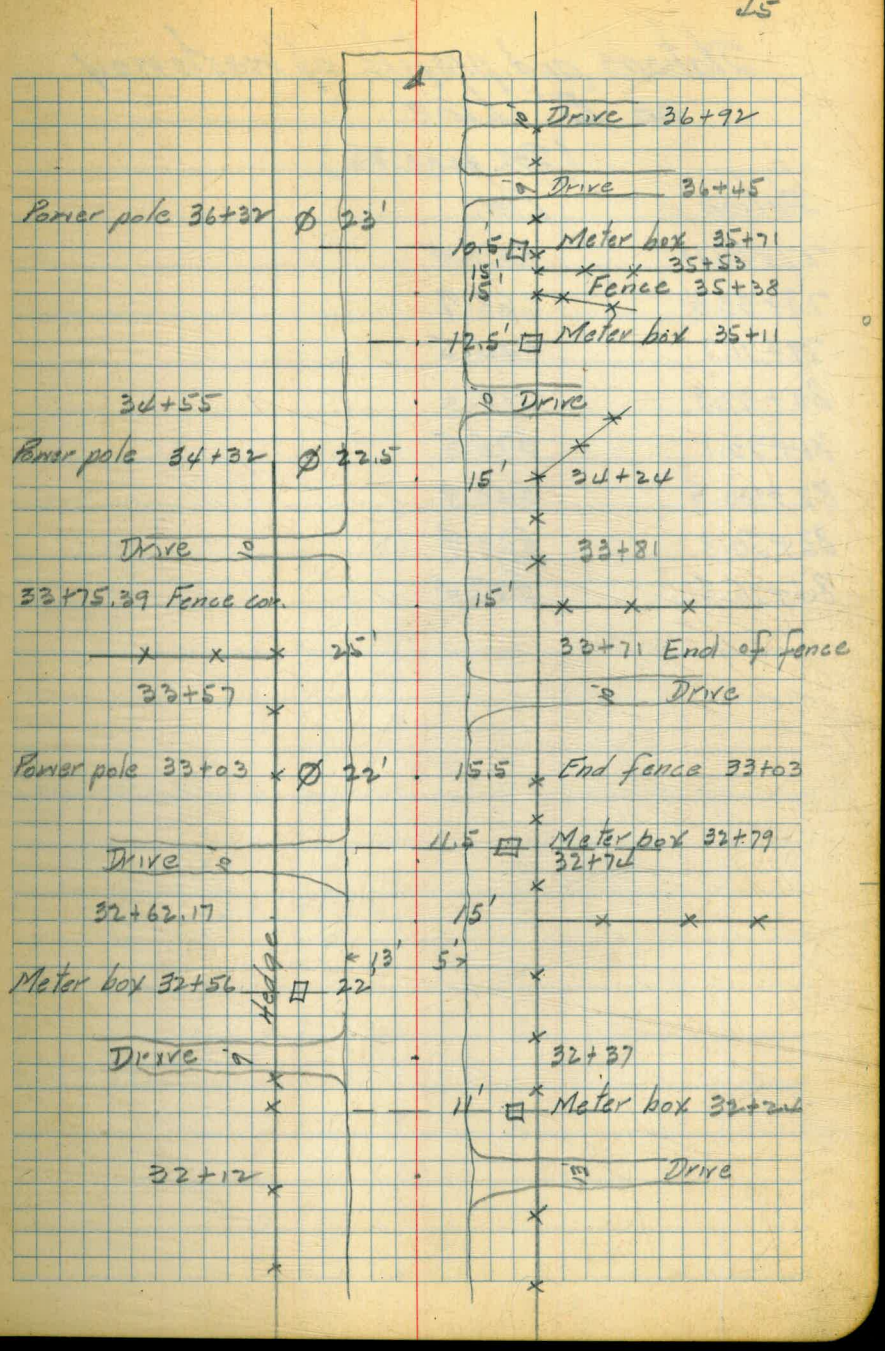


34.5
8.5
26.0

Note - For alignment see pages 27-28



Note - for alignment see pages 27-28



Stations and profile of wasteway on "B" Line.

(See page 25)

Station	Elev.
77+56.11	663.4
78+33.3	658.9
79+11.7	644.5
80+37.8	617.3
81+33.1	575.5
82+46.5	543.9
83+50.8	533.9
84+16.5	527.4

Stadia location and elevation on knolls south and east of Murray Dam.

All Angles Turned To Right From Preceeding Station

Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist.	D. Relev.
D-15	218°-0'		400.0		7.0 -1.8
D-14	211°-40'		540.0		10.0 -4.8
D-12	199°-25'		530.0		11.4 -6.2
D-11	201°-15'		330.0		7.7 -2.5
D-10	172°-0'		220.0		7.0 -1.8
D-9	199°-15'		148.0		6.4 -1.2
D-8	147°-25'		135.0		6.6 -1.4
D-7	116°-40'		215.0		10.9 -5.7
D-6	146°-20'		255.0		11.3 -6.1
D-5	130°-20'		375.0		12.9 -7.7
D-4	105°-50'		345.0		12.0 -6.8
D-3	77°-50'	1°-44'-	370.0	369.7	-11.2
D-2	88°-0'		160.0		8.9 -3.7
D-1	40°-40'		215.0		11.0 -5.8
"D" (5.2)	195°-49'		345.0		1.3 +3.9
"C" (5.2)	324°-48'	—	640.0		13.3 -8.1
B-1	327°-0'	—	250.0		7.0 -1.8
"B" (5.2)	135°-10'	0°-48'+	495.0		+6.9
"A" (5.3)					

Back site on north end Murray Dam

Jan. 27. 1937.

Converse
Soper
Isbell
Remmen.

Rasmus Sub-division

Elev.	
542.9	
539.9	
538.5	℄ Wyoming
542.2	℄ Wyoming
542.2	
543.5	℄ Wyoming
543.3	
539.0	
538.6	
537.0	
537.9	℄ Colorado
533.5	℄ Oregon & Colorado
541.0	℄ Oregon
538.9	
544.7	Inter. Wyoming & Oregon
540.8	℄ Wyoming
547.1	℄ Wyoming
548.9	Inter. Delaware & Wyoming
542.0	South end of Murray Dam

Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist.	Diff. Elev.	Elev.
E-6	258°-40'		480.0	10.1	-5.2	536.4
E-5	243°-40'		440.0	10.3	-5.4	536.2
E-4	232°-40'		360.0	11.3	-6.4	535.2
E-3	224°-20'		235.0	9.6	-4.7	536.9
E-2	193°-40'		130.0	9.6	-4.7	536.9
E-1	140°-50'		100.0	8.3	-3.4	538.2
"E" (4.9)	169°-11'		305.0	8.3	-3.1	541.6
D-21	222°-15'		530.0	10.2	-5.0	539.7
D-20	237°-10'		410.0	8.4	-3.2	541.5
D-19	260°-10'		280.0	7.6	-2.4	542.3
D-18	298°-40'		205.0	7.6	-2.4	542.3
D-17	302°-50'		107.0	5.9	-0.7	544.0
D-16	230°-40'		255.0	6.8	-1.6	543.1
(5.2)						544.7

Wyoming

Rosario Subdivision

Knolls east and southeast from Murray Dam.

All Angles Turned To Right From Preceding Station

Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist.	Diff. Elev.	Elev.	
G-3	125°-40'	+7°-50'	295.0	289.5	+39.8	561.3	
G-2	129°-0'	+7°-49'	435.0	427.0	+58.6	580.1	
G-1	123°-20'	+9°-02	360.0	351.1	+55.8	577.3	
"G" (5.3)	267°-58'	-1°-37'	755.0		-21.3	521.5	
F-9	221°-10'	+4°-04'	470.0	467.7	+33.2	576.0	
F-8	201°-0'	+4°-09'	440.0	437.7	+31.8	574.3	
F-7	182°-20'	+4°-30'	430.0	427.3	+33.6	576.4	
F-6	169°-0'	+5°-43'	445.0	440.6	+44.1	586.9	
F-5	157°-0'	+6°-0'	510.0	504.4	+53.0	595.8	
F-4	121°-25'	+4°-26'	340.0	338.0	+26.2	569.0	
F-3	94°-10'	+6°-44'	305.0	300.8	+35.5	578.3	
F-2	74°-40'	+8°-06'	240.0	235.2	+33.5	576.3	
F-1	49°-20'	+6°-20	245.0	242.0	+26.9	572.4	East Edge Improved Property
"F" (5.1)	192°-45'		715.0		11.3 -6.1	542.8	Inter Kiowa & Delaware
"E" (5.2)	Back Sight on "A"					548.9	Inter Delaware & Wyoming

Stadia location and elevations on knoll north of El Cajon Ave between 71st and 72nd Streets

All Angles Turned To Right From Preceeding Station

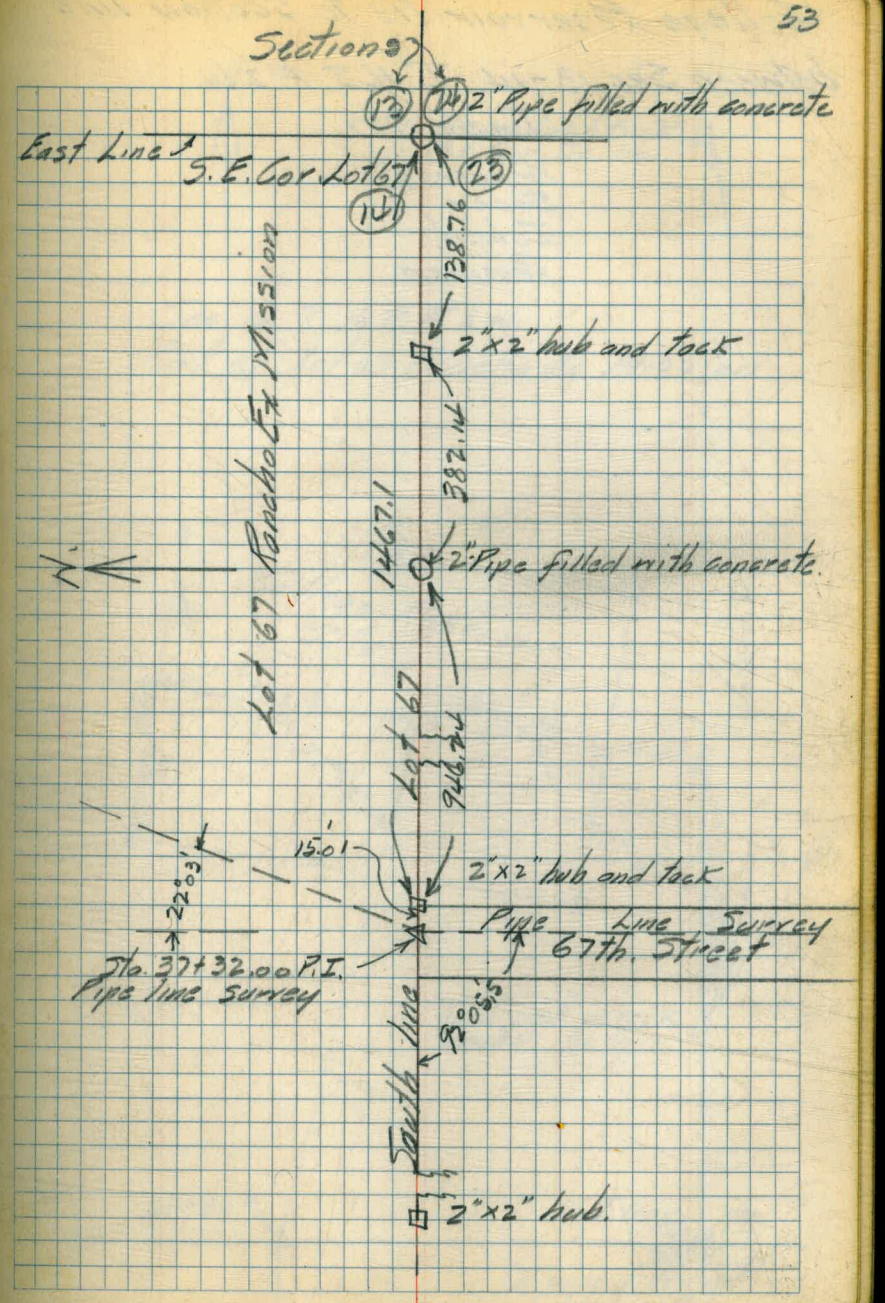
Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist.	Diff. Elev.	Elev.	
C-4	90°-50'		170.0		15.9 -10.6	531.3	S.W. Cor. Lot 7 Blk. 15
C-3	59°-40'	-3°-28	197.0	196.3	-11.9		S.E. Cor. Lot 8 Blk. 15
C-2	46°-0'		140.0		10.5 -5.2		
C-1	15°-50'		95.0		5.6 -0.3	541.6	N.E. Cor. Lot 8 Blk. 15 Fence Cor.
"C" (5.3)	92°-31'	+0°-46'	300.0		+4.0	541.9	
B-9	121°-50'	+1°-27'	130.0		+3.3	540.2	
B-8	118°-40'	+1°-30'	215.0		+5.6	543.5	East Line Tennis Court
B-7	100°-25'	+1°-36'	195.0		+5.4	543.8	S.E. Cor. Tennis Court
B-6	106°-50'		112.0		1.2 +3.9	541.8	
B-5	80°-50'		110.0		2.1 +3.0	540.9	N.W. Cor. Lot 11 Blk. 15 Fence Cor.
B-4	52°-30'		135.0		6.1 -1.0	536.9	
B-3	33°-40'		195.0		14.5 -9.4	528.5	S.W. Cor. Lot 11 Blk. 15
B-2	0°-0'		155.0		12.9 -7.8	530.1	S.E. Cor Lot 12.
B-1	0°-0'		83.0		7.1 -2.0	535.9	West Prop. Line 72nd st.
"B" (5.1)	90°-0'	+3°-44'	790.0	786.65	+51.35	537.9	72nd st. & Saranac
"A" (4.75)						(486.55)	West Prop. Line 72nd st & South Curb Line El Cajon Back Sight West Along Curb Line of El Cajon

Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist	Diff. Elev.	Elev.	
D-11	271°-0'		175.0		3.7 +1.3	539.2	
D-10	98°-50'	-5°-34'	115.0	113.9	-11.1	526.8	
D-9	120°-50'		44.0		9.0 -4.0	533.9	
D-8	164°-0'		107.0		8.6 -3.6	534.3	N.W. Cor. Lot 2 Blk. 15
D-7	135°-0'		142.0		15.0 -10.0	527.9	
D-6	118°-10'	-4°-46'	207.0	205.6	-17.1	520.8	S.W. Cor Lot 2 Blk. 15
D-5	97°-05'	-5°-10'	175.0	173.6	-15.7	522.2	
D-4	72°-40'		180.0		13.8 -8.8	529.1	
D-3	58°-55'		200.0		11.9 -6.9	531.0	S.E. Cor. Lot 5 Blk. 15
D-2	41°-50'		135.0		7.2 -2.2	535.7	
D-1	18°-50'		102.0		4.9 +0.1	538.0	N.E. Cor. Lot 5 Blk. 15
"D" (5.0)	180°-0'		155.0		9.3 -4.0	537.9	
C-8	292°-20'		145.0		3.3 +2.0	543.9	N.W. Cor. Tennis Court
C-7	336°-0'		62.0		3.6 +1.7	543.6	S.W. Cor. Tennis Court
C-6	106°-0'		30.0		6.5 -1.2	540.7	N.W. Cor. Lot 7 Blk. 15
C-5	94°-0'		87.0		9.9 -4.6	537.3	
(5.3)						541.9	

Sta.	Hor. ∠	Vert. ∠	Slope Dist.	Hor. Dist.	Diff. Elev.	Elev.	
E-11	175°-20'		60.0		10.4 -5.4	530.0	
E-10	211°-10'		75.0		7.9 -2.9	532.5	
E-9	245°-40'		105.0		5.9 -0.9	534.5	
E-8	285°-20'	+2°-20'	120.0		+4.9	540.3	W. Line Improved Prop.
E-7	350°-20'		50.0		3.3 +1.7	537.1	S.W. Cor. Improved Prop.
E-6	91°-20'		55.0		8.6 -3.6		N.W. Cor. Lot 11 Blk 10
E-5	87°-30'		120.0		13.5 -8.5	526.9	
E-4	86°-40'	-4°-32'	210.0	208.7	-16.5	518.9	S.W. Cor. Lot 11 Blk 10
E-3	58°-0'	-3°-33'	240.0	239.1	-14.8	520.6	S.E. Cor. Lot 12 Blk. 10
E-2	47°-40'		175.0		12.7 -7.7	527.7	
E-1	23°-0'		120.0		6.4 -1.4	534.0	N.E. Cor. Lot 12 Blk. 10
"E" (5.0)	182°-51'		332.0		7.5 -2.5	535.4	

College Reservoir pipe line survey tie to South line Lot 67. Rancho Ex Mission.

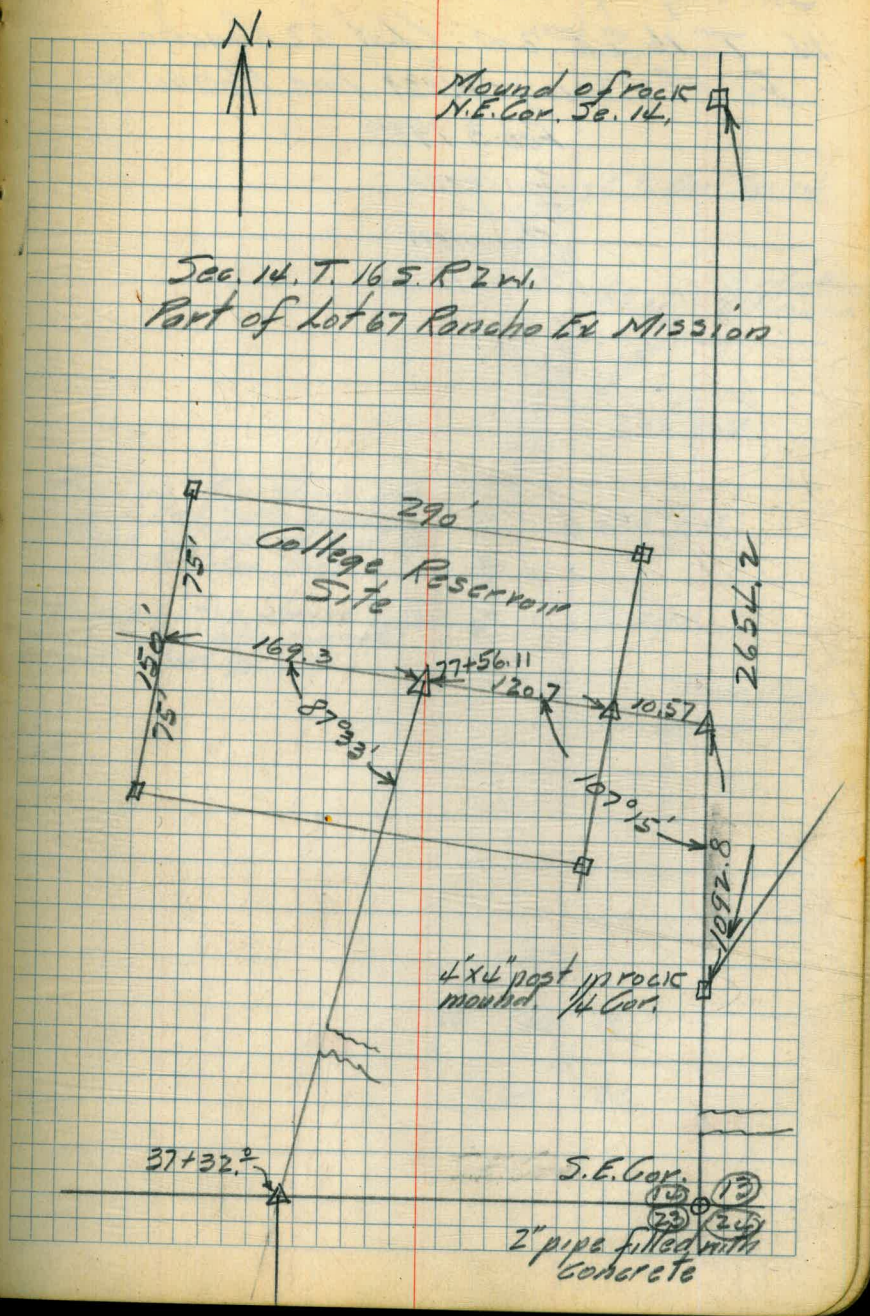
Jan. 28. 1937.
Converse
Soper
Isbell
Remmen.



College Reservoir tie to section line between Sec. 13-14 T. 16 S. R. 2 W.

Jan. 29. 1937.

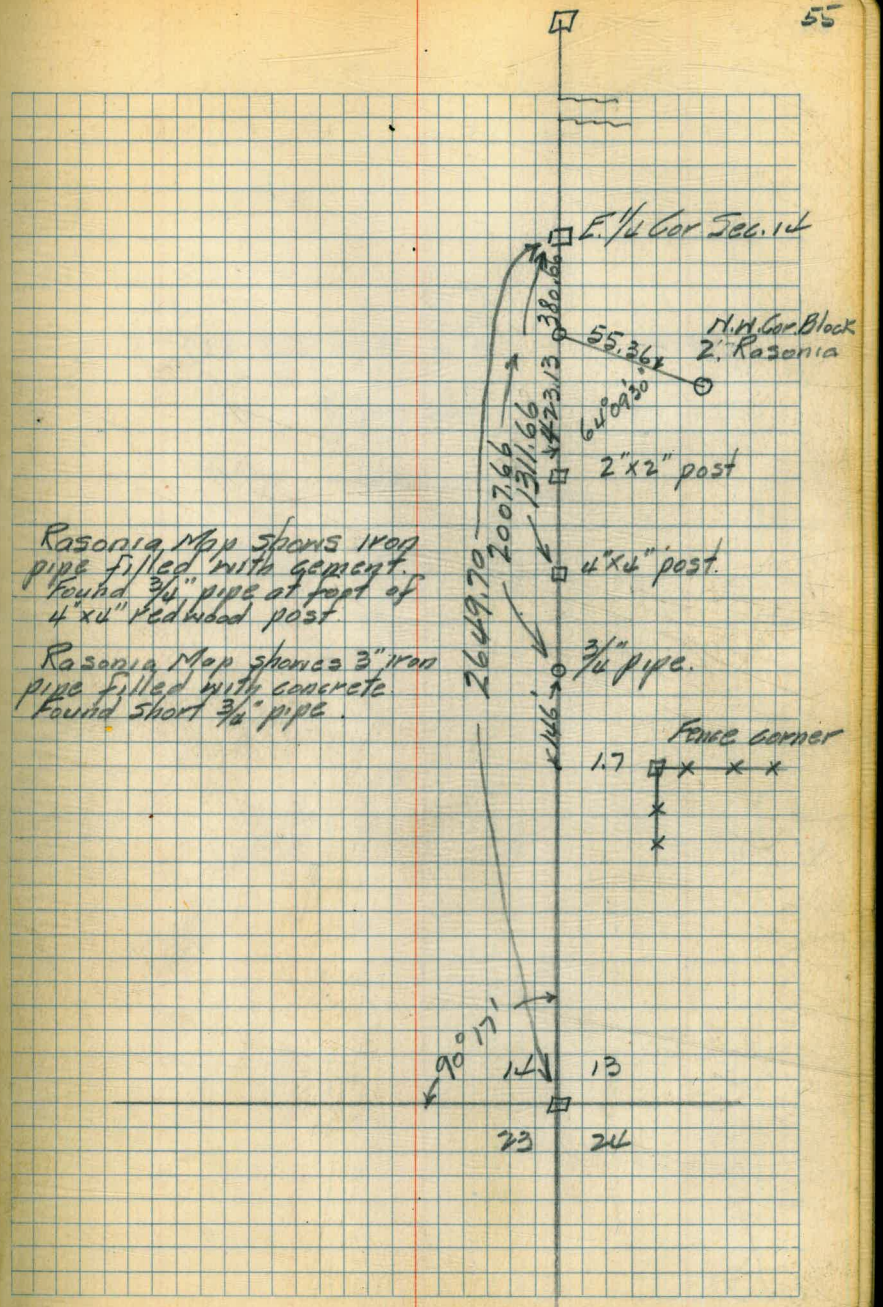
Converse
Soper
Isbell
Remmen.



Survey of east line of S.E. 1/4 Sec. 14 T. 16 S. R. 2 W. (Lot 67 Rancho Ex Mission) : West line Rasonia.

Feb. 3. 1937.

Converse.
Soper
Remmen
Isbell.



Rasonia Map shows iron pipe filled with cement. Found 3/4" pipe at foot of 4"x4" redwood post.

Rasonia Map shows 3" iron pipe filled with concrete. Found short 3/4" pipe.

COLLEGE RESERVOIR
SITE

May 29 1937.

Lots 7 & 8 La Mesa Colony
Block 13 — Cross Sections —

	+	HI	−	El.
Bkw				40.33
	2.53	42.86		
K 0			3.3	39.6
J 0			3.0	39.9
I 0			2.8	40.1
H 0			2.6	40.3
G 0			2.5	40.4
F 0			2.5	40.4
E − 0			2.4	40.5
D − 0			2.3	40.6
C − 0			2.2	40.7
B − 0			2.1	40.8
A − 0			2.1	40.8
K 0+10			3.8	39.1
+20			4.3	38.6
+30			4.8	38.1
+40			5.3	37.6
+50			6.0	36.9
+60			6.7	36.2
+70			7.1	35.8
+80			7.8	35.1

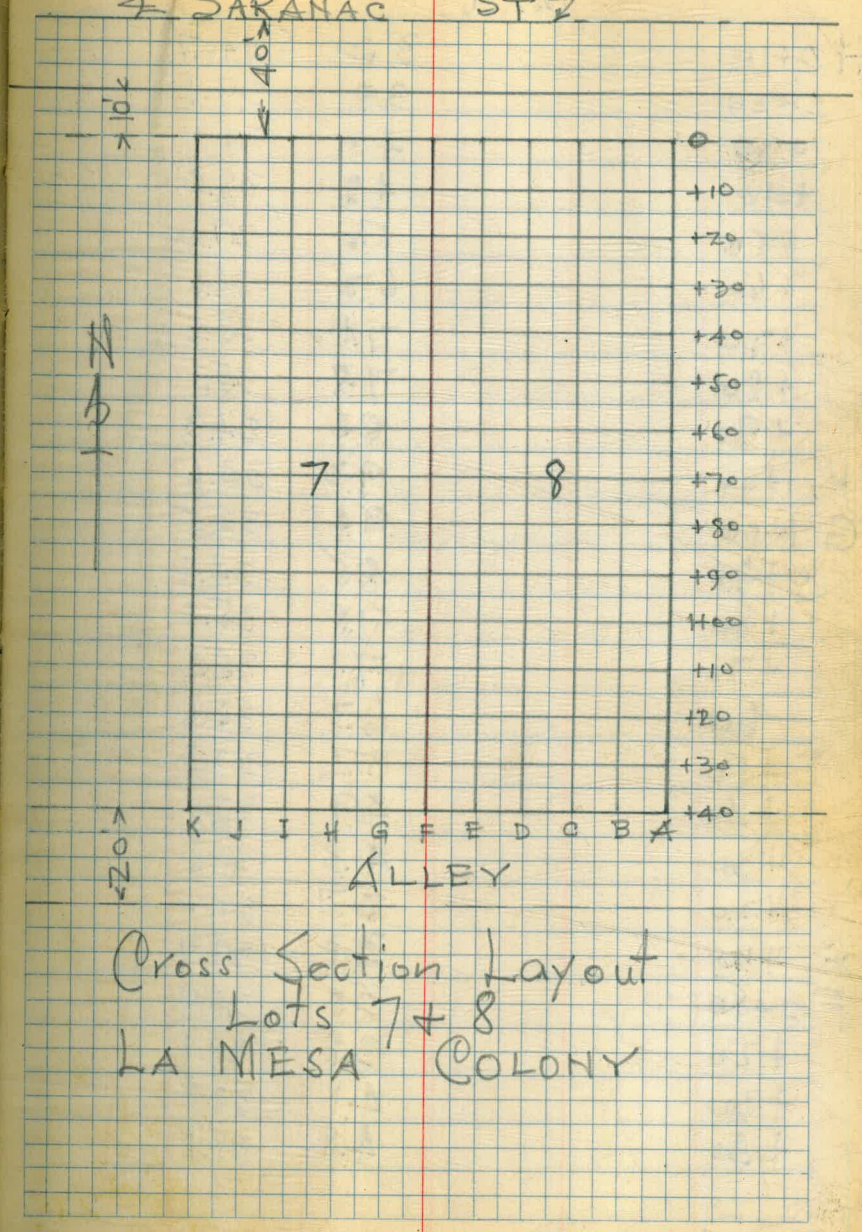
5/29/37 Beermann ↑
Coote Notes
Rosado Rod
Jensen Chain

Rain & Mist.

On N End Curb & Side of Drive to House West of City Lot —
U.S.G.S. Datum —

40.33
6.12
Bkw El 34.21 City Datum

	542.86		
K-90		8.6	534.3
1+00		9.3	33.6
J-[illegible] 0		3.1	39.8
0+10		3.6	39.3
+20		4.2	38.7
+30		4.7	38.2
+40		5.0	37.9
+50		5.9	37.0
+60		6.6	36.3
+70		7.1	35.8
+80		7.8	35.1
+90		8.1	34.8
J 1+00		9.2	33.7
I 1+00		9.3	33.6
0+90		8.4	34.5
+80		7.8	35.1
+70		7.1	35.8
+60		6.4	36.5
+50		5.3	37.6
+40		4.6	38.3
+30		4.4	38.5
+20		4.0	38.9
I 0+10		3.4	39.5



Cross Section Layout
Lots 7 + 8
LA MESA COLONY

		542.86		
H	0+10		3.2	539.7
	+20		3.8	39.1
	+30		4.2	38.7
	+40		4.9	38.0
	+50		5.6	37.3
	+60		6.3	36.6
	+70		7.1	35.8
	+80		7.8	35.1
	+90		8.6	34.3
H	1+00		9.3	33.6
G	1+00		9.4	33.5
	0+90		8.5	34.4
	+80		7.8	35.1
	+70		7.1	35.8
	+60		6.3	36.6
	+50		5.6	37.3
	+40		4.9	38.0
	+30		4.3	38.6
	+20		3.7	39.2
G	+10		3.2	39.7
F	0+10		3.0	39.9
	+20		3.8	39.1
	+30		4.1	38.8
	+40		4.8	38.1

	542.86		
F +50		5.6	537.3
+60		6.7	36.7
+70		7.1	35.8
+80		7.8	35.1
+90		8.6	34.3
F 1+00		9.5	33.4
E 1+00		9.7	33.2
0+90		9.0	33.9
+80		8.2	34.8
+70		7.4	35.5
+60		6.6	36.3
+50		5.8	37.1
+40		5.0	37.9
+30		4.3	38.6
+20		3.7	39.2
E +10		3.1	39.8
D+10		2.8	40.1
+20		3.3	39.6
+30		4.2	38.7
+40		5.0	37.9
+50		5.5	37.4
+60		6.5	36.4
+70		7.1	35.8
+80		7.9	35.0

54286

D+90		8.8	534.1
D+100		9.7	33.2
C-1+00		9.5	33.4
0+90		8.6	34.3
+80		7.9	35.0
+70		7.0	35.9
+60		6.1	36.8
+50		5.2	37.7
+40		4.7	38.2
+30		4.1	38.8
+20		3.4	39.5
C +10		2.6	40.3
B +10		2.6	40.3
+20		3.1	39.8
+30		3.9	39.0
+40		4.5	38.4
+50		5.1	37.8
+60		6.0	36.9
+70		6.8	36.1
+80		7.8	35.1
+90		8.5	34.4
B 1+00		9.4	33.5

	542.86		
A-1+00		9.2	533.7
0+90		8.6	34.3
+80		7.8	35.1
+70		7.1	35.8
+60		5.9	37.0
+50		5.4	37.5
+40		4.6	38.3
+30		4.0	38.9
+20		3.2	39.7
+10		2.6	40.3
A 0		2.1	40.8
T.P.		10.08	532.78
	5.09 537.87		
K 1+10		5.0	532.9
1+20		6.0	31.9
1+30		6.8	31.1
K 1+40		7.7	30.2
J 1+40		7.8	30.1
1+30		6.9	31.0
1+20		6.0	31.9
J 1+10		5.1	32.8
I-1+10		5.1	32.8
1+20		6.1	31.8
1+30		7.0	30.9
I 1+40		7.9	30.0

	537.87		
H 1+40		8.1	529.8
1+30		7.1	30.8
1+20		6.0	31.9
H 1+10		5.2	32.7
G 1+10		5.2	32.7
1+20		6.0	31.9
1+30		7.1	30.8
G 1+40		8.1	29.8
F 1+40		8.3	29.6
1+30		7.2	30.7
1+20		6.2	31.7
F 1+10		5.3	32.6
E 1+10		5.5	32.4
1+20		6.4	31.5
1+30		7.5	30.4
E 1+40		8.3	29.6
D 1+40		8.3	29.6
1+30		7.4	30.5
1+20		6.4	31.5
D 1+10		5.7	32.2
C 1+10		5.3	32.6
1+20		6.5	31.4
1+30		7.3	30.6
C 1+40		8.3	29.6

		537.87			
B	1+40		8.3	529.6	
	1+30		7.4	30.5	
	1+20		6.2	31.7	
B	1+10		5.1	32.8	
A	1+10		5.1	32.8	
	1+20		6.5	31.4	
	1+30		7.5	30.4	
A	1+40		8.5	29.4	
			12.95	524.92	
		0.86	525.78		
			12.15	513.63	
		1.50	515.13		
			12.76	502.37	
		1.04	503.41		
			12.13	491.28	
		0.31	491.59		
B/M			12.45	479.14	479.14

On Curb Return SW Cor
71st St. + El Cajon Ave.
USGS Datum

Cross Section of
LOTS 6 & 7
BLOCK 16
LA MESA COLONY
6/24/37
Beermann
Coote

				City Datum
6.6	⌈34.0			⌈27.4
		5.4	⌈27.6	
		4.7	29.3	
		⌈5.2	28.8	
		6.9	27.1	
		7.2	26.8	
		⌈5.3	28.7	
		4.7	29.3	
		⌈5.7	28.7	
		5.9	28.1	
		⌈5.0	29.0	
		6.5	27.5	
		8.7	25.3	
		6.2	27.8	
		6.1	27.9	
		7.8	26.2	
		9.6	24.4	
			⌈29.0	
4.8	⌈33.8			See Above
W		4.4	⌈29.4	
NW		4.4	29.4	
N	NE	5.8	28.0	
	E	7.3	26.5	
	⌈E	7.1	26.7	
	S	⌈5.7	28.1	
	⌈S	4.9	28.9	
	SW	4.6	29.2	
		⌈5.1	28.7	

From City Engr Profile of Alley -
Alley line - Property E. Line Lot 6
⌈0' N
83' "
100 "
100' N + ⌈5' E
80 "
⌈0' "
0 " Prop line on Alley
0 ⌈0' E " "
⌈0' N "
83' " "
100 " "
0 ⌈5' E "
⌈0' N "
~~100 ⌈5'~~ "
100' N "

80' E About same
Ctr of Tank (⌈0' E & ⌈0' N) As located on Drawing.

Beerman
Coote

Ctr of Lot to West.

Cross Section - Lots 11 + 12

		540.8 − 6.1 = 534.7
3.2	537.9	
3.5	534.4	
4.3	33.6	
4.8	33.1	
5.2	32.7	
6.1	31.8	
6.8	31.1	
7.0	30.9	
6.8	31.1	
6.5	31.4	
6.5	31.4	
6.2	31.7	

La Mesa Colony - Block 13

City Datum -

NW Cor Fence - See point A-0 Pg. 57

NW Cor Lot 11 (Original Property Line)

+25
+50
+75
100

} Across Front Prop. Line - 35' S.

+75
+50
+25
0

Profile at
EL CERRITO HTS-
from
60th & Meade to Top of Hill-

Beermann
Coote
7/13/37

	11.78	431.52		419.74
		0.59	0.59	430.93
	12.78	443.71		
			0.21	443.50
	12.67	456.17		
0			10.1	46.1
1			7.7	48.5
+50			5.2	51.0
2			0.40	455.77
	11.89	467.66		
3			3.3	64.4
			0.02	467.64
	12.45	480.09		
4			9.2	72.9
5			4.6	75.5
6			3.1	477.0

Brass Plug Corner 4' back of Curb
N.W. Cor 60th & Estell.

Str. Pave. 60th & Meade

Top of Hill.

Highest ground at Old Hotel
across University Ave =
3' ± lower than this hill.

			100.0	Garage floor
6.25	106.25			
	8	6.1	+0.15	
	18	5.9	+0.2	
	28	5.6	+0.8	
	38	5.2	+1.0	
	48	5.1	+1.1	
	58	5.0	+1.2	
	68	5.0	+1.2	
	78	5.0	+1.2	
	88	5.2	+1.0	
	98	5.6	+0.6	& Walk
		4.7	+1.5	4' uphill
		6.6	-0.2	4' downhill

4.22	13.07	
.90	12.97	
.00	12.99	
.33	13.08	
.14	13.01	
.14	12.89	
.06	12.76	
.17	12.86	
8.3	13.03	
.51	12.80	
.08	12.40	
.20	13.01	
3.8	12.75	
.28	13.04	
.60	13.04	
.15	12.61	
.09	13.08	
12.3	12.76	
.64	12.96	
.07	13.04	
.06	12.84	
.72	12.66	
.48	12.73	
.16	9.95	
11.44	306.33	
	11.44	
	294.89	

11.77	3.34	
3.49	12.87	
.06	12.37	
3.77	.40	
10.33	.04	
12.95	.06	
13.05	.34	
12.89	.05	
12.55	.16	
12.75	1.40	
8.37	.78	
9.31	5.47	
8.06	3.77	
12.52	1.76	
7.30	3.00	
1.73	12.79	
.03	.41	
12.14	1.62	
147.57	60.43	
60.43		
87.14		

665.12
370.23
294.89

45.37
370.23
82.14

Water service on Catoctin.

20' S. Cor. at end of Catoctin
140' S.
175' W.
259' N.
2" line on road to west.
no location
139 N. of N. Cor. private road
481 N. " N. " " "

1-12

27097

1410) 39.76

2820

1540

1410

13000

12690

3100

0-18

2-02

2-20

51-46

50-23-30

1 22-30

81.73

18 40

1921.73

452.06

381.04

71.42

1.14 76.56

8.17 8.73

16.83 5.23

18.98 26.02

45.12 116.54

45.12

71.42

381.04

661.30

381.04

280.26

8.54 37.89

23.00 10.93

63.39 0.73

49.18 0.65

76.39 0.54

90.27 0.68

25.16 0.55

33593 58.87

5587

28046

27.09

1-09

20 54

7°08' 49776

67

694682

595256

664814

99.56

554

55.40 5°24' 39824

49780

49780

551566

A = 51-46

E = 678

R = 700'

T = 339.65

L = 632.45

E = 77'

485521

705

2426605

33964870

342.07305

9034988

705

45174940

632449160

636.96645 40

78/638

624

140

51-46

25-53

48521'

700

339.64700

8901179

1338.09

9034988

700

6324491600

10996

700

7695800

13.9

321.25

335.15

339.65

335.15

4.50

92.77 00 51 78

1410) 7.2350

7050

1850

1410

3940

2820

1120

1081

39

1410) 50.00

4230

7700

7050

6500

5640

8600

8460

140

1401

005

2.005

0°37'

4°04'

0°18

12.03

Work Order ~~223~~ 323

Murray. ~~Ord 781. H.O. 242~~

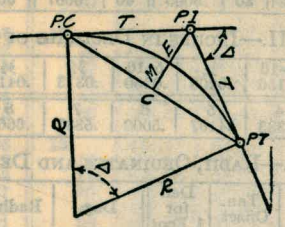
B.M. S.W. Cor. El Cajon + Rolando Blvd.
Elev. 452.46. City Engr. Book 1501-26.

B.M. Power pole #75699 on Catoctin Drive
Campo St. survey 458.97 Rec. 459.06

St Cholla Yard.

No bypass { 1 - 24" Flanged Horiz. Crane Co. No number
1 - 24" " " " " " F.S.
4" bypass. 1 - 24" " " " " " 125
4" bypass. 2 - 24 Hub end Horiz. Rensselaer No number
1 - Marked DWSD 1913 - 5
1 - Marked DWSD 1913 - 7
6" bypass 1 - 24" Hub end Horiz. Rensselaer No Number
Marked 24 S.
2 - 24 x 24 x 8 x 8 Crosses.

DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES



CURVE FORMULAS

Radius=R=$\frac{50}{\text{sin. } D/2}$ (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 vers $\frac{\Delta}{2}$ (6)

External=E=T tan $\frac{\Delta}{4}$ (7) =R ÷ cos. $\frac{\Delta}{2}$ —R (8) =R exsec $\frac{\Delta}{2}$ (9)

Long Chord=C=2 R sin. $\frac{\Delta}{2}$ (10) Δ=Central Angle

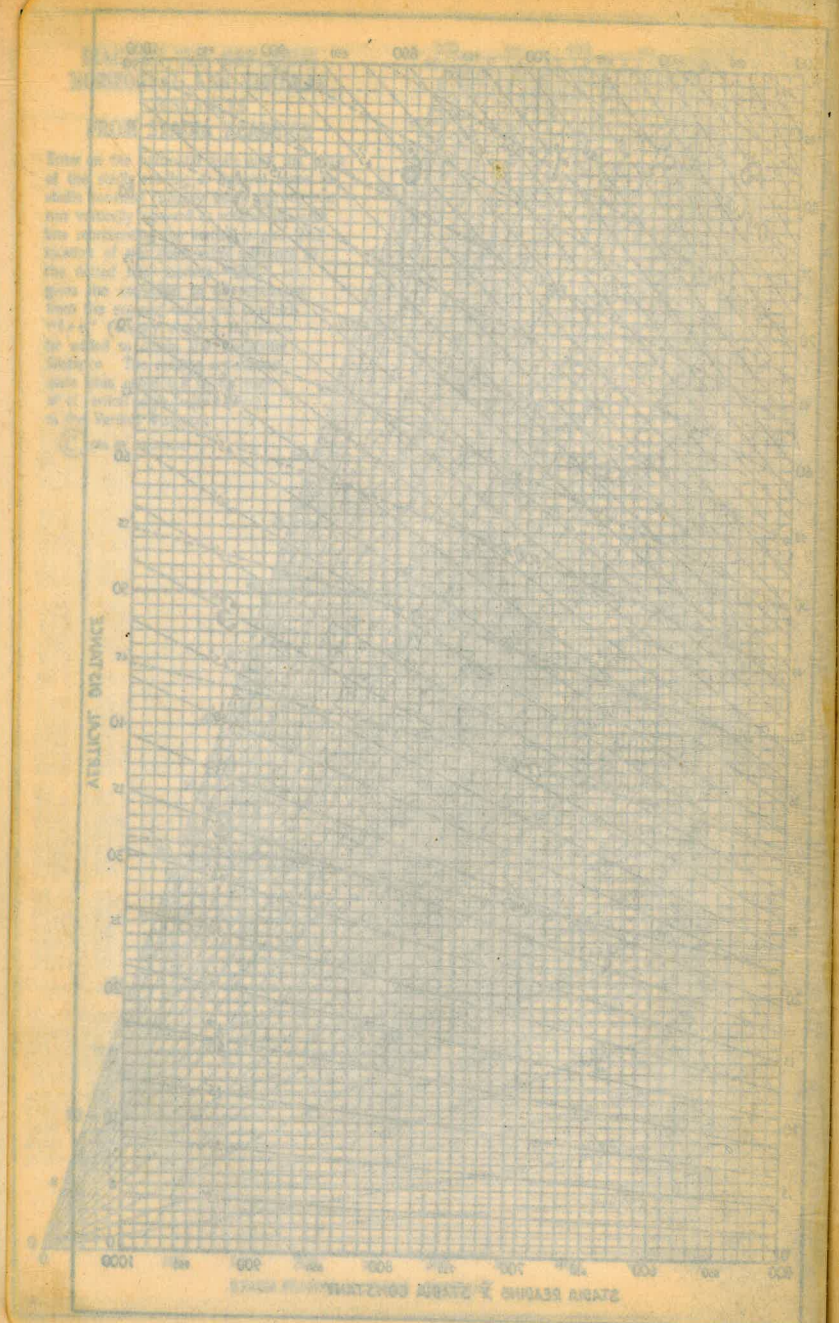
EXPLANATION AND USE OF TABLES

Stations.—Given P. I.=Sta. 161+60.35 to find Sta. of P. C. and P. T. Δ=62° 10′ D=8° 20′. From Table IV for 1° curve T=3454.1 and ÷8⅓=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÷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÷(2 x 688.26)=2.16 ft.

Deflections.—Deflection angle=½ D for 100 ft., ¼ D for 50 ft., etc. For c ft.=(in minutes) .3 x C x D° or=defl. for 1 ft. from Table III x C. For Sta. 158 of above curve=.3 x 54.5 x 8⅓=136.2′ or 2° 16.2′, or=2.50 x 54.5=136.2′ from Table III. For Sta. 159 deflection angle=2° 16.2′+8° 20′÷2=6° 26.2′, etc.

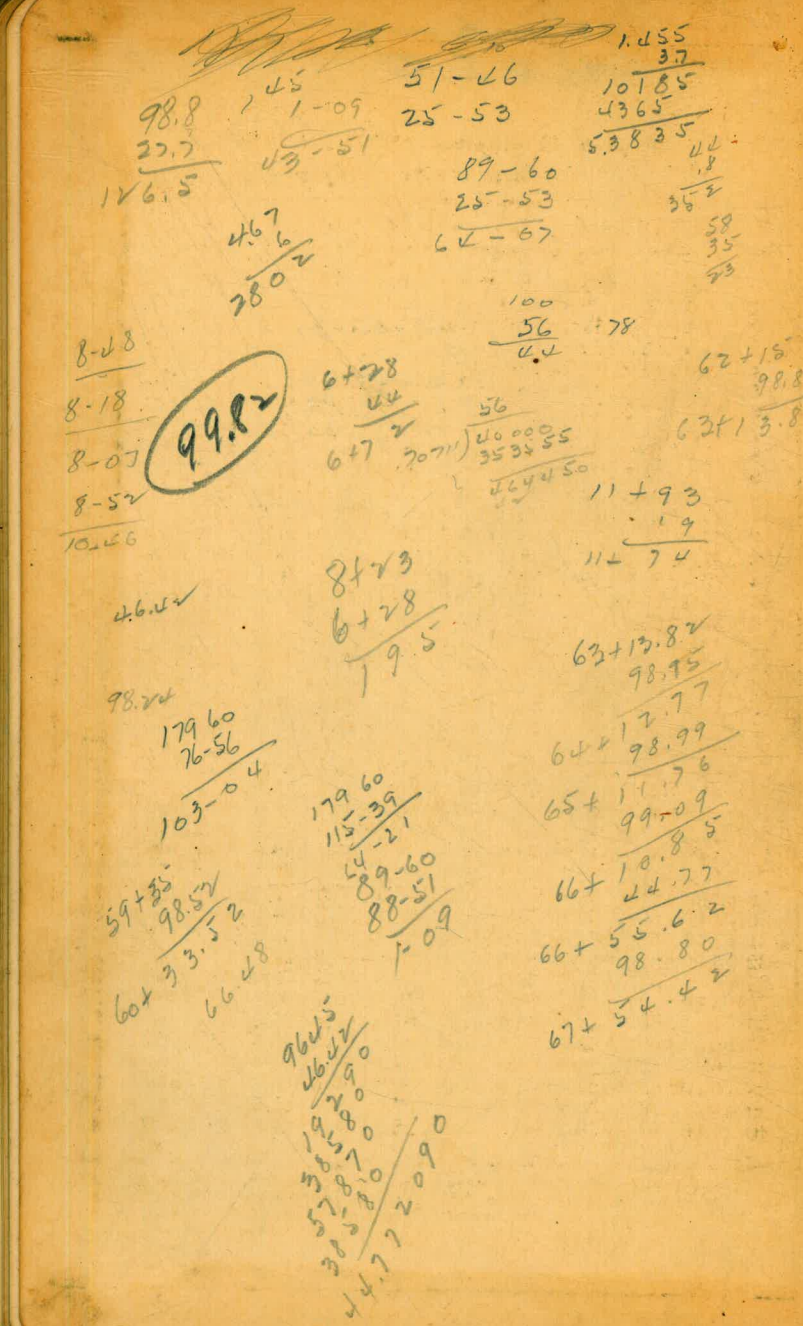
Externals.—May be found in similar manner to tangents. Thus E for curve above is 91.37. For from Table IV for 1° curve E=960.6 for 8° 20′=960.6÷8⅓=91.27 and from Table V correction=.10 or E=91.37 ft. Or suppose Δ=32° and E is measured and found to be 42 ft. What is D? From Table IV E=230.9 and ÷42=5.5 or D=5° 30′.



Crulman
10th. & I. St.

11+93
9
11+84

40-46-30
91 -10
179 -59 60
131 -56-30
48 03-30



DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½.
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20—16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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