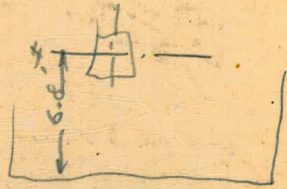


DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING
SLOPE 1 TO 1. ROADWAY OF ANY WIDTH

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

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



MICROFILMED

JAN 14 1965

Please Return to *902*
City of San Diego Water Dept.
Room 268 Civic Center
Telephone Main 5161

TABLE XIII—CORRECTIONS FOR TANGENTS AND EXTERNALS

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

FOR TANGENTS ADD

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

FOR EXTERNALS ADD

Central Angle	DEGREE OF CURVE													
	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°
10°	.001	.003	.004	.006	.007	.008	.009	.011	.012	.014	.015	.017	.018	.020
15°	.003	.007	.010	.014	.018	.023	.027	.032	.035	.039	.043	.047	.051	.051
20°	.006	.011	.017	.022	.028	.034	.038	.045	.051	.057	.063	.070	.076	.083
25°	.009	.018	.027	.036	.046	.056	.065	.074	.083	.093	.106	.120	.127	.135
30°	.013	.025	.038	.051	.065	.078	.090	.103	.116	.129	.149	.170	.179	.188
35°	.018	.035	.054	.072	.086	.109	.131	.153	.175	.197	.213	.230	.247	.264
40°	.023	.046	.070	.093	.117	.141	.172	.203	.234	.265	.277	.290	.315	.341
45°	.030	.060	.093	.119	.153	.184	.216	.254	.289	.325	.351	.378	.411	.445
50°	.037	.075	.116	.151	.189	.227	.266	.305	.345	.384	.425	.467	.508	.550
55°	.046	.093	.142	.188	.236	.283	.332	.381	.420	.479	.530	.582	.641	.700
60°	.056	.112	.168	.225	.283	.340	.398	.457	.516	.575	.636	.697	.774	.851
65°	.067	.135	.204	.273	.343	.412	.483	.554	.625	.697	.711	.845	.922	1.01
70°	.080	.159	.240	.321	.403	.485	.568	.652	.735	.819	.906	.994	1.08	1.17
75°	.095	.182	.286	.383	.480	.578	.678	.777	.877	.977	1.07	1.18	1.29	1.39
80°	.110	.220	.332	.445	.558	.671	.787	.903	1.02	1.13	1.25	1.38	1.50	1.62
85°	.128	.259	.391	.524	.657	.790	.926	1.06	1.20	1.34	1.47	1.62	1.76	1.91
90°	.149	.299	.450	.603	.756	.910	1.07	1.22	1.38	1.54	1.70	1.87	2.03	2.20
95°	.174	.350	.522	.706	.885	1.06	1.25	1.43	1.62	1.80	1.99	2.18	2.38	2.58
100°	.200	.401	.604	.809	1.01	1.22	1.43	1.64	1.85	2.06	2.28	2.50	2.73	2.96
110°	.268	.536	.806	1.08	1.35	1.63	1.91	2.20	2.48	2.76	3.05	3.35	3.66	3.96
120°	.360	.721	1.08	1.45	1.82	2.19	2.57	2.95	3.33	3.72	4.11	4.50	4.91	5.32

Revised List - # 15094
Level - # 5140

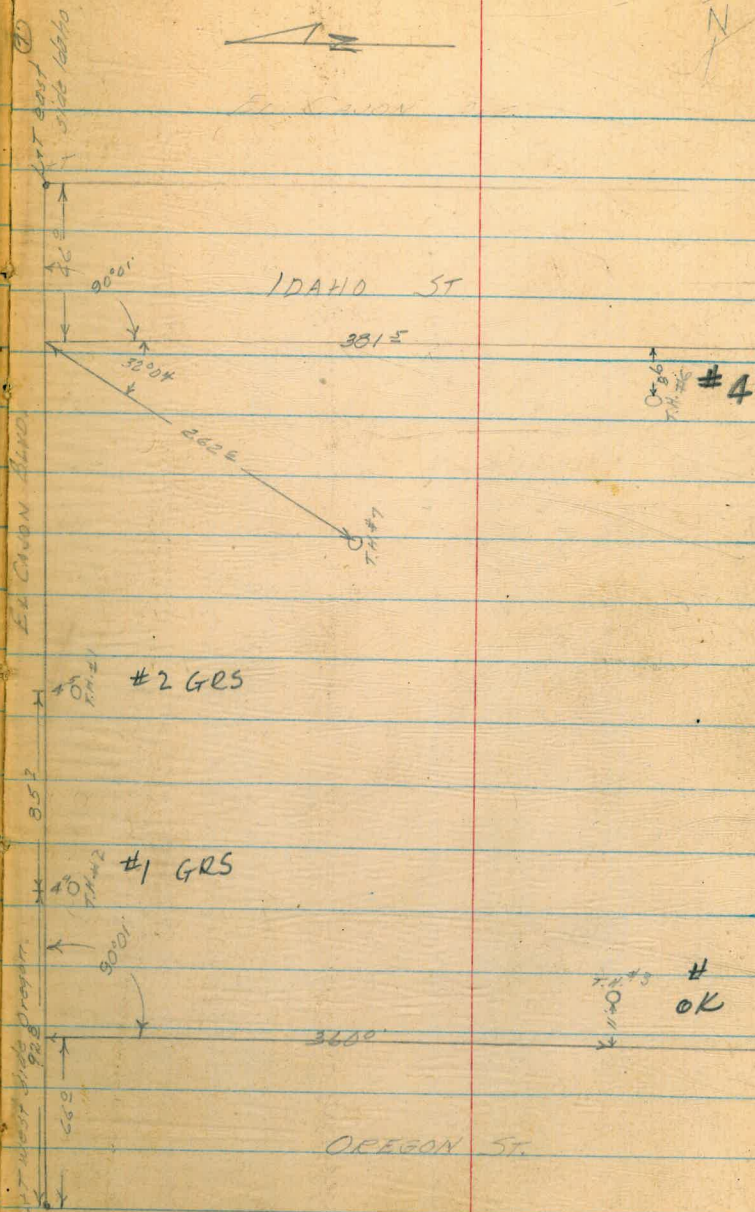
Location
~~Proposed~~ Levels - Test Holes - Uni. Hgts. 1-4
 Levels - 2 Res. Uni Hgts. 4-8
 Uni. Hgts. - Grades For Pav. beneath Tank 9 ✓
 CHOLLAS RESERVOIR: PIPE LINE FOR WATER SUPPLY ✓
 TO PROPOSED VALVE TESTING PAD. ALIGNMENT & PROFILE 10-14 ✓
 UNIVERSTM HEIGHTS NORTH RES. 9-18-50 ✓
 UNIVERSITY HEIGHTS PROPOSED RES SITE 15-18 ✓
 Layout & GRADES Storage Area Alice 19 ✓
 BASELINE & CROSS-SECTS NW Cor CHOLLAS RESERVOIR 20-23 ✓
 VOIDED NOTES ✓ 23-25 ✓
 Slope stakes at Stor Yard Cholla. Alice 26 ✓
 " " " " " " Alice 27 ✓
 PROFILE Access Road " " " Alice 28-29 ✓
 Misc Details University Heights RESERVOIR Alice 32-35 ✓
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 PIPE LOCATED WITH R.FINDER UNIV. HEIGHTS RES Alice 49 ✓
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 UNIV. HEIGHTS RES X-SECTS Area NW of MAIN RES ✓ 54-66
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Location Test Holes
UNI. Hgts. Res.

Rayney-Notes
King-x
Shymen
West

3-1-50

Cool-Cloudy



Location Test Holes
UNI. Hghts. Res

Rainey - W
King - X
West
Shipman

3-1-50
cloudy

Polk

1714

IDAHO

1105

5
12
15

2594

#6
170 #11

OREGON

Elevations on Test Holes
ground & Bottom
Uni. Hghts. Res.

B.M. 5.59 380.64 375.05

Test Hole #1 #2 GRS

Ground 4.8 375.8

Bottom Hole 13.3 367.3

B.M. 5.59 380.64 375.05

Test Hole #2 #1 GRS

Ground 5.2 375.4

Bottom Hole 11.2 369.4

B.M. 4.44 379.49 375.05

Test Hole #3

Ground 4.8 374.3

Bottom Hole 15.0 364.5

B.M.

Test Hole #4 #6 5.08 371.05 366.02

Ground 4.3 366.8

Bottom Hole 14.6 356.5

KING
SHIPMAN T
West

3-1-50

cloudy

3

B.P. N.E. Cor Oregon & El Cajon

B.P. N.E. Cor Oregon & El Cajon

B.P. N.E. Cor Oregon & El Cajon Hwy

B.P. S.E. Cor Toik & Oregon

B.M.	503	371.05	366.02
Test Hole #5			
Ground		1.2	369.9
Bottom Hole		11.9	359.2

B.P. S.E. Cor. Polk & Oregon

B.M.	550	378.51	373.01
Test Hole #6			
Ground		4.0	374.5
Bottom Hole		12.7	365.8

B.P. S.E. Cor. Howard & Idaho

B.M.	550	378.51	373.01
Test Hole #7			
Ground		2.0	376.5
Bottom Hole		11.4	367.1

B.P. S.E. Cor. Howard & Idaho

Levels on Old Res. El Caton
Oregon

King
West
Shipman

3-1-50

Cloudy

5

B.M.	444	779.49		37505	B.P.N.E. Cor Oregon - El Caton
	10.76	388.07	2.18	377.31	
Top Wall			4.60	383.47	Top 12" Wall at S.W. Cor
Top Wall			4.62	383.45	Top 12" Wall at N.W. Cor
Top Wall			4.58	383.49	Top 12" Wall at N.E. Cor
Top Wall			4.58	383.49	Top 12" Wall at S.E. Cor
Bottom			14.26	373.81	S.W. Cor
Bottom			14.17	373.90	N.W. Cor
Bottom			14.88	373.19	N.E. Cor
Bottom			14.17	373.90	S.E. Cor

Levels - Around Large Res.
 Uni. Hghts.

King
 West
 Shipman

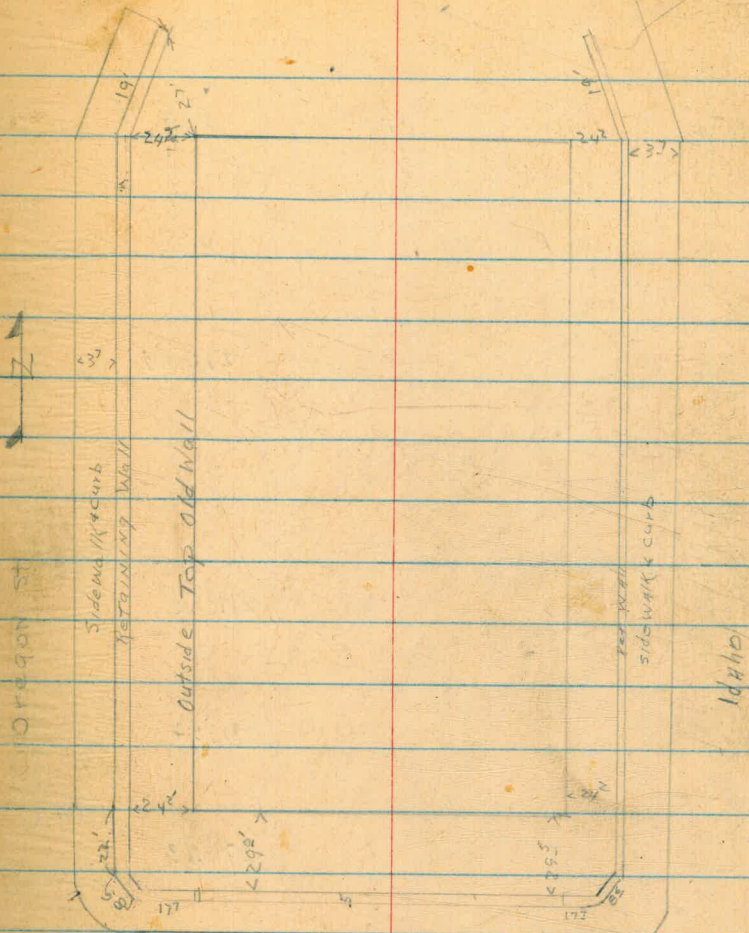
3-1-50

cloudy

6

388.07

T.P.	8.81	386.12	10.76	377.31	
Sidewalk			12.44	373.68	N.W. cor
Ret. Wall			11.0	375.17	N.W. cor
Top old Wall			0.09	386.03	N.W. cor
T.P.	1.90	375.01	13.01	383.11	
Sidewalk			7.65	364.36	W.S.W. cor
Ret. Wall			4.63	370.38	W.S.W.
Sidewalk			7.73	367.28	S.S.W.
Ret. Wall			4.82	370.19	S.S.W.
T.P.	13.06	384.05	4.02	378.99	



Levels Around Large Res
Uni. Hghts

384.05

Top Old Wall			+ 1.70	385.75
T.P.	5.16	386.08	3.13	380.92
Top Old Wall			0.05	386.03
T.P.	8.06	381.43 373.37	12.71	373.37
Ret. Wall			9.80	371.63
Side Walk			10.89	370.54
Ret. Wall			9.60	371.83
Side Walk			10.83	370.60
T.P.	12.03	385.89	7.57	373.86
Top Old Wall			+ 0.15	386.04

King
Shipman
West

3-1-50

cloudy

7

S.W. Cor.

S.E. Cor.

S.S.E. Cor.

S.S.E. Cor.

E.S.E. Cor.

E.S.E. Cor.

N.E. Cor.

Levels Around Large Res
L.N. Hghts

385.89

Top Ret Wall

11.35

374.54

N.E. Cor

Sidewalk

12.72

363.17

N.E. Cor

B.M.

12.84

373.05

373.01

S.S.E. Cor Howard & Idaho

King
West
Shipman

3-1-50

8

Uni. Hghts Pumping Plant
 Grades For Oil Pav. beneath
 Water Tank

	3.57	380.70		377.13
				375.9
				375.4
		7.45	378.25	
				374.4
0+28		4.6	376.1	374.1
0+50		5.2	375.5	373.8
0+75		5.2	375.5	373.5
1+00				

King
 Shipman
 West

5-23-50

9

outside Edge Oil
 Top grate - Sump
 gutter idaho
 Bottom sump

380.7
 375.9
 4.8

2.0

1.7

2.0

gutter

AUG. 9, 1950 LEONARD BAKER 10.

CLEAR, HOT.

CHOLLAS RESERVOIR - PROPOSED WATER SUPPLY
LINE TO PROPOSED VALVE TESTING INSTALLATION.

PROFILE ON NEXT PAGE.

2+48 END OF TEST SLAB AREA.

2+13 START OF PROPOSED AREA FOR TEST SLAB.

2+08 TOE OF SLOPE ON FACE OF DAM, BEGIN BENCH.

1+91.5 TOP FACE OF DAM, END ROADWAY.

1+79.35' Δ 25° 0' LEFT.

1+66 TOP OF DAM, BEGIN ROADWAY ACROSS DAM.

1+03.7' Δ 30° 0' LEFT.

0+77.2' Δ 75° 0' RIGHT. COR. PUMP HOUSE 3.0' LT.

0+66.65 COR. OF PUMP HOUSE 2.4' LT.

0+52.2 COR. VALVE CHAMBER 5.1' LT.

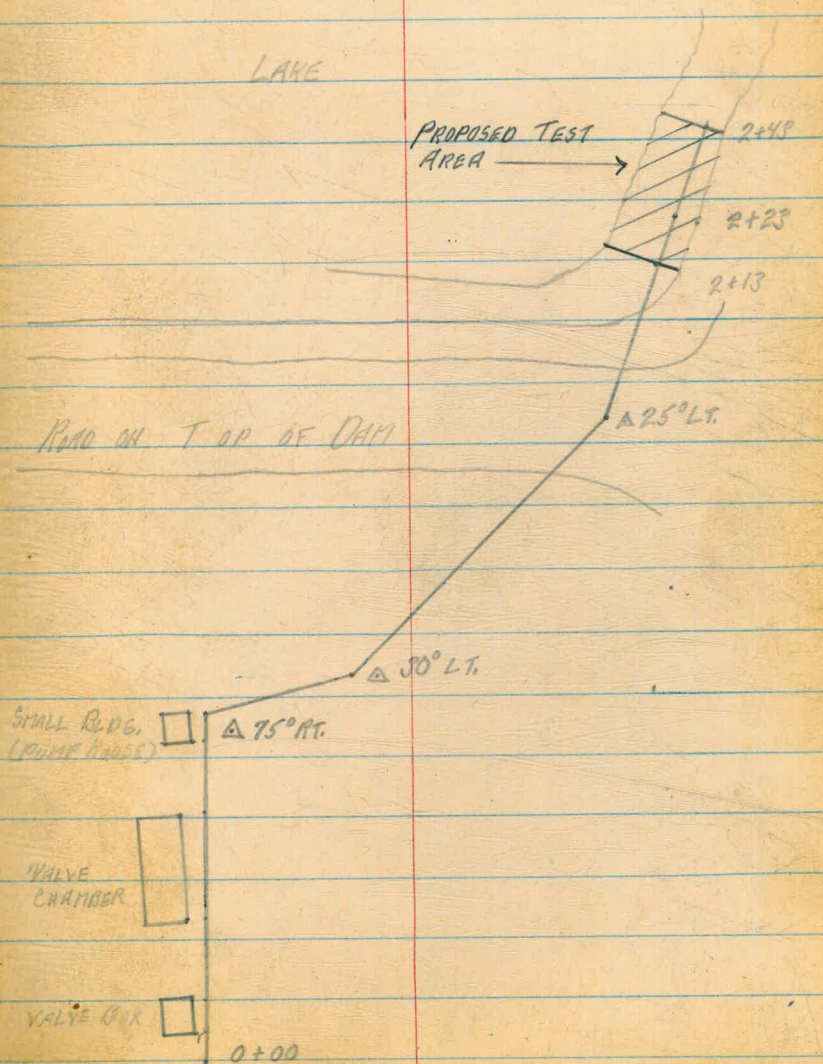
0+32.8 BASE OF GUY WIRE 2.0' LT.

0+29.9 COR. VALVE CHAMBER 3.65' LT.

0+18.2 COR. VALVE BOX 2.8' LT.

0+06.5 COR. VALVE BOX 1.4' LT.

0+00 POSITION ABOUT 3' SOUTH OF PORTABLE PUMP.



NRE LEVEL #106346. AUG. 9, 1950

LEONARD - T.
BAKER - Rod.

11.

CHOLLAS RES. - PROFILE OF PROPOSED WATER TESTING LINE.

ELEV. 420' GAUGE AT INTAKE IN CHOLLAS RESERVOIR.
CITY DATUM - (F.R. 320 PAGE 45)

R.M.	+3.39	424.65	421.26
2+43	4	-7.65	417.0
	5' LT.	-7.4	417.2
EDGE LAKE	9.0' LT.	-7.5	417.1
" WATER	10.6' LT.	-8.65	416.0
	2.0' RT.	-7.5	417.1
TOE BANK	3.6' RT.	-6.8	417.8
2+38	2	-7.5	417.1
EDGE LAKE	9.0' LT.	-7.35	417.3
" WATER	11.5' LT.	-8.65	416.0
TOE BANK	4.0' RT.	-6.25	418.4
2+33	4	-7.7	416.9
	6.0' LT.	-7.35	417.3
EDGE LAKE	10.0' LT.	-7.50	417.1
" WATER	11.6' LT.	-8.65	416.0
	2.0' RT.	-7.5	417.1
TOE BANK	4.0' RT.	-6.65	418.0

CONT'D.

12.

N.S.	424.65		
2+28 ♀		-7.75	416.9
5.0 LT.		-7.55	417.1
EDGE LAKE 10.0 "		-7.7	416.9
" WATER 12.4 "		-8.65	416.0
2.5 RT.		-7.6	417.0
TOE BANK 4.0 "		-6.8	417.8
2+23 ♀ END.		-7.6	417.0
6.5 LT.		-7.6	417.0
EDGE LAKE 11.6 "		-8.0	416.6
" WATER 12.6 "		-8.65	416.0
3.0 RT.		-7.3	417.3
TOE BANK 4.6 "		-6.35	418.3
2+18 ♀		-7.45	417.2
5.0 LT.		-7.5	417.1
EDGE LAKE 10.0 "		-7.9	416.7
" WATER 12.0 "		-8.65	416.0
3.3 RT.		-7.2	417.4
TOE BANK 4.7 "		-6.6	418.0

N.S.	424.65		
2+13 4		-7.15	417.5
7.0 LT.		-7.95	417.2
EDGE LAKE 11.5 "		-7.7	416.9
" WATER 13.1 "		-8.65	416.0
4.0 RT.		-6.95	417.7
TOE BANK 5.0 "		-6.40	418.2
2+03.4 TOE SLOPE		-6.2	418.4
1+91.5 EDGE ROAD		-1.4	423.2
1+79.35 Δ		-1.55	423.1
1+66 TOP BANK		-1.9	422.7
1+50 T.P. - ROCK		-11.71	412.94
+ 0.11	413.05		
1+46		-1.95	411.1
1+40		-3.5	409.5
1+29.5		-7.65	405.4
T.P.		-12.72	400.33
+0.37	400.70		
1+03.70 Δ		-5.1	395.6

H.d.	400.70		
0+97		-7.65	393.1
0+81.8		-7.75	393.0
0+72.2 A T.P.	ON SPIKE	-12.02	388.68
+1.76	390.44		
0+68		-2.6	387.8
0+57.2		-3.9	386.5
0+35.8		-5.6	384.8
0+22.8		-7.9	382.5
0+00 ON HOR		-8.67	381.77

Reduced 8/14/50 R.M.

SEPT 15, 1950

BEATTY &
LEONARD T

15

UNIVERSITY HEIGHTS RESERVOIR
Elev.'s of CORNERS of Proposed RES. SITE

B.M.	8.54	381.55	373.01	PP. SE Cor Idaho & Howard
	6.52		375.03	5' Nor Cor # 2 (on 2' conc walk next to Bldg)
	5.3		376.25	Cor # 1 NAT GRD See SKETCH PAGE 17
	4.95		376.60	Cor # 3 " "
	+0.3		381.58	8' W Cor # 3 side of fill around reservoir
	5.3		376.25	45' Nor Cor # 4
	6.65		374.90	33' Nor Cor # 4 Edge Conc floor
11	3.92	378.85	6.12 374.93	Cor # 4 on Conc floor
	3.76		375.09	21 ²⁵ E Cor # 5 " " "
	4.31		374.54	" " " " E. Conc Drain Ditch
	4.56		374.29	20 ²⁵ " " " " E " " "
	4.41		374.44	19 ²⁵ " " " " Edge " " "
	4.2		374.65	" " " " NAT. GRD
	4.5		374.35	COR # 5
	4.2		374.65	35' Nor Cor # 5
	0.0		378.85	68' Nor " "
	3.7		375.15	Cor # 6
	1.6		377.25	13' So. Cor # 6
	+0.3		378.88	50' " " "

SEPT. 15, 1950

16

UNIVERSITY HEIGHTS RESERVOIR

PROFILE PROPOSED 36" C.I. PIPE ^{RELAI}D & LOWERED

378.85 378.9

0+00	4.10	374.8
0+06	4.05	374.8
0+12.5	4.08	374.8
0+19.5	4.46	374.4
0+19.3	4.91	374.0
0+59.8	3.67	375.2
0+79.8	3.95	374.9
1+00	4.04	374.8
1+06.3		
1+50	4.16	374.7
2+00	4.29	374.6
2+50	4.54	374.3
3+00	4.55	374.3
3+50	4.52	374.4
3+71		
4+00	4.96	373.9
4+50	5.76	373.1
5+00	6.25	372.6
5+50	6.70	372.2

Pt at NE Cor El Capn & Oregon SEE SKETCH

PAGE 17.

Edge Conc Side Walk

Top Curb

Gutter

& St

Curb 2' LT

	378.85		
6+00		7.46	371.4
+50		7.90	371.0
7+00		8.48	370.4
+50		9.12	369.7
8+00		9.60	369.3
+16		9.80	369.1
II	5.17	380.05	3.97 374.88
CK BM		7.04	373.01 = 373.01

See page 35
for corrected
36" pipe location
2/11/53

Prop Line
SW GR
El Cajon
&
Oregon

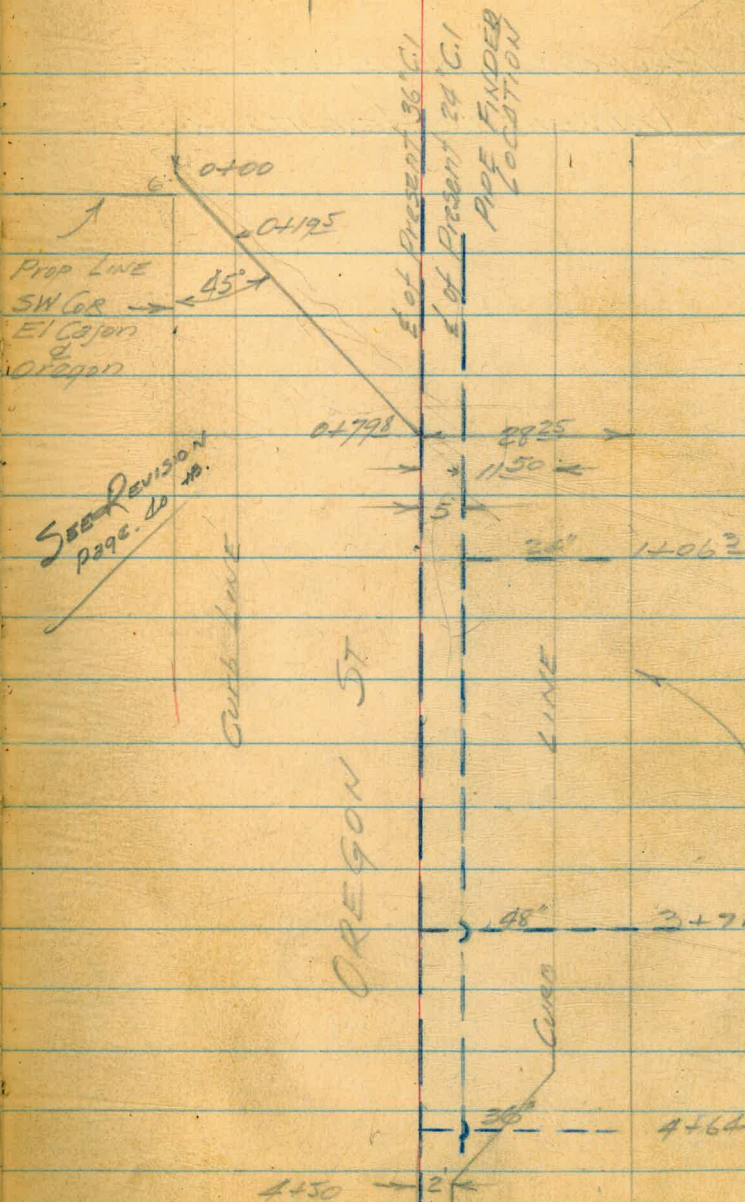
SEE REVISION
PAGE 20
18.

Curb Line

OREGON ST

LINE

WEST LINE PROPOSED RES.



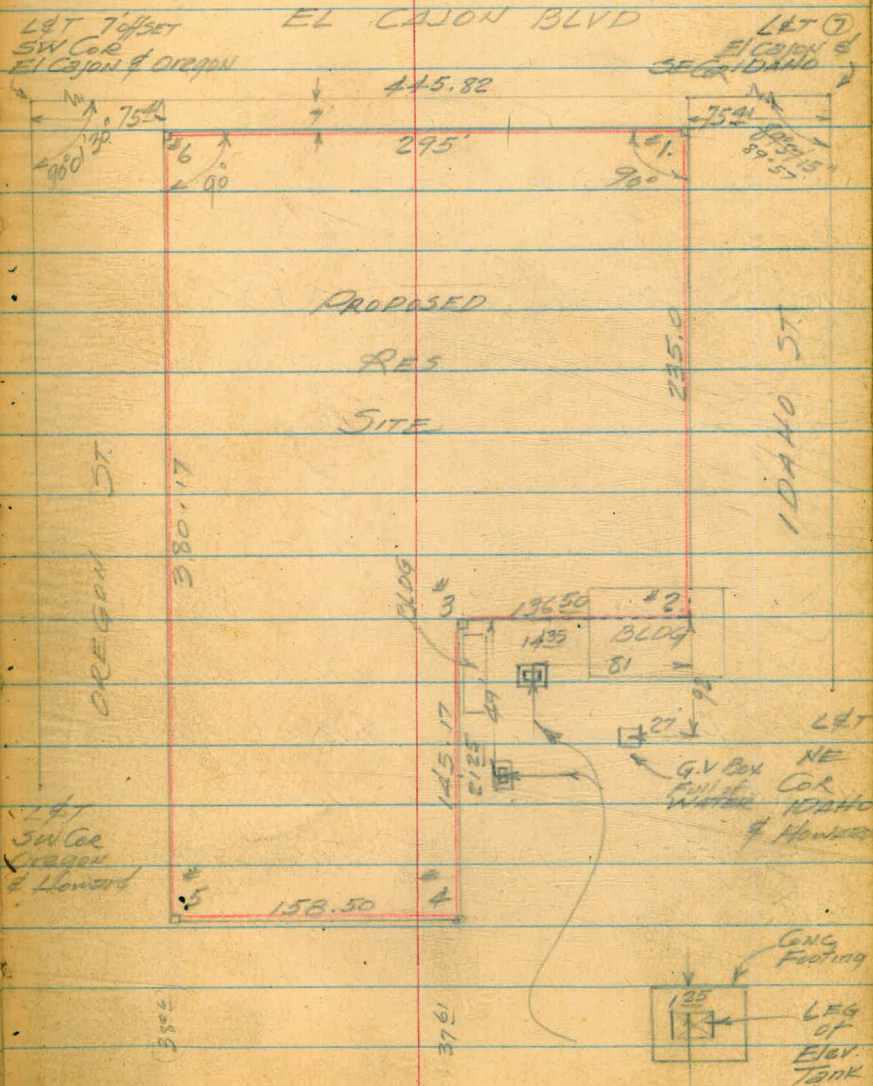
445.82
 14.00
 459.82
 160.00
 299.82

SEPT. 14, 1950

BEATTY
 LEONARD

18

PROPOSED RESERVOIR SITE
 UNIVERSITY HEIGHTS RESERVOIR

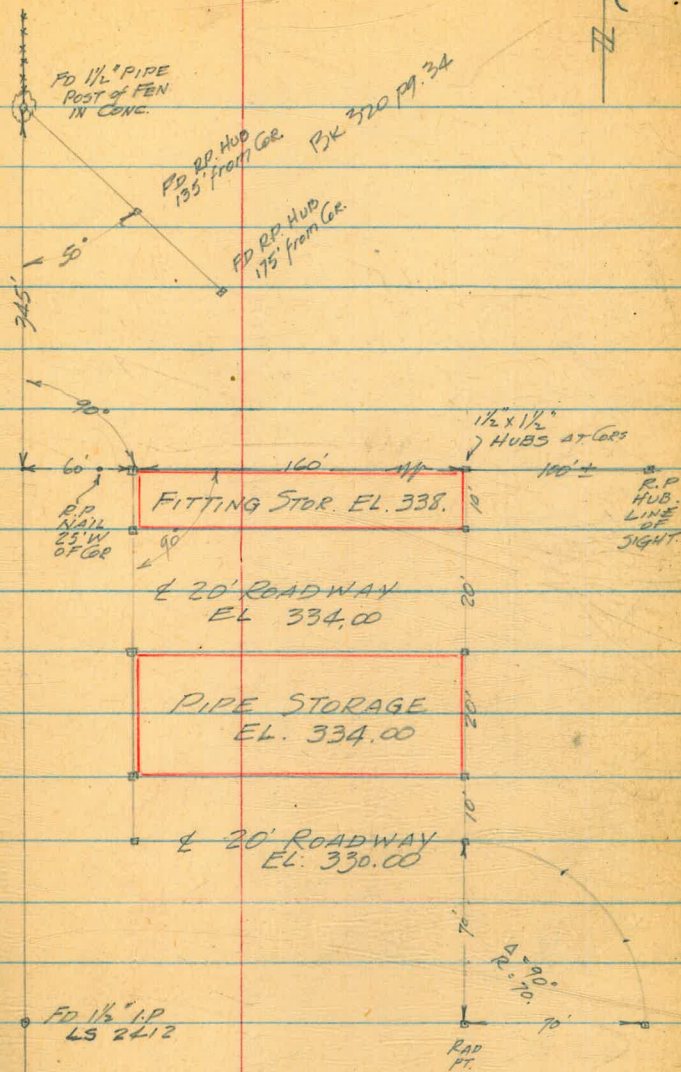


LAYOUT & GRADES
FOR
PIPE & FITTINGS STORAGE
AT
CHOLLA STATION

B.M	110	343.82	342.72	ON CONC VAL BOX BY 320 129.48
SET TBM			8.28	R.P. NAIL 25' WEST NE COR FITTING STOR.
NW COR FITTING Storage	8.27	335.55	338.00	F25 ✓
SW COR " "	9.18	334.64	334.00	F34 ✓ F08 ✓
NW COR PIPE Storage	11.54	332.28	334.00	F17 ✓
SW COR " "	13.04	330.78	330.00	F32 ✓ F08 ✓
♀ Road West End	14.28	329.54	330.00	F05 ✓
0+40 ♀ RD	12.3	331.52	330.00	C15 ✓
0+80 " "	12.5	331.32	330.00	C12 ✓
1+20 " "	11.7	332.12	330.00	C21 ✓
1+60 " " B.C.	12.9	330.92	330.00	C09 ✓
SE COR PIPE Storage	12.14	331.68	334.00	C17 ✓ F23 ✓
NE COR " "	10.10	333.72	334.00	F03 ✓ ✓ C16 ✓
SE COR Fitting Storage	8.23	335.59	338.00	F24 ✓
NE COR " "	7.48	336.34	338.00	F17 ✓ ✓

MAR 28 1951

BEATTY
LEONARD
NELSON



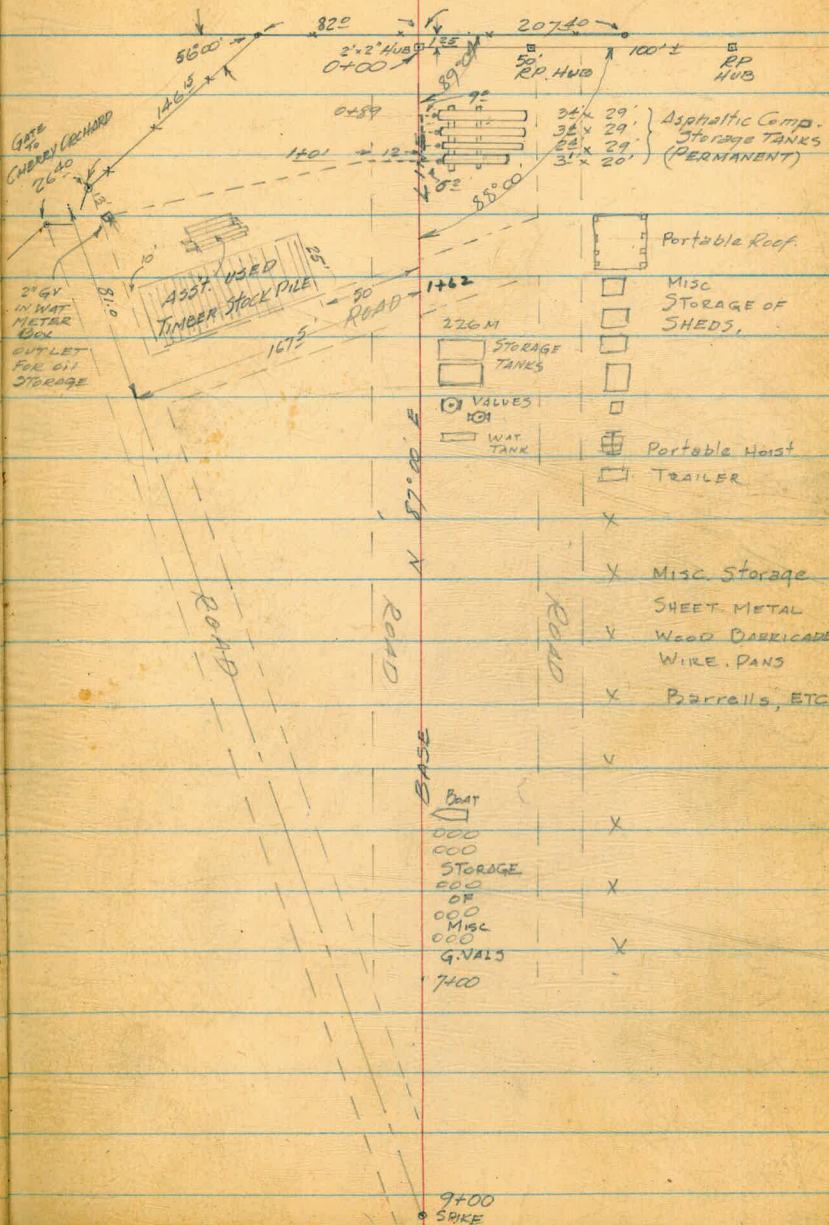
19.

BASE LINE AT
North westly Storage Area
IN "CHERRY ORCHARD"
AT CHOLLA STATION

April 11 1951
BEATTY
LEONARD
G. NELSON

20

B.
SE
NW
SW
N
SE
NE
SE
NE



Cross-Sections of
Base Line
CHERRY ORCHARD
CHOLLA STATION

D.M.	11.73	354.45		342.72
10	1.19	352.63	3.01	351.44
10	4.83	346.28	11.18	341.45
10	12.92	358.05	1.15	345.13
10	7.22	359.74	5.53	352.52

0+00

+50

1+00

+50

2+00

+10

+12

4/11/51

21

EV. Pch. See pg. 19

60. 90° Elbow of Str. Tank

359.4	348.0	347.0	345.9	343.1	339.5
0.3	11.7	12.7	13.8	16.6	20.2
100	50	14		40	82 (ST. FEN.)

359.7	356.6	355.0	354.2	353.9	352.2	349.6	348.8	348.5	348.4	347.3	343.1	338.1	337.8
0.0	3.1	4.7	5.5	5.8	7.5	10.1	10.7	11.2	11.3	12.4	16.6	21.6	21.9
89	69	65	50	45	25	9	6		6	10	30	100	110

360.8	358.6	354.5											
359.7	354.9	354.7	352.9	350.7	349.8	349.1	348.6	347.5	343.7	339.3	335.8		
11.00	1.1	4.8	5.2	6.5	9.0	9.9	10.6	11.1	12.2	16.0	20.4	23.9	
84	75	66	63	50	38	9	2		11	17	50	100	159

	359.2	354.4	350.9										
363.0	355.0	354.0	349.2	348.6	346.1	340.3	337.3	336.4	336.1				
12.3	0.5	4.7	5.3	5.7	8.8	10.5	11.1	15.6	19.4	22.4	23.3	23.6	
84	63	62	50	36	5		17	50	100	150	155	169	

364.5	360.9	354.5	351.5						345.1	338.4	337.4		
		355.6	353.4	349.8	348.2	346.3			340.9	337.4			
14.8	1.2	4.1	5.2	6.3	8.2	9.9	11.5	13.4	14.6	18.8	21.3	22.3	22.3
84	64	61	50	28	4		32	38	50	100	140	150	163

			345.1	338.4									
349.8	348.3	346.3	340.9	337.4	337.4								
9.7	11.4	13.4	16.6	16.8	21.3	22.3	22.3						
	34	38	50	100	140	150	163						

		346.5	343.8	338.7									
350.1	348.8	345.2	339.2	337.4									
9.6	10.9	13.2	14.5	15.9	24.5	21.0	22.3						
	37	40	50	72	75	100	153						

CROSS-SECTIONS of Pease Line
CHERRY ORCHARD
CHOLLA STATION

4/11/51
2/12/51

22

2+50 359.74

355.7 357.1 348.7 345.6 340.2
365.9 361.9 354.7 350.5 346.3 343.2 338.9
+6.2 +2.2 4.0 5.0 7.6 9.2 11.0 13.4 16.1 16.5 19.5 20.8
82 63 61 50 4 40 43 50 78 92 100

338.0 337.9
21.7 21.8
150. 136
E.W.
±

2+90
ckTP 5.53 358.05 7.22 352.52

uniform
350.4 349.7 346.9 342.5 338.5
7.3 10.0 10.8 13.4 15.6 17.2 19.9 21.2 20.9
25 41 48 74 76 100 129 142

P 13.24 358.37 12.92 345.13

3+00
367.4 362.1 356.2 353.2 349.6 346.6 342.2 338.3
+9.0 +3.7 2.2 3.3 5.2 8.0 8.8 10.4 12.4 12.4 16.2 17.0 21.1 19.8
95 65 63 50 5 8 25 31 50 65 76 100 130 142

+50
365.9 361.6 356.1 353.4 349.3 345.9 340.8 339.4
+7.5 +3.2 2.3 3.0 5.0 7.5 7.1 11.4 12.5 15.4 17.6 18.3 19.0 17.0
90 65 62 50 5 8 29 48 60 66 80 96 100 131

4+00
360.2 355.5 350.9 348.2 342.1 340.3
364.2 356.4 353.4 350.9 345.8 340.6
+5.8 +1.8 2.0 2.9 5.0 7.5 7.5 10.2 12.6 16.3 17.8 18.1
90 65 63 50 5 1 8 42 50 66 100 120

+50
363.4 359.2 355.5 350.5 349.5 343.8 341.1
356.1 353.4 350.5 345.8 341.1 341.3
+5.0 +0.8 2.3 2.9 5.0 7.9 7.9 8.9 12.6 14.6 17.3 17.3 17.1
90 64 62 50 6 2 2 36 41 50 85 100 108

5+00
361.4 356.0 353.1 350.4 350.1 344.6 342.6
+3.0 0.5 2.4 2.9 5.3 8.0 8.0 8.3 12.8 13.8 15.5 15.8
90 65 63 50 8 3 2 22 38 50 77 97

+50
359.2 356.6 355.2 350.2 349.9 347.2 344.8
+0.8 1.8 2.4 3.2 5.5 7.9 8.2 8.5 11.2 12.0 13.6
90 66 65 50 9 5 2 12 25 50 7.8

CROSS-SECTIONS OF BASE LINE
CHERRY ORCHARD
CHOLLA STATION

358.37

6+00

+30

+50

7+00

+15

+30

+50

+83

8+00

+42

+50

+82

9+00

7.0

7.5

7.4

6.7

6.7

6.0

6.0

6.0

5.6

351.4

350.9

351.0

351.7

351.7

352.4

352.4

352.4

352.8

4/12/51

23

	356.4	355.1	350.9	350.4	346.2	
358.8	355.7	352.9	350.6	347.6	345.8	
+0.4	2.0	2.7	3.3	5.5	7.5	7.8
90	70	66	50	11	6	0
				8.0	10.8	12.2
				14	26	50
						62
						62

	355.1	351.2	
358.8	353.0	350.9	
+0.4	3.3	3.4	7.2
90	50	9	6
			7.5

	351.2	350.9	346.9
359.4	355.4	351.1	348.2
+1.0	3.0	7.2	7.3
90	50	6	0
			11
			21
			50
			54

	351.7	350.0	347.9
359.6	355.8	351.3	348.5
+1.2	2.6	6.7	7.1
90	50	6	0
			18
			30
			45

Checked & Reduced pages 19-23

4/13/51 R.A.M.

PROFILE & X-SECTS.
 Access Road To
 STORAGE
 AREA

P	2.11	347.24	345.13
0+00	2.2	345.0	
0+50	5.7	342.0	
-1+00	8.2	339.0	
-1+50	11.4	335.8	
-1+95	13.1	334.1	
-2+00	13.7	333.5	
-2+13	Edge oil Road	15.1	332.1
-2+40	E Oiled Road	16.3	330.9

MAY 16, 1951

Beatty
 Leonard
 Nelson

24

3.5	2.2	1.3
10		10
6.4	5.2	4.1
10		10
9.0	8.2	7.9
10		10
11.8	11.4	10.5
10		10
14.8	14.7	13.6
10	8	10
oil	E.O	

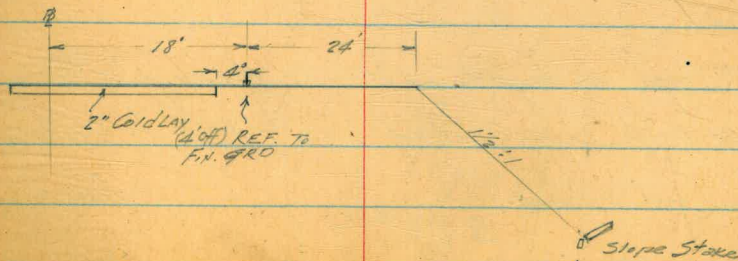
MAY 16 1951

25

SLOPE STAKES SET
 &
 GRADE FOR EDGE OF ROAD
 TO RIGHT OF BASE LINE
 CHOLLA STORAGE YARD

TP	5.13	350.26	345.13	GRADE Edge Road	GRD Red	Red	CUT	GRADE SHLDR. SLOPE	GRD Red	S. Stakes
BASELINE STA										
1+50				347.92	2.34	2.63	0.29	348.50	1.8(N)	6.5 F42/71 5.9 F41/61
2+00				348.17	2.09	1.36	0.73	348.75	1.5	5.4 F39/59
+50				348.42	1.84	0.83	0.91	349.00	1.3	4.8 F35/53
3+00				348.67	1.59	0.69	0.90	349.25	1.0	4.5 F35/53
+50				348.92	1.34	0.54	0.80	349.50	0.8	4.7 F39/59
4+00				349.17	1.09	0.95	0.14	349.75	0.5	7.0 F65/98
+50				349.42	0.84	0.41	0.43	350.00	0.3	7.2 F69/104
5+00				349.17	1.09	0.90	0.19	349.75	0.5	6.1 F56/84
+50				348.92	1.34	1.07	0.27	349.50	0.8	1.6 F08/12
6+00				348.67	1.59	2.21	0.62	349.25	1.0	4.2 F32/48
+50				348.42	1.84	2.30	0.46	349.00	0.13 E 1.3	3.4 F21/33 3.3 F20/30

TP 10.58 359.11 1.73 348.53



May 16 1951

26

BEATTY,
LEONARD,
NELSON

SLOPE STAKES SET
GRADE FOR BOTTOM OF WALL Footing
TO LEFT of Base Line
CHOLLA STORAGE YARD

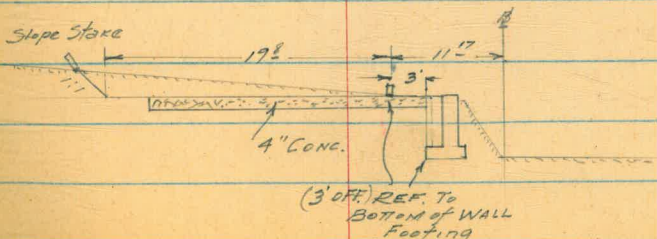
CK #	Gr. Rod	359.11	359.13	6.61	352.50	Gr. Rod	Red	Cut	GRADE TOE OF SLOPE	Gr. Rod	Red	Cut
BASE LINE STA					352.52	WALL						
1+50						Footing						
2+00												
+50												
3+00												
+50												
4+00												
#	6.42	360.08	5.47	359.66								
+50												
5+00												
+50												
6+00												
+50												
CK #			11.53		348.55							

6/6/51 WALL WAS MOVED 1.5' SOUTH AT REQUEST OF PUBLIC

WORKS DEPT. CEMENT FOREMAN, WITH APPROVAL OF JOHN KEYSOR.

STAKES NOT CHANGED.

19. Leonard



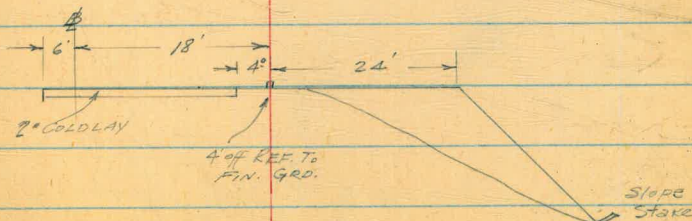
May 17 1951

BEATTY
LEONARD
NELSON

27

SLOPE STAKES SET
GRADE FOR EDGE ROAD
TO RIGHT OF BASE LINE
CHOLLA STORAGE YARD

P BASELINE STA.	7.39	352.52	345.13	FIN GRADE Edge Road			Slope Stakes			GRADE SHLDR SLOPE		
				GRD ROD	ROD	CUT	GRD ROD	ROD	FILL	GRD ROD	ROD	FILL
1+50				347.92	4.60	4.04	C056	348.50	4.0	7.9 (S)	F32/52	
2+00				348.17	4.35	3.25	C110	348.75	3.8	7.1	F33/50	
+50				348.42	4.10	2.94	C111	349.00	3.5	6.6	F31/42	
3+00				348.67	3.85	2.55	C130	349.25	3.3	6.2	F22/44	
+50				348.92	3.60	2.32	C128	349.50	3.0	5.0	F20/30	
4+00				349.17	3.35	2.76	C059	349.75	2.8	6.7	F39/52	
+50				349.42	3.10	2.35	C075	350.00	2.5	8.8	F23/95	
5+00				349.17	3.35	2.34	C101	349.75	2.8	7.9	F51/72	
+50				348.92	3.60	3.67	F007	349.50	3.0	5.5	F25/38	
6+00				348.67	3.85	3.10	C075	349.25	3.3	6.2	F22/44	
+50				348.42	4.10	3.66	C044	349.00	3.5	5.6 (S) 5.4 (E)	F21/33 F19/29	



PROFILE

Access Road to
CHOLLA STORAGE YARD

May 17 1951
Same Party.

28.

IP	2.15	347.28	345.13	
0+00		1.6	345.7	345.8
0-50		4.4	342.9	342.9
-1+00		8.2	339.1	340.1
-1+50		11.0	336.3	337.2
+60		11.5	335.8	
+74		11.3	336.0	
+87		11.6	335.7	
-2+00		13.3	334.0	333.6
+06		13.3	334.0	
+25	E.O.	15.3	332.0	
-2+50	on old E Road from Dump	16.5	330.8	330.8
0+50				
1+00				
1+50	connect to proposed 20' Coldley Road			

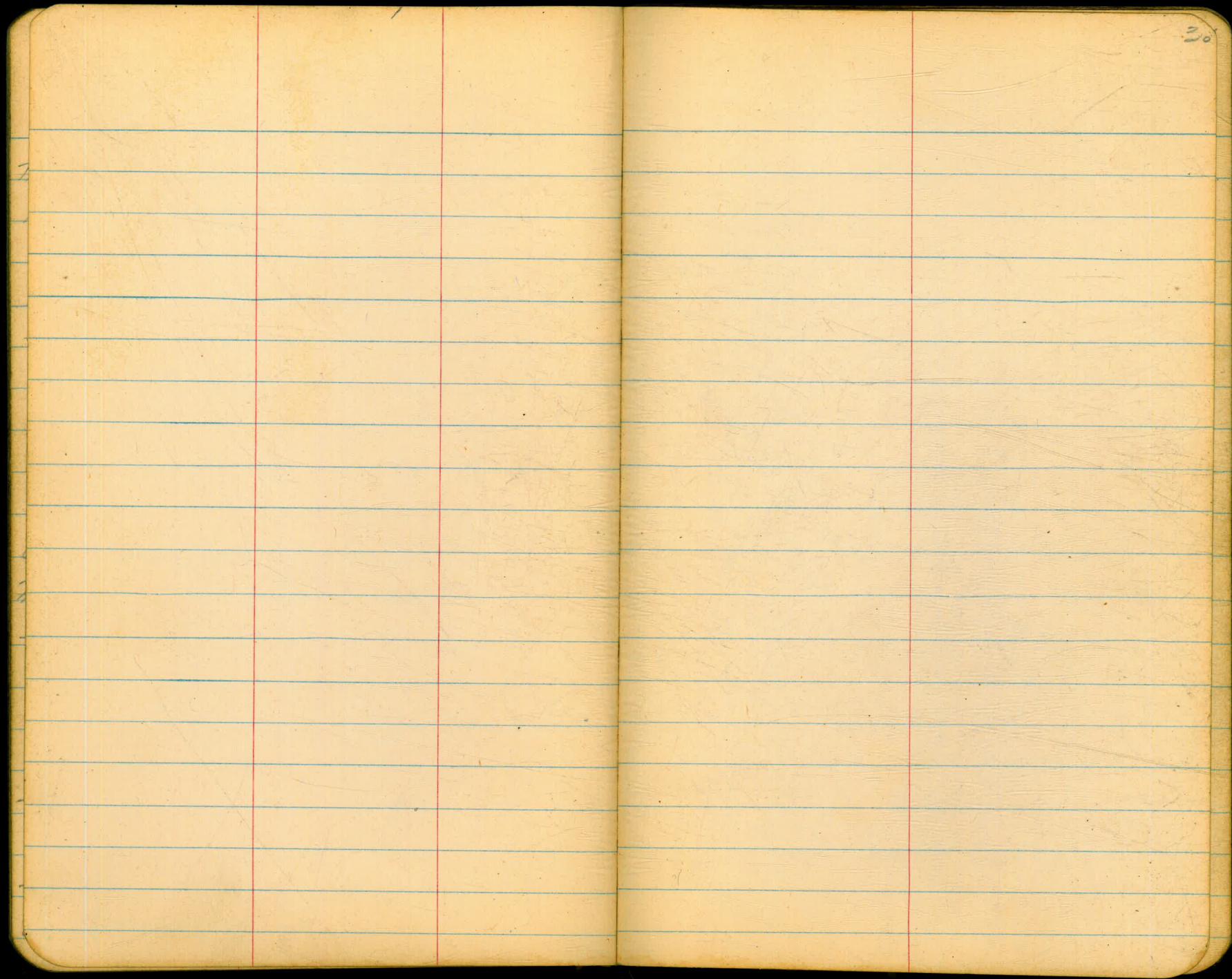
MAY 16 1951
Same Party

29

SLOPE STAKES
FOR Access Road
Cholla Storage Yard

IP	8.12	353.25	345.13	± GRD.	347.7	347.9 RT 54 347.5 LT 58	(C50) 120	0.8 20.0	5.3 20.0	COL 6"	Daylite
1+50					347.5	347.7 RT 56 347.2 LT 60	(C44) 120	1.6 19.0	5.6 16.4	(COL) 24	Daylite
0+50					347.2	347.4 RT 59 347.0 LT 63	(C40) 120	2.3 18.0	6.4 14.8	(F05) 0.8	1/2" i
0+00					345.8	346.0 RT 73 345.6 LT 77	(C15) 120	6.3 13.0	8.7 16.1	(F14) 2"	1/2" i
0-50					342.9	343.1 RT 102 342.7 LT 106	(C13) 120	9.3 12.6	11.6 16.1	(F14) 2"	
IP	1.97	343.58 343.78	341.61 341.81		340.1	340.3 RT 35 339.9 LT 39	(C06) 120	3.3 11.2	5.0 16.3	(F15) 2"	
-1+00					337.2	337.4 RT 6.4 337.0 LT 6.8	(C23) 120	5.5 12.6	7.8 16.1	(F14) 2"	
-2+00					333.6	333.4 LT 10.4	(C29) 120	8.5 13.8			
CK IP			2.10		341.48						= 341.45
CK ID			4.17		339.41						= 339.39

✓ NE Cor Val Cham. 300' wly of Warehouse



LOCATION OF
VALVE CHAMBERS
IDAHO & HOWARD
UNIV. HEIGHTS RES.

BM	6.20	379.21 ✓	373.01
NE Cor Val Chamber #1	3.52		375.89
SE " " " "	3.44		374.77
SW " " " "	3.23		375.98
NW " " " "	3.18		376.03
NE Cor Val Chamber #2	2.78		376.43
SE " " " "	2.83		376.38
SW " " " "	2.79		376.42
NW " " " "	2.76		376.45

Top of PR VAL 10.03 369.18

Top of Bowl of PR V 11.78 367.43

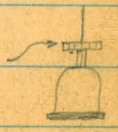
Top of 36" TEE 12.66 366.55

Top of Gear Wheel 30" Val 4.60 374.61

Top 30" pipe east of 30" Val 8.87 370.34

Top 30" pipe into RES. 8.92 370.29

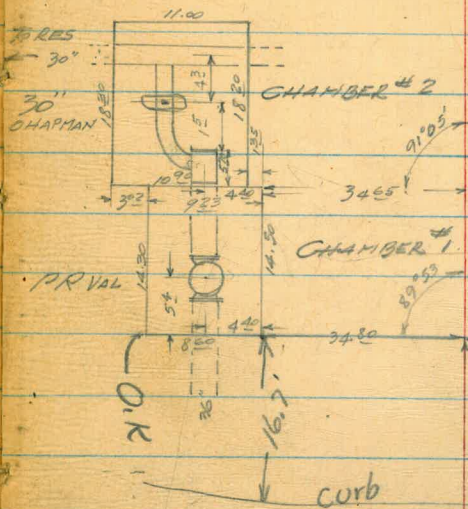
CK BM 6.20 373.01



Mar. 16 1952

31

RD SE Cor Idaho & Howard



IDAHO

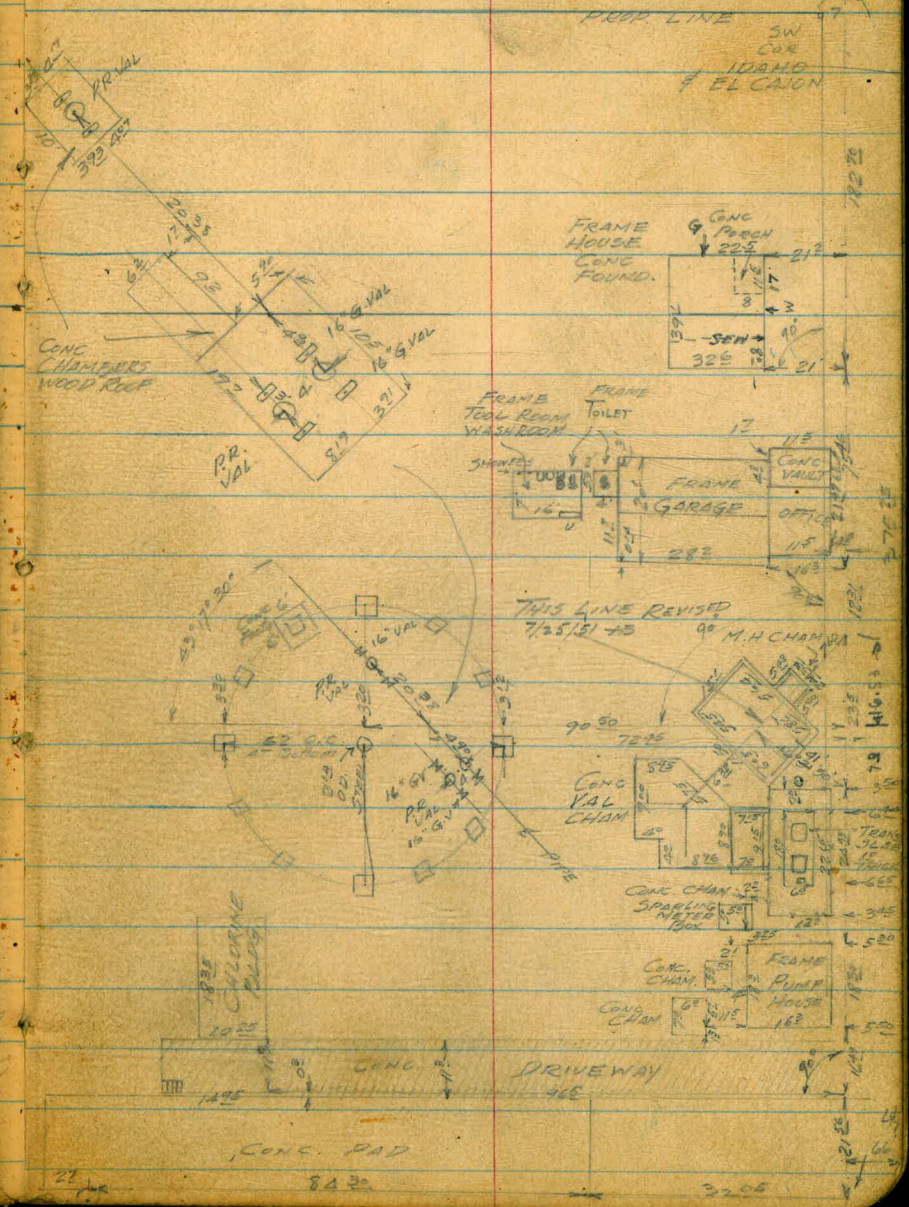
ST.

HOWARD ST.



MISC. DETAILS
 UNIVERSITY HEIGHTS
 RESERVOIR - TANK - FILTERS

May 22 1951
 BETTY
 LEONARD



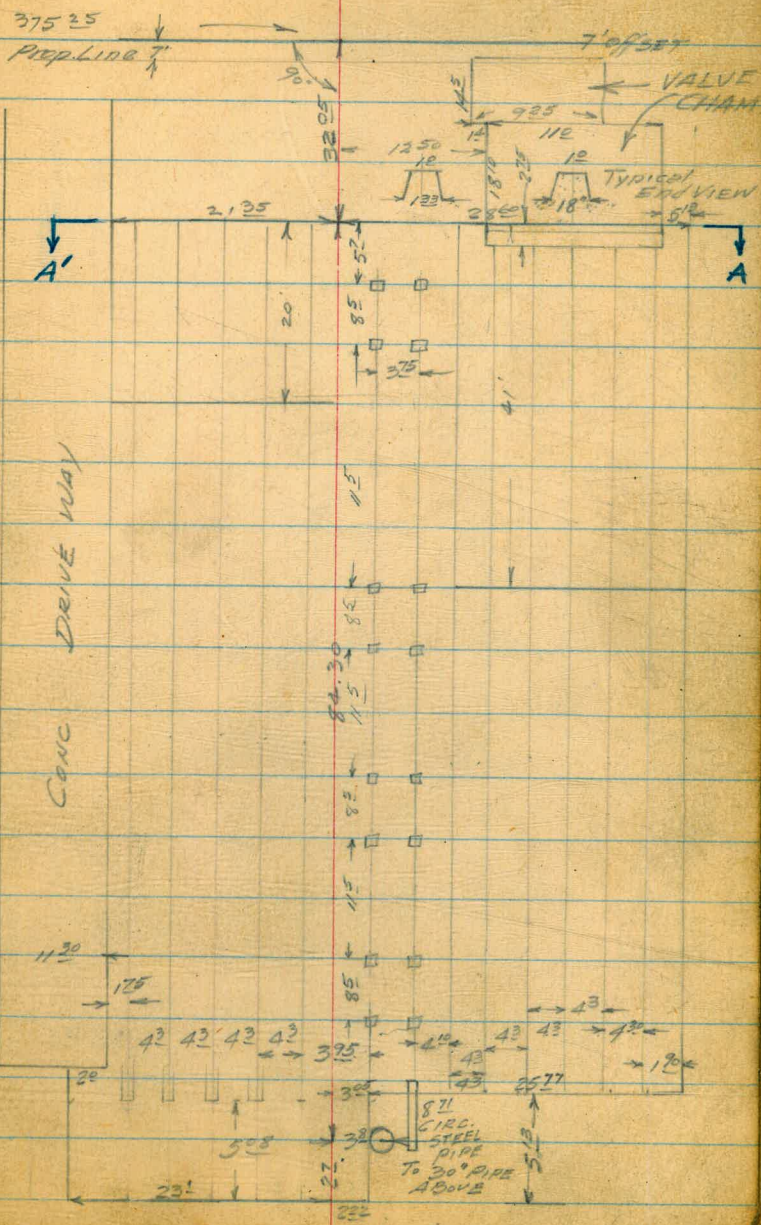
27.50
 27.23
 27.00
 26.80
 26.60
 26.40
 26.20
 26.00
 25.80
 25.60
 25.40
 25.20
 25.00
 24.80
 24.60
 24.40
 24.20
 24.00
 23.80
 23.60
 23.40
 23.20
 23.00
 22.80
 22.60
 22.40
 22.20
 22.00
 21.80
 21.60
 21.40
 21.20
 21.00
 20.80
 20.60
 20.40
 20.20
 20.00
 19.80
 19.60
 19.40
 19.20
 19.00
 18.80
 18.60
 18.40
 18.20
 18.00
 17.80
 17.60
 17.40
 17.20
 17.00
 16.80
 16.60
 16.40
 16.20
 16.00
 15.80
 15.60
 15.40
 15.20
 15.00
 14.80
 14.60
 14.40
 14.20
 14.00
 13.80
 13.60
 13.40
 13.20
 13.00
 12.80
 12.60
 12.40
 12.20
 12.00
 11.80
 11.60
 11.40
 11.20
 11.00
 10.80
 10.60
 10.40
 10.20
 10.00
 9.80
 9.60
 9.40
 9.20
 9.00
 8.80
 8.60
 8.40
 8.20
 8.00
 7.80
 7.60
 7.40
 7.20
 7.00
 6.80
 6.60
 6.40
 6.20
 6.00
 5.80
 5.60
 5.40
 5.20
 5.00
 4.80
 4.60
 4.40
 4.20
 4.00
 3.80
 3.60
 3.40
 3.20
 3.00
 2.80
 2.60
 2.40
 2.20
 2.00
 1.80
 1.60
 1.40
 1.20
 1.00
 0.80
 0.60
 0.40
 0.20
 0.00

84 30
 32.05

UNIVERSITY HEIGHTS RES.
 CONCRETE PAD
 SILLS & PIERS
 UNDER EASTERLY
 8 FILTER TANKS

May 24, 1951

22



84.30
 27
 87.0
 5
 81.9

170
 490

360

22219
 FIVE 15' DIA

62711
 478 4004
 3-50 DIA

8 2 1/2
 CIRC.
 STEEL
 PIPE
 TO 20" PIPE
 ABOVE

TIES TO UNIVERSITY
HEIGHTS RESERVOIR
(EXISTING)

MAY 31, 1951

36

E. L. CALON BLVD

7' OFFSET LINE
(PP. 18)

7' OFF
L&T

NW
COR
E.L.
CALON
BLVD

425.23
387.17
(PP. 18)

ST

104.40

425.4

THIS PT.
#5 PP. 18.

THIS PT.
#4 PP. 18.

158.50
PP. 18

7' OFF
L&T

66'

SW
COR
HOWARD
ST

36.00

37.61

7.98

POINT MEAS.
TO

RES

UNIV. HEIGHTS
RESERVOIR

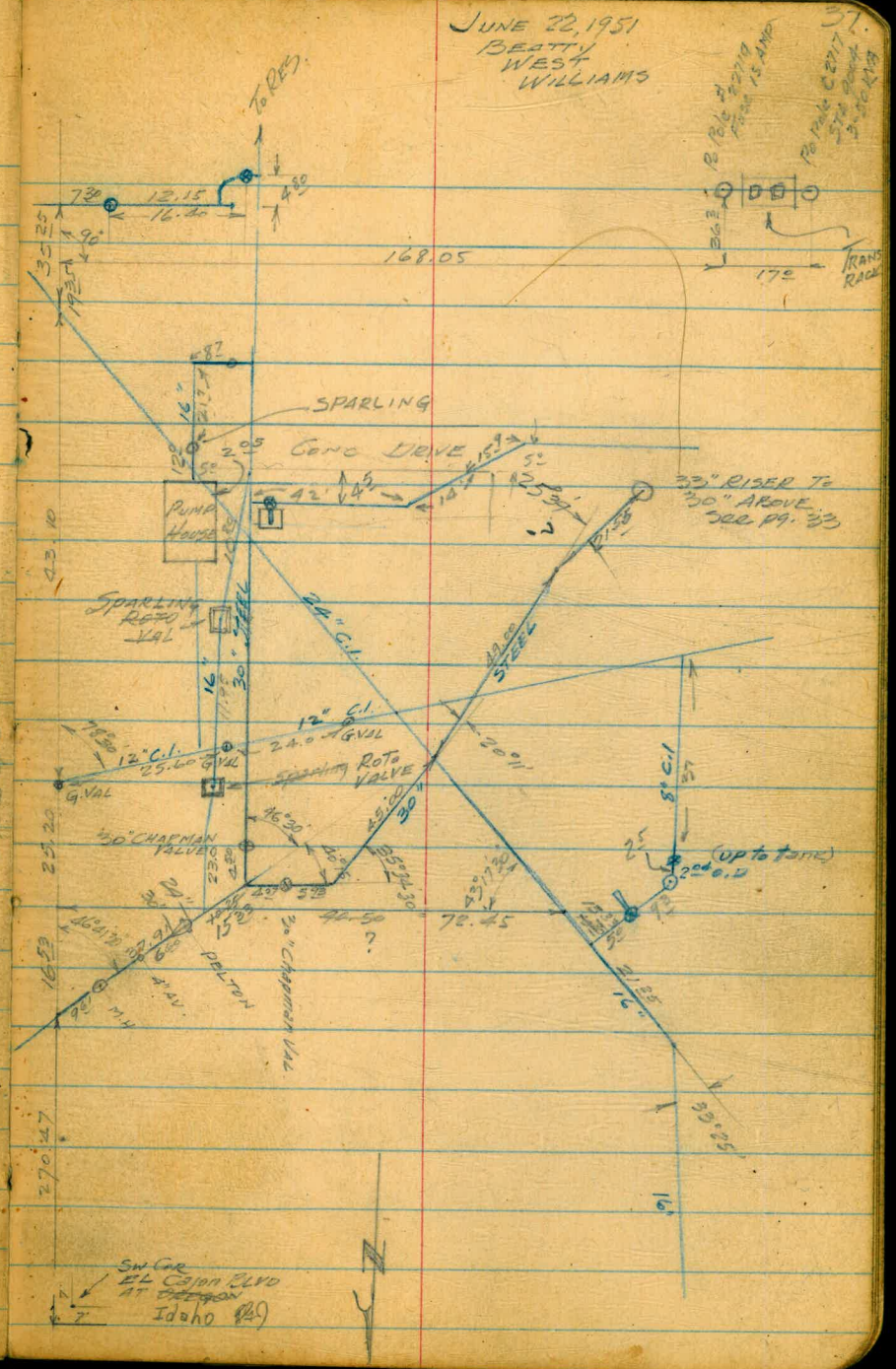
7.55

PIPING AT
UNIVERSITY HEIGHTS
RESERVOIR

(SEE ALSO PAGE 32)

Elevs 54. w. 8'

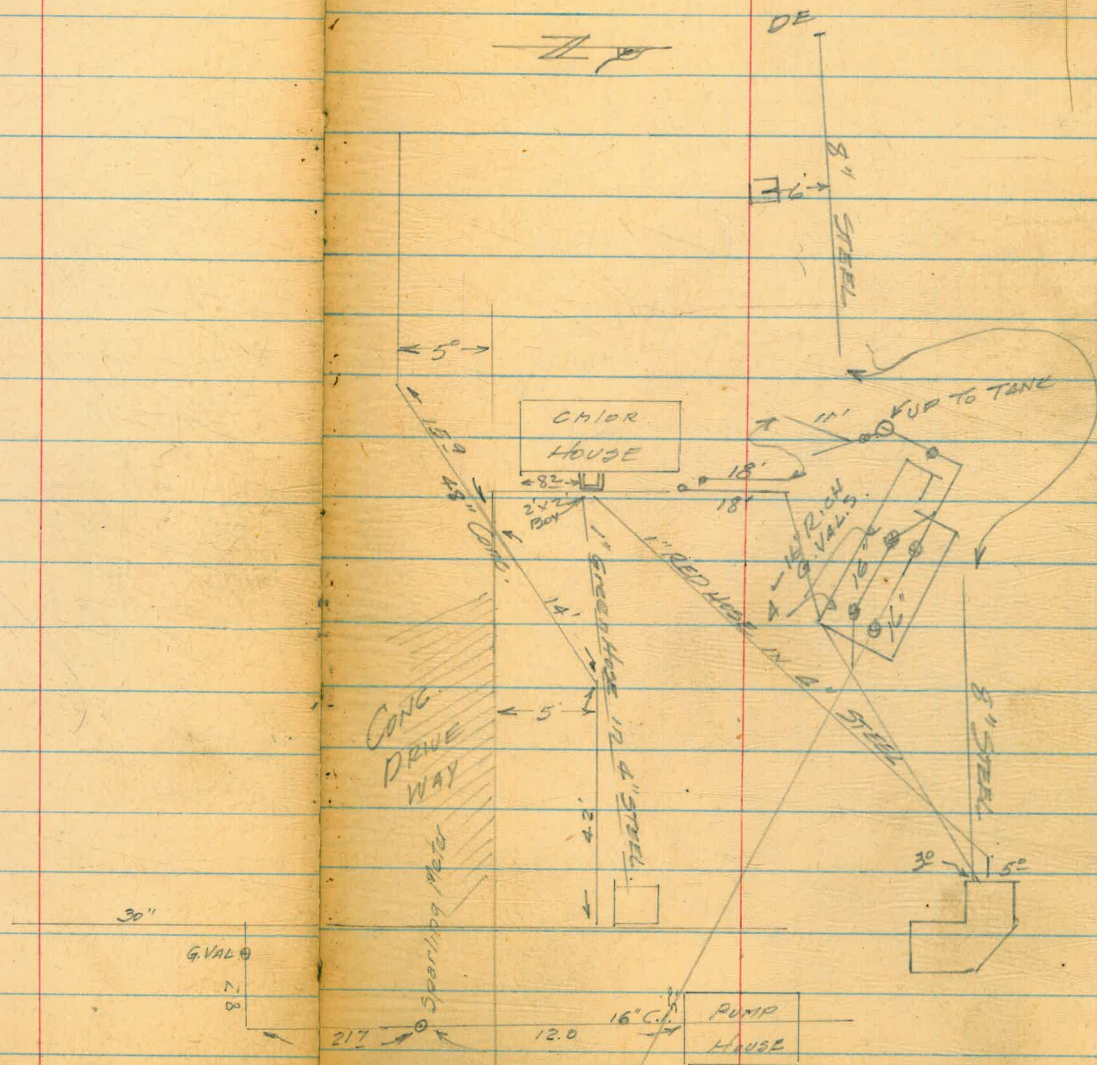
ORIGEN ?



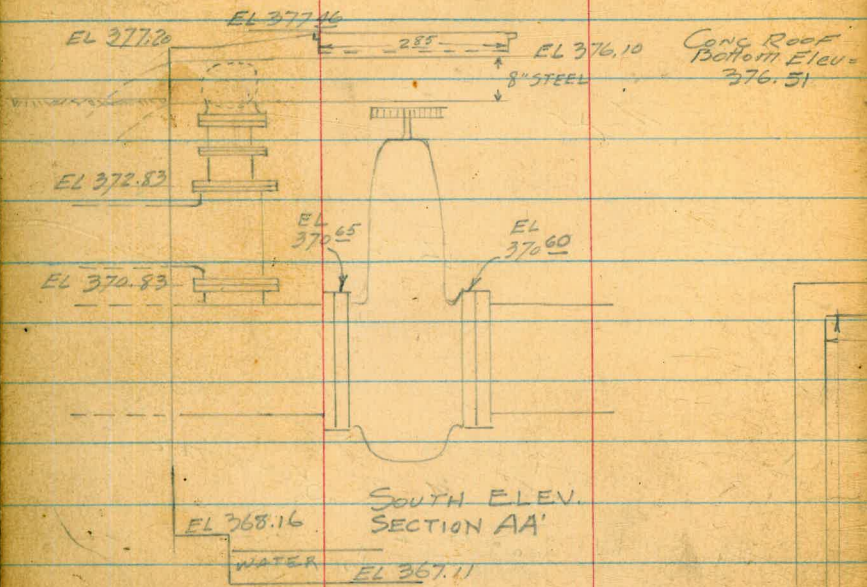
ADDITIONAL PIPING
AT
UNIVERSITY HEIGHTS
RESERVOIR

JUNE 26, 1951

39



DETAIL OF VALVE
UNIVERSITY HEIGHTS RES.



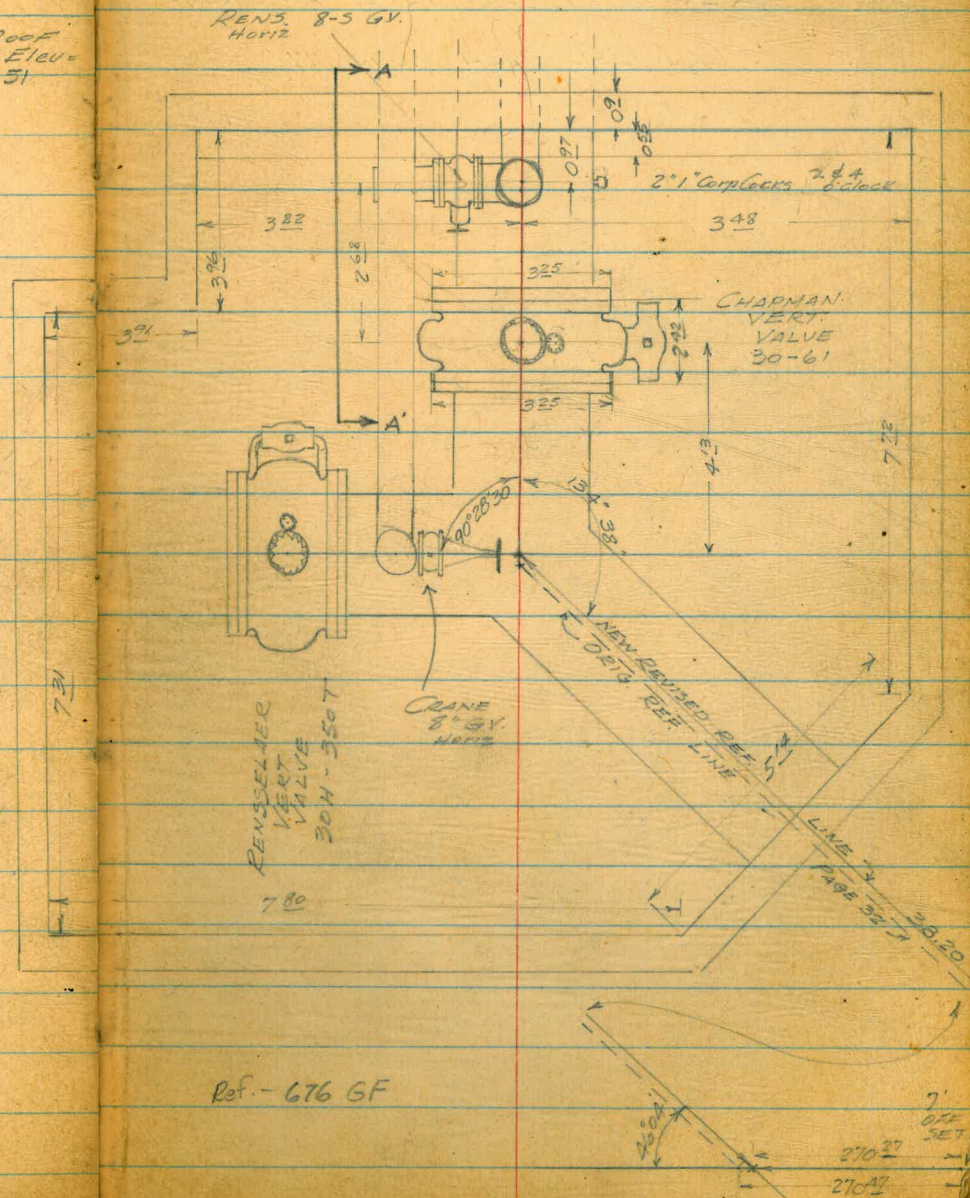
BM.	706	380.07	1915	373.01
Top Conc Val Chamber	2.87	377.20		
Top Rim 4' x 28 1/2" opening	2.61	377.46		
Top Flange W	9.42	370.65		
Top Flange E	9.47	370.60		
Flange 12" TEE	9.24	370.83		
Flange 12" TEE	7.24	372.83		
Top 8" STEEL	3.97	376.10		
Bottom of Floor	12.96	367.11		
Top of CURB	11.91	368.16		
CK BM	706	373.01		

July 25, 1951

DEATY
LEONARD
SPAVELLO.

134-38
25-22

39.



Ref. - 676 GF

270 27
270 27

UNIVERSITY HEIGHTS RES

7/28/51

REVISION PROPOSED
RELAYING 36" PIPE ON OREGON ST

(REVISED FROM PAGE 17)

Ramp Cor
SW Cor
El CAJON
OREGON

0+000

0+698

1650

0+998 24"

44'52"

TRAFFIC LIGHT 1+62 E
ACTIVATED

1612

3+00

3+64' 48"

SEE ALSO
PAGE 31

See page 35
for corrected 36"
Pipe location
2/11/53

1+432

1+442 F.H.

1+575 36"

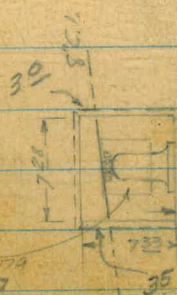
RCP
36"

158

10+51

G Manhole Access

G VAL 10+753
RENSSELAER VAL
(UNDER WATER)
(SIZE ?)



6'0
1'0

UNIV. Heights RES
 E PROFILE OF
 PROPOSED RELAYING
 36" C.I. ON OREGON ST

7/25/51
 Beatty
 LEONARD
 Seavello

41

TP	422	378.98	374.76
0+06		4.20	74.78
0+126		4.23	74.75
0+195		4.57	74.41
0+175		5.05	73.93
0+542		4.78	74.20
0+698		3.95	375.02 ⁰³
1+00		4.02	74.96
+50		4.15	74.83
2+00		4.30	74.68
+50		4.46	74.52
3+00		4.56	74.42
+50		4.55	74.43
4+00		5.09	73.89
+50		6.01	72.97
5+00		6.35	72.63
+50		6.86	72.12
6+00		7.41	71.57
+50		8.05	70.93

(0+00)

E ST

379.02
 3.0
 375.0

UNIV. HEIGHTS RES

7/25/50

42

(Cont'd) E PROFILE
PROPOSED RELAYING 36" C.I.
ON OREGON ST

378.98

7+00		8.66	70.32
+50		8.28	70.70
8+00		9.80	369.18
+50		10.45	68.53
9+00		10.92	68.06
+50		11.56	67.42
10+00		12.10	66.88
+49.8		12.88	66.10
+51.2	C of MANHOLE		
+52	Approx Top of pipe	15.3	63.7
10+73.35		13.20	65.78
		13.13	
	C of VALVE	17.13	61.85
		13.13	
	Bottom of Floor	26.11	58.87
		13.13	
	Rim of Access Hole		65.85
D	6.49	379.24	6.23
			372.75
CK BM		6.23	373.01

DP SE Cor Howard & IDAHO

UNIVERSITY HEIGHTS RES
SECTION TAKEN A-A'
(SEE Pg. 33 THIS BOOK)

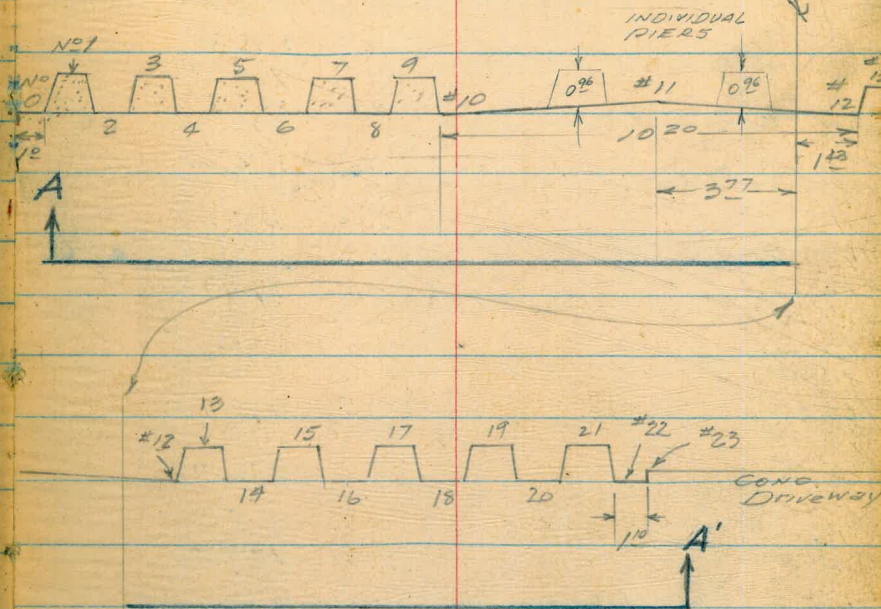
BM	5.18	378.19	373.01
N ^o 23		2.79	375.40
N ^o 1		1.76	376.23
N ^o 0		5.28	372.91
2		3.05	375.14
3		1.67	376.5V
4		2.95	375.24
5		1.65	376.54
6		2.84	375.35
7		1.52	376.67
8		2.69	375.50
9		1.40	376.79
10		2.62	375.57
11		2.50	375.65
12		2.63	375.56
13		1.46	376.73
14		2.68	375.51
15		1.47	376.7V
16		2.79	375.40
17		1.45	376.74
18		2.89	375.30
19		1.61	376.58
20		2.97	375.42
21		1.61	376.58
22		3.03	375.16

July 30 1951
Beatty
Leonard
Seavello

43

BR SE Cor Idaho & Howard

Top Pier



UNIVERSITY HEIGHTS RES.

7/30/51

44

SECTION 20' WEST OF A-A'
(Similar Order as A-A')

378.19

#	3.81	380.24	176	376.43
#1			3.88	376.36
#2			4.92	375.37
#3			3.80	376.44
#4			4.85	375.39
#5			3.76	376.48
#6			4.75	375.49
#7			3.65	376.59
#8			4.60	375.64
#9			3.49	376.75
#10			4.49	375.75
#11			4.38	375.86
#12-W			4.25	375.99
#12-E			4.48	375.76
#13-W			3.02	377.47
#13-E			3.49	376.75
#14-W			4.25	375.99
#14-E			4.51	375.73
#15-W			3.01	377.43
#15-E			3.47	376.77
#16- #16-	} Covered 3' high with dirt.			
#17-W			2.91	377.33
#17-E			3.49	376.75
#18-W			2.87	377.37
#18-E			3.61	376.63
#19-W			4.64	375.60
#19-E			4.76	375.48
#20-W			2.80	377.44
#20-E			3.64	376.60
#21-W			4.33	375.91
#22-E			4.82	375.47
#23			4.18	376.06

7/30/51

UNIV. HEIGHTS RES

SECTION 40TH WEST OF A-A'

380.24

#1-E		3.94	376.30
#1-W		3.43	376.81
TD	3.91	380.34	3.81 376.43
#2			
#3-W		3.45	376.89
#3-E		3.94	376.40
#4		4.75	375.59
#5-W		3.45	376.89
#5-E		3.88	376.46
#6		4.64	375.70
#7-W		3.33	377.01
#7-E		3.76	376.58
#8		4.52	375.87
#9		3.20	377.14
#9		3.62	376.77
#10		4.32	376.07
#11		4.32	376.07
#12		4.25	376.09
#13		3.14	377.20
#14		4.20	376.14
#15		3.08	377.26
#16		4.14	376.20
#17		3.06	377.28
#18		4.10	376.24
#19		2.96	377.38
#20		4.10	376.24
#21		2.95	377.39
#22		4.09	376.25
#23		4.04	376.30

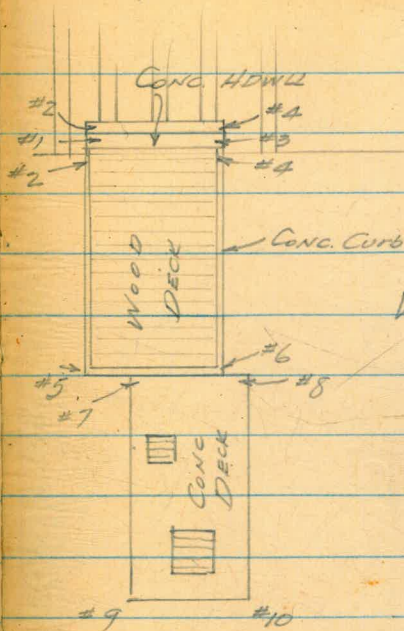
7/30/50

46

SECTION 812 WEST A-A'

N ^o 0	380.34	4.29	376.05
N ^o 1		3.45	376.89
P	4.32 380.75	3.91	376.43
#2		4.67	376.08
#3		3.81	376.94
#4		4.61	376.14
#5		3.76	376.99
#6		4.58	376.17
#7		3.74	377.01
#8		4.50	376.75
#9		3.68	377.07
#10		4.46	376.78
#10A E } 8' x 1' PIER		3.67	377.08
#10A W }		3.66	377.09
#11		4.39	376.36
#12		4.45	376.30
#13		3.63	377.17
#14		4.45	376.30
#15		3.55	377.20
#16		4.46	376.29
#17		3.55	377.20
#18		4.40	376.35
#19		3.47	377.28
#20		4.40	376.35
#21		3.46	376.39 377.29
#22		4.38	376.37
P	3.81 381.10	3.46	377.29

		381.06		
PK	2.37	378.29	5.14	375.92
CK P.M.	5.14		5.27	373.02
#1		0.43		377.86
#2		1.72		376.57
#3		0.45		377.84
#4		1.68		376.61
#5		1.72		376.55
#6		1.69		376.60
#7		2.14		376.15
#8		2.09		376.20
#9		2.36		375.93
#10		2.43		375.86



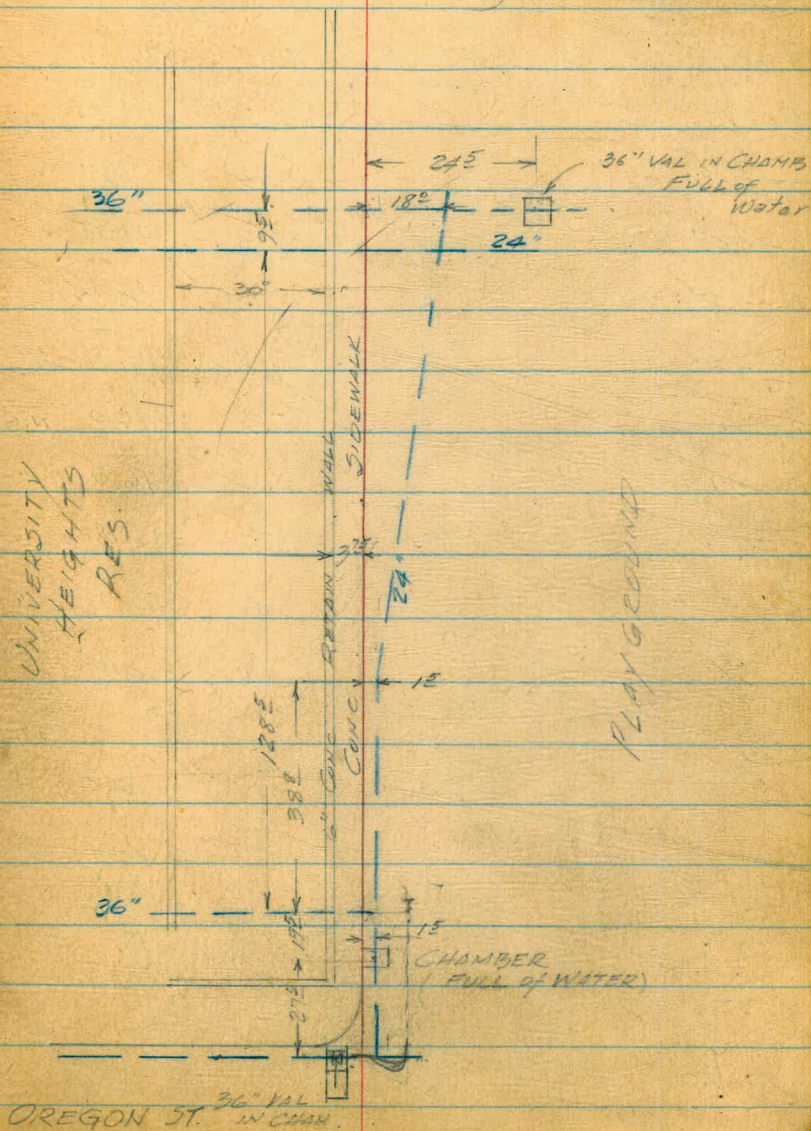
VALVE CHAMBERS
EAST OF THE
SE COR OF
FILTER BASIN AREA

PIPE LOCATED WITH PIPE-FINDER
SOUTH SIDE OF
UNIVERSITY HEIGHTS RESERVOIR

SEPT 6 1951
BEATTY
LEONARD
SEAVELLO

49.

N ↑



UNIVERSITY HEIGHTS RES.
 E Profile Proposed 24"
 TANK CONNECTION PIPE

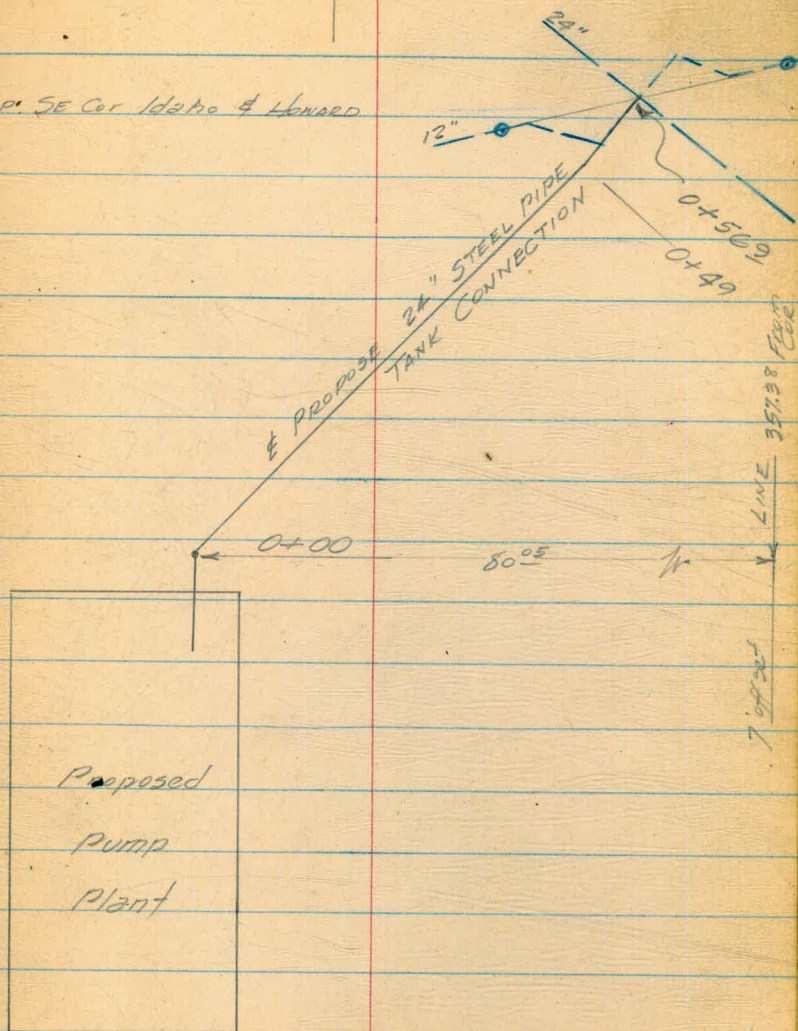
SEPT. 6, 1951

BEATTY
 LEONARD
 SEAVELLO

50

BM	8.29	381.30	373.01	
0+00	P.I. Proposed 24"	4.95	376.35	on Cor
	TANK CONN.			
0+01 ²		4.95	376.35	" "
0+01 ⁶		3.93	377.37	" "
0+02 ⁹		3.93	377.37	" "
0+03 ⁴		4.98	376.35	" "
0+22 ³		5.12	376.18	" "
0+26		5.3	376.0	N.G.
0+39		5.3	376.0	"
0+49		5.5	375.8	"
0+56 ²		5.6	375.7	"
CK BM	8.29	373.01		

Prop. SE Cor Idaho & Howard



Void 9.2.5.
 9/17/51

UNIV HEIGHTS RES
 ELEV. S Top of 24" C.I.
 PIPE

IP	5.00	380.03	375.03
	8.73		371.30
CP	5.28	374.75	374.76

Sept 28 1951.

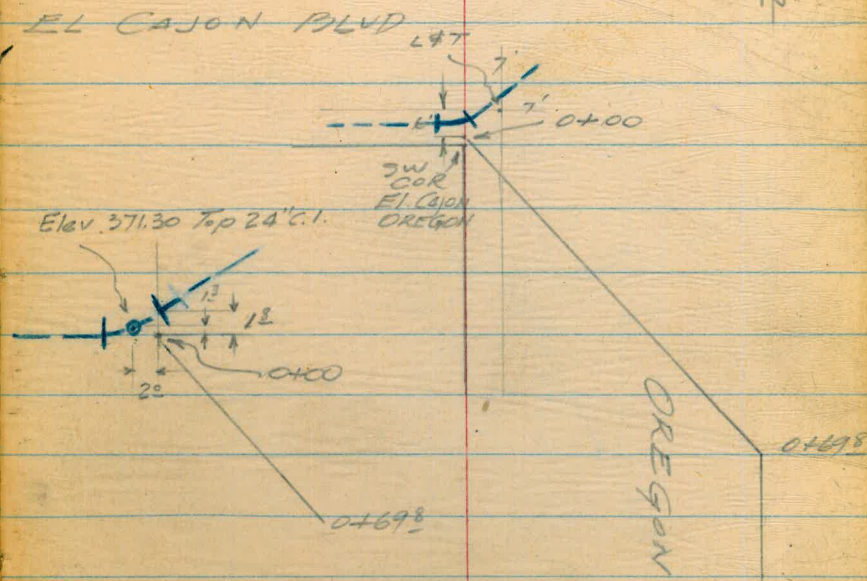
51

0+698 pg. 41

Top. 24" C.I. PIPE approx C of 22 1/2' BEND

0+00 pg. 41

SEE pg. 17, 40, 73



UNIV. HEIGHTS RES
 Elev. Top 24" C.I. PIPE

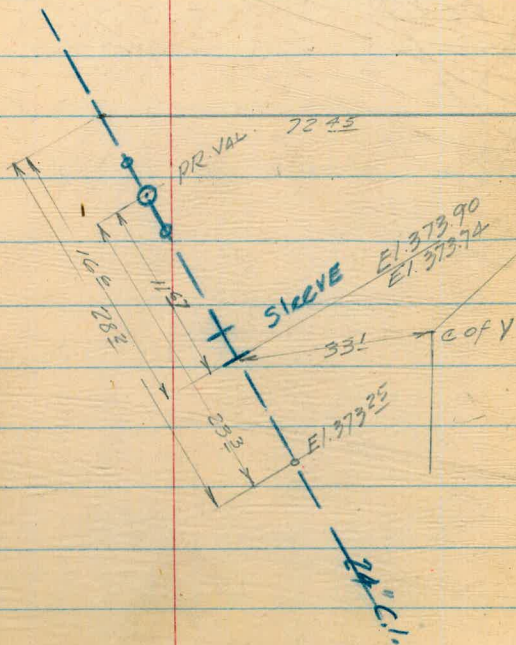
9/28/51

52

B.M.	7.70	380.71	373.01
	7.46		373.25
	6.97		373.74
	6.81		373.90
	5.84		374.87

Top 24" PIPE 11' SE ly from Sleeve
 Top 24" PIPE at SE ly end of Sleeve
 Top Sleeve
 Top 8" Steel

7' off Base line



UNIV. HEIGHTS RES
 ELEV. Top of 36" C.I. PIPE
 SOUTH of RES.

DM	2.20	375.21	373.01
		9.08	366.13
		12.11	363.10
SET T&M		10.88	364.33

9-28-51

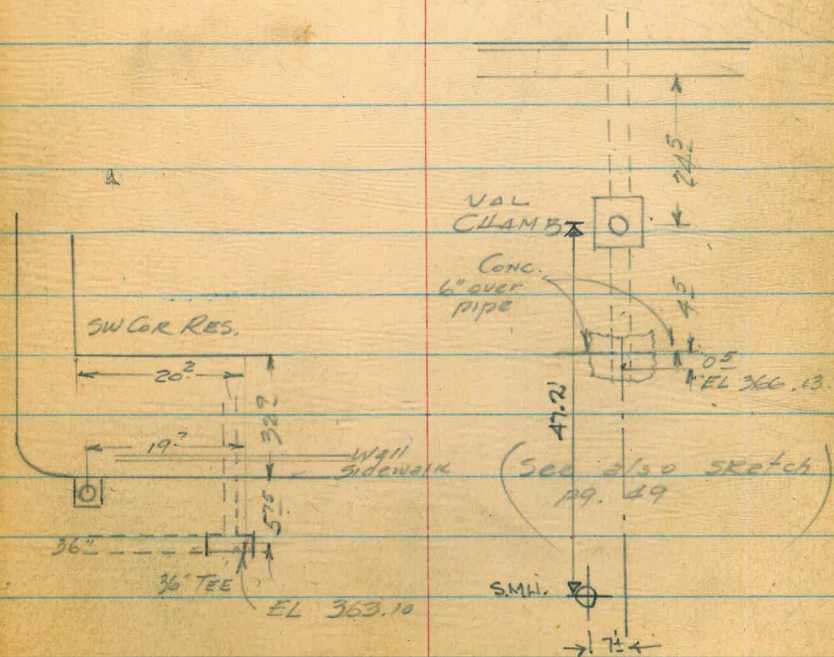
53

BP SE Cor. Idaho & Howard

Top 36" C.I. Pipe

Top 36" C.I. PIPE EAST END OF TEE

on 7' off Tag SW Cor. Oregon & Howard ^{Point}



UNIV. HEIGHTS RESERVOIR
 CROSS-SECTIONS OF AREA
 North of MAIN RESERVOIR

OCT. 8, 1957
 BEATTY
 LEONARD
 SEAVELLO

54



OREGON ST

200'

GRID

FOR

CROSS-SECTIONS

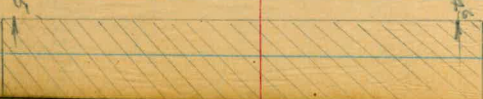
200'

IDAHO ST

66
 335
 401
 44.82
 445.82

N 1000
 E 1000

25'



PALE BEACHES

N 1000
 E 1335

UNIV. HEIGHTS RES.
 CROSS-SECTIONS OF AREA
 North of MAIN RES.

OCT. 8 1951
 " 9 "

53

BM. 11.43 384.44 373.01

9+79 { N 1000
 E 977 (Line of curb to S.)

NORTH - LEFT NORTH - RIGHT - SOUTH
 374.14 374.0 373.9 372.9 373.5
 10.3 10.4 11.0 11.5 10.9
 50 36 AC. Pav Gutter Top Curb

9+82.5 (Face Curb)

373.1 373.0 373.5 375.0
 11.3 10.6 10.9 9.4
 Gutter Top Curb 25 25
 2.5 Walk Top Ret Wall

9+87.2 (Edge Sidewalk)

373.6 373.4 374.0 373.8 375.7 376.7
 10.8 11.0 10.4 10.6 8.7 7.9
 50 33 33 11 25
 AC. Gutter Top Curb

10+00 { N 1000
 E 1000

374.2 374.2 373.3 374.1 374.5 379.3 380.4
 10.2 10.2 10.1 10.3 9.9 5.1 4.0
 50 43 25 5 14 25
 W. SW Edge SW

10+19 W. Edge Conc Val Chamb (41-48° LT.)

373.1 376.2 375.1 375.9 375.8 375.9 374.6 374.6 380.5 380.7
 5.3 7.5 8.7 7.0 8.0 8.6 8.5 9.6 9.8 9.8 3.9 3.7
 68 62 56 50 48 48 41 41 2 17 25
 TOP Conc Chamb

10+28.3 Edge Conc Dr. Ditch

374.1 374.1 374.7
 10.0 13.0 9.7
 38 25 2

10+29.5 Inv. Conc Dr. Ditch

374.1 374.2 373.3
 10.3 10.2 10.1
 38 25 2

10+30.2 W. Edge Orig Filter Conc Pav

381.1 380.2 375.9 375.8 375.8 375.8 374.8 374.8 375.0 375.0
 33 42 8.5 8.6 8.6 8.6 9.6 9.6 9.4 9.4
 67 64 54 50 48 41 41 38 25 2
 TOP Conc Chamb

10+50 { N 1000
 E 1050 " "

381.3 380.7 374.8 374.4 374.3 374.4 374.7 374.9 374.9 374.8 374.6 374.3 374.5 376.1 375.9 380.6 380.8
 31 27 9.6 10.0 10.1 10.0 9.7 9.5 9.5 9.6 9.8 10.1 9.9 8.3 6.0 3.8 3.5
 67 68 48 48 47 46 26 25 2 35 35 45 55 7 95 175 245
 Edge Conc Ditch

UNIV. HEIGHTS RES

X-SECTS CONT'D.

10-9-51

56

11400

381.1 380.8 378.6 376.4 374.8 374.7 374.4
 Lt. No. 374.8 374.8 375.0 374.8 374.8 374.5 374.7 374.1 380.1 380.9
 3.3 3.6 5.8 8.0 9.6 9.7 10.0 9.6 9.4 9.6 9.6 9.9 9.7 6.3 4.3 3.5
 67.5 64.6 60 52 49 4.8 46.8 46 22 0 3.8 4.8 5.8 10 15 24.1

+09

374.8 374.9 374.4 374.7 380.8 380.9 380.8
 9.6 9.5 10.0 9.7 3.6 3.5 3.6
 3.8 4.8 5.7 12.7 20.7 24.8

WEST EDGE CONC PLATFORM

+19

374.8 374.9 374.5 374.7 380.8 380.8 380.8
 9.6 9.5 9.9 9.7 3.6 3.6 3.6
 3.8 4.8 5.7 12.7 20.7 24.8

EAST EDGE CONC PLATFORM

CK BM #1

11.13 384.14 11.43 373.01

380.7 380.2 374.7 374.5 374.8 375.0 374.9 374.8 374.6 374.8 379.6 380.7 380.6
 3.4 3.9 9.1 9.6 9.3 9.1 9.3 9.3 9.5 9.3 4.5 3.4 3.5
 6.8 6.3 4.8 4.7 4.6 2.2 0 3.7 4.8 5.8 14 18 24.6

11450

378.7 378.6 375.0 374.8 374.6 374.8 375.0 374.9
 5.4 5.5 9.1 9.3 9.5 9.3 9.1 9.2
 6.8 6.5 5.0 4.8 4.4 4.6 2.2 0

11+63

376.3 376.2 375.7 375.1 374.9 374.6 374.8 375.0 374.8 374.8 374.6 374.8 380.4 380.1
 7.8 7.9 8.4 9.0 9.2 9.5 9.3 9.1 9.3 9.3 9.5 9.3 3.7 3.7
 6.8 5.9 5.7 4.8 4.8 4.7 4.6 2.4 0 4.0 5.0 6.0 16. 24.5

11+84

376.1 376.2 375.8 375.4 374.9 374.7 374.9 375.1 374.8 374.8 374.8 375.5 380.3 380.4
 8.0 7.9 8.5 8.7 9.2 9.4 9.2 9.0 9.3 9.3 9.3 8.6 3.8 3.7
 6.8 5.8 5.6 4.8 4.8 4.7 4.6 2.6 0 4 6 8 16 24.5

EDGE CONC DITCH

11+94

F Edge Orig Filter Pad

376.4 376.3 375.6 375.5 375.5 380.3 380.4
 7.7 7.8 8.5 8.6 8.6 3.8 3.7
 4.8 2.6 0 6 8 16 24.5

11+94

375.6 376.0 380.2 380.4
 8.5 8.1 3.9 3.5
 0 9 16 24.6

12400

UNIV. HEIGHTS RES.
X-SECTS Cont'd.

10-10-51

57

12+50 384.14

13+00

13+14

13+23° Edge Sidwalk

13+30^E Face Curb

13+35 { N1000
E1335

SET II

II

0.79 383.25
9.95 374.19

LT North

375.4

375.3

375.3

380.1

380.3

RT SOUTH

8.7 8.8 8.8 4.0 3.8
C 3.7 9 17 24.6

374.7

374.6

374.7

374.5

374.5

374.6

374.5

376.3

377.1

377.5

380.6

380.5

9.4 9.5 9.4 9.6 9.6 9.5 9.6 7.8 7.0 6.6 3.5 3.6
C 5.7 4.5 28 13 C 6. 6.5 8 10 17 24.6
Edge Pump house Edge Conc Driveway

373.4

373.2

373.7

373.5

374.0

374.2

380.1

380.1

10.7 10.9 10.2 10.6 10.1 9.9 4.0 4.0
So 4.0 3.5 14 C 3 21 22.6
SW Edge SW

372.0

376.1

377.0

377.0

372.9

373.0

374.6

374.9

375.3

11.2 7.4 7.1 7.1 11.2 11.1 9.5 9.2 8.8
50 27 27 17 C 4.6 4.6 19 24.6
A.C. Gutter Top Edge
Curb SW Top Ret Wall

372.8

372.5

373.0

374.4

11.2 11.6 11.1 9.7
C 24.3 24.2
Top Curb Gutter SW Top Ret Wall

373.1

372.7

372.4

373.0

11.0 11.4 11.7 11.1
So C 24 24
Gutter Top Curb

SE Cor RES Wall

Car Conc Block in res.

UNIV. HEIGHTS RES.
X-SECTS CONT'D.

10-0-51

58

N 10695 4.74 378.93 374.19
E 10364

N 10705
E 10364

N 10835
E 10204

N 1100
E 10194

N 1120
E 10194

N 1140
E 10194
1245
11039
End of slope

N 1142
E 10194

N 1160
E 10194

N 1180
E 10194

375.5 375.7 375.8 375.4 375.7
RT - E 1037
34 32 31 35 32 31
25 50 75 100 115

374.1 373.8 373.8 373.7 373.8 373.6
49 51 51 52 51 53
25 50 75 100 115

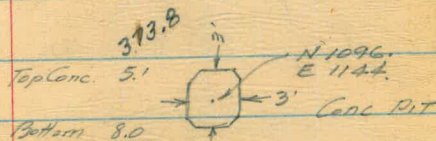
374.6 373.6 373.9 374.1 373.9 374.1 373.8
43 33 50 48 50 48 51 49 51 49
15 25 36 50 67 85 93 100 110
373.0
5.3
126.7

375.7 373.7 373.9 373.8 373.8 373.8 373.8
32 32 50 51 51 50 51 51
22 25 56 70 86 100 135.5

375.7 373.7 373.8 374.0 374.2 373.9 373.9 373.7 374.0 373.8
32 32 51 49 47 50 50 52 49 51
22 20 26 40 50 75 100 114 135.5

375.8 373.8 374.0 374.0 373.8 373.7 374.1 373.7 373.5 373.8
31 51 49 49 51 52 48 52 5.4 5.1
2.5 32 44 50 62 75 100 110 118 135.3

373.8
5.1
C



373.9 374.2 373.7 373.7 374.0 373.7 373.7 373.7 373.8
50 47 52 52 49 52 52 51 51 373.8
28 50 65 70 82 100 135.1

373.8 374.0 374.1 373.9 373.7 373.9 373.7 373.9 373.6
51 49 48 50 52 50 42 50 53
3 10 35 50 65 75 100 135

UNIV. HEIGHTS RES.

X-SECT'S CONT'D.

N 1200 ✓
E 10194 378.93

N 1220 ✓
E 10194

N 1240 ✓
E 10194

N 1260 ✓
E 10192

N 1280 ✓
E 10195

N 1300 ✓
E 10195

N 1320 ✓
E 10195

N 1340 ✓
E 10196

N 13443 ✓
E 10196 So Edge Sump

N 13482 ✓
E 10196 No. Edge Sump

10-10-51

59

373.7 373.8 374.1 373.8 374.2 374.0
RT - EAST
5.2 5.1 4.9 5.1 4.7 4.9 5.2 4.9 5.4 5.1 5.3
C 1 18 33 41 50 60 67 87 98 135

373.7 373.9 373.8 373.7 373.7 373.6
5.2 5.0 5.1 5.2 5.2 5.3
C 25 50 75 100 134.9

373.6 373.7 373.8 373.7 373.7 373.7
5.3 5.2 5.1 5.3 5.2 5.2
C 25 50 80 100 134.8

373.7 373.8 373.8 373.8 373.6 373.4
5.2 5.1 5.1 5.1 5.3 5.5
C 25 50 75 100 134.6

373.8 373.9 374.0 373.7 373.7 373.5 373.7 373.4
5.1 5.0 4.9 5.2 5.2 5.4 5.2 5.5
C 25 35 50 75 100 134 134.5

373.8 374.0 373.9 373.8 373.9 373.8 373.7 373.3 373.5
5.1 4.9 5.0 5.1 5.0 5.1 5.2 5.1 5.4
C 3 25 50 75 100 131 133 134.4

373.8 373.8 374.0 373.7 373.6 373.5 373.8 373.6 373.2
5.1 5.3 4.9 5.2 5.3 5.4 5.1 5.3 5.2 5.7
C 9 30 50 64 82 89 100 128 133

373.8 374.0 373.9 374.1 373.7 373.9 373.5 373.9 373.6 373.3 373.3 373.9 373.9 373.0 373.9
5.1 4.9 5.0 4.8 5.2 5.0 5.4 5.0 5.3 5.6 5.6 5.0 5.5 5.9 5.5
C 13 19 24 50 74 82 90 100 118 124 130 132 133 134.3

373.7 370.4 370.4 373.6 373.6
5.2 8.5 8.5 5.3 5.3
129.5 129.5 133.8 133.8 134.2

373.7 370.4 370.4 373.6 373.6
5.2 8.5 8.5 5.3 5.3
129.5 129.5 133.8 133.8 134.2

UNIV. HEIGHTS RES.
X-SECT'S CONT'D

10-10-51

60

N N13487
E E10196

378.93

N N1360
E E10196

N N1371
E E10246

N N13758
E E10336

N CK TP

4.74 374.19

RT - EAST

	373.7	371.1	371.1	373.6	373.6
	5.2	7.8	7.8	5.3	5.3
C	131.3	131.3	132.1	133.1	134.2

	373.7	374.2	373.7	374.0	373.8	373.9	373.3	373.5	373.5	372.4	372.4	373.1	373.3
	5.2	4.7	5.2	4.9	5.0	5.4	5.4	5.4	6.5	6.5	5.8	5.6	
C	5	17	30	38	50	82	100	130	131	132	133	134	

	373.7	373.9	373.9	374.0	374.0	373.9	373.7	373.3	373.3	376.8	373.0	373.3
	5.2	5.0	5.0	4.9	4.9	5.0	5.2	5.6	5.6	2.15	5.9	5.6
C	9	30	43	50	67	85	100	115	115	128	128.8	

	373.7	373.7	373.6	373.4	373.8	373.3
	5.2	5.2	5.3	5.5	5.6	5.6
C	25	56	75	100	114.5	

Top 36"
G.I. PIPE

Notes checked and reduced
pp 54-66 10/16/51 L.G.d. 1949

UNIV. HEIGHTS RES.
X-SECTS CONT'D

10-10-51

62

N 1369
E 1000

386.16

N 1400
E 1000

N 1400
E 1000

N 1400
E 1016

N 1400
E 1033

N 1400
E 1075

N 1400
E 1100

N 1400
E 1129

N 1400
E 1129

N 1400
E 1143

11.37 386.42

11.11 375.05

(N 1400
E 1000)

curb of stairs

LT. WEST RT. EAST
375.0 374.5 374.9 375.0 375.1 375.1 375.4
11.2 11.2 11.3 11.2 11.1 11.1 10.8 5.2 381.0
33 7.5 7.5 2.5 2.5 4 22

374.7 374.5 374.9 375.1 375.1 375.1 375.1
11.5 11.7 11.3 11.1 11.1 11.1 11.1
33 7.5 7.5 2.5 2.5 18.0

LT. North

374.4 374.9 375.1
11.8 11.3 11.1
12.8 12.8
Gutter Top Curb

RT. - SOUTH

374.4 375.0 375.1 375.1 375.1 375.3 375.8 380.3
12.0 11.4 11.3 11.3 11.3 11.1 10.6 6.1
13.3 13.3 5.6 0.6 7 7.5 23
Gutter Top Curb SW - SW

374.4 375.0 375.2 375.2 375.1 375.7 381.3 381.5 385.9
12.0 11.4 11.2 11.2 11.3 10.7 5.1 4.9 0.5 3.1
13.3 13.3 5.6 0.6 7 20 23 23.5 23.7
23.7 24.6

374.6 375.1 375.4 375.4 375.3 375.8 376.4 381.6 381.8 385.9 383.3
11.8 11.3 11.0 11.0 11.1 10.6 10.0 4.8 4.6 0.5 3.1
13.3 13.3 5.6 0.6 7 7.5 20 23 23.5 23.7
23.7 24.6

374.6 375.2 375.5 375.6 375.5 376.1 377.1 381.7 381.7 385.9 383.3
11.8 11.2 10.9 10.8 10.8 10.3 9.3 4.7 4.7 0.5 3.1
13.3 13.3 5.6 0.6 7 8 20.5 23 23.5 23.7
23.7 24.6

374.7 375.4 375.6 375.6 375.6 376.2 377.2 380.6 381.4 383.3 383.3
11.7 11.0 10.8 10.8 10.8 10.2 9.2 5.8 5.0 3.1 3.1
13.3 13.3 5.6 0.6 8 8 9 19 23 23.2 24.6

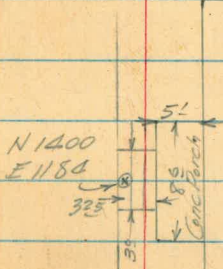
383.6 383.7 383.3 383.3
2.8 2.7 3.1 3.1
19 23.2 23.7 24.6

374.8 375.2 375.4 375.4 375.4 376.0 376.8 377.4 377.9 378.1 378.1 385.9
11.6 11.2 11.0 11.0 11.0 10.4 9.6 9.0 8.5 8.3 8.5 8.3
13.3 13.3 5.6 0.6 8 8 9 11 13 17 18 21.2
SW

UNIV. HEIGHTS RES.
X-SECTS CONT'D

N1400
E1150. ✓ 386.42
Edge Sidewalk

N1400 → N1391
E1153 E1210 N1374E
E1210



N1391E
E1153. N1374E
E1153.

TP 5.17 ~~389.70~~ 10.89 375.53

N1400 ✓
E1184 380.70

N1400 ✓
E1210

N1400 ✓
E1250

N1400 ✓
E1300

10-10-51

63

VAL Chamber Top.
Bot

374.8	375.2	375.4	375.4	375.9	375.5	376.3	376.4	376.9	377.9	385.9	383.3
46	112	110	110	110	109	101	100	95	85	85	31
137	133	5.6	0.6	0	66	68	75	75	21	23	23
										23	24

375.4 375.5 376.4 376.3 377.0 378.0

110	107	100	101	92	84
6	65	68	75	75	21

375.0 375.5 375.7 375.8 375.8 376.3 376.9 376.9 377.5 377.5

5.7	5.2	5.0	4.9	4.9	4.4	4.4	3.8	3.8	3.2	3.2
133	133	0.6	0	1	1	2.1	2.1	3.2	3.2	11.85

375.0 375.4 375.8 375.8 375.8 376.1 376.5 377.0 376.9 376.6 376.3 375.7

5.7	5.3	4.9	4.9	4.9	4.6	4.2	3.7	3.8	4.1	4.4	4.0	5.0
133	133	5.6	0.6	0	3.6	3.6	8.9	8.2	5.0	7.5	10.0	13.5

376.0 376.5 376.4 376.3 376.1 375.5

4.7	4.2	4.3	4.4	4.6	5.2
0	25	50	75	100	136

375.3 375.6 375.9 375.9 376.4 376.3 376.0 375.8 375.3

5.4	5.1	4.8	4.8	4.3	4.3	4.4	4.7	4.9	5.4
13.1	133	5.6	0.6	0	25	50	75	100	127

UNIV. HEIGHTS RES X-SECTS Cont'd

N 1400
E 1311.5
390.70
~~380.42~~
W. Edge Side Wlk

N 1400
E 1316.5
E Edge Side Wlk

N 1400
E 1321.
FACE Curb

N 1400
E 1321.
17" Gutter

N 1400
E 1335
ONAC Pavt.

6.90	382.93	4.67	376.03
	388.65		381.75
5.08	388.76	4.97	383.68
	383.04		377.96

N 1391
E 1184

N 1375.8
E 1184
6.51 384.35 5.20 377.84
~~383.58~~

N 1375.2
E 1184
2.95 +1.55 1.0 1.0 4.9 4.7 6.8 6.5 6.5 6.9 7.2
27.2 26.9 26.9 23.7 23.7 21.2 21.2 19 22 25.8
28.0 paired 27.1

N 1371.2
E 1184
380.3 377.6 377.6 377.8 377.5 382.1 382.1 377.2

LT. Nor.

375.5 376.0 376.1 375.8 375.9 RT - SOUTH
5.2 4.7 4.6 4.9 4.8 5.0 5.2 5.6
13.1 13.1 25 50 75 100 127
Gutter Top Curb

375.5 376.1 376.1 375.8 375.9 375.7 375.6 375.1
5.2 4.6 4.6 4.9 4.8 5.0 5.1 5.6
11.2 11.2 25 50 75 100 127

375.5 375.4 376.0 376.0 375.8 375.4 375.3 375.1 375.1 375.2 375.9
5.2 5.3 4.7 4.7 4.9 5.3 5.4 5.0 5.0 5.3 5.5 5.8
13 3 3 10.8 12.0 30.2 31.4 50 75 100 127
DRIVEWAY

375.5 375.4 375.4 375.3 375.2 374.9 374.7 374.4
5.2 5.3 5.3 5.4 5.5 5.8 6.0 6.3
13.0 8 25 50 75 100 127

375.7 375.7 375.5 375.4 375.2 374.9
5.0 5.0 5.2 5.3 5.5 5.8
25 50 75 100 127

(on curb)
walk
East Side / data

LT - West

RT - East

377.89
5.15 31.2
377.83
5.21 31.2
Floor of pump house
5.23 25.8 377.81
5.10 377.94 11

383A
385.90 383.4 383.4 379.5 379.7 377.6 377.7 377.9 377.5 377.2
2.95 +1.55 1.0 1.0 4.9 4.7 6.8 6.5 6.5 6.9 7.2
27.2 26.9 26.9 23.7 23.7 21.2 21.2 19 22 25.8
28.0 paired 27.1

380.3 377.6 377.6 377.8 377.5 382.1 382.1 377.2
4.1 6.8 4.8 6.6 6.9 2.3 2.3 7.2
21.2 21.2 19 22 22 22.7 22.7

UNIV. HEIGHTS RES. X-SECT'S CONT'D

N 13712
E 1184

384.35

8" WALL

N 13705
E 1184

N 13705
E 1184

E Trans 381.1

3.3

16.8 RT E

40x10 Spads

N 13495
E 1184

(old bldg. floor)

conc.

N 13495
E 1184

(old bldg. floor)

N 1329
E 1184

N 1322
E 1184

N 1283
E 1184

N 1250
E 1184

N 1200
E 1184

383.4	385.90	379.5	377.5	380.3	380.3	380.3	382.1	382.1
49	+1.55	4.9	4.9	4.1	4.1	4.1	2.3	2.3
276	269	269	212	212	C	2	95	227
280	271							

Duplicate above

380.1	380.1	380.2	379.3	377.5	377.0	376.8
4.9	4.3	4.2	5.1	6.9	7.4	7.6
269	C	5	11	16	22	25.8

381.1	381.7	382.4	382.8	382.4	376.5	376.7
3.3	2.7	2.0	1.6	2.0	7.9	7.7
269	15	10	2	C	10	26

382.4	382.2
2.0	2.2
269	15

382.4	382.4	382.2	382.4	377.7	376.3	376.5
2.0	2.0	2.2	2.0	6.7	8.1	7.9
269	15	15	3.5	C	3	26

SE Cor

382.4	382.3	377.4	376.3	376.4
2.0	2.1	7.0	8.1	8.0
27.0	7	C	3	26

385.90	381.1	381.1	379.7	379.4	376.1	376.2
+1.55	3.3	3.3	4.7	5.0	8.3	8.2
277	27	26	20	C	5	22
273						

386.0	380.8	381.1	377.7	377.4	377.2	377.5	376.0	375.8	376.0
+1.6	3.6	3.3	6.7	7.0	7.2	6.9	8.4	8.6	8.4
271	270	24	18	C	7	10	12	50	76
273									

386.0	380.8	381.0	377.5	376.1	376.0	375.9	376.0
+1.6	3.6	3.4	6.9	8.3	8.4	8.5	8.4
270	269	24	18	C	25	50	76

UNIV. HEIGHTS RES.
X-SECT'S Cont'd

10-11-51

66

N 1150
E 1184

384.35

386.0 381.2 381.3 376.8 376.6 376.3 376.2 376.2
+1.6 2.2 2.1 7.6 7.8 8.1 8.2 8.2
270 269 25 18 0 8 27.5 53.0
27.2 A.C. Rd

N 1100
E 1184

384.0 381.1 380.9 376.7 376.2 376.2 376.3
+1.6 3.3 3.5 7.7 8.2 8.2 8.1
270 269 25 18. 0 5 5.5
27.2 Edge
A.C.

N 1068
E 1184

379.8 379.8 379.4 376.8 376.2 376.3 376.4
4.6 4.6 5.0 7.6 8.2 8.1 8.0
35 27 22 15 11 0 22.8
Edge Chlorine
Bldg

CK IP

0.98 383.37 = 383.35

IP

2.95 378.98

376.03

CK BM.

5.96 373.02 = 373.01

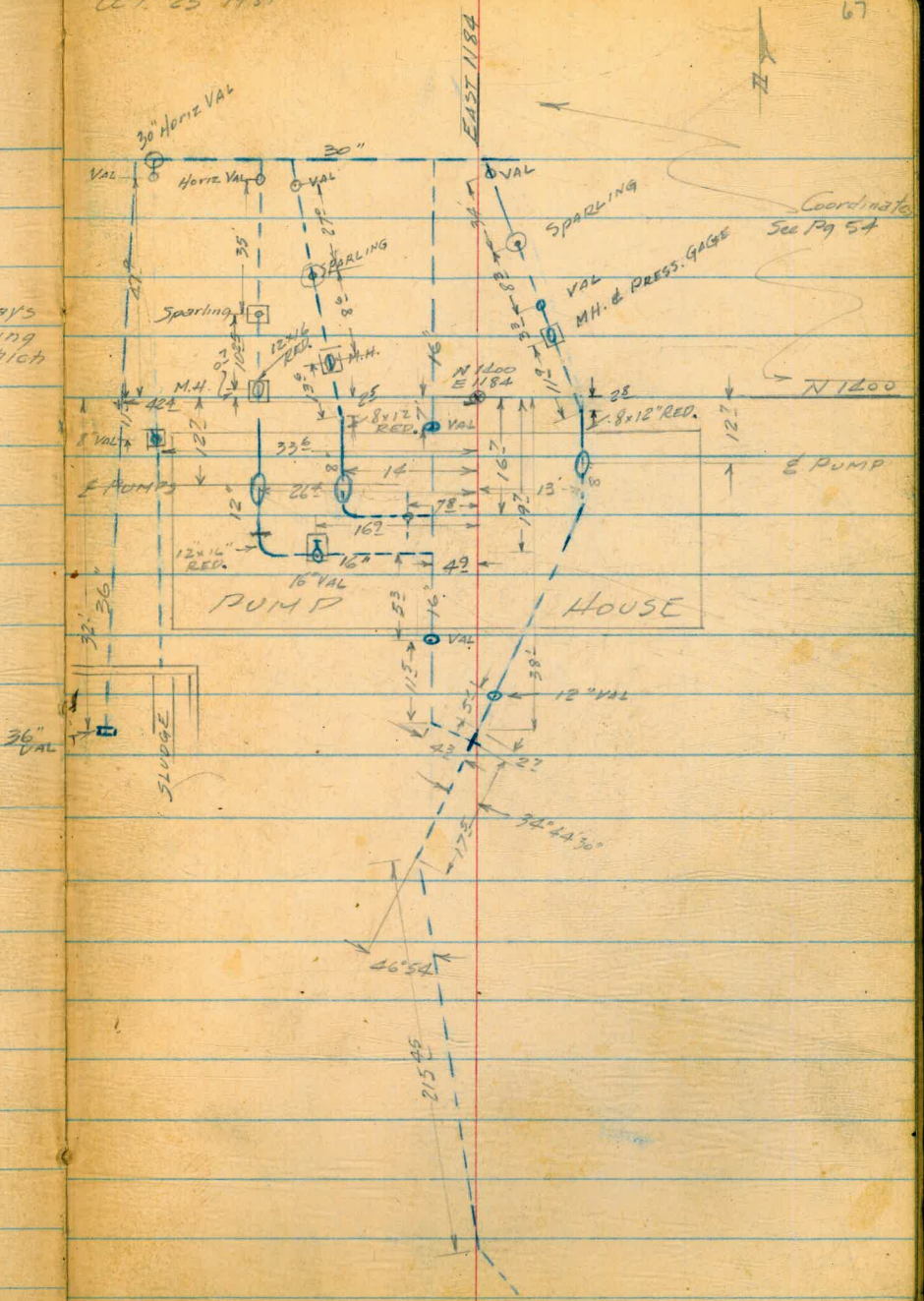
Notes checked & reduced
pp 54-66 10/16/51 L.G.J. R89

462

UNIV. HEIGHTS RES
 PIPING DETAILS IN
 PUMP HOUSE AREA

OCT. 25 1951

NOTE: Ralph Adams says
 there is a drawing
 of this piping which
 he checked for
 GENE ONEIL



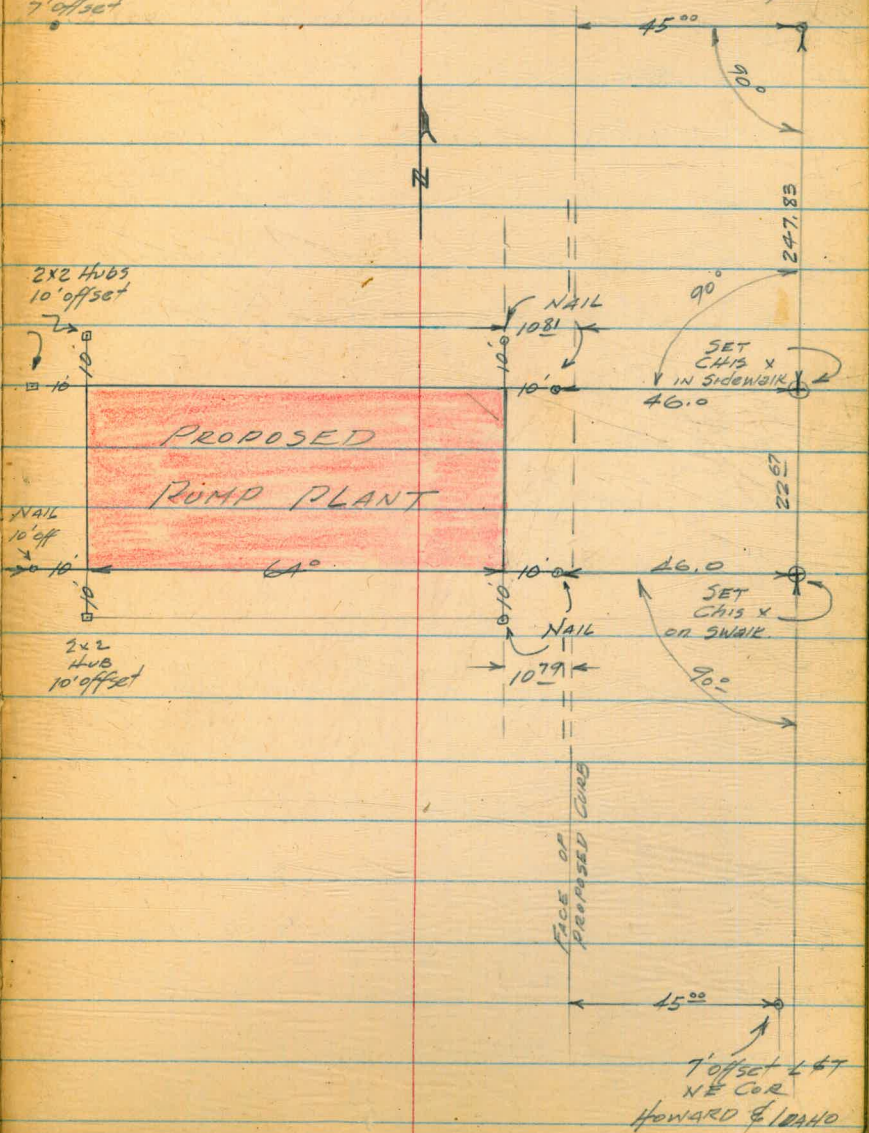
UNIO HEIGHTS RES.
 PUMP PLANT REPLACEMENT
 STAKE OUT OF BLDG

12. - 51

68

BEATTY
 LEONARD
 POWELL
 SW COR
 OREGON & EL CAJON
 L&T
 7' offset

SE COR
 10' 10" & EL CAJON
 L&T
 7' offset



UNIV. HEIGHTS RES
 PROPOSED PUMP PLANT
 HOLES FOR SUB-FOOTINGS AT
 NORTH EDGE OF PUMP BUILDING

BM		5.98	378.99	373.01	Elev Bottom of Hole
0+11.51	Edge Hole #1	5.47	373.52	365.00	
0+11.51	(10)	5.35	373.64	"	
0+21.51	Edge Hole #2	4.99	374.00	"	
0+21.51	(10)	4.77	374.22	"	
0+31.51	Edge Hole #3	4.04	374.95	"	
0+31.51	(10)	4.03	374.96	"	
0+40.55	Edge Hole #4	3.29	375.70	"	
0+40.55	(10)	3.41	375.58	"	
0+49.59	Edge Hole #5	3.30	375.69	"	
0+49.59	(10)	3.41	375.58	"	
0+58.63	Edge Hole #6	3.31	375.68	"	
0+58.63	(10)	3.35	375.64	"	
CK BM	12/17/51	5.43	378.44	5.98	373.01
Hole #1	Bottom of Excav.	10.91	367.53		
Hole #2		11.75	366.69		
Hole #3		11.47	366.97		
Hole #4		11.83	366.61		
Hole #5		11.65	366.79		
Hole #6	on top	8.65	369.79	(3' Deeper)	

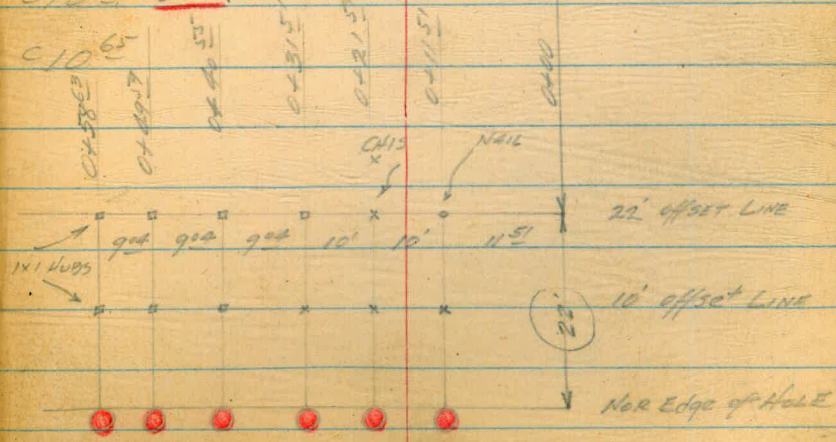
DEC. 12 1951

BEATTY
 LEONARD
 POWELL

69

Bot. Hole	Top Conc
C85	<u>C152</u> C152
C865	6.6 20"
C90	<u>C200</u> C200
C920	7.6 20"
C995	<u>C295</u> C295
C995	
C103	<u>C270</u> C270
C106	
C107	<u>C269</u> C269
C106	
C107	<u>C268</u> C268
C106	

4482
 SE COR
 ELEVATION
 # 10440



225.83' ?
 225.83

UNIV. HEIGHTS RES.
MISC. ELEV. S of PIPE

12/18/51

70

B	BM	5.47	378.48	373.01
C	SET TBM	2.36	378.26	2.58 375.90
C	CK BM		5.25	373.01
C				
C				
C	BM	4.96	377.97	373.01
C			7.15	370.82
C			5.75	372.22
C				364.94
C				366.44
C			7.37	370.60
C			6.67	371.30
C	BM	6.47	379.48	4.96 373.01
C			6.4	373.1
H			6.6	372.9
H			6.5	373.0
H			6.0	373.48
H				
H				

TOP.

NE Cor VAL Bed

Top of Stem of G.V. So to F.H.

From Street
2.10

" " " of " Nor. 12" C.I.

1.2

2 EL 36" C.I. at Plug Val West

Top 36" " "

Top 24" W. of Curb.

Top 24" W. of Sidewalk

Top AC Pavt 24" @ 7 PT

" " " @ 6" G.V. To F.H.

" " " @ 36" & 12"

" " " @ G.V. 12"

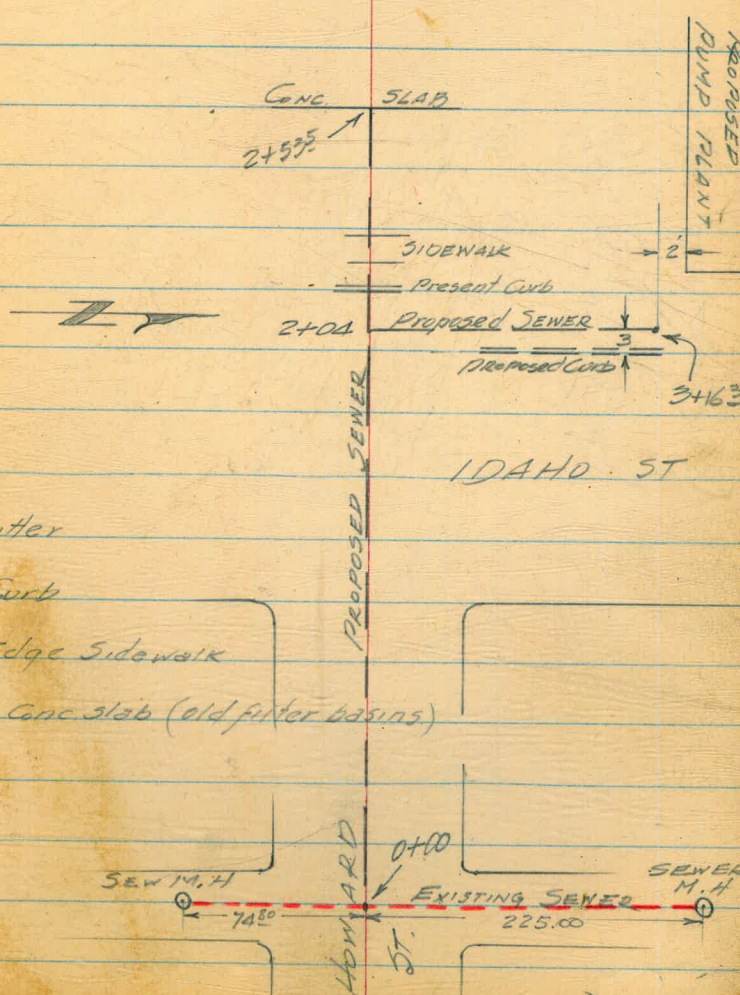
DEC. 27, 1951

BEATTY
LEONARD
POWELL

72

PROFILE OF PROPOSED SEWER
MAIN CONNECTION
FROM ALLEY EAST OF IDAHO ST
WESTERLY ON HOWARD TO PUMP PLANT

BM.	5.34	378.35	373.01		
		10.19	368.2		Inv. 6" SEWER 74.80 So. 0+00
		8.71	369.6		" " " 225.00 Nor 0+00
0+00		4.8	373.6	(on AC)	
+50		5.0	373.4	"	CONC. SLAB
1+00		5.1	373.3	"	2+535 ↗
+50		5.3	373.1	"	
+59		5.7	372.7	"	SIDEWALK → 2 ←
+83		5.3	373.1	"	Present Curb
P	6.47	379.48	5.34	373.01	2+04 Proposed Sewer 3 ←
2+04		6.8	372.7	"	Proposed Curb ↑ 3+163
2077		6.9	372.6	"	IDAHO ST
2077		6.5	373.0	"	in Gutter
2+147		6.4	373.1	"	Top Curb
2+535		4.0	375.48	"	OK Edge Sidewalk
2+04	}	6.8	372.7	ON AC	Edge Conc. Slab (old filter basins)
2+50		6.3	373.2	ON AC	
3+00		5.9	373.6	" "	
3+163		5.8	373.7	" "	



DETAILS FOR PROPOSED
 LOWERING OF 24" WATER MAIN
 & ALSO DRAIN LINE
 EL CAJON BLVD FROM OREGON TO TEXAS

Notes Plotted
 on University Hqts N. Res
 Drain Ext. and Lowering
 of M.V.P.L. Plan

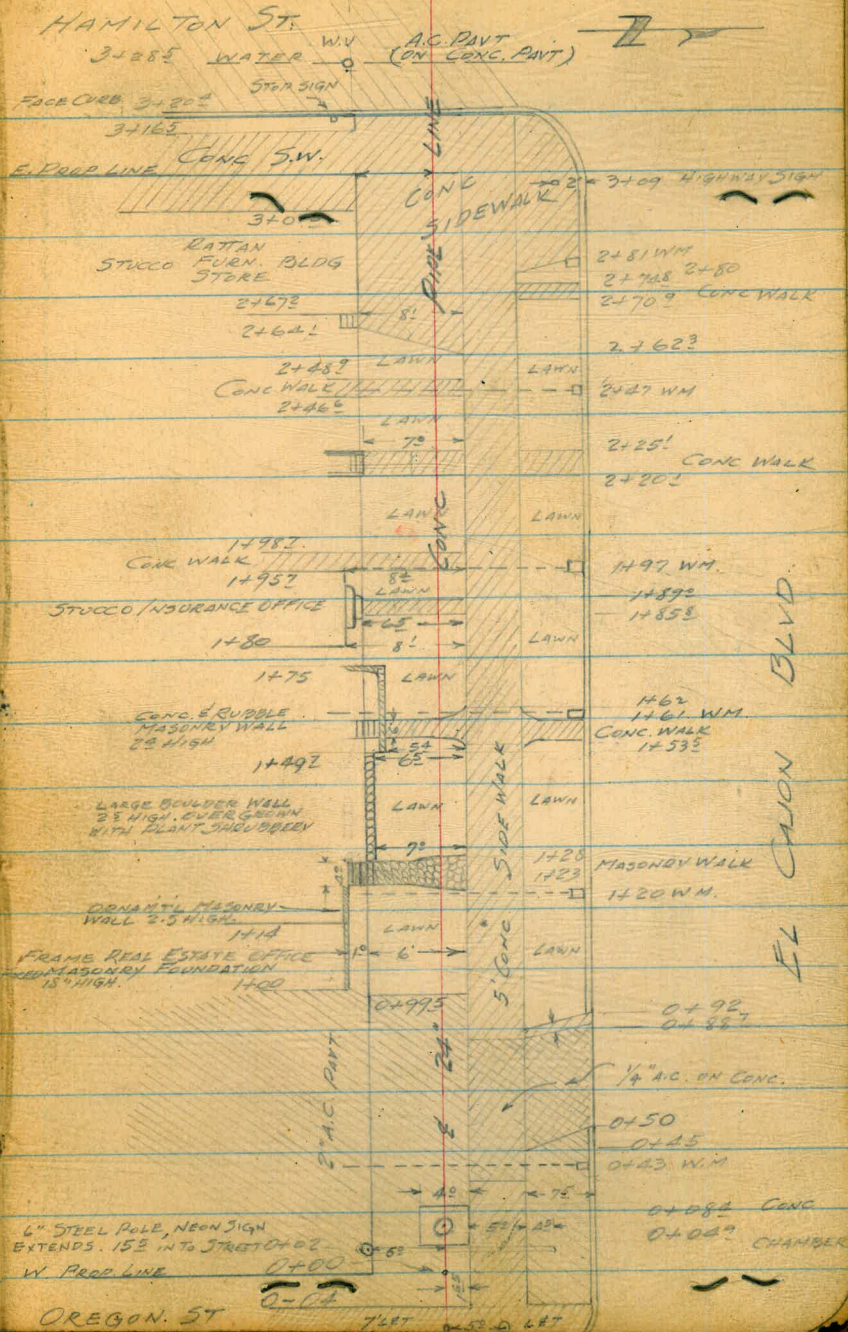
1/11/1952
 Note: Additional information
 on parking area between
 sidewalk and curb is
 lacking!

0+00

W. PROP. LINE OREGON
 6' N.E. 50' PROP. LINE EL CAJON.

JAN. 11, 1952 DEATY
 LEONARD
 POWELL

73



DETAIL FOR DROPOSED
DRAIN LINE

EL CAJON BLVD - OREGON TO TEXAS

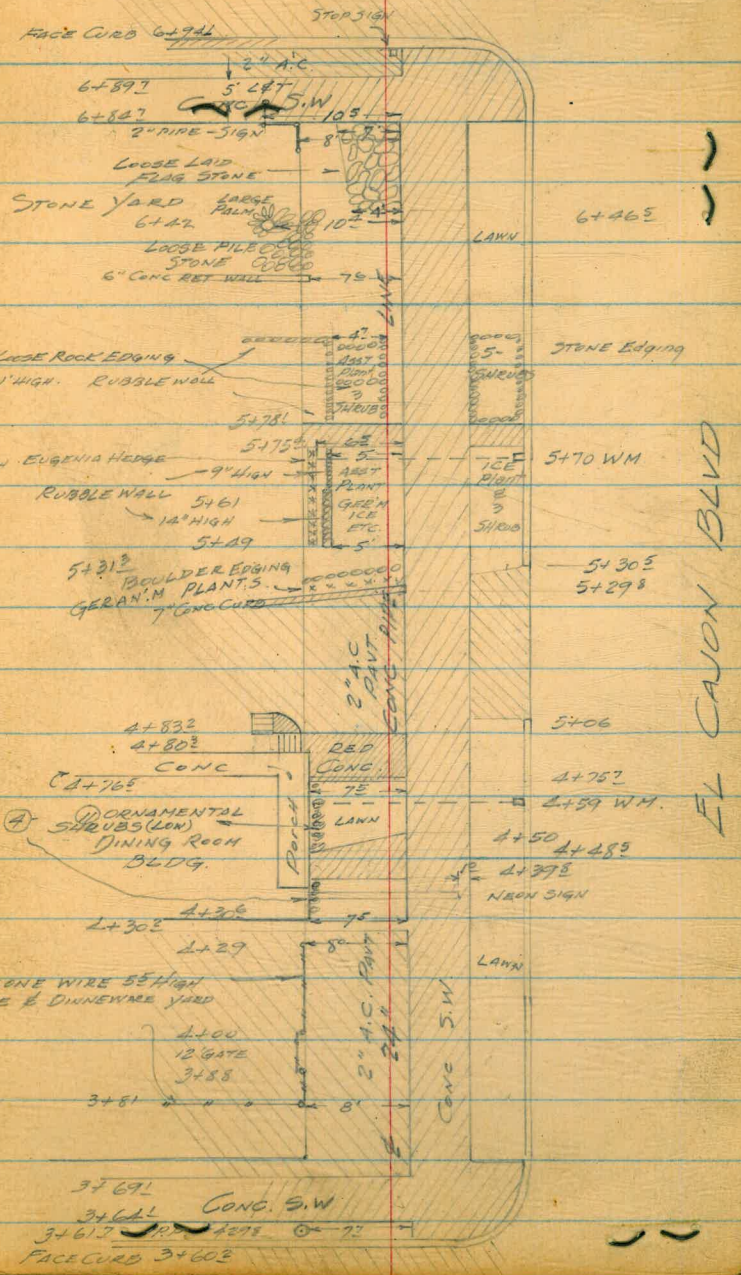
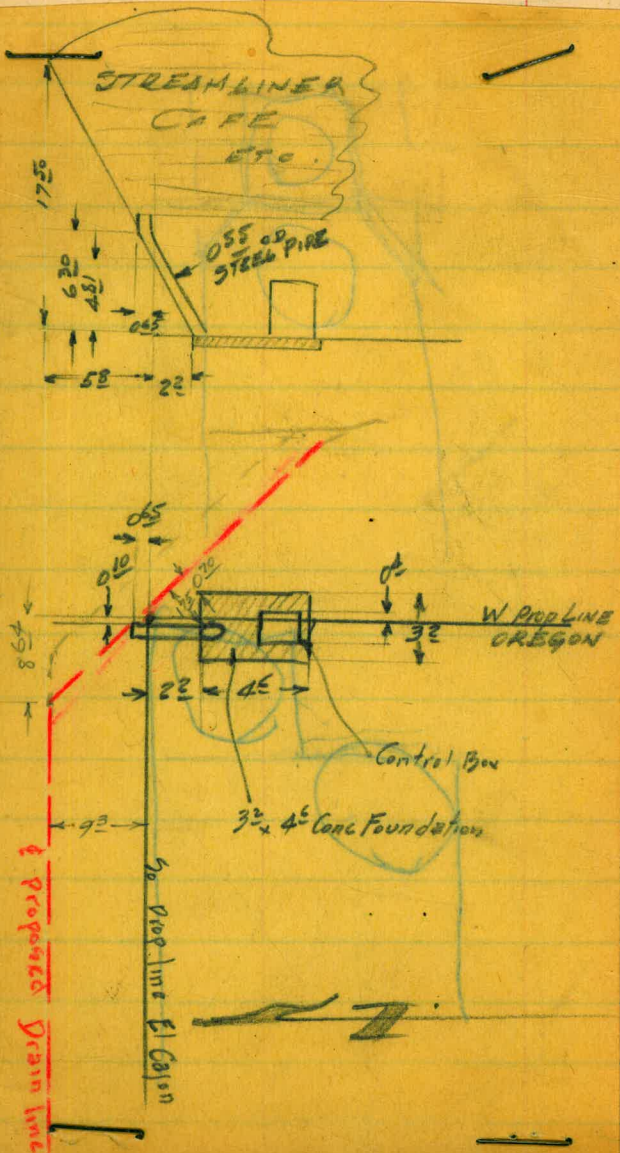
1-11-52

ARIZONA ST. 7+10 WATER W.Y. (ON CONC. PAVT)

A.C. PAVT

(ON CONC. PAVT)

74



EL CAJON BLVD

Proposed Drain line

BM	6.46	379.47	373.01
(10'E) SE Cor East projection	5.54	373.93	366.00
(10'E) } NE Cor.	3.81	375.66	
(10'N) }	4.05	375.42	
SET TBM	4.03	380.76	2.74 376.73
SET TBM	3.58	379.66	4.68 376.08
(10'N) } NW Cor	4.47	375.19	
(10'W) }	4.48	375.18	
(10'W) } SW Cor	5.45	374.21	
(10'S) }	5.08	374.58	
SET TBM	4.78	379.89	4.55 375.11
(10'S) } SE Cor RES	4.99	374.90	
(10'E) }	4.52	375.37	
CK BM	6.89	373.00 = 373.01	
BM	3.87	380.60	376.73
SET TBM	10.88	380.86	10.62 369.98
CK BM	4.13	376.73	

TOR NW Cor Howard & 104th
 C79 to FF RES
 C97
 C94
 E LAMP POST
 W LAMP POST
 C92
 C92
 C82
 C86
 Cor CORO WALL
 C89
 C94
 East LAMP Post
 Nail in Power Pole NE Cor RES
 East LAMP Post

375.66
 2.27
 377.93 N
 3.66
 11.93
 -57
 375.42
 2.27
 377.69
 46
 11.69

SIDEWALK REPLACEMENT
EL CAJON BLVD.

(75) GRDS SET ON CURB.

FEB. 10 1953

77

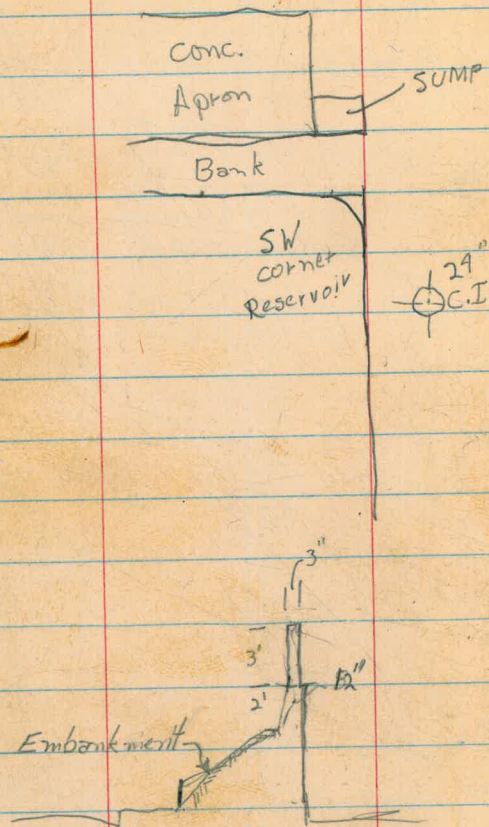
Peasly
Williams
Kemp
Alexander

BM	2.96	379.04	376.08		X on Base of Lamp post E side Oregon Center EL Cajon	372.4
0+02			4.67	374.37	374.4	F0 ⁰³ 367.4
0+00	PL Oregon		4.56	374.08	374.4	C0 ⁰⁸
0+25			5.28	373.76	373.83	57 F0 ⁰⁷ 307.700
0+47			5.79	373.25	373.33	107 F0 ⁰⁸
0+93			6.85	372.19	372.28	214 F0 ⁰⁹
1+25			7.60	371.44	371.55	285 F0 ¹¹
1+50			8.13	370.91	370.98	342 F0 ¹⁷
1+75			8.61	370.43	370.4	400 C0 ⁰³
2+00			9.39	369.65	369.80	456 F0 ¹⁹
+25			9.99	369.05	369.28	512 F0 ²³
+50			10.62	368.42	368.68	572 F0 ²⁶
+75			11.20	367.84	368.13	627 F0 ²⁹
3+00			11.81	367.23	367.55	685 F0 ³²
3+07	PL Hamilton		11.76	367.28	367.4	710 F0 ¹²
OK BM			7.96	376.08		

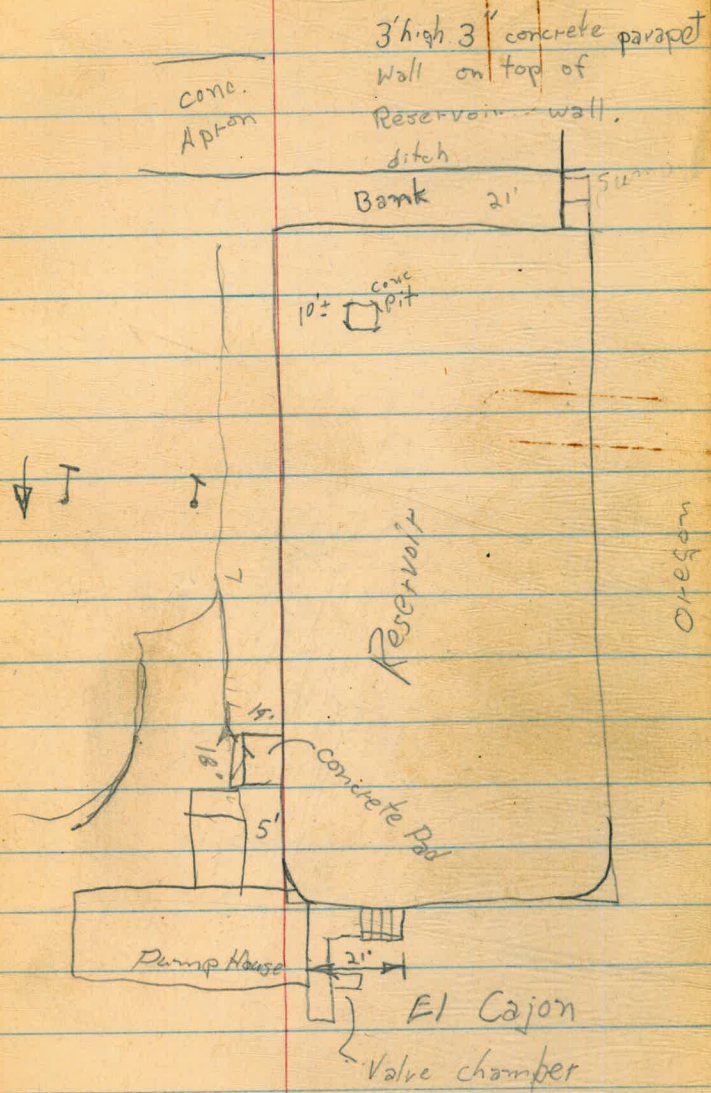
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Typical Section



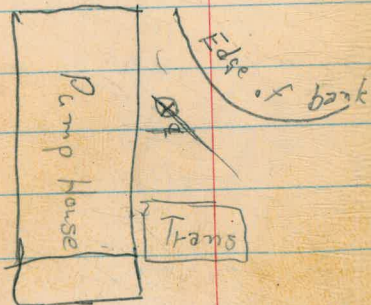
5117-L

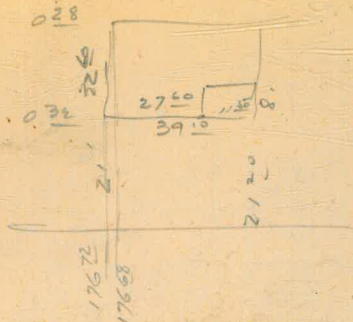
15' Type B2 curb

El. 318

~~318.2~~

Flat Area
House



$$\begin{array}{r} 10+74.3 \\ 10+62.8 \\ \hline 11.5 \end{array}$$


$$\begin{array}{r} 56.7 \\ 1.66 \\ \hline 64.66 \end{array}$$

$$\begin{array}{r} 47 \\ 24 \\ \hline 71 \\ 24.1 \end{array}$$

$$\begin{array}{r} 265 \\ 286 \\ \hline 182 \\ 733 \end{array}$$

$$\begin{array}{r} 308 \\ 238 \\ \hline 5.26 \\ 1.82 \\ 7.28 \end{array}$$

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377.13

7.77
373.01

380.70

375.25
49.85
425.10

31-1-19
JANACHA

235.33
5.5
7

247.83
225.83

378.90
396
379.86
375.50

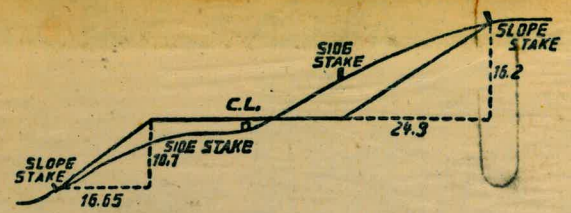
378.90
2.39
378.29
378.5
2.79

70

378.90
5.25
381.15
375.5
5.65

west
The Chapman Valde
30-61
South
RENSSELAER
VAL CO
30 H 350 T

Please Return to 902
City of San Diego Water Dept.
Room 268 Civic Center
Telephone Main 5161



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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