1631

LIETZ

TRAVERSE TABLE FOR TRANSIT BOOK.

From 1° to 90° for a distance of 100.

Degrees.	DEGREES.		¼ DEGREE.		⅛ DEGREE.		¾ DEGREE.		Degrees.
	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
0			100 00	0 44	100.00	0 87	99.99	1.31	90
1	99.98	1 75	99 98	2 18	99 97	2.62	99 95	3.05	89
2	99.94	3.49	99 92	3.93	99 91	4 36	99.88	4.80	87
3	99.86	5.23	99 84	5 67	99 81	6.10	99.79	6.54	86
4	99 76	6.98	99 73	7.41	99.69	7.85	99.66	8.28	85
5	99 62	8.72	99.58	9.15	99 54	9.58	99.50	10 02	84
6	99.45	10.45	99.41	10 89	99.36	11.32	99.31	11.75	83
7	99 25	12.19	99 20	12.62	99.14	13.05	99.09	13.49	82
8	99.03	13.92	98.97	14.35	98.90	14.78	98.84	15.21	81
9	98.77	15.64	98.70	16.07	98.63	16 50	98 56	16.93	80
10	98 48	17.36	98.40	17.79	98.33	18.22	98.25	18.65	79
11	98 16	19.08	98 08	19 51	97.99	19 94	97.90	20.36	78
12	97.81	20.79	97.72	21.22	97.63	21 64	97.53	22.07	77
13	97.44	22.50	97.34	22.92	97.24	23.34	97.13	23.77	76
14	97.03	24.19	96.92	24 62	96.81	25 04	96 70	25.46	75
15	96.59	25 88	96.48	26.30	96.36	26.72	96.25	27.14	74
16	96.13	27.56	96.00	27 98	95.88	28 40	95 76	28.82	73
17	95.63	29.24	95.50	29.65	95.37	20 07	95.24	30.49	72
18	95.11	30 90	94.97	31.32	94.83	31.73	94.69	32.14	71
19	94.55	32.56	94.41	32.97	94.26	33.38	94.12	33.79	70
20	93.97	34.20	93.82	34.61	93.67	35.02	93.51	35 43	69
21	93.36	35.84	93.20	36.24	93.04	36.65	92.88	37.06	68
22	92.72	37.46	92.55	37.86	92.39	38.27	92.22	38 67	67
23	92.05	39.07	91.88	39 47	91.71	39.87	91.53	40.27	66
24	91.35	40.67	91.18	41.07	91.00	41.47	90.81	41.87	65
25	90.63	42.26	90.45	42.66	90.26	43.05	90.07	43.44	64
26	89.88	43.84	69 69	44.23	89.49	44.62	89.30	45.01	63
27	89.10	45.40	88.90	45.79	88.70	46.17	88.50	46.56	62
28	88.29	46.95	88.09	47.33	87.88	47.72	87 67	48.10	61
29	87.46	48.48	87.25	48 86	87.04	49.24	86.82	49.62	60
30	86.60	50.00	86.38	50.38	86.16	50.75	85.94	51.13	59
31	85.72	51.50	85.49	51.88	85.26	52.25	85.04	52.62	58
32	84.80	52 99	84.57	53.36	84.34	53.73	84.10	54.10	57
33	83.87	54.46	83.63	54.83	83.39	55.19	83.15	55.56	56
34	82.90	55.92	82.66	56.28	82.41	56.64	82.16	57.00	55
35	81.92	57.36	81.66	57.71	81.41	58.07	81.16	58.42	54
36	80.90	58.78	80.64	59.13	80.39	59.48	80.13	59.83	53
37	79.86	60.18	79.60	60 53	79.34	60.88	79.07	61 22	52
38	78.80	61.57	78.53	61.91	78.26	62.25	77.99	62.59	51
39	77.71	62.93	77.44	63.27	77.16	63.61	76.88	63.94	50
40	76.60	64.28	76.32	64.61	76.04	64.94	75.76	65.28	49
41	75.47	65.61	75.18	65.93	74.90	66.26	74.61	66.59	48
42	74.31	66.91	74.02	67.24	73.73	67.56	73.43	67.88	47
43	73.14	68.20	72.84	68.52	72.54	68.84	72.24	69.15	46
44	71.93	69.47	71.63	69.78	71.33	70.09	71.02	70.40	45
45	70.71	70.71							
Degrees.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Degrees.
	DEGREES.		¾ DEGREE.		½ DEGREE.		¼ DEGREE.		

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MADE IN
U. S. A.

Table of Stadia Reductions.—Continued.

Min.	24°		25°		26°		27°	
	Hor. Dist.	Diff. Elev.	Hor. Dist.	Diff Elev.	Hor. Dirt.	Diff. Elev.	Hor. Dist.	Diff.. Elev.
0'.....	83.46	37.16	82.14	38.30	80.78	39.40	79.39	40.45
2.....	83.41	37.20	82.09	38.34	80 74	39.44	79.34	40.49
4.....	83.37	37.23	82.05	38.38	80.69	39.47	79.30	40.52
6.....	83.33	37.27	82.01	38.41	80.65	39.51	79.25	40.55
8.....	83.28	37.31	81.96	38 45	80 60	39.54	79.20	40.59
10.....	83.24	37.35	81.92	38.49	80 55	39.58	79.15	40.62
12.....	83.20	37.39	81.87	38.53	80.51	39.61	79.11	40.66
14.....	83.15	37.43	81.83	38.56	80.46	39.65	79.06	40.69
16.....	83.11	37.47	81.78	38.60	80.41	39.69	79.01	40.72
18.....	83.07	37.51	81.74	38.64	80.37	39.72	78.96	40.76
20.....	83.02	37.54	81.69	38.67	80.32	39.76	78 92	40.79
22.....	82.98	37.58	81.65	38.71	80.28	39.79	78.87	40.82
24.....	82.93	37.62	81.60	38.75	80.23	39.83	78.82	40.86
26.....	82.89	37.66	81.56	38.78	80.18	39.86	78.77	40.89
28.....	82.85	37.70	81.51	38.82	80.14	39.90	78.73	40.92
30.....	82.80	37 74	81.47	38 86	80.09	39.93	78.68	40.96
32.....	82.76	37.77	81.42	38.89	80 04	39.97	78.63	40.99
34.....	82.72	37.81	81.38	38.93	80.00	40.00	78.58	41.02
36.....	82.67	37.85	81.33	38.97	79.95	40.04	78.54	41.06
38.....	82.63	37.89	81 28	39.00	79.90	40.07	78.49	41.09
40.....	82.58	37.93	81 24	39 04	79.86	40.11	78 44	41.12
42.....	82 54	37.96	81.19	39 08	79 81	40.14	78.39	41.16
44	82.49	38.00	81.15	39 11	79.76	40.18	78.34	41.19
46.....	82 45	38.04	81.10	39.15	79 72	40.21	78.30	41.22
48.....	82 41	38 08	81 06	39.18	79.67	40 24	78.25	41.26
50.....	82.36	38 11	81 01	39.22	79.62	40.28	78 20	41.29
52.....	82.32	38.15	80 97	39.26	79.58	40.31	78 15	41.32
54	82.27	38 19	80.92	39.29	79.53	40 35	78.10	41.35
56.....	82.23	38.23	80.87	39.33	79.48	40.38	78 06	41.39
58.....	82 18	38.26	80.83	39.36	79.44	40.42	78.01	41.42
60.....	82 14	38.30	80.78	39.40	79 39	40.45	77 96	41 45
c= 75...	68	31	.68	32	67	.33	.66	.35
c=1.15....	1.05	48	1.04	50	1.03	51	1 02	.53
c=1 90....	1.73	79	1.72	82	1.70	85	1 69	.88

Min.	28°		29°		30°	
	Hor. Dist	Diff Elev.	Hor. Dist	Diff Elev.	Hor. Dist.	Diff. Elev.
0'.....	77 96	41 45	76.50	42 40	75.00	43 30
2.....	77.91	41.48	76.45	42.43	74.95	43.33
4.....	77.86	41 52	76.40	42.46	74.90	43.36
6	77.81	41.55	76 35	42.49	74.85	43 39
8.....	77.77	41 58	76.30	42.53	74 80	43.42
10.....	77.72	41.61	76.25	42.56	74.75	43.45
12.....	77.67	41.65	76.20	42.59	74.70	43 47
14.....	77.62	41.68	76.15	42.62	74.65	43.50
16.....	77.57	41.71	76.10	42.65	74.60	43 53
18.....	77.52	41.74	76.05	42 68	74.55	43 56
20.....	77.48	41.77	76.00	42.71	74.49	43.59
22.....	77.42	41.81	75.95	42 74	74.44	43 62
24.....	77.38	41.84	75.90	42.77	74.39	43 65
26.....	77.33	41.87	75.85	42.80	74.34	43.67
28.....	77.28	41.90	75.80	42,83	74.29	43 70
30.....	77.23	41.93	75.75	42.86	74.24	43 73
32.....	77.18	41 97	75.70	42.89	74.19	43.76
34.....	77.13	42 00	75.65	42.92	74.14	43 79
36.....	77.09	42.03	75.60	42.95	74.09	43.82
38.....	77.04	42.06	75.55	42 98	74.04	43 84
40.....	76.99	42.09	75.50	43.01	73.99	43.87
42.....	76.94	42.12	75 45	43 04	73.93	43 90
44.....	76.89	42.15	75.40	43 07	73 88	43.93
46.....	76.84	42.19	75.35	43.10	73 83	43 95
48.....	76.79	42 22	75 30	43.13	73.78	43.98
50.....	76.74	42.25	75 25	43.16	73.73	44 01
52.....	76.69	42.28	75 20	43.18	73.68	44 04
54.....	76.64	42.31	75.15	43.21	73.33	44 07
56.....	76.59	42.34	75.10	43.24	73.58	44 09
58.....	76.55	42.37	75.05	43 27	73.52	44.12
60.....	76.50	42.40	75.00	43 30	73.47	44.15
c= 75..	.66	.36	.65	.37	.65	38
c=1.15....	1 01	55	1.00	.57	0.99	.58
c=1.90..	1.67	91	1.65	.94	1 64	.95

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" " 1873
" " 2003
" 2054

Mission Valley Trunk Sewer #3

Levels Continued From Book 1626-page 55

	1.58 ⟨58.69⟩		⟨57.11⟩
305		4.2	54.5
" 6'Rt		1.2	57.5
" 12Lt		5.2	53.5
" 18Lt		7.6	51.1
" 50Lt	In road	7.8	50.9
+50		4.7	54.0
306+00		5.2	53.5
" 1'Rt		5.2	53.5
" 6'Rt		2.1	56.6
" 7'Lt		5.0	53.7
" 14'Lt		7.2	51.5
" 25'Lt	In road	7.3	51.4
" +50		4.5	54.2
307		5.4	53.3
" 6'Rt		4.9	53.8
" 10Lt		6.4	52.3
" 25Lt		7.6	51.1
+40		4.6	54.1
" 2'Lt		6.1	52.6
+50		6.0	52.7
" 2'Rt +85 = Edge of farm road		4.8	53.9
308		6.4	52.3
" 6'Rt		6.2	52.5

⟨58.69⟩

308 25'Rt	6.8	51.9
+50	6.2	52.5
309	6.3	52.4
" 5'Rt = Edge of road	6.1	52.6
" 9'Rt	6.0	52.7
" 5'Lt = Edge of road	6.4	52.3
" 25'Lt	6.7	52.0
+50	5.9	52.8
T.P. 7.76 ⟨60.52⟩	5.93	⟨52.76⟩
310	7.0	53.5
" 1'Rt = Edge of road	6.8	53.7
" 6'Rt	5.6	54.9
" 8'Lt. = Edge of road	7.2	53.3
" 25'Lt	7.8	52.7
+50	5.5	55.0
311	4.7	55.8
" 8'Rt = Edge of road	4.7	55.8
" 2'Lt = Edge of road	4.5	56.0
" 4Lt	6.0	54.5
" 12'Lt	6.9	53.6
" 25'Lt	7.0	53.5
+50	4.3	56.2
312	3.4	57.1
" 3'Rt = Edge of road	3.2	57.3
" 6'Rt	3.8	56.7

		⟨60.52⟩		
312+ 8' Rt			1.2	59.3
" 7' Lt = Edge of road			3.3	57.2
" 14' Lt			6.0	54.5
" 25' Lt			6.5	54.0
+50 = Edge of road			2.5	58.0
" 12' Rt. = Edge of road			2.4	58.1
T.P.	12.43	⟨70.55⟩	2.40	⟨58.12⟩
chain BM ± 48	1.53	⟨70.65⟩	1.43	⟨69.12⟩
T.P.	6.58	⟨64.63⟩	12.60	⟨58.05⟩
312+78			6.0	58.6
+81			7.6	57.0
+84			6.0	58.6
+90			5.8	58.8
+92			6.9	57.7
313			6.0	58.6
" 6' Rt			4.8	59.8
" 4' Lt			6.8	57.8
" 8' Lt			4.3	60.3
" 15' Lt			6.7	57.9
" 32' Lt			8.2	56.4
" 34' Lt			10.5	54.1
" 50' Lt			11.5	53.1
+10			3.5	61.1
+15			4.4	60.2
+25			4.1	60.5

		⟨64.63⟩		
313+25 6' Rt			3.7	60.9
" 25' Lt			7.2	57.4
" 35' Lt			12.7	51.9
" 50' Lt			12.7	51.9
+43 = Edge of road			4.2	60.4
+65 = Edge of road			5.1	59.5
+75			4.7	59.9
+85			5.3	59.3
314			5.0	59.6
" 6' Rt.			5.0	59.6
" 5' Lt			5.7	58.9
" 26' Lt			6.5	58.1
" 34' Lt			10.7	53.9
" 50' Lt			11.6	53.0
+20			5.0	59.6
" 6' Rt			5.0	59.6
" 7' Lt			6.9	57.7
" 10' Lt			6.1	58.5
+30			4.4	60.2
" 2' Rt.			2.5	62.1
" 6' Rt			2.0	62.6
" 6' Lt.			7.1	57.5
" 10' Lt.			6.6	58.0
+65			5.5	59.1
" 10' Lt			6.7	57.9

		(64.63)			
315			5.7	58.9	
" 6'Rt.			3.3	61.3	
" 4'Lt			7.7	56.9	
" 7'Lt			7.2	57.4	
" 22'Lt			8.0	56.6	
" 28'Lt			11.5	53.1	
" 50'Lt			12.0	52.6	
+50			7.4	57.2	
T.P.	5.63	(62.02)	8.24	(56.39)	
316			6.3	55.7	
" 4'Rt			5.8	56.2	
" 6'Rt			4.7	57.3	
" 10'Lt			6.5	55.5	
316+12.52			6.04	55.98	
" 6'Rt.			6.0	56.0	
+50			6.3	55.7	
317			5.7	56.3	
" 2'Rt			4.4	57.6	
" 6'Rt			3.5	58.5	
+25			5.4	56.6	
+30			4.7	57.3	
+50			4.3	57.7	
318+00			4.1	57.9	
+50			4.5	57.5	
319+00			4.2	57.8	

		(62.02)			3
319+50			3.5	58.5	
320			3.0	59.0	
TP	5.05	(64.54)	2.53	(59.49)	
+50			5.3	59.2	
321+00			5.2	59.3	
+50			5.3	59.2	
322			5.2	59.3	
+50			6.0	58.5	
+67			5.4	59.1	
+72			4.3	60.2	
322+94.83			4.41	60.13	
" 12'Lt			5.0	59.5	
" 25'Lt.			7.0	57.5	
Check BM #49	6.09	(66.51)	4.12	(60.42)	
323			6.4	60.1	
+50			6.9	59.6	
324			6.2	60.3	
" 13 Lt			6.7	59.8	
" 17 "			8.7	57.8	
+50			5.9	60.6	
325			5.7	60.8	
" 20'Lt			6.3	60.2	
" 25 "			8.3	58.4	
+50			5.2	61.3	
326			4.9	61.6	

Ref. 16328 Page 8 Del

			(66.51)	
326.30' Lt			6.1	60.4
" 35 "			7.2	59.3
326+50			4.6	61.9
327			4.5	62.0
" 40' Lt			6.2	60.3
+50			4.2	62.3
328			4.1	62.4
" 50' Lt			5.9	60.6
+50			4.0	62.5
329			4.2	62.3
" 56' Lt			5.3	61.2
Check BM +50	198	(65.88)	2.61	(63.90)
+50			4.4	61.5
330			3.6	62.3
+50			3.7	62.2
331			3.9	62.0
+50			3.8	62.1
332			4.0	61.9
+50			4.3	61.6
333			4.8	61.1
+50			5.5	60.4
334			5.9	60.0
" " 40' Lt to Top Riv. Bank			5.7	60.2
+21			5.7	60.2
+32.75 Lt on Stake			4.69	61.19

		(65.88)		
35' Lt L. River Bank			5.9	60.0
Check BM #51	1295	(76.13)	2.70	(63.18)
+50			14.6	61.5
" 20' Lt			14.0	62.1
" 45 "			21.0	55.1
" 50 "			23.2	50.9
" 80 " eXtreme River bed			28.6	47.5
335			12.8	63.3
" 10' Lt			12.3	63.8
" 25 "			17.1	59.0
" 37			20.4	55.7
" 47' Lt			25.3	50.8
" 70' Lt			25.3	50.8
" 75 "			28.3	47.8
335+50			10.1	66.0
" " 7' Lt River Bank			10.8	65.3
20 Lt			18.0	58.1
" " 35 "			20.6	55.5
" " 45 "			25.6	50.5
336			8.4	67.7
" 6' Lt			9.7	66.4
" 20 "			18.5	57.6
" 32 "			18.5	57.6
" 42 "			29.0	52.1

336 +45		6.9	69.2
+60		4.5	71 6
+81 86 P.O.T. on stake		4.27	(71.86)
337		4.1	72.0
" 15' Lt		47	71.4
" 45 " Toe fill		25.7	50.4
" 58 "		25.7	50.4
" 65 "		28.7	47.4
+50		4.3	71.8
T.P.	5.46 (77.49) 7.46 79.45	4.10	(72.03)
338		5.2	72.3
" 40' Lt Top Daly's New fill		6.3	71.2
" 68 Bottom River		30.1	47.4
+50		4.5	73.0
+87		4.1	23.4
+97		10.0	67.5
339		10.3	67.2
" 60' Lt River Bottom		26.0	51.5
" 100 " extreme " "		28.5	43.0
" 45' Rt		2.4	75.1
Check BM #52		1.45	(76.04)
339 +13		11.0	66.5 87.5
+16		6.4	71.1
+40		7.0	70.5
" " 6' Rt		5.1	72.4
" " 20'		4.5	73.0

(77.49)

77.5 23.5 53.0

5

+40 - 55' Lt R. Bottom		25.1	52.4
" 110 " extreme channel		29.0	48.5
+70		6.0	71.5
+75		12.0	65.5
+89		11.9	65.6
+95		6.7	70.8
340		6.9	70.6
" 9' Rt		3.2	74.3
" " 20		3.2	74.3
" 28' Lt		14.5	63.0
" 48 " River Bed		23.9	53.6
" 100 " channel		28.3	49.2
340+60 55 P.O.T.		3.02	79.47
" 3' Rt		2.2	75.3
" 14' Lt		7.7	69.8
" 23 " River Bottom		23.5	54.0
" 115 " low water channel		27.6	49.9
+70		3.5	74.0
+75 85 Lt 100	(77.10)	7.39	(70.10)
" " 13' Lt Rt L to Back Top		10.6	66.5
" " 28 " "		23.1	54.0
" " 28 Lt Rt L to toe 70+ Fill			
" " 5 " " " " "		9.3	67.8
" 13 " " edge Pavement		9.72	67.38

	⟨77.10⟩		
340+85 2'Lt Tol D Mon.			
341	7.8	69.3	✓
" 7' Pt	7.8	69.3	✓
" 2 Lt	8.4	68.7	✓
" 12 " edge paving	9.62	67.48	✓
341 +10	9.2	67.9	✓
+50	8.9	68.2	✓
342	7.8	69.3	✓
" 1.5 Lt edge Paving	7.73	69.37	✓
+39.47 Int'l edge of Paving	6.34	70.76	✓
+50	5.7	71.4	✓
343 +03.36 L.Lt " Paving PH Incl	3.77	73.33	✓
343+50	3.54	73.6	✓
Check BM #53 3.16 ⟨78.60⟩ corrected	16.2	[75.48] 75.44	✓ 0.04 error
+21.18 W Line 8" Culvert	5.00	73.6	✓
" " " Flow Line (typical)			
" 50' Pt Top of Slab	5.72	72.88	✓
" " Flow Line W Side	15.68	62.92	✓ ?
" " " E Side	15.84	62.76	✓
" " 73' Lt Topslab	9.54	69.06	✓
" " " Flow	19.44	59.16	✓
3+44	4.8	73.8	✓
+50	4.7	73.9	✓
345	4.5	74.1	✓
" 2'Lt Edge Paving	4.27	74.33	✓
+50	4.1	74.5	✓

	⟨78.60⟩		
346	4.5	75.1	✓
" 1.75 Lt A.C paving	3.39	75.21	✓
+50	2.9	75.7	✓
347	2.1	76.5	✓
+50	1.4	77.2	✓
TP. 5.93 ⟨83.09⟩	1.44	⟨77.16⟩	✓
348	5.3	77.8	✓
+50	5.1	78.0	✓
349	4.9	78.2	✓
+50	4.6	78.5	✓
350	4.3	78.8	✓
" 36' Lt to River Bank	9.4	73.7	✓
+50	4.0	79.1	✓
+95 Tol Pole 78 Lt # 945654			
351	3.4	79.7	✓
" 9' Lt edge Bank	3.0	80.1	✓
" 13 "	9.8	73.3	✓
" 20 "	20.1	63.0	✓
" 35 " Bottom	30.0	53.1	✓
351 +50	2.8	80.3	✓
" 9' Lt edge Bank	2.8	80.3	✓
" 50 " Bottom "	30.2	52.9	✓
352	1.9	81.2	✓
" 9' Lt Top Bank	1.8	81.3	✓
" 45 Lt " Bottom "	13.5	70.1	✓
50 " Bottom "	30.2	53.1	✓

		(83.09)		
T.P. BM #54	10 8.04	(90.87)	2.26	(80.83)
Check			6.87	84.00
352 +50			8.7	82.2
+85 Tele pole 7° Lt				
353 Riverangles Lt Here			8.1	82.8
" 8' Lt Top Bank			8.1	82.8
" 55 Bottom "			35.8	55.1
+40			6.8	84.1
" 47' Lt Top Bank			13.5	77.4
" 67 " Bottom River			36.8	54.1
354			5.3	85.6
+50.			4.5	86.4
" 5.7 Lt			4.8	86.1
" " Top cut Bank			3.9	87.0
355			3.8	87.1
" 4.6 Lt.			4.1	86.8
" 5' Lt			1.7	89.2
+4 Tel Pole 6.1 Lt				
+56			3.1	87.8
356			2.5	88.4
" 5' Lt			2.9	88.0
" 8' " +			+1.1	92.0
+50			2.2	88.7
357			1.6	89.3
" 4.5 Lt Top cut Bank			1.8	89.1
" 6 " Top Bank			+1.9	92.8

		(90.87)		
357 +06 Tele Pole 6' Lt				
T.P.	7.75	(97.04)	1.58	(89.29)
+50			7.4	89.6
358			7.5	89.5
" 4' Lt Bottom cut Bank			7.7	89.3
" 6 "			4.4	94.6
Check BM #55			3.11	(93.93)
+50			8.0	89.0
" 4.6 Lt			8.1	88.9
" 7 " Lt			4.8	94.2
+70 5.8 Lt Tel Pole				
359			8.0	89.0
" 5' Lt			8.2	88.8
" 7 "			5.1	91.9
+50			8.1	88.9
360			8.5	88.5
" 4' Lt			8.6	88.4
" 7 "			5.3	91.7
+30 Tel Pole 5.8 Lt				
+58			9.0	88.0
361			9.2	87.8
" 4' Lt			9.3	87.7
" 9 "			5.5	91.5
+50			9.3	87.7
+75 Tel Pole 4.7 Lt				

					(97.02)
362			9.8	87.2	
"	4' Lt		10.0	87.0	
"	7 "		6.5	90.5	
Check BM #56	085	(90.89)	6.95	(90.03)	12' Lt
				90.09	
				.05 error	
362+50			9.8	86.1	
+80			5.6	85.3	
"	4' Lt		5.6	85.3	
"	7 "		2.5	88.4	
363			6.1	84.8	
+19	Tel Pole	48' Lt			
+40			7.3	83.6	
"	3' Lt		7.5	83.4	
"	5 "		6.8	84.1	
+70			8.4	82.5	
364			9.4	81.5	
+50			11.0	79.9	
365			12.2	78.7	
T.P.	2.77	(81.11)	12.55	(78.34)	
+50			3.7	77.4	
366			5.0	76.1	
+50			6.5	74.6	
+77			7.3	73.8	
"	6' Lt		7.3	73.8	
"	13 "		11.1	70.0	

		(81.11)		
15' Lt	See sketch Page 9	18.9	62.2	
366+97.35	W. side 3 from Parcel	7.5	73.6	Ground
" "	Top Slab Page	10.70	(70.41)	Flow Line
"	7' Lt See Sketch 9	17.53	(63.58)	
"	79.4 Rt Flow Line Col.	16.57	(64.54)	
BM #57	4.81	(78.09)	7.83	(73.28)
367			4.5	73.6
"	4.5' Lt edge col. Wall		4.66	73.43
"	" " Top Slab		7.68	70.41
"	" Flow		14.51	63.58
127.8	Rt Lt to ES edge col.		4.7	73.4
"	4.5 Lt edge col. Wall		4.62	73.47
"	" Top Slab		7.68	70.41
"	" Flow Line		14.39	63.70
"	79.5 Rt Flow Line		13.23	64.86
"	" Top Slab		6.68	71.41
+50			5.0	73.1
"	7' Lt Edge Paint		4.9	73.2
"	10 " Bottom "		10.9	67.2
368			4.8	73.3
"	13' Lt		4.6	73.5
"	17 "		9.5	68.6
+50			4.4	73.7
369			4.2	73.9
+34.5	edge Paving		3.63	74.46
370			2.51	75.58
+16	" "		2.05	76.04
+25			1.6	~~79.5~~ 76.5
+50			1.4	~~79.7~~ 76.7

Continued page 16.

(Bearing from L.S. 348 N. 0° 10' 30" W.

372+62 63 L Lt 25° 11'-00

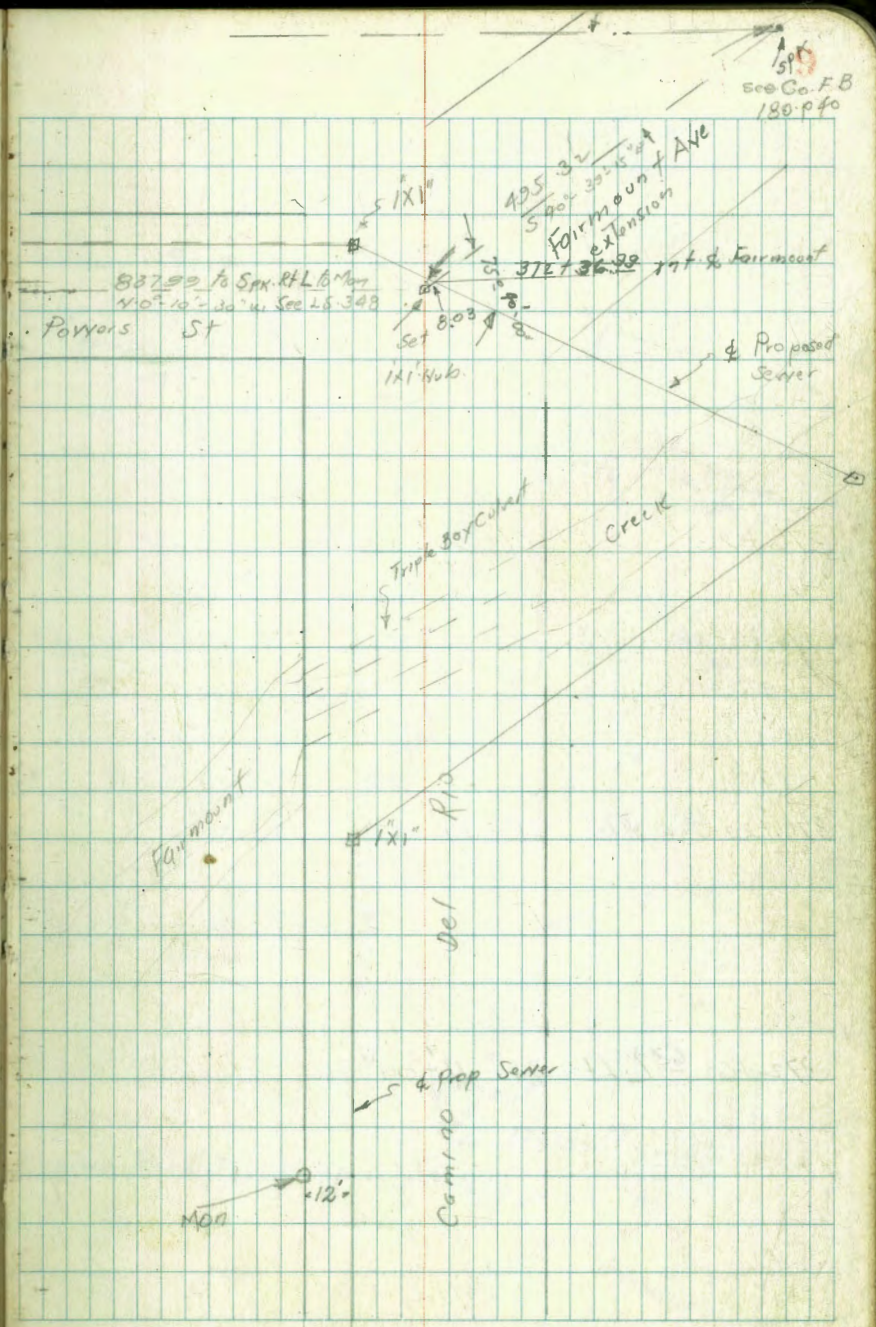
372+36 99 int & Fairmount ext.

369+91 98 L. Lt 91° 42'-00

366+26 25 L. Rt 37° 06'-00"

361+96 22 Rt. L to Mon

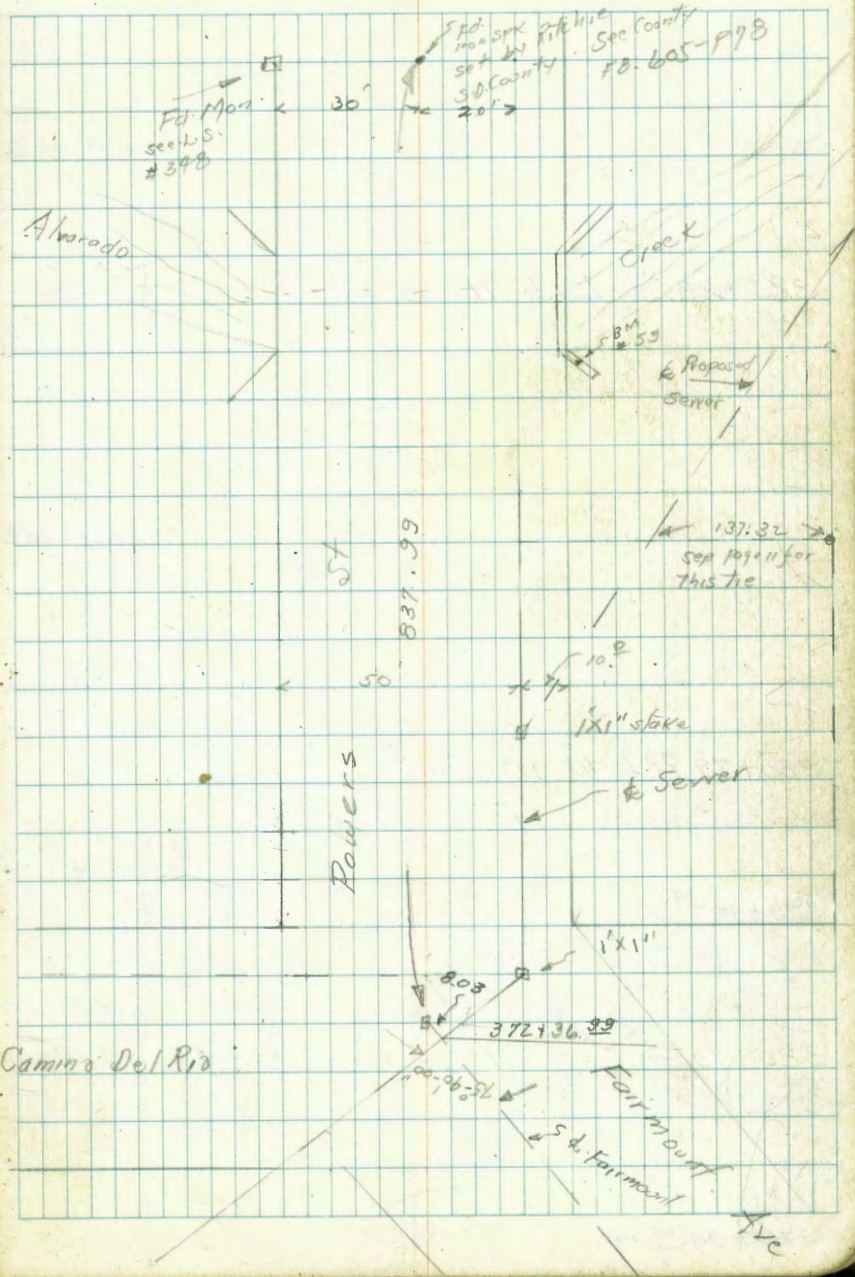
Continued from FB 1626



376+23 $\frac{10}{}$ L Rt 61°-21'-00

372+62 $\frac{63}{37}$ L Lt 35°-11'-00"

$\frac{37}{25.63}$



N 37° 30' E

385+28.88 L. Lt. 11° 09'-30"

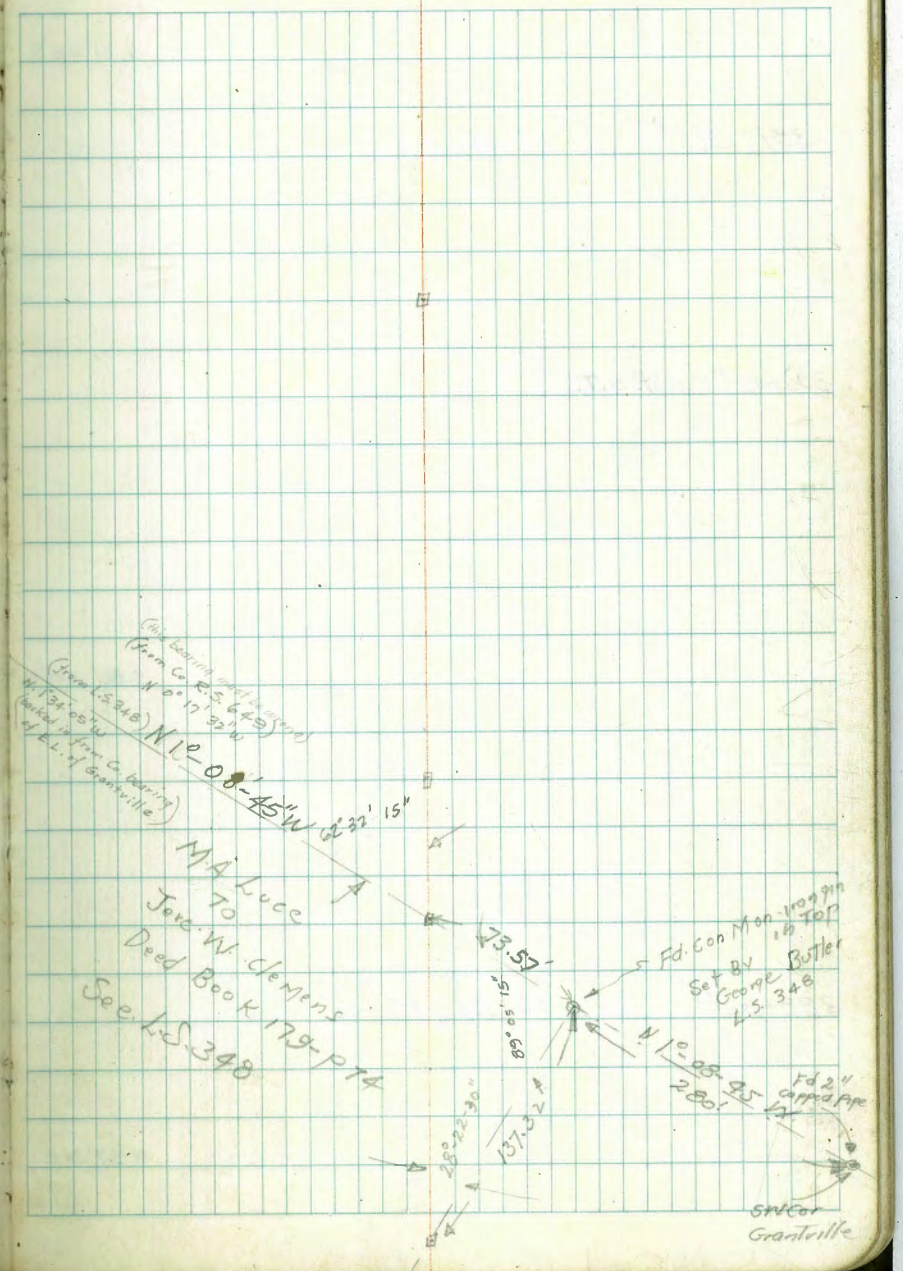
N. 48 39' 30" E

380+79.99 L. Lt 12° 18'-45"

379+48.84 int

N. 60° 58' 10" E
(from bearing of E.L. of Granville Co. bearing)

377+94.08 int



N. 81°45'E

391+56.72 L. Δ 11°41-00

390+93.70 P.O.T.

S 86° 34'E

388+90.75 L. Δ 55°-56'-00"

N 37°30 E

⊡ 45 1"x1"

⊡ 1"x1" Pine stake

⊡ 1"x1" Pine stake

S 86°23' E

401+88.77 L. Pt 0°-49'-00"
~~2°-55'-00~~

S. 87°-12' E

396+80.20 P.O.T.

395+86.21 L. Pt 11°-03'-00"

N. 81° 45' E

393+71.61 P.O.T.

394+11
93 71.6
60 f

13

1"x1'

1"x1"

1"x1"

1"x1"

S79°13 E

Elev Grade 730

410+00 L. Lt 29°-20'-00"

409+73 85 int El Capitan Pipe Line 36" Steel pipe

409+44 05 POT

S. 49°53' E

from Co. Bearing of E.L. of Grantville

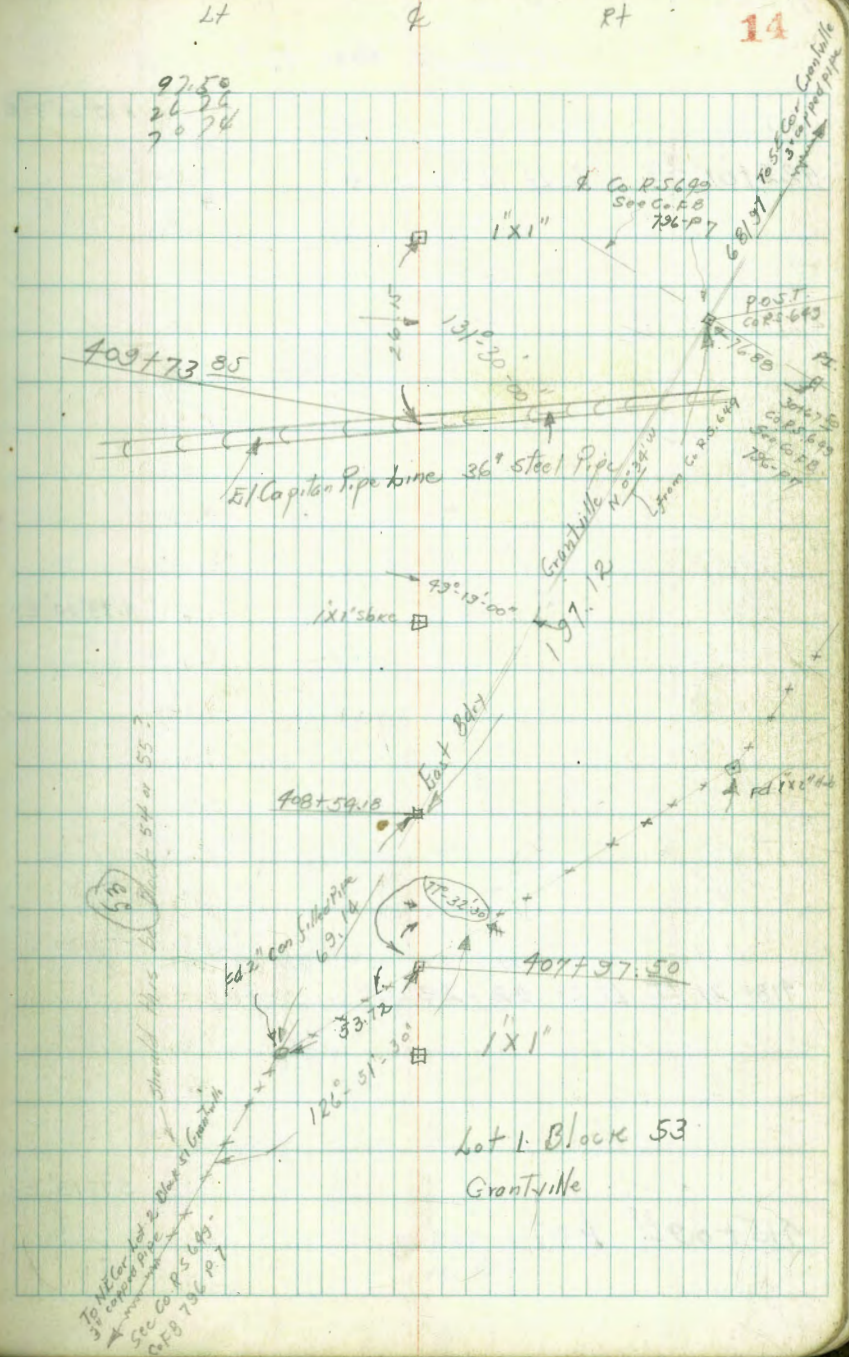
Bearings backed in from this bearing

408+54.18 int East Bdry Grantville

407+97.50 int

407+26 76 L. Rt ~~21°-06'-30"~~ 36°-30'-00

S 86° 23' E



(Continued Page 30)

N 67°06'30"E

422+01.20 L Lt 16°-03'-30"

778

N.83°10'E

418+21.44 L. Lt 17°-37'-00"

S 79°13'E

415+09.38 P.O.T.

P.O.T.

	⟨78.09⟩		
+75	edge Paving	1.41	76.68
BM		0.22	77.87
BM. ±57	6.55 ⟨79.83⟩		73.28
366+26 25	L. Rt	4.55	75.28
+50 ℄ Paving		4.90	74.9
+76 5	Edge oil & Rock Paving	5.72	74.1
367		6.7	73.1
+2		5.7	74.1
+21	G.L.t Rt 6 N. Lt		
+21		6.8	73.0
+50		7.5	72.3
368		7.9	71.9
+50		7.5	72.3
369		7.3	72.5
+50		6.1	73.7
+75		5.2	74.6
+91 98	L.Lt Ground	3.8	76.0
+96		4.8	75.0
370		4.9	74.9
+7		4.8	75.0
+15	W. Edge Pitch	11.9	67.9
+25		11.9	67.9
+41	E " "	11.3	68.5
+47		6.8	73.0

	⟨79.83⟩		
+52		7.6	72.2
+70		7.9	71.9
371		6.8	73.0
+10		7.3	72.5
+50		6.1	73.7
+55		4.9	74.9
+81		4.8	75.0
+84		3.9	75.9
+90		3.7	76.1
+92	Edge oil Rock Paving	4.40	75.43
372		3.90	75.93
+25		3.05	76.78
+62 43	L. Lt on stake (Widen Edge of Pavement)	3.19	76.64
TR 5.19	⟨81.83⟩	3.19	⟨76.64⟩
373		3.74	76.09
+32 2	Edge Paving Pavement	6.00	75.8
+50		6.0	~~75.8~~ 75.9
374		5.6	~~75.5~~ 76.4
+50		5.2	76.6
+77 5	Grass Line Rt 6 9.3 Rt		
375		5.2	76.6
+50		6.1	75.7
376		7.0	74.8
~~+50~~ 85	~~L. Rt on stake~~	~~8.37~~	~~73.46~~
check BM. 8.21	⟨79.3⟩	10.72	⟨71.11⟩
			71.10 BM

		⟨79.31⟩		
376+23 10	L. Rt	5.2	74.1	✓
+50		5.8	73.5	✓
377		5.6	73.7	✓
+25		4.5	74.8	✓
+35		0.9	78.4	✓
+50		2.8	76.5	✓
+70		4.1	75.2	✓
378		5.1	74.2	✓
"	4 Lt	5.7	73.6	✓
"	6 "	7.8	71.5	✓
"	20 "	8.6	70.7	✓
"	30' "	11.5	67.8	✓
378+14		5.7	73.6	✓
+17		7.2	72.1	✓
+40		6.7	72.6	✓
+55		5.3	74.0	✓
+70		5.5	73.8	✓
379		6.1	73.2	✓
"	15' Lt	9.1	70.2	✓
"	25 " Toe slope	11.8	67.5	✓
+50		5.8	73.5	✓
380		6.3	73.0	✓
"	25' Lt Toe slope	11.6	67.7	✓
+50		6.7	72.6	✓
+79 23	Lt on stake	5.89	73.42	✓

		⟨79.31⟩		17
TP. 7.89		[81.31]	5.89	⟨73.42⟩ ✓
381			8.0	73.3 ✓
"	35' Lt Toe slope		15.1	66.2 ✓
+50			6.8	74.5 ✓
+70			7.5	73.8 ✓
382			7.9	73.4 ✓
"	23' Lt Toe slope		14.7	66.6 ✓
+20			8.0	73.3 ✓
+35			6.3	75.0 ✓
+60	23' Lt		14.7	66.6 ✓
			5.9	75.4 ✓
383			7.2	74.1 ✓
"	15' Lt		11.6	69.7 ✓
"	27 " Toe slope		14.2	67.1 ✓
+40			6.5	74.8 ✓
+60			6.3	75.0 ✓
"	15' Lt		10.3	71.0 ✓
+75			5.5	75.8 ✓
384			6.3	75.0 ✓
"	40' Lt Toe		14.6	66.7 ✓
+45			6.6	74.7 ✓
+65			8.6	72.7 ✓
+69			8.6	72.7 ✓
"	10' Rt		7.7	73.6 ✓
"	10 Lt		9.6	71.7 ✓
"	25' Lt		11.4	~~71.9~~ 69.9 ✓

		⟨81.31⟩		
7+74			8.6	72.7
+85			6.8	74.5
385			5.4	75.9
"	10' Lt		7.4	73.9
"	25' Lt		10.2	71.1
+28 88	L. Lt	on stake	3.09	78.22
TP.	12.57	⟨85.77⟩	8.11	⟨73.20⟩
+40			7.6	78.2
+60			8.0	77.8
+79			8.5	77.3
+79.	9" Pepper Tree 1° Lt			
+80			9.0	76.8
386			9.2	76.6
"	10' Lt		11.4	74.4
"	25 "		14.8	71.0
+25			10.5	75.3
+4	5' Rt		9.6	76.2
" "	5 Lt		11.6	74.2
+50			11.2	74.6
+58	Low spot		11.3	74.5
"	" 10 Rt		9.8	76.0
"	" " Lt		12.4	73.4
387			10.8	75.0
"	10' Rt		9.9	75.9
"	10 Lt.		12.0	73.8
"	" 25 "		13.9	71.9

		⟨85.77⟩		
7+10			10.9	74.9
+17			9.7	76.1
+45			9.8	76.0
"	10' Rt		8.9	76.9
"	10' Lt		11.1	74.7
+50			9.1	76.7
+51 20	P.O.T.	on stake	9.03	76.74
+72			8.0	77.8
388			6.5	79.3
"	10' Rt		4.5	81.3
"	10 Lt		8.0	77.8
"	25 "		10.7	75.1
+25			5.2	80.6
+40			5.3	80.5
+60			5.9	79.9
"	10' Lt		7.5	78.3
+80			6.8	79.0
+90 75	L. Rt	on stake	8.61	77.16
"	10 Lt	Rt Lt. Back Tan	9.5	76.3
"	25 "		11.3	74.5
"	26 "		12.5	73.3
TP 11K		⟨88.32⟩	8.61	⟨77.16⟩
check BM #61			0.62	⟨87.70⟩
TP. 84		⟨85.58⟩	11.16	⟨77.16⟩
+90 75	7' Lt	Rt to Fence Tan	8.8	76.8

		↑ (85.58) ✓		
+90 75	12' Lt. RPL to face	11.2	74.4	✓
" "	26 " " " "	11.6	74.0	✓
389		7.9	77.7	✓
+32		5.7	79.9	✓
" 6' Lt		6.3	79.3	✓
" 7 "		7.7	77.9	✓
" 15' "		8.1	77.5	✓
+48		6.0	79.6	✓
+50		7.2	78.4	✓
+80		6.5	79.1	✓
" " 6 Lt		9.1	76.5	✓
" " 10 "		9.6	76.0	✓
390		7.6	78.0	✓
" 5' Rt		5.5	80.1	✓
" 10 "		5.2	80.4	✓
" 10 Lt		10.6	75.0	✓
TP	7.51 (84.67)	8.42	(77.16)	✓
+33 40' Eucalyptus 25 Lt trunk clear		1.2	83.5	✓
" 5' Rt		1.1	83.6	✓
" 10 Lt		5.0	79.7	✓
" 40 " Toe slope		16.4	68.3	✓
IP	3.68 (88.32)	0.03	(84.64)	✓
+60		2.9	85.4	✓
" 5' Rt		2.8	85.5	✓
" 10 "		5.7	82.6	✓

	↑ (88.32) ✓		
+60 20' Rt	9.7	78.6	✓ mw
+75	2.4	85.9	✓
+77	4.5	83.8	✓
+93 70 on Rotisbke Gdsome	3.89	84.43	✓
" 10 Rt	0.4	87.9	✓
" 10 Lt	7.3	81.0	✓
+98 40' Eu Stump 10° Rt			
391	3.6	84.7	✓
" 7' Rt	1.5	86.8	✓
" 10 Lt.	7.5	80.8	✓
" 25 "	13.8	74.5	✓
+10	4.0	84.3	✓
+20	5.3	83.0	✓
" " 2.7 Rt to 30' Line Eu Stump			
+20 5' Rt	3.1	85.2	✓
" " 10 " Lt	9.1	79.2	✓
+31	6.6	81.7	✓
" " 2.5 Rt to 36' Line Eucal Stump			
+54 72 Lt Lt on stake	10.45	77.87	✓
" " 5' Rt	8.4	79.9	✓
" " 10 Lt	13.3	75.0	✓
" " 35 " Toe slope	17.3	71.0	✓
+66 40' Eu Tree 7° Rt anchor			
" 4	9.6	78.7	✓
+80 0.4 Rt 20 Eucalyptus Tree			

See 1873/53 to Dwg.

	(88.32)		
+90	1.2 Lt. inclear 20' Eucalyptus		
+91	28 Rt " " 28 "		
392	45 Lt 29' Eucalyptus		
392	℄	9.2	79.1
"	5 Rt	7.3	81.0
"	10 Lt	13.2	75.1
"	20 "	17.5	70.8
"	33 "	19.8	68.5
T.P.	11.62 (91.56)	8.38	(79.94)
+24	29' Eu Stump Dead: 1 Lt. inclear		
+33	20 " " " 56 Rt " "		
+50		12.1	79.5
"	5' Rt	10.6	81.0
"	10 Lt	13.3	77.7
"	15 "	15.8	75.8
+75		11.2	80.4
393+00		10.0	81.6
"	5' Rt	7.6	84.0
"	10 Lt	13.0	78.6
"	20 "	16.1	75.5
+05	W End Mix House wall ℄	9.8	81.8
"	" 9' Rt Base " "	4.8	86.8
+35		5.3	86.3
"	" 5' Rt	4.9	86.7
"	" 3' Lt	8.1	83.5
"	" 10 "	9.3	82.3

0.68
95.81
89.49

	(91.56)		
+35	20' Lt	13.3	78.3
+60		4.3	87.3
+65		2.8	88.8
"	" 5' Rt	1.5	90.1
"	" 16.5 Base M. House wall	1.6	90.0
+71	61 P.O.T. on stake	2.75	88.81
+75		2.9	88.7
"	5' Rt	2.5	89.1
"	10 Lt	7.2	84.4
"	20 "	11.2	80.4
394		8.6	83.0
"	5' Rt	8.1	83.5
"	10 Lt	10.0	81.6
"	20 "	12.7	78.9
+20		14.3	77.3
+42		19.1	72.5
"	25' Rt	18.5	73.1
"	25 Lt	19.7	71.9
+65		20.2	71.4
"	25 Rt	19.1	72.5
"	25 Lt	21.2	70.4
+96		20.7	70.9
"	" 5' Rt	19.2	72.4
"	" 10 "	18.0	73.6
"	25 Lt	21.5	70.1

Sec 1873 54

		(91.56)			
395			20.1	71.5	
+42			13.1	78.5	
+50			12.1	79.5	
" "	5' Rt		10.4	81.2	
" "	10 "		8.1	83.5	
" "	10' Lt		16.3	75.3	
" "	22 "		21.7	69.9	
TP	5.49	(85.24)	11.81	(79.75)	
+86.21	L Rt		4.65	80.59	
"	5' Rt		3.0	82.2	
"	10' Lt		9.4	~~85.8~~ 83.8	
"	24 "	Toe slope	15.6	69.6	
396			4.0	81.2	
+25		(see 16.29 / 18)	3.3	81.9	
"	5' Rt		1.4	83.8	
"	10 Lt		7.5	77.7	
"	26 "	Toe slope	15.1	70.1	
+50			1.5	83.7	
+86.20	POT on stake Grade		1.79	83.43	
"	5' Rt		0.4	84.8	
"	10' Lt		5.4	79.8	
"	20' "		10.3	74.9	
397			3.6	81.6	
"	5 Rt		2.2	83.0	
"	10 Lt		6.3	78.9	

		(85.24)			
+55			11.7	73.5	
"	5' Rt		10.8	74.4	
"	10 Lt		13.0	72.2	
+65			11.8	73.4	
"	10' Rt		10.7	74.5	
"	20' Rt		9.6	75.6	
"	10 Lt		13.0	72.2	
"	20 Lt		14.0	71.2	
+74			12.2	73.0	
+85			10.3	74.9	
398			9.2	76.0	
"	5' Rt		8.0	77.2	
"	11 Lt		11.7	73.5	
"	18 "	Toe slope	14.9	70.3	
+15			8.5	76.7	
+50			9.3	75.9	
"	5' Rt		8.1	77.1	
"	10 Lt		11.9	73.3	
+65			9.6	75.6	
+94			12.0	73.2	
399			11.7	73.5	
"	10' Rt		10.5	74.7	
"	15 "		10.1	75.1	
"	10' Lt		12.8	72.4	
"	25' "		14.0	71.2	
TP	9.94	(84.03)	11.15	(74.09)	

	(84.03)		
710	10.4	73.6	
" 10' Rt	9.3	74.7	
" 25 "	7.9	76.1	
" 15' Lt	12.0	72.0	
725	11.0	73.0	
" 10' Rt	8.9	75.1	
" 10' Lt	11.7	72.3	
" 25 "	12.5	71.4	
750	9.2	74.8	
400+00	8.0	76.0	
" " 10' Rt	5.1	78.9	
" " 10' Lt	10.6	73.4	
" 18 " Toe slope	13.1	70.9	
750	6.0	78.0	
+80	4.9	79.1	
401+00	4.7	79.3	
" " 10' Rt	1.7	82.3	
" " 13' Lt	8.8	75.2	
" " 18 " Toe slope	12.8	71.2	
+20	5.1	78.9	
+46	4.1	79.9	
+88 Lt Rf on stake	4.61	79.42	
" 10' Rf	1.4	82.6	
" 12' Lt	8.0	76.0	
" 17 " Toe slope	12.3	71.7	

	(84.03)		
TP on L 401+88.27	(89.74)	4.61	(79.42) 79.33 .009
402		10.6	79.1
450		11.7	78.0
403		14.3	75.4
" 10' Rt		11.3	78.4
" 5' Lt		16.2	73.75
" 13 " Toe slope		17.2	72.5
+15		15.6	74.1
+30 Low pt		16.0	73.7
" " 10' Rt		14.8	74.9
" " 15' Lt		17.3	72.4
450		15.1	74.6
404		14.2	75.5
" 25' Rt		12.4	77.3
" 25 Lt		15.5	74.2
450		13.9	75.8
405		11.0	78.7
450		8.5	81.2
406		6.4	83.3
450		4.9	84.8
725		4.4	85.3
434		5.0	84.7
407		4.5	85.2
+09		3.9	85.8

Reduced by MRV 8/2/1942

		(89.74)			
+26	26	L-Rt w/stake	4.63	85.11	✓
+50			3.9	85.8	✓
408			2.9	86.8	✓
Check	BM # 64	6.64	(89.96)	6.40	(83.34) 83.32
~~+20~~					
+20			2.9	87.1	✓
+40			3.0	87.0	✓
+50			4.0	86.0	✓
409			6.6	83.4	✓
"	10' Rt		4.0	86.0	✓
"	12' Lt		8.7	81.3	✓
"	25' "		8.8	81.2	✓
+15			7.0	83.0	✓
+41			1.5	88.5	✓
+70			8.9	81.1	✓
+73	85	Ø Cap to a Pipe Invert	36" 9.3	80.7	✓
"		" Top of 36" pipe	10.3	(79.83)	✓
+80			9.3	80.7	✓
+85			7.6	82.4	✓
410+00		L-Lt on stake	8.17	(81.79)	✓
+11			9.9	80.1	✓
+25			10.9	79.1	✓
+50			11.2	78.8	✓
411			11.4	78.6	✓
+50			11.1	78.9	✓

		(89.96)			
412			10.9	79.1	✓
TP	10.80	(90.45)	10.31	(79.65)	✓
+50			10.6	79.9	✓
413			10.0	80.5	✓
+50			7.4	83.1	✓
414			4.8	85.7	✓
+25			2.8	87.7	✓
+50			2.2	88.3	✓
+75			2.5	88.0	✓
415			2.5	88.0	✓
+10			2.2	88.3	✓
"	25' Lt	Top Creek Bank	4.5	86.0	✓
"	35 "	Bottom Creek	11.2	79.3	✓
+25			2.9	87.6	✓
+50			2.9	87.6	✓
+60			3.6	86.9	✓
+85			4.0	86.5	✓
"	15' Lt	Creek Bank	5.5	85.0	✓
"	28 "	Bottom Creek	10.3	80.2	✓
416			4.7	85.8	✓
TP	3.29	(89.72)	4.02	(86.43)	✓
+10			4.6	85.1	✓
+40			4.4	85.3	✓
+53			6.3	83.4	✓
"	10' Lt	S. Bank Creek	6.8	82.9	✓
"	12	Bottom	9.5	80.2	✓

		⟨89.72⟩		
417		5.9	84.3	✓ MN
" "	8' Lt S Bank Creek	6.1	83.6	✓
" "	10 " Bottom "	10.2	79.5	✓
+50				
"	7' Lt S Bank Creek	5.9	83.8	✓
"	10 " Bottom "	9.7	80.0	✓
418		5.0	84.7	✓
"	12' Lt S Bank Creek	5.9	83.8	✓
"	18 " Bottom "	9.5	80.2	✓
+21	44 Lt Lt	5.15	84.57	✓
+50		4.9	84.8	✓
" "	10 Lt	6.9	83.3	✓
" "	18 "	9.6	80.1	✓
419		5.2	84.5	✓
" "	8' Lt	6.1	83.6	✓
" "	12 "	8.8	80.9	✓
Check BM #66		5.38	84.34	opp 419 ✓
			84 37 .03 error	
+20		4.6	85.1	✓
+45		5.1	84.6	✓
" "	2' Lt	5.4	84.3	✓
" "	7 "	7.1	82.6	✓
+50		4.9	84.8	✓
+80		3.8	85.9	✓
" "	2' Lt	5.6	84.1	✓
" "	4 "	6.5	83.2	✓

		⟨89.72⟩		
420+00		3.5	86.2	✓ MN
" 5' Lt		4.5	85.2	✓
" 6' "		6.4	83.3	✓
+12		4.5	85.2	✓
+30		3.6	86.1	✓
+50		4.0	85.7	✓
+75		4.3	85.4	✓
421		3.8	85.9	✓
9' Lt		4.8	84.9	✓
16 "		7.9	81.8	✓
TP 534	⟨92.02⟩	3.04	⟨86.68⟩	✓
+55		5.6	86.4	✓
" 7' Lt S Top. Creek Bank		6.0	86.0	✓
" 8 "		8.3	83.7	✓
" 18' Lt		12.5	79.5	✓
422+00	20 Lt Lt Stake	9.8	87.76	✓
" " 13' Lt		5.8	86.2	✓
" " 22 "	Bottom Creek	10.8	81.2	✓
+56		4.9	87.1	✓
423		4.3	87.7	✓
" 14' Lt	Top Bank	5.3	86.7	✓
" 21	Bottom Creek	9.7	82.3	✓
TP 490	⟨93.34⟩	5.56	⟨88.46⟩	✓
Check BM #67		1.12	92.24	✓
+50		4.2	89.2	✓

		⟨93.36⟩			
+70			4.2	89.2	✓
+85			6.1	87.3	✓
429			6.0	87.4	✓
"	18' Lt		8.3	85.1	✓
+20			6.1	87.0	✓
+30			8.2	85.2	✓
+50			6.9	86.5	✓
+88			6.0	87.4	✓
425			6.8	86.6	✓
+08			6.3	87.1	✓
+25	Low spot		7.9	85.5	✓
+40			5.9	87.5	✓
"	6' Rt		9.1	84.3	✓
"	20 "		9.8	83.6	✓
+50			5.5	87.9	✓
426			9.3	89.1	✓
TP	6.69	⟨95.82⟩	4.23	⟨89.13⟩	✓
+50			6.7	89.1	✓
+65			6.2	89.6	✓
+80			6.6	89.2	✓
427			8.0	87.8	✓
+15			6.4	89.4	✓
+35			6.0	89.8	✓
+65			6.5	89.3	✓
428			4.9	90.9	✓

		⟨95.82⟩			
+40			5.3	90.5	✓
+50			3.8	92.0	✓
429			3.0	92.8	✓
+50			2.0	93.8	✓
TP	3.70	⟨104.07⟩	1.45	⟨94.37⟩	✓
430			7.6	96.5	✓
Check BM	#68		8.16	⟨95.91⟩	
+32			4.5	99.6	✓
+50			4.6	99.5	✓
" "	9' Lt		7.1	96.4	✓
+90			6.9	97.2	✓
431			7.2	96.9	✓
TP	7.79	6.55 ⟨103.53⟩	7.09	⟨96.98⟩	✓
432			5.8	97.7	✓
+50			4.7	98.8	✓
433			5.1	98.4	✓
+01	Bank of creek		5.1	98.4	✓
+10	Bottom Low spot		8.6	94.9	✓
+22			6.4	97.1	✓
+50			6.3	97.2	✓
+75			5.3	98.2	✓
434			5.0	98.5	✓
+h			4.9	98.6	✓
+15	Low spot		8.3	95.2	✓
+20			7.8	95.7	✓
+h			6.4	97.1	✓

		⟨103.53⟩ ✓			
+40			6.8	96.7	✓W
+50			5.9	97.6	✓
+70			6.4	97.1	✓
435			5.1	98.4	✓
+47			4.4	99.1	✓
+48			5.9	97.6	✓
+60			6.6	96.9	✓
+70			4.9	98.6	✓
+85			4.1	99.4	✓
436			5.2	98.3	✓
+01			4.3	99.2	✓
+25			3.1	100.4	✓
+50			3.4	100.1	✓
T.P.	6.45	⟨106.98⟩ ✓	3.00	⟨100.53⟩	✓
Check BM #69	160 Rt + 42 Lt SO		4.09	⟨102.89⟩	✓
437			7.0	100.0	✓
+31			8.2	98.8	✓
+33 W. side Main channel			9.5	97.5	✓
+60 E " " "			9.8	97.2	✓
+65			7.1	99.9	✓
+73			5.5	101.5	✓
438			5.1	101.9	✓
+15			4.3	102.7	✓
+50			4.3	102.7	✓
439 P.O.T. on stone	6.86	⟨110.07⟩ ✓	3.77	⟨103.21⟩	✓

		⟨110.07⟩ ✓			
+35			6.6	103.5	✓W
+50			7.3	102.8	✓
+75			7.6	102.5	✓
440			7.4	102.7	✓
+15			7.6	102.5	✓
+20			5.8	104.3	✓
+50			5.6	104.5	✓
441			5.2	104.9	✓
+50			5.1	105.0	✓
Check BM #70 60' Rt 441+50			3.68	⟨106.39⟩	✓
+80			5.3	104.8	✓
442			4.8	105.3	✓
+25			4.-	105.9	✓
+50			4.1	106.0	✓
443			4.0	106.1	✓
+50			3.9	106.2	✓
+70			3.9	106.2	✓
+85			2.7	107.4	✓
444 P.O.T. on stone			2.4	107.7	✓
T.P. 7.30 above pol		⟨115.09⟩ ✓	2.28	⟨107.79⟩	✓
+50			6.9	108.2	✓
445			6.1	109.0	✓
+26 Sta L.Lt on stake			5.58	109.51	✓
+50			5.2	109.9	✓
446			5.3	109.8	✓

		⟨115.09⟩			
+50			4.9	110.2	✓ NN
447			4.4	110.7	✓
+50			4.0	111.1	✓
448			4.0	111.1	✓
+50			3.1	112.0	✓
check BM #71 12'Lt 448+70	4.71	⟨117.85⟩	1.95	⟨113.14⟩	✓ Spike in Root of scrub oak
449			5.1	112.8	✓
+50			4.9	113.0	✓
450			3.9	114.0	✓
+50			3.7	114.2	✓
451			3.4	114.5	✓
" "	30' Lt Top creek Bank		3.0	114.9	✓
" "	33' " Creek Bottom		6.2	111.7	✓
~~TP~~ on 2	~~+2.92~~		~~3.72~~	114.13	Destroyed
BM #71	4.41	⟨117.57⟩	113.16 →		
451+75			2.3	115.3	✓
451+74.4 T.P. on P.O.T.	10.~~21~~ 10	⟨125.~~27~~ 36⟩	2.31	⟨115.26⟩	✓
452			10.7	114.7	✓
+17			9.9	115.5	✓
+30 82	L on stake		9.67	115.69	✓
+50			9.7	115.7	✓
+70			9.0	116.4	✓
453			6.7	118.7	✓
+20			4.7	120.7	✓
+50			4.3	121.1	✓

		⟨125.27 T 36⟩			
check BM #72 100' Lt 453+25			6.08 5.99	119.28	✓ NN
454			1.9	123.5	✓
T.P. 10.76		⟨134.95⟩	1.17	⟨126.~~70~~ 9⟩	✓
+50			8.9	126.1	✓
455			6.0	129.0	✓
+25			4.8	130.2	✓
+52.30 L. Pt on stake			4.97	⟨129.98⟩	✓
456			1.6	133.4	✓
T.P. 12.70		⟨146.90⟩	0.75	⟨134.29⟩	✓
+90			10.2	136.7	✓
+60			8.4	138.5	✓
+80			5.6	141.3	✓
457			3.6	143.3	✓
+10 25 P.O.T.			3.2	143.7	✓
T.P. on P.O.T. 12.30		⟨155.99⟩	3.21	⟨143.69⟩	✓
check BM #73 90' Rt 457+10 25 P.O.T.			5.12	150.87	✓ .02 low
+50			10.8	145.2	✓
458			7.6	148.4	✓
+50			4.7	151.3	✓
T.P. 11.33		⟨164.32⟩	3.60	152.99	✓
459			10.3	154.0	✓
+19 L. Pt on stake			9.64	154.68	✓
+37			9.3	155.0 ✓ 154.71	✓ .03 error
+42 low pt of wash			10.8	153.5	✓

T
〈164.32〉

459+47		9.3	155.0	✓
+56		9.7	154.6	✓
+59		8.1	156.2	✓
+75		5.3	159.0	✓
+80		5.6	158.7	✓
460		4.3	160.0	✓
+35		2.2	162.1	✓
" "	4' Rt	1.7	162.6	✓
" "	6 " Bottom channel	3.7	160.6	✓
TP.	12.24 〈175.53〉	1.03	〈163.29〉	✓
+38		12.1	163.4	✓
+50		11.6	163.9	✓
" "	3' Rt	11.8	163.7	✓
" "	5 " channel	13.6	161.9	✓
465	Bank channel	10.4	165.1	✓
+73	in channel	12.7	162.8	✓
+79		10.3	165.2	✓
461		8.4	167.1	✓
+10		7.7	167.8	✓
+12		8.5	167.0	✓
+23	in wash	8.4	167.1	✓
+26		6.3	169.2	✓
+40		4.9	170.6	✓
" "	6' Rt in wash	7.5	168.0	✓
+55		3.3	172.2	✓

T
〈175.53〉

28

+75		2.7	172.8	✓
" "	3' Rt	3.8	171.7	✓
" "	20' Rt in wash corrected 45	4.8	170.7	✓
TP.	12.37 〈187.39〉	0.51	〈175.02〉	✓
+86		12.2	175.3	✓
"	7' Rt	14.1	173.4	✓
+94.26	L Rt on stake	11.16	176.29	✓
462		8.3	179.2	✓
+10		3.6	183.9	✓
check BM #79		5.77	181.62	✓
+20		0.9	186.4 (181.68, 0.06 error)	
TP	12.54 〈199.74〉	0.25	〈187.20〉	✓
+60		2.9	196.8	✓
TP.	12.78 〈212.32〉	0.20	〈199.54〉	✓
463		2.7	209.6	✓
TP.	12.42 〈224.69〉	0.05	〈212.27〉	✓
+20		9.4	215.3	✓
+41.82	P.O.T. on stake	4.90	219.79	✓
+56		2.4	222.3	✓
TP.	11.94 〈236.95〉	0.18	〈224.51〉	✓
+80		8.3	228.2	✓
" "	5' Rt	9.4	227.1	✓
464		2.8	233.7	✓
"	5' Rt	3.8	232.7	✓
TP	12.70 〈248.69〉	0.46	〈235.99〉	✓

		⟨248.69⟩			
+25			7.3	241.4	
+45			6.5	248.2	
TP	13.09	⟨261.65⟩	0.13	⟨248.56⟩	
+55			9.9	251.8	
"	5' Rt		10.9	250.8	
Check BM #75			7.57	259.08	0.01 error
T.P.	12.49	⟨274.04⟩	0.10	⟨261.55⟩	
465			8.3	265.7	
" 5'	Rt		8.8	265.2	
T.P.	12.56	⟨286.52⟩	0.08	⟨273.96⟩	
465+37			9.7	276.8	
+52			6.2	280.3	
+65			2.8	283.7	
T.P.	12.70	⟨298.48⟩	0.74	⟨285.78⟩	
+75			12.0	286.5	
TP.	12.45	⟨310.61⟩	0.32	⟨298.16⟩	
466+09.25	on L:		10.57	300.04	
check BM. #76			10 33	300.28	0.03 error
+20			8.7	301.9	
"	5' Rt		9.9	300.7	
+40			7.0	303.6	
" "	5' Rt		9.5	301.1	
" "	5' Lt		5.0	305.6	

⟨310.61⟩

+80	6.2	304.4	
" 5' Lt	3.5	307.1	
" 5' Rt	8.6	302.0	
467	3.7	306.9	
5' Lt	1.9	308.7	
" 5' Rt	6.4	304.2	
+15 24' Lt	2.88	307.73	
" " 5' Rt	5.4	305.2	
" 5' Lt	+0.2	310.8	
TP. on L: 11.77	2.88	⟨307.73⟩	
+30	11.1	308.4	
" " 5' Lt	8.3	311.2	
" " 10 Rt	16.9	302.6	
+65	10.0	309.5	
" " 5' Lt	7.4	312.1	
" " 10' Rt	15.6	303.9	
+93	10.7	308.8	
468	11.9	307.6	
" 5' Lt	8.6	310.9	
" 10' Rt	17.6	301.9	
+38	18.9	301.1	
" " 5' Lt.	15.1	304.4	
" 10 Rt.	21.6	297.9	
+60	15.6	303.9	
" 5' Lt	12.7	306.8	

779
8
86.1

N85°08'E

445+26 59 L. Lt 10°-30'-30" 1"x1" pine stake

S 84°21'30"E

439+00 P.O.T. 1"x1" stake

431+51.74 L. Rt 28°-32'-00" 1"x1" Elev. stake 97.00
102.3 x
Elev. Grad 97.4

N 67°06'30"E

430+29 44 P.O.T. 1"x1" stake Elev. stake 93.0
x 109.3
Elev. 86.1
18
8-9

S 62°01'30"E

457+10.75 P.O.T.

455+52.30 L. Rt. 16°-25'-00"

S 78°26'30E

452+30.82 L. Rt. 16°-25'-30" Line to State College Tanks

This ℄ will be the point from which Sewer will be extended past "Dobe falls"

N 85°08' E

⊞ 1"x1" Stake

⊞ 1x1 Stake

⊞ 1"x1" Stake

463+78.32 Int Co Highway Proposed Location Alvarado Canyon Road
See Co. F.B. 796

463+41.82 P.O.T.

S 30°05'45"E
from Co. R.S. 649
Check

S 30°05'30"E

461+94.26 L. Rt. 9°-27'-30"

S 39° 33' E

459+19 L. Rt 22°-28'-30"

S 62°01'30"E

R.S. 649

83+43.4 Ft Co. Hiway

50°-23'-15"

Sec. Co. F.B. 796 p. 17

Fd Mon Terra Cotta Pipe filled with Concrete & Rock 12 cts

Old State College Blvd. Store

Proposed Sewer

1"x1" stake

S 80°-29'

see page 36 for this tie

N 65°-25'-30" W 67.17

N 66°-57'-20" W 67.60

This Angle point is set at toe of long slope to State College Treadmart Floor

1"x1" stake

To State College Stadium

Wash

steep gradient
Water runs very fast
Has carried large volume of water
To here
See page 36

Prop. Line

See page 36 for this Tie

Rock

State College

1"x1" stake

469+99.50 P.O.T.

468+95.24 Lt 12°-15'-00"

467+15.74 L Lt 3°-36'-00"

466+09.75 L Rt 29°-32'-30"

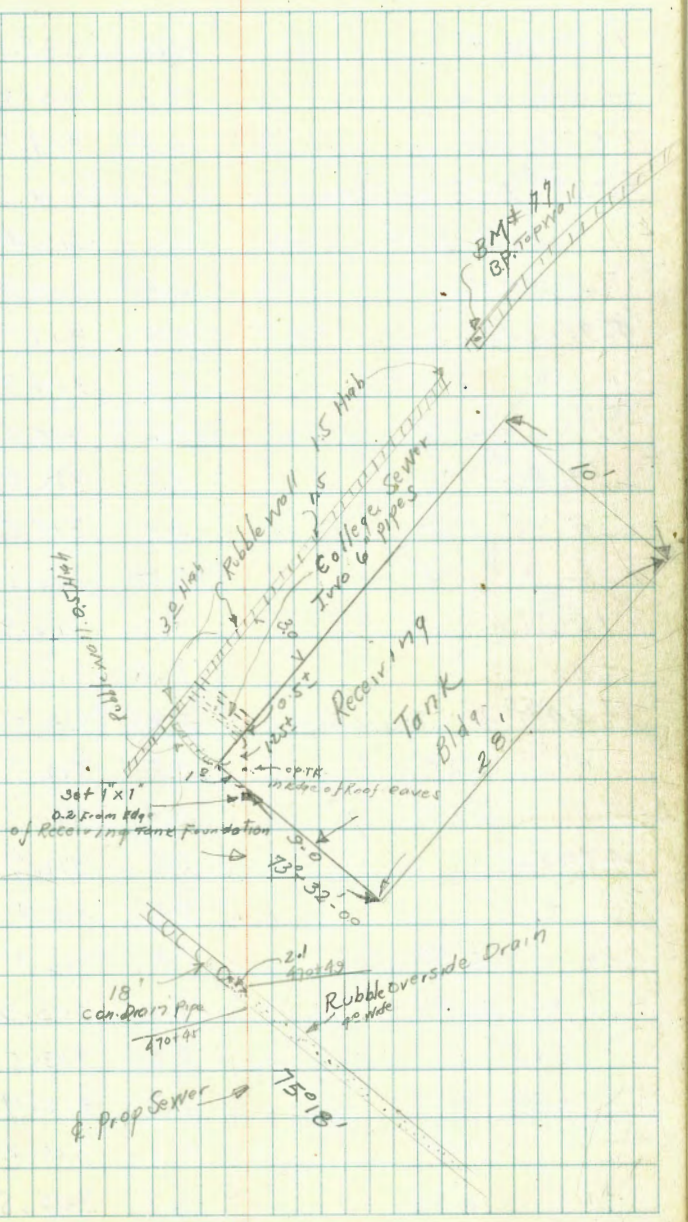
1"x1" stake

1"x1" stake

1"x1" stake

1"x1" stake

470+65.03 To Edge of Receiving Tank. Bldg
470+64.88 To stake 1x1"

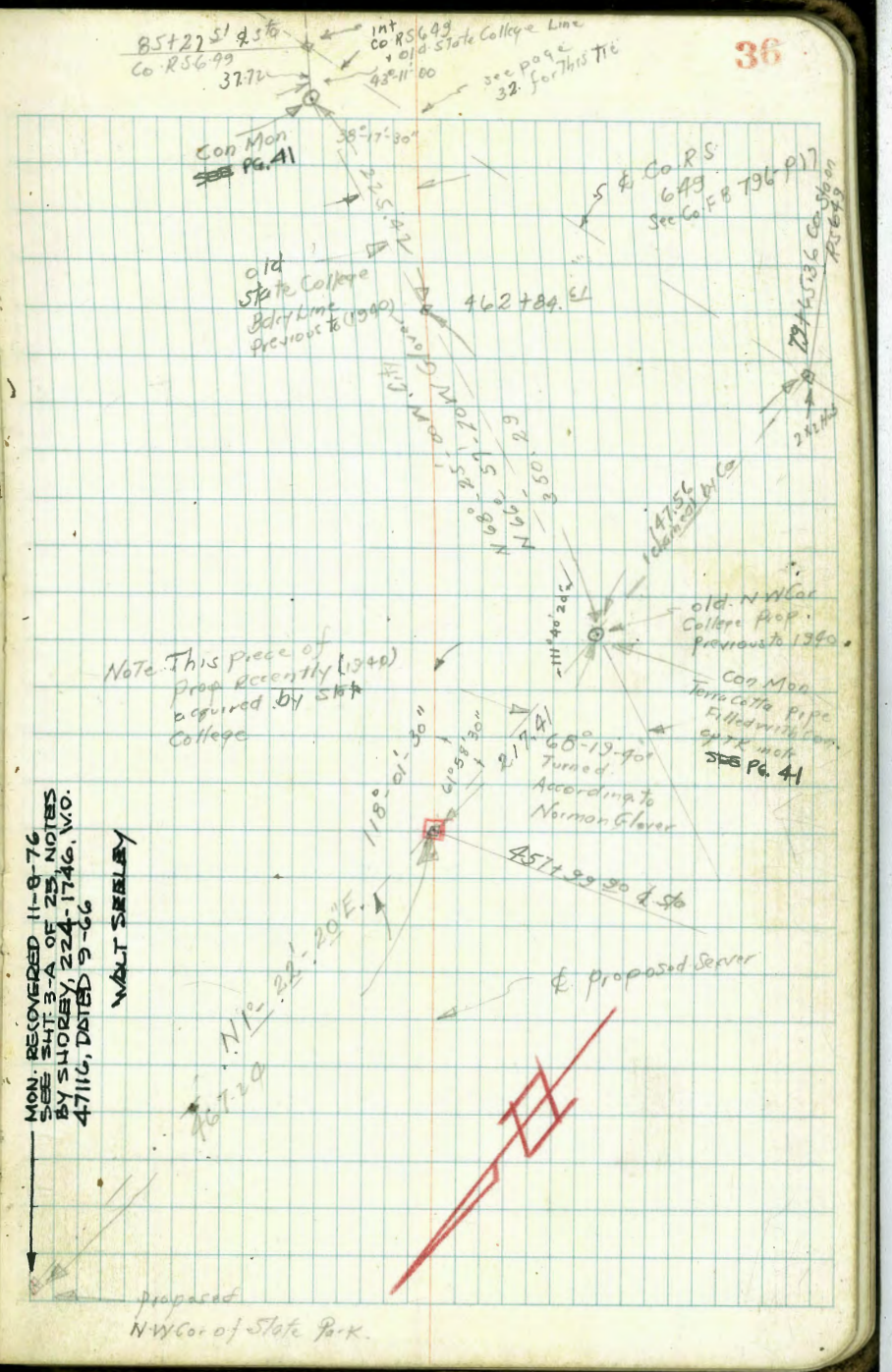


		(319.50)		
+60	10 Rt	21.0	298.5	✓
+68		14.5	305.0	✓
+83		10.4	309.1	✓
+95 24	Lt on stake	9.90	(309.60)	✓
" "	5' Lt	6.6	312.9	✓
" "	10' Rt	16.4	303.1	✓
469+20		7.8	311.7	✓
" "	5' Lt	5.2	314.3	✓
" "	10' Rt	14.0	305.5	✓
+40		6.7	312.8	✓
" "	5' Lt	3.9	315.6	✓
" "	10' Rt	13.0	306.5	✓
+60		7.0	312.5	✓
+80		6.3	313.2	✓
+94 50	P.O.T. on stake	5.96	(313.54)	✓
"	5' Lt	2.8	316.7	✓
"	10 Rt	9.4	310.1	✓
470+05		7.8	311.7	✓
+10		7.8	311.7	✓
" "	5' Lt	4.4	315.1	✓
" "	10 Rt	14.0	305.5	✓
+25		6.0	313.5	✓
+38		6.6	312.9	✓
" "	5' Lt	4.3	315.2	✓
" "	10' Rt	13.7	305.8	✓

(319.50) ✓

+47 & 4' over side con Drain	7.63	311.87	✓
Flow 18" pipe 2.1 Lt	6.65	312.85	✓
+56	9.6	309.9	✓
+64 88 on 1"x1" stake	9.51	309.99	✓
+67 ± Flow Line ex. 6" pipe	10.50	309.00	✓
" " Floor Receiving Bldg.	8.92	310.58	✓
T.P. 3.27 (317.84)	4.93	(314.57)	✓
check B.M. #77 B.P. Top Cobble Headwall 2.5 ot Receiving Bldg	5.98	(311.91 311.94) .03 error	✓

Ties Old + New College Bdry Lines



410+00

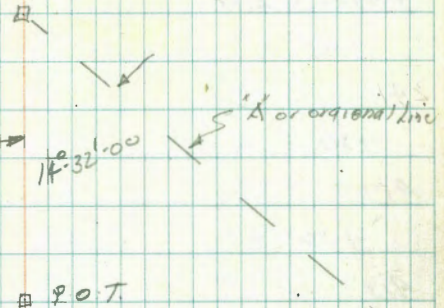
Alternate Line "B" From 410+55.21 on "A" or First Line to 431+51.74 on "A" Line See Page 14

430+94.20.8 = 431+51.74 "A" or original line L. Rt. 14°-00'-45".

This alternate line not to be used a gravel pit has been established on line & already traversed 8+10 9/13/44

410+55.21 L. Lt. 48°-28'-40" on production Back Tangent

410+00 L. Lt. on "A" Line, P.O.T. on "B" Line



5/20/4m

Profile Levels for "B" Line Alternate

B.M #C4

	L.B.7	85.23		83.36
410+55 07	L.Lt		2.40	82.83
+85			5.2	80.0
411			5.5	79.7
+50			6.5	78.7
412			6.7	78.5
+50			6.1	79.1
413			5.6	79.6
+50			5.2	80.0
+80	Top Bank		4.2	81.0
+85	Edge creek		7.6	77.6
T.P.	5.07	86.85	3.40	81.83
414	ctr creek Bottom		9.1	77.7
+20	E. Edge creek		8.5	78.3
+23			6.8	80.0
+35			6.1	80.7
+50			5.0	81.2
+65			6.1	80.7
+85			5.4	81.4
415			4.7	82.1
+10			5.8	81.0
+50			5.1	81.7
416			5.2	81.6
+30			5.0	81.8

86.85

+38	Top Bank	6.7	80.1
+42	W Edge creek	8.0	78.8
+50	" "	8.2	78.6
+60	E Edge creek	7.2	79.1
+70	Top Bank	6.2	80.6
+82	" "	5.5	81.3
+87	W Edge creek	7.9	78.9
417	ctr creek	8.1	78.7
+10	E Edge creek	8.0	78.8
+18	Top Bank	5.9	80.9
+50		4.5	82.3
418		3.2	83.6
Tr on B.M. #65	7.07	88.12	5.80	81.05
+50			3.6	84.5
419			2.6	85.5
+50			1.2	86.9
T.P.	8.11	94.58	1.65	86.47
420			7.6	87.0
+40			6.1	88.5
421			5.9	88.7
+50			5.2	89.4
422			4.9	89.7
+50			5.0	89.6
423			5.0	89.6
+12.05	P.O.T.		4.93	89.65

		π 94.58		
423 +50			5.6	89.0
+97	Top Bank		5.4	89.2
424			7.0	87.6
+05	W. Edge channel		9.3	85.3
+16	Low spot in "		9.5	85.1
+20			8.4	86.2
+40	E. Edge channel		8.9	85.7
+44	" Top Bank		7.2	87.4
T.P	8.14	96.20	6.52	88.06
+65			8.4	87.8
+75			7.6	88.6
425			7.0	89.2
+50			6.8	89.4
+80			6.9	89.3
+87			7.4	88.8
426			7.3	88.9
+20			6.7	89.5
+35			5.8	90.4
+60			5.2	91.0
427			4.9	91.3
+06			5.0	91.2
+10	W. Edge Small channel		7.0	89.2
+40	E " " "		6.9	89.3
+60			5.8	90.4
428			5.3	90.9

		π 96.20		
+50			4.2	92.0
+60			3.5	92.7
429			3.0	93.2
+50			2.4	93.8
T.P.	6.06	99.82	2.44	93.76
430			4.8	95.0
+50			3.6	96.2
+94 20"B" = 431+51 74'A'			2.79	97.03

5/21/92

Alternate Line "C" or Canyon Line
to State College Treatment Plant.

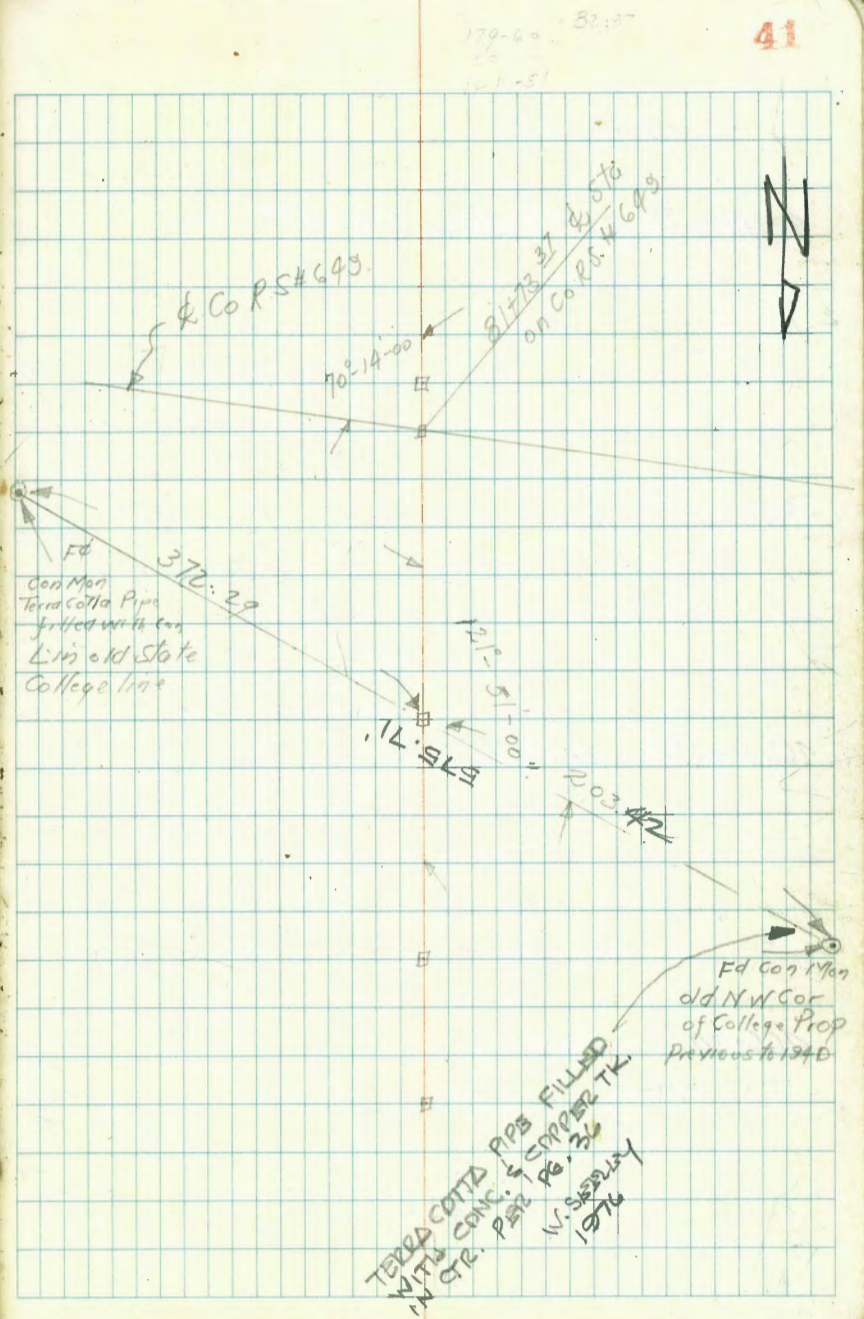
464+12.42 L. Lt 8°-22'-00"

462+92.67 int Co R.S. #649. See Co. F.B. 796-pg 17

461+82.37 int Old State College Line. P.O.T.

459+66.26 L. Rt 51°-47'-00

459+19 L on "A" original Line = P.O.T.



470+67.95 end ℄ Line = 470+69.88 "A" Line

468+29.50 p.o.T.

466+90.60 L.t 20°-01'-00"

466+39.76 p.o.T.

□ 1X1 stake 0.2 from Edge of receiving Tank Rd

□ 1"x1" stake

□ 1"x1" stake

□ 1"x1" stake

5/22/42

Profile Levels for "C" Line Alternate

BM 459+19 Lon "A" Line	9.88	(164.59)		(154.71)	See page 27
459+31	Top Bank		9.9	154.7	
+36	W Edge creek channel		11.5	153.1	
+50			9.8	154.8	
+57	E. Edge channel		10.5	154.1	
+58			8.7	155.9	
+66 26	L. Rt on stake		6.86	(157.73)	
+80			6.3	158.3	
+89			4.9	159.7	
460			4.8	159.8	
+24	Top bank		3.1	161.5	
+30	Ctr channel		4.9	159.7	
+34	Top Bank		3.1	161.5	
+50			1.0	163.6	
T.P.	11.07	(174.63)	1.03	(163.56)	
+60			10.6	164.0	
+80			8.0	166.6	
461			5.6	169.0	
+15			4.6	170.0	
+50			2.0	172.6	
" "	12' Lt channel		4.6	170.0	
T.P.	12.76	(182.04)	2.35	(172.28)	
171 State College Line +82 37	on stake		7.2	174.8	
" "	12' Lt channel		9.3	172.7	
462					

(182.04)

43

462+30		3.7	178.3	
" " 2 Lt		4.3	177.7	
" " 3 "	Can be filled in Bottom Small channel	7.3	174.7	
" " 6 "		4.7	177.3	
+43		2.0	180.0	
TP. 8.52	(189.87)	0.69	(181.35)	
+43 - 11' Lt	channel	11.6	178.3	
+67		6.0	183.9	
463		5.7	184.2	
+50		3.5	186.4	
+70		2.2	187.7	
TP 6.90	(196.21)	0.56	(189.31)	
464		6.6	189.6	
+12 42	L on stake	6.86	189.35	
+19		7.1	189.1	
+20	N Edge channel	8.6	187.6	
+28	S " "	8.0	188.2	
+30	Top Bank See sketch	5.1	191.1	
+55	" "	2.9	193.3	
+59	N Edge channel	5.5	190.7	
+76	S " "	4.0	192.2	
+74	Top Bank	2.3	193.9	
TP 10.43	(203.85)	2.79	(193.42)	
+79		9.3	194.0	

		〈203.85〉		
464 +83		6.6	197.3	✓
464+97 57	P.O.T. on stake	5.54	198.31	✓
465+18		3.4	200.5	✓
+40	Top Bank	2.0	201.9	✓
+43	N Edge Channel	3.7	200.2	✓
+52		3.7	200.2	✓
+58	Ctr + low pt in Channel	4.1	199.8	✓
+62		2.6	201.3	✓
+66		1.3	202.6	✓
T.P.	8:51 〈209.35〉	3.01	〈200.84〉	✓
+86		4.6	204.8	✓
+98	Top Bank	3.8	205.6	✓
466 Tot	N Edge Creek	5.3	204.1	✓
+16	S " "	4.4	205.0	✓
+18	Top Bank	2.7	206.7	✓
+34 76	P.O.T. on stake	1.69	207.66	✓
T Pon P.O.T	3.78 〈217.44〉	1.69	207.66	✓
+34 76	5' Lt Channel	3.5	213.9	✓
+47	Top Bank	9.8	207.6	✓
+50	N Edge Channel	10.5	206.9	✓
+58	S " "	10.2	207.2	✓
+61	Top Bank	3.8	213.6	✓
+85		4.5	212.9	✓
T.P. on L-Lt 466+30 60	12.55 〈226.61〉	3.38	〈214.06〉	✓
+99		12.5	214.1	✓

		〈226.61〉		81
467		10.8	215.8	✓
" 5' Rt		12.0	214.6	✓
" 5' Lt		9.1	217.5	✓
+27		4.7	221.9	✓
" " 11' Rt	Top Bank	8.2	218.4	✓
" " 13' "	Bottom Ditch	14.3	212.3	✓
" " 5' Lt		2.4	224.2	✓
T.P.	12.66 〈237.86〉	1.41	〈225.20〉	✓
+45		12.0	225.9	✓
" 5' Rt		14.6	223.3	✓
" 5' Lt		10.2	227.7	✓
+77		4.3	233.6	✓
" 5' Rt		6.3	231.6	✓
" 5' Lt		2.2	235.7	✓
T.P.	9.87 〈246.53〉	1.18	〈236.68〉	✓
+98		8.9	237.7	✓
" 5' Rt		10.5	236.1	✓
" 5' Lt		7.2	239.4	✓
468		8.7	237.9	✓
+12		3.8	242.8	✓
" 5' Rt		5.7	240.9	✓
" 5' Lt		2.0	244.6	✓
+23		1.1	245.5	✓
" 5' Rt		3.1	243.5	✓
" 5' Lt		4.0.3	247.5	✓

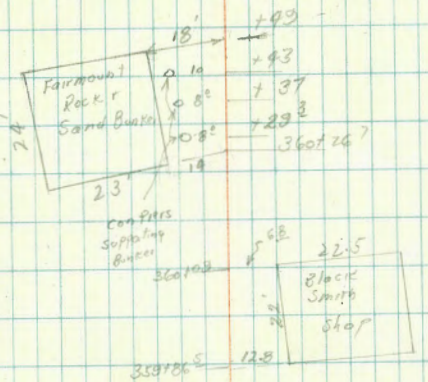
		(246.55)			
TP	12·19	(257.43)	131	(245.24)	✓
468+50			0.4	257.0	✓
" " 5' Rt			2.0	255.4	✓
" " 5' Lt			+ 0·8	258.2	✓
T.P.	12.39	(270.41)	0.01	(257.42)	✓
+70			8·7	261.7	✓
" " 5' Rt			11.3	259.1	✓
" " 5' Lt			5·9	264.5	✓
+81			6.4	264.0	✓
" 5' Rt			8·2	262.2	✓
" 5' Lt			4.0	266.4	✓
T.P	12.27	(282.53)	0·15	(270·26)	✓
468+~~00~~50	ROT on stake		9·20	273.33	✓
" " 5' Rt			10·7	271.8	✓
" " 5' Lt			7·3	275.2	✓
468 +08			6·3	276.2	✓
" " 5' Rt			7·9	274.6	✓
" " 5' Lt			4.5	278.0	✓
T.P.	12 25	(294.38)	0·40	(282·13)	✓
+50			8.2	286.2	✓
" " 5' Rt			10.6	283.8	✓
" " 5' Lt			6.0	288.4	✓
T.P.	11·74	(305.21)	0·91	(293.47)	✓
+75			13.5	291.7	✓
470			9·0	296.2	✓

	(305.21)		
470 + 5' Rt	11.5	293.7	✓
" 5 Lt	6 5	298.7	✓
+09	6.6	298.6	✓
+27	3 0	302.2	✓
" " 5 Rt	5 4	299.8	✓
" "	1.2	304.0	✓
T.P. 13.07	(315.84)	2 44	(302.77) ✓
+ 43 3 W. side over side drai		9 4	306.4 ✓
+ 46 7 ℄		9 2	306.6 ✓
+ 45 6 S. S. de		7.5	308.3 ✓
+50		7.6	308.2 ✓
" " 5' Rt		10·3	305.5 ✓
+55		8.0	307.8 ✓
" 1' Rt end 1° cobble wall	9° Rt. L.B.B.M.	8 91	(306.93) ✓
+67 95 end on 1"x1" stake		5.83	(309.95) ✓
check BM # 77	B.P. Top cobble wall	3 99	(311.90) ✓
			311 94
			0.04 error

Alternate Line D from Sta 354+39 A"
or Original Line

359+51.80 L Rt 37°-36'-00"

354+39 L. Lt 31°-10'-00"

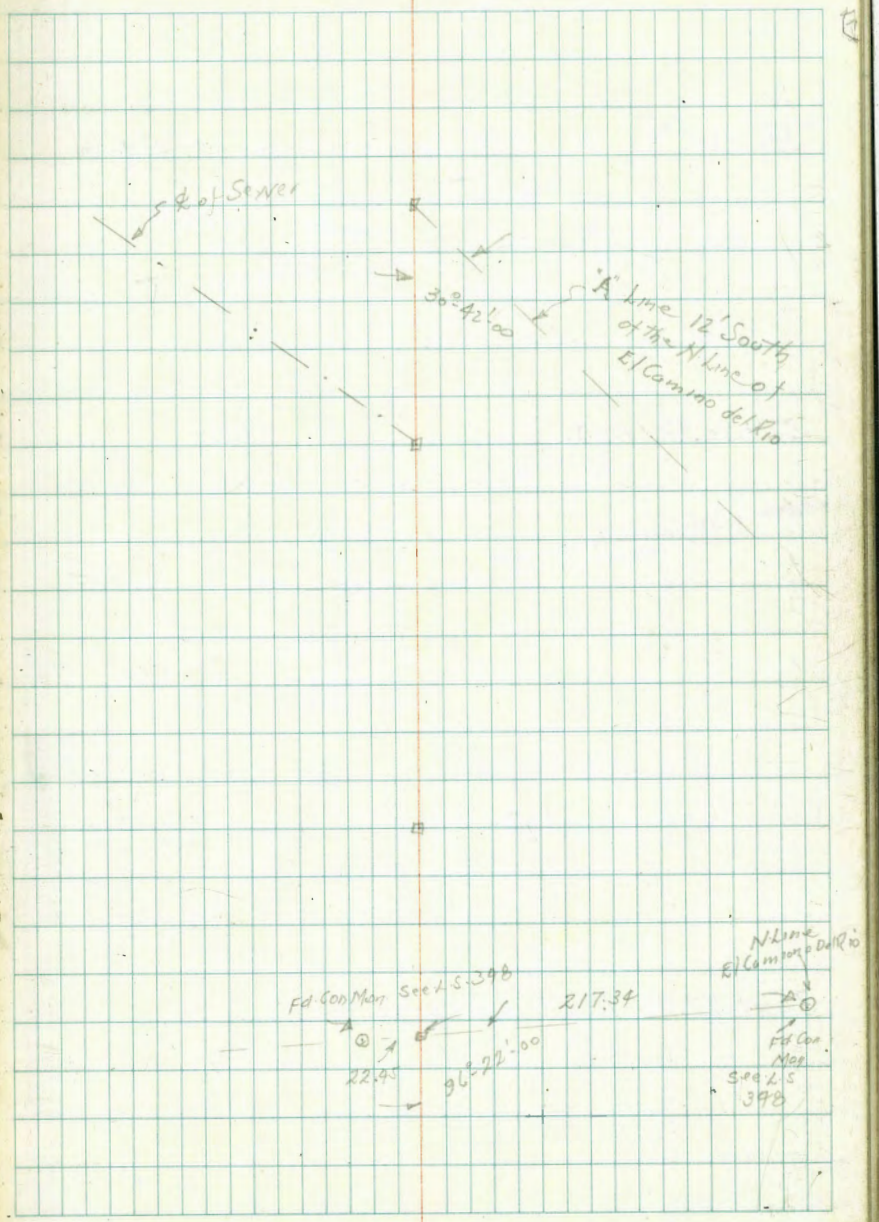


367+63.84 = 366+26.25 A Line

366+77.90 P.O.T or L. Lt 61°-51'-00

363+26.46 L. Rt 24°-16'-00

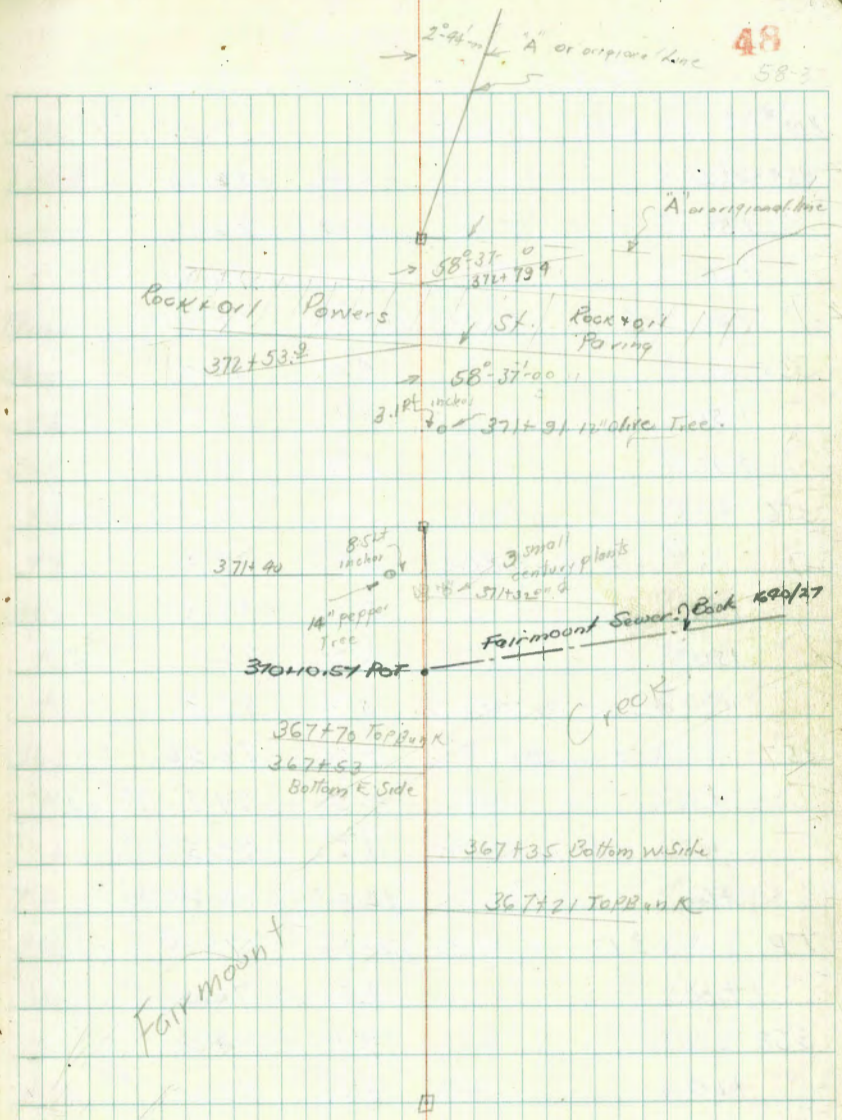
362+72.49 int



372+89.56 "D" = 376+23.10 A or original line L.Rt 2°-41'-00

371+50.89 P.O.T.

366+77.90 L.Lt 61°-51'-00"



Profile Levels for "D" alternate

BM ≠54	6.99	⟨90.96⟩	⟨83.97⟩	Pg 7
354+39 L.		4.80	86.16	
+50		4.9	86.1	
+51		4.1	86.9	
+60		4.4	86.6	
355		4.0	87.0	
+50		3.1	87.9	
+70		2.9	88.1	
356		3.6	87.4	
" "	16' Lt. Top R. Bank.	3.8	87.2	
+35		5.2	85.8	
+50		5.6	85.4	
" "	13' Lt Top S.D. River Bank	5.3	85.7	
357	POT. on stake	8.40	82.56	
+50		11.9	79.1	
" "	9' Lt Top R. Bank	11.5	79.5	
+60		12.8	78.2	
TP.	3.13	⟨81.32⟩	12.77 ⟨78.19⟩	
+80			4.8 76.5	
358			7.1 74.2	
+20			8.1 73.2	
" "	13' Lt Top S.D. River Bank		9.3 72.0	
+35			7.1 74.2	
+60			6.6 74.7	
359			8.7 72.6	
"	13' Lt Edge Contractors Sand Trap		8.9 72.4	

⟨81.32⟩

+10		9.3	72.0
+51.80 Lt on stake		9.60	71.72
" " 6' Lt edge Road To Sand Trap		9.6	71.7
" " 8 " Bottom Edge Road		13.7	67.6
TP on L 5.97	⟨77.69⟩	9.60	⟨71.72⟩
360		5.2	72.5
+50		5.4	72.3
361		5.5	72.2
+50		5.4	72.3
+80		5.6	72.1
362		6.2	71.5
+50		7.3	70.4
+70		8.0	69.7
363		9.8	67.9
+26.46		10.2	67.5
" " 7' Lt edge Fairmont Creek Bank		10.6	67.1
TP 4.91	⟨72.42⟩	10.48	⟨67.5⟩
363+26.46 16' Lt		7.6	64.8
" " 21 " W Edge Bottom		15.9	56.5
" " 34 ctr creek		17.6	54.8
+50		5.0	67.4
364		4.6	67.8
" 5' Lt		5.2	67.2
" 9' "		7.7	64.7
+50		4.9	67.5

		⟨72.42⟩			
365			4.9	67.5	✓
+50			4.8	67.6	✓
366			2.4	70.0	✓
T.P.	7.80	⟨78.68⟩	1.54	70.88	✓
+08			8.6	70.1	✓
+15			7.8	70.9	✓
+30			7.5	71.2	✓
+50			6.0	72.7	✓
366+77.90 P.O.T.			5.93	72.75	✓
+85			6.5	72.2	✓
367			6.3	72.4	✓
+33			6.2	72.5	✓
+45			3.3	75.4	✓
367+63.89 D = 366+26.25 A			3.39	75.29	✓
check BM #57			5.41	73.27	✓
366+77.90 L Lt			5.93	72.75	✓
367			6.7	72.0	✓
+10			6.6	72.1	✓
+17			4.1	74.6	✓
+21. Top Bank			4.2	74.5	✓
+35 W Side Bottom Pavement Grate			17.7	61.0	✓
+53 E " " "			18.2	60.5	✓
+62			10.7	68.0	✓
+70			7.2	71.5	✓

		⟨78.68⟩			
+75			9.6	69.1	✓
368			9.6	69.1	✓
+20			8.8	69.9	✓
+50			8.0	70.7	✓
369			8.3	70.4	✓
T.P.	5.72	⟨76.39⟩	8.01	⟨70.67⟩	✓
+40			6.0	70.4	✓
+60			5.4	71.0	✓
370			5.1	71.3	✓
+50			4.9	71.5	✓
371			4.7	71.7	✓
+30			3.9	72.5	✓
TP.	7.47	⟨80.13⟩	3.73	72.66	✓
+38			5.2	74.9	✓
+50.80 P.O.T. on stake			5.89	74.29	✓
372			5.4	74.7	✓
+34			5.3	74.8	✓
+36			4.9	75.2	✓
+53.9 W. Edge Pavement A.C. Paving			5.20	74.93	✓
+66.6 E. Paving			5.17	74.96	✓
+79.4 E. Edge A.C. Paving			5.58	74.55	✓
372+89.85 "D" = 376+23.10 A on tangent			6.03	74.10	✓
check BM # 59 B.P. in culvert H wall			9.03	⟨71.10⟩	✓

Bliss
Sommer Myer
Boggs
1/21/42

Preliminary Sewer Ward Road

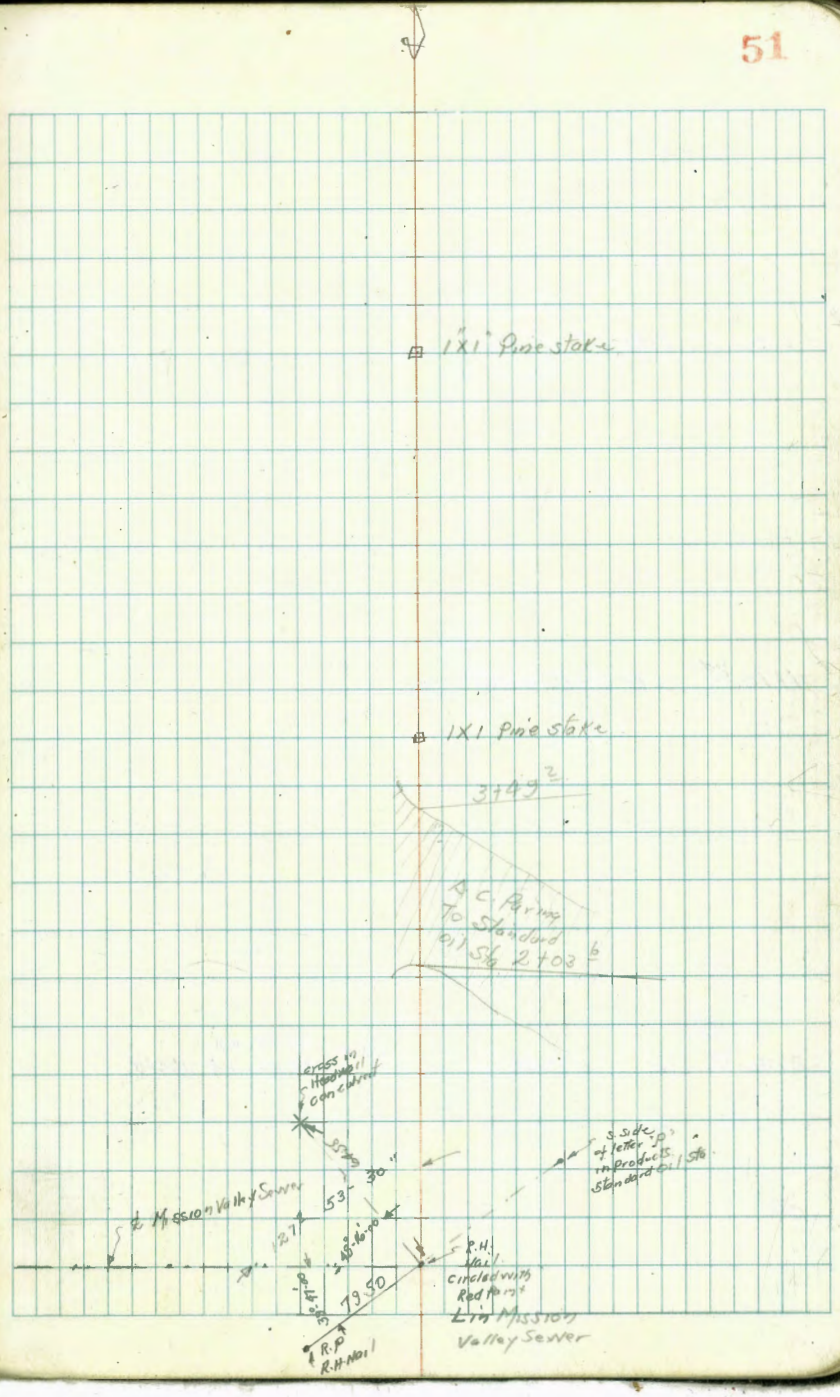
Canyon 0+00 = 393+03.36 L. in Camino Del Rio Sewer to Copley St. Pump House

Normal Hts. Sewer. See Sketch Page 59 Book 1626
For Alignment of Co. P.S. & Ex. Boring on Ward Road
See Co. F.B. 1732 P3 City Tie P.T. Book 18 P36

5+79.8 L Lt 21°-18'-00

3764.08 L Lt 9°-40'-00

0+00 = 393+03.36 L. in Camino Del Rio Sewer Intersection Ward Road & Camino Del Rio See F.B. 1626 P.59



13+91.20 L Rt 6°-17'-00

11+10.74 L Rt 6°-16'-30"

8+70.47
8+40.44 L Lt 1°-57'-45"

Equa: 8+70.47=
8+40.44 ahead

⊙ Roofing Tack in Paving

⊙ Roofing Tack in Paving

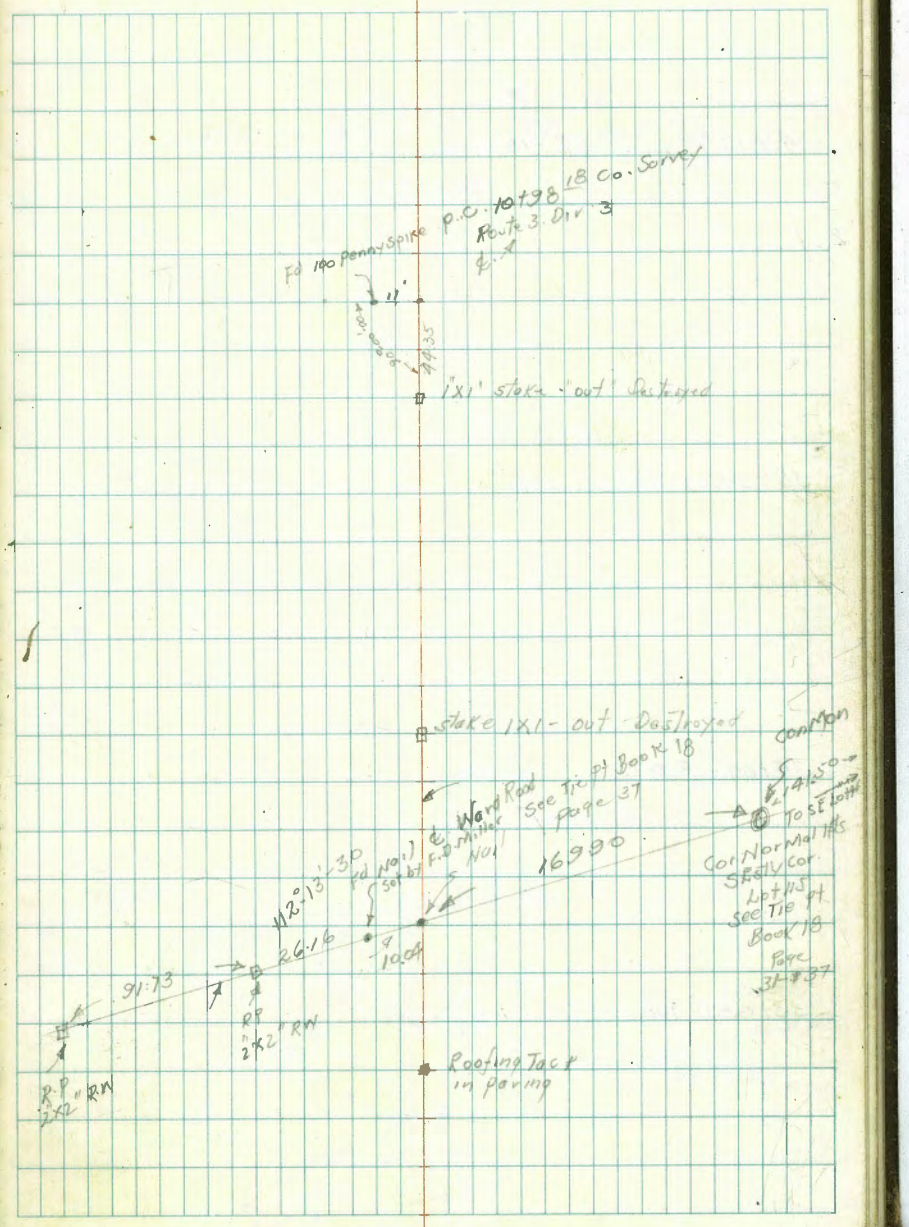
IXI Nub

21+62.37 Lt 15°-00'-30"

19+90 ±6 L Lt 14°-54'-00"

19+22 ±0

16+52 ±6 L Rt 4°-42'-30"



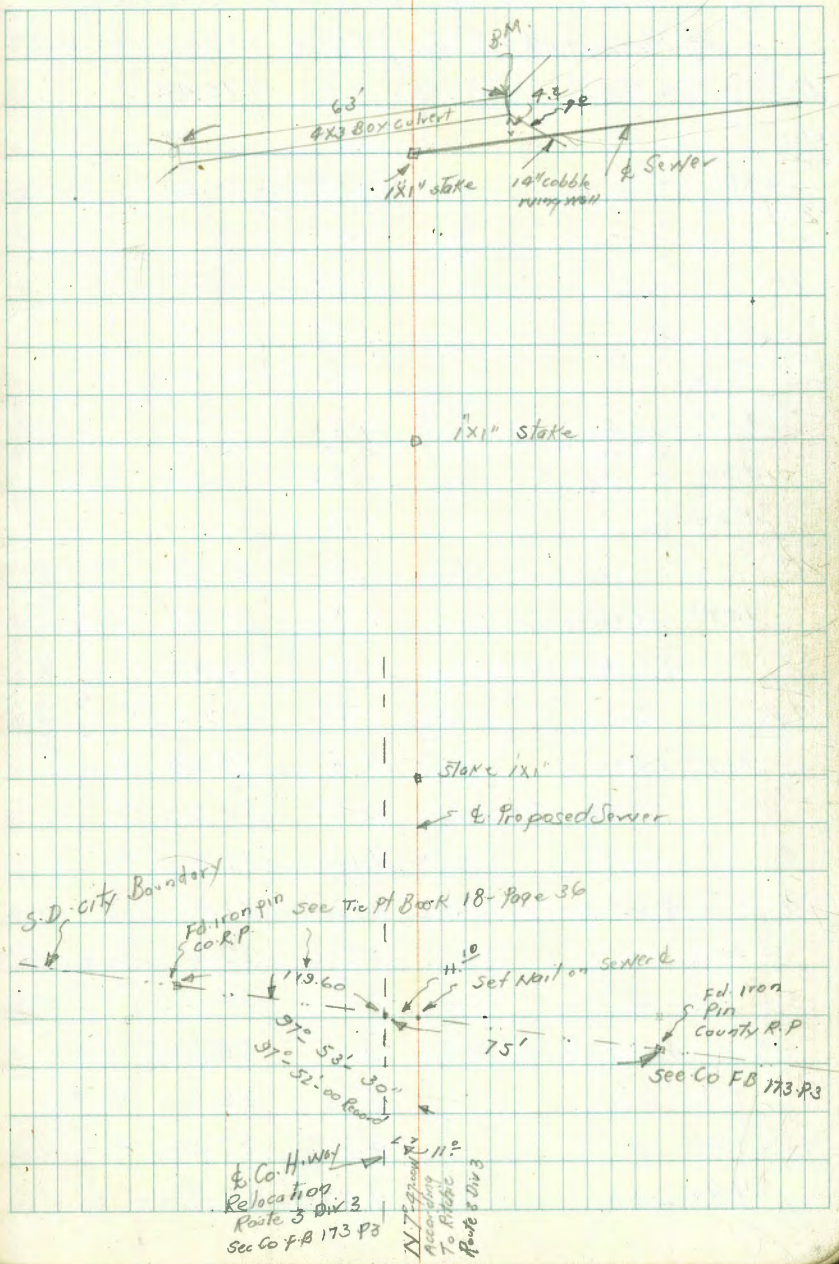
41+19 $\frac{63}{}$ L Rt 68°-15'-30"

38+54.09 L Lt 17°-11'-30"

34+00 P.O.T.

33+03.15 Intersect City Bdry

Continued Page 59



7/24/42

Levels: Preliminary Sewer: Ward Road Line of Mission Valley Sewer

BM (*53) Sq 6	4.39	(79.83)	(75.44)	✓N
0+00		6.84	72.99	✓
+36		6.18	73.65	✓
+60		6.13	73.70	✓
1+00		5.58	74.25	✓
+50		5.39	74.44	✓
2		4.4	75.4	✓
+03.6	Int A.C Paving To Standard Oil Sta	4.33	75.50	✓
"	32 ft to Kold Roll	4.14	75.69	✓
+20		3.62	76.21	✓
+60		2.82	77.01	✓
3		1.90	77.93	✓
+49.2	Int Standard Oil A.C	0.70	79.13	✓
"	6.9 Lt. to Kold Roll Paving	0.50	79.33	✓
T.P.	12.83	(92.13)	(79.30)	✓
+64.88	1.2 Lt	12.47	79.66	✓
" "	7.7 Lt Kold Roll Paving	12.30	79.83	✓
4		11.2	80.9	✓
" "	4.7 Lt Kold Roll Paving	11.12	81.01	✓
+50		9.5	82.6	✓
5		7.5	84.6	✓
" "	4.6 Lt Paving	7.82	84.31	✓
+50		5.5	86.5	✓
+70		4.5	87.5	✓
+79	1.2 Lt	4.92	87.21	✓

Reduced by Plat R. Yake 9/19/42

1936.8.C.01 Standard Oil Curve (92.13)

+79.14 Lt Kold Roll Paving		3.98	88.15	✓N
6		3.6	88.5	✓
" 9.6 Lt Paving		3.15	88.98	✓
Set BM #1	11.30 (103.21)	0.22	(91.91)	✓ 50 ft N of C 40 ft 6x60 ±P 1930 GS
+50		12.4	90.8	✓
+60 7 ft Rt edge cobble Gutter		11.84	91.37	✓
" " Flow " "		11.52	90.69	✓
+80 int Kold Roll Paving		11.04	92.17	✓
7		10.25	92.96	✓
" 1 ft Rt edge paving		10.20	93.01	✓
" 7.3 Rt edge cobble Gutter		10.33	92.88	✓
" 8.6 Flow Line		11.18	92.03	✓
+50		8.50	94.71	✓
8		4.88	96.33	✓
" 7 ft Rt		6.34	96.27	✓
8.3 Flow		7.80	95.41	✓
+20 Lt edge paving		6.33	96.88	✓
Lt +40 4ft 1.6 Lt Paving		5.01	98.20	✓
" " 5 ft Rt edge Cobble Gutter		5.16	98.05	✓
" " 6.25 Rt Flow		6.13	97.08	✓
9		3.2	100.0	✓
" 2.2 Lt Paving		3.00	100.2	✓
" 4.7 Rt edge cobble Gutter		3.48	99.73	✓
" 6.0 Rt Flow cobble Gutter		4.18	99.03	✓
+50		1.4	101.8	✓
T.P. 8.01	(110.17)	1.05	(102.16)	✓
10		4.5	103.7	✓
" 1.3 Lt Paving		4.44	103.73	✓
" 4.9 Rt "		6.33	103.84	✓
10+02 int 18" Armco culvert				
" 5.5 Rt Flow Line		10.03	100.14	✓

	⟨110.17⟩		
10+02 int 18" Armco Culvert Flowline 33' Lt	10.62	99.55	
+60 int edge paving	4.33	105.84	
11+00	2.73	107.44	
" " 1.7 Rt edge Paving	2.77	107.40	
" " 7' Rt edge C.66L Gutter	3.03	107.14	
Set BM: 50 Penny Spike	8.53 ⟨117.31⟩	1.39	⟨108.78⟩ 25' Lt 11+00 Typ 415 657#
11+10 ZH L Rt		9.44	107.87
" " 2.1 Rt edge Paving		9.46	107.85
+55 int edge Paving		7.81	109.50
12+00		6.4	110.9
" " 1.3 Lt Paving		6.20	111.11
" " 4' Rt Top cobble Gutter		6.65	110.66
+45		98	112.5
" 3.3 Rt Cobble Gutter edge		475	112.56
" 2.5 Lt Paving		4.55	112.76
13		2.4	114.9
" 2.1 Lt Paving		2.26	115.07
" 4' Rt cobble Gutter		2.62	114.69
+50		06	116.7
T.P. 10.94 ⟨128.13⟩		0.12	⟨117.19⟩
+60 int ex paving		10.93	117.20
+91 20		9.70	118.43
" " 1.8 Rt.		9.79	118.34
" " 7.5 "		10.16	117.97
14		9.42	118.71
" 1.6 Rt. Paving		9.47	118.66

	⟨128.13⟩		
14+00 7.2 Rt Cobble Gutter edge		9.83	118.30
+50		7.64	120.49
15+00		6.0	122.1
" " 2.3 Lt ex Paving		5.96	122.17
" " 3.4 Rt edge cobble Gutter		6.41	121.72
+50		4.1	124.0
" 3' Rt ex cobble Gutter		4.43	123.70
16+00 int ex paving		2.23	125.90
" 4.6 Rt cobble Gutter		2.47	125.66
+52.06 L Rt		0.10	128.03
" 2.4 Rt edge ex Paving		0.19	127.94
" 7.4 " edge " cobble Gutter		0.42	127.71
T.P. 7.38 ⟨135.41⟩		0.10	⟨128.03⟩
17		5.51	129.90
" 1.4 Rt edge ex paving		5.59	129.82
" 5.6 " " cobble Gutter		5.91	129.50
+42 5 int 18" Armco Culvert		3.98	131.43
" " 8.8 Rt Flow Line		7.53	127.88
" " outlet end Buried under fill			
Set BM. 10.66 ⟨142.36⟩		3.71	⟨131.70⟩ Chiseled Hi Spot inv Culvert Headwall 8' Rt 17+42
18		8.35	134.01
" 1.3 Rt edge ex. Paving		8.36	134.0
" 6' Rt " " cobble Gutter		8.46	133.90
+50		6.03	136.27
19		3.79	138.57
" 1.2 Rt edge ex paving		3.84	138.52
" 6.5 " " cobble Gutter		4.08	138.28

		(142.36)		
50 int edge ex Paving		1.70	140.66	
T.P	12.99	(154.40)	0.95	(141.41)
19+90	L Lt on H6	11.82	142.58	
" " 1.5 Lt ex Paving		11.83	142.57	
" " 3.8 Rt ex Cobble Gutter		11.96	142.44	
20 int ex Paving		11.34	143.06	
+50		2.30	145.10	
" " 3' Rt edge ex Paving		9.09	145.36	
21		7.09	147.36	
" 4.5 Rt edge ex Paving		6.70	147.70	
" 10 " ex Cobble Gutter		6.85	147.55	
+49 int ex Paving		4.82	149.58	
+61 end cobble Gutter 4' Rt				
+62.37 L Rt on stob		4.20	150.16	
" " 2.5 Lt edge ex Paving		4.20	150.20	
22		2.40	152.0	
Set BM #4	10.65	(164.63)	0.92	(153.98)
+50		10.8	153.8	
+70 int 42" Armco culvert.				
" " 17' Rt flow Line		15.97	148.66	
" " 36.8 Lt " "		17.40	147.23	
23		9.1	155.13	
" 1' Lt ex Paving		8.97	155.66	
+50		6.9	157.7	
24		4.3	159.7	
" 1' Lt ex Paving		4.78	159.85	

50 penny Spike in Tel. Pole "C" Pole # 915653N 40' Lt 27+32

		(164.63)		
+50		2.9	161.7	
25		0.6	164.0	
" 1' Lt ex Paving		0.53	164.10	
TP	10.34	(174.66)	0.31	(164.32)
+50		8.4	166.3	
26		6.0	168.7	
" 1' Lt		6.01	168.65	
+50		4.0	170.7	
27		2.0	172.7	
" 1' Lt Paving		1.99	172.72	
Set BM #5	6.71	(180.85)	0.52	(174.14)
+50		5.9	175.0	
28		3.9	177.0	
" 1' Lt		3.76	177.09	
+50		1.7	179.2	
T.P.	10.80	(191.28)	0.37	(180.48)
29		10.3	181.0	
" 1' Lt		10.22	181.06	
+50		8.1	183.2	
30		6.1	185.2	
" 1' Lt		5.93	185.35	
+50		3.9	187.4	
31		1.6	189.7	
" 1' Lt		1.53	189.69	
Set BM #6	6.63	(196.75)	1.16	(190.12)

50 penny Spike in Tel. Pole "C" Pole # 915653N 40' Lt 27+00

Hi Spot in Culvert Headwall 6' Lt 31+04

Approx 100' N of ℄ Culvert

	⟨196.75⟩		
31+85 int 24" Armco culvert			
" 6' Rt Flow Line	11.08	185.67	✓
" " 55' Lt " "	12.24	184.51	✓
+50	4.9	191.9	✓
32	3.0	193.8	✓
" 1' Lt ex Paving	2.91	193.84	✓
+50	1.2	195.6	✓
TP 8.00	⟨209.69⟩	0.06	⟨196.69⟩ ✓
33	6.7	198.0	✓
" 1' Lt ex Paving	6.58	198.11	✓
+50 P.O.T.	4.3	200.41	✓
34 on Stake	2.35	202.34	✓
" 1' Lt ex Paving	2.15	202.54	✓
7' Lt Toe Bank			
TP 11.09	⟨213.43⟩	2.35	⟨202.34⟩ ✓
+50	8.9	204.5	✓
35	6.6	206.8	✓
" 1' Lt	6.45	206.98	✓
" 4.2 Rt Bottom cut Bank	6.2	207.2	✓
+35 int ex Paving			
+50	3.93	209.50	✓
36 Edge Paving 0.5 in Edge of Paving	1.61	211.82	✓
" 4' Rt Bottom cut Bank	2.1	211.3	✓
TP 11.02	⟨223.30⟩	1.15	⟨212.28⟩ ✓
+50	9.25	214.05	✓

	⟨223.30⟩		
37 0.5 in edge Paving	7.12	216.18	✓
" 5' Rt Bottom cut Bank	7.0	216.3	✓
+50	5.0	218.30	✓
38	3.18	220.12	✓
" 5' Rt Bottom cut Bank	3.3	220.0	✓
+18 int ex Paving	2.61	220.69	✓
+54.09 L Lt on Stake	1.82	221.48	✓
" 3.5 Lt Edge ex Paving "Kold Rol"	1.59	221.71	✓
" 3' Rt Bottom cut Bank	1.6	221.7	✓
TP 12.31 ⟨233.79⟩	1.82	⟨221.48⟩	✓
+72 int ex Paving	11.51	222.28	✓
" 4' Rt edge cut Bank	11.7	222.1	✓
39	10.89	222.91	✓
" 4' Rt edge ex Paving	10.76	223.03	✓
" 9 " " cut Bank	10.8	223.0	✓
+50	9.60	224.19	✓
40	7.88	225.91	✓
" 6.5 Rt edge ex Paving	7.69	226.05	✓
" 13' " " cut Bank	7.1	226.7	✓
+50	5.98	227.81	✓
+92	4.52	229.27	✓
41 int edge ex Paving	4.27	229.52	✓
+19.69 L Rt	3.93	229.96	✓
" 4' Lt Ex Kold Roll Paving	3.66	230.13	✓
+23	3.8	230.0	✓

continued Page 62

45+67.66 L Rt 45°-42'-00

P.O.T.

P.O.T

43+75 L Rt 21°-31'-00"

1"x1" stake

1"x1" stake

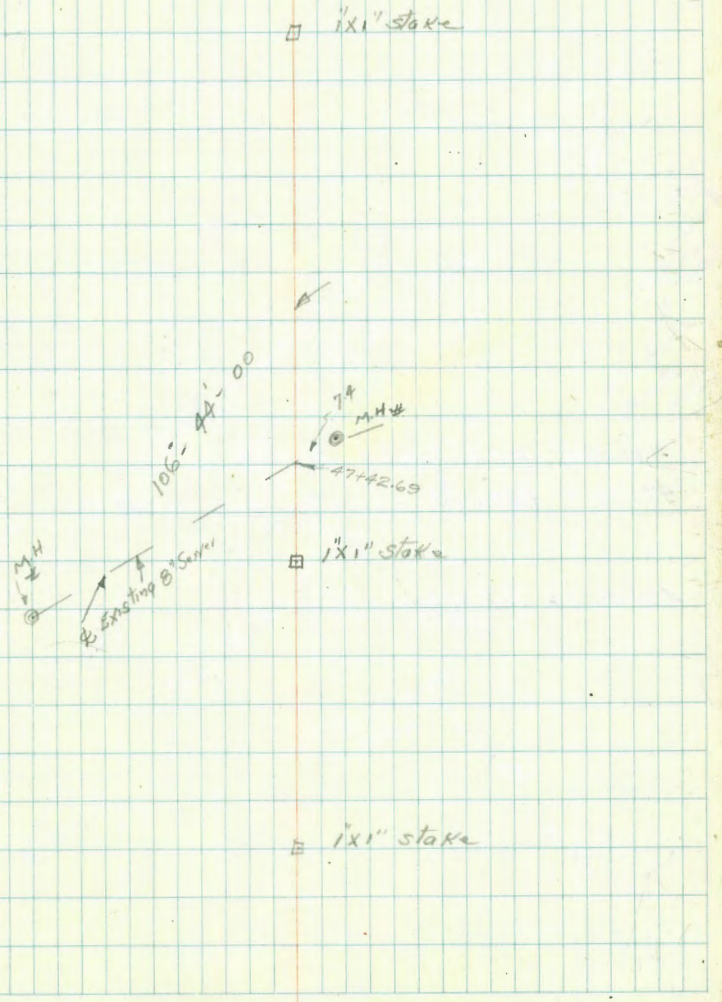
1"x1" stake

1"x1" stake

48+13.68 P.O.T.

47+37.87 ∠ Lt 70°-44'-30"

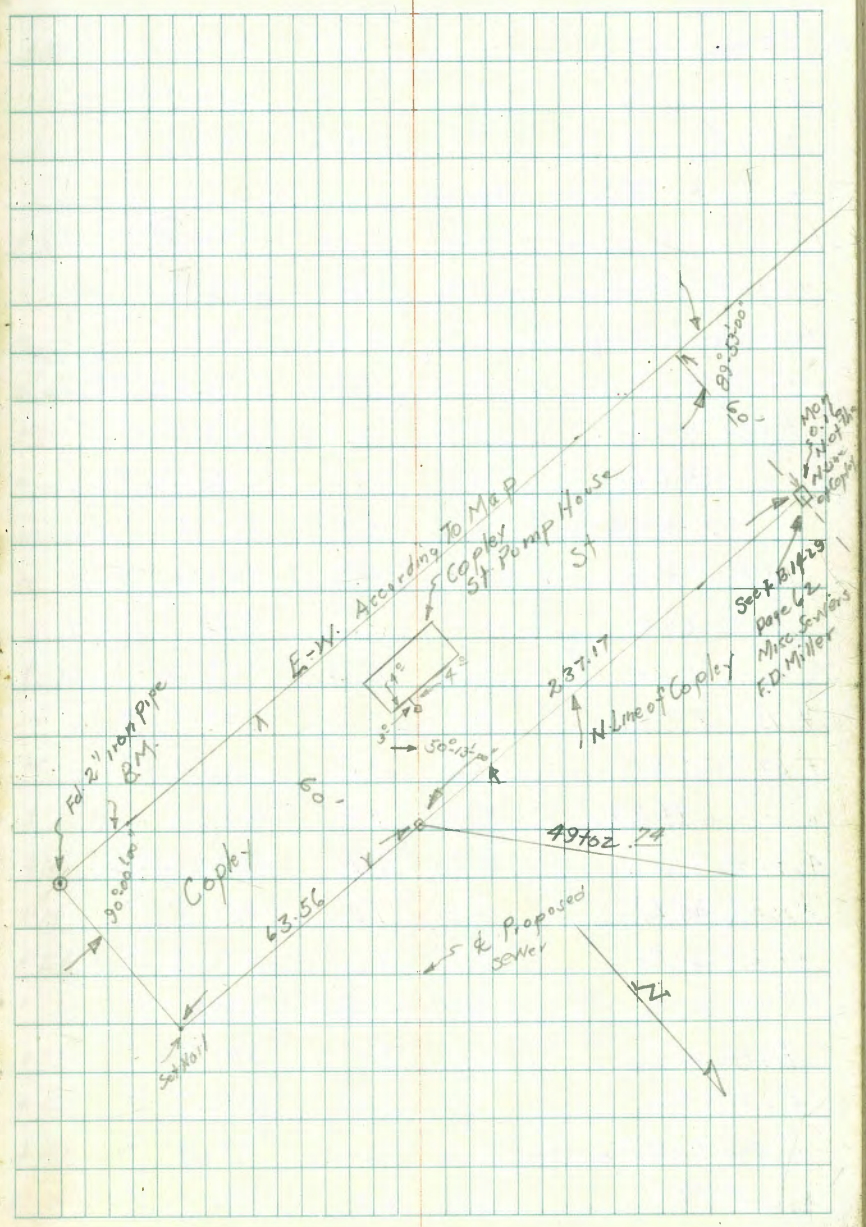
46+19.76 P.O.T.



49+26 5' N Side Pump House Wall

49+22 5' P.O.T. 1" Stake 3' from Pump House wall at RTL

49+02 74 Int. N Line of Copley St



		⟨233.79⟩			
.41	+26		1.7	232.1	✓
	+28		2.9	230.9	✓
	+33.7		4.0	229.8	✓
	" 4.2 Lt N Side 4X3 culvert				✓
	" 6 " culvert flow		7.39	226.~~39~~ 40	
	+39 int 14' cobble lining wall Top		4.5	229.3	✓
	outlet end Box culvert flow		12.60	221.19	✓
	Set BM 844	⟨239.43⟩	2.80	⟨230.99⟩	✓ Hi spot chiseled in culvert 8 Lt 41+34
	+48		10.7	228.7	✓
	" 3 Rt		7.7	231.7	✓
	" 7' Lt Bottom Creek		11.6	227.8	✓
	+57 Bottom Creek		11.3	228.1	✓
	" 6' Rt		7.3	232.1	✓
	" 6' Lt		11.2	228.2	✓
	+75		9.7	229.7	✓
	+87		8.6	230.8	✓
	" " 6 Rt Bottom		9.8	229.6	✓
	42+00		9.2	230.2	✓
	" " 4' Lt		7.9	231.5	✓
	" " 3 Rt		9.2	230.2	✓
	" " 6 "		7.8	231.6	✓
	+20		8.1	231.3	✓
	+25		7.7	231.7	✓
	" 4' Lt Bottom Ditch		8.6	230.8	✓
	" 3 Rt		6.3	233.1	✓
	" 6 "		5.8	233.6	✓

		⟨239.43⟩			
	+37		6.0	233.4	✓
	" 10' Rt		5.8	233.6	✓
	" 2 Lt		7.8	231.6	✓
	" 6 "		7.8	231.6	✓
	+50		5.3	234.1	✓
	" " 2' Lt		7.6	231.8	✓
	" " 7 "		7.6	231.8	✓
	" 5' Rt		5.0	234.4	✓
	+70		4.8	234.6	✓
	" " 2' Lt Top Bank		5.0	234.4	✓
	" 3 "		7.1	232.3	✓
	" 7 "		7.1	232.3	✓
	" 5' Rt		4.0	235.4	✓
	43+00		3.5	235.9	✓
	" 5' Rt		1.9	237.5	✓
	" 5' Lt		3.7	235.7	✓
	+7		2.9	236.5	✓
	+10 Bottom Ditch		5.1	234.3	✓
	+14 " "		4.7	234.7	✓
	+24		2.7	236.7	✓
	" " 5' Rt Bottom Ditch		4.0	235.4	✓
	+37		3.2	236.2	✓
	+40		2.9	237.0	✓
	+45		0.2	239.2	✓
	" 5' Lt		2.2	237.2	✓
	" 5 Rt		+0.6	~~238.8~~ ✓40.0	

		(239.43)		
TP	11.13	(250.07)	0.49	(238.94)
+55			8.3	241.8
+65			5.7	244.4
42+75	L Pt on stake		6.06	244.01
+90	Bottom Hill		3.9	246.2
+95			0.8	249.3
T.P.	12.68	(262.38)	0.37	(249.70)
T.P.	12.01	(273.76)	0.63	(261.75)
44+30			1.4	272.4
TP	12.93	(285.23)	1.46	(272.30)
44+39.53	P.O.T. on stake	"No Tag"	7.35	(277.88)
+53			1.1	284.1
TP	12.56	(297.54)	0.25	(284.98)
+60			10.2	287.3
+74			2.7	294.8
TP	12.34	(309.81)	0.07	(297.47)
44+85.32	P.O.T. on stake		10.83	298.98
45			4.0	305.8
+05			2.4	307.4
T.P.	11.57	(320.37)	1.01	(308.80)
+15			11.4	309.0
+23			9.0	311.4
+32			5.7	314.7
+40			2.4	318.0
TP	11.15	(331.04)	0.48	319.89
+50			8.0	323.0

(331.04)

+67	66 L Pt on stake		2.25	328.79
"	" 6' Rt		4.8	326.2
"	" 10' "		6.6	324.4
"	" 5' Lt		10.7	331.2
TP	on P.O.T. 10.67	(339.46)	2.25	(328.79)
Set BM	5/10	(339.85)	4.71	(334.75) 18.27 @ 5+67.46 X in front of MH & N Hit Server
45+90			8.9	331.0
"	" 10' Rt		13.9	326.0
"	" 5' Lt		6.7	333.2
46+19.76	P.O.T. on stake	Grd Sam.	7.06	332.81
"	" 10' Rt		10.8	329.1
"	" 5' Lt		4.6	335.25
+55			7.8	332.1
"	10' Rt		12.3	327.6
"	5' Lt		5.5	334.4
+83			8.3	331.6
"	" 10' Rt		12.7	327.2
"	" 5' Lt		5.8	334.1
47			8.3	331.6
"	10' Rt		12.9	327.0
"	5' Lt		5.8	334.1
+37.87	L Lt		7.52	332.33
"	" 5' Rt		9.9	330.0
"	10' "		12.0	327.9
+42.69	Int ex. 8" Sewer		5.4	334.5

F.L.=331.03

		(339.85)			
47+42 69	14 Rt ex M.H. Rim		4.50	335.35	N
" "	" " " Flow Line		8.79	331.06	
Set BM	8.10	(343.45)	4.50	(335.35)	X in N Side of ex M.H. Rim 14 Rt 47+42 69
+58			2.5	341.0	
T.P.	11.94	(355.15)	0.24	343.21	
+80			1.9	353.3	
T.P.	10.94	(365.82)	0.27	(354.88)	
+90			8.1	357.7	
48			4.9	360.9	
+13 68	p.o.t on stake		2.36	363.46	
+23			0.8	365.0	
+26			7.6	358.2	
+45			11.5	354.3	
+77			12.0	353.8	
+95			12.5	353.3	
49			13.4	352.4	
+02 75	N Line of Coplay		13.3	352.5	
+10			13.3	352.5	
+14			12.0	353.8	
+22 51	on Hub See Sketch		14.00	351.8	
+	Top Tank		14.16	351.66	
Check BM	12:53	(376.03)	2.32	(363.50)	SE Prop Cor 2" concrete filled pipe
			Acad 363.28		
			Diff 0.22		
T.P.	12.92	(388.35)	0.60	375.43	Coplay St East of Pump House. See Sketch FB
T.P.	7.59	(395.83)	0.11	(388.24)	

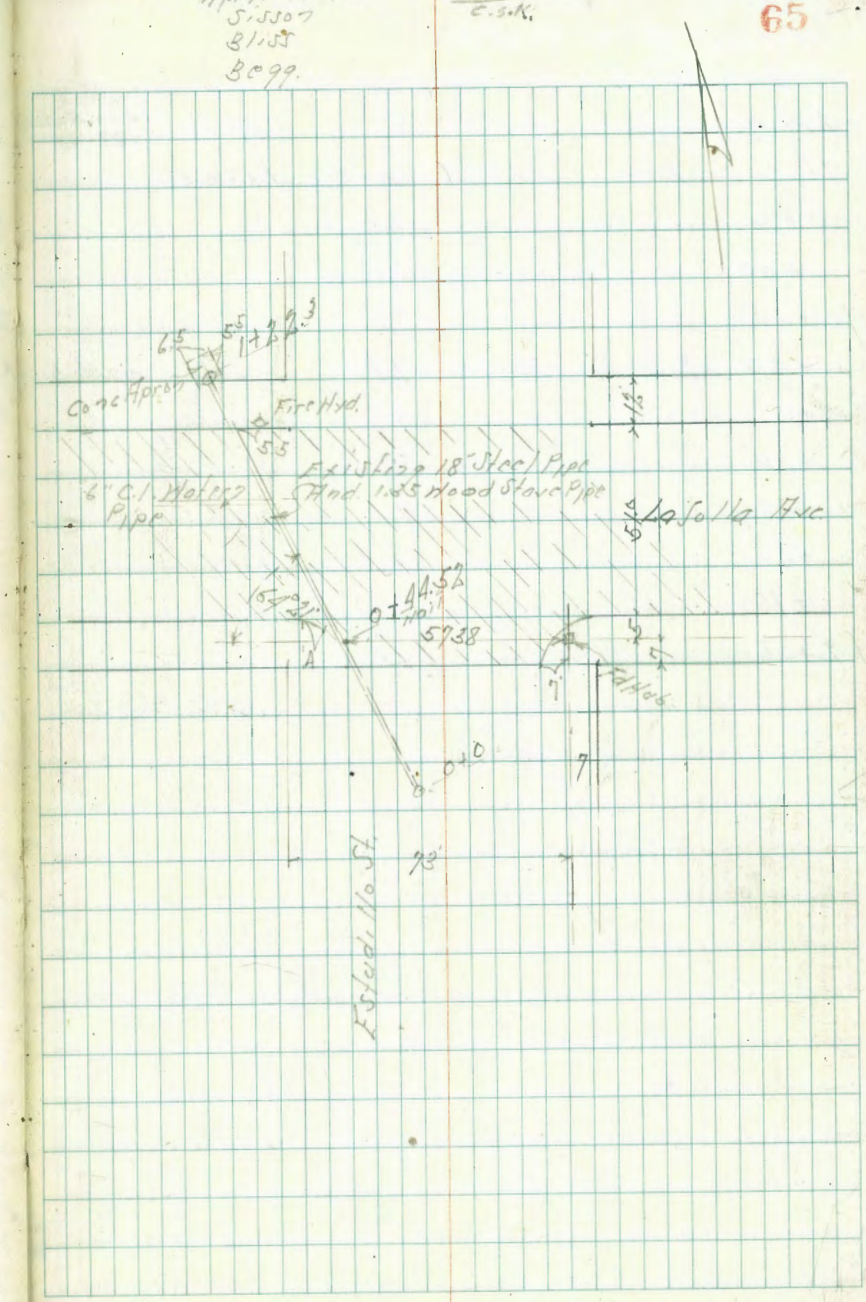
		(395.83)			
Check BM 46		(356.12)	4.32	(391.51)	SW & A Co. Cor. at Main St. Dam
T.P.	4.72	(394.60)	6.24	(389.88)	
T.P.	2.64	(393.40)	3.84	(390.76)	
Check BM			5.06	(388.34)	Chiseled Square in Walk S.E. Adams & 3rd Set on head circuit from Campbell's & Texas for Sommerville See FB
				388.22	
				error 0.12	

Location of Existing Storm Drain
La Solla Ave & Estudillo St.

BM	2.66	80.75		78.09	NE BP Estudillo & La Solla Ave
0-5	Ground: Low Place		14.0	66.8	
0+0	Outlet F.L. 1.25 Wood Stove Pipe		11.57	69.18	
0+0	Top Pipe		10.0	70.8	
+06			9.4	71.4	
+10			8.0	72.8	
+50			6.0	74.8	
+268	Paving Edge		5.17	75.58	
+50	on Paving		5.18	75.57	
+79	" "		3.53	77.22	
+88	6" C.I. Water Pipe		5.75	75.00	
+89	Bottom F.L. Storm Drain		6.95	73.80	
1+06.7	C.B. Line		3.38	77.37	
1+06.7	Top C.B.		2.65	78.13	
1+22.3	Ground		2.1	78.7	
1+22.3	Inlet 18" Steel Pipe		5.13	75.62	

April 14-43
S. 15.50°
B. 1.55
Bc 99.

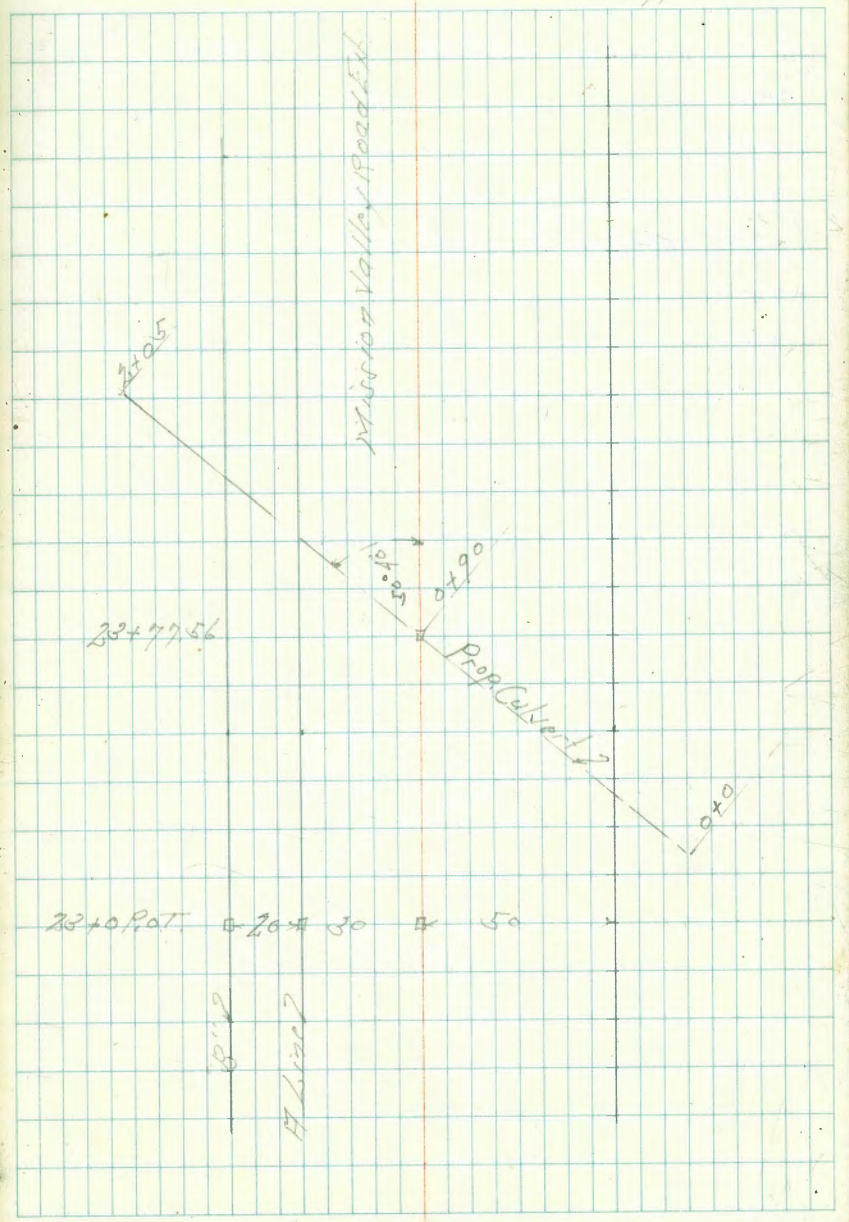
Inked
C.S.K.



April 26-43
Sisson
Bliss
Begg

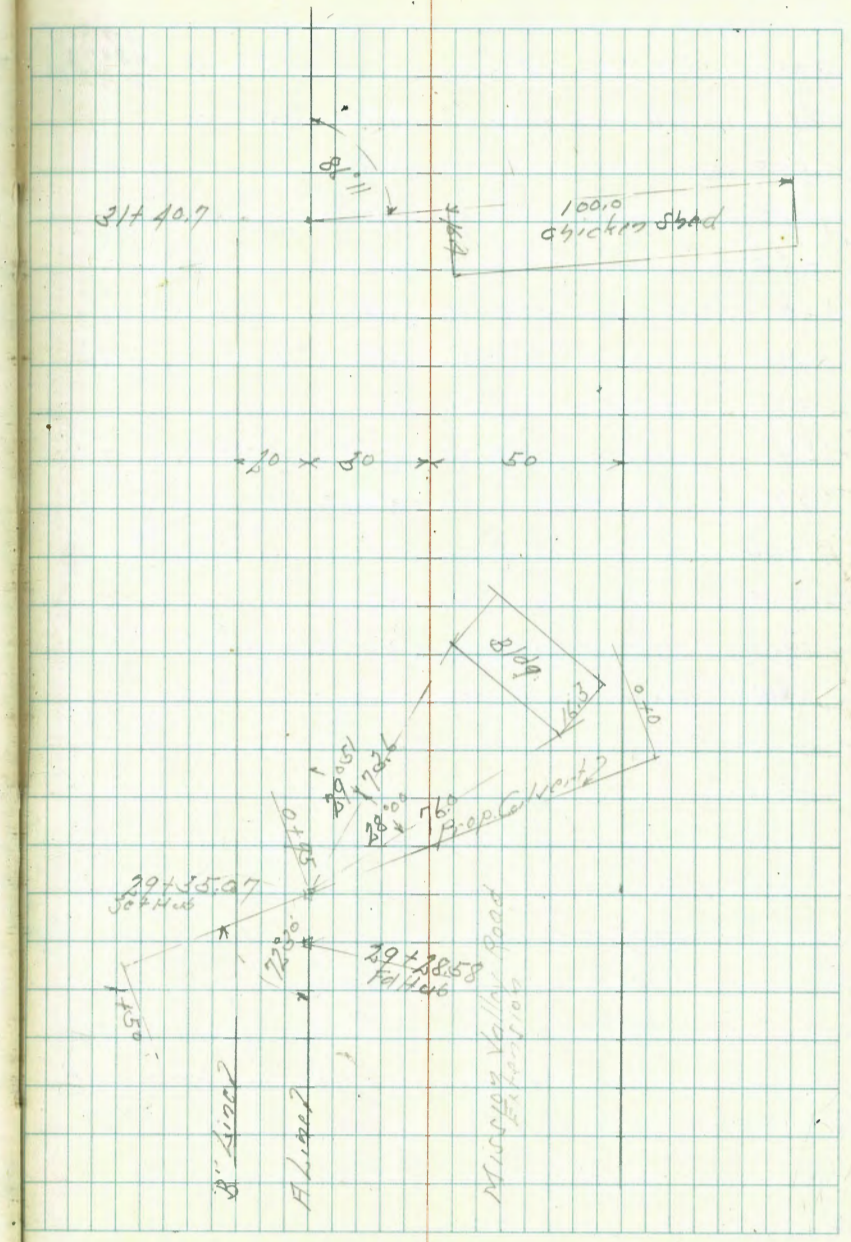
℄ Levels Proposed Culvert 23+77.56 B Line
Mission Valley Road Ext.
Alignment "B" Line 1638 Page 51

BM	1.21	450.80		449.59	on Stk 5 23+0 A Line 1638-48
TP	3.10	439.65	13.05	436.55	
0+0			4.3		
+40			5.6		
+65			7.2		
+90	= ℄ B" Line 23+77.56		7.7		on Hub
1+0			7.8		
+20			8.2		
+38			9.1		
+60			10.1		
+90			10.6		
2+05			11.5		



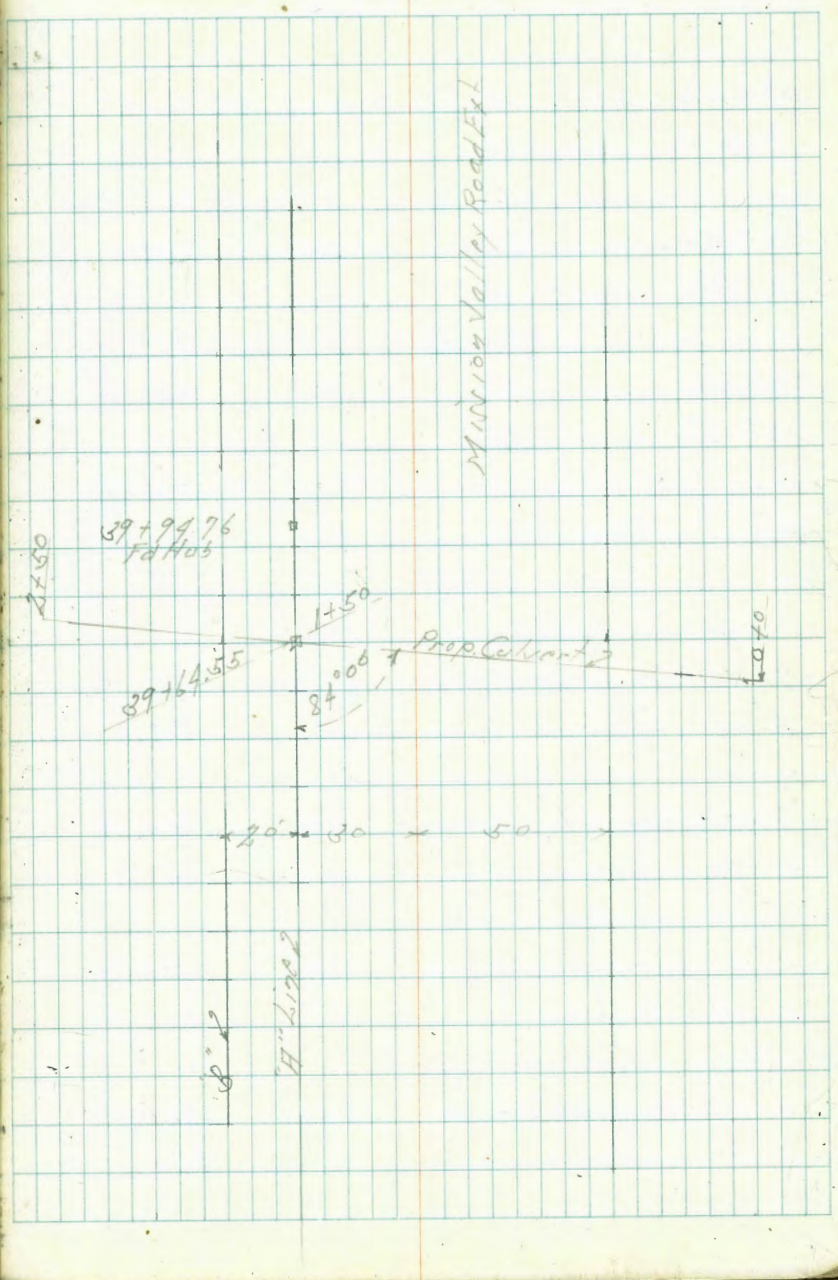
Levels Proposed Culvert 29+35.07
Mission Valley Road Ext.

BM	1.63	442.08		440.45	07 Pcg & 8" L in 48+50 1638-68
0+0			5.2		
+30			6.4		
+60			7.4		
+95 = 29+35.07 M.V.Rd		H.I. 442.08	8.62		
1+25			9.5		
+50			10.7		



Level: Proposed Culvert 39+64.55 Mission Valley Road Ext.

BM	0.14	410.23		410.09	07 Rock 38+77 20 RT
0+0	= Bottom Rods		9.9		
+25	"	"	10.8		
+50	"	"	11.2		
+65	"	"	11.8		
1+0	"	"	11.5		
+25	"	"	11.8		
+50	= 39+64.55 "A" Line		11.6		
TP	4.58	402.13	12.68	397.55	
+90	= Bot Rods		5.7		
2+10			4.8		
+30			5.2		
+50			5.7		
+80	16' Lt of ℄ = Bot Rods		7.1		



Location & Levels Sewer Laterals — Indexed C.S.M.

Alley Block 13 Sub. Lots 20 to 50

Block N Teralta From Polk to Cross - Sub 39th x Polk

BM	4.86	363.67	358.77	N.W. BP Polk x 40th
		0+00 N.L. Polk		
E+5				
Top 6" CI Water Pipe		6.82	356.81	
Ground		4.5	359.1	
		0+20		
E+2 Top 4" Vit Sewer Lat		4.63	359.00	
+5 Ground		2.0	360.6	
		0+45.5		
E+2 Top 4" Vit Sewer Lat		6.04	357.59	
E+5 Ground		2.3	361.3	
TP	6.56	368.87	1.32	362.31
		1+88.5		
E+2 Top 4" Vit Sewer Lat		7.72	361.15	
E+5 Ground		5.8	363.1	
		2+11		
E+2 Top 4" Vit Sewer Lat		8.21	360.66	
E+5 Ground		5.5	363.4	
		3+07		
E+2 Top 4" Vit Sew Lat		5.39	360.58	
E+5 Ground		5.2	363.7	
		3+54		
E+2 Top 4" Vit Sew Lat		8.45	360.42	
E+5 Ground		4.8	364.1	

Oct. 27-43

"S 55507

81155

8099

368.87

		4+20		
E+2 Top 4" Vit Sewer Lat		7.05	361.82	
E+5 Ground		4.4	364.5	
		5+41		
E+2 Top 4" Vit Sewer Lat		5.84	363.03	
E+5 Ground		3.5	365.4	
		5+73 : S.L. Orange *		
E+5 Top 6" CI Water Pipe		6.81	362.06	
E+5 Ground		3.8	365.1	
TP	5.04	369.81	4.10	364.77 N.W. BP Orange * 39th St.
BM			4.04	365.77

Location & Levels Sewer Laterals
Alley Block 35 City Hts.
between 36th & Cherokee University & Polk

BM	3.75	363.29		359.54	NW BP Univ. & 36th St.
	0+0 = N.L. University				
E+5	Ground		4.9	358.4	
Approx	F.L. 6" Water Pipe		8.1	355.2	
	0+16				
E+4	Ground		3.4	359.9	
E+4	Top 4" Conc Sewer Lat		5.62	357.67	
	1+37.5				
E+4	Ground		2.7	360.6	
E+4	Top 4" Conc Sewer Lat		5.12	358.17	
TP	7.77	368.62	2.44	360.85	
	1+66				
E+4	Ground		7.6	361.0	
"	Top 4" Conc Sewer Lat		10.25	358.37	
	2+44				
E+4	Ground		6.6	362.0	
"	Top 4" Conc Sewer Lat		10.10	358.72	
	2+81				
E+5	Ground		6.2	362.3	
"	Top 4" Conc Sewer Lat		9.17	359.45	
	3+46				
E+5	Ground		5.2	363.4	
"	Top 4" Conc Sewer Lat		8.15	360.47	
	4+0				
E+5	Ground		4.6	364.0	
"	Top 4" Conc Sew Lat		6.78	361.89	

H0x3-43
Sistrom
Bliss
8.99

Indexed
C.S.K.

368.42

70

	4+15		
E+5	Ground	4.4	364.2
"	Top 4" Sewer Lat	7.37	361.05
	4+32		
E+5	Ground	4.0	364.6
"	Top 4" Sewer Lat	7.63	360.99
	4+0 = S.L. Polk		
E+5	Ground	4.0	365.6
"	Top 6" C.L. Waterline	5.96	362.66

Reduced to Plot. Profile 9884

Check of Record of Survey
Portion of Lot 17 East Redlands

Nov 8. 1943
Sisson
Bliss
Begg

C. Moore
Sampson Mercer
W Moore
11-30-43.

FB. 1589-70

Ld. Cr. S O.K.

□ = ½" SG. Iron pins as shown

Check Survey O.K.

Indexed
C.S.K.

71

Adams Ave
Curb

Soria Drive

El Cajon Blvd.

98.07

N 54° E

S 54° W

S 8° 58' E

S 8° 00' E

N 8° 00' W

S 90° 00' E

N 90° 00' W

S 0° 15' W

N 0° 15' E

394.87

384.87

200' road

42

40

30

Location + Levels Sewer Laterals
Alley Block 34 City Hts. University to Polk
Between Wilson + 38th St

BM	4.26	364.87		360.61
	0+00 = N.L. University			
E+5	Paving		4.9	360.0
E+5	Flow Line 6" C.I. Water pipe		8.20	356.67
	0+22			
E+5	Ground		4.4	3605
E+	Top 4" Conc Sewer Lat.		6.77	358.10
	0+79			
E+5	Ground		3.8	361.1
E+5	Top 4" Conc Sewer Lat.		6.32	358.55
	1+30			
E+5	Ground		3.4	361.5
E+5	Top 4" Conc Sewer Lat		6.82	358.05
TP	10.12	371.85	3.14	361.73
	1+73			
E+5	Ground		10.0	361.9
E+5	Top 4" Conc Sewer Lat		12.81	359.04
	3+20			
E+5	Ground		7.4	364.5
E+5	Top 4" Conc Sewer Lat		10.30	361.55
	3+65			
E+5	Ground		5.8	3661
E+5	Top 4" Conc Sewer Lat		8.67	363.18
	4+25			
E+5	Ground		4.0	367.9
E+5	Top 4" Conc Sewer Lat		7.88	364.47

Nov 9-43
Section
Plat
Page

Indexed
C.S.K.

72

371.85

	4+82		
E+5	Ground	3.0	368.9
E+5	Top 4" Conc Sewer Lateral	6.02	365.83
	5+16		
E+5	Ground	3.7	368.2
E+5	Top 4" Conc Sewer Lateral	5.71	366.14
	5+28		
E+5	Ground	3.5	368.4
E+5	Top 4" Conc Sew Lat	5.08	366.77
	5+66		
E+5	Ground	3.1	368.8
E+5	Top 4" Conc Sew Lat	4.70	367.45
	5+72		
E+5	Ground	3.3	368.6
E+5	Top 4" Conc Sew Lat	4.28	367.57
	6+0 = S.L. Polk		
E+5	Ground	3.2	368.7
E+5	Top 6" C.I. Water Pipe	5.68	366.17

47

app. F.L. - 365.30

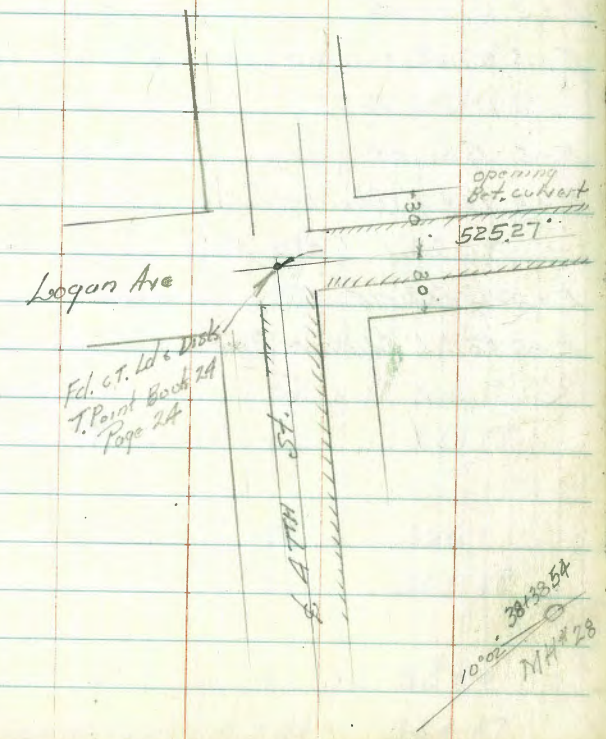
Walker
Hazard
Hurdin

12-2-43

Location Proposed Sewer —
"A" Line
And Levels for Same

on Cap Disk opp 0+208 3'8" Line 36+22.87 Valencia Line	2.10	87.43	85.33	BM. See sketch on Rt Page
= 0+00 - Valencia Trunk Sewer		15.9	71.5	
+06.77 on stub.		15.89	71.54	
+50		15.7	71.7	
+93		14.9	72.5	
1+00		13.8	73.6	
+20		12.7	74.7	

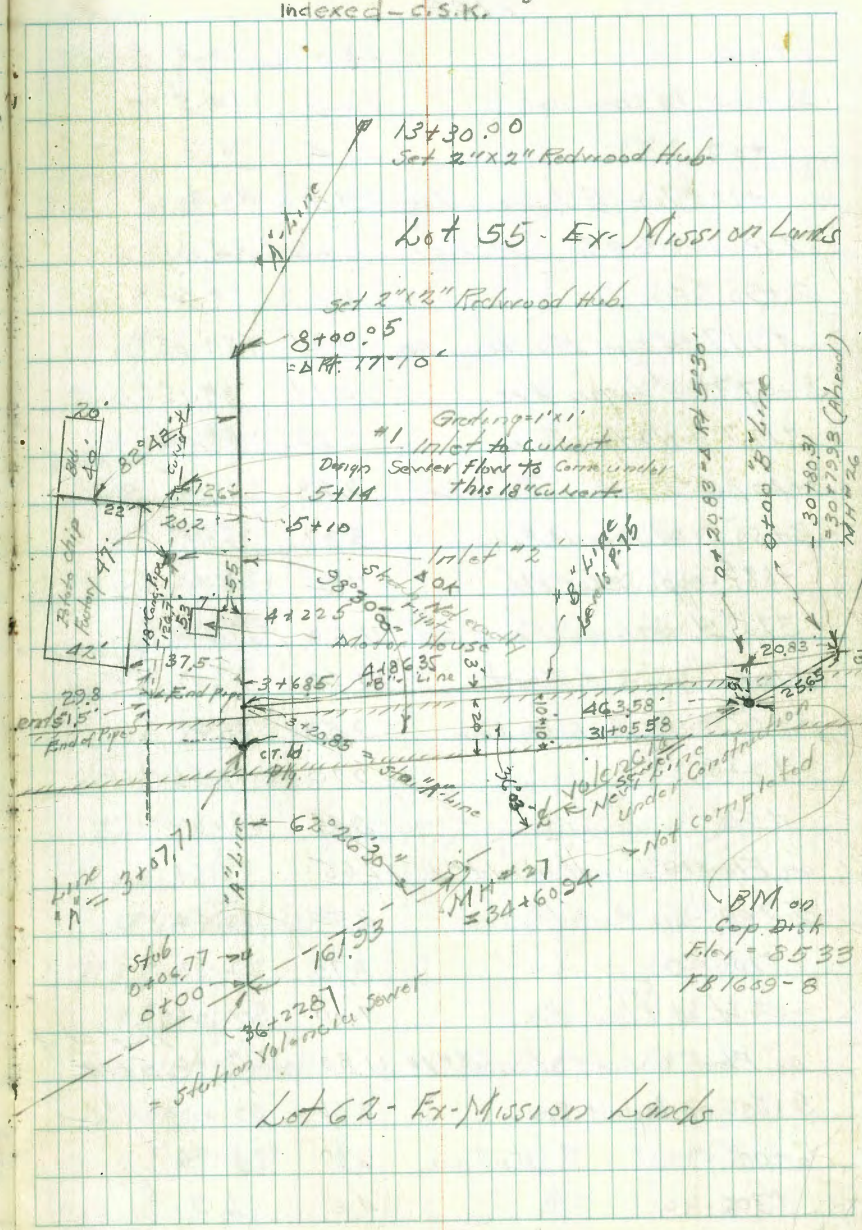
Cont P-74



→ In Lot 55 And 62 - Ex-Mission Lands of San Diego

73

Indexed - C.S.K.



"A" Line Cont from P. 73

	8743		
1+50		130	74.4
2+00 in channel		129	74.5
+50		114	76.0
+70 = Toe Fill, Logan Ave		95	77.9
TP	6.45 (91.26)	2.62	(84.81)
2+90 = Top Fill		2.1	89.2
+97.7 = Sedge Pav. Logan Ave.		2.21	89.05
3+07.7 = ℄ Logan Ave.		2.11	89.15
+17.7 = N edge Pav.		2.22	89.04
3+20.85 = Junction "B" Line		2.28	88.98 on Black Pav.
3+50 = on Asphalt Pav.		5.97	85.29
+68.5 - opp. SE Cor Bld.		7.84	83.42
375' Lt. on Conc. Floor, Bld.		11.60	79.66
Flow Line 18" Culvert		14.23	77.03 South end of P. Pk
4+00 on Asphalt Pav.		9.57	81.69
+22.5		9.70	81.56
+50		9.44	81.82
on Flow 18" Culvert at inlet #2		12.65	78.61
5+00 on Asphalt Pav.		8.82	82.44
+10 on " "		8.73	82.53
20.24 Lt. on Conc. Floor Bld.		9.00	82.26
on Flow Culvert at inlet #1 =		11.80	79.46 ✓126' Lt. of 5+14
5+50 on Asphalt Pav.		7.66	83.60
6+00 " " N end pav.		6.30	84.96
+30		4.6	86.7

(91.26)

"A" Line

74

6+55		6.3	85.0
7+00 in Wash		4.6	86.7
+45		2.8	88.5
+70 " "		3.5	87.8 on Hub.
8+00.05 13.07 TP = ℄ Rt 17°10"	(104.15)	3.18	(88.08) ℄ Wash
8+35 in ℄ Wash		1.20	89.2
+65		8.6	92.16
9' Rt ℄ "		10.7	90.5
9+00		8.8	92.4
7' Rt ℄ "		9.6	91.6
9+40 ℄ "		8.1	93.1
+70 ℄ " Δ in Wash		7.8	93.4
10+00		3.7	97.5
15 Rt ℄ "		6.9	94.3
10+40		1.3	99.9
26' Rt ℄ " Δ in "		4.8	96.4
10+70 = ℄ Wash		3.0	98.2
TP 12.72	(113.19)	9.68	(100.47)
11+00		10.0	103.2
18' Lt ℄ Wash		14.1	99.1
11+30		8.1	105.1
+60		5.4	107.8
35' Lt = ℄ Wash = Δ in Wash		10.8	102.4
12+00		4.9	108.3
45' Lt = ℄ "		7.3	105.9
12+20		5.0	108.2

"A"-Line

(113.19)

12+40			2.8	110.4
+60	in Wash	Δ in Wash	4.4	108.8
13+00	"	"	2.0	111.2
13+30	=End of Line		0.55	112.64 on Hub.
T.P.	1.13	(101.60)	12.72	(100.47)
T.P.	3.51	(94.08)	11.03	90.57
chk. starting 8.77			8.77	85.31
				85.33
				0.02
	8.77	(94.10) * "B"-Line Corrected		85.33

Levels - "B"-Line

0+00 = ℄ Mk. "26 Valencia Line			
+20.83 = Δ Rt. 5°30'	8.87	85.23	3' Ht. on Post
1+00	7.78	86.32	3' Ht. on Post
2+00	5.65	88.45	" " " "
3+00	4.32	89.78	" " " "
4+00 Δ Rt 81°30'	4.23	89.87	" " " "
+86.35 = Junction "A"-Line	5.13	88.97	
= 3+20.85 on "A"-Line Page 74		88.98	P-74
		0.01	

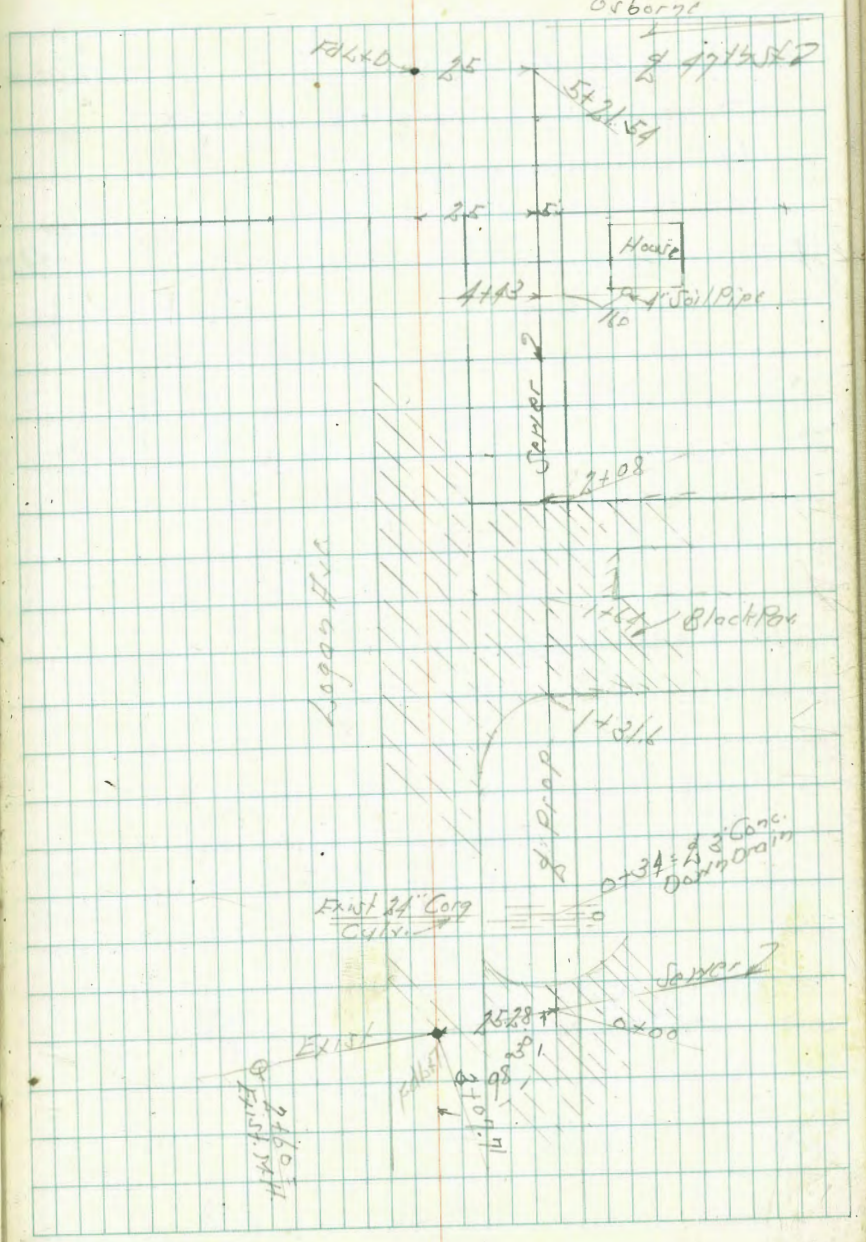
Proposed Sewer Logan Ave
East of 47th St

Indexed
C.S.K.

BM	6.23	95.48		89.25	47th & Logan "A" Elev = 77
0+0			7.58		
+67	= W'ly Block Pav		7.93		
+18			8.5		
+25			12.4		
+34	= ℄ & Conc Box in Drain		13.8		
"	1' Rt. Inlet ℄ 24" Corg Culvert		18.20		Flow Line
+55			10.0		
+75			10.5		
1+0			9.0		
+09			4.8		
+31.6	= E'ly Block Pav		4.75		
+50			4.35		
+64			3.96		
℄ +0			0.70		
	12.39	107.37	0.50	94.98	
+08	= W'ly Block Pav		11.67		
+50			8.7		
3+0			5.1		
+50			0.8		
TP	12.47	119.17	0.67	106.70	
+80			10.5		
4+0			6.8		
+43			1.8		
TP	6.76	124.19	0.74	117.43	

Sept. 8-44
Sisson
Bliss
Osborne

76



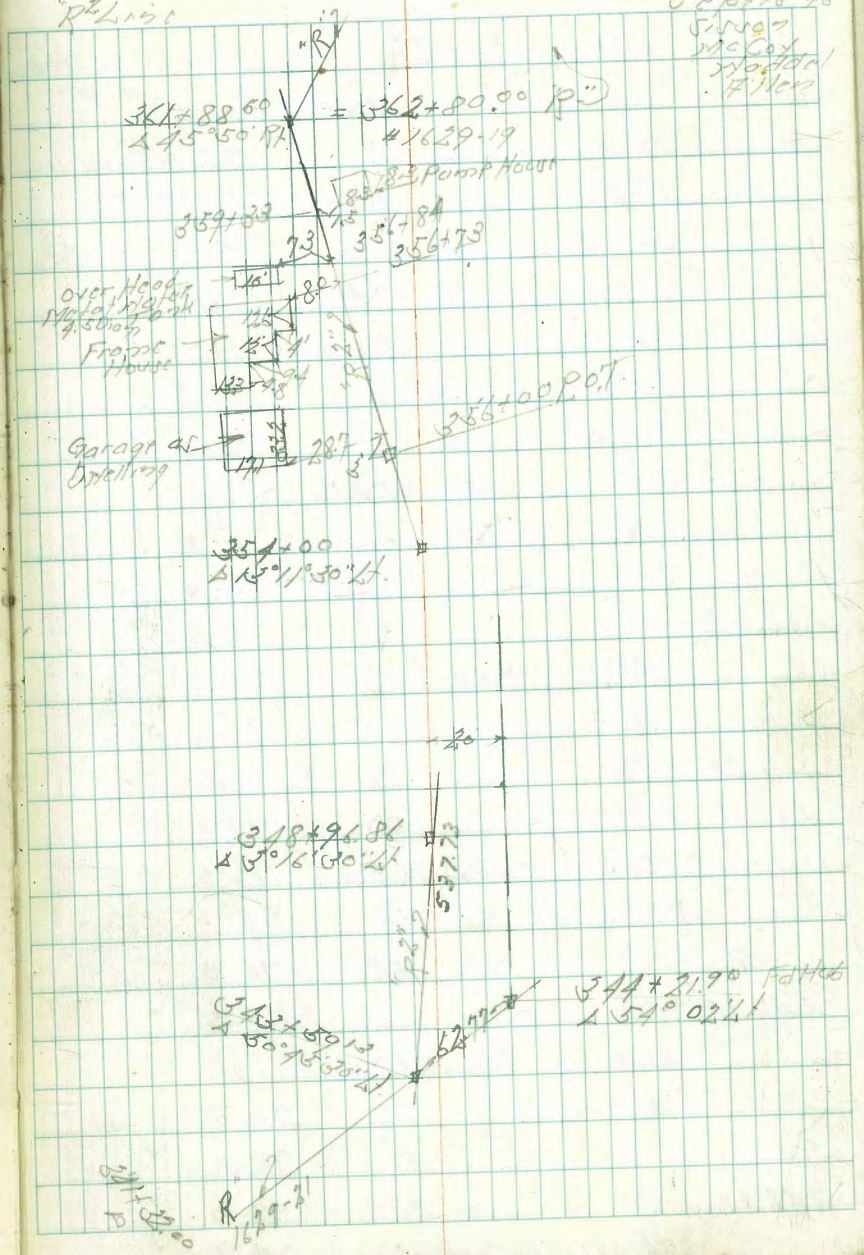
		124.19			
4+43	16' Rt.	Fly End of 4" C.I. Soil Pipe	5.58		Flagline
+70			4.2		
+89			3.7		
+91.5	= El. Cone Wall		5.02		
BM			5.31	118.88	

Alignment Proposed Sewer Str. No 10
Valley Trunk East of Ward Road

7

"R" Line

Sept 16-46
Simon
McCord
Stafford
Allen



Levels Proposed Sewer-Mission Valley Trunk R² Line

Alignment Page 27

BM #53 364	[79.08]		75.44	Spk #5 Rt 344+95 Ck mr 9/18/46
342+45 = ℄ Paving		10.11	[68.97]	
343+59.3 A 50°45'30" Lt.		8.61	70.47	Ck Shots
" " 8' Lt of ℄		10.2	68.9	
" " 5' Rt " "		6.8	72.3	
" " 20 Rt " "		7.3	71.8	
344+0		7.2	71.9	
" 17' Lt of ℄ = Top Bank		8.3	70.8	
" 20 Rt " "		6.1	73.0	
+50		5.9	73.2	
" 26 Lt of ℄ = Top Bank		6.1	73.0	
" 20 Rt of ℄		5.7	73.4	
345+0		5.9	73.2	
" 20 Lt of ℄ = Top Bank		6.2	72.9	
" 20 Rt of ℄		5.5	73.6	
+50		5.6	73.5	
346+0		5.0	74.1	
" 50 Lt of ℄ = Top Bank		6.5	72.6	
" 20 Rt of ℄		3.9	75.2	
+50		4.2	74.9	
347+0		3.5	75.6	
" 50 Lt of ℄ = Top Bank		3.8	75.3	
" 20 Rt of ℄		2.5	76.6	
+50		3.1	76.0	
348+0		2.1	77.0	
" 30 Lt of ℄ = Top Bank		4.8	74.3	

	[79.08]			
348+0	20 Rt of ℄	1.5	77.6	
349	7.00 [80.59]	2.49	[78.59]	
+50		6.2	77.4	
A 96.86 A 3° K 30' Lt		6.16	77.43	Ck Shots
349+0		6.0	77.6	
" 20 Lt of ℄ Top Bank		7.4	76.2	
" 20 Rt of ℄ = Mk Paving		5.5	[78.46]	
+50		6.3	77.3	
" 25 Lt of ℄		10.8	69.8	
" 20 Rt " " = Mk Paving		4.84	78.75	
350+0		7.3	76.3	
" 15 Lt of ℄		10.5	70.3	
" 8' Rt " "		5.0	78.6	
" Rt " " = Mk Pav.		4.61	78.98	
+50		7.9	75.7	
" 12 Lt of ℄		11.5	72.1	
" 8' Rt " "		5.8	79.8	
" 20 Rt " " = Mk Pav.		4.15	79.44	
351+0		11.2	72.4	
" 40 Lt of ℄ = Mk River		31.4	52.2	
" 12 Rt of ℄		3.5	80.1	
" 20 " " = Mk Pav		3.51	80.08	
+50		9.7	73.9	
" 20 Lt of ℄		18.5	65.1	
" 20 Rt of ℄		5.7	80.3	
Rt of ℄ = Mk Pav 274			80.85	

		⟨83.59⟩		
352+0			4.3	79.3
"	8' Lt of ℄		4.8	78.8
"	20' " " "		12.0	70.6
"	8' Rt of ℄		2.3	81.3
"	Rt of ℄ = N½ Par.		1.87	⟨81.72⟩
TP	7.87	⟨90.29⟩	11.7	⟨82.42⟩
+50			13.7	76.6
"	20' Lt of ℄		20.8	69.5
"	10' Rt " "		8.2	82.1
"	20' " " " = N½ Par.		7.82	82.47
+75			16.9	73.4
"	20' Lt of ℄		25.3	65.0
"	10' Rt " "		7.9	82.4
	20' Rt " " = N½ Par.		7.45	⟨82.84⟩
353+0			9.3	81.0
"	20' Lt of ℄		12.1	77.9
"	12' Rt of ℄		7.2	83.1
+50			6.4	83.9
"	20' Lt of ℄ = Top Bank		7.5	82.8
"	20' Rt " " = N½ Par.		5.18	⟨85.11⟩
354+0	= Δ 13°11'30" Lt		4.99	⟨85.30⟩ on Stub
"	14' Lt of ℄ = Top Bank		6.6	83.7
"	20' Rt " " = N½ Par.		4.11	86.18
+50			4.1	86.28
"	40' Lt of ℄ = Top Bank		5.1	85.28
"	20' Rt of ℄		2.7	87.6

		⟨80.29⟩		
355+0			2.7	87.6
"	44' Lt of ℄ = Top Bank		3.9	86.4
"	20' Rt " "		1.9	88.4
+50			1.5	88.8
"	48' Lt of ℄		3.8	86.5
"	20' Rt " "		1.4	89.1
356+0	P.O.T.		1.54	88.75 on Stub
"	56' Lt of ℄ Top Bank		5.4	84.9
"	20' Rt of ℄		1.0	89.3
+27	22' Lt of ℄ = S½ Beam		2.45	⟨87.84⟩ on Floor
+50			2.5	87.8
"	50' Lt of ℄		6.1	84.2
"	20' Rt " "		1.2	89.1
+23	8' Lt of ℄ = S.F. Cor. Ho.		2.81	87.48 on Floor
TP	2.21	⟨88.9⟩	3.59	⟨86.90⟩
357+0			3.4	85.5
"	20' Lt of ℄		5.3	83.6
"	20' Rt " "		1.7	87.2
+50			1.8	84.1
"	20' Lt of ℄		7.5	81.4
"	20' Rt " "		2.6	86.3
358+0			6.8	82.1
"	20' Lt of ℄		9.1	79.8
"	20' Rt " "		5.8	85.1

		(88.9)		
358+22	49' Rt of ℄ NW Cor Calf House	+0.21	(89.12)	on floor
+50		7.4	81.5	
"	20' Lt of ℄	9.1	79.8	
"	20' Rt " "	6.0	82 9	
359+0		9.2	79.7	
"	20' Lt of ℄	10.7	78 2	
"	20' Rt " "	7.6	81.3	
+50		10.1	78.8	
"	20' Lt of ℄ - Sly Stock Pile	11.0	77.9	
"	20' Rt of ℄	7.9	81.0	
360+0		10.4	78.5	
"	11' Lt of ℄ - Sly Stock Pile	10.7	78.2	
"	20' Rt " "	8.0	80.9	
TP	7.84	(84.45)	12.30	(76.61)
+50		5.7	78.7	
"	20' Lt of ℄	7.9	76.5	
"	20' Rt " "	4.0	80 4	
361+0		6.7	77.7	
"	20' Lt of ℄	7.8	76.6	
"	20' Rt " "	4.3	80.1	
+50		7.4	77.0	
"	20' Lt of ℄	10.8	73.6	
"	20' Rt " "	4.5	80.0	
+88.0	∆ 45°50' Rt	10.13	(74.32)	on Hub
Tan 62 +80		5.81	(78.64)	on Hub
362+40				78.73
				1629.30

IMPROVED TABLES AND INFORMATION

8 9

HORIZONTAL STADIA CORRECTIONS

2°—00′ — 0.1	21°—00′ — 12.8	33°—00′ — 29.7
3°—00′ — 0.3	21°—30′ — 13.4	33°—15′ — 30.1
4°—00′ — 0.5	22°—00′ — 14.0	33°—30′ — 30.5
5°—00′ — 0.8	22°—30′ — 14.7	33°—45′ — 30.9
6°—00′ — 1.1	23°—00′ — 15.3	34°—00′ — 31.3
7°—00′ — 1.5	23°—30′ — 15.9	34°—15′ — 31.7
8°—00′ — 1.9	24°—00′ — 16.5	34°—30′ — 32.1
9°—00′ — 2.5	24°—30′ — 17.2	34°—45′ — 32.5
10°—00′ — 3.0	25°—00′ — 17.9	35°—00′ — 32.9
10°—30′ — 3.3	25°—30′ — 18.6	35°—15′ — 33.3
11°—00′ — 3.6	26°—00′ — 19.2	35°—30′ — 33.7
11°—30′ — 4.0	26°—30′ — 19.9	35°—45′ — 34.1
12°—00′ — 4.3	27°—00′ — 20.6	36°—00′ — 34.6
12°—30′ — 4.7	27°—30′ — 21.3	36°—15′ — 35.0
13°—00′ — 5.1	28°—00′ — 22.0	36°—30′ — 35.4
13°—30′ — 5.5	28°—30′ — 22.8	36°—45′ — 35.8
14°—00′ — 5.9	29°—00′ — 23.5	37°—00′ — 36.2
14°—30′ — 6.3	29°—30′ — 24.3	37°—15′ — 36.6
15°—00′ — 6.7	30°—00′ — 25.0	37°—30′ — 37.1
15°—30′ — 7.2	30°—15′ — 25.4	37°—45′ — 37.5
16°—00′ — 7.6	30°—30′ — 25.8	38°—00′ — 37.9
16°—30′ — 8.1	30°—45′ — 26.2	38°—15′ — 38.3
17°—00′ — 8.5	31°—00′ — 26.5	38°—30′ — 38.7
17°—30′ — 9.0	31°—15′ — 26.9	38°—45′ — 39.1
18°—00′ — 9.5	31°—30′ — 27.3	39°—00′ — 39.6
18°—30′ — 10.1	31°—45′ — 27.7	39°—15′ — 40.0
19°—00′ — 10.6	32°—00′ — 28.1	39°—30′ — 40.5
19°—30′ — 11.2	32°—15′ — 28.5	
20°—00′ — 11.7	32°—30′ — 28.9	
20°—30′ — 12.3	32°—45′ — 29.3	

Chains to Feet	
1	66
2	132
3	198
4	264
5	330
6	396
7	462
8	528
9	594
10	660

Feet to Chains	
100	1.515
200	3.030
300	4.545
400	6.060
500	7.575
600	9.090
700	10.606
800	12.121
900	13.636
1,000	15.151

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ 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.

TABLE No. 9.

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections.

Degree of curve with a given I may be found by dividing tangent, (or external), opposite I by given tangent, (or external).

The distance from a point on the tangent to the curve is very nearly the square of the tangent lenth divided by twice the radius.

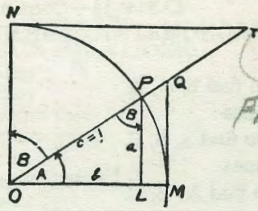


TABLE II

TRIGONOMETRIC FORMULÆ.

$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$

$R = OB = c = 1$

$$\sin A = \frac{a}{c} = \frac{a}{1} = a = \cos B = LP$$

$$\cos A = \frac{b}{c} = \frac{b}{1} = b = \sin B = OL$$

$$\tan A = \frac{a}{b} = \frac{MQ}{OM} = \frac{MQ}{1} = MQ = \cot B = MQ$$

$$\cot A = \frac{NT}{ON} = \frac{NT}{1} = NT = \tan B = NT$$

$$\sec A = \frac{OQ}{OM} = \frac{OQ}{1} = OQ = \csc B = OQ$$

$$\csc A = \frac{OT}{ON} = \frac{OT}{1} = OT = \sec B = OT$$

$$\text{vers } A = \frac{LM}{OP} = LM = \text{covers } B \#$$

$$\text{covers } A = \frac{OP - LP}{OP} = OP - LP = \text{vers } B$$

$$\text{exsec } A = PQ = \text{coexsec } B$$

$$\text{coexsec } A = PT = \text{exsec } B$$

$$\sin \tfrac{1}{2} A = \sqrt{\frac{1 - \cos A}{2}} \qquad \cos \tfrac{1}{2} A = \sqrt{\frac{1 + \cos A}{2}}$$

$$\sin 2A = 2 \sin A \cos A \qquad \cos 2A = \cos^2 A - \sin^2 A$$

$$\text{Law of Lines} \quad \frac{\sin A}{a} = \frac{\sin B}{B} = \frac{\sin C}{C}$$

$$\text{Law of Cosines} \quad c^2 = a^2 + b^2 - 2ab \cos C$$

$$\text{Law of Tangents} \quad \frac{a+b}{a-b} = \frac{\tan \tfrac{1}{2}(A+B)}{\tan \tfrac{1}{2}(A-B)}$$

Table II—Continued
TRIGONOMETRIC FORMULAE (continued)

In any triangle:

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

Use Law of Lines.

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

Use Law of Lines.

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

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

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

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

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

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

Area of a triangle:

Area $= \frac{1}{2}$ ab Sin C

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

PRISMOIDAL FORMULA.

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

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

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

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

Table IV
USEFUL RELATIONS.

Lineal feet	×.00019	= miles
Lineal yards	×.0006	= miles
Square inches	×.007	= square feet
Square feet	×.111	= square yards
Square yards	×.0002067	= acres
Acres	×4840	= square yards
Cubic inches	×.00058	= cubic feet
Cubic feet	×.03704	= cubic yards
Links	×.22	= yards
Links	×.66	= feet
Feet	×1.5	= links

360° = 21600′ = 1296000″

Radius = arc of 57.2957790°

Arc of 1° (radius = 1) = .017453292

Arc of 1′ (radius = 1) = .000290888

Arc of 1″ (radius = 1) = .000004848

$\pi = 3.141592654$ $\qquad \sqrt{\frac{1}{\pi}} = 0.564190$

$\frac{\pi}{4} = 0.785398163$ $\qquad \sqrt[3]{\frac{6}{\pi}} = 1.240700982$

$\frac{\pi}{6} = 0.523598776$ $\qquad \pi^2 = 9.869604401$

$\sqrt{\frac{4}{\pi}} = 1.128379167$ $\qquad \frac{1}{\pi^2} = 0.101321184$

$\frac{\pi}{6} = 0.523598776$ $\qquad \sqrt{\pi} = 1.772453851$

$\frac{4.\pi}{3} = 4.188790205$ $\qquad \frac{1}{\pi} = 0.3183099$

Curvature of Earth's surface = about 0.7 feet in 1 mile

Curvature in feet = 0.667 (Dist. in miles)²

Difference between arc and chord length, 0.05 feet in 11½ miles

Probable error of a single observation $= 0.6754\sqrt{\frac{\Sigma v^2}{n-1}}$

Error in chaining of 0.01 feet in 100 feet:

Due to—

1. Length of tape error of 0.01 feet
2. Alignment. One end 1.4 feet out of line
3. Sag of tape at centre of 0.61 feet.
4. Temperature difference of 15°
5. Difference of pull of 15 lbs.

STADIA REDUCTION FORMULÆ.

Horizontal Distance $= R - R \sin^2 a + C \cos a$

Vertical Distance $= R\ \frac{1}{2} \sin 2a + C \sin a$

$R = \text{Reading} \times \frac{\text{distance from Object glass to cross hairs}}{\text{distance between cross hairs}}$

C = distance from Object glass to cross hairs + distance from Object glass to center of instrument.

a = angle of elevation for mid Reading

TABLE X.

MIDDLE ORDINATES OF RAILS

Length of Rail (feet)

C ° ′	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch	C °	R Feet	30 Inch	28 Inch	26 Inch	24 Inch	22 Inch	20 Inch
0–20	17189	.08	.07	.06	.05	.04	.03	8	716.8	1.88	1.64	1.42	1.20	1.01	.84
0–40	8594	.16	.14	.12	.10	.08	.07	9	637.3	2.12	1.84	1.60	1.35	1.14	.94
1–0	5730	.24	.20	.18	.15	.13	.10	10	573.7	2.36	2.05	1.78	1.50	1.27	1.04
1–20	4297	.31	.27	.23	.20	.17	.13	11	521.7	2.59	2.26	1.95	1.65	1.39	1.15
1–40	3438	.39	.34	.29	.25	.21	.17	12	478.3	3.83	2.47	2.15	1.81	1.54	1.26
2–0	2865	.47	.41	.35	.30	.25	.20	13	441.7	3.05	2.66	2.30	1.96	1.66	1.36
2–20	2456	.55	.48	.41	.35	.29	.23	14	410.3	3.30	2.87	2.48	2.10	1.78	1.46
2–40	2149	.63	.55	.47	.40	.33	.27	15	383.1	3.54	3.08	2.68	2.26	1.91	1.57
3–0	1910	.71	.62	.53	.45	.38	.31	16	359.3	3.76	3.28	2.83	2.40	2.04	1.67
3–20	1719	.78	.68	.59	.50	.42	.35	17	338.3	4.00	3.48	3.02	2.57	2.16	1.78
3–40	1563	.86	.75	.65	.55	.46	.38	18	319.6	4.21	3.67	3.18	2.70	2.28	1.87
4–0	1433	.94	.82	.71	.60	.50	.42	19	302.9	4.45	3.89	3.36	2.86	2.41	1.98
4–20	1323	1.02	.89	.77	.65	.55	.45	20	287.9	4.70	4.09	3.55	3.00	2.54	2.09
4–40	1228	1.10	.96	.83	.70	.59	.48	22	262.0	5.16	4.44	3.84	3.30	2.80	2.29
5	1146	1.18	1.03	.89	.75	.63	.52	24	240.5	5.64	4.92	4.20	3.59	3.04	2.50
6	955.3	1.41	1.23	1.06	.90	.76	.62	26	222.3	6.07	5.29	4.58	3.88	3.29	2.70
7	819.0	1.65	1.44	1.24	1.05	.89	.73								

TABLE XI.

SHORT RADIUS CURVES

Radius Feet	Chord Feet	Central Angle	Deflection Angle	Deflection for 1 Foot
35	10	16-26	8-13	49.3
45	10	12-46	6-23	38.3
50	15	17-16	8-38	34.5
60	15	14-22	7-11	28.8
75	15	11-30	5-45	23.0
100	20	11-30	5-45	17.3
120	20	9-34	4-47	14.3
150	20	7-39	3-49	11.5
190	25	7-32	3-46	9.15
200	25	7-10	3-35	8.6
225	25	6-25	3-12	7.7
240	25	5-58	2-59	7.2
250	25	5-44	2-52	6.9
275	25	5-12	2-36	6.2
288	50	9-58	4-59	6.0
300	50	9-32	4-46	5.7
350	50	8-12	4-06	4.9
376	50	7-40	3-50	4.6
400	50	7-10	3-35	4.3
410	50	7-00	3-30	4.2

To find length of curve divide angle from P. C. to P. T. by central angle of chord, and multiply by length of chord.

TABLE XII.

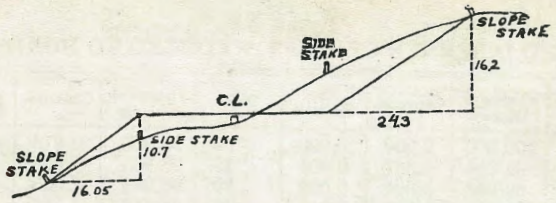
INCLINED DISTANCE OF 100 FT. REDUCED TO HORIZONTAL

Slope	Horizontal Distance	Correction	Rise Per Foot	Slope	Horizontal Distance	Correction	Rise Per Foot
0°00′	100.000	0.000	0.000	8°00′	99.027	0.973	0.139
15′	99.999	0.001	0.004	15′	98.965	1.035	0.143
30′	99.996	0.004	0.009	30′	98.902	1.098	0.148
45′	99.991	0.009	0.013	45′	98.836	1.164	0.152
1 00	99.985	0.015	0.017	9 00	98.769	1.231	0.156
15	99.976	0.024	0.022	15	98.700	1.300	0.161
30	99.966	0.034	0.026	30	98.629	1.371	0.165
45	99.953	0.047	0.031	45	98.556	1.444	0.169
2 00	99.939	0.061	0.035	10 00	98.481	1.519	0.174
15	99.923	0.077	0.039	15	98.404	1.596	0.178
30	99.905	0.095	0.044	30	98.325	1.675	0.182
45	99.885	0.115	0.048	45	98.245	1.755	0.187
3 00	99.863	0.137	0.052	11 00	98.163	1.837	0.191
15	99.839	0.161	0.057	15	98.079	1.921	0.195
30	99.813	0.187	0.061	30	97.992	2.008	0.199
45	99.786	0.214	0.065	45	97.905	2.095	0.204
4 00	99.756	0.244	0.070	12 00	97.815	2.185	0.208
15	99.725	0.275	0.074	15	97.723	2.277	0.212
30	99.692	0.308	0.078	30	97.630	2.370	0.216
45	99.657	0.343	0.083	45	97.534	2.466	0.221
5 00	99.619	0.381	0.087	13 00	97.437	2.563	0.225
15	99.580	0.420	0.092	15	97.338	2.662	0.229
30	99.540	0.460	0.096	30	97.237	2.763	0.233
45	99.497	0.503	0.100	45	97.134	2.866	0.238
6 00	99.452	0.548	0.105	14 00	97.030	2.970	0.242
15	99.406	0.594	0.109	15	96.923	3.077	0.246
30	99.357	0.643	0.113	30	96.815	3.185	0.250
45	99.307	0.693	0.118	45	96.705	3.295	0.255
7 00	99.255	0.745	0.122	15 00	96.593	3.407	0.259
15	99.200	0.800	0.126	15	96.479	3.521	0.263
30	99.144	0.856	0.131	30	96.363	3.637	0.267
45	99.087	0.913	0.135	45	96.246	3.754	0.271

TABLE XIII.

MINUTES IN DECIMALS OF A DEGREE.

0 30″	.00833	10′30″	.17500	20′30″	.34167	30′30″	.50833	40′30″	.67500	50′30″	.84167
1 00	.01667	11 00	.18333	21 00	.35000	31 00	.51667	41 00	.68333	51 00	.85000
30	.02500	30	.19167	30	.35833	30	.52500	30	.69167	30	.85833
2 00	.03333	12 00	.20000	22 00	.36667	32 00	.53333	42 00	.70000	52 00	.86667
30	.04167	30	.20833	30	.37500	30	.54167	30	.70833	30	.87500
3 00	.05000	13 00	.21667	23 00	.38333	33 00	.55000	43 00	.71667	53 00	.88333
30	.05833	30	.22500	30	.39167	30	.55833	30	.72500	30	.89167
4 00	.06667	14 00	.23333	24 00	.40000	34 00	.56667	44 00	.73333	54 00	.90000
30	.07500	30	.24167	30	.40833	30	.57500	30	.74167	30	.90833
5 00	.08333	15 00	.25000	25 00	.41667	35 00	.58333	45 00	.75000	55 00	.91667
30	.09167	30	.25833	30	.42500	30	.59167	30	.75833	30	.92500
6 00	.10000	16 00	.26667	26 00	.43333	36 00	.60000	46 00	.76667	56 00	.93333
30	.10833	30	.27500	30	.44167	30	.60833	30	.77500	30	.94167
7 00	.11667	17 00	.28333	27 00	.45000	37 00	.61667	47 00	.78333	57 00	.95000
30	.12500	30	.29167	30	.45833	30	.62500	30	.79167	30	.95833
8 00	.13333	18 00	.30000	28 00	.46667	38 00	.63333	48 00	.80000	58 00	.96667
30	.14167	30	.30833	30	.47500	30	.64167	30	.80833	30	.97500
9 00	.15000	19 00	.31667	29 00	.48333	39 00	.65000	49 00	.81667	59 00	.98333
30	.15833	30	.32500	30	.49167	30	.65833	30	.82500	30	.99167
10 00	.16667	20 00	.33333	30 00	.50000	40 00	.66667	50 00	.83333	60 00	1.00000



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1½ 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

Computed by L. Leland Locke.

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81.1 39°-41-30 L off Hi St
754 To Fairmount Sewer
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48 0°-47-30 Lt. 4+93.60
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13.6

372+62.63
87
1563

252.76 L 8°-45-00 - + 68.60

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345
73.65

3.90

144 81
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735

463+21.86
461+94.26
127.60

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8°-22'-00

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1128
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1076

837.99
380
457.99

147.67
461+94.26
463+41.93

From Newport 50°-38 = 100-11
101°-16'-00 W.

CITY OF SAN DIEGO.
ENGINEERING DEPARTMENT
CALIFORNIA.