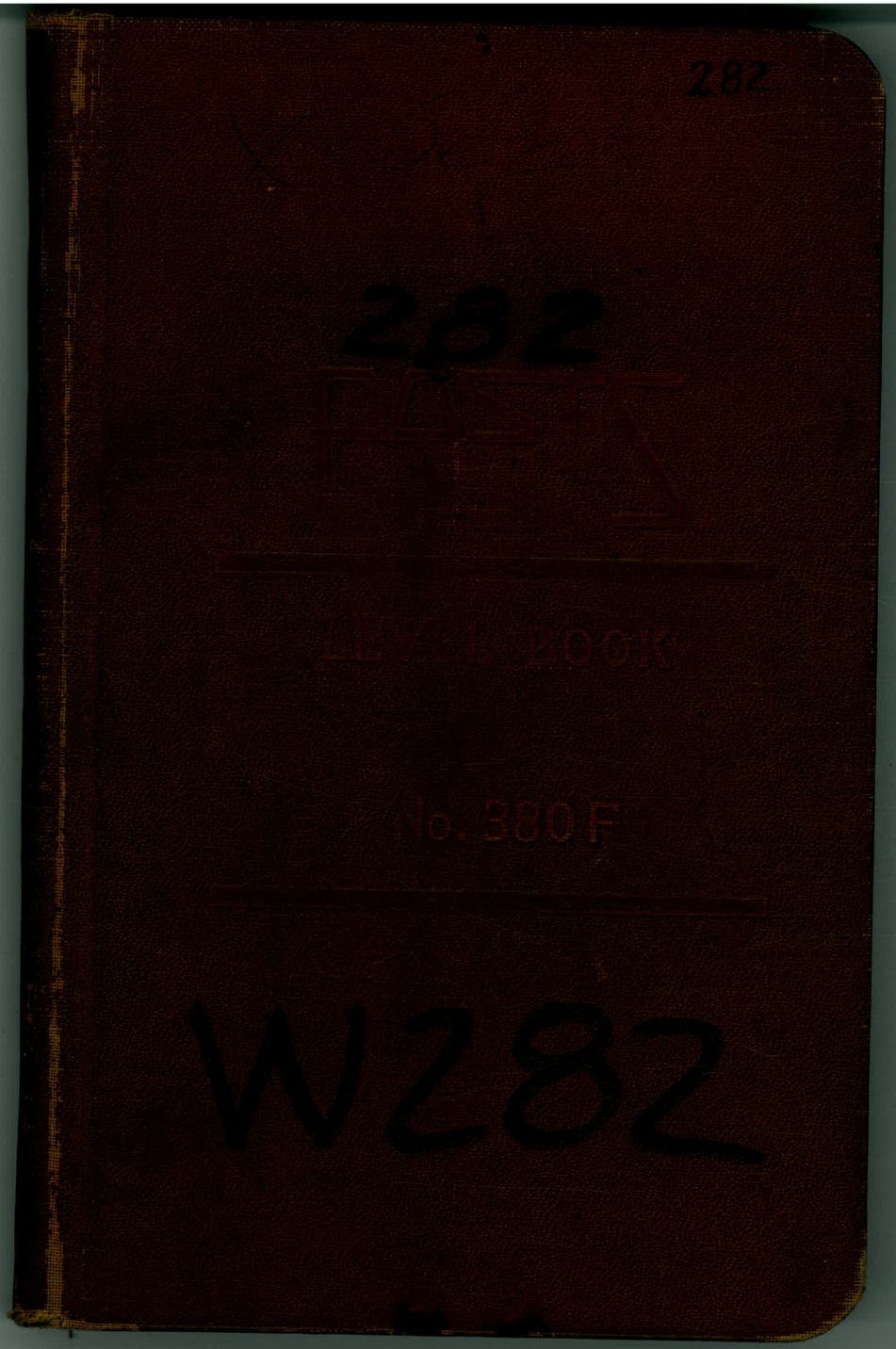
282
282
LEGAL BOOK
No. 380F
W282

Our Leather Bound Engineers Note Books are carried in the following rulings:

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O.R.-S.D. 2nd. Main Pipe Line

INDEX

Xsec's & profile of "D" line from Chollas to Lantana (Location Line)

8/26/29

Parker
Converse
Hill
Simpson

B.M.#124	1.17	369.~~71~~ .95 369.55		368.~~77~~ .78	368.38
			12.69	357.~~22~~ .26	356.86
	0.97	358.~~19~~ .23 357.83			
			13.10	345.~~09~~ .13	344.73
	0.36	345.~~45~~ .49 345.09			
B.M.#125			1.71	343.~~74~~ .78	343.38
800+66.20					
+75					
+90					
+90					
+93					
801					
T.P.		332.70	12.76	332.~~69~~ 29 (334.33)	+0.04
	0.41	333.10			

Void
See Cross-section Book #293

Left ℄ Right 1

Contd. from Book 279 - Page 44.

Air valve 798+45 See Bk #279, Pg. 43

N. nut on flange of by-pass 15'R 800+66

41.9 / 3.6 / 10 — 41.3 / 4.2 — 40.6 / 4.9 / 4 — 40.4 (~~41.2~~) / 4.7 — 42.1 / 3.4 / 4 — 42.2 / 3.3 / 10

top 20" N.S. & pipe

41.1 / 3.8 / 10 — 40.2 / 5.3 / 4 — 39.6 (~~40.0~~) / 5.5 — 39.9 / 5.6 / 4 — 38.9 / 6.6 / 10

37.4 (~~37.8~~)

7.7 top of 4'x15 wood box

36.6 / 8.9 top of pipe / 6 — 33.4 (~~33.8~~) / 11.7 bot. " " "

38.4 / 7.1 / 10 — 36.6 (~~37.0~~) / 8.5 — 36.1 / 9.4 / 5 — 36.1 / 9.4 / 10

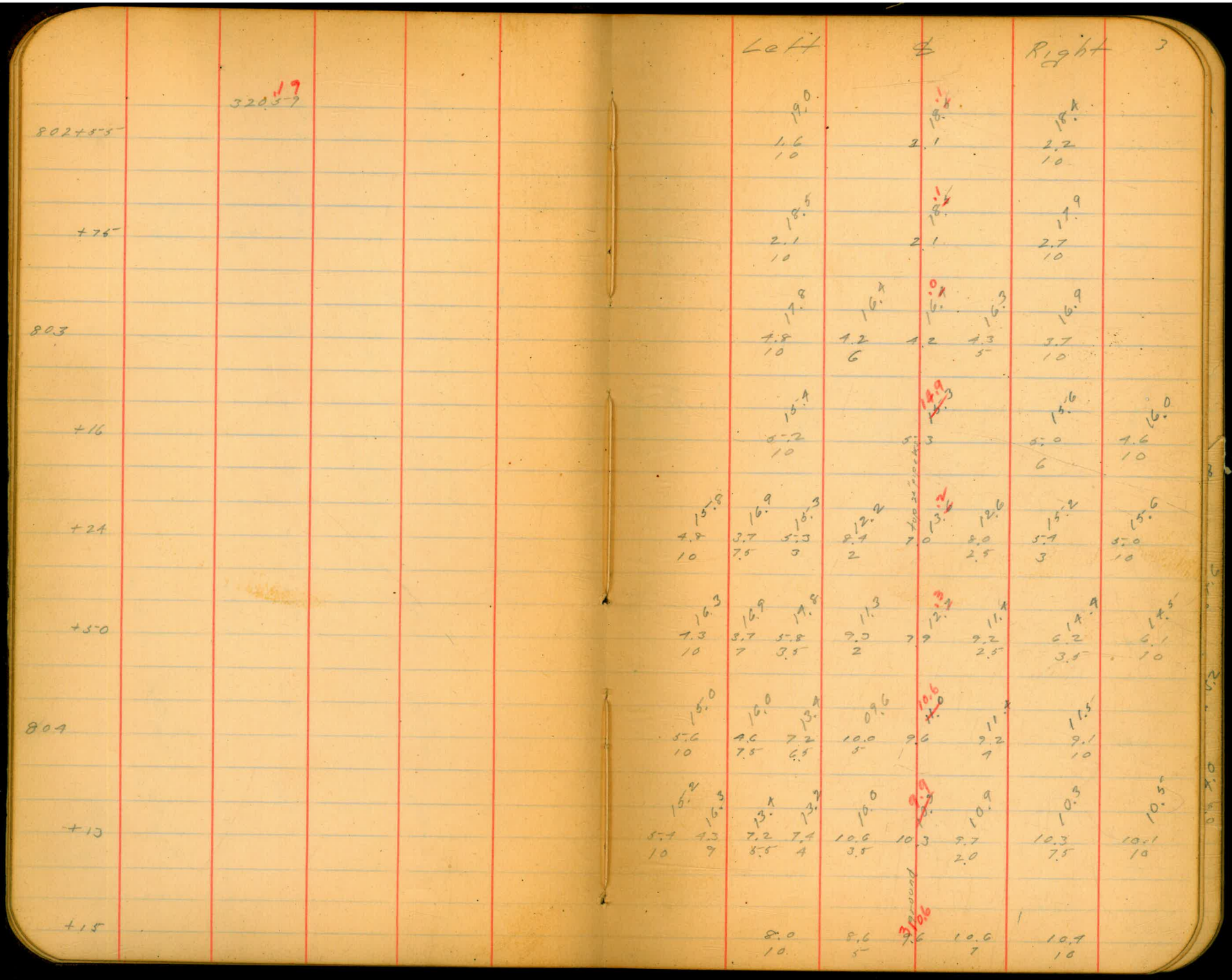
36.7 / 8.8 / 10 — 35.0 (~~35.4~~) / 10.1 — 34.7 / 10.8 / 5 — 35.0 / 10.5 / 10

peg 6L 801+16

		332.90 / 333.10		
801+20			1.4	
+40				
+45				
+51				
+51				
+60				
+66				
802				
+15				
T.P.			12.24	319.76 / 320.16
	0.43	320.59 / 320.19		

Left & Right 2

	32.3	31.7 / 31.3		31.3
	0.8	1.7		1.8
	10			10
	29.1	28.4 / 28.2	28.6	29.2
edge box	4.0	4.5	4.5	3.9
	6		3	10
23.4 top conc. floor	26.2	28.2		
9.7	6.9 top pipe	4.9 curb at box		
3.5	10.5	3		
		27.7 / 29.1		
25.0 top of pipe		5.0 ground at box		
8.1	21.9 bot. of conc. floor 11.2	28.4 / 28.1 4.6 top of box		
6.	1.0			
		27.9 / 28.3		
top of box 4.8				
28.2		27.6 / 27.4	27.3	26.1
4.9	ground	5.5	8.8	6.4
10			3	10
24.0		23.9 / 22.5		22.5
9.1		10.2		10.6
10				10
22.3		21.3 / 21.1		20.9
10.8		11.4		12.2
10				10


Left
Right
320.5-7
802+5-5
+75-
803
+16
+24
+50
804
+10
+15
Ground

Sta.					Left		℄		Right	
		320.~~29~~ .19								
804+30						12.4 / 8.2 / 10	~~10.~~ 9.7 / 10.5	08.6 / 12.0 / 8	08.9 / 11.7 / 10	
+37				top 24" pipe 09.4 / 11.2 / 14	top C.I. band 24" 09.2 / 11.4 / 10	08.6 / 12.0 / 8	10.6 / 10.1 / 3	~~09.3~~ 08.9 / 11.3	09.3 / 11.3 / 3	07.8 / 12.8 / 6
+39								ground ~~09.3~~ 08.9 / 11.3		
+39				05.9 / 14.7 / 10 · 04.2 / 14.4 / 8.5	top 24" C.I. pipe 08.0 / 12.0 / 7.5 · 09.0 / 11.6 / 4 · top of concr. chamber 10.8 / 9.8 / 3.0	05.0 conc. floor of chamber / 15.6 / 1.1	10.8 top of concr. chamber / 9.8 / 1.0	~~10.8~~ .4 top of concr. wall of chamber / 9.8	09.2 / 11.4 / 2.5	07.3 / 13.3 / 7
+40								~~10.8~~ .4 top concr. / 9.8 / ℄	05.0 concr. floor / 15.6 / ℄	
+41								~~07.~~ .1 top 24" W.S. pipe / 13.1		
+45								~~06.~~ .3 top of pipe / 13.9 / ℄	05.0 concr. floor / 15.6 / ℄	
+46								~~10.~~ .4 top of concr. wall / 9.8		
T.P.			13.08	307.~~27~~ .11						
	0.24	307.~~75~~ .35								

Right column (+37): 07.8 / 12.8 / 10
Right column (+39): 07.4 / 13.2 / 10

Station					Remarks
801+17		307.75 [red: .35]			
+49					
+50					
+57					
+60					
+85					E. edge 36" W.S. pipe
+93.6					Top of W.S. 36" pipe
805					
T.P.			12.43	295.32 [red: 294.92]	
	5.29	300.61 [red: 300.21]			

3.31

Left ℄ Right

Station	Readings (elevation / rod / distance)
801+17	07.8 3.0/10.0; 03.8 4.0/2.0 (conc floor); 10.9 +3.1/1.0 (top conc wall); 307.1 [red: 3] 0.1; 08.2 +0.4/2.0; 06.6 1.2/7; 06.4 1.1/10
+49	06.7 [red: .059] 11.5 (top of 24" C.I. pipe x 24" W.S. pipe)
+50	09.3 +1.6/6.0; 09.3 +1.6/2.5; 03.7 4.0/1; 04.1 [red: 03.7] 3.6; 07.5 0.2/3; 06.0 1.8/7; 06.2 1.5/10
+57	05.0 2.8/13; 07.8 +0.1/10.5 (top 36" W.S. pipe); 05.4 2.3/9; 05.7 2.0/7; 06.0 1.7/3; 03.6 4.1/1.5; 04.6 [red: .1] 3.2; 02.5 2.2/4; 05.0 2.7/6; 05.1 2.6/10
+60	04.6 3.1/12; 08.0 0.3/9.5 (top 36" W.S.); 05.1 2.6/8; 04.8 2.9/3; 03.5 4.2/2; 04.4 [red: .0] 3.3; 05.1 2.6/3; 04.7 3.0/6; 04.8 2.9/10
+85	05.1 2.6/10; 04.1 3.6/6; 01.1 6.6/4; 03.1 4.4/2.0 (top W.S. pipe); 01.5 [red: .1] 6.2; 02.2 5.5/4; 02.0 5.8/7; 2.0 5.8/10
+93.6	04.1 4.6/10; 01.2 6.5/3; 299.7 8.0/2; 02.2 [red: 01.8] 5.5; 00.6 7.1/2.0; 01.2 6.5/4; 300.7 7.1/10
805	00.8 6.9/10; 99.7 8.0/4; 98.6 [red: .1] 9.2; 01.1 6.6/2; 00.3 7.4/4; 99.8 7.9/10

300.21 (~~300.31~~)

Station	Left				℄	Right				
806+35	94.5 (6.1 / 10)				92.8 ~~93.2~~ (7.4)	93.6 (7.1 / 5)	96.9 (3.7 / 6.5) top 36" W.S.	96.8 (3.8 / 10)		
+58	92.9 (7.7 / 10)				91.8 ~~92.2~~ (8.4)	91.9 (8.7 / 6)	95.7 (4.9 / 8) top 36" W.S.	95.7 (4.9 / 10)		
+75	91.5 (9.1 / 10)	290.0 (10.6 / 4)			88.5 ~~88.9~~ (11.7)	87.6 (13.0 / 3) flow line culvert	89.7 (10.9 / 5)	95.9 (4.7 / 8) top 36" W.S.	95.1 (5.5 / 10)	
806	88.2 (12.4 / 10)	87.8 (12.8 / 5)			87.x ~~87.8~~ (12.8)	87.8 (12.8 / 3)	89.7 (10.9 / 6)	95.9 (4.7 / 8) top 36" W.S.	95.6 (5.0 / 10)	
+20	88.0 (12.6 / 10)	88.7 (11.9 / 5)			289.7 ~~290.1~~ (10.5)	90.6 (10.0 / 3)	92.4 (8.2 / 6)	96.1 (4.5 / 8) top 36" W.S.	96.1 (4.5 / 10)	
+25	88.2 (12.4 / 10)	290.3 (10.3 / 6)	92.3 (8.3 / 2)		92.0 ~~92.4~~ (8.2)	93.5 (7.1 / 4)	92.6 (8.0 / 6)	96.1 (4.5 / 8) top 36" W.S.	96.1 (4.5 / 10)	
+40	93.3 (7.3 / 10)				92.7 ~~93.1~~ (7.5)	93.1 (7.5 / 6)	96.3 (4.3 / 8) top 36" W.S.	96.5 (4.1 / 10)		
+60	93.5 (7.1 / 10)	95.8 (4.8 / 3.5)	95.4 (5.2 / 2)	93.8 (6.8 / 1)	92.7 ~~93.1~~ (7.5)	93.2 (7.4 / 1.5)	94.4 (6.2 / 2.5)	93.8 (6.8 / 5) top 36" W.S.	97.0 (3.6 / 7.5)	97.0 (3.6 / 10)

		300.~~61~~ .21			
807					
T.P.			5.29	294.92 ~~295.32~~	
	12.43	307.~~75~~ .35			
T.P.			3.31	304.~~44~~ .04	
	6.01	310.~~45~~ .05			
+55					
+64					
+70					
808					
+50					
809					
+30					

Left ℄ Right

Sta.												
807	Elev.	96.8	97.6	96.2	93.9	93.~~?~~1	94.4	95.8	96.3	98.8	99.7	
	Rod	3.8	3.0	4.1	6.9	7.1	6.2	4.8	4.3	1.8	0.9	
	Dist.	10	5.5	2	1		2	4	6	7.5	10	
+55	Elev.	02.2	02.6	02.1	00.4	98.5	98.~~5~~1	98.5	01.0	03.5	03.4	
	Rod	8.2	7.8	8.3	10.6	11.9	11.9	11.9	9.4	7.0	7.1	
	Dist.	10	10	5.5	2	1		1	3.5	8	10	
+64	Elev.	03.5	03.8	02.0	01.5	300.~~4~~0	300.5	02.7	03.8	02.4		
	Rod	6.9	6.7	8.5	8.9	10.1	10.0	7.7	6.6	8.0		
	Dist.	10	7	4.5	2		1	2	6	10		
+70	Elev.	03.0	04.0	02.2	300.0	98.8	98.8	98.9	300.0	02.6	04.0	03.8
	Rod	7.5	6.4	8.3	10.5	11.7	11.7	11.6	10.5	7.9	6.4	6.6
	Dist.	10	6	2.5	1.5	1		1	1.5	2.5	6.5	10
808	Elev.	06.0	05.7	02.7	01.2	04.0	300.0	99.~~7~~3	99.7	300.6	03.2	05.0	04.6
	Rod	4.5	4.7	7.7	9.2	9.4	10.5	10.8	10.6	9.9	7.3	5.5	5.9
	Dist.	10	6	3.5	2.5	1.5	1		1	1.5	2.5	7	10
+50	Elev.	06.2	06.0	04.0	01.6	01.4	300.5	300.~~4~~0	300.5	01.6	04.2	04.4	05.2
	Rod	4.3	4.4	6.4	8.8	9.1	10.0	10.1	9.9	8.8	6.3	6.1	5.3
	Dist.	10	6	3	2	1.5	1		1	1.5	2.5	6	10
809	Elev.	06.5	06.6	03.5	01.2	01.2	300.5	300.~~4~~0	300.5	01.2	01.2	04.0	04.0
	Rod	3.9	3.8	6.9	9.2	9.3	10.0	10.1	10.0	9.3	9.3	6.4	6.5
	Dist.	10	8	3	2.5	1.5	1		0.5	1.0	2	2.5	10
+30	Elev.	04.3	05.8	03.7	01.1	300.9	300.~~7~~3	01.[illegible]	01.1	04.4	04.8	
	Rod	6.1	4.7	6.8	8.8	9.6	9.8	9.5	8.7	6.2	5.7	
	Dist.	10	6	2.5	1.5	0.5		1	1.5	2.5	10	

Left ℄ Right

B.M. #126. 310.05 (red; over ~~310.77~~) 5.28 301.77 (red; over ~~303.17~~)

Air valve 809+65

Each cell: elevation / rod reading / distance.

Sta.													
810	06.2 / 4.3 / 10	07.0 / 3.5 / 6.5	04.6 / 5.5 / 3	01.8 / 8.6 / 2.5	01.7 / 8.7 / 1.5	300.9 / 9.6 / 1	300.~~8~~ .1 (red) / 9.9	300.8 / 9.7 / 0.5	01.5 / 8.9 / 1	01.5 / 9.0 / 2	04.6 / 5.8 / 3	06.0 / 5.5 / 10	
+50	07.0 / 3.4 / 10	07.5 / 2.9 / 7.5	04.6 / 5.8 / 2.5	01.4 / 9.0 / 2	01.3 / 9.1 / 1.5	300.4 / 10.0 / 1	~~300.2~~ 299.8 (red) / 10.2	300.4 / 10.0 / 1	01.2 / 9.2 / 1.5	01.4 / 9.0 / 2	03.0 / 5.5 / 2.5	03.1 / 7.3 / 7.8 (top 36" W.S.)	06.0 / 5.5 / 10
11	06.7 / 3.7 / 10	07.5 / 2.9 / 7	04.5 / 5.9 / 2.5	01.0 / 9.5 / 2	01.0 / 9.5 / 1.5	300.0 / 10.4 / 1	299.~~8~~ .2 (red) / 10.7	300.2 / 10.3 / 1	300.9 / 9.6 / 2	04.2 / 6.2 / 3	04.7 / 5.7 / 10		
+50	05.5 / 4.9 / 10	06.5 / 3.9 / 7.5	03.7 / 6.7 / 2.5	300.0 / 10.0 / 1.5	299.7 / 10.7 / 1	~~299.3~~ 98.9 (red) / 11.1	99.7 / 10.8 / 1	300.2 / 10.2 / 1.5	03.7 / 6.7 / 2.5	04.0 / 6.4 / 5	04.0 / 6.4 / 10		
+80	05.6 / 4.8 / 10	06.0 / 4.5 / 7.5	04.0 / 6.4 / 3	300.0 / 10.4 / 2	299.9 / 11.0 / 1	~~99.1~~ 98.7 (red) / 11.3	99.2 / 11.2 / 1	300.0 / 10.5 / 1.5	02.4 / 8.1 / 2.5	03.1 / 7.3 / 10			
812	05.3 / 5.1 / 10	06.3 / 4.2 / 7	03.2 / 7.3 / 2	299.9 / 10.6 / 1.5	98.9 / 11.6 / 0.5	98.~~7~~ .3 (red) / 11.8	98.9 / 11.6 / 1	99.6 / 10.8 / 1.5	300.8 / 9.7 / 2.5	300.4 / 10.2 / 6	01.2 / 9.2 / 8.5 (top 36" W.S.)	02.1 / 7.8 / 10	
+50	05.5 / 5.0 / 10	05.4 / 5.1 / 8	02.2 / 8.3 / 3	99.0 / 11.4 / 2	98.2 / 12.2 / 1	~~98.0~~ 97.6 (red) / 12.4	98.2 / 12.2 / 1	99.0 / 11.4 / 1.5	300.5 / 10.0 / 2.5	99.4 / 11.1 / 5	02.3 / 8.1 / 10		
8.13	05.0 / 5.4 / 10	05.2 / 5.3 / 8	03.2 / 7.3 / 4	99.2 / 11.3 / 2	98.~~6~~ .2 (red) / 11.8	99.8 / 10.7 / 2.5	300.8 / 9.7 / 3	300.0 / 10.5 / 6	01.0 / 9.4 / 8.5 (top 36" W.S.)	01.7 / 8.8 / 10			

Station	B.S.	H.I.	F.S.	Elev.
		310.~~45~~ [.05]		
813+10				
+50				
+85				
814				
T.P.			3.98	306.~~47~~ [.07]
	12.31	318.~~78~~ [.38]		
+60				
815 +20 / 10 (20.8)				
T.P.			1.83	316.~~95~~ [.55]
	11.54	328.~~49~~ [.09]		
+50				
816				

Left ℄ Right

Station	Cross-section (elev. / rod / dist.)
813+10	05.1 / 5.3 / 10; 05.2 / 5.2 / 8; 02.8 / 7.6 / 3.5; 299.1 / 11.3 / 2.5; 29~~8.7~~ [.0] / 12.0; 299.2 / 11.2 / 1.5; 302.7 / 7.7 / 2.5; 303.1 / 7.3 / 10
+50	06.1 / 4.3 / 10; 06.5 / 3.9 / 8; 03.8 / 6.6 / 3; 300.4 / 10.0 / 2.5; 299.5 / 11.0 / 1.5; ~~299.3~~ [98.9] / 11.1; 299.5 / 10.9 / 0.5; 300.2 / 10.3 / 1.5; 04.0 / 6.4 / 2.5; 05.0 / 5.5 / 10
+85	07.4 / 3.0 / 10; 08.1 / 2.3 / 8; 05.3 / 5.1 / 2.5; 01.4 / 9.1 / 2; 300.8 / 9.7 / 1; 300.~~5~~ [.1] / 9.9; 300.8 / 9.7 / 0.5; 01.2 / 9.2 / 1; 01.3 / 9.1 / 2; 05.8 / 4.7 / 2.5; 05.2 / 5.2 / 10
814	08.6 / 1.8 / 10; 09.3 / 1.1 / 8; 06.1 / 4.3 / 2.5; 03.0 / 7.5 / 1.5; 02.0 / 8.5 / 1; 01.~~8~~ [.4] / 8.7; 02.2 / 8.3 / 1; 03.0 / 7.5 / 1.5; 06.4 / 4.1 / 3; 06.4 / 4.1 / 10
+60	14.3 / 4.5 / 10; 11.8 / 7.0 / 3; 08.6 / 10.2 / 2.5; 08.6 / 10.2 / 1; 07.8 / 11.0 / 0.5; 07.~~6~~ [.2] / 11.2; 07.9 / 10.9 / 0.5; 08.6 / 10.2 / 1; 08.6 / 10.2 / 2; 11.2 / 7.6 / 2.5; 10.0 / 8.8 / 5 (36" W.S.)
815	20.4 / +1.6 / 7; 17.9 / 0.9 / 3; 14.6 / 4.2 / 2; 13.5 / 5.3 / 1.5; 13.7 / 5.1 / 0.5; 13.~~5~~ [.1] / 5.3; 13.6 / 5.2 / 0.5; 14.3 / 4.5 / 1; 14.4 / 4.4 / 2; 17.1 / 1.7 / 2.5; 17.4 / 1.4 / 10
+50	23.9 / 4.6 / 10; 23.9 / 4.6 / 8; 21.8 / 6.7 / 2.5; 18.8 / 9.7 / 2; 19.8 / 9.7 / 1; 18.0 / 10.5 / 0.5; 17.~~8~~ [.4] / 10.7; 18.0 / 10.5 / 1; 18.9 / 9.6 / 1.5; 18.9 / 9.6 / 2; 20.1 / 8.1 / 3; 19.3 / 9.2 / 10
816	28.4 / 0.1 / 10; 28.5 / 0.0 / 7; 25.5 / 3.0 / 3; 22.5 / 6.0 / 1.5; 21.3 / 7.2 / 1; ~~21.0~~ [20.6] / 7.5; 21.3 / 7.2 / 0.5; 22.2 / 6.3 / 1.5; 23.4 / 5.1 / 2.5; 20.4 / 8.1 / 5; 18.8 / 9.7 / 9 (36" W.S.)

328.09

816+60

+65

+70

+85.2 E. edge part.

817

+19.1 W. edge part.

+26

+29

Left ℄ Right 10

	Left		℄		Right	
	31.0 29.7	27.0 24.1	12.9 22.8	23.0	24.1 25.3	21.5 20.1
	+2.5 +1.2	1.5 4.4	5.6 5.7	6.5	4.1 3.2	7.0 8.4
	10 6	3 1.5	1	1	1.5 2	5 10
	24.1	25.7 24.1	23.2 23.7	23.2	24.2 24.5	21.6 20.3
	4.4	2.8 4.1	5.3 5.4	5.3	4.3 4.0	6.9 8.2
	12	3 1.5	1	1	1.5 3	5 9
	20.6	20.5	21.6 21.2	20.4	20.5	
	7.9	8.0	6.9 6.9	8.1	8.0 transpose	
	15	8	6	10	15	
			20.8 20.6	21.2		
			7.7 7.5	7.3		
			15	15		
			21.0 20.8	21.1		
			7.5 7.3	7.4		
			15	15		
			21.0 20.6	20.9		
			7.5 7.5	7.6		
			15	15		
	29.9 29.2	28.7 24.9	22.1 20.9	20.7	20.7	
	+1.4 +0.7	+0.2 3.6	6.4 7.2	7.8	7.8	
	15 10	7 4	2	6	15	
	29.1	29.2	26.3 23.8	20.9	20.5	
	+1.2	+0.7	3.2 4.7	7.6	8.0	
	15	8	4	4	15	

						Left		℄		Right	
		328.~~45~~ .05 ← +0.04									
817+34 → Begin. 21" w.s. pipe					29.2 +0.8 15	29.0 +0.5 7	26.2 2.2 4	~~24.2~~ 23.8 4.2	23.8 4.7 4	20.4 8.0 5.5	20.2 8.2 15
+39					28.8 +0.4 15	29.0 +0.5 9	27.5 0.9 6	27.~~4~~ .0 1.0	27.1 1.3 3.5	20.6 7.8 5	20.1 8.3 15
+50					28.0 0.4 15	28.0 0.4 10	27.0 1.5 8	~~27.2~~ 26.8 1.2	27.0 1.5 3	20.6 7.8 6	20.2 8.2 15
+80						25.1 3.3 15	24.7 3.7 8	24.~~8~~ .2 3.6	24.8 3.6 1	19.7 8.7 4	19.7 8.7 15
818					23.8 4.6 15	23.5 4.9 10	22.8 5.6 7	22.~~4~~ .0 6.1	22.2 6.3 0.5	19.0 9.5 2.5	19.2 9.2 15
+35						20.4 8.0 15	19.7 8.8 8	~~19.2~~ 18.8 9.2	18.0 10.4 1	18.2 10.2 15	
+65					17.5 10.9 15	17.2 11.2 8	17.8 10.6 4	17.~~5~~ .7 10.9	17.2 11.2 4	18.0 10.5 11	17.5 10.9 15
T.P.		315.88 ← -0.04	12.63	315.~~62~~ .42							
	0.44	~~316.28~~									
819					2 → 2		26.1 2.3 10	~~26.0~~ 25.6 2.4	3/13/5 26.0 2.4 4	26.4 2.0 7	26.0 2.1 10

Sta.					Left		℄		Right	
		315.88 (~~316.28~~)								
819+23						11.3 / 5.0 / 10	10.6 (~~11.0~~) / 5.3	11.1 / 5.2 / 10		
+45					09.4 / 6.9 / 10	09.5 / 6.8 / 5	.4 (~~08.8~~) / 7.5	09.2 / 7.1 / 4	08.5 / 7.8 / 10	
T.P.			12.72	303.16 (~~303.56~~) ✓						
	0.14	303.30 (~~303.70~~)								
					rock +77 - 8' R.					
+80					03.1 / 0.0 / 8	02.5 / 1.2 / 3	.2 (~~02.6~~) / 1.1	03.3 / 0.4 / 10		
820						3 299.9 / 3.8 / 10	.4 (~~299.8~~) / 3.9	300.3 / 3.4 / 10		
+43						295.0 / 8.7 / 10	.1 (~~95.8~~) / 8.2	94.4 / 9.3 / 4	95.0 / 8.7 / 10	
T.P.			12.71	290.59 (~~290.99~~) ✓						
	1.38	291.97 (~~292.37~~)								
					Rock 8' R 820+83					
+87					~~3.1 / 10~~ 89.7 / 3.0 / 10	89.4 / 3.0 / 8	90.1 / 2.3 / 3	.2 (~~89.6~~) / 2.8	90.2 / 2.2 / 4	89.9 / 2.5 / 10
+90	End of 24" W.S. pipe				89.1 / 3.3 / 10 — 91.1 / 1.3 / 1	88.6 / 3.9 / 2	86.3 / 6.1 / 1	85.9 (~~86.3~~) / 6.1	86.4 / 6.0 / 1	89.9 / 2.5 / 1.5 — 90.1 / 2.5 / 10
821				88.1 / 4.3 / 10	90.2 / 2.2 / 6 — 89.2 / 3.2 / 3.5	87.9 / 4.5 / 2	86.3 / 6.1 / 1.5	.4 (~~85.8~~) / 6.6	86.3 / 6.1 / 2	88.9 / 3.5 / 5 — 90.0 / 2.4 / 10

Station	B.S.	H.I.	F.S.	Elev.
821+50		~~292.37~~ 291.97		
822				
T.P.	3.88	~~283.37~~ 282.97	12.88	279.~~49~~ .09
+50				
823				
+10				
+56	begin. 21" W.S. pipe			
+69				
+90				

Left ℄ Right

Station	Left			℄		Right	
821+50	85.0 7.4/10	84.4 8.0/4		82.~~9~~ 3 9.5	82.8 9.6/3	84.4 8.0/4.5	84.8 7.6/10
822	81.8 10.6/10	81.2 11.2/4	79.7 12.7/1.5	79.~~1~~ .0 13.0	.2 13.2/3.5	80.8 11.6/5	81.5 10.9/10
+50	79.6 3.8/10	79.1 4.3/3	77.6 5.8/1.5	77.~~4~~ .0 6.0	77.2 6.2/3.5	79.4 4.0/6	79.6 3.8/10
823	77.7 5.7/10	77.6 5.8/3.5	76.4 7.0/2	75.~~7~~ .3 7.7	75.4 8.0/2.5	78.3 5.1/6	78.2 5.2/10
+10					75.6 7.8		
					7.5 top of 36" pipe		
+56	76.7 6.7/10; 76.4 6.8/7.5; 75.4 8.0/5.5	75.1 8.3/4	73.3 10.1/1.5	~~73.2~~ 72.8 10.2	77.0 6.4/2.5	78.3 5.1/7	77.6 5.8/10
+69			76.7 6.7/10	~~77.1~~ 76.7 6.3	75.9 7.5/3	76.7 6.7/10	
+90			75.7 7.7/10	75.~~7~~ .3 7.7	75.4 8.0/3	76.3 7.1/5; 76.8 6.6/10	

28.2.97

		Left	℄	Right
824		75.1 7.7 10	75.3 7.7	75.1 7.7 10
+20		75.1 8.3 10	75.1 7.9	75.5 7.9 7 — 76.6 6.8 10
+60	Endot 24" W.S. pipe	75.0 8.1 10	74.9 8.5	75.2 8.2 5 — 77.4 6.0 6 — 77.2 6.2 10
+61		78.9 8.4 10 — 75.5 7.9 6 — 73.2 10.2 3	72.8 73.2 10.2	74.0 2.9 1.0 — 75.0 8.1 1 — 77.2 6.2 6.5 — 77.0 6.7 10
825		75.9 7.5 10 — 75.1 7.7 5 — 73.5 9.9 2.5	72.7 73.1 10.3	75.6 7.8 1.5 — 75.8 7.6 1 — 78.4 5.0 8 — 78.0 5.4 10
+27		76.8 6.6 10 — 76.9 6.3 3.5 — 73.2 10.2 2.5	73.4 10.0	74.0 8.3 3 — 76.9 6.5 1.5 — 76.8 6.6 10
+28	Pipe		74.7 75.1 Top Pipe 8.3	
+30		77.0 6.1 10 — 77.2 6.2 6 — 76.4 6.8 3	76.4 7.0	76.9 6.5 5 — 77.2 6.2 10

					Left			Right
		282.97 ~~283.37~~			27.4 78.2 76.2 75.8 76.2 76.5 77.6			
825+70					6.0 5.2 7.2 7.2 6.9 5.8			
					10 5 2.5 C 10			
826					81.8 81.3 77.6 77.1 78.2 78.8			
					1.6 2.1 5.8 5.9 5.2 4.6			
					10 6.5 3 3 10			
B.M. #127			3.65	279.~~72~~ .32	Air valve 826+22			
					(279.74)			
+06					77.9			
					5.5 top 36" pipe			
					6.4			
+30					78.4 77.8 76.0 75.1 76.8 77.0 77.3			
					5.0 5.6 7.4 7.7 7.5 6.7 6.1			
					10 5 3 1 2.5 10			
					73.8 73.5 72.7 72.3 73.0			
+80					9.6 9.9 10.3 11.1 10.4			
					10 3 5 10			
T.P.		270.91 ~~274.31~~	Note 11/26/79 error was corrected previously in elev. but not in rod reading. Elevs. O.K. throughout.	271.48 .08 ~~270.48~~	rock 1.R. +92			
	0.83		12.89 ~~13.89~~		71.0 71.0 71.8 70.8 70.6 70.6			
827					0.3 0.3 +0.5 0.6 1.8 1.8			
					10 8 2 2 10			
					65.7 65.0 64.0 64.3 63.7 63.8			
+35					6.1 6.3 5.9 7.1 7.6 7.5			
					10 3 3 .6 10			
					57.9 58.0 58.8 59.9 57.7 57.5			
+70					13.4 13.3 12.1 12.3 13.6 13.8			
					10 5 1.5 2 10			
T.P.			12.85	258.~~06~~ .06	rock 8'R. +67			
	0.06	258.~~52~~ .12						

						Left	℄	Right
		258.12						
828								
							53.4 / 5.1 / 10	53.5 / 5.0
								53.3 / 5.2 / 1
								51.9 / 6.6 / 1.5
								51.1 / 7.1 / 7
								50.6 / 7.9 / 8.5
								36' W.S.
+11							46.2 / 12.3 / 10	45.6 / 46.0 / 12.5
								45.7 / 12.8 / 2
								49.1 / 11.1 / 3.5
								44.6 / 13.7 / 10
T.P.			12.11	245.68		Rock 828+14		
	0.46	246.14		246.08				
+65						43.1 / 3.1 / 10	42.0 / 7.5 / 4	40.7 / 41.1 / 5.4
								38.8 / 7.7 / 2.5
								36.2 / 10.3 / 6
								36.2 / 10.3 / 10
T.P.			12.77	233.37				
	0.72	234.09						
829								
						31.0 / 3.5 / 10	30.9 / 3.6 / 1.5	29.8 / 30.2 / 4.3
								28.6 / 7.9 / 6
								26.7 / 7.8 / 8
								27.7 / 6.2 / 10
+10							24.9 / 26.7 / 8.3	25.3 / 9.2
								24.4 / 10.1 / 4.5
								25.6 / 8.9 / 10
+21	E. edge of road						22.6 / 11.9 / 10	22.8 / 11.6
								22.7 / 11.8 / 10
+32	W " "						22.3 / 12.2 / 10	22.7 / 23.1 / 11.7
								22.6 / 11.9 / 10
+35						22.3 / 12.2 / 10	22.2 / 12.3 / 4	22.4 / 11.6
								21.6 / 12.9 / 4.5
								20.1 / 11.4 / 7.5
								21.5 / 13.8 / 10
T.P.			12.46	221.63				
	3.09	224.72		225.12				

9/27/29
Converse
Hill
Simpson

Station		Left		℄	Right		
829+65	~~225.12~~ 224.72	19.1 / 6.0 / 10	18.8 / 6.3 / 7	~~17.9~~ 18.6 / 6.1	18.9 / 6.2 / 4	18.4 / 6.7 / 6	18.5 / 6.6 / 10
+75			16.9 / 8.2 / 10	~~16.7~~ 16.5 (1) / 8.2	17.8 / 7.3 / 10		
+97			16.7 / 8.4 / 10	~~16.9~~ 16.5 / 8.2	17.0 / 8.1 / 10		
830			17.3 / 7.8 / 10	~~17.4~~ 17.5 / 7.2	18.1 / 7.0 / 10		
+08			16.8 / 8.3 / 10	~~16.8~~ 16.4 / 8.3	17.8 / 7.3 / 10		
+22			17.3 / 7.8 / 10	~~17.2~~ 16.8 / 7.9	17.2 / 7.9 / 10		
+30			17.7 / 7.4 / 10	~~18.1~~ 17.7 / 7.0	17.6 / 7.5 / 10		
+88			18.6 / 6.5 / 10	~~18.6~~ 18.2 / 6.5	18.6 / 6.5 / 10		
831			17.7 / 7.4 / 10	~~17.7~~ 17.3 / 7.4	17.7 / 7.4 / 10		

		Left	℄	Right
8314+15	224.72 ~~225.12~~		16.9 17.3	
		17.3 7.8 10	7.8	17.3 7.8 10
+20		18.8 6.3 10	18.4 6.3	18.8 6.3 10
+5-5		18.9 6.2 10	19.6 5-5 5	18.4 17.8 6.7 6.9 2
				19.0 6.1 10
+64			19.2 5-9 10	19.7 18.4 5-7 6.3 7
				18.4 6.7 3
				18.9 6.2 10
832			19.1 6.0 10	19.3 18.3 5-8 6.4 2
				18.7 6.4 10
+5-0				18.9 18.5 6.2 6.2 10
				18.5 6.6 10
+75			19.1 6.0 10	18.6 18.2 6.5
				18.1 7.0 10
+85			18.0 7.1 10	17.4 17.3 7.4
				17.8 7.3 5-
				18.4 6.7 10
833			19.9 7.2 10	19.4 19.5 7.2
				19.9 7.2 10

Station				
		~~225.12~~ 224.72		
833+16				
+70				
T.P.			0.67	224.~~45~~ .05
	13.04	237.~~49~~ .09		
834				
+12				
+26				
+33				
+65				
835				
+20				

	Left		℄		Right	
		18.8 6.3 / 10	~~19.1~~ 18.7 6.0	18.9 6.2 / 10		
	22.2 2.9 / 10	22.1 3.0 / 3	top 8" W.S. 21.~~6~~ .2 3.5	21.6 3.5 / 8	22.3 2.8 / 10	
rock 20' L 834+00						
24.3 13.2 / 10	24.3 13.2 / 5.5	22.7 14.8 / 2	top 24" W.S. 23.~~5~~ .1 14.0	22.5 15.0 / 1	22.6 14.9 / 5	23.9 13.6 / 7.5
				23.5 14.0 / 8 top 36" W.S.		
26.2 11.3 / 10	26.1 11.4 / 6.5	25.6 12.9 / 5.5	top 24" W.S. ~~25.2~~ 24.8 12.3	25.0 12.5 / 3.5	25.5 12.0 / 6.5	25.4 12.1 / 10
26.7 10.8 / 10 26.5 11.0 / 6.5	24.7 12.8 / 5	26.2 11.3 / 3	26.~~4~~ .3 10.6	25.5 12.0 / 2.5	26.1 11.4 / 8	25.7 11.8 / 10
29.0 8.5 / 10	28.0 9.5 / 7	29.0 8.5 / 4.5	~~29.1~~ 28.7 8.4	28.3 9.2 / 3.5	29.0 8.5 / 6.5	29.0 8.5 / 10
		32.5 5.0 / 10	32.~~5~~ .1 5.0	32.0 5.5 / 3	32.2 5.3 / 10	
		–	~~34.0~~ 33.6 3.5	–		

		~~237.49~~ [.09]		
835+40 T.P.			0.17	~~237.32~~ 236.92
	12.80	~~250.12~~ 249.72		
+60				
+75				
T.P.			0.31	~~249.81~~ [.41]
	12.58	~~262.39~~ 261.99		
836 T.P.			0.07	~~262.32~~ 261.92
	12.82	~~275.14~~ 274.74		
+36 T.P.			0.02	~~275.12~~ 274.72
	12.76	~~287.88~~ [.48]		
+60				
+88				
837 T.P.			0.24	~~287.64~~ [.24]
	12.84	~~300.48~~ [.08]		

	Left		℄	Right			
		36.8 / 0.7 / 10	~~36.8~~ [x] / 0.7	36.1 / 1.4 / 3.5	37.0 / 0.5 / 7	37.1 / 0.4 / 10	
rock 9'R +40							
		40.0 / 10.1 / 10	~~40.0~~ 39.6 / 10.1	39.6 / 10.5 / 3.5	40.2 / 9.9 / 6	40.2 / 9.9 / 10	
		43.5 / 6.6 / 10	~~43.7~~ [3] / 6.4	42.8 / 7.3 / 3.5	43.4 / 6.7 / 6	43.7 / 6.4 / 10	
rock 2'R 835+96							
	51.9 / 10.5 / 10	51.9 / 10.5 / 6	~~51.2~~ 50.8 / 11.2	51.2 / 11.2 / 2.5	50.5 / 11.9 / 7.5	46.7 / 15.7 / 10 bot. of wash	
rock +25							
	66.7 / 8.4 / 16	66.0 / 9.1 / 8	64.9 ~~65.9~~ ~~66.3~~ / 9.8	63.6 / 11.5 / 4.5	64.0 / 11.1 / 8	58.5 / 16.6 / 12.5 bot. of wash	
rook 3'R. +64							
	77.4 / 10.5 / 10	76.1 / 11.8 / 5	~~75.4~~ [.3] / 12.2	74.4 / 13.5 / 2	73.6 / 14.3 / 5.5	74.1 / 13.8 / 8	70.1 / 17.8 / 14
	86.3 / 1.6 / 10	85.9 / 2.0 / 5	~~84.1~~ 83.7 / 3.8	82.7 / 6.2 / 3.5	82.5 / 5.4 / 7.5	79.9 / 8.0 / 10	
		87.0 / 0.9 / 10	86.6 ✓ / 1.3	86.6 / 1.3 / 4	85.8 / 2.1 / 10		

					Left	℄	Right
		300.~~78~~ .08					
837+15					90.2 10.3 10	89.5 11.0 2	87.8 10.7 89.9 10.6 4 89.8 10.7 10
+40						92.4 8.1 10	92.8 7.7 92.6 8.0 5 93.2 7.3 6.5 93.4 7.1 10
+70					95.1 5.7 10	95.4 5.1 5	94.7 95.1 6.4 95.7 5.3 2 95.7 5.8 1 95.5 5.0 6 96.0 7.5 10
838					97.5 3.0 10	97.0 3.5 3.5	96.9 ~~97.3~~ 3.2 96.9 3.6 1.5 99.9 3.6 5.5 98.0 2.5 10
+22					99.3 1.2 10	99.0 1.5 1	98.9 99.3 1.2 99.3 1.2 2 98.5 2.0 1.5 97.7 2.3 5 97.9 2.6 7.5 99.3 0.2 10
+27					99.5 1.0 10	99.7 0.8 5.5 98.3 2.2 3.5	0.12 24" W.S. 98.3 2.2 1.5 98.8 1.7 99.6 0.9 7.5 98.2 2.3 7.5 +0.96 W.S.
T.P.		312.67	0.18	299.90			
+38	12.77	~~313.07~~		~~300.30~~		03.1 9.8 10	03.8 9.2 02.9 10.2 1 04.1 8.6 10
+70						06.7 6.7 10	07.4 5.4 05.7 7.1 5 05.8 7.3 8 09.1 3.0 10
839						10.2 2.9 10	09.8 ~~12.2~~ 2.4 10.5 2.6 2 10.9 2.2 5 09.4 3.7 8 +0.96 W.S.

Sta.	B.S.	H.I.	F.S.	Elev.	Left	℄	Right
		312.67 ~~313.07~~					
T.P.			0.32	312.~~75~~ .35			
	11.10	323.~~85~~ .45					
839+35					15.4 / 8.5 / 10; 14.8 / 9.0 / 4	~~14.8~~ [illegible] / 9.0	15.0 / 8.9 / 5.5; 13.2 / 10.6 / 10
+73					17.3 / 6.5 / 10; 18.0 / 5.8 / 5.5; 17.5 / 6.3 / 3	~~17.8~~ [illegible] / 6.0	17.4 / 6.4 / 2.5; 18.0 / 5.8 / 8; 16.1 / 7.7 / 10
840					20.1 / 3.7 / 10	~~20.1~~ 19.7 / 3.7	18.8 / 5.0 / 3; 19.0 / 4.9 / 5; 18.0 / 5.8 top / 7.8 56" W.S.
+10					19.2 / 4.6 / 10	~~19.0~~ 18.6 / 4.9	20.0 / 3.8 / 10
B.M.			3.73	319.72 ~~320.12~~	3		
					See Bk #278 / pg. Sta 840+		
B.M. #128	3.73	323.~~90~~ .50		319.77 ~~320.77~~	Air valve 840+16		
+20					19.2 / 4.7 / 10; 19.3 / 4.6 / 5; 18.8 / 5.1 / 2	~~18.9~~ .5 / 5.0	18.9 / 5.0 / 2.5; 18.1 / 5.8 / 4.5; 18.5 / 5.4 / 10; top 56" W.S.
+50					17.9 / 6.0 / 10; 18.6 / 5.3 / 3	~~19.3~~ 18.9 / 4.6	18.4 / 5.5 / 3; 16.0 / 7.9 / 4.5; 16.1 / 7.8 / 5.5; 18.0 / 5.9 / 7.5 top
+80					17.3 / 6.6 / 10; 17.4 / 6.5 / 6; 18.6 / 5.3 / 2.5	~~18.4~~ .0 / 5.5	23.4 / 6.5 / 3; 15.5 / 8.4 / 4; 15.0 / 8.9 / 6; 16.7 / 7.2 / 10
+85					17.0 / 6.9 / 10	~~17.2~~ 16.8 / 6.7	17.2 / 6.7 / 4; 18.1 / 5.8 / 10

				Left			Right
810+95	323.50 ~~323.90~~			16.5 / 7.1 / 10	16.3 / 7.2	16.9 / 7.0 / 5	18.1 / 5.8 / 10
811				17.2 / 6.7 / 10	17.1 / 6.8 / 7	15.4 / 8.5 / 6	17.5 / 6.7 / 10
+25				14.8 / 9.1 / 10	14.4 / 9.0	14.8 / 9.1 / 6	16.0 / 7.8 / 10
812				12.2 / 11.7 / 10	11.4 / 11.3	13.0 / 10.9 / 10	
+55				12.8 / 10	11.9 / 3	13.0 / 10.9 / 2	13.5 / 10.4 / 7.0	13.3 / 13.6 / 10
813				14.3 / 9.6 / 10	15.5 / 8.9 / 6.5	13.8 / 10.1 / 3	12.4 / 11.3 / 12.2	11.5 / 12.4 / 2.5	13.3 / 10.6 / 6	12.1 / 11.8 / 7	11.3 / 12.6 / 10
+10				14.7 / 9.2 / 10	14.9 / 9.0	14.4 / 9.5 / 6	13.1 / 10.8 / 10
B.M.		8.83	314.67 ~~315.07~~				
B.M. #129			314.13 ~~315.13~~ for 278				
	3.61	318.34 ~~318.74~~					

Air valve 813+68

	318.~~74~~ .36							

Station	Left			℄		Right			
813+85		13.8 / 4.9 / 10	13.9 / 4.8 / 4	~~14.7~~ .0 / 4.3	15.1 / 3.6 / 3	15.1 / 3.6 / 10			
+90		13.7 / 5.0 / 10	13.6 / 5.1 / 6	~~16.2~~ 15.8 / 2.5	15.0 / 3.7 / 3	11.2 / 7.5 / 4	11.0 / 7.7 / 5.5	15.1 / 3.6 / 6.5	15.1 / 3.6 / 8
814		13.8 / 4.9 / 10	14.1 / 4.6 / 6	~~15.9~~ .5 / 2.8	14.2 / 4.5 / 2.5	10.4 / 8.3 / 4	10.0 / 8.7 / 5.5	13.2 / 5.5 / 7.5 Xop 36"	
+15	14.1 / 4.6 / 10	15.1 / 3.6 / 6	13.3 / 5.4 / 3	~~13.3~~ 12.9 / 5.4	13.5 / 5.2 / 3	10.3 / 8.4 / 5	13.4 / 5.3 / 7 Xop 36"	11.2 / 7.5 / 10	
+10		13.2 / 5.5 / 10	14.8 / 3.9 / 5	12.2 / 6.5 / 2 Xop 24"	~~11.8~~ .4 / 6.9	10.5 / 8.2 / 2	10.1 / 8.6 / 4.5	13.4 / 5.3 / 6.5 Xop 36"	10.5 / 8.2 / 10
+15		12.9 / 5.8 / 10	14.2 / 4.5 / 5	~~14.4~~ .0 / 4.3	13.6 / 5.1 / 2.5	10.2 / 8.5 / 4	13.4 / 5.3 / 6.5 Xop 36"	10.8 / 7.9 / 10	
815		12.6 / 6.1 / 10	18.2 / 5.5 / 3	~~14.2~~ 13.8 / 4.5	12.4 / 6.3 / 4	09.5 / 9.2 / 5	11.9 / 6.8 / 7.5 Xop 36"	10.0 / 8.7 / 10	
+50		11.6 / 7.1 / 10	12.3 / 6.4 / 4	~~14.2~~ 13.8 / 4.5	11.9 / 6.8 / 4	08.1 / 10.6 / 5.5	10.7 / 8.0 / 7.5 Xop 36"	08.2 / 10.5 / 10	

					Left		℄		Right	
		318.34								top 36"
846					09.2	09.5	10.7	09.1	05.0	01.5	06.3
T.P.			12.94	305.40	9.5	9.2	7.6	9.6	13.7	11.2	12.1
		306.82			10	4		5-	5.5	8	10
	1.42	307.22			rock +36						
+45					06.0		05.6	03.8	02.8	04.4	02.5
					1.2	1.2	0.0	3.4	4.4	2.8	4.7
					10			3.5	5-	7	10
+80					299.2		299.1	299.4	96.8	93.9	93.8 96.4
					8.0	7.7		7.2	10.4	13.3	13.4 10.2
					10			3	4.5	5	6.5 8
847					95.2		94.7		93.1	90.8	
T.P.			12.79	294.03	12.0	12.1	95.1	94.4	14.1	16.4	17.2 90.0 16.9
					10			3.5	5-	5.5	7 8.5
	0.45	294.48			rock s'L +03						
+17					91.9	90.4	90.6	89.9	89.5		
					3.3	4.5	4.3	3.0	5.7		
					10	2		8	10		
+40					87.6	87.1	87.3	88.1	88.2		
					7.4	7.3	7.8	7.2	6.8	6.8	
					10	1	2	5-	10		
+46					83.3	83.5	86.8	87.4	88.3	87.8	88.5
					11.6	11.4	8.1	7.2	6.6	7.1	6.4
					10	7	3		2	5-	10
+70							82.7	87.2	88.1	87.4	88.9
							12.2	7.3	6.8	7.4	6.0
							10		1	4	10
+76					86.7		88.2	87.4	87.8	89.1	89.2
					8.2		6.7	7.1	7.1	5.8	6.7
					10		1		3.5	8	10

		294.68		
847+91				
848+16				
+5-2				
+3-5				
+80				
T.P.			13.10	281.78 .38
	0.66	282.44 .04		
849				
+19				
T.P.			12.76	269.68 .28
	1.65	270.93 271.33		
+60				
T.P.			12.96	258.37 257.97
	2.34	260.71 .31		

Left

89.3	89.6	88.9	87.7	87.4 .11	89.8	89.6
5.6	5.3	6.0	7.2	7.9	5.1	5.3
10	4.5	2	1.5		7	10
88.7		88.6	87.9	86.45	87.1	89.0	89.2
6.7		6.3	8.0	8.0	7.8	5.9	5.7
10		3.5	1.5		1	5	10
	85.6	86.8	85.8	86.13	87.9	87.6	87.9
	9.3	8.4	9.7	9.2	9.0	7.3	7.0
	10	3.5	2.5		3.5	6.5	10
85.3	87.2	85.3	86.3	86.3	87.7	87.2
8.6	8.7	9.6	8.6	8.2	7.7	7.7
10	4	3	1.5		7	10
			84.1	84.1	84.8	
			10.8	10.7	10.1	
			10		10	
rock +95				79.8		
78.8	80.1	80.3	80.2	80.2	81.8	81.9
3.6	2.3	2.1	2.2	2.2	0.9	0.5
10	4	2		3.5	7	10
73.2	74.9	75.0	74.5 2 pipes	74.6	74.5	75.2	75.5
9.2	7.5	7.4	7.9	7.4	8.0	7.2	6.9
10	6	3	0.5		4	5.5	10
58.8	59.4	60.7		60.1	60.3	60.4
12.5	11.9	10.6	10.8		11.0	10.9
10	8	5			4	10
rock +69						

					Left		℄		Right	
		260.31								
819+80					54.8 5.9 10	54.7 5.8	54.8 5.9 3	54.9 6.3 4.5	55.1 5.0 10	
85.0					53.4 7.3 10	51.5 8.2 3	52.1 8.2	52.8 7.9 5.5	52.1 8.6 8	58.8 7.9 10
+5.3					49.6 11.1 10	49.5 11.2 6	49.3 11.0	49.6 11.1 10		
8.57					48.8 11.9 10	48.1 12.0 5	48.3 12.0	48.7 12.0 1	48.2 12.5 3	48.6 12.1 6	48.5 12.2 10
+6.0					48.9 11.8 10	48.9 11.8 1	47.8 48.2 12.5	48.3 12.4 2	49.2 11.5 1	49.2 11.5 10	
+83	End of 24" pipe				49.3 11.4 10	49.4 11.3 6	50.2 10.1	48.9 11.8 1.5	47.6 13.3 3	49.2 11.5 6.5	49.2 11.5 10
B.M. #130			8.63	251.68 252.08	Nail in pow. pole 125' R. 851+30						
+85					49.4 11.3 10	49.1 11.6 8	49.8 12.9 5	47.8 13.0	49.8 12.9 3	48.3 12.4 6	49.2 11.5 10
+95					49.9 10.8 10	48.7 12.0 5	48.8 12.0	48.6 12.1 2	47.3 13.4 3	47.6 13.1 8.5	49.8 12.9 10

852		260.71 (corr. .31)			
+08					
+15					
+30					
+40					
T.P.			0.27	260.49 (corr. .04)	
	12.37	272.81 (corr. .41)			
+50					
+74					
T.P.			0.03	272.78 (corr. .38)	
	12.52	285.30 (corr. 284.90)			
+85					

Left ℄ Right

852: 49.8 10.9/10 · 48.7 12.0/5 · 47.1 13.6/3.5 · 46.8 (corr. .4) 13.9 · 47.3 top 56" 13.2/8 · 47.7 13.0/10

+08: 45.3 15.4/10 · 46.1 14.6/6 · 46.4 (corr. .3) 14.0 · 46.9 13.8/6.5 · 48.1 12.6/8.5 · 48.1 12.6/10

+15: 47.5 13.2/10 · 47.5 (corr. .1) 13.2 · 48.0 12.7/7 · 48.6 top 36" 12.1/8.5 · 48.6 12.1/10

+30: 55.5 5.2/10 · 54.0 6.0/3 · 53.5 (corr. .1) 7.2 · 52.5 8.2/2.5 · 51.2 9.5/6.5 · 52.8 7.9/10

+40: 62.5 +1.8/10 · 61.1 +0.4/6 · 60.3 0.4/3 · 58.7 2.0/1.5 · 57.0 (corr. 56.6) 3.7 · 56.7 4.0/6 · 55.9 4.8/7 · 56.0 4.7/10

rock 5'R +50

+50: 66.8 6.0/10 · 64.9 7.9/6 · 63.3 9.5/2 · 61.3 11.5/1.5 · 60.5 12.3/1 · 60.1 (corr. 59.7) 12.7 · 60.5 12.3/1 · 62.7 10.1/3 · 61.9 10.9/6 · 61.0 11.8/10

+74: 274.8 +2.0/10 · 72.8 0.0/5 · 72.5 0.3/5 · 69.1 3.7/2 · 68.2 4.6/1 · 67.8 (corr. .4) 5.0 · 68.8 4.0/1 · 69.3 3.5/2 · 71.7 1.1/2.5 · 71.3 1.5/5 · 70.0 2.8/10

rock 7'R +80

+85: 78.3 7.0/10 · 78.2 7.1/7.5 · 77.3 8.0/3 · 73.8 11.5/2.5 · 73.0 (corr. 72.6) 12.3 · 73.5 11.8/1.5 · 77.1 8.2/2.5 · 76.0 9.3/6 · 75.3 10.0/10

853					
T.P.		284.90 ~~285.30~~	0.03	284.87 ~~285.27~~	
	13.05	297.92 ~~298.32~~			
+20					
+40					
T.P.			0.39	297.~~93~~ .53	
	13.01	310.~~94~~ .54			
+49					
+49.5	begin.	24" W.S. pipe			
+60					
T.P.			0.23	310.~~71~~ .31	
	12.33	322.64 ~~323.04~~			
+72					
+90					

Station	Left				℄		Right			
T.P.	86.6 +1.3/10	83.6 1.7/6	82.3 3.0/2.5	78.7 6.6/2	~~78.4~~ 6.7	79.4 5.9/2	81.4 3.9/2.5	41.2 4.1/6	79.6 5.7/10	
+20	95.2 3.1/10	93.6 4.7/8	91.4 6.9/2	87.8 10.5/1.5	87.6 ~~88.0~~ 10.3	90.1 8.2/1.5	90.2 8.1/4.5	87.1 11.2/6	88.5 top 36" 9.8/8.5	
+40	303.8 +5.5/10	98.7 +0.1/4	98.3 0.0/2	96.0 2.3/1.5	95.6 ~~96.0~~ 2.3	96.1 2.2/1.5	97.6 0.7/3.5	93.5 4.8/5.5	96.2 top 36" 2.1/8.5	93.5 4.8/10
+49	06.9 4.0/10	02.3 8.6/3	300.4 10.5/2		300.~~4~~ .0 10.5	01.1 9.8/1.5	01.6 9.3/3	01.6 9.1/5	98.2 12.7/5.5	01.0 top 36" 9.9/8.5
+49.5	08.9 1.0/10	02.6 8.2/3	300.7 10.2/2.5	300.3 10.6/1.5	01.~~7~~ .3 9.2	01.9 9.0/1.5	98.9 12.0/5.5	01.3 top 36" 9.6/8.5	98.7 12.2/10	
+60	310.9 0.0/10	08.4 2.5/5	06.5 4.1/4		05.9 ~~06.3~~ 4.6	05.9 5.0/5.5	03.3 7.6/6	05.5 top 36" 5.4/8.5	03.1 7.8/10	
+72	13.4 9.6/10	11.9 11.1/5	11.1 11.9/2.5		11.~~8~~ .4 11.2	11.5 11.5/5.5	10.2 12.8/8	09.7 13.3/10		
+90	18.8 5.2/10	16.8 6.2/6.5			16.6 ~~17.0~~ 6.0	17.0 6.0/3	15.9 7.1/6	15.8 7.2/10		

					Left	℄		Right
		322.64 ~~322.01~~				318.84		
854					20.8	217.2	217.7	
					2.2	3.8	4.2	3.3
					10	6.5		10
					24.0	23.5	22.0	321.42
+12					+1.0	+0.5	1.0	1.4
					10	7	5	
T.P.			0.16	322.~~48~~ .18				
	12.87	335.~~48~~ .05			25.4	24.0	23.9 ~~24.3~~	24.0
+22					10.1	11.5	11.1	11.5
					10	6		1.5
					30.0	30.8	31.0	28.8 top 24"
+55					5.5	4.6	4.5	6.6
					10	5	4	1.5
					34.0	36.0	35.1	35.0 ~~32.16~~
+83					+0.6	+0.6	0.3	2.4
					10	6	1.5	
T.P.			0.18	334.~~97~~ .57				
	9.18	343.75 ~~344.15~~			37.3	37.0	37.3 ~~33.9~~	33.0
+90					6.8	7.2	9.8	11.1
					10	3.5		5
					39.1	37.0	34.0 ~~34.6~~	34.0
855					5.1	7.1	9.2	10.2
					10	3.5		2
						38.8	38.8 ~~37.4~~	37.3
						5.3	5.3	6.8
						10		7.5

855+12.05 End Steel Start Cast Iron

+17 Equation of Elevation at Sta. 855+12.05

= Thus Elev. 337.4 on Welded Steel Line =
Elev. 337.8 on Cast Iron Line

343.15 ✓

344.15

8	855+22	Edge walk	5.2	337.0
	+30.5 W	" "	5.2	339.0
	+31.63	curb	5.3	338.8
	+35.0	gutter	6.7	338.4
	+53.15	P.I	5.1	339.0
	856		4.5	339.6
	856+06.23 = 856+13.62		4.1	339.7
			4.8	339.35

Lard

"

"

"

338.95

Check on curb at old line El. 339.35

See Book # 278.

Levels over D-1 (alternate) Line

from 801+96.96 to 805+59.82

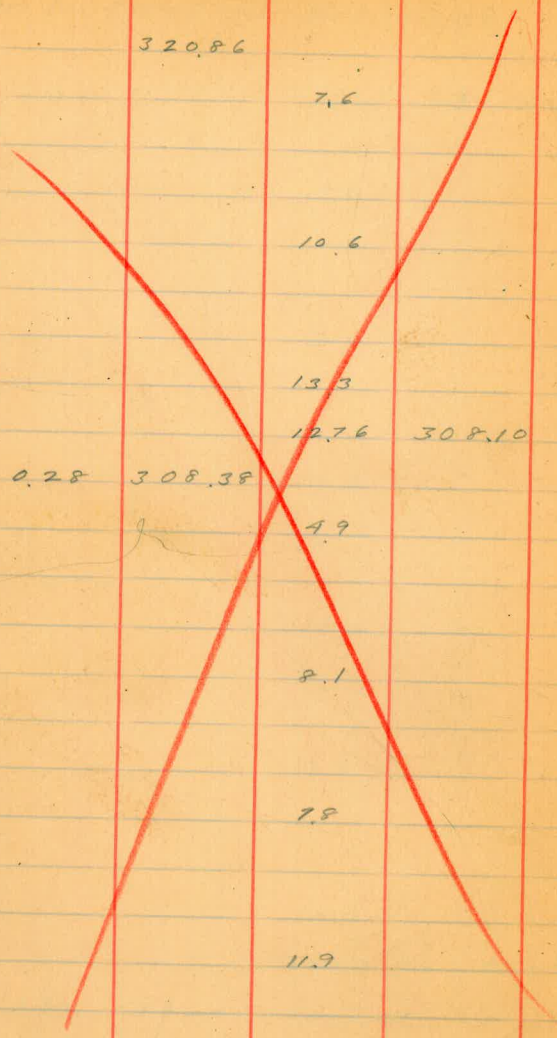
T.P.	0.06	332.75	332.69
801+96.96 D-1 P.I.			
801+96.96 P.O.T.			8.8
802			9.1
+05			9.3
+10			10.2
+15			9.9
+37			12.6
T.P.			12.72 320.03
	0.83	320.86	
803			3.2
+50			5.4

8/27/29

Left & Right 32

Peg on D Line

Rock +39



	320.86		
804		7.6	
+10		10.6	
+62		13.3	
T.P.		12.76	308.10
	0.28	308.38	
805		4.9	
+23		8.1	
+28.39		7.8	
+37		11.9	
805 ± 59.82 D.L.		15.3	
805 + 35.66 · D P.O.T.			

Edge of 36" pipe

top 36" pipe

1/29/41
Hill
Soper
Brooks
Hedgeson

0+75 - Sewer M.H. - 5? Rt

Play Grounds

0+25 ± - end of 36" line 8/28/41 (placed by City)

Conc Block

2'± (outside)

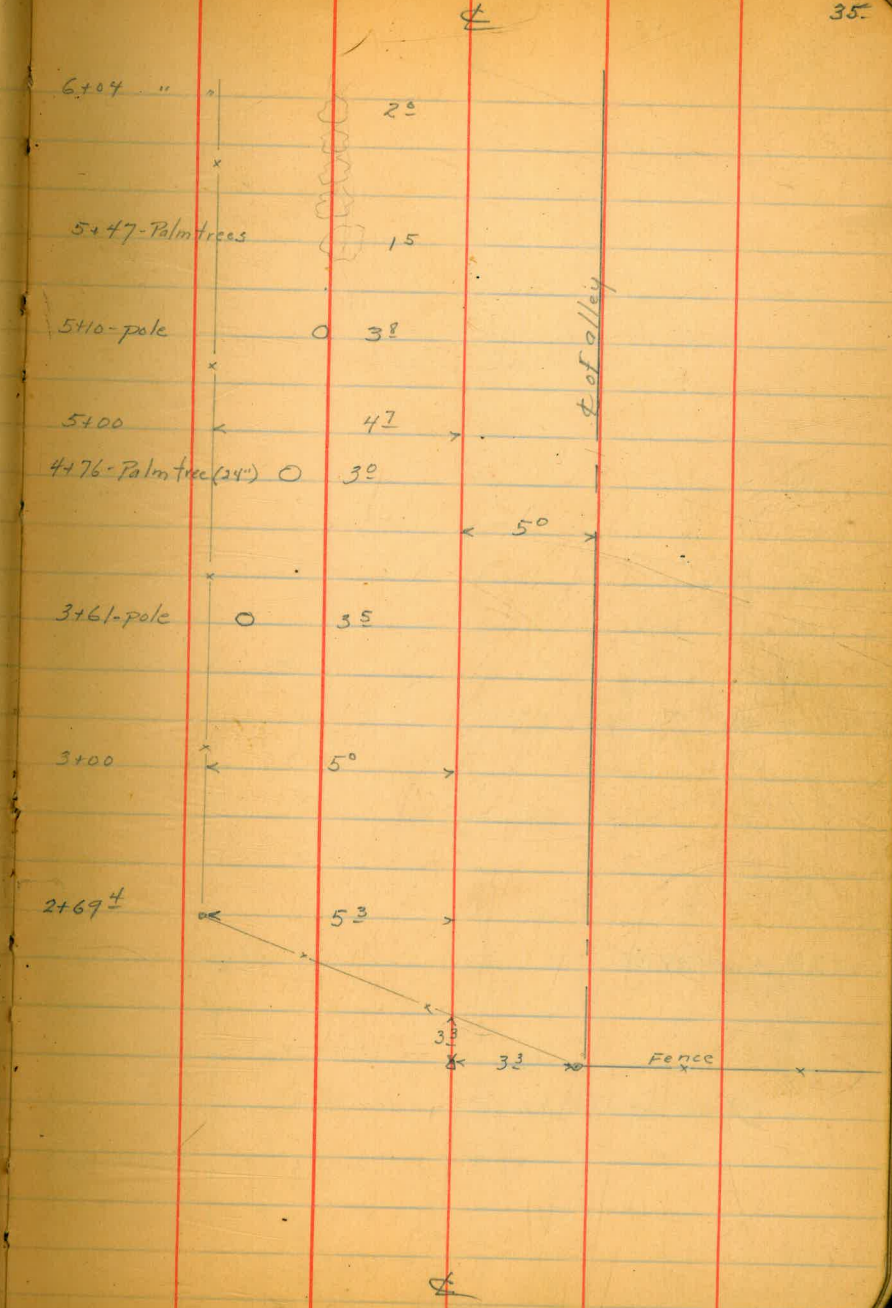
0+00 ± face of bell

0+00

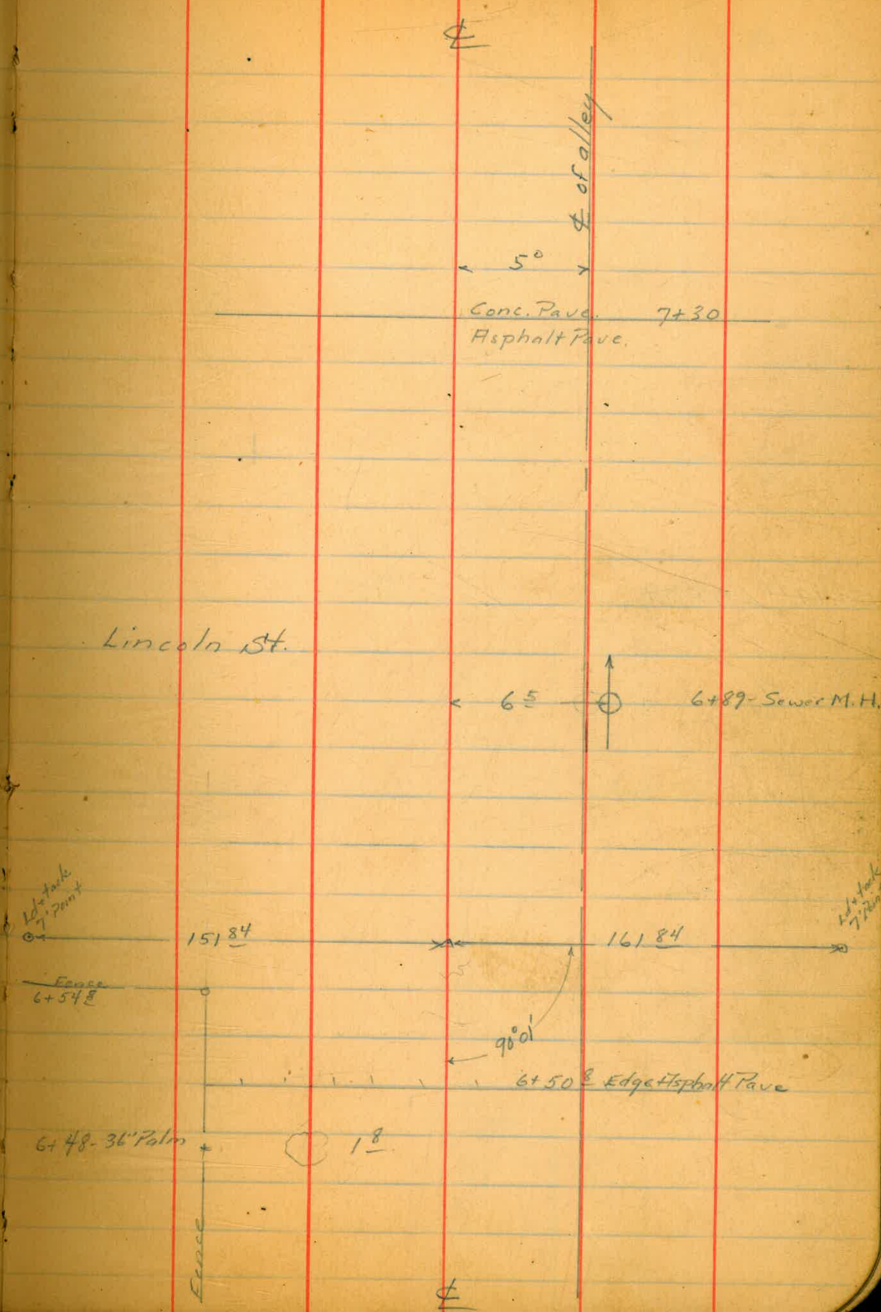
UPAS ST. P.L. CONNECTION
UNIVERSITY HTS. RES. TO UPAS ST.

3 49.6
2 23.8
01 25.8

2+49.61 L. 0°05' Rt



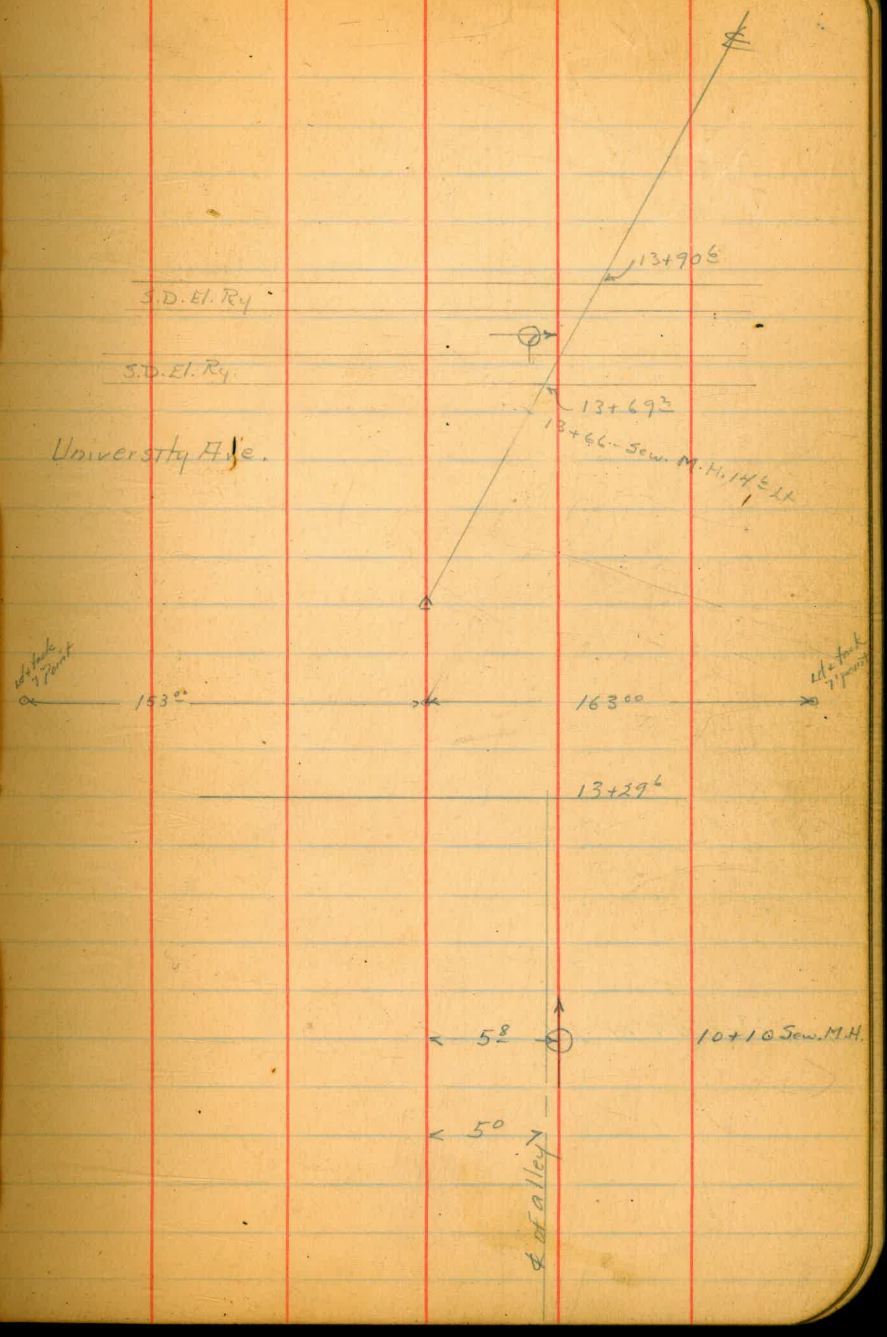
6+57 30 ∠ 0°09' Rt



℄
℄ of alley
5⁰
Conc. Pave.
7+30
Asphalt Pave.
Lincoln St.
6⁵
6+89 - Sewer M.H.
151 84
161 84
Fence
6+54 8
90°01'
6+50 8 Edge Asphalt Pave
6+48 - 36" Palm
1 8
Fence
℄

13+44.44 ∠ 45° Rt

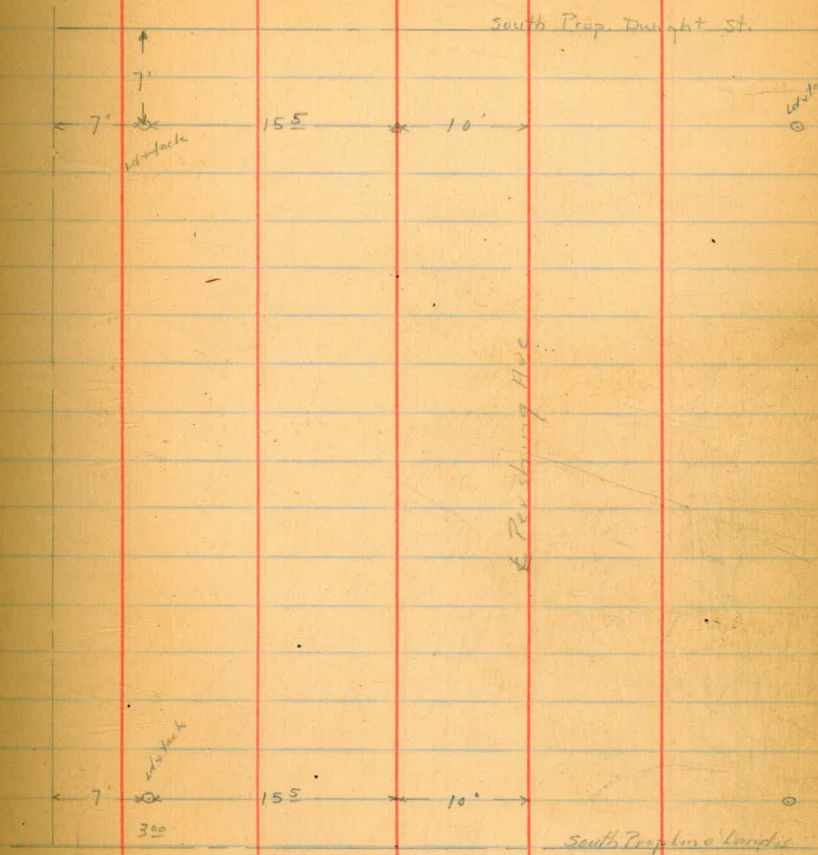
13+36.44



14+13.38 ∠ 44°55' Lt

30+53.05 ∠ 0°05'Rt

24+03.41 P.O.T.

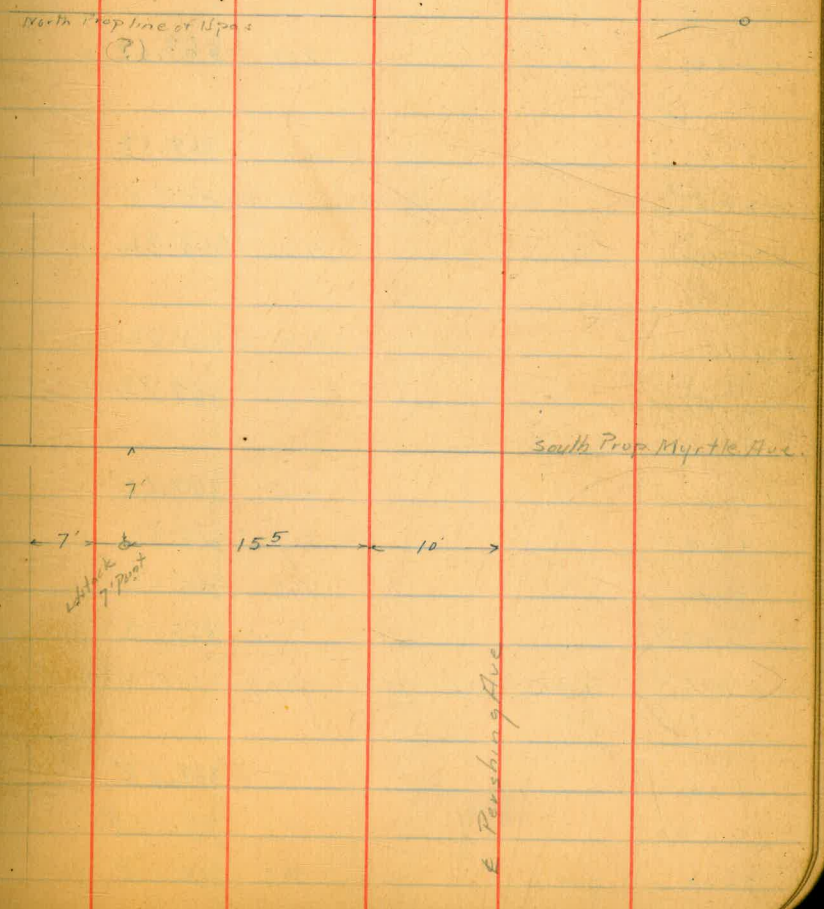


41+25$\frac{5}{}$ ±

40+77$\frac{65}{}$

40+78$\frac{12}{}$

37+12$\frac{39}{}$ P.O.T.



1/30/41
Hill
Soper
Brooks
Hodgeson

Profile levels over Upas St. Connec

B.M.	6.21	376.17		369.96	B.P. - S.E. Cor. Polk & Idaho
TP	0.12	372.52	3.77	372.40	
0+00			7.49	365.03 ✓	On top of 24" - 90° Bend
0+05			10.7	361.82 ✓	
0+20			8.9	363.62 ✓	
0+24			4.0	368.52 ✓	
0+25.8				362.5	Bottom, 36" C.I.P. placed by City.
0+50			4.2	368.32 ✓	
0+75			4.5	368.02 ✓	Rim of sewer M.H. 52 Rt.
0+75			8.7	363.82 ✓	El. line " " " " " "
1+00			4.9	367.62 ✓	
+50			5.7	366.82 ✓	
2+00			6.3	366.22 ✓	
+49.61			7.0	365.52 ✓	
TP	1.35	366.78 ✓	7.09	365.43 ✓	
3+00			1.8	364.98 ✓	
+50			2.3	364.48 ✓	
4+00			2.6	364.18 ✓	

		366.78			
4+50			3.8	362.98	
5+00			4.6	362.18	
+50			6.0	360.78	
6+00			7.1	359.68	
+50			8.7	358.08	Edge Asphalt Pave
TP	1.10	358.63	9.25	357.53	
+65			1.3	357.33	
+89			1.0	357.63	
+89			1.2	357.43	Rim of sewer M.H. 6 5 Rt.
+89			6.6	352.03	Fl. line " " " " "
7+00			1.4	357.23	
+15			1.9	356.73	
+30			1.7	356.93	
8+00			3.8	354.83	
9+00			6.8	351.83	
10+06			9.8	348.83	

		358.63				
10+10			10.0	348.63	✓	
+10			10.2	348.43	✓	Rim of Sewer M.H. 5⁸/₉ Rt
+10			13.5	345.13	✓	Fl. line " " " " "
11+00			12.7	345.93	✓	
TP	1.46	347.71 ✓	12.38	346.25	✓	
12+00			3.3	344.41	✓	
B.M.			3.52	344.19	✓	Set B.M. - Nail in pole 14' Rt 12+80
13+00			3.9	343.81	✓	
+29 ℄			4.0	343.71	✓	
13+44.4			5.0	342.71	✓	
+66			4.9	342.81	✓	Rim of Sewer M.H. 14⁶/₉ Lt
+66			11.8	335.91	✓	Fl. line " " " " "
+69 ℄			5.1	342.61	✓	Top of rail
+90 ℄			5.7	342.01	✓	" " "

		347.71			
14+13.38 L			7.1	340.61	
+29 L			7.4	340.31	
15+00			8.2	339.51	
TP	5.64	343.84	9.51	338.20	
16+00			5.5	338.34	
+76			6.5	337.34	
+84			6.6	337.24	
17			6.1	337.74	
+15			5.5	338.34	
+31			5.7	338.14	
B.M.			5.98	337.86	B.P. S.W. Cor. Pershing Ave & Wightman
17+40			5.4	338.44	

		343.84			
18+00			4.8	339.04	✓
19+00			4.1	339.74	✓
20			3.5	340.34	✓
+50			3.3	340.54	✓
21			3.7	340.14	✓
22			4.3	339.54	✓
TP	0.08	339.56	4.36	339.48	✓
23			0.8	338.76	✓
24			1.7	337.86	✓
B.M.			1.27	338.29	✓
25			3.9	335.66	✓
26			6.1	333.46	✓

B.P. S.E. Cor. Pershing Ave & Landis

		337.56			
27			8.3	331.56	✓
28			10.7	328.86	✓
29			12.8	326.76	✓
TP	3.30	330.02 ✓	12.84	326.72	✓
30			5.7	324.32	✓
+10			6.1	323.92	✓
+30			5.9	324.12	✓
+50			6.9	323.12	✓
+60			6.7	323.32	✓
B.M.			6.02	329.00	✓
31			6.3	323.72	✓
32			6.0	324.02	✓
33			5.4	324.62	✓

7' Point - Lid + tack - S.E. Cor. Pershing Ave + Dwight

		330.02			
34			4.9	325.12	
35			4.4	325.62	
36			3.8	326.22	
+59			3.5	326.52	
37			3.4	326.62	
B.M.			4.06	325.96	7' and 3' back of prop. 7' Point Ldg tack N.W. Cor. Myrtle & Pershing Ave.
38			4.0	326.02	
TP	3.89	329.35	4.56	325.46	
39			3.9	325.45	
40			4.4	324.95	
+78			4.9	324.45	
+99			6.6	322.75	Fl. line 12" Corr. I. Culvert 22' Lt
+99			7.9	321.45	" " 12" " " " 53' Rt
41			5.2	324.15	

		329.35			
41+25			5.4	323.95	
+25				20.84	Top of ~~24~~ 30" C.I.P. (see below)
B.M.			4.94	324.41	Set B.M. Nail in power pole S.W. Cor. Pershing Ave & Upas
IT	6.37	334.67	1.05	328.30	
IT	2.83	330.95	6.55	328.12	
			5.51	325.44	B.T. N.E. Cor. Upas & 29th (Kansas)
B.M.	4.30	328.71		324.41	
41+25			7.87	320.84	Top of ~~24~~ 30" C.I.P.

Soil Samples, Upas St. Connection

Sta 0+30 - As per 1st sample, 0° to 4°
" " 2nd " 4° to 6°

Sta 13+40 - Red adobe and rock 0° to 1°
As per sample 1° to 6°

Sta 31+20 As per sample 0° to 3°
Water at 3°

Sta 41+25 Red adobe and rock 0° to 1°
As per 1st sample 1° to 3°

9/3/41
Super
Brooks
Modgeson

& cuts for jacking pipe under University

B.M.	2.27	346.46		344.19	Grade 330.1	Nail in pole 14' Rt 12+80
13+95 -13 =			4.82	341.64	~~331.00~~ 330	11.5 / 10.6
~~14+11 -13~~			~~5.70~~	~~340.76~~	~~331.30~~	~~9.5~~

9/4/41

B. M.	1.59	345.78		344.19	
TT	0.93	341.66	5.05	340.73	
			12.34	329.32	0.78 below grade (grade = 330.10)

Profile of offsets

					Grade	
B.M.	5.78	375.74		369.96		B.P.S.L. Cor Polk & Idaho
TP	0.36	370.34	5.76.	369.98		Set B.M. Nail in light pole 30' Lt 0+00
TP	0.38	363.30	7.42	362.92		Cut
7+00			5.9	57.4	349.00	8.4
+50			6.7	56.6	347.25	9.3
8+00	x		8.3	55.0	345.50	9.5
+50			9.8	53.5	344.33	9.2
9+00			11.3	52.0	343.17	8.8
+50			12.8	50.5	342.00	8.5
TP	0.50	351.19	12.61	350.69		
10+00			2.0	49.2	340.84	8.4
+50			3.7	47.5	339.66	7.8
11+00	x		5.1	46.1	338.50	7.6
+50			6.3	44.9	337.97	6.9
+75	x		6.6	44.6	337.70	6.9
12+00			6.7	44.5	337.70	6.8
+50			7.0	44.2	337.70	6.5
+61	x		7.0	44.2	337.70	6.5
+77	x		7.0	44.2	337.40	6.8
13+00			7.1	44.1	335.20	8.9
~~4.47~~ 13	x			42.9	330 70	12.2
TP			6.97	344.22		Nail in pole 14' Rt 12+80 - elev 344.19

9/5/41
Soper
Brooks
Hodgeson

Profile of offsets

B.M.	1.80	345.99		344.19			
TP	3.43	342.74	6.68	339.31			
14+17				40.6	331.55	9.0	
14+49 x				40.1	333.15	6.9	For elevs see page 56
15+00				39.3	332.55	6.7	
15+50				38.6	331.98	6.6	
16+00			4.6	338.1	331.41	6.7	
+50			5.2	37.5	330.84	6.7	
+80 x			5.5	37.2	330.50	6.7	
17			5.0	37.7	330.80	6.9	
+50			4.5	38.2	331.55	6.6	
18 x			4.0	38.7	332.30	6.4	
+50			3.6	39.1	332.60	6.5	
19			3.4	39.3	332.90	6.4	
+50			3.0	39.7	333.20	6.5	
20			2.6	40.1	333.50	6.6	
TP	1.39	341.83	2.30	340.44			
+50 x			1.6	40.2	333.80	6.4	
21			2.0	39.8	333.41	6.4	
+50			2.3	39.5	333.03	6.5	
22			2.6	39.2	332.64	6.6	
+50			3.0	38.8	332.26	6.5	
23			3.4	38.4	331.87	6.5	
+50			3.6	38.2	331.48	6.7	

		341.83				
24			4.2	337.6	331.10	6.5
+50			5.3	36.5	330.00	6.5
25			6.4	35.4	328.90	6.5
+50			7.5	34.3	327.80	6.5
26			8.6	33.2	326.70	6.5
+50			9.8	32.0	325.60	6.4
27			10.8	31.0	324.50	6.5
+50			12.0	29.8	323.40	6.4
28			13.2	28.6	322.30	6.3
TP	0.47	329.28	13.02	328.81		
+50			1.7	27.6	321.20	6.4
29			2.8	26.5	320.10	6.4
+50			4.0	25.3	318.30	7.0
30			5.1	24.2	316.50	7.7
+33			5.2	24.1	314.80 ~~315.30~~	8.8 9.3
+50			6.2	23.1	315.73	7.4
31			5.9	23.4	317.00	6.4
+50			5.8	23.5	317.25	6.2
32			5.5	23.8	317.50	6.3
+50			5.2	24.1	317.75	6.3
33			4.9	24.4	318.00	6.4
+50			4.6	24.7	318.25	6.4
TP	5.95	331.07	4.16	325.12		
34			6.2	24.9	318.50	6.4

		331.07					
34+50			5.9	325.2	318.75	6.4	
35			5.7	25.4	319.00	6.4	
+50			5.5	25.6	319.25	6.3	
36			5.2	25.9	319.50	6.4	
+50					319.20	7.2	36+50
36+75			4.9	26.2	~~319.70~~	~~6.5~~	
~~37~~				26.5	319.00	7.5	36+75
37+25			~~4.5~~	~~26.6~~	~~317.10~~	~~6.7~~	
+50				26.0	319.80	6.2	37+25
			~~5.1~~	26.0	319.62	6.4	
38			5.4	25.7	319.34	6.4	
+50			5.7	25.4	319.06	6.3	
39			5.9	25.2	318.78	6.4	
PI	3.83	329.21	5.69	325.38			
+50			4.3	24.9	318.50	6.4	
40			4.6	24.6	317.45	7.1	
+50			4.9	24.3	316.39	7.9	
+89			5.1	24.1	315.56	8.5	
B.M			4.82	324.39		Nail in pole. S.W. Cor. Pershing & Upas - Rec: 324.41	
41+13			5.1	24.1	317.47	6.6	

9/4/41
Soper
Brooks
Hodgson

Profile of offsets

					Grade	Cut	
B.M.	1.16	371.14		369.98			
0+27			2.3	368.8	362.30	6.5	
0+50			2.7	68.4	61.90	6.5	
1+00			3.4	67.7	61.05	6.6	
+50			4.1	67.0	~~60.30~~ 60.00	~~6.8~~ 7.0	To clear light conduit.
2+00			4.9	66.2	59.35	6.8	
+50	x		5.5	65.6	58.50	7.1	
3			6.0	65.1	58.0	7.1	
+50			6.5	64.6	57.50	7.1	
+75	x			64.3	57.2	7.1	

9/11/41

B.M.	1.17	371.15		369.98			
TT	5.33	368.73	7.75	363.40			
ck. on 3+50			4.1	64.6			
4+00			4.8	63.9	~~357.00~~	~~6.9~~ 8.0	
+09	x			63.5	355.5		
+50			5.7	63.0	~~355.8~~ (354)	7.1 76	
+75				63.3	355.3	8.0	
5+00			6.2	62.5	354.75	7.7	
+50			7.7	61.0	353.62	7.4	
6+00	x		7.9	60.8	352.50	8.3	
+50			8.3	60.4	350.75	9.6	

Profile of offsets.

B.M.	2.06	346.25		344.19
T.	4.15	344.87	5.53	340.72
14+49			4.8	40.1
15+00			5.6	39.3
+50			6.3	38.6
ck on 16+00			6.8	38.1

Elevation of Recording Guages on Otay
2nd. Main P.L. 9-8-11

Hill
Byler
King
Otten
Stephens

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BM Stromboock
299 B

	11.60	380.23		368.63	U.S.G.S. Datum	B.M. S.E. Cor. Pier # 1 trestle # 15 Sta. 136+41
135+87			3.72	376.51	on Guage	at A.V. 33
			3.42	376.81		Set B.M. top of N.E. Cor. 3'X1' conc. Chamber at Sta. 135+87
	2.55	373.00		370.45	U.S.G.S. Datum	B.M. Top N.E. Cor. of Conc. G.V. Box Bonito Branch
			5.19	367.81	on Guage	at A.V. # 72
	0.56	367.92		367.36	city Datum	B.M. "X" on G.V. flange on Air valve # 135
TP	0.02	355.85	12.09	355.83		
TP	6.77	348.27	8.35	347.50		
			5.55	342.72		Set B.M. "X" on N.W. Cor. upper G.V. Chamber Chollas Hts. Reservoir.

Elevations proposed Otay 2nd. Filter plant Site.

9-16-41
Byler
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7.07	411.82		404.75
		8.77	403.05
		9.9	401.9
		8.9	402.9
		7.0	404.8
		10.3	401.5
See PAGE 70		10.4	401.4
For El. These		9.3	402.5
2 Bldgs.		8.8	403.0
		7.3	404.5
		7.4	404.4
		8.7	403.1
		8.7	403.1
		10.0	401.8
		10.0	401.8
		10.4	401.4
		9.3	402.5

B.M. X on end of retaing Wall near S.E. Cor. of existing Filter plant

Floor El. S.E. Cor. Existing Bldg.

S.E. Cor. of 40' extension

S.W. Cor. of existing Bldg. (grnd.)

S.W. Cor of 40' extension

N.E. Cor. 30'X30' Bldg.

S.E. Cor. 30'X30' Bldg.

S.W. Cor 30'X30' Bldg

N.W. Cor.

N.E. cor. 20'X24'

N.W. " " X " .

S.W. " " X " .

S.E. " " X " .

N.W. proposed Filter plant

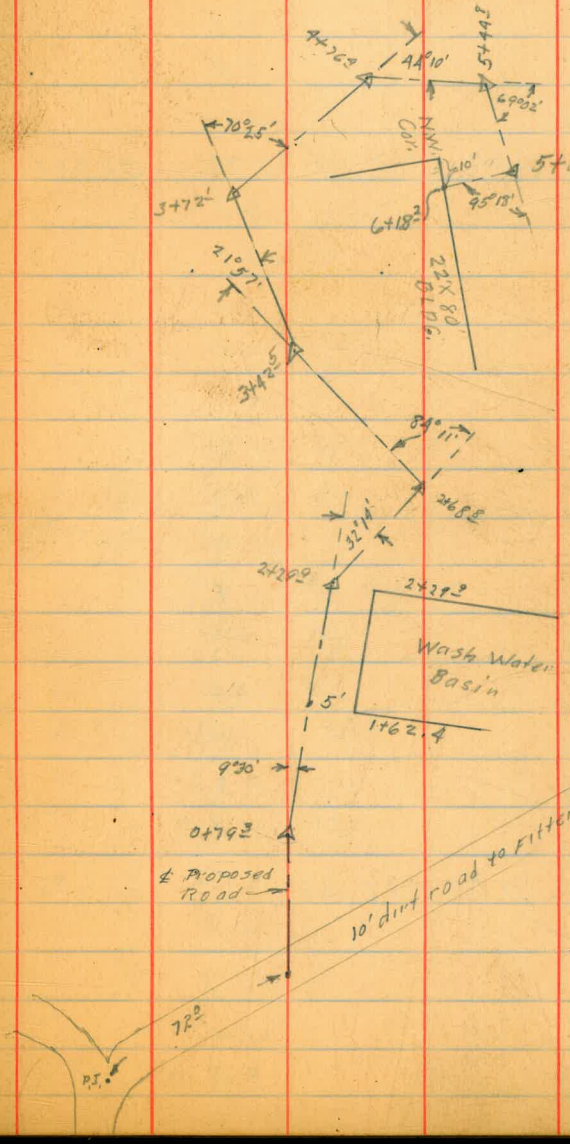
S.W. " " "

S.E. " " "

N.E. " " "

Location of Proposed Road to Otay Filter Plant Site

9-26-44
Byler
King
Otten
Stephens



Profile Along ℄ proposed Road to OTay Filter plant Site

Byler
King
Otten
Stephens
9-26-44

	4.71	409.46		404.75
0+00			0.5	
+15			1.9	
0+79.3 Δ			10.7	
TP.	2.40	399.88	11.98	397.48
+90			3.3	
1+06			8.1	
+14			5.0	
+48			9.4	
+62.4			9.1	
+84			9.7	
2+15			9.9	
+29.9			10.0	
+68.8			11.4	
+86			12.1	
3+09			11.0	
+42.5 Δ			7.8	
+72.1 Δ			9.3	
+95			5.9	
TP	11.32	408.68	2.52	397.36
4+30			12.5	
+54			11.8	
+60			12.1	
+76.4 Δ			9.0	

℄

B.M. "X" in end of small retaining wall S.W. Cor. existing Filter plant.

		-0.7 / 10	0.0 / 5
	-3.9 / 10	-0.3 / 4	0.0 / 5
Same Slope	-6.0 / 12	-0.6 / 3	
		-2.5 / 22	+0.9 / 7 +3.8 / 15
		-2.0 / 14	+6.1 / 15
		-6.0 / 15	+6.5 / 15
		-5.7 / 15	+3.5 / 15
		-2.7 / 15	+3.3 / 15
		+1.5 / 15	-2.0 / 15

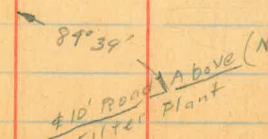
	408.68			
4+98		8.9		
5+02		12.3		
+09		7.6		
+44⅜		6.2		
+72		6.0		
+85½		5.2		
		3.93	404.75	Check on starting Point

Stadia Survey of Road on E. Side of Otay Filter Plant

9-26-47

Byler
King
Otten
Stephens

	(430)			+10°19'		Starting Shot from B.M. at Cor. of Main Bldg. to Point o on E. Road ℄ N. Road El. 480.5
6 to 9	(230)	N 46° W	79°05'	-1°04'	5.1 5.1	405± check to B.M. at SE. Cor. Existing Filter Plant El 404.75
6 to 8	(196)	N 53° W	72°15' Rt.	-1°08'	5.1 5.1	Note - Hor. Angles from Point #6 to #9 Read from Back tan at point #6
6 to 7	(123)	N 58° W	66°55' Rt.	-2°0'	5.1 5.1	
℄ 2 to 6	(141)	S 55° W	71°34' Rt.	-9°10'	5.0 5.0	409± * 0+00 of Prop. Road page 59
2 to 5	(130)	S 27° W	43°25' Rt.	-7°24'	5.0 5.0	* Road P.I. See Bottom of Page 59
2 to 1	(98)	S 13° W	29°26 Rt.	-7°20'	5.0 5.0	Note Hor. Angles from point #2 to #6 Read from Back tan At point #2
2 to 3	(53)	S 2 W	18°31' Rt.	-6°47'	5.0 5.0	
℄ 0 to 2	(502)		Pot	-5°37'	5.1 5.1	431±
0 to 1	(251)	S 16½° E	Pot	-6°29'	5.1 5.1	452.1
Point 0						El. Point o = 480±



Stadia Survey of No. Road to Filter Plant Otay

9-26-44
Byler
King
Otten
Stephens

	Observed Dist.	Mag. Bear.	Hor. ∠	Vert. ∠			℄
6 to 9	(230)	S 30° W	37° 53' Lt.	−8° 50'	4.9 4.9		Side Shot
6 to 8	(197)	S 39¾° W	28° 21' Lt.	−8° 39'	4.9 4.9		Side Shot
6 to 7	(103)	S 46° W	22° 03' Lt.	−8° 45'	4.9 4.9		Side Shot
⊼4 to 6	(194)	S 69½° W	1° 33' Rt.	−3° 32'	5.0 5.0	448.0	
4 to 5	(73)	S 64° W	3° 48' Lt.	−4° 37'	5.0 5.0		Side shot
⊼0 to 4	(343)	S 68° W	Pot.	−3° 27'	5.1 5.1	459.9	
0 to 3	(287)		1° 40' Lt.	−4° 03	5.1 5.1		
0 to 2	(147)		0° 01' Rt.	−6° 0'	5.1 5.1		
0 to 1	(93)		8° 02' Rt.	−5° 58'	5.1 5.1		
Point 0						El. Point 0 = 480.5	

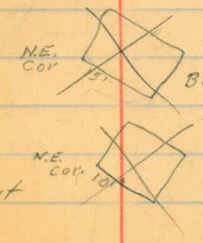
Note — All Angles from point #6 to #10 Read from Back Tan. At Point 6

Angles read from Back Tan. At point #4

Note — Hor. Angles at 0 to 1, 0 to 2, 0 to 3 are side angles taken at Point 0 to Right or left of A line betw. 0 & 4

10 to 16	(330)	N 75° E	111° 54' Lt.	−0° 45'	6.9 4.9
10 to 15	(279)	N 66½° E	120° 25' Lt.	− 0° 11'	4.9 4.9
10 to 14	(213)	N 66° E	121° 02' Lt.	− 0° 49'	4.9 4.9
10 to 13	(160)	N 76 E	111° 05' Lt.	− 2° 43'	4.9 4.9
10 to 12	(132)	S 86½ E	93° 29' Lt.	− 3° 10'	4.9 4.9
10 to 11	(98)	S 71° E	78° 07' Lt.	− 3° 01'	4.9 4.9
6 to 10	(259)	S 7° W	60° 59' Lt.	− 8° 31'	4.9 4.9

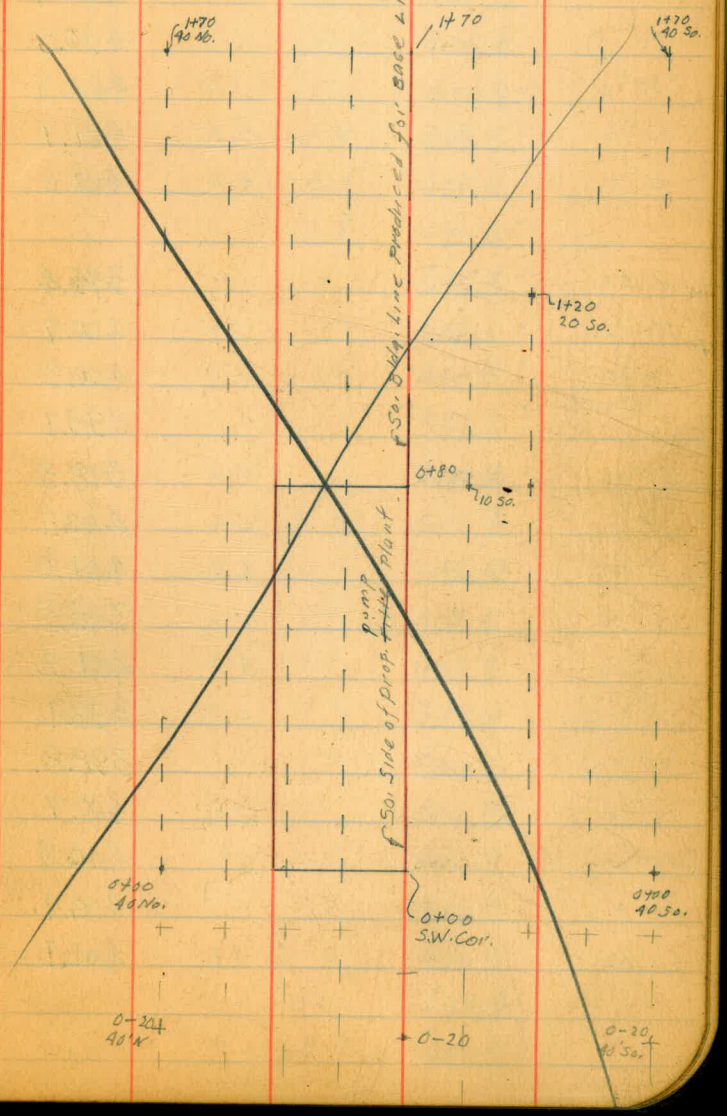
4032	Check to S.W. Cor. of Existing Filter plant El. 402.2	
	Side shot	Note—All Angles Read from Back Tangent At Point #10
407	Side shot	
	Side shot	
	Side shot	Bldg. Locations Set No. Clear of Road.
	Side shot	
410		



Byler
9-29-44

Sketch key to X-sections on Next Page

65



X-Section & Proposed Pumping Plant Site & adjacent P.L.'s
Otay Filter Plant
9-29-44

	+		−	ELEV.	
	2.38	405.92 ~~407.13~~		403.54 ~~404.75~~	B.M. 'X' in
0+00			5.2	400.7 ✓	
10' N.			5.4	400.5 ✓	
20' N.			5.2	400.7 ✓	
30' N.			4.8	401.1 ✓	
40' N.			4.9	401.0 ✓	
7' So.			10.5	395.4 ✓	
16' So.			5.2	400.7 ✓	
20' So.			5.6	400.3 ✓	
30' So.			6.8	399.1 ✓	
36' So.			7.6	398.3 ✓	over P.L.
0+10			5.0	400.9 ✓	
5' So.			4.9	401.0 ✓	
12' So.			10.6	395.3 ✓	
20' So.			4.7	401.2 ✓	
30' So.			6.0	399.9 ✓	
38' So.			7.1	398.8 ✓	over P.L.
10' N.			5.2	400.7 ✓	
20' N.			5.1	400.8 ✓	
30' N.			5.0	400.9 ✓	
40' N.			4.8	401.1 ✓	

Bixler and King & Otten & Stephens

	+	M.I.	−	ELEV.	
Retaining Wall S.E. Cor. Filter Plant		405.92 ~~407.13~~			
0+20			4.9	401.0 ✓	
10' N			5.1	400.8 ✓	
20' N			5.0	400.9 ✓	
30' N			5.4	400.5 ✓	
40' N			4.9	401.0 ✓	
6' So.			4.5	401.4 ✓	
15' So.			10.6	395.3 ✓	
23' So.			3.8	402.1 ✓	
30' So.			5.4	400.5 ✓	
40' So.			6.7	399.2 ✓	over P.L.
0+30			5.1	400.8 ✓	
9' So.			4.3	401.6 ✓	
18' So.			10.4	395.5 ✓	
25' So.			3.8	402.1 ✓	
30' So.			4.6	401.3 ✓	
40' So.			6.5	399.4 ✓	over P.L.
10' N.			5.3	400.6 ✓	
20' N.			5.1	400.8 ✓	
30' N.			5.5	400.4 ✓	
40' N.			5.6	400.3 ✓	
0+40			5.2	400.7 ✓	
10' N.			5.1	400.8 ✓	
20' N.			5.4	400.5 ✓	

	+	405.92 ~~407.13~~	-	ELEV.	
0+40					
30' N.			5.9	400.0	
40' N.			6.7	399.2	
6' So.			5.0	400.9	
10' So.			3.5	402.4	
20' So.			10.3	395.6	
25' So.			4.4	401.5	
30' So.			4.9	401.0	
39' So.			6.4	399.5	over P.L.
0+50			5.5	400.4	
6' So.			5.0	400.9	
12' So.			3.6	402.3	
22' So.			10.5	395.4	
27' So.			5.5	400.4	
30' So.			5.5	400.4	
38' So.			6.1	399.8	over P.L.
10' N.			5.3	400.6	
20' N.			5.7	400.2	
30' N.			6.5	399.4	
40' N.			7.2	398.7	
0+60			5.2	400.7	
10' N.			4.9	401.0	
20' N.			4.9	401.0	
30' N.			5.6	400.3	
40' N.			7.3	398.6	

		405.92 ~~407.13~~			
0+60					
6' So.			5.5	400.4	
13' So.			3.7	402.2	
22' So.			10.5	395.4	
28' So.			6.1	399.8	
38' So.			6.9	399.0	on top of P.L.
0+70			4.9	401.0	
6' So.			5.4	400.5	
14' So.			3.9	402.0	
23' So.			10.6	395.3	
28' So.			6.9	399.0	
37' So.			6.6	399.3	over P.L.
10' N.			4.9	401.0	
20' N.			4.8	401.1	
30' N.			5.1	400.8	
40' N.			7.0	398.9	
0+80			5.7	400.2	
10' N.			5.2	400.7	
20' N.			4.7	401.2	
25' N.			4.7	401.2	
30' N.			5.4	400.5	
40' N.			7.0	398.9	
10' So.			5.5	400.4	
14' So.			4.3	401.6	
23' So.			10.6	395.3	
28' So.			7.3	398.6	

	405.92 ~~407.13~~			
0+80 35' So.		6.8	399.1	
0+90		6.5	399.4	
10' So.		6.8	399.1	
16' So.		5.8	400.1	
23' So.		10.5	395.4	
27' So.		8.4	397.5	
31' So.		7.0	398.9	On top of P.L.
10' N.		6.3	399.6	
20' N.		6.1	399.8	
30' N.		6.6	399.3	
40' N.		7.8	398.1	
1+00		8.0	397.9	
10' N.		7.8	398.1	
20' N.		7.4	398.5	
26' N.		6.8	399.1	
33' N.		8.8	397.1	
40' N.		8.1	397.8	
10' So.		7.7	398.2	
13' So.		7.6	398.3	
22' So.		10.9	395.0	
30' So.		9.6	396.3	Along side P.L.
1+10		8.6	397.3	
10' So.		8.5	397.4	
18' So.		11.0	394.9	
26' So.		11.0	394.9	

	405.92 ~~407.13~~			
1+10 29' So.		10.2	395.7	Along side P.L.
10' N.		8.3	397.6	
18' N.		9.5	396.4	
20' N.		8.4	397.5	
30' N.		6.4	399.5	
40' N.		5.5	400.4	
1+15		8.4	397.5	Break on Base Line
1+20		10.0	395.9	
3' N.		11.1	394.8	
8' N.		8.1	397.8	
20' N.		6.5	399.4	
30' N.		5.2	400.7	
40' N.		3.6	402.3	
3' So.		9.1	396.8	
10' So.		10.2	395.7	
20' So.		11.8	394.1	
28' So.		13.2	392.7	Along side P.L.
1+22		11.0	394.9	Break on Base Line
1+27		8.3	397.6	Break on Base Line
1+30		8.1	397.8	
3' So		8.6	397.3	
12' So.		14.6	391.3	
20' So.		14.4	391.5	
25' So.		14.1	391.8	Along side P.L.

405.92 ✓
407.13

1+30			
10' N.	7.5	398.4 ✓	
20' N.	5.6	400.3 ✓	
30' N.	4.6	401.3 ✓	
40' N.	3.1	402.8 ✓	
1+40	9.0	396.9 ✓	
10' N.	6.7	399.2 ✓	
20' N.	5.5	400.4 ✓	
30' N.	4.2	401.7 ✓	
40' N.	2.5	403.4 ✓	
10' So.	14.8	391.1 ✓	
23' So.	16.1	389.8 ✓	Along Side P.L.
1+50	9.9	396.0 ✓	
7' So.	14.8	391.1 ✓	
10' So.	15.2	390.7 ✓	
20' So.	14.8	391.1 ✓	Along Side P.L.
10' N.	7.2	398.7 ✓	
20' N.	5.2	400.7 ✓	
30' N.	4.3	401.6 ✓	
40' N.	2.9	403.0 ✓	
1+54	11.1	394.8 ✓	Break on Base Line Top of 4" W.I. Pipe
1+56	12.4	393.5 ✓	
1+60	12.0	393.9 ✓	
4' So.	13.6	392.3 ✓	
10' So.	13.8	392.1 ✓	
14' So.	13.5	392.4 ✓	Along Side P.L.

405.92 ✓
407.13

1+60			
10' N.	8.0	397.9 ✓	
20' N.	5.2	400.7 ✓	
30' N.	4.0	401.9 ✓	
40' N.	3.2	402.7 ✓	
1+70	12.6	393.3 ✓	
6' So.	12.8	393.1 ✓	Along Side P.L.
3' N.	11.9	394.0 ✓	
10' N.	9.5	396.4 ✓	
17' N.	5.7	400.2 ✓	
30' N	4.6	401.3 ✓	
40' N	4.3	401.6 ✓	
1+78.5	12.6	393.3 ✓	Along Side P.L.
	7.00	398.9 ✓	Top P.L. At Base L.

X-Sections Continued Book 281 Page 44

Elevations of Apurtenant Bldgs. to Prop. Pump Plant-Otay

9-29-44

Byker
King
Otten
Stephens

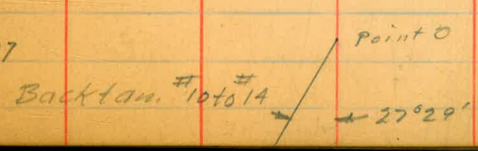
	405.92 ✓		408.54	
2.38 ✓	~~407.13~~		~~404.75~~	
	410.29 ✓		401.27 ✓	
9.02 ✓	~~411.50~~	4.65	~~402.48~~	
		5.6	404.7 ✓	S.W. Cor. 30' Bldg.
		7.5	402.8 ✓	S.E. " " " " House
		4.2	406.1 ✓	N.E. " " " "
		1.3	409.0 ✓	N.W. " " " "
		0.9	409.4 ✓	N.E. Cor. 24'X20' Bldg.
		1.1	409.2 ✓	N.W. " " " " Garage
		3.5	406.8 ✓	S.W. " " " "
		3.4	406.9 ✓	S.E. " " " "
		6.6	403.7	Midway Btwn. S.E. & S.W. Cor. 30' Bldg.
		3.3	407.0	" " S.E. & N.E. " " " "
		6.2	404.1	" " S.W. & N.W. " " " "
		2.0	408.3	" " N.W. & N.E. " " " "
		4.1	406.2	In center of 30' Bldg.
		3.3		Midway Btwn S.E. & S.W. Cor. 20X24 Bldg.
		2.3		" " S.W. & N.W. " " " "
		0.9		" " N.W. & N.E. " " " "
		2.2		" " N.E. & S.E. " " " "

Stadia Survey of Prop. Road Around Sand Bin at Otay Filter Plant. 9-29-44

Byler (level), King (transit), Otten + Stephens

℄

6 to 7	(76)	N 17½° W	101°21' Lt.	+6°22'	5.0 / 5.0	El. 452.8	Point #7 = Point #1 in E. Road see Page 62. El. Point #1 = 452.4 Check
⊼ 5 to 6	(82)	N 82° E	31°17' Lt.	+4°36'	5.0 / 5.0	El. 444.4	P.I. Sand Bin & E. Roads.
⊼ 1 to 5	(242)	S 63½° E	76°42' Rt.	0°0'	1.4 / 4.8	El. 437.8	Hor. Angle off Back tan.
1 to 4	(120)	S 84° E	55°48' Rt.	−4°43'	4.8 / 4.8		Side shot Hor. Angle off Back tan.
1 to 3	(101)	S 87° E	53°14' Rt.	−5°21'	4.8 / 4.8		Side shot Hor. Angle off Back tan. Prod Point #3 in road at Sand Bins
1 to 2	(29')	N 64½° E	25°09' Rt.	0°0'	5.9 / 4.8		Side Shot Hor. Angle off Back tan. Prod.
⊼ 0 to 1	(210)	N 39° E	Pot	+7°34'	5.2 / 5.2	El. 434.3	
Point 0	Point 0 = Point #14 No. Road Stadia Survey see Page 64					El. 407	



Check Levels for B.M. 5
Otay Filter Plant

1.59	406.34		404.75
2.07	396.11	12.30	394.04
		+0.78	396.89
		+0.78	
		+0.76	
-0.51	395.15		395.66
11.91	404.75	2.31	392.84
		1.21	403.54
1.68	405.22		403.54
2.18	395.03	12.37	392.85
		+0.63	395.66

} on 3 Piers opposite standby Chlorine house

B.M. Top of saddle for RL. in conc. Pier opposite standby Chlorine Plant El. 395.66

B.M. "X" on So. End of conc. Retaining Wall near S.E. Cor. Filter Plant Marked El. 404.75

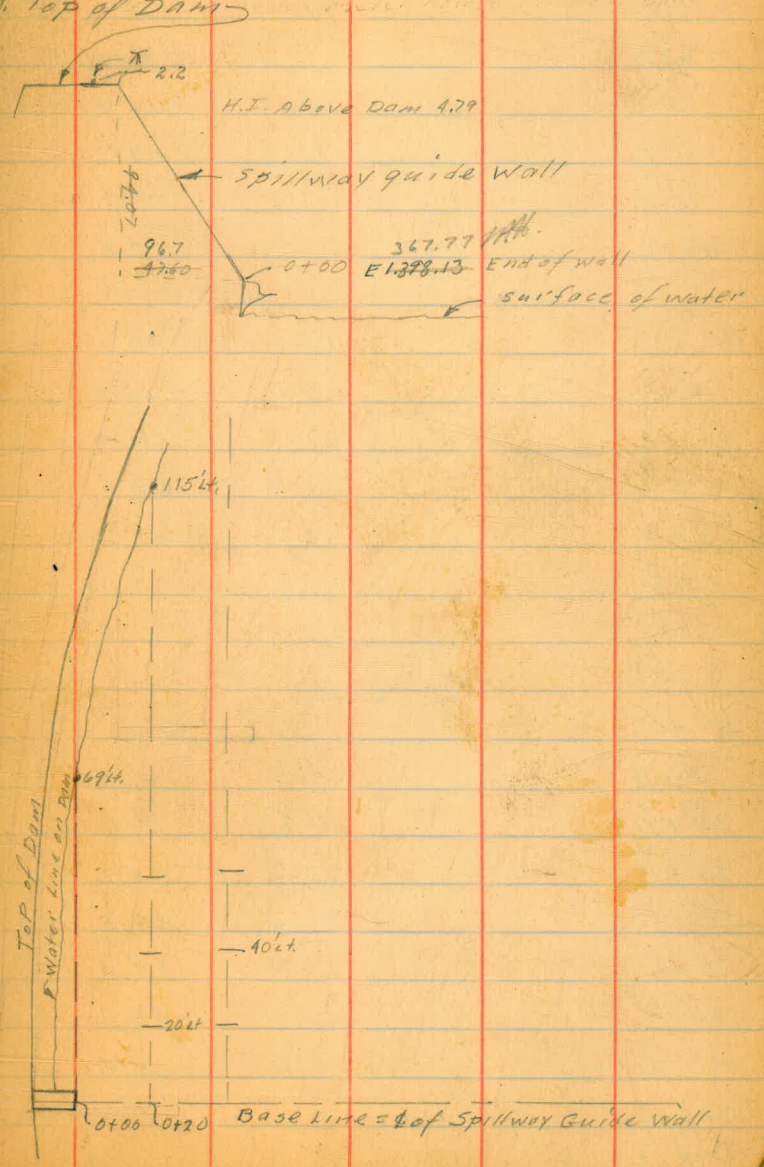
check

Elevs. for Sounding of Pool Below Lower Otay Dam 9-30-44

Byler King Otten Stephens

	4.79	496.99		492.20	
			-129.22	367.77	Diff. from
162.70'	@	52°35'	-98.86	~~368.13~~	H.I. to end of wall
		371.59		365.37	Surface of
	3.82	~~402.45~~	6.22	~~396.73~~	Water
				361.9	Floor of 4'x7'
			9.7	~~393.25~~	tunnel

B.M. Top of Dam



Soundings in Pool Below Lower Otay Dam

9-30-14 Byler King & Stephens

366.37
396.73 El. of surface of water

Sta.	Sound	
0+00		
63 Lt.	10.2	355.2
25 Lt.	10.5	57.9
50 Lt.	11.8	54.6
75 Lt.	12.0	53.4
100 Lt.	11.0	54.4
0+20	17.2	48.2
4' Rt.	0.0	65.4
25' Lt.	17.3	48.1
50' Lt.	15.9	49.5
75' Lt.	14.2	51.2
100' Lt.	11.0	54.4
115' Lt.	0.0	65.4
0+40		
8' Lt.	0.0	65.4
10' Lt.	10.4	55.0
25' Lt.	20.2	45.2
50' Lt.	20.6	44.8
75' Lt.	18.0	47.4
100' Lt.	15.8	49.6
121' Lt.	0.0	65.4
0+60		
18' Lt.	0.0	65.4

toe 12' from W. line
" 12' " " "
12.5' " " "
11.5' " " "
11.2 " " "

	365.37		
25' Lt.		8.1	57.0
50' Lt.		16.0	49.4
75 Lt		20.6	44.8
100' Lt.		20.6	44.8
120 Lt.		10.0	55.4
127 Lt		0.0	65.4
0+80		0.0	65.4
25' Lt.		7.3	58.1
50' Lt.		11.3	54.1
75' Lt.		12.0	53.4
100' Lt.		15.5	49.9
125' Lt.		7.2	58.2
130' Lt.		0.0	65.4
1+00			
20' Rt.		0.0	65.4
Base Line		5.0	60.4
25' Lt.		4.5	60.9
50' Lt.		3.2	62.2
75' Lt.		3.5	61.9
100' Lt.		11.0	54.4
119' Lt.		6.7	58.7
125' Lt.		0.0	65.4
1+20			
35' Rt.		0.0	65.4

	365.37		376.1
25' Rt.		2.2	363.2
Base Line		3.7	61.7
25' Lt.		2.9	62.5
50' Lt.		0.0	65.4
75' Lt.		0.0	65.4
100' Lt.		6.3	59.1
125' Lt.		8.3	57.1
130' Lt.		0.0	65.4
1+40		0.0	65.4
1+65			
130' Lt.		0.0	65.4

Profile down Canyon Below Lower Otay Dam   9-30-44   Byler

0+00 = 130' Lt. at 14+65 Page 76

	9.80	375.2 ~~406.53~~		365.4 ~~396.73~~
1+00			9.5	365.7
2+00			9.5	365.7
3+00			13.0	363.2
TP	6.12	399.68	12.97	362.23 ~~393.56~~
4+00			6.0	356.23
5+00			6.8	
6+00			3.4	
7+00			5.0	
8+00			10.7	
9+00			7.8	
TP	6.86	398.92	7.62	392.06
10+00			9.7	
TP	0.32	386.83	12.41	386.51
11+00			6.6	
+48			10.7	376.1
12+00			10.3	376.5
13+00			12.1	374.7

Lt. of water

Opposite Beginning of Large Point on Rt. Side
13+00 is on Lt. of Canyon 200' Wide
Large point on Left 16+00 ± narrows
canyon to 75' ±

	0.73	280.45		279.72
			9.95	270.50
	13.32	283.82		
822			4.4	279.4
823				
			4.28	279.54
			7.6	276.2
	0.82	280.54		279.72
			10.04	270.50

B.M. 369.96 - B.P. S.E. cor. Polk & Idaho

B.M. X on concr. wall 3.5 N of S.E. cor U. Hts Res 389.88

29th & Upas SE cor B.P. El. 225.847

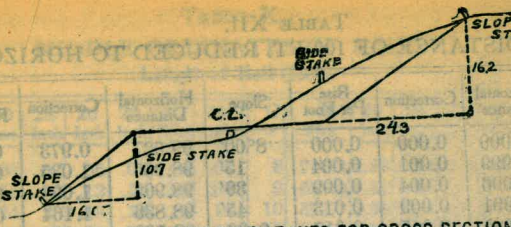
65th SW spike 314.97

℄ 62nd & Akin granite mon. 185.68

IMPROVED TABLES

AND

INFORMATION



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.

0.03 · 498.05 · 498.02

162.70 @ 52°35'

Sin .7942379 down

Cos .607607 out