MISSION 66

5

K & E

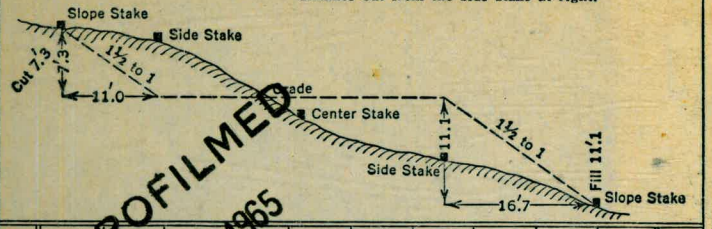
LEVEL BOOK

W 373 A

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

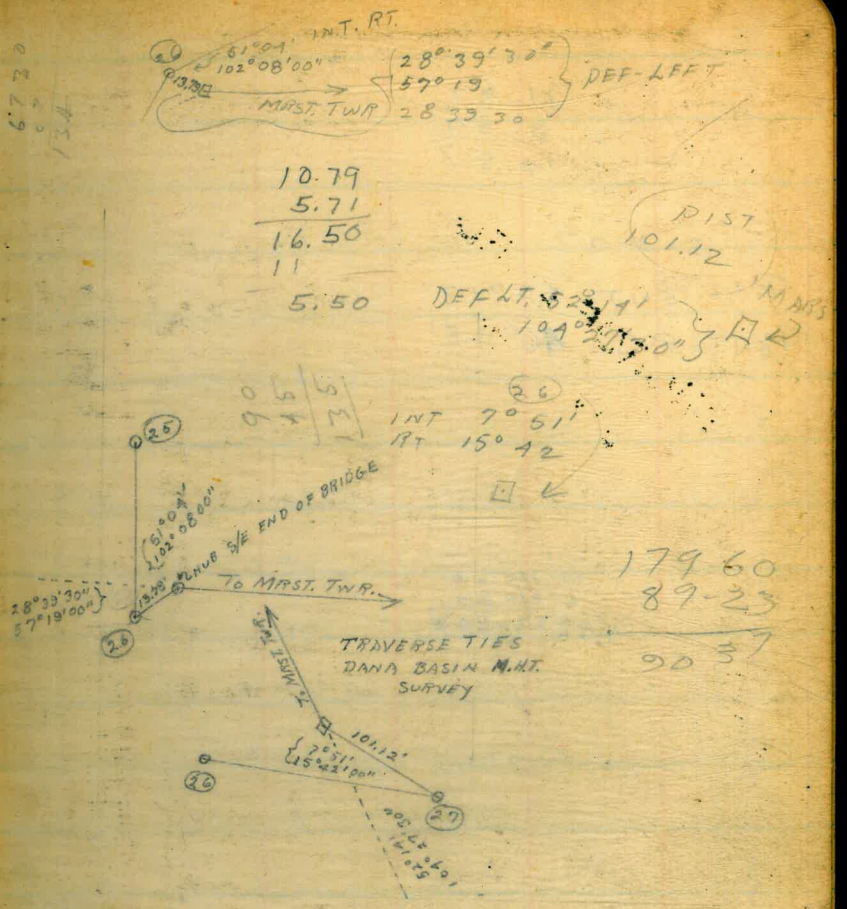
Roadway of any Width. Side Slopes 1½ to 1.

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 16.7, the distance out from the side stake at right.



Cut or Fill	.0	.1	.2	.3	.4	.5	.6	.7	.8	.9	Cut or Fill
	Distance out from Side or Shoulder Stake										
0	0.0	0.1	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	0
1	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	1
2	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1	4.2	4.4	2
3	4.5	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	3
4	6.0	6.2	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	4
5	7.5	7.7	7.8	8.0	8.1	8.3	8.4	8.6	8.7	8.9	5
6	9.0	9.2	9.3	9.5	9.6	9.8	9.9	10.1	10.2	10.4	6
7	10.5	10.7	10.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	7
8	12.0	12.2	12.3	12.5	12.6	12.8	12.9	13.1	13.2	13.4	8
9	13.5	13.7	13.8	14.0	14.1	14.3	14.4	14.6	14.7	14.9	9
10	15.0	15.2	15.3	15.5	15.6	15.8	15.9	16.1	16.2	16.4	10
11	16.5	16.7	16.8	17.0	17.1	17.3	17.4	17.6	17.7	17.9	11
12	18.0	18.2	18.3	18.5	18.6	18.8	18.9	19.1	19.2	19.4	12
13	19.5	19.7	19.8	20.0	20.1	20.3	20.4	20.6	20.7	20.9	13
14	21.0	21.2	21.3	21.5	21.6	21.8	21.9	22.1	22.2	22.4	14
15	22.5	22.7	22.8	23.0	23.1	23.3	23.4	23.6	23.7	23.9	15
16	24.0	24.2	24.3	24.5	24.6	24.8	24.9	25.1	25.2	25.4	16
17	25.5	25.7	25.8	26.0	26.1	26.3	26.4	26.6	26.7	26.9	17
18	27.0	27.2	27.3	27.5	27.6	27.8	27.9	28.1	28.2	28.4	18
19	28.5	28.7	28.8	29.0	29.1	29.3	29.4	29.6	29.7	29.9	19
20	30.0	30.2	30.3	30.5	30.6	30.8	30.9	31.1	31.2	31.4	20
21	31.5	31.7	31.8	32.0	32.1	32.3	32.4	32.6	32.7	32.9	21
22	33.0	33.2	33.3	33.5	33.6	33.8	33.9	34.1	34.2	34.4	22
23	34.5	34.7	34.8	35.0	35.1	35.3	35.4	35.6	35.7	35.9	23
24	36.0	36.2	36.3	36.5	36.6	36.8	36.9	37.1	37.2	37.4	24
25	37.5	37.7	37.8	38.0	38.1	38.3	38.4	38.6	38.7	38.9	25
26	39.0	39.2	39.3	39.5	39.6	39.8	39.9	40.1	40.2	40.4	26
27	40.5	40.7	40.8	41.0	41.1	41.3	41.4	41.6	41.7	41.9	27
28	42.0	42.2	42.3	42.5	42.6	42.8	42.9	43.1	43.2	43.4	28
29	43.5	43.7	43.8	44.0	44.1	44.3	44.4	44.6	44.7	44.9	29
30	45.0	45.2	45.3	45.5	45.6	45.8	45.9	46.1	46.2	46.4	30
31	46.5	46.7	46.8	47.0	47.1	47.3	47.4	47.6	47.7	47.9	31
32	48.0	48.2	48.3	48.5	48.6	48.8	48.9	49.1	49.2	49.4	32
33	49.5	49.7	49.8	50.0	50.1	50.3	50.4	50.6	50.7	50.9	33
34	51.0	51.2	51.3	51.5	51.6	51.8	51.9	52.1	52.2	52.4	34
35	52.5	52.7	52.8	53.0	53.1	53.3	53.4	53.6	53.7	53.9	35
36	54.0	54.2	54.3	54.5	54.6	54.8	54.9	55.1	55.2	55.4	36
37	55.5	55.7	55.8	56.0	56.1	56.3	56.4	56.6	56.7	56.9	37
38	57.0	57.2	57.3	57.5	57.6	57.8	57.9	58.1	58.2	58.4	38
39	58.5	58.7	58.8	59.0	59.1	59.3	59.4	59.6	59.7	59.9	39
40	60.0	60.2	60.3	60.5	60.6	60.8	60.9	61.1	61.2	61.4	40

KEUFFEL & ESSER CO., N. Y.



12,163-3. ko, y, yh. cM.

11.37
3.50
14.87

3-3-47
P.I.-PENT 65°12'
PENT-R.C. 46°48'

81-11-50
6-21-30
N87-33-20E

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P.X. 10-26-46 Sta 81+00 Inverted

0+00 = Range 100+00 - SOUND EAST

Dist	SOUND		Dist	SOUND	
0+00	3.2	+2.2		3.5	1.9
	3.2			3.4	2.0
	3.2			3.0	2.4
	3.2		2+00	2.5	2.9
	3.2			2.2	3.2
50	3.2		(5.4)	1.9	3.5
(5.4)	3.2		843	2.0	3.4
842	3.2	2.2		2.4	3.0
	3.3	2.1	50	2.3	3.1
	3.3	2.1		2.6	2.8
1+00	3.4	2.0		2.2	3.2
	3.4	2.0		2.9	2.5
	3.5	1.9		1.8	3.6
	3.6	1.8	3+00	1.5	3.9
	3.7	1.7		1.4	4.0
50	3.7	1.7		1.4	4.0
	3.6	1.8		1.5	3.9

P.X. STA. 81+00 ①

D	S		D	S	
	2.3	3.1		1.8	3.6
50	2.1	3.3		2.0	3.4
	2.0	3.4		1.8	3.6
	1.6	3.8	50	1.6	3.8
	1.7	3.7		1.6	3.8
	1.9	3.5		1.6	3.8
4+00	1.5	3.9		2.0	3.4
	1.5	3.9		2.1	3.3
846	1.5	3.9	6+00	2.0	3.4
(5.4)	1.8	3.6	848	1.6	3.8
	2.6	2.8	(5.4)	1.6	3.8
50	2.5	2.9		1.6	3.8
	2.0	3.4		1.7	3.7
	2.0	3.4	50	2.0	3.4
	2.1	3.3		1.5	3.9
	2.0	3.4		1.6	3.8
5+00	1.8	3.6		1.8	3.6
	2.0	3.4		1.9	3.5

P.X.		STA 81+00			
D	S		D	S	
7+00	1.6	3.8		4.5	1.0
	1.6			5.5	0.0
	1.6		9+00	6.0	-0.5
	1.6	3.8		1.5	+4.0
	1.7	3.7		1.5	
50	1.7	3.7		1.5	4.0
(5.4)	1.6	3.8	(5.5)	1.4	4.1
	1.6	3.8	50	1.4	4.1
50 8	1.6	3.8	85	1.4	4.1
	1.8	3.6		2.3	3.2
8+00	1.9	3.5		1.5	4.0
	1.7	3.7		1.5	4.0
	1.8	3.6	10+00	2.3	3.2
	4.5	0.9		2.7	2.8
	5.0	0.4		1.8	3.7
50	5.1	0.3		1.6	3.9
	5.0	0.4		2.1	3.4
	4.7	0.7	50	1.6	3.9

P.X.		STA 81+00			(2)
D	S		D	S	
	1.5	4.0		2.9	2.6
	1.6	3.9	50	2.9	2.6
	1.5	4.0		2.9	2.6
	1.5	4.0		3.0	2.5
11+00	1.6	3.9		3.0	2.5
	1.6	3.9		3.1	2.4
(5.5)	1.6	3.9	13+00	3.2	2.3
	1.5	4.0		3.2	
85	1.6	3.9	85	3.2	
50	2.0	3.5	(5.5)	3.2	
	2.3	3.2		3.2	
	2.3	3.2	50	3.2	2.3
	2.6	2.9		3.3	2.2
	2.7	2.8		3.3	2.2
12+00	2.8	2.7		3.3	2.2
	2.8			3.2	2.3
	2.8		14+00	3.3	2.2
	2.8			3.2	2.3

P.X.		STA. 81+00			
D	S		D	S	
	3.0	2.5	16+00	3.0	2.5
	3.0			3.0	
	3.0			3.0	
50	3.0			2.8	2.7
	3.0	2.5		2.8	2.7
(5.5)	2.9	2.6	50	2.7	2.8
58	2.8	2.7		2.8	2.7
8	2.7	2.8	9+00	3.3	2.2
15+00	2.6	2.9	(5.5)	4.2	1.3
	2.6	2.9		5.8	-0.3
	3.0	2.5	17+00	8.1	-2.6
	3.0			9.0	-3.5
	3.0			9.1	-3.6
50	3.0			9.5	-4.0
	3.0			9.8	-4.3
	3.0		50	10.7	-5.2
	3.0			11.5	-6.0
	3.0			12.0	-6.6

P.X.		STA. 81+00		
D	S		D	S
	13.0	-7.4		
	13.0	-7.4		
18+00	12.8	-7.2		
	12.8	-7.2		
	12.1	-6.5		
	12.0	-6.4		
	12.0	-6.4		
50	12.7	-7.1		
9+00	11.0	-5.4		
(5.6)	10.0	-4.4		
	6.0	-0.4		
19+00				

P.X. 10-26-96

STA 80+00

0+00 = Range 100+00 — Sound East

Dist	Sound		D	S	
0+00	3.4	+2.3		2.4	3.3
	3.4			2.6	3.1
	3.4			2.6	3.1
	3.4		2+00	2.4	3.3
	3.4			2.4	3.3
50	3.4			2.7	3.5
	3.4		9.0	2.7	
9.9	3.6	2.1	(5.7)	2.7	
(5.7)	3.8	1.9	50	2.7	
	3.6	2.1		2.5	3.2
1+00	3.4	2.3		2.5	3.2
	3.7	2.5		2.6	3.1
	2.8	2.9		2.5	3.2
	2.8	2.9	3+00	2.4	3.3
	2.7	3.0		2.6	3.1
50	2.7	3.0		2.4	3.3
	2.6	3.1		2.4	3.3

P.X. STA 80+00 (4)

D	S		D	S	
	2.4	3.4		3.0	2.8
50	2.5	3.3		3.0	
	2.5	3.3		3.0	
	2.5	3.3	50	3.0	
	2.6	3.2		3.1	2.7
	2.6	3.2		3.1	
4+00	2.6	3.2		3.1	
	2.8	3.0	(5.8)	3.1	
4.2	2.9	2.9	6+00	3.1	
(5.8)	2.8	3.0	9.3	3.1	
	2.7	3.1		3.2	2.6
50	2.7			3.2	
	2.7			3.2	
	2.7		50	3.3	2.5
	2.7			3.3	
	3.0	2.8		3.3	
5+00	3.0			2.1	3.7
	3.0			2.0	3.8

P.X.			STA 80+00		
D	S		D	S	
7+00	2.0	3.8		4.5	1.3
	1.8	4.0		4.0	1.8
	1.7	4.1	9+00	3.5	2.3
	1.8	4.0		3.4	2.4
	1.8	4.0		2.8	3.0
50	1.7	4.1		2.0	3.8
	1.7	≀		1.8	4.0
93	1.7	≀	50	1.7	4.1
(5.8)	1.7	≀	930	1.8	4.0
	1.7	≀	(5.8)	2.0	3.8
8+00	2.2	3.6		2.5	3.3
	4.1	1.7		4.1	1.7
	5.0	0.8	10+00	3.5	2.3
	5.0	0.8		2.1	3.7
	5.8	0.0		1.6	4.2
50	5.9	−0.1		1.6	4.2
	5.0	+0.8		1.5	4.3
	4.8	1.0	50	1.6	4.2

P.X.			STA 80+00		⑤
D	S		D	S	
	1.7	4.1		2.5	3.3
	1.8	4.0	50	2.5	≀
	2.0	3.8		2.5	≀
	2.1	3.7		2.6	3.2
11+00	2.3	3.5		2.6	≀
	2.3	≀		2.6	≀
	2.3	≀	13+00	2.6	≀
(5.8)	2.5	3.3		2.6	≀
93	3.0	2.8	(5.8)	2.4	3.4
50	3.0	2.8	934	2.5	3.3
	3.3	2.5		2.5	≀
	3.0	2.8	5-0	2.5	≀
	3.0	2.8		2.5	≀
	2.8	3.0		2.6	3.2
12+00	2.7	3.1		2.7	3.1
	2.7	3.1		2.7	≀
	2.6	3.2	14+00	2.7	≀
	2.6	3.2		2.8	3.0

P.X		STA 80+00			
D	S		D	S	
	2.8	3.1	16+00	3.1	2.8
	2.8			3.1	2.8
	2.8			3.7	2.2
50	2.9	3.0		3.5	2.4
	2.9	3.0		3.5	2.4
(5.9)	3.0	2.9	50	3.5	2.4
	3.0			3.6	2.3
93.6	3.0		93.7	4.1	1.8
15+00	3.0		(5.9)	5.0	0.9
	3.1	2.8		6.3	-0.4
	3.1	2.8	17+00	8.4	-2.5
	3.2	2.7		9.0	-3.1
	3.2			10.1	-4.2
50	3.2			10.8	-4.9
	3.2			11.8	-5.9
	3.2		50	13.0	-7.1
	3.1	2.8		13.3	-7.4
	3.1	2.8		14.1	-8.2

P.X		STA 80+00		⑥
D	S		D	S
	14.0	-8.1		
	14.0	-8.1		
28+00	13.5	-7.6		
	12.8	-6.9		
	11.5	-5.6		
	10.7	-4.8		
4.39	10.0	-4.1		
50	11.0	-5.1		
(5.9)	15.1	-9.2		
	18.1	-12.2		
	20.2	-14.3		
	20.0	-14.1		
19+00	20.0	-14.1		
	20.0	-14.1		
5.9	20.0	-14.1		

P.X. 10-26-46 STA. ~~70+00~~ 71+00

0+00 = Range 100+00 - SOUND EMS

Dist	SOUND		D	S	
0+00	16.0	-10.1		13.2	-7.3
	16.0	-		13.0	-7.1
	16.0	-		13.0	-7.1
	16.0	-	2+00	12.8	-6.9
	16.0	-		12.3	-6.4
50	16.2	-10.3		12.0	-6.1
	16.2	-10.3	10[06]	11.5	-5.6
(5.9)	16.5	-10.6	(5.9)	11.0	-5.1
10[05]	16.3	-10.4	50	10.4	-4.5
	16.2	-10.3		10.4	-4.5
1+00	16.0	-10.1		10.0	-4.1
	16.0	-10.1		10.0	-4.1
	15.5	-9.6		9.5	-3.6
	14.8	-8.9	3+00	9.1	-3.2
	14.7	-8.8		8.8	-2.9
50	14.5	-8.6		8.8	-2.9
	14.0	-8.1		8.5	-2.6

P.X. STA. ~~70+00~~ 71+00 ⑦

D	S		D	S	
	8.1	-2.2		6.2	-0.3
50	8.1	-2.2		6.1	-0.2
	7.7	-1.8		6.0	-0.1
	7.1	-1.2	50	6.0	-0.1
	7.1	-1.2		6.0	-
	7.0	-1.1		6.0	-
4+00	6.9	-1.0	(5.9)	6.0	-
(5.9)	6.8	-0.9	10[09]	6.0	-
	6.7	-0.8	6+00	5.8	+0.1
10[07]	6.8	-0.9		5.6	0.3
	6.7	-0.8		5.6	0.3
50	6.5	-0.6		5.5	0.4
	6.5	-0.6		5.5	
	6.3	-0.4	50	5.5	
	6.3	-0.4		5.5	
	6.2	-0.3		6.0	-0.1
5+00	6.1	-0.2		6.4	-0.5
	6.1	-0.2		7.0	-1.1

P.X.		STA. 7+00	7+00		
D	S		D	S	
7+00	7.2	- 1.3	30	12.4	- 6.5
	7.8	- 1.9		12.5	- 6.6
	8.0	- 2.1	9+00	12.8	- 6.9
	8.1	- 2.2		12.8	- 6.9
	8.5	- 2.6		12.8	- 6.9
50	8.8	- 2.9		13.1	- 7.2
	9.4	- 3.5	5.9	13.1	- 7.2
5.9	10.0	- 4.1	50	13.1	- 7.2
10.1	10.4	- 4.5	10.1	13.3	- 7.4
	10.7	- 4.8		13.3	- 7.4
8+00	11.2	- 5.3		13.2	- 7.3
	12.0	- 6.1		13.0	- 7.1
	12.3	- 6.4	10+00	13.3	- 7.4
	12.0	- 6.1		13.4	- 7.5
	11.9	- 5.5		13.4	- 7.5
50	11.5	- 5.6		13.3	- 7.4
	12.3	- 6.4		13.9	- 8.0
	12.8	- 6.9	50	14.3	- 8.4

P.X.		STA. 7+00	7+00		(8)
D	S		D	S	
	14.6	- 8.7	40	19.1	- 13.2
	15.0	- 9.1	50	18.5	- 12.6
	15.2	- 9.3		17.0	- 11.1
	16.0	- 10.1		18.0	- 12.1
11+00	16.5	- 10.6		20.0	- 14.1
	16.7	- 10.8		21.0	- 15.1
5.9	17.2	- 11.3	13+00	20.0	- 14.1
	19.5	- 13.6		19.1	- 13.2
10.13	19.5	- 13.6	10.14	20.3	- 14.4
50	18.5	- 12.6	5.9	20.3	- 14.4
	17.2	- 11.3		19.4	- 13.5
	18.1	- 12.2	50	17.7	- 11.8
	17.5	- 11.6		17.3	- 11.4
	18.0	- 12.1		17.2	- 11.3
12+00	18.5	- 12.6		17.2	- 11.3
	18.0	- 12.1		17.2	- 11.3
	18.0	- 12.1	14+00	16.8	- 10.9
	18.2	- 12.3		16.5	- 10.6

P.X. STA. 7+00 ~~7+00~~

D	S		D	S	
20	16.5	-10.6	16+00	4.0	1.9
	17.0	-11.1		4.0	1.9
	16.3	-10.4		3.7	2.2
50	15.7	-9.8		3.0	2.9
	16.0	-10.1		2.5	3.4
(5.9)	15.6	-9.7	50	1.5	4.4
	16.0	-10.1	(5.9)	1.5	
10[16]-	19.4	-8.5	10[18]-	1.5	
15+00	13.6	-7.7		1.4	4.5
	13.3	-7.4		1.4	4.5
	12.8	-6.9	17+00	3.0	2.7
	11.7	-5.8		2.4	3.5
	10.0	-4.1		1.6	4.3
50	6.5	-0.6		1.5	4.4
	5.0	+0.9		1.3	4.6
	4.8	1.1	50	1.3	4.6
	4.6	1.3		LATH	
	4.2	1.7			

P.X. 10-26-46 STA. ~~7+00~~ 7+00 (9)

0+00 = Rouge 100+00 SOUND West

Dist	SOUND		Dist	SOUND	
0+00				16.7	-10.8
	16.2	-10.3		16.5	-10.6
	16.3	-10.4		16.0	-10.1
	16.4	-10.5	2+00	15.8	-9.9
	16.5	-10.6		16.1	-10.2
50	16.5	-10.6		15.7	-9.8
	16.1	-10.2	(5.9)	15.8	-9.9
10[41]-	16.4	-10.5	10[42]-	16.1	-10.2
(5.9)	16.4	-10.5	50	15.4	-9.5
	16.3	-10.4		15.8	-9.9
1+00	16.3	-10.4		15.5	-9.6
	16.6	-10.7		16.0	-10.1
	17.1	-11.2		16.5	-10.6
	17.5	-11.6	3+00	15.5	-9.6
	17.2	-11.3		15.6	-9.7
50	17.2	-11.3		15.2	-9.3
	17.0	-11.1			

PX

10-26-46

STA ~~69+00~~ 68+00

0+00 = Range 100+00 - SOUNDER

Dist	Sound		Dist	Sound	
0+00	5.1	+0.7		7.0	- 1.2
	5.0	0.8		7.2	- 1.4
	5.1	0.7		7.3	- 1.5
	5.1	0.7	2+00	7.5	- 1.7
	5.3	0.5		7.5	-
50	5.3		(5.8)	7.5	-
	5.3		10.5	8.0	- 2.2
10.50	5.2	0.6		8.0	- 2.2
(5.8)	5.3	0.5	50	8.2	- 2.4
	5.3	0.5		8.3	- 2.5
1+00	5.6	0.2		8.4	- 2.6
	5.6	0.2		8.5	- 2.7
	6.1	- 0.3		8.5	- 2.7
	6.6	- 0.8	3+00	8.8	- 3.0
	6.7	- 0.9		8.8	- 3.0
50	6.8	- 1.0		9.1	- 3.3
	7.0	- 1.2		9.2	- 3.4

PX

STA ~~69+00~~ 68+00

(10)

D	S		D	S	
	9.5	- 3.7		12.0	- 6.2
50	9.5	- 3.7		12.3	- 6.5
	9.6	- 3.8		12.3	- 6.5
	9.6	- 3.8	50	12.6	- 6.8
	10.0	- 4.2		13.2	- 7.4
	10.0	- 4.2		14.0	- 8.2
4+00	10.5	- 4.7		14.0	- 8.2
	10.3	- 4.5	10.5	14.7	- 8.9
10.5	10.5	- 4.7	6+00	14.5	- 8.7
(5.8)	10.6	- 4.8	(5.8)	14.6	- 8.8
	10.7	- 4.9		14.7	- 8.9
50	11.3	- 5.5		15.1	- 9.3
	11.3	- 5.5		15.3	- 9.5
	11.5	- 5.7	50	15.5	- 9.7
	12.0	- 6.2		15.0	- 9.2
	11.5	- 5.7		17.0	- 11.2
5+00	11.5	- 5.7		18.1	- 12.3
	12.0	- 6.2		19.8	- 14.0

PX			5+00	6B+00 ~~6+00~~	
D	S		D	S	
7+00	18.0	-12.3		17.0	-11.3
	19.0	-13.3		17.0	-11.3
	18.5	-12.8	9+00	17.3	-11.6
	18.5	-12.8		17.5	-11.8
	18.3	-12.6		17.1	-11.4
50	18.0	-12.3		16.6	-10.9
	18.7	-13.0		17.0	-11.3
10+58	20.0	-14.3	50	18.4	-12.7
(5.7)	18.0	-12.3	11+00	18.4	-12.7
	19.0	-13.3	(5.7)	18.0	-12.3
8+00	19.0	-13.3		17.7	-12.0
	18.7	-13.0		16.8	-11.1
	19.5	-13.8	10+00	15.5	-9.8
	20.0	-14.3		13.0	-7.3
	20.0	-14.3		16.0	-10.3
50	18.0	-12.3		16.3	-10.6
	18.5	-12.8		16.0	-10.3
	18.1	-12.4	50	14.7	-9.0

PX			5+00	6B+00 ~~6+00~~		(11)
D	S		D	S		
	15.0	-9.3		2.7	3.0	
	15.0	-9.3	50	3.4	2.3	
	15.1	-9.4	(5.7)	3.0	2.7	
	14.8	-9.1	11+03	2.7	3.0	
11+00	14.5	-8.8	11+06	1.5	4.2	
	13.9	-8.2	(5.7)	1.5		
	13.5	-7.8	13+00	1.5		
(5.7)	12.7	-7.0		1.5		
11+02	12.0	-6.3		1.5		
50	11.5	-5.8		1.6	4.1	
	10.4	-4.7		1.6	4.1	
	9.7	-4.0	50	2.0	3.7	
	8.1	-2.4		2.0	3.7	
	6.6	-0.9	11+10	1.6	4.1	
12+00	5.0	+0.7	(5.6)	2.5	3.1	
	4.2	1.5		3.5	2.1	
	4.0	1.7	14+00	4.6	1.0	
	3.8	1.9		4.5	1.1	

PX. STA. 68+00

D	S		D	S
20	4.0	1.6		
	4.5	1.1		
	4.4	1.2		
50	4.1	1.5		
	3.7	2.4		
(5.6)	3.3	2.3		
	2.7	2.9		
11[3]	2.4	3.2		
15+00	1.8	3.8		
	LATH			

PX. 10-26-96 STA. ~~69+00~~ 68+00 (12)

0+00 = Range 100+00 - 500 NO West

Dist	Sound		Dist	Sound
0+00				11.7 - 5.7
	5.0	0.5		11.6 - 6.1
	4.8	0.7		12.0 - 6.5
	4.5	1.0	2+00	12.7 - 6.7
	4.0	1.5		12.7 - 7.2
50	4.0	1.5		13.0 - 7.5
	4.1	1.4	(5.5)	13.1 - 7.6
1[2]	5.0	0.5	11[2] 5	13.0 - 7.5
(5.5)	5.0	0.5	50	13.0 - 7.5
	5.3	0.2		13.5 - 8.0
1+00	5.8	-0.3		13.6 - 8.1
	7.1	-1.6		13.6 - 8.1
	8.5	-3.0		14.0 - 8.5
	9.0	-3.5	3+00	14.1 - 8.6
	9.6	-4.1	10	14.5 - 9.0
60	10.7	-4.7	20	15.0 - 9.5
	11.0	-5.5	30	15.0 - 9.5
			40	15.0 - 9.5
			50	15.0 - 9.5

P.X. 10-26-46 STA. ~~6~~ 8+00 (67+00)

0+00 = Range 100+00 SOUND EAST

Dist	SOUND		Dist	SOUND	
0+00	8.0	- 3.5		11.2	- 6.7
	8.1	- 3.6		11.5	- 7.0
	8.6	- 4.1		11.0	- 6.5
	8.4	- 3.9	2+00	11.7	- 7.2
	9.2	- 4.7		11.4	- 6.9
50	9.3	- 4.8	(4.5)	11.8	- 7.3
12 47	9.1	- 4.6	49	11.7	- 7.2
(4.5)	9.7	- 5.2	12	11.6	- 7.1
	9.7	- 5.2	50	12.4	- 7.9
	10.0	- 5.5		13.0	- 8.5
1+00	10.0	- 5.5		12.5	- 8.0
	10.1	- 5.6		13.0	- 8.5
	10.1	- 5.6		13.2	- 8.7
	10.4	- 5.9	3+00	12.7	- 8.2
	10.2	- 5.7		13.0	- 8.5
50	10.8	- 6.3		14.0	- 9.5
	10.8	- 6.3		13.2	- 8.7

PX STA. ~~6~~ 8+00 (67+00) (13)

D	S		D	S	
	14.0	- 9.6		18.0	- 13.6
50	13.4	- 9.0		17.5	- 13.1
	14.1	- 9.7		17.7	- 13.3
	14.4	- 10.0	50	18.2	- 13.8
	14.2	- 9.8		18.8	- 14.4
	15.0	- 10.6		20.0	- 15.6
4+00	14.7	- 10.3	(4.4)	20.5	- 16.1
	15.0	- 10.6	12 55	20.0	- 15.6
12 57	15.4	- 11.0	6+00	18.0	- 13.6
(4.4)	16.0	- 11.6		18.7	- 14.3
	16.1	- 11.7		18.0	- 13.6
50	15.8	- 11.4		19.0	- 14.6
	16.0	- 11.6		18.8	- 14.4
	16.0	- 11.6	50	18.1	- 13.7
	16.6	- 12.2		18.3	- 13.9
	17.6	- 13.2		18.0	- 13.6
5+00	17.0	- 12.6		18.0	- 13.6
	17.8	- 13.4		18.6	- 14.2

P.X Sta. 67+00 ~~68+00~~

D	S		D	S	
7+00	18.0	-13.6	80	13.0	-8.6
	17.1	-12.7		13.0	- }
	17.3	-12.9	9+00	13.0	- }
	16.8	12.4		12.7	-8.3
	16.0	-11.6		11.8	7.4
50	16.7	-12.3		10.8	-6.4
	15.7	-11.3	59	10.2	-5.8
12 57	14.6	-10.2	12 50	9.5	-5.1
(4.4)	15.3	-10.9		11.4	-7.0
	16.0	-11.6	(4.4)	4.4	0.0
8+00	16.0	- }		3.3	+1.1
	16.0	- }		3.0	1.4
	16.0	- }	10+00	2.7	1.7
	14.7	-10.3		2.3	2.1
	14.0	-9.6		2.1	2.3
50	13.6	-9.2		2.0	2.4
	13.3	-8.9		1.6	2.8
	13.0	-8.6	50	1.2	3.2
			60	0.7	3.7
			70	+0.5	3.9

LATH AT 11+00

P.X STA 67+00 ~~68+00~~ 10-26-46 (14)

0+00 = Range 100+00 Sound West

Dist	Sound		D	S	
0+00				7.0	-2.8
	7.5	-3.3		7.1	-2.9
	7.8	-3.6		7.0	-2.8
	7.5	-3.3	2+00	6.8	-2.6
	7.5	-3.3		6.8	- }
50	7.3	-3.1		6.8	- }
	7.0	-2.8	(4.2)	6.7	-2.5
100	6.8	-2.6	109	6.6	-2.4
(4.2)	6.0	-1.8	50	6.4	-2.2
	6.0	- }		6.5	-2.3
1+00	6.0	- }		7.0	-2.8
	6.0	- }		7.1	-2.9
	6.1	-1.9		7.0	-2.8
	6.3	-2.1	3+00	7.0	-2.8
	6.4	-2.2	10	7.5	-3.3
50	6.6	-2.4	20	7.5	-3.3
	6.8	-2.6	30	8.0	-3.8
			40	8.3	-4.1
			50	8.3	-4.1
			60	8.3	-4.1
			70	8.5	-4.3

P.X. 10-26-94 Sta. 64+00

0+00 = Range 100+00 Sound West

Dist	Sound		Dist	Sound	
0+00	8.5	- 4.5		8.0	- 4.0
	8.5	- 4.5		7.5	- 3.5
	9.0	- 5.0		7.0	- 3.0
	9.1	- 5.1	2+00	7.0	- {
	9.1	- 5.1		7.0	- {
50	9.4	- 5.4		7.0	-
118	9.7	- 5.7	119	6.6	- 2.6
(4.0)	9.8	- 5.8	(4.0)	6.6	- {
	9.5	- 5.5	50	6.6	- {
	9.3	- 5.3		6.5	- 2.5
1+00	9.2	- 5.2		6.2	- 2.5
	9.2	- 5.2		6.1	- 2.1
	9.1	- 5.1		6.2	- 2.2
	8.5	- 4.5	3+00	6.0	- 2.0
	8.1	- 4.1			
50	8.1	- 4.1			
	8.0	- 4.0			

P.X. 10-26-94 Sta. 64+00 (15)

0+00 = Range 100+00 - Sound East

D	S		D	S	
0+00				7.8	- 3.8
	8.0	- 4.0		6.0	- 2.0
	8.0	- 4.0		4.5	- 0.5
	8.5	- 4.5	2+00	3.0	+ 1.0
	8.4	- 4.4		2.5	1.5
50	8.0	- 4.0		2.1	1.9
	8.2	- 4.2		2.0	2.0
123	8.5	- 4.5	(4.0)	1.8	2.2
(4.0)	8.6	- 4.6	50	1.4	2.6
	8.4	- 4.4	123	1.0	3.0
1+00	8.0	- 4.0		0.9	3.1
	8.2	- 4.2		0.8	3.2
	8.2	- 4.2		0.5	3.5
	8.2	- {	3+00	0.5	3.5
	8.2	- {	10	0.4	3.6
50	8.0	- 4.0	20	0.4	3.6
	8.0	- 4.0	30	0.3	3.7
			40	0.0	4.0

LATH AT 3+50

RX.

10-26-46
STA 91+00

0+00 = Range 112+00 - SOUND EAST

D	S		D	S	
0+00	0.5	3.2		2.0	1.7
	0.5			1.8	1.9
	0.5			1.7	2.0
	0.5		2+00	1.4	2.3
	0.9	2.8		1.0	2.7
50	1.4	2.3	(3.7)	0.9	2.8
1+96	1.7	2.0	1+98	0.8	2.9
(3.7)	1.8	1.9		0.8	
	1.8	1.9	50	0.8	
	1.7	2.0		0.7	3.0
1+00	1.7			0.7	3.0
	1.7			0.7	3.0
	1.8	1.9		1.1	2.6
	1.8		3+00	2.5	1.2
	1.8			8.0	-4.3
50	2.0	1.7		9.5	-5.8
	2.0	1.7		10.4	-6.7

RX.

STA. 91+00

(16)

D	S		D	S
	10.0	-6.3		
50	10.0	-6.3		
	9.5	-5.8		
	9.3	-5.6		
	9.3	-5.6		
	9.3	-5.6		
4+00	8.9	-5.2		
	9.0	-5.3		
(3.7)	8.5	-4.8		
	8.0	-4.3		
10	8.0	-4.3		
50	7.0	-3.3		
	3.0	+0.7		
	0.9	2.8		
	1.0	2.7		
	0.8	2.9		
5+00	0.6	3.1		
10	0.2	3.5		
20	0.0	3.7		

PX

10-26-46

STA. 92+00

0+00 = Range 112+00 SOUTH TO EAST

D	S		D	S	
0+00	0.6	3.0		1.9	1.6
	0.7	2.9		1.8	1.7
	0.7			1.5	2.0
	0.7		2+00	0.8	2.7
	0.7			0.5	3.0
50	1.0	2.6		0.5	
	1.4	2.2	(3.5)	0.5	
1.5	1.4	2.2	1.5	0.5	
(3.6)	1.6	2.0	50	0.4	3.1
	1.6			0.4	3.1
1+00	1.6			0.5	3.0
	1.6			0.5	3.0
	1.8	1.8		2.3	1.2
	1.8	1.8	3+00	6.3	-2.8
	1.9	1.7		7.5	-4.0
50	1.9	1.7		8.3	-4.8
	2.0	1.6		9.2	-5.7

PX

STA. 92+00

(17)

D	S		D	S
	9.8	-6.3		
50	10.1	-6.6		
	9.8	-6.3		
	10.0	-6.5	50	
	10.4	-6.9		
	9.8	-6.3		
4+00	9.6	-6.1		
20	9.5	-6.0		
(3.5)	9.0	-5.5	6+00	
	8.5	-5.0		
	6.0	-2.5		
50	2.4	+1.1		
	0.6	2.9		
	0.5	3.0	50	
	0.2	3.3		
95	0.0	3.5		
5+00				

P.X. 10-26-96 S+A 93+00

0+00 = Rouge 112+00 - SOUNDEAS

D	S		D	S	
0+00	1.0	2.4		0.8	2.5
	0.6	2.8		0.8	2.5
	0.6	2.8		0.5	2.8
	0.8	2.6	2+00	0.5	
	1.1	2.3		0.5	
50	1.9	2.0	(3.3)	0.5	
208	1.6	1.8	2.10	0.5	
(3.4)	1.6	1.8		0.5	
	1.6	1.8	50	0.5	
	1.6	1.8		0.5	
1+00	1.8	1.6		0.5	
	1.7	1.7		1.5	1.4
	1.7			6.3	-3.0
	1.7		3+00	7.5	-4.2
	1.7			8.0	-4.7
50	1.5	1.9		8.1	-4.8
	1.5	1.9		8.2	-4.9

P.X. S+G 93+00 (18)

D	S		D	S
	8.6	-5.3		
50	8.6	-		
	8.6	-		
	8.4	-5.1	50	
	9.7	-6.4		
	10.0	-6.7		
4+00	9.5	-6.2		
2.7	9.3	-6.0		
(3.3)	9.0	-5.7	6+00	
	6.5	-3.2		
	2.0	+1.3		
50	1.0	2.3		
	0.5	2.8		
	0.5	2.8	50	
	0.0	3.3		
5+00				

10-27-46

STA 66+00

0+00 = Range 100+00 - South East

D	S		D	S	
0+00	14.5	- 9.3		15.5	- 10.3
	15.1	- 9.9		16.1	- 10.9
	15.5	- 10.3		16.3	- 11.1
	14.5	- 9.3	2+00	16.0	- 10.8
	15.0	- 9.8		16.5	- 11.3
50	15.5	- 10.3		16.7	- 11.5
(5.2)	15.0	- 9.8	8[49]	16.3	- 11.1
	16.0	- 10.8	(5.2)	16.8	- 11.6
8[48]	15.3	- 10.1	50	16.8	- 11.6
	15.5	- 10.3		16.4	- 11.2
1+00	15.8	- 10.1		16.4	- 11.2
	15.1	- 9.9		16.5	- 11.3
	15.8	- 10.6		16.8	- 11.6
	15.8	- 10.6	3+00	17.0	- 11.8
	15.6	- 10.4		16.6	- 11.4
50	15.8	- 10.6		16.8	- 11.1
	15.5	- 10.3		17.0	- 11.8

D	S		D	S	
	17.3	- 12.1		13.9	- 8.7
50	17.3	- ≀		13.9	- 8.7
	17.3	- ≀		14.0	- 8.8
	17.2	- 12.0	50	14.0	- 8.8
	17.2	- ≀		13.6	- 8.4
	17.2	- ≀		13.4	- 8.2
4+00	17.2	- ≀		13.0	- 7.8
8[51]	17.1	- 11.9	8[53]	12.7	- 7.5
(5.2)	16.8	- 11.6	6+00	12.0	- 6.8
	16.6	- 11.4		12.0	- 6.8
	16.4	- 11.2	(5.2)	12.0	- 6.8
50	16.2	- 11.0		11.8	- 6.6
	15.8	- 10.6		11.8	- 6.6
	15.9	- 10.7	50	11.5	- 6.3
	15.5	- 10.3		11.8	- 6.6
	15.1	- 9.9		11.5	- 6.3
5+00	15.1	- 9.9		11.4	- 6.2
	14.7	- 9.5		11.5	- 6.3

		STA. 66+00			
D	S		D	S	
7+00	11.5	- 6.2		0.6	4.7
	11.1	- 5.8		0.6	4.7
	10.1	- 4.8	9+00	0.7	4.6
	7.0	- 1.7			
	6.3	- 1.0			
50	5.0	+ 0.3			
8+50	4.8	0.5			
	4.0	1.3			
(5.3)	3.5	1.8			
	3.0	2.3			
8+00	2.8	2.5			
	2.8	2.5			
	2.6	2.7			
	2.3	3.0			
	2.0	3.3			
50	2.0	3.3			
	1.0	4.3			
	0.6	4.7			

10-27-46 (20)

		STA. 66+00			
0+00 = Range			100 feet		WEST SOUND
D	S		D	S	
0+00				14.0	- 8.6
	15.0	- 9.7		14.3	- 8.9
	15.0	- 9.7		14.3	- 8.9
	15.1	- 9.8	2+00	14.3	- 8.9
	15.1	- 9.8		14.0	- 8.6
50	15.0	- 9.7	(5.4)	14.0	- 8.6
	14.7	- 9.4		14.0	- 8.6
9+50	14.5	- 9.2	9+00	13.7	- 7.8
(5.3)	15.0	- 9.7	50	14.0	- 8.6
	14.8	- 9.5		14.0	- 8.6
1+50	14.0	- 8.7		13.5	- 8.1
	14.0	- 8.7		13.8	- 8.4
	14.7	- 9.4		13.4	- 8.0
	14.5	- 9.2	3+00	13.4	- 8.0
	14.1	- 8.8	10	14.0	- 8.6
50	14.7	- 9.4	20	13.5	- 8.1
	14.0	- 8.7	30	13.5	- 8.1
			40	14.0	- 8.6
			50	14.0	- 8.6

STA	E. OF B/L DIST	10-28-46 TIDE	
86	1300'	5.3	10:02 AM
87	1380'		
88	1440'		
89	1500'		
90	1540'		
91	1570'	PX.	

SOUNDINGS OF CHANNEL SECTIONS PROJECT NO 4 "A"

DIST	SOUND	EL.	DIST	SOUND	EL.
STA 91 0+00 = 1570' E. C. ECC KINGSTON					
70 (10:30)	0.0	5.3	160	13.1	-7.8
80	0.8	+4.5	170	13.0	-7.7
90	2.0	+3.3	180	13.2	-7.9
100	3.2	+2.1	190	13.3	-8.0
110	5.9	-0.6	200	13.4	-8.1
120	6.6	-1.3	210	13.0	-7.7
130	8.8	-3.3	220	13.2	-7.9
140	11.0	-5.7	230	13.3	-8.0
150	12.6	-7.3	240	13.4	-8.1
250	14.0	-8.7	Sta. 90 +00 = 1540' E		
260	14.4	-9.1	(10:40)		
270	14.5	-9.2	69	0.0	+5.3
280	14.2	-8.9	80	1.0	+4.3
290	13.8	-8.5	90	2.0	+3.3
300	13.7	-8.4	100	3.1	+2.2
310	13.7	-8.4	110	5.5	-0.2
320	13.3	-8.0	120	7.3	-2.0
330	13.3	-8.0	130	9.0	-3.7
340	13.3	-8.0	140	11.5	-6.2
350	13.6	-8.3	150	12.8	-7.5
360	13.0	-7.7	160	13.2	-7.9
370	9.5	-4.2	170	13.8	-8.5
380	7.3	-2.0	180	14.0	-8.7
390	5.60	-0.3	190	13.9	-8.6
400	3.90	+1.4	200	13.9	-8.6
410 (10:35)			210	13.9	-8.6
420			220	13.9	-8.6
430			230	14.0	-8.7

P.X.

Dist. (10:4)	Sound	El.
240	13.6	-8.3
250	14.0	-8.7
260	14.1	-8.8
270	14.2	-8.9
280	14.0	-8.7
290	13.9	-8.6
300	13.9	-8.6
310	13.5	-8.2
320	13.5	-8.2
330	13.5	-8.2
340	14.0	-8.7
350	14.0	-8.7
360	14.0	-8.7
370	13.8	-8.5
380	13.5	-8.2
390	13.3	-8.0
400	12.8	-7.5
410	8.5	-3.1
420	3.8	+1.6

(10:46)

Sta 89+00 = 1500' E.

(10:50)

Dist	Sound	El.
7	0.0	+5.4
80	1.0	+4.4
90	2.1	+3.3
100	3.5	+1.9
110	5.3	+0.1
120	6.8	-1.4
130	8.5	-3.1
140	11.2	-5.8
150	12.3	-6.9
160	12.7	-7.3
170	13.3	-7.9
180	13.7	-8.3
190	13.9	-8.5
200	14.0	-8.6
210	14.0	-8.6
220	14.0	-8.6
230	14.0	-8.6
240	14.0	-8.6

P.X.

Dist	Sound	El.
250	14.0	-8.6
260	13.8	-8.4
270	13.8	-8.4
280	13.6	-8.2
290	13.5	-8.1
300	13.5	-8.1
310	13.5	-8.1
320	13.7	-8.3
330	13.8	-8.4
340	14.1	-8.7
350	14.3	-8.9
360	14.1	-8.7
370	14.0	-8.6
380	14.0	-8.6
390	14.0	-8.6
400	14.1	-8.7
410	14.0	-8.6
420	14.5	-9.1
430	13.0	-7.6

(10:55)

Dist	Sound	El.
440	7.5	-2.1
450	3.0	+2.4

P.X.

Sta. 88+00 = 1440' E.

(11:00)

Dist	Sound	El.
67	0.0	+5.4
70	0.3	+5.1
80	1.0	+4.4
90	2.3	+3.1
100	3.5	+1.9
110	6.6	-1.2
120	8.3	-2.9
130	10.0	-4.6
140	11.5	-6.1
150	12.4	-7.0
160	12.5	-7.1

Dist.	Sound	P.X El.	Dist.	Sound	El.
170	12.8	-7.4	360	14.2	-8.8
180	13.8	-8.4	370	13.9	-8.5
190	13.9	-8.5	380	13.9	-8.5
200	13.8	-8.4	390	13.9	-8.5
210	13.9	-8.5	400	14.6	-9.1
220	13.5	-8.1	410	15.2	-9.8
230	12.9	-7.5	420	15.5	-10.1
240	13.0	-7.6	430	15.0	-9.6
250	13.2	-7.8	440	14.6	-9.2
260	13.4	-8.0	450	14.0	-8.6
270	13.3	-7.9	460	13.3	-7.9
280	13.1	-7.7	470	13.0	-7.6
290	13.1	-7.7	480	9.8	-4.4
300	13.0	-7.6	490	4.4	+1.0
310	13.0	-7.6	500	4.0	+1.4
320	13.0	-7.6	11:05		
330	13.0	-7.6			
340	13.2	-7.8			
350	13.6	-8.2			

Dist.	Sound	P.X El.	Dist.	Sound	El.
Sta. 87+00 = 1380'E					
11:10			240	13.3	-7.9
70	0.0	+5.4	250	13.3	-7.9
80	0.6	+4.8	260	13.3	-7.9
90	1.9	+3.5	270	13.9	-8.5
100	2.9	+2.5	280	13.7	-8.3
110	5.3	+0.1	290	14.0	-8.6
120	6.3	-0.9	300	13.0	-7.6
130	8.0	-2.6	310	12.6	-7.2
140	9.0	-3.6	320	12.7	-7.3
150	11.0	-5.6	330	13.0	-7.6
160	11.8	-6.4	340	13.7	-8.3
170	12.4	-7.0	350	14.3	-8.9
180	12.6	-7.2	360	14.7	-9.3
190	12.3	-6.9	370	15.4	-10.0
200	12.6	-7.2	380	15.2	-9.8
210	12.9	-7.5	390	14.1	-8.7
220	13.2	-7.8	400	13.4	-8.0
230	13.8	-8.4	410	13.1	-7.7
			420	13.8	-8.4
			430	15.3	-9.9

P.X.

Dist.	Sound.	El.	Dist	Sound	El.
11:15					
440	16.2	-10.8	Sta 86+00 = 1300' E.		
450	15.3	-9.9	11:20		
460	14.1	-8.7	70	0.0	+5.4
470	13.6	-8.2	80	0.9	+4.5
480	13.8	-8.4	90	1.8	+3.6
490	13.4	-8.0	100	2.8	+2.6
500	13.8	-8.4	110	4.3	+1.1
510	14.2	-8.8	120	4.9	+0.5
520	14.5	-9.1	130	5.8	-0.4
530	14.0	-8.7	140	8.5	-3.1
540	10.5	-5.1	150	10.2	-4.8
550	6.3	-0.9	160	11.4	-6.0
560	5.2	+0.2	170	12.1	-6.7
570	4.8	+0.6	180	12.2	-6.8
11:15			190	12.1	-6.7
			200	12.5	-7.1
			210	12.9	-7.5
			220	13.1	-7.7
			230	13.2	-7.8
			240	13.3	-7.9
			250	13.1	-7.7

P.X.

(24)

Dist	Sound	El.	Dist	Sound	El.
260	13.8	- 8.4	450	13.2	- 7.8
270	12.5	- 7.1	460	13.9	- 8.5
280	13.4	- 8.0	470	14.0	- 8.6
290	12.5	- 7.1	480	13.9	- 8.5
300	12.7	- 7.3	490	13.9	- 8.5
310	12.3	- 6.9	500	13.6	- 8.2
320	12.0	- 6.6	510	13.3	- 7.9
330	12.2	- 6.8	520	13.2	- 7.8
340	12.2	- 6.8	530	13.4	- 8.0
350	12.3	- 6.9	540	13.6	- 8.2
360	11:25	5.4	550	13.9	- 8.5
370	14.2	- 8.8	560	13.8	- 8.4
380	14.3	- 8.9	570	12.2	- 6.8
390	14.0	- 8.6	580	10.5	- 5.1
400	13.9	- 8.5	590	9.4	- 4.0
410	13.9	- 8.5	600	8.3	- 2.9
420	13.6	- 8.2	610	6.3	- 0.9
430	13.6	- 8.2	620	4.8	+ 0.6
440	13.2	- 7.8	11:30		5.4

Sta. 84+00 - Causeway - Sounding West

Dist.	Sound	El.	Dist.	Sound	El.
	11:50		180	10.2	- 5.0
00 = Causeway.					
10' Top Bank.			190	9.8	- 4.6
25	0.0	+ 5.3	200	10.0	- 4.8
30	1.0	4.3	210	9.7	- 4.5
40	3.1	2.2	220	4.5	+ 0.7
50	4.9	0.4	230	4.0	1.2
60	6.8	- 1.5	240	3.0	2.2
	11:55				
70	8.8	- 3.5	250	2.9	2.3
80	9.7	- 4.4	260	2.9	2.3
90	10.3	- 5.0	270	2.1	3.1
100	10.0	- 4.7	12:00	5.2	
110	10.1	- 4.8			
120	10.0	- 4.7			
130	10.4	- 5.1			
140	10.0	- 4.7			
150	10.8	- 5.5			
160	10.5	- 5.2			
170	10.2	- 4.9			

MISSION BAY AREA
PROFILE LEVELS ALONG CAUSEWAY BASELINE

Indexed

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NOTE: FOR B/L. SEE F.B.M.B. Proj 4-"A" #3

T. STAMPER
G. WILLIAMS

CAUSEWAY (STD. DISC. MKD U.S.C.&G.S. B.M.#1 LOCATED IN E. RD. CURB APPROX. 100' N. OF N. END OF S. CAUSEWAY BRIDGE)

TOP OF 2"X2" HUB

WEATHER CLEAR - COOL

STA	+	H.I.	−	ELEV.
B.M.				10.835
	5.52	16.35		
81			5.32	11.03
82			5.40	10.95
83			5.30	11.05
84			5.30	11.05
85			5.20	11.15
86			5.01	11.34
87			4.99	11.36
88			5.08	11.24
89			5.20	11.15
TP. 90	5.00	16.15	5.20	11.15
91			5.14	11.01
92			5.15	11.00
93			5.18	10.97
94			5.04	11.11
95			4.94	11.21

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PROFILE LEVELS CONTD.

STA	+	H.I.	−	ELEV.	
		16.15			
96			4.80	11.35	TOP OF HUB
97			4.68	11.47	" "
98			4.45	11.70	" "
99			4.42	11.73	" "
100			4.20	11.95	" "
101			3.91	12.24	" "
TP. 102			3.90	12.25	" "
	13.79	26.04			
TP.			0.60	25.44	
	13.93	39.37			
B.M.			0.77	38.60	38.576 U.S.C.&G.S. BAY PT.
Δ102	5.3	17.5		12.25	
W 9			5.3	12.2	
W 18			9.6	7.9	
W 30			13.8	3.7	

STA	+	H.I.	−	ELEV
Δ101	5.15	17.40		12.25
0			5.3	12.1
W 9			5.3	12.1
W 16			9.3	8.1
W 25			13.0	4.4
Δ100	4.8	16.7		11.95
W 10			4.9	11.8
W 18			9.7	7.0
W 28			12.9	3.8

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STA	+	H.I	-	ELEV
T99	4.9	16.6		11.7
W10			4.9	11.7
W18			9.4	7.2
W27			12.1	4.5
T98	5.15	16.8		11.70
W11			5.0	11.8
W18			9.3	7.5
W27			12.3	4.5
T97	5.3	16 8		11.5
W13			4.9	11.9
W20			9.4	7.4
W30			12.4	4.4
T96	5.3	16.6		11.3
W9			5.0	11.6
W17			8.9	7.7
W26			12.0	4.6
T95	5.2	16.4		11.2
W12			5.3	11.1
W18			8.6	7.8
W27			11.8	4.6

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STA	+	H.I	-	ELEV
T94	5.3	16.4		11.1
W9			5.5	10.9
W18			9.9	6.5
W27			12.0	4.4
T93	5.3	16.3		11.0
W8	5.3			11.0
W17			9.5	6.8
W26			11.9	4.4
T92	5.2	16.2	~~16.2~~	11.0
W9			5.6	10.6
W20			9.3	6.9
W27			11.8	4.4
T91	5.5	16.5		11.0
W10			5.8	10.7
W19			9.6	6.9
W27			12.1	4.4
T90	5.3	16.4		11.1
W11			5.7	10.7
W18			8.8	7.6
W28			12.2	4.2

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STA	+	H.I.	−	ELEV
T89	5.3	16.4		11.1
W 9			5.4	11.0
W20			9.3	7.1
W29			12.3	4.1
T88	5.3	16.5		11.2
W12			5.5	11.0
W21			9.3	7.2
W31			11.9	4.6
W44			12.5	4.0
T87	5.2	16.6		11.4
W12			5.7	10.9
W22			10.3	6.3
W30			12.3	4.3
T86	5.4	16.7		11.3
W9			5.4	11.3
W19			9.0	7.7
W29			12.1	4.6
W36			12.6	4.1

STA	+	H.I.	−	ELEV
T85	5.3	16.4		11.1
W 9			5.2	11.2
W15			7.2	9.2
W24			11.9	4.5
W31			12.5	3.9
T84	5.2	16.3		11.1
W 9	~~5.4~~ 5.2		5.2	11.1
W13			6.5	9.8
W20			9.8	6.5
W26			12.1	4.2
T83	5.2	16.2		11.0
W10			5.2	11.0
W14			6.2	10.0
W22			9.3	6.9
W30			12.4	3.8
T82	5.1	16.1		11.0
W13			5.5	10.6
W23			9.7	6.4
W30			13.1	3.0

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STA	+	H.I	−	ELEV	
A81	5.2	16.2		11.0	
W12			5.7	10.5	
W15			9.5	6.7	
W20			12.1	4.1	
W23			13.5	2.7	
B.M				10.835 →	
	13.76	24.59			
TP			0.20	24.39	
	10.23	34.62			
TP			13.84	20.78	
	0.44	21.22			
72			9.54	11.68	TOP OF HUB
TP 71			10.09	11.13	" "
	4.67	15.80			
70			4.64	11.16	" "
69			4.58	11.22	" "
68			4.50	11.30	" "
67			4.53	11.27	" "
66			4.78	11.02	" "

STA	+	H.I	−	ELEV.	
		15.80			
65			4.99	10.81	TOP OF HUB
64			5.01	10.79	" "
63			5.09	10.71	" "
62			5.20	10.60	" "
CAUSEWAY	(SEE PG. 26)				
TP			5.20	10.60	
	5.28	15.88			
61			5.20	10.68	" "
60			5.20	10.68	" "
59			4.93	10.95	" "
58			4.90	10.98	" "
57			4.64	11.24	" "
56			4.51	11.37	" "
55			4.59	11.29	TOP OF HUB 6' W. OF CURB
TP 54			7.35	8.53	15' W. OF CURB TOP OF HUB

0+00 = CAUSEWAY B/L

STA	+	H.I.	−	ELEV.
⊼ 59+00	5.2	16.15		10.95
W 9			5.1	11.0
W 20			10.6	5.5
W 26			11.1	5.0
W 110			11.5	4.6
W 125			13.5	2.6
W 146			14.8	1.3
W 160			14.7	1.4
W 169			11.5	4.6
T.P. W 180	4.3	9.03	11.42	4.73
42 W 222			4.7	4.3
50 W 232			6.5	2.5
62 W 242			6.4	2.6
70 W 250			4.8	4.2
202 W 382			4.8	4.2
298 W 478			4.3	4.7
316 W 490			7.1	1.9
323 W 503			4.8	4.2
480 W 660			4.3	4.7

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(31)

T. STAMPER
G. WILLIAMS

STA	+	H.I.	−	ELEV.
59+00		9.03		
630 ⊼ 810			4.4	4.6
T.P. 250	3.9	9.26	3.67	5.36
W 1060			4.2	5.0
267 W 1077			6.0	3.2
290 W 1100			4.7	4.5
320 W 1130			8.3	0.9
331 W 1148			4.5	4.7
505 W 1315			4.7	4.5
576 ⊼ W 1386			4.3	4.9
T.P.	3.96	9.59	3.63	5.63
W 1392			6.5	3.1
W 1395			6.4	3.2
W 1398			4.8	4.8
⊼ 1400 W				
148 W 1548			4.6	5.0
380 W 1780			4.7	4.9
470 W 1870			4.7	4.9
590 W 1990			4.7	4.9

59+00 = 0+00 = R100

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STA	+	H.I	−	ELEV.
T 1400W		9.59		
W 2042 (642)			4.6	5.0
W 2112 (712)			4.5	5.1
W 2185 (785)			4.8	4.8
W 2193 (793)			5.6	4.0
W 2220 (R100 820)			5.6	4.0
TP.	6.02	11.14	4.47	5.12
W 14			6.2	4.9
W 137			6.2	4.9
W 149			5.4	5.7
W 167			4.9	6.2
W 217			4.9	6.2
W 237			4.1	7.1
W 302			3.4	7.7
W 329			4.6	6.5
W 347			6.2	4.9
W 402			5.6	5.5
W 415			9.5	1.6

0+00 = R 100

STA	+	H.I	−	ELEV
T 57+00	5.76	10.88		5.12
W 436			9.3	1.6
W 393			4.8	6.1
W 320			5.2	5.7
W 260			4.7	6.2
W 233			4.0	6.9
W 214			4.8	6.1
W 210			5.5	5.4
W 182			6.0	4.9
W 94			5.3	5.6
W 37			6.1	4.8
W 17			6.1	4.8
0			4.9	6.0
E 13			4.4	6.5
E 23			4.3	6.6
E 33			5.1	5.8
E 50			4.7	6.2
E 84			3.9	7.0
E 104			5.4	5.5

0+00 = R 100

STA	+	H.I	−	ELEV
A 57+00		10.88		
E 140			5.2	5.7
E 170			5.8	5.1
E 382			5.9	5.0
E 575			6.0	4.9
E 730			6.2	4.7
TP. 104	3.87	9.35	5.40	5.48
E 834 230			4.8	4.5
E 960 242			4.8	4.5
E 972 256			5.8	3.5
E 986 305			5.0	4.3
E 1035 319			5.1	4.2
E 1049 335			6.9	2.4
E 1065 344			7.3	2.0
E 1074 544			4.3	5.0
E 1274 685			4.8	4.5
E 1415			4.9	4.4
TP.	10.83	15.93	4.25	5.10
W 532				

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0+00 = CAUSEWAY B/L.

(33)

STA	+	H.I	−	ELEV
57+00		15.9		
W 815			12.7	3.2
W 810			12.6	3.3
W 803			11.5	4.4
W 680			11.0	4.9
W 520			11.0	4.9
W 410			11.2	4.7
W 333			11.5	4.4
W 259			11.9	4.0
W 215			11.5	4.4
W 210			14.4	1.5
W 200			15.4	0.5
W 180			13.2	2.7
W 172			11.0	4.9
W 159			11.0	4.9
W 148			12.3	3.6
W 118			12.1	3.8
W 92			12.0	3.9
W 85			11.4	4.5

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0+00 = CAUSEWAY B/L.

STA	+	H.I.	−	ELEV.
T 57		15.93		
W 24			10.6	5.3
W 17			9.6	6.3
W 9			4.9	11.0
0			4.65	11.28

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56+00 − 0+00 = R100

STA	+	H.I.	−	ELEV.
T 56	5.0	11.32		6.32
E 5			4.2	7.1
E 34			3.5	7.8
E 65			4.2	7.1
E 83			5.9	5.3
E 250			6.3	5.0
E 480			6.6	4.7
E 620			6.7	4.6
T E 766			6.8	4.5
TP	4.45	8.92	6.85	4.47
156 E 916			4.6	4.3
160 E 920			6.8	2.1
176 E 936			6.7	2.2
180 E 940			4.5	4.4

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STA	+	H.I.	−	ELEV.
		8.92		
270 E 1036			4.5	4.4
278 E 1044			7.0	1.9
290 E 1056			6.5	2.4
300 E 1066			4.3	4.6
312 E 1078			4.1	4.8
320 E 1086			5.7	3.2
330 E 1096			4.6	4.3
480 E 1246			4.3	4.6
508 E 1372			4.9	4.0
TP			3.68	5.24

0+00 = CAUSEWAY B/L.

STA	+	H.I.	−	ELEV.
T 56+00	4.57	15.94		11.37
W 990			10.7	5.2
W 933			11.1	4.8
W 830			11.5	4.4
W 820			11.0	4.9
W 680			11.1	4.8
W 500			11.3	4.6
W 335			11.6	4.3

0+00 = CAUSEWAY B/L

STA	+	H.I.	−	ELEV.
↑56		15.9		
W330			14.2	1.7
W329			15.0	0.9
W316			13.8	2.1
W305			11.8	4.1
W240			11.2	4.7
W209			11.4	4.5
W203			13.8	2.1
W180			14.6	1.3
W173			13.9	2.0
W170			11.4	4.5
W83			11.3	4.6
W22			10.7	5.2
W9			4.4	11.5
0	4.57	15.94		11.37

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0+00 = CAUSEWAY B/L

STA	+	H.I.	−	ELEV.
↑55+00	5.05	16.34		11.29
E6			5.0	11.3
W5			5.1	11.2
W15			10.7	5.6
W100			11.8	4.5
W154			11.4	4.9
W160			14.9	1.4
W170			16.1	0.2
W190			11.8	4.5
W288			12.6	3.7
W312			12.5	3.8
W320			13.8	2.5
W330			12.4	3.9
W345			14.5	1.8
W370			12.6	3.7
W382			14.1	2.2
W404			11.7	4.6
W440			11.8	4.5
W456			14.0	2.3
W458			14.2	2.1

STA	+	H.I.	-	ELEV.
55+00		16.34		
W468			12.3	4.0
W492			11.7	4.6
W503			14.5	1.8
W510			14.2	2.1
W518			12.6	3.7
W530			14.1	2.2
W540			11.9	4.4
W570			11.8	4.5
W576			14.0	2.3
W590			13.2	3.1
W616			12.2	4.1
W622			14.0	2.3
W635			13.1	3.2
W638			12.1	4.2
W650			11.9	4.4
W658			13.6	2.7
660 W			12.0	4.3
W670			11.6	4.7
W678			13.7	2.6

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(36)

STA	+	H.I.	-	ELEV.
55+00		16.3		
W684			12.2	4.1
W708			12.0	4.3
W712			14.0	2.3
W718			11.7	4.6
W728			11.9	4.4
W734			13.9	2.4
W742			12.1	4.2
W802			11.7	4.6
W945			11.4	4.9
W1110			11.6	4.7
W1140			11.6	4.7
W1142			13.8	2.5
W1155			13.3	3.0
W1160			11.5	4.8
W1204			11.3	5.0
W1210			15.6	0.7
W1220			16.2	0.1
W1226			14.3	2.0
W1260			14.0	2.3

0+00 = CAUSEWAY B/L

STA	+	H.I	−	ELEV
T 53+00		16.3		
W1280			11.5	4.8
W1330			11.0	5.3
W1416			12.4	3.9
W1460			12.0	4.3
W1464			13.5	2.8
W1520			13.8	2.5
W1540			12.0	4.3
W1640			12.2	4.1
W1650			13.5	2.8
W1654			13.2	3.1
W1660			11.6	4.7
W1780			11.7	4.6
W1960			11.2	5.1

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0+00 = CAUSEWAY B/L.

T 54	5.0	13.53		8.53
W1950			8.6	4.9
W1810			8.7	4.8
W1680			9.3	4.2
W1660			9.9	3.6
W1650			9.2	4.3
W1600			9.7	3.8
W1550			10.7	2.8
W1572			8.6	4.9
W1368			8.7	4.8
W1080			8.7	4.8
W1078			8.6	4.9
W1072			10.6	2.9
W1061			8.6	4.9
W1003			9.0	4.5
W943			8.6	4.9
W800			9.0	4.5
W690			9.1	4.4
W684			10.3	3.2

0+00 = CAUSEWAY B/L

STA	+	H.I.	−	ELEV
T54		13.5		
W673			8.8	4.7
W463			8.7	4.8
W305			8.6	4.9
W290			10.0	3.5
W278			12.3	1.2
W270			9.1	4.4
W210			9.4	4.1
W198			8.5	5.0
W185			8.7	4.8
W182			11.1	2.4
W174			11.4	2.1
W164			8.3	5.2
W 40			8.4	5.1
W 15			8.2	5.3
W 6			7.5	6.0
E 5			2.1	11.4
E15 RED CURB			2.3	11.2

11-7-46

STA	+	H.I.	−	ELEV	
		13.53			
53+00			7.04	6.49	TOP HUB
52+00			6.80	6.73	" "
51+00			6.68	6.85	" "
50+00			5.57	7.96	" "
49+00			6.01	7.52	" "
48+00			6.08	7.45	" "
		0+00 = CAUSEWAY B/L			
T53	4.9	11.4		6.49	
E10			4.0	7.0	SEE PG. 43 TOP OF BNK. SEC.
0			4.6	6.8	
W46			5.7	5.7	
W50			6.1	5.3	
W153			4.7	6.7	
W163			4.6	6.8	
W170			7.3	4.1	
W180			6.3	5.1	
W185			4.8	6.6	
W342			4.7	6.7	
W363			5.3	6.1	

11-7-46 0+00 = CAUSEWAY B/L

STA	+	H.I	−	ELEV
53+00		11.4		
W376			8.6	2.8
W392			7.5	3.9
W396			4.6	6.8
W700			4.7	6.7
W990			4.5	6.9
TP	4.14	11.11	4.43	6.97
W993			4.1	7.0
W1000			5.1	6.0
W1002			4.2	6.9
W1223 (233)			4.1	7.0
W1473 (483)			4.2	6.9
W1693 (703)			4.5	6.6
W1710 (720)			4.8	6.3
W1712 (722)			6.2	4.9
W1722 (732)			5.1	6.0
W1753 (763)			4.6	6.7

11-8-46 0+00 = CAUSEWAY B/L

(39)

T. STAMPER
G. WILLIAMS

STA	+	H.I	−	ELEV.	
T.S 1+00	3.0	9.85		6.85	
0			4.7	5.1	
E42			4.7	5.1	
E48			5.7	4.1	
E52			4.9	4.8	
E56			4.3	5.5	SEE PG. 43 TOP BNK. SEC.
W132			5.0	4.8	
W136			7.6	3.2	
W151			7.5	2.3	
W154			5.1	4.7	
W183			4.9	5.0	
W287			5.1	4.7	
W284			6.9	3.0	
W290			7.7	2.1	
W300			7.3	2.5	
W303			6.1	3.7	
W422			5.1	4.7	
W424			6.6	3.2	
W458			6.4	3.4	
W470			5.3	4.5	

0+00 = CAUSEWAY B/L 11-8-46

STA	+	H.I	−	ELEV
T 51		9.85		
W573			5.0	4.8
W827			4.9	4.9
W925			4.8	5.0
W956			5.2	4.6
W1050			4.8	5.0
W1280			4.7	5.1
W1600			4.8	5.0
T 50+00	3.2	11.2		7.96
W1680			5.8	5.4
W1620			6.1	5.1
W1380			6.0	5.2
W1296			6.4	4.8
W1236			6.0	5.2
W1016			6.3	4.9
W1000			6.6	4.6
W983			7.0	4.2
W963			6.1	5.1
W893			6.3	4.9

0+00 = CAUSEWAY B/L

(40)

STA	+	H.I	−	ELEV.
T 50		11.2		
W866			6.8	4.4
W832			6.0	5.2
W710			6.5	4.7
W630			6.6	4.6
W622			7.9	3.3
W618			6.7	4.5
W612			6.7	4.5
W610			7.9	3.3
W606			6.3	4.9
W485			6.5	4.7
W470			7.1	4.1
W442			7.2	4.0
W432			7.8	3.4
W429			9.0	2.2
W420			8.0	3.2
W418			6.5	4.7
W336			6.1	5.1
W205			6.5	4.7

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0+00 = CAUSEWAY B/L.

STA	+	H.I	−	ELEV	
T 50		11.1			
W170			6.6	4.5	
W166			8.5	2.6	
W160			8.4	2.7	
W155			6.6	4.5	
W120			6.0	5.1	
W113			8.5	2.6	
W102			8.4	2.7	
W94			6.3	4.8	
0			6.0	5.1	
E 89			5.8	5.3	
E100			0.1	11.0	
E112			0.0	11.1	CURB

0+00 = CAUSEWAY B/L

STA	+	H.I	−	ELEV	
T 49+00	2.28	9.80		7.52	
E150			+1.2	11.0	CURB
E140			+1.3	11.1	
E125			4.4	5.4	
0			4.6	5.2	
W 33			4.9	4.9	
W 40			6.9	2.9	
W 46			4.9	4.9	
W 203			4.7	5.1	
W 211			6.5	3.3	
W 220			5.7	4.1	
W 228			4.8	5.0	
W 276			5.1	4.7	
W 283			6.4	3.4	
W 289			5.1	4.7	
W 446			4.9	4.9	
W 450			7.4	2.4	
W 486			7.1	2.7	
W 496			4.7	5.1	

11-8-46 0+00 = CAUSEWAY B/L

STA	+	H.I	−	ELEV
℄ 49+00		9.8		
W607			4.8	5.0
W680			5.1	4.7
W683			7.1	2.7
W705			7.2	2.6
W710			4.9	4.9
W720			7.6	2.2
W738			6.3	3.5
W743			4.8	5.0
W928			4.9	4.9
W 1160			4.7	5.1
W 1340			4.0	5.8
W1496			4.3	5.5
	0400 = CSWY B/L.			
℄ 48+00	2.65	10.10		7.45
W 1480			4.6	5.5
W 1336			4.3	5.8
W 1140			4.9	5.2
W 980			5.1	5.0
W 872			5.8	4.3

0+00 = CAUSEWAY B/L

STA	+	H.I	−	ELEV.
48+00		10.1		
W870			7.0	3.1
W864			5.3	4.8
W853			5.5	4.6
W850			7.3	2.8
W844			5.5	4.6
W804			5.5	4.6
W788			7.5	2.6
W782			5.1	5.0
W763			5.3	4.8
W753			7.2	2.9
W740			7.4	2.7
W736			5.0	5.1
W668			5.2	4.9
W493			5.0	5.1
W270			5.0	5.1
W 47			5.1	5.0
0			4.8	5.3

0+00 = CAUSEWAY B/L

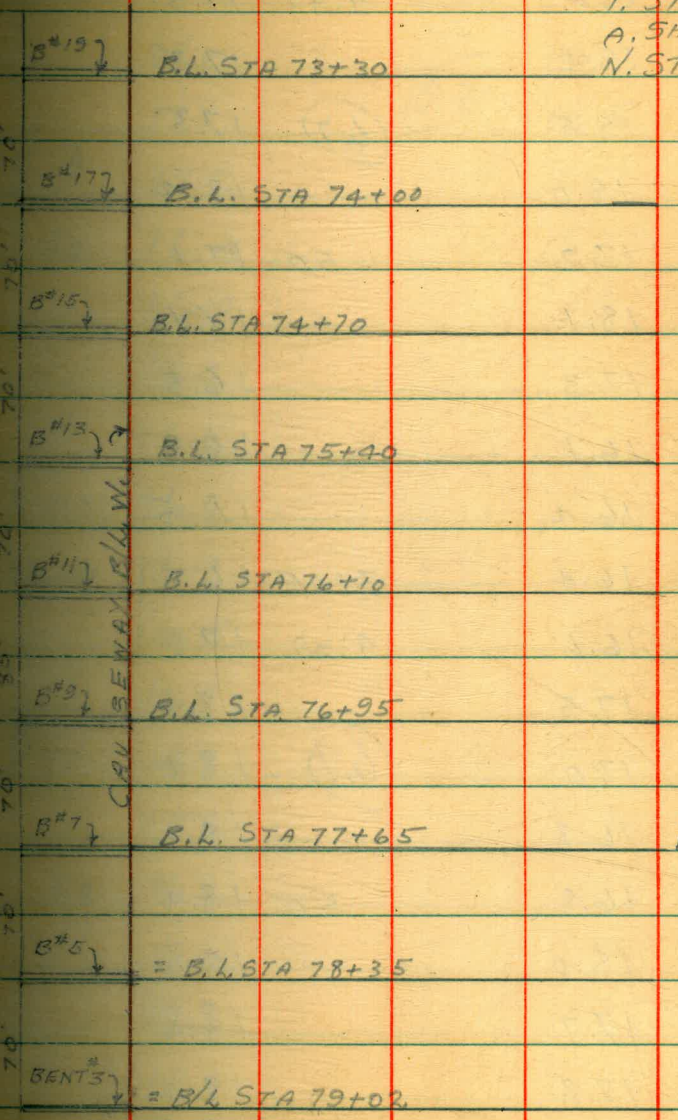
STA	+	H.I.	−	ELEV	
48+00		10.1			
E 169			4.8	5.3	
E 176			3.2	6.9	
E 188			+1.0	11.1	
E 202			+0.9	11.0	CURB
	0+00 = CAUSEWAY B/L				
℄ 51+00	9.95	16.44		6.49	
E 67			5.1	11.3	
E 78			5.3	11.1	CURB
℄ 53+00					
E 20			5.0	11.4	
E 31			5.3	11.1	CURB

Soundings

2-6-47 (43)

SOUNDING BASE LINE FOR PROJECT NO. 1 FROM SOUTH CAUSEWAY BRIDGE

T. STAMPER
A. SHERRY
N. STANLEY



BENT #9 2-6-47 SOUND WEST.

DIST	SOUND
0+00	17.0
9:42	16.1
	18.2
	18.8
(6.6)	18.0
50	17.2
	18.1
	17.3
	16.1
	16.4
1+00	16.4
	16.6
	17.5
	17.0
	16.8
50	16.8
	18.0
	17.7
	17.8
	17.3

DIST	SOUND
2+00	17.3
9:45	17.3
	17.3
(6.7)	17.3
	17.4
50	17.1
	17.1
	16.5
	16.2
	16.5
3+00	16.7
9:47	17.8
	18.0
(6.7)	18.0
	18.0
50	18.4
	18.0
	18.4
	19.4
	19.0

2-6-47 BENT #9

DIST	SOUND
4+00	18.5
9:50	18.0
	18.0
	17.1
(6.7)	17.2
50	16.4
	16.7
	16.2
	16.6
9:52	16.6
5+00	16.7
	16.5
	16.1
(6.7)	15.8
	15.8
50	16.2
	17.0
	17.3
	17.0
	16.7

DIST	SOUND
6+00	16.3
9:54	16.3
	16.5
(6.7)	16.5

BENT #11 SOUND WEST 2-6-47

DIST	SOUND
0+00	18.3
10:02	19.0
	18.0
(6.8)	18.0
	17.4
50	17.0
	17.5
	17.5
	16.8
10:04	16.8
1+00	17.3
	17.5
	18.2
(6.8)	18.8
	18.0
50	17.7
	17.6
	17.0
	15.5
	15.4

DIST	SOUND
2+00	15.7
	15.1
10:07	15.0
	15.4
(6.8)	15.4
50	15.1
	15.1
	15.6
	15.8
	16.4
3+00	16.4
	16.4
	17.6
	17.1
(6.8)	17.8
50	17.4
10:09	17.4
	17.8
	17.0
	17.0

2-6-47

DIST	SOUND
4+00	17.1
	17.5
	18.0
	17.8
	17.8
50	18.0
	18.2
10:11	17.5
	17.1
(6.8)	17.1
5+00	17.0
	17.0
	17.3
	17.0
	17.0
10:13	
50	16.5
	16.3
	16.1
	15.7
	16.5

DIST	SOUND
6+00	17.7

BENT # 13 SOUND WEST 2-6-47

DIST	SOUND	DIST	SOUND
0+00	16.8	2+00	16.0
10:23	16.0		16.0
	17.8		16.0
	17.1		15.5
	17.1		15.5
50	17.5	50	15.5
	17.5		15.3
	17.7		15.8
(6.8)	17.7	(6.8)	16.1
	17.5	10:27	16.5
1+00	17.4	3+00	16.0
10:25	17.2		16.0
	17.5		16.0
	17.2		16.4
	17.0		15.8
50	17.0	50	16:0
	16.4		18.0
	16.0		18.0
	15.6		16.8
	15.6		15.8

BENT #13 2-6-47

DIST	SOUND	DIST	SOUND
4+00	16.0	6+00	
10:29	17.0		
	18.0		
	18.2		
	18.0		
50	18.0		
	18.0		
	18.0		
	17.7		
(6.8)	17.1		
5+00	17.4		
	17.2		
	17.2		
	17.2		
	17.0		
50	17.5		
	16.7		
10:32	16.5		

BENT #15 SOUND WEST 2-6-47

DIST	SOUND	DIST	SOUND
0+00	18.4	2+00	16.0
10:39	17.5		16.1
	16.3		16.2
	15.8	10:43	16.0
	15.0		16.0
50	15.2	50	15.8
(68)	15.5		16.0
	16.0		16.0
	16.0		15.8
	16.4	(68)	15.8
1+00	16.5	3+00	16.0
10:41	16.5		16.0
	16.5		16.0
	16.3		15.5
	16.2		15.5
50	16.1	50	15.3
	16.1		15.3
	16.1		15.0
	16.1		15.1
	16.1		15.1

#15 2-6-47 (47)

DIST	SOUND	DIST	SOUND
4+00	16.5		
	16.6		
10:45	16.7		
	16.7		
	17.0		
50	17.2		
	17.4		
	16.6		
(69)	16.5		
	16.5		
5+00	16.8		
	16.7		
	16.7		
	17.0		
	17.0		
50	17.2		
	17.3		
	17.1		

BENT #17 SOUND WEST 2-6-47

DIST	SOUND
0+00	19.5
10:53	18.2
	17.5
	16.8
	16.8
50	17.5
	17.1
	16.6
(4.7)	16.4
	16.4
1+00	16.4
	16.2
	16.1
	16.0
	16.0
50	16.0
	16.0
	16.8
10:56	16.6
	15.2

DIST	SOUND
2+00	15.0
	15.0
	15.2
	15.2
	15.2
50	15.4
	15.6
	16.0
	16.0
(4.7)	16.0
3+00	15.5
	15.5
	15.3
10:58	15.0
	14.5
50	14.7
	15.0
	15.0
	15.1
	15.2

#17 2-6-47

(48)

DIST	SOUND
4+00	15.4
	15.8
	16.0
	16.5
	16.5
50	16.2
	16.0
11:00	16.5
(4.7)	16.8
	16.3
5+00	16.0
	16.3
	16.0
	15.5
11:01	15.8
50	16.7

BENT #19 SOUND WEST 2-6-47

DIST	SOUND
0+00	13.0
11:05	12.8
	12.6
	13.0
	12.8
50	13.5
	13.3
(6.6)	13.0
	13.8
	14.0
1+00	15.5
	16.0
	16.0
	16.0
	16.0
50	16.4
11:08	16.4
	16.1
	16.0
	15.8

DIST	SOUND
2+00	16.0
	15.7
	15.5
	15.3
	15.3
50	15.4
	15.4
11:10	15.4
	15.4
(6.3)	15.4
3+00	15.5
	15.0
	15.0
	15.3
	15.8
50	15.6
	15.5
	16.3
	16.0
	15.3

#19 2-6-47

DIST	SOUND
4+00	15.2
	15.0
	15.0
	16.0
11:12	16.5
50	16.5
	17.0
(6.5)	17.0
	16.1
	15.4
5+00	15.0
	15.0
11:13	14.8
	15.0

Indexed

2-18-47 (PX)

SOUNDINGS OF M.B. PR. NO 6

FOR PROJECT DEPTH.

SOUND EAST. STA 105+00 0+00 = SHORE

DIST	SOUND		DIST	SOUND	
0+58	0.0	5.4		5.0	+0.4
9:47 60	~			4.8	+0.6
70	0.8	+4.6		5.1	+0.3
(5.4)	0.6	+4.8	50	5.0	+0.4
	1.0	+4.4		6.0	-0.6
1+00	1.0	+4.4	9:52	6.5	-1.1
	0.3	+5.1	(5.4)	6.5	-1.1
	0.5	+4.9		6.8	-1.4
	1.0	+4.4	3+00	6.6	-1.2
	3.5	+1.9		7.5	-2.1
50	6.0	-0.6		8.2	-2.8
9:50	4.6	+0.8		7.5	-2.1
(5.4)	4.3	+1.1		7.5	-2.1
	4.6	+0.8	50	6.4	-1.0
	4.5	+0.9		6.0	-0.6
2+00	4.9	+0.5		7.0	-1.6
	5.0	+0.4		6.8	-1.4

P.X. 105+00

DIST	SOUND	
	6.8	-1.4
4+00	6.4	-1.0
9:54	8.0	-2.6
	7.5	-2.1
	7.0	-1.6
	7.5	-2.1
50	7.3	-1.9
(5.4)	7.0	-1.6
	6.7	-1.3
	8.0	-2.6
	8.2	-2.8
5+00	8.2	-2.8
	8.2	-2.8
	8.4	-3.0
	9.5	-4.1
	10.0	-4.6
50	9.8	-4.4
	10.1	-4.7
	8.3	-2.9
	8.3	-2.9

2-18-47

DIST	SOUND	
	8.8	-3.5
6+00	9.2	-3.9
	9.7	-4.4
9:57	9.4	-4.1
(5.3)	10.0	-4.7
	10.0	-4.7
50	9.7	-4.4
	9.5	-4.2
	9.2	-3.9
	10.2	-4.9
	10.3	-5.0
7+00	11.0	-5.7
9:58	11.5	-6.2
(5.3)	11.5	-6.2
	11.1	-5.8
	12.0	-6.7
50	12.5	-7.2
	12.0	-6.7
	12.0	-6.7
	12.0	-6.7

(50)

DIST	10 SOUND	5+00	2-18-47 DIST	SOUND	P.X.
	10.5	-5,2		9.0	-3,7
8+00	9.8	-4.5	10+00	8.6	-3,3
	9.3	-4,0		6.5	-1.2
	10.3	-5,0		3.0	+2.3
10:00	10.3	-5,0	(5.3)	1.4	+3.9
	10.1	-4,8		1.0	+4.3
50	10.4	-5,1		1.0	+4.3
	13.0	-7.7		0.6	+4.7
(5.3)	12.5	-7,2	10+63	0.0	+5.3
	13.0	-7,7			
	13.0	-7,7			
9+00	13.0	-7,7			
	13.0	-7,7			
	12.5	-7,2			
	12.1	-6,8			
	11.4	-6,1			
50	11.0	-5,7			
	10.0	-4,7			
	9.4	-4,1			
	9.0	-3,7			

P.X. 10 4+00 2-18-47 SOUND EAST 0+00 = SHOREBL (51)

DIST	SOUND		DIST	SOUND	
0+47	0.0	+5,2		13.5	-8,4
50	—		50	13.3	-8,2
10:16 60	1.0	+4,2		13.1	-8,0
	1.0	+4,2		13.0	-7,9
(5.2)	2.2	+3,0		13.4	-8,3
	7.4	-2,2		13.5	-8,4
1+00	7.8	-2,6	3+00	14.0	-8,9
	8.0	-2,8		14.0	-8,9
	9.0	-3,8		13,7	-8,6
	10.2	-5,0		13.3	-8,2
	11.0	-5,8	10:21	13.0	-7,9
50	11.6	-6,4	50	13.0	-7,9
	12.2	-7,0	(5.1)	13.0	
	12.5	-7,3		13.0	
	13.5	-8,3		13.3	-8,2
	14	-9,2		13,3	-8,2
2+00	15.0	-9,8	4+00	13,7	-8,6
	15.0	-9,8		14.1	-9,0
10:19	14.3	-9,1		14.5	-9,4
(5.1)	13,8	-8,7		14.2	-9,1

P.X. DIST	104+00 SOUND		SOUND EAST. 2-18-47 DIST	SOUND	
	14.2	-9.1		15.4	-10.4
50	14.2	-9.1	50	15.5	-10.5
10:23	14.2	-9.1		15.0	-10.0
	14.3	-9.2		15.0	-10.0
(5.1)	14.1	-9.0		15.0	-10.0
	14.0	-8.9		14.6	-9.6
5+00	14.0	-8.9	7+00	14.2	-9.2
	14.0	-8.9		14.6	-9.6
	14.1	-9.0	(5.0)	14.0	-9.0
	14.1	-9.0		14.1	-9.1
	14.2	-9.1		14.5	-9.5
50	14.2	-9.1	50	15.0	-10.0
	13.3	-8.2		15.0	-10.0
	14.8	-9.7		14.7	-9.7
	15.0	-9.9		14.1	-9.1
	15.4	-10.3	10:27	14.0	-9.0
6+00	15.3	-10.2	8+00	14.0	-9.0
	15.0	-9.9		14.0	-9.0
10:35	14.8	-9.7		14.0	-9.0
(5.1)	14.8	-9.7		13.5	-8.5

DIST	104+00 SOUND		2-18-47 DIST	P.X. SOUND	(52)
10:28	13.0	-8.0		6.0	-1.0
50	12.6	-7.6	10:34 50	3.5	+1.5
	12.5	-7.5	(5.0)	1.4	+3.6
	12.8	-7.8		0.8	+4.2
	13.5	-8.5	+77	0.0	+5.0
	13.5	-8.5			
9+00	13.5	-8.5			
	13.5	-8.5			
(5.0)	13.4	-8.4			
	13.0	-8.0			
	12.5	-7.5			
50	12.3	-7.3			
	12.1	-7.1			
	12.0	-7.0			
	12.0	-7.0			
	12.0	-7.0			
10+00	12.2	-7.2			
	11.8	-6.8			
	11.0	-6.0			
	8.5	-3.5			

P.X. DIST	STA 103+00 0+00 = SHORE B/L SOUND EAST 2-18-47 SOUND		DIST	SOUND	
0+65	0.0	+4.9		14.0	-9.2
70	0.3	+4.6		13.6	-8.8
10:43	1.5	+3.4		14.0	-9.2
(4.9)	4.0	+0.9		14.0	-9.2
1+00	5.1	-0.2	3+00	13.3	-8.5
	6.5	-1.6		13.3	-8.5
	7.0	-2.1		13.1	-8.3
	8.8	-3.9		12.2	-7.4
	9.0	-4.1		12.2	-7.4
50	9.5	-4.6	50	12.2	-7.4
	9.8	-4.9		12.2	-7.4
	10.3	-5.4		12.2	-7.4
	12.0	-7.1	10:47	13.1	-8.3
	13.0	-8.1	(4.8)	13.6	-8.8
2+00	13.5	-8.6	4+00	13.5	-8.7
	14.0	-9.1		13.3	-8.5
	14.0	-9.1		13.1	-8.3
10:45	14.5	-9.6		13.1	-8.3
(4.8)	14.3	-9.5		13.0	-8.2
50	14.3	-9.5	50	12.5	-7.7

P.X. DIST	103+00 2-18-47 SOUND		DIST	SOUND	(53)
	12.5	-7.8	10:51	13.4	-8.7
	12.5	-7.8	(4.7)	13.0	-8.3
	12.5			13.0	-8.3
	12.5			13.0	
5+00	12.5		7+00	13.0	
	12.5			13.0	
10:49	12.8	-8.1		13.1	-8.4
	13.0	-8.3		13.2	-8.5
(4.7)	13.0	-8.3		13.2	-8.5
50	13.0	-8.3	50	13.0	-8.3
	14.0	-9.3		13.2	-8.5
	14.0	-9.3		13.2	-8.5
	14.1	-9.4	10:53	13.4	-8.7
	13.7	-9.0	(4.7)	13.5	-8.8
6+00	13.3	-8.6	8+00	13.5	-8.8
	13.3	-8.6		13.8	-9.1
	13.3			13.9	-9.2
	13.3			14.0	-9.3
	13.3			14.0	-9.3
50	13.4	-8.7	50	13.3	-8.6

P.X. 103+00 2-18-47

DIST	SOUND		DIST	SOUND	
	13.1	-8.4		9.0	-4.4
10:54	13.0	-8.3		5.5	-0.9
(4.7)	13.0	-8.3		4.8	-0.2
	13.0	-8.3		4.2	+0.4
9+00	13.2	-8.5	11+00	3.4	+1.2
	13.5	-8.8		2.5	+2.1
	13.8	-9.1		1.8	+2.8
	13.8	-9.1	(4.6)	1.0	+3.6
	13.8	-9.1		0.5	+4.1
50	13.8	-9.1	50	0.0	+4.6
	13.8	-9.1		0.5	+4.1
	13.8	-9.1		0.3	+4.3
	13.5	-8.8	10:58	0.0	+4.6
10:56	13.5	-8.8			
10+00	13.3	-8.6			
(4.6)	13.0	-8.4			
	12.8	-8.2			
	12.4	-7.8			
	12.4	-7.8			
50	11.5	-6.9			

102+00 0+00 = SHOREBL SOUNDEAST 2-18-47 P.X. (54)

DIST	SOUND		DIST	SOUND	
0+85	0.0	+4.4		13.0	-8.7
90	0.3	+4.1		13.0	-8.7
1+00	0.6	+3.8	3+00	13.0	
11:16	0.9	+3.5		13.0	
(4.4)	2.8	+1.6		13.0	
	4.3	+0.1		13.5	-9.2
	6.0	-1.6		13.5	-9.2
50	7.0	-2.6	50	13.0	-8.7
	7.9	-3.5	11:20	13.0	
	9.4	-5.0	(4.3)	13.0	
	10.2	-5.8		13.5	-9.2
	10.5	-6.1		13.5	
2+00	13.0	-8.6	4+00	13.5	
11:18	14.8	-10.5		13.5	
(4.3)	14.7	-10.4		13.7	-9.4
	14.4	-10.1		13.7	-9.4
	13.4	-9.1		13.5	-9.2
50	12.8	-8.5	50	13.0	-8.7
	13.0	-8.7		13.0	-8.7
	12.8	-8.5		13.0	-8.7

P.X. 102+00 2-18-47

DIST	SOUND		DIST	SOUND	
11:22	12.7	-8.4		14.0	-9.8
(4.3)	12.7	-8.4		13.8	-9.6
5+00	12.5	-8.2	7+00	13.4	-9.2
	12.5	-8.2		13.4	-9.2
	13.0	-8.7		13.4	-9.2
	13.0	-8.7		13.4	-9.2
	13.0	}		13.5	-9.3
50	13.0	}	50	13.5	-9.3
	13.5	-9.2	11:27	13.5	}
	14.0	-9.7	(4.2)	13.5	}
	14.5	-10.2		13.5	}
	14.5	-10.2		13.5	}
6+00	14.0	-9.7	8+00	13.5	}
	14.0	-9.7		13.7	-9.5
	14.0	}		13.8	-9.6
	14.0	}		13.8	-9.6
11:25	14.0	-9.8		13.8	-9.6
(4.2) 50	14.0	-9.8	50	14.0	-9.8
	14.0	}	(4.2)	14.0	9.8
	14.0	}	11:29	14.6	-10.4
				15.0	-10.8

LAYOUT PLAN FOR DIRT SURFACING OF EL CARMEL PT.

Redrawn

CURVE DEFLECTS LT.

STA	DEF. L	CHORD
0+00 B.C.	0° 00'	
+ 24.9	1° 09'	24.90'
+ 49.8	2° 18'	"
+ 74.7	3° 27'	"
+ 99.6	4° 36'	"

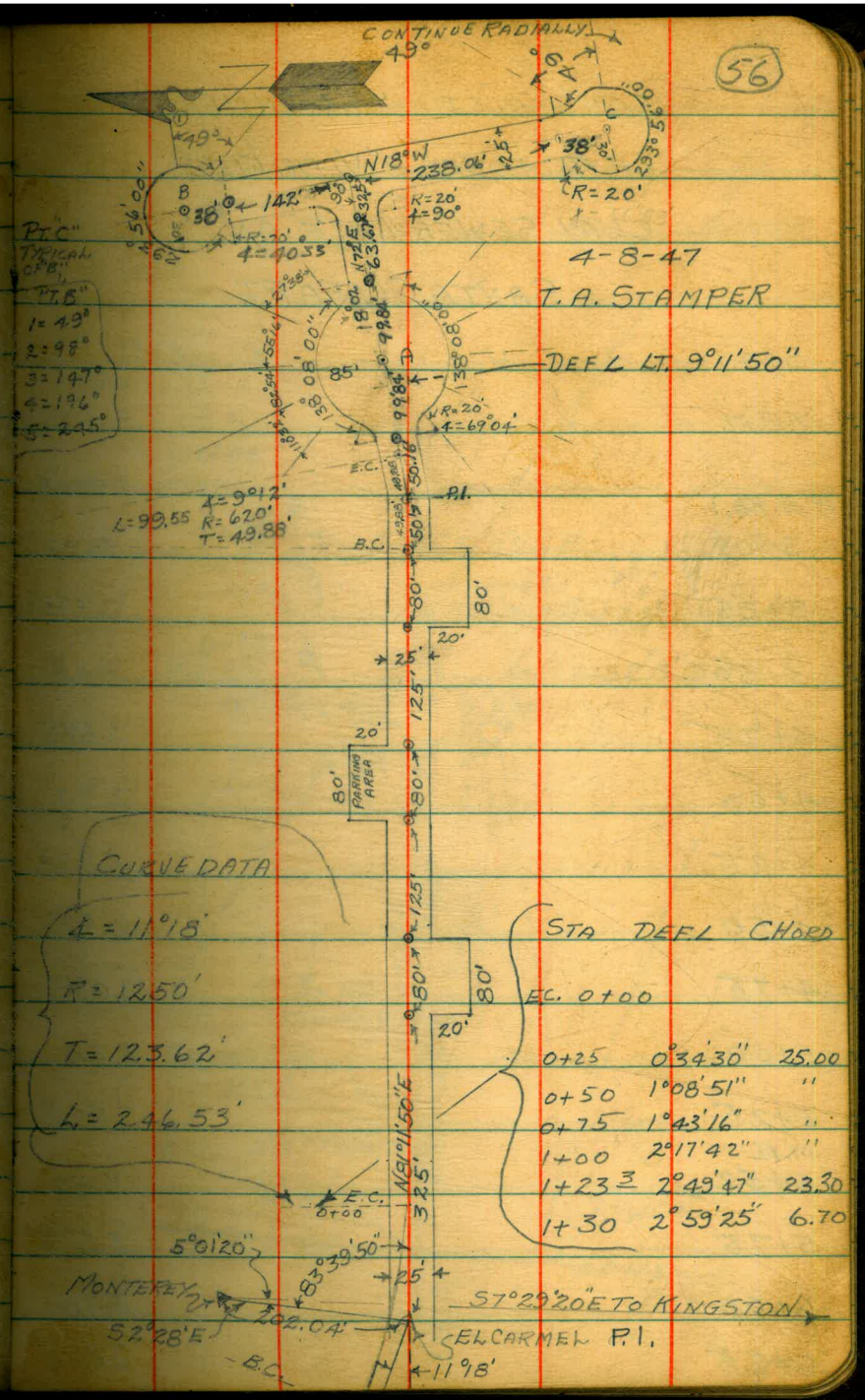
CURVE DATA

Δ = 9° 12'

R = 620'

L = 99.55'

T = 49.88'

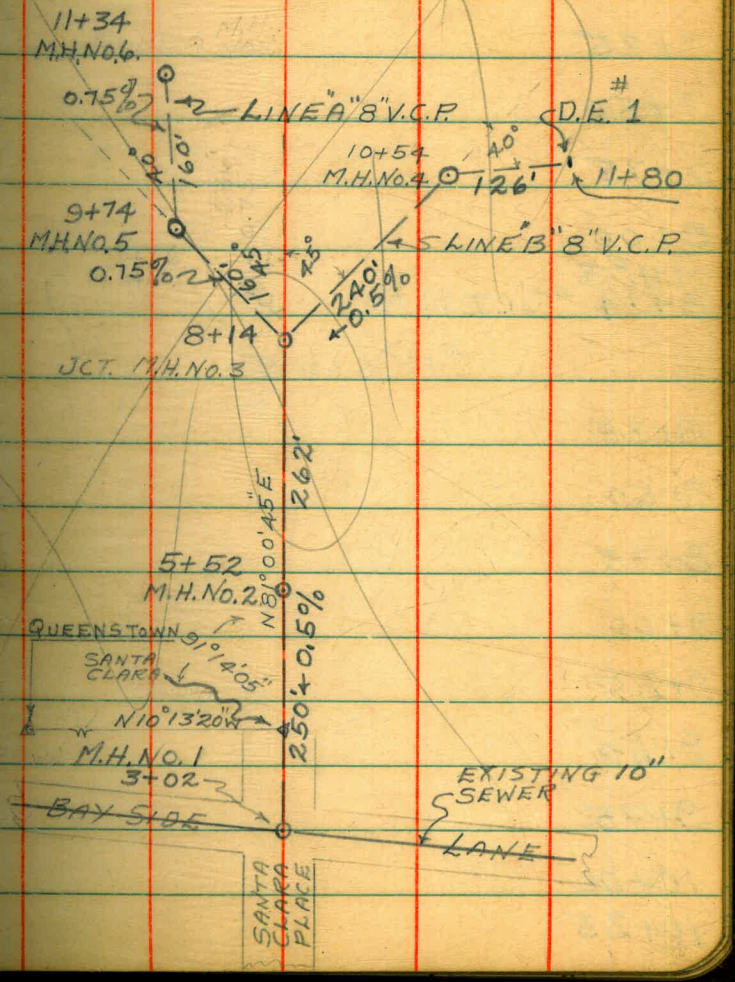


CONSTRUCTION ALIGNMENT OF PROPOSED 8" VITRIFIED CLAY SEWER LINE ON SANTA CLARA PT.

4-9-47

THOMAS A. STAMPER

STA.	+	H.I.	−	ELEV.	CHISL. X
T.B.M.				8.40	STA 12
				GRADE	CUT
M.H. NO. 1					
3+02				2.20	
3+25				2.325	
3+50				2.45	
3+75				2.575	
4+00				2.70	
4+25				2.825	
4+50				2.95	
4+75				3.075	
5+00				3.20	
5+25				3.325	
M.H. 5+52				3.46	
5+75				3.575	
6+00				3.70	
6+25				3.825	



SEWER CONT'D.

STA	+	H.I.	−	ELEV.	GRADE	CUT
6+50					3.95	
6+75					4.075	
7+00					4.20	
7+25					4.325	
7+50					4.45	
7+75					4.575	
8+00					4.70	
M.H. #3 8+14	← JCT. M.H				4.77	
		"B" LINE				
8+25					4.825	
8+50					4.95	
8+75					5.075	
9+00					5.20	
9+25					5.325	
9+50					5.45	
9+75					5.575	
10+00					5.70	
10+25					5.825	

KO

LINE "B"
SEWER CONT'D

STA	+	H.I.	−	ELEV. GRADE	CUT
M.H. No. 4					
10+54				5.97	
10+75				6.075	
11+00				6.20	
11+25				6.325	
11+50				6.45	
11+75				6.575	
D.E. No. 1.					
11+80				6.60	

LINE "A"

8+25				4.85	
8+50				5.04	
8+75				5.23	
9+00				5.415	
9+25				5.60	
9+50				5.79	
M.H. No. 5					
9+74				5.97	
10+00				6.165	
+25				6.35	

CURVE DATA
TEMPORARY ROAD LOCATION
SUNSET POINT

Indexed

STA	DEFL	CHORD	STA	DEFL	CHORD
B.C. 47+74.92	0	0	52+25	6°26'50"	25.00
48+00	0°21'30"	25.08	50	6°48'20"	"
25	0°43'	25.00	75	7°09'45"	"
50	1°04'30"	"	53+00	7°31'15"	"
75	1°26'	"	25	7°52'45"	"
49+00	1°47'30"	"	50	8°14'15"	"
25	2°09'	"	75	8°35'45"	"
50	2°30'30"	"	54+00	8°57'15"	"
75	2°52'	"	25	9°18'40"	"
50+00	3°13'30"	"	50	9°40'10"	"
25	3°35'	"	75	10°01'40"	"
50	3°56'30"	"	55+00	10°23'10"	"
75	4°18'	"	25	10°44'30"	"
51+00	4°39'20"	"	50	11°06'10"	"
25	5°01'	"	75	11°27'40"	"
50	5°22'20"	"	56+00	11°49'10"	"
75	5°43'50"	"	25	12°10'40"	"
52+00	6°05'20"	25.00	50	12°32'	

12-21-48

(60)

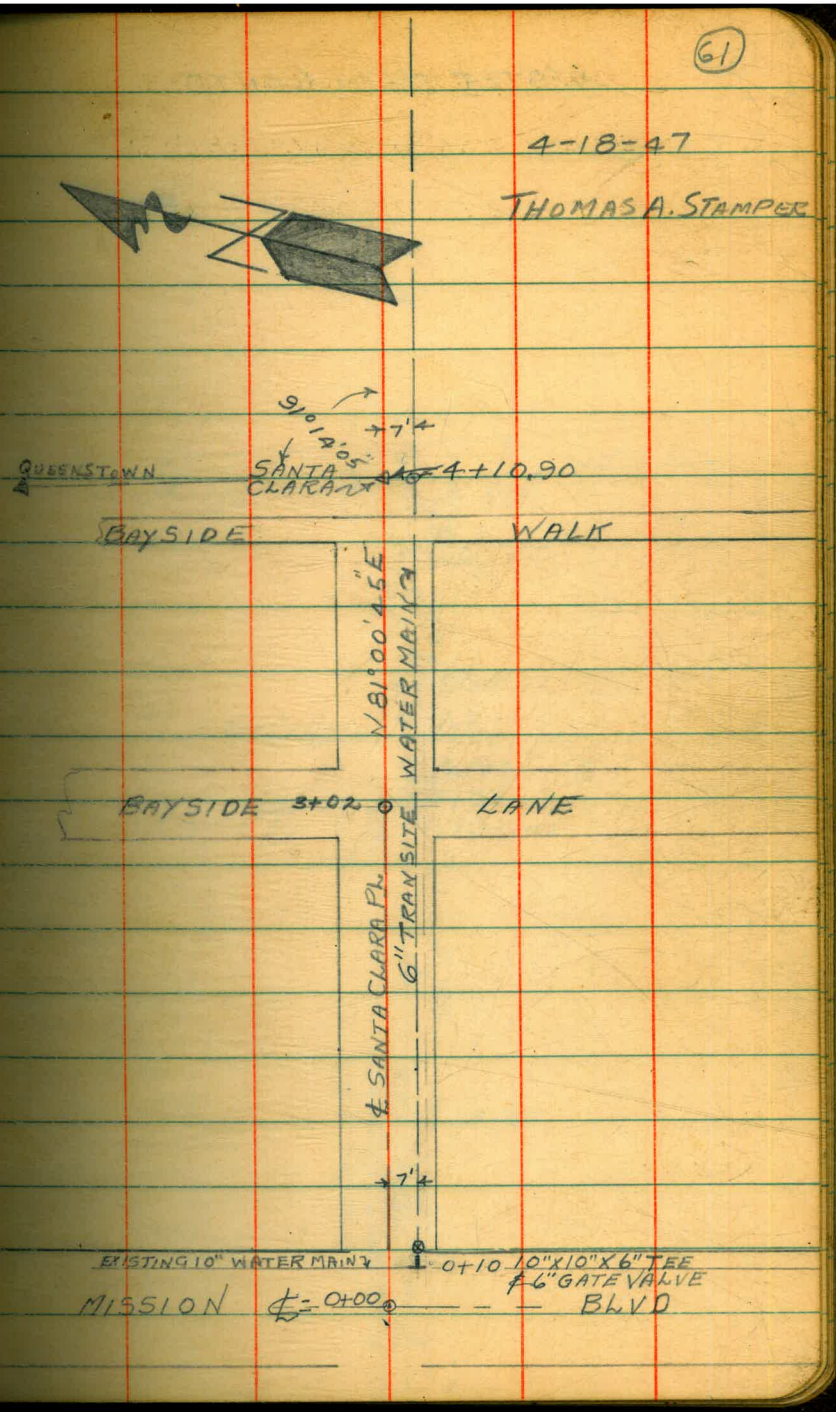
STA.	DEFL	CHORD	STA	DEFL	CHORD
56+75	12°53'30"	25.00	62+00	20°24'45"	25.00
57+00	13°15'	"	25	20°46'15"	"
25	13°36'30"	"	50	21°07'45"	"
50	13°58'	"	75	21°29'15"	"
75	14°19'30"	"	63+00	21°50'45"	"
58+00	14°41'	"	25	22°12'15"	"
25	15°02'30"	"	50	22°33'40"	"
50	15°24'	"	75	22°55'10"	"
75	15°45'30"	"	64+00	23°16'40"	"
59+00	16°07'	"	25	23°38'10"	"
25	16°28'30"	"	50	23°59'40"	"
50	16°50'	"	75	24°21'10"	"
75	17°11'20"	"	65+00	24°42'40"	"
60+00	17°32'45"	"	25	25°04'	"
25	17°54'20"	"	50	25°25'30"	"
50	18°15'45"	"	75	25°47'	"
75	18°37'20"	"	66+00	26°08'30"	"
61+00	18°58'45"	"	25	26°30'	"
			50	26°51'30"	"
25	19°20'20"	"	75	27°13'	"
50	19°41'45"	"	67+00	27°34'30"	25.00
75	20°03'20"	25.00	E.C. +14.51	27°47'	14.51

CONSTRUCTION ALIGNMENT OF 6" TRANSITE WATER MAIN AT SANTA CLARA POINT.

4-18-47

THOMAS A. STAMPER

9+32
4+10
5.22

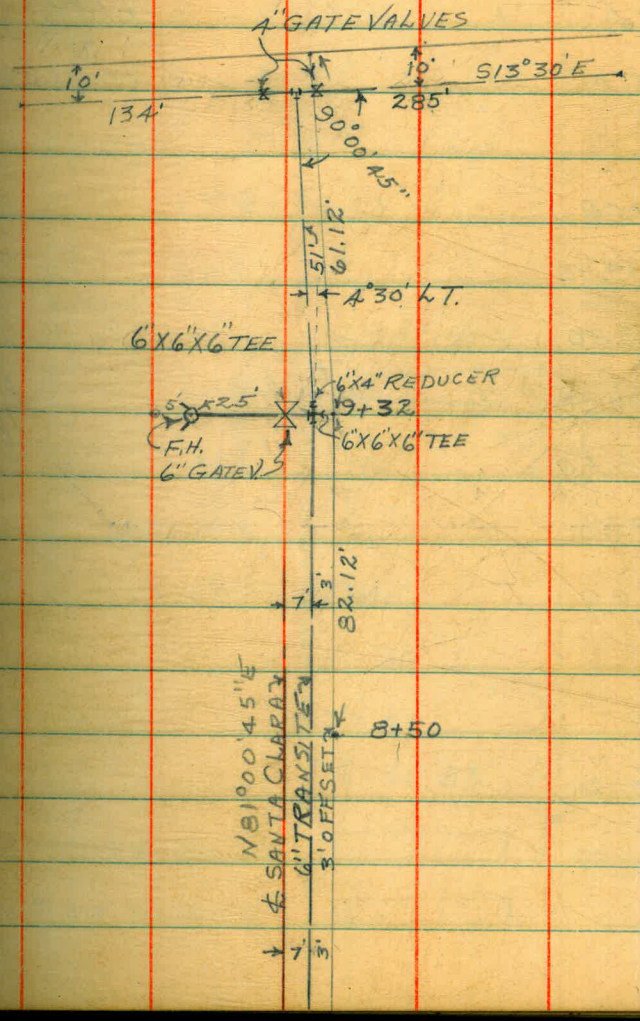


WATER MAIN CONTD.

89 60
2 15
87°45'

3+73
35.9
4+10.9

4-18-47



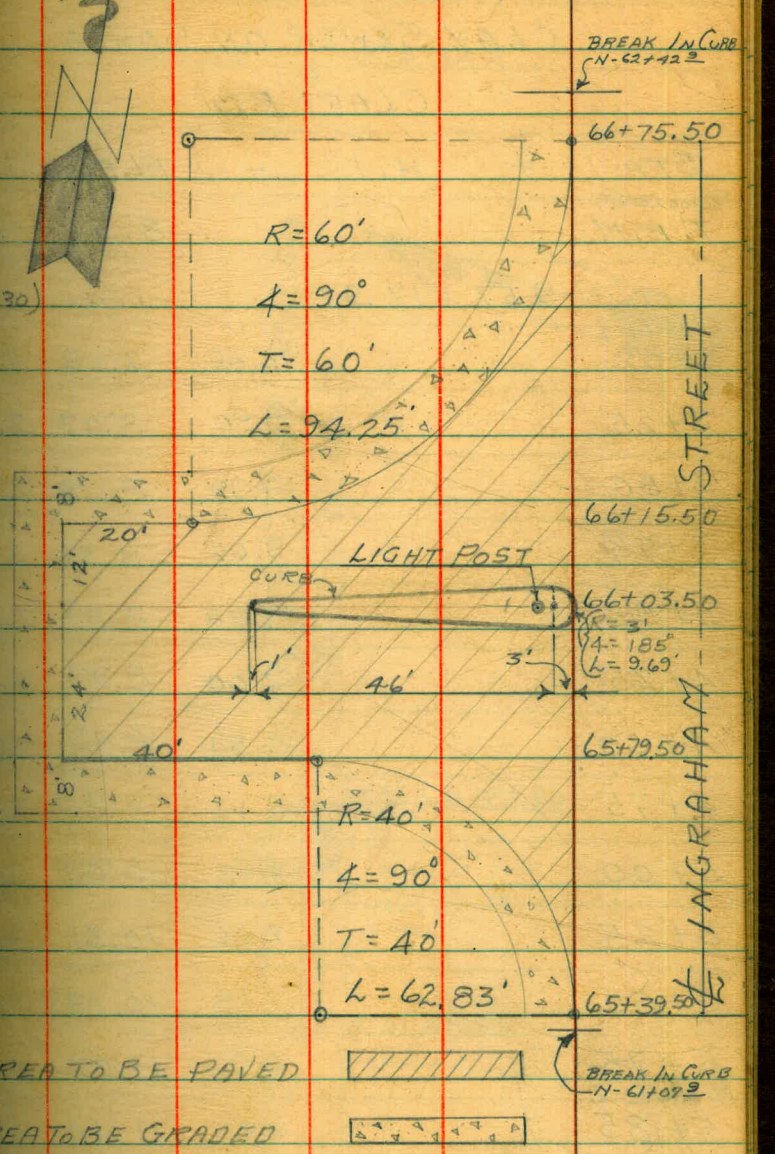
5-2-47

THOMAS A. STAMPER

PROPOSED NEW ROAD
DANA BASIN AREA
WEST GUTTERLINE OF
INGRAHAM BLVD PROFILE

Profile

STA.	+	H.I.	−	ELEV.	
T.B.M.	5.65			10.81	TOP OF 2"x2" STA 65+00 (SEE PG 30)
65+00			6.05		WEST GUTTER
+39.50			6.00		"
+79.50			6.02		"
66+03.50			5.94		"
66+15.50			5.94		"
66+75.50			5.90		"
67+00			5.82		"

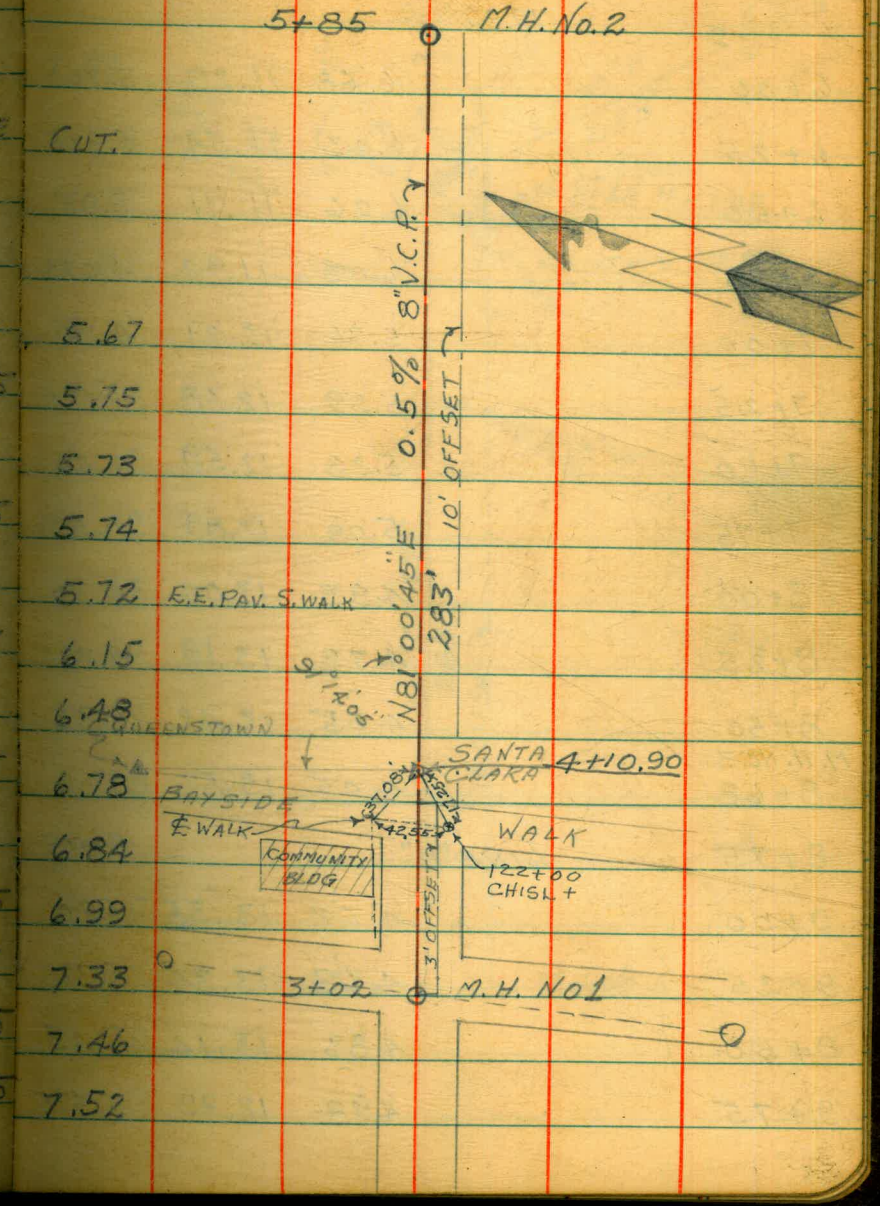


CONSTRUCTION ALIGNMENT OF PROPOSED 8" VITRIFIED CLAY SEWER ON SANTA CLARA PT.

Surveyed 5-5-47

THOMAS A. STAMPER

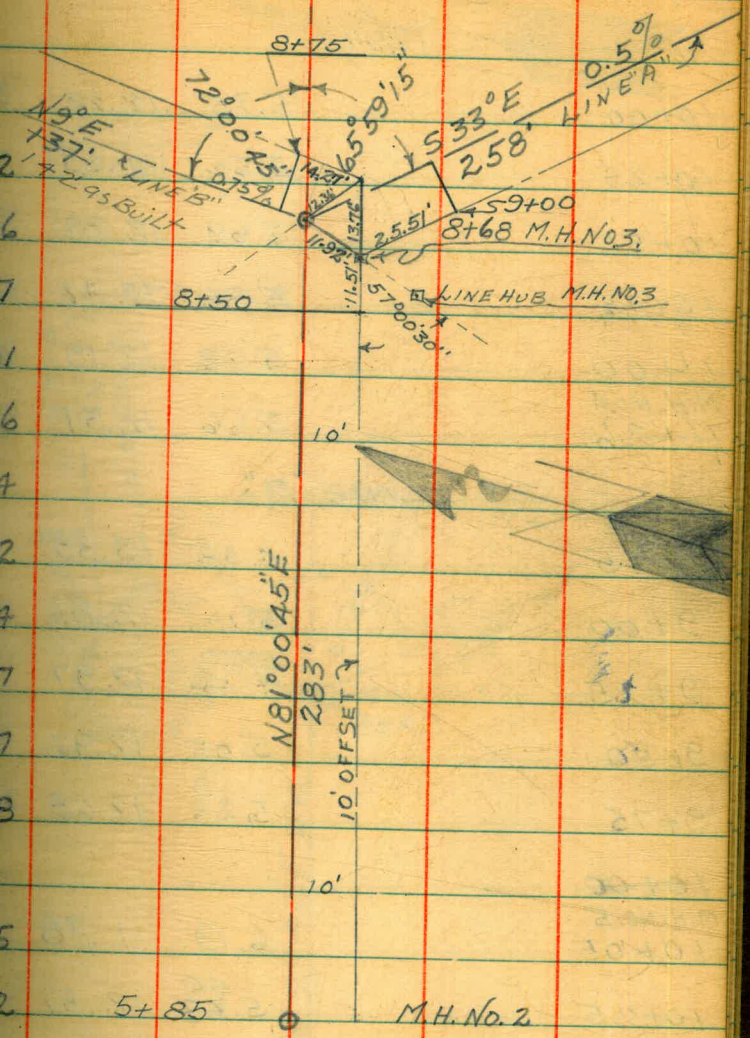
STA	+	H.I.	−	ELEV.	GRADE	CUT.
122+00 Chisl. ⊕. T.B.M.				8.40		
	9.57	17.97				
M.H. No. 1 3+02			10.09	7.88	2.21	5.67
3+25			9.90	8.07	2.325	5.75
3+50			9.79	8.18	2.45	5.73
3+75			9.66	8.31	2.575	5.74
3+95			9.58	8.39	2.675	5.72
4+25			9.00	8.97	2.825	6.15
4+50			8.54	9.43	2.95	6.48
4+75			8.12	9.85	3.075	6.78
5+00			7.93	10.04	3.20	6.84
5+25			7.66	10.31	3.325	6.99
5+50			7.19	10.78	3.45	7.33
5+75			6.94	11.03	3.575	7.46
M.H. No. 2 5+85			6.83	11.14	3.625	7.52



5-5-47

8" V.C.P. SEWER CONTO

STA	+	H.I. 17.97	-	ELEV.	GRADE	CUT
6+00			6.68	11.29	3.70	7.59
6+25			6.43	11.54	3.825	7.72
6+50			6.26	11.71	3.95	7.76
6+75			6.03	11.94	4.075	7.87
7+00			5.76	12.21	4.20	8.01
7+25			5.59	12.38	4.325	8.06
7+50			5.38	12.59	4.45	8.14
7+75			5.08	12.89	4.575	8.32
8+00			4.93	13.04	4.70	8.34
8+25			4.78	13.19	4.825	8.37
8+50			4.55	13.42	4.95	8.47
M.H. No. 3 8+68			4.45	13.52	5.04	8.48
~~8+75~~		LINE "A"			~~5.075~~	
9+00			4.62	13.35	5.20	8.15
9+25			4.63	13.34	5.325	8.02
9+50			4.83	13.14	5.45	7.69
9+75			4.98	12.99	5.575	7.42

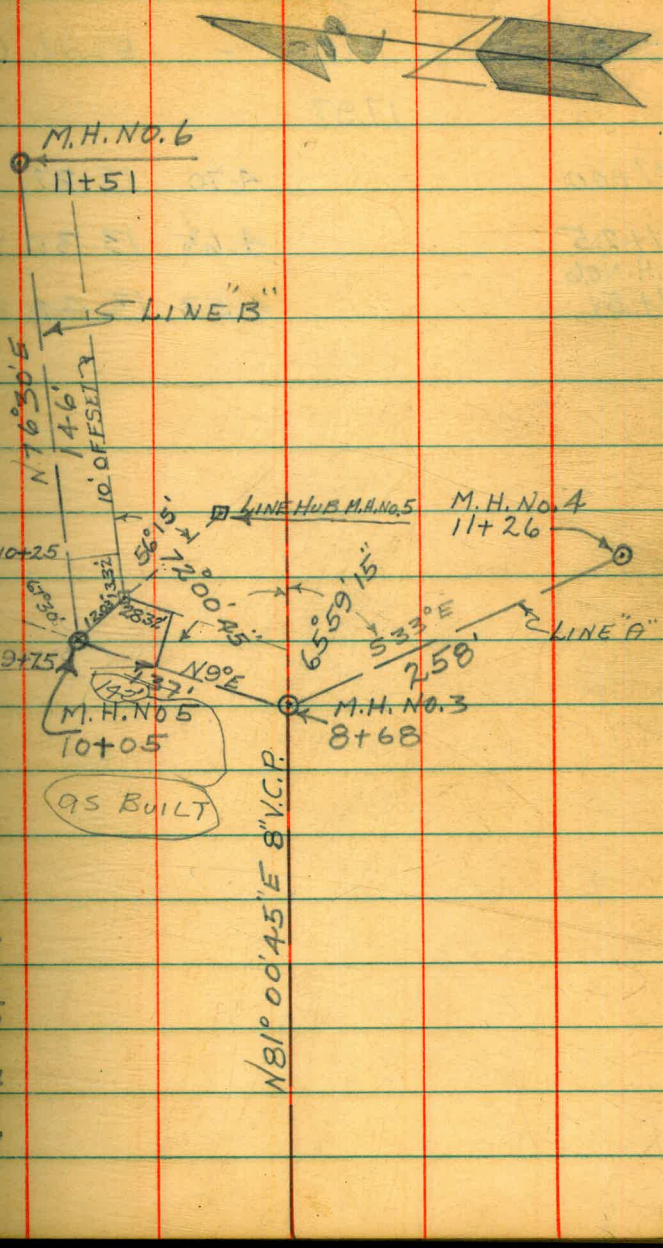


LINE "A"

8" V.C.P. SEWER CONTD

5-5-47

STA	+	H.I 17.97	-	ELEV.	GRADE	CUT
10+00			5.35	12.62	5.70	6.92
10+25			5.54	12.43	5.825	6.61
10+50			5.69	12.28	5.95	6.33
10+75			5.86	12.11	6.075	6.04
11+00			5.78	12.19	6.20	5.99
M.H. No.4 11+26			5.66	12.31	6.33	5.98
		LINE "B"				
8+75			4.58	13.39	5.09	8.30
9+00			5.11	12.86	5.23	7.58
9+25			~~4.98~~ 5.00	12.97	5.46	7.51
9+50			5.05	12.92	5.65	7.27
9+75			~~5.28~~ 5.29	12.68	5.84	6.84
~~10+00~~					~~6.03~~	
M.H. No.5 10+05			6.19	11.78	6.07	5.71
10+25			~~5.38~~ 5.40	12.57	6.22	6.35
10+50			4.93	13.04	6.40	6.64
10+75			4.77	13.20	6.59	6.61



5-5-47

8" V.C.P. SEWER CONTD

LINE "B"

STA	+	H.I	-	ELEV.	GRADE	CUT
		17.97				
11+00			4.70	13.27	6.78	6.49
11+25			4.65	13.30	6.97	6.33
M.H. No. 6						
11+51			4.53	13.44	7.16	6.28

PROFILE OF S. CAUSEWAY BRIDGE SOUTHERLY ALONG EAST & WEST SIDES OF BRIDGE

Analyzed

0+00 = 80+05 SOUND S. ALONG W. CAUSEWAY B/L.

DIST	SOUND		DIST	SOUND	X
0.0	10.2	-8.5	50	12.0	-10.3
~~+0:05~~	13.0	-11.3		12.7	-11.0
(1.7)	16.0	-14.3		14.2	-12.5
	12.1	-10.4		13.8	-12.1
	9.0	-7.3	(1.7)	13.0	-11.3
50	5.8	-4.1	200	12.4	-10.7
	7.5	-5.8		14.0	-12.3
	8.7	-7.0		12.9	-11.2
	9.3	-7.6		12.5	-10.8
	10.7	-9.0		12.0	-10.3
100	13.2	-11.5	~~+0:10~~ 50	12.5	-10.8
	14.0	-12.3		12.0	-10.3
	12.8	-11.1		11.1	-9.4
	12.8	-11.1		12.3	-10.6
40	14.0	-12.3	40	12.4	-10.7

5-15-47

NOTE: SEE BENTS IN RELATION TO B/L. STAS. (PG. 43)

DIST	SOUND		DIST	SOUND	X
300	11.1	-9.4	470	9.4	-7.7
	10.6	-8.9		11.0	-9.3
	12.5	-10.8		9.6	-7.9
(1.7)	10.7	-9.0	500	9.0	-7.3
	10.3	-8.6		9.8	-8.1
50	12.5	-10.8	(1.7)	10.0	-8.3
	12.4	-10.7		11.2	-9.5
	11.8	-10.1		11.2	-9.5
	9.8	-8.1	50	12.4	-10.7
	9.0	-7.3		11.5	-9.8
400	12.5	-10.8		11.3	-9.6
	13.0	-11.3		11.8	-10.1
	11.6	-9.9	~~10:15~~	11.6	-9.9
	10.0	-8.3	600	11.4	-9.7
	11.2	-9.5		12.4	-10.7
50	11.7	-10.0		14.0	-12.3
~~10:13~~	10.2	-8.5	30	13.4	-11.7

5-15-47

DIST	SOUND		DIST	SOUND
6.40	13.5	-11.8		
50	13.1	-11.4		
	13.0	-11.3		
	11.0	-9.3		
(1.7)	10.3	-8.6		
	9.1	-7.4		
700	8.7	-7.0		
	7.4	-5.7		
	5.3	-3.6		
	3.0	-1.3		
740	0.0			
~~10:11~~ 50	+ ?			
765	END BRIDGE + ?			

5-15-47 (69)

PROFILE OF S. CAUSEWAY BRIDGE

SOUTHERLY ALONG EAST & WEST SIDES OF BRIDGE

0+00 = 80+12 SOUND SOUTH —

ALONG EAST CAUSEWAY B/L

DIST	SOUND		DIST	SOUND	
00	9.7	-8.1	150	15.8	-14.2
(1.6)	15.0	-13.4		14.0	-12.4
	15.0	-13.4		15.1	-13.5
	18.1	-16.5		15.4	-13.8
	18.3	-16.7		15.4	-13.8
50	16.0	-14.4	.200	13.0	-11.4
	13.5	-11.9	(1.6)	15.3	-13.7
	16.0	-14.4		14.7	-13.1
	15.3	-13.7		12.8	-11.2
	13.1	-11.5		13.8	-12.2
100	15.2	-13.6	50	13.8	-12.2
	16.4	-14.8		13.0	-11.4
	15.0	-13.4		7.0	-5.4
	13.6	-12.0		13.2	-11.6
140	15.4	-13.8	290	13.2	-11.6

5-15-47

Dist	Sound		Dist	Sound	X
300	11.0	-11.0	500	6.7	-5.2
	9.8	-8.3		11.0	-9.5
	11.5	-10.0		10.0	-8.5
	11.0	-9.5		8.1	-6.6
	8.7	-7.2		10.5	-9.0
50	13.8	-12.3	50	12.4	-10.9
	12.5 c.s.p.	-11.0		10.5	-9.0
	10.4	-8.9	(1.5)	10.2	-8.7
	7.0	-5.5		13.2	-11.7
	7.0	-5.5		14.4	-12.9
400	11.5 a.c.p.	-10.0	600	12.3	-10.8
	11.0	-9.5		14.5	-13.0
	9.3	-7.8		15.5	-14.0
(1.5)	9.0	-7.5		15.0	-13.5
	10.5	-9.0		14.0	-12.5
50	10.0	-8.5	50	14.0	-12.5
	7.4	-5.9		14.4	-12.9
	8.0	-7.5		13.0	-11.5
	9.8	-8.3		11.6	-10.1
490	8.4	-6.9	690	11.0	-9.5

5-15-47

(70)

Dist	Sound		Dist	Sound	X
700	10.0	-8.5			X
	7.8	-6.3			
	8.8	-7.3			
(1.5)	8.0	-6.5			
	8.0	-6.5			
50	7.5	-6.0			
758	5.5	-4.0			

3.5
9.5
13.0

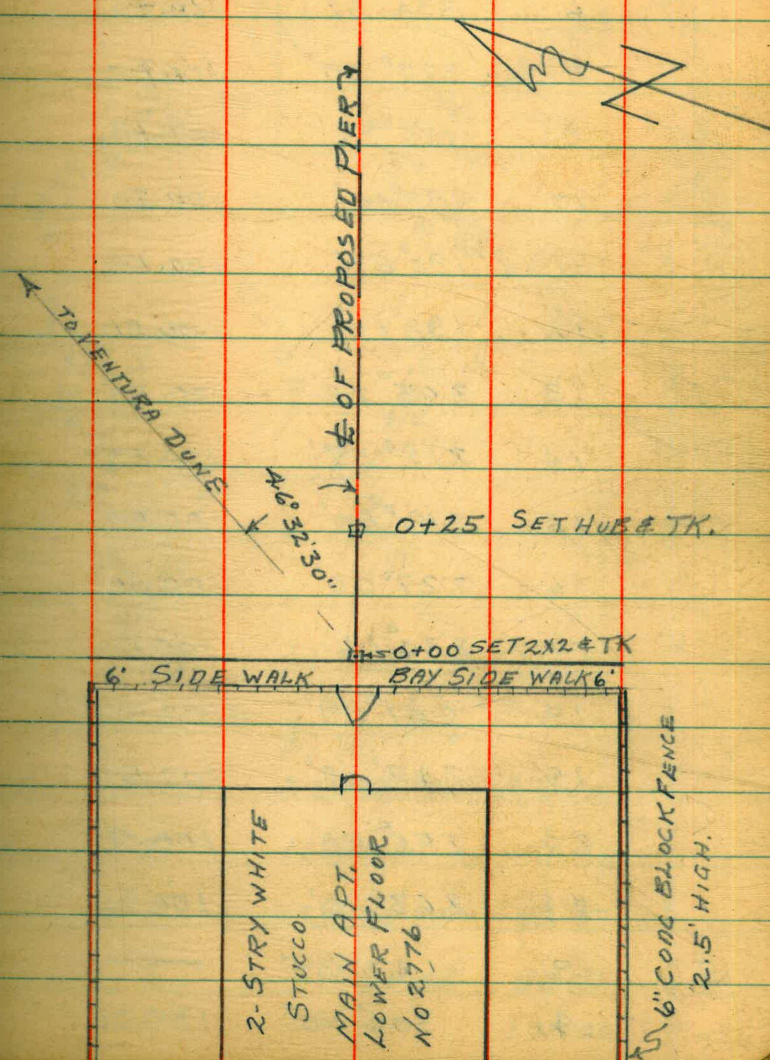
LOCATION OF PROPOSED PIER AT BRIGHTON COURT MISSION BEACH AREA.

5/20/47

Indexed

	+9.5	H.I. 13.0	−	12:57 (3.5)	
0+00 = E/EDGE CONC. WALK			2.6	+10.4	
0+08			3.1	+9.9	
20			5.3	+7.7	
30			7.1	+5.9	
40			9.5	+3.5	
DIST	SOUND		DIST (3.5)	SOUND	
(3.5) 50	1.4	+2.1	160	30.0	-26.5
60	2.3	+1.2	170	31.0	-27.5
70	4.3	-0.8	180	29.7	-26.2
80	4.0	-0.5	190	32.0	-28.5
90	4.5	-1.0	200	30.5	-27.0
100	7.5	-4.0	210	30.1	-26.6
110	10.2	-6.7	220	29.8	-26.3
120	14.4	-10.9	230	29.5	-26.0
130	21.0	-17.5	240	29.5	-26.0
13:00 140	25.0	-21.5	13:03 250	28.2	-24.7
150	28.0	-24.5			

STA	OBJ.	ANGLE	
	VENTURA DUNE	① 46°32'30"	5-23-47
2X2 HUB 0+00	R ℄ PIER	② 93°05'00"	
		AV = 46°32'30"	



LAYOUT OF DANA BASIN AREA

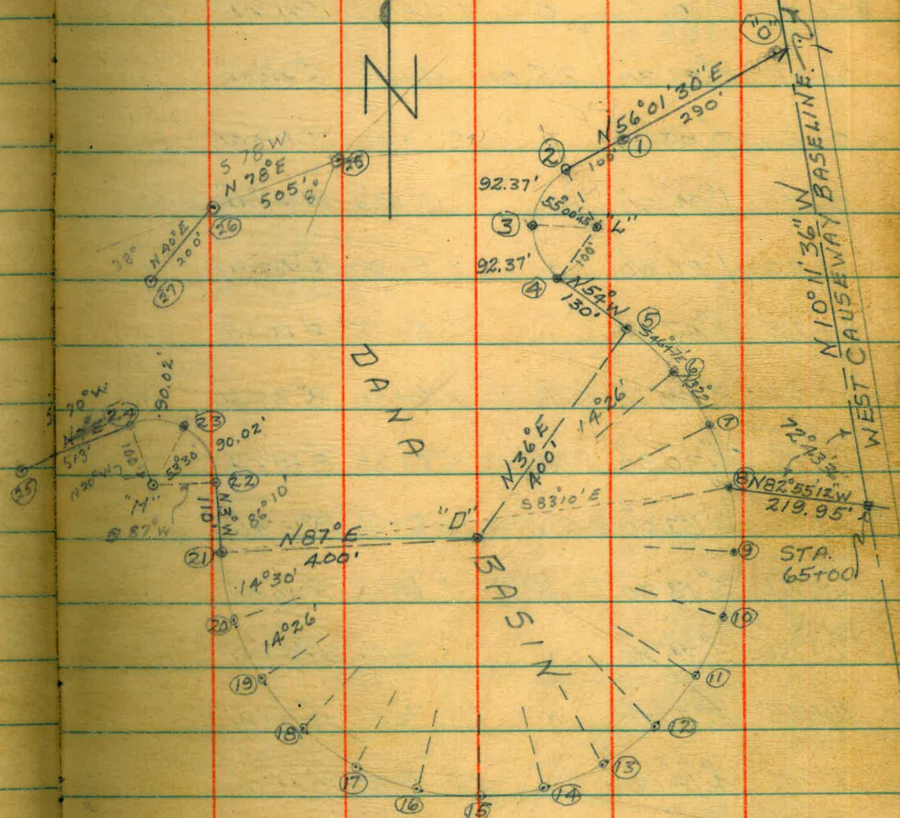
STA	OBJECT	AZIMUTH	CHORD
8	STA 65+00	97°04'48"	219.95'
	7	342°05'	100.50
	6	334°52'	100.50
	5	327°39'	100.50
	9	176°31'	100.50
X	10	183°44'	100.50
X	11	190°57'	100.50
X	12	198°10'	100.50
X	13	205°24'	100.50'
X	14	212°37'	100.50'
X	15	219°50'	100.50'
X	16	227°03'	100.50'
X	17	234°16'	100.50
X	18	241°29'	100.50
X	19	248°42'	100.50
X	20	255°55'	100.50
X	21	263°10'	100.96
5	8	147°39'	——
	4	306°00'	130.00

Gudewood

6-10-47

THOMAS A. STAMPER

NOTE: ZERO AZ. IS NORTH



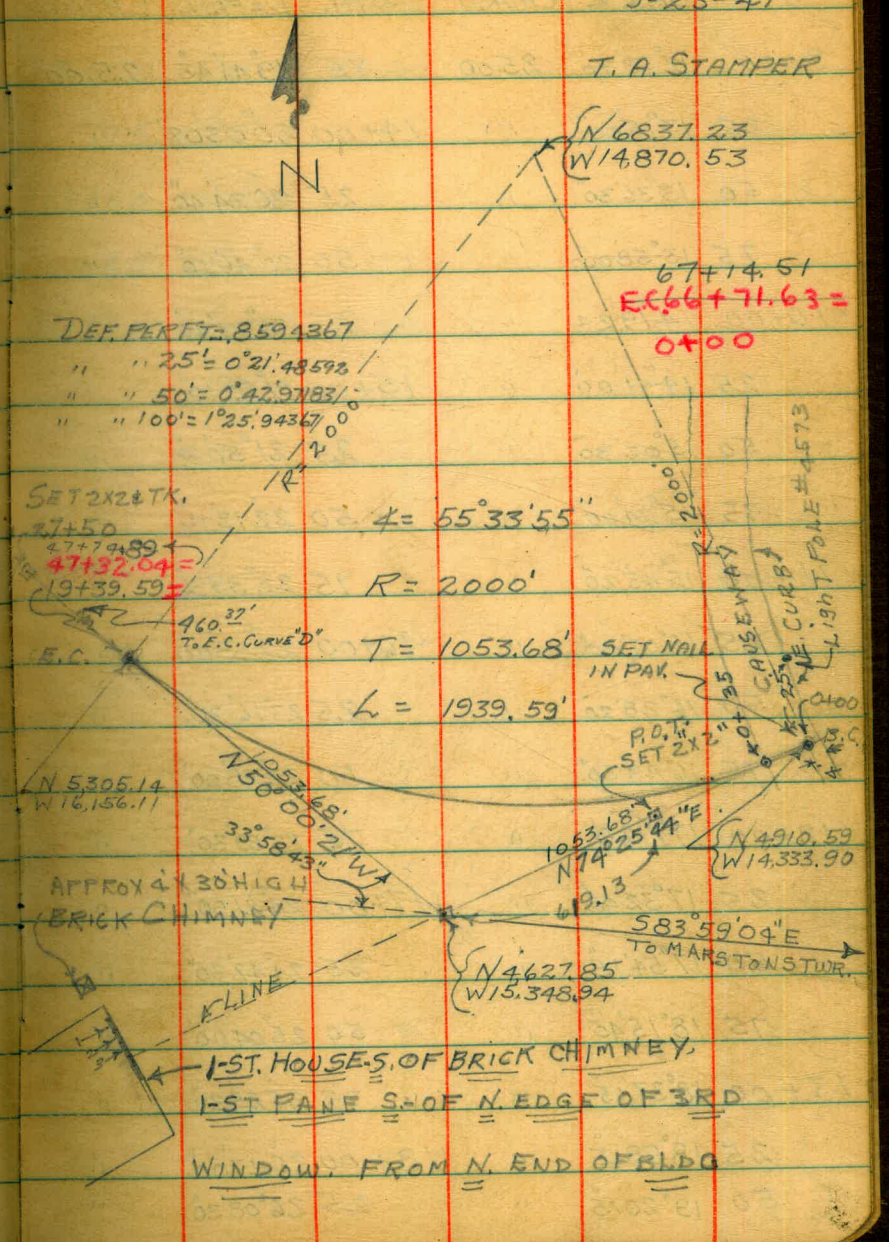
STA	OBJECT	AZIMUTH	CHORD
4	5	126°00'	130.00
	3	333°30'22"	92.37
	2	1°00'45"	92.37
	"L"	36°00'	100.00

NOTE: SEE PG. 77 (60') FOR DEFLECTIONS — FROM E.C.

REVISED LOCATION OF

VENTURA BLVD SUNSET FT.

STA.	DEFL ∠	CHORD	STA	DEFL ∠	CHORD
B.C. 0+00	0	0	4+50	6°26'45"	25.00
0+25	0°21'30"	25.00	4+75	6°48'15"	"
0+50	0°43'00"	"	5+00	7°09'45"	"
0+75	1°04'30"	"	5+25	7°31'15"	"
1+00	1°26'00"	"	5+50	7°52'40"	"
1+25	1°47'30"	"	5+75	8°14'10"	"
1+50	2°09'00"	"	6+00	8°35'30"	"
1+75	2°30'30"	"	6+25	8°57'08"	"
2+00	2°52'00"	"	6+50	9°18'40"	"
2+25	3°13'30"	"	6+75	9°40'00"	"
2+50	3°35'00"	"	7+00	10°01'30"	"
2+75	3°56'30"	"	7+25	10°23'00"	"
3+00	4°18'00"	"	7+50	10°44'30"	"
3+25	4°39'30"	"	7+75	11°06'00"	"
3+50	5°01'00"	"	8+00	11°27'30"	"
3+75	5°22'30"	"	8+25	11°49'00"	"
4+00	5°43'45"	"	8+50	12°10'30"	"
4+25	6°05'15"	"	8+75	12°32'00"	"



VENTURA BLVD CONTD.

STA	DEFL ∠	CHORD
9+00	12°53'30"	25.00
25	13°15'00"	"
50	13°36'30"	"
75	13°58'00"	"
10+00	14°19'24"	"
25	14°41'00"	"
50	15°02'30"	"
75	15°24'00"	"
11+00	15°45'20"	"
25	16°07'00"	"
50	16°28'20"	"
75	16°49'50"	"
12+00	17°11'20"	"
25	17°32'48"	"
50	17°54'15"	"
75	18°15'45"	"
13+00	18°37'15"	"
25	18°58'45"	"
50	19°20'15"	"

VENTURA BLVD CONTD.

STA.	DEFL. ∠	CHORD
75	19°41'45"	25.00
14+00	20°03'08"	"
25	20°24'40"	"
50	20°46'10"	"
75	21°07'40"	"
15+00	21°29'10"	"
25	21°50'38"	"
50	22°12'10"	"
75	22°33'36"	"
16+00	22°55'00"	"
25	23°16'30"	"
50	23°38'00"	"
75	23°59'30"	"
17+00	24°21'00"	"
25	24°42'30"	"
50	25°04'00"	"
75	25°25'30"	"
18+00	25°47'00"	"
25	26°08'30"	"

VENTURA BLVD CONTD.

STA	DEFL. ∠	CHORD
18+50	26°30'00"	25.00
75	26°51'30"	"
19+00	27°13'00"	"
+25	27°34'30"	"
EC+39.59	27°47'00"	14.59

SEWER & WATER

9/30/47

PROFILE OF EL CARMEL

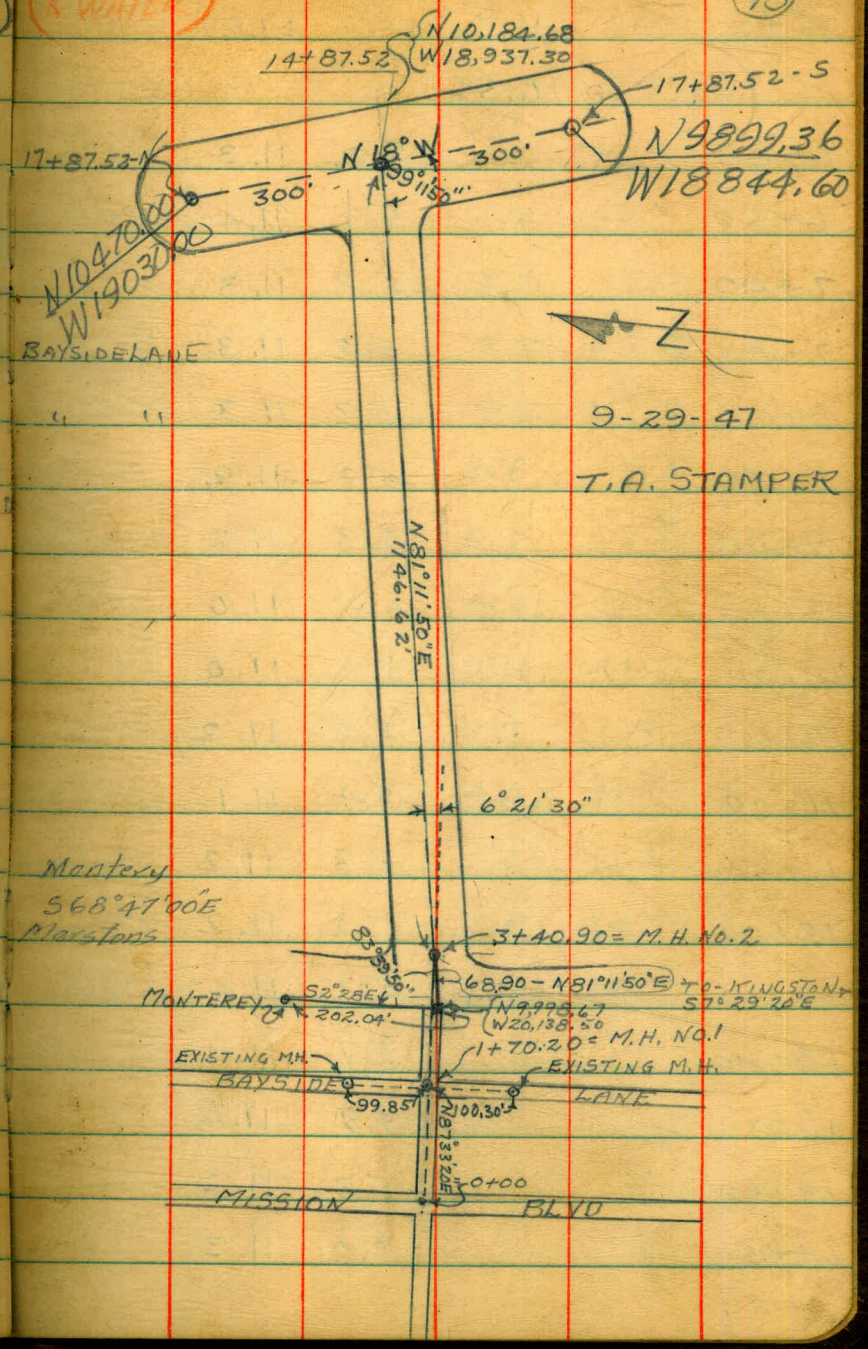
Pt. & STATION TIES FROM

STATION MONTEREY

STA	+	H.I.	−	ELEV. U.S.C.&G.S.	X-IN S. WALK
T.B.M.	4.45	12.89		8.44	107+00
EXISTING No. M.H.			9.62	3.27	℄ F.L.
EXISTING SOUTH M.H.			9.93	2.96	℄ F.L.
T.B.M.	8.10	16.54		8.44	107+00
0+00			5.73	10.81	MISS. BLVD ℄
0+50			7.0	9.5	
1+00			8.1	8.4	
1+50			8.8	7.7	
1+70.2			9.05	7.49	TOP PAV. M.H. #1
2+00			8.7	7.8	
2+50			8.1	8.4	
3+00			7.0	9.5	
3+40.9			6.5	10.0	M.H. #2
4+00			5.8	10.7	
4+50			5.4	11.1	
5+00			5.2	11.3	
5+50			5.3	11.1	

SEWER & WATER

75



10-30-47

STA	+	H.I.	−	ELEV
		16.54		
6+00			5.2	11.3
6+50			5.1	11.4
7+00			5.2	11.3
7+50			5.2	11.3
8+00			5.2	11.3
8+50			5.3	11.2
9+00			5.3	11.2
9+50			5.5	11.0
10+00			5.5	11.0
10+50			5.3	11.2
11+00			5.4	11.1
11+50			5.3	11.2
12+00			5.3	11.2
12+50			5.1	11.4
13+00			5.1	11.4
13+50			4.9	11.6
14+00			5.3	11.2
14+50			5.2	11.3

10-30-47

Sta	+	HI	−	Elev
P.I. 14+87.52		16.54	4.7	11.8
N 15+00			4.6	11.9
N 15+50			4.4	12.1
N 16+00			4.3	12.2
N 16+50			4.3	12.2
N 17+00			4.2	12.3
N 17+50			4.3	12.2
N 17+87.52			4.7	11.8
S 15+00			4.6	11.9
S 15+50			4.7	11.8
S 16+00			4.7	11.8
S 16+50			4.8	11.7
S 17+00			5.0	11.5
S 17+50			5.8	10.7
S 17+87.52			5.8	10.7

Indexed

STATIONS INCREASE FROM MISSION BLVD.
VENTURA BLVD AT SUNSET POINT.

DEFLECTIONS FROM B.C. STA. 47+32.04

STA	DEFL	CHORD	STA.	DEFL.	CHORD
B.C. 47+32.04	0	0	75	6°20'42"	25.00
50	0°15'26"	17.96	52+00	6°42'10"	"
75	0°36'55"	25.00	25	7°03'40"	"
48+00	0°58'25"	"	50	7°25'09"	"
25	1°19'54"	"	75	7°46'38"	"
50	1°41'23"	"	53+00	8°08'07"	"
75	2°02'52"	"	25	8°29'37"	"
49+00	2°24'33"	"	50	8°51'06"	"
25	2°45'50"	"	75	9°12'35"	"
50	3°07'19"	"	54+00	9°34'04"	"
75	3°28'49"	"	25	9°55'33"	"
50+00	3°50'18"	"	50	10°17'02"	"
25	4°11'46"	"	75	10°38'31"	"
50	4°33'17"	"	55+00	11°00'	"
75	4°54'45"	"	25	11°21'30"	"
51+00	5°16'14"	"	50	11°43'	"
25	5°37'43"	"	75	12°04'28"	"
50	5°59'12"	25.00	56+00	12°25'58"	25.00
56+25	12°47'26"	25.00	61+50	20°18'38"	25.00
50	13°08'56"	"		20°40'08"	"
75	13°30'25"	"	62+00	21°01'37"	"
57+00	13°51'54"	"	25	21°23'06"	"
25	14°13'23"	"	50	21°44'36"	"
50	14°34'52"	"	75	22°06'04"	"
75	14°56'20"	"	63+00	22°27'34"	"
58+00	15°17'50"	"	25	22°49'02"	"
25	15°39'20"	"	50	23°10'32"	"
50	16°00'50"	"	75	23°32'	"
75	16°22'18"	"	64+00	23°53'20"	"
59+00	16°43'47"	"	25	24°15'	"
25	17°05'16"	"	50	24°36'28"	"
50	17°26'46"	"	75	24°58'	"
75	17°48'14"	"	65+00	25°19'26"	"
60+00	18°09'44"	"	25	25°40'56"	"
25	18°31'14"	"	50	26°02'25"	"
50	18°52'42"	"	75	26°23'55"	"
75	19°14'10"	"	66+00	26°45'24"	"
61+00	19°35'40"	"	25	27°06'52"	"
25	19°57'10"	25.00	50	27°28'20"	25.00
			E.C. 66+71.63	27°46'57"	21.63

STA	DIST	
48	1400	
49	1400	
50	1400	
51	1500	
52	1600	
53	1700	
54	1800	
55	1900	
56	2000	
57	2100	
58	2200	
59	2300	
63	400	W R100
65	200-400	"
69	700	"

FROM P.I. 68.90 TO M.H. #2

P.I.

M.H.2 6° 21' 30 RT. N87-33-20E

MH #1

170.69

M.H. 2

170.21

℄ MISS BLVD

170.2
170.7
340.9

10.81 STA-65
4.45+

88 - 112.68 — 15.26 H.I. — 15.26 H.I.
112.68 — 11.00 GD. — 8.00
87 - 225.36 — 7.26
112.68 — T.P. 15.26 / 3.30
86 338.04 — 11.96 / 5.19+ / 17.15

11.15
7.39
18.54
5.5
13.04

18.54
4.75
13.79

81°40'
Aggie 2-3-47
57°-15' PI to Pent
41° 58' Pent to RC. } 41

12.9

58°-01' P.I to Pent.
42°-10' Pent to R.C.

18.54
14.6
3.94

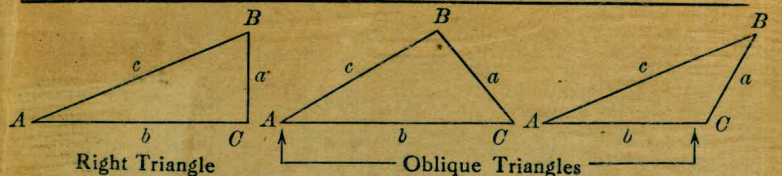
18.54
L 2.2
12.32

5.23
11.68
16.91

AGGIE
2-6-47
81 — 70°53
7.6 — 58°10'
Aggie 2-18-47 - 1:40 PM
8:00 to 11:55 Move Dredge
Sta 70+00 — 63°00'
Sta 74+00 — 70°08'

71
69
68
66
64
62

TRIGONOMETRIC FORMULÆ



Right Triangle — Oblique Triangles

Solution of Right Triangles

For Angle A. $\sin = \frac{a}{c}$, $\cos = \frac{b}{c}$, $\tan = \frac{a}{b}$, $\cot = \frac{b}{a}$, $\sec = \frac{c}{b}$, $\operatorname{cosec} = \frac{c}{a}$

Given	Required	
a, b	A, B, c	$\tan A = \frac{a}{b} = \cot B, c = \sqrt{a^2 + b^2} = a\sqrt{1 + \frac{b^2}{a^2}}$
a, c	A, B, b	$\sin A = \frac{a}{c} = \cos B, b = \sqrt{(c+a)(c-a)} = c\sqrt{1 - \frac{a^2}{c^2}}$
A, a	B, b, c	$B = 90° - A, b = a \cot A, c = \frac{a}{\sin A}$
A, b	B, a, c	$B = 90° - A, a = b \tan A, c = \frac{b}{\cos A}$
A, c	B, a, b	$B = 90° - A, a = c \sin A, b = c \cos A,$

Solution of Oblique Triangles

Given	Required	
A, B, a	b, c, C	$b = \frac{a \sin B}{\sin A}, C = 180° - (A + B), c = \frac{a \sin C}{\sin A}$
A, a, b	B, c, C	$\sin B = \frac{b \sin A}{a}, C = 180° - (A + B), c = \frac{a \sin C}{\sin A}$
a, b, C	A, B, c	$A + B = 180° - C, \tan \frac{1}{2}(A - B) = \frac{(a-b)\tan \frac{1}{2}(A+B)}{a+b}, c = \frac{a \sin C}{\sin A}$
a, b, c	A, B, C	$s = \frac{a+b+c}{2}, \sin \frac{1}{2}A = \sqrt{\frac{(s-b)(s-c)}{bc}}, \sin \frac{1}{2}B = \sqrt{\frac{(s-a)(s-c)}{ac}}, C = 180° - (A+B)$
a, b, c	Area	$s = \frac{a+b+c}{2}$, area $= \sqrt{s(s-a)(s-b)(s-c)}$
A, b, c	Area	area $= \frac{bc \sin A}{2}$
A, B, C, a	Area	area $= \frac{a^2 \sin B \sin C}{2 \sin A}$

REDUCTION TO HORIZONTAL

Horizontal distance = Slope distance multiplied by the cosine of the vertical angle. Thus: slope distance = 319.4 ft. Vert. angle = 5° 10′. From Table, Page IX. cos 5° 10′ = .9959. Horizontal distance = 319.4 × .9959 = 318.09 ft. Horizontal distance also = Slope distance minus slope distance times (1 — cosine of vertical angle). With the same figures as in the preceding example, the following result is obtained. Cosine 5° 10′ = .9959. 1 — .9959 = .0041. 319.4 × .0041 = 1.31. 319.4 — 1.31 = 318.09 ft.

When the rise is known, the horizontal distance is approximately:—the slope distance less the square of the rise divided by twice the slope distance. Thus: rise = 14 ft., slope distance = 302.6 ft. Horizontal distance $= 302.6 - \frac{14 \times 14}{2 \times 302.6} = 302.6 - 0.32 = 302.28$ ft.