

-1243-

THE

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No. 380 App 77 7/11/30

ENGINEERING DEPARTMENT,  
CITY OF SAN DIEGO,  
CALIFORNIA.

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

- No. 380 LEVEL BOOK. Left and Right Hand Page the same as Left Hand Page of this Book.
- No. 382 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 4 x 4 to the inch, Center Line Red.
- No. 384 MINING TRANSIT BOOK. Left Hand Page as in this Book, Right Hand Page 8x8 to the inch, Center Line Red.
- No. 385 FIELD BOOK. Left Hand Page as in this Book, Right Hand Page 8 vertical and 4 horizontal lines to the inch, Center Line Red.

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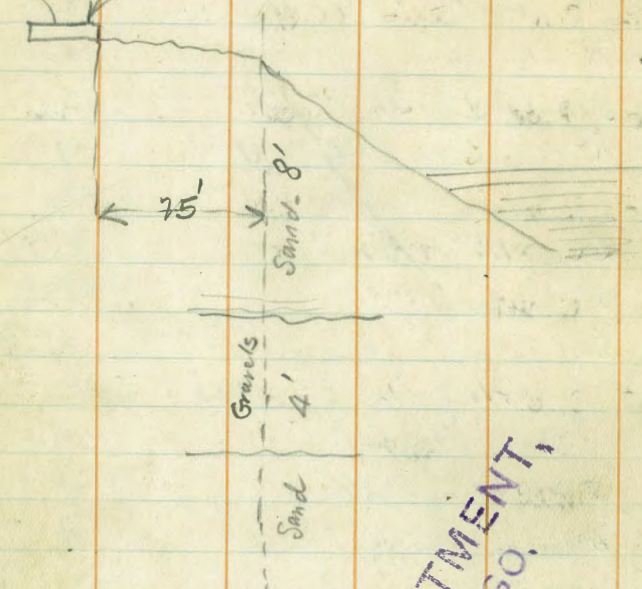
**THE FREDERICK POST CO.**  
*ENGINEERING and DRAFTING SUPPLIES*  
IRVING PARK STATION  
CHICAGO, ILL.

3  
y.  
✓

2 <sup>nd</sup> St	17-18	
Triple St	19	
Dwight & Wilson	19	1'
Ryckman - 31 K 184, U. H	21	
Lafayette Avenue	20	
Dwight Mithun	23	2'
Robinson - 8"	20	
Sena Ganguis - 77-	25-26	
Fla & Ala - So. of Univ -		4'
Filleta Plant	27-28-29	
Riverfront Plant	28	
Mission Valley Plant	29	2'
Top. Ocean Beach	33	0'
X Sec. Florida Court from Georgia to Florida	57	
" " 34 St. " National to Boston	63	9'
" " 36 St. " " " "	70	1'
		5'
		6'
		2'

Mission Bay -

Boardwalks Angl Elev. 0° City Datum -



ENGINEERING DEPARTMENT,  
CITY OF SAN DIEGO, CALIFORNIA.

Brittain  
Dotson

SOUNDINGS

Fin-Mch-24-1928

Location	Top Sand	Gravel	Clay	Elev. <sup>3</sup>
Verona court 4400	7.0' 5.0'	← Soft Bottom →	3.0'	-3.2' ✓
San Rafael Place 2450	6.5' 6.3'		2.2'	-4.5' ↓
Vanatie court 2490	7.0' 5.0'		3.0'	-4.2' ↓
Tangiers court 6430	8.0' 3.0'		4.0'	-5.4' ↓
Ally between Seagirt + Sunset 870	9.5'		5.5'	-1.2' ✓
Salem court 10200	10.0'		5.0'	-4.0' ✓
Rockaway 17480	12.0'		3.0'	-2.9' ✓
Redondo 12210	14.0'		1.0'	-4.1' ↓
Queenstown 15430	15.0'		0.0	-4.5' ✓
Pismo 16260	15.0'		0.0	-4.6' ✓
Portsmouth 17280	15.0'		0.0	-4.2' ✓

Location	Sand	Gravel	Clay	Elev.
Santa Clara Pl. 19x50	15.0'	-	-	-3.9' ✓
Ostend 71x60	15.0'	-	-	-4.3' ✓
Ormond 77x60	10.0' 4.0'	-	1.0'	-4.4' ✓
Newport 25x60	9.6' 4.2'	-	2.2'	-5.3' ✓
San Juan Pl. 77x60	9.4' 3.1'	-	2.5'	-2.9' ✓
Nantasket 74x60	9.6' 2.5'	-	2.9'	-2.8' ✓
Nahant 71x50	9.5' 2.5'	-	3.0'	-0.4' ✓
Monterey 77x40	9.1' 2.4'	-	3.5'	-0.7' ✓
El Carmel 35x70 Place	9.0' 3.0'	-	3.0'	-2.8' ✓

Location	Sand	Gravel	Clay	Elev.
Manhattan 37x70	10.0' 2.5'	-	2.5'	-1.9' ✓
Liverpool 74x10	12.0	-	3.0	-1.3' ✓
Lido 41x60	14.0'	-	1.0'	-2.5' ✓
San Luis Obispo 47x70	15.0'	-	-	-2.4' ✓
Kingstown 45x70	13.0'	could go no further	-	-2.3' ✓
Kennebeck 47x70	10.0'	could go no further	-	-5.3' ✓
Jersey 49x10	8.0'	no further	-	-7.5' ✓
Santa Barbara 51x30	7.6'	No further	-	-7.9' ✓
Jamaica 53x60	9.5'	no further	-	-6.1' ✓
Isthmus 57x40	13.0'	no further	-	-7.5' ✓
Island 57x70	15.0'	0.0'	-	-0.8' ✓

← Beds of rock on surface →

Amusement Centre.

Brittain  
Macy

Location Sand Gravel Clay Elev.

San Fernando 8.4' no further -4.4' ✓  
0+00

Ensenada 7.0' 8.0' -1.6' ✓  
2450

Dorer 5.5' 1.0' -3.8' ✓  
4+50  
6.9' no further

Deron 5.5' No further 7.7' -2.3' ✓  
6+50

Gabriel Pl. 8.5' No further - -1.2' ✓  
8+00

Deal 5.0' 3.0' -2.1' ✓  
10+00  
3.6' no further

Coronado 12.8' no further -1.8' ✓  
17+00

Catalina 5.0' 3.0' -4.0' ✓  
18+00  
7.0'

Capistrano 9.8' no further -3.0' ✓  
16+

Location Sand Gravel Clay Elev.<sup>5</sup>

Brighton 15.0' - -3.7' ✓  
18+

Balboa 15.0' - -5.6' ✓  
20+

Avalon 15.0' - -7.2' ✓  
21+90

San Luis Rey 15.0' - -6.5' ✓  
24+00

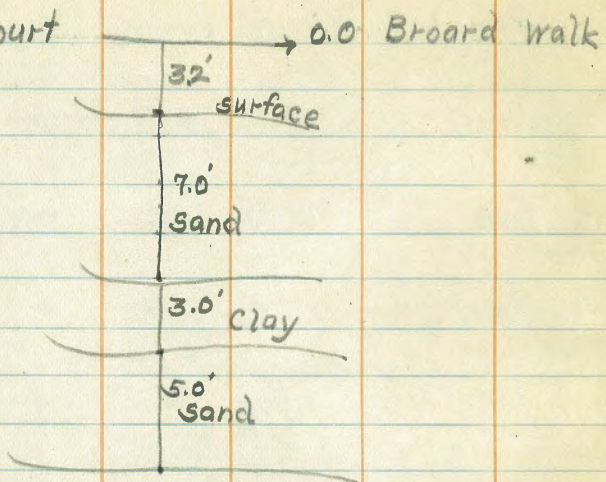
Anacapa 4.0' could go -5.2' ✓  
26+60  
no further

Aspin 6.0' could go -3.7' ✓  
28+00  
no further

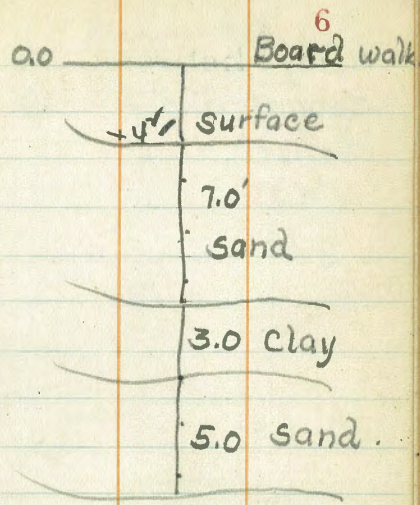
Point between 5.5' no further -1.1' ✓  
Aspin + bridge

← Rocky surface →

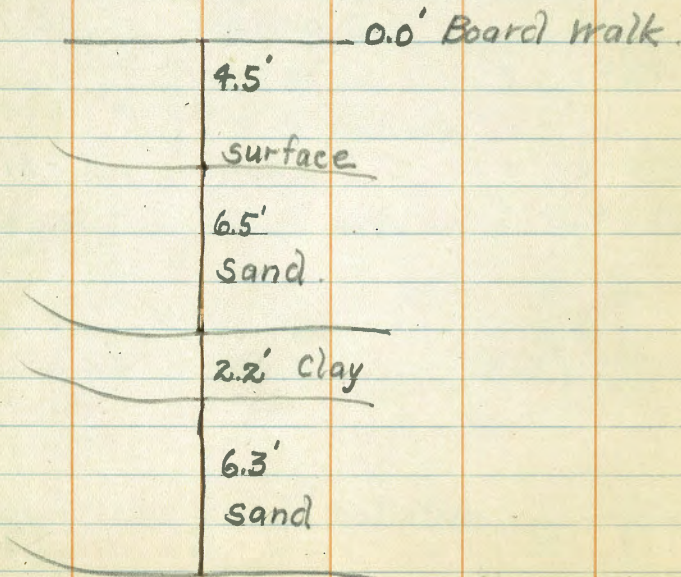
Yerona court



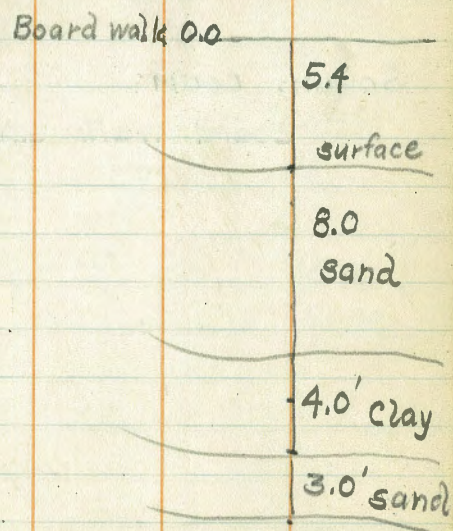
Vanatie court



San Rafael Place



Tangiers court



Alley between  
Seagirt and  
Sunset.

0.0 Board walk

1.2

9.5'  
sand

5.5  
clay

Salem court

Board walk 0.0

4.0  
surface

10.0'  
sand

5.0'  
clay

Rockaway court

Board walk <sup>7</sup>

surface -2.9'

12.0'  
sand

3.0 clay

Redondo court

Board walk 0.0

4.1'  
surface

14.0'  
sand

1.0' clay



A  
S  
S

Queenstown court

Board walk 0.0

4.5'

surface

15.0'  
sand

Pismo court

Board walk 0.0

4.6'

surface

15.0'  
sand.

S

Portsmouth court

Board walk 0.0

4.2'

surface

15.0'  
sand.

Santa Clara Place

Board walk 0.0'

3.9'

surface

15.0'  
Sand.

Ostend court

Board walk 0.0

4.3'

surface

15.0'  
sand

Ormond court

Board walk

4.4'

surface

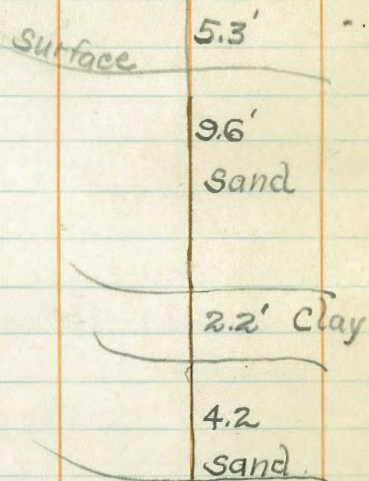
10.0'  
sand

1.0' clay

4.0' sand.

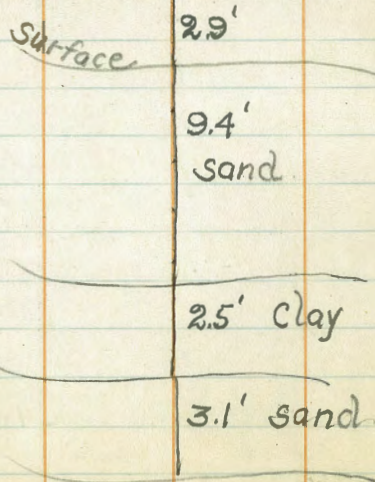
Newport Court

Board walk 0.0



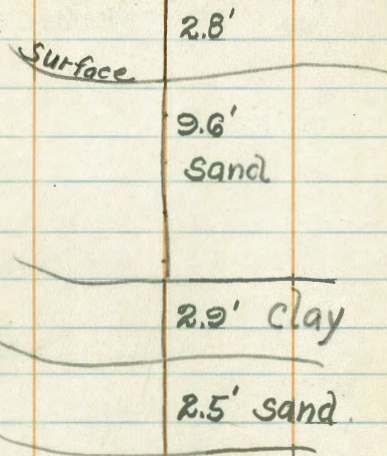
San Jaun Place

Board walk 0.0'



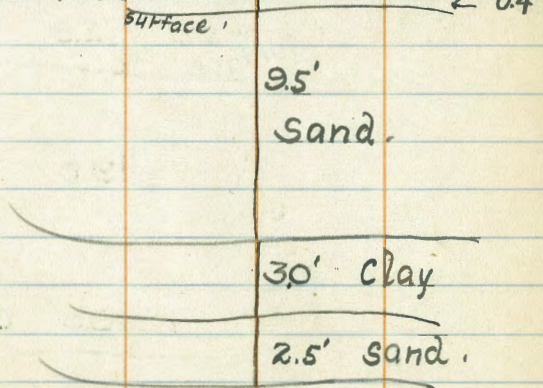
Nantasket Court

Board walk 0.0



Nahant Court

Board walk 0.0



## Monterey Court

Board walk 0.0

Surface

← 0.7'

9.1'  
sand

3.5' clay

2.4' sand

## El Carmel Place

Board walk 0.0

Surface

2.8'

9.0'

3.0' clay

3.0' sand

## Manhattan Court

Board walk 0.0

1.9' surface

10.0'  
sand

2.5' clay

2.5' sand

## Liverpool Court

Board walk 0.0

Surface

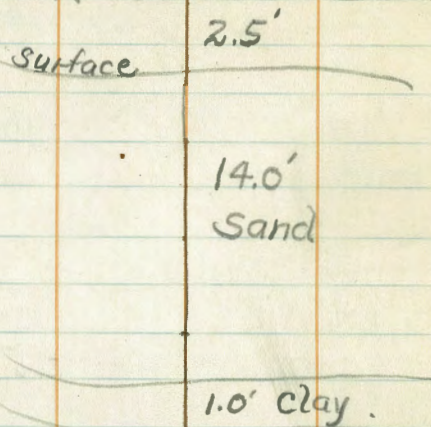
1.3'

12.0'  
sand

3.0' clay

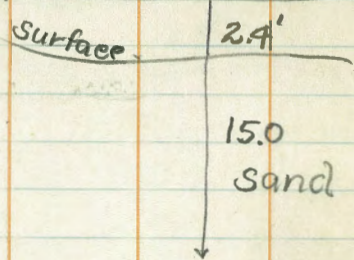
Lido Court

Board walk



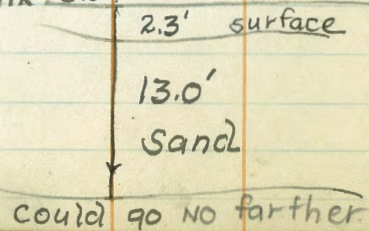
San Luis Obispo Court

Board walk 0.0'



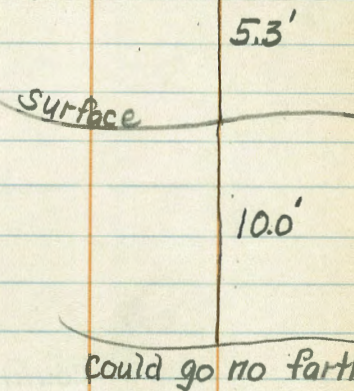
Kingstown court

Board walk 0.0



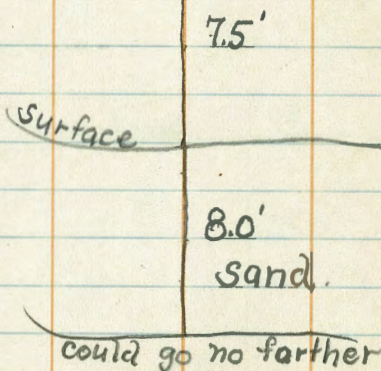
Kennebeck Court

Board walk 0.0



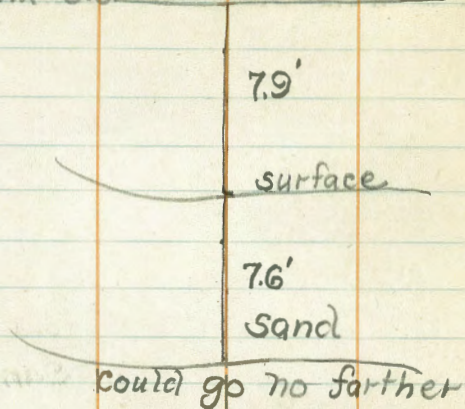
Jersey Court

Board walk 0.0



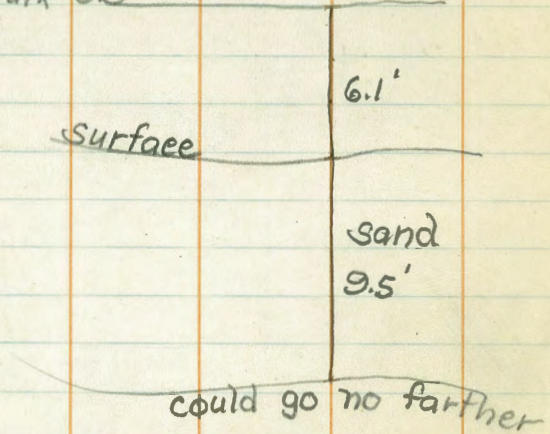
Santa Barbara Court

Board walk 0.0



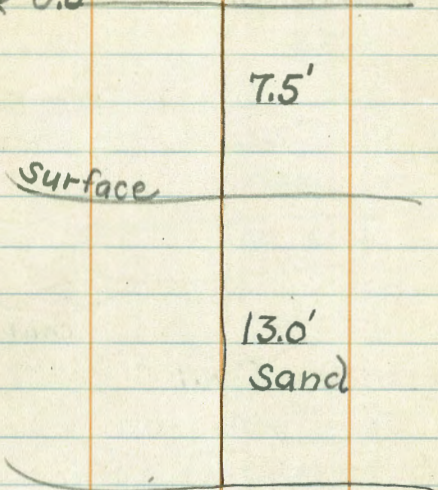
Jamaica Court

Board walk 0.0



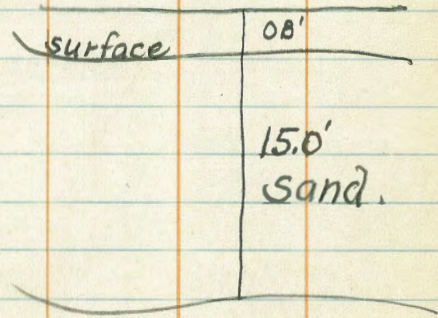
Isthmus Court

Board walk 0.0



Island Court

Board walk



San Fernando Court  
Board walk 0.0

4.4'
Surface
8.4'
Sand
could go no farther.

Ensenada Court  
Board walk 0.0

1.6'
Surface
7.0'
Sand
8.0'
Clay

Dorer Court  
Board Court

3.8'
Surface
5.5'
Sand
1.0' Clay
6.9'
Sand
No farther

Deron Court  
Board walk 0.0

2.3'
Surface
5.5'
Sand
7.7'
Clay
could go no farther.

## Gabriel Place

Board walk 0.0

Surface	1.2'
---------	------

8.5'

sand

could go no further

## Deal Court

Board walk 0.0

Surface	2.1'
---------	------

5.0'

sand

3.0' clay

3.6'

sand

could go no further

## Coronado Court

Board walk 0.0

Surface	1.8'
---------	------

12.8'

sand

could go no further

## Catalina Court

Board walk 0.0

Surface	7.0'
---------	------

5.0

sand

3.0' clay

7.0'

sand

## Capistrano Court

Board walk 0.0

Surface	3.0'
---------	------

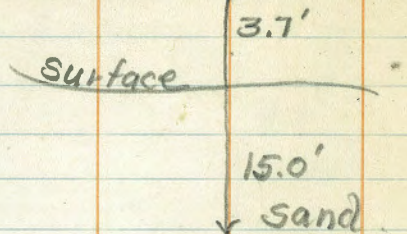
9.8'

sand

could go no further

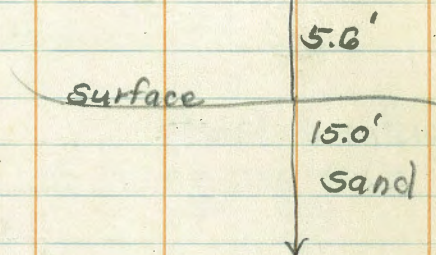
Brighten Court

Board walk 0.0



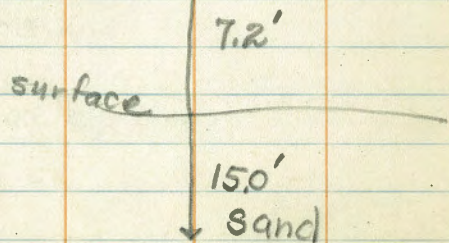
Balboa Court

Board walk 0.0



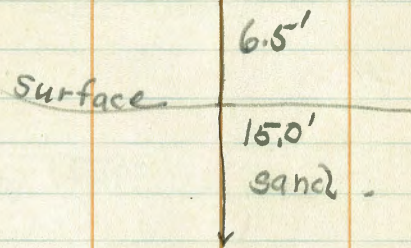
Aralon Court

Board walk



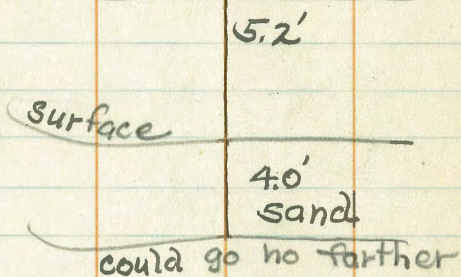
San Luis Rey

Board walk



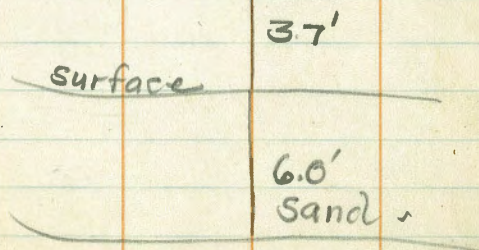
Anacapa Court

Board Court 0.0



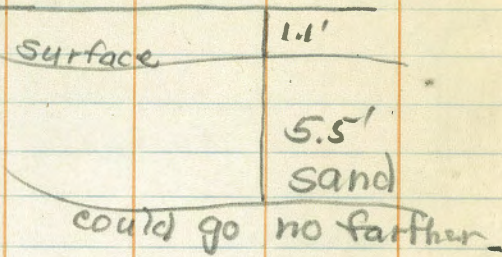
Aspin Court

B.W 0.0'





End point  
B.W. 0.0'



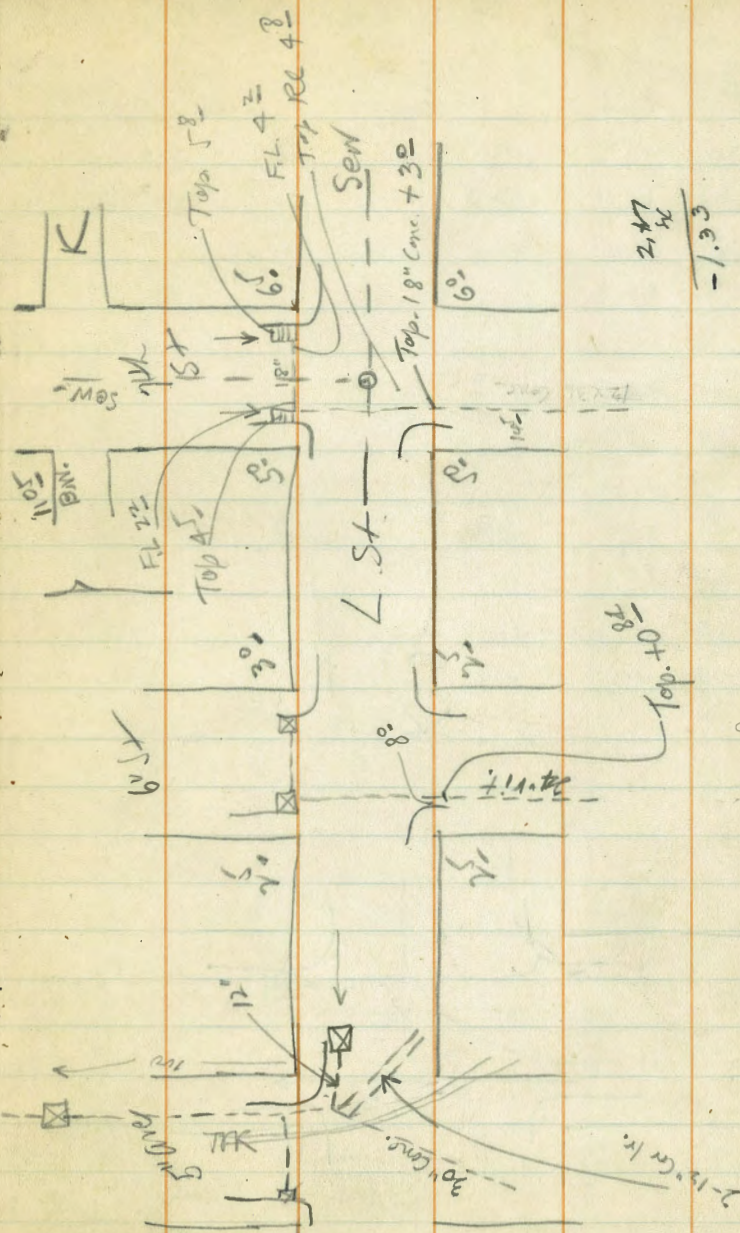
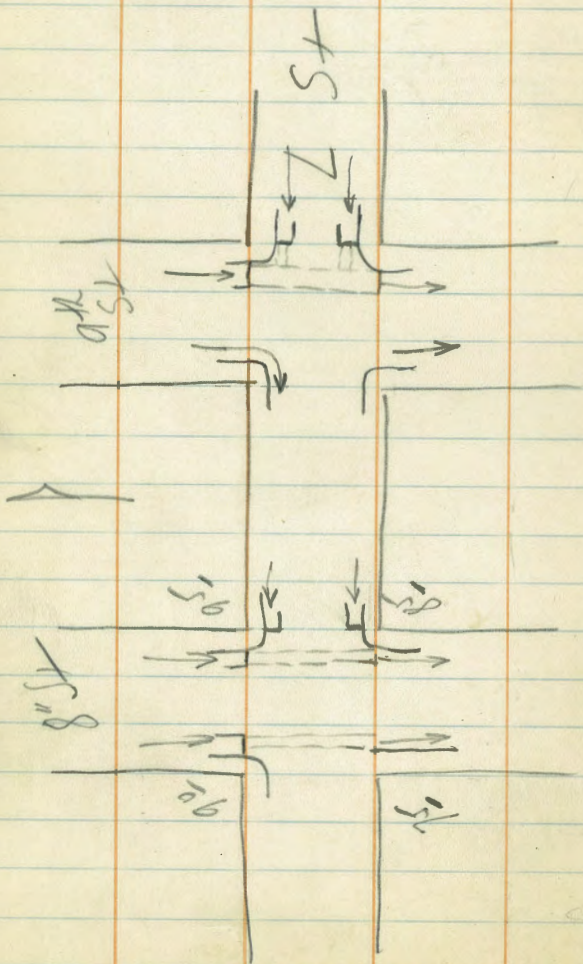
5/27/78

3.57

10.07

7.07	6.50
9.23	+3.00
	0.84

5.2	+4.8	Top RL-
-----	------	---------



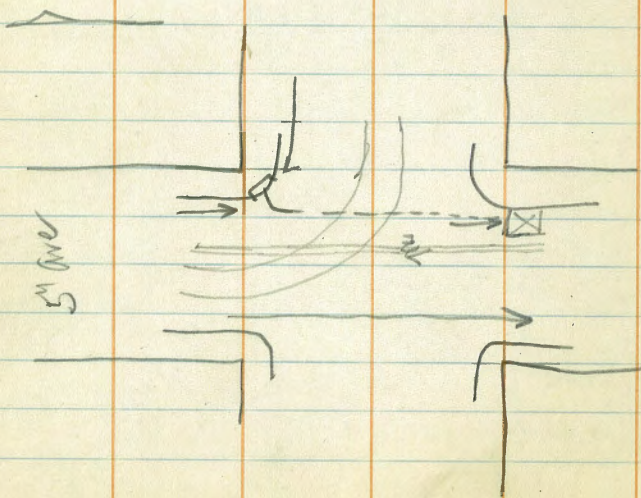
$\frac{2.17}{4}$   
-1.33

Top. +0.84

2-12\"/>

5/27/78

K-S



6/1/78

6.16

10.66

6.50

18

4.87

5.29

Gate ME 7"  
+L

6.47

4.19

F.L. ✓

6.18

4.48

Gate ME 7"  
+L

8.43

2.23

F.L. ✓

9.44

1.22

Gate ME 7"  
+ Imp.

11.4

-.8

F.L. ✓

7.93

2.73

Gate ME 6"  
+L

8.80

1.86

Gate ME 6"  
+L

21

10.90

-.24

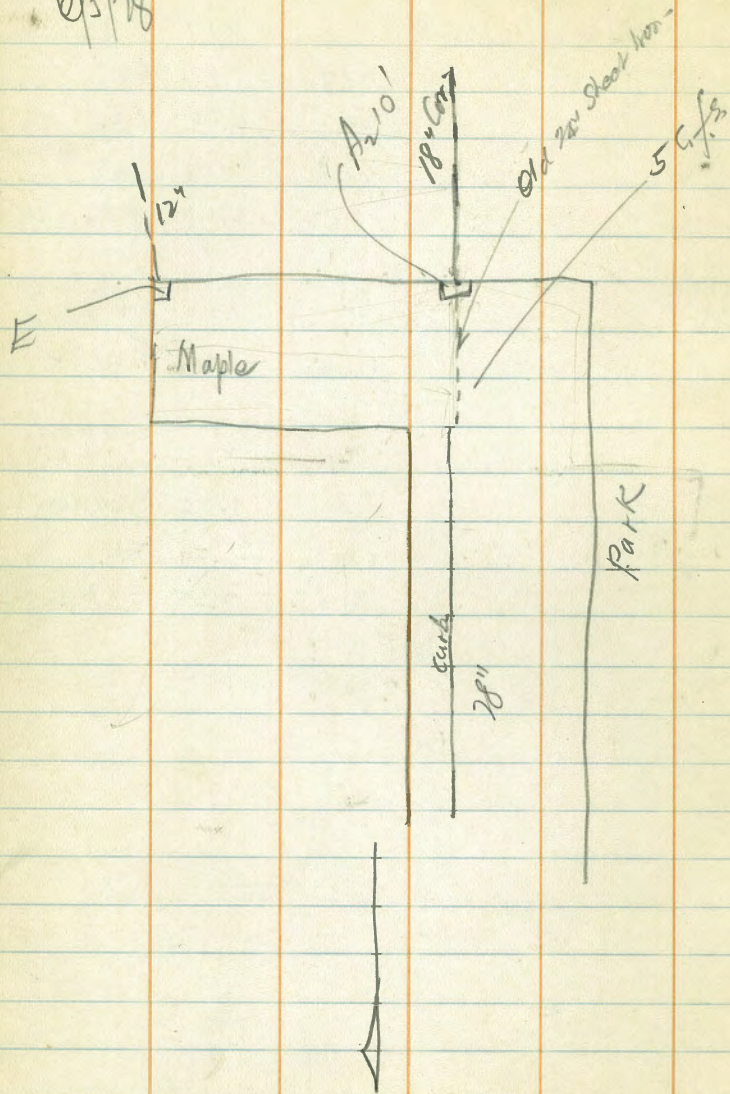
F.L.

8.40

2.26

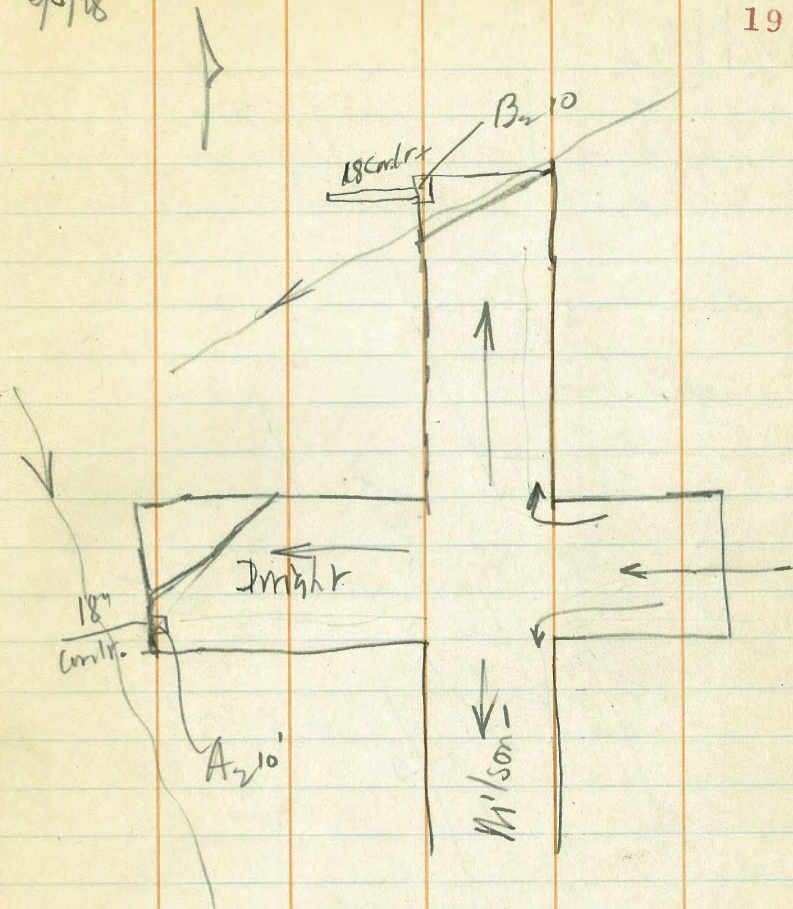
Gate ME 6"  
+L

6/5/28

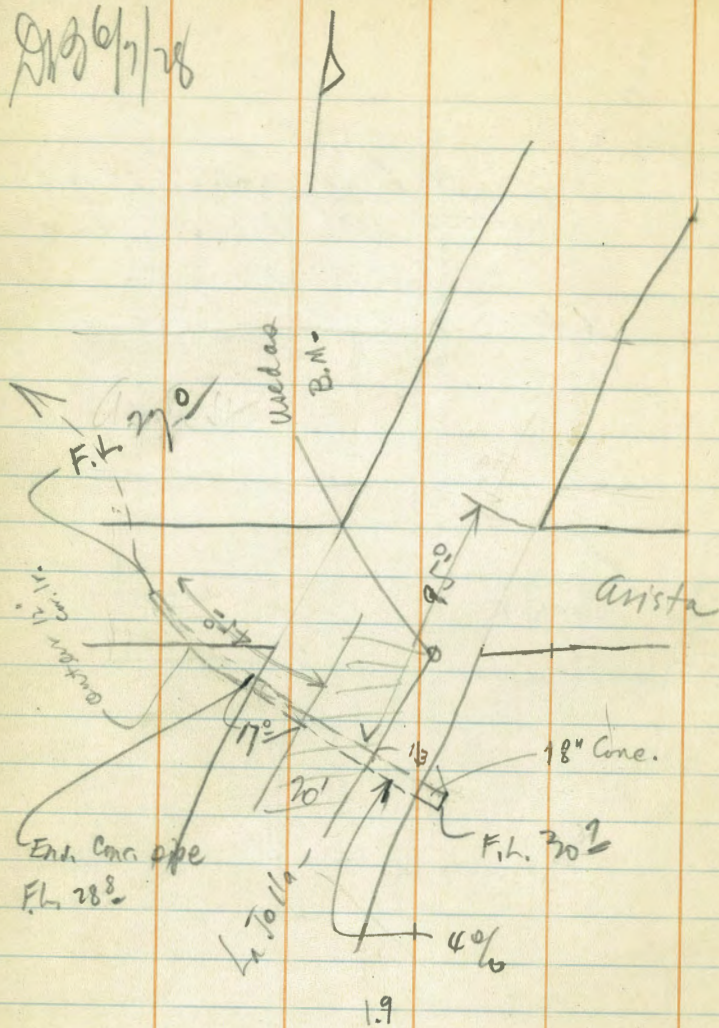


6/5/28

19



9/26/78



20

4.79	39.76	35.06	
	8.53	30.73	F.L. E. end
	12.30	46.96	F.L. W. end

1" N. S. E. C. 60° 4.20 35.06  
 29.  
 35.06  
 $M_b = 39.76$

6.1	36.8	30.7	
	8.0	28.8	N. End. 18"

17.0  
17  
14.3

Draw 1 1/2 14v - U.H.

6/1/78

H<sub>1</sub>

293.8

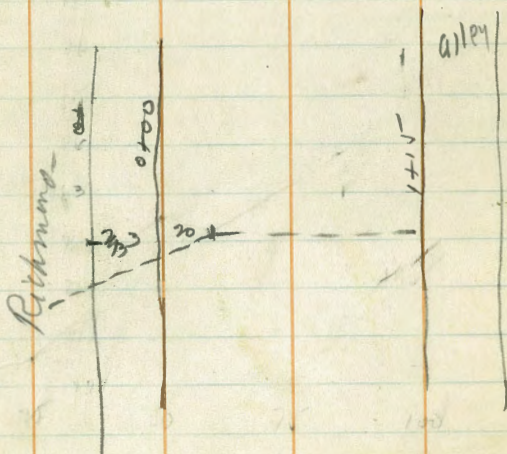
H<sub>1</sub> = Level of curb-top - Richmond -

0+10 = End pipe	0+20	14.3	279.0	F.L. 12" Pipe
+25	+45	13.7	279.6	
+50	+70	10.8	287.5	
+60	+80	11.2	287.1	
+85	+105	9.5	283.8	Top of Slope

115 ft

all by 1+15

210. -



Nov 7/5/26

7.57

380.58

373.01

12.5  
8.95  
3.55

7.58

373

7.46

373.12

6.78

373.80

6.44

374.16

El. Conc. Floor 374.0

Sub. gr. - .67  
373.33 Bot. of slab

+3.55

384.13

Ledge So Res.  
316, tap ✓

+2.9

383.5

✓ No Res.

0+00 S.S

6.04

374.49

cut. 1.16

+50

6.38

374.20

cut 0.87

1+

6.68

373.90

cut 0.57

1+68

6.34

374.24

cut 0.91

1+68 N.S.

5.80

374.78

cut 1.45

1+

5.95

374.63

cut 1.33

0+50

5.57

375.01

✓ 1.68

0+00

5.46

375.14

✓ 1.79

6.98

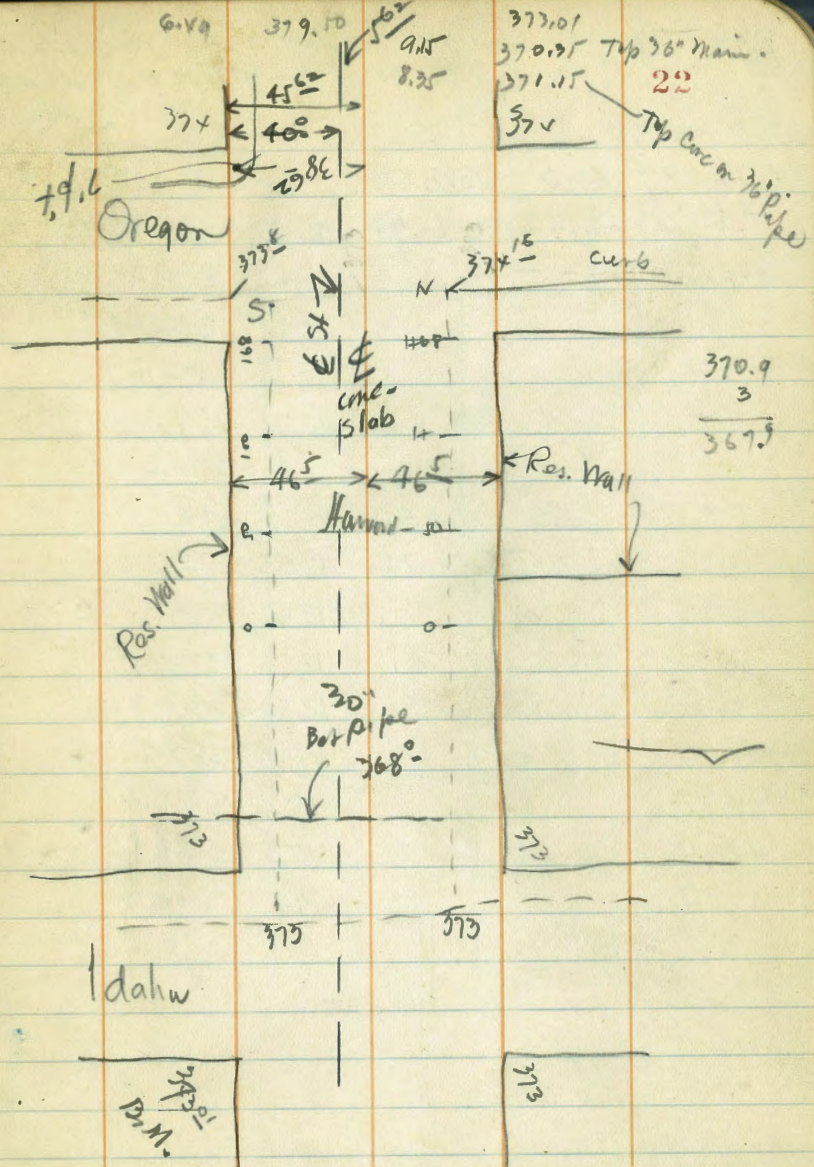
73.60

7.15

3.43

7.3

.28



See page 27

Levels for Culvert 19' N of S line of Dwight  
St from a point 320' W of the W Line of Wilson St

BM NW 36 <sup>th</sup>	+	+	-	
+ Dwight	1.10	328.65		327.55
T.P.	0.14	316.44	12.35	316.30
3+06			7.3	309.1
3+20			9.8	306.6
433			13.8	302.6
T.P.	2.04	306.76	12.22	304.22
3+44			11.0	290.3
T.P.	0.80	294.80	12.26	294.00
T.P.	1.78	284.08	12.50	282.30
3+84			13.0	271.1
T.P.	2.23	274.31	12.0	272.08
4+06			13.2	261.1
4+16			16.2	258.1
4+20			17.0	257.3
4+24			15.5	258.8
4+35			14.1	260.2

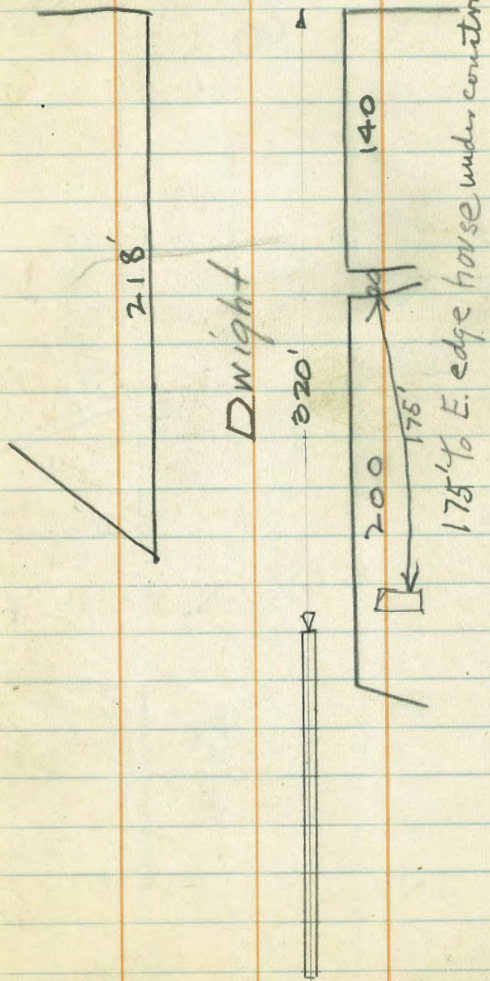
Burgster  
Butzine  
6/2/78

Wilson

Dwight

St

23

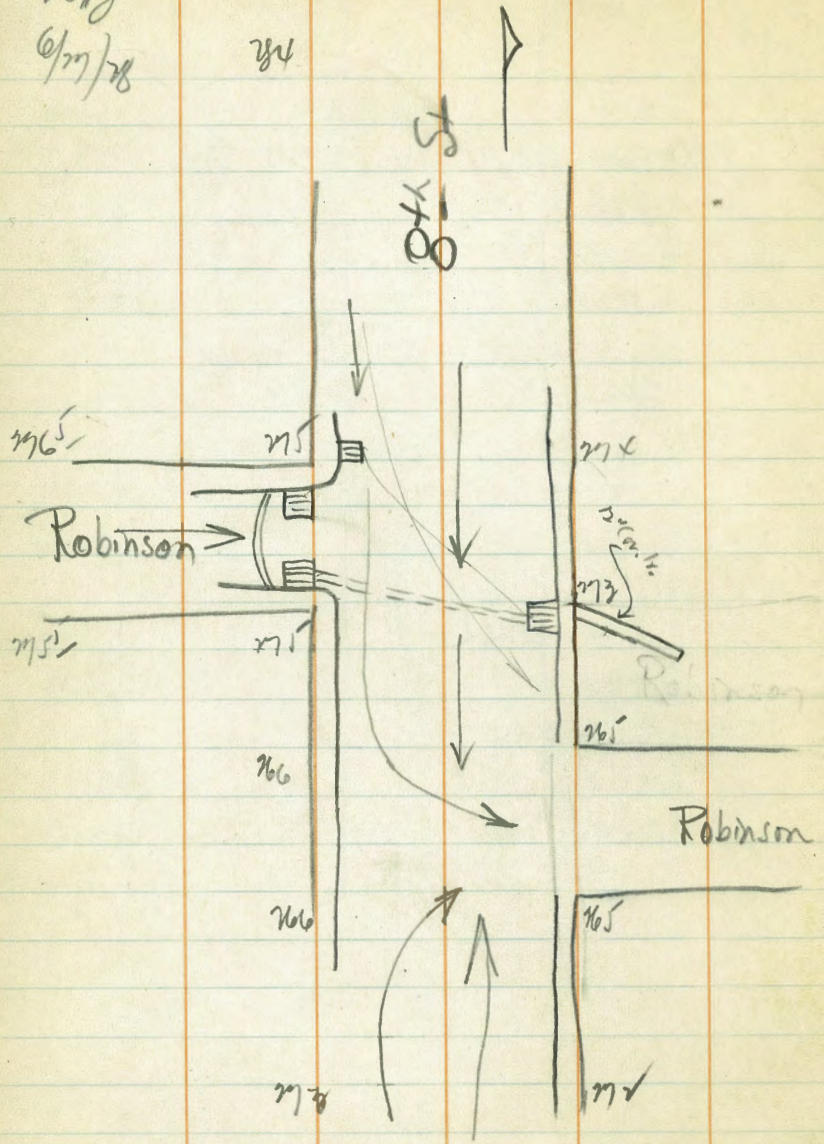




213

6/11/78

78

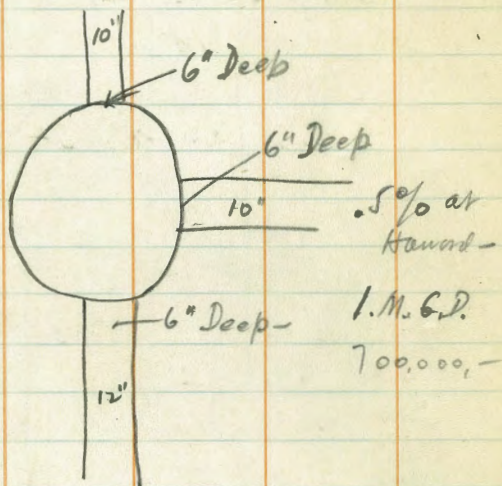


See pg 24

M.H. alley bet Tex + Pa - on Hurro -  
1 1/2 deep - Depth - flow 25 = 3" 10" sewer  
3:07 p.m., July 5-1927

M.H. alley bet Ala & Fla - & Landis - produced -

A



3:15 p.m.  
7/5/28

$A_{4 1/2} = .53 \square = .37'$

$2 = 2 \times 37 = 1 \text{ c.f.s.} = 700 \text{ M.G.D.}$

25

% P at 3:30 =  $115 \times 50 = 57.5$  by 198  
Diff. 28.0 vol. 1  
% P at 9 a.m.  $171 \times 50 = 85.5$  Met & EDDV

at 9 a.m. 7/6/28 - 10" Sewer - 8" Deep - East sewer -  
10" - 8" ✓ No ✓

40 Sec. from M.H. Ala. St. 300'  
= 7 1/2 ft Sec.

3 1/3 % Grade  
n=10

100 a.m. 7/6/28 - 12" Sewer - M.H. of Fla & Myrtle - from  
M.H. at 400' <sup>El. 20.30</sup> N on Fla - 1' 15" = 2%  
400' - 5 ft. Sec.  
Depth of flow - 4 1/2" in 12" Sewer -

10:20 a.m. 7/6/28 - 14" Sewer 16' ft. M.H. at Island to M.H. at K. = 60%  
El. 25.0 El. 21.0  
Depth at Island - 10" = 71%  
145' to flow 760' = 5 1/4 ft per Sec.  
Theor.  $r = 11 \frac{1}{2}$  ft. mean.  $r = 4 \frac{1}{2} \times 1 \frac{1}{2} = 5 \frac{1}{2}$

DM

6" line bet Oregon + Hamilton -  
 Grad as follows - 366 -

" " Uni 317  $\frac{49}{2040} = 2\frac{1}{2}\%$   
 Length =

Mill comm June 400 G.P.M. -

$400 \times 1440 = 576000$  Gals per Day

Filter plant treats 150,000 Gals Day  
 = 100,000 g.f. =  $1\frac{1}{2}$  c.f. Sec.  
 = 81 Gals per Sec.

DM

<sup>14</sup> 12" Sewer - at City Burns - Park line -  
 at 4 p.m. Jul. 6 - 1928 - Flowing 7 1/2" Deep -  
 = 63%

Flow at 4 p.m. = 100 Peak = 170  
 Proper Disch = 70%  
 Proper Velc = 100%

	$\frac{12+5}{10+9}$	$\frac{56.00}{65} =$
M.H. Spitz Sam	$\frac{440}{9} = 20\%$	
$\frac{82-870}{10-11}$	$\frac{76+18}{925} = 1\frac{1}{2}\%$	

on 2% Grad - 12" pipe -  $n = .013$   
 $r = 6.5$  f.s.  $5 =$  c.f.s. =  $3\frac{1}{2}$  M.G.D.  
 $5 = 70\% = 3.64$  c.f.s. = at 4 p.m.  
 at 9 a.m. =  $3.64 \times 170 = 62$  c.f.s.  
 $n = .011$   $r = 8$  f.s.  $Q = 62$  c.f.s. = 4 M.G.D.

10" line Alley bet Fla + Gla - M.H. & Robinson  
 9 a.m. 7/9/28 - flow 4" deep -

See page 77

Slab. for Filter plant. U.H. Res -

See pg 22

6. - 379.01 373.01 B.M.

5.8 373.73  
4.90 374.11 ~~used as B.M.~~

to be bot. of slab.

6.17 379.18 373.01 B.M.

7/11/26

4.27 374.91 <sup>Top slab at side -</sup>

4.19 374.99

2/14/27

6.47 379.98 373.01

5.12 374.86  
5.10 374.88

~~4.68 375.30~~

5.15 374.83

7/4/28

4.82 375.16 <sup>Top of Piers for Columns -</sup>

374.10 = Sub-grade - 27  
    .16  
374.70 = Edge of slab -

375. -  
    2

Top Piers - 375.20

374.2

374.91

08

375. -

374.99 at 20' ft

3.27

74.88

8

70.96

~~375.0 = to be floor at center of slab~~

374.88

374.75

375.16

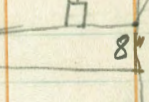
375.16

374.83

08

374.75

Header 374.84



7.82 380.83

373.01 B.M.

+ 7.93 388.76

Top of 2x12 Joist E. end -

+ 8.

388.83 W. end -

.07 high at W. end

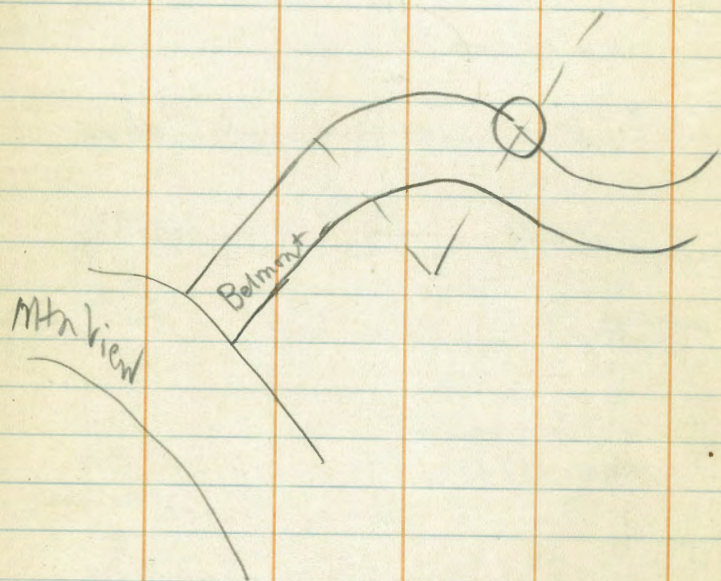
7/8

+ 3.27

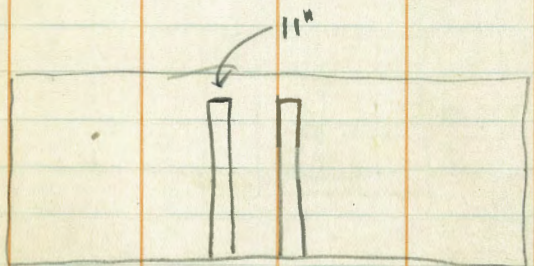
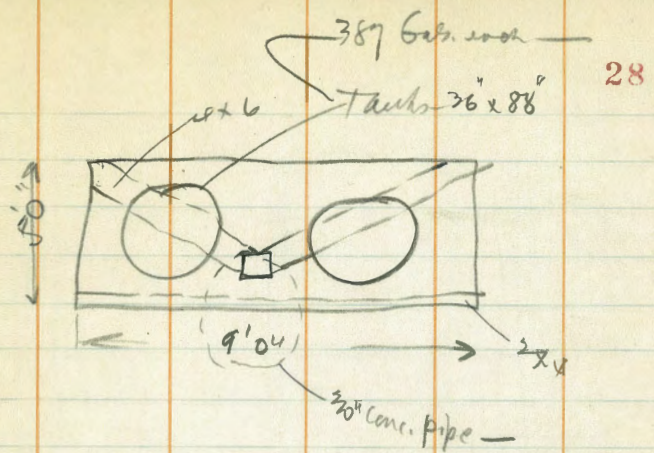
384.80

1.34

385.94 Top Large Res -

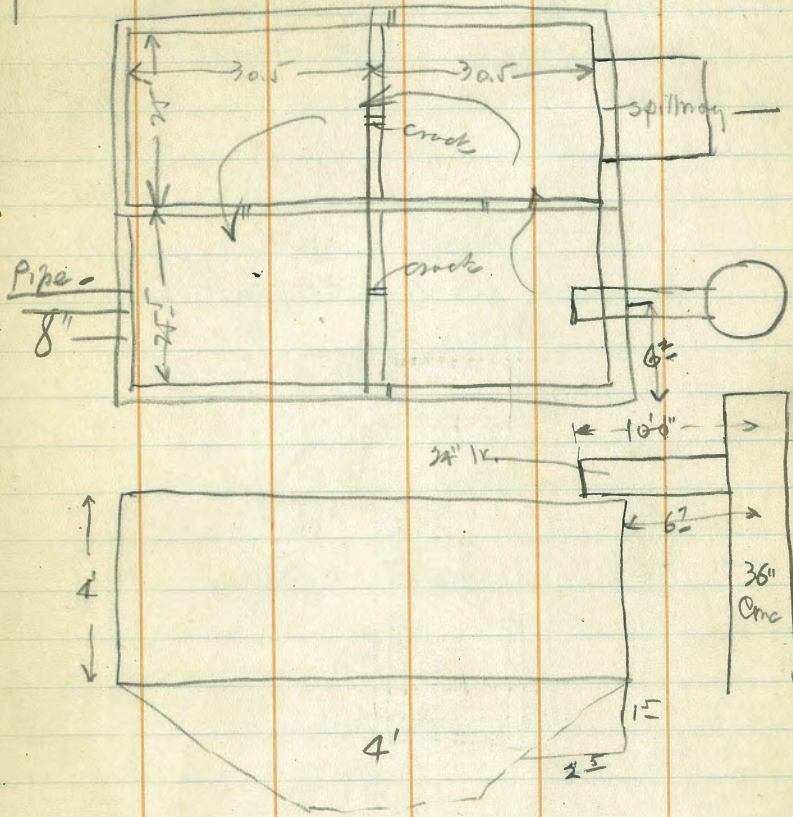


Plan view  
7/16/28



S.D. River

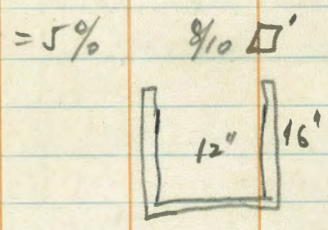
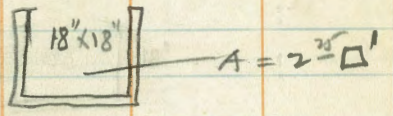
29



Miss Valley Pump -  
7/16/28

8 M. G. D. each end outflow to Res - 13 cfs.  
 9 cfs. 4000 G.M. Max. Wind - note  
 2 1/2 ft free from water trough.

fall. 1 ft in 50 = 2% = 1.5' = 1.5'

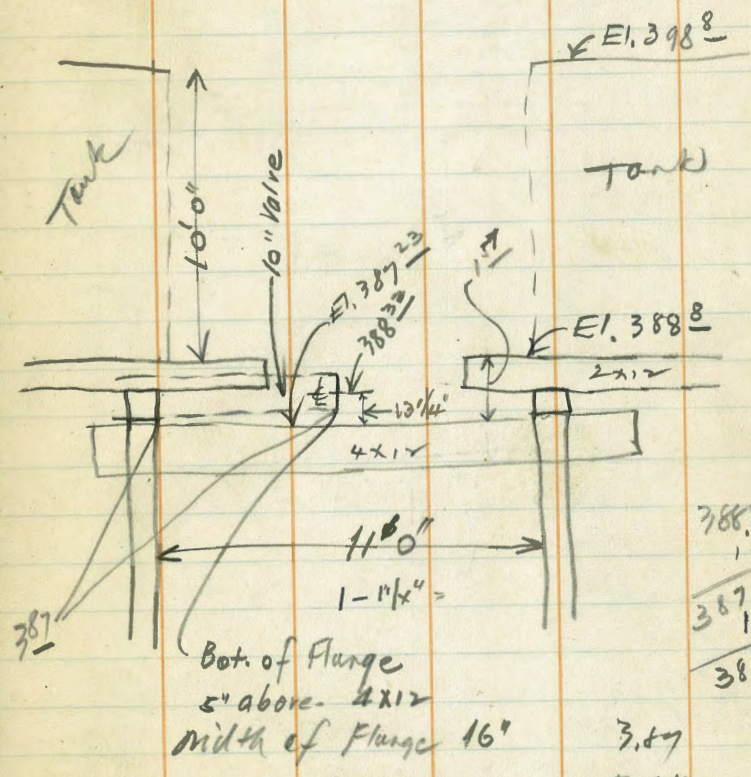


387.23  
 387.23  
 11.57  
 11'-7" 68 ft

3000  
 50  
 150000 #

3x12  
 2  
 1/2 x 3 x 12

5.47  
 55  
 10.97



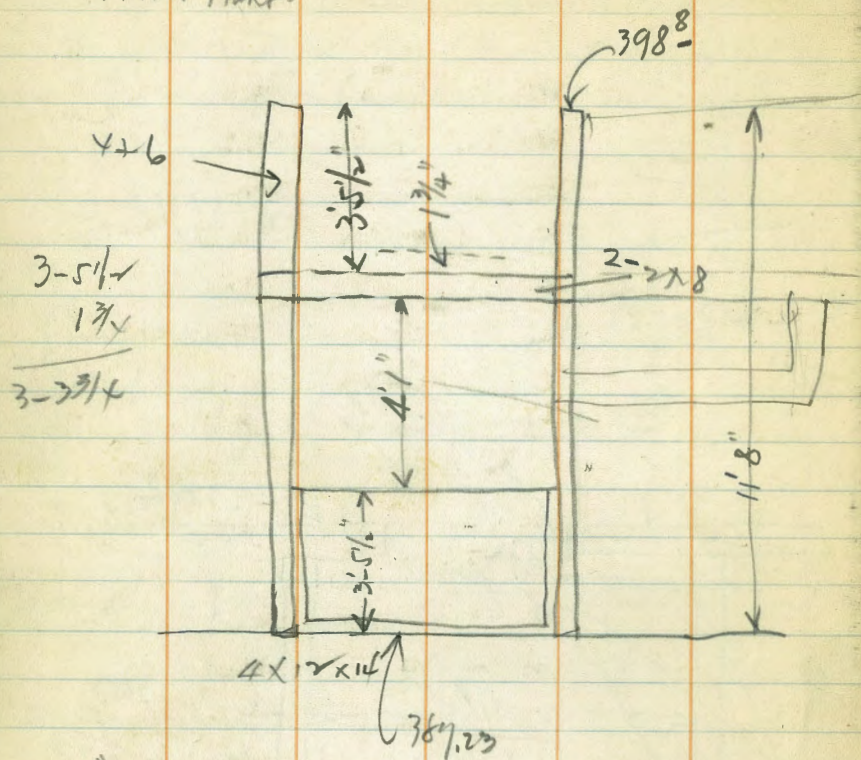
388.8  
 1.57  
 387.23  
 1.1  
 388.33

3.47  
 7.74  
 11  
 3.26

width of Flanges.

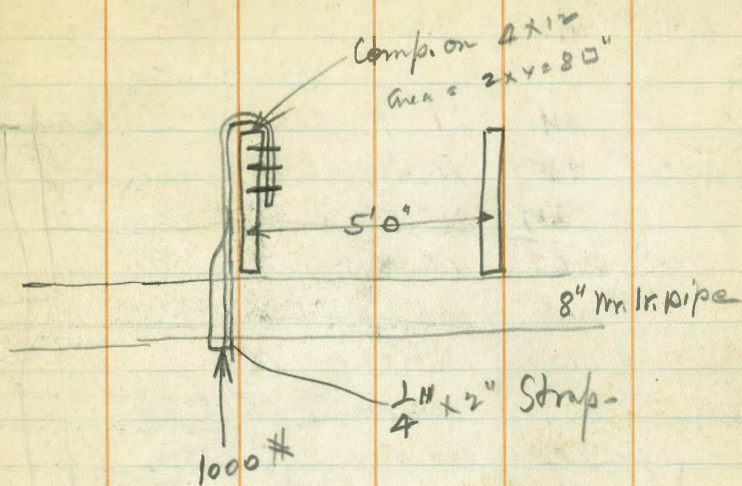
8/7/28

Filter Plant.



3-5 1/2  
1 3/4  
-----  
3-3 3/4

6 11/8  
6 1/8  
-----  
11 7/8  
5 1/2  
-----  
6 1/4



8" Pipe 25 # / ft. 5'	125 #
6" ✓ 20 # / 10'	200
2 Valves - 6" 180	360
	-----
	685

1/2" x 2" Straps = .5 x 2 = 10 #  
x 2

1/2" x 2" = .5 = 800

800 x 2 = 1600



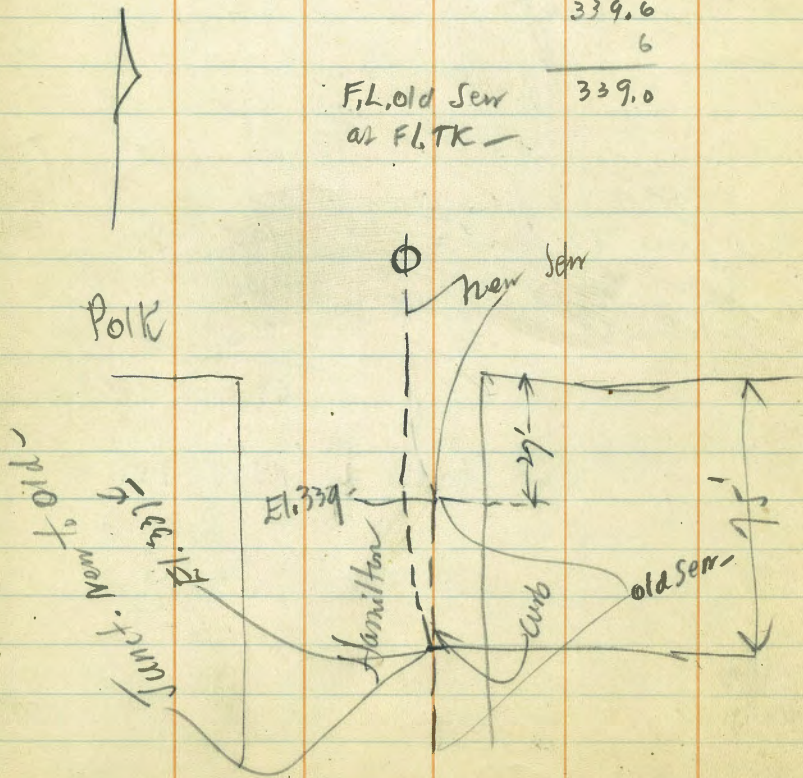
4.93 348.43

343.5  
 393 344.50 N.E. cor  
 8.55 339.58 F.L. from Sewer  
 E. Polk -

10.43 338.00 Top  
 F.L. .6  
 → 337.4

88  
 339.6  
 6

F.L. old Sewer  
 at F.L.T.K. = 339.0



344.5  
 342  
 68.65  
 343.21

344  
 343.3  
 344.  
 3396  
 4.4

$$\frac{98}{245} = 3.98\%$$

$$\frac{75}{48} \times 3.98 = 1.28$$

$$\frac{339}{337.5}$$

(A<sup>2</sup>)

Hawley Gregory Topog. Ocean Beach - Sta.

8-17-28

Mon-  
139.3  
+ 2.2  
141.5  
- 4.2  
137.3  
Diffs

0°00 Az = South  
EW = NL Del Monte Ave 33  
Notes

	Dist.	Az	V. Angle + or -		Elev.	Hor. Dis.	
A	115	91°29'	-6°21'		124.6	114	N. E. Prop Line Del Monte + Frog de
	259	91°46'	-6°16'		109.2	256	
	207	103°18'	-5°32'		147.4	204	
	267	115°35'	-5°37'		111.3	264	
	208	128°37'	-4°48'		119.9	207	Edge Fill
	313	142°53'	-0°42'		133.5	313	N Side Draw
	357	130°26'	-1°33'		127.7	357	N Side "
	233	163°68'	-1°25'		131.0	233	N "
	238	137°36'	-4°33'		118.4	236	Bottom "
	219	164°47'	-3°51'		122.6	218	Bottom "
	247	183°25'	+1°24'		143.3	247	N side
	180	166°34'	-1°49'		131.6	180	S. Side
	141	200°07'	+1°43'		141.5	141	S. Line Alley
	190	223°48'	+3°52'		150.1	189	
	267	239°27'	+6°39'		167.9	263	
	392	250°08'	+7°48'		190.0	385	Top Hill
	219	266°56'	+7°31'		165.7	215	N Side Draw
	143	259°57'	+6°37'		153.6	141	" " "
	141	273°38'	+3°32'		146.0	140	Bot Draw
	244	274°43'	+4°25'		156.1	242	" " (S West Bank N.E.E.)
	140	283°29'	+6°52'		154.1	138	S Side
	<del>85</del>	<del>286°02'</del>					" " Draw
	82	281°41'	+3°12'		141.9	81	Bot "
	76	279°13'	+6°07'		145.4	76	N Side "

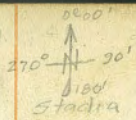
Sta	Dist	Az	Angle + or -	Diff.	Elev.	Hor. Dis.	Notes
A							
	111	266°25'	+5°16'	10.2	147.5	110	Top Dam and Nside Ditch
	91	250°18'	+4°09'	6.6	143.9	90	Bottom Hole
	61	205°07'	+1°32'	1.6	138.9	61	Nside Hole
	40	205°09'	-6°56'	4.8	132.5	40	Bottom Hole
	45	164°45'	-10°34'	1.2	136.1	45	
	115	168°17'	-2°02'	4.1	133.2	115	Low Pt.
	110	157°31'	-2°10'	4.2	133.1	110	
A-B	127	119°22'	-5°13'	20.5	116.9	225	
A-C	311	299°12'	+7°12'	38.6	175.9	306	
B-A	125	299°24'	+5°13'	20.5	137.3	223	
51 B							
	40	169°02'	-14°28'	9.7	107.1	37	Foot Fill
	87	169°02'	-6°14'	9.4	107.4	86	" "
	90	112°52'	-11°22'	17.4	99.4	86	Mouth draw
	105	84°05'	-8°53'	16.0	100.8	103	
50 A	315	129°13'	-7°11'	39.1	136.8	310	
50 C	184	176°15'	-0°49'	2.6	173.3	184	Top Bluff
	255	188°56'	+1°15'	5.6	181.5	255	" "
	226	200°23'	+3°35'	14.1	190.0	226	" "

5°	C	Dist	Az.	Angle + or -	Difference	Elev.	Hor. Dis.	Notes
		234	223°14'	+6°48'	27.4	203.3	232	Top Bluff.
		267	232°32'	+7°29'	35.4	211.3	264	" "
		242	260°11'	+8°41'	36.0	211.9	238	" "
		195	263°46'	+8°56'	29.9	205.8	190	" "
		141	261°59'	+9°18'	22.5	208.4	137	" "
		85	284°48'	+7°12'	10.6	186.5	84	" "
		35	249°33'	+4°38'	2.8	178.7	37	" "
		43	158°04'	-10°19'	7.6	168.3	41	Saddle
		77	160°20'	-2°15'	2.9	173.0	77	Knoll
		125	161°31'	-5°04'	11.0	164.9	124	Knoll
		80	183°46'	-7°01'	9.7	166.2	78	in big Hole
		157	182°37'	-3°36'	9.8	166.1	157	Foot Bluff.
		233	190°00'	-1°00'	4.1	171.8	233	" "
		178	198°01'	-1°47'	5.5	170.4	178	" "
		208	228°13'	+0°20'	1.2	172.1	208	Toe Fill
		201	234°18'	-0°25'	1.5	174.4	201	Toe Fill
		200	243°19'	+1°00'	3.5	179.4	200	Toe Fill
		228	257°29'	+4°11'	16.8	192.7	227	Foot Bluff
		155	253°42'	+0°55'	2.5	178.4	155	" "
		77	257°12'	-2°35'	3.5	172.4	77	" "
		127	214°47'	-3°02'	6.7	169.2	127	Center Big Hole
		91	109°50'	-7°46'	12.2	163.7	89	
		93	96°37'	-11°29'	18.2	157.2	89	
		88	84°35'	-5°24'	8.3	167.6	87	

50	c	Dist.	Az.	V. angle + or -	Diff.	Elev.	Horiz Dis.	Notes
		131	66°14'	-8°18'	18.6	157.3	129	Bot 2' Bank
		124	111°42'	-9°11'	19.4	156.4	120	" 2' Bank
		175	86°08'	-6°48'	20.6	155.3	173	
		178	96°06'	-10°01'	30.5	145.4	175	Hollow
		166	97°05'	-9°33'	27.0	148.6	165	
		187	102°14'	-8°51'	28.4	147.5	185	
		348	106°21'	-7°48'	47.1	128.8	345	
		199	65°22'	-7°13'	24.8	151.1	196	N
<u>10</u>		220	59°21'	-7°11'	27.3	143.6	218	Bot. Wash
		234	57°30'	-6°31'	26.4	149.5	230	S
		153	29°03'	-5°32'	14.8	161.1	153	S
<u>14</u>		136	30°48'	-5°25'	12.8	154.1	133	Bot Wash
		131	38°37'	-6°31'	14.8	161.1	128	N
	C D	(178)	305°26'	+4°15'	13.2	189.1	176	
5L	D C	175	125°28'	-4°13'	12.8	176.3	175	
	D				12.8			Ground El. = 189.1
5L		99	97°34'	-6°02'	10.4	178.7	97	Top Bank
<u>10</u>		124	83°41'	-9°41'	20.6	163.5	120	Bot. Wash
		110	71°45'	-5°10'	9.9	179.2	108	Top 4' cut 5
		164	40°18'	-0°43'	2.0	187.1	164	" 4' S & W
		147	328°47'	+4°52'	12.4	201.5	145	North Top Bank at roadway 15' wide
		62	8°41'	+2°39'	2.9	192.0	62	South Top Bank at mouth of Big Hole
		127	310°28'	+6°17'	13.8	202.9	125	" " Big Hole

DI	E/V	Horiz Dis.
0.	19	2 130 -
10	4.1	38
24.5	1.10	25
19.1	2.1	-
27.	.	20
2 .0	2 5.1	1 1
1 .	2094	22
4.1	22	82
6.1	3.	34
12.	9	44
.	82	105
1.	187	21
2.15	191	1
6.2	05.	2 -
5.7	.	
1.1	1	3201
7.	1	3 -
1.3	187	
8.5	17.	17 -
5.	194.6	3
0.	61	
.	.	65
6	179.5	

0°00' Az = Northerly  
direction of  
N + S streets



Topog Ocean  
Beach.

Aug-28-28  
Landon, Isbell, Morgan.

B.M. - 165.91  
+ 0.95  
166.86  
- 11.0  
A - 155.86

W.M. 38

Sta.	Az.	Stadia	Vert L	rod.	Diff.	Elev	Hor. dist.	Elev.
Ht. Inst. 4.8	0°00'							
T at N.E. Corner Pasceadero x Froude Es. E.L. Froude								
A	347°09'	5.06	+5°57'	10.0		146.1		
Ht. Inst. = 5.2			N.E. corner			<del>155.81</del>	501.5	146.1
T at A	Inst. Oriented on Pasceadero x Froude		Stadia 5.05	Vert. L. 4-46 Rod.		10.0 Elev.		
B.M.		1.19	+4°51'		10.00	165.91		156.1
1.	156°16'	1.12	-4°50'		9.4	146.5	112.0	136.7
2.	180°09'	1.04	-5°35'		10.0	145.9	103.0	136.1
3.	235°31'	1.90	-11°29'		37.0	118.9	182.5	109.1
4.	264°46'	1.74	-12°01'		35.4	120.5	166.5	110.7
5.	282°33'	1.48	-13°11'		32.8	123.1	140.3	113.3
6.	326°38'	1.26	-10°40'		22.9	133.0	121.7	123.2
7.	294°02'	1.93	-10°25'		34.4	121.5	186.8	111.7
8.	278°06'	3.04	-8°10'		42.8	113.1	277.8	103.3
9.	278°41'	4.48	-7°18'		56.4	99.5	440.7	89.7
10.	289°51'	5.50	-5°30'	10.00	57.3	98.6	545.0	<del>83.6</del> 88.8
11.	288°03'	4.00	-6°00'		41.6	114.3	395.6	104.5
12.	296°26'	2.74	-4°49'		25.4	130.5	272.1	120.7
13.	310°48'	2.28	-2°45'		10.7	145.2	228.0	155.4
14.	320°27'	2.46	-1°50'		7.8	148.1	246.0	138.3
15.	348°14'	1.95	+1°00'		3.4	59.3	195.0	149.5
16.	14°48'	1.99	+3°57'		13.7	169.6	199.0	159.8
17.	3°52'	1.44	+2°56'		7.3	163.4	144.0	153.4
18.	44°58'	0.58	+5°28'		5.5	161.4	58.0	151.6

	Az.	Stadia	Vert L	rod	Diff.	Elev.	Hor. dist.	Elev.	
Ht. Inst. = 50									
Start A	B.S. Pt Beginning	Az 347°09'			stadia 5.05	155.9		146.1	
19	79°-58'	2.93	+5°-10'		25.1	181.0	290.6	171.2	
Ht. Inst 5.2	B	104°-50'	+3°-04'		21.00	176.9	392.4	167.1	
Start B	Inst. oriented on "A" stadia 3.93 vert. L-3°-04'								
1	269°-42'	2.55	-7°-20'		32.2	144.5	251.9	154.9	N.E. cor. orchid + Froud
2	315°-02'	2.98	-0°-14'		1.2	175.5	298.0	165.9	top of Hole west side
3	350°-20'	2.90	+4°-06'		20.6	197.3	288.5	187.7	" "
4	338°-08'	2.38	+2°-38'		10.8	187.5	238.0	177.9	" "
5	330°-08'	1.61	+1°-27'		3.7	180.4	161.0	170.8	" "
6	275°-34'	1.46	-5°-00'		12.7	164.0	144.9	154.4	" "
7	268°-52'	1.26	-9°-09'		18.0	158.7	123.1	149.1	Bot. of Hole west side
8	312°-44'	1.02	-8°-36'		15.1	161.6	99.8	152.0	" "
9	339°-06'	1.21	-4°-34'		9.5	167.2	121.0	157.6	" "
10	348°-45'	2.20	+0°-13'		0.9	177.6	220.0	168.0	" "
11	350°-08'	2.73	+0°-31'		2.4	179.1	273.0	169.5	Bot. of Hole North end
12	1°-17'	1.70	-2°-10'		6.4	170.3	170.0	160.7	Bot. of Hole east side
13	350°-30'	0.89	-7°-12'	6.0	11.9	164.8	89.6	154.7	" "
14	278°-08'	0.68	-11°-08'	11.0	21.9	154.8	65.5	139.4	" "
15	264°-09'	0.31		7.2		174.7	31.0	165.1	Top of Hole east side
16	32°-49'	0.66		2.1		177.8	66.0	170.1	" "
17	38°-05'	1.40		2.9		179.0	140.0	169.4	" "
18	14°-42'	1.69	+1°-54'		5.6	182.3	169.0	172.7	" "
19	24°-47'	2.99	+3°-03'		15.8	172.5	299.0	182.9	
20	51°-09'	3.90	+3°-09'		21.5	198.2	388.8	188.6	
21	73°-24'	3.25	+2°-02'		11.5	188.2	325.0	178.6	



Ht. Inst.	Az.	Stadia	Vert. L	Rod.	Diff.	Elev.	Hor. dist	
5.2 X at "B"						176.7		167.1
22	68°-27'	2.62	+1°-05'		5.0	181.7	262.0	172.1
23	87°-17'	1.92	-1°-32'		5.1	171.6	192.0	162.0
24	90°-50'	3.17	+1°-14'		6.8	183.5	317.0	173.9
25	95°-20'	1.02	-5°-16'		9.3	167.4	101.0	157.8
26	91°-03'	3.95	+1°-51'		12.8	189.5	395.0	179.9
27	73°-53'	4.15	+3°-35'		25.8	202.5	413.5	192.9
28	55°-37'	5.00	+4°-41'		40.5	217.2	495.5	207.6
29	65°-06'	6.35	+5°-36'		61.5	238.2	628.8	228.6
30	74°-55'	5.62	+4°-44'		46.2	222.9	558.3	213.3
31	90°-50'	4.90	+2°-51'		24.2	200.9	490.0	191.3
32	250°-01'	2.73	-7°-30'		35.3	141.4	268.4	131.8
33	219°-00'	1.17	-10°-58'		21.9	154.8	113.0	145.2
34	201°-31'	1.00	-6°-35'		11.4	165.3	100.0	155.7
35	163°-04'	1.00	-4°-16'		7.4	169.3	100.0	158.7
36	151°-45'	1.03	-8°-30'		15.0	161.7	101.0	152.1
"C"	135°-14'	3.82	+1°-20'		9.9	185.8	382.00	176.0
Ht. Inst. 5.2 X at "C"	Inst. Oriented on "B"	Stadia 3.82:	Vert. L		-1°-20'			
1	293°-46'	3.46	-3°-20'		20.0	165.6	345.0	156.0
2	297°-53'	2.93	-3°-35'		18.4	167.2	292.0	157.6
3	288°-35'	3.58	-6°-01'		37.2	148.4	354.2	138.8
4	294°-52'	2.65	-7°-37'		34.9	150.7	260.5	141.1
5	276°-06'	2.25	-10°-15'		39.3	146.3	218.6	136.7
6	264°-58'	3.46	-8°-52'		52.6	133.0	387.0	123.9
7	267°-15'	3.95	-7-32		51.4	134.2	388.3	124.6

N.W. cor.  
Guizot + OrchidN.E. cor.  
Guizot + OrchidS.E. cor.  
Orchid + Froid

#, Inst. 5.2 X of "C"	Az.	Stadia	Vert. L	Rod.	Diff.	Elev. 185.8	Hor. dist. 524.0	
8	258°-56'	5.42	-7°-28'		69.9	115.7	534.0	106.1
9	274°-18'	5.35	-6°-40'		61.6	124.0	528.0	114.4
10	253°-04'	3.75	-9°-06'		58.5	127.1	366.0	117.5
11	237°-18'	2.20	-11°-23'		42.5	143.1	212.0	133.5
12	265°-00'	1.18	-16°-35'		32.3	153.3	109.0	143.7
13	1°-42'	0.72	-12°-50'		15.6	170.0	69.0	160.4
14	313°-00'	1.48	-11°-17'		28.4	157.2	143.0	147.6
15	327°-24'	2.02	-6°-41'		23.3	162.3	201.0	163.7
16	0°-40'	1.74	-0°-49'		2.4	183.2	174.0	173.6
17	19°-38'	1.94	-0°-58'		3.3	182.3	194.0	172.7
18	330°-38'	1.53	-5°-10'		13.7	171.9	152.0	162.3
19	37°-35'	0.88	-4°-26'		6.8	178.8	88.0	169.2
20	45°-07'	0.79	-0°-26'		0.6	185.0	79.0	175.4
21	51°-44'	0.33	-13°-40'		7.5	178.1	31.0	168.5
22	121°-57'	0.68	-8°-32'		10.0	175.6	67.0	166.0
23	164°-38'	1.18	-4°-30'		9.2	176.4	118.0	166.8
24	223°-43'	1.14	-10°-32'		20.5	165.1	111.0	153.5
25	267°-09'	0.57	-12°-52'		12.3	173.3	54.0	163.7
26	144°-30'	0.50		6.8		184.0	50.0	174.4
27	197°-14'	0.30		10.2		180.6	30.0	171.0
28	33°-40'	2.25	-0°-05'		0.2	195.4	225.0	175.8
29	63°-54'	4.15	+4°-57'		35.6	150.6	412.0	211.6
"D"	76°-52'	<sup>5.63</sup> 5.85	+5°-55'		57.5	<sup>242.8</sup> 243.3	557.2	233.6

N.E. cor.  
Pasadena + Fred

S.W. cor.  
Guizot + Orchid

S.E. cor.  
Guizot + Orchid

Ht. Inst.	H <sub>3</sub>	Stadia	Vert. L.	Rod	Diff.	Elev.	Hor. dist	
Ht. Inst. 5.1 K of "D"	Inst. Oriented on	"C" Stadia	5.63 5.85		Vert. L. 5°-55'	242.8 243.3	473.0	N. E. cor Pasadero + Guizot
1	240°-22'	4.82	-8°-05'		67.0	175.8	473.0	166.5
2	254°-42'	4.32	-7°-32'		56.3	186.5	425.0	177.2
3	269°-48'	2.72	-9°-22'		43.6	199.2	265.0	189.9
4	246°-57'	3.10	-9°-25'		50.0	192.8	302.0	183.5
5	220°-28'	2.96	-10°-15'		51.8	191.0	287.0	181.7
6	239°-20'	2.50	-12°-17'		52.0	190.8	239.0	181.5
7	261°-05'	1.34	-13°-20'		30.2	212.6	127.0	203.3
8	155°-46'	1.15	-9°-58'		19.6	223.2	112.0	213.7
9	191°-55'	2.20	-9°-32'		36.0	206.8	214.0	197.5
10	161°-16'	2.54	-2°-57'		12.9	229.9	254.0	220.6
11	139°-47'	2.92	-0°-30'		2.5	240.3	292.0	231.0
12	142°-22'	2.03		9.8		238.1	203.0	228.8
13	110°-15'	1.87	+2°-10'		7.1	249.9	187.0	240.6 226.4 249.4
14	69°-47'	1.79	+5°-16'		16.4	259.2	178.0	27.1
15	93°-16'	0.99	+2°-54'		5.0	247.8	99.0	238.5
16	101°-14'	0.62		10.6		237.3	62.0	228.0
17	330°-12'	0.56		7.2		240.7	56.0	231.4
18	285°-54'	0.74	-7°-41'		9.8	233.0	73.0	223.7
19	288°-26'	1.66	-6°-51'		19.6	223.2	165.0	244.9
20	280°-25'	2.68	-7°-30'		34.6	208.2	264.0	198.9
"E"	189°-49'	3.54	-4°-12'		25.8	217.0	352.1	207.7
Ht. Inst. 7.50 K of "E"	Inst. Oriented on	"D" Stadia		3.54	Vert. L. +4°-12'			S. W. cor Pasadero + Barbara
1	85°-12'	2.24	+3°-48'		14.8	202.2	229.0	222.5
2	130°-18'	2.69	-0°-20'		1.5	215.5	269.0	206.2

Ht. Inst.	Az.	Stadia.	Vert. L	Red.	Diff.	Elev.	Hor. dist	
Ht. Inst. 5.0 K at "E"						217.0		
3	140°-24'	3.55	-0°-14'		1.4	215.6	355.0	206.3
4	180°-55'	2.70	-5°-58'		27.9	189.1	267.0	179.8
5	222°-40'	3.86	-6°-51'		95.5	171.5	381.0	162.2
6	237°-14'	2.80	-7°-00'		33.9	183.1	276.0	170.8
7	256°-58'	1.84	-6°-35'		21.0	196.0	182.0	186.7
8	277°-07'	0.92	-5°-25'		8.6	208.4	92.0	199.1
9	181°-15'	0.94	-6°-06'		10.0	209.0	99.0	197.7
"F" Ht. Inst. 5.1 K at "F"	255°-42'	1.77	-6°-35'		20.2	196.8	175.0	187.0
	Inst. Oriented on "F" Stadia. 1.77 Vert. L +6°-36'							
1	27°-05'	0.68	-1°-00'		1.2	195.6	68.0	186.3
2	317°-22'	0.70	-14°-28'		17.0	179.8	66.0	170.5
3	275°-04'	0.58	-12°-41'		12.4	183.2	55.0	175.1
4	276°-05'	0.98	-15°-20'		24.8	172.0	91.0	162.7
5	230°-24'	1.72	-10°-10'		30.0	166.8	167.0	157.5
6	221°-09'	2.93	-7°-42'		38.9	157.9	288.0	148.6
7	245°-49'	2.09	-10°-45'		38.2	158.6	203.0	149.3
8	255°-09'	1.87	-9°-50'		31.4	165.4	182.0	156.1
9	287°-01'	2.00	-8°-26'		29.0	167.8	196.0	158.5
Ht. Inst. 5.1 K at "D" N.W. cor. Orchid + Barbard	52°-30'	2.19	+4°-51'		18.3	242.8 243.3 261.0 261.6	217.4	251.8
Ht. Inst. 5.2 K at N.W. cor. Orchid + Barbard F.S. W.L. Barbard	0°-00'	(check)						
"G"	344°-47'	2.55	+3°-09'	9.00	10.3	271.1 271.9	254.2	262.1

N.E. cor.  
Bermuda + GeizatS.E. cor.  
Pasadero + GeizatN.W. cor.  
Orchid + Barbard

Ht. Inst.	Az.	Stadia.	Vert. L	Rod.	Diff.	Elev.	Hor. Dist	Elev.
5.2 K at "G"	Inst. Oriented on <sup>N.W. cor.</sup> Orchid + Barbara Stadia.				2.54	271.1 Vert. L -	1°-26' Rod 9.0	
1	152°-48'	1.33	-0°-27'	"	10.1	261.0	133.0	252.0
2	51°-20'	0.79	-3°-53'	"	5.3	265.8	79.0	256.8
3	320°-42'	0.58	-0°-15'	"	0.3	270.8	58.0	261.8
4	282°-10'	0.89	-0°-36'	"	0.9	270.2	89.0	261.2
5	285°-22'	2.05	-4°-01'	"	14.4	256.7	205.0	247.7
6	233°-30'	1.48	-4°-41'	"	12.0	259.1	148.0	250.1
7	212°-47'	2.83	-4°-20'	"	21.3	249.8	282.0	240.8
8	254°-37'	3.02	-5°-11'	"	27.3	243.8	300.0	234.8
9	24°-42'	1.50	-3°-32'	"	9.2	261.9	150.0	252.9
10	13°-20'	2.75	-3°-02'	"	14.6	256.5	275.0	246.5
11	8°-18'	4.35	-2°-24'	"	18.2	252.9	435.0	243.9
12	334°-44'	4.72	-0°-45'	"	6.0	265.1	472.0	256.1
13	326°-09'	3.24	-0°-32'	"	3.2	267.9 260.9	324.0	258.9
"H"	305°-50'	3.75	-1°-37'	"	10.1	267.8	375.00	252.0
5.2 K at "H"	Inst. Oriented on "G" Stadia 3.75 Vert. L +1°-36'							
1	196°-41'	1.80	-7°-04'	"	19.9	241.0	178.0	232.1
2	209°-50'	1.99	-2°-26'	"	32.2	228.7	194.0	219.8
3	206°-22'	3.50	-7°-46'	"	16.9	214.0	344.0	205.1
4	231°-45'	2.78	-9°-22'	"	44.7	216.2	271.0	207.3
5	250°-38'	2.42	-8°-06'	"	25.6	235.3	237.0	226.4
6	272°-34'	2.25	-6°-00'	"	23.4	237.5	223.0	228.6
7	161°-28'	0.86		12.3		253.8	86.0	244.9
8	112°-00'	2.18	+2°-40'	"	10.2	271.1	218.0	262.2
9	145°-04'	0.78		6.0		259.5	78.0	261.2

S.W. cor.  
Del Mar + Barbara  
Top of  
Ridge

on old  
R.R. R.W.

" "

N.W. cor.  
Del mar Barbara

top of  
Ridge

S.E. cor  
Del Mar + Guizot  
N.E. cor.  
Del Mar + Guizot

Bot. of R.R. cut.  
East side  
top of  
Ridge  
top of R.R. cut  
East side

Ht. Inst.	Az.	Stadia.	Vert. L.	Rod	Diff.	Elev.	Hor. dist.	Elev.	
Ht. Inst. 5.2. X at "H"						260.9 261.8			
10	316°-44'	2.77	-2°-37'	11.5	12.5	248.4	277.0	239.5	Top of R.R. cut, East side
11	314°-45'	2.91	-3°-56'	"	19.9	241.0	291.0	232.1	Bot. of R.R. cut, East side
12	311°-54'	2.99	-3°-50'		19.8	241.1	299.0	232.2	Bot. of R.R. cut, west side
13	310°-21'	2.97	-2°-50'		14.7	246.2	297.0	237.3	Top of R.R. cut, west side
14	307°-43'	2.85	-2°-43'		13.4	247.5	285.0	238.6	
15	301°-24'	2.63	-4°-38'		21.2	239.7	263.0	230.8	Bot. of R.R. cut west side
16	307°-42'	2.15	-4°-30'		16.7	244.2	219.0	235.3	
17	304°-46'	2.26	-3°-33'		13.8	247.1	226.0	239.2	Top of R.R. cut west side
18	289°-22'	2.18	-4°-16'		16.2	244.7	217.0	235.0	
19	282°-12'	2.30	-6°-06'		24.3	236.6	228.0	227.7	
20	283°-42'	1.43	-6°-00'		14.9	246.0	142.0	237.1	
21	277°-28'	1.46	-7°-26'		18.7	242.2	144.0	233.3	
22	301°-18'	0.63	-9°-27'		10.2	250.7	61.0	241.8	Bot. of R.R. cut, East side
23	322°-12'	0.55		6.3		259.8 230.00	55.0	250.9	top of R.R. cut East side
"I"	269°-43'	3.18	-5°-34'		30.7	231.1	315.1	221.3	
Ht. Inst. 5.1 X at "I"	Inst. Oriented on "H" Stadia. 3.18 Vert. L +5°-33'					230.1			N.W. cor. Del Mar + Guizot
1	162°-57'	0.80		11.3		223.8	80.0	216.2	
2	62°-31'	0.28		3.2		231.9	28.0	223.3	
3	41°-56'	0.60		6.0		229.1	60.0	220.5	
4	8°-00'	2.18	+2°-30'		9.5	239.5	218.0	230.8	S.W. cor. coronado + Guizot.
5	330°-10'	2.55	-1°-02'		4.6	225.4	255.0	216.7	
6	315°-50'	2.86	-1°-30'		6.7	223.3	286.0	214.6	
7	312°-33'	2.62	-2°-05'		9.4	220.6	262.0	211.9	
8	315°-37'	2.31	-0°-45'	11.0	8.9	221.1	231.0	212.4	

Ht. Inst.	Az.	Stadia.	Vert. L	Rad.	Diff.	Elev.	Hor. dist	Elev.
Ht. Inst. 5.1 X of "I"						230.00 231.1		
	9	329°-59'	2.11	-1°-25'	5.3	224.7	211.0	216.0
	10	328°-40'	1.49		7.2	227.9	149.0	219.2
	11	347°-30'	0.95		9.8	225.3	95.0	216.6
	12	328°-58'	0.58		6.3	228.8	58.0	220.1
	13	298°-08'	0.80		12.8	222.3	80.0	213.6
	14	238°-00'	0.40		12.7	222.4	40.0	213.7
	15	245°-07'	1.83	-7°-06'	22.4	207.6	180.0	198.9
	16	246°-50'	2.14	-8°-09'	10.0	195.1	210.0	182.4
	17	276°-00'	1.39	-7°-58'	11.0	205.0	137.0	190.3
"J"		276°-11'	4.17	-3°-31'	25.6	204.3 205.5	415.4	195.7
Ht. Inst. 5.3 X of "J"								
		Inst. Oriented on "I" Stadia 4.17 Vert. L +3°3'						
	1	89°28'	3.05	+1°05'	8.5	213.8	305.0	204.2
	2	73°34'	2.44	-1°45'	7.5	196.8	244.0	188.2
	3	47°56'	2.03	-3°00'	10.6	193.7	203.0	185.1
	4	51°56'	1.50	-5°00'	13.0	191.3	149.0	182.7
	5	7°47'	1.05	-7°16'	13.2	191.1	104.0	182.5
	6	1°05'	1.41	-3°18'	8.1	196.2	191.0	187.6
	7	327°01'	2.10	-2°43'	9.9	194.4	210.0	185.8
	8	319°22'	2.30	-2°04'	8.3	196.0	230.0	187.4
	9	339°15'	1.43		13.0	196.6	143.0	188.0
	10	348°47'	1.14	-9°05'	17.8	186.5	112.0	177.9
	11	351°18'	0.92	-12°56'	20.0	184.3	88.0	175.7
	12	3°10'	0.72	-12°10'	15.0	189.3	69.0	180.7
	13	59°17'	1.63	-6°26'	18.1	186.2	161.0	177.6

top of Hole.  
east sidetop of Hole  
east side  
Bot. of Hole  
east side" "  
Top of Hole  
West Side

N. End Hole

TOP BANK  
N. end Hole  
TOP OF BANK  
N. end HoleBottom Hole  
N. end

Sta	Az	Stadia	Vert L	Red	Diff	Elev	Hor. Dist.			
14	113° 37'	1.36	-8° 42'		20.3	189.0	133.0	176.6	175.4	Bottom S.E. Hole
15	125° 04'	1.40	-6° 15'		15.1	189.2	138.0	176.8	180.6	Top Hole S.E.
16	136° 49'	1.10	-8° 23'		15.9	188.4	108.0	176.0	179.8	"
17	124° 10'	0.87	-16° 27'		23.6	180.7	81.0	168.3	172.1	Bottom Hole S.
18	160° 24'	1.12	-13° 58'		26.2	178.1	106.0	165.7	169.5	"
19	148° 03'	1.26	-7° 39'		16.6	187.7	124.0	175.3	179.1	Bottom Hump S. Side
20	150° 05'	1.47	-6° 43'		17.0	187.3	146.0	174.9	178.7	"
21	174° 07'	1.28	-9° 28'		20.4	183.9	125.0	171.5	175.3	"
22	155° 00'	1.36	-2° 11'		5.1	199.2	136.0	186.8	190.6	TOP Hump
23	217° 49'	1.25	-9° 50'		27.7	176.6	160.0	164.2	168.0	
24	252° 55'	1.04	-7° 36'	9.00	17.3	187.0	102.0	170.9	174.7	Head Small Ravine
25	195° 53'	1.11	-12° 12'		20.9	183.4	106.0	171.0	174.8	Bottom Hole W. Side
26	147° 26'	0.72	-17° 22'		20.4	183.9	66.0	171.5	175.3	"
27	78° 11'	0.52	-29° 25'		22.3	182.0	90.0	169.6	173.4	
28	328° 08'	1.05	-3° 41'		6.7	197.6	105.0	185.2	189.0	Bottom Hole N. Side
29	309° 08'	1.96	-0° 04'		0.2	209.1	196.0	191.7	195.5	TOP Hole N. Side
30	316° 12'	0.88	+1° 06'		0.9	203.4	88.0	192.8	196.6	"
31	236° 28'	0.47	-6° 10'		5.0	199.3	47.0	186.9	190.7	S. Side
32	201° 40'	0.78	-5° 54'		8.0	196.3	78.0	182.9	187.7	"
33	269° 17'	1.06	-2° 51'		5.2	199.1	106.0	186.7	190.5	
34	228° 30'	1.89	-5° 45'		18.8	185.5	188.0	173.1	176.9	
35	283° 51'	1.54	-1° 05'		3.0	201.3	154.0	188.9	192.7	
36	278° 00'	2.18	-2° 55'		7.7	196.4	218.0	184.0	187.8	
37	240° 20'	2.53	-6° 06'		27.0	177.3	253.0	164.9	168.7	



Sta	AZ	Stadia	Vert L	Rod	Diff	Elev	Hor. dist.	
"K"	328°47	4.05	-0°51		5.9	199.6 198.4	86.2 1.5	189.8
Inst at K N.H. 5.2	Inst oriented on "J" Stadia 4.05 Vert L to 51							
1	183°06	1.79	-0°32		1.7	196.7	179.0	188.1
2	206°56	1.92	-2°28		8.2	190.2	192.0	182.6
3	242°30	3.65	-8°11		51.5	196.9	358.0	138.3
4	253°33	3.83	-8°40		59.0	191.4	374.0	132.8
5	286°17	3.85	-10°36		70.0	128.4	373.0	119.8
6	296°51	2.54	-12°30		54.0	144.4	242.0	137.8
7	270°04	1.31	-14°44		32.2	166.2	123.0	157.6
8	267°17	1.95	-12°55		42.5	155.9	185.0	147.3
9	252°40	3.18	-9°26		42.8	155.6	309.0	147.0
10	266°27	2.50	-8°45		37.5	160.9	244.0	152.3
11	278°16	2.85	-9°30		46.4	152.0	277.0	143.4
12	287°52	2.50	-10°27		44.5	153.9	242.0	145.3
13	275°50	1.80	-9°32		29.4	169.0	175.0	160.4
14	245°15	1.47	-15°27		37.8	160.6	137.0	152.0
15	248°46	2.20	-7°48		29.6	168.8	216.0	160.2
16	214°31	1.27	-4°07	9.0	12.8	185.6	127.0	177.0
17	189°25	1.05	-3°00	9.0	9.3	189.1	105.0	180.5
18	160°31	0.90	-1°57	13.0	10.9	187.5	90.0	178.9
19	117°12	0.71	-2°07	11.0	8.4	190.0	71.0	181.4
20	64°56	0.86	-2°09	13.0	11.0	187.4	86.0	178.8
21	31°22	0.98	-2°25	9.0	9.3	189.1	98.0	180.5
22	319°37	0.64	-22°26		22.6	175.8	55.0	167.2
23	265°44	0.65	-18°42		19.7	178.7	48.0	170.1

48

Elev. BM 195.22  
Reading 843  
203.63  
- 5.2  
From BM 198.45

S.W. Cor  
Guizot-Coro

In Draw  
Bottom  
Fork  
2 Draw  
Bottom  
Draw  
Mouth  
Draw  
Ridge

Top Ridge  
Bottom  
Draw  
Top Ridge

N.W. Cor  
Guizot-Coro

Bottom  
Knoll

"  
"

T 52

203.6

198.4

49

Sta	AZ	Stadia	vert L	Pod	Dist	Elev.	Hor. dist.	
24	220° 18	0.51		4.6	+06	199.0	51.0	190.4 TOP Knoll
25	166° 06	0.62		3.9	+1.3	199.7	62.0	191.1 "
26	164° 13	0.25		2.0	+3.2	201.3	25.0	193.0 "
27	124° 17	0.51		5.0	+0.2	198.6	51.0	190.0 "
28	57° 24	0.67		8.3	-3.1	195.3	67.0	186.7 "
29	23° 26	0.20		5.8	-0.6	197.8	20.0	189.2 "
30	292° 07	1.32	-11° 49			24.0	179.9	126.0 165.8 Ridge
31	14° 56	1.36	-8° 04			18.2	180.2	134.0 171.6 "
32	36° 42	1.35	-6° 44			15.7	182.7	135.0 174.1
33	59° 42	1.06	-5° 06			9.4	189.0	106.0 180.4
34	73° 27	1.46	-7° 25			18.6	179.8	145.0 171.2
35	93° 35	2.52	+1° 40			7.3	205.7	252.0 197.1 Ridge.
36	104° 45	3.23	+3° 04			17.5	215.9	322.0 207.3
37	105° 17	3.80	+3° 20			22.0	220.4	379.0 211.8
38	102° 03	3.60	+2° 39			16.6	215.0	360.0 206.4
39	93° 15	2.97	+1° 05			5.5	203.9	297.0 195.3
40	98° 27	2.95	+1° 16	6.0		5.7	204.1	295.0 195.5
41	87° 40	2.66	+0° 04	9.0		3.5	194.9	266.0 193.3 Bottom Bluff
42	82° 18	2.75	-0° 20			1.6	196.8	275.0 188.2
43	69° 50	2.28	-2° 25			9.7	188.7	228.0 180.1
44	81° 02	1.75	-4° 01			12.2	186.2	175.0 177.6
45	52° 34	1.75	-5° 15			15.8	182.6	174.0 174.0 Bottom Bluff
46	57° 06	1.38	-6° 14	9.0		18.0	180.4	137.0 171.8
47	39° 41	1.78	-7° 02	12.0		28.4	171.0	176.0 161.4
48	6° 48	2.28	-9° 03	11.0		41.2	157.2	222.0 148.6

Sta	AZ	Stadia	Vert L	Rod	Dist	Elev	Hor dist	Elev	
49	310°22'	3.40	-11°00'		63.6	134.8	328.0	126.2	
50	315°52'	3.40	-10°15'		59.5	138.9	330.0	130.3	TOP R.R. Grade
51	0°38'	2.45	-9°19'		39.1	159.3	239.0	150.7	"
52	13°55'	2.20	-8°35'		82.6	165.8	215.0	157.2	
53	40°25'	2.39	-2°58'		12.3	186.1	239.0	177.5	N.W. End Bluff
54	49°30'	3.22	-0°35'		3.4	195.0	322.0	186.4	
55	54°05'	1.94		7.5		196.1	194.0	192.1	TOP of Bluff
56	84°36'	3.18	+4°14'		23.4	221.8	317.0	213.2	"
57	90°44'	3.05	+5°40'		30.0	228.4	303.0	219.8	"
58	102°15'	4.73	+4°00'		32.8	231.2	471.0	222.6	End Bluff
"L"	39°54'	3.58	-2°19'		14.4	184.0	357.4	175.4	
Inst of "L" π 45 = 5.1	Inst oriented on "N" Stadia			3.58	Vert L + 2°19'				
1	267°40'	1.43	-8°10'		20.1	163.1	140.0	155.3	N. Side R.R.
2	297°12'	1.50	-10°10'		26.0	158.0	146.0	149.4	
3	316°15'	4.15	-6°47'		48.8	135.2	409.0	126.6	
4	317°40'	3.55	-6°47'		41.6		352.0	133.8	
5	319°14'	3.57	-6°59'	10.0	47.9		354.0	127.5	Ditch
6	322°36'	3.50	-6°35'		40.8		347.0	135.4	"
7	317°18'	2.23	-8°00'		30.6		218.0	144.8	"
8	314°37'	2.21	-8°06'	10.0	35.6		217.0	139.8	"
9	313°35'	2.17	-8°13'		30.6		212.0	144.8	"
10	331°45'	1.30	-8°26'		18.8		127.0	156.6	"
11	337°24'	1.38	-9°50'		23.3		134.0	152.1	"
12	340°11'	1.50	-7°10'		18.6		147.0	156.8	"
13	339°16'	1.53	-2°06'		5.6		152.0	169.8	"

Sta	AZ.	Stadia	Vert L	Rod	Dist	Elev	Hor. dist	
14	341°15'	1.41	-5°31'		13.4	162.0	140	Ditch
15	348°05'	1.25	-2°23'		5.6	169.8	125	
16	52°40'	1.06	-0°19'		0.6	174.8	106	
17	50°53'	1.63	+2°00'		5.7	181.1	163	Ditch
18	64°38'	2.10	+3°29'		12.8	188.2	210	TOP Hole
19	71°42'	2.60	+5°13'		23.5	198.9	257	"
20	81°15'	3.38	+5°16'		31.0	206.4	335	"
21	79°13'	4.10	+4°57'		35.2	210.6	407	"
22	83°35'	4.50	+5°30'		43.0	218.4	446	"
23	76°24'	4.67	+5°45'		46.5	221.9	464	"
24	59°02'	4.50	+5°20'		41.6	217.0	445	"
25	59°56'	3.55	+4°47'		29.5	204.9	352	"
26	56°40'	2.90	+4°01'		20.2	195.6	257	"
27	61°17'	2.66	+3°15'		15.0	190.4	265	"
28	41°17'	1.95	+1°31'		5.2	180.6	145	TOP Ditch
29	99°18'	0.85	+2°12'		9.1	184.5	84	N. Side RR. cut
30	111°15'	0.89	+0°55'		6.0	176.4	89	30' wide Center cut
31	125°04'	1.04	+9°40'		17.2	192.6	101	S. Side RR. cut
32	98°27'	3.37	+5°08'		30.0	205.4	335	"
33	96°04'	3.38	+4°21'		25.5	200.9	335	Center cut
34	93°12'	3.45	+5°02'		30.7	206.1	343	N. Side RR. cut
35	98°06'	4.33	+5°35'		42.0	217.4	430	E. Side cut on curve
36	99°30'	4.17	+5°00'	8.0	36.1	212.1	415	Bottom cut
37	102°13'	4.15	+5°54'		42.5	217.9	412	W. Side cut
"M"	79°53'	4.73	+5°35'		45.8	229.8	470	

P.C  
curveCenter  
of  
curve

Sta	AZ	Stadia	Vert L	Rod	Diff	Elev	H. Dis.	
Inst of "M" T.H.I. = 5.0	Inst. oriented on "L"		Stadia	4.73	Vert L = 5°35'	229.8		
1	179°05'	2.50		2.5	+ 2.5'	232.3	250	E.C. Curve S. Side RR cut Bottom of RR cut N. Side cur
2	182°32'	2.53		8.7	- 2.7	227.1	253	
3	185°14'	2.57		3.5	+ 1.5'	231.3	257	
4	184°55'	4.50	+ 1°14'		9.7	239.5	450	
5	211°05'	3.67	- 0°27'		2.9	-226.9	367	
6	234°00'	4.17	- 1°26'		10.4	219.4	416	
7	276°01'	3.02	- 9°35'		44.5	180.3	293	Bottom of Ditch
8	277°41'	2.55	- 11°00'		47.8	182.0	246	Bottom of Hole
9	276°35'	2.55	- 11°04'		48.5	181.3	246	"
10	285°20'	2.17	- 11°03'		41.0	188.8	210	"
11	289°20'	1.78	- 12°58'		38.5	191.3	168	"
12	309°24'	1.68	- 11°45'		33.5	196.3	161	"
13	326°25'	1.45	- 9°42'		24.1	205.7	141	"
14	302°19'	1.27	- 15°35'		32.1	197.1	118	"
15	315°06'	0.78	- 18°03'	8.0	26.0	203.8	70	"
16	284°12'	0.85	- 21°20'		28.7	201.1	74	"
17	270°35'	1.26	- 15°16'	8.0	35.0	184.8	117	"
18	283°54'	0.44	- 27°31'		18.0	211.8	34	"
19	270°16'	0.26	- 39°41'		12.8	217.0	15	"
20	225°02'	0.36	- 25°40'		14.0	215.8	29	"
21	172°41'	1.58	+	2.6	2.9	232.2	158	S. E. cor S. Cruz - Guard
22	107°44'	5.20	+ 4°03'		36.7	266.5	516	
23	124°15'	4.35	+ 1°23'		10.6	240.4	435	
24	144°00'	5.40	+ 3°15'		30.5	260.3	537	

Sta	AZ	Stadia	vert L	Rod	Dist	Elev	Hor. dist.	
25	177°30	4.46	+1°37		12.6	242.4	445	
26	166°17	1.38	+3°03		7.3	237.1	138	
27	113°45	1.43	+4°14		10.5	240.3	142	
"N"	326°40	3.90	-2°07		14.4	215.4	390	
<sup>Inst of N</sup> H.I. 4.8	1st oriented on "M" Stadia			3.90	vert L = +2°07			
1	242°00	3.55	-8°51		54.0	161.4	346	Ditch
2	268°30	4.32	-8°57		66.5	144.9	422	"
3	270°20	4.35	-9°51		73.3	142.1	423	"
4	272°56	4.35	-9°51		73.3	142.1	423	"
5	276°00	4.27	-9°10		67.2	148.2	415	"
6	271°28	3.05	-9°58		52.0	163.4	296	"
7	269°35	3.05	-10°35		55.0	160.4	295	"
8	263°22	3.20	-10°57		59.2	156.2	308	"
9	260°15	3.18	-9°37		52.6	162.8	310	"
10	254°58	2.08	-11°04		39.5	175.9	200	"
11	257°30	2.00	-13°64	9.0	44.2	167.2	194	Head of Ditch
12	257°05	1.98	-12°15		41.0	174.4	190	Top of Hole
13	260°41	2.00	-11°12		38.2	177.2	192	"
14	273°33	1.78	-10°11		31.4	184.0	172	"
15	298°40	1.59	-9°50		26.7	188.7	154	"
16	308°40	1.26	-8°25		18.2	197.2	123	"
17	295°50	0.85	-9°00		13.2	202.2	83	"
18	97°05	0.52	+6°40		6.0	221.4	50	"
19	150°02	1.52	+3°00		7.9	223.3	150	"
20	184°48	1.50		9.0	4.2	211.2	150	"

N. E. Co.  
Coro 770 641200

Ditch

Head of  
Ditch  
Top of  
Hole

Sta	AZ	Stadia	Vert L	Rod	Diff	Elev	
21	202°56	2.18	-5°00'		18.9	196.5	216 Top of Hole
22	217°56	2.06	-7°12'		25.6	189.8	"
23	234°20	2.78	-8°17'		39.6	175.5	"
24	242°24	2.10	-8°37'		31.2		207 "
25	245°44	1.90	-11°54'		38.5		182 Bottom of Hole
26	231°14	2.15	-9°37'		35.4		208 "
27	207°45	1.90	-9°52'		32.0		185 "
28	156°07	1.37	-5°04'		12.0		136 "
29	176°00	0.53	-38°39'		25.8		32 "
30	282°22	1.10	-17°37'		31.8		100 "
31	295°28	1.37	-11°00'	12.0	32.8		132 "
32	288°30	3.80	-9°18'		60.8		370 "
33	301°10	4.10	-6°57'		49.2		406 "
34	107°00	2.73	-1°08'	8.0	8.6		272 "
35	35°54	3.03	+1°03'	11.0	11.8		302 "
36	13°46	1.25	-0°37'		1.3		725 "
"0"	107°46	1.66	+3°56'		11.4	226.8	165 "
Inst at "0"	Inst. oriented on "N" Stadia 1.66 Vert. L - 3°56'						
7 H.I. 6.2							
1	67°33'	0.89	+1°20'		2.1	228.9	89 N. E. Cor - Cuizat Del Monte
2	21°40'	2.52	-1°45'		8.4		250 S. E. Cor - Cuizat - Nard Sanset
3	14°06'	3.30	-1°50'		10.6		330 "
4	41°53'	4.35	+0°06'	8.0	3.5		435 "
5	55°43'	4.00	+0°24'	7.0	4.6		400 "
6	85°00'	4.58	+1°42'		13.6		458 "
7	86°55'	6.65	+1°51'		21.5		665 N. W. Cor - S. Barbara Del Monte

Sta	AZ	Stadia	Vert L	Pod	Dist	Elev
8	70°58'	5.60	+1°00'		9.8	560
9	75°26'	6.90	+1°01'		12.2	690
10	65°16'	7.00	+0°46'	9.0	13.2	700
"P"	88°57'	6.80	+1°43'		20.1	246.9
47. Inst. 5.3 X of "P"	Inst. Oriented on "O" Stadia 6.80 Vert L -1°-42'					
1	75°-55'	0.56		4.0	+ 1.3	56
2	82°-50'	1.49		2.6	+ 2.7	149
3	32°-09'	1.71		9.4	- 4.1	171
4	190°-18'	0.71	+4°-53'		6.0	71
5	208°-12'	2.09	+2°-48'		9.9	209
"Q"	189°-40'	3.54	+3°-31'		21.3	268.2
47. Inst. 5.2 X of "Q"	Inst. Oriented on "P" Stadia 3.54 Vert L -3°-32'					
1	100°-10'	0.48		4.8	+ 0.4	48
2	24°-31'	1.18		9.2	- 4.0	118
3	269°-46'	1.25		12.0	- 6.8	125
4	301°-28'	2.27	-4°-02'	8.0	18.8	227
5	276°-26'	2.57	-3°-36'	7.0	17.8	257
6	158°-40'	1.10		6.1	- 0.9	267.3
7	195°-58'	2.53		11.2	- 6.0	253
8	190°-45'	3.95	-0°-35'	10.0	8.8	395
9	165°-52'	2.13	-0°-25'	10.0	6.3	213
10	39°-57'	1.87	-2°-05'		6.8	187
11	44°-55'	2.82	-2°-28'		11.7	282
12	26°-05'	2.90	-2°-28'		12.1	290
13	92°-47'	1.16		8.9	- 3.7	116

S.W. cor.  
Noragonsett +  
Santa BarbaraNr. S.W. cor.  
Guizot + Del Monte  
N.E. cor.  
Barbara + Del MonteS.W. cor.  
Barbara + Del Monte268.1 From  
B-MN.W. cor.  
Barbara + Santa CruzS.W. cor.  
Barbara + Santa CruzN.E. cor.  
Barbara + Santa Cruz



Sta.	Az	Stadia	Vert. L	Rod.	Diff.	Elev.	Hor Dis
Ht. Inst. 5.3. K. dt. "G"							
14	129°-36'	1.53		8.8	-3.4		153

S. F. cor.  
Barbosa & Santa Cruz

Sta.	+	K	-	Elev.
B. M. cor. S.W. Coronado & Barbosa	12.60	262.00		250.00
T. P.	12.04	273.19	0.85	261.15
"G"			5.13	268.06

Ht. Inst. 5.1	N. E. cor.				
K dt. "H"	Inst. Oriented on.	Pascadero & Freud.	Stadia.	Vert. L	
1	350°-00'	2.90	+3°-04'	15.6	290
2	347°-44'	4.00	+3°-05'	18.6	398
3	320°-45'	5.16	-1°-28'	13.2	515
4	331°-55'	3.80	+0°-40'	4.4	380
5	303°-45'	4.87	-4°-09'	35.3	480
6	286°-45'	6.10	-5°-04'	53.1	606
7	306°-38'	6.70	-3°-28'	40.5	688

B.P.S.W.

Georgia  
Robinson

X Sec. Florida Court

Aug 31-28

10' St 20' Roadway 10' Cts

Landon  
Isbell  
Morgan

57

D.M.	0.95	312.94	311.99
T.P.	0.49	300.43	299.94
T.P.	0.35	288.31	287.96
D + 00 = EL. Georgia St			
N.L.		1.65	286.66
cb		1.80	286.52
Gut.		2.49	285.82
1/4		2.47	285.84
E		2.51	285.80
1/4		2.61	285.70
Gut.		2.86	285.45
cb		2.29	286.02
S.L.		2.21	286.10
D + 07			
10's		6.3	282.0
S.L.		4.7	283.6
+1		4.0	
+4		4.3	
+5		3.8	
+8		2.4	
cb		2.0	
+3		1.5	
1/4		2.0	
+4		2.1	
E		2.7	285.6
1/4		2.3	

Plotted 10-24-28 - C.B.H.

288.31		
cb		2.6
+5		2.9
N.L.		3.0
3'N		1.6
7'N		1.5
D + 10		
7'N	25	1.5
4'N		1.4
N.L.		3.4
+5		3.2
cb	25	2.7
1/4		2.3
+4		2.8
E		2.1
		286.2
+1		1.7
1/4		1.6
+3		2.0
cb		2.4
+2		2.7
+5		4.1
+6		4.6
S.L.		5.0
		283.3
3' S		6.9
10's		9.0

0+20	288.31	
20'S	13.0	
S.L.	9.0	279.3
+5	7.2	
cb	7.0	
1/4	6.9	
+3	6.8	
±	5.8	282.5
1/4	4.6	
cb	4.0	
+5	5.8	
N.L.	5.4	282.9
6'N	1.8	
15'N	1.8	
0+35		
20'N	11.6	
7'N	11.0	
N.L.	9.8	278.5
cb	10.0	
1/4	10.2	
±	10.3	278.0
1/4	10.3	
cb	10.5	
+2	10.9	
+5	12.3	
+8	13.2	
S.L.	13.5	274.8

0+35	288.31	
10'S	15.7	
20'S	16.6	
T.P.	0.01	275.46
0+50		
15'S	7.2	
12'S	6.0	
S.L.	4.1	271.4
+9	2.0	
cb	1.7	
1/4	1.4	
±	1.4	274.1
1/4	1.1	
cb	1.2	
N.L.	2.0	273.5
10'N	2.0	
15'N	1.4	
0+75		
10'N	6.7	
N.L.	7.4	268.1
cb	7.6	
1/4	7.8	
±	7.7	267.8
1/4	8.0	
cb	8.3	
S.L.	8.8	266.7
4'S	9.6	

0+75		275.46	
10's		10.3	
1+00			
10's		13.8	
S.L.		12.9	262.6
+8		12.0	
cb		11.9	
1/4		11.7	
⊕		11.5	264.0
1/4		11.5	
cb		11.4	
N.L.		11.1	264.4
10'N		10.3	
T.P.	2.11	262.67	262.56
1+25			
10'N		1.4	
N.L.		1.5	261.2
cb		1.2	
1/4		1.6	
⊕		1.8	260.9
1/4		2.1	
cb		2.9	
S.L.		3.5	259.2
10's		4.3	

1+50		262.67	
10's		8.0	
S.L.		7.4	254.3
cb		7.0	
1/4		6.8	
⊕		6.0	256.7
1/4		6.4	
cb		6.2	
N.L.		6.0	256.7
7'N		6.9	
10'N		6.8	
M.H. at 1+60			
+04		8.14	254.53
F.L.		13.99	248.68
1+75			
10'N		9.3	
N.L.		9.1	253.6
+5		9.1	
cb		9.4	
1/4		9.8	
+4		9.1	
⊕		9.7	253.0
1/4		10.1	
cb		10.8	
S.L.		11.6	251.1
10's		12.1	

2+00	262.67	
10' S	13.5	
SL	13.0	249.7
+6	12.6	
cb	12.5	
1/4	12.3	
1/2	12.1	250.6
1/4	11.8	
+4	11.4	
cb	11.4	
+8	11.2	
N.L.	10.7	252.0
10' N	10.4	
Garage at 2+07 13' N	9.75	251.92
Floor house at 2+00 13' S	12.30	250.37
T.P.	2.29	254.35
	10.61	252.06
2+30		
5' N	2.0	
N.L.	3.2	251.2
+3	3.2	
+4	3.9	
cb	4.3	
1/4	4.5	
1/2	4.7	250.7
1/4	4.9	
cb	5.2	

2+30	254.35	
+7	5.0	
+9	5.6	
S.L.	5.6	248.8
9' S	5.9	
10' S	6.3	
2+55		
Floor garage.		
9' S	5.27	249.08 ✓
6' S	5.5	
S.L.	5.1	249.3
+8	4.6	
cb	4.7	
1/4	4.8	
1/2	4.9	249.5
1/4	4.7	
cb	4.1	
+3	3.6	
+7	3.2	
+8	2.4	
N.L.	2.1	252.3
2' N	1.6	

2+80	254.35	
2'N	1.4	
N.L.	2.2	252.2
+1	2.3	
+2	2.8	
cb	3.9	
+3	4.4	
1/4	4.5	
1/4	4.6	249.8
1/4	4.5	
cb	4.4	
+6	4.7	
S.L.	5.3	249.1
3.5	5.3	
3's Fdn. House	4.84	
3+00		
3'S	5.0	
S.L.	4.8	249.6
+3	4.4	
cb	4.3	
1/4	4.4	
1/4	4.2	250.2
1/4	4.1	
cb	3.6	
+7	3.0	
N.L.	2.0	252.4
1'N	1.5	

3+00	254.35	
5'N	1.4	
3+16		
5'N	1.6	
N.L.	1.8	252.6
+2	2.9	
+7	3.2	
cb	3.6	
1/4	4.1	
1/4	4.3	250.1
1/4	4.6	
cb	5.1	
+8	5.5	
S.L.	5.9	248.5
5'S	6.0	
3+19 <sup>55</sup>	= N.L. Florida St.	
5'S	6.4	
S.L.	6.1	248.3
+4	5.6	
cb	5.4	
1/4	5.0	
1/4	4.8	249.6
1/4	4.6	
cb	4.4	
+6	4.2	
N.L.	3.5	250.9
5'N	3.1	

254.35  
 cb on Florida St runs across Florida Court  
 cb N.L. 4.24 250.11  
 cb S.L. 6.41 247.94  
 T.P. 13.01 266.51 0.85 253.50  
 T.P. 12.92 279.32 0.11 266.40  
 T.P. 12.78 292.06 0.04 279.28  
 T.P. 12.69 304.72 0.03 292.03  
 T.P. 9.80 313.67 0.85 308.87  
 BM. Beginning 1.66 312.01 311.99

Walker  
Ruppinger  
Shaw  
10-1-28

Cross Section 34<sup>th</sup> St. 60' wide 10' obs  
Bet Natl. Ave and Boston Ave 10' obs

8.25

63

1.43 8.25 6.82 SE. BP 34<sup>th</sup> + Natl Ave

S.L. Natl. Ave = 0+00

E	1.4		1/4
E. top cb.	1.67	6.58	1/4
" Gutter on Paving	2.43	5.82	1/4
" 1/4 " "	2.25		1/4
1/4 " "	2.15	6.10	1/4
N 1/4 " "	2.31		1/4
" Gut. " "	2.71	5.54	1/4
" top cb.	2.23	6.02	1/4
N	1.8		1/4

0+62

3.3	
3.2	5.1
3.1	
3.2	
3.5	4.8
3.9	
5.5	
5.4	2.9
5.7	
5.8	
3.2	5.1
3.4	
3.5	
2.1	6.2
1.4	

0+25

N-5	2.7		1/4
N	2.8	5.5	1/4
cb.	2.5		1/4
1/4	2.4		1/4
1/4	2.6	5.7	1/4
1/4	2.8		1/4
cb.	2.3		1/4
E	0.8	7.5	1/4
+5	0.3		1/4

1+08

Plotted. 11-5-28

2.7	
4.0	4.3
4.3	
3.8	
3.7	4.6
4.6	
4.0	
7.0	
7.3	1.0

0+50

-5	1.2		1/4
E	1.7	6.6	1/4
cb.	3.0		1/4

4.6	
7.0	
7.3	1.0



+5	6.7	
+10	6.7	
1+10		
-10	6.9	
-5	6.9	
W	7.3	1.0
cb	7.0	
$\frac{1}{2}$	6.0	
+9	4.6	
$\frac{1}{2}$	3.7	4.6
$\frac{1}{2}$	3.8	
cb	4.3	
E	3.9	4.4
+5	3.9	
1+20		
-5	4.6	
E	4.6	3.7
cb	4.3	
$\frac{1}{2}$	3.9	
+8	3.7	
$\frac{1}{2}$	5.0	3.3
$\frac{1}{2}$	7.5	
cb	8.1	
W	8.0	0.3
+3	7.3	
+10	7.3	

Dist from Elev. = 4.3

Note: Station 1+13 = E. Side Garage on East Under house 18' wide 21' Back

1+19 = <sup>Exist.</sup> Sewer RT Δ to 34th		
concrete	7.11	1.14
xl cb. on top sewer.		
1+18 = <sup>Exist.</sup> MH. on Flow Line	7.73	0.52
1+60		
-10	6.9	
W	7.2	1.1
+2	8.1	
cb	8.4	
$\frac{1}{2}$	8.2	
$\frac{1}{2}$	4.4	3.9
+3	4.0	
$\frac{1}{2}$	4.0	
cb	4.1	
+5	5.9	
E	6.1	2.2
+10	6.0	
1+64		
-10	3.5	
E	3.7	4.6
cb	4.0	
$\frac{1}{2}$	4.3	
+7	4.2	
$\frac{1}{2}$	4.3	4.0
$\frac{1}{2}$	8.0	
cb	8.4	
+9	7.9	

W	7.3	1.0
+10	7.0	
1+75		
-10	7.0	
W	7.3	1.0
+1	7.9	
cb.	8.4	
$\frac{1}{2}$	8.0	
$\frac{1}{2}$	4.3	4.0
$\frac{1}{2}$	4.2	
cb.	4.0	
E	3.7	4.6
+10	3.5	
1+80		
-10	6.5	
E	6.4	1.9
+4	4.0	
cb.	4.0	
$\frac{1}{2}$	4.3	
$\frac{1}{2}$	4.0	4.3
+8	8.4	
cb.	8.3	
+8	8.3	
W	7.4	0.9
+10	7.2	

2+23

-10	7.6	
W	7.3	1.0
+3	8.3	
cb.	8.6	
$\frac{1}{2}$	8.6	
$\frac{1}{2}$	5.1	3.2
+2	4.4	
$\frac{1}{2}$	4.5	
cb.	4.3	
+5	4.4	
E	6.9	1.4
+10	7.2	1.0
2+40		
-10	4.4	
E	4.4	3.9
cb.	4.8	
$\frac{1}{2}$	4.7	
+8	4.7	
$\frac{1}{2}$	5.6	2.7
+9	8.5	
$\frac{1}{2}$	8.5	
cb.	8.5	
W	7.9	0.4
+10	7.4	
2+90		
-10	7.3	1.0

W	7.6	0.7
+5	8.5	-3
cb.	8.8	-5
$\frac{1}{2}$	8.6	-3
+2	8.6	-3
E	6.1	+2.2
+3	4.8	+3.5
$\frac{1}{2}$	5.1	+3.2
cb.	4.9	3.4
+5	5.1	3.2
E	5.2	3.1
+10	5.5	2.7

3+00 = N.W. NEWTON Ave 80' wide <sup>14' chgs</sup> 13' ± S

-10	8.0	0.3
E	7.9	0.4
+3	7.7	0.6
cb.	5.0	3.3
$\frac{1}{2}$	5.2	3.1
+8	4.9	3.4
E	5.9	2.4
+8	8.8	-0.5
$\frac{1}{4}$	8.8	-0.5
cb.	8.8	-0.5
+10	7.7	0.6
-10	7.1	0.6

N cb.

W	7.6	0.7
+5	8.4	-0.1
cb.	8.9	-0.6
+5	9.1	-0.7
$\frac{1}{2}$	9.0	-0.6
+3	9.0	-0.6
E	6.0	2.3
+2	5.0	3.3
$\frac{1}{4}$	5.3	3.0
cb.	5.2	3.1
+6	8.2	0.1
E	8.3	0.0
+10	7.9	0.4

N  $\frac{1}{4}$

E-10	7.7	0.6
-7	7.7	0.6
-5	8.2	0.1
E	8.3	0.0
+5	8.3	0.0
cb.	6.1	2.2
+5	6.3	3.0
$\frac{1}{2}$	5.4	3.9
+8	5.3	4.0
E	6.5	1.8
+7	8.5	-0.2
$\frac{1}{4}$	8.9	-0.6

825

+5	9.3	-1.0
cb.	8.7	-.7
+5	8.0	+3
W	7.7	0.6
+10	8.2	0.0
-10	8.6	-0.3
W	8.1	0.2
+5	8.3	0.0
cb.	9.2	-.9
+5	9.3	-1.0
$\frac{1}{2}$	9.0	-.7
+3	8.6	-.3
$\frac{1}{2}$	6.4	1.9
+2	5.5	+2.9
$\frac{1}{4}$	5.4	+2.9
+8	5.4	+2.9
cb.	5.9	2.3
+6	8.4	-1
E	8.4	-0.1
+10	7.7	+6
-10	7.8	+5
E	8.1	0.2
+4	8.6	+3
$\frac{1}{2}$	6.2	+2.1

Garbage for 20' N to 20' south of Newton  
 Newton Grading Job  
 1-17-29  
 T.G.H.

S 4

825

67

+2	5.7	+2.9
$\frac{1}{2}$	5.5	2.9
+8	5.6	2.7
$\frac{1}{2}$	6.4	1.9
+7	8.8	-.5
$\frac{1}{2}$	9.2	-.9
cb.	9.2	-.9
W	8.8	-0.5
+10	8.5	-.2
-10	8.3	0
W	8.7	-0.4
cb.	8.9	-1.6
$\frac{1}{2}$	9.2	-.9
+2	8.9	-1.6
$\frac{1}{2}$	6.3	2.0
+2	5.5	2.8
$\frac{1}{2}$	5.5	2.8
+8	5.7	2.6
cb.	6.6	1.7
+6	8.4	-.1
E	8.8	-0.5
+10	7.6	+7
-10	7.8	+5
E	9.1	-0.8

S cb

S.L. NEWTON = 0+00

+5	91	= 0.7
cb.	6.3	2.0
+2	53	3.0
$\frac{1}{4}$	54	2.9
+8	54	3.0
$\frac{1}{2}$	61	2.2
+8	87	-4
$\frac{1}{4}$	93	-10
+5	93	-10
cb.	89	-6
W	86	-0.3
+10	84	-0.1
	0-1.50	
-10	86	-3
W	89	-0.6
cb.	92	
$\frac{1}{2}$	94	
+5	85	
$\frac{1}{2}$	6.2	2.1
+2	56	
$\frac{1}{4}$	57	
+8	58	
cb.	65	
+5	90	
E	93	-1.0
+10	84	

	1+00	9.0	
-10		9.0	
E		9.3	-1.0
+7		9.2	
cb.		7.9	
+4		6.0	
$\frac{1}{4}$		5.9	
$\frac{1}{2}$		5.8	2.5
+2		6.0	
+7		8.1	
$\frac{1}{4}$		9.3	
cb.		9.2	
W		9.1	-0.8
+10		8.9	
	1+50		
-10		9.5	
W		9.5	-1.2
cb.		9.6	
+2		9.6	
$\frac{1}{2}$		6.7	
$\frac{1}{4}$		5.9	2.4
$\frac{1}{2}$		6.2	
+6		9.3	
cb.		9.4	
E		9.3	-1.0
+10		9.1	

1+65

-10	91	
E	93	-1.0
cb.	94	
+5	94	
$\frac{1}{2}$	75	
+2	62	
$\frac{1}{2}$	59	2.4
$\frac{1}{2}$	64	
+2	64	
cb.	93	
N	97	-1.4
+10	95	

2+00

-10	95	
N	99	-1.6
+4	99	
cb.	76	
+5	62	
$\frac{1}{2}$	62	
6	63	2.0
+3	64	
$\frac{1}{2}$	94	
cb.	95	
E	94	-1.1
+10	91	

2+36

-10	93	
E	95	-1.2
cb.	96	
$\frac{1}{2}$	96	
+6	94	
$\frac{1}{2}$	75	0.8
+3	63	
$\frac{1}{2}$	62	
cb.	64	
N	96	-1.3
+5	102	
+10	96	

2+86

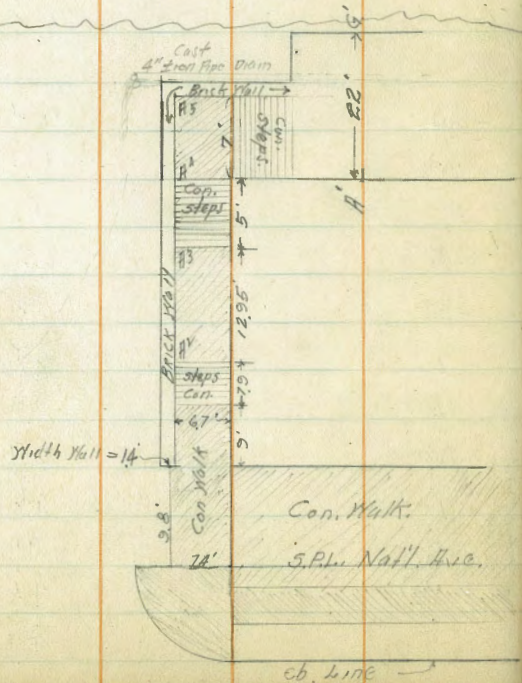
-10	104	
-8	102	
N	72	1.1
+5	62	
cb.	62	
$\frac{1}{2}$	65	
+6	90	
E	97	-1.4
$\frac{1}{2}$	96	
cb.	96	
E	94	-1.1
+10	93	

825

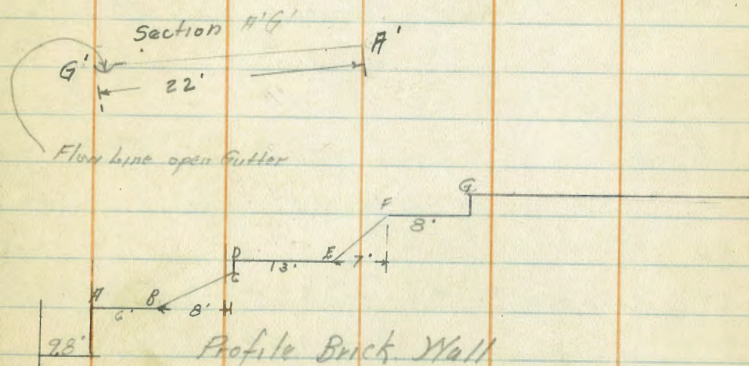
34<sup>th</sup> St  
X. Section

37.00 = N.L. Boston Ave.

-10	9.2	
E	9.3	-1.0
cb.	9.6	
$\frac{1}{4}$	9.7	
$\frac{1}{2}$	9.6	-1.3
+4	9.4	
$\frac{1}{4}$	6.8	
cb.	6.2	
W	6.7	1.6
+5	7.9	
+10	10.2	

Cross Section 36<sup>th</sup> St. 60' wide  
Bet Nat'l. + Boston Ave. 10' CBS  
10' 2570

	0.06	46.95	46.89	S.W. B.P. 37+4 + Nat'l. Ave.
T.P.	11.20	48.75	940	37.55
A on <sup>con walk</sup> Bottom Wall			9.53	39.22
A " top "			6.09	42.72
B " " "			6.03	42.72
C " " "			1.14	47.61
D " " "			0.45	48.30
top step = Av			3.96	44.79
Bottom " = #3			3.78	44.97
F on top Brick Walk			0.50	48.25
F " " " "			+3.20	51.95
H4 " " Con steps			0.20	48.55
H5 " " Walk			0.20	48.55



36 + 12 N. Sect 100

48.75

G on top Brick Wall +3.80 52.55

S.L. Nat'l = 0 + 00

W on Walk 9.56

" " top cb. 9.81 38.94

" " Gutter on Par 10.62 38.13

1/4 " " 10.65

2 " " 10.92 37.83

1/2 " " 11.47

E " " 12.22 36.53

E top cb. 11.82 36.93

E " " Wall 11.51 37.24

0 + 02

- 10 10.7

E 10.7 38.0

cb. 11.3

1/4 11.4

1/2 10.7 38.0

1/4 10.4

cb. 10.1

+2.6 on top Walk 9.65 39.10

W " " 9.54 39.21

0 + 04

W 9.54 39.21

+7.4 on top Walk 9.65 39.10

48.75

-1

cb. 9.5

+4 9.1

+6 7.4

1/2 7.2

+3 7.8

E 10.0 38.7

1/4 11.1

cb. 10.9

E 10.8 38.0

+10 10.8

0 + 10

-10 11.0

E 11.0 37.7

cb. 10.4

1/4 10.1

+5 7.7

E 7.4 41.3

1/4 6.3

+2 6.4

cb. 9.0

+V = Bottom Brick Wall on Ground 9.2 39.5

0 + 25

W + 8 - Brick Wall 4.5 44.2

cb. 4.6

1/4 5.4

1/2 6.0 42.5



4875

75		8.4	
$\frac{1}{2}$		8.3	
cb		8.4	
E		10.6	38.1
+10		10.9	
	0+153		
-10		10.3	
E		8.8	40.0
cb		7.8	
$\frac{1}{2}$		7.6	
+5		6.6	
$\frac{1}{2}$		5.5	43.2
$\frac{1}{2}$		4.3	
cb		2.6	
+2 of wall		2.6	46.1
cb +1' = Ext 4" Chain Flow Line		+0.3	
T.P. 6.44	53.80	1.39	47.36
A' on top wall section 4'6"		1.30	52.50
G " Flow Line open gutter		2.17	51.63
" " top walk section 4'6"		1.97	51.83
	0+65		
W		2.0	51.8
cb		2.4	
-12		2.3	
$\frac{1}{2}$		5.7	
$\frac{1}{2}$		9.9	44.3

53.80

2

$\frac{1}{2}$		12.3	
cb		12.8	
E		13.4	40.4
+10		13.9	
	0+72		
			1 diff
-10		12.8	
E		12.7	41.1
cb		12.6	
$\frac{1}{2}$		12.1	
$\frac{1}{2}$		9.7	44.1
$\frac{1}{2}$		6.5	
cb		3.9	
W		3.2	50.6
	0+85		
W		1.7	52.1
cb		2.0	
$\frac{1}{2}$		1.7	
$\frac{1}{2}$		7.3	46.5
$\frac{1}{2}$		10.3	
+2		12.1	
tb		12.5	
E		12.7	41.1
+10		12.9	
	1+12		
-10		14.8	
E		13.9	39.9

cb.	12.7	
+7	11.8	
$\frac{1}{2}$	10.5	
$\frac{1}{2}$	6.7	47.1
$\frac{1}{2}$	1.8	
cb.	1.6	
W	1.6	52.2
0+99 = 2' Euc tree on west 95' inst.	1.6	40' High 20" dia
1+08 = " " " " " 2' Back	1.7	15' high 5" dia.
1+20 = " " " " " 9' inst	1.5	40' high 14" dia
1+31 = " " " " " 2' Back	1.7	20' high 6" dia.
+52 = " " " " " 2' Back	1.9	20' high 8" dia.
2+12 = " " " " " 3' "	2.6	25' High 6" Tree
1+62		
W	2.0	51.8
cb.	2.1	
+7	2.5	
$\frac{1}{2}$	3.2	
$\frac{1}{2}$	8.3	45.5
$\frac{1}{2}$	11.8	
cb.	12.2	
+4	13.1	
E	13.9	39.9
+20	15.6	
1+73		
-20	15.6	

E	13.9	39.9
+6	13.3	
cb.	11.8	
+9	11.5	
$\frac{1}{2}$	10.7	
$\frac{1}{2}$	8.3	45.5
$\frac{1}{2}$	5.3	
cb.	2.9	
W	2.0	51.8
1+76		
W	2.0	51.8
cb.	2.2	
$\frac{1}{2}$	3.0	
$\frac{1}{2}$	7.5	46.3
$\frac{1}{2}$	10.1	
+4	11.3	
cb.	11.7	
+4	12.8	
E	13.6	40.2
+20	15.7	
2+00		
-20	15.9	
E	13.4	40.4
+6	11.7	
cb.	11.3	
$\frac{1}{2}$	10.1	

5380

6	7.3	46.5
$\frac{1}{4}$	20	
+3	2.1	
cb.	20	
N	2.1	51.7
2+39		
N	2.4	51.4
cb.	2.5	
$\frac{1}{4}$	39	
6	7.1	46.7
$\frac{1}{4}$	9.4	
cb.	11.2	
E	13.2	40.6
+20	15.9	
2+57		
-20	15.6	
E	12.7	41.1
cb.	10.5	
$\frac{1}{4}$	9.2	
6	7.1	46.7
$\frac{1}{4}$	4.3	
+5	3.1	
cb.	2.8	
N	2.5	51.3
3+100 = N. NANTON	14' cb 5	
	13' 7.5	
N	2.3	51.5

5380

74

cb.	3.2	
$\frac{1}{4}$	4.3	
2	5.5	48.3
$\frac{1}{4}$	6.6	
cb.	7.5	
E	9.7	44.1
+20	14.7	
N cb.		
-20	13.3	
E	9.4	44.4
cb.	7.3	
+3	6.6	
$\frac{1}{4}$	6.4	
6	4.9	48.9
$\frac{1}{4}$	4.1	
cb.	3.2	
N	2.3	51.5
N $\frac{1}{4}$		
N	2.6	51.2
cb.	3.5	
$\frac{1}{4}$	4.3	
6	5.2	48.6
$\frac{1}{4}$	6.1	
cb.	7.3	
+5	7.8	
E	9.1	44.7

5380

+15		12.0	
	6		
-15		11.3	
E		8.9	44.9
+5		7.7	
cb.		7.1	
+5		6.1	
<del>7</del>		5.9	
2		4.6	49.2
<del>2</del>		3.5	
cb.		3.0	
W		2.5	51.3

S 1/4

W on Cor. Man.		2.75	51.05
cb.		3.3	
<del>2</del>		3.7	
2		4.4	49.4
<del>2</del>		5.5	
cb.		6.6	
E		8.3	45.5
+15		10.2	

S 1/4

-15		10.4	
E		7.8	46.0
cb.		6.1	
<del>7</del>		5.1	

5380

75

2		4.2	49.6
<del>2</del>		3.3	
cb.		2.9	
W		2.8	51.0
	S. to NEWTON	0+00	
W		3.4	50.4
cb.		3.2	
<del>2</del>		3.7	
2		4.4	49.4
<del>2</del>		4.7	
cb.		5.4	
E		7.4	46.4
+15		10.5	

T.P.	5.88	53.47	6.21	47.59
		0+40		

-15		10.8	
E		8.8	44.7
cb.		7.4	
<del>2</del>		6.4	
+15		5.7	
2		5.7	47.8
<del>2</del>		4.8	
cb.		4.2	
W		4.3	49.2
	0+80		
W		3.7	49.8

53.47

cb	2.5	
$\frac{1}{2}$	4.0	
$\frac{1}{2}$	4.0	49.5
$\frac{1}{2}$	5.4	
$\frac{1}{2}$	6.7	
E	7.6	45.9
+15	8.8	

1+00

-10	8.2	
E	7.2	46.3
$\frac{1}{2}$	6.1	
$\frac{1}{2}$	5.3	
$\frac{1}{2}$	4.7	48.8
$\frac{1}{2}$	3.9	
cb	3.4	
W	3.5	50.0

1+25

W	4.5	49.0
cb	4.6	
$\frac{1}{2}$	4.7	
$\frac{1}{2}$	5.0	48.5
$\frac{1}{2}$	5.1	
cb	5.5	
E	5.8	47.7
+10	6.4	

1+75

53.47

76

-10	5.6	
E	5.1	48.4
cb	4.8	
$\frac{1}{2}$	4.7	
$\frac{1}{2}$	4.5	49.0
$\frac{1}{2}$	4.6	
cb	4.5	
W	4.7	48.8

2+25

W	5.6	47.9
cb	5.6	
$\frac{1}{2}$	5.5	
$\frac{1}{2}$	5.2	48.3
$\frac{1}{2}$	5.3	
cb	5.6	
E	5.9	47.6
+10	6.3	

2+60

-10	7.7	
E	7.3	46.2
cb	6.7	
$\frac{1}{2}$	5.8	
$\frac{1}{2}$	5.7	47.8
$\frac{1}{2}$	6.1	
cb	6.5	
W	6.6	47.0

3+00

W	80	45.5
cb	86	
$\frac{1}{2}$	84	
$\frac{1}{4}$	84	45.1
$\frac{1}{4}$	85	
cb	86	
E	89	44.6
+10	93	
W. 36" and S 13" Mine Boston Left 8" on Con. Sta.	1146	47.01
cut on B.M. 37+11.4 (Natl.)	6.62	

DPS  
GRH

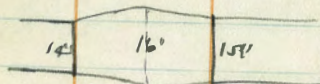
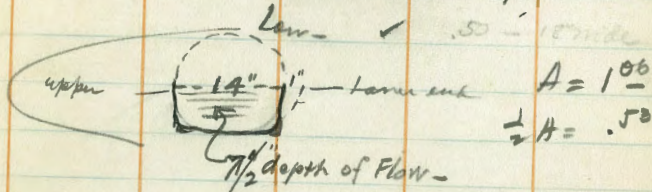
May-23-3pm

77

Main Senior - City Barn-

+5  
 1<sup>st</sup> Floor 70 sec. 200' bet M.H.  
 2<sup>nd</sup> ✓ 50 sec. Flow =  $\frac{200}{45} = 4 \frac{2}{3}$  f.s.

Depth of Flow - upper M.H. - 75 ft.



Grade - 1x v term  $1 \frac{2}{3} \%$  Prop. Vel =  $1 \frac{00}{52} \square$   
 $\checkmark$  Isch =  $\frac{50}{208}$   
 $1xv = 7 \text{ cfs} \times .50 = 3.5 \text{ cfs}$  Theoretical  $\tau = 6$   
 Actual Meas Vel =  $4 \frac{2}{3} \text{ f.s.}$   
 $.53 \times v = 2.12 \text{ cfs}$

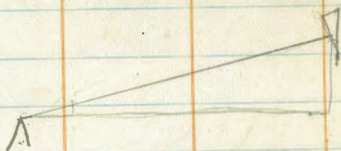
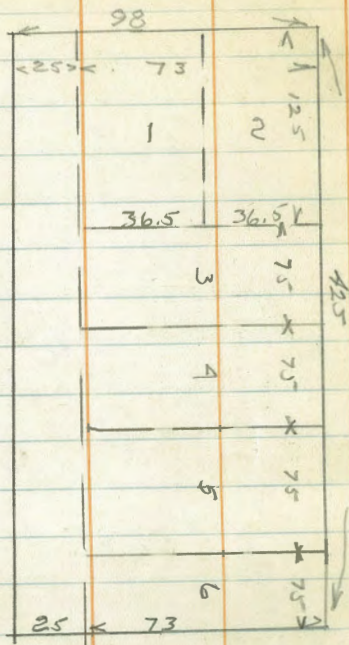
$$\frac{200}{45} = 4 \frac{2}{3} \text{ f.s.}$$

See page 76



ENGINEERING DEPARTMENT,  
CITY OF CALIFORNIA,  
SAN DIEGO.





26  
19

73  $\overline{)5000}$  68.5 125  $\overline{)5000}$  40  
 438 500 80  
 584 500 84.3  
 360 360 73  
 360 360 73

TABLE No. 1.

39

Distance of slope stake from side or shoulder stake for any width roadway, slope 1 1/2 to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level, the difference in elevation between the slope stake and top row stake is added to the amount if cut, or subtracted if fill. Add this amount to cut or fill and find in table. Set up rod at this point and line of sight should cut target.

## IMPROVED TABLES AND INFORMATION

To find Tangent and External for curve of any other degree, divide by degree of curve and add correction found in column of corrections. Degree of curve with a given I may be found by dividing tangent (or external), opposite T by given tangent (or external). The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.

4 Manhattan court

120.85 City - Aug 28

2250  
21/2

15750  
1125

16475

5347  
4689  
658

670

180,000  
540,000

ENGINEERING DEPARTMENT,  
CITY OF SAN DIEGO,  
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300  
600  
18,000.00

149  
840  
47600  
952  
99960

338.00

