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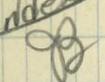In ordering Fabri-Hide covered books, add the letter "F" to catalog number.

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ENGINEERING and DRAFTING SUPPLIES

IRVING PARK STATION

CHICAGO, ILL.
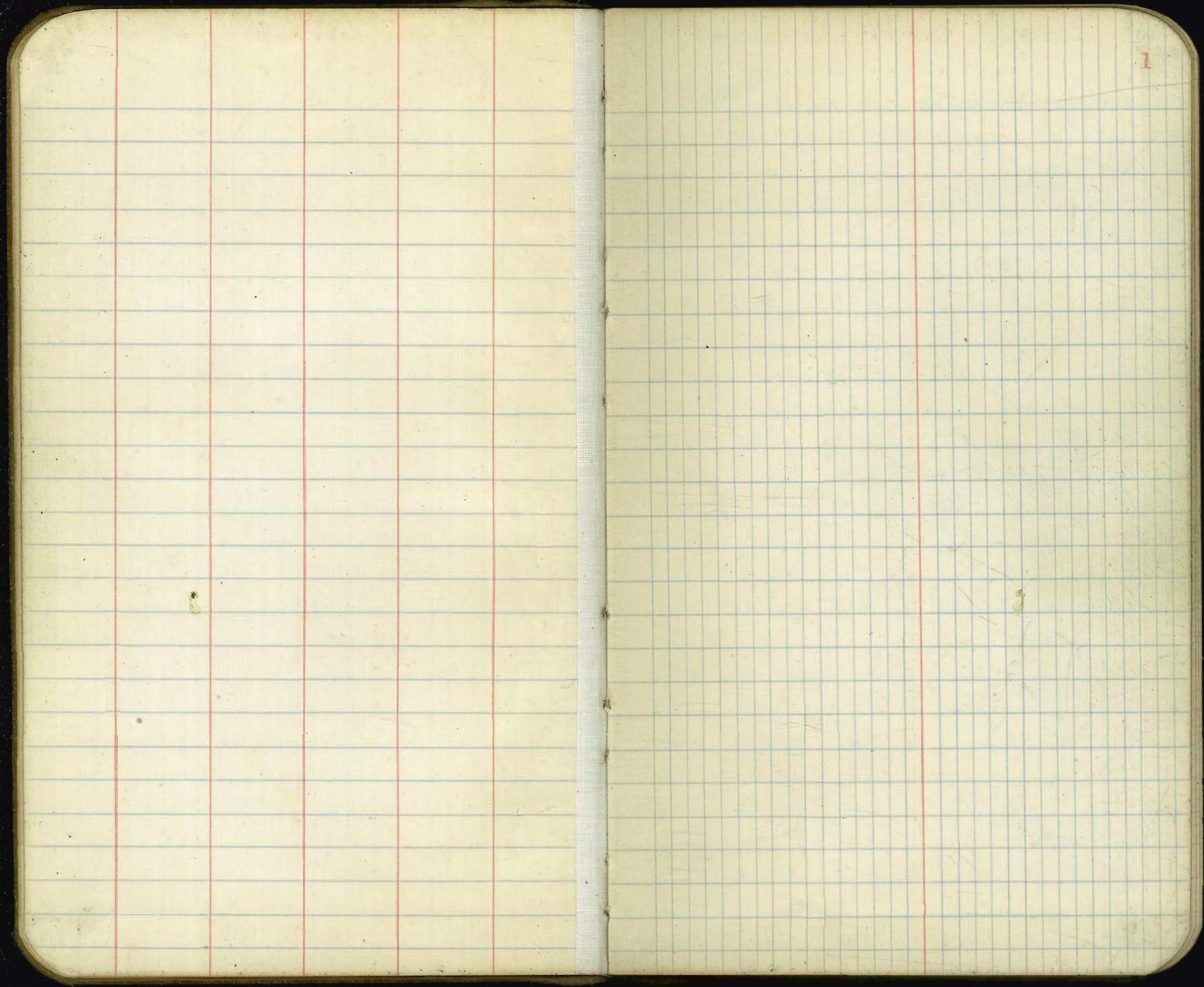
Grades - Sewer Construction
47TH St. Bet. Ocean View +
And in Ocean View Blvd. From 4th to San Miguel
Plan Drawing No - 926-D

Walter
Bliss
Isbell 1-23-40

Indexed

S.W. BD. 47th + Ocean View = 116.49
+ 1.18
π = 117.67
- 1.18
B.M. TP = 116.49
.86
117.35
- 12.53
T.P. 104.82
+ 0.69
π 105.51
- 11.39
TP 94.12
3.59
π 97.71

Stations	MH#1		Elev Stakes	Elev Flow Line		
375' N.N. line Ocean View = 0+00 = B.End	117.67=π	7.98	109.69	102.86	+ 6.83 ✓	2' Rt. Cross on Walk
+50		7.50	110.17	102.51	+ 7.66 ✓	" " "
0+60 = MH#1	116.08	5.81	110.27	102.44	+ 7.83	
1+00	117.67	6.86	110.81	102.16	+ 8.65 ✓	" " "
+50	117.67	6.05	111.62	101.81	+ 9.81 ✓	" " "
2+00		5.12	112.55	101.46	+ 11.09 ✓	" " "
+50		4.20	113.47	101.11	+ 12.36 ✓	" " "
3+00		3.27	114.40	100.76	+ 13.64 ✓	" " "
+50		2.43	115.24	100.41	+ 14.83 ✓	" " "
3+90 = 89+57 Rt. M.H.#2	117.35	1.44	115.91	100.13	+ 15.78 ✓	6' Lt.
4+19 = W.L. 47th St. = 0+00		1.78	115.57	99.72	+ 15.85 ✓	6' Rt.
+50		4.39	112.96	99.37	+ 13.59 ✓	
1+00		6.95	110.40	99.02	+ 11.38 ✓	
1+3506 = MH#3		9.04	108.31	98.77	+ 9.54 ✓	
+50				98.39	Left out.	
2+00		12.53	104.82	97.14	+ 7.68 ✓	
+50	105.51	3.11	102.40	95.89	+ 6.51 ✓	
3+00		5.02	100.49	94.64	+ 5.85 ✓	
+50		5.81	99.70	93.39	+ 6.31 ✓	
4+00		6.75	98.76	92.14	+ 6.62 ✓	
4+6497 = MH#4		8.67	96.84	90.52	+ 6.32 ✓	
5+00		9.13	96.38	90.00	+ 6.38 ✓	
+50		9.55	95.96	89.25	+ 6.71 ✓	
6+00		11.39	94.12	88.50	+ 5.62 ✓	

M.H.#1 moved to 0+60
Elev cross 0+00 = 109.69
- 6.39
π 116.08
- 5.91
Chk. cross 0+50 → 110.17

Ocean View Blvd. Sewer. Const.
Cont. from p. 2

Station	π		El. Stakes	El. Flow Line			
6+50	97.71	3.45	94.26	87.75	+ 6.51	✓	
7+00		4.02	93.69	87.00	+ 6.69	✓	
+50		4.03	93.68	86.25	+ 7.43	✓	
8+02 17=MH#5		4.17	93.54	85.46	+ 8.08	✓	
+50		4.31	93.40	84.75	+ 8.65	✓	
9+00		4.66	93.05	84.00	+ 9.05	✓	
+50		5.00	92.71	83.25	9.46	✓	
10+00		5.28	92.43	82.50	+ 9.93	✓	
+50		6.27	91.44	81.75	+ 9.69	✓	
11+00		7.30	90.41	81.00	+ 9.41	✓	
+27 32=MH#6 Δ 2°54' Rt		7.73	89.98	80.59	+ 9.39	✓	
11+50		8.08	89.63	80.25	+ 9.38	✓	
12+00		9.80	87.91	79.50	+ 8.41	✓	
+50		11.35	86.36	78.75	+ 7.61	✓	
13+05 10=Δ 2°56 Lt MH#7 85.80		1.40	84.40	77.92	+ 6.48	✓	
+50		2.94	82.86	75.90	+ 6.96	✓	
14+00		5.23	80.57	73.65	+ 6.92	✓	
+50		7.57	78.23	71.40	+ 6.83	✓	
15+00		9.35	76.45	69.15	+ 7.30	✓	
+50		11.53	74.27	66.90	+ 7.37	✓	
16+00	73.03	1.01	72.02	64.65	+ 7.37	✓	
+35 98=MH#8 =J. Elizabeth		2.76	70.27	63.03	+ 7.24	✓	
17+00		6.25	66.78	59.32	+ 7.46	✓	
+50		9.85	63.18	56.43	+ 6.75	✓	
18+00		12.67	60.36	53.53	+ 6.83	✓	

See Page 5 Grade Change →

Right-side calculations:

π = 97.71
13.25

45th St.
T.P. & T B Ocean View 85.46
to West True El. = 85.44
0.36

π = 85.80
- 12.91
T.P. 72.89
0.14

π = 73.03
12.67
T.P. 60.36
0.13 +

π 60.49

Station	π		El. Stakes	El. Flow Line		
18+50	6049	3.21	57.28	50.64	+ 6.64	
19+00		6.56	53.93	47.74	+ 6.19	
+50		9.68	50.81	44.85	+ 5.96	
20+00		12.50	47.99	41.95	+ 6.04	
+50	49.61	4.12	45.49	39.06	+ 6.43	
21+10 = MH.#9		6.68	42.93	35.58	+ 7.35	55"Rd. Cross in 6b. Inlet
21+28.63=MH#9						
+50		6.76	42.85	35.46	+ 7.39 ✓	6" " " on Wall
22+00		7.25	42.36	35.31	+ 7.05 ✓	" " " " "
+50		7.60	42.01	35.16	+ 6.85 ✓	" " " " "
23+00		7.96	41.65	35.01	+ 6.64 ✓	" " " " "
+50		8.36	41.25	34.86	+ 6.39 ✓	" " " " "
24+00		8.76	40.85	34.71	+ 6.14 ✓	" " " " "
+50	43.17	2.47	40.70	34.56	+ 6.14 ✓	6' Pt. on Stake
25+00		3.31	39.86	34.41	+ 5.45 ✓	"
+50		3.38	39.79	34.26	+ 5.53 ✓	"
26+00 MH#10		3.89	39.28	34.11	+ 5.17 ✓	"
+2.29= Δ 2°10'Rt		4.30	38.87	34.04	+ 4.83 ✓	"
+50		4.41	38.76	33.96	+ 4.80 ✓	"
27+00		4.76	38.41	33.81	+ 4.60 ✓	"
+50		4.98	38.19	33.66	+ 4.53 ✓	"
28+00		5.22	37.95	33.51	+ 4.44 ✓	"
28+59.02 MH#11 =28+59.45 Equation Δ 2°10'Lt		5.18	37.99	33.33	+ 4.66 ✓	"
29+00		5.54	37.63	33.21	+ 4.42 ✓	"
+50	45.98	8.64	37.34	33.06	4.28 ✓	"
30+00		7.93	38.05	32.91	+ 5.14 ✓	"

0.3 %

Grade Change — see Page 5

π = 6049
12.50
T.P. 47.99
1.63
π 49.61
8.76 -
on Cross in Wall 24+00=6'Rt = T.P. 40.85
2.32 +
π 43.17
5.54 =
stub 29+00 = T.P. 37.63
8.35 +
π = 45.98

Left page

			El. Stakes	El. Flow Line
	45.98			
30+50		6.75	39.23	32.76
31+02.1 = East face Wall		3.68	42.30	32.60
+38.7 = W "		3.64	42.34	32.49
△ 27°44'27.				
31+70 = M.H. #12		4.28	41.70	32.39
32+14.2 = M.H. 1' East exist. Swwy		3.06	42.92	32.22
+15.2 = ℄ Existing 6" Sewer		9.18		36.80
Rim Exist M.H. in Ocean View		3.01	42.97	32.22
Flow Line		13.76		32.22

Change Location M.H. #9 in order
to put same in center of a tentative st.
on South of station 21+28.63

Station	℄ Elizabeth St.		Elev. Stakes	Elev. Flow Line	
16+35.98 = M.H. #8			70.27	63.03	
17+00			66.78	59.46	
+50			63.18	56.67	
18+00			60.36	53.88	
+50			57.28	51.09	
19+00			53.93	48.30	
+50			50.81	45.51	
20+00			47.99	42.72	
+50			45.49	39.92	
21+00				37.12	
21+10			42.93	36.56	
+28.63 = M.H. 9	47.75	4.50	43.25	35.52	

5.584 %

← El. stakes Copied from Page 5-4

Right page

+ 6.47	6' Rt.	100' E. San Miguel	45.98
		B.M. B.P. in H.I. Wall Bridge	3.57
			= 42.41
+ 9.70 "		Cross top Wall "	= B.M. = 42.43
+ 9.85 "		" " " "	
+ 9.31 "		6' Rt.	

+ 107.5 ✓   on ℄ Rim Existing M.H.

Temp. - B.M.
Elev. Cross top of Inlet 21+10 Page 4 = 42.93
42
$\bar{\Pi}$ = 47.75
4.90
Chk. cut Cross on Wall = 42.85 ✓
21+50 P.4

+ 7.24	
+ 7.32	
+ 6.51	
+ 6.48	
+ 6.19	
+ 5.63	
+ 5.30	
+ 5.27	
+ 5.57 ✓	
Left out	
+ 6.37 = 21+10	
+ 7.73	

Walker		Ocean View Blvd. Sewer						
Bliss.		check Levels. on Cut Stakes.						
Isbell		From Sta. 21+10 to 32+14½						
1-30-40								
							from M.H.	2.19
=M.H.					21+10			
21+10	2.43	45.36			42.93	on cut		
+50			2.52	42.84				
22+00			3.01	42.35				
+50			3.36	42.00				
23+00			3.73	41.63				
+50			4.12	41.24				
24+00			4.52	40.84				
+50			4.66	40.70				
25+00			5.50	39.86				
+50			5.57	39.79				
26+00			6.07	39.29				
M.H#9								
T.P. 26+22.9	6.28	45.16	6.48	38.88				
26+50			6.38	38.78				
27+00			6.73	38.43				
+50			6.97	38.19				
28+00			7.19	37.97				
+59.02=MH#10			7.16	38.00				
29+00			7.52	37.64				
+50			7.81	37.35				
30+00			7.10	38.06				
+50			5.92	39.24				
31+02½	cross on Wall ℄		2.85	42.31				
8M			2.75	42.41				
+38.2	cross on Wall ℄		2.81	42.35				
31+70			3.45	41.71				
32+14½			2.23	42.93				

6

Balboa Stadium Grades,
And Line For Replacing Pole
Around Track at South End.
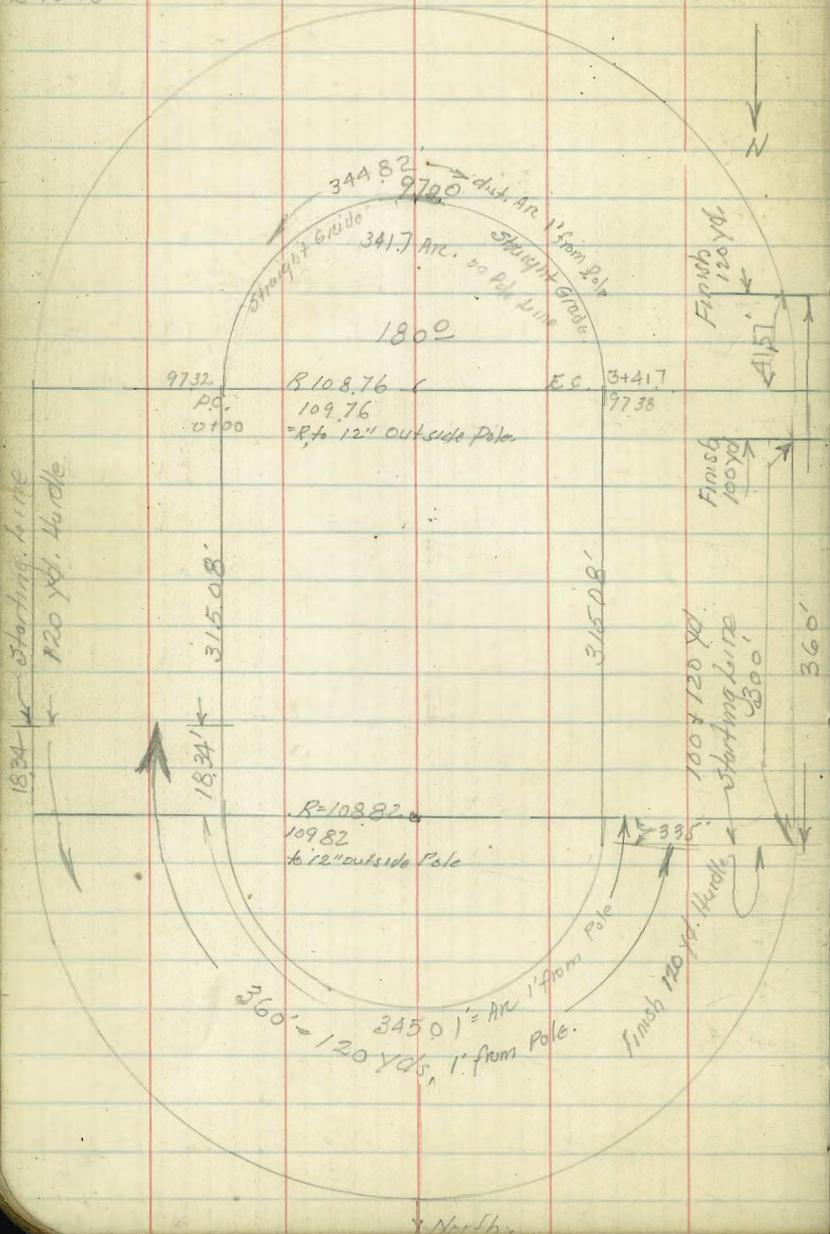
100.00 Assumed Elev. Highest point Conc. at Flag Pole
2.53
102.53 = π

Indexed

Stakes South and Studium

PC. = 0+00   0+16   0+32   0+48   0+64   0+80   0+96
on East.

5.23	5.49	5.59	5.39	5.65	5.65	5.74
97.30	97.04	96.94	96.94	96.88	96.88	96.82
97.32	97.29	97.26	97.23	97.20	97.17	97.18
-0.02	-0.25	-0.32	-0.29	-0.32	-0.29	-0.34

55
WE

1+12   1+28   1+44   1+60   1+76   1+92   2+08   2+24

5.76	5.73	5.73	5.60	5.64	5.72	5.80	5.73
96.77	96.80	96.80	96.93	96.89	96.81	96.73	96.80
97.11	97.08	97.05	97.02	97.02	97.06	97.10	97.13
-0.34	-0.28	-0.25	-0.09	-0.13	-0.25	-0.37	-0.33

54

2+40   2+56   2+72   2+88   3+04   3+20   3+36

5.82	5.84	5.75	5.70	5.71	5.65	5.23
96.71	96.69	96.78	96.83	96.82	96.88	97.30
97.17	97.20	97.24	97.28	97.31	97.34	97.37
-0.46	-0.51	-0.46	-0.45	-0.49	-0.46	-0.07

5.17
E.C.
3+41.7

5.21
97.32
97.38
-0.06

315.08
315.08
344.82
345.02
1320.00' = 1/4 mile. 1' from Pole Line.

Angles from Radius for 16' Timbers. Stakes set 1'
from Pole Line.

PC. = 0°00   0+64 = 33°43.

0+16 = 8°25.74'   +80 = 42°08.7'

0+32 = 16°51.48'   +96 = 50°39.44'

+48 = 25°17.22'   1+12 = 59°00.18

Cont. Next Page

Balboa Stadium.
Grades etc.

Inst. on Radius. at South end.

Station	∠
1+28	67°25.92'
+44	75°51.66'
+60	84°17.40'
+76	92°43.14'
+92	101°08.88'
2+08	109°34.22'
+24	118°00.36'
2+40	126°26.10'
+56	134°51.84'
2+72	143°17.58'
+88	151°43.32'
3+04	160°09.06'
3+20	168°34.80'
+36	177°00.54 = end 16 Timbers.
3+41.7 =	180°00 = E.C.

Walker.
Bliss
Isbell
2-18-40

UNIV. HEIGHTS. Storm Drain
From Mississippi To Alley Bt & 19 & U.H.
Thence South To Toe of Slope
South of S.E. Univ. Ave.

See Plan # 5240-L
" " # 5241-L

				B.M. B.P. S.W.
1.06	288.14		287.08	Univ. + Florida
T.P. 0.39	275.98	12.55	275.59	
T.P. 1.13	264.33	12.78	263.20	Nail in Pole
T.P. 7.53	259.37	12.49	251.84	Nail in Pole & cleanout #22

Above levels run to set Tunnel Stakes.
From Station 35+02.14 to end See P-11

    28586 = B.M.B.P. at E. Miss. & Lincoln.
    148 +
    29084 = ∏

Grades for 24" Culverts. = Flow

S.E.	S.W.	N.W.	N.E.
280.60	279.47	280.75	281.70
10.34	11.37	10.09	9.14
4.95	5.76	4.71	3.79
15.39	15.41	15.38	15.35

MISSISSIPPI

LINCOLN

₵ 48" Drain

ALABAMA

FLORIDA

Indexed

37+50.54 = End

37+36 = Stake on ₵ Above Portal

UNIV.   ← ₵ 48" Pipe   AVE.

₵ cleanout on
New Location See P-12

₵ cleanout 35+02.14
B.M. 251.84   Δ = 11°11' Lt
Nail in Pole

30' Rad.   30+36.54   S.P. Line

29+85.12   30+00.4
            36+13.4
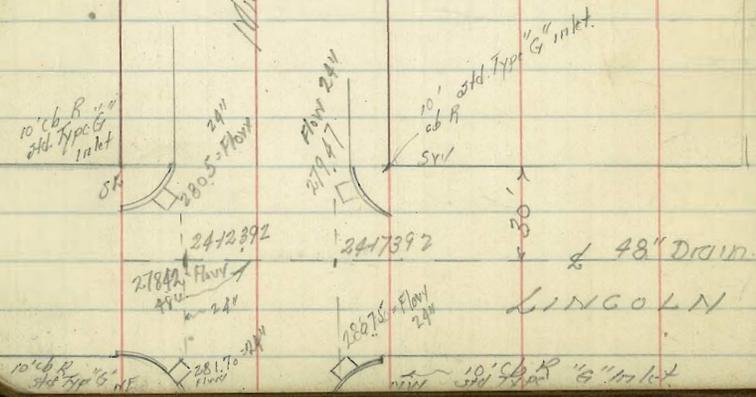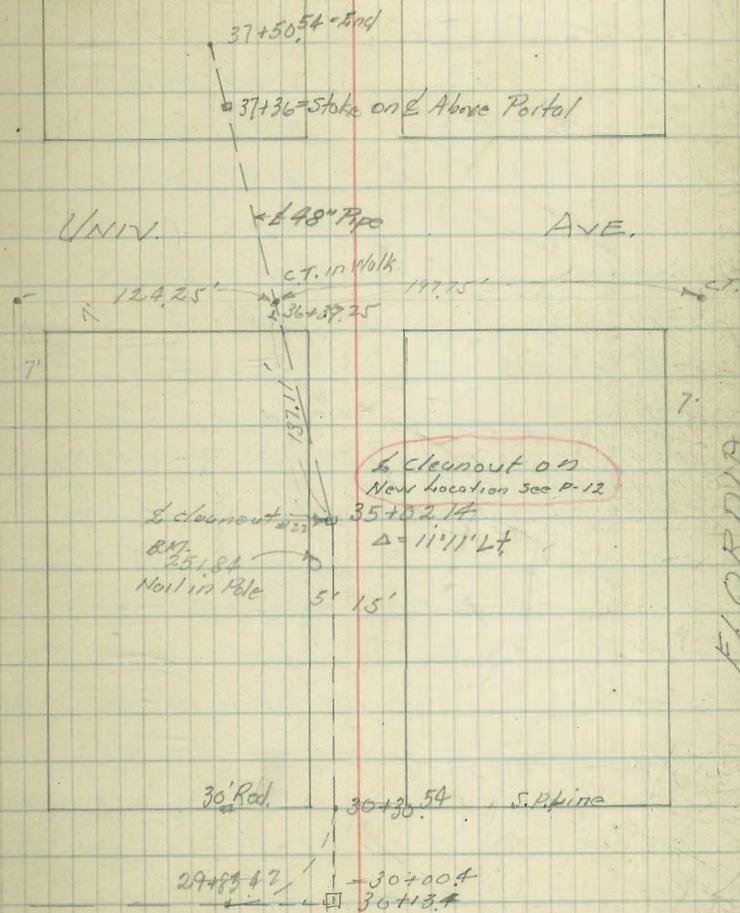
Univ. Hts. Storm Drain.
Construction Grades.
Sketch Page 9

10

Station	π	Elev. Stakes	El. Flow Line	Cuts	Offsets	
			278.42			9.50 +
Approx. E.ch. Miss.	291.37	12.95	278.42			π = 261.34
= 24+23.92			278.70	0.00	5' Rt. Nail in Paving.	0.28 −
			277.92			T.P. 261.06
Approx. N.ch. Miss.		5.84	285.53	+7.61	" " " " "	10.27 +
= +73.92 = E.C. cleanout #20			278.20			π 271.33
			277.66			0.88 −
25+00		5.86	285.51	+7.85	" " " " "	T.P. 270.45
			277.16			10.99 +
+50		5.17	286.20	+9.04	" " " " "	π 281.44
			276.66			0.08 −
26+00		4.46	286.91	+10.05 +10.25	" " " "	T.P. 281.36
			276.16			10.01 +
+50		3.88	287.49	+11.33	" " " " "	π 291.37
			275.66			6.76
27+00		4.87	286.50	+10.84	" " " " "	284.61
			275.16			
+50		6.05	285.32	+10.16	" " " " "	
			274.66			
28+00		7.28	284.09	+9.43	" " " " "	π = 291.37
			274.12			5.49
+53.92 = B.ch.		7.69	283.68	+9.56	" " " " " ch of E.B.P. Lincoln	285.88
			272.16		+ Miss.	B.P. = 285.86
29+00	281.44	0.08	281.36	+9.04 +9.20 "	" " "	0.02 Error
			270.03			
+50		3.54	277.90	+7.79 +7.87	" " " "	
30+13.4 = 30+00.4 = E. cleanout			269.50			
+83.42 = P.C. 30' Radius.		7.80	273.64	+6.33 ✓	" " " " "	
5' East of E. Alley 196 Univ. Hts.	Radius cut out.		268.20			
30+30.5 = E.C. Stone Lincoln			266.00			
30+50		6.26	275.18	265.14	+10.04	
31+00	271.33	+0.59	271.92	262.92	+9.00	4.95' Lt. on Fence
+50	271.33	5.61	265.72	260.69	+5.03	5' Lt.
32+00		9.11	262.22	258.47	+3.75	5' Lt.
+50		3.09	268.29	256.24	+12.00	4.24' Lt. Nail in garage
33+00	271.33	4.07	267.26	254.02	+13.24	3' Lt.
+50		8.27	263.06	251.79	+11.27	3' Lt. on stub.
34+00	261.34	7.82	253.52	249.52	+4.00	1.5' Lt. Nail in Fence Post
+50	261.34	11.02	250.32	247.30	+3.02	5' " stub.
+96.98						

Grade Change
See Page 18

1 %

±2 %

4.53 %

Univ. Hts. Storm Drains.
Cont. from P-10

π from P-9 = 259.37

Station	π – P-9	Elev. Stakes.	Elev. Flow Line	Cuts.	Offsets	
℄ Cleanout +22	259.37					T.P. 258.79
= 35+02.14 = ℄ 11°11'Lt.	9.17	250.20	245.00	+ 5.20	See P-12 = New Location Cleanout	12.65 +
+50	8.67	250.70	244.04	+ 6.66		271.44
						5.49 –
					Chk. N.W. B.P.	265.95
					Univ. + Alabama =	265.96
						0.01 Error
36+00	7.84	251.53	243.04	+ 8.49	6' Rt.	Above B.M. 265.96
+06	5.93	253.44	242.92	+ 10.52		5.49
					Corrected π =	271.45 = π
						12.78 –
+50			242.04		on Rock →	258.67 = T.P.
						0.49 +
						259.16
37+00			241.04			0.49 –
	π 259.16					258.67
	8.60				Chk Above B.M. U. + Ala.	9.28
+36 = Stake on ℄ Above Portal		250.36	240.29	+ 10.27	℄ over Portal Tunnel	267.95
+50.54 = End	16.33	242.83	240.00	+ 2.83		– 1.98
						265.97
						+ 265.96
Line only						0.01 – error
38+04 = Stake ℄ Tunnel						
		18.90	240.26	End = Flow Existing 48" Pipe, opposite 37+46		

(Red margin note, left side, diagonal:)
This Line Changed
See Page 12
Shifted 1' East to give bottom
Working space for Trimbers
in Tunnel

(Left margin, vertical:) 1153 φ%   P.0%

Univ. Hts. Storm Drain.
Change in Line From Sta 35+02.14
To 37+50.54 Page 9. To miss East Drain
see sketch opposite Page.

251.84 = Nail in Pole P-9
1.95+
253.79 = π
3.59 —
250.20 chks old cut stake 35+02.14 P-11

R.P. 38+04.04   Elev. Nail 37+43.44 = 242.15
3.69
π 245.84
— 3.01
37+50.54 = End.   chk 37+50.54 = 242.83 ✓
cut stake

B.M. Nail in Pole 2.51.84
0.68+
π 252.52
6.52 —
T.P. 246.00
1.72 +
247.72 π
1.51 —
chk. stake 35+50.10 = 246.21 ✓

				El. Flow		
34+96.98 = Δ 11°11'Lt.	253.79		3.71	250.08	245.22	+ 4.86
35+50.10		3.09	250.70	244.13	+ 6.57	7' Rt
35+50.10		7.58	246.21	244.13	+ 2.08	℄ Stake
36+09.10		10.87	242.92	242.92	on ℄ Stake	
36+09.10	247.79			242.92		
36+14.6	247.72	+1.09 248.81	248.81	242.81	+ 6.00 = Nail in	
36+14.94	247.72	+1.02 248.81 +0.47 248.19		242.19	+ 6.00	
37+10						
37+43.44	251.50	9.35	242.15	240.15	+2.00+	
37+50.54 = End				240.00		

Univ.

Pot. Stub.
36+36.54

Approx ℄ of Tunnel
℄ Tunnel in timber.

Nail on side of tunnel

P-11
37+10.54
242.83 = El. Stake
8.67 +
251.50
1.13 —
250.37 T.P.
10.42 +
260.79 = π
2.13 —
258.66 chk T.P. on Rod
258.67   P-11
0.01 — Error.

248.81 = El. Nail 36+14.6
0.96 — Rod Top Tunnel
247.85 = π   246.21 = El. Stub 35+50.10
4.88   1.61
242.97   247.82 = π
               212.92
               4.90   242.15
                      3.33
               245.48 = π

Additional Nails in tunnel for Grade

36+20.26	247.82			242.69	
36+26.04	247.72	+0.86	248.58	242.58	
36+91.4	245.84	+0.76 248.58 0.62	245.22	241.22	
37+10	245.48	0.65	244.83	240.83	
37+43.44				240.15	

Δ = 11°11'Lt.
34+96.98   pc   15' — T.P.
6.01'

Alley.

B.M. Nail in Pole 2.51.84
3.63+
π 255.47
12.55
on ℄ Stake 36+09.10 - T.P. 242.92
4.87 +
π 247.79

Sewer Construction Grades in Sierra Vista Tract.

F.B. 1562 = Prelim. San Miguel Ave. & And In Franklin from San Miguel to Cuyamaca

Indexed

			El. Stakes	El. Flow line	Cuts.	Offsets.	BM 100'E. San Miguel 42.43
Ex. MH in Ocean View = 0+00		48.45	5.47	42.98	32.65 / 32.00 +10.33		6.02 / π = 48.45
0+50			5.47	42.98	34.01 / 33.50 +8.97	10' Lt.	Book 1562 +.56 -
1+00			5.10	43.35	35.38 / 35.00 +7.97	" "	chk spt E 2+39.92 43.89
1+50			4.11	44.34	36.74 / 36.50 +7.60	" "	43.91 / 0.02 = Error
2+00			5.60	42.85	38.11 / 38.00 +4.74	" "	
+39.92 = MH #1	Δ 17°03' Lt.		4.55	43.90	39.20 +4.70	12' Rt. cross in cb.	11.5' x cross in cb. ① 12' x cross in cb 43.91 / +56 +
3+00	π Corrected 48.47		4.01	44.46	40.10 +4.36	9' Lt.	corrected π 48.47 / 1.11 - / Rock=T.P. 47.36
+50			3.33	45.14	40.85 +4.29	10' Lt. cross in walk	11.83 +
4+00			2.70	45.77	41.60 +4.17	10 " " " "	π = 59.19 / 0.20 -
+50			2.66	45.81	42.35 +3.46	9' "	T.P. 58.99 / 12.24
5+06.79 = MH #2	52°45' Lt. 59.19		See P-14 this stake	43.20 +5.48		π 71.23 / 0.23 -
5+50			10.83	48.36	43.85 +4.51	10' Rt on cross	T.P 71.00 / 1.88 +
6+15.08 = MH #3	Δ 5°25'30" Lt.		7.85	51.34	44.83 +6.51	13" " stub.	π 83.88 / 0.34 -
6+50			4.85	54.34	48.85 +5.49	10' Rt	T.P. 83.54 / 5.99 +
7+00		71.23	11.55	59.68	54.60 +5.08	10' Rt	π 89.53
+50			6.03	65.20	60.35 +4.85	9' "	
7+85.78 = Δ 22°06' Lt.	MH #4		1.95	69.28	64.46 +4.82	7.4' Rt. cross in cb.	
8+50		83.88	8.84	75.04	68.63 +6.41	10' Rt	
9+00			5.36	78.52	71.88 +6.64	" "	
+50			3.74	80.14	75.13 +5.01	" "	
9+74.38 = 6+19.48 = Δ 41°15'30" Rt.	M.H. #5		3.24	80.64	76.72 +3.92	" "	
6+50			1.90	81.98	77.33 +4.65	13.25' Rt. cross on cb.	
7+00		89.53	5.67	83.86	78.33 +5.53	13' Rt.	

Change Grade — See P-25

2.73%   1.5%   11.50%   6.5%   2%

Walker
81·55
Isbell
3-12-40

SAN MIGUEL And FRANKLIN AVE.
SEWER CONST.
Cont. From P-13

Station		El.	El. Stakes	Flow Line	Cuts	Offsets	
							Franklin & Cayamaca 89 53 / 3 38
							Chk. NE B.P. = 86 15
7+50	89.53	4.01	85.52	79.33	+ 6.19	16"Rt. cross on walk	B.M. 86. 15
8+00		2.96	86.57	80.33	+ 6.24	17"Rt. " "	0.00
+41.79 =		4.20	85.33	81.16	4.17	10' W of Cayamaca Line	

SEWER CONSTRUCTION
LOS PINOS AVE. 2' South of ℄
From MH #2 Page 13   East 320'

Station ℄ MH #2		El. Stakes	Flow Line	Cuts	Offsets		
= 0+00	58.33	9.65	48.68	43.20	+ 5.48	10' Lt.	Rock T.P. P-13 = 47 36 / 10 99+ / 58. 35 - π
0+50		7.86	50.47	44.70	+ 5.77	10' "	10. 28 / 48. 07
1+00		5.05	53.28	46.20	+ 7.08	" "	Book 156 2.31 / 0+00 chk & stub 48.05
+50		3.13	55.20	47.70	+ 7.50	" "	10 28
2+00		0.50	57.83	49.20	+ 8.63	" "	Corrected = π 58 33 / 0.50 -
+50	64.44	3.69	60.75	50.70	+10.05	" "	T.P. 57. 83 / 6.61+ / π 64. 44
3+00		1.91	62.53	52.20	+10.33	" "	3.23 -
+20 = D.E.		2.00	62.44	52.80	+ 9.64	" "	Book 1562-31 chk & stub 3+64.33 61.21 / 61.19 / 0.02 = Error

SIERRA VISTA TRACT.
SEWER CONSTRUCTION
IN JAMUL AND CUYAMACA AVE.

Walker
Bliss
Isbell
3-12-40

Indexed ✓

Station	70.30		El. Stakes	El. Flow Line	
2 MH #7					
0+00	70.30			59.75	See P-16
+50		6.17	64.13	60.50	+3.63
1+00		5.05	65.25	61.25	+4.00
+50		3.80	66.50	62.00	+4.50
Δ 69°22' Rt.					
+79.77=MH#8		2.93	67.37	62.45	+4.92
2+00	79.04	12.18	66.86	62.95	+3.91
+50		9.05	69.99	64.18	+5.81
3+00		8.79	70.25	65.42	+4.83
+50		7.38	71.66	66.65	+5.01
4+00		5.97	73.07	67.89	+5.28 518
MH#9 +56.44=81°21'30"Rt.		4.98	74.06	69.30	+4.76
5+00		2.96	76.08	72.35 (3.5)	+3.73
+50	91.11	11.05	80.06	75.85 (3.5)	+4.21
6+00		6.90	84.21	79.35 (2.55)	+4.86
+36.44=O.E.		4.80	86.31	81.90	+4.41

for check out * see cost beds P-17

Right margin calculations:
```
  70.30
 - 3.60
T.P. 66.70
  12.34+
  79.04
   .24-
T.P. 78.80
  12.31+
  91.11
```

Left margin: 1.50% 2.475% 7.0%

Walker
Bliss
Isbell
3-12-40

SIERRA VISTA TRACT
SEWER CONSTRUCTION
IN FRANKLIN AVE.
from San Miguel, North West.

Indexed

BM   P-13
Elev. & Spike 2+3992 -43.91

Station	π	El. Stakes	Elev. Flow Line	Cuts	Offsets
B MH #1 =0+00	53.16	9.25	43.91	39.20	+4.71
+50		8.83	44.33	41.20	+3.13
1+00		6.62	46.54	43.20	+3.34
+50		3.46	49.70	45.20	+4.50
1+80=Bk.		0.62	52.54	46.40	+6.14
2+00	65.78	11.52	54.26	48.33	+5.93
+50		6.99	58.79	53.16	+5.63
3+00		3.17	62.61	57.98	+4.63
+18.3=Δ10°44'Rt		2.01	63.77	59.75	+4.02
3+50		0.54	65.24	61.02	+4.22
4+00	70.30	2.61	67.69	63.02	+4.67
+38.3=D.E.		0.33	69.97	64.55	+5.42

Grade Change See P 25

Ŀ MH #1

Check out Above π see Cont P-15

Gπ

Right margin calculations:

9.25
π=53.16
0.21-
TP 52.95
12.83+
π=65.78
0.54-
65.24
5.06+
π 70.30

Walker
Blus
Isboll
3-12-40

SIERRA VISTA TRACT.
SEWER CONSTRUCTION
IN CUYAMACA Ave 2' N. of ℄ St.
Bet. Jamul and FRANKLIN Ave.

Station			El. Stakes	El. Flow Lines					NE	9.11
										4.90
0+00 = D.E.	91.11 - P-15	4.09	87.02	83.00	+4.02				chk. BM. Franklin	86.21
+50		4.28	86.83	82.65	+4.18				& Cuyamaca =	86.15
1+00		4.46	86.65	82.30	+4.35					0.06 Error
+50		4.65	86.46	81.95	+4.51					
2+00		4.81	86.30	81.60	+4.70					
				81.30	+4.00					
+43.74 = ℄ MH #6		5.81	85.30	81.16	+4.14					

Walker
Bliss
Isbell
3-13-40

Univ. Hts. Storm Drain
Change in Grade Bet. Stations
28+53.96 And Sta 34+9698

Station			El. Stakes	El. Flow Line	
28+53.92 = Bk.			283.68	274.12	+ 9.56
29+00			281.36	271.87	+ 9.49
+50			277.90	269.44	+ 8.46
30+13.4 = 30+00.4 } L Cleanout.	Δ 90° Lt. = Appear o		273.64	266.36	+ 7.28
30 +50			275.18	264.22	+ 10.96
31 +00			271.92	262.09	+ 9.81
+50			265.72	259.97	+ 5.75
32+00			262.22	257.84	+ 4.38
+50			268.24	255.72	+12.52
33+00			267.26	253.59	+13.67
+50			263.06	251.47	+11.59
34+00			253.52	249.34	+ 4.18
+50			250.32	247.22	+3.10
34+96.98 = Δ 11°41'Lt.			250.08	245.22	+ 4.86

Cont. Page 12

Walker.
Bliss.
Isbell
3-20-40

Altovista Suburb #2

SEWER CONSTRUCTION

In 47th Street And In FRANKLIN AVE

Indexed

Stations			Elev. Stakes	Elev. Flow Line	Cuts	Offsets	
375' North of N.Line Ocean View Blvd							El. Cross 0+00 P-2 = 109.69
↑ This Line is 1.0' West of East Line 47th to E. Franklin							4.38
Page 2							π 114.07
= 0+00		114.07	4.38	109.69	102.86	+6.83	2' Lt. Cross on Walk.	3.91
0+50			4.50	109.57	103.21	+6.36	" " " " "	chk 0+50 P-2 ⟶ 110.16
1+00			4.57	109.50	103.56	+5.94	" " " " "	P-2 = 110.17
+50			4.82	109.25	103.91	+5.34	" " " " "	0.01=Error
2+00			5.00	109.07	104.26	+4.81	" " " " "	
+45			5.08	108.99	104.58	+4.41	" " " " "	
+50					104.61	⟶ out		
+68.49=	M.H. #13 E. Franklin		5.24	108.83	104.74	+4.09	6' " on 7' foot E. Franklin	
3+00			3.43	110.64	104.96	+5.68	10' Rt. Stake.	
+50			2.16	111.91	105.31	+6.60	10' " "	
4+09.22=	#14 M.H. & Alley on North		0.92	113.15	105.72	+7.43	10' " "	El. Cutstake 4+09.22 = 113.15
+50		123.60	9.29	114.31	106.85	+7.46		10.55+
5+00			8.30	115.30	108.23	+7.07		π=123.60
+50			7.11	116.49	109.61	+6.88		12.79
6+00			5.69	117.91	110.99	+6.92	Stations Going South	110.81
+50			4.35	119.25	112.37	+6.88	chk. cross 1+00 P-2	
7+00			2.43	121.17	113.75	+7.42		
+41.39=E MH #15			0.71	122.89	114.89	+8.00		

PAVING GRADES
Alley Blk. L. - Altadena
Between 32nd and Bancroft.
From Redwood St. North.
Profile #2594 Prelim. X-Sections FB 1539-95

Stations			West Line Grade	East Line Grade
N.L. Redwood = 0+00			307.04	307.80
+20 = Blk			307.71	308.21
+40 = "			308.04	308.39
+60 = "			308.03	308.33
1+00			307.67	307.97
+50			307.22	307.52
2+00			306.77	307.07
+50			306.32	306.62
2+80 = Blk			306.05	306.35
3+00 = "			305.76	306.06
+20 = "			305.25	305.55
+40 = "			304.52	304.82
+60 = "			303.57	303.87
+80 = "			302.39	302.69
4+00 = "			301.00	301.30
+30 = "			298.75	299.05
+40 = "			298.06	298.36

Grades For Street Dept
From Station 2+80 to 4+30

306.60 = Elev. Bm. M.H. 3+15 Book 1539-47
  3.06+
309.66 = x
  5.79 -
303.87 = Chk. M.E. Top cb. 5+983 Book 1539-49

	2+80	3+00	3+20	3+40	3+60	3+80	4+00
W.L.	306.05	305.26	305.25	304.52	303.57	302.39	301.00
	3.61	3.90	4.41	5.14	6.09	7.27	8.66
	2.99		4.50	5.33	6.39	7.75	9.10
	10.62		-0.09	-0.19	-0.19	-0.48	-0.44

	2+80	3+00	3+20	3+40	3+60	3+80	4+00
E.L.	306.35	306.06	305.55	304.82	303.87	302.69	301.30
	3.31	3.60	4.11	4.84	5.79	6.97	8.36
	1.31	2.49	3.30	0.84	3.79	4.81	6.36
	1.00	1.11	0.81	1.00	1.00	1.16	1.00

	4+30	4+40
W	298.75	298.06
	10.91	
	12.73	
	1.82	

	4+30	4+40
E	299.05	298.36
	10.61	
	8.61	
	1.00	

Walker
Bliss
Isbell
3-29-40

Paving Grades.
For Resurfaceing Alley Blk. 5
Hartley's North Park.
Between 32nd and Herman
From N. Line Landis St. 330' North

Indexed 3/8

Stations N.L. Landis		West Line Grades.	₵ Grades.	East Line Grades.
= 0 + 00		341.50	341.20	341.40
+ 30		341.64	341.34	341.54
+ 60		341.78	341.48	341.68
+ 90		341.92	341.62	341.82
1 + 20	Blk	342.11 / 342.06	341.81 / 341.76	342.01 / 341.96
1 + 50	Blk	342.30 / 342.20	342.00 / 341.90	342.20 / 342.10
+ 81,2	Blk	342.40 / 342.35	342.10 / 342.05	342.30 / 342.25
2 + 12		342.50	342.20	342.40
+ 42.5		342.64	342.34	342.54
+ 73.8		342.79	342.49	342.69
2 + 99		342.90	342.60	342.80
3 + 30 = end on West		343.05	342.75	342.95
3 + 16			342.93	343.02

Change Above Grade Back to original

1 + 20		342.06	341.76	341.96
+ 50		342.20	341.90	342.10
+ 81,2		342.35	342.05	342.25

0.467% Grade

338.47 = N.W. B.P. Landis + 32nd
7.69 +
346.16 = ☓
4.25 -
341.91 = T.P.   W   341.50 341.64 341.78 341.92 342.01 342.30 342.40
4.73 -   6.66   4.52   4.38   4.72   5.34   5.15   5.05
346.64 = ☓   346.64
4.73 -
341.91 = T.P.
5.54 +
347.45 = ☓   E   341.20 341.34 341.48 341.62 341.81 342.00 342.10
                   4.96   4.82   4.68   4.54   5.64   5.45   5.35
                   5.00   4.99   4.78   4.68   5.55   5.54
                   -.04   -.012   -.010   -.14   -.010   -.19

         E   341.40 341.54 341.68 341.82 342.01 342.20 342.30
               4.76   4.62   4.48   4.34   5.25   5.15
               4.89   4.44
              -.13   -.10

         W   342.50 342.64 342.79 342.90 343.05
               4.95   4.81   4.66   4.55   4.40

                                              Meet Paving Done
         E   342.20 342.34 342.49 342.60 342.75 342.93
               5.25   5.11   4.96   4.85   4.70   4.52
               5.41   5.05   5.08   4.76
              -.16   -.09   -.23   -.006

                                              Meet Paving Done
         E   342.40 342.54 342.69 342.80 342.95 343.02
               5.05   4.91   4.76   4.65   4.55   4.43
                                              4.67
                                             -.17

B.M. ₵
342.10 = F.L. Grade 1 + 81,2
-0.19 = Fill   1+20   1+50   1+81,2
341.91 = F.L. W   342.06 342.20 342.35
5.05 + Rod   4.90   4.76   4.61
346.96 = ☓

         ₵   341.76 341.90 342.05
               5.20   5.06   4.91
                                5.05
                               -0.14

         E   341.96 342.10 342.25
               5.00   4.86   4.71

Grades - Sewer Construction

In ₵ Alley Blk 34. Bet. 48ᵗʰ and Estrella

From Existing MH # 77 Cholla Line

To 2' North of St. Orange thence R↳ West 60'

See Plan 2380 - B

Station			Elev. Stake	Elev. Flow Line	Cuts	Offsets.
Existing MH #77 = 0 + 00	341.80	8.21	333.59	327.10	+ 6.49	on South Rim MH.
+ 50 = Brk.	350.70	8.29	342.41	336.60	+ 5.81	6' East.
1 + 00		4.53	346.17	336.95	+ 9.22	
+ 50	350.70	1.93	348.77	337.30	+ 11.47	
2 + 00		1.49	349.21	337.65	+ 11.56	
+ 50		1.77	348.93	338.00	+ 10.93	
3 + 00		2.25	348.45	338.35	+ 10.10	
+ 50		3.14	347.56	338.70	+ 8.86	
3 + 83 = MH#1		4.78	345.92	338.93	+ 6.99	
4 + 23		5.97	344.73	339.21	+ 5.52	
+ 63		6.10	344.60	339.48 339.80	+ 5.12 + 4.80	6" 6' East. 1" C.Iron Pipe
+ 65 = D.E.		6.36	344.34	339.50	+ 4.84	6' South in ₵ Alley.
4 + 63 = Beginning 4" Cast Iron Pipe = 0 + 00				339.80		
+ 30		6.16	344.54	340.40	+ 4.14	
+ 60 = End of Line	350.70	6.80	343.90	341.00	+ 2.90	6' Lt.

Elev. Flow Existing 4" Soil Line to house, Which this line is to Serve 341.82

St. Orange & Estrella
BM in Church steps Book 1576-2 = 348.45

```
          2.25+
        350.70 = x
          9.83-
        340.87 = T.P.
          6.93-
        341.80 = ₵
          8.21
        333.59 ✓
```

Chd. Rim MH.
Book 1571-2

– 333.59 ✓

Walker
Bliss
Isbell
4-17-40

GRADES for CULVERTS.
At GRAPE AND CALIFORNIA Street.
Plan 5783-L

Station	Elev Stakes	El. Flow Line
		See sketch P. 24.
0+00		21.41
0+08		20.93
0+11		20.67
0+36 = Brk.		19.25
Beginning Heavy Section		
0+56 = Brk. West Side Grate inlet		16.75
End Heavy Section		
0+96 = ℓ Calif on North 7'line		13.95
1+36 = opposite end cb		15.15
1+575		14.72
1+61		14.65
1+663		14.55 / 14.35

Indexed

B.M.
S.W. B.P. India + Grape = 44.02

175 +
45.77 = π
12.14 -
33.63 = T.P.
0.71 +
34.34 = π
11.19 -
23.15 = T.P.
5.33 +
28.48 = K
6.80 -
21.68

65" Lt. on K = stub.   S.E. Calif. + Grape

Temp. B.M. Nail in Pole

N. Culvert

=0+00	=0+08	0+11	-0+36 / Brk -0+36	0+36	0+96	1+96	1+575 / 1+61	1+663
21.41	20.93	20.67	19.25	16.75	15.95	15.15	14.72 14.65	14.55
7.07	7.55	7.81	9.23	11.73	12.53 1333	1376 1383	1393	
5.85	6.30	6.48	7.97	8.89	9.67 1055	12.19 12.27	12.73	
+1.22	+1.75	+1.33	+1.26	+2.84	+2.86 +2.78			

28.48 π South Culvert

21.41	20.93	20.67	19.25 Brk	16.75	15.95	15.15	14.72	14.65	14.55
7.07	7.55	7.81	9.23	11.73	12.53	1333	1376	1383	1393
5.91	6.37	7.15	7.97	8.78	9.44	10.52	12.09	12.36	12.76
+1.16	+1.18	+0.66	+1.26	+2.95	+3.09	+2.81	+1.67	+1.97	+1.17

In Drive

23

Pacific

Blvd

Tie Points
Referenced
out

GRAPE ST.
CULVERTS.
Both Culverts Identical in Grade
And Dimensions.

• c.t.

□ hub set

60.00″

30.20″

5.0 → hub
→ 5.25′
W'LY Rail Gauge
Con. Mon.

P.I.

E'LY Rail Gae

4.7′
hub

30.20″

60.00″

hub set

P.T.

Grape

KETTNER

BLVD.

1+66.3
1+61.0
1+51.5

1+36

0+96   ₵ Culf

0+56

0+11
-0+08

0+00
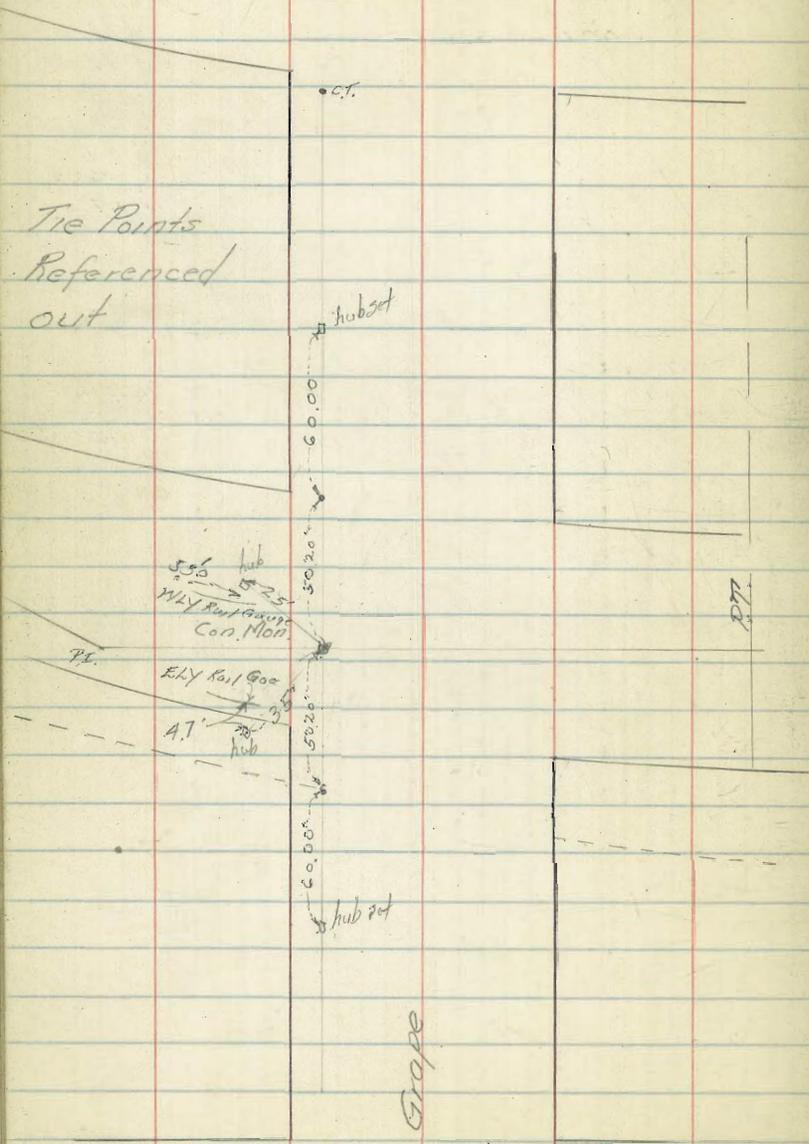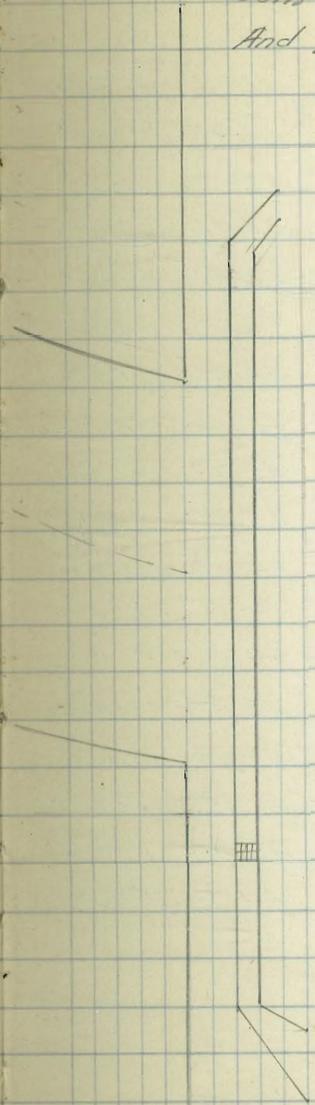
₵ GRAPE

Walker
Bliss
Isbell
4-29-40

Change Grade
SIERRA Vista Sewer Const.
Bet. MH #1 + #2
" MH #1 + 7

Station				El. Stakes	El. Flow Line	Cuts.
0+00				42.98	32.65	+10.33
0+50				42.98	33.89	+9.09
1+00				43.35	35.13	+8.22
+50				44.34	36.37	+7.97
2+00				42.85	37.61	+5.24
+39.2 = MH #1				43.90	38.60	+5.30
3+00				44.46	39.63	+4.83
+50				45.14	40.49	+4.65
4+00				45.77	41.35	+4.42
+50 MH #2				45.81	42.21	+3.60
5+06.79 = MH #2				48.68	43.20	+5.48

+09
39.79

Grade
Change Bet MH #1 + #7

0+00 - MH #1				43.90	38.60	+5.30
0+50				44.33	39.35	+4.98
1+00	49.98	3.00		46.54	40.10	+6.44
+67 = B.V.t	49.98	2.99		46.99	40.33	+6.66
1+50				49.70	43.52	+6.18

2.48 %
2.48 %
1.723 %
1.504 %
96.53 3.4 %

12' Rt. 2+39.92
El. Cut Mark in Walk = 43.90
                        6.08
                       49.98 = π
                        3.44
(Chk cut stub 1+00)   46.54
    below
Bet # 1 & 7 MH.

3+09   Bell
Bottom 6" Water Pipe = 40.75

6"
Bottom Bell Water Pipe
0+34   =   41.93
0+26   =   39.75
0+28   =   39.89

Walker.
81.55

Isbell
1-30-20

Final Change in Grade
   in Sewer Line
   SIERRA Vista Tract.

Bet. MH in Ocean View Blvd.
And MH #1 in San Miguel
And Bet NH #1 & #7 in Franklin

Station				El. Stake	El. Flow	Cuts.
0+00				42.98	32.65	+10.33
0+50				42.98	33.70	+9.28
1+00				43.35	34.75	+8.60
+50				44.34	35.80	+8.54
2+00				42.85	36.85	+6.00
+39.92 = to West.				43.90	37.70	+6.20
2+39.92 = to North. } NH #1				43.90	38.60	+5.30

2.10%

Grade change Bet NH #1 & #7

0+00 = NH #1				43.90	37.70	+6.20
0+26					38.79	
0+50				44.33	39.80	+4.53
0+84					+1.23	
1+00				46.54	41.90	+4.64
+50		52.76	3.07	49.70	44.01	+5.69
+59. = Stk.			2.19	50.57	44.40	6.17

4.21%

Bottom Water Bell 6"
   0+26   = 39.75
   0+84   "   = 41.93

9.65% No Change

4390
 886+
5276 = π

PAVING GRADES ALLEY BLK 6

~ FRARY Hts. ~

Indexed

Walker
Bliss
Isbell

5-6-40   Between Herman & 31st St.

From Redwood to Thorn St.

29608 = N.W. B.P. Redwood & Herman. Book 1565-1

Station		Cont P.28	W.L. Grade	E.L. Grade
+60	Bk		322.74	322.96
+40	"		322.81	323.00
5+20 =Bk			322.63	322.82
+70			321.97	322.09
4+20			321.29	321.36
+80 =Bk.			320.75	320.78
+60	"		320.43	320.45
+40	"		320.05	320.03
+20	"		319.58	319.58
3+00	"		319.05	319.05
+60	"		317.89	317.89
+20 =E.V.C			316.73	316.73
2+00 =Bk.			316.08	316.08
+80	"		315.31	315.31
+60	"		314.40	314.40
+40	"		313.34	313.34
+20	"		312.16	312.16
1+00	"		310.85	310.85
+60	"		308.08	308.08
+40	"		306.46	306.43
+20	"		304.40	304.28
0+00 =N.L. Redwood			301.89	301.62

10.03 +
306.11 π
0.54 −
305.57 = T.P.
1.70 +   W.L. 301.89 304.40 306.46 308.08 310.85 312.16
313.27 π   4.22   8.81   6.81   5.19   2.42   1.11
0.49 −   4.09   6.83   5.77   4.41   1.96   0.39
312.78 = T.P. + 0.13 +2.01 +1.04 +0.78 +0.46 +0.72
9.89 +
320.67 π E.L. 301.62 304.28 306.43 308.08 310.85 312.16
2.88 −   4.49   8.99   6.84   5.19   2.42   1.11
317.79 =T.P.   4.33   6.33   5.68   4.21   0.95   0.80
7.68 +   + 0.16 +2.66 +1.16 +0.98 +1.47 +0.31
325.47 π
4.06 −
321.41 = T.P. W. 313.34 314.40 315.31 316.08 316.73 317.89
6.04 +   7.33   6.27   5.36   4.59   8.74   7.58
327.45 π   6.86   5.74   4.45   4.02   8.57   7.38
4.68 −   + 0.47 +0.53 +0.91 +0.57 +0.17 +0.20
322.82 =T.P.
5.61 +
328.43 π E. 313.34 314.40 315.31 316.08 316.73 317.89
                7.33   6.27   5.36   4.59   8.74   7.58
                6.82   5.77   5.18   4.19   8.04   6.61
              + 0.51 +0.50 +0.18 +0.40 +0.70 +0.97

W. 319.05 319.58 320.03 320.43 320.75 321.29
     6.42   5.89   5.42   5.04   4.72   6.16
     6.17   5.67   5.27   4.79   4.74   6.19
   + 0.25 +0.22 +0.15 +0.25 −0.02 −0.03

E. 319.05 319.58 320.03 320.45 320.78 321.36
     6.42   5.89   5.44   5.02   4.69   6.09
     4.42   5.47   5.20   4.89   4.61   5.77
   + 2.00 +0.42 +0.24 +0.13 +0.08 +0.32

W. 321.97 322.65 322.81 322.74
     8.48   4.80   5.67   5.49
     8.34   4.81   5.59   5.28
   + 0.11 −0.01 +0.08 +0.21

E. 322.09 322.82 323.00 322.96
     5.36   4.63   4.95   5.47
     4.36   3.63   5.26
   + 1.00 +1.00   +0.21

Alley Paving Blk 6
~ Frary Hts. ~
Cont from P. 27

Station		M.L. Grade	F.L. Grade.			

328.43 = ⊼ P-27
6.46
32197 = Top cb 5+98.26 Bolt N65-6 on West.
322.1
0.04 Fill W 322.44 321.90 321.87 ← this Raised 0.03
   5.99 6.53 6.56
   4.87   6.15
   +1.12   +.031

E 322.71 322.23 322.12 = this Raised 0.11q
  5.72   6.31
  4.92   6.03
 +0.80   +0.28

		4.21	Flow Line Lateral	Cut.	offset.	
Lateral # 1	313.27 = ⊼ P-27	309.06	302.08	+6.98		

6 +00		321.87	322.12
		321.90	322.23
+80		322.44	322.71
~~5+00~~			

Cont. from P-27

Mulker.
Bliss
Isbell
5-6-40

Univ. Hts. Storm Drain
Grades for Bottom of Ditch.
Between Lincoln & Univ. Aves.

Indexed

Station		π	Rod.	Elev. Stake	El. Flow Line	Cuts.	Offsets.
30+13.4 } = 30+00.1 }	Equation.				266.36		
32+00					257.84		
32+27.2		258.73	+4.95	263.68	256.68	+7.00	Nail in ₵ Timber.
+37.2			+4.95	263.68	256.26	+7.42	" " " "
32+83.74			+5.83	260.28	254.28	+6.00	on ₵ Nail on timber
33+00					253.59		
33+26.14		254.45	+4.03	258.48	252.48	+6.00	Nail on timber ₵
33+60.14		254.45	+1.59	256.04	251.04	+5.00	Nail on timber ₵
33+90.2					249.72 =		Existing Pipe as laid.
34+00					249.34		

B.M.
Nail in Pole R9 = 251.84
  3.65 +
255.49 = π
  2.46 -
253.03 = T.P.
  1.42 +
254.45 = π
  1.37 -
253.08 = T.P.
  5.65 +
out of tunnel   258.73 = π
plus Rod   + 4.95
263.68 = TP
  7.83 +
271.51 = π
  3.29 -
268.22
chk 32+00   268.24 = P-18
P-18
cut Rod   0.02 = Error

University Hts. — Tennis Court
~ Grades. ~

Lincoln + Idaho

Walter.
Bliss
Isbell
5-20-20

Indexed

360.95 = Sta. B.P. Lincoln + Idaho
.5634
366.58 - π

36719

36705

36050   3.0°

36099

36080

36°

78'

+.002   +.004   +.005   +.002
367.24 367.41 367.57   362.65 362.81 362.98 363.18

367.02 362.18 362.34   362.41 362.58 367.75
   18°   18°   18°   18°

36878 36094 36209   367.18 362.34 362.50

25' 36055 36070 36085 2.5' 1.5' 1.5' 2.5' 36094 360.09 36025 2.5'

36031 36046 36061   36069 36084 36200

36007 36072 36037   36045 36060 36075

36085 36106 36015   36022 36137 36152
          -.007   +.008 -.010 -.007

LINCOLN   AVE.

Idaho

Street.

Walker
Isbell
Bliss
9-13-40

CHOLLA VALLEY SEWER Const.
From Boston Ave. To Fisher St.
Cont. from Grade Book 192

Station	+	π .6.535	—	El. Stake	Elev. Flow Line	Cuts	Offsets
79 + 81.8 = MH = $\triangle$ 13°04'40" Rt.			12.04 6.42	-5.505 0.11	-5.44 -5.83	.0065 L.w. + 5.94	
80 + 5683 = S line Boston 6' West of Pueblo Line. = 0+40 = $\triangle$ 11°49'40"Lt.				1.315	-5.88	+7.20	1.315=Sta 0+40 5.22+ 6.535=π
1+00				1.635	-5.92	+7.56	
+50				1.565	-5.954	+7.52	
2+00				1.49	-5.987	+7.48	
+50				1.505	-6.021	+7.53	
3+00				1.38	-6.054	+7.43	
+50	4.91	π 6.09		1.18	-6.087	+7.27	
+58			4.86	1.23	-6.09	+7.34	
4+00				1.40	-6.121	+7.52	
+50				1.50	-6.154	+7.65	
5+00				1.37	-6.188	+7.56	
+50				1.25	-6.22	+7.47	
6+00				0.99	-6.255	+7.25	
+50				1.375	-6.29	+7.67	
7+00				1.155	-6.32	+7.47	
+50				1.605	-6.355	+7.96	
8+00	7.09	π 9.20		2.11	-6.39	+8.50	
+42 = MH #25			7.11	2.09	-6.41	+8.50 =-1.41	
+50				2.15	-6.423	+8.57	
9+00				1.69	-6.456	+8.15	
+50				2.04	-6.49	+8.53	
10+00				2.015	-6.523	+8.54	
+50				-0.38	-6.556	+6.18	
11+00				-1.95	-6.59	+4.64	

Cont. 34

Note: Elev. stakes were copied from Book 1574-39- and are the mean elevs. of Double Line of Levels from 0+40 to 18+4332 to and from Sta. 26+37+4 the elev. of stakes as run in last line. Levels to check used as they checked the B.M. at 22nd + Fisher, Sts.

22'

MAIN

51 VA

=Δ 1°36' Rt.
19+17.45 = M.H. #29
= 19+22.78   R.P.
15' R — 15' R
R.P.

¢ Sewer.
22'

15' R.P. 15' R
45°
26.8'
17+45.7 = M.H. #28
= Δ 88°25'30" Rt.

21'

¢ Sewer.

DALBERGIA

28.0' 4/8 Line

51 Q66.

15'

11+35.79 = M.H. #27
= Δ 51°31'27"
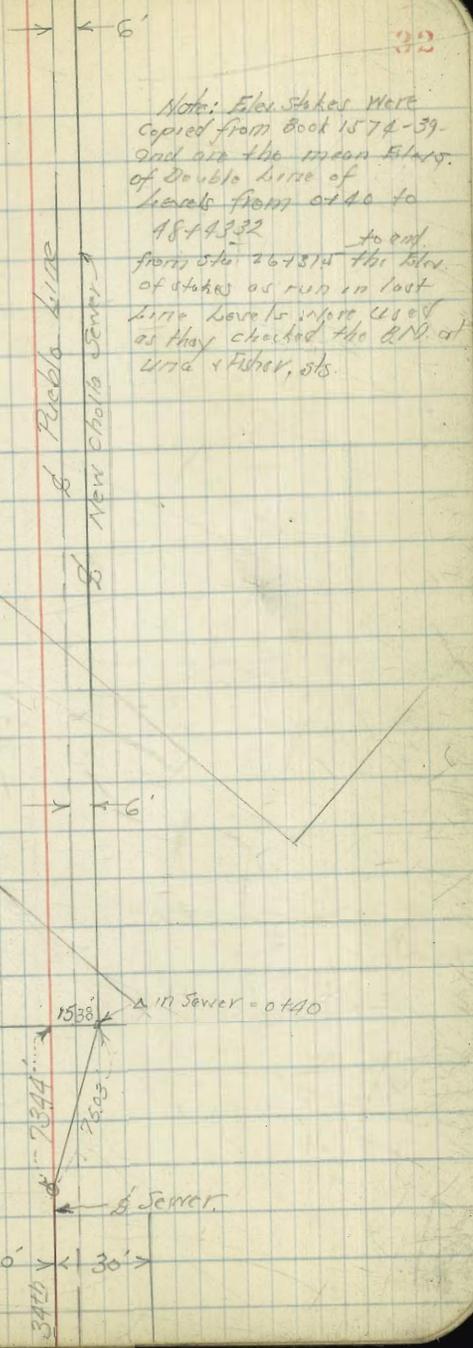
CHOLLA VALLEY SEWER
— Construction —

Cont. from P. 32

	MH #26		El. Stake	Flow	Cuts	Offsets
11+35.79 = Δ 51°31'Lt.			2.30	-6.61=N -6.71=S	+8.91=N +9.01=S	
12+00			0.42	-6.753	+7.12	
+50			0.71	-6.786	+7.50	
13+00			1.155	-6.82	+7.98	
+50			2.53	-6.854	+9.38	
14+00			2.525	-6.887	+9.41	
+50			2.21	-6.92	+9.13	
15+00			2.535	-6.954	+9.49	
+50			2.255	-6.988	+9.24	
16+00			2.69	-7.02	+9.71	
+50			2.94	-7.055	+10.00	
17+00			2.775	-7.088	+9.86	
+37 = MH#27 = Δ 88°25'30"Rt. +50.5 = MH = Δ 90°02' Rt.			2.64	-7.12=N -7.27=S	+9.76=N +9.91=S	
18+00			2.60	-7.30	+9.90	
+50			2.365	-7.336	+9.70	
19+17.45 = equation = 19+22.18, MH#28 = Δ 1°36'Rt.			2.11	-7.38	+9.49	
+50			2.06	-7.403	+9.46	
20+00			1.76	-7.437	+9.20	
+50			1.055	-7.47	+8.53 FILBERT	
21+00			4.85	-7.504	+12.35	
+50			4.755	-7.538	+12.29	
22+00			0.745	-7.57	+8.32	
+50			0.235	-7.60	+7.84	
23+02.28 = MH#29			0.265	-7.64	+7.91	

25+16.5 = Δ 38°50'30"Lt
= 21+18.04
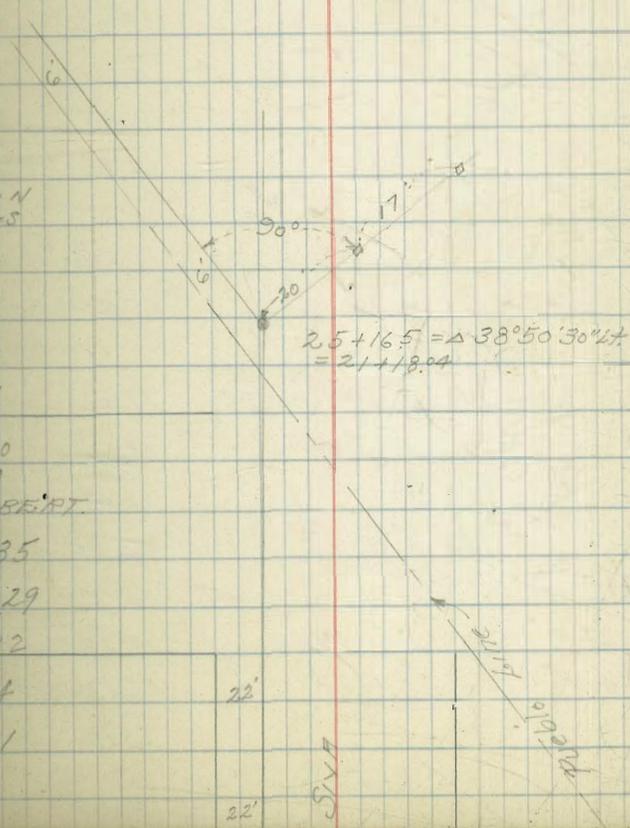
CHOLLA VALLEY SEWER
~ Construction ~
Cont. from P-34

Station	+	x	-	Elev. Stakes	Elev. Flow Line	Cuts. offsets.
23+50				0.585	-7.67	+ 8.24
24+00				0.945	-7.705	+ 8.65
+50				1.315	-7.738	+ 9.05
25+16.5 } Equation = 21+18.04 } ∠MH#30 = ∆ 38°50'30" Lt.				1.06	-7.78-N -7.83-S	+ 8.84-N + 8.89-S
21+50				-0.045	-7.85	+ 7.80
22+00				7.36	-7.88	+ 15.24
+50				8.825	-7.917	+ 16.74
23+00				9.02	-7.95	+ 16.97
+43 = MH#31				9.075	-7.98	+ 17.06
24+00				8.85	-8.02	+ 16.87
+50				9.43	-8.05	+ 17.48
					-8.08A	Pueblo Line
25+00				10.575	-8.084	+ 18.66
+50				12.255	-8.12	+ 20.38
26+00				13.865	-8.15	+ 22.02
+31.50 = ∆ 0°13' Lt.				14.92	-8.173	+ 23.09
+50				15.16	-8.185	+ 23.35
27+00				15.87	-8.22	+ 24.09
+50				16.35	-8.25	+ 24.60
28+00				16.15	-8.286	+ 24.44
+50				15.88	-8.32	+ 24.20
29+00				14.98	-8.35	+ 23.33
+50				15.27	-8.386	+ 23.66

Cont. Page 36

26+31.5 = ∆ 0°13' Lt.

₵ Pueblo Line ₵ New Cholla Sewer

CHOLLA VALLEY SEWER
~ Construction ~

Station	-	+	x	-	Elev. Stake	E.Inv. Flow Line	Cuts	offsets
30+00					14.93	-8.42	+23.35	
+50					13.77	-8.453	+22.22 ✓	
31+00					12.90	-8.486	+21.39 ✓	
+50					12.25	-8.52	+20.77 ✓	
32+00					12.21	-8.553	+20.76 ✓	
+50					11.26	-8.587	+19.85 ✓	
33+00					10.79	-8.62	+19.41 ✓	
+18 -17¼, #32					10.59	-8.63	+19.22 ✓	
+50					9.90	-8.654	+18.55 ✓	
34+00					9.50	-8.687	+18.19 ✓	
+50					8.84	-8.72	+17.56 ✓	
35+00					8.41	-8.754	+17.16 ✓	
+50					7.40	-8.79	+16.19 ✓	
36+00					7.83	-8.82	+16.65 ✓	
+50					3.53	-8.855	+12.39 ✓	
37+00					3.20	-8.89	+12.09 ✓	
+50					4.34	-8.92	+13.26 ✓	
38+00					4.27	-8.955	+13.23 ✓	
+50					5.43	-8.99	+14.42 ✓	
39+00					4.27	-9.02	+13.29 ✓	
+50					3.98	-9.056	+13.04 ✓	
40+00					3.60	-9.09	+12.69 ✓	
+50					3.68	-9.12	+12.80 ✓	
41+00					4.29	-9.156	+13.45 ✓	

CHOLLA VALLEY SEWER

~ CONSTRUCTION ~

Cont. from Page 36

Station	+	K	-	Elev. Stake	Elev. Flow Line	Cuts	Offsets.
41+50				5.16	-9.19	+14.35	
42+05.58 = MH 33	Δ 37°34' M			5.98	-9.227	+15.21	
+50				7.70	-9.257	+16.96	
+98.58 +96.78 = Junction Box A P. 51 this Book							
43+00				8.40	-9.29	+17.69	
+50				9.59	-9.324	+18.91	
44+00				8.77	-9.357	+18.13	
+50				8.36	-9.39	+17.75	
45+00				8.43	-9.424	+17.85	
+50				7.95	-9.458	+17.41	
46+00				7.70	-9.49	+17.19	
+50				7.52	-9.525	+17.05	
47+00				7.14	-9.558	+16.70	
+50				6.84	-9.592	+16.43	
48+00				6.73	-9.625	+16.36	
+43.32 = MH, End of Line	≠ 34			6.28	-9.66	+15.94	

Walker
Isbell
H. Moore
7-18-40.

Upas Street Extension
~ PAVING GRADES ~
From ALABAMA to PARK BLVD.

Indexed

259.50 = NW.B.P Alabama & Upas.
       6.68 +
266.18 = X   Lt   260.71   260.8U
                     5.47   5.34
                     4.91   5.23
                    +.056   +.011

              Rt   0+90   0+40
                   260.09   26040
                     6.09   5.78
                     5.90   5.96
                    +.019   -0.18

260.58   260.18   259.78
                              1+41.29

                    51.29

260.71   260.52   260.09

        50'

260.84   260.85   260.40

40' < 15' > < 15' >

UPAS   0+00

Alabama

```
2142) = ⊼ from P. 40
  499 -
20922 = T.P. on Spike 5+75 = 16.2 from ₵ on Left.
 11.96 ↑
221.18 = ⊼        L†  20922  21362  21799  22229  22658  23087
  0.38 -                  11.96   7.56   3.19  11.66   7.37   3.08
220.80 = T.P.            11.25   6.88   1.00   9.03   5.43   1.00
 13.15 ↑                 - .01  +0.68  +2.19   2.63  +1.94   +2.08
233.95 = ⊼
  0.63 -            P†  20759  21179  21603  22029  22458  22887
233.32 = T.P.           13.59   7.37   5.15  13.66   8.37   5.08
 12.87 ↑                12.85   6.31   3.99  11.89   7.61   2.39
246.19 = ⊼             + .074  1.004  +1.16  +1.79  +1.76  +2.69
  0.25 -
245.94 = T.P.
 11.90 ↑           L†  23515  23944  24372  248.01  25140  25165
257.84 = ⊼             11.04   6.75   2.47   9.83    6.44   3.19
  0.73 -                 8.45   4.75   0.25   8.60    6.07
257.11 = T.P.          +2.59  +2.00  +2.22  +1.23   +0.37
  8.80 ↑
265.91 = ⊼   N.W. B.P.  Alabama + Upas.
  6.43 -            P†  23315  23794  24172  24601  24940  25265
259.48 = ch.            1304    8.75   4.47  11.83   8.44   5.19
259.50 = B.N.           10.02   5.51   3.11   8.11    6.04   4.57
  0.02 = Run on         +3.02  +3.24  +1.35  +3.72   +2.4   +0.62
                                       +2.06  +2.00
                                               Kasot.
                        15'Lt.  15Lt.
                   L†  257.12  25894  26012  260.30  26035  26042
                        0.72    6.97   5.79   5.61    5.56   5.49
                                                      5.43   5.08
                                               +10.13  +1.041

                         1'Back
                   R†  25512  25694  25812  25890  25930  25445
                        2.72    8.97   7.79   7.01    6.61   6.46
                          ✓      ✓      ✓      ✓       ✓      ✓

                   L†  26050  26058
                        5.41    5.33
                        4.95    4.93
                       +0.46   +0.40

                   L†  25960  25978
                        6.31    6.13
                        6.11    5.67
                       +0.20   +0.46
```

Left page:

```
          stub.
190.35 = 6+8565 on Lt.                    P-41   π = 192.13
  12.10+
 202.45
  0.37+                 out
202.08 = π    Lt. 191.57    195.77    200.26    204.75
  12.13+            ss        .668      2.19      9.46
214.21 = π                    .988      0.35      8.02
                            + 2.80    + 1.89    + .944

                        out
              Rt. 191.35    195.10    199.26    203.42
                            7.35      3.19      10.79
                            5.37      +.03      9.85
                            + 1.98    + 3.22    + .094
```

Right page (survey diagram):

```
      8+15.69
50'R              187.50
Δ=91°41'30"       187.22          8+11.85
                            187.40
Arc=80.02         186.93                Δ=88°18'30
No L = 6 Ports            186.96   187.54    6 Ports
         186.64                 87.37   Low Point
         86.75        86.75      187.62    No 2
                                87.25     187.73
         86.62                           187.84
                     87.20             187.95

         86.68   7+48.45   87.32" Powder Campus
                   187.0
         86.90              87.46
186.00
      86.90
      86.60              87.90   188.30
No.1 = 6 Ports  86.88  87.50  87.95  188.30
Arc=77.06       8.166   15'     87.65  189.12
Δ=88°18'30"     88.80  88.60          Δ=91°41'30"
50'R           190.35                 Arc=80.02
6+85.65                 190.55        No 3
                                      6+81.81

         191.57        191.35   +75           N

         195.77        195.10   +50
                 15'      15'
         200.26        199.26   +25

         204.75        203.42   6+00=EC.
```

200.40'

198.2

196.10'

194.3

192.70

191.30

Gd 190'
B.M.
Nail in Pole
El = 185.86
6.27
192.13 = ×

190.0

189.10

4.2'

cross culvert
90°to ℄ Rd.
Radical

20' 17.50'
2.2'   0.5'

188.30

188.70   8+25

8+1569
50' R

30'

10+58.16
199.40   10+56

197.0   10+25

194.8   10+00

192.8   9+75

191.30   +50

190.0   +25

Δ = 21°44'

188.90'   9+00

∠ R = 500'

188.10   8+75

8+68.50

187.7   8+50

187.5.0

8+11.85
50' R

Δ = 83°49'
150' = ℒ R

(Rt)

17 + 36.37

					17+36.37				

B.C. 270.50 — — 271.60 ← 17+25
268.0 — 268.90 17+00
265.40 — 266.0 ✓ +75
262.80 — 263.10 +50
260.30 — 260.30 +25
257.70 • — 257.70 16+00
ℒ Stations

Staked Staked

Gd. Book 190 · 37
S.W. Ret. Wall = 244.86
S. Fo Cor 12.98 +
Ld. off 157.10 257.84 = T
1.62 —
256.22 = T.P.
11.94 +
268.16 = T
7.86 —
260.30 = T.P. 16+25
12.43 +
272.73 = T

215.50 ✓ — 215.50 12+00
— 215.29 = 11+98

212.90 — 212.90 ✓ 11+75

210.40 — 210.20 ✓ 11+50

Pov. stake 16+25
Gd. Book 190·35 207.70 = T.P. 207.70 — 207.40 11+25
10.83 +
218.53 = T

205.20 — 204.70 11+00

Rough Grades from 16+25

271.28 = T   Lt. 265.40 268.0 270.5
0.20 —   5.98   3.28 12.64
271.08 = T   2.61 12.00
12.06 +   +0.67 +0.64
283.14 = T

B.M.
304.78

202.90 — 202.10 10+75

10+58.16
75'   30'   E.C.

Rt 266.0 268.9 271.6 ✓
2.38 11.54

ℒ R = 500'

Δ = 21°44'

U.P.R.S. St.

Rough Grade from 17+50 to end.

272.93 = π P-42
  0.28 −
272.65 = T.P. Lt. | 273.0 | 275.5 | 278.2 | 280.9 | 283.4 | 285.80 | 287.9
  11.43 + | 10.14 | 7.84 | 4.97 | 2.29 | 10.56 | 8.16 | 6.06
284.08 = π | 8.70 | 7.54 | | | | 8.01 | 5.90
  0.67 − | +0.44 | +0.30 | | | | +0.15 | +0.16
283.41 = T.P.
  12.38 +
295.99 = π Rt. | 274.3 | 277.3 | 280.1 | 282.7 | 285.40 | 287.70 | 289.7
  | 8.84 | 5.84 | 3.04 | 0.44 | 8.56 | 6.26 | 4.26
283.14 = π | 8.67
  0.23 − | +0.17
282.91 = T.P.
  11.05 +
293.96 = π Lt. | 289.7 | | 291.85
  1.21 − | 4.06 | | 2.11
292.75 = T.P.
  5.11 +
297.86 = π Rt. | 291.8 | | 292.75
  | 2.16 − | | 1.21

274.30 = Foler Grade 17+50 on Rt.
  0.17 = cut
274.47 = Foler. Stake
  9.62 +
284.09 = π
  0.43 −
283.66 = T.P.
  12.16 +
295.82 = π

Requested by Mr. Phelps.
Change of Grade in this Curve. from 17+50 to end.
  17+50
Lt. | 273.10 | 275.70 | 278.35 | 280.90 | 283.65 | 286.25 | 288.45
  | 10.99 | 8.39 | 5.74 | 3.19 | 0.44 | 9.57 | 7.37
  | 10.65
  | +0.34

  17+50
Rt. | 274.30 | 276.90 | 279.60 | 282.15 | 284.85 | 287.80 | 289.40
  | 9.79 | 7.19 | 4.49 | 1.94 | 10.97 | 8.52 | 6.42
  | 9.62
  | +0.17

  E.C. 19+55.8
Lt. | 290.45 | 292.50 | 293.10 | 293.20 | 293.79
  | 5.37 | 3.32 | 2.72 | 2.62 | 2.03

  E.C. 20+R
Rt. | 291.45 | 292.30 | 293.70 | 294.20
  | 2.37 | 2.52 | 2.12 | 1.62

PARK
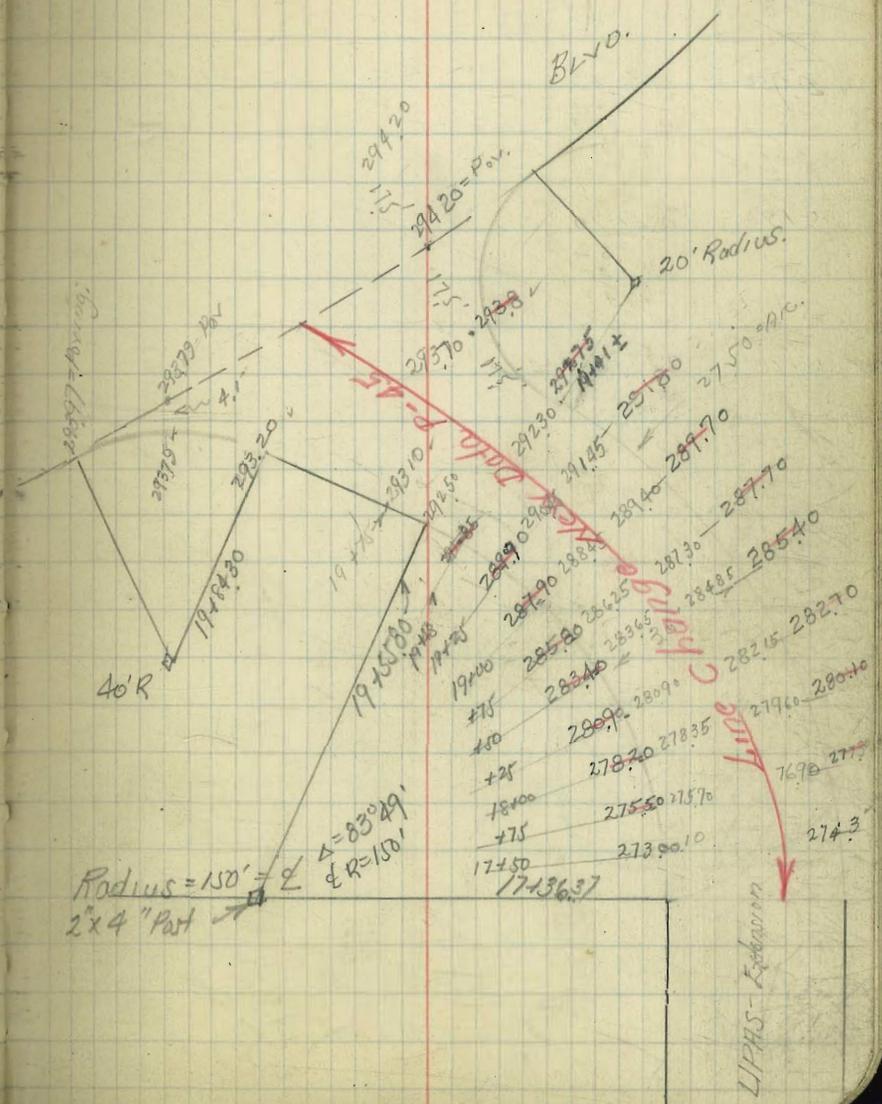
Walker:
Isbell
7-29-40

CABRILLO AVE
Curb Grades.
North of Pearl on West Side

159.52 = X Book 1574 -47

These Grades set
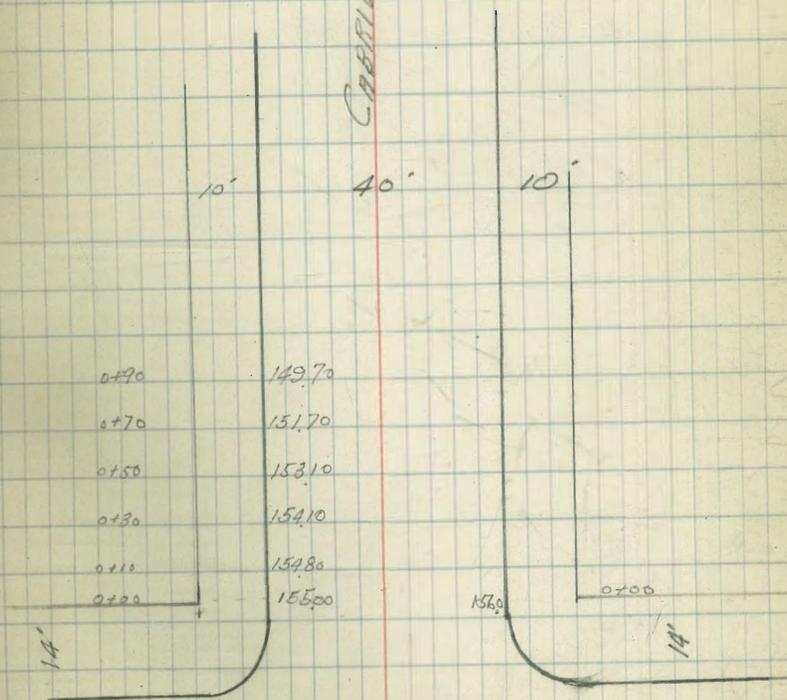at time of re-cross sect
Hence H.I. from Book 1574
-47'

0+50   153.10
          6.42
          5.83
        + 05.9

0+76   151.70
          7.82
          7.40
        + 0.42

0+90   149.70
          9.82
          9.47
        + 0.35

CABRILLO AVE

10'   40'   10'

0+90	149.70
0+70	151.70
0+50	153.10
0+30	154.10
0+10	154.80
0+00	155.00

156.0   0+00

14"   14"

PEARL

B.M. Upas + Pk. Blvd

= 295.80 = B.M.
    0.80 +
296.60 = K
  12.87 -
283.73 = T.P.   18+75
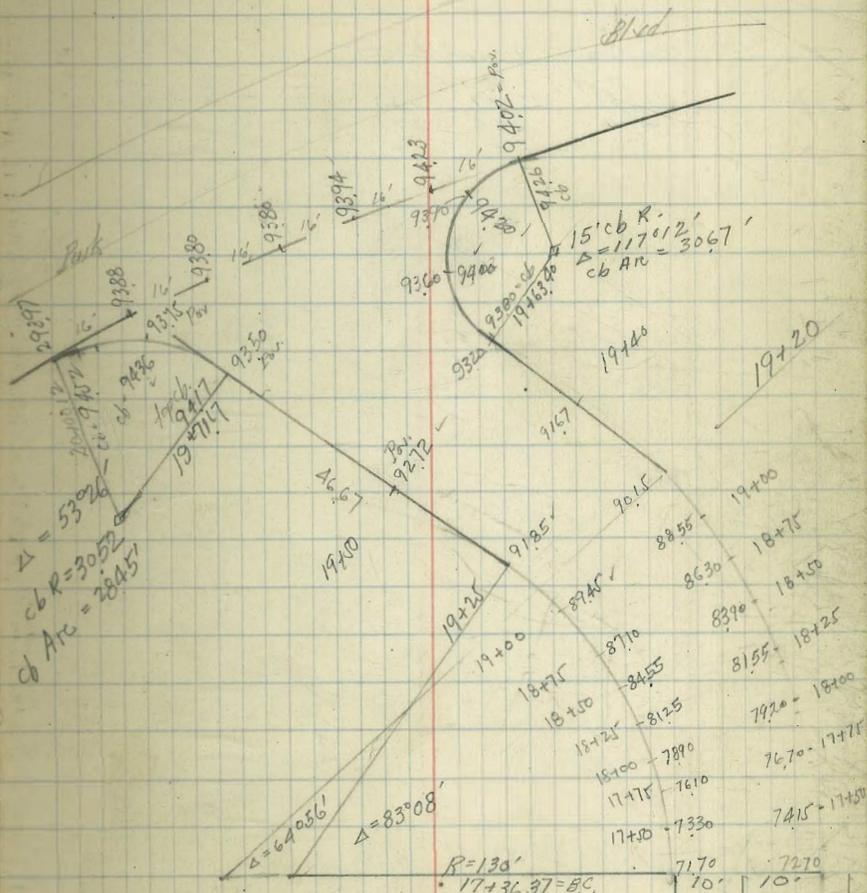   0.78 +   Lt. 8710 8455 8125 7890 7610 7330 7170
284.51 π   9.50 12.05 3.26 5.61 8.41 11.21 12.81
                  9.04 11.77 2.79 5.30 7.70 10.35 11.53
                 +0.46 +0.28 +0.47 +0.31 +0.71 +0.86 +1.28

                              19+20
         Rt. 93.90 93.60 93.20 91.67 90.15 88.55 86.30
                           4.83 2.45 8.05 10.30
                                            9.80
                                           +0.50

         Rt. 8390 8155 7920 7670 7415 7270
              0.61 2.96 0.31 7.81 10.36 11.81
              0.46 2.74 2.76 7.03 9.98 11.21
             +0.15 +0.22 +0.55 +0.78 +0.38 +0.60

Grades shown in sketch are Not opposite after
            lowering B.C. 17+36.37

Note: Stations from B.C. 17+36.37
to End the side line distances.
10' from ℄ at BC only
as side Lines are   Stake Line
not parallel

BM.
Elev. Stake 2+50 at Alabama St.
26012
4.33 +
26.445 = K

UPAS St. Extension.
Grades for Paving
& Curb Ret.

Pav. = West edge Park Road.
Alabama
26.30   60.00   59.55   59.20   59.40   59.80

cb Grades Around Return

E.V.C. 26.031	P.C. Ret. 26.022	59.62	58.77	57.82	56.62	55.32
4.14	4.23	4.83	5.68	6.63	7.83	9.13
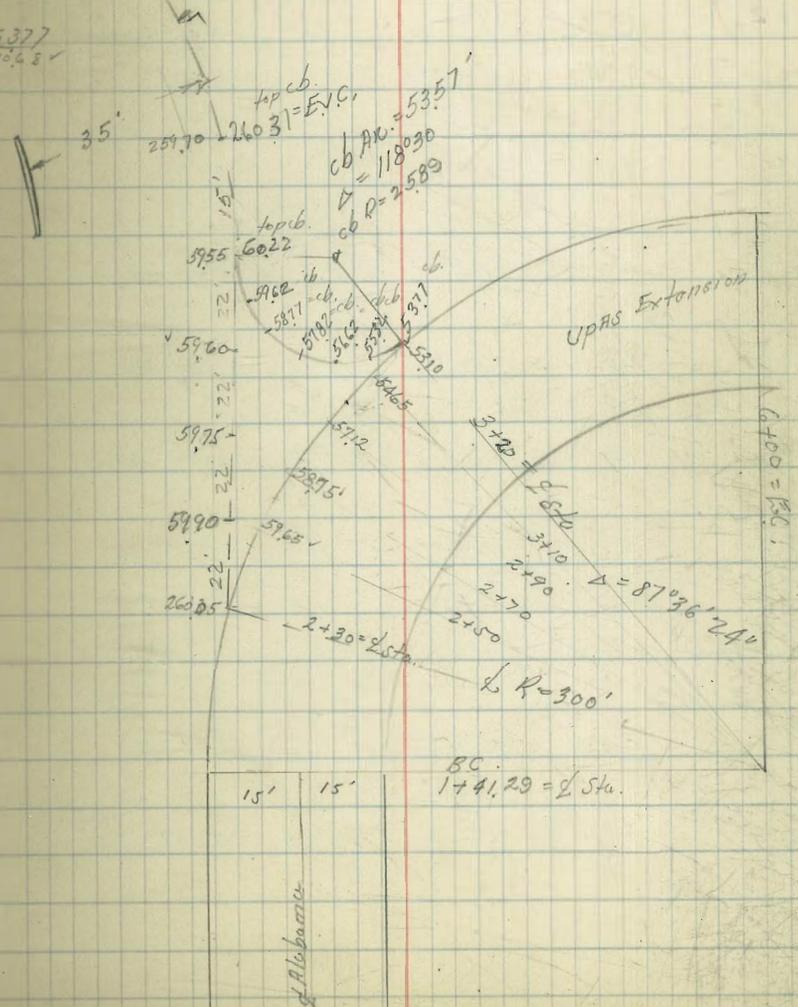
Walker.
Isbell
Aug 5-1940

Indexed

Talmadge Park Bench Levels

	+	↑	−	Elev		
	5.34	357.37		352.03		SW BP El Cajon & Fairmount
	6.43	361.05	2.75	354.62	T.P.	SW steel Plug 44th & El Cajon R.P. State Hiway
			3.92	357.13		SW BP El Cajon & 45th
	5.93		9.71	352.42	T.P.	
	3.92	361.21		357.29		BM SW El Cajon & 45th. Starting B.M. BP ✓
T.P.	5.93	362.43	9.71	356.50		
T.P.	6.80	363.90	5.33	357.10		
T.P.	1.85	360.75	5.00	358.90		
B.M.			3.92	356.83		S.E Corner Monroe & 49th Easterly End of Curve BP ✓
T.P	4.52	360.26	5.01	355.74		
B.M.			5.81	354.45		West End of Curve on 49th Approx 1100 N of Monroe on East Side of Street BP ✓
T.P.	2.27	355.29	7.24	353.02		
T.P.	10.01	356.41	8.69	346.60		
T.P.	5.38	361.60	0.39	356.22		

	+	π	−	Elev		
		36160				
B.M			3.83	357.77	N.E. D.P. Monroe + Highland	✓
T.P.	4.97	353.67	12.90	348.70		
B.M			6.07	347.60	S.E. B.P. Max Drive + Monroe. W6th End of Max Drive	✓
T.P.	2.70	355.21	1.16	352.51		
B.M.	0.78	344.40	11.59	343.62	S.E. B.P. Monroe + Menlo	✓
T.P.	6.80	340.39 / 334.79	10.81	333.59 / 327.99		
T.P.	9.12	348.90 / 343.30	0.61	339.78 / 334.18		
B.M			10.96	337.94 / 332.34	S.E. B.P. 47th + Monroe	✓
B.M	11.58	355.46 / 349.86	5.02	343.88 / 338.28	N.E. B.P. Natalie + Norma Drives	✓
T.P.	12.46	367.64 / 362.64	0.28	355.18 / 349.58		
B.M.	2.15	368.35	1.40	366.20	S.E.B.P. Natalie Drive + Madison	✓
B.M	5.23	365.25 / 359.65	8.33	360.02 / 351.42	S.E. B.P. Madison and Norma Drive	✓
B.M.	10.91	373.01 / 367.41	3.15	362.10 / 356.50	N.E.B.P. Norma Drive + Constance Drive S End of Constance Drive	✓

	+		-	Elev.		
		373.01				
		~~367.41~~		370.37		
TP	5.76	376.13	2.64	364.77		
B.M.	3.73	373.85 ~~368.25~~	6.01	370.12 ~~364.52~~	S.E. B.P. Natalie + Constance Drives	✓
B.M.			6.19	367.66	S.E. B.P. Norma + Constance Drives	✓
T.P.	5.80	375.92	3.73	370.12		
T.P.	0.46	370.12	6.26	369.66		
			4.28	365.84	S.E. B.P. Adams Ave + Natalie Drive	✓
T.P.	8.70	378.54	0.28	369.84		
B.M.			2.92	375.62	S.W. B.P. Adams + Euclid Ave	✓
T.P.	7.19	384.55	1.18	377.36		
B.M.			4.64	379.91	S.E. B.P. Adams + Astrella	✓
T.P.	4.35	384.92	3.98	380.57		
BM	4.21	383.97	5.16	379.76	S.E. B.P. Estrella + Madison	✓
B.M.			8.92	375.05	S.E. B.P. Euclid + Madison	✓

49

		T 383.97				
T.P	6.15	385.91	4.21	379.76		
B.M			5.54	380.37	S.E.B.P. Madison + 49th	✓
T.P	2.53	384.58	3.86	382.05		
T.P.	4.97 5.24	381.57	7.98	376.60		
B.M	1.58	378.62	4.53	377.04	S.E.B.P. Monroe + Winona	✓
B.M.	1.24	367.41	12.45	366.17	S.E.B.P. Monroe + Estrella	✓
B.M.	0.15	355.63	11.93	355.48	S.E.B.P. Monroe + Euclid	✓
T.P	1.68	345.68	11.63	344.00		
B.M	11.03	348.95	7.76	337.92	S.E.B.P. 47th + Monroe	✓
T.P.	5.80	353.48	1.27	347.68		
T.P.	5.04	352.94	5.58	347.90		
B.M			5.75	347.19	S.W B.P. 47th + El Cajon	✓
				347.20		
				0.01		

Walker
Bliss
Isbell
1941

Grades for 36" Sewer
from treatment Plant
to ℄ Existing Sewer in Una St
Called Line "A" in Sketch.

℄ Stake	6.54	15.52			0+00
B.M. on Racing Stake				8.98	Book 1597-27
Junction Box "B"					Flow cuts.
chk ↺ 1+21.89 Book 1597-27	7.13	8.39			
0+00 15' Lt offset	6.01	9.51	-12.00	+21.51	
+50 15' " "	5.01	10.51	-11.14	+21.65	
1+00 15' Lt. "	6.48	9.03	-10.23	+19.26	
+27.45 15' Lt. "	7.23	8.29	-3.80	+18.09	

℄ Junction Box "A"
$C = 42 + 96.78^{\,98.58}$ P-37 -this book.

See detail Boxes on Page 52
for cuts on Stakes 1+27.45
and   0+00

	5.85	14.09		8.24	B.M. Mon
Box "C" Top			4.50	9.59 10.59	Una+Kingw. +1.59
					8.00 +1.59

42+05.58 P-37

outfall under Const.
Ⓒ Existing M.H. (Under Const)

FISHER   ST.

INDEXED   51

Proposed 60" Interceptor Sewer.

2+61.93
× 74°07'40" Rt.

This Location
Abandoned : See Final Location FB $\frac{1607}{2}$

1+21.89
△ 39°59'30" Rt.

60" Interceptor Sewer
F.B. 1597-2

0+00 Interceptor Sewer

KINGWOOD

1+27.45 Station Line "A"

LINE "A"

0+00 Line "A"

Line "A" to be Constructed.
36" Sewer.
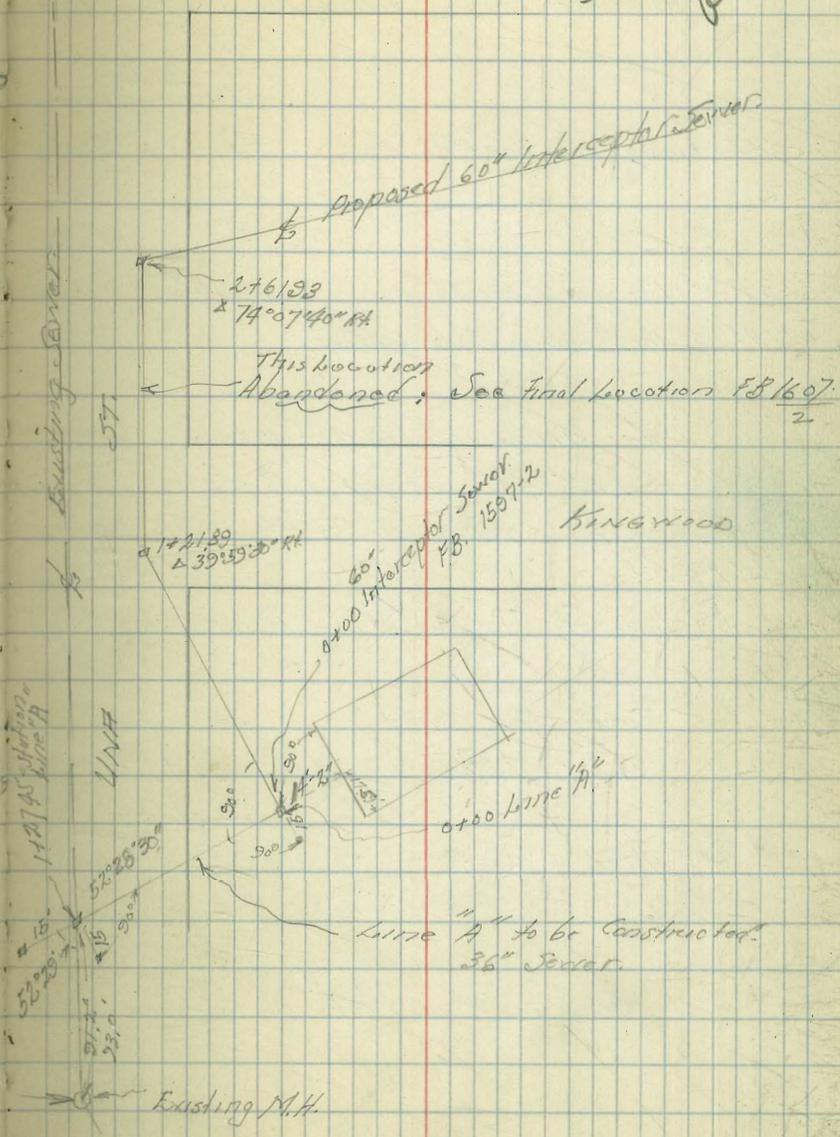
Existing M.H.

Grades for 36" Sewer
   Between Boxes "A" & "B"
from treatment Plant
to Existing 36" Line in Una St.

Station & Box	Elev. Stakes	Elev. Flow Line	Cuts.
0+00 = & Box			
0+03' = East inside edge Box "B"	9.51	-12.00	+21.31
+50	10.51	-11.14	+21.65
1+00	9.03	-10.23	+19.26
1+23.45 = West inside Box "A"	8.29	-9.80	+18.09
+27.45 = & Intersection Existing Sewer			

Note: Grade is straight from 0+03
   to 1+23.45 Grade = 1.82 %

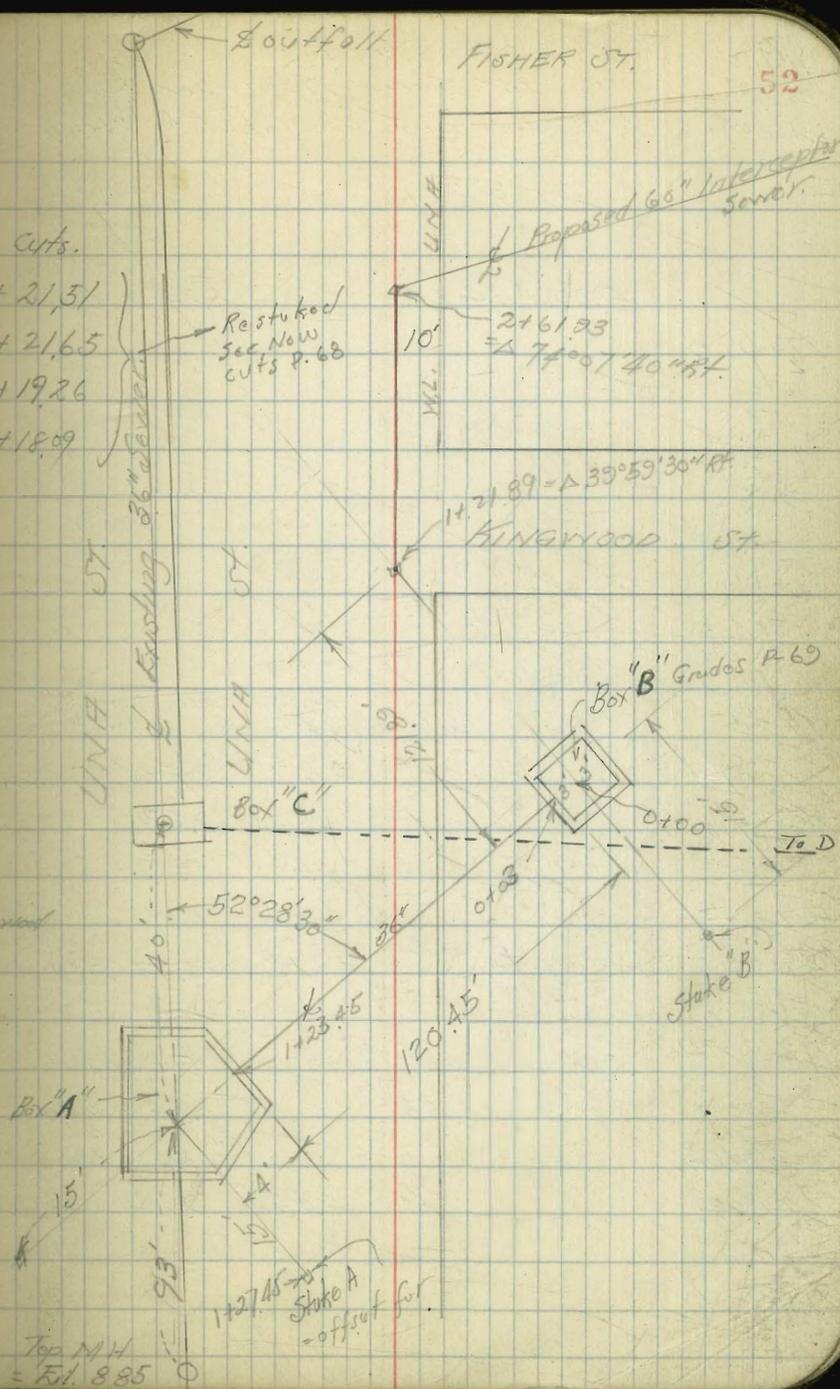Cut on Stake A is For Grade to Flow Line at
   1+23.45

Cut on Stake "B" is for Flow Line at 0+03

Walker
Easterly
D. Pedrow
6-25-41   5.21   13.45   8.24

Grade For MH 93' N of Box A

			File Stake	Top Box
Top MH 93' N of Box A	4.60	8.85	8.85	
" Box "A"	4.35	9.10	9.10	
" Box C	4.55	8.90	8.90	

New Grade for MH Sec Grd 210-32

Walker
Easterly
D. Furrow.
6-21-41

Location & Grades
For 24" Sewer From Box "C"
to Existing Line as Staked by W.P.A. Eng.

Indexed

42" outfall

Existing 36" Line   This Line into 1+24

5.91   14.15   8.24   B.M. Conc.
                              Mon Una & Kingwood.

Station

U N A   S T

1+24

0+00 = South edge Box

Box "C"   30"
El. Top Box →   52°20' 1158'9"
= 8.90

Detritor Bld.

10'

N
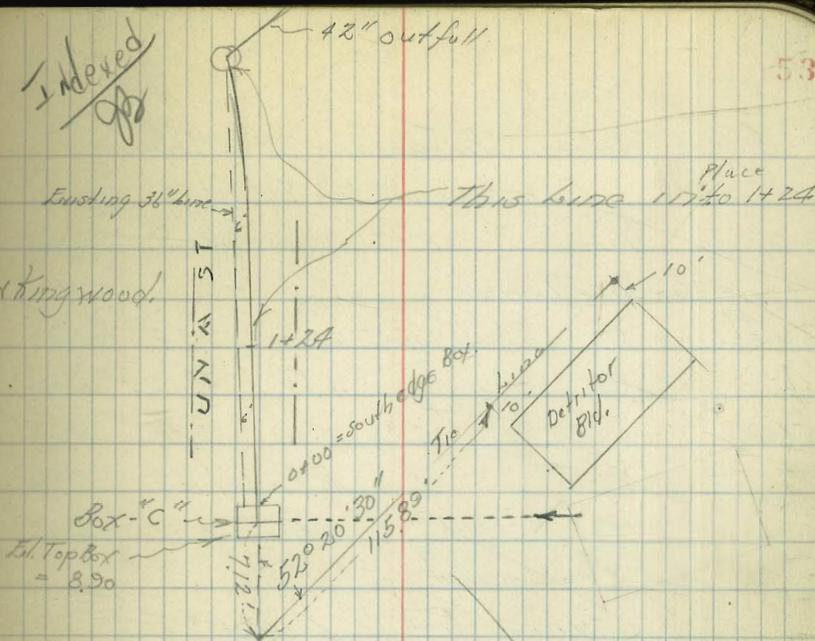
From here to
fisher & grades
were set by W.P.A.
Engineer

Station			Rods	Elev Stake	El. Flow		
1+24		14.15	17.77	-3.62 Thru	-3.62	→ Flow of Existing Pipe	
						Cuts	offsets
1+06.6			4.67'	9.48	-3.52	+13.00	℄
0+78.6			4.52'	9.63	-3.37	+13.00	'
+60.2	0.5%		4.43'	9.72	-3.28	+13.00	"
0+30.4			4.28'	9.87	-3.13		"
0+00 = South edge Box "C"			17.13	-2.98	-2.98 →	Box Constructed at this Elev.	
					-3.00 →	" Plan 0.02 Error	

6-23-41   Additional Grades   Above Highline

6.09   14.33   8.24 = Above BM

Station   El.   El.
                         Stakes   Flow   Cuts.   offsets
1+24   4.95   9.38   -3.62   +13.00   ℄
0+00   4.31   10.02 -2.98   +13.00

Walker
Bliss
Isbell

GARRISON STREET (Dennis) cont.

SEWER LATERAL Construction.

9-13-40 Between Rosecrans And Willow

From Rosecrans to Locust

Station	Lateral Number		Elev. Stakes	El. Flow Line	Cuts.	Offsets
0 + 00 = West Line Rosecrans						
0 + 49		9.36 = π		−0.82		
0 + 30	①	on South Line	6.02	3.34	−.20	+ 4.16	1' South
1 + 10	②	" " "	4.60	4.76	0.40	+ 4.36	1' "
1 + 60	③	" " "	3.43	5.93	1.40	+ 4.53	" "
2 + 10	④	" " "	1.92	7.44	2.66	+ 4.78	" "
2 + 60	⑤	" North "	0.55	8.81	4.15	+ 4.66	1' North
3 + 00 = East Line Locust						

From Locust to Evergreen

0 + 00 = W.L. Locust		18.86				
1 + 10	⑥	on South Line	1.33	17.53	12.21	+ 5.32	1' South
1 + 60	⑦	" South Line	29.97 10.24	19.73	14.88	+ 4.85	" "
2 + 60	⑧	" " "	4.80	25.17	20.21	+ 4.96	" "
3 + 00 = E Line Evergreen						

From Evergreen to Willow

0 + 00 = W.L. Evergreen		33.88 = π P.56				
0 + 10 =	⑨	on South Line	3.49	30.39	24.81	+ 5.58	1' South
0 + 60 =	⑩	" " "	0.11	33.77	28.10	+ 5.67	" "
2 + 50 =	⑪	" North "	53.33 π P.56 7.01	46.32	39.80	+ 6.52	1' North

Indexed

B.M. S.W. B.P. Rosecrans & Canyon Rd = 20.65
4.16 +
24.81 π
6.83
17.98 = T.P.
.0651
18.63 π
9.22 −
9.41 T.P.
2.62 +
12.03 π
7.92 −
4.11 = T.P.
5.25 +
9.36 +
6.61 −
2.75

Rosecrans & Garrison
Set B.M. S.W.B.P. = 2.75

Above π = 9.36
5.99
Ck curb S Line 0.55
40 = Plan
.06 = diff
S Line curb
0 + 80 Use Elev to Rd π = 3.40 = Plan
5.90 +
.30 π
.61 −
.69 = B.P.

B.M. Rosecrans →
To fit Imp. & Garrison

9.36 π
0.55 −
8.81 T.P.
10.05 +
18.86 π
0.36 −
18.50 T.P.
11.47 +
29.97 π
1.71 −
28.26 T.P.

top
T.F. Wyatt, Evergreen & Garrison.

GARRISON St. PAVING

From Rosecrans to Willow

Walter
Bliss
Isbell
9-13-40

cb 1296 1180 1206 1215 1206 1180 1245-0

125' →   25 crown

11.10 11.25 1146 11.63 1146 11.25 1200
125' →   25 crown   1132

10.73 1085 1101 11.08 11.01 1085 10.94 1160
1060   10.85 11.33
10.46 ←Gut   11.13
1092 1040 1052 10.56 1052 10.40 1042 ←Gut
1090   1040

LOCUST 1034 ← 18 → 10.10 1022 1026 1022 10.10 18' 1034 St. ℄
                        10.54 RimMH   10.09
10.09
9.69
11.00 9.40 Gut 9.80 9.92 9.96 9.92 9.80   9.69
10.00 9.99   9.40 Gut
                                      10.00
9.80 9.79   9.37
                                 10.01
9.14 9.05 9.40 9.56 9.63 9.56 9.40 9.26 9.86
          125' →
9.16 9.06 9.26 9.33 9.26 9.05 9.61
          125' →
cb 932 865 891 9.00 891 865 9.24

BAKED   GARRISON   BAKED

195'

0+80 → 290 3.16 325 3.16 290 0+80
0+60   220 266 282 268 225 0+60
0+50   185 237 260 247 205 0+50
10 →
0+40   175 231 252 236 185 0+40
6 →
        205   247   223
7 →   208   2.51   2.32 7

Set
B.M. S.P. 2.75

        216   250   241

0+00   230   263   24[?]

ROSECRANS   Street

2993 2935 28.75 2945
      2945 24.80
      2865
      2870 28.95 2870
      2810 28.34 2810

      27.50 27.70 27.50

EVERGREEN   (See P 56 this Intersection)

      26.70 27.70 26.90

      2640 2658 2664 2969 2640
      2585 2606 2613 2889 2585
      2520 2546 2355 2546 2520

250' BAKED   GARRISON BAKED   BAKED 250

      1180 1206 1215 1206 1180

                              LOCUST   Street

B.M. = 49.98 ☞ ct.
7'

49.12 49.15 49.16 49.13 49.05
4990 4910   4920   4894
cb 4986
cut 4882 4848   4859   4857
c5 4914 4855 4850 4858 4852 4846
4812
4834 4746   4806   4765 4822
4817 4768 4791 4798 4787 4759 4828

2826 = Hyd
2.60 +
30.86 = π
0.75
30.11 ch& B.P.
30.10 = B.M.B.P. F.B.-1567-21

< 18' > < 17' > < 17' > < 18' >

B.M.B.P.

2993 2935   2975   3000 3018'
2945 2964 2960 2969 2945 3003'
2974 2867 = Gut   2872 = Gut c6
2865 2887 2895 2889 2870   2939 cb
2876 = 2812   .125   2818 2977
2819 2828 2834 2828 2810
2890 2770
2807 2768 2841
.2745
2746 2745 2809
27.50 27.64 27.76 27.64 27.50   27.47
27.42   27.07
27.42 27.26 27.15

EVERGREEN 27.37   .2 Crown
27.26 27.35 27.45 27.35 27.20   27.14

27.18 = 27.08   27.05 26.77
2687
26.88
2660   .2 crown
2690 27.05 27.10 27.05 2690   26.30
.2655
2715   GUT
2694 2635   .24 Crown   26.37 27.06
2640 26.58 26.64 26.58 26.40
2664 2607   .28 crown   2613
2535 26.06 26.13 2606 2585
2620 2568   .3 crown   2874 .6.28
2520 2546 2635 2546 2520 18

< 18' > < 17' > < 17' >

25'

250 B School   GARRISON

3010 = B.P. Evergreen & Garrison
12.30 +
42.40 π   5352
0.62 -   2.08 -
41.78 T.P.   5144 ch& S.W.B.P. Willow & Garrison
11.74 +   5.145 B.ok 1567-23
53.52 π
3.53 -
49.99 ch& 7'tack
12.98
0.01 Error

29.97 = π P-54
1.71 -
28.26 = T.P. S.E. Top Hyd. Evergreen Garrison
5.62 +
33.88 π
0.29 -
33.59 T.P.
11.76 +
45.35 π
0.37 -
44.98 T.P.
8.35 +
53.33 π
3.35 -
49.98 = T.P. on S.W. Tack 7'Line Willow

Prop Line Garrison

150 Ft Concrete Gut   2627 2595   2616 14
2611 2584 25.95
2592 25.77
2553 2540 2521
2498
2468 2482
2540 2440

25' 18'

25' 18'

× cross in c.b.

R.C.
3327
× cross in Walk

Concrete
×→ cross
in Concrete

29.67'

Cross in walk
74.71

MANHATTAN × Cross in walk COURT.

32.21'

35° 40°

29.63'

P.I. →

24.31'

Δ = 1° 24' 10"
R = 6102
ST = 74.71

× Cross in Conc. Garage
o.2. West Floor Front

Strandway 74.71

P.C.
1120
× cross in Conc. Apron
to Garage

×
cross in Paving
44.97

Walter
Phis
Isbell
Hale Sept. 16th 1940

~ STRAND-WAY ~
Construction Stakes
for Sewer Laterals

From VENTURA PLACE.

To SAN JOSE PLACE

Indexed

& Sec Wall
SW.T.P. Santa Barbara 7.03
FB 1572-33

| 11.72 π |
| 5.43 - |
| 6.29 -TP. |
| 4.71 |
| 11.00 π |
| 4.00 |
| 7.00 |

Station	Lateral#		Fl or Stake	El. Flow Line		Cut	Offset		
10' South of Lot								11.00	
CB Blk 95 =	⑦	11.72	6.04	5.68	0.52	+ 5.16	5'W	4.00	7.00 dr BM
on Line Lot								7.00	→ 7.03
BA Blk 95 =	⑥		5.85	5.87	1.20	+ 4.67	5'W	4.00	
Lot Line								11.03 = π	
CD Blk 101 =	⑤		5.33	6.39	1.50	+ 4.89	5'W	5.46 -	
Lot AB								5.57 -TP.	
Blk 101 =	④		4.43	7.29	1.62	+ 5.67	5'W	4.47 -	
Lot DC								10.04 - π	
Blk 102 =	③		5.53	6.19	1.67	+ 4.52	5'W	5.40 -	
10' North Line								4.64 -TP	
CB Block 102 =	②		5.87	5.90	1.59	+ 4.31	5'W	5.09 -	
Lot BA			5.33	5.67		+ 3.47		9.73 - π	
Blk 109 =	①	11.00	5.41	5.59	2.20	+ 3.39	5'W	5.31 -	
Lot Line DC								4.42 -TP	
Blk 110 =	⑧		5.39	5.61	2.20	+ 3.41	5'W	5.45 -	
Lot Line BA								9.87 - π	
Blk 110 =	⑨		5.17	6.83	2.20	+ 4.63	5'W		
10' South of		π Corrected						2.78 -	
NL C* Blk 117 =	⑩	11.03	5.27	5.76	0.79	+ 4.97	5'W	Chk SW BM π1 Correct 7.09 √	
Line Lot DC								& Sec Wall	
Blk 118 =	⑪		5.79	5.24	2.20	+ 3.04	5'W		
10' North of South								9.87 = π	
Line Lot "B" Blk 118 =	⑫	10.04	4.76	5.28	1.49	+ 3.79	5'W		
10' North of S Line									
"B" Blk 125 =	⑬		4.64	5.40	1.35	+ 4.05	5'W		
Lot Line								Rockstake No. ① Santa Barbara 7.03 - BM.	
DC Blk 133 =	⑭		5.62	4.42	1.70	+ 2.72	5'W	3.97 π	
Lot Line "BA"								11.00 = π	
Blk 133 =	⑮		5.17	4.87	1.70	+ 3.17	5'W		
10' North of SL									
Lot "B" Blk 134 =	⑯	9.73	4.28	5.45	1.35	+ 4.10	5'W		
Lot Line BA									
Blk 141 =	⑰	9.87	5.23	4.64	1.70	+ 2.99	5'W		
Lot Line DC									
Blk 142 =	⑱		4.93	4.94	1.70	+ 3.24	"		
Lot Line BA									
Blk 142 =	⑲		4.84	5.03	1.70	+ 3.33	"		
Lot Line BA									
Blk 149 =	⑳		4.65	5.22	1.70	+ 3.52	"		

~ Strandway ~
SEWER LATERALS Construction.
Cont. from P-58

Station	Lateral #			Elev Stakes	Elev Flow Line			
Lot Line DC Blk. 150 =	㉑	9.87	4.56	5.31	1.70	+3.61	5'W	
10' South of N Line Lot C Blk 157 =	㉒	10.21	4.64	5.57	1.35	+4.22	"	
Lot Line BA Block 158 =	㉓	10.61	4.92	5.69	2.70	+2.99	"	
10' North of S Line Lot "B" Blk 165 =	㉔		5.09	5.52	1.34	+4.18	"	
Lot Line CB Blk. 166 =	㉕		4.90	5.71	1.20	+4.51	"	
10' South of N Line Lot C Blk 173 =	㉖		6.50	4.31	1.49	+2.82	Sea Outfall	
Lot Line E D Blk 174 =	㉗		3.96	6.65	3.70	+2.95	chk SW BP Santa Clara	

P-58 π = 9.87 = π
1.76 -
5.11 TP
5.20 +
10.21 π
4.10 -
6.11 TP
1.50 +
10.61 π
5.22 -
5.39 = TP
6.59 +
11.98 π
4.82 -
7.16

~ STRANDWAY ~

PAVING GRADES

From Ventura Pl. To San Jose Pl.

Station		W Line Grades	East Line Grades
0 + 0.0 = N line Ventura Pl.		4.85	4.76
0 + 15 = Blk		5.10	5.00
0 + 47.5		5.31	5.23
0 + 80 = S line Alley on E		5.52	5.46
+ 96 = N " " "		5.62	5.58
1 + 36		5.88	5.86
+ 76 = S line Island Court		6.15	6.15
0 + 00 = N line " "		6.20	6.20
+ 40		6.34	6.34
+ 80 = Sl Alley Blk 100		6.47	6.47
+ 96 = N l " " Blk 100		6.52	6.52
1 + 36		6.66	6.66
1 + 76 = S line Isthmus Court		6.80	6.80
0 + 00 = N " " "		6.80	6.80
+ 40		6.71	6.71
+ 80 = S line Alley Blk 103		6.63	6.63
+ 96 = N " " "		6.60	6.60
1 + 36		6.51	6.51
+ 76 = S line Jamaica Court		6.42	6.42
0 + 00 = N " " "		6.40	6.40
+ 40		6.31	6.31
+ 80 = S line Alley Blk 108		6.23	6.23
+ 96 = N " " "		6.20	6.20

Indexed

703 = B.M.B.P. Santa Barbara & Sea Wall - P - 58

4.72 +
11.75 = П
3.23
8.47 - TP   W   4.85   5.10   5.31   5.52   5.62   5.88   6.15   6.20   6.34
3.19 +   6.90   6.65   6.44   6.23   6.13   5.87   6.60   5.55   5.41
11.66 П
5.02 -
6.64 = TP
4.35 +
11.19 = П   E   4.76   5.00   5.23   5.46   5.58   5.86   6.15   6.20   6.34
4.98 -   6.99   6.75   6.52   6.29   6.17   5.89   5.60   5.55   5.41
7.11 + TP
3.85 +
10.96
3.9 X cht Above B.P. Santa B.
7.02
7.03 = BM   W   6.47   6.52   6.66   6.80   6.80   6.71   6.63   6.60   6.51
3.94   5.19   5.14   5.00   4.86   4.96   4.95   5.03   4.59   4.68
10.97 П   5.95   4.60   1.30
3.85 - TP   + 0.76   + 0.54   + 3.8 in Drive
7.12 -
4.20 +
11.32 - П
              E   6.47   6.52   6.66   6.80   6.80   6.71   6.63   6.68   6.51
                  5.28   5.14   5.00   4.86   4.86   4.56   4.59   4.68
                                                          1.97
                                                        - 0.02

              W   6.92   6.40   6.31   6.23   6.20
                  4.77   4.92   5.01   5.09   5.12
                         3.92   5.01
                       + 7.00 + 1.00 + 1.36

              E   6.42   6.40   6.31   6.23   6.20
                  4.77   4.92   5.01   5.09   5.12
                               5.01
                             + 1.00

Walker
Bliss
Wbell

STRANGWAY PUMPING
Construction Stakes
Cont. from P·60

Sept 1940

Station	West Line Grades	East Line Grades
1+36	6.11	6.11
+76 = St. Line Santa Barbara P.	6.02	6.02
0+00 = N " " "	5.97	5.97
+40	5.86	5.86
+80 = St. Alley	5.75	5.75
+96 = Nk. Alley	5.75	5.75
1+36	5.87	5.87
1+76 = St. Jersey ct.	6.00	6.00
0+00 = Nk. Jersey ct.	6.00	6.00
+40	5.88	5.86
+80 = St. Alley	5.76	5.72
+96 = Nk. Alley	5.72	5.66
1+36	5.60	5.52
1+76 = St. Kennebeck ct.	5.48	5.38
0+00 = Nk. " "	5.45	5.35
+40	5.35	5.25
+80 = St. Alley	5.25	5.15
+96 = Nk. "	5.25	5.15
1+36	5.50	5.40
1+76 = St. Kingston ct.	5.76	5.66
0+00 = Nk. " "	5.76	5.66
+40	5.66	5.56
+80 = St. Alley	5.56	5.46

Cont. P·62

Note from Santa Barbara North to BC
South of San Luis Obispo
BM's did not check out by .004 P-62
Hence Locals were to run and nails set in stakes

11.32 = π
5.23 =
6.09 = T.P.
4.97
11.06 T
4.99 -
6.07 = T.P. Nail in Pole
3.97 +
10.04 T
3.97 -
6.07 = T.P.
9.03 +
10.10 T

		St. Santa Barbara			St. Alley Nk. Alley			St. Jersey Nk. J
W	6.11	6.02	5.97	5.86	5.75 5.75	5.87	6.00 6.00
	5.21	5.30	5.35	5.46	5.57 5.31'	5.19	3.06 5.06

17.36

E	6.11	6.02	5.97	5.86	5.75 5.75	5.87	6.00 6.00
	5.21	5.30	5.35	5.46	5.31 5.31	5.19	5.06 5.06
						+.48	+.06
						+.071	+1.00
						+.068	

St. Alley Nk. Alley   St. Kennebeck   St. Alley

W	5.88	5.76	5.72	5.60	5.98	5.45	5.35	5.25 5.25
	5.18	5.30	5.34	5.46	5.58	5.61	5.71	5.81 5.81
			5.49	4.46	4.58			
			+.025	+1.00	+1.00			
			+.023 correction					

Nk.

E	5.86	5.72	5.66	5.52	5.38	5.35	5.25	5.15 5.15
	5.20	5.34	5.40	5.54	5.68	5.71	5.81	5.91 5.91
			4.40	4.54	4.68			
			+1.00	+1.00	+1.00			

1.00 √

W	5.50	5.76	5.76	5.66	5.56
	4.54	4.34	4.34	4.44	4.54
	4.84		4.36	4.34	4.54
	+.020	+.048	+1.00	+.04	
	+.017	+.46	+.017	+.061	

10.10

St. Alley

| E | 5.40 | 5.66 | 5.66 | 5.56 | 5.46 |
| | 4.70 | 4.44 | 4.44 | 4.54 | 4.64 |

7.93 = BP Santa Barbara & Sea Wall

3.17 +
10.14 +

Stakes reset at Santa Barbara

St. Santa B.   Nk.

W	6.02	5.97
	4.12	4.17
		4.33
		-.016

= St.   Nk.

E	6.02	5.97
	4.12	4.17
	4.43	
	-.031	

~ STRANOWAY ~
PAVING GRADES
Cont. from P. 61

Station			W.L. Grade	E.L. Grades
0 + 96 = N.L. Alley	2.R = 5898'	0. 2978 def per ft	5.52	5.42
1 + 33.55 = B.C. P.t. Δ = 10°16'30"			5.42	5.32
1 + 54.86		0°06.18'	5.36	5.26
+ 76.10 = S.L. San Luis Obispo		0°12.36'	5.30	5.20
2 + 00.10 = N.L. " "		0°19.32'	5.24	5.14
+ 32.44		0°28.69'	5.17	5.07
2 + 64.79 = E.C.		0°38.25	5.09	4.99
+ 80.26 = S.L. Alley			5.06	4.96
2 + 96.26 = N.L. Alley	40.08		5.02	4.92
3 + 36.34			4.93	4.83
3 + 76.42 = S.L. Lido Court			4.83	4.73
0 + 00 = N.L. Lido Court			4.80	4.70
0 + 40			4.70	4.60
0 + 80.02 = S.L. Alley			4.60	4.50
0 + 96.02 = N.L. Alley			4.60	4.50
1 + 36			4.70	4.60
+ 76.04 = S.L. Liverpool Ct.			4.80	4.70
0 + 00 = N.L. " "			4.83	4.73
+ 40			4.93	4.83
+ 80.02 = S.L. Alley	0.28169 def per ft		5.03	4.93
+ 96.02 = N.L. "	2.R = 6102		5.03	4.93
1 + 30.39 = B.C. P.t. Δ = 1°24'10"			4.92	4.82
1 + 52.92		0°06.35	4.87	4.77

Cont Page 63

10.10 - π R-61
3.67 -
6.48 - T.P
4.41 -
10.89 π   B.C.   E.C.   T
            VI 5.52 5.42 5.36 5.30 5.24 5.17 5.09 5.06 5.02 4.93
3.82   4.58 4.68 4.68 4.74 4.80 4.87 4.95 4.98 5.02 4.97
7.07   4.76   4.93 4.69 4.75
2.03   -.008   -.006 +.029 +.023
.06 Error   -.10

7.03 = B.M. See Notation 61   S.L. 06.4822   E.C.   10 T0u
3.82 +   E. 5.42 5.32 5.26 5.20 5.14 5.07 4.99 4.96 4.92 4.83
10.85 π   4.68 4.78 4.78 4.84 4.90 4.97 5.05 5.03 5.12 5.21
4.87 -
5.98 = T.P
5.03   852 T
11.91 π   = S.L. Lido Ct. = N.L.   = S.L. Alley   = S.L. Ct.   = B.C.
5.25 -   W. 4.83 4.80 4.70 4.60 4.60 4.70 4.80 4.83 4.93 5.03
5.76 = T.P   5.07 4.72 4.82 4.92 4.72 4.82 4.72 4.84 4.74 4.64
4.35 π   4.86 4.53
10.11 π   +.050 +.021
3.12 -   Obispo
6.99 = B.M.B.P. San Luis & Sea Wall
3.05 +   E. 4.73 4.70 4.60 4.50 4.50 4.60 4.70 4.73 4.83 4.93
10.04 π   5.17 5.20 4.92 5.02 5.02 4.92 4.82 4.79 4.84 4.74
5.21 -   +.45
4.83 = T.P   +.039
5.07 π
9.90 π   Excavation - Work at Lido Ct.   +.042
4.61 -   = N.L. Alley = B.C.   Reset
5.29 = T.P   W. 5.03 4.92 4.87
4.23 +   4.64 4.75 4.80
9.52 π   4.76
3.64 -   +.04
5.28 = T.P
4.39 +
9.67 π   E. 4.93 4.82 4.77
            4.74 4.85 4.90

            Elev. And Stakes set for Gas M.H.

                    523   4.23   5.13
                                        C
             N.L.   5.24   5.14
                           4.94

        San Luis   Obispo

6.99 = B.M. San Luis
2.19 +   Sea Wall
9.18 π   5.24 4.94 5.14   4.93 5.13
         3.94 4.24 4.04   4.25 4.05

~ STRANDWAY ~
PAVING GRADES.
Cont. from p. 62

Station	def Δ	W.L. Grade	E.L. Grade
- No Point list			
1+75.45 = St. Manhattan Ct.	0°127'	4.83	4.73
+85.45 = N.L. " "	0°15.52'	4.80	4.70
2+09.03	0°22.17'	4.74	4.64
+32.61	0°28.82'	4.67	4.57
+56.20	0°35.47'	4.61	4.51
2+79.79 = E.C.	0°42.12'	4.54	4.44
3+20.65		4.46	4.35
3+61.51 = St. El Carmel		4.36	4.26
0+00 = N.L. " "		4.36	4.26
+44		4.47	4.37
+88		4.58	4.48
1+32		4.69	4.59
1+76 = St. Monterey Ct.		4.79	4.69
0+00 = N.L. " "		4.83	4.73
+40		5.03	4.93
+80 = St. Alley		5.23	5.13
+96 = N.L. "		5.23	5.13
1+36		5.13	5.03
1+76 = St. Nahant Court		5.03	4.93
0+00 = N.L. " "		5.00	4.90
+40		4.90	4.80
+80 = St. Alley		4.80	4.70
+96 = N.L. "		4.80	4.70

Cont. Page 64

9.67 = π from p. 62
4.98 -
4.69 = T.P.
4.72 ✓
9.41 π
2.33 -
7.08 ch BP. El Carmel + Sea Wall
7.09 = B.M. ✓
2.33 -
9.42 = π Corrected.
2.33 -
7.09 = T.P. B.M.
2.84 +
9.93 π
4.76 -
5.17 T.P.
4.80 +
9.97 π
4.89 -
5.08 T.P.
5.06 +
10.14 π

	St. Manhattan Ct = N.L					E.C.		St. El Carmel = N.L	
W	4.83	4.80	4.74	4.67	4.61	4.54	4.45	4.36	4.36
	4.84	4.87	4.93	5.00	5.06	5.13	4.97	5.06	5.06
			3.93	4.21	4.06	4.90			
			1.00	1.00	1.00	+.023		

	Cross 3 Back	Cross 2 Back				E.C.			
E	4.73	4.70	4.64	4.57	4.51	4.44	4.35	4.26	4.26
	4.74	4.97	5.03	5.10	5.16	4.98	5.07	5.16	5.16
	4.33	4.70	5.03	5.16	5.31			5.34	5.34
	+.064	+.13	+.007	+.00	-.033			-.018	-.018

			St. Monterey = N.L			St. Alley = N.L		St. Nahant = St.
W	4.47	4.58	4.69	4.79	4.83	5.03	5.23	5.23	5.13	5.03
	4.95	4.84	4.73	4.63	5.10		4.90	4.70	4.74	4.84	4.94
				3.86	4.10		4.83	4.16	2.51	
				+.077	+1.00		.007	+.034	+.023	

				St. Alley = N.L		St. Nahant = St.
E	4.37	4.48	4.59	4.69	4.73	4.93	5.13	5.13	5.03	4.93
	5.05	4.94	4.83	4.73	5.20	5.00	4.80	4.80	4.94	5.04
			5.03	4.26	4.32	2.50		5.16	
			-.014	+.026	+.047	+.088	+.050		-.036

	Nahant = N.L		St. Alley	= N.L. Alley
W	5.00	4.90	4.80	4.80
	4.97	5.07	5.34	5.34
			4.83	4.91
			+.051	+.043

			St. Alley	= N.L. Alley
E	4.90	4.80	4.70	4.70
	5.07	5.17	5.27	5.44
	4.79	4.80	5.23	5.58
	+.028	+.037	+.004	-.014

~ STRANDWAY ~
Paving Grades.
Cont. from P-63

Stations				W.L. Grades	EL Grades
1+36				4.90	4.80
1+76 = SL. Nantasket ct				5.00	4.90
0+00 = NL. " "				5.03	4.93
+40				5.13	5.03
+77				5.19	5.04
80 = SL. Alley				5.23	5.13
+88				5.25	5.15
0+96 = NL. Alley				5.27	5.17
1+32.36				5.37	5.27
1+76 = SL. San Juan Pl.				5.47	5.37
0+00 = NL. " " "				5.53	5.43
+40				5.63	5.53
+79.95 = SL. Alley				5.73	5.63
+95.95 = NL. Alley				5.73	5.63
1+23.35				5.54	5.44
+50.75 = BC.Lt	Def △			5.34	5.24
1+77.35 = SL. Newport	Niantic 0°06.36'			5.15	5.05
+87.35 = NL. "	0°08.75'			5.10	5.00
2+27.94	0°18.46'			5.00	4.90
+68.53 = SL. Alley	0°28.17'			4.90	4.80
2+84.53 = NL. "	0°32'			4.90	4.80
3+25.02	0°41.67'			5.07	4.97
+65.51 = St. Ormond ct.	0°51.55'			5.25	5.15
3+75.51 = NL. "	0°53.79'			5.25	5.15
4+15.90 =	1°03.42'			5.12	5.02
4+56.39 SL. Alley	1°13.10'			5.00	4.90
+72.39 = NL. "	1°16.92'			5.00	4.90
	Cont. P-65				

~Strandway~
PAVING GRADES
Cont. from P. 64

Station	Def Δ	W.L. Grade	E.L. Grade
5+12.9	1°26.61'	5.15	5.05
+53.41 = SL.Ostend ct 1°36.30'		5.30	5.20
5+63.41 = NL " 1°38.69'		5.35	5.25
6+03.9	1°48.37'	5.75	5.65
+44.39 = SL.Alley 1°53.05'		6.16	6.06
6+60.39 = NL " 2°01.81'		6.32	6.22
7+00.32 = EC. 2°11.5'		6.72	6.62
+43.41 = SL.Santa Clara Pl		7.15	7.05
0+00 = NL.Santa Clara		7.30	7.20
+40		7.17	7.07
+80 = SL.Alley		7.05	6.95
+96 = NL "		7.05	6.95
1+46 = SL.Portsmouth ct.		7.39	7.34
+56 = NL " "		7.46	7.41
2+06 = SL.Alley		7.80	7.30
+22 = NL "		7.80	7.80
+72 = SL.Pomo ct.		7.42	7.37
+82 = NL " "		7.35	7.29
3+32 = SL.Alley		6.97	6.87
+48 = NL "		6.97	6.87
+98 = SL.Queenstown		7.12	7.02
4+08 = NL "		7.15	7.05
4+31.72 = BC (= to Book)(5+20.16 R)		7.27	7.17

10.8½-T from P-64
8.27-
7.54 = TO
4.48+
12.02 T
4.82
7.20

		SL.Ostend ct NL				SL.Alley NL		EC.	SL.Santa Clara
W	5.15	5.30	5.35	5.75	6.16	6.32	6.72	7.15	
	5.66	5.51	5.46	5.06	4.65	4.49	4.09	3.66	
	4.66			5.16		5.16	4.20	3.99	
	+1.00			-0.10			+0.29	+1.00	

7.16 = BM Santa Clara & Sea Wall
0.04 = Error

	SL		NL		SL		EC	SL.Santa Clara
E	5.05	5.20	5.25	5.65	6.06	6.22	6.62	7.05
	5.76	5.61	5.56	5.16	4.75	4.59	4.19	3.76
						5.07	5.15	3.97
					-0.32	-0.56		-0.21

7.16 = Above
5.06+
12.22 T
4.69-
7.53 TP
5.21+
12.74 T
2.29-
10.45 TP
2.07-
12.62 T
2.07-
10.45 TP
2.06-
12.51 T

	NL.Santa Clara						SL.Alley	NL.Alley
W	7.30	7.17	7.05	7.05	7.39	7.46	7.80	7.80	7.42
	4.92	5.05	5.17	5.17	4.83	4.76	4.34	4.94	5.32
				4.17	3.73	3.76	3.94	5.09	
	+1.00	+1.19	+1.00	+1.00	-0.15				

	NL				SL.Portsmouth	SL	NL.Alley
E	7.20	7.07	6.95	6.95	7.34	7.41	7.80	7.80	7.37
	5.02	5.15	5.27	5.27	4.88	4.81	4.94	4.94	3.37
	4.53	4.94	5.17			3.46			
	+0.49	+2.21	+0.10			+1.35			

W	7.35	6.97	6.97	7.12	7.15	7.27
	5.39	5.77	5.77	5.62	5.59	5.24
	4.39	4.77	5.20	4.88		4.62
	+1.00	+1.00	+0.77	+0.74		+0.62

E	7.29	6.87	6.87	7.02	7.05	7.17
	5.45	5.87	5.87	5.50	5.47	3.94
		5.65		4.15		
		+0.22		+1.35		

Strandway Paving
Cont. from P. 65

Station		W.L. Grade	E.L. Grade
4 + 58.08 = S.L. Alley	0° 07.64	7.40	7.30
+ 74.08 = N.L. Alley	0° 12.28	7.40	7.30
5 + 24.08 = S.L. Redondo Ct.		7.25	7.15
+ 34.08 = N.L. "		7.22	7.12
+ 84.08 = S.L. Alley		7.07	6.97
6 + 00.08 = N.L. Alley		7.02	6.92
+ 34.93 = E.C.		7.12	7.02
6 + 50.13 = S.L. Rockaway Ct.		7.17	7.07
6 + 60.13 = N.L. "		7.20	7.10
7 + 10.13 = S.L. Alley		7.05	6.95
+ 26.13 = N.L. "		6.95	6.85
7 + 76.13 = S.L. San Jose		6.50	6.40
S.L. San Jose = End of Job.			

12.51 = I from P. 65
5.95 −
6.56
5.12 +
14.68 ✗
4.51 ✗
7.07 = B.P. ✓

San Jose & Sea Wall

W 7.40	7.40	7.25	7.22	7.07	7.02	7.12	7.17
5.11	5.11	5.26	5.29	5.44	5.49	5.39	5.34
5.37	4.96		5.08	4.44	3.49	4.79	4.84
+0.24	+0.15		+0.21	+1.00	+2.00	+0.60	+0.50

E 7.30	7.20	7.15	7.12	6.97	6.92	7.02	7.07
5.21	5.21	5.36	5.39	5.54	5.59	5.49	5.44
5.50	5.36		5.39		5.36		
−0.27	−0.15		+2.00		+0.23		

W 7.20	7.05	6.95	6.50
5.31	5.46	5.56	5.98
4.81	4.46	4.56	
+0.50	+1.00	+1.00	

E 7.10	6.95	6.85	6.40
5.41	5.56	5.66	6.11
4.41	5.73	5.69	5.98
+1.00	−0.17	+0.03	+0.13

Walker.
Bliss
Isbell
2-24-41

Construction Grades For Gas Main
At Treatment Plant
Una & Kingwood Streets.

Stations.	13.94	Elev. Stake	Elev. Bottom Ditch	
0+00		5.22	8.72	5.7	+3.0
+50		6.04	7.9	5.53	+2.4
1+00		6.42	7.5	5.34	+2.2
+50		6.74	7.2	5.17	+2.0
1+99.7=Δ90°Rt		6.56	7.4	5.0	+2.4
2+50		6.86	7.1	5.3	+1.8
3+00		7.76	6.2	5.6	+.6
+612		5.8	8.1	6.0	+.21

Indexed B

B.M. 13' Man Kingwood & Una Sts. = 8.22
5.72+
13.94+
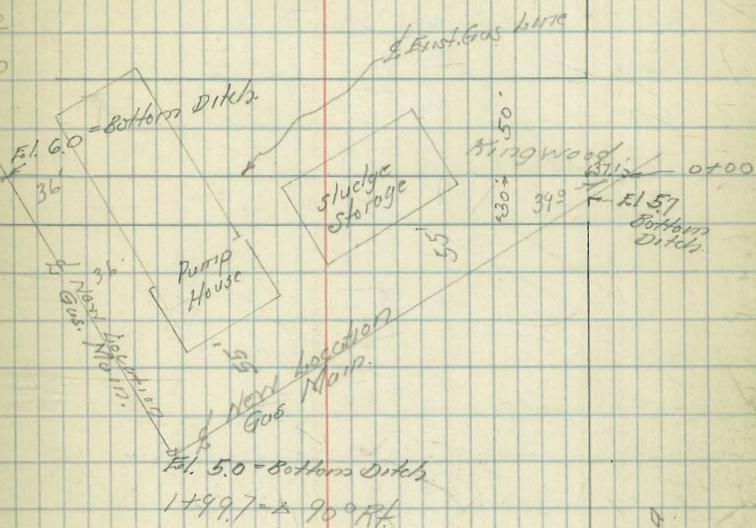
El. 6.0 = Bottom Ditch
Pump House
Sludge Storage
Kingwood
El. 5.7 Bottom Ditch
New Location Gas Main.
Exist. Gas Line
Una

El. 5.0 = Bottom Ditch
1+99.7 = Δ 90° Rt.

Walker
Easterly
D. Furrow

Re otake 36" Sewer
From Detritor Bld. to Box "A" P-52
6-27-41

Station	K	Fods.	F.l. Stakes	F.l. Flow kine	Cuts	offsets		
0+00 P-52)	14.85						13'Mon	
=0+00 this Line		5.20		-12.00			Una & Kingwood =	8.29
+03 = East inside Box "8" P-52			9.65	-12.00	+21.65	15' North	chk Top	6.61
+53		4.74	10.11	-11.09	+21.20	" "	Stake Box "A"	14.85
+03		6.00	8.85	-10.18	+19.03	" "	P-52	5.74
+23.45 P-52 = "Box A"				-9.80				9.11
								9.10
								001 Error

Walker
S.- Wells-
D - Follow
9-8-41

GRADES for Box "B"
Sketch P-52
at Detritor Bld.

Station		Rod		Elev. Top Box	Cuts
BM. Mon 522					
Unit Kingwood	13.46		8.24		
		4.16	9.00	+9.00	0.00

~ STRANDWAY PAVING ~
Grades for Water New Meter Boxes.
From Ventura Place To

Indexed

West Line
Stations

0+00 = N.L. Ventura Pl.

  +88 = Ⓦ

1+12 = Ⓦ

  +42 = Ⓦ

1+76 = S.L. Island Ct.

0+00 = N.L.   "   "

  +34 = Ⓦ

1+42 = Ⓦ

  +76 = S.L. Isthmus Ct.

0+00 = N.L.   "   "

  +34 = Ⓦ

  +78 = Ⓦ

1+12 = Ⓦ

  +76 = S.L. Jamaica Ct.

0+00 = N.L.   "   "

1+42 = Ⓦ

  +76 = S.L. Santa Barbara Pl.

0+00 = N.L.   "   "   "

  +34 = Ⓦ

  +78 = Ⓦ

1+12 = Ⓦ

  +42 = Ⓦ

1+76 = S.L. Jersey Ct.

Strandway

(New) → Water Meter Box Grades

West Line   Cont. from P- 70

Station

0+00 = N.L. Jersey Ct.

+73 = Ⓦ

1+76 = S.L. Kennebeck Ct.

0+00 = N   "   "

+34   Ⓦ

+78   Ⓦ

1+12   Ⓦ

+76 = S.L. Kingston Ct.

0+00 = N.L.   "   "

1+12 = Ⓦ

1+33.5 = B.C.

0+00 = N.L. Lido Ct.

+34   = Ⓦ

+78   = Ⓦ

1+12   = Ⓦ

+42   = Ⓦ

1+76 0Y S.L. Liverpool Ct.

0+00 = N.L.   "   "

1+12

+34.54 = B.C.

+85.45 = S. Manhattan Ct.

34' South of S.L. Carmel P = Ⓦ

Strandway

(New) → Water Meter Box Grades.
Cont. from P. 71

West Line
Station

0+00 = N.L. Coronel

  +34 = Ⓦ

  +78 = Ⓦ

1+12   Ⓦ

  +42   Ⓦ

1+76   = S.L. Monterey Pl.

0+00 = N.L.   "

1+42 = Ⓦ

  +76 = S.L. Nahant.

0+00 = N.L.   "

  +34 = Ⓦ

1+76 = S.L. Nantasket.

0+00 = N.L.   "

  +73 = Ⓦ

1+76 = S.L. San Juan Pl.

0+00 = N.L.   "   "

1+42 = Ⓦ

1+50.75 = B.C.

0+00 = N.L. Niantic ct.

1+13.4² = Ⓦ

1+78.9 = S.L. Ormond ct.

0+00 = N.L.   "   "

1+13.42 = Ⓦ

1+78.9 = S.L. Ostend ct.

Strandway
Water Meter Box Grades
Cont. from 72

W. Line
Station
0 + 00 = N.L. Ostend Ct.
+73.95 = Ⓥ
1 + 36.91 = B.C.
0 + 00 = N.L. Santa Clara Pl.
+30 = Ⓥ

Strandway Grades.
Water Service Meter Boxes.
Renewals Not on Plans.

Indexed ~~to~~

Station				Elev. Paving	
0+00 = N.L. Ventura Pl.				5.10	
+39 = W	10.54	5.16	5.38	5.35	+0.03
1+40 = W		4.88	5.66	6.01	-0.35
1+76 = SL Island ct.				6.15	
0+00 = N.L. Island ct.				6.20	
+69.5 = W		4.17	6.37	6.44	-0.07
+95 = W		3.55	6.99	6.53	+0.46
1+76 = S.L. 1sthmus ct.				6.80	
0+00 = N.L. " "				6.80	
0+48.5 = W		4.19	6.35	6.69	-0.34
1+50 = W		4.17	6.37	6.48	-0.11
+76 = S.L. Jamaica ct.				6.42	
0+00 = N.L. " "				6.40	
+85 = W	10.90	4.43	6.47	6.22	+0.25
1+76 = S.L. Santa Barbara				6.02	
0+00 = N.L. " "					
1+22 = W on E	10.81	4.78	6.03	5.83	+0.20
+35.5 = W		4.89	5.92	5.87	+0.05
1+76 = S.L. Jersey ct.				6.00	
0+00 = N.L. " "				6.00	
+50.5 = W		5.01	5.80	5.85	-0.05
1+20.5 = W		4.80	6.01	5.64	+0.37
+46.5 = W		4.99	5.82	5.56	+0.26
1+76 = S.L. Kennebeck ct.				5.48	
0+00 = N.L. " "					
0+96 = Bike in yard.				5.25	
1+60		5.22	5.59	5.66	-0.07

B.M. Elev. Sower lot #7
Page 58 = → 5.68
4.86 +
10.54 = π
4.17
6.37 = T.P.
4.53 +
109.0 π
BM Sea Wall
ch. BP Santa Barbara   3.87 -
7.03 √
3.78 +
10.81 π

Strandway For Grades
Water Meter Service Boxes
Cont from P-74

Station				El. Pav.	
0+00 = N.L. Kingston ct.				5.76	
0+37 on E = W	9.49	4.25	5.24	5.56	- 0.32
+52 = W		3.83	5.66	5.62	+ 0.04
+56.5 = W		4.16	5.33	5.61	- 0.28
1+26.5 = W		4.35	5.14	5.43	- 0.29
1+75.9 = S.L. San Louis Obispo				5.30	
0+00 = N.L. " "				5.24	
+28.4 = W		4.22	5.27	5.17	+ 0.12
+54.4 = W		4.35	5.14	5.11	+ 0.03
+66.6 = E.C.				5.08	
+69 = W		4.27	5.22	5.08	+ 0.14
1+10 = W		4.33	5.16	4.99	+ 0.17
+69 = W		4.37	5.12	4.85	+ 0.27
1+76 = S.L. Lido ct.				4.83	
No Services					
0+00 = N.L. Liverpool ct				4.83	
+24.5 = W	9.49 / 10.07	4.46	5.03 / 5.61	4.77	+026 / +0.84
+55.5 = W		5.04	5.03	4.69	+ 0.34
1+28 = W	9.50	4.61	4.89	4.95	- 0.06
+29.66 = B.C.H.					
1+61.6 = W		4.54	4.96	4.87	+ 0.09
1+76 = S.L. Manhattan ct.				4.83	
0+00 = N.L. " "				4.80	
+31.1 = W		4.77	4.73	4.72	+ 0.01

Right side notes:

P. 74 π = 10.81
5.22
5.59 = T.P.
3.90 +
9.49 = π
4.46
5.03 = T.P.
5.04
10.07 = π
4.61
5.46
5.45 = Sub.
0.01 = Error

ch. Lat #16 P-58

Blk 134
T.P. B.C. Elmb.

10.07
5.37 -
4.70
4.80 +
9.50 = π

Strandway Paving Grades
for Water Meter Boxes - Renewals.
Cont. from P-75

Station	9.50 π	Fl. Stakes	El. Paving.	Cuts	Checks.
0+93.6 = Ⓦ on E out	4.76	4.74	4.59	+0.15	
1+20 = Ⓦ	4.84	4.66	4.50	+0.16	
+53 = Ⓦ	4.69	4.81	4.42	+0.39	
1+76 = St. El Carmel Pl.			4.36		
0+00 = Nh " " "			4.36		
1+16 = Ⓦ	4.77	4.73	4.54	+0.19	
+76 = St. Monterey Pl			4.79		
0+00 = Nh " "			4.83		
+52 = Ⓦ 9.70 π	4.60	5.10	5.09	+0.01	
+60 = Ⓦ on E	4.61	5.09	5.03	+0.06	
1+12 = Ⓦ	4.55	5.15	5.20	-0.05	
+76 = St. Nahant			5.03		
0+00 = Nh. Nahant			5.00		
+76 = Ⓦ on E	4.83	4.87	4.71	+0.16	
1+09 = Ⓦ	4.43	5.23	4.83	+0.40	
1+69 = Ⓦ	4.40	5.30	4.98	+0.32	
1+76 = St. Nantasket			5.00		
0+00 = Nh. "			5.03		
+25.5 = Ⓦ on E out	4.47	5.23	4.99	+0.24	
0+33.5 = Ⓦ	4.58	5.12	5.11	+0.01	
1+12 = Ⓦ	4.02	5.68	5.31	+0.37	
1+43.5 = Ⓦ	4.10	5.60	5.39	+0.21	
1+76 D = St. San Juan Pl			5.47		
0+00 = Nh. San Juan Pl.			5.53		

chk BP Seawall & San Juan
Book 1572 - 50

9.50 π P-75
4.68 –
4.82 = T.P.
4.88
9.70 π
3.51 –
6.19 = T.P.
1.25 +
10.44
3.34 –
7.10
7.07   0.03 Error
6.19 = Above T.P.
–0.03 Correction
6.16 = T.P.
4.41 +
10.57 = π

Cont. from
p-76

Strandroy Paving Grades
for Water Meter Box Renewals

Stations	π 10.57	El. Stake	El. Paving	Cuts				π P-76 = 10.57 π
0+00 = NL San Juan								5.05
+18 = Ⓦ		4.91	5.66	5.57	+0.09			TP 5.52
+55.5 = Ⓦ		4.41	6.16	5.66	+0.50			6.55
1+21.5 = Ⓦ		4.88	5.69	5.55	+0.14			π 12.07
+31.25 = Ⓦ East		5.29	5.28	5.38	−0.10			4.43
+48 = W		5.36	5.21	5.36	−0.15			TP 7.64
0+00 = EC								4.47 +
+31.6 = Cl. Monte				5.15				12.11
+36.68 = NL.				5.10				3.93 −
0+70 = Ⓦ		5.39	5.18	5.02	+0.16			8.18 = TP
+93.5 = Ⓦ		5.25	5.32	4.95	+0.37			3.41 +
2+05.5 = W		5.43	5.14	5.21	−0.07			11.67
+58.5 = Ⓦ		5.41	5.16	5.15	+0.01			4.55
+81 = Ⓦ		5.45	5.12	5.08	+0.04	Chf. BM. ✛ San Jose	Sea Wall	7.07
3+91 = Ⓦ		5.05	5.52	5.25	+0.27			
4+16.5 = Ⓦ	12.07	6.47	5.60	5.39	+0.21			
5+21.5 = Ⓦ		5.52	6.55	6.44	+0.11			
+49.67 = EC								
+91.7 = W		4.90	7.17	7.14	+0.03			
6+36.7 = Ⓦ		4.95	7.12	7.24	−0.12			
+66.7 = Ⓦ East		4.71	7.36	7.05	+0.31			
+96.7 = Ⓦ		4.63	7.44	7.05	+0.39			
7+13.7 = Ⓦ		4.49	7.58	7.06	+0.52			
9+50.7 = Ⓦ	12.11	4.27	7.84	6.97	+0.87			
11+34 = Ⓦ		4.55	7.56	7.27	+0.29			

Walker SEWER Const Zelpher St
Bliss   from W.L. 60th
Isbell: to 75' West W.L. 60th
3-7-41

Drawing #3967-L

Indexed

7 60th
B.M. Flow M.H. x Zelpher = 430.50
Flow on Zelpher   430.64
                    + 14.86
                    M 445.50

Station			El. Stake	El. Flow	Cut	Offsets.
W.L. 60th = and const Sub Sewer						
= 0+00	448.00	445.50	6.28 439.22	431.00	1 8.22	4' Rt.
+37.5			6.83 438.67	431.56	+7.11	" "
+75			8.34 437.16	432.12	+5.04	" "

HIGHLINE GRADES FOR
36" Line Bet. Boxes A & B. at Disposal Plant

Sta	+	x	−	Elev. Stk.	F.L. Elev.	Cut.
B.M.	6.34	14.58				
0+00						
0+03					−12.00	
0+11			4.44	+10.14	−11.86	22.00
0+37.7			3.95	+10.63	−11.37	22.00
0+72			3.32	+11.26	−10.74	22.00
1+06			3.71	+10.87	−10.13	21.00
1+17			3.50	+11.08	−9.92	21.00

Indexed

8.24 13" Mon Una + Fisher sts.

IMPROVED TABLES

AND

INFORMATION

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope 1½ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level estimate the difference in elevation between the side stake and slope stake, lower target by this amount if cut, elevate if fill. Add this amount to cut or fill and find distance in table. Set up rod at this point, and line of sight should cut target. If it does not make the slight adjustment necessary.

TABLE No. 9.

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

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

The distance from a point on the tangent to the curve is very nearly the square of the tangent length divided by twice the radius.
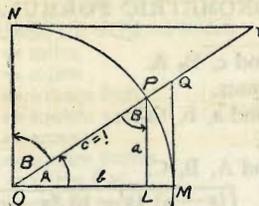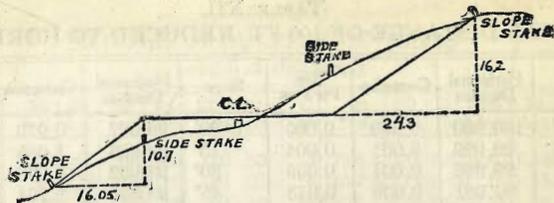
TABLE II
TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \qquad \angle B = \angle PON = \angle OPL$$
$$R = OB = c = 1$$

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

Slope 1½ to 1. Roadway of Any Width.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	0 00	0 15	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	0
1	1.50	1 65	1 80	1.95	2.10	2.25	2.40	2.55	2.70	2.85	1
2	3.00	3.15	3.30	3 45	3.60	3 75	3.90	4.05	4.20	4 35	2
3	4.50	4 65	4.80	4.95	5 10	5 25	5 40	5.55	5.70	5.85	3
4	6.00	6 15	6.30	6.45	6.60	6.75	6.90	7.05	7.20	7.35	4
5	7 50	7.65	7.80	7.95	8.10	8.25	8.40	8.55	8.70	8.85	5
6	9 00	9 15	9.30	9.45	9.60	9.75	9.90	10.05	10.20	10.35	6
7	10.50	10 65	10.80	10.95	11.10	11.25	11.40	11.55	11 70	11.85	7
8	12.00	12 15	12.30	12.45	12.60	12.75	12.90	13.05	13.20	13.35	8
9	13 50	13 65	13 80	13 95	14.10	14.25	14.40	14 55	14.70	14.85	9
10	15.00	15 15	15 30	15 45	15.60	15.75	15.90	16.05	16.20	16 35	10
11	16 50	16 65	16 80	16.95	17 10	17.25	17.40	17.55	17.70	17.85	11
12	18 00	18 15	18.30	18 45	18.60	18 75	18.90	19.05	19.20	19 35	12
13	19 50	19 65	19.80	19.95	20.10	20.25	20 40	20.55	20.70	20.85	13
14	21.00	21 15	21.30	21.45	21 60	21.75	21.90	22 05	22 20	22 35	14
15	22 50	22 65	22 80	22 95	23.10	23.25	23.40	23.55	23.70	23.85	15
16	24.00	24 15	24 30	24 45	24.60	24.75	24 90	25 05	25.20	25.35	16
17	25.50	25 65	25.80	25 95	26.10	26 25	26 40	26.55	26.70	26.85	17
18	27.00	27 15	27.30	27 45	27.60	27.75	27.90	28.05	28 20	28.35	18
19	28 50	28 65	28 80	28.95	29.10	29.25	29 40	29.55	29.70	29.85	19
20	30 00	30 15	30.30	30.45	30.60	30.75	30.90	31.05	31.20	31.35	20
21	31 50	31 65	31.80	31.95	32 10	32 25	32.40	32.55	32 70	32 85	21
22	33 00	33 15	33 30	33 45	33.60	33 75	33.90	34.05	34.20	34.35	22
23	34 50	34 65	34.80	34.95	35.10	35 25	35 40	35.55	35.70	35 85	23
24	36.00	36 15	36.30	36 45	36.60	36.75	36.90	37.05	37 20	37.35	24
25	37.50	37.65	37 80	37.95	38.10	38.25	38.40	38.55	38.70	38.85	25
26	39 00	39 15	39.30	39 45	39 60	39.75	39.90	40.05	40.20	40.35	26
27	40 50	40 65	40 80	40.95	41.10	41.25	41 40	41.55	41.70	41.85	27
28	42.00	42 15	42.30	42.45	42.60	42 75	42.90	43.05	43.20	43.35	28
29	43.50	43 65	43.80	43 95	44.10	44 25	44 40	44.55	44.70	44 85	29
30	45 00	45 15	45.30	45 45	45.60	45.75	45 90	46.05	46 20	46.35	30
31	46.50	46.65	46.80	46 95	47.10	47.25	47.40	47.55	47.70	47.85	31
32	48.00	48.15	48.30	48 45	48.60	48 75	48.90	49.05	49 20	49.35	32
33	49.50	49 65	49.80	49.95	50.10	50.25	50.40	50.55	50 70	50.85	33
34	51 00	51.15	51.30	51.45	51.60	51.75	51 90	52.05	52.20	52.35	34
35	52 50	52.65	52.80	52.95	53.10	53.25	53.40	53.55	53.70	53.85	35
36	54 00	54 15	54.30	54 45	54.60	54.75	54.90	55.05	55.20	55.35	36
37	55 50	55 65	55.80	55 95	56.10	56.25	56.40	56.55	56.70	56.85	37
38	57 00	57.15	57.30	57 45	57.60	57 75	57.90	58.05	58.20	58 35	38
39	58 50	58.65	58 80	58 95	59.10	59 25	59.40	59 55	59.70	59.85	39
40	60 00	60 15	60 30	60 45	60 60	60.75	60 90	61.05	61 20	61.35	40
41	61.50	61 65	61 80	61 95	62 10	62 25	62.40	62 55	62 70	62.85	41
42	63 00	63.15	63 30	63 45	63 60	63 75	63 90	64 05	64 20	64.35	42
43	64.50	64 65	64 80	64.95	65.10	65 25	65 40	65.55	65.70	65.85	43
44	66 00	66 15	66 30	66.45	66.60	66 75	66.90	67.05	67.20	67.35	44
45	67 50	67 65	67 80	67 95	68.10	68.25	68 40	68.55	68.70	68.85	45
46	69 00	69 15	69 30	69.45	69.60	69 75	69.90	70.05	70.20	70.35	46
47	70 50	70 65	70 80	70 95	71.10	71.25	71 40	71.55	71.70	71.85	47
48	72.00	72 15	72.30	72.45	72.60	72.75	72.90	73 05	73.20	73 35	48
49	73 50	73 65	73.80	73.95	74.10	74.25	74.40	74.55	74.70	74.85	49
50	75.00	75.15	75.30	75.45	75.60	75.75	75.90	76.05	76.20	76.35	50

Computed by L. Leland Locke.

28+5+45
75 189.92 = 2°10'14

31+70
99
32+11

007
001
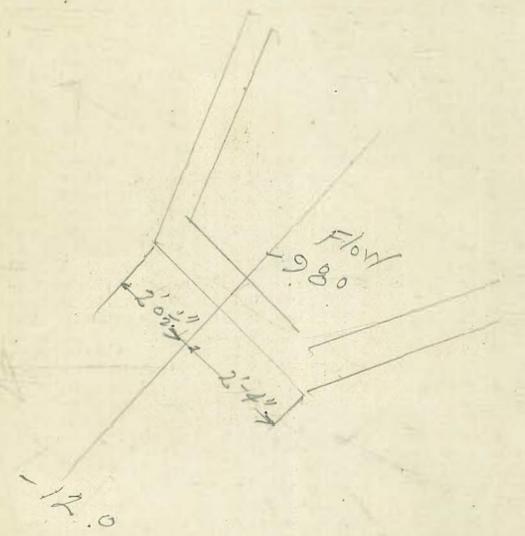
104+02.65
102+01.97
20068
29
171.68

88°25'30"

+17.33
-9.33
-800

21.7
86.4
701 = south
17.77 = North
17.13 = North

17+50.5
4.8
17445.7
171.68
19+17.38

345
690
630
1320

430
21.5

41.03
20.5
18.25

7.12 south

52°20'30
11589

26896   272.   197.75

8.26   1159
6.60   674
14.86.   16.33

                            960
                            1285
            148   83.15
                            50.2
                            133 35

        1.72   3 X 0
18   69
4   4.04
72

            15

50
1.2 | 60