



# EUGENE DIETZGEN CO.

DRAWING MATERIALS, MATHEMATICAL and  
SURVEYING INSTRUMENTS

Chicago New York San Francisco New Orleans Pittsburgh Toronto

Distances from Center of Roadway for Cross-Sectioning  
Roadway 16 feet wide. Side Slopes 1 on 1.  
For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36.0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be  $30.6 + (20 - 16) \div 2$  or 2 ft. added to 30.6 = 32.6. For slopes of 1 on 1½ see inside of back cover.

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# G-212

## CITY ENGINEER'S OFFICE

SAN DIEGO

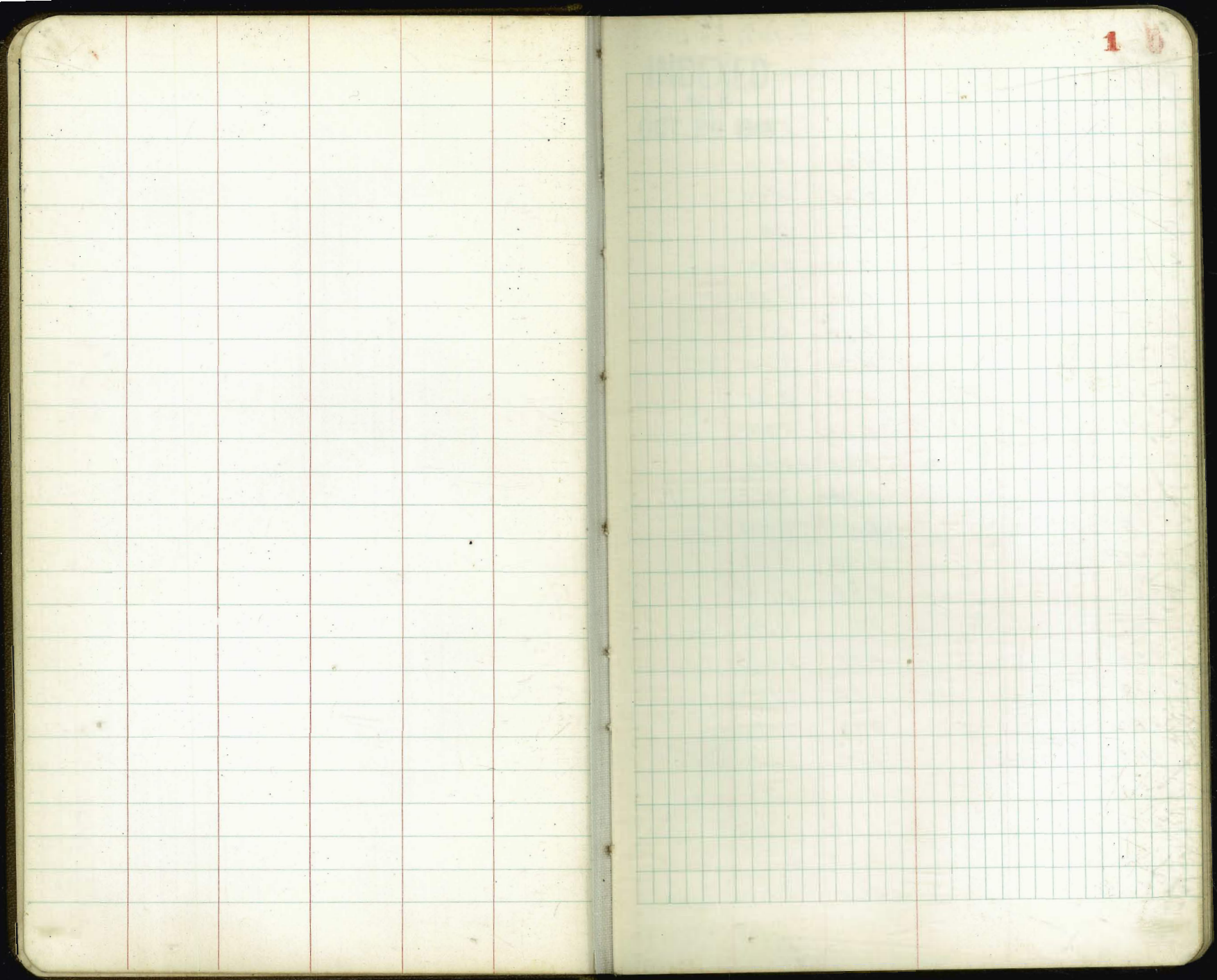
32477 = 2076614  
332.85 1660  
67

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11-19-43

## ENCANTO TRUNK SEWER CONST.

Walker  
Haggard  
Harkinfrom Dolbergia & Siva  
To 69th & Imp. Ave.

B.M. 13' NAD			FB. 16.25
Dolbergia & Siva 2.62	8:38	5.76	Page 41
chk over Rm. MH	0.26	8.12	8.14 "
0+00	2.80	5.58	
+25	0.56	7.82	
+50	7.25	0.43	
+75	6.56	1.82	
1+00	2.10	6.28	
+25	4.24	3.44	
+50	4.73	3.65	
+75	5.05	3.33	
2+00	4.53	3.85	
+25	4.78	3.60	
+50	4.29	4.09	
+75	4.58	3.80	
3+00	4.88	3.50	
+25	4.95	3.43	
+50	5.17	3.21	
+75	5.24	3.14	
4+00	4.93	3.45	
11899-ALT 1°31'30"	1.82	3.56	02
+50	4.67	3.71	
+75	4.49	3.95	
5+00	4.06	4.32	
+25	4.16	4.22	

Cont.

INDEXED

W.K.

OCT 29 1948

Void see P. 4

This group stakes were set 6' ft. of 2  
 Contractor decided on 10' offsets, so this  
 section re-staked. see P. 4.

## ENCANTO TRUNK SEWER

8.38

5+50		4.36	4.02
775		3.99	4.39
6+00		4.18	4.20
725		4.07	4.31
750		4.19	4.19
775		2.98	5.40
7+00		2.00	6.38
TP.	6.29	13.37	2.00
			6.38
7+25		5.84	7.53
750		4.89	8.48
775		3.75	9.62
7+98.99	L.M.H.	2.86	10.51
"	Lt 90°	2.95	10.42
"		3.12	10.25
8+25		3.96	9.41
750		4.63	8.74
775		5.33	8.04
9+00		5.86	7.51
725		6.30	7.07
750		6.62	6.25
775		7.25	
TP		7.87	5.50

6' Lt on W

6' Lt " N

Void

See P-4

Walker  
Haguel  
Hards  
11-22-43

ENCHANTO TRUNK SEWER  
CONSTRUCTION GRADES

From Siva <sup>And Dolbergia</sup>  
To 69th & Imperial AVE  
Plans 998-1008-D

Note:

Stations	8.18	Elev. Stakes	Elev. Flow line	Cuts	Offsets
± 0+00		2.50	5.68	-5.45	+ 11.13
+25		0.74	7.44	-5.39	+ 12.83
+50		8.10	0.08	-5.32	+ 5.40
+75		6.77	1.41	-5.26	+ 6.67
1+00		1.83	6.35	-5.20	+ 11.55
+25		4.67	3.51	-5.14	+ 8.65
+50		4.84	3.34	-5.08	+ 8.42
+75		4.70	3.48	-5.02	+ 8.50
2+00		4.40	3.78	-4.95	+ 8.73
+25		4.48	3.70	-4.89	+ 8.59
+50		4.17	4.01	-4.83	+ 8.84
+75		4.47	3.71	-4.76	+ 8.47
3+00		4.82	3.36	-4.70	+ 8.06
+25		4.82	3.29	-4.64	+ 7.93
+50		5.05	3.13	-4.58	+ 7.71
+75		5.16	3.02	-4.51	+ 7.53
4+00		4.87	3.31	-4.45	+ 7.76
+25		4.63	3.55	-4.40	+ 7.95
+50		4.51	3.67	-4.33	+ 8.00
+75		4.14	4.04	-4.26	+ 8.30

Cont. P. 5

B.M. on S Hub FB 1660-5 } → 6.66  
" 1625-42 } → 7.37  
→ 14.03  
→ 9.79  
→ 4.24 T.P.  
→ 3.94  
→ 8.18 X

8.18 X  
2.27  
6.71 = 15' from Siva  
6.76 = FB 1625-42  
0.05



Bisector 10' 10' or  
4+1899

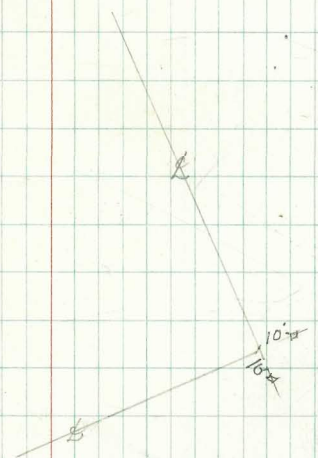
ENLANTO TRUNK SEWER

Station	Elev. Stakes	Elev. Flow Line
5+00	4.01	4.17
+25	3.77	4.41
750	4.30	3.88
775	3.85	4.33
6+00	3.96	4.22
+25	4.22	3.96
+50	4.05	4.13
775	2.94	5.24
7+00	6.86	6.54
+25	6.02	7.38
+50	4.73	8.67
775	3.78	3.62
7+98.99	2.79	10.61
8+25	4.00	3.40
750	4.72	8.68
775	5.41	7.99
9+00	6.01	7.33
+25	6.23	7.17
9+50	6.54	6.86
775	7.33	6.07
10+00	7.33	6.07
+25	12.65	0.75
750	7.88	5.52
775	7.51	5.39
11+00	7.13	6.27

Cuts	Offsets
8.37	
8.55	
7.96	
8.34	
8.17	
7.85	
7.96	
9.00	
10.24	
11.02	
12.25	
13.13	
14.06	10' W
13.82	10' N
12.79	
12.01	
11.25	
10.59	
10.31	
9.94	
9.08	
9.02	
3.64	
8.35	
8.65	
8.97	

818  
 234  
 524 TP  
 816.7  
 13.40

13.40 x  
 6.75  
 6.65 chh. starting BM  
 6.66  
 0.01



0.25

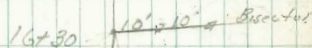
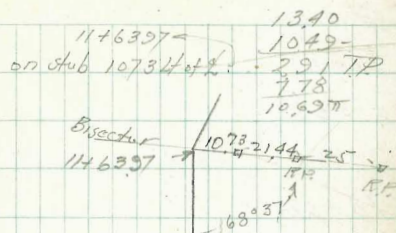
13.40

4.84 302  
 1.10 W 2

0.25

ENCHANTO TRUNK SEWER

Stations	1340	Elev. Stakes	Elev. Flow Line	Cuts	Offsets
11+25		7.39	6.01	-2.64	8.65
750		11.60	1.80	-2.58	4.38
11+63.97		10.49	2.91	-2.54	5.45
775	1069	7.94	2.75	-2.50	5.25
12+00		8.15	2.54	-2.42	4.96
725		8.18	2.51	-2.34	4.85
750		8.19	2.50	-2.26	4.76
775		8.45	2.24	-2.18	4.42
13+00		7.62	3.07	-2.10	5.17
725		7.78	2.91	-2.02	4.93
750		7.57	3.12	-1.94	5.06
775		6.84	3.85	-1.86	5.71
14+00		5.97	4.72	-1.78	6.50
725		5.15	5.54	-1.70	7.24
750		4.90	5.79	-1.62	7.41
775		4.85	5.84	-1.54	7.38
15+00		4.98	5.71	-1.46	7.17
725		5.08	5.61	-1.38	6.99
750		5.18	5.51	-1.30	6.81
775		5.34	5.35	-1.22	6.57
16+00		5.21	5.48	-1.14	6.62
16+30		5.12	5.57	-1.05	6.62
16+50		4.95	5.74	-0.98	6.72
775		5.00	5.69	-0.90	6.59
17+00		4.70	5.99	-0.82	6.81





## ENCANTO TRUNK SEWER

Station	1069	Elev. Stakes	Elev. Flow Line	Cuts	Offsets	
17+25		4.73	5.96	-0.74	6.70	
+50		4.54	6.15	-0.66	6.81	
TP +75	5.71	11.59	4.81	5.88	-0.58	6.46
18+00		5.31	6.28	-0.50	6.78	
+25		5.15	6.44	-0.42	6.86	
+50		4.69	6.90	-0.34	7.24	
+75		4.70	6.89	-0.26	7.15	
19+00		5.25	6.34	-0.18	6.52	
+25		5.25	6.34	-0.10	6.44	
+50		4.99	6.60	-0.02	6.62	
+75		4.62	6.97	0.06	6.91	
20+00		4.62	6.97	0.14	6.83	
+25		4.58	7.01	0.22	6.79	
+50		4.68	6.91	0.30	6.61	
+75		4.45	7.14	0.38	6.76	
21+00		4.39	7.20	0.45	6.75	
+25		4.36	7.23	0.53	6.70	
+50		4.26	7.33	0.61	6.72	
+75		4.08	7.51	0.69	6.82	
22+00		3.78	7.81	0.77	7.04	
+25		3.79	7.80	0.85	6.95	
+50		3.78	7.81	0.93	6.88	
+75		3.62	7.97	1.01	6.96	
23+00		3.60	7.99	1.09	6.90	
TP +25	6.94	14.86	3.67	7.92	1.17	6.75

12-3-43

## ENCHANTO TRUNK SEWER

Station	<sup>x</sup> 14.86	Elev. Stakes	Elev. Flowline	Cuts	Offsets
23+50		7.04	7.82	1.25	6.57
+75		7.06	7.80	1.33	6.47
24+00		6.63	8.23	1.41	6.82
+25		6.97	7.89	1.49	6.40
+50		6.96	7.90	1.57	6.33
+75		6.86	8.00	1.65	6.35
25+00		6.80	8.06	1.73	6.33
+25		6.39	8.47	1.81	6.66
+50	POT. 3815 St	6.28	8.58	1.89	6.69
+75	30' MH #6	5.90	8.96	1.97	6.99
26+05		5.38	9.48	2.06	7.42
+25		4.54	10.32	2.13	8.19
+50		4.57	10.29	2.21	8.08
+75		3.96	10.90	2.29	8.61
27+00		3.60	11.26	2.37	8.89
+25		3.58	11.28	2.45	8.83
+50		3.23	11.63	2.53	9.10
+75		3.17	11.62	2.61	9.08
28+00		3.26	11.60	2.69	8.91
+25		3.19	11.67	2.77	8.90
+50		2.92	11.92	2.85	9.07
+75	POT.	2.77	12.09	2.93	9.16
29+00	30' MH #7	2.71	12.15	3.01	9.14
+25	T.P. 7.89	2.49	12.37	3.09	9.28
+50	20.26	2.73	12.53	3.17	9.36

8

T=14.86

4.73

10.13

CHK SEBP.

B to 3815

FB 1660-5

FB 1618-13

= 10.13

0.00

Stations	ENCHANTO TRUNK	SEWER	Flow	Flow	Cuts	Offsets
	20.26	Stakes	Flow	Flow		
29+75		737	12.89	3.25	9.64	20.26
30+00		6.55	13.71	3.33	10.38	5.77
+25		5.92	14.34	3.41	10.93	14.49 TP
+50		5.66	14.60	3.49	11.11	5.76
+75		5.63	14.63	3.57	11.06	20.25
31+00		5.60	14.66	3.65	11.01	3.27
+25		5.65	14.61	3.73	10.88	16.58
+50		5.79	14.47	3.81	10.66	16.987
+75		5.81	14.45	3.89	10.56	0.007 diff
32+00		5.68	14.58	3.97	10.61	
+10.25		5.64	14.62	4.00	10.62	
32+20.95 <sup>54 90.07</sup>		5.64	14.62	4.04	10.58	
+30.95		5.64	14.62	4.07	10.55	
32+50.98 <sup>57 90.07</sup> 20.08		5.39	14.69	4.13	10.56	
+75				4.21		
33+00		5.81	14.27	4.29	9.98	
+25		5.60	14.48	4.37	10.11	
+50		5.62	14.46	4.45	10.01	
+75		5.49	14.59	4.53	10.06	
34+00		5.16	14.92	4.61	10.31	
+25		4.80	15.28	4.69	10.59	
+50		4.86	15.22	4.77	10.45	
+75		5.03	15.05	4.85	10.20	
35+00		5.16	14.92	4.93	9.99	
+25				5.07		

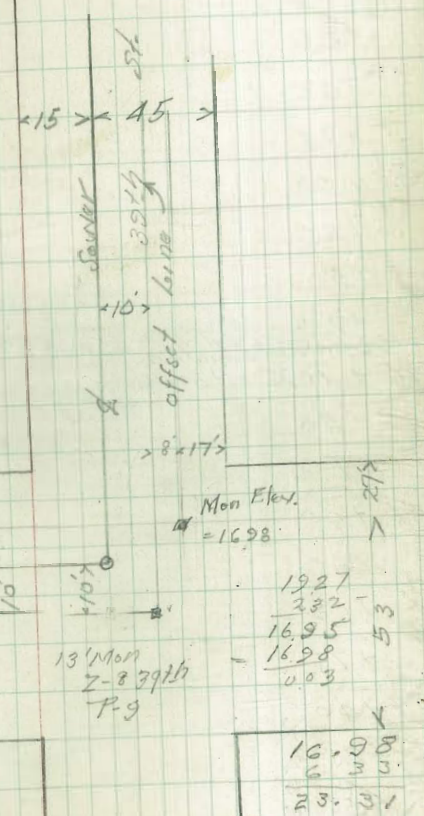
8 M  
 Chk 13' Man 39+2-sts. 16.58  
 FB 1618-P.14 16.987

8 M. sub 32+30.95 = 14.62  
 5.46  
 20.08 T  
 4.41  
 15.67  
 3.60  
 15.27

Cont. p. 10

ENCANTO TRUNK SEWER

Stations	20.08	Elev. Pipes	Elev. Flow line	Cuts	Offsets
35+25		5.07	15.01	5.02	9.99
+60		5.00	15.08	5.13	9.95
36+00 = MH #8		5.25	14.83	5.25	9.58
35+90.25 = MH #9		5.03	15.05	5.33	9.72
+50		4.90	15.18	5.41	9.77
+75		4.66	15.42	5.49	9.93
37+00		4.41	15.67	5.57	10.10
+25	19.27	3.71	15.56	5.65	9.91
+50		3.71	15.56	5.73	9.83
+75		4.36	14.91	5.81	9.10
38+00		Left out		5.89	
+10.25	Alley Extra MH #9-A	4.90	14.37	5.92	8.95
+50		5.34	13.93	6.05	7.88
+75		6.25	13.02	6.13	6.89
39+00		8.86	10.41	6.21	4.20
+25		Left out		6.29	
+50		3.72	15.55	6.37	9.18
39+65.25 = MH #10					
39+65.25 = MH #10					
39+75		3.01	16.26	6.44	3.82
39+95.25 = MH #10		4.67	18.64	6.50	12.14
40+10.25 = MH #10		4.69	18.62	6.66	11.98
+25		7.30	16.01	6.73	11.89
+50		10.65	12.66	6.85	9.16
+75		8.36	14.95	6.98	5.68
41+00		9.26	14.05	7.11	7.84
+25				7.23	6.82



Station	ENCANTO TRUNK SEWER		Elev. Flow line
	Stakes		
41+50	23.31	11.13	12.18
+75		10.62	12.69
42+00		9.94	13.37
+25		9.00	14.31
+50		9.90	13.41
+75		11.61	11.70
43+00		13.08	10.23
+25		13.80	9.51
+50		11.52	11.79
+75		9.31	14.00
44+00		5.13	18.18
+25		5.06	18.25
+50		5.00	18.31
+75		5.18	18.13
45+00		5.83	17.48
+25		8.50	17.53
+50		8.67	17.36
+75		8.11	17.92
46+00		8.30	17.73
+25		7.52	18.51
+50		6.87	19.16
+75		6.50	19.53
47+00		6.33	19.70
+25		6.17	19.92
+50		5.40	20.63
+75			

Cuts	Offsets
4.82	
5.21	
5.76	
6.58	
5.55	
3.72	
2.12	
1.28	
3.43	
5.52	
9.57	
9.52	
9.45	
9.15	
8.37	
+ 8.25	
+ 7.90	
8.28	
7.95	
8.58	
9.08	
9.30	
9.33	
9.40	
9.96	

10'  
 45+1095  
 = 1748.70  
 8.55  
 26.03  
 7.12  
 18.91  
 40' 10"

26.03x

10'

45+03.20  
 45+00.95  
 = 45+10.95  
 100' 100' Bisector  
 RP  
 45+00.95  
 45+03.20  
 Ahead

45+00.95  
 = 45+10.95  
 26.03  
 Equation

0.5%

0.59%

ENCHANTO TRUNK SEWER

Station	$\pi$ 26.03	B/Lv. Stakes	Elev. Foot	
48+00		5.20 20.83	10.82	10.01
+25		4.61 21.42	10.96	10.46
+50		4.90 21.13	11.11	10.02
+75		5.05 20.98	11.26	9.72
49+00	0.52	4.90 21.13	11.41	9.72
+25	0	4.73 21.30	11.55	9.75
+50		4.56 21.47	11.70	9.77
+75		4.43 21.60	11.85	9.75
50+00		4.31 21.72	12.00	9.72
50+30	B.M.H.#12 44-214 16° 09' 15"	4.18 21.85	12.18	9.67
+50		4.07 21.96	12.30	9.66
50+75		3.91 22.12	12.45	9.67
51+00	T.P. 664 28.96	3.71 22.32	12.60	9.72
+25	664 28.96	6.54 22.42	12.75	9.67
+50		6.41 22.53	12.90	9.65
+75	6.37 T.P. 28.99	6.34 22.62	13.05	9.57
52+00	0.51	6.43 22.56	13.21	9.35
+25	0	6.53 22.46	13.36	9.10
+50		6.21 22.78	13.51	9.27
+75		5.99 23.00	13.66	9.34
53+00		5.80 23.19	13.82	9.37
+25		5.57 23.42	13.97	9.45
53+51.08	B.M.H.#13 214 14° 39' 50"	5.37 23.62	14.14	9.48
+75		5.14 23.85	14.29	9.56
54+00	0.62	5.04 23.95	14.45	9.50
+25	0	5.01 23.28	14.60	9.38

Stations	Encanto 2.8.99	Trunk 51. Stakes	Sewer 51. Stakes	Flow
54+50		5.09	23.90	14.76
+75		6.41	24.01	14.91
55+00		5.14	23.85	15.07
+25		4.70	24.29	15.22
+50		4.40	24.59	15.38
+75		4.02	24.97	15.53
56+00		3.56	25.43	15.69
+35		3.02	25.97	15.91
56+70	ENH #14 44.17024	2.43	26.56	16.12
57+00		1.97	27.02	16.27
+25		1.72	27.27	16.39
+50		1.67	27.32	16.52
+75		1.84	27.15	16.64
58+00	T.P. 5.84 32.61	2.22	26.77	16.77
+25		5.93	26.68	16.89
+50		6.07	26.54	17.02
+75		5.97	26.64	17.14
59+00		5.84	26.77	17.27
+30		5.50	27.11	17.42
+60		5.03	27.58	17.57
59+92.97	ENH #15 44.44032.715	4.07	28.54	17.73
60+25		4.12	28.49	17.89
+50		4.24	28.37	18.02
+75		3.83	28.78	18.14
61+00		3.45	29.16	18.27

	9.14
	8.78
	9.07
	9.21
	9.44
	9.74
	10.06
	10.44
	10.75
	10.88
	10.80
	10.51
	10.00
	9.79
	9.52
	9.50
	9.50
	9.69
	10.01
	10.81
	10.60
	10.35
	10.64
	10.89

Stations	Elevation	Trunk	Sewer	Elev. Flow Line
	32.61		Elev. Stokes	
61+25	3.22	29.39	18.39	11.00
+50	2.43	30.18	18.52	11.66
+75	3.77	28.84	18.64	10.20
62+00	5.22	27.39	18.77	8.62
+25	5.68	26.93	18.89	8.04
+50	6.05	26.56	19.02	7.54
+75	6.32	26.29	19.14	7.15
63+00	6.29	26.32	19.27	7.05
63+33.51	6.14	26.47	19.54	6.93
63+70	9.21	26.59	19.72	6.87
64+00	9.35	26.45	19.87	6.58
+25	9.24	26.56	19.99	6.57
+50	9.35	26.45	20.12	6.33
+75	8.75	27.05	20.24	6.81
65+00	7.45	28.35	20.37	7.98
+30	4.92	30.88	20.52	10.36
65+61.30	1.98	33.82	20.67	13.15
68+04.85	1.51	34.29	20.77	13.52
+25	2.68	33.12	20.90	12.22
+50	0.89	34.91	21.02	13.89
+75	5.13	35.23	21.15	14.08
69+00	4.68	35.68	21.27	14.41
+25	4.91	35.45	21.40	14.05
+50	6.28	34.08	21.52	12.56
+75	10.13	30.23	21.65	8.58
70+00				

	32.61
63+33.51	6.17
Chk 2 Hub	26.44
FB1625-40 =	26.75
	0.01
	26.45
	9.21
	35.807
Chk Mass	1379
NW Neighbor	2301
City Boundary	FB1418/16
	OK
	35.807
	0.89
	34.9177
	545+
	10.36

LNH #16  
 63+33.51 = 47°37'45" Rt  
 35.80  
 LNH #17  
 65+61.30 Δ 23°26'30" } Squared  
 = 68+04.85 Ahead



Encanto Trunk Sewer

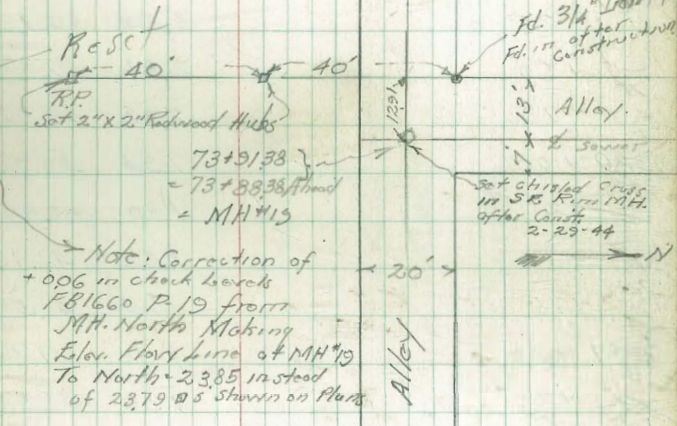
Stations	40.36	Elev. Stakes	Elev. Flow Line
70+25		12.10	28.26
750		10.94	29.42
775		7.56	32.80
71+00		5.83	34.53
71+22		5.31	35.05
750		4.09	36.27
775		3.28	37.08
72+00		3.43	36.93
725		2.61	37.75
750		2.00	38.36
775	9.02	1.20	39.16
73+00		8.56	39.62
730		7.68	40.50
760		5.13	43.05
73+91.38		1.25	46.93
73+88.38		Left out	23.85
74+00	48.72	3.17	44.95
725		6.03	42.09
750		7.54	40.58
775		8.63	39.49
75+00		9.35	38.77
725		9.96	38.16
775		10.29	37.83
76+00		10.59	37.53
725	5.39	10.87	37.25

offsets

6.49
7.52
10.78
12.38
12.79
12.69
13.77
14.46
14.18
14.88
15.36
16.04
16.37
17.10
19.31
19.56
23.22
23.08
20.98
17.99
16.36
15.14
14.30
13.56
13.11
12.68
12.28

check levels FB1660-19  
= Elev. Stub 73+91.38  
= 73+88.38

40.36
120
39.16 T.P.
9.02
48.18 T
9.32
38.86
16.99
1.13
48.12 T
10.87
37.25 T.P.
5.39
42.64 T



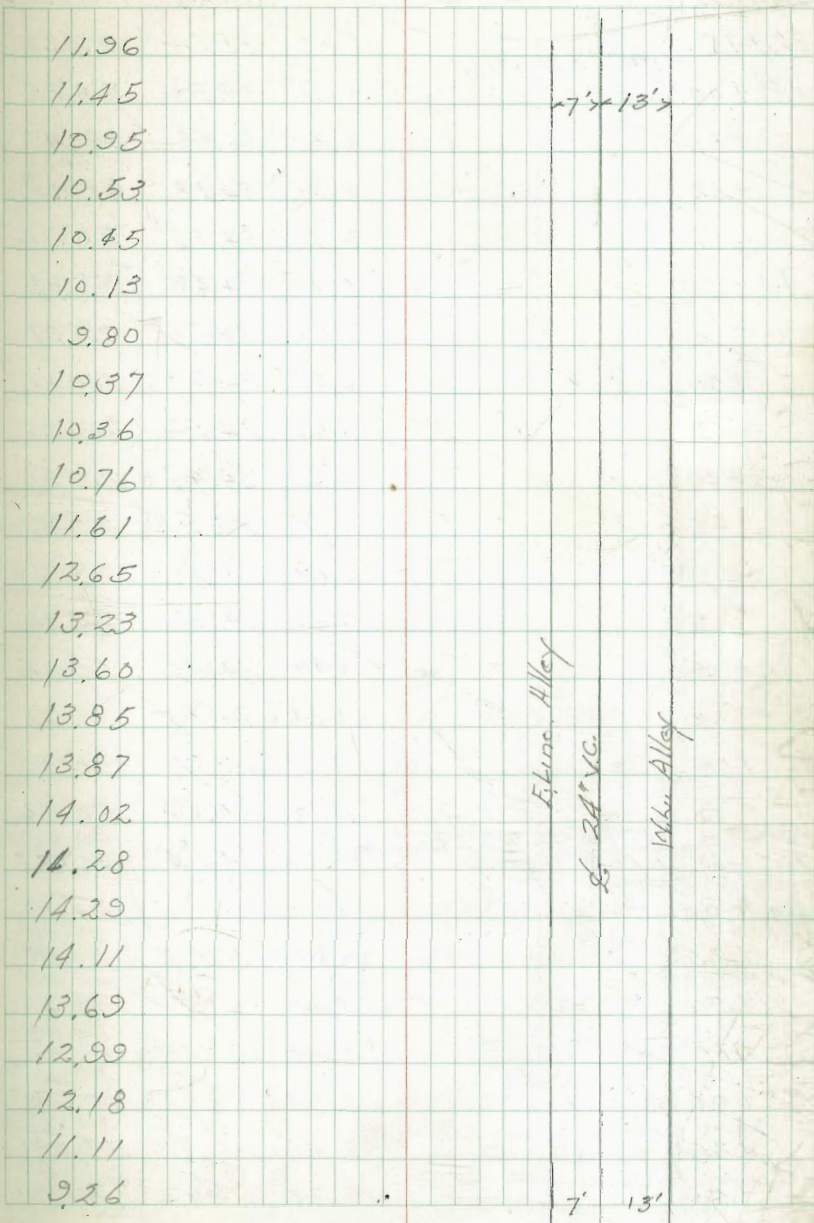
Note: Correction of +0.06 in check levels FB1660 P. 19 from MH North Making Elev. Flow Line of MH#19 to North 23.85 instead of 23.79 as shown on Plans.

Set checked cross in SE. River MH after Const. 2-23-44

Fid. 314' Inset P.P. Fid. in offset construction

Sewer  
Alley

Stations	Encanto	Trunk	Sewer Elev. Stakes	Elev. Flow line
76+50		5.58	37.06	25.10
+75		5.97	36.67	25.22
77+00		6.34	36.30	25.35
+25		6.64	36.00	25.47
+50		6.59	36.05	25.60
+75		6.79	35.85	25.72
78+00		6.99	35.65	25.85
+22.48 = L.M.H. #20		6.31	36.33	25.96
+50		6.18	36.46	26.10
+75		5.66	36.98	26.22
79+00		4.68	37.96	26.35
+25		3.52	39.12	26.47
+50		2.81	39.83	26.60
+75		2.32	40.32	26.72
80+00		1.94	40.70	26.85
+25		1.80	40.84	26.97
+50		1.52	41.12	27.10
+75		1.14	41.50	27.22
81+00		1.00	41.64	27.35
+25		1.06	41.58	27.47
+50		1.35	41.29	27.60
T.P. +75	0.43	11.19	1.93	40.71
82+00		1.11	40.03	27.85
+25		2.06	39.08	27.97
+50		3.78	37.36	28.10



83+00  
 Δ 14° 18'

Eline Alley

24' VC

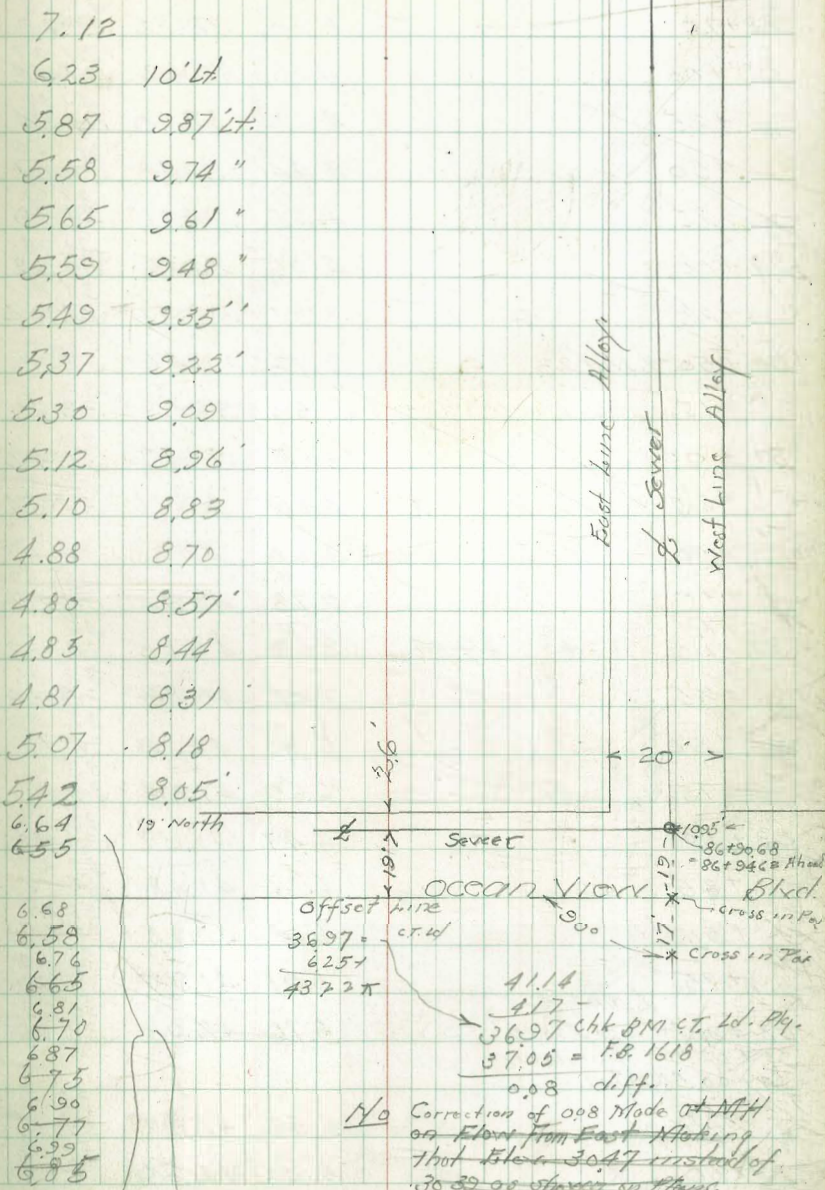
W. Alley

7' 13'

Station	Inverts	Sewer	Elev. Stakes	Elev. Flow Line
82+75	41.14	5.80	35.34	28.22
83+00		6.56	34.58	28.35
+25		6.80	34.34	28.47
+50		6.96	34.18	28.60
+75		6.77	34.37	28.72
84+00		6.70	34.44	28.85
+25		6.68	34.46	28.97
+50		6.67	34.47	29.10
+75		6.62	34.52	29.22
85+00		6.67	34.47	29.35
+25		6.57	34.57	29.47
+50		6.66	34.48	29.60
+75		6.62	34.52	29.72
86+00		6.44	34.70	29.85
+25		6.36	34.78	29.97
+50		5.97	35.17	30.10
+75		5.50	35.64	30.22
86+90.68		6.28	36.94	30.30
-86+94.63		Left out		30.30
87+00				30.42
+25		6.10	37.12	30.44
+50		5.90	37.32	30.54
+75		5.73	37.49	30.56
88+00		5.55	37.67	30.67
+25		5.41	37.81	30.68
+50		5.20	38.02	30.73

offsets

7'-13" 17



Note: Grade changed by amount as shown to clear existing Sewer Lines at Ocean View Blvd.

Encanto Trunk Sewer Construction

Stations		43.22	Elev. Stakes		Elev. Floor line
88+75			5.00	38.22	31.15 31.29
89+00			4.80	38.42	31.27 31.42
+25			4.62	38.60	31.38 31.54
+50			4.44	38.78	31.50 31.67
+75			4.25	38.97	31.62 31.79
90+00			4.06	39.16	31.74 31.92
+25			3.91	39.31	31.86 32.04
90+50 = 2' MH 23			3.76	39.46	31.98 32.17
+75			3.54	39.68	32.10 32.29
91+00			3.35	39.87	32.22 32.42
+25			3.16	40.06	32.33 32.54
+50			3.00	40.22	32.45 32.67
+75			2.78	40.44	32.57 32.79
T.P.					32.69
92+00	7.24	47.84	2.62	40.60	32.92 32.81
+25			7.02	40.82	32.04 32.93
+50			6.81	41.03	33.17 33.05
+75			6.60	41.24	33.29 33.17
93+00			6.47	41.37	33.42 33.29
+25			6.36	41.48	33.54 33.40
+50			6.14	41.70	33.67 33.52
+75			5.91	41.93	33.79 33.63
93+98.26 Δ 14 52° 15'			5.76	42.08	33.91 33.79
94+02.05 Equator					
= 94+00.58 Ahead					
+25			5.52	42.32	34.05 33.93
+50			5.08	42.76	34.18 34.05

0.473%

0.475%

2' MH #24

0.57%

Cuts	
6.93	7.07
7.00	7.15
7.06	7.22
7.11	7.28
7.18	7.35
7.24	7.42
7.27	7.45
7.29	7.48
7.39	7.58
7.45	7.65
7.52	7.73
7.55	7.77
7.65	7.87
7.68	7.91
7.78	8.01
7.86	8.10
7.95	8.19
7.95	8.20
7.94	8.19
8.03	8.30
8.14	8.41
8.17	8.45 cut on cross (21.16' to end of) R.P.
8.27	8.53
8.58	8.83

Grades changed by account shown to clear existing 6" x 8" lines at Deep View Crossing.



Additional cuts across Pav.

1-18-44

## Encanto Trunk Sewer Construction

Station

47.84

Elev.  
StakeElev.  
Flow Line

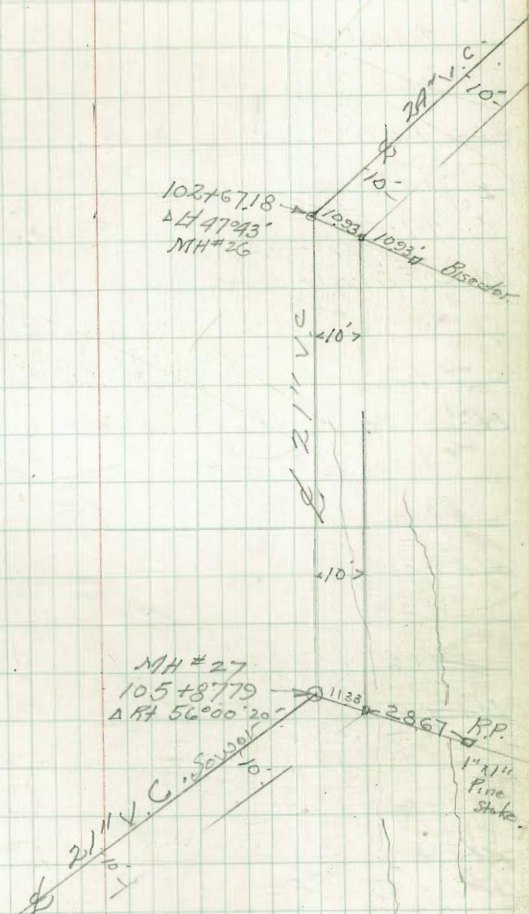
Cuts

19

Station			Elev. Stake	Elev. Flow Line	Cuts
94+75			9.21	38.63	34.50 Destroyed
95+00			7.77	40.07	34.22 5.64 5.85
+25			6.52	41.32	34.36 34.58 6.77 6.96
+50			7.06	40.98	34.50 34.68 6.10 6.28
+75			6.48	41.36	34.64 34.80 6.56 6.72
96+00	0.57%		7.49	40.35	34.79 34.93 5.42 5.56
+25			8.08	39.76	35.05 4.71 4.83
+50			7.24	40.60	35.07 35.18 5.42 5.53
+75			6.06	41.78	35.21 35.30 6.48 6.57
97+00	0.50%		5.86	41.98	35.35 35.43 6.55 6.63
+25			5.94	41.90	35.49 35.55 6.35 6.41
+50			5.51	42.33	35.63 35.68 6.65 6.70
T.P. +75	7.32	49.81	5.35	42.49	35.77 35.80 6.69 6.72
98+00			7.68	42.13	35.91 35.93 6.20 6.22
98+32	1.11%		8.17	41.64	36.09 5.55
+65			8.68	41.13	36.25 4.88
99+00			8.46	41.35	36.43 4.92
+25			8.07	41.74	36.55 5.19
+50			7.98	41.83	36.68 5.15
+75			6.44	43.37	36.80 6.57
100+00			6.08	43.73	36.93 6.80
+25	0.57%		4.68	45.13	37.05 8.08
+50			3.64	46.17	37.18 8.99
+75			4.60	45.21	37.30 7.91
101+00			4.08	45.73	37.43 8.30

5.00 Note P. 18

1-18-44 Stations	Encanto Trunk Sewer Construction 49.81	5/8" Stakes	Flow line	Cuts	
101+25		3.71	46.10	37.55	18.55
+50		3.83	45.98	37.68	+8.30
+75		3.99	45.82	37.80	+8.02
102+00		3.71	46.10	37.93	+8.17
+25		7.85	41.96	38.05	+3.91
+50		6.64	43.17	38.18	+4.99
102+67.18		5.95	43.86	38.27	+5.59
T.P.					
103+00	9.84 53.29	6.36	43.45	38.60	+4.85
+33		9.10	44.19	38.93	+5.26
+66		8.52	44.77	39.26	+6.51
104+00		9.52	43.77	39.60	+4.17
+33		8.50	44.79	39.93	+4.86
+66		8.19	45.10	40.26	+4.84
105+00		7.95	45.34	40.60	+4.74
+40		7.86	45.43	41.00	+4.43
+60		7.39	45.90	41.20	+4.70
105+87.79	Δ Rt 56°00'20"	6.69	46.60	41.48	+5.12
106+10		4.43	48.86	41.68	+7.18
+40		3.58	49.71	41.95	+7.76
+70		2.77	50.52	42.22	+8.30
107+00		2.32	50.97	42.49	+8.48
+33		2.10	51.19	42.79	+8.40
+66		1.87	51.42	43.08	+8.34
108+00		1.60	51.69	43.39	+8.30
+33		1.16	52.13	43.69	+8.44



Station	Elevation		Elevation	
	53.29	Stakes	Flange	Flange
108+66		0.96	52.33	43.99
T.P.				
109+00	12.06	64.40	0.95	52.34
				44.29
+33			11.55	52.85
				44.59
+66			10.94	53.46
				44.89
110+00			11.25	53.15
				45.19
+35			8.89	55.51
				45.50
+70			4.30	60.10
				45.82
L.M.H. 28				
111+05.57	21+46.05		5.18	59.22
				46.74
+40			7.43	56.97
				46.40
+70			7.92	56.48
				46.62
T.P.				
112+00	6.27	62.37	8.30	56.10
				46.85
+33			6.41	55.96
				47.10
+66			6.34	56.03
				47.35
113+00			6.40	55.97
				47.60
+33			6.13	56.24
				47.85
+66			5.92	56.45
				48.10
114+00			5.18	57.19
				48.35
+33			4.82	57.55
				48.60
+66			5.12	57.25
				48.85
115+00			4.79	57.58
				49.10
+33			3.99	58.38
				49.35
+66			4.07	58.30
				49.60
116+00			3.60	58.77
				49.85
+33			3.32	59.05
				50.10
L.M.H. 25				
116+65.72	11+65.37		2.97	59.40
				50.34

Cuts.

+ 8.34

+ 8.05

+ 8.26

+ 8.57

+ 7.96

+ 10.01

14.28

+ 13.08

+ 10.57

+ 9.86

+ 9.25

+ 8.86

+ 8.68

+ 8.37

+ 8.39

+ 8.38

+ 8.84

+ 8.93

+ 8.40

+ 8.48

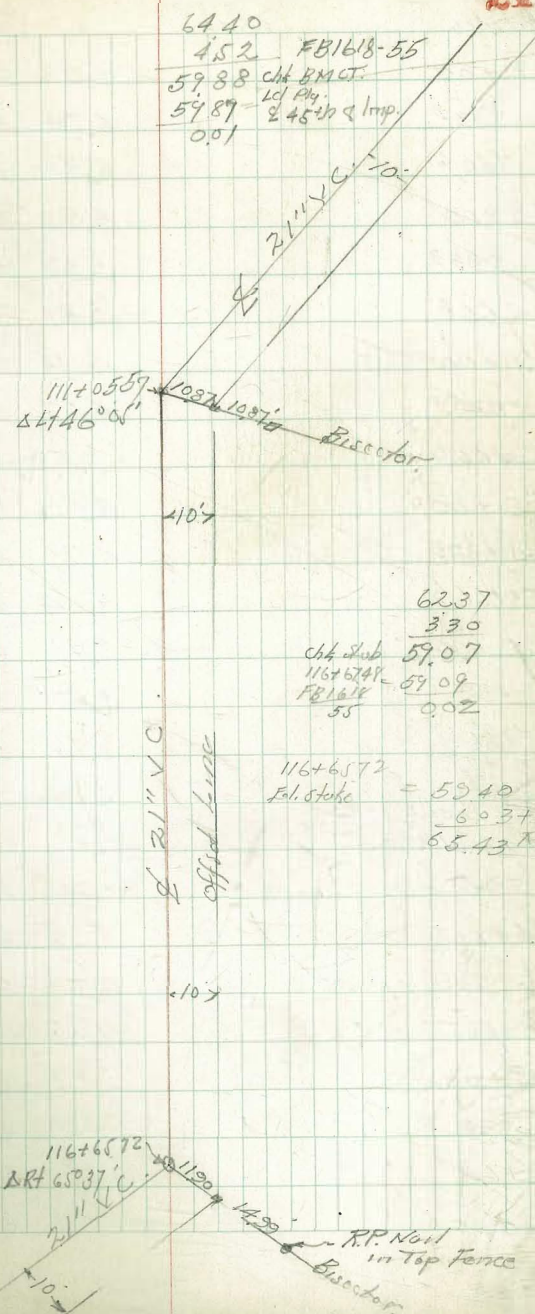
+ 9.03

+ 8.70

+ 8.92

+ 8.95

+ 9.06



Encanto Trunk Sewer Construction

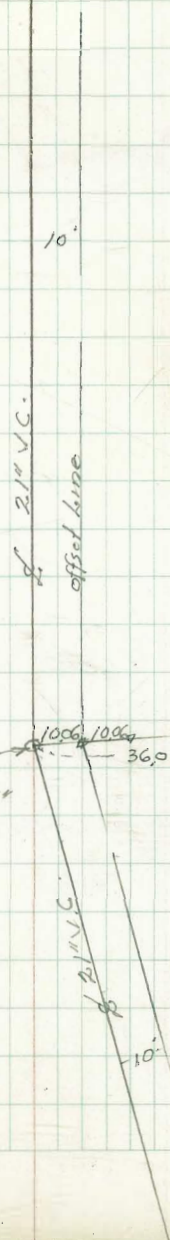
Station	T.P. 21 6543	Elev. Stakes	Elev. Floor Line
117+00		5.98	59.45
+33.3		6.34	59.09
+66.6		6.51	58.92
118+00		5.83	59.60
+33.3		5.67	59.76
+66.6		5.41	60.02
119+00		5.14	60.29
+33.3		4.69	60.74
+66.6		5.52	59.91
120+00	0.75%	4.63	60.80
+33.3		4.75	60.68
+66.6		5.04	60.39
121+00		3.41	63.02
+33.3		5.69	59.74
+66.6		6.78	58.65
122+00	8.99	5.52	59.91
+33.3	68.90	8.35	60.55
+66.6		8.92	59.98
124+00		8.25	60.65
+33.3		6.98	61.92
+66.6		7.01	61.89
125+00	0.70%	8.23	60.67
+33.3		5.48	63.42
+66.6		6.65	62.25
126+00		6.52	62.38

$\Delta L = 120 \times 0.75\% = 0.9$   
 $\Delta L = 120 \times 0.70\% = 0.84$   
 $8.99 + 0.9 = 9.89$   
 $68.90 + 0.84 = 69.74$

Equations

8.85
8.24
7.82
8.25
8.16
8.17
8.19
8.39
7.31
7.95
7.58
7.04
9.42
5.89
4.55
5.56
5.87
5.07
5.50
6.54
6.28
4.82
7.34
5.94
5.83

$122+4443$   
 $123+3181$   
 $\Delta L = 12 \times 2.545\% = 3.054$   
 $1006 - 3.054 = 1002.946$   
 EP on Bank  
 Bisector





## Encanto Server Construction.

Stations	68.90		5/101 Stakes	5/101 Flow line	
126+33			6.41	62.49	56.78
+66			5.57	63.33	57.01
127+00			2.94	65.26	57.25
+30			3.25	65.65	57.46
+5887			4.14	64.76	57.67
128+00			5.13	63.77	57.95
+33			4.71	64.19	58.18
+66			3.57	65.33	58.41
129+00			3.41	65.42	58.65
+33			2.93	65.97	58.88
+66			2.68	66.22	59.11
130+00			2.50	66.40	59.35
+33			2.44	66.46	59.58
+66			1.75	67.15	59.81
131+00	5.43	71.56	2.77	66.13	60.05
+40			5.37	66.19	60.33
131+788			4.71	66.85	60.61
132+00			4.62	66.94	60.75
+33				65.96	60.98
+66				66.03	61.21
133+00			5.57	65.99	61.45
+33			4.77	66.79	61.68
+66			4.34	67.22	61.91
134+00			3.99	67.57	62.15
+40			4.36	67.20	62.43

Cuts.

5.71

6.32

8.71

8.19

7.09

5.82

6.01

6.92

6.84

7.09

7.11

7.05

6.88

7.34

6.08

5.86

6.24

6.19

4.98

4.82

4.54

5.11

5.31

5.42

4.77

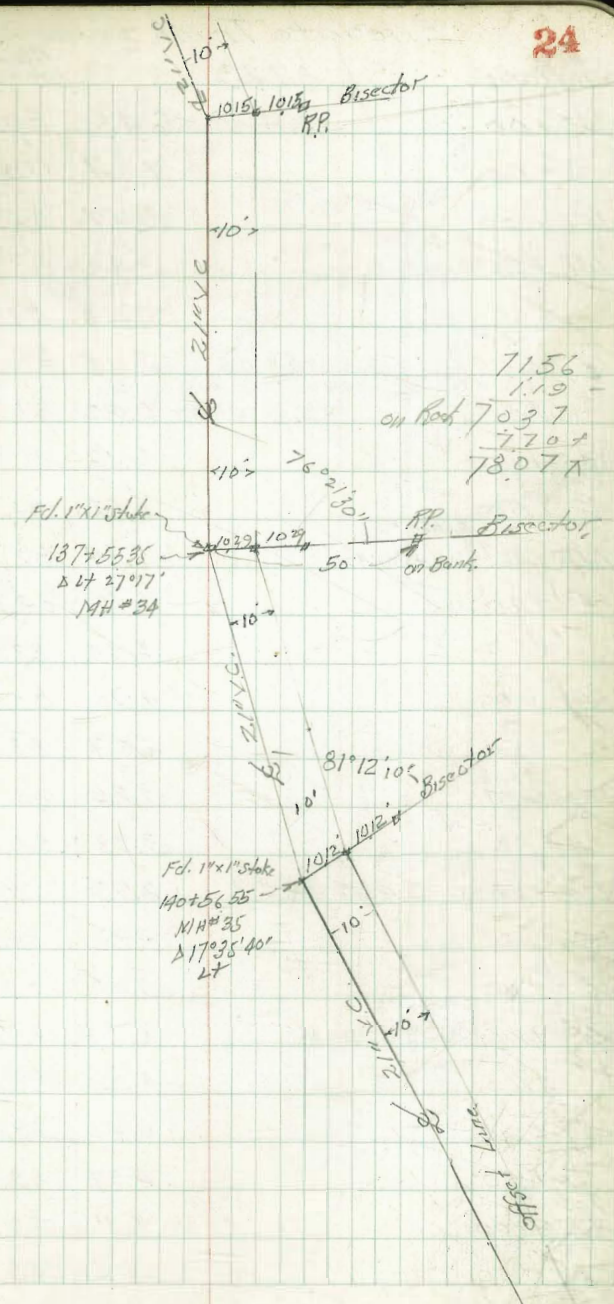
23

1038 1048  
Biscotor  
R.R.

Encanto Trunk Sewer Constructors

Sta	MH#	Elev. Stake	Elev. Flow Line	Cuts		
134	+78.87	71.56	2.98	68.58	62.71	5.87
135	+00		2.64	68.92	62.90	6.02
	+33		2.54	69.02	63.19	5.83
	+66		1.72	69.84	63.49	6.35
136	+00		0.64	70.92	63.79	7.13
	+33		1.37	70.19	64.08	6.11
	+66	78.07	7.87	70.20	64.38	5.82
137	+00		7.43	70.64	64.68	5.96
	+30		7.10	70.97	64.95	6.02
137	+55.35		6.88	71.19	65.16	6.03
138	+00		5.23	72.84	65.59	7.25
	+50		5.44	72.63	66.07	6.56
139	+00		4.83	72.24	66.56	6.68
	+50		4.29	73.78	67.04	6.74
140	+00		3.30	74.77	67.53	7.24
	+30		2.71	75.36	67.82	7.54
140	+56.55		2.34	75.73	68.08	7.65
141	+00	10.73	1.51	76.56	68.50	8.06
	+50		9.57	77.72	68.98	8.74
142	+00		10.29	77.26	69.47	7.79
	+50		10.52	76.77	69.95	6.82
143	+00		12.15	75.14	70.44	4.70
	+50		9.16	78.13	70.92	7.21
144	+00		8.89	78.40	71.41	6.99
	+50		8.76	78.53	71.89	6.64

Cuts



Encanto Trunk Sewer Construction

Stations	87.29	Elev. Stakes	Elev. Flow. Line
145+00		6.98	80.81 72.38
+50		7.64	79.65 72.86
146+00		5.17	82.12 73.35
146+24.78	M.H. #26 Rt. 21° 38' 40"	3.88	83.41 73.59
+60		6.02	81.27 73.93
147+00	T.P. 5.91 88.05	5.15	82.14 74.32
+50		6.82	81.23 74.80
148+00		6.16	81.89 75.29
+50		6.81	81.24 75.77
148+86.78	M.H. #37 Rt. 48° 09' 30"	5.24	82.81 76.23
149+20		4.46	83.59 76.55
+60		4.93	83.12 76.94
150+00		4.98	83.07 77.33
+50		4.07	83.98 77.81
151+00		3.24	84.81 78.30
+50		3.13	84.92 78.78
152+00	T.P. 9.41 94.67	2.79	85.26 79.27
+50		2.98	84.89 79.75
153+00		3.02	85.65 80.24
153+23.40	M.H. #38 Rt. 13° 02' 30"	8.72	85.95 80.47
+60		6.25	88.42 80.82
154+00		6.42	88.25 81.21
+50		4.97	89.70 81.69
155+00		5.11	89.56 82.18
+50		5.27	89.40 82.66

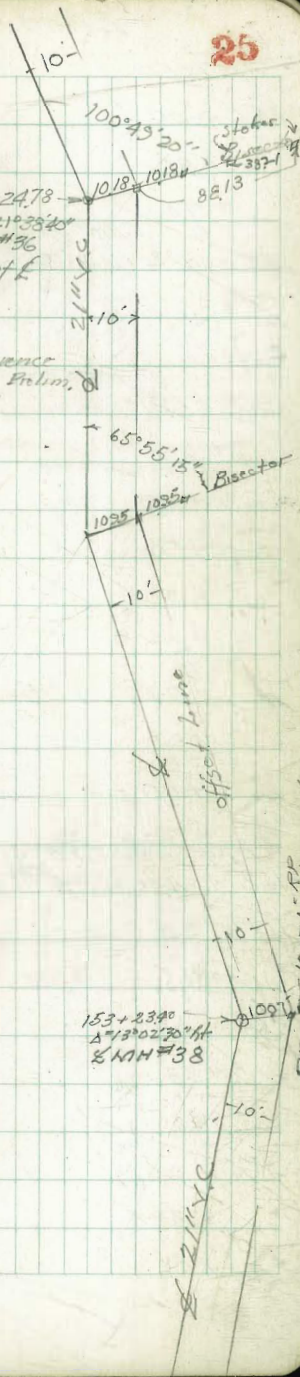
Cuts

8.43
6.79
8.77
9.82
7.34
7.82
6.43
6.60
5.47
6.68
6.58
7.04
6.18
5.74
6.17
6.51
6.14
5.99
5.14
5.41
5.48
7.60
7.04
8.01
7.38
6.74

87.29  
4.77  
82.52 - L 146, 146+24.78  
82.39 = 1618  
0.15 diff. 30

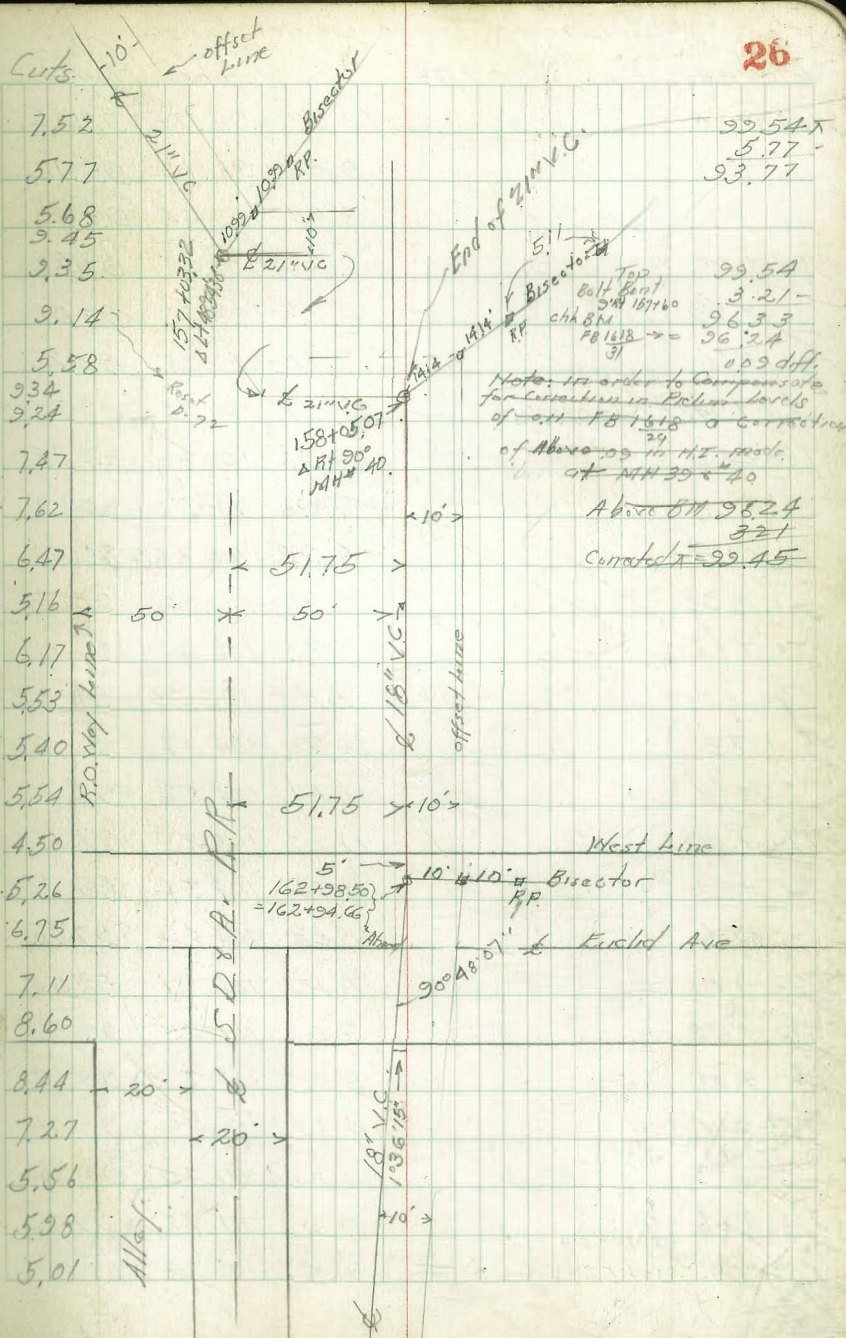
87.29 x  
4.65  
82.64 on Mon 396' x of L  
82.51  
0.13 diff. 146+24.78  
1.618  
30

Note 94 of above difference was by correction in Prelim. Levels by this 1618



Encanto Trunk Sewer Const.

Station	Grade	Elev. Stakes	Flow Line
156+00	0.97%	4.00	90.67 83.15
+35		5.41	89.26 83.49
+70		5.16	89.51 83.83
T.P. 106		93.61	84.165 (M)
157+03.32		99.54	84.26 (M)
+35		5.82	93.72 84.58
+70		9.03	90.51 84.93
158+05.7		4.92	94.62 85.28-5
+50		6.25	93.29 85.82
159+00		5.62	93.92 86.30
+50		6.28	93.26 86.79
160+00		7.11	92.43 87.27
+50		5.61	93.93 87.76
161+00		6.05	99.82 93.77 88.24
+50		5.69	94.13 88.73
162+00		5.07	94.75 89.21
+50		5.62	94.20 89.70
162+38.50		4.39	95.43 90.17
163+35		2.55	97.27 90.52
+65		9.39	97.89 90.78
164+00		8.10	99.68 91.08
+33		7.97	99.81 91.37
+66		3.85	98.93 91.66
165+00		10.27	97.51 91.95
+33		9.56	98.22 92.24
+66		10.24	97.54 92.53



93.54  
5.77  
93.77

93.54  
3.21  
96.33  
96.24

0.09 diff.

Note: In order to compensate for curvature in Police levels of all FB 1618 a correction of Above 0.09 in H.S. made. at NH 39 & 40

Above BM 98.24  
3.21  
Corrected = 99.45

West Line

5' → 10' 10' Bisector  
PP

162+38.50  
= 162+34.66

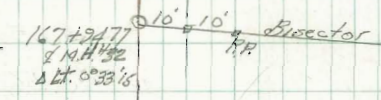
Euclid Ave

90° 49.07'

Alley

Ericanto Trunk Sewer Const.

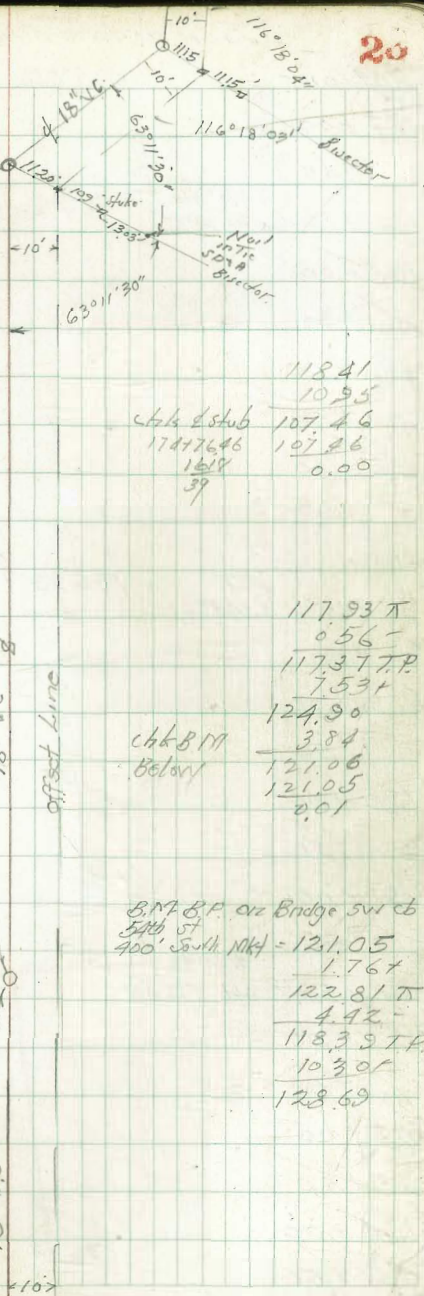
Stations		107.78	Elev. Stakes	Elev. Flow line	Cuts	
166 + 00			10.03	97.75	92.82	4.93
+ 33			9.06	98.72	93.11	5.61
+ 66			8.34	99.44	93.40	6.04
167 + 00	0.87%		6.69	101.09	93.69	7.40
+ 33			4.79	102.99	93.98	9.01
+ 66			7.70	100.08	94.27	5.81
167 + 94.7	ENH#2 Δ Lt 0°33'15"		7.07	100.71	94.52	6.19
168 + 30			6.98	100.80	94.83	5.97
+ 65			7.08	100.70	95.13	5.57
169 + 00			6.92	100.86	95.43	5.43
+ 33			6.86	100.92	95.72	5.20
+ 66			6.51	101.27	96.01	5.26
170 + 00	12.53	114.87	5.44	102.34	96.30	6.04
+ 33			10.80	104.07	96.59	7.48
+ 66			10.51	104.36	96.88	7.48
171 + 00	0.87%		11.62	103.25	97.17	6.08
+ 33			11.31	103.56	97.46	6.10
+ 66			10.63	104.24	97.75	6.49
172 + 00			8.16	106.71	98.04	8.67
+ 33			7.62	107.25	98.33	8.92
+ 66			9.29	105.58	98.62	6.96
173 + 00			4.32	110.55	98.91	11.64
+ 33	4.29	118.50	0.66	114.21	99.20	12.50
+ 66			7.02	111.48	99.49	11.99
173 + 99.19	ENH#23 Δ Rt 52°36'07"		11.57	106.93	99.78-W 99.88-SE	7.15 7.05



Encanto Trunk Sewer Construction

Stations	Elev. Stakes	Elev. Floor Line	Cuts
174 + 35	118.50	8.66 109.84	100.19
174 + 76.41	118.50	10.16 108.25	100.55 NW
175 + 00	118.41	9.68 108.73	100.65 East
+ 33		7.78 110.63	101.15
+ 66		7.53 110.88	101.43
176 + 00		7.07 111.34	101.73
+ 33		5.62 112.79	102.02
+ 66		5.65 112.76	102.31
177 + 00		5.56 112.85	102.60
+ 33		4.61 113.80	102.89
+ 66	3.80	4.28 114.13	103.18
178 + 00		3.51 114.42	103.47
+ 33		3.23 114.70	103.76
+ 66		3.01 114.92	104.04
179 + 00		4.46 113.47	104.34
+ 10		4.80 113.13	104.63
179 + 85		4.83 113.10	105.07
180 + 18		4.56 113.37	105.36
180 + 50	122.81	3.70 113.11	105.64
181 + 00		3.01 113.80	106.43
+ 50		4.69 118.12	107.22
182 + 00	128.69	4.42 118.39	108.01
+ 50		3.44 119.25	108.80
183 + 00		8.33 120.36	109.59
+ 50		7.66 121.03	110.38

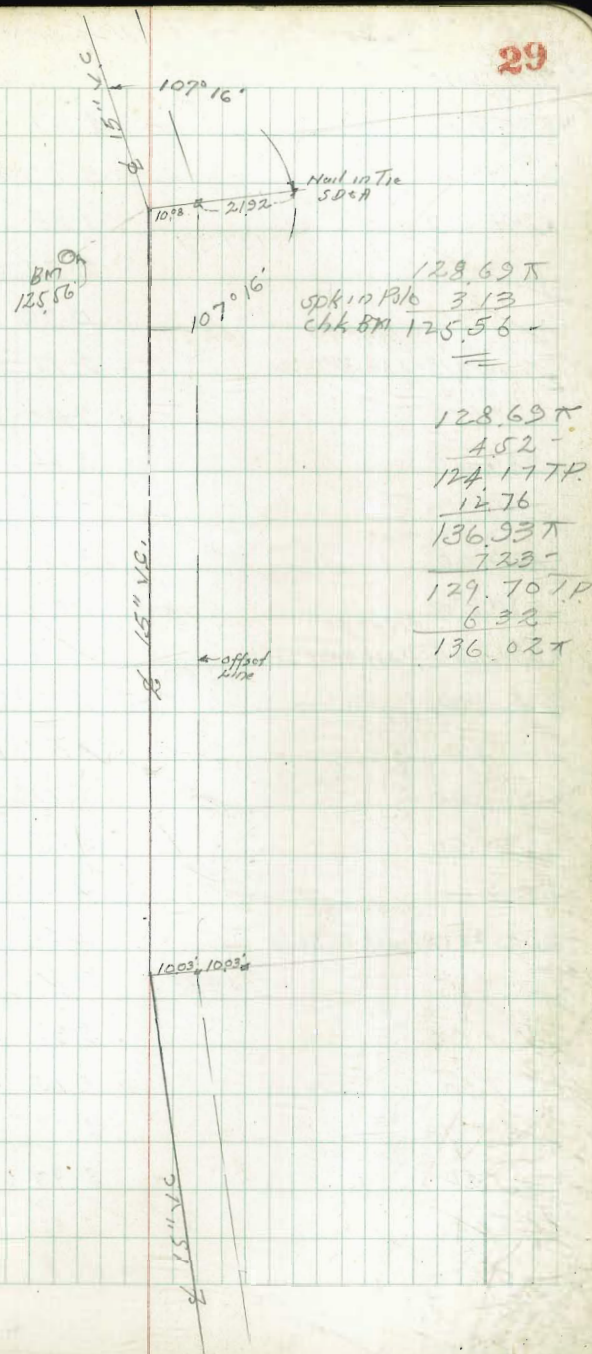
Stations	Elev. Stakes	Elev. Floor Line	Cuts
174 + 76.41	118.41	10.16 108.25	100.65 East
175 + 00	118.41	9.68 108.73	100.85
+ 33		7.78 110.63	101.15
+ 66		7.53 110.88	101.43
176 + 00		7.07 111.34	101.73
+ 33		5.62 112.79	102.02
+ 66		5.65 112.76	102.31
177 + 00		5.56 112.85	102.60
+ 33		4.61 113.80	102.89
+ 66	3.80	4.28 114.13	103.18
178 + 00		3.51 114.42	103.47
+ 33		3.23 114.70	103.76
+ 66		3.01 114.92	104.04
179 + 00		4.46 113.47	104.34
+ 10		4.80 113.13	104.63
179 + 85		4.83 113.10	105.07
180 + 18		4.56 113.37	105.36
180 + 50	122.81	3.70 113.11	105.64
181 + 00		3.01 113.80	106.43
+ 50		4.69 118.12	107.22
182 + 00	128.69	4.42 118.39	108.01
+ 50		3.44 119.25	108.80
183 + 00		8.33 120.36	109.59
+ 50		7.66 121.03	110.38



B.M. B.P. on Bridge SW cb  
 500' ST  
 400' SW-1/4 NW = 121.05  
 1.76 +  
 122.81 T  
 4.42 -  
 118.39 T.P.  
 10.30 +  
 128.69

Station	Elev. Stakes	Elev. Floorline	Cuts	
184+00	7.77	120.92	111.17	2.75
+40	6.80	121.89	111.80	10.09
184+75.0'	6.52	122.17	112.36 West 112.39 East	9.81 2.78
185+00	4.66	124.03	112.72	11.31
+50	5.84	122.85	113.37	9.48
186+00	5.31	123.38	114.02	9.36
+50	5.67	123.02	114.67	8.35
187+00	5.41	123.28	115.32	7.96
+50	3.57	125.12	115.97	9.15
188+00	4.52	124.17	116.62	7.55
188+15.9'	12.03	124.90	116.81	8.09
+50	7.94	128.99	117.27	11.72
189+00	7.29	129.64	117.92	11.72
+50	6.61	130.32	118.57	11.75
190+00	5.86	131.07	119.22	11.85
+50	4.79	132.14	119.87	12.27
191+00	3.51	133.42	120.52	12.90
+25	2.93	134.00	120.84	13.16
191+55.13'	2.48	134.45	121.23	13.22
192+00	6.03	130.90	121.82	9.08
+50	8.10	128.83	122.47	6.36
193+00	7.28	129.65	123.12	6.53
+50	6.78	130.15	123.77	6.38
194+00	6.26	130.67	124.42	6.25
+50	3.87	132.15	125.07	7.08

Encanto Trunk Sewer Construction



128.69 T  
 4.52 -  
 124.17 TP  
 12.76  
 136.93 T  
 7.23 -  
 129.70 TP  
 6.32  
 136.02 T

BM  
 125.56

Hand in Tie  
 SDC#

107°16'

10°8' 2/192

15" VC

offered  
 line

1003, 1003

15" VC

Portions		Elev. Stakes	Elev. Flowline	Cuts		
195+00		136.52	4.07 131.95	125.72	6.23	136.02 T
+50	1.3%		3.69 132.33	126.37	5.96	3.11 -
196+00			1.82 134.19	127.02	7.17	132.91 TP
+50		137.51	2.92 134.59	127.67	6.92	4.60 T
+80			0.99 136.52	128.06	8.46	137.51 T
	AMH#49	142.56		128.35 W	12.05	4.60 -
197+03.13	AK# 38°59'40"		2.16 140.40	128.45 E	11.95	132.91 TP
+50			2.40 133.16	129.06	4.44	3.65 T
				133.50	4.10	142.56 T
198+00	1.3%		8.11 134.45	129.71	4.74	330 -
+50			7.29 135.27	130.36	4.91	139.26 TP
199+00			3.16 139.40	131.01	8.39	7.19 T
+50			1.40 141.16	131.66	9.56	146.40 T
	AMH#50			132.26 W	7.00	4.05 -
199+95.87	AK# 44°45'15"20"	146.40	3.30 139.26	132.36 E	6.90	142.35
200+30			6.29 140.11	132.80	7.31	142.38
+60	1.3%		6.51 139.89	133.19	6.70	0.03 diff.
201+00			4.95 141.45	133.71	7.74	141.14
+50			4.25 142.15	134.36	7.79	8.70 T
			141.28		6.27	149.85 T
202+00	AMH#51		4.89 141.51	135.01	6.50	236 -
				135.45 W	5.69	146.90 TP
202+33.87	AK# 44°46'34"20"		5.26 141.14	135.55 NE	5.59	
+65		149.85	7.69 142.16	135.92	6.24	
203+00			5.99 143.86	136.34	7.52	
+50			5.05 144.80	136.94	7.86	
204+00	1.3%		4.17 145.68	137.54	8.14	
+50			3.78 146.07	138.14	7.93	
205+00			3.52 146.33	138.74	7.59	
+50			4.18 145.72	139.34	6.38	

chk'd Rev. stake  
202+33.87  
FB1618

Elev. stake 201+00 = 142.15



Encanto Trunk Sewer

Stations		Const. Elev. Stakes	Elev. Floor Line
206+00	149.85	4.30	145.55
+50	154.61	8.25	146.36
207+00		6.22	147.69
+35		6.33	148.28
+70		5.79	148.82
208+11.88	13°55'29"	6.56	148.95
+55			143.00
+50		5.87	148.74
208+95.24	Δ R. 58°27'30"	4.39	150.22
209+25	157.87	7.91	149.96
+564		5.44	152.43
209+959		5.89	151.98
210+50		6.02	151.85
211+00		5.49	152.38
+50		4.49	153.38
211+90			147.62
212+00		4.70	153.17
212+29.24	Δ MH#54	4.36	153.51
+60		3.12	154.75
212+80		3.08	154.79
213+25		2.96	154.91
213+50	169.23	11.54	157.69
214+00		10.71	158.52
+50		2.22	160.01
215+00		9.33	159.90
+30		7.63	161.60
215+63.38	Δ L. 2°42'30"	6.05	163.78
216+00		5.12	164.11

Cuts

+	5.61	149.85
+	5.82	2.95-
+	6.55	146.90 T.P.
	6.72	7.71-
	6.84	154.61 X
	5.57	0.74-
	5.74	153.87 T.P.
	6.74	10.96+
	6.64	164.83
	5.96	3.20-
	8.01	161.63
	7.02	151.65
	6.15	0.02
	5.99	164.91 X Corrected
	6.31	152.10 T.P.
	5.55	5.77+
	5.35	157.87 X
	6.16	0.56-
	5.92	157.31 T.P.
	5.43	11.92+
	7.86	169.23 X
	8.00	
	8.80	
	8.00	
	9.29	169.11 = stub 206+00
	10.59	2.50+
	10.40	162.66 X
		5.29
		163.37
	10.82	

CH. 8 M.N.E. Mulo  
 FB 1618-43  
 True Elev = 161.71  
 3.20

12.0%

Δ MH#52

Δ MH#53

POT

90°

Δ MH#55

(P. set)

Station	Eucanto Trunk Sewer		Const. Elev. Stakes	Elev. Flow Line
216+50		169.23	4.59 164.64	153.99
217+00			3.76 165.47	154.69
+50			3.55 165.68	155.39
218+00	12.25	178.88	2.60 166.63	156.09
+50			11.84 167.04	156.79
219+00			10.65 168.23	157.49
219+27.0	ΔL 2°55'	178.60	8.80 170.08	157.87
+60			9.08 169.52	158.33
220+00			8.12 170.48	158.89
+50			6.61 171.29	159.59
221+00			4.25 174.35	160.29
+50			3.26 175.34	160.99
222+00			2.59 176.01	161.69
+50			4.16 174.44	162.39
223+00			7.63 170.97	163.09
223+21.4	ΔL 0°58'30"		7.21 171.39	163.39
+60			6.22 172.38	163.23
224+00			8.50 170.10	164.49
+50	12.92	182.78	8.74 169.86	165.19
225+00			11.26 171.52	165.89
+50			10.01 172.77	166.59
226+00			6.55 176.23	167.29
+40			4.28 178.50	167.85
+80			3.86 178.92	168.41
227+12.9	ΔL 0°43'30"		2.91 179.87	168.87

Cuts

10.65
10.78
10.29
10.54
10.25
10.74
12.21
11.19
11.59
12.40
14.06
14.35
14.32
12.05
7.88
8.00
8.45
5.61
4.67
5.63
6.18
8.94
10.65
10.51
11.00

61st + Almas 178.88 x  
 847  
 chk L Mon 170.41  
 223+21.4 / FB 16.18 - 44 = 170.40  
 0.01 diff  
 219+27 of stub = 170.08  
 3.52 ✓  
 178.60 x  
 8.19  
 170.41  
 chk Haver Morr  
 178.60 x  
 8.74 ✓  
 169.86 TP  
 12.92  
 182.78 x  
 4.89 ✓  
 178.69  
 178.67  
 0.02 diff  
 chk L Mon  
 Farqu + Almas  
 FB 16.18  
 45  
 182.78 x

Cross on Rock

Cont. p. 33

1.50%

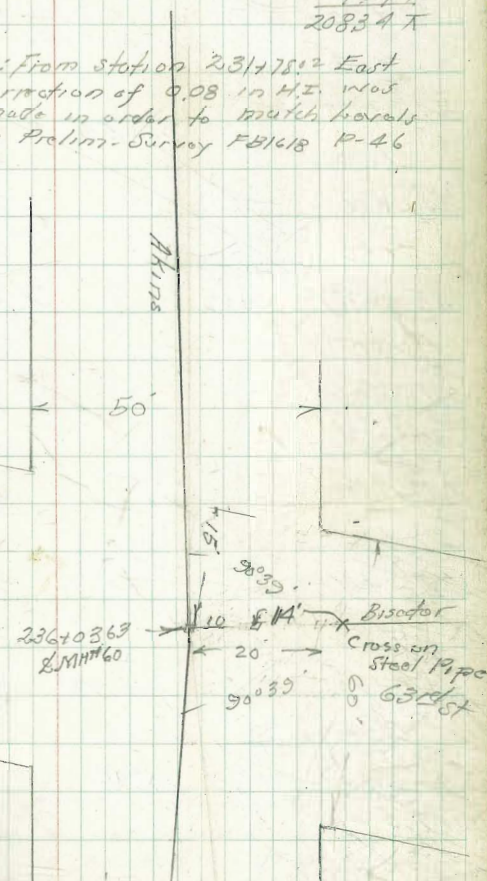
Lincoln Trunk Sewer Const.

Stations	182.78	Const.	Flow	Flow	
		Filey	Stakes	Flow base	
227+50		2.25	180.53	169.41	
228+00		3.96	178.82	170.13	
+50		4.58	178.20	170.86	
229+00		6.60	176.18	171.58	
+50		4.04	178.74	172.31	
230+00	11.52	193.68	0.62	182.16	173.03
+50		10.57	183.11	173.76	
231+00		9.24	184.44	174.48	
+40		8.42	185.26	175.06	
231+78.02	193.68	7.14	186.54	175.67	
232+20	193.76	5.76	188.00	176.28	
+60		4.01	189.75	176.92	
233+00		2.74	191.02	177.56	
+50		1.61	192.15	178.36	
234+00		10.30	183.46	179.16	
+50		9.02	184.74	179.96	
235+00	191.34 191.42	5.24	186.13	180.76	
+35		4.96	186.46	181.32	
+70		4.32	187.10	181.88	
236+03.63		4.67	186.75	182.42	
+50		3.53	187.89	183.16	
237+00	208.34 208.42	13.88	194.54	183.96	
+50		8.44	193.98	184.76	
238+00		6.43	201.29	185.56	
+50		7.39	201.03	186.36	

Cuts

11.12
8.69
7.34
4.60
6.43
9.13
9.35
9.96
10.20
10.92-W
10.85-E
11.72
12.83
13.46
13.79
4.30
4.78
6.42
5.14
5.22
4.33
4.73
10.58
15.22
16.43
14.67

Note: From station 231+78.02 East a correction of 0.08 in H.I. was made in order to match horcols in Prelim. Survey FB1618 P-46



182.78
0.62
182.16 TP
11.52
193.68
7.95
185.73 TP
5.61
191.34
9.43
Nail on Bridge Rail = 200.77 TP
7.57
208.34

Lincolnton Trunk Sewer Const.

Stations	208.34 208.42	208.24 208.76	208.24 208.76	208.24 208.76	208.24 208.76
239+00	1.60%	5.66	202.76	187.16	
+50		5.00	203.42	187.96	
+75		6.18	202.74	188.76	
240+00	MH #61	6.76	201.48	189.55	
240+49.23	14° 38' 00" - Map	6.60	201.64	190.08	
241+00		5.68	202.56	190.60	
+50		5.11	203.13	191.13	
242+00		4.63	203.61	191.65	
+50		3.88	204.36	192.18	
243+00	210.59	6.30	204.29	192.70	
+50		3.20	204.34	193.23	
244+00		6.25	204.36	193.75	
+50		6.11	204.49	194.29	
245+00	POT MH 62	5.97	204.62	194.80	
+50	10.5%	7.37	203.22	195.23	
246+00		5.03	205.56	195.85	
+50		4.14	206.45	196.38	
247+00		3.54	207.05	196.90	
+50		2.83	207.76	197.43	
248+00		2.08	208.51	197.95	
+50		8.92	209.11	198.48	
249+00	218.03	7.81	210.23	199.00	
+50	POT	1.68	216.35	199.52	
249+98.35	MH 63 65th St.	5.78	212.25	200.05	
250+50		5.18	212.85	200.52	
251+00	0.38%			200.58	

Cuts

15.60
15.46
13.88
11.93
11.56
11.96
12.00
11.96
12.18
11.59
14.64
11.11
14.13
10.73
10.74
10.33
10.33
10.68
7.89
9.71
10.07
10.15
10.33
10.56
10.63
11.22
16.83
12.20 12.22
12.27 12.33

Re run:  
stakes been run  
over

File  
Map } - Corrected by  
raising 0.08  
see Note 2-33

Chas. Cop Tuck  
& Akins #65  
FB 1618  
+8

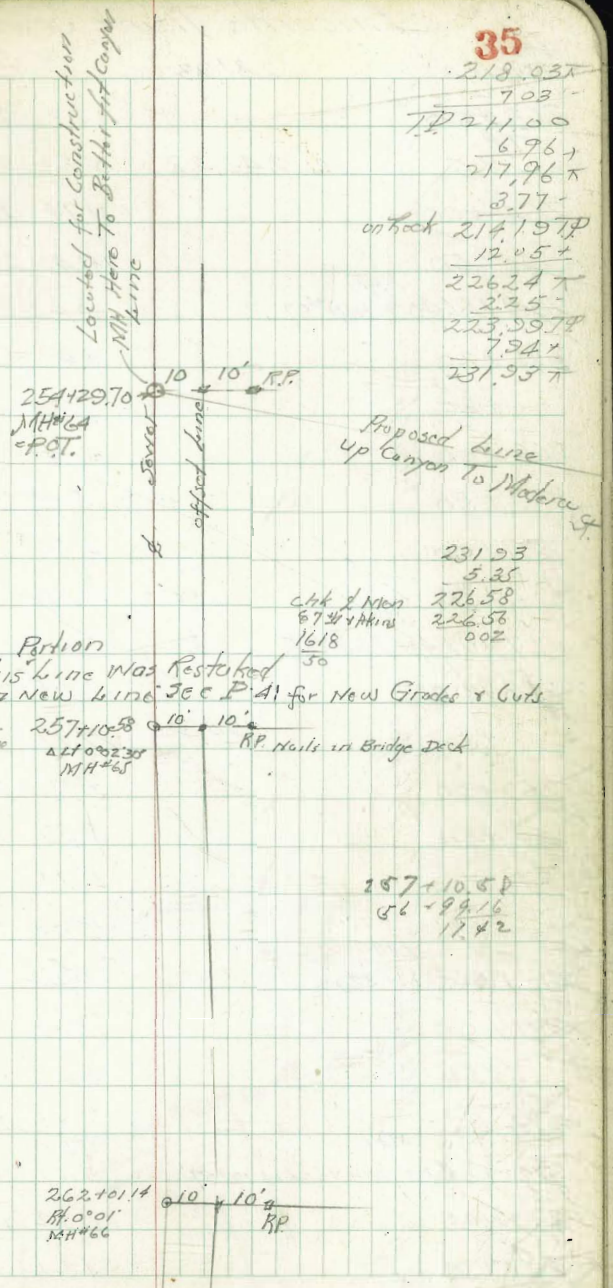
Note: Changed Grade from 10.5% to  
0.98% from sta. 249+98.35 to 252+00  
to give 0.10 clearance at E 36" Water  
Main City Pipe Line  
by per. Phelps & Hoyer 2-4-44  
1710 King Street in Grade of Sewer at  
Station 252+00

208.34
6.61
201.73
- 201.82
0.09
Above TP = 201.73
6.43
208.16
2.48
209.68
203.76 TP
6.33
210.59
1.21
209.18 TP
8.85
218.03
1.97
216.06
OK
218.03 - 7 Cont.

Encanto Trunk Sewer Const.

Station		Elev. Stokes	Elev. Flow Line
251+50		10.14	207.89
252+00		8.89	209.14
750		7.46	210.57
253+00		7.03	211.00
253+50		6.99	210.97
254+00		6.93	211.03
254+29.70	MH #64 for A	6.89	211.13
254+50		6.70	211.26
255+00		5.45	212.51
750		4.82	213.14
256+00		4.55	213.41
750		4.24	213.72
256+80	MH #65	4.21	213.75
257+10.58	MH #65	4.39	221.85
257+50		12.51	213.73
258+00		11.60	214.64
750		9.69	216.55
259+00		9.73	216.51
750		7.95	218.29
260+00		5.60	220.64
750		7.87	224.06
261+00		6.64	225.29
750		5.31	226.62
262+01.14	MH #66	4.32	227.61
750		4.54	227.39

Cuts	
6.79	6.88
7.51	7.64
8.42	8.52
8.32	8.40
7.77	7.82
7.00	7.33
7.09	
7.01	
7.73	
7.84	
7.58	
7.37	
7.08	
14.83	
5.71	
5.32	
5.93	
4.59	
5.07	
6.12	
8.24	
8.17	
8.20	
7.86	
6.37	



35

218.937
7.03
TP 211.00
6.961
217.967
3.77
on back 214.197
12.05+
226.247
2.25-
223.9979
7.941
231.937

231.93
5.25
CHK. 2 Men
6.75 + 16.18
226.58
226.38
0.02

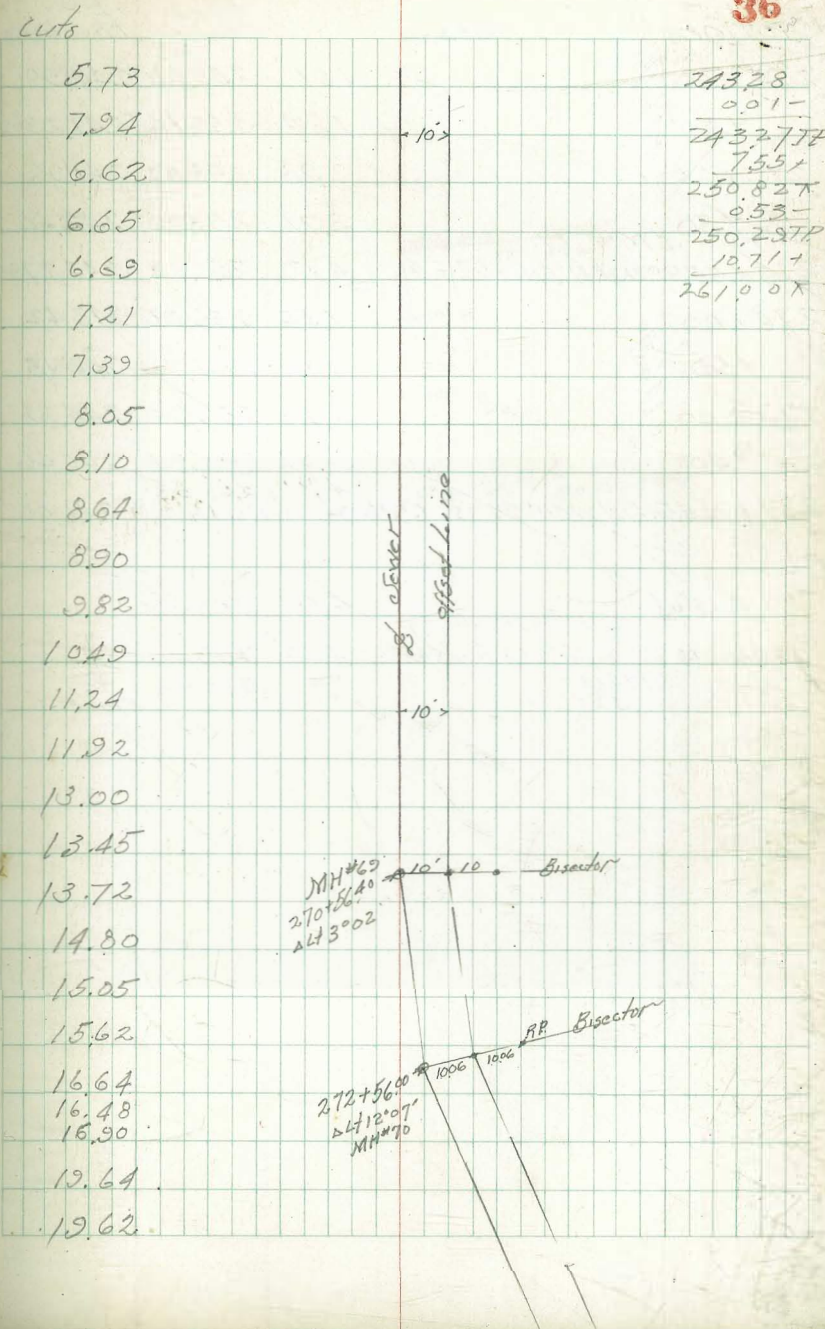
257+10.58
56-9916
12.42

262+01.14  
 11.0' 01'  
 MH #66  
 10' 10'  
 R.P.

1-27-40

Encanto Trunk Sewer Const.

Stations		231.93		Elev. Stakes	Elev. Flow Line	
263+00	2.5%		3.88	228.05	227.32	5.73
+50	11.72	243.28	0.37	231.56	223.62	7.94
264+00			11.74	231.54	224.92	6.62
+50	POT.		10.41	232.87	226.22	6.65
264+86.40	L.M.H.#67		9.42	233.86	227.17	6.69
265+20			8.41	234.87	227.66	7.21
+50			7.80	235.48	228.24	7.39
266+00	1.76%		6.41	236.87	228.82	8.05
+50			5.69	237.65	229.55	8.10
267+00			4.36	238.92	230.28	8.64
+35	POT.		3.59	239.69	230.79	8.90
267+71.40	L.M.H.#68		2.13	241.15	231.33	9.82
268+00			1.05	242.23	231.74	10.49
+50	1.46%	250.82	7.11	243.71	232.47	11.24
269+00			5.70	245.12	233.20	11.92
+50			3.89	246.93	233.93	13.00
270+00			2.71	248.11	234.66	13.45
+30			2.00	248.82	235.10	13.72
270+56.40	L.M.H.#69 10.71 3.002	261.00	0.53	250.29	235.49	14.80
271+00	1.46%		9.83	251.17	236.12	15.05
+50			8.53	252.47	236.85	15.62
272+00	1.46%		6.78	254.22	237.58	16.64
+30			6.50	254.50	238.02	16.48
272+56.00	L.M.H.#70 12.07 3.002		5.70	255.30	238.40	16.90
273+00			2.32	258.68	239.04	19.64
+50	1.46%		1.61	259.39	239.77	19.62

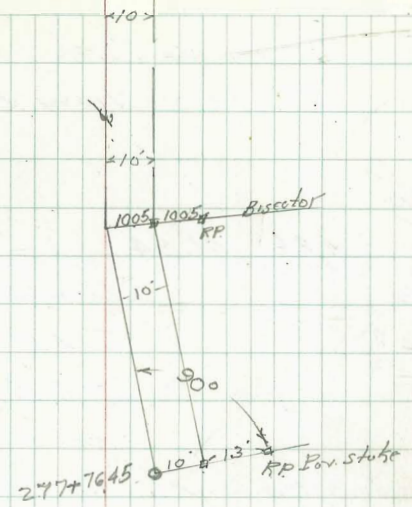


243.28  
0.01  
243.2778  
7.55  
250.827  
0.53  
250.2978  
10.71  
261.007

Encanto Trunk Sewer Const

Stations	261.00	Elev. Stake	Elev. Flow Line	cuts
274+00	1.91	259.09	240.50	18.59
+50	1.84	259.16	241.23	17.93
275+00	2.98	258.02	241.96	16.06
+30	3.71	257.29	242.40	14.89
TP. 2 1/2" N.H. # 76	4.12	256.88	242.77	14.11
275+55.00 = 2 1/2" # 11.50	1.59	256.05	243.42	12.63
276+00	3.03	254.61	244.15	10.46
+50	4.70	252.94	244.88	8.06
277+00	5.07	252.57	245.46	7.11
+40	4.11	253.53		
277+76.45 = End = N.H. # 72 = 2 1/2" 6.9th St. on north		246.00		7.53

2 Stub. Top Box Culvert 4.11 253.53  
 Chk BM 2" Pipe S.V.L. Imp. # 65th FB 1618 4.19 253.45  
 52 253.46  
 .01 Error



1-19-44

## Encanto Trunk Sewer Const.

Stations

Elev. Stakes Elev. Flow line

Cuts

38

Walker  
Hazard  
HardinGrades for Tunneling  
at Ocean View Blvd.

Station		Elev. Stakes	Elev. Flow line
	4.86	46.94	42.08
34+19		4.64	42.30
744		4.57	42.37
+70		3.75	43.19
775			34.30

Station		Elev. Cross
	5.15	47.47
		42.32

34+51	on Bell	10.23		
"	" Bottom Bell	11.26	36.21	34.19
34+24		10.44		
34+24		11.31	36.16	34.05

Station		Elev. Cut	Murk	P-18
	4.81	46.89	42.08	MH 93+9826
44+19		4.60	42.29	33.76

8.54 Cross Reset this one see 44+19 below  
 8.28 on 1/2 Sewer on Poring  
 8.17 " " " "  
 8.22 " " " "  
 9.14 " " " "  
 8.97 " " " Top Ret Well

Note. Per instruction A.W. Jorgensen  
 Grade change made from 86+94.63  
 to station 98+32 to clear existing  
 6" x 8" Sewers at Ocean View  
 Blvd Crossing  
 Grades P-17-19

Jan 20-44

36.41 Top 24"

36.27

P-18

8.53 Grads only (Reset)



Incanto Trunk Sewer Const.

Stations

Filey. Elev.  
Stakes Flow Line

Grades for Tunnel at Imp. Rec

	$\pi$ 64.26		Elev. Flow Line
110 + 64.5 = Sdgs. Post	4.35	59.91	45.78
110 + 99.2 = " "	4.49	59.77	46.09
111 + 05.7 = MH = 28-P-21		59.77	46.14

Cuts

445th & Trip

B.M. C.T. 4d Ply  
P. 21

59.88

4.381

64.26  $\pi$

+ 14.13	= Cross on Poling & Sewer
+ 13.68	Nail " " " "
+ 13.63	= Above Nail 6.37' South on E Sewer

1-27-44  
Stations

Encanto Trunk Sewer Const.  
Elev. Flow Line  
Stakes

Cuts

Re-run Levels over cut stakes

From Station 240+49.23

to " 243+00 Page 34

Stations

4.24 208.86  
Refs Elev. Flow Line  
Stakes El. Stake  
10' 4" 27  
245' 10" 27

P. 34

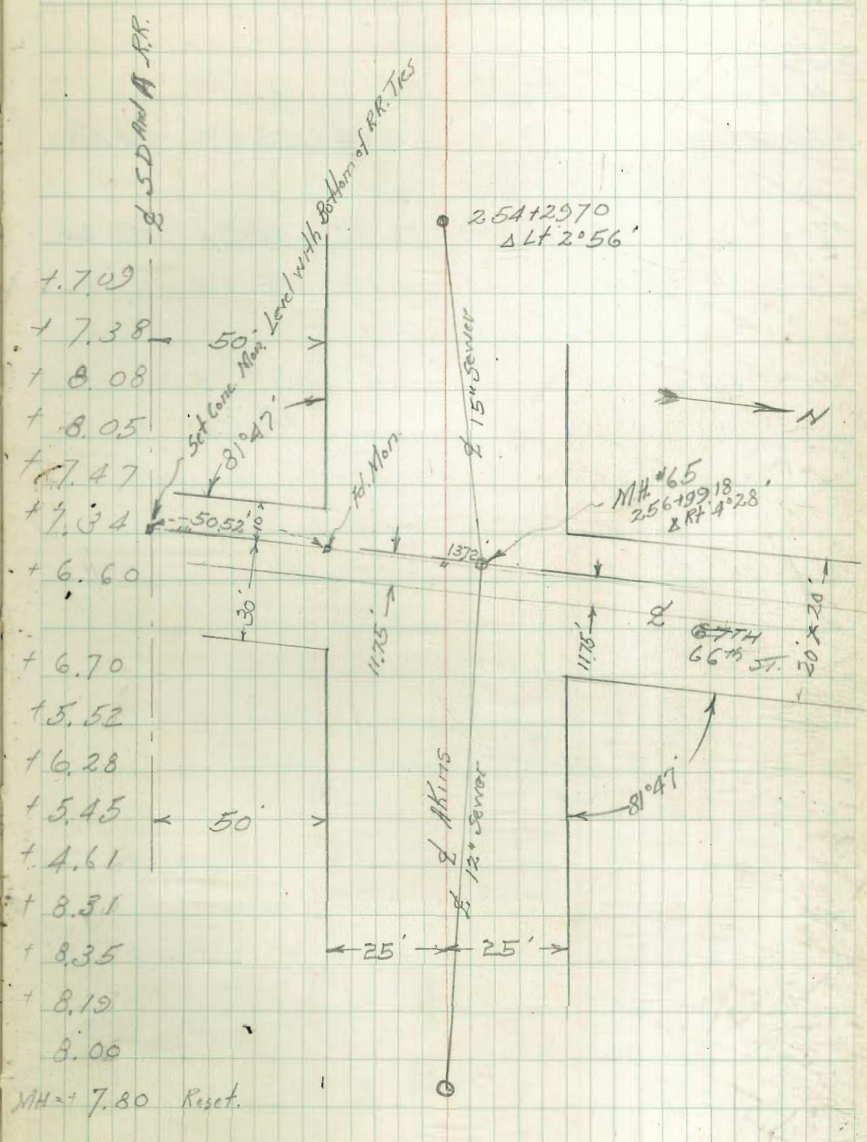
244+50	4.38	204.48	193.75	10.71	0.2
244+00	4.51	204.35	193.23	11.12	0.1
243+50	4.56	204.30	192.70	11.60	0.1
243+00	4.51	204.35	192.18	12.17	0.1
242+50	5.25	203.61	191.65	11.96	✓
242+00	5.73	203.13	191.13	12.00	✓
241+50	6.30	202.56	190.60	11.96	✓
241+00	7.23	201.61	190.08	11.53	0.02
240+49.23 NH#61	7.39	201.47	189.55	11.92	0.1

This portion re-run because of heavy traffic over construction stakes in Roadway

Walter  
Hazard  
Hordin  
2-9-44

Encanto Trunk Sewer  
Grades for line change  
from MH #64 to MH #65  
Line change per H.W. Jorgensen (City Eng'r)  
in order keep from cutting through Railway  
at 66th and to 17th St

Station	8.74 on stake	Elev.	Flow Line
254+29.70 P.35	8.04	219.17	211.13
-1 MH #64			
254+29.70 = Δ Lt 2°58'	8.04	211.13	204.04
+50	7.54	211.63	204.25
255+00	6.31	212.86	204.78
+50	5.82	213.35	205.30
256+00	5.87	213.30	205.83
TP 8.91			
+50	MH #65	222.60	206.35
256+99.18 = Δ Lt 4°28'	9.12	213.48	206.88
257+00	Left out		208.18
+50	7.72'	214.88	208.18
258+00	7.62'	214.98	209.46
+50	5.58'	217.02	210.74
259+00	5.09'	217.51	212.06
+50	4.65'	217.95	213.34
TP 12.13'	3.44	219.16	213.34
260+00	8.36	222.93	214.62
+50	7.04'	224.25	215.90
261+00	5.92'	225.27	217.18
+50	4.84'	226.45	218.45
262+01.68 } Δ Lt 1°33'30"	3.74'	227.55	219.75
262+01.14 } Equal 100'	3.92	227.37	
chk 262+50 P.35		227.39	
		0.02	



MH # 7.80 Reset.

Walker  
Huffman  
Hazard

Encanto Trunk Sawer

21844

And Additional Notes

Station:

517. Bolt 0.06

2' at 157+60 P.26 96.39

26.33

chk 157+35

2.64

93.75

84.58

157+61

2.71

93.68

84.84

158+05.97 = MH40

1.76

94.63

chk 157+00

2.46

93.23

93.22

0.01

44

7.9.17 - New - (Stake had been run over)

8.84 7.75 Lt on Nail N-side Bridge Timber

Encanto Trunk Sewer Const.

Final Total Length + Sizes from E.M.H. to E.M.H.

Stations	Size	Length
0+00		
3	27" VC	3995.95 = 27"
39 + 95.95 = 40 + 10.95	24"	492.25
492.25		
45 + 03.20 45 + 10.95	24"	2050.35
2050.35		
65 + 61.70 = 68 + 04.85	24"	586.53
586.53		
73 + 41.38 73 + 61.38	24"	1302.30
1302.30		
86 + 90.68 86 + 94.63	24"	707.42
707.42		
94 + 02.05 94 + 00.58	24"	866.60
866.60		
102 + 67.18	X 24" VC	6005.45 = 24"

Cont. Next Page



Stations	Size	Length
102 + 67.18	5130	
1977.75	21" VC	1977.75
122 + 44.43 123 + 31.81	Equation Ahead	3473.26
3473.26		
158 + 05.07	X	5450.51 = 21" VC
493.43	18"	493.43
162 + 98.50 162 + 94.66	Equation Ahead	1755.34
1755.34		
180 + 56	X	2248.77 = 18" VC
7649.18	15"	7649.18 = 15" VC
256 + 99.18	X	
502.50	12" VC	502.50
262 + 01.68 262 + 01.14	Equation Ahead	1575.31
1575.31		
277 + 16.45 = End of Line	12" VC	2077.81 = 12" VC



Walker  
Hazard  
Harden  
Jeggs.  
5-31-44

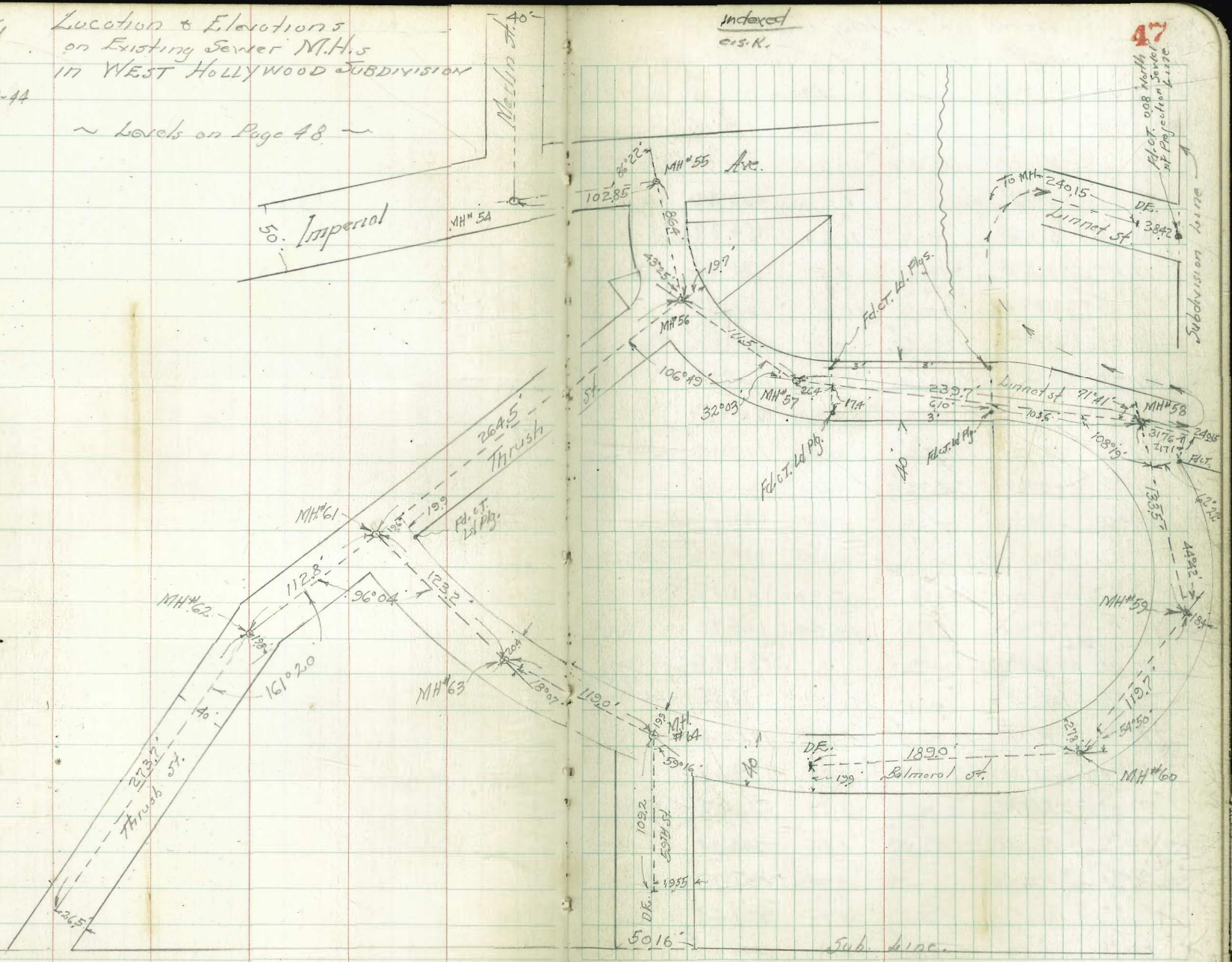
Location & Elevations  
on Existing Sewer M.H.'s  
in WEST HOLLYWOOD SUBDIVISION

~ Levels on Page 48 ~

INDEXED  
C.S.K.

47

Elev. 008 North Sewer at Projection Line



Walter  
Hazard  
Appraisal  
Boggs-31-49

Levels on Existing Sewer M.H.s.  
in West Hollywood Subdivision.

Location P. 47

	4.78	166.49		161.71	NE B.M. No. 1 on Lot Pl. Mechan's Strip
on Rim MH#54 in Median			6.03 5.57	160.46	
" Flow Line			11.60	154.89	
MH#55 on Rim			4.87 5.85	161.62	
" " " Flow			10.72	155.77	
TP#1	12.78	179.12	0.15	166.34	
MH#56 on Rim			11.48 6.75	167.64	
" " " Flow Line			18.23	160.89	
TP#2	12.50	191.52	0.10	179.02	
TP#3	3.57	194.96	0.13	191.39	
MH#61 on Rim			3.45 16.45	191.51	
" " " Flow			20.94	174.02	
" 62 on Rim			2.30 16.32	192.66	
" " " Flow			19.23	175.73	
on Rim on DE. 273.7' South of MH#62			11.11 5.5	183.85	
" Flow DE.			16.61	178.35	Moved by String & Lbl. Weight.
TP#4	11.71	203.10	3.57	191.39	
MH#63 on Rim			3.44 6.16	199.66	
" " " Flow			9.60	193.50	
TP#5	12.87	215.81	0.16	202.99	
MH#64 on Rim			8.09 6.22	207.77	
" " " Flow			14.36	201.45	
TP#6	6.59	219.60	2.80	213.01	

219.60

DE. end south on Rim	3.09	216.51			Flow Above by String & Lbl. wt.
" " " " Flow	9.39	210.21			
TP#7	1.59	209.09	12.10	207.50	
on DE. 189' W. MH#60			2.98 5.2	206.11	by String & Lbl. wt.
" Flow " "			8.38	200.71	
MH#60 on Rim			5.80 5.68	203.29	
" " " Flow			11.48	197.61	
" #59 on Rim			7.46 5.72	201.63	
" " " Flow			13.12	195.90	
TP#8	13.04	221.79	0.34	208.75	
TP#9	8.04	229.60	0.23	221.56	
Rim on DE. 240.15 East of MH#58			2.60	227.00	
" Flow " "			11.0	218.60	See P. 75 for True Elev.
TP#10	0.21	216.75	13.06	216.54	
chk TP#8			8.00	208.75	
TP#11	0.55	204.38	12.92	203.83	
MH#58 on Rim			3.56 6.94	200.82	
" " " Flow			10.40	193.98	
TP#12	0.27	192.11	12.54	191.84	
TP#13	0.26	179.67	12.80	179.31	
MH#57 on Rim			0.94 6.16	178.73	
" " " Flow			7.10	172.57	
TP#14	1.93	169.50	12.10	167.57	
chk. Starting B.M.			7.82	161.68	
				161.71	
				0.03	



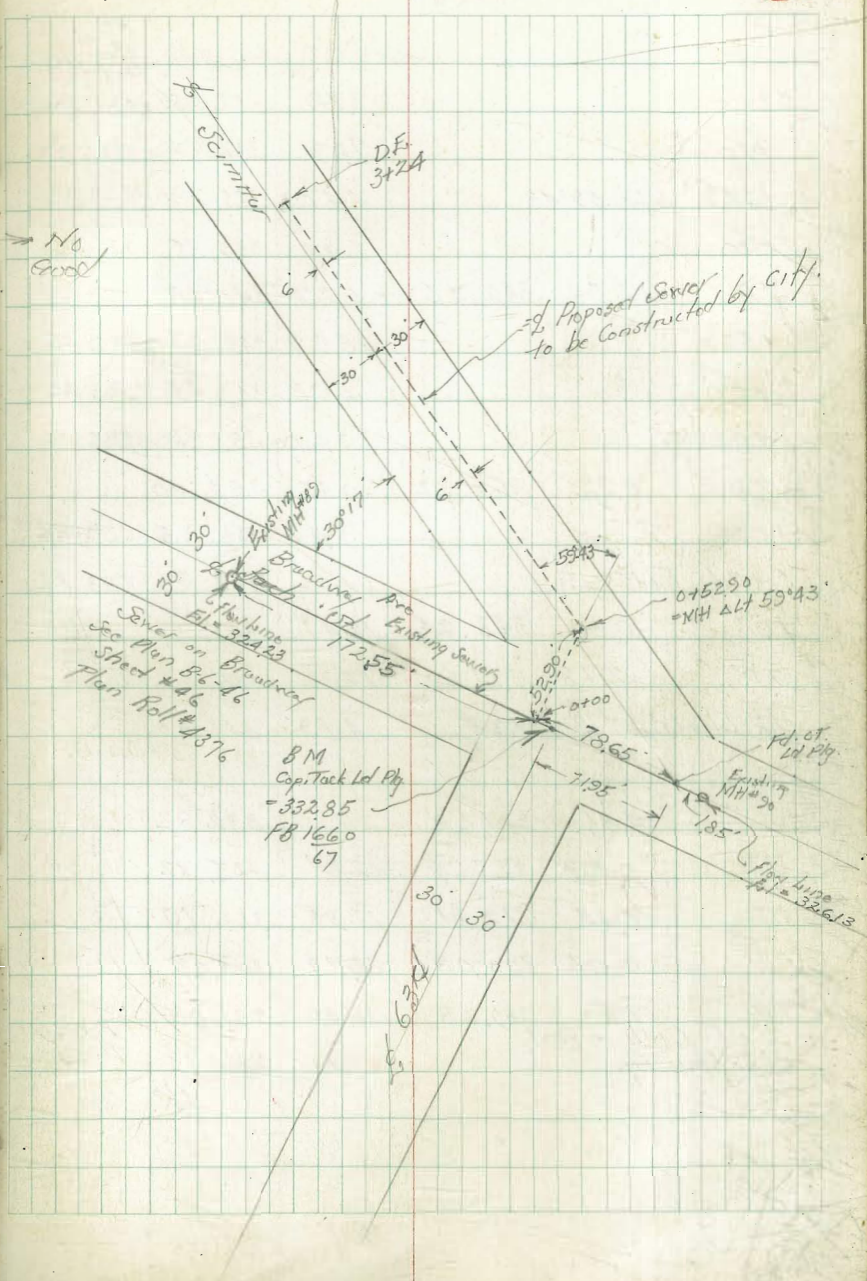
Walter Hazard  
Grades for Sewer Construction  
on Scimitar Drive and Back Street  
Hardin 6-22-44

	12.24	315.92		303.18	B.M. 5 1/2 Top Hyd. Wunderlin + 63rd
T.P.	10.68	326.03	0.07	315.35	
T.P.	11.14	336.92	0.25	325.78	
T.P.	5.98	338.82	4.08	332.84	SW Top Hyd Back + 63rd
on Rim MH # 90		4.03		334.79	
" Floor " "		13.98		324.84	
chk Top of N.E. Back + 63rd		7.31		331.51	

Above starting B.M. Evidently has been moved

	10.2.2	247.85		237.63	B.M. E. Main + 63rd Brooklyn
T.P.	12.42	259.93	0.34	247.51	
T.P.	12.26	271.98	0.21	259.72	
T.P.	13.06	284.73	0.31	271.67	
T.P.	12.94	297.47	0.20	284.53	
T.P.	12.87	310.15	0.19	297.28	
chk. Above Top Hyd			5.67	304.48	332.18
T.P.	12.91	322.40	0.66	309.49	
T.P.	12.85	334.95	0.30	322.10	
T.P.	6.21	340.35	0.81	334.14	
chk Stack W. Hy. & Back + 63rd			7.53	332.82	332.85 - FB 1660 67
Rim MH # 89		6.88		333.47	
Floor " # 89		16.12		324.23	(Plan) 326.51
Rim MH # 90		4.27		336.08	
Floor " # 90		14.22		326.13	(Plan) 328.28
chk. NW. Top of Back + 63rd		7.53		332.82	

Cont. p. 50



Cont. from P 49  
340.35

			El. Station	El. Flow Line 325.50 =	Cuts Main Line on Broadway North	Offsets
0+00			7.72	332.63	325.70 - to	4'4"
+20			7.69	332.66		
+52.90	Δ 4 59° 43'		4.47	335.88		
1+00			1.00	339.35		
TP	12.38	352.46	0.27	340.08		
+50			8.99	343.47		
2+00			5.03	347.43		
+50			0.60	351.86		
TP	8.32	360.32	0.46	352.00		
3+00			3.47	356.85		
+24 = End			1.36	358.26		
TP	0.33	348.24	12.41	347.91		
TP	2.18	337.60	12.82	335.42		
chk. Id. & Cont. L. Back + 63'			4.79	332.81		
				332.85 =	Survey.	
				0.04		
	4.81	337.63		332.82		
TP	0.23	325.65	12.21	325.42		
TP	0.14	312.81	12.98	312.67		
TP	0.06	300.08	12.79	300.02		
TP	1.60	289.28	12.40	287.68		
SE. Colli. & Back					FB 1369	
chk. Brass Peg			7.15	282.13	P-64	
					OK.	

Walker  
Herdin  
Beggs  
11-27-44

Grades Sewer Construction 4" V.C.  
To Serve Seale House Garbage Disposal  
Const. by City Gov.

4.28 6.40

1.42

5" M. Rim MH  
#26

0+00

0+40

+80

1+20

+48 - End

INDEXED

WK  
OCT 29 1948

4.01

2.39

0.00

3.37

3.03

0.28

1.07

5.33

0.56

2.68

3.72

0.84

3.34

3.06

1.04

+2.39

+2.75

+4.77

+2.88

2.02

0+00  
P.H.M.  
(Plan by  
Newcomb)

1" S.D.  
P.H.M.

6" V.C.

6" V.C.

418.3

10' - Highway

5" S.D.  
P.H.M.

Stick Seale House

18°45'

18°

14°

10°15'

1°45' - End Line

3.5'

0+00

142°40'

Turned

-13.35'

10' -

5" S.D.  
P.H.M.

5" S.D.  
P.H.M.

This Line Grade 30.5  
Page 15, 16, 17, 18

5" S.D.  
P.H.M.



Walker  
 Hazard  
 Rardin  
 4-23-45  
 CONSTRUCTION GRADES - 16" WATER MAIN  
 ON 11th AVE. FROM "A" TO "B" - C  
 AND ON "B" ST. FROM 11th AVE TO 25th ST  
 PLANS NO 6393, 6394, 6395, 6396 - L

INDEXED  
 W.K.  
 OCT 29 1948

B.M. N.W. & P.

Station	7.10	20.05	82.95	80.80	Cuts
0+00 = L. Exst. 24" Main			82.95 Elev.	80.80 Elev. Tramb	
0+10 = Beginning this Contract	4.70		85.35	80.64	4.71
+15 = Δ 45° Lt.	4.88		85.17	80.56	4.61
+22.07 = Δ 45° Rt.	4.63		85.42	80.46	4.96
+50 = Bk.	4.35		85.70	80.02	5.68
1+00	4.60		85.45	79.72	5.73
+50	4.84		85.21	79.42	5.79
2+00	5.12		84.93	79.12	5.81
+50	5.36		84.69	78.82	5.87
3+00	5.62		84.43	78.52	5.91
+50	5.97		84.08	78.22	5.86
+86.52 = Δ Lt 90°	5.66		84.39	78.00	6.39
T.P. 112.8	25.67	5.66	84.39		
4+25 = Bk.	10.29		85.38	81.00	4.38
+50	8.76		86.91	82.47	4.44
5+00	5.89		89.78	85.41	4.37
+50	2.96		92.71	88.35	4.36
T.P. 6.99	101.30	1.36	94.31		
6+00	5.62		95.68	91.29	4.39
+37.5 = Bk.	4.53		96.77	92.40	4.37
+50	4.59		96.71	92.40	4.31

101.30

6+87.5 -Brk			4.99	26.31	22.40	3.21
7+20			6.08	25.22	21.10	4.12
+50			7.36	23.94	22.90	4.04
8+00			9.46	21.84	27.90	3.94
+50			11.37	22.93	25.90	4.03
+87.5 -Brk.			12.65	88.65	84.40	4.25
TP	12.95	103.36	10.88	20.42	21.31	
9+00			14.73	88.63	84.40	4.23
+50 Brk			14.40	88.96	84.40	4.56
+75 Brk			14.46	88.90	85.00	3.90
10+00			12.64	20.72	26.40	4.32
+50			8.39	24.97	20.60	4.37
11+00			4.18	22.18	24.80	4.38
TD	13.03	116.04	0.35	103.01		
11+50			12.59	103.45	99.00	4.45
+87.5 Brk			10.21	105.83	101.40	4.43
12+20			8.90	107.14	102.34	4.80
+50 Brk			8.63	107.41	103.20	4.21
13+00			6.34	109.70	105.50	4.20
+50 Brk			3.93	112.11	107.80	4.31
14+00			1.80	114.24	108.80	5.44
+25 Brk			1.40	114.64	109.30	5.34
+50 Brk			1.66	114.38	109.00	5.38
+75 Brk			2.66	113.38	108.10	5.28
15+00 Brk			5.32	110.73	106.50	4.22

	11604	"B" St. 16" Water Main Const.			Ele. Bottom Trends	
15+50			10.54	105.50	101.25	4.25
T.P.	0.60	103.70	12.94	103.10	-	
16+00			3.55	100.15	96.00	4.15
+50 Brk			8.60	95.10	90.75	4.35
+70 Brk			3.33	94.37	89.45	4.92
17+00			10.10	93.60	88.70	4.90
+30 Brk			11.03	92.67	87.96	4.71
+50 Brk			13.01	90.69	86.50	4.19
T.P.	0.51	91.33	12.88	90.82		
18+00			6.28	85.05	80.84	4.21
+50			11.94	79.39	75.17	4.22
T.P.	1.50	79.80	13.03	78.30		
18+80 Brk			3.77	76.03	71.77	4.26
19+00			6.03	73.77	68.89	4.88
+20 Brk			8.23	71.57	66.00	5.57
+40 Brk			9.80	70.00	64.00	6.00
+50			9.55	70.25	64.00	6.25
+75 Brk			7.94	71.86	64.00	7.86
20+17.5 Brk			7.82	71.98	65.70	6.28
+50			8.03	71.77	65.70	6.07
21+00			8.50	71.30	65.70	5.60
+50			8.99	70.81	65.70	5.11
T.P.	2.32	73.37	8.75	71.05	65.70	
22+00			3.12	70.25	65.70	4.55
+50			2.93	70.44	65.70	4.74

Elev. Bottom  
Trench

Cuts

23+00	Brk.		3.54	69.83	65.70	4.13
+50			4.49	68.88	64.70	4.18
24+00			5.51	67.86	63.70	4.16
+50			6.52	66.85	62.70	4.15
25+00	Brk.		7.16	66.21	61.70	4.51
+50			7.14	66.23	61.70	4.53
chk. NW. B.P. "B" 18 <sup>th</sup> St.			5.31	68.06		
		$\times$ Corrected				
		5.31	73.41	68.10	Record	
25+75	Brk.		7.51	65.90	61.70	4.20
26+00			7.89	65.52	61.20	4.32
+50			9.00	64.41	60.20	4.21
27+00			10.15	63.26	59.20	4.06
T.P.	5.18	68.21	10.38	63.03		
+50			5.93	62.28	58.20	4.08
T.P.	7.18	71.27	4.12	64.09		
chk. SE. B.P. "B" & 20 <sup>th</sup>			1.02	70.25		
				<u>70.24</u>	Record	
				0.01		
27+74.49	Alt. 22°30' Brk.		10.59	61.76	57.70	4.06
27+87.56	} Equations = Alt 22°30'		10.21	62.14	57.70	4.44
-27+86.56						
28+00			10.07	62.28	57.70	4.58
+50			10.44	61.91	57.70	4.21
+62.5	Brk.		10.35	62.00	57.70	4.30
29+00			9.37	62.98	58.65	4.33
+50			8.09	64.26	59.91	4.35
30+00			6.70	65.65	61.17	4.48

Const. P-57



"B" St. 16" Water Main Const.  
Cont. from P-56  
72.35

Stations				El. Bottom Trench.		
30+50			5.35	67.00	62.43	4.57
31+00 - Brk			3.76	68.59	63.70	4.89
+35.52 - Brk			2.42	69.86	65.20	4.66
TP	10.13	82.01	0.47	71.88		
31+50			2.28	72.73	68.62	4.11
TP	12.92	94.76	0.17	81.84		
32+00			9.89	84.87	80.42	4.45
TP	11.33	105.75	0.34	94.42		
+50			8.77	96.98	92.22	4.76
TP	11.56	116.92	0.39	105.36		
33+00			7.94	108.98	104.02	4.96
TP	6.64	122.70	0.86	116.06		
+35 <sup>08</sup> - Brk			5.80	116.90	112.30	4.60
+55 "			4.92	117.78	113.00	4.78
+75 "			4.25	118.45	113.00	5.45
34+00 on Fire Pk.			3.36	119.34	114.00	5.34
TP	10.35	132.56	0.49	122.21		
+25 - Brk			11.58	120.98	116.00	4.98
+50			8.49	124.07	119.16	4.91
35+00			2.15	130.41	125.50	4.91
TP	12.90	145.21	0.25	132.31		
+50			8.41	136.80	131.83	4.97
35+75 - Brk.			5.29	139.92	135.00	4.92

Station				Elev.	Bottom Trench	
36+00 = Brk	145.21	2.09	143.12	137.50		5.62
T.P.	11.94 156.33	0.22	144.99			
+25 = Brk		11.77	145.16	139.00		6.16
T.P.	11.50 156.86	corrected	145.36	181671-14		
chk. SW 1/4 BR 8 <sup>th</sup> 22 <sup>nd</sup> St		11.58	145.43			
36+50 = Brk		11.41	145.45	139.95		5.50
+75 "		11.03	145.83	140.45		5.38
37+00 = Brk.		10.30	146.56	141.70		4.86
+50		6.05	150.81	146.00		4.81
38+00		1.69	155.17	150.30		4.87
T.P.	12.80 169.33	0.33	156.53			
+50		9.84	159.49	154.60		4.89
39+00 = Brk		5.86	163.47	158.90		4.57
+20 "		5.26	164.07	160.00		4.07
+40 "		4.69	164.64	160.40		4.24
+60 "		3.24	166.09	161.50		4.59
chk SE BR 23 <sup>rd</sup> 8 <sup>th</sup> St		4.47	164.86			
T.P.	12.05 181.24	0.14	169.19			
40+00		11.20	170.04	165.50		4.54
+50		6.28	174.96	170.50		4.46
+75 = Brk.		3.75	177.49	173.00		4.49
+95.81 - A RT 22 <sup>nd</sup> St		1.88	179.36	174.21		5.15
T.P.	10.88 190.62	1.50	179.74	174.21		
41+58.88 } Equations						
41+07.88 } Δ Lt. 22 <sup>nd</sup> St		11.05	179.57	174.98		4.59
+12.5 = Brk		10.96	179.66	175.25		4.41

18<sup>th</sup> St  
NW BR  
F8 1671-15

Stations	190 62		Elev.	Bottom Trends	
41+50		10.22	180.40	176.19	4.21
+62.5 = Brk.		9.68	180.94	176.50	4.44
42+00		7.30	183.32	178.88	4.44
+50		4.12	186.50	182.06	4.44
43+00		0.99	189.63	185.24	4.39
T.P.	12.44	202.78	0.28	190.34	
+50		10.02	192.76	188.42	4.34
+75 = Brk.		8.41	194.37	190.00	4.37
44+00 Brk.		6.77	196.01	190.75	5.26
+50		4.93	197.85	190.85	7.00
45+00		5.27	197.51	190.35	6.56
+50		5.60	197.18	191.05	6.13
46+00		5.90	196.88	191.15	5.73
+50		6.25	196.53	191.25	5.28
47+00		6.54	196.24	191.35	4.89
+50		6.98	195.80	191.45	4.35
+75 = Brk		7.51	195.27	191.50	3.77
47+86.94 Δ Lt 45°		7.02	195.76	191.58	4.18
+94.01 Δ Rt 45°		6.81	195.97	191.63	4.34
48+09.1 End of Contract.		6.57	196.21	191.73	4.48
chk Riv NW 1/4 25th + B.		6.34	196.44	<sup>This probably</sup> <sub>is orig. records</sub>	
chk L Nail 98+79.87 FB 1671		7.30	195.48		
			195.47 - FB 1671 - 15		
			0.91		

The image shows an open notebook with two pages. The left page is numbered 59 and the right page is numbered 60. Both pages are ruled with horizontal lines and have a vertical margin line on the right side. The pages are blank and show signs of wear, including some faint smudges and discoloration. The notebook is set against a dark background.







INDEXED



Walker  
Hazard  
Hardin  
4-25-45

12th St. WATER MAIN CONSTRUCTION  
From "8" to L. St.

OFFSP. 11  
2014.18 ft.  
El. Bottom Trunk

**INDEXED**  
WK  
**OCT 29 1948**

	1.02	71.25		70.23	57.70
	3.28	67.35	7.18	64.07	57.70
0+00			4.92	62.43	57.70
+25			5.21	62.14	57.70
+50			5.06	62.29	57.89
+100			4.45	62.90	58.26
+150			3.73	63.62	58.64
+200			3.17	64.18	59.01
+277 = Bk			2.54	64.81	59.29
+70			2.08	65.27	59.78
+300			1.70	65.65	60.24
+50 Bk			1.83	65.52	61.00
+875 = Bk			1.64	65.71	61.00
+1125 "			1.03	66.32	61.75
T.P. 10.85	77.11		1.09	66.26	63.00
+375 = Bk			2.05	68.06	63.00
+70			6.43	70.68	65.49
+500			4.07	73.04	67.79
T.P. 12.14	89.10		0.15	76.96	71.62
+50			8.17	80.23	75.45
+150			4.14	84.96	79.28
+75 = Bk			2.14	86.96	81.20
T.P. 401	92.75		0.36	88.74	82.45
+25 "			3.66	89.69	83.00

Cont. P. 66

cuts	offsets
4.73	6' RT
4.44	"
4.40	"
4.64	"
4.98	"
5.17	"
5.52	"
5.49	"
5.41	"
4.52	"
4.71	"
4.57	"
	"
5.06	"
5.19	"
5.25	"
5.34	"
5.48	"
5.68	"
5.76	"
6.29	"
6.09	"

Stations	92.75			Flora Bot. Trench	Cuts	offsets.
7+40.3		3.06	89.69	83.00	6.69	6' Rt.
7+40.3 E		2.97	89.78	83.00	6.78	2 Ditch at cor Track.
7+60.25		3.10	89.65	83.00	6.65	6' Rt.
7+60.25 E		3.06	89.69	83.00	6.69	2 Ditch " "
7+75 Brk		3.70	89.05	83.00	6.05	6' Rt.
8+00		3.34	89.41	82.85	6.56	"
+50		3.60	89.15	82.54	6.61	"
9+00		4.16	88.59	82.23	6.36	"
+50		4.69	88.06	81.92	6.14	"
10+00 Brk		5.28	87.47	81.60	5.87	"
+50		5.84	86.91	81.20	5.71	"
11+00		6.82	85.93	80.80	5.13	"
+50		6.97	85.78	80.40	5.38	"
chk SW BR E+ 1976		7.10	85.66	80.00		
			85.65			
12+00 Brk		7.10	85.65	80.00	5.65	"
+50 "		8.15	84.60	79.00	5.60	"
13+00		2.34	83.41	78.00	5.41	"
T.P.						
+50 1.57	83.80	10.52	82.23	77.00	5.23	"
14+00		2.67	81.13	76.00	5.13	"
+50 Brk		3.90	79.90	75.00	4.90	"
15+00		4.48	79.32	74.75	4.57	"
+45 Brk		4.66	79.14	74.53	4.61	"
+75 Brk		4.40	79.40	74.00	5.40	"
16+00		4.58	79.22	73.87	5.35	"

19<sup>th</sup> St. WATER Main - from "8<sup>th</sup> to L. St.

83.80

Elev.  
Bottom Trends

Cuts      offsets

16+50			4.81	78.99	73.62	5.37	6' Rk
17+00			5.06	78.74	73.37	5.37	"
+50			5.30	78.50	73.12	5.38	"
18+00			5.56	78.24	72.87	5.37	"
+50			6.21	77.59	72.62	4.97	"
+75=Bk.			6.59	77.21	72.50	4.71	"
19+00			7.43	76.87	71.88	4.49	"
+50			8.29	75.51	70.63	4.88	"
<sup>TR</sup> 20+00	0.71	75.03	9.48	74.32	69.38	4.94	"
+50			1.89	73.14	68.13	5.01	"
21+00			3.11	71.92	66.88	5.04	"
+50			4.27	70.76	65.63	5.13	"
22+00 =Bk			5.43	69.60	64.38	5.22	"
+50			7.11	67.92	63.29	4.63	"
23+00			7.29	67.74	62.20	5.54	"
+37.5=Bk			9.07	65.96	61.40	4.56	"
+70			8.33	66.70	61.40	5.30	"
24+00 "			8.17	66.86	61.40	5.46	"
+50			7.92	67.11	61.65	5.46	"
<sup>TR</sup> 25+00	5.81	73.10	7.74	67.29	61.90	5.39	"
+50			5.57	67.53	62.15	5.38	"
26+00 =Bk.			5.43	67.67	62.40	5.27	"
+50			5.41	67.69	62.52	5.17	"
27+00			5.30	67.80	62.63	5.17	"

67

Station	7310			Feet Bottom Trans	Cuts	offsets
27+50		5.09	68.01	62.75	5.26	6 ft.
28+00		5.00	68.10	62.86	5.24	'
+50		4.86	68.24	62.98	5.26	'
29+00		4.87	68.23	63.09	5.14	'
+50		4.80	68.30	63.21	5.09	'
30+00		4.69	68.41	63.32	5.09	'
+50		4.87	68.23	63.44	4.79	'
30+85-Bik	2.94 71.12	4.22	68.18	63.52	4.66	'
31+00		3.93	68.19	63.38	4.81	'
+50		3.04	68.08	62.93	5.15	'
32+00		3.45	67.67	62.47	5.20	'
+50		3.87	67.25	62.02	5.23	'
33+00		4.34	66.78	61.56	5.22	'
+30		4.50	66.62	61.29	5.33	'
+625-Bik		4.81	66.31	61.00	5.31	'
34+00		5.25	65.87	61.00	4.87	'
+50		5.18	65.94	61.00	4.94	'
34+87.5-Bik		5.17	65.95	61.00	4.95	'
35+20		5.60	65.52	60.55	4.97	'
+50		5.99	65.13	60.13	5.00	'
36+00		6.66	64.46	59.43	5.03	'
+50		7.34	63.78	58.74	5.04	'
37+00		7.98	63.14	58.04	5.10	'
+50		8.65	62.47	57.35	5.12	'
37+75-Bik		9.02	62.10	57.00	5.10	'

7.1.2

38+00	Gate Valve	2.64	61.48	57.00
+25.9	= End Contract	2.69	61.43	57.00

chk NE BP - L St. 1914	8.16	62.96		
		62.98	FB 1671	23
		0.02		

Above

Levels Completed 4-25-45

Walker  
Hazard  
Hurdin  
5-3-45

Elevations on Existing 4" Sewer Laterals  
19th St. Water Main Between K-L St

Stations	5.80	68.76	Elev. Floor 4" Sewers	62.26	BM Above Brass Plq.
35+84			9.14	59.63	
36+86			10.34	58.42	
37+10			10.20	58.56	
37+40			9.45	59.31	
chk 37+00			5.63	63.13	cl
35+35			6.76	62.00	
38+08					Bottom Curve
38+14			10.48	58.28	3/4" Bottom
38+16			9.44	59.32	1" Gas
			11.29	57.47	1" Gas

Cuts affects

4.48	6' 8"
4.43	"

Walker 5-11-45  
Hazard  
Hurdin

19th St. WATER LINE - LEVELS ON TOP  
(Grade was changed from org. Plans  
to clear sewer laterals)  
- New 16" Main - As CONSTRUCTED from

	7.01	72.14	BM on cut Mark	65.13	35+50 P. 68
38+50 on Top Pipe	7.0	65.19			
39+00 " " "	6.86	65.28			
39+50 " " "	6.85	65.29			
30+00 " " "	6.78	65.36			
+50 " " "	6.71	65.93			
+85 " " "	6.58	65.56			
31+00 " " "	6.60	65.59			
+50 " " "	6.87	65.27			
32+00	7.64	69.50			
+50	8.18	63.96			
33+00	8.63	63.51			
+30	8.94	63.20			
+62.5	9.08	63.06			
34+00	9.05	63.09			
+50	9.42	62.72			
+87.5	9.51	62.63			

Cont. P-70

Profile levels Top New 16" Water Line  
19th St  
Cont. from P. 67

84.04

Cont from opp Page 70

35+20	72.14	10.04	62.10
+50		10.33	61.81
35+37.5 = New Brook		10.20	61.99
+85 "		10.67	61.97
36+00		10.72	61.92
+50		11.67	60.57
+85 New "		11.98	60.16
37+00		12.24	59.90
+10 " "		12.44	59.70
+50		13.01	59.13
37+75		13.39	58.75
38+08 = " "		13.95	58.19
+85.9 on L Tee		14.26	57.88
-10' South of E of L-57			
chk NEB.P. L. 19th		2.17	62.97
			62.96 = P-69
5-11-45 - 10:30 am			

19th St Water Line

LEVELS on Top 16" Pipe as Const.  
from Station 12+50 to 81+50  
5.05 84.04 78.99 P-67

12+50	3.04	81.00
13+00	4.08	79.96
+50	5.18	78.86
14+00	6.23	77.81
+50	7.11	76.93

15+00	7.16	76.88
+65	7.45	76.59
16+00	8.09	75.95
+50	8.53	75.51
17+00	8.66	75.38
+50	9.09	74.95
18+00	9.66	74.38
+50	10.45	73.59
+75	11.08	72.96
19+00	11.13	72.91
+50	11.74	72.30
20+00 on 6' offset	12.66	71.38
T.P. 0.31	73.44	10.91
+50	3.31	70.13
21+00	4.65	68.79
+25 = New Brk	4.90	68.54
+50	5.89	67.55
+50	5.89	67.55
22+00	7.42	66.02
+50	9.07	64.37
+81	9.89	63.55
182.3 = Gas Main = Brk Grade	Water 16" Main	5/10/45 true case
23+10	10.69	62.75
+37.5	10.15	63.29
+70	10.0	63.9
24+00	9.77	63.67
+50	9.45	63.99

Flow Line  
17" Lower  
1.42

20150  
P-67  
-01

Levels Top 16" Water Line - 19th St  
Cont. from P-70

73.44

25+00	9.80	63.64	Pipe has been lowered
+50	9.40	69.04	
26+00	9.36	69.08	
+50	9.25	69.19	
27+00	8.91	69.53	
+50	8.61	69.83	
28+00	8.41	65.03	
chk offset 26+00	5.74	67.70	
5-18-45		67.69	P-17
		0.01	

Walker  
Hazard  
5-25-45  
Levels on 19th St Water Main  
from 0

15' South of 2 <sup>nd</sup> St = 0+00	7.36	69.50	62.14	P.M. 0+25 P-65
0+25 Top Pipe	10.34	59.16		
+50 "	10.35	59.15		
1+00	10.25	59.25		
+50	10.04	59.96		
2+00	9.78	59.72		
+37.7	9.04	60.96		
+70	8.40	61.10		
3+00	7.97	61.53		
+50	7.43	62.87		
+87.5	7.04	62.96		
4+12.5	6.98	62.52		
	5.85	63.65		

71

69.50

4+37.5	4.26	65.24	
+70	2.12	67.38	
T.P. 12.46	80.53	1.43	68.07
5+00	10.85	69.68	
+50	6.95	73.58	
6+00	3.11	77.42	
T.P. 12.69	91.64	1.58	78.95
+50	10.48	81.16	
+75	8.68	82.96	
7+00	7.27	84.37	
+25	6.78	84.86	
+40	6.74	84.90	
7+60	6.71	84.93	
+75	6.68	84.96	
T.P. 4.28	93.21	2.71	88.93
8+00	8.44	89.77	
+50	8.50	89.71	
9+00	8.76	89.45	
+50	9.16	89.05	
10+00	9.59	83.68	
+50	9.98	83.23	
11+00	10.92	82.29	
+50	11.37	81.89	
12+00	11.75	81.48	
Cont P-70			
chk SW-B.P. E-19th St	7.55	85.66	P-66
		85.65	
		0.01	

Notes Reduced. 5/28/45  
6  
Plat on Plan.

Walker  
Hardin  
Hurley  
12-19-45

GRADES - SEWER CONSTRUCTION  
17 42nd St. Between Epsilon St.  
And Delta St.  
And Alley West of 42nd St.

Const. by City Greis

(Sketch)  
on A4.

	6.27	59.33		53.06	
TP	7.76	62.53	4.56	54.77	
TP	5.49	55.09	12.93	42.60	
0+00			16.10	38.99	
+35			4.64	50.45	
+70			4.39	50.70	
+105			2.23	45.86	
+140			7.66	47.43	
+175			5.22	49.87	
+190			2.53	52.56	
+190			1.40	53.60	
+225			1.51	53.58	
+260			3.78	51.31	
+275			4.01	51.08	
+275			3.58	51.51	

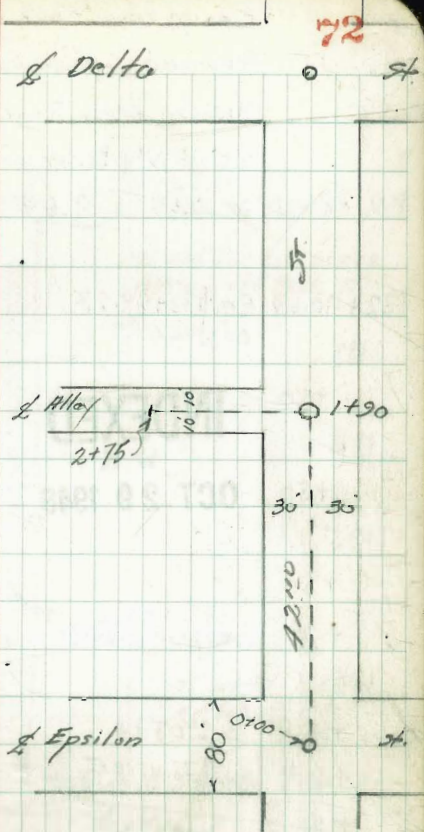
Ground Profile Above Sewer

0+00	Rim MH	5.509	4.60	50.49
+22	Gut. oil Pav.		5.16	49.93
+25			4.7	50.4
+42			4.7	50.4
+54			3.1	46.0
+90			3.1	46.0
+105			7.7	47.4
+140			5.5	49.6

Const. on A4.

INDEXED  
WK  
OCT 29 1948

Cuts	Offsets
7.995	4' ft.
7.40	"
3.75	"
4.52	"
6.15	"
8.04	"
8.82	4'E
8.71	MH 4'N
5.11	
3.55	
3.41	



1+75	2.9	52.2
+90	1.7	53.4
+95	2.8	52.3
+225	3.8	51.3
+60	4.1	51.0
+275	3.6	51.5

72

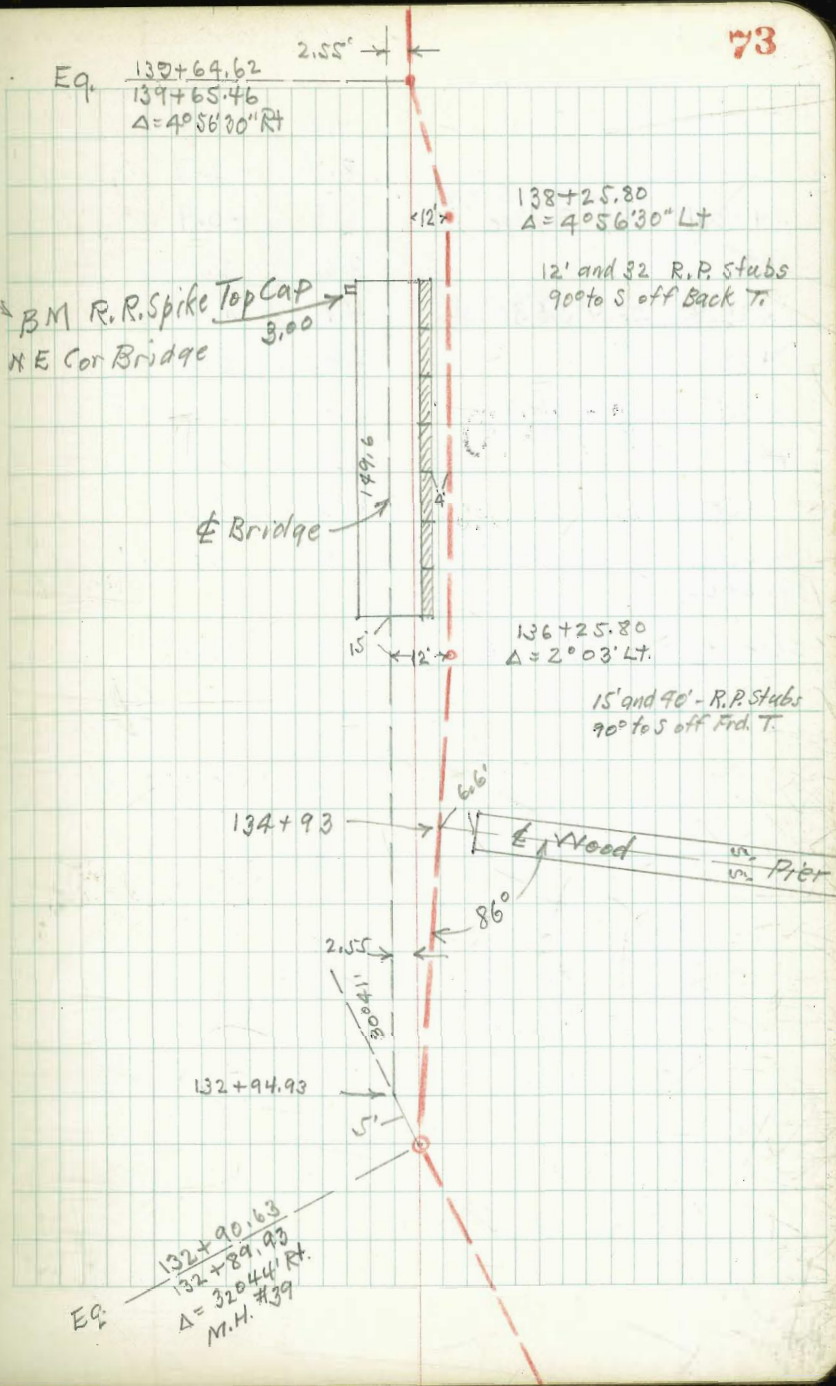


Copied from Book 1690-pp25+26 by G.P.H. 12/28/45

Proposed Siphon Sewer on  
Mission Beach Trunk Sewer  
at most Wly Bridge of old R.R.

C.S. Moore  
Sommermeier  
WFM  
12-27-45

BM. RR Spike	6.67	9.67	3.00	
132+90.63	Eq. 132+89.93	5.6	4.1	M.H. #39
133	$\Delta = 32044' Rt$	5.3	4.4	
+50	<b>INDEXED</b> W.K. <b>OCT 29 1948</b>	5.2	4.5	
134		5.0	4.7	
+50		5.3	4.4	
135		5.0	4.7	
+50		5.2	4.5	
+70	S. edge Shoulder	5.3	4.4	
136		5.6	4.1	
+25.8	$\Delta 2^{\circ}03' Lt$	8.2	1.5	
+40.8	opposite W end Bridge	10.8	-1.1	
+41		12.4	-2.7	
T.P.	8.38	5.68	12.37	-2.70
+55		10.3	-4.6	
+73		10.8	-5.1	
137		12.8	-7.1	
+21		12.1	-6.4	
+28		13.8	-8.1	
+45		12.1	-6.4	
+55		12.5	-6.8	
+68		11.3	-5.2	



	5.68		
137+80		9.8	-4.1
+90		8.4	-2.7
+90.4	opposite E. end RR Bridge	6.6	-0.9
138		3.6	2.1
+25.8	$\Delta = 4^{\circ}56'30''L$	4.1	1.6
+30		4.9	0.8
+55	Sedge Shoulder R.R. Embank	3.1	2.6
139		3.8	1.9
+50		4.2	1.5
139+65.46 139+64.62	Eq. $\Delta = 4^{\circ}56'30''R$	3.8	1.9
check to	B.M. R.R. Spike	2.67	3.01 ✓

Walker Grades - LINNET ST. SEWER  
 2-1-46 East end of st. Sketch P 47

Station P-47

0+00 - LNH# 58 T

BM. 7.72 234.72

on Pav 3' East.

2+10.15 on Flow DE

2+78.57 = End of Linnet st.

7.60

16.72

5.69

227.00

227.12

218.00

229.03

Rim of DE  
 240.15 East  
 of NH# 58

Flow El.

218.00

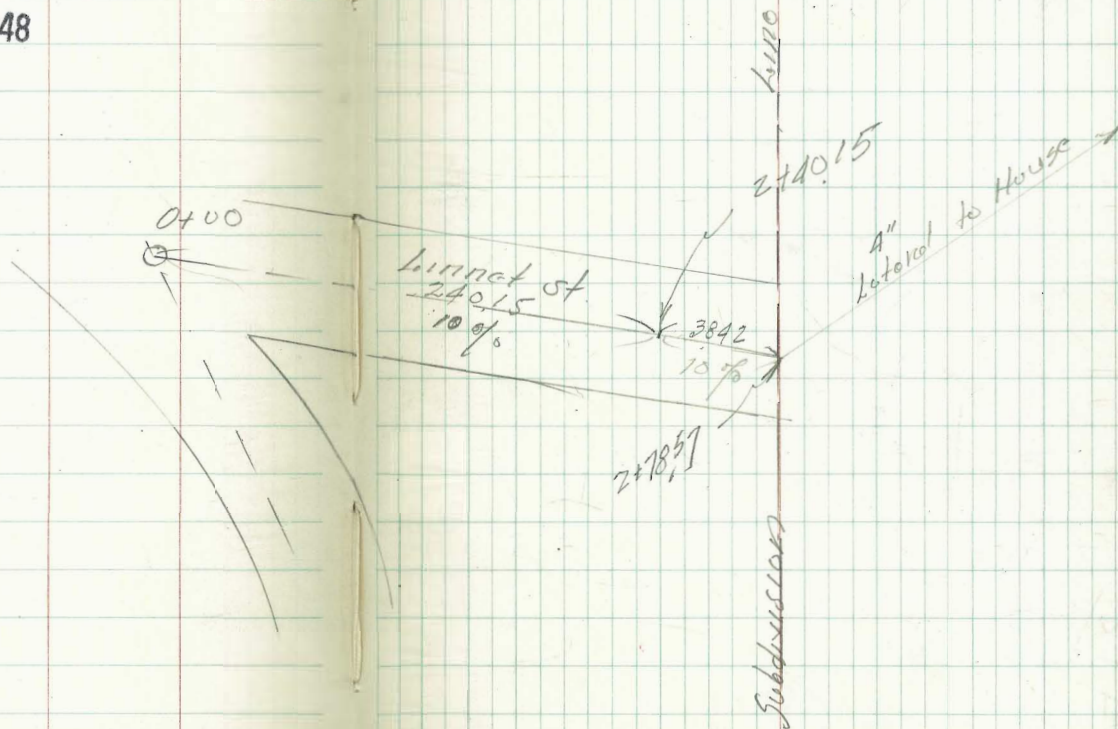
221.84

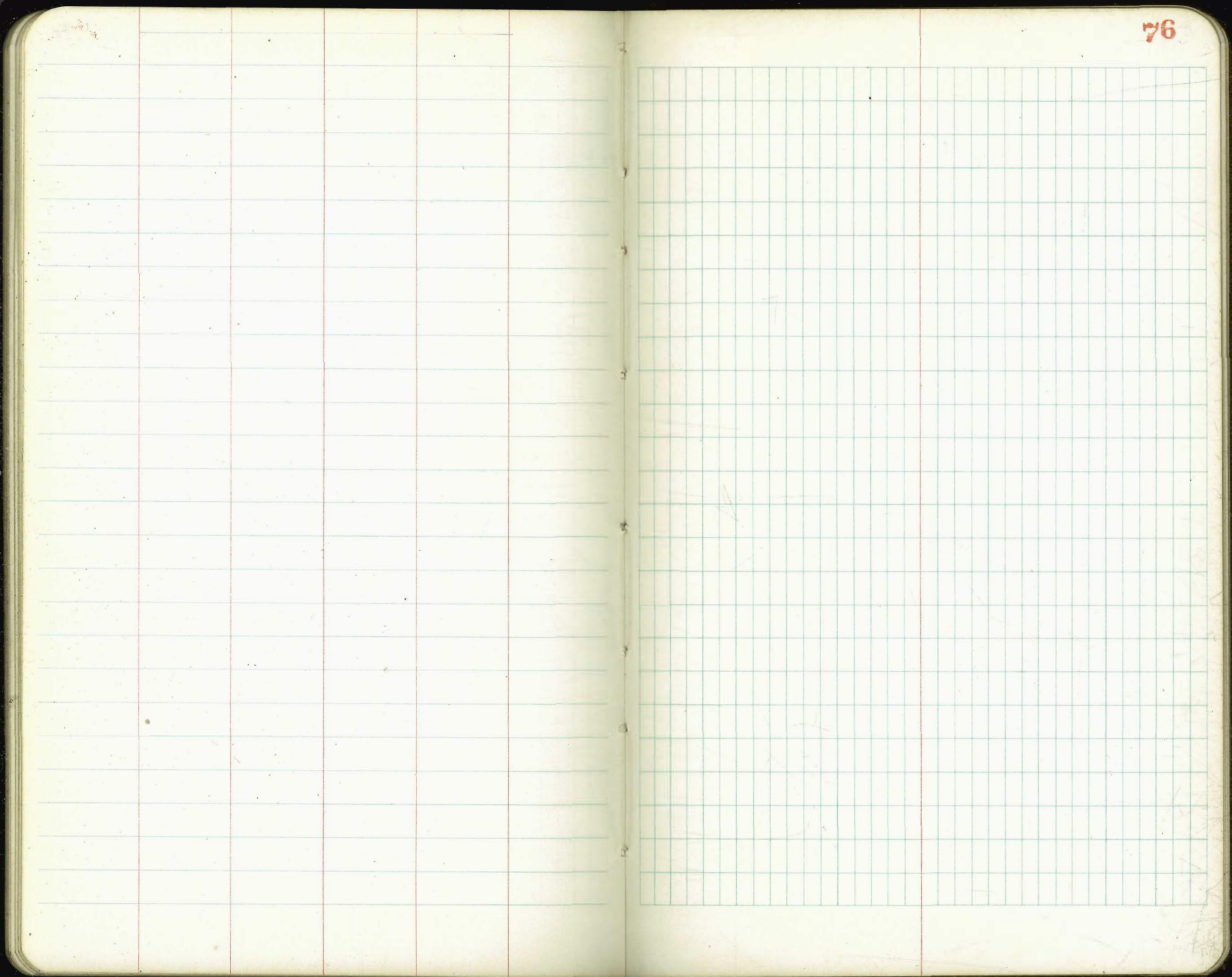
Sketch P-47

7.19

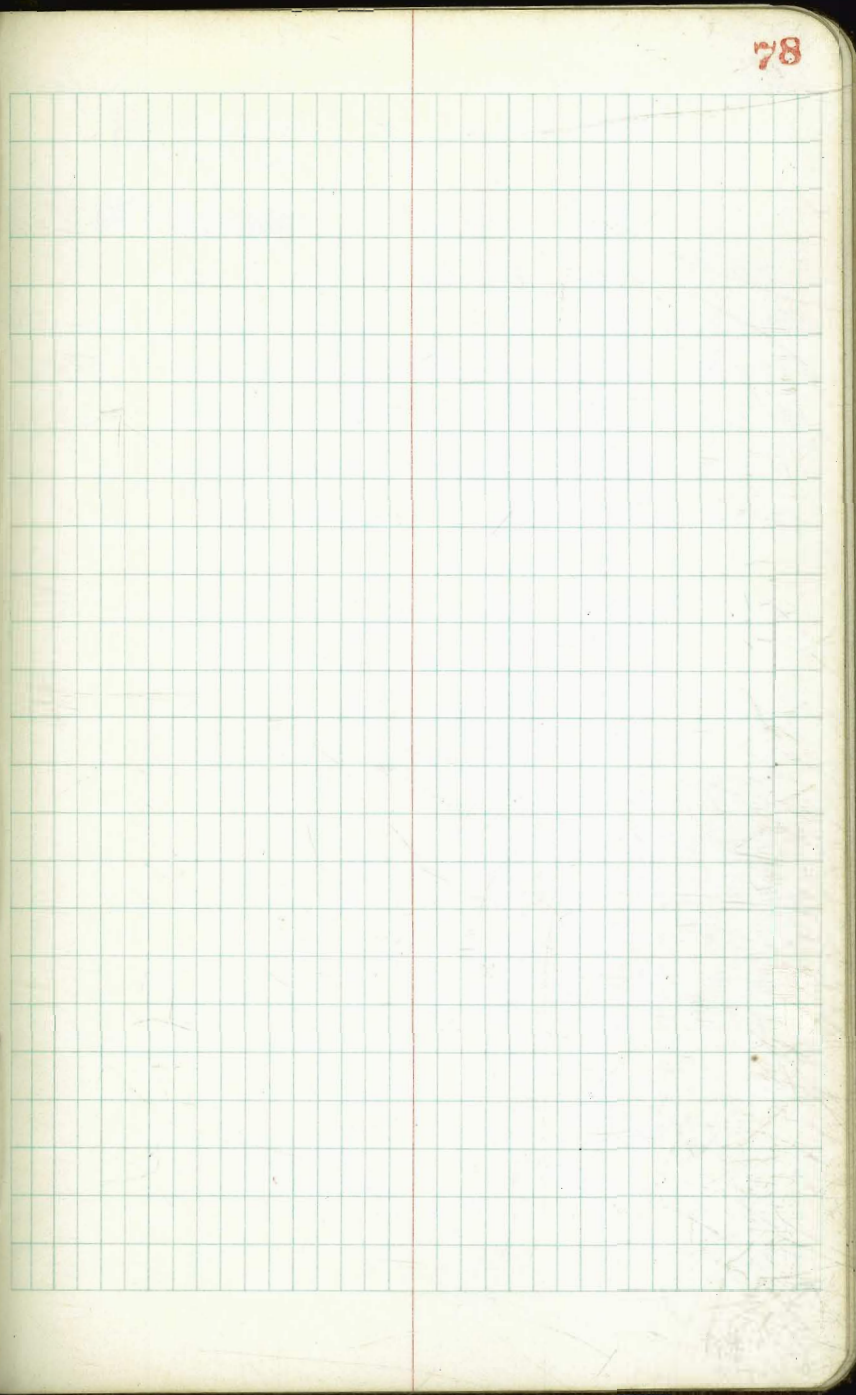
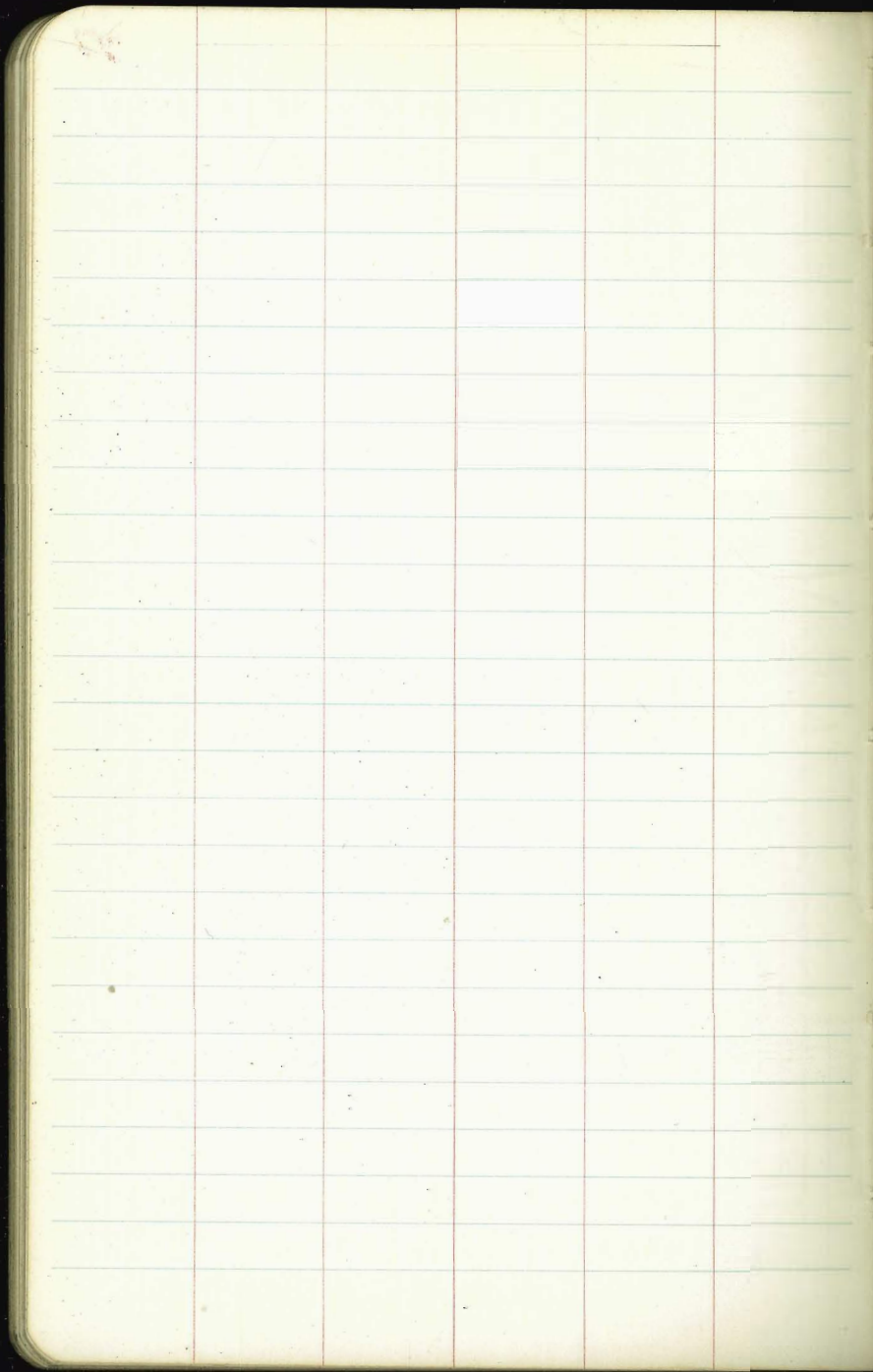
Note. This DE. Now UNCOVERED by Senter Dept.  
 The Elev. of 218.60 as shown on P. 58  
 probably taken to bend above True Flow-  
 line

INDEXED  
 WK  
 OCT 29 1948









Walker  
Hogard  
Hedlin  
12-1-43

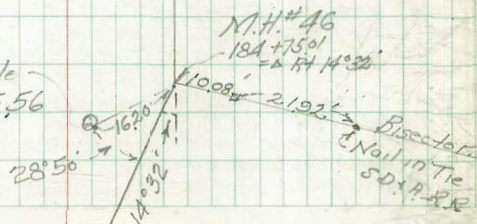
Encanto Trunk Sewer  
Grades for Construction of Portion  
Under Bridge at 54th St.

Station	TP	3.84	124.89	11.50	113.39	BM, B.P. SW Cor. Bridge FB 1618.40	121.05	Elev. Floor
179+85				3.78	113.07		105.07	
180+18				3.49	113.36		105.36	
TP	11.2	124.51	3.46	113.39				
chk. starting BM			3.45	121.06			121.05	0.01

INDEXED  
WIK  
OCT 29 1948

+8.50 4.75 Rt. chisled cross over Bridge  
+8.00 4.75 Rt. " " " "

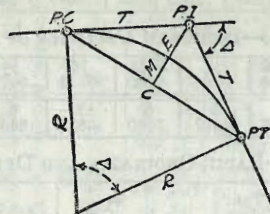
Spike in Pole  
= BM 125.56



Sheet 1  
97  
505

# DIETZGEN'S RAILROAD CURVE AND REDUCTION TABLES

Copyright, 1914, by Eugene Dietzgen Co., New York City



$\frac{48.41}{+41}$   
 $\frac{37.00}{-}$   
 17399.19  
 17476.41  
 77.22

### CURVE FORMULAS

- Radius  $= R = \frac{50}{\sin \frac{D}{2}}$  (1) Degree of Curve  $= D$  and  $\sin \frac{D}{2} = \frac{50}{R}$  (2)  
 Tangent  $= T = R \tan \frac{\Delta}{2}$  (3) Length of Curve  $= L = 100 \frac{\Delta}{D}$  (4)  
 Middle ordinate  $= M = R(1 - \cos \frac{\Delta}{2})$  (5)  $= R \text{vers} \frac{\Delta}{2}$  (6)  
 External  $= E = T \tan \frac{\Delta}{4}$  (7)  $= R \div \cos \frac{\Delta}{2} - R$  (8)  $= R \text{exsec} \frac{\Delta}{2}$  (9)  
 Long Chord  $= C = 2 R \sin \frac{\Delta}{2}$  (10)  $\Delta =$  Central Angle

### EXPLANATION AND USE OF TABLES

**Stations.**—Given P. I.—Sta. 161+60.35 to find Sta. of P. C. and P. T.  $\Delta = 62^\circ 10'$   $D = 8^\circ 20'$ . From Table IV for  $1^\circ$  curve  $T = 3454.1$  and  $\div 8\frac{1}{3} = 414.49$  ft. From Table V correction  $= .36$  or  $T = 414.85$  ft. P. C.  $=$  Sta. P. I.  $- T = 157 + 45.50$ . Also from (4)  $L = 746.00$  and P. T.  $=$  Sta. P. C.  $+ L = 164 + 91.50$ .

**Offsets.**—Tangent offsets vary (approximately) directly with  $D$  and with square of the distance. Thus tangent offset for Sta. 158 on above curve is 2.16 ft. found as follows. From Table III tangent offset for 100 ft.  $= 7.27$  ft. Distance  $= 158 -$  Sta. P. C.  $= 54.50$ , hence offset  $= 7.27 (54.50 \div 100)^2 = 2.16$  ft. Also square of any distance divided by twice the radius equals (approximately) the distance from tangent to curve. Thus  $(54.50)^2 \div (2 \times 688.26) = 2.16$  ft.

**Deflections.**—Deflection angle  $= \frac{1}{2} D$  for 100 ft.,  $\frac{1}{4} D$  for 50 ft., etc. For  $c$  ft.  $=$  (in minutes)  $.3 \times C \times D^\circ$  or  $=$  defl. for 1 ft. from Table III  $\times C$ . For Sta. 158 of above curve  $= .3 \times 54.5 \times 8\frac{1}{3} = 136.2'$  or  $2^\circ 16.2'$ , or  $= 2.50 \times 54.5 = 136.2'$  from Table III. For Sta. 159 deflection angle  $= 2^\circ 16.2' + 8^\circ 20' \div 2 = 6^\circ 26.2'$ , etc.

**Externals.**—May be found in similar manner to tangents. Thus  $E$  for curve above is 115.37. For from Table IV for  $1^\circ$  curve  $E = 960.6$  for  $8^\circ 20' = 960.6 \div 8\frac{1}{3} = 115.27$  and from Table V correction  $= .10$  or  $E = 115.37$  ft. Or suppose  $\Delta = 32^\circ$  and  $E$  is measured and found to be 42 ft. What is  $D$ ? From Table IV  $E = 230.9$  and  $\div 42 = 5.5$  or  $D = 5^\circ 30'$ .

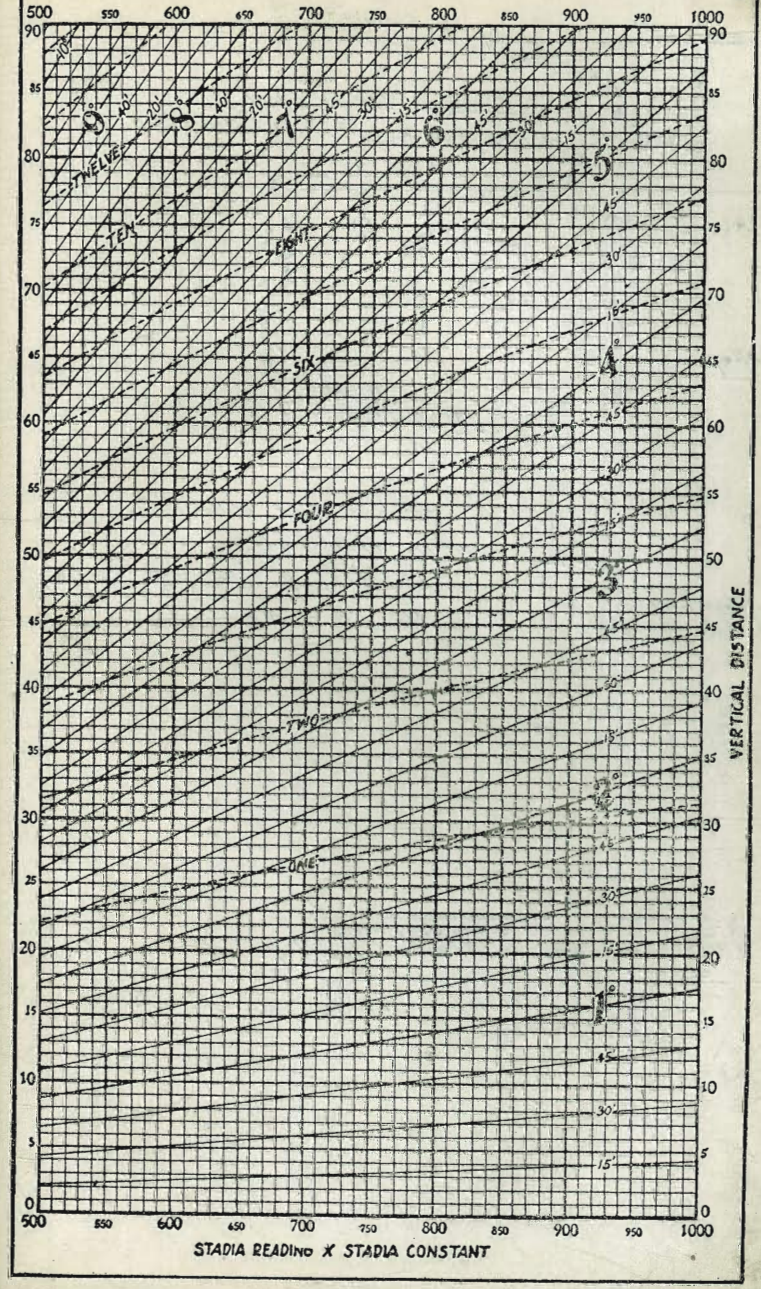
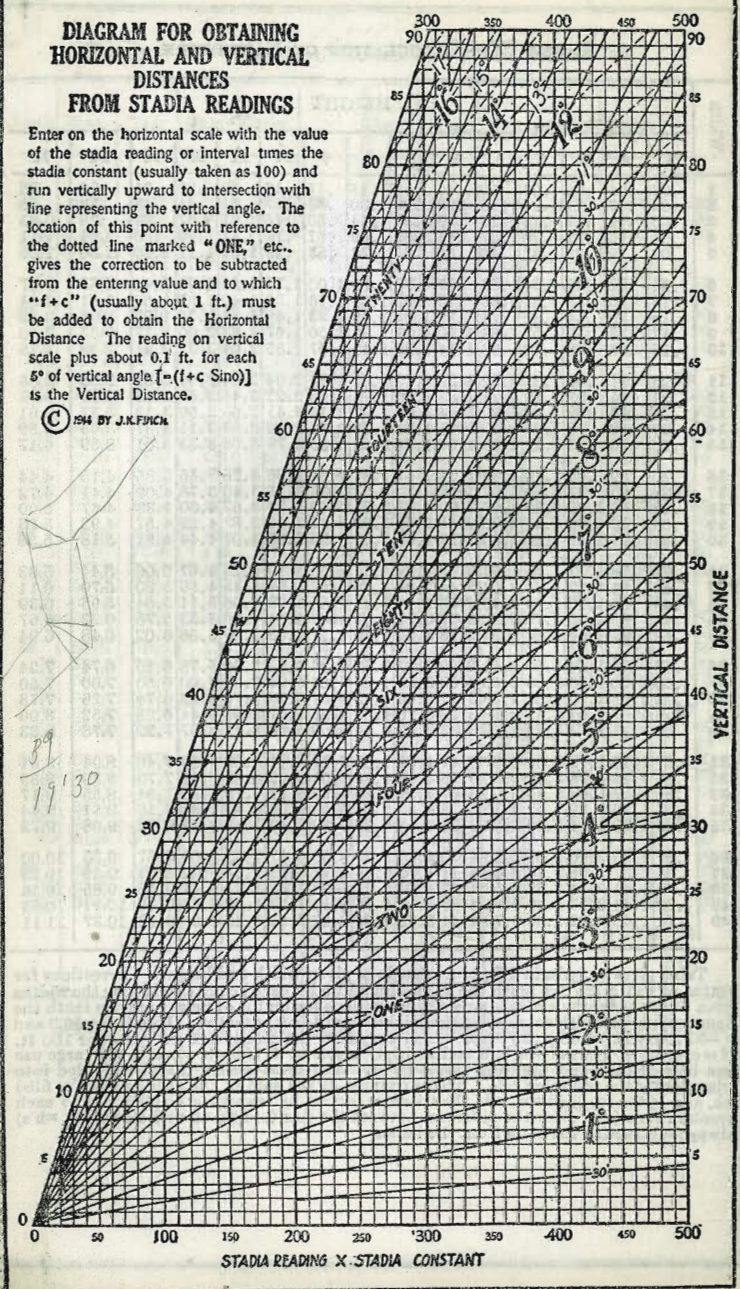


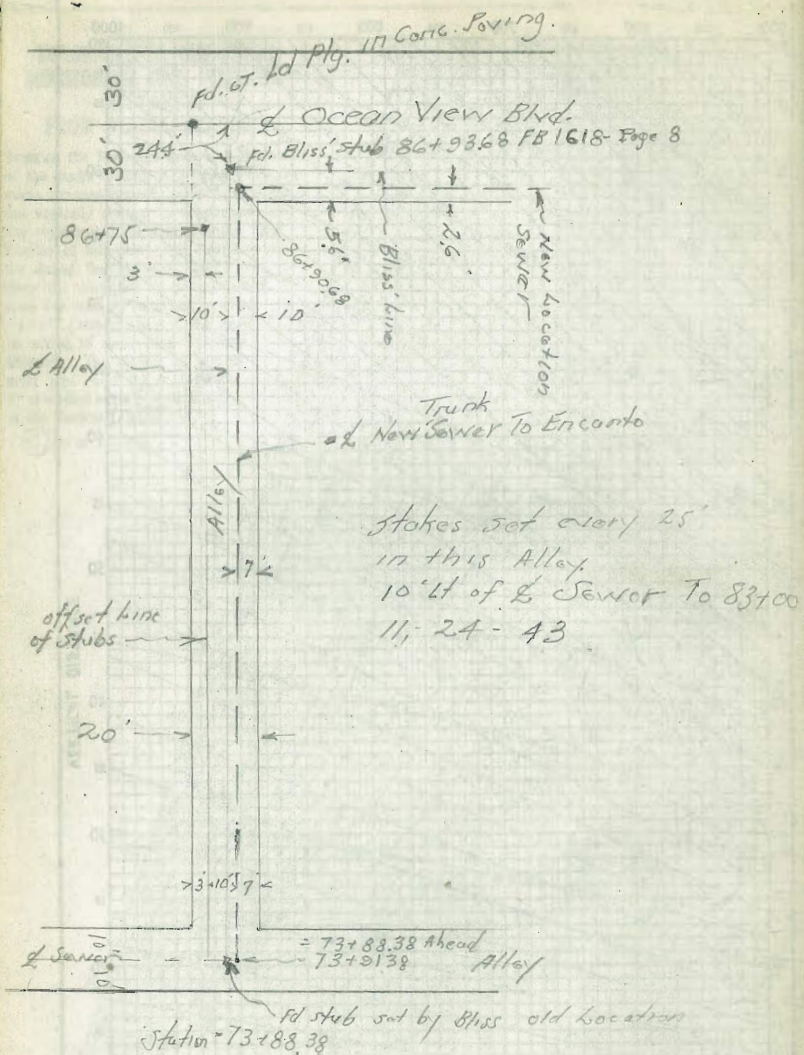
**DIAGRAM FOR OBTAINING  
HORIZONTAL AND VERTICAL  
DISTANCES  
FROM STADIA READINGS**

Enter on the horizontal scale with the value of the stadia reading or interval times the stadia constant (usually taken as 100) and run vertically upward to intersection with line representing the vertical angle. The location of this point with reference to the dotted line marked "ONE," etc., gives the correction to be subtracted from the entering value and to which "f+c" (usually about 1 ft.) must be added to obtain the Horizontal Distance. The reading on vertical scale plus about 0.1 ft. for each 5° of vertical angle [ $= (1+c \sin \alpha)$ ] is the Vertical Distance.

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89  
19130





184+60  
 194+25  
 196+80  
 200+30  
 200+60

-alt 0°18'

20  
~~26~~  
 320

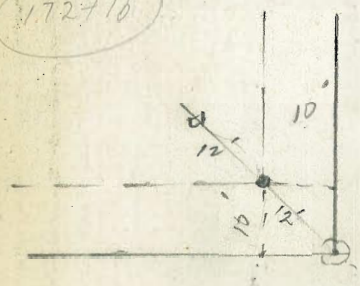
12.9  
~~12.9~~  
 116.1  
 25.8  
~~12.9~~  
 166.1  
 100  
~~266.1~~

163.  
 13  
 13  
 39  
~~13~~  
 169

BM. 180  
 384.7  
 12489.7  
 11.50  
 11339.7  
 346.4  
 116.85

180  
 302  
 136.52  
 302  
 133.50

N=277  
 5=669  
 396  
 995  
 108



39 9895  
 32 + 5095  
 745

700

35 209.16  
 600 213.16  
 20 208.31  
 30 68  
 745 71  
 3

137  
 45  
 685  
 548  
 6405

1031  
 8429

58  
 21  
 93

111 + 0557  
 110 9920  
 63.7

213.1  
 83  
 204.8  
 3  
 201.8



487 1135

DISTANCES FROM CENTER OF ROADWAY FOR  
 CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1 1/2  
 For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9 + (20 - 16) ÷ 2 or 2 ft. added to 41.9 = 43.9. For slopes of 1 on 1 see inside of front cover.

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