

161
Pt Loma Sewer.
#2

6161

Bayview 0874. (Cover)

3 sliding Doors. 4 1/2 opening

1 PC. OVER HEAD Door 500 opening

Transit system - has one 15 inch

F. 98558

15276

955

14321

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 36 Palermo Dr MH # 235 to MH # 240 Alcott St.
 54 Lucerne Dr MH # 221 & Villa Dr to MH # 224 & Zola
 then 100' West to D.E. on Zola.

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60 Villa Dr MH#220 across Block E, Las Lomas
to existing sewer on Zola + NW Line of Chatsworth.

62 Voltaire St from MH#215 South East

64 Udal St. from MH#201 Voltaire St.

65 Sewer across Blk 178 Reservoir from MH#203
to Voltaire to MH#210 to Whittier and East along
to Whittier to D.E.

Also change of line

Sewer Carleton Street
 from Existing Mn Hole & of
 Evergreen to MH # 73 & of Clover
 + HI - Shute Lake
 cut

BM	0.71	35.34		34.63			
EXISTING Mn Hole			15.09	20.25			
MH # Evergreen			9.18	26.16			
2-35					20.00		Read 591-
0147			6.60	28.74	21.97		6.77-
0170 #70			3.36	31.98	22.80		9.18-
TP	12.85	47.68	0.51	34.83			
#0194			11.14	36.54	27.53		9.01-
#2 #41			2.02	45.66	36.79		8.87-
T.P.	13.02	60.15	0.55	47.13			
#3 #86			5.30	54.85	46.05		8.80-
TP	13.19	73.06	0.25	59.90			
2+35			8.82	64.24	55.31		8.93-
TP	12.85	85.33	0.58	72.48			
2+82			11.55	73.78	64.57		9.21-
3+05 MH #71			7.00	78.33	64.10		9.23-
3-33 ³³							
#1	12.80	97.14	0.99	84.34	72.64		11.70-
#2			11.93	85.21	76.18		9.03-
Mn Hole #3 #362 N.W. of W.W. W.			11.04	86.10	79.72		6.38-
8-41 ³⁷							

	+	H.I. 9714	-	Elev. stake	Elev flow line	cut
#1			5.49	91.65	85.71	5.94
T.P.	1323	110.09	0.28	96.89		
#2			11.87	98.22	91.70	6.52
#3			5.68	104.41	97.69	6.72
T.P.	12.97	122.64	0.42	109.67		
#4			11.59	111.05	103.68	7.37
#5			4.86	117.78	109.67	8.11
T.P.	12.47	134.84	0.27	122.37		
#6			10.27	124.57	115.66	8.91
#7			3.92	130.92	121.64	9.28
#5 #72	M. Hole 10.77 E. PLUM	143.71	1.30	133.54	127.62	5.92
8-46 ²⁵						
#1			9.44	134.27	129.70	4.57
#2			7.24	136.47	131.78	4.69
#3			4.77	138.94	133.86	5.08
#4			2.39	141.32	135.94	5.38
T.P.	12.67	156.14	0.24	143.47		
#5			12.43	143.71	138.00	5.69

	+	#I. 156.14	-	Elev Stake	Elev flow Line Grade	cut
#6			10.18	145.96	140.10	5.86-
#7			8.08	148.08	142.18	5.90-
Mn Hole #8 #73.6 Clove			6.41	149.73	144.27	5.46-
TP	6.96	160.81	²⁹ 2.8	153.85	-	
Check out on M.H.#			^{5.47} 2. clove + Deters	155.34	-	

✓
Sewer Byron from Existing
Mn. Hole & Evergreen NW to & Plum

	+	HI.	-	Elev. Stake	Elev. on line	cut
3M	0.71	50.21		49.50	NW 81 Canon Road & Evergreen	
TP	4.16	41.87	12.50	37.71		
EXISTING 0100 Mn. Hole			1302 7.24	28.85 34.63	28.85 28.50	actual record 5.78
2-35						
#1			6.83	35.04	29.93	5.11
#2 ^{M.H.} #66			4.24	37.63	31.02	6.61
5-43 ^{TP} #1	12.79	54.12	0.54	41.33		
#1			8.47	45.65	40.35	5.30
TP	12.99	66.35	0.76	53.36		
#2			10.90	55.45	49.68	5.77
#3			1.93	64.42	59.01	5.41
TP	13.15	79.15	0.35	66.00		
#4			4.55	74.60	68.34	6.26
TP	13.06	91.55	0.66	78.49		
#5 ^{M.H.} #67			6.67	84.88	77.68	7.20
5-45 ^{TP} #1	11.67	102.96	0.26	91.29		
#1			9.41	93.55	82.54	11.01
#2			8.30	94.66	87.40	7.26
1-35 ^{TP} #3			7.85	95.11	91.19	3.92
1-55 ^{TP} #4	12.89	115.23	0.62	102.34		
#4			1.55	113.68	97.12	16.56
TP	12.40	127.13	0.50	114.73		10 N.

	+	H.I. 127.13	-	Elev. stone	Elev. flow line	cut		
M.H. #5 #68 5-45 ⁴⁰				10.61	116.52	101.97	14.55-	10.820 N.
#1				8.26	118.87	106.19	12.68-	10' N. 9.20
#2				7.15	119.98	110.41	9.57- 9.82	10' N. $\frac{8.09}{7.84} = 0.25$
#3				4.00	123.13	114.63	8.50 ✓ 9.00	10' N. $\frac{4.90}{4.43} = 0.50$
I.P. #4	7.56	134.08	0.61	126.52				
#4				6.71	127.37	118.85	8.52- 9.13	10' N. $\frac{0.71}{2.10} = 0.61$
M.H. #5 #69 & Plum.				3.25	130.83	123.08	7.75-	10.820 N.

BM, NE	Mn. Hole + 1084	Server to Wilson + 72.04	Addison to close street	from Existing. Elev. Stake 61.20	Elev flow line	NEBP Canon Road + Wilson cuts			
T.P.	7.98	79.74	0.28	71.76					
EXISTING 0+00 Mn. Hole & Wilson			6.77	72.97	66.20 66.00 as record	6.77			
5-48									
#1			2.95	76.79	67.17	9.62	10.21	10 N.	10.47 9.95 0.52
#2			2.28	77.46	68.14	9.32	9.82	10 N.	9.92 9.32 0.60
#3			3.03	76.71	69.11	7.60	8.30	10 N	10.60 9.90 0.70
#4	12.85	89.60	2.99	76.75	70.08	6.67	7.10	10 N	10.56 10.13 0.43
#5 Mn. Hole # 62			1.08	78.52	71.04	7.48	7.38	10 220 North	10.79 10.89 0.10
3-35 ⁴³									10.13 9.90 0.23
#1			2.08	87.52	74.35	13.17	12.99	10 South	
T.P.	13.19	101.85	0.94	88.66					2.74 2.74 0.00
#2			7.13	94.72	77.66	17.06		10 S	
#3 Mn. Hole # 63		Δ 35-49' 00 R.	1.05	100.80	80.97	19.83		10 220 S	
5-46 T.P. # 62	12.67	114.11	0.41	101.44					11.70 11.80 0.60
#1			8.07	106.04	85.27	20.77	21.37	10 W	
#2			6.50	107.61	89.57	18.04	18.96	10 W.	18.10 9.12 0.92
#3			6.14	107.97	93.87	14.10	15.87	10 W	9.72 8.45 1.27
#4			3.98	110.13	98.17	11.96	13.55	10 W	7.08 6.09 1.49
#5 Mn. Hole # 64	12.79	125.79	1.11	113.00	102.46	10.54		10 220 W	

	H I	-	Elev Stake	Elev low line	cut			
	125.79							
5-46 ²²								
#1		1083	114.96	106.67	8.29 -	9.86	10 W.	$\frac{12.80}{10.22}$ 1.57
#2		6.87	118.92	110.88	8.04 -	9.59	10 W	$\frac{8.33}{6.78}$ 1.53
#3		3.06	122.73	115.09	7.64 -	9.30	10 W	$\frac{4.48}{2.82}$ 1.66
TP	12.13	137.20	0.72	125.07				
#4		8.00	129.20	119.30	9.90 -	10.94	10 W	$\frac{4.92}{3.88}$ 1.04
#5 ^{Mn Hole} #65		3.10	134.10	123.50	10.60 -		10.820 West	
check at Mn Hole # 69 & Plum & Byron		6.34	$\frac{130.83}{130.86}$					0.03

Sewer Capistrano Street
from Main Interceptor M.H. #25 South West
to D. End South West of Macaulay Street

	+	H.I.	-	Elev. Stake	Elev. How line	
M.H. 0+00 #25	12.15	80.04		67.89	61.12	6.77-
4-4 ⁵¹						
#1			8.83	71.21✓	65.10	6.11
#2			3.43	76.61✓	69.08	7.53
T.P.	12.01	91.40	0.45	79.39✓		
#3			9.44	81.96	73.06	8.90
M.H. #177 #Kawana			6.76	84.64✓	77.03	7.61-
5-44						
#1			3.92	87.48✓	82.66	4.82
T.P.	13.06	104.26	0.20	91.20		
#2			10.80	93.46	84.29	5.17
#3			4.43	99.83✓	93.92	5.91
T.P.	12.58	116.39	0.43	103.83✓		
#4			10.25	106.14	99.55	6.59
M.H. #5 #255			6.07	110.32	105.19	5.13
8-40 ⁸⁵						
#1			3.55	112.84✓	106.06	6.78
#2			2.15	114.24✓	106.92	7.32
#3	8.36	123.91	0.84	115.55✓	107.79	7.76
#4			8.30	115.61	108.65	6.96

	H.I. 12391		Elev Stone	Elev flow line	cut
#5			7.85	116.06 - 109.52	6.54
#6			7.35	116.56 - 110.38	6.18
#7			6.80	117.11 - 111.25	5.86
#8 # 256			6.13	117.78 - 112.12	5.66
7-44 ²⁹					
#1			3.91	120.00 - 119.19	5.81
#2			2.06	121.85 - 116.26	5.59
T.P.	10 97	134 07	0.81	123.10	
#3			10.20	123.87 - 118.33	5.54
#4			8.20	125.87 - 120.40	5.47
#5			6.30	127.77 - 122.47	5.30
#6			4.26	129.81 - 124.54	5.27
#7	M.H. $\Delta 21^{\circ} 28' 00'' L$		2.55	131.52 - 126.60	4.92
4-40 ³⁷ T.P.	12.37	145.91	0.53	133.54	
#1			8.59	137.32 - 127.70	9.62
#2			7.66	138.25 - 128.80	9.45
#3			5.40	140.51 - 129.90	10.61
#4	M.H. $\Delta 22^{\circ} 03' 00'' R$		4.85	141.06 - 131.00	10.06
3-41 ⁰²					
#1			4.81	141.10 - 131.29	9.81
#2			5.20	140.71 - 131.59	9.12
#3 D End.			6.93	138.98 - 131.88	7.10

W
Sewer Macaulay Street
from Capistrano St 250' S. East
+ H.I.

				Elv. Stake	Elev	Fluorine	cut
#5					126.60		
	M.H. 0700 257	12.27	143.79	131.52		4.92	
#6	5-50						
#7	#1		8.12	135.67	129.28	6.39	
#8	#2		4.52	139.27	131.96	7.31	
7-44							
#1	#3	11.47	154.11	115	142.64	139.64	8.00
#2	#4		8.79	145.32	137.32	8.00	
T.P.	#5 D End		6.23	147.85	140.00	7.88	
#3							
#4	check out on 05 Tustin N of Macaulay		4.10	150.01			
#5							
#6	M.H. 0700 257	12.97	144.49	131.52	126.60	4.92	
#7	257 5-50						
4-40	#1		8.17	136.32	129.28	7.04	
#1							
#2	#2		4.73	139.76	131.96	7.80	
#3							
#4	M.H. 257 #3	8.89	152.27	111	143.38	134.64	8.74
3-41							
#1	#4		5.55	146.72	137.32	9.40	
#2							
#3	D. #5 D.E.		3.91	148.66	140.00	8.66	
	check out on older stub		4.28	147.89			

X

Sewer Warwona Drive
From M.H 260 S.E. to D. End.

M.H 0700 260	13.25	95.02		81.77	73.48	8.29
4-44 ³⁷						
#1		10.43	84.59	78.23		6.36
#2		6.40	88.62	82.98		5.64
#3	8.10	101.51	1.61	93.41	87.73	5.68
#4 D. End		5.41	96.10	92.97		3.63
check D. End N of Capistrano		5.92	95.59			

Sewer Warwona Drive from M.H

#177 Capistrano 160 NW to D. End

M.H 0700 #177	12.04	96.68		84.64	77.03	7.61
4-46						
#1		10.77	85.91	79.51		6.40
#2		7.40	89.28	81.99		7.29
#3		3.92	92.76	84.97		8.29
#4 D. End.		1.09	95.59	86.95		8.64

W
 Server After Block 17 & 15 Point
 Loma Heights to M H 261 & Elephant then
 SEast on Elephant to M H 262 & Mendota then
 SW on Mendota to D End South West of
 Macaulayst H.I. — Elev Stake Elev flow line cut

M.H 0700#27	4.27	78.07		73.22 73.80	66.01	7.41 7.55
5-48 ⁸⁰						
#1		6.27	71.80	66.59 ²⁰		5.21 ⁶⁰
#2		6.24	71.83	66.93 ⁴⁰		5.43
#3		5.39	72.68	67.27 ⁹²		5.76
#4		4.72	73.35	67.44 ⁴⁴		5.74
M.H #5 259		3.71	74.36	67.96		6.40
4-41 ⁸⁷						
#1	12.07	88.13	2.01	76.06	69.34	6.72
#2			9.90	78.23	70.72	7.51
#3			9.35	78.78	72.10	6.68
M.H #4 260 & Kawana Drive		6.36	81.77	73.48		8.29
7-47 ⁸⁶						
#1			4.72	83.41	75.97	7.44
#2			3.49	84.64	78.46	6.18
SP	12.60	100.22	2.51	87.62		
#3			11.72	88.50	90.95	7.55
#4			8.92	91.30	83.44	7.86
#5			7.69	92.53	85.93	6.60
#6			5.86	94.36	88.42	5.92
M.H #7 H 261 & Elephant			2.61	97.61	90.90	6.71
3-37 ⁵⁰						
#1			1.81	98.41	91.95	6.46
#2	9.30	108.43	1.04	99.18	93.00	6.18

	+	H I	-	Elev Stake	Elev flow L	
		108.48				
#3	M.H. 11.74 262 S. Diphenyl + Indole Δ 90°-00-00 R.	110.86	9.36	99.12	94.05	5.07 ✓
5-50						
#1			9.90	100.96	96.05	4.91
#2			7.61	103.25	98.05	5.20
#3			5.33	105.53	100.05	5.48
#4			3.08	107.78	102.05	5.73
#5	M.H. 12.76 263	122.59	1.03	109.83	104.05	5.78
5-52 40						
#1			9.90	112.69	106.72	5.97
#2			7.26	115.33	109.39	5.94
#3			4.62	117.97	112.06	5.91
#4	13.17	133.81	1.95	120.64	114.73	5.91
#5	M.H. 264 E. Macauley Δ 4°-33'-00" L		9.29	124.52	117.41	7.11
6-46 52						
#1			6.49	127.32	117.91	9.41
#2			5.25	128.56	118.41	10.15
#3			4.86	128.95	118.91	10.04
#4			4.39	129.42	119.41	10.01
#5			4.80	129.01	119.91	9.10
#6	M.H. 265 Δ 5°11'30" R		4.06	129.75	120.41	9.34
6-45.83						
#1			3.24	130.57	120.78	9.79
#2			3.30	130.51	121.14	9.37
#3	4.23	134.87	3.17	130.64	121.51	9.13

	H.I.	-	Elev. Stake	Elev. flow Lime	
	134.87				
#4		319	131.68	121.87	9.81
#5		476	130.11	122.24	7.87
#6 D End		456	130.31	122.61	7.70
TP	13.13	140.41	759	127.28	-
Check D End S of Macaulay	Capistrano	145	138.96	138.98	
				2.02	

v
Server Oliphant Street

From M.H. 262 to D. End 185' South East

M.H. 0700 262	10.80	109.92	936	99.12	94.05	5.07
4-46 ²⁵						
#1			864	101.28	95.81	5.47
#2			690	103.02	97.57	5.45
#3			475	105.17	99.33	5.84
#4 D End			167	108.25	101.08	7.17
check back to D End						

W
Sewer Alley Block E
Resubdivision Between Central Ave & Poe
LaCrosse & Wabaska

	T	H.I.	-	Elev Stone MH # 28	Elev. Iron Line	Cut
	7.09	84.14		77.05	687/ 69.50	
MH 0400 #19						
4-50						
#1			4.54	79.60	71.00	8.60
#2			4.75	79.39	72.50	6.89
#3			4.29	79.85	74.00	5.85
MH #4 #270			2.50	81.64	75.50	6.14
3-40						
#1 TP	11.50	94.98	0.66	83.48	77.55	5.93
#2			7.92	87.06	79.60	7.46
MH #3 #271			3.86	91.12	81.66	9.46
6-50						
#1 TP	8.90	102.16	1.72	93.26	94.23	9.03
#2			6.79	95.37	86.80	8.57
#3			5.16	97.00	89.37	7.63
#4			4.51	97.65	91.94	5.71
#5			2.30	99.86	94.51	5.35
TP	12.61	113.98	0.79	101.37		
MH #6 #272			10.57	103.41	97.08	6.33
6-42 23						
#1			5.75	108.23	101.33	6.90
#2			1.73	112.25	105.58	6.67

	+	H.I.	-	Elev.	Elev. Flow Line	Cut.
		113.98				
TP.	13.13	126.95	0.16	113.82		
#3			11.03	115.92	109.84	6.08
#4			7.01	119.94	114.09	5.85
#5 TP	11.81	137.06	1.70	125.25	118.34	6.91
M.H. #6 #273			7.69	129.37	122.60	6.77
1-45 connect			6.78			
#1 existing sewer N line of La Costa Drive				130.28	123.50	6.78
			5.26	131.80	D. End Block D	

+ H.I. - W Elev. Elev. Elev. Elev. Cut
 Sewer Alley Block D Resubdivision
 Point Loma Heights Between Bernice +
 Centraloma, Wabasco + La Cresta

	8.36	87.96	87.96	79.60	#1 - West of	M.H. #29
D.M.N 0400 #30			4.91	83.05	6939 7700	13.66 6.05
6-51						
#1			2.85	85.11	78.38	6.73
#2			1.64	86.32	79.75	6.57
#3 TP.	8.69	96.29	0.36	87.60	81.13	6.47
#4			7.15	89.14	82.50	6.64
#5			5.39	90.90	83.88	7.02
M.H. #6 #274			4.09	92.20	8526	6.94
6-51						
#1			2.74	93.55	87.86	5.69
TP.	11.95	107.18	1.06	95.23		
#2			11.28	95.90	90.46	5.44
#3			7.94	97.24	93.06	6.18
#4			4.95	102.23	95.66	6.57
#5			2.26	104.92	98.26	6.66
M.H. TP. #6 #275	12.05	118.90	0.33	106.85		
			11.08	107.82	100.87	6.95
6-46 ⁵⁷						
#1			7.58	111.32	104.84	6.48
#2 TP.	12.55	127.41	4.04	114.86	108.80	6.06
#3			7.98	119.43	112.77	6.66
#4			3.79	123.62	116.73	6.89
#5 TP.	9.84	137.11	0.14	127.27	120.69	6.58
#6 D.End			5.34	131.77	124.67	7.10
				131.80 8703		

	+	H.I.	-W	Elev.	Elev. Flow Line	
Sewer Alley Block C						
Resubdivision P. Loma Hts.						
Between Bernice & Atascadero						
Wells & Wabaska Drive						
	6.90	89.95		83.05	M.H. #50	
M.H.						
0700 #31	8.59	94.22	4.32	85.63	70.08 79.00	
5-50 ⁴⁰						
#1			8.41	85.81	80.56	5.25
#2			5.74	88.48	82.12	6.36
#3			4.28	89.94	83.68	6.26
#4			3.83	90.39	85.24	5.15
M.H. #5 #278 ^{TR}	8.83	102.23	0.82	93.40	86.81	6.59
5-46 ⁸⁰						
#1			7.78	94.45	88.26	6.19
#2			7.11	95.12	89.72	5.40
#3			4.30	97.93	91.17	6.76
#4			2.65	99.58	92.63	6.95
M.H. #5 #279	13.24	114.72	0.75	101.98	94.08	7.40
7-48 ³³						
#1			11.15	103.57	97.38	6.19
#2			7.12	107.60	100.67	6.93

	+	H.I.	-	Elev.	Elev. Flow Line	Cuts.
		114.72				
#3			2.56	112.16	103.96	8.20
T.P.	12.32	126.87	0.67	114.05		
#4			11.99	114.38	107.25	7.63
#5			9.98	116.89	110.54	6.35
#6			6.05	120.82	113.83	6.99
M.H. #7 #280	T.P. 13.00	139.00	0.87	126.00	117.13	8.87
3-43 ²²						
#1			7.77	131.23	124.45	6.78
T.P.	12.40	151.18	0.22	138.78		
#2			9.87	141.31	131.77	9.54
M.H. #3 #281	Δ 26°-28'-00" R		2.50	148.63	139.10	9.58
2-42 ²⁰	T.P. 13.17	163.54	0.81	150.37		
#1			9.66	153.88	145.10	8.78
M.H. #2 #282	Δ 26°-24'-00" R		6.00	157.54	151.09	6.45
3-38 ³³						
#1			4.57	158.97	152.39	6.58
#2	T.P. 10.56	172.08	2.02	161.52	153.70	7.82
#3 D End.			6.19	165.89	155.00	10.89

	+	H.I.	✓	-	Elev.	Elev. Flew Line	Cuts.
Sewer Alley Catalina Villas Between Bernice & Atascadero Catalina & Wells							
B.M. SF	5.74	130.37			124.63	5.5 BP	Bernice Catalina
Connect existing Sewer Line to Catalina							
2-43					1081	119.56 - 113.43	6.13 -
#1					6.79	123.58 - 115.86	7.72 -
#2					4.91	125.46 - 118.29	7.17 -
#3 M.H. #284 1-5125					1.31	129.06 - 120.27	8.79 -
TP	12.66	142.73			0.30	130.07	
#1 2-4425					6.35	136.38 - 125.46	10.92 -
#2 TP	13.06	155.50			1.88 0.29	140.85 - 129.89 142.44	10.96 -
#3 1-3655 M.H.					11.81	143.69 - 134.31	9.38 -
#4 #283 1-5522					7.85	147.65 - 137.97	9.68 -
#1 3-4740					3.56	151.94 - 143.31	8.63 -
TP	12.50	167.68			0.32	155.18	
#1					12.07	155.01 - 147.91	7.70 -
#~					7.34	160.34 - 152.51	7.83 -
TP	8.21	175.55			0.34	167.34	
#3 1-3920					7.43	168.12 - 157.11	11.01 -
#1 D.L.H. check out on D End directly East					4.46 9.54	171.09 - 160.96 166.01 = 165.89	10.13 -

Sewer - San Clemente St.
 M.H. #38 south to M.H. 298 & 215' W. to D.E.
 H.I. - Elev. Elev. Flow
 Line

Cuts

10373
 506
 48.67

23

M.H. #38 6-4055	13.03	103.80		90.77	84.00	
#1		5.00	99.80	87.49	11.31	
#2	12.77	115.32	1.25	102.55	90.98	11.57
#3		9.58	105.74	94.47	11.27	
#4		6.01	109.31	97.96	11.35	
#5 TP Δ 76° 56' 41"	9.32	121.76	2.86	112.44	101.44	11.00
M.H. 298 5-13		4.58	117.18	104.92	12.29	
#1		3.88	117.88			
#2		8.61	117.57	106.55	41.02	11.36
#3		7.72	118.46	108.19	10.27	10.85
#4		6.48	119.70	109.82	9.88	10.21
#5 Dead End		4.73	121.45	111.46	9.99	9.93
TP	3.00	116.82	12.36	113.82		
#3 D End		4.47	112.35	102.50	9.85	9.57
TP	0.24	103.90	13.16	103.66		
#2		0.80	103.10	97.00	6.10	6.04
#1 3-50 M.H. #43=00		6.20	97.70	91.50	6.20	6.30
		10.82	93.08	86.00	7.08	

117.82
 106.55
 11.33

Reset

6.94
 1.60
 0.34

6.02
 5.92
 0.58

7.82
 4.49
 0.33

3.06
 3.12
 0.06

2.38
 2.37
 0.01

2.48
 2.54
 0.06

7.87
 7.77
 0.10

84.00
 349
 8749
 349
 9098
 349
 9447
 349
 9796
 348
 10144
 348
 10492

10492
 8400
 17092
 418
 5
 2090
 122.13
 7.96
 124.07
 12.02
 112.07
 102.30
 9.57
 329
 2092

20
 20
 52

348

2088

Sewer M.H. #43 East 150' to D. End

L D End

X D End

Duermil
Jacobson
Brooks

Main Interceptor - from MH^{#2} Scott & Charlton.
to Drop MH^{#13} & Lowell - 20' off N. line of Rosecrans.

	+	H. 11	-	Elev	Elev. Flow Line	Cuts
A 83°43' Rt.						
M.H. #2 11-25 ¹²	3.92	9.46		5.54	-6.43	11.97 ✓
#1			4.22	5.24	-6.39	11.63 ✓
#2			3.98	5.48	-6.36	11.84 ✓
#3			4.25	5.21	-6.32	11.53 ✓
#4			4.42	5.04	-6.28	11.32 ✓
#5			4.63	4.83	-6.25	11.08 ✓
#6			4.91	4.55	-6.21	10.76 ✓
#7			5.15	4.31	-6.17	10.48 ✓
#8			5.37	4.09	-6.13	10.22 ✓
#9			5.64	3.82	-6.10	9.92 ✓
#10			5.92	3.54	-6.06	9.60 ✓
Drip MH & Dickson #11 MH #3 A 50°12' Rt. 10-27 ¹²			6.56	2.90	-6.02	8.92 ✓
#1			6.40	3.06	-5.98	9.04 ✓
#2 TP 3.11	5.93	6.64	2.82	-5.94	8.76 ✓	
#3			3.35	2.58	-5.90	8.48 ✓
#4			3.55	2.38	-5.86	8.24 ✓
#5			3.77	2.16	-5.82	7.98 ✓
#6			4.16	1.77	-5.77	7.54 ✓
#7			4.63	1.30	-5.73	7.03 ✓
#8			5.08	0.95	-5.69	6.54 ✓
#9			5.34	0.59	-5.65	6.24 ✓
& Emerson #10 MH #4 10-27 ¹²			6.04	-0.11	-5.61	5.50 ✓
#1			5.85	+0.08	-5.57	5.65 ✓
#2			6.23	-0.30	-5.53	5.23 ✓
#3 TP 3.55	2.80	6.68	-0.75	-5.49	4.74 ✓	

	+	Hl.	-	Elev.	Elev. Flow Line	Cut.
		2.80				
#4			3.93	-1.13	-5.45	4.32 ✓
#5			4.21	-1.41	-5.41	4.00 ✓
#6			4.40	-1.60	-5.37	3.77 ✓
#7			4.03	-1.23	-5.33	4.10 ✓
#8			3.78	-0.98	-5.29	4.31 ✓
#9			3.91	-1.11	-5.25	4.14 ✓
Δ Foulon A 25° 50' Lt.						
#10 MH 05			4.81	-2.01	-5.21	3.20 ✓
#11 25						
#1			4.63	-1.83	-5.17	3.34 ✓
#2			4.47	-1.69	-5.14	3.45 ✓
#3			4.38	-1.58	-5.10	3.52 ✓
#4			4.61	-1.81	-5.07	3.26 ✓
#5			4.21	-1.41	-5.03	3.56 ✓
#6 T.P.	4.88	3.35	4.33	-1.53	-4.99	3.46 ✓
#7			4.60	-1.25	-4.96	3.71 ✓
#8			4.58	-1.23	-4.92	3.69 ✓
#9			4.31	-0.96	-4.89	3.93 ✓
#10			4.38	-1.03	-4.85	3.82 ✓
#11			4.37	-1.02	-4.81	3.79 ✓
2-10						
Pier #2			4.44	-1.09	-4.80	3.71 ✓
" #2			4.35	-1.00	-4.79	3.79 ✓
Δ 76° - 15° 35' Rt.						
M.H. #6 Δ Garrison			4.46	-1.11	-4.78	3.67 ✓
#11-26 13			4.72	-1.37	-4.74	3.37 ✓
#1						
#2			4.70	-1.35	-4.71	3.36 ✓
#3			5.48	-2.13	-4.67	2.54 ✓
#4			5.84	-2.49	-4.63	2.14 ✓

Footings of Piers Elev - 3.00

	+	H.I	-	Elev.	Elev. Flowline	Cuts.	
		3.35					
#5 TP	6.46	3.91	5.90	-2.55	-4.60	2.05 ✓	
#6			6.40	-2.49	-4.56	2.07 ✓	
#7			6.58	-2.67	-4.52	1.85 ✓	
#8			6.40	-2.49	-4.48	1.99 ✓	
#9			6.42	-2.51	-4.45	1.94 ✓	
#10			6.50	-2.59	-4.41	1.82 ✓	
14°-03'00" LT MH #7 & Hrgo. 10-27L			5.97	-2.06	-4.37	2.31 ✓	0.02 ✓
#1			5.93	-2.02	-4.33	2.31 ✓	
#2			5.48	-1.57	-4.29	2.72 ✓	
#3			5.46	-1.55	-4.26	2.71 ✓	
#4			5.42	-1.51	-4.22	2.29 ✓	
#5			5.55	-1.64	-4.18	2.54 ✓	
#6 TP	6.02	4.61	5.32	-1.41	-4.14	2.73 ✓	
#7			5.98	-1.37	-4.10	2.73 ✓	
#8			5.96	-1.35	-4.07	2.72 ✓	
#9			4.98	-0.37	-4.03	3.66 ✓	
6°-23'00" LT. MH #8 & Inge low Tied 10000E. 10-27			5.09	-0.48	-3.99	3.51 ✓	0.02 ✓
#1			4.93	-0.32	-3.95	3.63 ✓	
#2			5.00	-0.39	-3.91	3.52 ✓	
#3			4.91	-0.30	-3.87	3.57 ✓	
#4			4.81	-0.20	-3.83	3.63 ✓	
#5			4.83	-0.22	-3.79	3.57 ✓	
#6			4.78	-0.17	-3.75	3.58 ✓	
#7			4.53	+0.08	-3.71	3.79 ✓	
#8			4.33	+0.28	-3.67	3.75 ✓	

	+	H. I		Elev.	Elev. Flow LITRE	
		4.61				
#9			4.30	+0.31	-3.63	3.94 ✓
Tied to 220 East.						
M.H. #9 & Jarvis.	4.66	5.16	4.11	+0.50	-3.59	4.09 ✓
10-27			4.67	+0.49	-3.55	4.04 ✓
#1						
#2			5.03	+0.13	-3.51	3.64 ✓
#3			5.42	-0.26	-3.47	3.21 ✓
#4			5.57	-0.41	-3.43	3.02 ✓
#5			5.57	-0.41	-3.39	2.98 ✓
#6			5.51	-0.35	-3.35	3.00 ✓
#7			5.49	-0.33	-3.31	2.98 ✓
#8			5.41	-0.25	-3.26	3.01 ✓
#9			5.39	-0.23	-3.22	2.99 ✓
M.H. #10 & Knatz						
10-27			5.18	-0.02	-3.18	3.16 ✓
#1			4.92	+0.22	-3.14	3.36 ✓
#2			4.67	+0.49	-3.10	3.59 ✓
#3			4.33	+0.83	-3.06	3.89 ✓
#4			4.39	+0.77	-3.02	3.79 ✓
#5			4.46	+0.70	-2.98	3.68 ✓
#6			4.54	+0.62	-2.94	3.56 ✓
#7			4.54	+0.62	-2.90	3.52 ✓
#8			4.38	+0.78	-2.86	3.64 ✓
#9			4.27	+0.89	-2.82	3.71 ✓
Δ 90° or so St.						
M.H. #11 & Lowell	7.675	8.78	4.05	+1.11	-2.78	3.89 ✓
8-25-94			7.61	1.17	-2.72	3.89 ✓
#1						
#2			7.21	1.57	-2.66	4.23 ✓
#3			6.72	2.06	-2.59	4.65 ✓

-0.49
4.52
4.34
3.84
0.50

+ H1 -

8.78

#4			6.10	2.68	-2.53	5.21 ✓
#5			5.97	3.31	-2.47	5.78 ✓
#6			4.86	3.92	-2.41	6.33 ✓
#7			4.27	4.51	-2.39	6.85 ✓
M.H. #12 8-25-92			3.92	5.36	-2.28	7.64 ✓
#1			3.19	5.59	-2.22	7.81 ✓
#2	7.18	13.36	2.60	6.18	-2.16	8.34 ✓
#3			6.50	6.86	-2.09	8.95 ✓
#4			5.90	7.46	-2.03	9.49 ✓
#5			5.59	7.77	-1.97	9.74
#6			5.03	8.33	-1.91	10.24
#7			5.22	8.14	-1.84	9.98
Δ 90°00' Nl.					+2.50	5.31
D.M.H. #13 - 2000 East of Wed. line of Rosecrans.			5.55	7.81	-1.78	9.59 ✓
			5.29	8.07		
				8.05		
				0.02 ✓		

B.M. Lowell
& Rosecrans

Continued Page 5 of Book #1

	L	H1	W	Elev.	Elev. Flowline.	Cuts.
Alley Blk "B" Resubdivision of Pt. Loma Hqts. Between Atascadero & Alicia & Wabasca Dr. to 190' West of Wells in Blk "38"						
	5.96	91.59		85.63	MH #31	
			5.38	86.21	M.H. #32	
MH #33 TP 6-48 ⁸⁸	11.76	99.24	4.01	87.53	84.00	3.58
#1			8.37	90.97	86.00	4.97
#2			4.24	95.10	84.01	7.09
#3			2.48	96.86	90.01	6.85
#4 TP	12.69	110.82	1.21	98.13	92.01	6.13
#5			10.96	99.86	94.01	5.85
MH #285			8.19	102.63	96.02	6.61
6-48 ⁸⁸			4.19	106.63		
#1			4.19	106.63	99.49	7.14
#2			1.84	108.98	102.96	6.02
TP	13.15	123.43	0.54	110.28		
#3			11.20	112.23	106.43	5.80
#4			6.96	116.47	109.90	6.57
#5			2.16	121.27	113.37	7.90
TP 4 27° 31' 00" Rt.	12.87	136.10	0.17	123.26		
M.H. #286			10.52	125.58	116.84	8.74
2-41 ⁰²						
#1			7.11	128.99	120.95	8.04
#2						
Δ 25° 21' 00" Rt.						
MH #287	12.69	148.38	0.21	135.89	125.05	10.84
2-90 ²⁰						
#1			11.57	137.01	129.10	7.91

	+	H.I.	-	Elev.	
Tied 10 & 20 North		148.58			
M.H. #288 & Wells	12.89	150.84	10.63	137.95	133.15
A-47 ⁵⁰					4.80
#1			8.01	142.83	136.09
#2			4.18	146.66	139.04
#3 TP	12.77	161.39	2.22	148.62	141.98
#4 D.E.			11.56	149.33	144.93
			5.74	155.65	149.91
				155.65	
				0.00	Checked DE on

	+	H.I.	-	Elev.	
					137.95
					150.93
					136.09
					146.05 = 136.09 - 9.96
					147.77 = 139.04 = 8.73
					156.05
					150.33
					141.98
					8.35
					151.78
					144.93 = 6.85
					149.32 = 4.01
					153.17 =

Wells St. MH#288 South to MH#289 & Wells & Atascadero then West 90' to D.E.

Wells St. 90' W. of Atascadero.

	+	H.I.	-	Elev.	
Tied 10 & 20 North		148.58			
M.H. #288	10.63			137.95	133.15
A-41 ⁰⁰					4.80
#1			5.94	142.67	136.62
#2			2.21	146.37	140.10
TP	12.54	160.97	0.15	148.43	
#3			10.93	150.04	143.57
Tied 10 & 20 South					
M.H. #289 & Wells & Atascadero			7.58	153.39	147.05
A-45 ⁰⁰					
#1			6.81	154.16	148.18
#2 DE			5.82	155.65	149.30
TP	10.96	170.59	1.34	159.63	
			4.66	165.93	165.89

Checked on D.E. in BK "C"

Alley - Catalina Villas - Blk 38 Between
Atascadero & Alicia - Catalina to Wells.

	H.I.		Elev		Cut
	1308	120.09		107.01	
Connect to Exist. Sewer E-Line Catalina			7.97	112.12	106.92
TP 4-52 ³⁷	11.85	131.25	0.69	119.40	-
# 1			11.18	120.07	111.17
# 2			8.72	122.53	115.42
# 3			5.52	125.73	119.67
MH # 290			2.35	128.90	123.91
TP 5-44 ⁰⁰	13.20	144.17	0.28	130.97	-
# 1			11.14	133.03	128.12
# 2			6.63	137.54	132.33
T.P.	13.09	156.92	0.34	143.83	-
# 3			12.66	144.26	136.54
# 4			7.94	148.98	140.75
# 5 Dead End			3.68	153.24	144.97
check out old Dead ch.			7.02	149.90	149.83 = 0.07 error

Warrington St. from M.H. #32 Main Interceptor
to Existing sewer on Voltaire.

	H.1	-	Elev	Elev. Flow Line	Cut.	
M.H. #32	2.66		88.87	86.21	70.42	
5-54 ^m						
#1		3.60	85.27	70.80	14.47	
#2		4.70	84.17	71.18	12.99	
#3		5.23	83.64	71.56	12.08	
#4		4.48	84.39	71.94	12.45	
M.H. #219		2.51	86.36	72.31	14.05	10 220 E. cut
3-45 ^m						
#1 TP.	7.54	94.49	1.92	86.95	72.62	14.33
#2			6.52	87.97	72.93	15.04
M.H. #842 & Vidal.			4.38	90.11	73.25	16.86
5-47 ^m						10 220 SE.
#1			5.77	88.72	73.58	15.14
#2			4.82	89.67	73.91	15.76
#3			6.36	88.13	74.24	13.89
#4			7.91	86.58	74.57	12.01
#5 Connected to Sewer S. Line Voltaire			7.21	85.28	74.90	10.38
			8.27	86.22		
				86.21		
				86.22		
				0.01	check M.H. #32	

130
512.70
512.35

73.25
70.31

33

72.31
70.42
51.29
548

74.90
73.25
51.65
33

W Udal St. - East to Villa Drive - Dead End.
 & West to Dead End, east of Worden St.

	H.1	-	Elev.	Elev. Flow Line	Cuts.	
M.H. #342 ^{7.94} _{Warrington East.}	98.05		90.11	73.25	16.86	102 20' SE.
6-47 ^U						
#1		6.70	91.35	74.23	17.12	
#2		5.38	92.67	75.21	17.46	
#3		5.03	93.02	76.20	16.82	
#4		5.70	92.35	77.18	15.17	
#5		8.08	89.97	78.16	11.81	
#6 M.H. #347 ^{7P} _{2.00}	9.52 99.22		8.35 89.70	79.15	10.55	108 20' N.
5-51 ²⁰						
#1		9.91	89.31	80.17	9.14	
#2		10.51	88.71	81.19	7.52	
#3		10.41	88.81	82.21	6.60	
#4		9.47	89.75	83.23	6.52	108 20' N.
#5 Dead End. _{TP}	4.84 102.34		8.24 90.98 1.72 97.50 8.40 93.94 ✓	84.25	6.73	
M.H. #342 ^W _{Warrington West.}			90.11	73.25	16.86	
6-47 ^E	1.21 91.32					
#1		1.73	89.59	73.58	16.01	
#2		3.83	87.49	73.91	13.58	
#3		5.93	85.39	74.25	11.14	
#4		7.84	83.48	74.58	8.90	
#5		9.07	82.25	74.91	7.34	
#6 Dead End.		10.43	80.89	75.25	5.64	108 20' N.
		8.56	82.76	M.H. #364 Worden St.		

6125.5
47.5
50

6125.5
49.16
51

77.10
73.25
65.90
98
33
84.25
79.75
5.10

6125.5
83

99.25

W Worden St. - M.H.#34 - Main Interceptor
North to M.H.#369.

	+						
	6.27	93.85		87.50 M.H.#33	82.00		
M.H.#34			3.38	90.47	71.29	19.18	
4-46 ²⁵							
#1			5.28	88.57	71.61	17.96	10 E
#2			7.12	86.73	71.93	14.80	10 E
#3			9.98	83.87	72.25	11.62	10 W.
M.H.#364			11.10	82.75	72.58	10.17	10 S 20 W.
				82.76	M.H.#364		
				0.01 Error	Worden St.		

4112 3/0
46.20

5(145)
48.88

34

94.47
84.32
310.15
3.38
72.58
71.29
41.29
32

✓
Alicia Dr. - M.H.#291 & Tennyson 145' to DE

Δ 13° 58' 17"	13.208	100.66		87.58 M.H.#33		
M.H.#291			8.31	92.35	84.32	8.03
3-48 ³³						
#1			5.78	94.88	87.70	7.18
#2 TP	6.06	104.44	2.28	98.38	91.08	7.30
#3 D.E.			2.92	101.52	94.47	7.05
			12.07	92.37	M.H.#291	
				92.35		
				0.02		

W Sewer - from M.H. 34 - South to M.H. #291 & Tennyson, then West to M.H. 292 & Wells, then South to M.H. 294 & Alicia Dr, then West 290' to DE.

A 90° 32' H.	13.08	150.66	87.58	M.H. #33	71.29	19.17
M.H. #34		10.20	90.96		82.00	3.46
2-29 ⁰⁰						
#1			8.27	92.39	83.16	9.23
M.H. #291 & Tennyson	12.07	104.42	8.31	92.35	84.32	8.03
7-47 ³						
#1			10.36	94.06	86.22	7.84
#2			8.84	95.58	88.11	7.47
#3			7.12	97.30	90.01	7.29
#4			5.63	98.79	91.91	6.88
#5			4.02	100.40	93.81	6.59
#6			2.04	102.38	95.71	6.67
M.H. 292 & Wells. 1296 & Tennyson	TP	116.97	0.41	104.01	97.60	6.41
3-41 ³⁸						
#1			out.		100.43	
#2			7.89	109.08	103.26	5.82
#3			5.28	111.69	106.09	5.60
M.H. 293			2.89	114.08	109.04	5.04
1-39 ³⁸ TP	13.19	129.69	0.47	116.50		
#1			12.00	117.69	111.64	6.05
2-41 ³⁸						
#2			9.22	120.47	114.37	6.10
#3			6.41	123.28	117.10	6.18
M.H. 294 & Alicia			3.08	126.61	120.10	6.51
6-48 ³³						
#1			1.81	127.88	122.42	5.46
TP	12.69	142.32	0.06	127.63		
#2			10.62	130.70	124.74	5.96

167.5
41.88
167.53
124.14
43.36

4167.5
41.38
167.53
124.14
43.36

7331.8
47.4
41.38
32.57
289.66
45.34

6292.0
47.83

35

41.38
47.39
41.38
124.14
167.50
134.14
43.36

39.38
41.38
41.38
45.38
167.52

97.60
84.25
118.28
1.89
13.23

1082362 South

108220 N.

10820 East

10820 So.

$$\begin{array}{r} 4 \overline{) 159} \\ \underline{124} \\ 35 \\ \underline{30} \\ 5 \end{array}$$

$$\begin{array}{r} 118.27 \\ 107.30 \\ \underline{410.33} \\ 258 \end{array}$$

$$\begin{array}{r} 124.74 \\ 32 \end{array}$$

$$\begin{array}{r} 107.84 \\ 77.60 \\ \underline{410.34} \\ 258 \end{array}$$

$$\begin{array}{r} 191.02 \\ 125.10 \\ \underline{618.92} \\ 282 \end{array}$$

	+	H.I.	-	Elev.	Elev. Flow Line	Cut.	
		142.32					
#3			7.29	134.03	127.06	6.97	
#4			5.14	136.18	129.38	6.80	
#5			3.15	138.17	131.70	6.47	
#6 D.E.			2.06	139.26	134.02	5.24	
			6.83	135.49	D.E. in Alley Blk "37"		
W Tennyson St. H.H. 292 & Wells West to D.E. east of San Clara							
M.H. #292 & Wells 12.66		116.67		104.01	97.60	6.41	10 E 20 N.
4-48 ⁷⁵							
#1			9.43	106.89	100.19	6.65	
#2			7.15	109.52	102.77	6.75	
#3			4.52	112.15	105.36	6.79	
#4 M.H. #297	13.09	127.68	2.08	114.59	107.94	6.65	10 E 20 N
4-48 ⁷⁵							
#1			10.36	117.32	110.52	6.80	
#2			7.34	120.34	113.10	7.24	
#3			4.90	122.78	115.68	7.10	
#4 Dead End			2.69	124.99	118.27	6.72	10 E 20 N.

$$\begin{array}{r} 14.25 \\ 17.30 \end{array}$$

W Alley - BK 37 Pt Loma Hgts - from M.H. #293 Wellst.
 West to D.E.

	+	H.I.	-	Elev.	Elev. Flowline.	Cut.			
M.H. #293	13.21	127.29		114.08	109.04	5.04			
A-48 ⁷⁵									
#1				7.88	119.41	112.26	7.15		
#2				5.74	121.55	115.44	6.07		
#3				1.16	126.13	118.70	7.43		
#4 T.P.	11.44	138.67		0.06	127.23				
M.H. #295				9.52	129.15	121.91	7.24		
A-48 ⁷⁵									
#1				6.36	132.31	123.91	8.40		
#2				3.46	135.21	125.91	9.30		
#3				2.52	136.15	127.91	8.24		
#4 D.E.				3.19	135.48	129.91	5.57		

$\frac{2196.2}{29.05}$ $\frac{4202.5}{58.63}$

37

138.67
13.71
124.96

12.56
1.15
13.71

10 & 20 East.

10 & 20 S.

+ H.I. - Elev
138.67
13.71
124.96

0.23
Check D.E.
Terryson H.

Alley BK 37 Catalina Villas - bet Alicia & Terryson - 2 Wells
 S.E. P. Catalina A.I. via

4-49 ⁰⁵ Distig Semr				1340	97.72	92.08	5.64		
#1				8.54	102.58	96.20	6.38		
#2				4.49	106.63	100.32	6.31		
#3				1.80	109.32	104.44	4.88		
#4 M.H. #296	13.00	123.64		0.48	110.64				
A-50 ⁶³				8.94	114.70	108.57	6.13		
#1				3.43	120.21	113.18	7.03		
#2 T.P.	12.62	135.58		0.68	122.96				
#3				8.43	127.15	117.79	9.36		
#4				4.75	136.83	122.40	8.43		
#4 D.E.				3.97	131.61	127.00	4.61		
Checkout on									
D.E. Running West				0.00	135.58	= 135.48			

Tennyson St^N M.H. #31 (Main Interceptor) to M.H. #276
 & Tennyson, east to Dead End.

	+	M.	-	Elev	Elev. Flow Line.	Cut.
Δ 90° 00' R.					70.08	
M.H. #31	6.66	92.29		85.63	79.80	6.63
1-49°						
Δ 52° 26' R.						
M.H. #276			5.60	86.69	79.95	6.74
5-43						
#1			5.42	86.87	80.81	6.06
#2			4.73	87.56	81.67	5.89
#3			4.03	88.26	82.53	5.73
#4			3.01	89.28	83.39	5.89
TP						
#5 M.H. 277	7.10	97.17	2.22	90.07	84.25	5.82
5-43						
#1			6.17	91.00	85.11	5.89
#2			5.28	91.89	85.97	5.92
#3			4.64	92.53	86.83	5.70
#4			4.01	93.16	87.69	5.47
#5 D.E.			3.24	93.93	88.55	5.38
				0.54	96.63	
					96.66	
					0.03 ✓	

Check BM.
 Chasworth & Tennyson.

51215
 87435
 8425
 7430

8425
 7995
 5430
 .86

38

W Quimby St. M.H. #245 Chatsworth Blvd.
285' East to D.E.

6 (285' - 475.0)

39

	+	H.I.	-	Elev.	Elev. Flow Line.	
	2.86	99.52		96.66	Tennessee SEBP. Chatsworth	
TP.	5.59	92.71	12.40	87.12		
M.H. #245			11.18	81.53	74.89	6.64
#1			12.01	80.70	77.24	3.46
#2			8.68	84.03	79.59	4.44
#3			5.24	87.47	81.94	5.53
#4 TP.	8.48	99.67	1.52	91.19	84.29	6.90
#5			6.21	93.46	86.64	6.82
#6 Dead End			4.72	94.95	89.00	5.95
			5.83	93.84	D.E. Quimby St.	

W Quimby St. M.H. #175 Capistrano St. - west to D.E.

M.H. #175	8.35	89.53		81.18	71.84	9.34
6-40						
#1			8.40	81.13	74.36	6.77
#2			5.85	83.68	76.88	6.80
#3 TP	9.68	96.73	2.48	87.05	79.40	7.65
#4			6.81	89.92	81.92	8.00
#5			4.25	92.48	84.44	8.04
#6 D.E.			2.89	93.84	86.96	6.88
				93.84		
				0.00	check D.E.	

Sewer 017 - Poe St. M.H. #176 Capistrano west to D.E.

42.1
52.73
40
52.16
48.20

	+	H.1	-	Elev.	Elev. Flow Line	Cuts.
M.H. #176	5.68	76.09		70.41	64.47	5.94
4-40 ²⁰						
#1			5.48	70.61	64.75	5.86
#2			5.22	70.87	65.03	5.84
#3			5.04	71.05	65.31	5.74
#A.D.E.			5.42	70.67	65.59	5.08
			5.68	70.41	M.H. #176	

Dead End, ^W Terryson St. west of Willow St. M.H. # Chatsworth east to Chatsworth
6.09 102.75 96.66 5th Terryson.

M.H. Chatsworth Blvd.			6.59	96.16	81.26	14.90
4-52 ²²					90.14	6.02
#1			6.06	96.67	90.88	5.81
#2			5.30	97.45	91.62	5.83
#3			4.95	97.80	92.36	5.44
M.H. #254			4.72	98.03	93.09	4.94
5-43 ²⁰						
#1			4.17	98.58	93.70	4.88
#2			3.69	99.06	94.30	4.76
#3			3.22	99.53	94.91	4.62
#4			2.62	100.13	95.51	4.62
M.H. #253	12.50	113.33	1.92	100.83	96.12	4.71
5-43 ²⁰						
#1			11.21	102.12	96.72	5.40
#2			9.95	103.38	97.33	6.05

10820 No.

10820 No.

	+	H.I.	-	Elev		
		113.33				
3			8.93	104.40	97.93	6.47
4			8.07	105.26	98.54	6.72
M.H. #187			3.28	110.05	99.14	10.91
					104.50	5.55
5-45 ⁰⁰ TP	13.07	125.38	1.02	112.31		
#1			9.00	116.38	110.80	5.58
2			2.44	122.94	117.10	5.84
TP	13.01	138.20	0.19	125.19		
3			9.00	129.20	123.40	5.80
4			2.48	135.72	129.70	6.02
TP	13.20	151.21	0.24	137.96		
M.H. #188			9.40	141.81	136.00	5.81
5-45 ⁰⁰						
#1			3.94	147.27	139.20	8.07
TP	11.30	162.32	0.19	151.02		
2			10.54	151.78	142.39	9.39
3			7.88	154.44	145.59	8.85
4			5.76	156.56	148.78	7.78
Δ 2°35' 27"			4.26	158.06	151.98	6.08
M.H. #189						
5-45 ⁰⁰						
#1			2.75	159.57	152.28	7.29
#2			1.29	161.03	152.59	8.44
3	TP	11.38	0.10	162.22	152.89	9.33
4			10.40	163.20	153.20	10.00
Δ 2°35' 00" RT Δ 2°05' 47"			9.19	164.41	153.50	10.91
M.H. #190						
5-44 ⁴⁶						
#1			7.65	165.95	155.79	10.16
2			5.99	167.61	158.08	9.53
3			4.30	169.30	160.37	8.93

51 225
45

41

51 222.30
44.46

108 20 North

108 20 N

108 20 N

108 20 N

173.60

4
2 00' 10" 00" R.

M.H. #191 & Plum.

2.72 170.88 162.66 8.22

1.61 171.99 164.95 7.04

10 20 No.

6-49¹² TP. 13.09 186.26

0.43 173.17

#1 12.54 173.72 168.79 4.93

#2 8.27 177.99 172.62 5.37

#3 3.24 183.02 176.46 6.56

#4 TP. 11.65 197.47 0.44 185.82 180.29 7.55

#5 5.77 191.70 184.13 7.57

#6 D.E. 4.37 193.10 187.96 5.14

10 20 No.

3.58 193.89

193.90
0.01 ✓ Willow
B.H. Terryson.

Sterne St. M.H. #187 - Southeast on Sterne to
M.H. #185, then east to D.E. west of Willow

5(262.5)
52.5

43

5(22)
44.2

M.H. #187		12.35	122.40	110.05	110.05	M.H. #187	
Intersection Tennessee & Sterne.						99.14	
M.H. #187					110.05	104.50	10220 No
5-52 ³⁰							
1	TP	12.59	134.77	6.19 0.22	116.21 122.18	110.59	5.62
2				11.27	123.50	116.68	6.82
3	TP	12.74	147.15	5.14 0.36	129.63 134.41	122.77	6.86
4				11.93	135.22	128.86	6.36
M.H. #186				6.62	140.53	134.95	5.58
5-52 ³⁰							10220 So
1	TP	12.73	158.96	0.92	146.23	138.36	7.87
2				8.05	150.91	141.77	9.19
3				4.68	154.28	145.18	9.10
4	2' Long			2.74	156.22	148.59	7.63
M.H. #185				1.66	157.80	152.01	5.29
5-44 ²⁰							10220 So
1	TP	10.96	169.49	0.43	158.53	152.62	5.91
2				10.40	159.09	153.24	5.85
3				9.70	159.79	153.86	5.93
4				8.70	160.79	154.48	6.31
M.H. #184				6.18	163.31	155.10	8.21
5-44 ²⁰							10220 So
1				4.81	164.68	155.41	9.27
2				4.23	165.26	155.72	9.54
3				5.18	164.31	156.03	8.28
4	2' Long			5.95	163.54	156.34	7.20
M.H. #183				7.25	162.24	156.65	5.59
♀ Plum.							

172.17 Willow
store.

5345
29

44

169.49

Δ	5-49						
M	#1		6.36	163.13	156.99	6.14	
	#2		5.40	164.09	157.34	6.75	
	3 TP.	8.98	176.08	2.39	167.10	157.69	9.42
	4		7.42	168.66	158.03	10.63	
	#5 D.E.		6.29	169.79	158.87	11.42	
			5.21	170.87			
				170.88	check		
				0.01	cut stake	Tennyson St.	

Sewer on Chatsworth St. from M.H. #28 Main
 Interceptor, Wabaska Dr. south to D.E. south of Dixon Pl.
 20' off West Line.

				SEEP.			
	4.16	82.37		78.21	Poe & Chatsworth 68.40	8.72	
M.H. #28 22302			5.25	77.12	69.20	7.92	
5-44 ⁷⁶							
#1			5.43	76.94	69.76	7.18	
2			5.29	77.08	70.32	6.76	
3			5.15	77.22	70.89	6.34	
4			4.96	77.41	71.44	5.97	
M.H. #246 16702	Poe St.		4.34	78.03	71.99	6.04	
4-41 ⁰²							
#1			3.63	78.74	72.74	6.00	
#2			2.72	79.65	73.49	6.16	
#3	TR	8.01	88.58	1.80	80.57	74.24	6.33
M.H. #247 14702	Alley			7.02	81.56	75.00	6.56
3-49 ⁰⁷							
#1			6.08	82.50	76.31	6.19	
#2			4.93	83.65	77.62	6.03	
M.H. #248 28602	Wabaska		3.68	84.90	78.93	5.97	
6-47 ⁰⁷							
#1			2.14	88.58	80.81	7.77	
2	TR	11.66	100.01	0.23	88.35	82.68	5.67
3			9.66	90.35	84.56	5.79	
4			7.74	92.27	86.43	5.84	
5			5.73	94.28	88.31	5.97	
M.H. #249 28502			3.59	96.42	90.18	6.24	
6-47 ⁰²							

	+	H.I.	-	Elev.	Elev. Flowline	Cut	
		100.01					
#1			1.79	98.22	92.82	5.90	
#2	T.P.	12.90	112.90	0.01	100.00	94.40	5.55
#3			10.62	102.28	96.59	5.69	
#4			8.12	104.78	98.72	6.06	
#5			5.56	107.34	100.86	6.48	
					103.00	6.94	
M.H. # 250 Alley 11509			2.96	109.94	103.65	6.29	
3-38 ⁰³							
#1	T.P.	12.05	123.98	0.97	111.93	105.64	6.29
#2			10.05	113.93	107.63	6.30	
#3	Connect to sewer. N. Line La Cresta Dr.		8.08	115.90	109.63	6.27	
Sewer South Line La Cresta Drive. 236 ⁰⁴			5.40	118.58	112.74	5.84	
5-47 ⁰³							
#1	T.P.	13.08	136.63	2.72	121.26	115.34	5.92
				0.43	123.55		
#2			12.61	124.02	117.94	6.08	
#3			9.82	126.81	120.54	6.27	
#4			6.90	129.73	123.14	6.59	
#5	Connect to Ex. sewer N. Line Arlington Dr.		3.86	132.77	125.74	7.03	
	T.P.	13.06	149.33	0.36	136.27		
Connect to Sewer. S. Line Arlington 125 ⁰²			12.67	136.65	130.88	5.77	
3-41 ⁰⁷							
#1			10.05	139.28	134.00	5.28	
#2			7.26	142.07	137.12	4.95	
#3	2 ⁰³ Rt. A 2 ⁰⁴ Rt. 1102		4.05	145.28	140.25	5.03	
3-36 ⁰⁷							

	+	H.I.	-	Elev.	Elev. Flow Line	Cut.
		205.29				
#2			8.23	197.06	189.79	7.27
#3			6.22	199.07	192.18	6.89
#4			4.08	201.21	194.58	6.63
#5 D.E.			2.26	203.03	196.97	6.06
			7.78	197.51 197.67 0.16 Error	Dixon M. Chatsworth	
W						
Sewer on Dixon Place - M.H. #252 Chatsworth Blvd.						
west to M.H. #306 & Warrington St.						
	7.82	205.49		197.67	Dixon & Chatsworth SMBR.	
M.H. #252 34600			12.86	192.63	185.00	
7-49-23						
#1			12.56	192.93	187.72	5.21
#2			10.54	194.95	190.44	4.51
#3			7.50	197.99	193.16	4.83
#4			4.38	201.11	195.88	5.23
#5	8.63	213.11	1.01	204.48	198.60	5.88
					198.60	
#6			4.97	208.14	201.32	6.82
M.H. #306 & Warrington St.			2.32	210.79	204.03	6.76
T.P.	0.96	202.07	12.00	201.11		
			4.41	197.66 197.67 0.01 Error	Dixon & M. Chatsworth	

	+	H.I.	-	Elev.	Elev. Flow Line	Cut.
		205.29				
#2			8.23	197.06	189.79	7.27
#3			6.22	199.07	192.18	6.89
#4			4.08	201.21	194.58	6.63
#5 D.E.			2.26	203.03	196.97	6.06
			7.78	197.51	Dixon BM, Chatsworth	
				197.67		
				0.16 Error		
W						
Sewer on Dixon Place - M.H. #202 Chatsworth Blvd.						
west to M.H. #306 & Warrington St.						
	7.82	205.49		197.67	Dixon & Chatsworth Sewer	
M.H. #252 34622 7-49 ¹³			12.86	192.63	185.00	
#1			12.56	192.93	187.72	5.21
#2			10.54	194.95	190.44	4.51
#3			7.50	197.99	193.16	4.83
#4			4.38	201.11	195.88	5.23
#5	8.63	213.11	1.01	204.48	198.60	5.88
				198.60		
#6			4.97	208.14	201.32	6.82
M.H. #306 & Warrington St.			2.32	210.79	204.03	6.76
TP.	0.96	202.07	12.00	201.11		
			4.41	197.66	Dixon & BM, Chatsworth	
				197.67		
				0.01 Error		

Waworra Drive - from M.H. #248 - Chatsworth
west to M.H. #145 & Alley - then south to Prop. Line.

49

	+	H.I.	-	Elev.	Elev. Flowline	Cut.	
$\Delta 42^{\circ} 51'$ Rt. M.H. #248	10.58	95.48		84.90	78.93	5.97	10820 East
4-47 ⁶³							
#1			9.20	86.28	82.01	4.27	
#2			5.84	89.64	85.09	4.55	
#3			2.42	93.06	88.17	4.89	
$\Delta 6^{\circ} 10'$ Lt. Tr. 12.92 M.H. #266	107.42		6.38	95.10			
			11.60	96.42	91.24	5.18	10820 No
6-53 ¹³							
#1			7.35	100.07	94.53	5.54	
#2			3.80	103.62	97.82	5.80	
#3 Tr. 12.99	119.95		0.46	106.96	101.11	5.85	
#4			9.58	110.37	104.40	5.97	
#5			5.70	114.25	107.70	6.55	
$\Delta 90^{\circ} 00'$ Lt. M.H. #145			1.13	118.82	111.00	7.82	10820 No
1-30							
#1 D.E. Prop. Line & Alley.			0.28	119.67	111.30	8.37	6 West

Alley - From M.H. # 247 Chatsworth Blvd west to DE.
Between - Pie & Wawona - Chatsworth & La Cresta

	+	H.I.		Elev.	Elev. Flow Line.	Cut.	
M.H. # 247	10.57	92.13		81.56	75.00	6.56	10220 East.
2-29 ²⁵							
#1			6.91	85.22	77.25	7.97	10' 50.
Δ 26' 36" H							
M.H. # 267			6.07	86.06	79.50	6.56	10220 50.
2-33 ²⁵							
#1			4.12	88.01	81.71	6.30	10' 50.
Δ 23' 25" 26' 08" H							
M.H. # 268			2.43	89.70	83.92	5.78	10220 50.
5-49 ⁵⁴	TR 12.43	103.86	0.70	91.43			10' 50
#1			11.19	92. ⁴⁴ 67	86.15	6. ²⁹ 52	"
#2			8.11	95.75	88.38	7.37	"
#3			5.57	98.29	90.61	7.68	"
#4			3.93	99.93	92.84	7.09	"
M.H. # 267	TR 12.93	114.44	2.35	101.51	95.06	6.45	10220 50.
5-50 ²²							
#1			9.96	94.48	99.06	5.42	10' 50.
#2			6.64	97.80	103.06	4.74	6' 50.
#3			2.65	111.79	107.06	4.73	10' 50
TR	12.91	127.24	0.11	114.33			
#4			10.21	117.03	111.06	5.97	"
#5 Dead End.			3.43	123. ⁶⁰ 81	115.06	8. ⁵⁴ 75	"
			8.41	118.83			
				118.82			
				0.01			

Checked M.H. # 265
Wawona St.

75
225
77.25
- 225
79.50

14967
10.00
140875 50

59.70
809
97.79
535
92.44
99.79
- 03
45.76

11703
813
125.16
156
123.60 -
115.06
8.54 -

Sept 23

1929

Sewer Chatsworth Blvd.
Wabaska To Mn Hole 216 & Villa Drive

Mn. Hole						
0+00 #28	11.39	88.44	77.05	69.89	7.14	
3-37.07						
#1		9.97	78.47	71.56	6.91	
#2		8.43	80.01	73.23	6.78	
#3 M.H. & Tap Ch. 10' N.W. 245 & Pombay		6.94	81.50	74.89	6.61	
4-51.25						
#1		4.88	83.56	75.86	7.70	
#2		1.93	86.51	76.84	9.67	
7P	11.99	100.04	0.39	88.05		
#3		10.48	89.56	77.81	11.75	
#4 connect existing Sewer		7.60	92.44	78.79	13.65	
#4 120' to & Jennyson St EXISTING M.H. FROM EXISTING M.H. 3-56-60 R. 75' to connector with existing Sewer		3.42	96.62			
connect existing Sewer	5.59	102.25	96.66			
0+00 existing Sewer 2-30		5.38	94.87	81.54	15.33	
#1		5.19	97.06	81.67	15.39	
#2 M.H. 244 Δ 19°-13'-00" R		5.06	97.19	81.80	15.39	
4-45						
#1		4.64	97.61	81.98	15.63	
#2		4.02	98.23	82.16	16.07	
#3		3.63	98.62	82.34	16.28	
M.H. Δ 58°-52'-00" R				82.52	16.19	
#4 216. Drop.		3.54	98.71	92.50	6.21	
1-50						
#1 M.H. Δ 53°-19'-00" W #215	11.07	109.92	3.40	98.85	93.50	3.35
1-36/27						
#1			9.29	100.63		
2-31.67						
#2			6.29	103.63		
M.H. 243						
#3 Δ 92°-45'-00" L 13°-14'-00" L			3.17	106.75	98.15	8.60

Void

51.67
 155.01
 67
 154.34
 18
 172.34

51

5
02/2
3

31

51.67
 15.40
 36.27

H.I.
109.92

3-49 ⁵⁵				
#1	990	119.19	0.63	109.29
#2			7.42	
#3 D. End		VOID	4.93	114.99
			2.9	109.70

check D. End P.L. Ch. E. & M. O'by
6.42 112.77
106.75

2-51 62 M.H. # 215=00 93.50

#1		567	100.63	94.57	6.06 -
#2		1033	103.63	96.07	7.54 -

7-51		172			
#1					
1-18					
#1 M.H. 243 #73	118.48		106.75	97.61	9.14 -

#1 M.H. 3-49 ⁵⁵		4955	10.87	107.81	98.15	9.66 -
#1		1486	7.67	110.81	102.00	8.81 -

#2		1666	4.69	113.79	105.85	7.94 -
----	--	------	------	--------	--------	--------

#3 D.E			1.77	116.71	109.70	7.01 -
--------	--	--	------	--------	--------	--------

check out
570 112.78 -

109.70
98.15
317.55
385
3
115.5

57
18
69

52

98.15
385
102.00
385
105.85
385
109.70

15.46

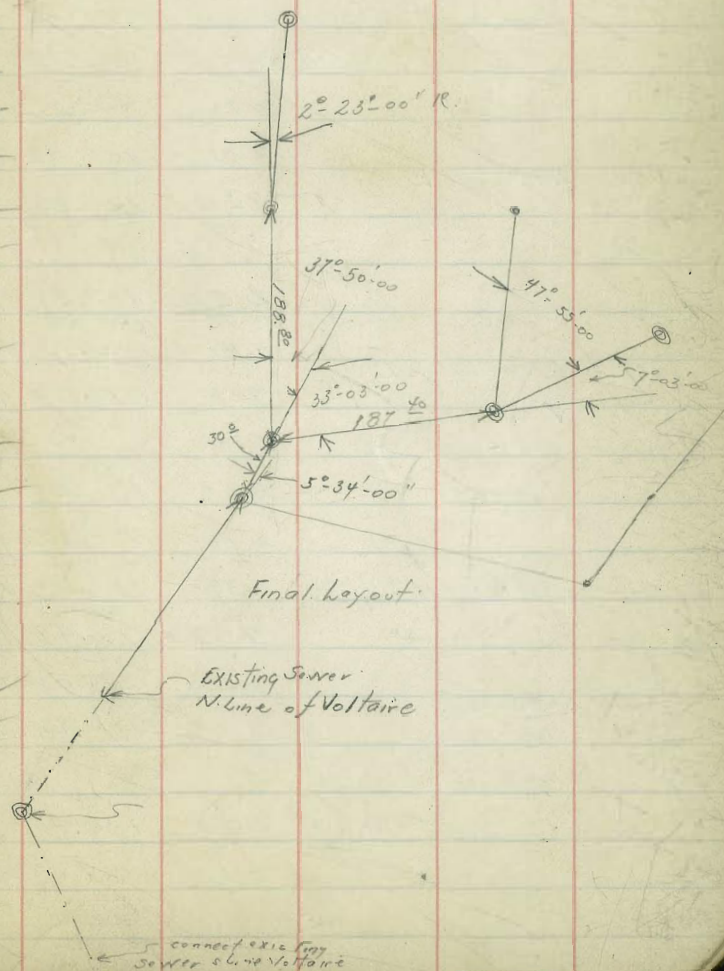
Sewer Villa Drive from M.H.
 # 216 N. to M.H. 227 & Zola and then
 200' West + 125' East to D. Ends on Zola

M.H. 0700 # 216	0.79	99.50	98.71	92.50	6.21 -
3-41 37				82.50	16.19 -
#1			1.56	97.94	82.69
#2			2.60	96.90	82.85
M.H. Δ 20° 40' - 00 R #3 #217			4.03	95.47	82.00
13845					89.50
#1			4.82	94.68	83.18
4-43 30			5.22	94.28	83.36
#1			5.40	94.10	83.53
#2			5.74	93.76	83.71
#3			6.11	93.39	83.89
M.H. # 218 Δ 17° - 11' - 00 R 3-39 24					
#1	4.91	98.46	5.95	93.55	84.05
check BM SE BP Villa Drive + Voltair			2.10	96.36	
#2			4.99	93.47	84.20
connect existing sewer & line Voltair			5.41	93.05	84.36
#3 Existing M.H. & Voltair Δ 32° 02' - 00 R From existing Sewer N. line of Voltair			5.41	93.05	84.65
3-40 11					
#1			6.45	92.01	84.81
#2			5.80	92.66	85.97
M.H. Δ 22° - 50' - 00 R #3 220			7.03	91.43	85.14
1-30	3.79	98.98	3.27	97.19	
#1 M.H. 235 Δ 33° 03' - 00 R					86.34

see page 55

2.18
 95.79
 97.37
 59.4
 91.43

53
 98.46
 70.3
 4.43



connect existing
sewer & line Voltair

#1							
#2							
#3							
#4	MH $\Delta 22^{\circ}23'00''L$		562	93.36	86.50		6.86
	#1						
#1			5.01	93.97	88.41		5.56
#2			3.92	95.06	90.32		4.74
#3	13.21	110.00	2.19	96.79	92.23		4.56
#4			10.74	99.26	94.14		5.12
#5			8.01	101.99	96.05		5.94
#6	MH $\Delta 16^{\circ}22'00''L$		5.20	104.80	97.97		6.83
	#1						
#1	T.P. 13.03	122.31	2.50	107.50	101.32		6.18
			0.72	109.28			
#2			11.81	110.50	104.67		5.83
#3	MH $\Delta 14^{\circ}09'00''L$		9.08	113.23	108.01		5.22
	#1						
#1			6.08	116.23	111.18		5.05
#2			2.79	119.52	114.35		5.17
T.P.	13.05	134.98	0.38	121.93			
#3			11.56	123.42	117.52		5.90
#4			6.90	128.08	120.69		7.39
#5	M.H. $\Delta 80^{\circ}00'00''L$		3.53	131.45	123.85		7.60
	227	108^{\circ}26'00''R					
		A No 1					
	3-41.07	Going East					
#1	13.13	147.22	0.89	134.09	128.59		5.53
#2			8.15	139.07	133.27		5.80
#3							

Void

See

cut

	+	HZ				
		147 ²				
#3 DE	13.13	17° off NCB 159.53	0.8 ²	146.40	137.98	
check out			5.47	154.06	= 154.06	-
00 = M.H. #227	12.14	80° 00' at 143.59		131.45	123.85	
4-50			12.7 ²	130.87	127.00	
#2			8.89	134.70	130.82	
#3	10.76	152.91	1.44	142.15	134.64	
#4 DE #227	200 W. M.H. 15.20 off NCB of M.H.		6.19	146.72	138.45	
check out M.H. w/ Lucane 1706			2.4 ²	150.49	= 150.49	-
8M M.H.	4.79					
of 235		Realign ment M.H. 235 to 221	8.30	95.19	85.74	
3-50				91.68		
#1			7.72	92.26	85.89	
#2			7.50	92.48	86.09	
#3			7.12	92.86	86.30	
1-37 ⁴⁰						
#1 M.H. #221			6.62	93.36	86.50	

8.42	
7.60	3
3.87	
3.88	
7.51	
8.27	

08.45	177.00
127.00	352
311.45	13082
	38
3.82	134.64
	352
	13848

130
122.00
187.00

137.00
129.00
150.00
149.00
149.00

Sewer Palmyra Drive from M.H.
#235 to M.H.#240 & Alcott Street

M.H. #235 = 00	$\Delta 37^{\circ} 50' 00'' L$ 12.50	104.42	91.92	86.34	
1-30 ¹⁰					
#1			11.93	92.49	
3-50	Void see Bottom Page 57				
#1			6.48	97.94	
#2	Void				
	13.28	116.89	0.81	103.61	
M.H. #236	4 ³⁰ 29.23' 00" R	O.K.			
#3			7.80	109.09	102.44
5-44.40					6.65
#1			4.52	112.37	105.02
#2			1.44	115.45	107.59
#7P.	13.13	129.81	0.21	116.68	
#3			11.51	118.30	110.17
#4			8.89	120.92	112.74
M.H. #237	29 ⁵² 52' 00" R				
#5			6.22	123.59	115.32
5-54					
#1			4.04	125.77	116.40
#2			2.86	126.95	117.48
#3	12.58	140.10	2.29	127.52	118.56
#4			12.27	127.83	119.64
M.H. #238					
#5			11.97	128.13	120.71

	+	H.I.	-	Elev stake	Elev. floorline	Cut
		140.10				
5-54						
#1			10.84	129.26	123.57	5.69 -
#2			8.77	131.33	126.43	4.90 -
#3			5.65	134.45	129.29	5.16 -
T.P.	1312	152.76	0.46	139.64		
#4			12.71	140.05	132.15	7.90 -
M.H. Drop #5 #239			6.62	146.14	135.02 -140.00	11.12 - 6.14 -
5-54						
#1	837	160.09	1.04	151.72	140.67	11.05 -
#2			4.81	155.28	141.34	13.94 -
#3			4.58	155.51	142.01	13.50 -
#4			4.20	155.89	142.68	13.21 -
M.H. Δ 832.061-00K #5 #240 ✓ (see pp 71)			5.25	154.84	143.35	11.49 -
1-13						

86.34
85.14
1.20

5
102.44
84.34
316.10
5.37
16.11

See page 58

For Continuation and check of these levels See Alcott St. Sewer (Page 58 Following)

Relocation M.H. 235 to M.H. 236

B.M. Tap N.Y.	4.79					
M.H. 235-00	372.50	99.98	8.30	91.68	85.74	5.94 -
1-28			7.99	91.99	86.18	5.81 -
1-V.C.			7.56	92.42	86.56	5.86 -
2-10			6.80	93.18	87.41	5.77 -
#1						
#2 p.m.c.						
1-40						
#1			1.98	98.00	91.71	6.29 - 4.09 -
T.P.	12.01	111.50	0.49	99.49		
2-50			7.83	103.67	97.08	6.59 - 5.50 -
#1						
M.H. #2 #236			2.41	109.09	102.44	6.65 -

Sewer Alcott Street from M.H.

#240 to D End East of Villa Drive

	M.H.	H.I.		Elev Stake	Elev Flow Line See page 57	
0+00	#240	5.25	160.09	154.84	143.51	11.33
4-52.50						
#1				4.80	155.29	
#2				5.20	154.89	
#3				6.08	154.01	
#4	M.H. $\Delta 34^{\circ}13'00''$ R	4.48	157.18	7.39	152.70	144.98
5-54.50						
#1				4.71	152.47	
#2				5.34	151.84	
#3				5.66	151.52	
#4				5.36	151.82	
#5	M.H. $\Delta 24^{\circ}47'00''$ L	#242		4.23	152.95	146.81
3-50						
#1		13.03	169.17	1.04	156.14	
#2				9.35	159.82	
#3 D.End.				3.88	165.29	156.02
Check out				9.58	159.59 = 159.56	

Void
See Page 71

Sewer Lucerne Drive from

M.H #221 & Villa Drive to M.H 224

& Zola and then 100' West to D. End of Zola

cut

M.H #221	Δ 47° 34' 00" Tol. off for woods.	12.97	106.33	93.36	86.50	686	-
5-48 60							
#1	B.K.		10.16	96.17	91.51	4.66	-
#2			3.23	103.10	98.39	4.71	-
TP		13.11	119.12	032	106.01		
#3			8.29	110.83	105.28	5.55	-
#4		13.23	131.42	0.93	118.19	112.16	6.03
M.H #222	Δ 76° 18' 00" R.		7.18	124.24	119.05	5.19	-
5-45							
#1			3.32	128.10	124.25	6.85	-
#2		4.36	140.49				
		12.40	143.53	0.29	131.13	123.45	7.68
#3			7.27	133.22	125.65	7.57	-
#4			5.52	134.97	127.85	7.12	-
M.H #223			3.67	136.82	130.07	6.75	-
5-45							
#1		13.12	152.37	1.24	139.25	132.86	6.39
#2				10.22	142.15	135.65	6.50
#3				6.67	145.70	138.44	7.26
#4				3.53	148.84	141.23	7.61
M.H #224	Δ 90° 00' 00" Zola	8.07	158.56	1.88	150.49	144.02	6.47
2-50							
#1			5.46	153.10	146.02	7.08	-
#2	D. End		3.90	154.66	148.02	6.64	-
	check out M.H #224		8.07	150.49	150.49		

99.52
64.30
1.13
3.58
471 - 316
15
466

166.03
105.28

71

480

551

119.05
91.51
4) 2754
6885

91.51
6885
98.295
6885
105.280
6885
112.165
6885
119.050

50

9150

8650

500

5

1.75

727.54

195

800

780

456

104.4

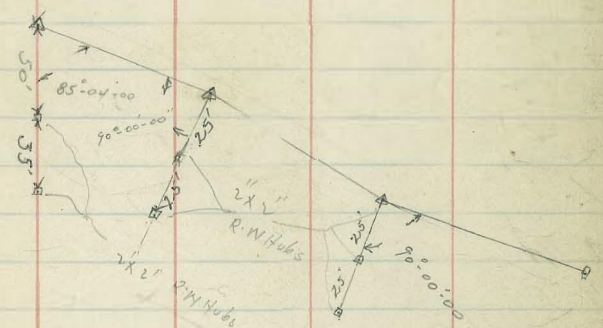
Sewer from M.H 220 Villa
 Drive Across Block E Las Lomas
 Subdivision to Connection with Existing Sewer
 on Zola and the North Westerly line of the North 21

Vila Drive

M.H Δ 55° 59' - 00" R						
0400 220	11.71	103.18	91.47	85.14	6.33 -	
2-30						
#1	6.0		7.05	96.13	88.32	7.81 -
M.H	216.6					
#2 #228	5.76		3.75	99.43	91.50	7.93 -
5-43 30	12.52	115.05	0.65	102.53	97.50	1.93 -
#1	22.37		8.36	104.69	100.62	6.07 -
#2	216.6		3.42	111.63	103.74	7.89 -
T.P.	11.89	126.30	0.64	114.41	106.86	9.08 -
#3			10.36	115.94	109.98	9.92 -
#4			6.40	119.90	109.98	9.62 -
M.H Δ 85° 04' - 00" L			3.58	122.72	113.10	
#5 #229						
4-42 30						
#1			4.39	121.91	113.39	8.52 -
#2			5.35	120.95	113.69	7.26 -
#3			5.33	120.97	113.98	6.99 -
M.H Δ 18° 45' - 00" R			4.36	121.94	114.28	7.66 -
44 #230						
5-45 20						
#1	6.94	129.72	3.52	122.78	114.60	8.18 -
#2			12.14	117.58	114.91	2.67
#3			9.30	120.40	115.23	5.19 -
#4			3.57	126.15	115.54	10.61 -
M.H Δ 2° 55' - 00" L			0.64	129.08	115.86	13.22 -
#5 231						

R.P. for angles points

inside Block E Las Lomas



#4	129.92	129.08 3M
	884	
	129.92	
	129.92	
	888	
	1271.04	
	115.23	
	5.81	
	10.96 -	Reset
		dest. eye
		staves

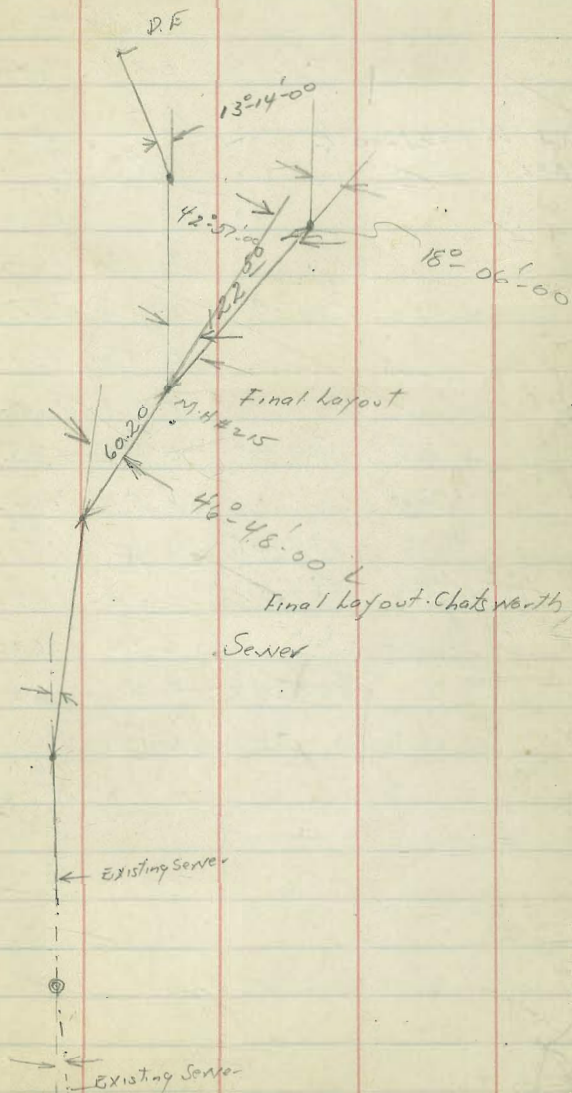
#3	129.92	129.92
	888	12.33
	1271.04	117.59
	115.23	
	5.81	

12191	
528	
12714	12714 HI
721	454
#4 11990	12.60
	113.10
	9.50

	+	HI 129.72	-	Elev Stake	Elev Howline	cut
4-50TP	12.26	141.52	0.46	129.26		
#1			11.04	130.48	118.91	11.57-
#2			8.51	133.01	121.96	11.05
#3			4.82	136.76	125.01	11.69-
M.H #4 232	12.62	153.48	0.66	140.86	128.06	12.80-
4-48 ⁷⁵						
#1			4.26	149.22	134.30	14.92
TP	12.91	166.16	0.23	153.25		
#2			12.10	154.06	140.54	13.52-
#3			7.85	158.31	146.78	11.53-
M.H #4 233		Δ 77° 47' - 00" R	6.60	159.56	153.02	6.54-
4-49 ⁸⁰						
#1			2.50	163.66	153.37	10.29-
#2	3.44	169.50	0.15	166.01	153.71	12.30-
#3			3.13	166.37	154.06	12.31-
connect #4 existing Sewer W Line Yaltaire			6.19	163.31	154.41	8.90-
check B.M.			7.97	161.53		
				161.50		
				0.03 error		

HI	159.56 BM	4.8
	2.76 +	162.32
	162.32	4.30
	12.47 -	158.02
	149.85 TP	146.78
	1.28 +	11.24 -
	151.13 TP	4 -
	13.02	162.32
	141.70	9.30
	138.11	53.02
checkout	5.03 -	140.54
	136.67	17.45
	136.70	151.13
	0.03 error	4.33
		146.80
		13.430
		612.50
	M.H 151.13	
	13.02	
	138.11	
	12.506	
	10.05	

Sewer Voltaire Street		From M.H. 215 500'		Chatsworth + Voltaire	
BM	HI	Elev	Elev	Line Grade	
561	105.09	99.48	SWOP		
M.H. #215		5.30	99.79	93.50	6.29
3-40 83					
#1		3.38	101.71	96.32	5.39
#2		0.25	104.84	99.13	5.71
M.H. #214	$\Delta 12^{\circ}-30'-00'' L$	4.40	107.26	101.95	5.31
4-42 13	3-15 Shoot				
#1		1.77	109.89	105.12	4.77
TP	1302	0.28	111.38		
#2		11.02	113.38	108.29	5.09
#3		7.17	117.23	111.49	5.74
M.H. #204	$\Delta 4^{\circ}-15'-00'' L$			114.42	7.94
TP	Capstone	2.04	122.36	117.00	5.36
3-50	13.18	137.23	0.35	124.05	
#1		7.06	130.17	124.85	5.32
TP	13.10	150.03	0.30	136.93	
#2		12.21	137.82	132.71	5.11
#3		4.14	145.89	140.56	5.33
TP	11.83	141.50	0.36	149.67	
M.H. #201	$\Delta 4^{\circ}-27'-00'' R$	10.52	150.98	146.07	4.91
4-45	Udal Approx.				
#1		6.51	154.99	147.54	7.43
#2		5.37	156.13	149.06	7.07
#3		4.85	156.25	150.55	6.10
M.H. #202	$\Delta 10^{\circ}-02'-00'' R$	3.93	157.57	152.05	5.52



	I	H.I.	-	Elev Stake	Elev Flowline	cut	
4-44 ²⁰		161.50					
#1			2.81	158.69	153.55	5.14-	
#2			1.27	160.23	155.04	5.19-	
T.P.	11.37	172.64	0.23	161.27			
#3			10.82	161.82	156.54	5.28	
#4 #203	M.H. Δ 9°-21'-00" R		7.73	164.91	158.04	6.87	172.08
4-40 ²⁵							1.96
#1			3.76	168.88 ⁶⁵	161.79	6.86-	174.04
#2	11.81	183.89	0.56	172.08	165.54	6.54-	5.39
#3			8.16	175.73	169.29	6.44-	168.65
#4 D.L.d			4.03	179.86	173.04	6.82-	
T.P.	5.86	189.43	0.32	183.57			
Set B.M. Whittier St. Sewer	DE		3.53	185.90			
T.P.	0.18	177.26	12.35	177.08			
T.P.	4.58	169.52	12.32	164.94			
Set B.M.			6.72	162.80	SE Top H.S. Younger	dove	
T.P.	4.71	167.97	6.26	163.26			
ChocR B.M.			6.44	161.53	N.W. Side 161.50	Chatsworth Directly across street from fire Hy. S.E. Zola & Chatsworth	
				0.03	error		

Sewer udal Street from M.H
#201 Voltaire Street

M.H #201 =00	9.97	160.95		150.98	146.07	4.91-
5-50'						
#1			8.56	152.39	146.41	5.98-
#2			8.29	152.66	146.76	5.90-
#3			7.71	153.24	147.11	6.13-
#4			7.44	153.51	147.45	6.06-
#5 1-40 ⁸⁰			7.35	153.60	147.79	5.87-
#1 M.H #200	$\Delta 38^{\circ} 10' - 00''$		6.92	154.03	148.09	5.94-
5-53.40						
#1			6.16	154.79	149.33	5.46-
#2			3.99	156.96	150.57	6.39-
#3			3.10	157.85	151.81	6.04-
#4	12.41	171.75	1.61	159.34	153.05	6.29-
M.H #5 #199			10.37	161.38	154.30	7.08-
1-50 connect existing to Summer W Line Clove			7.94	163.81	157.85	5.96-
E Line Clove			5.45	166.30	162.82	3.48-
4-4 ²⁵ T.P.	13.06	183.89	0.92	170.83		
#1			8.78	175.11	165.75	9.36-
#2			5.78	178.11	168.68	9.43-
#3			2.52	181.37	171.61	9.76-
T.P.	3.68	187.38	0.79	183.70		
#4 DEnd			2.52	184.86	174.54	10.32-
check out on DE Voltaire West of Clove 35'			7.51	179.87		
				179.86		
				0.01		

Sewer Across Block 178
 Roseville from M.H. 203 & Voltaire
 North to M.H. 210 & Whittier and
 East Along & Whittier to D. End.

M.H.					
0700	203	12.47	177.38	164.91-158.04	6.87-
5-54					
#1		9.21		168.17-160.25	7.92-
#2		7.28		170.10-162.46	7.64-
#3		6.04		171.34-164.68	6.66-
#4		4.38		173.00-166.89	6.11-
#5	M.H. 210	12.36	188.32	1.42 175.96 169.11-	6.85-
4-40					
#1		9.05		179.27-170.83	8.44-
#2		7.04		181.28-172.55	8.73-
#3		5.58		182.74-174.27	8.47-
#4	D. End	2.42		185.96-175.99-	9.91-

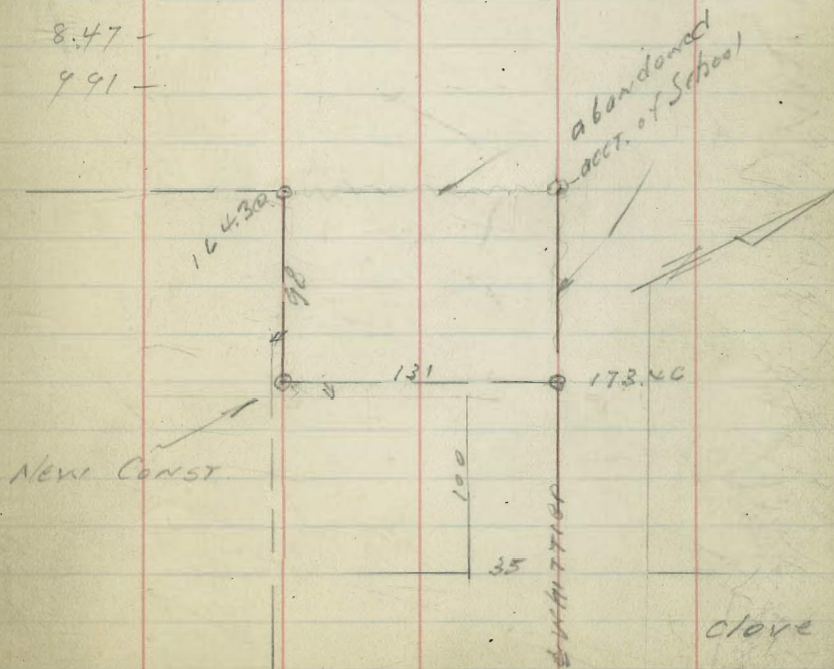
65

Sewer Re-const.
 Blk 178 Roseville

Moore
 3-13-40

169.11
 12.88
 181.99

166.26	168.04	170.84
15.73	13.77	11.15
8.70	2.03	2.47
C 7.03	C 11.74	C 8.68



close

Sewer along Street from
the West Line of clove West to D End

65

BM.	6.72	169.52	162.80	SE Top of	Songer + Clove
EXISTING SEWER WIRE CLIP = 00		10.11	159.41	153.92	5.49-
5-44					
#1		7.98	161.54	155.05	6.49-
#2		6.60	162.92	156.18	6.74-
#3		4.92	164.60	157.31	7.29-
#4		3.88	165.64	158.44	7.20-
#5 DE		2.89	166.63	159.56	7.07-
check back to starting BM.	6.72		162.80-		

Sewer Capistrano Street from
M.H 204 Vol toire 250' S. East to
D. End

67

M.H 204=00	6.90	129.26	122.36	114.42	7.94
5-50					
#1		3.96	125.30	114.77	10.53-
#2		3.77	125.49	115.12	10.37-
#3		3.92	125.34	115.47	9.87-
#4		4.64	124.62	115.82	8.80-
#5 D. End		6.55	122.71	116.17	6.54-

Sewer Alley Point Loma
Center from M.H. 217 N.E. to D. End

CR

M.H. #217	857	104.05		95.48	89.50	5.98	✓
M350							
#1			6.53	97.52	92.00	5.52	✓
#2			3.16	100.89	94.50	6.39	✓
TP	12.87	114.82	2.10	101.95			
#3 D. End			9.57	105.25	97.00	8.25	✓
#4 D. End E.W. Alley			2.04	112.78			
				112.78			
				00			

Line Change Lucerne Street M.H.

#221 tot. 222							
M.H. #221	924						
#0100 #221	747	102.04		93.36	86.50	6.86	-
1-50							
#1 Brass			5.48	97.16	91.51	5.65	-
TP							
3-5.0	12.25	113.72	1.27	101.37			
#1			9.98	103.74	98.58	5.16	-
#2			2.18	111.54	105.65	5.89	-
TP	12.60	126.06	0.26	113.46			
M.H. #3 #222	14°53'00" R.		6.83	119.23	112.12	6.51	-
6-45 to							
M.H. 223							
B.M.			1.82	124.24			

Sewer Alley Point Loma Center
from M.H. #218 S. East to D. End

M.H. #218 = 00	13.00	106.39		93.39	83.89	9.50 ✓
#1			11.28	95.11	87.18	7.93 ✓
#2			5.72	100.67	90.46	10.21 ✓
#3			2.87	103.52	93.75	9.77 ✓
#4	8.85	114.82	0.42	105.97	97.03	8.94 ✓
#5			4.90	109.92	100.32	9.60 ✓
#6			2.77	112.05	103.60	8.45 ✓
#7 D. End			2.04	112.78	106.89	5.89 ✓
Check D. End N 4 S. Alley			9.57	105.25		
				105.25		
				0.00 ✓		

Sewer Alley N.E. of Santa Cruz
Ave. and West of Catalina

70

BM. S.W. 89.	4.55	172.11		167.56	Santa Cruz + Catalina		
Existing Sewer 0+00 W. of Catalina Blvd.			9.87	162.24	156.70	5.54	
3-38 ³³							
#1			8.64	163.44	159.80	3.67	
#2	M.H.T.P.	12.74	184.25	4.54	167.57	162.90	4.67
#3 #309				0.60	171.51		
5-48				9.56	174.69	166.01	8.68
#1	T.P.	13.05	196.70	3.11	181.14	171.8	9.32
#2				0.60	183.65		
#3				10.56	186.14	177.63	8.51
#4				5.33	191.37	183.44	7.93
#5		12.00	208.05	0.65	196.05	189.25	6.80
#5 M.H. #310				5.52	202.53	195.05	7.48
5-47 ⁵⁰							
#1		10.07	217.39	0.73	207.32	197.47	9.85
#2				8.80	208.59	194.89	8.70
#3				7.23	210.16	202.37	7.85
#4				5.58	211.81	204.73	7.08
#5 M.H. 311 Venice				3.64	213.75	207.16	6.59
5-49							
#1				1.62	215.77	209.60	6.11
#2	T.P.	12.36	229.30	0.45	216.94		
#3				11.35	217.95	212.16	5.79
#4				9.08	220.22	214.66	5.56
#5				6.76	222.54	217.16	5.38

Continued on Page (77)

Sewer Alcott Street Relocation

				elev stake	see page 58	
MH	84° 33' 00" R	157.24	4.40	154.84		
4004640		6.40	152.78	14351	9.27	-
5-42.68						
#1		4.39	154.85	14381	11.04	-
#2		4.69	154.55	14410	10.45	-
#3		5.05	154.19	14439	9.80	-
#4		5.79	153.45	14469	8.76	-
#5 MH #241	35° 57' 00" R	6.21	153.03	14498	8.05	-
5-50						
#1		6.98	152.26	14533	6.93	-
#2	9.26	160.90	7.60	151.64	14569	5.95
#3			9.72	151.18	14604	5.14
#4			9.44	151.46	14640	5.06
#5			8.45	152.45	14675	5.70
1-16.00						
#1 MH #242	21° 40' 30" L	8.71	152.19	14687	5.82	-
2-50						
#1		5.12	155.78	14992	5.86	-
#2	7.84	167.89	0.85	160.05	152.97	7.08
1-50.50						
#1 DE		2.60	165.29	15602	9.27	-

BM NE
 BPN Narragansett
 & Catalina

HI
 169.03

EW
 157.52

Sewer Narragansett from connection
 With existing Sewer. W. line of Catalina West
 to D. End

155.05
 151.10
 44.395

W. Line of Catalina					
2-45		11.56	157.47	151.10	6.37
#1	These stakes were destroyed by Watson & Sutton		161.50	155.00	6.50
#2	And the job restaked See Grade Book		3.37	165.66	159.00
4-52	M.H. #301	12.50	181.18	0.35	168.68
#1	168	10.97	170.21	162.21	8.00
#2	Page 25	7.30	173.88	165.48	8.40
#3		4.98	176.26	168.75	7.45
#4	M.H. #302	1.92	179.26	172.02	7.24
4-46	TP	12.89	193.69	0.38	180.80
#1		9.76	183.93	177.92	6.01
#2		3.71	189.98	183.83	6.15
TP	11.85	205.05	0.49	193.20	
#3		8.92	196.13	189.73	6.40
#4	D. End	4.90	200.15	195.64	4.51

Alleys North East of Narragansett Ave
 and N.W. of Catalina Blvd from M.H. #301
 to Jc. Alley No. W and then West to Venice Street

M.H. #301 10.32 175.98 165.66 159.00

4-47⁵⁰

H.I.
175.98

73

#1			802	167.96	159.47	8.49	-
#2			703	168.95	159.95	9.00	-
#3			613	169.85	160.42	9.43	-
#4 MA			1088	165.10	160.90	4.20	-
4-48 ³²							
#1			502	170.96	165.74	5.22	-
#-	13.25	189.10	0.13	175.85	170.58	5.27	-
#3			8.44	180.66	175.42	5.24	-
#4 M.H.			3.27	185.83	180.27	5.56	-
1-30 TP	11.96	200.64	0.42	188.68			
#1 PYC	4.34	211.08	0.90	199.74	193.56	6.18	-
2-10							
#1 BrK			796	corrected → 196.40 203.12	196.96	6.72	
#2 BrK L.V.C.			7.59	203.49	198.29	5.20	
4-38 ⁹⁵							
#1			5.32	205.76	199.46	6.30	

H.I.
211.08

74

#2 3.68 207.40 200.63 6.77 -

#3 3.10 207.98 201.80 6.18 -

#4. D. End ^{45' to check} out to Elne _{for 100} 2.95 208.13 202.96 5.17 -
517 actually

Check D. End Nos 10.92 200.16 = 200.15

T.P.

B.M. 5.88

Sewer Alley West of
Catalina Between Narraquansett
& Del Monte

75

SW BP BM Del Monte Existing Sewer	10.42	170.75		160.33	+ (66) 11.00	
0+00 Venice Catalina		12.95		158.10	151.81	6.29 -
5-49 94						
#1		6.41		164.34	155.44	8.90 -
#2		4.36		166.39	159.07	7.32 -
#3	11.43	181.18	1.00	169.75	162.70	7.05 -
#4		7.45		173.73	166.33	7.40 -
MH #5 #303		2.93		178.25	169.97	8.28 -
3-35 TP	12.29	193.13	0.34	180.84		
#1		7.87		185.26	176.69	8.57 -
#2	11.91	203.83	1.21	191.92	183.41	8.51 -
MH #3 #304		7.09		196.74	190.13	6.61 -
4-45 62						
#1		4.11		199.72	192.96	6.76 -
#2	12.55	215.87	0.51	203.32	195.79	7.53 -
#3		7.15		208.72	198.62	10.10 -
MH & Venice #4 #305		5.64		210.23	201.45	8.78 -

H.I.
215.87

76

6-49¹⁷.

#1			153	214.34	204.50	9.84	-
TP	13.10	228.24	0.73	215.14			
#2			11.32	216.92	207.55	9.37	-
#3			838	219.86	210.60	9.26	-
#4			559	222.65	213.65	9.00	-
#5			294	225.30	216.70	8.60	-
#6 D. End			0.64	227.60	219.74	7.86	-

HI.
229.30

continued from Page 70

77

M.H #5 #312			3.89	225.41	219.66	5.75 -
5-49						
#1	12.95	241.62	0.63	228.67	222.99	5.68 -
#2			9.00	232.62	226.32	6.30 -
#3			5.66	235.96	229.65	6.31 -
#4			1.70	239.92	232.98	6.94 -
TP	11.72	252.74	0.60	241.02		
M.H #5 313			8.52	244.22	236.32	7.90 -
2-50						
#1			5.04	247.70	237.17	10.53 -
#2 D.F. End			2.06	250.68	238.02	12.66 -
40 incorrectly 30 to check of	See Page 70					
Elaine Santa Barbara						
TP	0.56	241.30	12.00	240.74		
Check on DE Alby North of W. Mo. 3			13.73	227.57	= 227.60	

Bill Bliss
Sept 3, 1929

Profile Levels for Sewer
Extension, Plum. St. S.W. of Jarvis

M.H.	cut stake #	122.91	118.76	see grade per book #158 50
B.M.	#415			
E. of Jarvis Plum				5.1
0125				4.8
0150				5.3
0175				5.4
Head				5.5
1/2 S. End				5.7

Void

Side Station
Plumbing of Residence

Construction Notes

M.H.	cut stake #	122.91	118.76
0500	#141		
3-41 ⁶⁶			
#1			5.49 117.42
#2			5.85 117.06
#3			6.10 116.81

Void

Sept 1929

Pennsylvania Ave Paving West
of Kite

N.C6

S.C6

79

	S.C6		N.C6	of Kite
0700	266.0	0700	266.50	266.05 11.78+
0730	267.85	0730	268.40	277.83 2.15-
0760 P.V.	269.70	0760	270.30	275.68 6.09+
0780	270.85	0780	271.40	281.77 4.32-
1700 E.V.	271.80	1700	272.30	277.45 4.35+
1760 P.V.	274.20	1765 E3	275.00	281.80 6.01-
1780	274.95	1785 E3	275.60	275.79 3.46
270	275.60	2705 E3	276.15	279.25 12.44-
2720	276.10	2725 E3	276.60	266.81 3.00+
2740 E.V.	276.40	2745 E3	276.90	270.41 1.94-
2793 E3 Δ	277.00	2755 E3	277.00	268.47 12.00+
3710 E3 Br.K	277.20	2773 E3	277.10	280.47 3.14-
3727.73 Br.K	277.25	2790 E3	277.10	277.33 2.44
3744.83 Br.K	277.20	3720.50	276.90	279.57 8.90-
3762.08 Br.K	277.00	3756 E3	276.30	270.67 2.89
3786.02 Br.K	276.90	3793	275.70	273.56 7.52
4722 E.V.	276.30	4713	275.20	266.04 8M
4758 E.V.	275.70	4733	274.30	3793 P.V.
4778 E.V.	275.20	4753	273.20	281.77
4798 E3	274.20	4773	271.40	275.70
5718 E3	272.80	5705 E3	268.40	6.07
5738 E3	271.20			558
5770 E3	268.00			00.49

0700	0730	0760 P.V.	0700	0730	0760 P.V.
277.83	277.83	277.83	277.83	277.83	277.83
266.50	266.40	270.30	266.50	266.40	270.30
7.133	9.43	7.53	11.83	11.83	9.98
11.34	7.69	6.60	11.56	11.56	7.96
00.01	01.74	00.93	00.03	00.03	02.00
0780	1700 E.V.	1765 E3	0780	1700 E.V.	1765 E3
277.83	277.83	277.83	277.83	277.83	277.83
271.40	272.30	275.00	270.85	270.85	271.80
6.43	5.53	2.83	6.98	6.66	5.53
5.90	5.23	2.71	00.32	00.32	00.20
00.53	00.30	00.11			00.75
1785 E3	2705 E3	2725 E3	1780	2700	2710
281.77	281.77	281.77	281.77	281.77	281.77
277.83	276.60	276.60	277.83	275.60	276.10
275.00	5.62	5.17	274.95	6.17	5.67
2.22	5.29	4.67	2.88	5.60	5.24
1.93	00.33	00.50	2.15	00.37	00.23
2705 E3	2705 E3	2773 E6	2743 E3	2743 E3	3110 E3
281.77	281.77	281.77	281.77	281.77	281.77
276.90	277.00	277.00	276.90	277.00	277.00
4.87	4.87	4.67	5.37	4.96	4.57
4.45	4.53	4.28	00.08	F.0.19	01.00
00.39	00.24	00.39			
2790.50	3720.50	3756.75	3727.73	3744.83	3762.08
281.77	281.80	281.80	281.77	281.77	281.77
277.10	276.30	276.30	277.25	277.20	277.00
4.64	4.90	5.50	4.57	4.57	4.77
4.32	4.01	4.80	4.06	3.57	3.77
00.33	00.48	00.40	00.46	01.00	01.00
3793 P.V.	4713	4733	3762.08	4713	4753.52
281.77	279.25	279.25	281.80	281.80	281.80
275.70	275.20	274.30	276.90	276.30	275.70
6.07	4.05	4.95	4.90	5.50	6.10
558	4.31	4.64	3.90	4.50	5.10
00.49	00.41	00.64	01.00	01.00	01.00
4753	4773	4793	4778.52	4778.52	5718.52
279.25	279.25	279.25	279.25	279.25	279.25
273.20	271.40	271.40	275.20	274.20	272.80
6.05	7.83	7.83	4.05	5.05	6.45
5.74	7.36	7.36	3.25	4.05	5.45
00.31	00.49		01.00	01.00	01.00
279.25			5738.52	5770.56	
268.40			279.25	270.41	
10.27			271.20	268.40	
00.58			8.05	02.41	
			7.05	2.60	
			1.00	F.0.19	

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body

from side stake to slope stake. If ground is not

**IMPROVED TABLES
AND
INFORMATION**

TABLE No. 2.

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

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

DIRECTIONS FOR USE OF TABLES

TABLE No. 1.

Distance of slope stake from side or shoulder stake for any width roadway, slope $1\frac{1}{2}$ to 1. If ground is nearly level, the cut or fill at side stake is located by the double entry method in left column and top row. The number in body of table in same row and column gives distance from side stake to slope stake. If ground is not level 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.

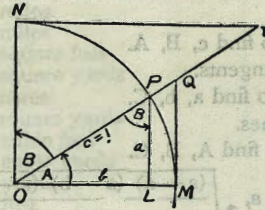


TABLE II
TRIGONOMETRIC FORMULÆ.

$$\angle A = \angle MOP \quad \angle B = \angle PON = \angle OPL$$

$$R = OB = c = 1$$

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

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

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

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

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

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

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

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

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

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

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

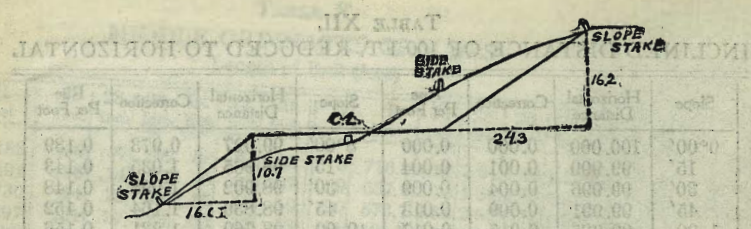
$$\sin 2A = 2 \sin A \cos A \quad \cos 2A = \cos^2 A - \sin^2 A$$

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

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

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

C
0-1
0-20
0-40
1-0
1-20
1-40
2-0
2-20
2-40
3-0
3-20
3-40
4-0
4-20
4-40
5
6
7



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING.

SLOPE 1 1/2 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.

To find leng

5 53° 50' E
5 72° 73' E
29° 23' 2nd
26° 24'

5 73° 24' W
5 83° 13' E

98.48
266
101.12
550
95.62

BM. 100.000
2645
102.645
5500
97.145

125
10.7 10
875
125
13.375

0.04
13.27
99.54
112.81

100.000
97.145
1:855
1820
0.035



Cal. to Pac.

Sk VINE 247.0

NH " 260.40

1336
505
7.81

$$\begin{array}{r} 22.50 \\ 23.50 \\ \hline 46.00 \\ 1.50 \\ \hline 47.50 \end{array}$$

$$\begin{array}{r} 70 \\ 70 \\ \hline 140 \\ 102.54 \\ \hline 4900 \end{array}$$

$$\begin{array}{r} 604 \\ 593 \\ \hline 0.11 \end{array}$$

$$\begin{array}{r} 593 \\ 604 \\ \hline 89 \end{array}$$

$$\begin{array}{r} 189 \\ 221 \\ \hline 4.78 \\ 0.43 \end{array}$$

$$\begin{array}{r} 270 \\ 2 \\ \hline 540 \\ 355 \\ \hline 270 \\ 2 \\ \hline 270 \end{array}$$

$$\begin{array}{r} 521 \\ 475 \\ \hline 668 \\ 9.25 \\ 3.55 \\ \hline 12.80 \end{array}$$

$$\begin{array}{r} 22167 \\ 587 \\ \hline 505169 \\ .43 \\ \hline 577336 \\ 340835 \\ \hline 92362029 \end{array}$$

$$\begin{array}{r} 280 \\ 433 \\ \hline 847 \\ 458 \\ \hline 335 \\ 590 \\ \hline 945 \\ 646 \\ \hline 391 \\ 532 \\ \hline 859 \\ 602 \\ \hline 4.61 \end{array}$$

$$\begin{array}{r} 9959 \sqrt{200} \\ 9959 \\ \hline 200 \end{array}$$

$$\begin{array}{r} 9959 \sqrt{25000} \\ 9959 \\ \hline 19918 \\ 50820 \\ 368 \\ \hline 12142 \\ 36 \\ \hline 70 \\ 60 \end{array}$$

$$\begin{array}{r} 9922 \sqrt{25000} \\ 9922 \\ \hline 19844 \\ 51560 \end{array}$$

$$\begin{array}{r} 5210 \\ 036 \\ \hline 5174 \\ 036 \\ \hline 5140 \end{array}$$

$$\begin{array}{r} 485 \\ 036 \\ \hline 4819 \end{array}$$

$$\begin{array}{r} 48.00 \\ 298.00 \end{array}$$

$$\begin{array}{r} 3-56-00 \\ 14930 \\ 4700 \\ \hline 1223 \\ 113 \end{array}$$

$$\begin{array}{r} 25 \\ 50 \\ \hline 75 \\ 23 \end{array}$$

$$\begin{array}{r} 207.5 \\ 2594 \end{array}$$

$$\begin{array}{r} 6276.1 \\ 46.01 \end{array}$$

$$\begin{array}{r} 250 \\ 276.1 \\ \hline 26.1 \end{array}$$

$$\begin{array}{r} 271.4 \\ 271.4 \end{array}$$

$$5870 \times 704 = 4135440$$

$$\begin{array}{r} 271.6 \\ 27.16 \\ \hline 151.09 \\ 139.10 \\ \hline 211.99 \\ 25.99 \end{array}$$

$$.036 = \frac{036}{100} = \frac{36}{10000} = \frac{36}{10000} \times 100 = \frac{36}{100} = .36$$