Appendix 1

City of Los Angeles
Freeway Hydrology Calculations

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 1 OF SHEETS DATE..............

Drainage Area No.	Acres		1.30 100% (4)	(5)	(6)	C S.D. (7)	C Sul (8)	C South (9)	C East (10)	C West (11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC/R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)	
		A ΣA q Q	4.01			0		0.5 2						2	.0045	25	A-1.1	540	10.8	5.0 5.0			In Figueroa St. Olympic Blvd.		1 2
(74) Olympic	2.9 6.5	A ΣA q Q	[illegible]4 2.25 11			1.8 6	1.6 5	1.6 5						5	[illegible]	62	A-1.9	740	15.8	[illegible] 4.7			10th Place		3 4 5
		A ΣA q Q													.0046		"			14.7			~~At [illegible] (E)~~		6 7
		A ΣA q Q													.0056		"						~~[illegible] (W)~~		8
(93) (94) 10th Pl Flower	4.7 1.6 9.8	A ΣA q Q	16.1 2.93 53			2.3-3.3	16.1 55	13.1 45		3.0 10				45	.0037		[illegible]	[illegible]	235	8.9 3.1	.4		At 12th St. [illegible]		9 10 11
(132) (133) (108) 12th Flower	6.9 13.1 16.1	A ΣA q Q	36.1 3.01 109			9-9.0	36.1 109	21.2 64		14.9 45				64	.0044		[illegible]	[illegible]	215	12.0 4.4			At [illegible]		12 13
(140) (131) (137) Flower	[illegible] 21.2	A ΣA q Q	32.2 2.64 85			0	32.2 85	26.5 70		5.7 15				70	.0064		99	[illegible]	220	16.4 1.5			At 15th St.		14 15
(141) 15th Flower	2.3 26.5 6.5	A ΣA q Q	35.3 2.53 89			5.2 13	30.1 76	22.2 56		7.9 20				56	.0037		99/67	400	175	17.9 2.4			At Venice		16 17
(149) (150) Venice	6.4 22.2	A ΣA q Q	28.6 2.39 68			0.	28.6 68	24.4 53		4.2 10				58	.0043		99/67	400	185	20.3 2.2			At 17th St.		18 19
(151) 17th St.	3.1 24.4	A ΣA q Q	27.5 2.29 63			0	27.5 63	23.1 53		4.4 10				53	.005		[illegible]	[illegible]	190	22.5 2.3			At 18 St.		20 21
(156) (157) 18th	6.2 23.1	A ΣA q Q	29.3 2.19 64			3.7 8-6.[illegible] 8	[illegible] 56	19.2 42		6.4 14				42	[illegible]		99	[illegible]	175	24.8 2.0			At Washington		22 23
(287AW) Washington Flower	2.7 19.2 16.5	A ΣA q Q	38.4 2.08 80			-3.8 27-29 [illegible]	42.2 88	42.2 88						88	.0065		[illegible]	[illegible]	235	27.8 1.5			At 20th St.		24 25
(287BW) 20th	1.4 42.2	A ΣA q Q	43.6 2.04 89			1.5 [illegible] 3	42.1 86	42.1 86						86	.0065		99/117	330	235	29.3			At 21st St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY R.L. HIGGINS DRAWN BY J.S. S. PRODUCED BY L.F.B. APPROVED March 6, 1940 [illegible] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE.............. SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 2 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30			Q	Q	Q	Q	Q	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
21st	42.1	A																		1.0			In Figueroa St.		1
(307W)	1.4	ΣA q Q	43.5 2.01 87			-2.5 120-120 -5° -5	96.0 92	96.0 92						92	.017		39/27	220	250	30.3			At 22nd St.		2
22nd	46.0	A																		1.2					3
(312W)	1.7	ΣA q Q	47.7 1.98 94			117-120 -6 -1	93	30.8 61	6.1 12	10.1 20				61	.0072		"	1060	220	31.5			At 23rd St.		4
23rd OF	30.8	A																		4.8					5
Flower OF (1)	31.0 9.9	ΣA q Q	181.7 1.72 226			142-157 -12	238	198.5 238	0	0				238	.0025		"	420	345	36.5 48.4	.94		At Adams	Flower T_c = 41.4 Inc. = 2.5 43.9	6
Adams OF	138.3	A																		1.2					7
Flower OF (3)	29.5 3.4	ΣA q Q	171.2 1.70 291			130-142 -12	303	146.0 248	0	32.4 55				248	.0050		"	400	310	44.6			At 27th St. (W)	RETABLED SEE LATER TABLING SHEETS	8
27th OF	146.0	A																		1.8					9
Flower (5)	27.5 3.4	ΣA q Q	176.9 1.68 297			118-130 -12	309	148.2 249	0	35.7 60				249	.0048		"	430	310	45.9			At 28th St. (W)		10
28th OF	148.2	A																		1.4					11
(7)(9) Flower OF Flower OF	6.8 13.7 83.3	ΣA q Q	252.0 1.66 418			130-118 -32 -20	438	185.0 307	0	78.9 131				307	.0020		"	350	250	47.3			At 30th St.		12
30th OF	185.0	A																		1.4					13
(11) Flower CF	3.5 15.9	ΣA q Q	264.4 1.64 418			120-130 -10	428	261.0 428	0	0				428	.0020		"	270	275	48.7			At 31st St.		14
31st O.F.	261.0	A																		1.0					15
		ΣA q Q	261.0 1.62 423			100-120 -20	443	207.0 335	0	66.7 108				335	.0032		"	180	290	47.7			At 32nd St.		16
32nd O.F.	207.0	A																		0.6					17
(13)(15) Flower CF	8.7 52.4	ΣA q Q	268.1 1.61 432			100-100 0	432	268.1 432	0	0				432	.0024		"	450	300	50.3			At 33rd St.		18
33rd O.F.	268.1	A																		1.4					19
Flower O.F.	90.5	ΣA q Q	358.6 1.59 570			[illegible] -40	610	242.3 385	0	141.5 225				385	.0021		"	320	275	51.7			At Jefferson		20
Jeff. OF	242.3	A																		1.2					21
		ΣA q Q	242.3 1.57 380			140-140 0	380	194.5 305	0	47.8 75				305	.0027		"	300	275	52.9			At 34th St.		22
34th O.F.	194.5	A																		1.1					23
(17) Flower O.F.	6.2 41.8	ΣA q Q	242.5 1.56 378			0	378	181.5 283	0	61.0 95				283	.0036		"	310	290	54.0			At 35th St.		24
35th O.F.	181.5	A																		1.1					25
		ΣA q Q	181.5 1.55 281			0	281	145.0 225	0	36.5 56				225	.0032		"	320	260	55.1			At 35th Pl.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

DESIGNED BY T.J. HIGGS DRAWN BY J.E.S. CHECKED BY L.F.M. APPROVED March 4, 1940 ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 3 OF SHEETS

Drainage Area No.	Acres		1.20 105%	1.08 66-2		C S.D.	C Inst.	C South	C East	C West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.
		A ΣA q Q	4.41			0		5.4 24					
(72) (73) Olympic Hope	5.9 5.4 6.2	A ΣA q Q	17.5 3.53 62			1.2 8-6 =2	16.9 60	16.9 60					
(95) (96) 11th Hope	5.9 16.9 5.7	A ΣA q Q	28.5 3.07 88			1.5 25-8 -10=5	27.0 83	17.2 53		9.8 30			
(104) (106) (105) (125) 12th Hope	8.3 17.2 9.6	A ΣA q Q	35.6 2.67 95			0.4 9-8 =1	35.2 94	17.[illegible] 51		16.1 43			
(135) (136) Pico	9.4 19.1	A ΣA q Q	28.5 2.31 66			3.4 8	25.1 58	12.1 28	6.5 15	6.5 15			
(217) (215) Venice	6.0 12.1	A ΣA q Q	18.1 2.17 39			-2.2 37-8 -35 =6	20.8 45	20.8 45					
(263) (264) 17th Hope	8.9 20.8 12.0	A ΣA q Q	38.1 2.07 79			27-27 =0	38.1 79	38.1 79					
(236 E) Washington	2.7 38.1	A ΣA q Q	40.9 1.99 82			27-27 =0	40.9 82	24.4 49		16.5 33			
(297 BE) 20th (297 W)	1.4 24.4 8.9	A ΣA q Q	34.7 1.[illegible] 68			[illegible] =0	34.7 68	22.0 43	7.6 15	5.1 10			
21st (307 E) (308 W)	22.0 1.4 2.7	A ΣA q Q	26.7 1.93 50			2.6 5-0 =5	23.5 45	23.5 45					
22nd (312 E) Fig. of (313 W)	23.5 1.7 6.1 2.1	A ΣA q Q	31.8 1.15 59	3.1 1.57 5		6-0 6	58	22.9 43	8.0 15	0			
23rd OF (3) Hope OF	22.9 8.7 124.0	A ΣA q Q	155.6 1.76 274			27-25 2	272	65.6 112	0	91.0 160			
Adams OF Grand OF (2)	63.6 40.6 2.1	A ΣA q Q	104.2 1.73 180	2.7 1.44 3		0	183	75.5 132	0	29.6 51			
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
									In Flower St.		1
24	.0075		90/66	670	200	5.0			Olympic Blvd.		2
						3.3					3
60	.0042		90/56	650	195	8.3			At 11th		4
						3.3					5
53	.0052		90/56	670	155	11.6			At 12th		6
						4.3					7
51	.0058		90/26	1250	210	15.9			At Pico		8
						6.0					9
28	.0062			[illegible]	[illegible]	21.9			At Venice		10
						3.6					11
45	.0062			[illegible]	200	25.5			At 18th St.		12
						3.1					13
79	.005		90/56	[illegible]	215	28.6			At Washington		14
						2.6					15
49	.0092		90/60	290	245	31.2			At 20th St.		16
						1.2					17
43	.0096		90/60	[illegible]	250	32.4			At 21st St.		18
						1.0					19
45	.0062			300	200	33.4			At 22nd St.		20
						1.6					21
43	.0071		90/60	1050	220	35.0			At 23rd St.		22
						4.8					23
112	.0073		90/60	340	275	39.8 41.4			At Adams	Hope T_c = 37.6 Inc = 1.8 41.4	24
						1.2					25
182	.0078		90/60	310	300	42.6			At 27th St.	Grand T_c = 39.1 4.3 43.4	26
15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

Designed by [illegible] Drawn by [illegible] Checked by L.F.B. Approved [illegible] 1940 Engineer of Storm Drain Design

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE..............

SHEET NO. 4 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 10%	1.08 60-2		Q S.O.	Q Sucf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
27th OF Hope OF (6)	76.3 20.0 2.1	A ΣA q Q	96.3 1.71 165	2.1 1.48 9		0	168	70.7 121	0	27.5 47				121	.0033		90/60	300	215	1.0 45.6			In Flower St. At 28th St.		1 2
28th OF (8) Hope OF	70.7 2.1 4.2	A ΣA q Q	77.0 1.69 130			0	130	63.5 107	0	13.7 23				107	.0026		90/60	300	200	1.4 45.0			At 29th St.		3 4
29th OF (10) Hope OF	63.3 2.8 113.0	A ΣA q Q	179.1 1.68 301			52-20 6	295	92.3 155	0	83.9 140				155	.0022		90/60	360	215	1.5 46.5 45.7	.42		At 30th St.	Hope Tc = 46.0 [illegible] = 1.1 45.1	5 6
30th OF (12) Grand Av	90.3 2.9 76.1	A ΣA q Q	171.3 1.66 284			0	284	105.4 175	0	65.9 109				175	.0022		90/60	460	220	1.7 47.4			At 31st St		7 8
31st OF (14) [illegible]	105.4 9.3 45.4	A ΣA q Q	159.1 1.68 251			0	251	103.0 166	0	52.4 85				166	.0022		90/60	430	220	2.1 49.5			At 33rd St.		9 10
33rd OF (16) Hope OF	102.0 3.5 84.6	A ΣA q Q	189.6 1.59 302			400-[illegible] 10	292	93.1 148	0	90.5 144				148	.0027		90/60	620	220	2.0 51.5			At Jefferson		11 12
Jeff. OF (18) Hope OF	93.1 5.7 31.4	A ΣA q Q	130.2 1.56 203			0	203	93.4 138	0	41.8 65				198	.0027		90/60	550	210	2.8 54.3			At 35th St.		13 14
35th OF (20) Hope OF	88.4 4.0 48.0 46.0	A ΣA q Q	414 135.4 1.53 207-	212		13-0 13	199 194	0		135.4 194	180.0 199			0	.0057		90/60	310		2.6 56.9			At Exposition		15 16
		A ΣA q Q															90/60								17
Hope OF (23)(23)(25)	16.6 7.0	A ΣA q Q	16.6 1.53 25	7.0 1.27 9		0	34	17.6 27	0	4.6 7				 27	.0012 .0050		90/60	280 670	 180	 56.8			At 37th St. At 37th Pl.	Use Hope Tc = 56.8 at 37th St.	18 19 20
37th Pl	17.6	A ΣA q Q					End of	Flower St.												3.2 60.0			At Figueroa		21 22
		A ΣA q Q																							23 24 25
																									26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

Designed by T.I. [illegible] Checked by L.F.B. Drawn by J.B.S. Approved March [illegible] 1940 [illegible] Engineer of Storm Drain Design

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS — TABLE SHEET — BUREAU OF ENGINEERING — STORM DRAIN DIVISION

DATE............ SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 5 OF SHEETS

Drainage Area No.	Acres		1.30 / 100%			Q S.D.	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A ΣA q Q	4.41			0		5.4 24						24	.0066		80/56	670	200	5.0 3.4			In Hope St. Olympic Blvd.		1 2 3
(70) (71) [illegible] Grand	6.0 5.4 2.9 14.3	A ΣA q Q	14.3 3.52 50			1.9 6	44	6.2 22		6.2 22				22	.0051		8/56	650	175	8.4 [illegible]			At 11th St.		4 5
(92) (93) 11th Grand	5.8 6.2 3.3	A ΣA q Q	15.3 3.00 46			1.5 4	14.0 42	8.3 25		5.7 17				25	.0073		80/56	590	198	12.2 3.0			At 12th St.		6 7
(103) (105) (124) 12th Grand	6.5 8.3 3.6	A ΣA q Q	18.4 2.72 50			2.9 8	15.5 42	5.9 16		9.6 26				16	.008		84/56	1550	205	15.2 6.2			At Pico Blvd.		8 9
(151) (152) (225) (226) Pico Flower Grand	12.1 5.9 6.5 0	A ΣA q Q	24.5 2.34 57			7.8 18	16.7 39	16.7 39						39	.006		84/76	320	205	21.4 1.6			At. Venice		10 11
(221) (222) Venice Grand	3.2 16.7 .0	A ΣA q Q	19.9 2.27 45			18-18 =0	19.9 45	19.9 45						45	.005			320	195	23.0 1.6			At 17th		12 13
(259) (260) [illegible] 17th Grand	6.4 19.9 1.5	A ΣA q Q	27.8 2.20 61			3.2 25-18 =7	24.6 54	20.6 54						54	.005			610	205	24.6 3.0			At 18th		14 15
(261) (262) 18th	5.8 24.6	A ΣA q Q	30.2 2.09 63				30.2 63		18.2 38	12.0 25										27.6			At Washington		16
		A ΣA q Q																							17 18
		A ΣA q Q																							19 20
		A ΣA q Q																							21 22
		A ΣA q Q																							23 24
		A ΣA q Q																							25 26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY W.I. HICKS — DRAWN BY J.E.S. — CHECKED BY L.F.N. — APPROVED March 1, 1940 — [signature] — ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 6 OF SHEETS DATE..............

Drainage Area No.	Acres		1.80 100%	1.68 60.2		SD Q	Q Sud.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					IN HOPE ST.		1
Flowr of	8.0	ΣA	20.6														60/40								
Grand of	12.6	q	1.81					20.6																	
		Q	37			0	37	37	0	0				37	.0058			1040	200	38.5			AT 23rd ST.	Tc = 35.0 Flowr inc = 3.5 / 38.5	2
23rd of	20.6	A																		5.2					3
Grand O.F	99.9	ΣA	120.5	5.5																40.7					
		q	1.79	1.49		55-25				124.0												Use Grand Tc.		Grand Tc = 38.2 inc. = 1.4 / 39.6	
(326 W)	5.5	Q	216	8		2	222	0	0	222										39.6			ADAMS BLVD.		4
		A																							5
		ΣA																							
		q																							
		Q																							6
Grand on	45.9	A																					IN HOPE ST		7
		ΣA	45.9														60/40								
		q	1.75					25.7		20.0														Grand Tc = 40.0 inc = 1.7 / 41.7	
		Q	80			0	80	45	0	35				45	.0082			300	180	41.7			AT 28th		8
28th of	25.7	A																		1.7					9
		ΣA	25.7														60/40								
		q	1.72					21.5		4.2															
		Q	44			0	44	37	0	7				37	.0082			280	120	43.4			AT 29th		10
29th of	21.5	A																		1.6					11
Grand of	92.9	ΣA	114.4	3.2																45.0				Grand Tc = 42.0 inc = 2.0 / 44.0	
		q	1.70	1.41		26-18				113.0															
(392 W)	3.2	Q	195	5		8	192	0	0	192										44.0			AT 30th		12
		A																							13
		ΣA																							
		q																							
		Q																							14
		A																							15
		ΣA																							
		q																							
		Q																							16
		A																							17
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		ΣA																							
		q																							
		Q																							24
		A																							25
		ΣA																							
		q																							
		Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.M. DRAWN BY J.B.B. DESIGNED BY E.L.HIGGS APPROVED March [illegible] 1940 [illegible] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 7 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.08 60-2		Q S.O.	Q Surf	Q Surf	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/FR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																							1
		ΣA q Q																							
GRAND OF	127.8	A																							2
		ΣA q Q	127.8 1.60 202			330-333 16	152	35.6 57	0	84.9 185				57	[illegible]		[illegible]	620	170	50.7			IN HOPE ST. AT JEFFERSON	GRAND Tc = 49.2 INC. = 1.5 50.7	3 4
GRAND O.F.	35.4	A																		3.6					5
(453W) JEFF OF	3.4 85.6	ΣA q Q	72.4 1.56 113			0	113	41.0 64	0	31.4 49				64	.004		"	350	220	54.3			AT 35TH		6
35TH O.F.	41.0	A	44																	1.6					7
½ (475W) (256X)	2.0 3.0	ΣA q Q	48.0 1.53 66	10		0	1° 66	0	(	43.0 66	86.0 .70			0	.0046		"	520		55.9			AT EXPOSITION		8
		A																							9
½ (475W) GRAND O.F.	2.0 25.7	ΣA q Q	27.7 1.53 42			0	42	11.1 17	0	16.6 25				17	.0046		"	600	170	56.8			AT 37TH ST.	GRAND Tc = 55.0 INC = 1.8 56.8	10
37TH O.F.	11.1	A																		3.5					11
(484W) GRAND O.F.	2.3 34.3	ΣA q Q	43.7 1.50 66			0	66	18.0 27	0	25.7 39				27	.0055			620	180	60.3			AT 38TH		12
38TH O.F.	18.0	A																		3.4					13
GRAND O.F. (50)	14.7 4.4	ΣA q Q	52.7 1.46 48	4.4 1.21 5		0	53				FLOWER DR. 36.3 53									63.7			(FLOWER DR.) AT 39TH		14
		A																							15
		ΣA q Q																							
HOPE OF	25.7	A																							16
(26)	7.6	ΣA q Q	25.7 1.47 38	7.6 1.22 9		0	47	20.4 30	0	11.6 17				30	.0035		64/40	620	180	62.2			IN FLOWER DR. AT 38TH ST.	HOPE Tc = 60.3 1.9 62.2	17 18
38TH OF	20.4	A																		3.4					19
HOPE OF (33)	36.3 2.6	ΣA q Q	56.7 1.45 82	2.6 1.20 3		0	85	38.0 55		20.7 30				55	.0036		"	750	200	6.56 64.6	.48		(HOPE ST) AT. 39TH ST.	HOPE Tc = 63.7 .9 64.6	20
	38.0	A																		3.8					21
GRAND OF (32)	36.0 2.6	ΣA q Q	74.0 1.43 106	2.6 1.19 3		0	109	109	0	0				109	.0040		80/56	320	230	68.4 66.1	.56		AT. GRAND AVE.	GRAND Tc = 63.7	22
FLOWER OF	76.2	A																		1.4			(IN GRAND)		23
HILL OF (35)	192.9 8.3	ΣA q Q	269.7 1.41 380	8.3 1.17 10		22-12 10	380	0	0	269.1 380										67.5 69.0			AT. [illegible]	HILL Tc = 67.1 1.9 69.0	24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET — RUNOFF INSTRUCTIONS — 1939

DESIGNED BY W.L. HICKS; DRAWN BY J.S.S.; CHECKED BY L.F.W.; APPROVED [illegible] 1940; ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY S.K CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET No. 8 OF SHEETS

Drainage Area No.	Acres		130 100%			S.D.	Sunt	South	East	West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
		A																					IN GRAND AVE		1
		ΣA q Q	4.41			0		1.1 5						5	.0075		90/56	660	190	5.0			OLYMPIC BLVD.		2
Olym OF (68) (69)	1.1	A																		3.5					3
	6.3 7.4	ΣA q Q	7.4 3.50 26			0	26	3.1 11	1.4 5	2.9 10				11	.0072		90/56	650	190	8.5			AT 11th ST.		4
11th OF (99) (100)	3.1	A																		3.4					5
	5.9 9.0	ΣA q Q	9.0 3.03 27			0	27	4.0 12	1.7 5	3.3 10				12	.0078		74/56	500	190	11.9			AT 12th ST.		6
12th OF (101) (103)	4.0	A																		2.6					7
	2.2 2.5 8.7	ΣA q Q	8.7 2.78 24			8-0 8	16	0	2.2 6	3.6 10				0						14.5			AT PICO		8
		A																							9
(178) (179) (177) (183) (180) (2..)	11.4	ΣA q Q	11.4 3.13 36			7-0 7	31	6.4 20	3.5 11	0				20	.0051		84/56	310	170	11.0	1200 x 6.9 / 750 = 11.0	S = .0080 L = 1200 Ang = 170 T = 6.4	AT VENICE		10
Venice OF (222)	6.4	A																		1.8					11
	1.1	ΣA q Q	7.5 2.94 22			0	22	7.5 22	0	0				22	.005		90/56	320	170	12.8			AT 17th		12
17th OF (256)	7.5	A																		1.9					13
	1.0 8.5	ΣA q Q	8.5 2.75 23			5-0 5	18	3.6 10	1.5 4	1.5 4				10	.0129		80/56	620	220	14.7			AT 18th		14
18th OF (257) (259)	3.6	A																		2.8					15
Hope OF Olive OF	5.1 18.2 24.4	ΣA q Q	57.8 2.05 105			S.D. Full w/ div.	105	57.3 105	0	0				105	.008		90/56	880	280	17.5 23.1	.60		AT WASHINGTON	Hope. Tc = 27.6 Olive Tc = 26.3.	16
Olive (287E) (288W)	28.3	A																		3.1					17
Washington	8.6 2.6 51.3	ΣA q Q	62.7 1.96 123			6.1 90-78 =12	56.6 111	56.6 111						111	.0025		90/56	270	285	32.2			AT 21st ST.		18
21st	56.6	A																		1.3					19
(302W) Hill (306E)	7.6 15.4 2.7	ΣA q Q	76.3 1.92 146				76.3 146	76.3 146						146	.006		90/56	330	265	35.5			AT 22nd ST.		20
		A																		1.2					21
(314W) 22nd Hill (313E)	1.8 76.3 33.2 3.2	ΣA q Q	114.5 1.90 218				218	101.9 194		12.6 24				194	.0047		84/56	330	350	34.7			AT 23rd ST.		22
		A																		0.9					23
(337W) 23rd Hill	2.1 101.4 34.0	ΣA q Q	138.0 1.87 258				258	258						258	.0023		80/56	370	260	35.6			AT 24th ST.		24
		A	1																	1.4					25
(347W) 24th Hill	2.2 138.0 48.7	ΣA q Q	188.9 1.84 348				348	348						348	.0028		84/56	370	305	37.0			AT 25th ST.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.B. DESIGNED BY M.L. HIGGS DRAWN BY J.S.S.

APPROVED March 1, 1940

[signature]

ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 9 OF SHEETS DATE..........

Drainage Area No. (1)	Acres (2)	(3)	Classification, Areas, & R.O. Quantities (4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)
		A											
(356W) (356E) 25th Hill	5.1 15.5 68.8	ΣA q Q	[illegible] [illegible] 492		4.4 [illegible] 15.8	260.9 474	161.0 293		99.9 181				
		A											
(363W) (363E) 27th Hill	6.9 161.6 49.0	ΣA q Q	216.9 1.80 390			 390	176.3 317		40.6 73				
		A											
(38?W) (38?) 28th Olive	6.? 176.3 26.5	ΣA q Q	209.2 1.78 372			 372	163.1 290		[illegible] 12				
[illegible]	163.1	A											
(39?W) (39?E) Hill Olive	6.? 59.6 21.3	ΣA q Q	245.2 1.74 4?3		2.8 12.1 .5	245.4 428	152.? 266		92.? 162				
[illegible]	152.?	A											
(311W) (311X)	6.1 52.3	ΣA q Q	211.1 [illegible] 365			 365	135.0 232		76.1 151				
31st	135.0	A											
(423W) (423?) Hill	7.3 43.7	ΣA q Q	191.0 1.66 317			 317	191.0 317						
32nd	191.0	A											
(432W) Hill	7.8 40.8	ΣA q Q	233.3 1.65 375			 385	187.9 310		45.4 75				
33rd	187.9	A											
(436W) (436E) Hill	6.3 60.8	ΣA q Q	255.0 1.63 405		12.6 380-310 .20	242.9 385	116.6 182		127.8 203				
Jefferson	114.6	A											
(453B) [illegible] (454)	7.0	ΣA q Q	121.6 1.57 125			 193	88.2 140		33.4 53				
35th	88.2	A											
(454) (455)	7.8	ΣA q Q	95.7 1.55 148			 148	70 107		25.7 41				
37th	70.0	A											
(45?) (45?W)	3.3 2.3	ΣA q Q	75.6 1.52 115			 115	45.3 69		30.3 46				
38th	45.3	A											
(50?W) (50?)	6.?	ΣA q Q	75.3 1.50 128	[illegible] 1.24 8		50.7 76	36.0 54		14.7 22				
		A ΣA q Q											

Line	Σ Q's (15)	Fric. Slope (16)	AC/R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)
1							1.2			IN GRAND AVE.	
2	293	.0042		90/56	330	255	37.2			AT ADAMS BLVD.	
3							0.9				
4	317	.0048		90/56	320	360	39.1			AT 27TH ST (W)	
5							0.9				
6	290	.0030		80/56	610	305	40.0			AT 28TH ST. (W)	
7							2.0				
8	266	.0032		30/56	380	275	[illegible]			AT 30TH ST.	
9							1.3				
10	232	.035		80/56	230	290	45.3			AT 31ST ST.	
11							1.1				
12	317	.0039		90/56	150	345	44.4 47.5	.35		AT 32ND ST.	Hill T.C. = 51.1 Inc. = 2.1 53.2
13							0.4				
14	310	.0039		80/56	430	340	47.9			AT 33RD ST.	
15							1.3				
16	182	.0035		80/56	610	265	49.2			AT JEFFERSON BLVD.	
17							2.3				
18	140	.0036		80/56	860	245	51.5			AT 35TH ST.	
19							5.5				
20	107	.0037		80/56	580	225	55.0			AT 37TH ST.	
21							2.6				
22	69	.0059		80/52	400	230	57.6			AT 38TH ST.	
23							2.6				
24	54						60.2			AT 39TH ST.	
25											
26											
27											

TABLE SHEET — RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

DESIGNED BY R.L.HIGES? DRAWN BY J.S.S. CHECKED BY L.F.W.

APPROVED March 1, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE........ SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 5 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	5	6	7	8	9	10	11	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
(190) 7th [illegible] LF	4.6 21.2 25.8	A ΣA q Q	[illegible] [illegible] 37.6											51.0	.0172	289	[illegible]	[illegible]	5.37	[illegible] 26.2			In [illegible] At 9th St.		1 2
		A ΣA q Q	2.20																	2.2 22.4			At Olympic		3 4
		A ΣA q Q																							5 6
		A ΣA q Q	6.8 2.50 19.1		0	6.8 19.1								19.1	.0131	166	R=.60 Rq=.46 √=.35 A=4.1	420	4.67	13.8			In Blaine At Olympic	From 4-20	7 8
#120	2.8 2.54 9.34	A ΣA q Q	9.34 2.59 24.6		0	6.64 +17.2		6.64 +17.2	0	2.9 +2.4				17.2	.0171	129	[illegible]	159	4.53	1.5 15.5			[illegible]		9 10
#125 #128	6.64 .54 .34 7.52	A ΣA q Q	7.52 2.47 19.6		0		.54 +1.33	4.66 +11.5	4.24 +10.46	.34 +.84	[illegible]			11.5	.0236	74.8	R=.44 Rq=.32 [illegible]	300	3.84	0.7 17.0			11th St.		11 12
#134	4.66 .38 5.04	A ΣA q Q	5.04 2.42 [illegible]				.38 4.66 +12.2	4.30 -10.4	0	-0.74 +1.8				10.4	.0192	.08	[illegible] A=4.41	210	2.59	.5 17.5			11th Pl.		13 14
#140	4.30 .51 4.81	A ΣA q Q	[illegible] 2.31 11.1				.51 4.30 4.81 +11.1		+12.0											2.0 19.8			12th St.	Use tc = 29.8 from [illegible] from 12th St + Seatons.	15 16
	4.41 62.8 67.3	A ΣA q Q	67.3 1.92 129.3		0	129.3	4.9 +9.3	0	62.5A +120	-129.9				129.3	.0022	2750	R=.60 Rq=.46 [illegible]	310	2.20	29.5			In 12th St. At Blaine	[illegible] from 12th St + Seatons	17 18
W on 12th St. 159 158	76.4 1.42 1.15 8.49 87.46	A ΣA q Q	87.45 1.90 166.3		0	166.3	+15.9	44.04 -91.3	1.4 67.4 69.3A +191	39.4 -250				250	.0027	1440	R=.60 Rq=.48 √=.5 A=22.5	860	3.23	1.4 31.2			At Albany		19 20
of 12th St Av 137 136	89.4 1.93 .90 5.10 91.93	A ΣA q Q	91.93 1.95 179.0		(88.3)+ 6.5 184.7 184.7	24.0	(-6.5) 0	-43.0	+86.5	-31.0										1.8 9.4 33.0	.72		At Valencia		21 22
		A ΣA q Q																							23 24
		A ΣA q Q																							25 26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY H.L. HICKS DRAWN BY J.E.S. CHECKED BY L.F.B. APPROVED March 1, 1940 [illegible] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.M. · DESIGNED BY W.I. HICKS · DRAWN BY J.S.S. · APPROVED [illegible] 1940 · ENGINEER OF ST. & DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............ SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 6 OF SHEETS

Line	Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities (4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks
1			A																					Ir [illegible]	
2			ΣA q Q	9.1 2.59 26.3		33.3 132			-9.1 -26.2						26.3	.0188	179	R = [illegible] [illegible] 325 [illegible] .2 A = 5.0	[illegible]	5.27	11.?			[illegible] Olympic	From 4-18
3			A																		1.4				
4	#119 3-9[illegible]	9.1 1.84 26.5 46.24	ΣA q Q	46.24 2.75 127		-102	+26.2	41.84 +25	-10.1 -279	+1.20 +2.56 4.02A +11.2	-3.02 -3.3				27.9	.0124	[illegible]	R 60 RM 40 [illegible] [illegible] 7.6	[illegible]	3.67	13.?			Connecticut	
5			A																		.9				
6	#125	10.1 0.54 10.64	ΣA q Q	10.64 2.68 28.5		0		10.64 +28.5	-7.17 -19.2	+0.95 .94 1.89 +3.5	-4.76 -12.6				192	.0210	129	[illegible] .15 4.0	250	4.67	14.2			11th St.	
7			A																		1.1				
8	#132	7.17 0.83 8.00	ΣA q Q	8.00 2.59 20.7		0		8.00 +20.7	-8.49 -27.0	+1.63 .74 2.37 +6.14	-1.85 -4.8				22.0	.0046	225	R 60 [illegible] 40 [illegible] .10 A 7.2	710	3.06	15.3			11th Pl.	
9			A																		1.6				
10	#138		ΣA q Q	1.40		0			48.08 71.9						71.2	.0055	380	[illegible] .10 A 11.7	[illegible]	4.41	31.2 ~~16.0~~			12th St.	Pipe fr. from 12th St at Albany - duplicate [illegible] 12th St.
11	S.D.	49.0	A																		1.2				
12	143 144 S. on 12th Pl.	1.8 .9 49.0 49.7	ΣA q Q	49.7 1.46 185.5		33.0A 90.0	255	+110	31.2A -67.5	7.8A +14.6	20.4A -28.0				67.5	.0071	504	R = 60 [illegible] 40 [illegible] .10 A [illegible]	320	4.50	32.4			12th Pl.	
13	(67)	.9	A																		1.2				
14	(66)	1.6 36.2 85.9 124.6	ΣA q Q	124.6 1.84 229		0	229	+.9 +36.2 37.1A +69.0	-66.3 -122	+1.6 +85.9 87.5A +161	-58.2 -107				122	[illegible]	1930	R = 60 Rd. = 40 [illegible] .10 A = [illegible]	640	5.55	33.6			[illegible] Blvd.	
15		41.2	A																		1.9				
16	(71) (73)	3.5 0.7 13.5 84.0	ΣA q Q	84.0 1.78 150		142 +42 -45	150	+3.5 +66.3 69.8A +125	-50.0 -94	+0.7 +13.5 14.2A +25.	-28.2A -53				94	.0020	8100	R = 60 R' = 40 [illegible] .2 A = 29	640	4.47	35.5			14th St.	
17			A																		2.4				
18	(76) (75)	3.4 0.8 50.	ΣA q Q	1.74		Venice +5 -7		50.0 +3.4 53.4 A.		+0.8					93			R = 60 R' = 40 [illegible] A =			37.9			Venice Blvd.	
19			A																						
20			ΣA q Q																						
21			A																						
22			ΣA q Q																						
23			A																						
24			ΣA q Q																						
25			A																						
26			ΣA q Q																						
27	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 7 OF SHEETS

F = 1.24

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities		Q in S.D.	Q in Street	Q st North	Q st South	Q st East	Q st West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A	154																				In [illegible] St.		1
		ΣA q Q	124 1.84 228		0	228	—	38.1A -70	+124A +228	-[illegible] -158				70	.0072	324	R=66 Rd=40 Xf=.2 A=16	640'	4.37	33.6			at [illegible] Blvd.	t_c at [illegible] Blvd = 32.[illegible] + 1.0 min. to [illegible] Oak St. = 33.6 min	2
		A	2.[illegible]																	2.5					3
(70)	38.1 2.7 46.8	ΣA q Q	46.8 1.77 [illegible]	23.1=	14th St. +30.[illegible] -[illegible] -42-W		+38.1A 2.7 40.8A +[illegible]	20.3A -36	—	13.5A -24				124	.00178	3176	R=60 Rd=40 Xf=.2 A=35	640'	3.57	36.1			[illegible] St.		4
	19.[illegible]	A																		3.0					5
Rip line (80) (81)	62.2 20.3 4.6 2.3	ΣA q Q	252.4 1.71 483		Venice +3.8 -5-W	483	+22.3 +62.2 +4.6 190		+2.3 -83 [illegible] 334					483	.0025		R=60 Rd=40 Xf=.2 A=	400'		39.1		P.E.R.R.	Venice Blvd.	←	6
	67.3	A																	220 fpm	1.8					7
(82) (95)	1.9 3.2	ΣA q Q	71.9 1.6[illegible] 121			121	68.7 1.69 116	41.5 1.69 70	3.2 1.69 5	30.3 1.69 51	A. cfs			121	.0024		R=60 Rd=40 Xf=0 A=	400'	190 fpm	40.9		1.36	[illegible] St.		8
	41.5	A																		2.2					9
(83)	1.6	ΣA q Q	43.1 1.64 71				43.2 1.64 71	15.1 1.64 25	11.0 1.64 18	17.0 1.64 28	A. cfs			71	.0061		R=66 Rd=40 Xf=.2 A=	420		43.1		1.32	18th St.		10
		A																							11
		ΣA q Q													.0073		R= Rd= Xf=.01 A	590					Washington Blvd.	To 10-1	12
		A																							13
		ΣA q Q																							14
		A																					In Cherry St.		15
		ΣA q Q													.0166		R=66 Rd=40 Xf=0 A=	410					At 17th St.		16
		A																							17
		ΣA q Q													.0020		R=66 Rd=40 Xf=.1 A=	420					18th St.		18
		A																							19
		ΣA q Q													.0049		R=50 Rd=34 Xf=0 A	440					Washington Blvd.		20
		A																					In St. James PK Grove Av.		21
		ΣA q Q													.0050		R=50 Rd=34 Xf=0 A	530					[illegible]		22
		A																							23
		ΣA q Q													.0045		R=50 Rd=48 Xf=.1 A	470					23rd St.		24
		A																							25
		ΣA q Q													.0090		R=50 Rd=30 Xf= A	260					St. James PK.	To 9-1	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CHECKED BY L.F.M. DESIGNED BY W.J. HICKS DRAWN BY J.S.S. APPROVED [illegible] 1940 ENGINEER OF DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 10 OF SHEETS DATE..............

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 150 100%			Q SD	Q 1st	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					1H Olive		1
		ΣA q Q	4.41			0		1.9 8						8	.194 .0054		90/56	660	200	5.0			Olympic Blvd.		2
Olympic O.F.	1.9	A																		3.3					3
(123) (124) Grand O.F.	2.9 3.0 1.4 9.2	ΣA q Q	9.2 3.53 33			0	33	7.7 27	1.5 6	0				27	.006		90/56	650	180	8.3			11th St.		4
11th O.F.	7.7	A																		3.6					5
(149) (150) Grand O.F.	3.0 3.0 1.7 15.4	ΣA q Q	15.4 3.0 46			0	46	12.7 38	2.7 8	0				38	.0106		90/56	510	250	11.9			12th St.		6
12th O.F.	12.7	A																		2.0					7
(151) (152) Grand O.F.	3.3 3.3 2.2 19.5	ΣA q Q	19.5 2.53 55			25-8 17	38	10.9 31	2.5 7	0				31	.008		84/56	680	210	13.9			Pico Blvd.		8
Pico O.F.	10.9	A																		3.2					9
(172) (173)	2.2 2.3 15.4	ΣA q Q	15.4 2.58 40			40-56 -16	56	17.1 44	4.7 12	0				44	.0068		84/56	300	210	17.1			14th St.		10
14th O.F.	17.1	A																		1.4					11
(185) (186)	1.3 1.0	ΣA q Q	19.4 2.53 49			40-40 0	49	15.6 39	3.8 10	0				35	.009		80/56	290	250	18.5			15th St.		12
15th O.F.	15.6	A																		1.2					13
(212) (213) Grand O.F.	1.8 1.0 3.5	ΣA q Q	21.1 2.42 51			40-47 -7	58	18.2 44	5.8 14	0				44	.0054		80/56	330	195	19.7			Venice Blvd.		14
Venice O.F.	18.2	A																		1.7					15
(233) (234)	1.7	ΣA q Q	20.5 2.34 48			40-40 0	48	16.2 38	4.3 10	0				38	.0049		80/56	310	185	21.4			17th St.		16
17th O.F.	16.2	A																		1.7					17
(253) (254) Grand O.F.	1.7 1.6 1.5	ΣA q Q	19.8 2.27 45			64-64 0	45	15.0 34	4.8 11	0				34	.0128		80/56	580	270	23.1			18th St.		18
18th St. O.F.	15.0	A																		2.2					19
(252) (253) Hill O.F.	3.6 38.0	ΣA q Q	56.6 2.17 123			?-64 -12 2	121	31.4 68	0	24.4 55				68	.0074		80/56	880	250	25.3			Washington Blvd	Hill St. t_c = 23.7	20
Wash. O.F.	31.4	A																		3.5					21
(285E) (289W) Hill O.F.	2.6 2.7 21.3	ΣA q Q	58.0 2.05 119			76-78 -14	133	36.5 75	0	28.3 58				75	.0046		80/56	290	215	28.8			21st St.		22
		A																		1.4					23
		ΣA q Q	2.01			Combined with intersection Hill St.									.0057		80/56	310		30.2			22nd St.		24
		A																							25
Hill	47.8	ΣA q Q	47.8 1.73 83				83	21.3 37		26.5 46				46						42.8			28th St.	Hill St. t_c = 42.8	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY R.L. HICKS — DRAWN BY J.S.B. — CHECKED BY L.F.M.

APPROVED [illegible] 1940 — ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 11 OF SHEETS DATE..............

Drainage Area No.	Acres		1.90 cc%			C S.D.	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					IN HILL ST.		1
		ΣA q Q	4.41					46 21						21	.0082		92/56	660	200	5.0			OLYMPIC BLVD.		2
OLYMPIC OF	4.8	A																		3.9					3
(132) (139) OLIVE OF	5.9 5.0 1.6	ΣA q Q	12.3 8.54 44			0	44	8.8 31	3.5 13	0				31	.0060			650	185	8.8			11th ST.		4
11TH O.F.	8.8	A																		3.5					5
(147) (148) OLIVE O.F.	2.5 3.0 2.7	ΣA q Q	17.0 3.04 52			0	52	13.8 42	3.2 10	0				42	.0139		92/56	510	270	11.8			12th ST.		6
12th OF	13.8	A																		1.9					7
(154) (155) OLIVE OF BROADWAY	4.2 2.5 4.1	ΣA q Q	24.6 2.84 70			0	70	24.6 70	0	0				70	.0057		92/56	360	225	13.7			PICO BLVD.		8
PICO O.F.	24.6	A																		1.6					9
(173) BROADWAY	1.4 3.3	ΣA q Q	29.3 2.71 79			0	79	29.3 79	0	0				79	.0057		92/56	310	220	15.3			14th PL.		10
14th PL. OF	29.8	A																		1.4					11
(174) (183) OLIVE OF BROADWAY E.E.	3.6 4.7 3.5	ΣA q Q	41.1 2.67 108			22-7 15	93	35.5 93	0	0				93	.0050		92/56	300	220	16.7			14th ST.		12
14th OF	34.0	A																		1.4					13
(186) (187) OLIVE O.F. BROADWAY	2.2 3.8 2.8	ΣA q Q	42.8 2.52 108			0	108	42.8 108	0	0				108	.0083		92/56	300	290	18.1			15th ST.		14
15th OF	42.8	A																		1.0					15
(219) (220) OLIVE O.F.	7.7 1.0 5.8	ΣA q Q	50.7 2.46 125			SD Full at Olive	125	50.7 125	0	0				125	.0065		92/56	320	270	19.1			VENICE BLVD.		16
VENICE OF	50.7	A																		1.2					17
(225) (226) OLIVE O.F. BROADWAY	3.5 4.3 3.4	ΣA q Q	61.7 2.39 147			0	147	61.7 147	0	0				147	.0063		92/56	310	270	20.3			17th ST.		18
17th OF	61.7	A																		1.1					19
(248) OLIVE OF BROADWAY	1.2 1.1 4.8 6.3	ΣA q Q	75.1 2.34 176			19-18 1	175	74.8 175	0	0				175	.0028		92/56	560	240	21.4			18th ST.		20
18th O.F.	74.8	A																		2.3					21
(242) (247) BROADWAY	7.2 7.5 14.9	ΣA q Q	93.8 2.13 200			12-8 4	196	53.9 115	0	39.0 81				115	.0080		92/62	890	290	23.7 26.3	.3		WASHINGTON BLVD.	Brdwy. tc = 30.1 + 2.3 = 32.4	22
WASH. O.F.	53.9	A																		3.1					23
(253) (254) BROADWAY	5.4 16.2	ΣA q Q	76.5 1.98 151			0	151	55.2 109	0	21.3 42				109	.0026		92/62	230	200	29.4 31.4	.3		AT 21ST ST.	Brdwy. tc = 33.9 + 2.3 = 36.2	24
21st OF	55.2	A																		1.2					25
(310) (311) BROADWAY OLIVE OF	2.6 12.7 36.5	ΣA q Q	107.0 1.90 205			14-10 4	201	50.0 171	0	15.4 30				171	.0069		92/62	320	320	32.6 34.0	.3		AT 22nd ST.	Brdwy. tc = 35.1 + 2.3 = 37.4	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY / DRAWN BY / CHECKED BY L.F.R.

APPROVED March 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD — STORM DRAIN STANDARD DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE..............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM Central Bus. Dist. - Harbor Pkwy. DESIGN CURVE YEAR SHEET NO. 16 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A	Grand Ave. Lateral - 6th to Olympic	1.33														1
(4.4) Hope + 5th		ΣA q Q						.0094		R: 90 Rd: 56 xf: 0.0 A:	320					IN Grand Ave At Wilshire		2
46, 47, 48, 48A (4.0)		A		〃														3
Hope Ov.		ΣA q Q						.010		R: 90 Rd: 56 xf: 0.0 A:	650					At 7th		4
49, 50, 51, 52 = (3.4)		A		〃														5
Olive St. Ov.		ΣA q Q						.0076		R: 90 Rd: 56 xf: 0.0 A:	670					At 8th		6
53, 54, 55, 56 = (6.4)		A		〃														7
Olive Ov.		ΣA q Q						.008		R: 90 Rd: 56 xf: 0.0 A:	650					At 9th		8
		A		〃														9
		ΣA q Q														At Olympic	To Sh. 25	10
		A																11
		ΣA q Q	Olive St Lateral - 6th to Olympic															12
59, 60, 61, 62 = (4.7)		A		1.33														13
6th St Ov. Grand Ov.		ΣA q Q						.0064		R: 90 Rd: 56 xf: 0.0	650					IN OLIVE At 7th		14
63, 64 = 4.1	4.1	A		〃														15
		ΣA q Q						.0069		R: 90 Rd: 56 xf: 0.0 A:	670					At 8th		16
65, 66 = 4.6	4.6	A		〃														17
		ΣA q Q						.011		R: 90 Rd: 56 xf: 0.0 A:	660					At 9th		18
		A		〃														19
		ΣA q Q														At Olympic	To SH. 25	20
		A																21
		ΣA q Q	Hill St Lateral - 6th to Olympic															22
70, 71, 72, 73 = 5.5		A		1.33														23
Olive St Ov.		ΣA q Q						.010		R: 92 Rd: 56 xf: 0.0 A:	650					IN Hill St At 7th		24
74, 75, 76, 77 = 6.2		A		〃														25
Olive St Ov.		ΣA q Q						.003		R: 90 Rd: 56 xf: 0.0 A:	670					At 8th	To Sh 17	26
1	2	3	4 5 6 7 8 9 10 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CHECKED BY L.F.M.

DESIGNED BY W.I. HICKS

DRAWN BY J.S.B.

APPROVED March 1, 1940

ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 16

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM Central Bus. Dist.-Harbor Pkwy. DESIGN CURVE 50 YEAR SHEET NO. 17 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks
		A ΣA q Q	Hill St. Lateral (Cont)														
78, 79, 81 ... = 6.6 Olive St Ov. = 3.5		A ΣA q Q		1.33				.0075		R: 52 Rd: 56 xf: 0.0 A:	660					IN Hill St. At 9th	FROM SH. 16
		A ΣA q Q		"												At Olympic	To Sh.
		A ΣA q Q	Broadway Lateral - 6th to Olympic														
85 A, 86, 87 ... = 6.8 6th St. Ov. = Hill Ov. =		A ΣA q Q		1.33				.0065		R: 80 Rd: 56 xf: 0.0 A:	650					IN Broadway At 7th St.	
90, 91, 92, 93 = 4.5 Hill Ov. =		A ΣA q Q		"				.0055		R: 80 Rd: 56 xf: 0.1 A:	670					At 8th St.	
94, 95, 96, 97 = 5.8 Hill Ov. =		A ΣA q Q		"				.005		R: 80 Rd: 56 xf: 0.1 A:	660					At 9th St.	
		A ΣA q Q		"												At Olympic	
		A ΣA q Q	Spring St. Lateral 6th to 9th														
		A ΣA q Q		1.33				.0068		R: 80 Rd: 53 xf: 0.0 A:	660					IN Spring St. At 7th St.	
		A ΣA q Q		"				.0076		R: 80 Rd: 53 xf: 0.0 A:	670					At 8th St.	
		A ΣA q Q		"												At 9th & Main	
		A ΣA q Q															
1	2	3	4–11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

CHECKED BY L.F.M. DESIGNED BY W.J. HICKS DRAWN BY J.S.S.

APPROVED March 1, 1940

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ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM Central Bus. Dist. Harbor Pkwy. DESIGN CURVE 50 YEAR SHEET NO. 18 OF SHEETS

Line	Drainage Area No. (1)	Acres (2)	(3)	Classification, Areas, & R.O. Quantities (4–11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC√R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)
1			A															
2			ΣA q Q	Main St. Lateral - 6th to Olympic														
3			A		1.33													
4			ΣA q Q						.0095		R: 80 Rd: 56 Δ: 0.0 A	706					In Main at 7th St.	
5			A		"													
6			ΣA q Q						.0048		R: 80 Rd: 56 Δ: 0.5 A	700					at 8th St.	
7			A		"													
8			ΣA q Q						.006		R= 89.5 Rd: 56 Δ: 0.0 A	680					at 9th & Spring	
9			A														at Olympic	
10			ΣA q Q	Los Angeles St. - 6th to Olympic														
11			A		1.33													
12			ΣA q Q						.0068		R: 80 Rd: 56 Δ: 0.3 A	690					In L.A. St. at 8th	
13			A		"													
14			ΣA q Q						.0066		R: 80 Rd: 56 Δ: 0.1 A	690					at 9th	
15			A		"													
16			ΣA q Q														at Olympic	
17			A															
18			ΣA q Q	Santee St. - 8th to Olympic														
19			A		1.33													
20			ΣA q Q						.0045		R: 60 Rd: 40 Δ: 0.8 A	680					In Santee at 8th	
21			A		"													
22			ΣA q Q						.0045		R= 60 Rd: 40 Δ: 0.5 A	600					at 9th	
23			A		"													
24			ΣA q Q														at Olympic	
25			A															
26			ΣA q Q															
27	1	2	3	4 5 6 7 8 9 10 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD
STORM DRAIN DIVISION
NO. 51

DESIGNED BY W.I. HICKS
DRAWN BY J.S.S.
CHECKED BY L.F.M.
APPROVED March 1, 1940
[signature]
ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION · DATE.....

SUPERVISED BY TABLED BY CHECKED BY SYSTEM Central / Bur. Dist - Harbor Pkwy DESIGN CURVE 50 YEAR SHEET NO. 19 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																1
		Σ Q	OLYMPIC BLVD. S.D. MAIN LINE	1.33														2
		A																3
		Σ Q						.0121		R=80 Rh=60 vf=0.6 A=	410					IN OLYMPIC BLVD. At Grand		4
		A		"														5
		Σ Q						.0030		R=80 Rh=60 vf=0.6 A=	410					At HOPE		6
		A		"														7
		Σ Q						.00227		R=80 Rh=60 vf=0.1 A	410					At FLOWER		8
		A		"														9
		Σ Q						.0022		R=80 Rh=60 vf=0.0 A=	406					IN OLYMPIC - Grand to OLIVE		10
		A		"														11
		Σ Q						.003		R 80 Rh=60 vf=0.1 A	410					At HILL		12
		A		"														13
		Σ Q						.0145		R 80 Rh=60 vf=0.9 A	270					At BROADWAY		14
		A		"														15
		Σ Q						.0118		R 80 Rh=56 vf=0.3 A=	405					At MAIN		16
		A		"														17
		Σ Q						.0017		R 80 Rh=66 vf=0.4 A=	360					At LOS ANGELES		18
		A		"														19
		Σ Q						.00184		R 76 Rh=44 vf=0.4 A=	350					At SANTEE		20
		A		"														21
		Σ Q						.0016		R 74 Rh=46 vf=0.3 A=	370					At MAPLE		22
		A		"														23
		Σ Q														At WALL ST.		24
		A																25
		Σ Q																26
1	2	3	4 5 6 7 8 9 10 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET — RUNOFF INSTRUCTIONS — 1939

DESIGNED BY R.L. HIGGS

DRAWN BY

CHECKED BY

APPROVED

OFFICE STANDARD STORM DRAIN DIVISION NO. 51

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE.............. SHEET NO. 20 OF SHEETS

Drainage Area No.	Acres		130/120%			Q SD	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_C	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A ΣA q Q	4.41					1.7 7						7	.0056		80/56	700	145	5.0 4.7			IN LOS ANGELES ST. OLYMPIC BLVD.		1 2 3
OLYMPIC O.F. (133) (132) SANTEE O.F. MAIN O.F.	1.7 4.9 2.9 4.5	A ΣA q Q	14.0 3.30 46			0	46	14.0 46	0	0				46	.0039			660	180	9.7 3.7			AT 11th ST.		4 5
11th O.F. (121) (133) MAIN O.F. SANTEE O.F.	14.0 5.7 6.0 7.6	A ΣA q Q	27.3 2.87 78			0	78	27.3 78	0	0				78	.0083			530	280	13.4 1.9			AT 12th ST.		6 7
12th O.F. (159) (160) MAIN O.F.	27.3 4.4 4.4	A ΣA q Q	36.1 2.71 98			20-0 14-0 34	64	17.7 48	5.9 16	0				48	.0066			440	210	15.3 2.1			AT PICO		8 9
PICO O.F. (163) (163) MAIN O.F.	17.7 [illegible] 3.1	A ΣA q Q	24.6 2.56 63			14-14 0	63	19.9 51	4.7 12	0				51	.0071			450	230	17.4 2.0			AT 14th ST.		10 11
14th O.F. (180) (181) MAIN O.F. SANTEE O.F.	19.9 2.0 2.1 2.8	A ΣA q Q	28.4 2.44 69			5-0 5	64	26.2 64	0	0				64	.0041			300	200	19.4 1.5			AT 15th ST.		12 13
15th O.F. (24) (245) SANTEE O.F.	26.2 2.2 2.5	A ΣA q Q	31.3 2.36 74			6-0 6	68	24.6 58	0	4.2 10				58	.0046			[illegible]	200	20.9 2.0			AT VENICE		14 15
VENICE O.F. (57) (132) SANTEE S.D.	24.0 [illegible] 4.0	A ΣA q Q	31.7 2.28 72			4-0 4	68	24.2 53	0	5.6 15				55	[illegible]			[illegible]	190	22.9 3.6 26.5			AT 17th		16 17
17th O.F. (239) (240) SANTEE O.F.	24.2 5.3 48.3	A ΣA q Q	78.0 2.07 161			4-0 10-0 14	147	34.3 71	0	36.7 76				71	.0062			560	230	28.2 3.7	.88		AT WASH.	SANTEE T_C = 26.0 INC. = 2.4 28.4	18 19
WASH. O.F. [illegible] [illegible] SANTEE O.F. MAIN O.F.	34.3 [illegible] 21.6 6.0	A ΣA q Q	77.1 1.97 152			6-0 6	144	73.2 144	0	0				144	.0032			[illegible]	255	31.9 2.6			21st ST.		20 21
21st O.F. (B1A) SANTEE O.F.	73.2 76.2	A ΣA q Q	156.8 1.90 294			13-0 13	281	0	0	148.0 281										34.5			23rd ST.		22
		A ΣA q Q																							23
		A ΣA q Q																							24 25 26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

DESIGNED BY E.L. HIGGS · APPROVED March 6, 1940 · CHECKED BY L.F.M. · DRAWN BY J.E.B. · ENGINEER OF S.D. DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET — BUREAU OF ENGINEERING — STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 21 OF SHEETS DATE..............

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities: 180 100%			Q S.D.	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_C	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					IN SANTEE ST.		1
		ΣA q Q						49 22						22	.0043		60/40	580	180	5.0			OLYMPIC BLVD		2
OLYMPIC O.F	4.9	A																		3.2					3
(134) (135)	2.3 2.4	ΣA q Q	9.50 3.65 34			0	34	6.9 26	0	2.6 9				25	.004		60/40	650	165	8.2			11th ST.		4
11th O.F	6.9	A																		3.9					5
(150) (163)	5.6	ΣA q Q	12.5 3.01 38			0	38	8.6 26	2.3 7	1.6 5				26	.0066		60/40	510	195	12.1			12th ST.		6
12th O.F	8.6	A																		2.6					7
(161) (162) L.A. O.F	4.2 5.9	ΣA q Q	18.7 2.76 52			40-20 20	32	24 26	2.2 6	0				26	.0052		60/40	430	210	14.7			PICO BLVD.		8
PICO O.F	9.4	A																		2.1					9
(165) (166) L.A. O.F	3.4 4.7	ΣA q Q	17.7 2.60 46			14-14 0	46	13.4 35	4.3 11	0				35	.0045		"	450	190	16.8			14th ST.		10
14th O.F	13.4	A																		2.4					11
(158) (159)	[illegible]	ΣA q Q	17.0 2.46 42			0	42	11.4 28	2.8 7	2.8 7				28	.0023		"	300	140	19.2			15th ST.		12
15th O.F	11.4	A																		2.1					13
(202) (203)	[illegible]	ΣA q Q	14.0 2.35 33			0	33	9.4 22	2.1 5	2.5 6				22	.0062			[illegible]	190	21.3			16th ST.		14
16th O.F	9.4	A																		2.1					15
(233) (23[illegible])	3.	ΣA q Q	13.3 2.25 30			0	30	6.2 14	3.1 7	4.0 9				14	.0044			650	165	23.4			17th ST.		16
17th O.F	6.2	A																		3.9					17
(237) (238) MAPLE O.F	73.4	ΣA q Q	35.9 2.15 185			5-0 5	180	35.3 76	0	48.3 104				76	.016			860	275	27.0 26.0			WASHINGTON BLVD.	Maple Tc = 24.2 Inc. = 1.8 26.0	18
WASH. O.F	35.5	A																		3.1					19
(29[illegible]) MAPLE O.F	37.0	ΣA q Q	79.8 2.05 164			12-8 4	160	51.2 105	0	26.8 55				105	.004			660	555	29.1			21st ST.		20
21st O.F	51.2	A																		2.6					21
(3[illegible]) Maple O.F	5.7 20.7	ΣA q Q	77.6 1.98 154			16-13 3	151	0	0	76.2 151										31.7			23rd ST.		22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY / DRAWN BY / CHECKED BY / APPROVED ... 1940 / ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 22 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 Inch	1.08 64-2		Ø S.D.	Ø Surf.	Ø South	Ø East	Ø West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																	ft/min				IN SAN JULIAN ST.		1
		ΣA q Q	4.41					3.2 14						14	.0045		65/41	480	145	5.0			OLYMPIC BLVD.		2
Olympic av	3.2	A																		3.3					3
		ΣA q Q	3.2 3.54 11			0	11	0	2.0 7	1.2 4					.0044		60/40	660		8.3			11th ST.		4
		A																							5
		ΣA q Q													.0042		60/40	420					12th ST.		6
		A																							7
		ΣA q Q																					PICO BLVD.		8
		A																							9
		ΣA q Q																							10
		A																							11
		ΣA q Q																							12
		A																							13
		ΣA q Q																							14
		A																							15
		ΣA q Q																							16
		A																							17
		ΣA q Q																							18
		A																							19
		ΣA q Q																							20
		A																							21
		ΣA q Q																							22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY H.L. HICKS DRAWN BY CHECKED BY APPROVED March 6, 1940

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 29 OF SHEETS DATE............

Drainage Area No.	Acres		1.30 100%			ø 30	ø Sept	ø South	ø East	ø West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					IN MAPLE		1
		ΣA q Q	4.41					7.4 38						38	.0037		70/60 44/44	530	175	.50			OLYMPIC BLVD.		2
OLYMPIC OF	7.4	A																		3.0					3
(137)	2.3	ΣA q Q	9.7 3.59 35			0	35	7.2 26	2.5 9	0				26	.0054		60/60	660	185	8.0			11th ST.		4
11th O.F.	7.2	A																		3.6					5
(138) SANTEE O.F.	2.9 2.3	ΣA q Q	12.4 3.07 38			0	38	12.4 35	0	0				38	.0035		"	470	175	11.6			12th ST.		6
12th O.F.	12.4	A																		2.7					7
(163) SANTEE O.F. WALL O.F.	2.0 2.2 15.1	ΣA q Q	31.7 2.80 69			60-40 20	69	24.6 69	0	0				69	.0044		"	430	230	14.3 14.2	.90		PICO BLVD.	WALL ST. TC = 11.1 INC = 1.9 13.0	8
PICO O.F.	24.6	A																		1.9					9
(164) SANTEE O.F.	1.5 4.3	ΣA q Q	30.7 2.66 82			22-14-8 0	82	30.7 82	0	0				82	.0044		"	450	250	16.1			14th ST.		10
14th O.F.	30.7	A																		1.8					11
(200) SANTEE O.F. WALL O.F.	1.1 2.8 56.0	ΣA q Q	91.4 2.62 240			43-33-21 0	240	91.4 240	0	0				240	.0041		"	300	350	17.9 16.8	.48	—	15th ST.	WALL ST. TC = 14.6 INC = 1.1 15.7	12
15th O.F.	71.4	A																		0.9					13
(201) SANTEE O.F.	1.3 2.1	ΣA q Q	94.8 2.56 241			43-43 0	241	94.8 241	0	0				241	.0041		"	400	350	17.4			16th ST.		14
16th O.F.	94.8	A																		1.1					15
(235) SANTEE O.F.	[illegible] 3.1	ΣA q Q	99.7 2.50 250			45-43 2	248	99.1 248	0	0				248	.0036			650	330	18.5			AT 17th ST.		16
17th O.F.	99.1	A																		2.0					17
(271)(232) WALL O.F.	[illegible] 61.2 172.0	ΣA q Q	172.0 2.22 382			55-5 -45 5	377	96.3 214	0	73.4 169				214	.0027		"	380	290	20.5 24.2	.85		AT WASH.	WALL ST. TC = 28.6 INC = 2.6 31.2	18
(232)		A																		1.3					19
Washington Trinity	96.3 5.2	ΣA q Q	110.3 2.16 238			3.5 53-46 7	107 231	107 231						231	.0027			480	[illegible]	25.5			AT 20th ST.		20
		A																		1.6					21
20th	107	ΣA q Q	107 2.11 226			14 59-12 3	223	55.6 145	37.0 78					145	.0031			640	275	27.1			AT 21st ST.		22
		A																		2.3					23
21st	52.6	ΣA q Q	68.6 2.03 140			[illegible]	76.5 160	37.3 7?	20.6 [illegible]	20.6 42				76	.0037			[illegible]	300	29.4			AT 23rd ST.		24
		A																		1.0					25
23rd	37.3	ΣA q Q	37.3 2.00 75			94- 94.0	75	19.8 40	0	17.5 35				40	.0056		"	330	205	30.4			AT 24th ST.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.W. DRAWN BY E.S.S. DESIGNED BY T.L. HIGGS APPROVED March 4, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE.............

SHEET NO. 24 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 430/100	108/61.2		Q S.D.	Q Sub	Q So.	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC(R)	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																		1.6			IN MAPLE		1
(316) (327) (347) (313) 24th Trinity	13.8 20.6 46.0 54.4	ΣA q Q	140.8 1.84 264	22.2 1.53 34		107- 24-12	161.5 297	95.1 175		66.4 122				175	.003		60/40	350	280	52.0 36.9			At 25th St (W)	tc from Trinity 33.4 [illegible]	2
		A																		1.2					3
25th Trinity (360)	95.1 39.1 7.1	ΣA q Q	134.2 1.92 244	7.1 1.51 11		125-107 = 0	140 255	71.4 130		68.6 125				130	.0023		"	340	250	38.1			At Adams		4
		A																		1.4					5
Adams Trinity (372)	71.4 24.6 6.1	ΣA q Q	96.0 1.79 172	6.1 1.49 9		[illegible] = 4	103.4 185	57 102		46.4 83				132	.002		"	310	210	39.6			At 27th St.		6
		A																		1.5					7
27th Trinity (386)	57 12.7 5.5	ΣA q Q	69.7 1.76 123	5.5 1.46 8		113-113 = 0	74.4 131	40.3 71		34.1 60				71	.006		"	300	255	41.0			At 28th St.		8
		A																		1.2					9
28th Trinity (397)	40.3 15.3 5.2	ΣA q Q	56.1 1.74 98	5.3 1.45 8		0	61 106	35.1 61		25.9 45				61	.004		"	300	210	42.2			At 29th St.		10
		A																		1.4					11
29th Trinity (405)	35.1 8.6 5.4	ΣA q Q	43.7 1.71 75	5.4 1.42 8		106-103 +3	46.8 80	28.1 48		18.7 32				48	.005		"	310	215	43.6			At 30th St.		12
		A																		1.4					13
30th Trinity (415)	28.1 27.2 5.1	ΣA q Q	55.3 1.69 93	5.1 1.40 7		116-1[illegible] [illegible]	59.2 [illegible]	32.0 54		27.2 46				54	.002		"	300	165	45.0			At 31st St.		14
		A																		.8					15
(427) 31st Trinity	[illegible]3 32.0 3.5	ΣA q Q	40.6 1.67 68			116-116 = 0	40.8 68	[illegible] 32		21.6 36				32	.0044		"	310	185	46.8			At 32nd St.		16
		A																		1.7					17
32nd Trinity (440)	19.2 6.0 5.3	ΣA q Q	25.2 1.64 41	5.3 1.36 7		330 -193 137	10.4 17	10.4 17						17	.00473		"	360	165	48.5			At 33rd St.		18
		A																		2.2					19
(447) 33rd Trinity	[illegible] 16.4 2.9	ΣA q Q	18.3 1.60 21	6.2 1.33 5		330 -330 = 0	18.1 29	18.1 29						29	.01055			340	260	50.7			At Jefferson [illegible]		20
		A																		1.3					21
* (457) (458) Jefferson	4.4 6.0 19.1	ΣA q Q	28.5 1.57 45	1.32			25.5 45	45						45	.0060			310	225	52.0			At 35th [illegible]		22
		A																		1.4					23
35th ± ([illegible]) (471)	28.5 [illegible] 5.4	ΣA q Q	28.5 1.57 45	9.3 1.31 12			36.3 57	36.3 57						57	.0052			320	225	53.4			At 36th [illegible]		24
		A																		1.4					25
36th ± (478) (479)	36.3 3.9 2.2	ΣA q Q	36.3 1.55 56	6.7 1.29 9			65	28.4 44	3.5 13.5 21	"				44	.00625			690	225	54.8			36th Pl. 37th St		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.B. DRAWN BY J.E.S. DESIGNED BY H.L. HICKS APPROVED March 1, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 25 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.01 60-?		Q S.D.	Q Surf.	Q [illegible]	Q [illegible]	Q [illegible]	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c 52.8	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																		3.0			IN MAPLE AVE.		1
37th (493)	28.4 4.7	ΣA q Q	28.4 1.52 43	4.7 1.26 6			32.2 49	32.2 49						49	.00525		60/40	470	230	57.8			AT 38th ST.		2
		A																		2.0					3
38th (E) 38th (W) (492)	32.2 3.4 7.4	ΣA q Q	33.6 1.49 53	7.4 1.24 9			41.6 62	41.6 62						62						59.8			AT WOODLAWN	See Line (20) below	4
		A																							5
		ΣA q Q																							6
		A																							7
		ΣA q Q																							8
		A																					IN 37th ST.		9
		ΣA q Q												21	.0032		60/40	550	145	54.8			AT MAPLE AVE.		10
		A																		3.8					11
Maple	13.5	ΣA q Q	13.5 1.51 20				13.5 20	6.8 10		6.7 10										58.6			AT WOODLAWN AVE.		12
		A																							13
		ΣA q Q																							14
		A																					IN WOODLAWN		15
		ΣA q Q												10	.0055		60/40	650	160	58.6			AT 37th ST.		16
		A																		4.1					17
37th	6.8	ΣA q Q	6.8 1.47 10				6.8 10	3.4 5		3.4 5				5	.0054					62.7			AT 38th ST.		18
		A																							19
(492) 38th (E) 38th (W)	7.4 32.2 3.4	ΣA q Q	33.6 1.49 53	7.4 1.24 9			41.6 62	41.6 62						62	.0055		60/40	320	235	57.8			AT MAPLE AVE.	See Line (4) above	20
		A																		1.4					21
		ΣA q Q																		61.2			AT SANTA BARBARA AVE.		22
		A																							23
		ΣA q Q																					41st		24
		A																							25
		ΣA q Q																					43rd		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

DESIGNED BY / DRAWN BY / CHECKED BY / APPROVED — ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE.............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 26 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities: 130/100%			Q S.D.	Q Sol	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																					In Wall St		1
		ΣA q Q	4.41					14.2 63						63	0.0048		60/40 Xf=.2	500	220	5.0			Olympic Blvd		2
OLYMPIC OF	14.2	A																		2.3					3
(162)(163) MAPLE OF SAN JULIAN	8.3 2.5 1.2	ΣA q Q	26.2 2.74 98			240-240 0	98	26.2 98	0	0				98	.0049		60/40 Xf=.1	630	270	7.3			At 11th ST.		4
11th OF	26.2	A																		2.5					5
(171)(172)	10.8	ΣA q Q	37.0 3.32 123			240-24 0	123	37.0 123	0	0				123	.0045		60/40 Xf=.1	430	280	9.6			At 12th ST.		6
12th OF	37.0	A																		1.5					7
(184)(185)	7.4	ΣA q Q	44.4 3.12 182			8-0 220-240 25	111	20.5 64	0	15.1 47				64	.0036		40/28 Xf=0	350	240	11.1			At Pico Blvd		8
PICO OF	20.5	A																		3.5					9
(258)(259) (191)(192) SAN PEDRO	23.7 19.1	ΣA q Q	63.3 2.77 176			21-0 21	155	0	0	56.0 155										14.6			At 15th ST.		10
		A																							11
½ of (257) TRINITY	4.8 5.2	ΣA q Q	10.0 2.16 22			0	22	10.0 22	0	0				22	.0039		60/40	950	160	25.6			At 16th ST.	Trinity Tc = 22.3 Inc = 3.3 25.6	12
16th OF	10.0	A																		5.9					13
(272) TRINITY	7.5 43.4 61.2	ΣA q Q	61.2 2.05 125			0	125	0	0	61.2 125										31.5 28.8		Use 28.8	At Wash	Trinity TC = 26.6 2.2 28.8	14
		A																							15
		ΣA q Q																							
		A																							16
		ΣA q Q																							17
		A																							18
		ΣA q Q																							19
S.Pedro OF	16.6	A																							20
(½) of (289)	4.8 21.4	ΣA q Q	21.4 2.30 49			0	49	16.2 37	0	5.2 12				37	.0043		60/40	920	185	22.3			In Trinity At 16th ST.	San Pedro Tc = 17.9 Inc = 4.4 22.3	21 22
16th OF	16.2	A																		5.0					23
(273) S.Pedro	12.7 45.1 74.0	ΣA q Q	74.0 2.12 157			11-0 11	[illegible]	26.0 55	0	48.4 92				55	.0079		"	400	260	27.3 24.6	.50		At Wash	San Pedro Tc = 21.5 4.3 25.8	24
Wash. OF	26.0	A																		1.5					25
		ΣA q Q	26.0 2.08 54			11-11 0	54	19.7 41	0	6.3 13				41	.0072		"	360	230	26.1			At 20th ST.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY R.L. HYDES CHECKED BY L.E.R. DRAWN BY J.S.S. APPROVED [illegible] 1940 ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 27 OF SHEETS DATE............

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.08 60-2		Q S.D	Q Sed.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
20th of	19.7	A																		4.6			In Trinity		1
C.Mar. (41) (42)	12.9	ΣA q Q	19.7 2.03 40	12.9 1.68 22		16-11 5	57	26.1 57	0	0				57	.0040		60/40	400	210	29.7			At 21st ST.		2
21st of	28.1	A																		1.9					3
(32A) (33) S. Pedro	6.6 43.6 71.7	ΣA q Q	71.7 2.02 145	6.6 1.67 11		6-16 0	156	77.8 156	0	0				156	.0035		"	350	280	31.6 30.0			At 22nd ST.	S. Pedro tc = 25.1 3.3 28.9	4
22nd of	77.3	A																		1.3					5
(32B) S. Pedro	6.0 35.3 111.2	ΣA q Q	111.2 1.98 220	6.0 1.65 10		12-6 12	218	64.2 127	0	46.0 91				127	.0032		"	310	260	31.3			At 23rd		6
23rd of	64.2	A																		1.2					7
(34A) S. Pedro	5.1 26.3 90.-	ΣA q Q	90.6 1.95 177	5.1 1.62 8		0	185	95.0 185	0	0				165	.0030		"	260	286	32.5			At 24th		8
24th of	95.0	A																		0.9					9
(35) S. Pedro	4.4 18.5	ΣA q Q	113.5 1.93 219	4.4 1.60 7		8-0 8	218	58.6 113	0	54.4 105				113	.0012			400	180	33.4			At 25th		10
25th of	58.6	A																		2.2					11
(36) S. Pedro	6.5 21.5	ΣA q Q	80.1 1.87 150	6.5 1.56 10		0	160	46.4 87	0	39.1 73				87	.0033			350	225	35.6			At Adams		12
Adams of	44.4	A																		1.6					13
(37) S. Pedro	6.0 14.4	ΣA q Q	60.8 1.83 112	6.0 1.52 9		3-0 3	118	39.9 73	0	24.6 45				73	.0031			300	215	37.2			At 27th		14
27th of	39.3	A																		1.4					15
(38) S. Pedro	4.8 5.7	ΣA q Q	45.1 1.81 82	4.8 1.50 7		7-3 4	85	34.3 62	0	12.7 23				62	.0077			310	270	38.6			At 28th		16
28th of	34.3	A																		1.2					17
(39) S. Pedro	4.7 10.8	ΣA q Q	45.1 1.77 80	4.7 1.48 7		10-7 3	84	31.6 56	0	15.8 28				56	.0049			290	215	39.8			At 29th		18
29th of	31.6	A																		1.4					19
(40)	4.6	ΣA q Q	31.6 1.75 55	4.6 1.46 7		10-10 0	62	26.3 47	0	8.6 15				47	.0034			290	190	41.2			At 30th		20
30th of	26.9	A																		1.5					21
(41) S. Pedro	4.4 5.0	ΣA q Q	31.9 1.73 55	4.4 1.44 6		14-10 4	57	5.6 10	0	27.2 47				10	.0033			300	135	42.7			At 31st		22
31st of	5.8	A																		2.2					23
(42) S. Pedro	4.7 2.2	ΣA q Q	8.0 1.69 14	4.7 1.40 7		17-14 3	18	7.1 12	0	3.5 6				12	.002[illegible]			300	110	44.9			At 32nd		24
32nd of	7.1	A																		2.7					25
		ΣA q Q	7.1 1.66 12			193-159 -17 -17	29	5.4 9	6.0 10	6.0 10				9	.0053		60/40 Xfo	350	180	47.6			At 33rd		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

DESIGNED BY / DRAWN BY / CHECKED BY / APPROVED / ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE.............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 28 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.80 100%	1.06 60-2		Q S.D.	Q Surf.	Q	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
33 E Ro.	.64	A																		1.9			In Trinity St.		1
		ΣA	5.4																						
		q	1.62						25	2.9															
		Q	2			0	9	0	4	5										49.5			At Jefferson		2
		A																							3
		ΣA																							
		q																							
		Q																							4
		A																							5
		ΣA																							
		q																							
		Q																							6
		A																					In Santa Barbara Ave.		7
		ΣA																							
		q																4/40								
		Q								22.1 25				35	.0017		xf=.6	350	140	52.7			At San Pedro		8
San Pedro O.F.	22.1	A																		2.5					9
(492)	8.7	ΣA	30.8																						
		q	1.54					18.0		11.7							60/40								
		Q	47			0	47	22	0	18				18	.0017		xf=.1	350	110	55.2			At Adair		10
Adair O.F.	11.7	A																		3.2					11
(496)	9.4	ΣA	11.7	9.4																					
		q	1.52	1.26				9.2		10.5							60/40								
		Q	18	12		0	30	14	0	16				16	.0073		xf=.2	350	210	58.4			At Trinity		12
Trinity O.F.	16.5	A																		1.7					13
(512) (498)	3.2 6.5	ΣA	16.5	3.7																					
		q	1.49	1.24			15.8	[illegible]		12.8							60/40								
		Q	16	12			25	12		16				16	.0056		xf=	350	196	60.1			At Wall		14
(513)	4.4	A																		1.8					15
(498) (511)	5.7 4.0	ΣA	52.4	14.0		21.6	22.3	24.8		17.5															
Wall	13.3	q	1.48	1.22																					
Maple	41.6	Q	78	17		32	63	37		26										61.9			At [illegible]		16
		A																							17
		ΣA																							
		q																							
		Q																							18
		A																							19
		ΣA																							
		q																							
		Q																							20
		A																							21
		ΣA																							
		q																							
		Q																							22
		A																							23
		ΣA																							
		q																							
		Q																							24
		A																							25
		ΣA																							
		q																							
		Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.B. DESIGNED BY H.L. HIGGS DRAWN BY J.S.S. APPROVED March 2, 1940 ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 29 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities: 120 (%)	208 64-3		Q S.D.	Q Inl.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
Chaker.	1.6	A																					To San Pedro St.		1
(1) (174) San Julian	11.4 2.0 75.0	ΣA q Q	15.0 3.54 53			0	53	15.0 53	0	0				53	.0080		90/62 Xf=0	650	190	8.3			11th St.	Tc = 8.3 (149) 7.5 min.	2
																				3.4					3
11th of	15.0	A																							
(11) (177) Central of	16.2 13.3 44.7	ΣA q Q	44.7 3.06 137			0	137	44.7 137	0	0				137	.0044		94/62 Xf=0	400	250	11.7			12th St.		4
																				1.6					5
12th of	44.7	A																							
(11) (240)	13.9 58.6	ΣA q Q	58.6 2.88 169			34-32 0	169	58.6 169	0	0				169	.0026		90/62 Xf=.5	250	230	13.3			Pico Blvd.		6
																				1.1					7
Pico of	58.6	A																							
(242) Stanford.	7.7 8.6 74.8	ΣA q Q	74.8 2.70 202			30-32 10	198	71.3 198	0	0				198	.0051		90/62 Xf=0	400	280	14.4			14th St.		8
																				1.4					9
14th st. of	74.8	A																							
(M/S) of (253)	9.6 80.3	ΣA q Q	80.3 2.68 217			3.10-340 10	207	77.3 207	0	0				207	.0051		92/62 Xf=.1	2??	300	15.8			14th Pl.		10
																				0.8					11
14th pl. of	78.3	A																							
(M/S) of (250)	5.3 83.2	ΣA q Q	83.2 2.62 218			0	218	64.1 168	0	19.1 50				168	.0045		90/63 Xf=.2	340	270	16.6			15th St.		12
																				1.3					13
15th of	64.1	A																							
(M/S) of (251)	6.5 70.6	ΣA q Q	70.6 2.53 178			14.0 14	165	48.7 123	0	16.6 42				123	.0032		90/62 Xf=0	340	280	17.9			16th St.		14
																				1.6					15
16th St.	48.7	A																							
(272) Gore of	10.5 16.4 75.6	ΣA q Q	75.6 2.44 185			14-14 0	185	75.6 185	0	0				185	.0045		94/62 Xf=.3	220	275	19.4			17th St.		16
																				0.8					17
17th of	75.6	A																							
(278) Stanford.	7.5 4.1 87.2	ΣA q Q	87.2 2.39 209			18-14 4	205	85.6 205	0	0				205	.0035		94/62 Xf=.2	360	270	20.3			18th St.		18
																				1.3					19
18th of	85.6	A																							
(280) Stanford.	5.5 45.0 136.1	ΣA q Q	136.1 2.34 318			18-18 0	318	76.0 178	0	60.1 140				178	.0083		80/56 Xf=.2	410	360	21.5			Washington Blvd.		20
																				1.1					21
Wash. of	76.0	A																							
(298) Stanf. of	5.9 17.5 99.4	ΣA q Q	99.4 2.23 228			23-18 5	223	97.8 223	0	0				223	.0083		85/57 Xf=.2	370	370	22.6			20th St.		22
																				1.0					23
20th of	97.8	A																							
(302) Stanford. Adair of.	3.7 14.0 20.0	ΣA q Q	131.8 2.24 295	6.9 ABG 11		35-23 12	234	131.8 234	0	0				234	.0021		85/57 Xf=.1	400	270	23.6			21st St.		24
																				1.5					25
21st of	131.3	A																							
(324) Stanford.	5.7 18.7 145.0	ΣA q Q	145.0 2.18 316	5.7 1.82 10		40-35 5	321	102.6 226	0	43.6 95				226	.0021		90/67 Xf=.1	360	240	25.1			22nd St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE.............. SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 30 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 130 100%	108 40-2		Q S.D.	Q Sart	Q South	C Bot	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
22ND OF	103.6	A																		1.5			In San Pedro St.		1
(329) STANFORD	5.3 12.2 115.8	ΣA q Q	115.8 2.12 246	5.3 1.77 9		47-40 7	248	83.1 176	0	33.9 72				176	.0037		85/57 Xf=0	320	265	26.6			23rd St.		2
23RD OF	83.1	A																		1.2					3
(344) STANFORD	5.0 7.7 90.8	ΣA q Q	90.8 2.09 190	5.0 1.73 9		47-47 0	199	69.0 144	0	26.3 55				144	.0037		85/57 Xf=0	270	245	27.8			24th St.		4
24th OF	69.0	A																		1.1					5
(352) STANFORD	4.8 4.0 73.0	ΣA q Q	73.0 2.05 150	4.8 1.71 8		47-47 0	158	58.6 120	0	18.5 38				120	.0037		85/57 Xf=0	410	235	28.9			25th St.		6
25th OF	56.6	A																		1.7					7
(362) STANFORD	5.7 6.2 64.8	ΣA q Q	64.8 2.00 130	5.7 1.66 9		49-47 2	137	47.0 94	0	21.5 43				94	.0028		85/57 Xf=.2	390	200	30.6			Adams Blvd.		8
Adams OF	47.0	A																		2.0					9
(379)	5.3	ΣA q Q	47.0 1.95 92	5.3 1.62 9		55-49 6	95	34.4 67	0	14.4 28				67	.0036		85/57 Xf=.4	330	190	32.6			27th St.		10
27th OF	34.4	A																		1.7					11
(386)	5.2	ΣA q Q	34.4 1.91 66	5.2 1.59 8		57-55 -3	77	25.0 67	0	5.2 10				67	.0052		85/57 Xf=.2	330	210	34.3			28th St.		12
28th OF	35.0	A																		1.6					13
(399)	5.5	ΣA q Q	35.0 1.86 65	5.5 1.54 8		54-52 2	71	27.4 51	0	10.8 20				51	.0033		85/57 Xf=0	260	190	35.9			29th St.		14
29th OF	27.4	A																		1.4					15
		ΣA q Q	27.4 1.83 50			54-54 0	50	27.4 50	0	0				50	.0026		82.5/57 XF=0	220	160	37.3			30th St.		16
30th OF	27.4	A																		1.4					17
		ΣA q Q	27.4 1.61 50			54-54 0	50	16.3 30	6.1 11	5.0 9				30	.0041		82.5/57 XF=0 H=8.5	300	160	38.7			31st St.		18
31st OF	16.3	A																		1.9					19
		ΣA q Q	16.3 1.77 29			54-52 0	29	11.3 20	2.8 5	2.2 4				20	.0070		82.5/57 Xf=0 H=[illegible]	340	190	40.6			32nd St.		20
32ND OF	11.3	A																		1.8					21
(421) (430) Trinity or Stanford	4.9 8.0 6.6 5.6	ΣA q Q	22.9 1.74 40	9.9 1.44 14		192-176 19	35	20.1 35	0	0				35	.0071		82.5/57 Xf=0	360	210	42.4			33rd St.		22
33RD OF	20.1	A																		1.7					23
(443) (444) Trinity STANFORD	5.6 4.9 2.5 82	ΣA q Q	42.9 1.70 72			0	72	20.6 35	0	0	Avalon 21.8 37			35	.0055		33/56 Xf=.1	350	195	44.1			Jefferson Blvd.		24
JEFF. OF	20.6	A																		1.8					25
(451)	5.4 26.0	ΣA q Q	26.0 1.68 44			0	44	26.0 44	0	0				44	.0054		84/56 Xf=.1	300	200	45.9			35th St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY E.L. HICKS — DRAWN BY J.E.S. — CHECKED BY L.F.M. — APPROVED March 1, 1940 — [signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 31 OF SHEETS

Drainage Area No. (1)	Acres (2)	(3)	Classification, Areas, & R.O. Quantities: 1.20 100% (4)	1.08 60-% (5)	(6)	Q S.D. (7)	Q Surf (8)	Q South (9)	Q East (10)	Q West (11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC√R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)
35th of (472) (473) Avalon	26.0 4.9 2.0 12.1	A ΣA q Q	40.1 1.66 67	4.9 1.38 7		0	74	28.9 48	0	0	Memke c 16.9 28			48	.0054		89/56 Xf=.1	1050	200	4.5 47.4			In San Pedro St. 36th St	
36th of (478) (479) Avalon Hettler	28.9 5.3 7.3 37.7 16.6	A ΣA q Q	96.7 1.58 152			0	152	74.0 117	0	22.1 35										5.3 52.7			San [illegible] Ave	
		A ΣA q Q																						
		A ΣA q Q																						
S. Pedro	21.6	A ΣA q Q	21.6 1.70 37			0	37	21.6 37	0	0				37	.0043		90/62 Xf=0	350	170	44.1			In Avalon Blvd. San Pedro & Jefferson	
Jeff. of (460) Stanford	21.6 3.0 5.9 30.5	A ΣA q Q	30.5 1.68 51			0	51	30.5 51	0	0				51	.0045		90/62 Xf=0	270	120	2.0 46.1			35th St.	
35th of (461) Stiff. of	30.5 5.3 18.8	A ΣA q Q	40.8 1.66 81	5.8 1.38 8		0	89	41.6 69	0	12.1 20				69	.0042		90/62 Xf=0	270	200	1.4 47.5			36th St.	
36th of (462) Griff. of	41.6 6.2 15.4	A ΣA q Q	57.0 1.63 93	6.2 1.35 8		0	101	61.9 101	0	0				101	.0042		90/62 Xf=0	300	220	1.4 48.9			37th St.	
37th of (500) Griffin	61.3 6.0 12.7	A ΣA q Q	74.6 1.61 120	6.0 1.38 8		0	128	79.5 128	0	0				128	.0042		90/62 Xf=.3	300	240	1.4 50.3			38th St	
38th (501) Griffin	79.5 5.4 24.4	A ΣA q Q	103.9 1.59 165	5.4 1.32 7		0	172	70.4 112	0	37.7 60				112						1.3 51.6			Santa Barbara Ave	
		A ΣA q Q																						
		A ΣA q Q																						
		A ΣA q Q																						

CHECKED BY L.F.M. DRAWN BY J.S.S. DESIGNED BY W.L. HICKS

APPROVED March 6, 1939 — ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 32 OF SHEETS

Drainage Area No.	Acres		1.80 100%	1.08		Q S.D.	Q Surf.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
(187)(134)	8.7	A																	ft/min				In Stanford		1
9th of Gladys of Towne of	6.3 ac. 34.6 11.2 60.8	ΣA q Q	60.8 2.72 166			See Remark		60.8 166	0	0				166	.0045		30/36 Xf=0	360	280	15.1			(Olympic) 9th St.	Tc .1651 Gladys of Storm Drain Extend to Cap at 8th St.	2
Olympic of	60.8	A																		1.3					3
(182) Towne of	5.9 3.0 69.7	ΣA q Q	69.7 2.64 184			0		69.7 184	See Remarks	0				184	.0045		30/36 Xf=0	340	295	16.4			10th St.	Acc. 158 (...) Flow into Sani. Sewer in 10th St.	4
10th of	69.7	A																		1.2					5
		ΣA q Q	69.7 2.65 178			0		69.7 178	See Remarks	0				178	.0043		33/36 Xf=0	330	300	17.6			11th St.	Acc. 241 (...) Flow into Sani. Sewer in 11th	6
11th of (176)	69.7	A																		1.1					7
	5.0 4.6 79.3	ΣA q Q	79.3 2.48 197			0		55.3 137	24.0 60	0				197	.0042		30/36 Xf=0	340	270	18.7			12th St.		8
12th of	55.3	A																		1.3					9
		ΣA q Q	55.3 2.40 133			0		42.0 101	13.3 32	0				101	.0027		33/36 Xf=.4	310	200	26.0			Pico Blvd		10
Pico of	42.0	A																		1.6					11
		ΣA q Q	42.0 2.32 98			0		0	33.5 78	8.5 20				0						27.6			14th St.		12
		A																							13
		ΣA q Q																						Tc = Griff of 18 29.5 + 4.9 = 34.4	14
Griffith	12.5	A																							15
		ΣA q Q	12.5 1.90 24			0		8.4 16	0	4.1 8				16	.0020		59/34 Xf=.06	350	140	34.4			18th St.		16
18th St (281) Griff. of	81.4	A																		2.5					17
	6.0 67.0 81.4	ΣA q Q	81.4 1.84 150			0		36.4 67	0	45.0 83				67	.0040		54/34 Xf=0	380	300	36.3 36.8			Washington Blvd	Griff. Tc = 32.8 inc. 4 36.8	18
Wash of (299)	81.4	A																		1.3					19
Griff. of	6.0 15.8 58.2	ΣA q Q	58.2 1.82 106			0		40.7 74	0	17.5 32				74	.0032		54/34 Xf=0	355	195	38.1			20th St.		20
20th of (303)	40.7	A																		1.6					21
	5.6	ΣA q Q	40.7 1.78 72	5.6 1.48 8		0	80	30.9 55	0	14.0 25				55	.0033		50/36 Xf=0	360	220	39.9			21st St.		22
21st of	30.9	A																		1.6					23
(322) Griff.	5.7 12.5 43.4	ΣA q Q	43.4 1.75 76	5.7 1.46 8		0	84	34.3 60	0	13.7 24				60	.0053		54/36 Xf=.1	335	250	41.5			22nd St.		24
22nd of	34.3	A																		1.3					25
(320)	5.4	ΣA q Q	34.3 1.72 59	5.4 1.43 8		0	67	26.7 46	0	12.2 21				46	.0035		54/36 Xf=.1	320	200	42.8			23rd St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.E.M. DRAWN BY J.E.S. DESIGNED BY ... APPROVED March 1, 1940 ... ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 33 OF SHEETS DATE............

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.20 100%	1.08 60-2		Q S.D	Q Surf.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
23rd OF	26.7	A																		1.6			En Stanford		1
(342)	4.9	ΣA q Q	26.7 1.70 45	4.9 1.41 7		0	52	23.0 39	0	3.7 13				39	.0030		59/34 Xf=.1	320	180	44.4			24th St.		2
24th OF	23.0	A																		1.8					3
		ΣA q Q	23.0 1.68 39			0	39	12.5 21	6.5 11	4.0 7				21	.0022		51/34 Xf=0 R=8.7	355	135	46.2			25th St.		4
25th OF	12.5	A																		2.6					5
		ΣA q Q	12.5 1.64 20			0	20	0	6.8 10	6.2 10										48.8			Adams Blvd.		6
San Pedro	6.1	A																							7
(407)	12.2 18.3	ΣA q Q	18.3 1.81 33			No Q To Ex S.D.	33	18.3 33	0	0				33	.0026		60/40 Xf=0	330	160	38.7		Tc=38.7 at San Pedro	31st St		8
31st OF	18.3	A																		2.1					9
(417) (418) San Pedro	4.6 5.4 2.8	ΣA q Q	21.1 1.77 37	10.0 1.47 15		"	52	29.4 52	0	0				52	.0017		64/40 Xf=0	335	160	40.8			32nd St.		10
32nd OF	29.4	A																		2.1					11
		ΣA q Q	29.4 1.72 51			"	51	15.1 26	8.7 15	5.6 10				26	.0054		67/40 Xf=0 R=7.5	340	190	42.9			33rd St.		12
33rd OF	15.1	A																		1.8					13
		ΣA q Q	15.1 1.70 26			0	26	5.9 10	0	9.2 16										44.7			Jefferson Blvd.		14
		A																							15
		ΣA q Q																							
		A																							16
		ΣA q Q																							17
		A																							18
		ΣA q Q																							19
		A																							20
		ΣA q Q																							21
		A																							22
		ΣA q Q																							23
		A																							24
		ΣA q Q																							25
																									26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 34 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1/30 100%			Q S.D.		Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																	ft/min				En Crocker St.		1
		ΣA q Q	4.41					6.3 ac 28						28	.0037		60/40	600	185	5.0			8th St.		2
90% of	6.3	A																		3.2					3
(134)	5.5 11.8	ΣA q Q	11.8 3.53 42			See Remarks		3.5 ac 12	8.3 ac 30	0				12	.0044		60/40 X/1=3	330	150	8.2			Olympic. 9th St.	S.D. in Olympic filled to cap. by Previous Comp.	4
Olympic of	9.5	A																		2.2					5
(150)	3.6 7.1	ΣA q Q	7.1 3.18 23			See Remarks line 4		7.1 ac 23	0	0				23	.0026		60/40 X/1=1	350	140	10.4			9th pl.		6
9th place	7.1	A																		2.5					7
		ΣA q Q	7.1 2.92 21			0		5.5 ac 16	0	1.6 ac 5				16	.005		60/40 X/1=0	770	170	12.9			10th St.		8
10th of	5.5	A																		4.5					9
(175) Towne of	5.2 2.6 13.3	ΣA q Q	13.3 2.56 34			0		0	0	13.3 ac 34										17.4			12th St.		10
		A																							11
		ΣA q Q																							12
		A																					In Towne Ave.		13
		ΣA q Q	4.41			0		6.3 ac 26						28	.0047		60/40 X/1=2	600	180	5.0			8th St.		14
8th of	6.3	A																		3.8					15
(135) Quarter of	4.2 8.3 18.8	ΣA q Q	18.8 3.54 67			0		7.6 ac 27	11.2 ac 40	0				27	.0029		60/40 X/1=4	640	165	8.3			Olympic 9th St.		16
9th st of	7.6	A																		3.9					17
(151)	4.6 12.2	ΣA q Q	12.2 2.99 37			0		7.2 ac 22	5.0 ac 15	0				22	.0028		60/40 X/1=4	730	160	12.2			10th St.		18
10th of	2.2	A																		4.6					19
		ΣA q Q	7.2 2.60 19			0		0	4.6 ac 12	2.6 ac 7										16.8			12th St.		20
		A																							21
		ΣA q Q																							22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

CHECKED BY L.F.M. DRAWN BY A.S.S. DESIGNED BY M.E. HICKS APPROVED March 1, 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 35 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.08 60-2		C S.D.	C Surf.	P South	P West	C East	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
Stanford.	33.5	A																					In Griffith Ave.		1
Palms OF	19.0 52.5	ΣA q Q	52.5 2.37 125			0		52.5 125	0	0				125	.0023		69/40 hf=0	360	225	22.7			14th St	Tc = 21.6 Stanford. 1.1 inc. 22.7	2
14th OF	52.5	A																		1.7					3
13.F (259) (255)	4.8 3.3 60.6	ΣA q Q	60.6 2.21 134			360-340 20		51.7 114	0	0				114	.0015		69/40 hf=0	540	195	24.4			14th Pl.		4
14th pl.	51.7	A																		2.8					5
(67) (6?)	2.9 3.3 57.9	ΣA q Q	57.9 2.10 122			0		57.9 122	0	0				122	.0022		69/40 hf=0	275	230	27.2			16th St.		6
16th OF	57.9	A																		1.2					7
		ΣA q Q	57.9 2.05 120			0		41.5 85	16.4 35	0				85	.0022		57/40 hf=0	225	205	28.4			17th St.		8
17th OF	41.5	A																		1.1					9
		ΣA q Q	41.5 2.03 84			0		29.0 59	12.5 25	0				59	.0033		64/40 hf=0	250	200	29.5			18th St.	No flow East [illegible]	10
18th OF	29.0	A																		1.8					11
(282) Paloma OF	2.9 93.8 125.6	ΣA q Q	126.6 1.94 244			24-15 9	235	54.2 105	67.0 130	0				105	.0075		79/46 hf=.1	370	200	31.3 32.8			Washington Blvd.	Tc = 30.5 Paloma. 2.3 32.8	12
Kech OF	54.2	A																		1.2					13
(300)	8.8 63.0	ΣA q Q	63.0 1.91 120			24-24 0	120	47.2 90	15.8 30	0				90	.0049		79/46 hf=0	365	240	34.0			20th St		14
20th OF	47.2	A																		1.5					15
(304)	8.6	ΣA q Q	47.2 1.87 88	8.6 1.56 13		24-24 0	101	54.1 101	0	0				101	.0052		79/46 hf=0	[illegible]	260	35.5			21st St		16
21st OF	54.1	A																		1.4					17
(322)	7.8 2.5 56.6	ΣA q Q	58.6 1.84 104	7.8 1.53 12		24-24 0	116	50.5 93	12.5 23	0				93	.008		79/46 hf=0	330	225	36.9			22nd St		18
22nd OF	50.5	A																		1.1					19
(331)	7.2	ΣA q Q	50.5 1.82 92	7.2 1.51 11		28-24 4	99	54.4 99	0	0				99	.0025		79/46 hf=0	320	260	38.0			23rd St		20
23rd OF	54.4	A																		1.2					21
(346)	6.2	ΣA q Q	54.4 1.79 97	6.2 1.49 9		34-28 6	100	55.9 100	0	0				100	.0052		79/46 hf=0	360	260	39.2			24th St		22
24th OF	55.9	A																		1.4					23
(352) (354) Stanford.	4.9 6.4 6.5 72.4	ΣA q Q	62.4 1.77 111	11.3 1.47 17		40-34 6	122	68.9 122	0	0				122	.004		79/46 hf=.2	[illegible]	290	40.6			[illegible]		24
25th OF	68.9	A																		1.2					25
(363) Stanford.	5.9 6.3 75.2	ΣA q Q	75.2 1.74 131	5.8 1.45 8		53-57 -4	143	59.2 103	0	28.0 40				103	.0026		79/46 hf=.3	370	220	41.6			Adams Blvd.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

DESIGNED BY T.L. HICKS CHECKED BY L.F.M. DRAWN BY J.S.S. APPROVED March 4, 1940 [illegible signature] ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

DESIGNED BY E.L. HICKS — DRAWN BY J.S.S. — CHECKED BY L.F.M. — APPROVED March 1, 1940 — [illegible signature] ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET No. 36 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.08 60-Z		Q SD	Q Sect	Q South	Q West	Q East	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC(R)	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
Adams OF	59.2	A																	H/main	1.7			In Griffith Ave		1
(375)	6.0	ΣA q Q	59.2 1.72 102	6.0 1.42 9		64-55 9	102	42.5 73	0	16.9 29				73	.0034		7/46 Hf=.3	370	210	43.5			27th St.		2
27th OF	42.5	A																		1.8					3
(387)	3.8	ΣA q Q	42.5 1.69 72	5.8 1.40 8		63-67 2	78	35.5 60	0	10.7 18				60	.0034		7/46 Hf=.4	380	190	45.3			28th St.		4
28th OF	35.5	A																		2.0					5
(412) Adams OF	6.1 118.5 154.0	ΣA q Q	154.0 1.66 256	6.1 1.38 8		60-60 0	264	159.0 264	0	0				264	.0095		7/46 Hf=.2	400	450	47.3 47.5			29th St	Use Palms. Tc = 47.5	6
29th OF	159.0	A																		0.8					7
(408)	10.4 169.4	ΣA q Q	169.4 1.64 278			60-60 -20	298	181.5 298	0	0				298	.0042		70/46 Hf=0	300	360	48.4			31st St		8
31st OF	181.5	A																		0.8					9
(419)	5.2	ΣA q Q	181.5 1.62 294	5.2 1.35 7		18-40 -22	323	199.3 323	0	0				323	.0032		70/46 Hf=0	260	360	49.2			32nd St.		10
32nd OF	199.3	A																		0.7					11
(430) (431) Stanford	5.2 3.3 8.7	ΣA q Q	208.0 1.61 335	8.5 1.34 11		122+22 0	346	215.0 346	0	0				346	.0028		74/46 Hf=.2	340	340	49.9			33rd St.		12
33rd OF	215.0	A																		1.0					13
(446) (440)	5.5 6.7 227.2	ΣA q Q	227.2 1.60 364			0	364	70.8 114	0	250	211 Palomar — 39 McKinley			132.0 24.4	Ac. Ac.					50.9			Jefferson Blvd.		14
Jeff. OF	70.8	A																							15
		ΣA q Q	70.8 1.60 114			0	114	52.5 84	18.3 30	0				84	.0044		7/40 Hf=.1	300	245	50.9			36th St.		16
36th OF	57.5	A																		1.2					17
		ΣA q Q	57.5 1.59 84			0	84	37.1 59	15.4 25	0				59	.0044		67/40 Hf=.1	300	220	52.1			37th St.		18
37th ST	37.1	A																		1.4					19
		ΣA q Q	37.1 1.57 58			0	58	24.4 38	12.7 20	0				38	[illegible]		54/40 Hf=0	300	190	53.5			38th St.		20
38th OF	24.4	A																		1.6					21
		ΣA q Q	24.4 1.65 38			0	38	0	24.4 38	0										55.1			Santa Barbara Ave	No Flow to Exp. Due to Depth of Flow in Paloma.	22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 37 OF SHEETS DATE............

Drainage Area No. (1)	Acres (2)	(3)	1.30 100% (4)	(5)	(6)	Q S.D. (7)	Surf. Q (8)	Q South (9)	Q East (10)	Q West (11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC√R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)	(26/27)
Central of (257)	2.3 3.6 5.9	A ΣA q Q	 5.9 3.06 18			0		5.9 18	0	0				18	.0021		60/40 1f=0	540		11.6			In Essex. 14th Pl.	Using R = 8.7 14th pl of Central inc. 2.86.	1 2
																				4.5					3
14th pl of (263) (264) Central of Paloma	5.9 4.6 4.7 2.7 23.1	A ΣA q Q	 41.2 2.25 93			400-400 0		41.2 93	0	0				93	.001½		[illegible] 1f=0	500	190	16.1 23.5	.60		16th St	Paloma tc = 25.9 2.6 28.5	4
																				2.6					5
16th of (278) Central	41.2 4.2 3.0 48.4	A ΣA q Q	 48.4 2.14 104			0		41.6 89	0	7.0 15				89	.001½		33/40 Vf=0	350	190	26.1			18th St		6
																				1.8					7
18th of (284) Central	41.6 2.9 3.9 48.4	A ΣA q Q	 48.4 2.08 101			10-15 5		0	0	46.8 96										27.9			Washington Blvd.		8
		A ΣA q Q																							9
Stanford of (246)	24.0 11.9 35.9	A ΣA q Q	 35.9 2.39 86			0		35.9 86	0	0				86	.0043		60/40 1f=0	350	245	20.4	.80	Hwy #[illegible] tc's 10.0 min.	In Paloma St 12th St	Stanford tc = 18.7 inc = 4.5 23.2	10 11 12
																				1.4					13
12th of (240) (241) Stanford	35.9 6.0 7.1 13.[illegible] [illegible]	A ΣA q Q	 62.3 2.24 139			0		62.3 139	0	0				139	.0036		[illegible] 1f=0	3[illegible]0	275	21.8			Pico Blvd		14
																				1.3					15
Pico of (249) (259)	62.3 5.6 7.1 75.0	A ΣA q Q	 75.0 2.31 174			0		56.0 129	0	19.0 45				129	.0037		[illegible] 1f=0	350	255	22.1			14th St		16
																				1.5					17
14th of (255)	56.0 3.4 59.4	A ΣA q Q	 59.4 2.24 133			380-360 20		50.4 113	0	0				113	.0021		60/40 Vf=0	540	220	23.6			14th Pl.	No flow to west. Equal Dip ll.	18
																				2.5					19
14th pl (262)	50.4 4.6 55.0	A ΣA q Q	 55.0 2.15 118			400-360 20	98	29.7 64	15.8 34	0				64	.0033		[illegible]	[illegible]	210	26.1			16th St		20
																				2.4					21
16th of (276) (277) Essex of	20.7 4.1 4.1 16.[illegible] 44.9	A ΣA q Q	 44.9 2.05 92			0		44.9 92	0	0				92	.0013		54/40 [illegible]	240	170	28.5			18th St.		22
																				2.6					23
18th of (283) Essex of	44.9 2.7 46.2 93.8	A ΣA q Q	 93.8 2.00 188			15-15		0	0	93.8 188										30.5			Washington Blvd		24
		A ΣA q Q																							25 26 27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

DESIGNED BY H.L.[illegible]

DRAWN BY J.S.B.

CHECKED BY L.F.M.

APPROVED March 1, 1940

[illegible signature]

ENGINEER OF S.D. DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 37 OF SHEETS

Line	Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/VR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks
1–2			A / ΣA / q / Q	ADAMS BLVD														
3–4			A / ΣA / q / Q		1.33				.0051		R. 92.5 R1 : 55.5 V : 6.6 2	460					IN ADAMS AT GRAND	
5–6			A / ΣA / q / Q		"				.0013		R. 92.8 R1 : 17.5 V 2	190					AT HOPE	
7–8			A / ΣA / q / Q		"				.0013		R. 92.9 R1 : 53.5 V : 6.6 2	190					AT PALM DR.	
9–10			A / ΣA / q / Q														AT FLOWER	
11–12			A / ΣA / q / Q	SAN JULIAN ST. - OLYMPIC to 15th ST.														
13–14			A / ΣA / q / Q		1.33				.0045		R : 65 R1 : 41 V : 3.0 4	480					IN SAN JULIAN AT OLYMPIC	
15–16			A / ΣA / q / Q		"				.0044		R 60 R1 : 40 V : 6.1 4	660					AT 11th ST.	
17–18			A / ΣA / q / Q		"				.0045		R 60 R1 : 40 V : 6.1 4	420					AT 12th ST.	
19–20			A / ΣA / q / Q		"				.006		R 60 R1 : 40 V : 6.0 4	870					AT PICO BLVD.	
21–22			A / ΣA / q / Q														AT 15th ST.	
23–24			A / ΣA / q / Q															
25–26			A / ΣA / q / Q															
27	1	2	3	4 5 6 7 8 9 10 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY W.J. HUGHES · DRAWN BY J.S.B. · CHECKED BY L.F.B. · APPROVED March 1, 1940 · ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 61

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

DESIGNED BY W.I. HICKS — CHECKED BY L.F.E. — DRAWN BY J.S.S. — APPROVED March 1, 1940 — ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 35 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%	1.08 60-2		Q S.D.	Q Surf.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
Central	11.8	A																					In Palermo Ave		1
(368) Griff. of	6.9	ΣA	34.8	6.9													60/40							Tc = 33.5 Central	
	23.0	q	1.72	1.43		17-12		37.8									Xf=0				(84)			Tc = 45.2 Griff.	
	34.8	Q	60	10		5	65	65	0	0				65	.0065			350	270	43.2			Adams Blvd		2
Central of	9.2	A																		1.3					3
(376) (377)	3.7 4.3	ΣA	23.9	8.0													60/40								
Griff of Adams of	16.9	q	1.70	1.41		2-0		69.5									Xf=0								
	37.8	Q	109	11		2	118	118	0	0				118	.0024			370	250	44.5			27th St		4
27th of	69.5	A																		1.6					5
(388) (389)	3.6 4.8	ΣA	86.5	8.4													60/40								
Central Relief	6.3	q	1.68	1.39		9-0		91.6									Xf=0								
	10.7	Q	145	12		9	154	154	0	0				154	.0032			380	275	46.1			28th St.		6
28th of	91.6	A																		1.4					7
(401) (402)	3.8 5.6	ΣA	111.0	5.4																				Assume no Flow S into Alley	
Central of	19.4	q	1.66	1.38						118.6															
		Q	184	13		0	197	0	0	197										47.5			29th St.	Flow to West into Griffin Ave.	8
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.M. | DRAWN BY J.S.S. | DESIGNED BY [illegible] | APPROVED March 1, 1939 | [signature] ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY   TABLED BY   CHECKED BY   SYSTEM   DESIGN CURVE   YEAR   SHEET NO. 59 OF   SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities: 1.30 / 100%			S.D. / Q		Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																	ft/min				In Central Ave		1
		ΣA q Q													.005		59/56 xf=.1	210					Olympic Blvd.		2
		A																							3
		ΣA q Q													.0046		80/56 xf=.2	230					10th St		4
		A																							5
		ΣA q Q													.0045		59/56 xf=.3	300					11th St		6
		A																							7
		ΣA q Q													.0021		80/56 xf=.15	360					12th St		8
		A																							9
		ΣA q Q																					Pico Blvd		10
		A																							11
(251)	6.9	ΣA q Q	6.9 3.94 27			0		6.9 27	0	0				27	.0044		80/56 xf=.15	380	170	6.5			14th St	Area (251) 6.9 [illegible] S=.0075 tc=6.5	12
14th of (258)	6.9	A																		2.3					13
	3.0 9.9	ΣA q Q	9.9 3.47 34			0		7.6 26	0	2.3 8				26	.0029		84/56 xf=.2	530	150	8.7			14th Pl.		14
14th Pl. (266)	7.6	A																		3.5					15
	2.1 9.7	ΣA q Q	9.7 3.00 29			0		7.0 21	0	2.7 8				21	.0038		80/56 xf=.1	500	150	12.2			16th St.		16
16th of (279) (288)	7.0	A																		3.3					17
	2.4 2.6 11.9	ΣA q Q	11.9 2.70 32			0		8.9 24	0	3.0 8				24	.0038		80/56 xf=.2	340	160	15.5			18th St		18
18th of (316)	8.9	A																		2.1					19
	2.9 11.8	ΣA q Q	11.8 2.54 30			3.9 10		4.0 10	0	3.3 10				10	.0038		80/56 xf=0	350		17.6			Washington Blvd		20
Wash. of (301)	4.0	A																		2.2					21
	2.9 6.9	ΣA q Q	6.9 2.42 17			0		6.9 17	0	0				17	.0050		80/56 xf=.1	370	V calculated by [illegible]	19.8			20th St (W)		22
20th of (305)	6.9	A																		2.0					23
	2.7 9.6	ΣA q Q	9.6 2.36 23			0		9.6 23	0	0				23	.0050		80/56 xf=.1	360		21.8			21st St (W)		24
21st of (322)	9.6	A																		1.6					25
	4.9 14.5	ΣA q Q	14.5 2.25 33			0		12.0 27	0	2.5 6				27	.0072		80/56 Xf=.1	690		23.4			22nd St (W)		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE............ SHEET NO. 40 OF SHEETS

Drainage Area No.	Acres		1.30 100%	1.08 60-2		Q S.D.	Q Surf.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
27d OF	12.0	A																		3.04			In Central Ave		1
[illegible] [illegible]	7.8 8.4 28.2	ΣA q Q	12.0 2.14 26	16.2 1.77 29		10-0 10	45	21.0 45	0	0				45	.0059		84/56 XFs.1	316	2.20	26.4			24th St	No flow West approx. equal depth of flow.	2
24th OF	21.0	A																		1.5					3
(355)	8.0	ΣA q Q	21.0 2.08 44	8.0 1.73 14		10-10 0	58	27.9 58	0	0				58	.0068		80/56 XFs.1	365	2.30	27.9			25th St (W)		4
25th OF	27.9	A																		1.6					5
(365)	8.2	ΣA q Q	27.9 2.03 57	8.2 1.69 14		12-10 2	69	22.2 65	0	11.8 24				45	.0031		84/56 XF=.2	389	1.70	29.5			Adams Blvd		6
Adam OF	22.2	A																		2.3					7
(378)	7.4	ΣA q Q	22.2 1.96 44	7.4 1.63 12		5-0 5	51	16.8 33	0	9.2 18				33	.0021		84/56 XF=.5	374	1.40	31.8			27th St		8
27th OF	16.8	A																		2.7					9
(390)	5.6	ΣA q Q	16.8 1.90 32	5.6 1.58 9		5-5 0	41	15.3 29	0	6.3 12				29	.0012		84/56 XF=.6 A=15.4	398	1.10	34.5			28th St		10
28th St	15.3	A																		3.6					11
(403)	4.1 19.4	ΣA q Q	19.4 1.82 35			5-5 0	35	0	0	13.4 35										38.1			29th St		12
		A																							13
		ΣA q Q																							14
		A																							15
		ΣA q Q																							16
		A																							17
		ΣA q Q																							18
		A																							19
		ΣA q Q																							20
		A																							21
		ΣA q Q																							22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY W.J. HICKS DRAWN BY J.E.S. CHECKED BY L.F.M.

APPROVED March 1, 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE............ SHEET NO. 41 OF SHEETS

Line	Drainage Area No.	Acres	(4) 100 100%	(5)	(6)	(7) SD Q	(8)	(9) Q South	(10) Q East	(11) Q West	(12) 1 Hr. R.F.R.	(13) Dist. Factor Fig. 3	(14) Amend 1 Hr. R.F.R.	(15) Σ Q's	(16) Fric. Slope	(17) ACVR	(18) Pipe Size	(19) Pipe Length	(20) V	(21) t_c	(22) Factor F Fig. 6	(23) Station	(24) S.D. Locations	(25) Remarks
1																			ft/min				In Kohler	
2			4.41					9.5 ac 42						42	.0006		64/40	570	125	5.0			8th St.	
3	8th of 139.	9.5 / 9.3 / 18.8	18.8 3.24 62			See Remark		0	0	18.8 ac. 63										4.6				
4																				3.5			Olympic.	Storm D. Filled To Cap At. 8th St.
5																								
6																								
7																							In Olympic	
8										18.8 ac 63				63.	.001		80/56	440	125	9.5			Kohler St.	
9	Kohler of 18.8 (139) Gladys of	18.8 / 6.3 / 9.5 / 34.6	34.6 2.91 101			See Remarks		0	0	34.6 ac. 101										8.5				
10														101	.001		80/56	220	150	13.0			Gladys	Storm Drain Filled To Cap. At. 8th
11																				2.1				
12																				15.1			Stanford.	
13																								
14																								
15																							In Gladys.	
16	8th. of	9.5	4.41					9.5 42						42	.0028		60/40	600	170	5.0			8th	
17			9.5 3.49 33					0	0	9.5 ac. 33										3.5				
18																				8.5			Olympic.	
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								

TABLE SHEET—RUNOFF INSTRUCTIONS—1939

CHECKED BY L.F.M. DRAWN BY J.E.S. DESIGNED BY W.I. HICKS APPROVED March 1, 1939 ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET — BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY   TABLED BY D.T.B. CHECKED BY   SYSTEM   DESIGN CURVE   YEAR   SHEET NO. 42 / 7 OF   SHEETS   DATE............

See Tapley Drainage Map #1

Drainage Area No.	Acres		1.37 / 160%	60-2		Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
		A				Linden				+7.7A													In Linden St		1
¼ ①	7.7	ΣA q Q	4.46			7 8th St. 570+8	0	-3.0A -13.2	-2.9A -13.1	(8)5.0 +26.3				16.9	.0019	303	60' 4×3.0	570	12.2	5.0			8th St.	Drains in ...	2
8th O.F.	3.8	A					+3.8 .8													4.7					3
⑧⑨⑩	.8 1.5 1.3	ΣA q Q	3.33				1.5 1.3 16.8A (-7)5.0 +18.6	0	-4.7A -15.6	0 0										9.7			Olympic Blvd.		4
		A ΣA q Q																							5
¼ of ①	7.7	A				8th St.				+2.9 5.7															6
Linden O.F.	2.9	ΣA q Q	4.46			570 +8 578	0	4.4A -19.7	-4.4A -19.6	18.6A (8)5.0 +39.3				19.7	.0022		65	570	13.6	5.0			In Hemlock 8th St.		7 8
8th O.F.	4.4	A																		4.2					9
⑫⑬㉓	1.2 1.5 1.4	ΣA q Q	3.41				+4.4 1.2 1.5 7.1A +24.2	0	-13.2A -45.0	+4.7A 1.4 +6.1A +20.8			Ridge		.0043		65	420		9.2			Olympic Blvd		10
		A ΣA q Q																					12th St.		11 12
		A ΣA q Q																							13 14
¼ of ①	7.7	A						-17.7A	+7.7 1.2	+4.4 +7.7 1.2													In Birch St.		15
⑩⑪ Hemlock O.F.	7.7 1.2 1.2 4.4	ΣA q Q	4.46					-79.0	+8.9A (-16)5.0 +39.7 +23.7	13.3A (+4)5.0 59.3 +55.3				79.0	.0038		65	570	21.0	5.0			8th St.		16
8th O.F.	12.7	A					+17.7 3.0			+1.2 13.8										2.7					17
⑲⑳㉑ Hemlock O.F.	3.0 1.5 1.2 13.8	ΣA q Q	3.68				1.5 22.2A +81.7	-20.5A -75.3	-16.1A -59.4	+14.4A +53.0				75.3	.0023		65	680	19.0	7.7			Olympic Blvd		18
Olympic O.F.	20.5 1.7	A					+20.6 1.7			+2.0 7.7										3.6					19
⑬⑭㉒㉓	1.9 2.8 1.9	ΣA q Q	3.12				1.9 22.1A +69.0	-15.3A +47.7	-11.5A -36.0	+4.7A +14.7				47.7	.00194		65	680	12.5	11.3			12th St.		20
Olympic O.F.	15.3	A					+15.5													5.4					21
㉖	1.8	ΣA q Q	2.78				+1.8 17.1A +47.6	0	-9.4 -26.2	— —										16.7			14th St.		22
		A ΣA q Q																							23
		A ΣA q Q																							24 25
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26 27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY E.L. HICKS   CHECKED BY L.F.M.   DRAWN BY J.S.S.

APPROVED March 1, 1940

[signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE............

SUPERVISED BY TABLED BY D.T.B. CHECKED BY SYSTEM DESIGN CURVE YEAR 43 SHEET NO. 2 OF SHEETS

Drainage Area No.	Acres		1.31 100%	1.27 80-2	60-2	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A					+0	0	0	0													In Naomi Ave.		1
		ΣA q Q													.0067		65	570					8th St.		2
(11) (12)	1.5 1.3+	A					1.5 1.3		+1.6 1.3	+1.2 16.1															3
(13) (26) Birch O.F.	1.6 1.3 1.8 16.1	ΣA q Q	3.86				2.8 (8) S.D. +7.3	+15.9A -61.6	+2.9 (10) S.D. 0	+12.5 (8) S.D. +58.8				61.6	.0052		65	340	225	6.9			Olympic Blvd	tc from Table 3	4
Olympic O.F.	15.9	A					+15.9A		+1.4 1.6	0										1.5					5
(14) (15)	1.4 1.6	ΣA q Q	3.54				+56.4	-18.9A -67.0	9.0 A +10.6	0				67.0	.0017		65	340	170	8.4			10th St.		6
10th St. O.F.	18.9	A					+18.9 1.9			+11.5										2.0					7
Birch O.F. (12) (25)	11.5 1.9 1.1	ΣA q Q	3.22				+20.8A +67.0	-17.7A -57.1	-15.7A -50.5	1.1 12.6A 40.6				57.1	.0015		65	590	144	10.4			12th St.	Δ tc to Hooper Ave. = 3.2 min. tc at Hooper & 12th 13.6 min.	8
12th St. O.F.	17.7	A					+17.7	0	-28.9	+9.4A										4.1					9
(27) Birch O.F.	1.8 9.4	ΣA q Q	2.93				1.8 9.4 28.9 81.0	0	-31.0	26.3										14.5			14th St.		10
		A																							11
		ΣA q Q																							12
		A																					In Naomi Ave.		13
(23)	1.0 1.9	ΣA q Q / A					+1.0	-1.3	0	+1.9					.0110		65	240					16th St.		14
		ΣA																							15
		q Q	3.48			296 +6 302	+3.9	(6) S.D. -8.3	0	+7.4				5.3	.0026		65	280	115	6.7			17th St.	S = .0069 tc = 6.7 min. (Tab. 3 ...)	16
17th O.F. (26)	1.3 3.2	A					+1.3	-.9	0	+3.2										2.4					17
		ΣA q Q	3.43			302 +4.5 +8 314.5	(4.5) S.D. 0	-3.0	0	(8) S.D. +3.0				3.0	.0021		65	300	110	9.1			18th St.		18
18th O.F. (49) (63)	6.9 3.6 1.9	A					+6.9	-1.4	-1.5	+3.6 +1.9 +6.8										2.7					19
		ΣA q Q	3.07			314.5 +2.8 +5.6 323.3	(2.8) S.D.	-4.4	-4.5	(8) S.D. 8.9				4.4	.0054		65	300	130	11.8			Washington Blvd		20
Wash. O.F.	1.4	A					+1.4		+3.1	+1.7										2.3					21
(65) (61)	1.7 (80-2) 5.1	ΣA q Q	2.87			323.3 +7.6 +4.8 341.7	(4) S.D. 0	-2.3 -6.4	(8) S.D. +6.4	(4.8) S.D. 0				6.4	.0046		65	260	135	14.1			Walnut St.		22
Walnut O.F. (37)	2.3 2.3 1.8	A					+2.3	-.7A	-.7A	+2.8 1.8 4.6										1.9					23
		ΣA q Q	2.69			341.7 +6.2 7.5 355.4	(6.2) S.D.	-2.0	-1.4	(8) S.D. +4.4					.0015		65	360		16.0			20th St.		24
20th O.F.	0.7	A															60								25
		ΣA q Q												0	.0020			340					21st St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET — RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.M.

DESIGNED BY W.I. HICKS

DRAWN BY J.E.S.

APPROVED March 1, 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.M.

DESIGNED BY W.I. NICKS — DRAWN BY J.S.S.

APPROVED March 1, 1940 — ENGINEER OF ... DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY — TABLED BY D.T.B. — CHECKED BY — SYSTEM — DESIGN CURVE — YEAR — SHEET NO. 45 OF — SHEETS — DATE ....

Drainage Area No. (1)	Acres (2)	(3)	1.21 / 100' (4)	1.13 (5)	1.41 (6)	Q S.D. (7)	Q North (8)	Q South (9)	Q East (10)	Q West (11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC/R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)	(27)
		A					0				1957. 1.31												In Hooper Ave		1
		ΣA q Q					0							0	.0046		60	630					8th St.		2
		A					0																		3
		ΣA q Q					0							0	.0058		70	350					Olympic Blvd.		4
		A																							5
		ΣA q Q					0							0	.0047		70	350					10th St.		6
(16)	1.8	A					0	-17.5A	0	+1.8A 15.7															7
Naomi O.F.	15.7	ΣA q Q	2.88				0	-50.5	0	17.5A +50.5				50.5	.0149		70	470	195	13.6			12th St.	From Sh. 2 - Line 8	8
½ (28)	3.4	A					+3.4 17.5	-53.7A	+2.5A	+3.5 28.9										2.4					9
12th O.F. (29) (30)	3.5 17.5 2.5 1.9 28.9	ΣA q Q	2.69				1.9 22.8A +61.3	-155.2	+6.7	+32.4A +87.2				155.2	.0012		70	320	220	16.0			14th St.		10
14th O.F.	52.7	A					+57.7A	+60.8	+3.1 2.0	+6.0										1.5					11
(31) (32) (35)	3.1 8.0 2.0	ΣA q Q	2.58				149	-182.8	5.1 +13.2	+20.6				182.8	.0080		70	340	300	17.5			Newton St. (N)		12
Newton O.F. (34)	60.8 2.0	A					+60.8	-83.0	+2.9	+5.0										1.1					13
(36) (39) (41)	2.4 1.3 5.5	ΣA q Q	2.52				+173.5	-209.2	1.3 +3.7 +9.3	3.5 +10.5 +26.4				209.2	.0023		70	370	250	18.6			15th St.		14
15th O.F. (45)	83.0 4.7	A					+83.0	-49.8A	-37.8	+4.7										1.5					15
		ΣA q Q	2.42				201	-121.1	-91.3	+11.4				121.1	.0035		60	200	265	20.1			16th St.		16
16th O.F. (44)	+49.9 3.9	A					+49.9	-83.8	0	+3.9										.8					17
		ΣA q Q	2.39				+119	-128	0	+9.3				128	.0035		60	280	250	20.9			17th St.		18
17th O.F. (46)	+53.8 4.1	A					+53.8	-58.5	0	+47.[illegible]										1.1					19
		ΣA q Q	2.33				+125.4	-136.4	0	+11.0				136.4	.0029		60	300	260	22.0			18th St.		20
18th O.F. (48) Naomi O.F.	+58.4 5.1 1.5	A					+58.4	-35.8	-25.9	+6.1										1.2					21
		ΣA q Q	2.28			+7	(4) S.D. +189	-91.7	-59.3	1.5 16.6 (3) S.D. +18.0				91.7	.0067		60	540	270	23.2			Washington Blvd.		22
Wash. O.F. (50)	+32.8 3.8	A					+35.8	-58.3	+3.8 +.4	+1.7 .4										2.0					23
.9 (53) (49) Naomi O.F.	(1.0 (10-2)) 1.7 3.0 (40-2) .9	ΣA q Q	2.17			332.4 +.8 +.8 +1.7 337.1	(8) S.D. +70.4	-127.7	23.1 27.6 (8) S.D. 167.3	+2.4 (8) S.D. 0				127.7	.0032		70	350	240	25.2			20th St.		24
20th O.F.	+88.3 .4	A					+88.3 .4	-128	0	+.7 1.2										1.5					25
Naomi & 20th O.F. .7 (51) 1.5 (60-2) (58) 1.5 (72) 2.5 (73) 3.0 (72) 6.5 (81) 3.4 (70)	.4 .4 .4 3.4 (60-2)	ΣA q Q	2.14			337.1 2.2 2.8 381.1	.4 .4 [illegible] (12) S.D. +128.8	-141.0	0	2.5 [illegible] (8) S.D. 12.8				141.0	.0039		70	340	260	26.7			21st St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY D.T.B. CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 46 5 OF SHEETS

Drainage Area No.	Acres		q	5	6	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
31st O.F.	46.8	A					+46.8	-71.3		+2.5										1.4			In Hooper Ave.		1
	3.0 / 3.1	ΣA q Q	2.10			14.0	67.4 / +138.9	-149.9	+2.7	(2)5.0 / +8.7				149.9	.0031		70	360	260	28.1			22nd St.		2
22nd O.F.	71.3	A					+71.3	-77.0												1.5					3
	2.2 / 1.7 / 1.1	ΣA q Q	2.04				72.9 / +146.8	-156.3	(2)5.0 / 1.7	(2)5.0 / 7.8				156.3	[illegible]		70	310	265	29.6			23rd St.		4
23rd O.F.	77.8	A					+77.8	-75.3												1.2					5
		ΣA q Q	2.01			22	77.4 / 157.5	-171.4	+3.0	+8.9				171.4	.0055		70	350	320	30.8			25th St.		6
25th O.F.	75.3	A					+75.3	-85.9												1.1					7
	2.6 / 3.1	ΣA q Q	1.98			22	76.9 / 152.3	-164.6	+3.0	+9.3				164.6	.0021		70	370	255	31.9			Adams Blvd.		8
Adams O.F.	82.9	A					+82.9	-83.3		+1.9										1.0					9
	2.3	ΣA q Q	1.95			22	84.1 / (3)5.0 / 161	-162.4	(2)5.0 / 1.7	(3)5.0 / 1.7				162.4	[illegible]		70	310	270	32.9			27th St.		10
27th O.F.	83.3	A					+83.3	-85.8		+4.1										1.3					11
	1.41 / .41 / .9 / .7	ΣA q Q	1.92			40	84.9 / (4)5.0 / 159	-164.9	(2)5.0 / +1.0	(3)5.0 / +4.9		water ponds & flows over summit		-164.9	.0056		70	300 / 570	305	34.2			28th St.		12
28th O.F.	85.8	A					+85.8	-100.7	0	+2.0				Summit						1.9					13
	1.7 / 1.2 / 2.0	ΣA q Q	1.87			+40 / +57 / -17 / 80	(-17)5.0 / +160.3	-188.5	0	+6.0 / +11.2				188.5	[illegible]		70	160	315	36.1			33rd St. (W)		14
33rd O.F.	100.7	A					+104.7	-105.3	+4.6	0										.5					15
		ΣA q Q	1.86			57	+187.3	-195.9	+8.6	0				195.9	.0055		70	140	330	36.6			33rd St. (E)		16
33rd (E) O.F.	105.3 / 2.0	A					+115.3	-108.5	0	+4.6										.4					17
	2.0	ΣA q Q	1.86			0	+196.0	-202.0	0	+3.2 / +6.0				202.0	.0019		70	290	250	37.0			34th St.		18
34th O.F.	108.5 / 2.0	A					+108.5	-110.1	0	+1.6										1.2					19
	3.0	ΣA q Q	1.835				+199	-202.0	0	+3.0				202.0	[illegible]		70	280	250	38.2			35th		20
35th O.F.	110.1 / 3.0	A					+110.1	-109.6	0	+3.1										1.1					21
		ΣA q Q	1.81			+10 / 5.6 / 15.6	(10)5.0 / +189.3	-189.3	0	(5.6)5.0 / 0				189.3	.0029		70	360	270	39.3			Santa Barbara Ave.		22
Sa. Barbara O.F.	109.6	A					+109.6	-67.8	0	-34.1										1.3					23
		ΣA q Q	1.78			15.6 / 4.4 / 20	(44)5.0 / +181.8	-120.8	0	-61.0				120.8	.0024		[illegible]	330	215	40.6			40th Pl.		24
40th Pl. O.F. / Compton O.F.	67.8 / 47.9	A					+67.8 / 11.0	-70.6	+47.9	-70.6										1.5					25
	19.0 / 3.4	ΣA q Q	1.76			20 / 13 / 7 / 40	78.8 / (4)5.0 / +142.5	124.3	54.8 / (3)5.0 / +49.0	-124.6										42.1			41st St.	To Sh. 11-B	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY
CHECKED BY L.F.B.
DRAWN BY
APPROVED March 1, 1940
ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD
STORM DRAIN DIVISION
NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION 47 DATE..............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN - CURVE YEAR SHEET NO. 6 OF SHEETS

Drainage Area No.	Acres		Σ q/q	5	6	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
		A																					In Compton Ave		1
		ΣA q Q												—	.0244		70	610					12th St.		2
		A																							3
		ΣA q Q												—									14th St.		4
		A																							5
		ΣA q Q																							6
		A																					In Compton Ave		7
		ΣA q Q												—	.0057		60	450					15th St.		8
		A																							9
		ΣA q Q												—	.0030		65	150					16th St.		10
66, 35	2.5, 1.1	A				0	+2.5, 1.1	Compton -21.34	0	Tarleton -21.34															11
35, Mc'C Hooper O.F.	1.2, 37.8	ΣA q Q	2.33				1.2, +37.8, +47.6 A., +99.2	-49.6	0	-49.6				49.6	.0032		65	740	115	22.0			Tarleton St.	t_c = 20.1 + 1.1 ... = 22.0; 11th & Hooper; To Sh. 9-2	12
Tivy O.F., 34	11.9, 3.2	A					+21.8	-33.2	0	+11.9										4.2					13
51, 30, 37	.6, 1.8, 1.4	ΣA q Q	2.16				3.2, 1.6, 1.8, +26.4 A, +58.1	-86.7	0	1.4, +13.3, +28.8				58.1	.0038		65	650	205	26.2			Washington Blvd.		14
Wash. O.F., Tivy O.F.	33.2, 13.6	A				20th N.	+33.2	-47.8	+1.8	+16.6										3.2					15
[illegible]	3.5, .6, 1.5, 1.8, 2.0	ΣA q Q	2.06			39.3, 8, 3.7, 51.7	3.5, .6, 37.3, (8) S.D., 68.7	-97.2	(9,3) S.D. 0	2.0, +17.6, (8) S.D., +28.9				97.2	.0037		65	350	235	29.4			20th St.		16
20th O.F., 1.1, 2.0	47.2, 2.8	A				Compton	+47.2	-49.9	0	+5.0, 2.0										1.5					17
	2.8, .7	ΣA q Q	2.00			4	.7, 47.9, (4) S.D., 99.8	-99.8	0	+4.0, 8.0				99.8	.0037		65	350	235	30.9			21st St.		18
21st O.F.	49.9, .7	A		185	1.2, 2.6	Compton	149.9	-89.5	+1.2, 2.6	+1.6, 1.5										1.5					19
1.6, 1.5	5.5, .7, 1.9, 1.8	ΣA q Q	1.97			4, +4, 8	3.5, .7, 56.1, +111	-117.1	+3.8 A., -1.8 A, (4) S.D., -3.5	+3.1, +6.1				117.1	.0036		65	350	245	32.4			22nd St.		20
22nd O.F.	59.5, .7	A		[illegible]	[illegible]		+59.5, .7	-61.0	+1.2, 1.5	+1.2, .8										1.4					21
22nd Alley O.F.	.7, 1.8, 1.5, 4.3, 1.8	ΣA q Q	1.98			8, 4, 5, 17	.7, +60.7, (8) S.D., +113	-117	(8) S.D., +11.9 Alley	+2.1, +4.0				117	.0036		65	220	245	33.8			23rd St.		22
23rd O.F.	61.0, .7	A					+61.0, .7	-38.7	-63.0	0										.9					23
		ΣA q Q	1.91			17	+61.7, +118	-74	-44	0				74	.0036		65	70	220	34.7			24th St. (E)		24
24th O.F.	42.4, .8	A				6	+38.7	-35.9	0	+.7, .2										.3					25
.7, .2, .5, .3	.9, .21, .4, 1.0	ΣA q Q	1.90			17, +3, 20	.8, +39.5, (3) S.D., 72.0	-74.0	0	.3, .8, +2.0, +3.0				74	.0046		65	60	230	35.0			25th St. (W.)	To Sh. 21	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.M. DRAWN BY J.E.S. DESIGNED BY W.L. HICKS APPROVED March 1, 1940 ENGINEER OF ... DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY D.T.B. CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 7 OF SHEETS DATE........ 48

Drainage Area No.	Acres		q (col. 4)	(col. 5)	(col. 6)	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	Line
13th (W) O.F.	38.9	A, ΣA, q, Q	1.99				+38.9 / +73.5	-19.5 / -36.8	-19.4 / -36.7	0 / 0				36.8	.0046		65	270	180	.3 / 35.3			In Compton Ave / 25th St. (E.)	From Sh. 6-26	1, 2
25th (E) O.F. (139) (138) (137) .5 (136) .6 (135)	19.5, .7, 2.0, 2.6, .5 (...)	A, ΣA, q, Q	1.86			Compton 20, +25, -5, 40	+19.5, (-5)15.0, +40.6	-18.3 / -34.1	-10.3 / -19.1	+2.0, 2.6, .5, .6, 5.7, +10.6				34.1	.0046		65	350	180	1.5 / 36.8			Adams Blvd.		3, 4
Adams O.F. .6 (146), 1.6 (143), .5 (141), 2.1 (142), (144)	18.3, .7 (...), 2.0 (...), .6 (...), 2.6 (...), .3	A, ΣA, q, Q	1.82	(139) 1.2, (140) 2.1, (141) 2.4, Adams (E) 18.9		40	+18.3, .3, +18.6, +38.9	-34.4 / -71.8	+1.2, 2.1, 8.4, 10.3, 16.0, +29.6	.6, 1.6, .5, 2.1, 4.8, +8.7				71.8	.0046		65	530	250	2.1 / 38.9			27th St. (W.)		5, 6
27th O.F. (164) -.1 (165)	39.4, 2.5, 2.9 (...)	A, ΣA, q, Q	1.78			40, 45, 4, 89.5	+39.4, (6)15.0, +64.2	-40.9 / -72.8	+2.5, (4.8)15.0, 0	+4.8 / +8.6				72.8	.0064		65	160	250	2.1 / 41.0			32nd St. (E.)		7, 8
32nd O.F. .3 (172)	44.9, 3.0 (...)	A, ΣA, q, Q	1.77			50.5, 4.9, 2.1, 57	+44.9, (2.1)5.0, +74.3	-39.7 / -70.3	0 / 0	+4.5, (4.4)15.0, 0				70.3	.0064		65	130	250	.6 / 41.6			33rd St. (W.)		9, 10
33rd (W) O.F. (173) (174)	39.7, 1.2, 2.1	A, ΣA, q, Q	1.76				+39.7, 1.2, +40.9, +72.0	-43.0 / -75.7	+2.1, +3.7	0 / 0				75.7	.0029		65	320	195	.5 / 42.1			33rd St. (E)		11, 12
33rd St (E) O.F. (224) (225)	43.0, 2.2, 2.9	A, ΣA, q, Q	1.72				+43.0 / +74.0	-49.7 / -85.5	+2.2, 2.9, +6.7, +11.5	0 / 0				85.5	.0029		65	840	250	1.6 / 43.7			Santa Barbara Ave. (E.)		13, 14
S. Barbara O.F. (223) (236)	49.7, 6.2 (...), 2.9	A, ΣA, q, Q	1.68			0, 13, 13	+49.7, 5.9, 55.6, (1.9)15.0, +80.4	0 / 0	0 / 0	-47.9 / -80.4										3.4 / 47.1			41st St.		15, 16
		A, ΣA, q, Q																							17
		A, ΣA, q, Q																							18, 19
		A, ΣA, q, Q																							20, 21
		A, ΣA, q, Q																							22, 23
		A, ΣA, q, Q																							24, 25
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26, 27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY E.L.HICKS · DRAWN BY J.S.S. · CHECKED BY L.F.B. · APPROVED March 1, 1940 · ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY D.T.B. CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 49 8 OF SHEETS DATE..............

Drainage Area No.	Acres		(4)	(5)	(6)	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
21st Alley Adams(W) O.F. (166)	2.2 3.9	A				0	0	-22.1	0	+6.2 2.9 23.0													In Nevin Ave.	Const. Compton	1
Compton O.F.	23.0	ΣA q Q	1.81			0	0	-40.0	0	+22.1 +40.0				40.0	.0048		45	150	215	39.4			24th St.	tc 39.7+4.7=39.4 From Sh. 6-24	2
24th O.F. Compton O.F. (117)	22.1 19.4 2.3	A					+22.1	-41.9	0	+19.4 2.3										.7					3
		ΣA q Q	1.80				+39.8	-79.9	0	+21.7 +39.1				78.9	.0048		45	150	280	40.1			25th St. (W.)		4
23rd(W) O.F. (136)	43.8 8.0	A				North	+43.8	-45.0	8.0	0										.5					5
		ΣA q Q	1.78			14 +5 19	(5) 5.0 +73.0	-76.6	+3.6	0				76.6	.0044		45	130	270	40.6			25th St. (E.)		6
25th(E) O.F.	45.0	A					+45.0	-39.6	0											.5					7
		ΣA q Q	1.77			19 +6 25	(6) 15.0 70.1	-70.1	0					70.1	.0044		45	240	260	41.1			Adams Blvd. (W.)		8
Adams (W) O.F. (137) (138)	39.6 2.3 2.2	A					+39.6 2.3 +41.9	-44.1	+2.2	0										.9					9
		ΣA q Q	1.76				+72.7	-77.6	+3.9	0				77.6	.0043		45	340	270	42.0			Adams Blvd. (E.)		10
Adams (E) O.F. (163) (167)	44.1 4.0 4.0	A					+44.1 4.0 +48.1	-53.1	+8.0	0										1.3					11
		ΣA q Q	1.73				+53.2	-91.9	+8.7	0				91.9	.0035		45	320	245	43.3			27th St. (E)		12
27th O.F. (168)	83.1 3.8	A					+53.1	0	-56.9	+3.8										1.2			In 32nd St.		13
		ΣA q Q	1.72				+91.3	0	-97.8	+6.5				97.8	.0050		55	380	215	44.5			At 32nd St. & Nevin		14
		A																		1.8					15
		ΣA q Q																		↓					
Nevin O.F. 3.7 (170) (171)	56.9 4.8(ex) 1.2	A					0	-82.3	+1.8 3.7 4.9	+56.9													At Morgan		16
		ΣA q Q	1.69			0 +16 16	0	-88.5	(8) 5.0 0.3	(8) 5.0 88.2				88.5	.0040		60	280	260	46.3			In Morgan Ave.		17
32nd St. W. O.F. 1.9 (178) 2.1 (176) (175) 1.9 (177)	88.3 3.3(w-r) 8.6(w-r) 1.9 3.3(w-r)	A					+51.3	-84.0	+1.8 1.9 +3.7	+1.9 2.1 +4.0													32nd St.		18
		ΣA q Q	1.68			16 2 8 26	(8) 3.0 79.8	-92.7	(2) 3.0 +6.2	+6.7				92.7	.0039		60	280	240	47.4					19
33rd O.F. 4.2 (227) 1.7 (226) (225)	88.0 2.1(w-r) 2.1(w-r) .6	A					+84.0	-85.7	+.6 1.9 +2.5	+4.2										1.1			33rd St.		20
		ΣA q Q	1.65			26 4 2 2 34	(4) 3.0 +85.8	-91.9	(2) 3.0 +1.8	(2) 5.0 +4.9				91.9	.0037		60	330	240	48.6					21
S. Barbara O.F. 2.6 (228) (229) (233)	55.7 .5 .5 3.2(w-r)	A					+55.7 2.6 +58.3	-58.3	+.5 .5 +1.0											1.2			Santa Barbara Ave.		22
		ΣA q Q	1.63			34 1.6 35.6	+95.0	-95.0	(1.6) 3.0 0					95.0	.0037		60	290	245	50.0					23
40th O.F. 1.8 (230) (231) (232)	58.3 .5 2.3 1.8(w-r)	A					+58.3 1.5 59.8	0	+.6	-57.6										1.4			40th St. (E.)		24
		ΣA q Q	1.61			35.6 4.4 40	(44) 3.0 +91.9	0	+.9	-96.7										1.2 51.2			41st St.	To Sh. 10-L	25 26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

CHECKED BY L.F.M. DRAWN BY J.S.S. DESIGNED BY W.J. HICKS

APPROVED March 1 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE........... SHEET NO. 9 OF SHEETS

Drainage Area No.	Acres		Class. 4	5	6	Q S.D.	Q North	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A						-21.3A															In Tarleton St.		1
		ΣA q	2.33														60								
		Q						-49.6						49.6	.0024			640	165	22.0			At Compton Ave.	From Sh. 6-(12)	2
Compton O.F.	21.3	A					+21.3A	-27.0	-25.9	+25.9										3.9					3
Hooper O.F. (49)	5.5 / 25.9	ΣA q	2.16				5.5 / 26.8										60								
		Q					+57.9	-62.6	-51.3	+56.0				62.6	.0052			640	225	25.9			Washington Blvd.		4
Wash. O.F.	29.0	A				20th St.	+29.0	0	0	-25.1										2.8					5
		ΣA q	1.07			377.1 + 8 / 385	(8) S.D.																		
		Q					+58.1	0	0	-58.1										28.7			20th St.		6
		A / ΣA q / Q																							7
		A							-23.8																8
		ΣA																					In Washington Blvd.		9
		q	2.16														50								
		Q							-51.3					51.3	.0021			290	150	25.9			At Tarleton	From Sh. 9-4	10
		A				0	0	-11.9	-11.9	+23.8										1.9					11
		ΣA q	2.11														80								
		Q				0	0	-25	-25.2	+50.2				252	.0021			120	125	27.8			Tivy		12
		A								+11.9										1.6					13
		ΣA q / Q																		28.8			Compton		14
		A / ΣA q / Q																							15
		A						-11.9																	16
		ΣA																					In Tivy		17
		q	2.11														60							From Sh. 9-12	
		Q						-25.0						25.0	.0029			550	150	27.8			At Washington Blvd.		18
Wash. O.F. (89)	11.9 / 3.7	A				2.99	+11.9	0	-15.6	0										1.7					19
		ΣA q	2.04			385 + 8 / 393	3.7 / 15.6 / (8) S.D.										[illegible]								
		Q					+23.8	0	-31.8	0				31.8	.0019			440	135	29.5			20th St.		20
		A								+15.6										3.3			In 20th St.		21
		ΣA q	1.95							(8) S.D.															
		Q																		32.8			At Compton	To Sh. 6-16	22
		A / ΣA q / Q																							23
		A																							24
		ΣA q / Q																							25
																									26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CHECKED BY L.F.B.
DRAWN BY J.E.S.
DESIGNED BY W.J. HICKS

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

APPROVED March 1949
ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD
STORM DRAIN DIVISION
NO. 91

CHECKED BY L.F.M. | DRAWN BY J.S.S. | DESIGNED BY W.J. HIGGS | APPROVED [illegible] 1940 [illegible] ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD
STORM DRAIN DIVISION
No. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY | TABLED BY | CHECKED BY | SYSTEM | DESIGN CURVE | YEAR | DATE............ | SHEET NO. 51 10 OF SHEETS

Drainage Area No. (1)	Acres (2)	(3)	(4)	(5)	(6)	Q S.D. (7)	Q North (8)	Q South (9)	Q East (10)	Q West (11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC√R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)	
		A ΣA q Q	1.61							-57.6 -92.7				92.7	.0067		65'	760	22.5	51.2 3.4			In 41st St. At Morgan Ave	From Sh. 8-26	1 2 3
Morgan O.F. 7.1 (236) (459) (416)	57.6 11.5 (cr-2) 4.7 6.1	A ΣA q Q	1.56			40 13 53	0 0	-73.4 -114.5	+57.6 4.7 +62.3 (13) S.D. +96.2	+40 1.1 -41.1 17.3										54.6			Compton Ave. (E)		4
		A ΣA q Q																							5 6
		A ΣA q Q																							7 8
7.8 (188)	3.3 (cr-2)	A ΣA q Q	1.87			10 0 10	0 6	-2.5 -4.7	2.5 +4.7	0 0				—	.0067		54/60	270	180	36.0 1.5	Assume		In Central Ave. At 32nd St.		9 10 11
32nd O.F. (191)	2.5 1.2	A ΣA q Q	1.85			10 90 4 104	+1.2 2.5 3.7 (4) S.D. 2.9	0 -0	0 0	– -2.9				—	.0067		54/60	70		37.5			33rd (W.)		12 13
33rd (W) O.F. (190) 3.2 (193) 1.7 (198)	0 1.4 3.9 (cr-2) 2.1 (")	A ΣA q Q	1.85			—	+1.4 +2.6	-6.7 -11.7	+3.2 1.7 +4.9 +9.1	0 0				11.7	.0071		54/60	300	155	37.6 1.6	Assume		33rd (E)		14 15
33rd (E) O.F. (196) (197) 1.6 (199) 2.1 (204)	6.3 1.7 1.2 2.0 (cr-2) 2.7 (")	A ΣA q Q	1.81				6.3 +1.7 +8.0 +14.5	-7.8 -14.1	+1.6 +2.2 3.8 +6.9	-4.0 -7.3				14.1	.0073		54/60	300	200	39.2 1.5			34th		16 17
34th O.F. (206) 2.6 (203)	7.8 1.7 2.7 (cr-2)	A ΣA q Q	1.78				+7.8 +1.7 9.5 +16.9	-11.7 -20.8	+2.2 +3.9	0 0				20.8	.0091		56/60	130	240	40.7 .5			35th		18 19
35th O.F. (217)	11.7 1.8	A ΣA q Q	1.77				-11.7 +1.8 -13.5 +23.9	-6.8 -11.9	0 0	-6.7 -11.8				11.9	.0091		56/60	140	220	41.2 .6			Jefferson Blvd.		20 21
Jefferson O.F. (219) 1.5 (220) 1.7 (221)	4.5 3.1 (cr-1) 2.1 (")	A ΣA q Q	1.76				+6.8 +1.5 8.3 +13.0	-12.6 -20.4	+2.5 1.7 4.2 +7.4	0 0				20.4	.0073		56/60	80	235	42.0 .3			Santa Barbara (E)		22 23
S. Barbara (E) O.F. (218)	1.2	A ΣA q Q	1.76				12.6 +1.2 13.8 +24.3	-6.9 -12.2	0 0	-6.9 -12.1				12.2	.0034		56/60	300	145	42.3 2.1			Santa Barbara (W.)		24 25
S. Barbara (W) O.F. (241) (247) 1.7 (242) 1.4 (243) Haimi O.F.	2.0 1.4 3.1 (cr-2) 1.7 (")	A ΣA q Q	1.72				6.9 2.0 1.4 +11.3 +12.7	-7.3 -14.2	+1.7 1.4 +3.1 +5.3	-5.1 -8.8				14.2	.0028		56/60	310	135	44.4			40th Pl. (W.)	To Sh. 11-1	26 27

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS **TABLE SHEET** BUREAU OF ENGINEERING STORM DRAIN DIVISION 52 DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 71 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities			G S.D.	G North	S South	G East	G West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
41st O.F. / Naomi O.F.	8.2 / 27.5	A					1.3 / 1.3	-22.1	+1.7 / 27.5	-17.3										41.4			In Central Ave		1
(2.41) (2.45) 1.7 (2.9)	1.3 / 1.3 / 2.1(...)	ΣA					8.3 / 10.9		+28.2											2.3					
		q	1.69																						
		Q					18.3	37.7	+49.1	-29.1										46.7			At 41st St.	From Shs. 11-12 & 10-26	2
		A																							3
		ΣA																							
		q																							
		Q																							4
		A																							5
		ΣA																							
		q																							
		Q																							6
		A								-70.6													In 41st St		7
		ΣA															66/40								
		q	1.76																						
		Q								-124.2				124.2	.0026			230	275	42.1			At Hooper Ave	From Sh. 5-26	8
Hooper O.F.	70.6	A				0	0	-28.5	+70.6	-46.1										.3					9
		ΣA															66/40								
		q	1.75																						
		Q				0	0	-50	+123.5	-73.5				73.5	.0025			240	225	42.9			Zamora Ave.		10
Zamora O.F.	42.1	A				0	0	-20.3	+42.1	-21.8										1.1					11
		ΣA															66/40								
		q	1.72																						
		Q				0	0	-3.50	+72.5	-37.5				37.5	.0026			160	180	44.0			Naomi (E) Ave		12
Naomi (E) O.F. / 3.6 (2.38) / 1.7 (2.39) / 7.0 —	21.8 / 2.7(...) / 2.1(-) / 2.8(+)	A				0	+2.2 / 1.7	0	+21.8	-27.7										.9					13
		ΣA					3.9		2.0 / +23.8								66/40								
		q	1.70																						
		Q				0	+6.6	0	+40.5	-47.1				47.1	.0026			680	195	44.9			Naomi (W) Ave.		14
Naomi (W) O.F.	27.5	A							+27.5											3.5					15
		ΣA																							
		q																							
		Q																		47.4			Central Ave.	To Sh. 11-2	16
		A																							17
		ΣA																							
		q																							
		Q																							18
		A																							19
		ΣA																							
		q																							
		Q																							20
		A																							21
		ΣA																							
		q																							
		Q																							22
		A																							23
		ΣA																							
		q																							
		Q																							24
		A																							25
		ΣA																							
		q																							
		Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY W.J. HIGGS · DRAWN BY J.S.S. · CHECKED BY L.F.S. · APPROVED March 4, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE........ SHEET NO. 12 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 100%			Q S.D	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC√R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
22nd O.F.	90.0	A																		1.0			IN HILL ST.		1
[illegible]	8.1	ΣA	106.6																						
Broadway	13.5	q	1.89					73.4		33.2							92/62								
		Q	201			0	201	139	0	62				139	.0032			340	225	35.0			At 23rd St.		2
23rd O.F.	73.4	A																		1.5					3
[illegible]	3.5	ΣA	101.8																						
Broadway	24.9	q	1.65					67.8		34.0							"								
		Q	168			0	·	126	0	62				126	.0027			370	215	36.5			At 24th St.		4
24th O.F.	67.8	A																		1.7					5
[illegible]	4.8	ΣA	116.1				116.1	67.4		48.7															
Broadway	44.5	q	1.82														"								
		Q	211			0	211	123		88				123	.0039			360	225	38.2			At 25th St.		6
25th St.	67.4	A																		1.5					7
[illegible]	2.5	ΣA	144.9			4.3	140.6	71.8		68.8															
Broadway	73.7	q	1.78			15.7											"								
		Q	258			=8	250	128		122				128	.0060			420	270	39.7			At Adams		8
Adams	71.8	A																		1.6					9
[illegible]	4.5	ΣA	121.8				121.8	72.3		49.0															
Broadway	45.7	q	1.75														"								
		Q	213			0	213	127		86				127	.0019			300	195	41.3			At 27th St.		10
27th	72.8	A																		1.5					11
[illegible]	5.0	ΣA	116.9				116.9	69.1		47.8															
Broadway	41.1	q	1.73														"								
		Q	202			0	202	119		83				119	.0026			350	205	42.8			At 28th St.		12
28th	69.1	A																		2.7					13
[illegible]	5.5	ΣA	131.8			3.3	129.5	70.9		57.6															
Broadway	57.2	q	1.68			15.7											"								
		Q	222			=6	216	119		97				119	.0020			330	195	45.5			At 30th St.		14
30th	70.9	A																		1.7					15
[illegible]	3.4	ΣA	124.4					72.1		52.3															
Broadway	50.1	q	1.66														"								
		Q	207				207	120		87				120	.0036			350	225	47.2			At 31st St.		16
31st	72.1	A																		1.6					17
[illegible]	3.5	ΣA	121.8					73.1		48.7															
Broadway	46.2	q	1.60														"			48.8				Broadway [illegible] 51.3 1.8	
		Q	175				195	117		78				117	.0018			280	180	51.1	.53		At 32nd St.	51.1	18
32nd	73.1	A																		1.6					19
[illegible]	2.6	ΣA	113.6					72.8		40.8															
Broadway	37.7	q	1.57														"								
		Q	178				178	114		64				114	.0375			300	220	52.7			At 33rd St.		20
33rd	72.5	A																		1.4					21
[illegible]	3.2	ΣA	129.4			360	129.4	68.6		60.8															
Broadway	54.7	q	1.56			-360											"								
		Q	202			=0	202	107		95				107	.0039			550	220	54.1			At Jefferson Blvd		22
Jefferson	68.6	A																		2.5					23
[illegible]	1.0	ΣA	90.6					90.6																	
Broadway	19.6	q	1.53														"								
		Q	139				139	139						139	.0039			240	225	56.6			At 35th St.		24
35th	90.6	A																		1.1					25
[illegible]	7.1	ΣA	104.7					104.7																	
Broadway	13.0	q	1.52														"								
		Q	159				159	159						157	.0042			310	255	57.7			At 36th St.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

DESIGNED BY [illegible] DRAWN BY J.E.B. CHECKED BY L.F.M.

APPROVED March 1 1940

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR DATE............ SHEET NO. 13 OF SHEETS

Drainage Area No.	Acres		1.30	60.2		S.D.	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
36th PL	104.7	A																		1.2			IN HILL ST.		1
47CW Broadway	1.3 14.6	ΣA q Q	120.8 1.51 182				182	120.8 182						182	.00346		92/62	310	250	58.9			36th PL.		2
36th Pl.	120.8	A																		1.2					3
Broadway	1.4 7.0 11.4	ΣA q Q	140.6 1.50 211				211	140.6 211						211	.00795		94/62	340	350	60.1			37th ST.		4
37th	140.6	A																		1.0					5
Broadway	1.5 9.6	ΣA q Q	[illegible] 1.43 224				224	151.7 224						224	.00276		92/62	350	255	61.1			37th PL.		6
37 Pl.	151.7	A																		1.4					7
	3.3 1.5	ΣA q Q	156.5 1.47 230				230	104.9 154	51.6 76					154	.00564		[illegible]/56	630	290	62.5			38th ST.		8
38th St	104.9	A																		2.2					9
Bdwy	37.2 5.7	ΣA q Q	[illegible] 1.44 205	5.7 1.20 7			146.9 212	212						212	.00675		84/132	840	350	64.7			39th ST.		10
		A																		2.4					11
Bdwy SSW	146.9 40.3 3.2	ΣA q Q	190.4 1.42 270	3.2 1.16 4		13.42 20	274			192.9 274										67.1			SANTA BARBARA AVE.		12
		A ΣA q Q																							13
		A ΣA q Q																							14 15
		A ΣA q Q																							16 17
		A ΣA q Q																							18 19
		A ΣA q Q																							20 21
		A ΣA q Q																							22 23
		A ΣA q Q																							24 25
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26 27

CHECKED BY L.F.B. DRAWN BY J.S.S. DESIGNED BY W.L. HICKS

APPROVED March 1, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 14 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.3c 155%			Q S.D.	Q Sect	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig.3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig.6	Station	S.D. Locations	Remarks	
		A																					IN BROADWAY		1
		ΣA q Q	4.41					7.4 38						33	.0084		30/5L	670	230	5.0			OLYMPIC BLVD.		2
																				2.9					3
OLYMPIC OF (128) (129) HILL OF	7.4 2.5 1.6 3.5	A ΣA q Q	15.0 3.61 54			0	54	10.5 38	4.5 16	0				38	.005		"	630	190	7.9			AT 11th ST.		4
																				3.3					5
11th OF (145) (146) HILL OF	10.5 3.3 3.2	A ΣA q Q	18.7 3.10 58			0	58	12.9 40	5.8 18	0				40	.008		"	500	230	11.2			AT 12th ST.		6
																				2.2					7
12th OF (158) (159) MAIN OF	12.9 2.7 5.1	A ΣA q Q	17.7 2.98 57			0	57	15.6 45	0	4.1 12				45	.005		"	310	200	13.4			AT PICO		8
																				1.9					9
PICO OF (171) (172) MAIN OF	15.6 2.4 1.8	A ΣA q Q	20.3 2.71 55			0	55	17.0 46	0	3.3 9				46	.005		"	300	200	15.3			AT 14th PL.		10
																				1.5					11
14th PL OF (190) (193) MAIN OF	17.0 2.1 3.2	A ΣA q Q	22.3 2.60 58			7.0 7	51	16.3 42	0	3.5 9				42	.005		"	300	190	16.8			AT 14th ST.		12
																				1.6					13
14th ST. (183) (187)	16.2 2.1	A ΣA q Q	18.4 2.55 47			0	47	14.3 35	1.8 5	2.8 7				35	.008			[illegible]	225	16.4			AT 15th ST.		14
																				1.3					15
15th ST. (206) (209)	14.0 2.2	A ΣA q Q	16.2 2.42 39			S.D. Fill At Olive.	39	12.0 29	4.2 10	0				29	.008			310	220	19.7			AT VENKE		16
																				1.4					17
VENKE OF (227) (228) MAIN OF	12.0 2.6 5.4	A ΣA q Q	20.0 2.35 47			0	47	16.6 39	0	3.4 8				39	.004			310	170	21.1			AT 17th ST.		18
																				1.8					19
17th OF (244) (246) MAIN ST. OF	16.6 2.6 6.5	A ΣA q Q	25.7 2.27 58			18-15 0	58	19.4 44	0	6.3 14				44	.004			550	180	22.9			AT 18th ST.		20
																				3.1					21
18th OF (245) (247) MAIN OF	19.4 4.2 23.1	A ΣA q Q	46.7 2.01 94			8-6 2	92	30.8 62	0	14.9 30				62	.007		"	[illegible]	230	26.0 4.1 30.1	.70		AT WASHINGTON	MAIN Tc = 29.6 INC = 2.3 [illegible]	22
																				3.8					23
WASH. OF (251W) (252E) MAIN OF	30.8 3.9 8.6 10.4	A ΣA q Q	48.7 1.91 93			0	93	32.5 62	0	16.2 31				62	.004			240	195	33.9			AT 21st ST.		24
																				1.2					25
21st OF (310E) (311W) MAIN OF	32.5 1.3 1.4 5.0	A ΣA q Q	40.2 1.89 76			10-0 10	66	22.2 42	0	12.7 24				42	.004			310	175	35.1			AT 22nd ST.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET — RUNOFF INSTRUCTIONS — 1939

CHECKED BY L.F.M. DRAWN BY J.S.S. DESIGNED BY W.L. HICKS APPROVED [signature] 1940 ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CHECKED BY L.F.M.

DESIGNED BY W.I. HICKS — DRAWN BY J.S.S.

APPROVED [illegible] 19[illegible] — ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............ SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 5 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 / 100%			Q S.D.	Q Surf.	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
22nd O.F.	22.2	A																		1.8			IN BROADWAY		1
(315E)(316W)	2.7	ΣA	38.5														88/60								
Main O.F.	13.6	q	1.84					25.0		13.5															
		Q	71			0	71	46	0	25				46	.0040			350	175	36.9			23rd ST.		2
23rd O.F.	25.0	A																		2.0					3
(335E)(337W)	3.0	ΣA	64.9														88/60								
Main O.F.	36.9	q	1.80					40.0		24.9															
		Q	117			0	117	72	0	45				72	.0040			360	200	38.9			24th ST.		4
24th O.F.	40.0	A																		1.8					5
(346E)(347W)	1.6 / 1.6	ΣA	100.9														90/60								
Main O.F.	57.7	q	1.77					56.4		44.5															
		Q	179			0	179	100		79				100	.0040			360	200	40.7			25th ST.		6
25th	56.4	A																		1.6					7
(357E)(358W)	1.2 / 1.6	ΣA	145.1														"								
Main	55.5	q	1.74			4.0		67.4		73.7															
		Q	252			7	245	117		128				117	.0057			430	260	42.3			ADAMS BLVD.		8
Adams	67.4	A																		1.7					9
(365E)(370W)	1.3 / 1.9	ΣA	117.4														"								
Main	46.3	q	1.70					71.7		45.7															
		Q	200				200	122		78				122	.0032			300	215	44.0			27th ST.		10
27th	71.7	A																		1.4					11
(381E)(382W)	2.6	ΣA	108.6														"								
Main	94.3	q	1.68					67.5		41.1															
		Q	182				182	113		69				113	.0032			540	205	45.4			28th ST.		12
28th	67.5	A																		2.6					13
(396E)(397S)	4.5	ΣA	125.8														"								
Main	53.5	q	1.65			4.2		64.4		57.2															
		Q	207			7	200	106		94				106	.0032			330	200	48.0			30th ST.		14
30th	64.4	A																		1.6					15
(412E)(413W)	3.1	ΣA	119.3														"								
Main	51.8	q	1.62					69.2		50.1															
		Q	193				193	112		81				112	.0032			350	205	49.6			31st ST.		16
31st	69.2	A																		1.7					17
(424E)(425W)	3.1	ΣA	[illegible]														"								
Main	38.7	q	1.60			3.1	167.9	61.7		46.2															
		Q	178			5	173	99		74				99	.0032			270	200	51.3			32nd ST.		18
32nd	[illegible].7	A																		1.4					19
(433E)(434W)	2.5	ΣA	75.6			2.5	131	55.4		37.7							"								
Main	31.4	q	[illegible]																						
		Q	[illegible]			8.5 4	146	87		59				87	.0035			300	200	52.7			33rd ST.		20
33rd	55.4	A																		1.5					21
(437E)(438W)	2.6	ΣA	112.6			[illegible]	[illegible]	51.5		50.7							"								
Main	54.6	q	1.56																						
		Q	[illegible]			[illegible]	165	80		81				80	.0036			540	195	54.2			JEFFERSON BLVD.	Main tc: 48.2 / 1.8 / 50.0	22
Jefferson	51.5	A																		2.5					23
(455E)(456W)	4.8	ΣA	[illegible]			5.2	69.8	31.3		14.6	[illegible]						"								
Main	18.7	q	[illegible]								18.9														
		Q	115			9	107	48		30	29			48	.0050			250	190	57.0			35th ST.		24
35th	31.3	A																		1.2					25
(468E)	1.1	ΣA	43.0														"			58.2					
Main	10.6	q	1.52					30.0		13.0															
		Q	66				66	46		20				46	.0062			320	205	57.5	.86		36th ST.	Main tc: 51.3 / 1.8 / 53.1	26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET No. 16 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.50	1.08		6	3	3	3	3	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	AC/R	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A																		1.6			IN BROADWAY		1
(476E) (477W) 36th Pl. Main	2.9 35.0 12.8	ΣA q Q	45.7 1.51 69				69	31.1 47		14.6 22				47	.00445		90/60	320	185	59.1			36th PL.		2
		A																		1.7					3
(480E) (481W) 36th Pl. Bdwy Pl.	2.9 31.1 9.5	ΣA q Q	43.5 1.49 65				65	32.1 43		11.4 17				48	.0069		90/60	[illegible]	220	60.8			37th ST.		4
37th	32.1	A																		1.5					5
(486E) (487W) Bdwy Pl.	3.0 7.1	ΣA q Q	41.2 1.47 62				62	32.6 48		9.6 14				48	.00722		90/60	350	220	62.3			37th PL.		6
37th Pl.	32.6	A																		1.6					7
(488E) (489W) Bdwy Pl. Hill	3.1 11.2 51.6	ΣA q Q	99.5 1.45 143			6.5 8-0 = 8	135	93.0 135		0				135	.0080		90/60	630	200	63.9			38th ST.		8
39th	93.0	A																		3.1					9
(506W) (505E)	3.5 2.3	ΣA q Q	96.0 1.42 137	[illegible] 1.18 3		2.1 11-8 = 3	96.0 137	21.6 31	37.2 53	37.2 53				31	.00653		90/60	[illegible]	190	67.0			39th ST.		10
39th		A																		1.3					11
	21.6	ΣA q Q	21.6 1.41 30			11-11 = 0	30	10.8 15			South Side 10.8 15			15	.00653		94/60	330	170	68.3			N/O Santa Barbara		12
N/O S.B.	10.8	A																		1.9					13
(516W) Bdwy Pl. N/O S.B. (515E)	6.4 41.9 10.8 3.5	ΣA q Q	65.9 1.44 95	3.3 1.19 4		0.7 12-11 = 1	68.1 98	27.8 40		40.3 58				40						70.2 65.6	.4		Santa Barbara	Bdwy Pl. t_c = 60.9 Inc = 1.6 62.5	14
		A																							15
		ΣA q Q																							16
		A																							17
		ΣA q Q																							18
		A																							19
		ΣA q Q																							20
		A																							21
		ΣA q Q																							22
		A																							23
		ΣA q Q																							24
		A																							25
		ΣA q Q																							26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY W.J. HICKS

DRAWN BY J.S.S.

CHECKED BY L.F.B.

APPROVED March 1 1940

[illegible]

ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 17 OF SHEETS DATE............

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 130 100%	5	6	Q S.D.	Q Surf	Q South	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A ΣA q Q	4.41			0		10.3 45						45	.011		100/68	680	250	5.0 2.7			IN MAIN ST. OLYMPIC BLVD.		1 2 3
OLYMPIC OF (130) (131) BROADWAY OF	10.3 5.0 4.5	A ΣA q Q	15.8 3.58 70			0	70	15.3 54	4.5 16	0				54	.003		"	660	155	7.7 4.3			AT 11th ST.		4 5
11th OF (133) (134) BROADWAY OF	15.3 5.4 5.8	A ΣA q Q	26.5 3.02 80			0	80	20.5 62	6.0 18	0				62	.003		"	550	165	12.0 3.3			AT 12th ST.		6 7
12th OF. (157) (158)	20.5 4.3	A ΣA q Q	24.8 2.71 67			0	67	17.3 47	4.4 12	3.1 8				47	.0055		"	430	190	15.3 2.3			AT PICO		8 9
PICO OF.	17.3 7.2	A ΣA q Q	24.6 2.85 53			0	53	15.7 40	3.1 8	0	14th pl. 1.8 5			40	.0073		'	150	215	17.6 .7			AT 14th (E)		10 11
14th (E)	15.7 1.4	A ΣA q Q	17.1 2.61 43			0	43	13.9 35	0	3.2 8				35	.0073		'	300	200	18.3 1.5			14th ST. (W)		12 13
14th (W) OF (123) (125) BROADWAY	13.9 3.1 1.8	A ΣA q Q	18.8 2.42 34			8.5 3	31	10.7 26	2.1 5	0				26	.011			300	235	19.8 1.3			AT 15th ST		14 15
15th OF. (206) (207) BROADWAY OF L.A. OF.	10.7 2.4 4.8 4.2	A ΣA q Q	21.3 2.85 51			14-14 0	51	21.5 51	0	0				51	.0037			320	170	21.1 1.9			AT VENICE		16 17
VENICE OF (232) (233) L.A. OF	21.5 3.0 5.6	A ΣA q Q	30.1 2.27 68			18-18 0	68	24.7 56	0	5.4 12				56	.0032			310	185	23.0 1.7			AT 17th ST (W)		18 19
17th OF	24.7 1.3	A ΣA q Q	26.0 2.20 57			18-18 0	57	19.5 43	0	6.5 14				43	.0032			490	170	24.7 2.2			AT 18th ST.		20 21
18th OF MAIN OF	12.5 5.3 36.7	A ΣA q Q	615 2.03 125			6-4 16-10 2	123	31.5 76	0	23.1 47				76	.005			[illegible]	215	27.6 29.6 4.0	.70		AT WASHINGTON	L.A. T_c = 28.2 Inc = 2.3/30.5	22 23
WASH. OF	37.5 3.7	A ΣA q Q	41.4 1.92 80			10-10 0	80	25.0 48	6.0 12	10.4 20				48	.005			[illegible]	180	33.6 1.4			AT 21st ST.		24 25
21st OF. (311)	26.0 1.2	A ΣA q Q	26.2 1.89 50			10-10 0	50	21.7 40	0	5.0 10				40	.005			220	180	35.0			AT 22nd ST.		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

DESIGNED BY ... DRAWN BY J.S.S. CHECKED BY L.F.M. APPROVED ... 1940 ENGINEER OF STORM DRAIN DESIGN

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 3 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities 1.30 10%	1.05 60-2		Q S.D.	Q Surf.	Q Sum	Q East	Q West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
22nd O.F.	21.2	A																		1.8			IN MAIN ST.		1
(368) (317)	7.4	ΣA	175.9														100/68			36.8				LA. St. Tc = 34.5 Inc. 1.5 = 36.0	
L.A.O.F.	148.0	q	1.86																						
		Q	328			10-10 0	328	162.0 303	0	19.? 25				303	.0051			340	330	36.0			At 23rd St.		2
23rd O.F.	163.0	A																		1.0					3
(380B)	1.5	ΣA	182	7.6													"								
Maple O.F.	17.5	q	1.64	1.53																					
(383)		Q	325	12		10+5 5	342	149.0 274	0	36.9 68				274	.0045			360	310	37.0			At 24th St.		4
24th O.F.	142.0	A																		1.2					5
(342B)	1.6	ΣA	217.0	3.6													'								
Maple O.F.	66.4	q	1.62	1.51																					
[illegible]		Q	395	13		18-15 3	405	164.5 300	0	57.7 105				300	.0046			370	320	38.2			At 25th St.		6
25th O.F.	164.8	A																		1.2					7
(359B)	1.6	ΣA	235.0	9.0													"								
Maple O.F.	64.6	q	1.79	1.49																					
(359)-3.1A		Q	421	13		24-18 6	428	153.6 275	0	85.5 153				275	.0048			420	315	39.4			At Adams		8
Adams O.F.	153.6	A																		1.3					9
(372B)	1.5	ΣA	201.8	2.8																					
Maple O.F.	46.4	q	1.77	1.47																					
[illegible]		Q	357	13		28-24 4	366	160.4 264	0	46.3 82				284	.0036			[illegible]	290	40.7			At 27th (W)		10
27th O.F.	160.4	A																		1.0					11
(382B)	7.4	ΣA	195.9	7.7																					
Maple O.F.	34.1	q	1.75	1.45																					
(385)=7.7A		Q	343	11		30-28 2	352	166.8 292	0	34.3 60				292	.0034			[illegible]	300	41.7			At 28th (W)		12
28th O.F.	166.8	A																		0.8					13
Maple O.F.	25.9	ΣA	192.7	7.6																					
		q	1.75	1.44																					
(376)=7.5A		Q	334	11		37-30 7	338	195.5 338	0	0				338	.0029			[illegible]	320	42.5			At 29th		14
29th O.F.	195.5	A																		1.0					15
(395B)	2.4	ΣA	216.6	8.2																					
Maple O.F.	18.7	q	1.72	1.48																					
(414)=8.2A		Q	372	12		37-37 0	384	162.9 292	0	53.5 92				292	.0031			340	275	43.5			At 30th		16
30th O.F.	167.9	A																		1.2					17
(413B)	1.5	ΣA	198.6	7.9																					
Maple O.F.	27.2	q	1.70	1.41																					
(414)=7.9A		Q	338	11		42-37 5	344	150.5 256	0	51.8 88				256	.0031			360	270	44.7			At 31st (W)		18
31st O.F.	150.5	A																		1.3					19
(425B) (426)	9.6	ΣA	181.7																						
Maple O.F.	21.6	q	1.68																						
		Q	305			47-42 5	300	140.0 235	0	35.7 65				235	.0032			270	270	46.0			At 32nd (W)		20
32nd O.F.	140.0	A																		1.0					21
(434B)	1.3	ΣA	150.0																						
(437N)	8.7	q	1.66																						
		Q	249			47-47 0	242	118.6 197	0	31.4 52				197	.0029			220	245	47.0			At 33rd (W)		22
33rd O.F.	118.6	A																		1.2					23
(438B)	1.8	ΣA	128.4																						
(437S)	5.6	q	1.65																						
		Q	212			[illegible] -7	219	76.2 122	0	54.6 90				120	.0025			520	250	48.2			At Jefferson		24
Jefferson O.F.	78.2	A																		2.1					25
½ of (457)	4.5	ΣA	82.7																						
		q	1.81																						
		Q	133			10-10 0	133	64.0 103	0	18.7 30				103	.0045			240	230	50.3			At 35th (W)		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

CHECKED BY L.F.B. — DRAWN BY J.B.S. — DESIGNED BY W.L. HICKS — APPROVED March 4, 1940 — ENGINEER OF STORM DRAIN DESIGN

TABLE SHEET—RUNOFF INSTRUCTIONS — 1939

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 9 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities: 1.50 100%			C D.D.	C Succ.	C South	C East	C West	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
35th O.F	46.0	A																		1.0			1N MAIN ST.		1
[illegible] Broadway & [illegible]	2.2 18.9 3.9	ΣA q Q	85.1 1.60 136	3.9 1.39 5		10-10 0	141	77.5 124	0	10.6 17				124	.0215		12/68	.20	350	54.3			36th ST (W)		2
36th O.F [illegible]	77.5	A																		0.7					3
[illegible]	7.4	ΣA q Q	78.9 1.59 126	3.3 1.32 5		10-10 0	84.0 131	33.0 50	0	12.8 20	(CARRY) 39.7 61			50	.00533		80/56	530	210	52.0			36th PL.		4
36th PL	32.0	A																		2.5					5
[illegible] Woodlawn	5.5 6.7	ΣA q Q	44.2 1.55 69			0	69	44.2 69	0	0				69	.00453		80/56	320	240	54.5			37th ST.		6
37th O.F (4302)	44.2	A																		1.9					7
	2.3	ΣA q Q	46.5 1.54 72			0	46.5 72	33.0 51	–	13.5 21				51	.00516		50/56	370	210	55.8			37th PL.		8
37th PL O.F	33.0	A																		1.8					9
[illegible] (5075) Woodlawn	[illegible] 3.4	ΣA q Q	44.2 1.52 67			0	67	32.9 50	0	11.3 17				50	.00534		[illegible]	[illegible]	200	57.6			38th ST.		10
38th O.F	32.9	A																		1.8					11
(5CEB)	3.2	ΣA q Q	36.1 1.50 54			0	36.1 54	28.0 42	0	8.1 12				42	.00534		[illegible]	[illegible]	190	59.4			39th ST.		12
39th O.F	28.0	A																		1.9					13
(5176) (50?) Woodlawn	[illegible] 17.5	ΣA q Q	55.5 1.45 82			1.4 34.3 =2	54.1 80	36.5 54		17.6 26				54						61.3			SANTA BARBARA AVE		14
		A																							15
		ΣA q Q						39.2 61						61	.00356		[illegible]	3.40	210	52.0			1N BROADWAY PL. 36th PL.	MAIN & 36th PL T_c = 52.0	16
36th O.F (4818)	39.2	A																		1.6					17
	1.5	ΣA q Q	40.7 1.57 64			10-10 0	64	31.2 49	0	9.5 15				49	.00657		[illegible]	330	200	53.6			37th ST.		18
37th O.F (4875) 37th PL	31.2	A																		1.7					19
	1.6 13.5	ΣA q Q	46.3 1.55 72			10-10 0	72	39.2 61	0	7.1 11				61	.00607		[illegible]	[illegible]	220	55.2			37th PL. (W)		20
37th O.F [illegible] Main O.F	39.2	A																		1.5					21
	4.0 11.3	ΣA q Q	54.5 1.53 83			10-10 0	83	43.3 66	0	11.2 17				66	.0061		[illegible]	600	225	56.8			38th ST (W)		22
38th St O.F	43.3	A																		2.8					23
[illegible] Main O.F Broadway	8.4 8.1 37.2	ΣA q Q	97.0 1.50 145			5-5 0	145	97.0 145						145	.0080		[illegible]	410	305	59.6			39th ST. (W)		24
		A																		1.3					25
(5176) (5166) 39th Main	2.9 97.0 17.6	ΣA q Q	121.0 1.48 179			2.0 8.5 =3	119.0 176	78.1 114		41.9 62				114						60.9			SANTA BARBARA		26
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	27

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

CHECKED BY L.F.M. DRAWN BY J.E.S. DESIGNED BY W.J. HICKS APPROVED March 1, 1940 [signature] ENGINEER OF STORM DRAIN DESIGN

OFFICE STANDARD STORM DRAIN DIVISION

NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION

DATE............

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 46 OF SHEETS

Drainage Area No.	Acres		Classification, Areas, & R.O. Quantities	1 Hr. R.F.R.	Dist. Factor Fig. 3	Amend 1 Hr. R.F.R.	Σ Q's	Fric. Slope	ACVR	Pipe Size	Pipe Length	V	t_c	Factor F Fig. 6	Station	S.D. Locations	Remarks	
		A	FLOWER ST. WASHINGTON TO ADAMS															
		ΣA q Q		1.33												IN FLOWER	From Sh. 45	1
		A		1.33				.0065		R 90 Rd·60 xf·10.0 A	340					AT 22nd. ST.		2
		ΣA q Q																3
		A		"				.0067		R 90 Rd·60 xf·0.0	100					AT 23rd ST.		4
		ΣA q Q																5
		A		"				.0075		R 90 Rd·60 xf·0.0 A	330					AT ADAMS BLVD.		6
		ΣA q Q																7
		A		"				.0077		R 90 Rd·60 xf·0.0 A	330					AT 27th ST.		8
		ΣA q Q																9
		A		"				.0033		R 90 Rd·60 xf·0.0 A	310					AT 28th ST.		10
		ΣA q Q																11
		A		"				.0058		R 90 Rd·60 xf·0.0 A	310					AT 29th ST.		12
		ΣA q Q																13
		A		"				.0055		R 90 Rd·60 xf·0.0 A	370					AT 30th ST.		14
		ΣA q Q																15
		A		"				.0082		R 94 Rd·60 xf·0.1 A	470					AT 31st ST.		16
		ΣA q Q																17
		A		"												AT 33rd ST.		18
		ΣA q Q	FIGUEROA ST.															19
		A		1.33														20
		ΣA q Q														IN FIGUEROA	FROM Sh. 28	21
		A		"				.0065		R 99 Rd·67 xf·0.0 A	590					AT WASHINGTON		22
		ΣA q Q																23
		A		"				.0065		R 99 Rd·67 xf·0.0 A	300					AT 20th ST.		24
		ΣA q Q																25
								.0065		R 99 Rd·67 xf·0.0 A	280					AT 21st ST.		26
1	2	3	4 5 6 7 8 9 10 11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

DESIGNED BY E.L.HICKS DRAWN BY J.C.S. CHECKED BY C.F.M. APPROVED March 4, 1940 ENGINEER OF STORM DRAIN DIVISION

OFFICE STANDARD STORM DRAIN DIVISION NO. 91

CITY OF LOS ANGELES DEPT. OF PUBLIC WORKS TABLE SHEET BUREAU OF ENGINEERING STORM DRAIN DIVISION DATE..........

SUPERVISED BY TABLED BY CHECKED BY SYSTEM DESIGN CURVE YEAR SHEET NO. 47 OF SHEETS

Line	Drainage Area No. (1)	Acres (2)	(3)	Classification, Areas, & R.O. Quantities (4–11)	1 Hr. R.F.R. (12)	Dist. Factor Fig. 3 (13)	Amend 1 Hr. R.F.R. (14)	Σ Q's (15)	Fric. Slope (16)	AC√R (17)	Pipe Size (18)	Pipe Length (19)	V (20)	t_c (21)	Factor F Fig. 6 (22)	Station (23)	S.D. Locations (24)	Remarks (25)
1			A / ΣA / q / Q	FIGUEROA ST.													IN FIGUEROA	
2									.007		R 99 Rd:67 xf:2.C A	530					AT 22nd ST.	
3			A / ΣA / q / Q															
4									[illegible]		R 99 Rd:67 [illegible]	[illegible]					AT 23rd ST.	
5			A / ΣA / q / Q															
6									.0072		R 99 Rd:67 xf:5.5 A	[illegible]					AT ADAMS	
7			A / ΣA / q / Q															
8									.005		R 99 Rd:67 [illegible] A	[illegible]					AT 27th ST. W	
9			A / ΣA / q / Q															
10									[illegible]		R 99 [illegible]	420					AT 28th ST. W	
11			A / ΣA / q / Q															
12									.0023		R 99 Rd:67 xf:0.0 A	370					AT 30th ST.	
13			A / ΣA / q / Q															
14									.0023		R 99 Rd:67 [illegible] A	[illegible]					AT 31st ST. E	
15			A / ΣA / q / Q															
16																	AT 32nd ST	
17			A / ΣA / q / Q															
18				16th ST. - SAN PEDRO TO MAPLE														
19			A / ΣA / q / Q								R 60 Rd:4C xf:0.2 A						IN 16th ST.	
20									.0068			540					AT SAN PEDRO	
21			A / ΣA / q / Q								R 60 Rd:4C [illegible] A							
22									[illegible]			[illegible]					AT TRINITY	
23			A / ΣA / q / Q								R 60 Rd:4C xf:0.? A							
24									.0015			370					AT WALL	
25			A / ΣA / q / Q															
26																	AT MAPLE	
27																		

TABLE SHEET—RUNOFF INSTRUCTIONS —— 1939

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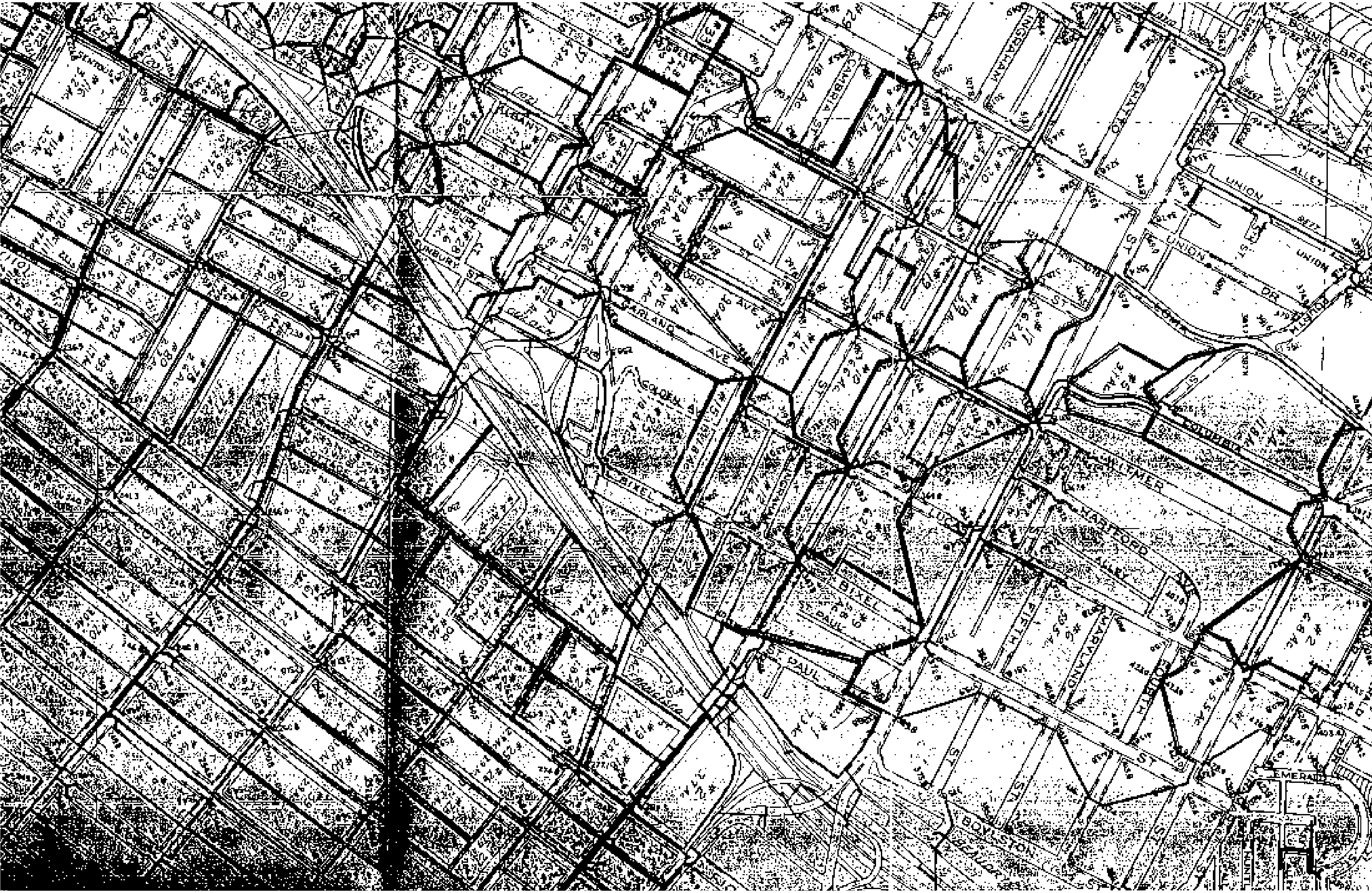
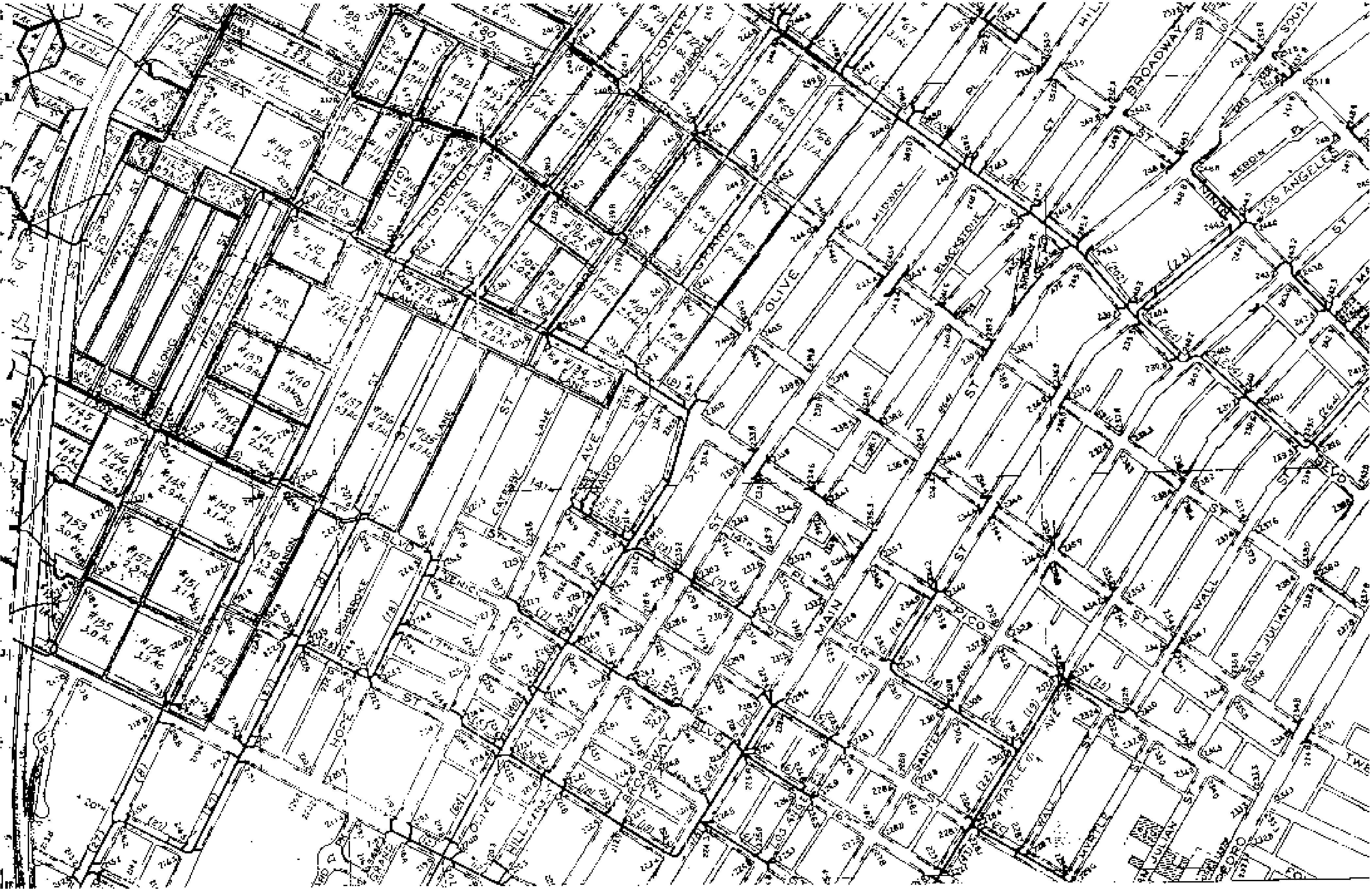
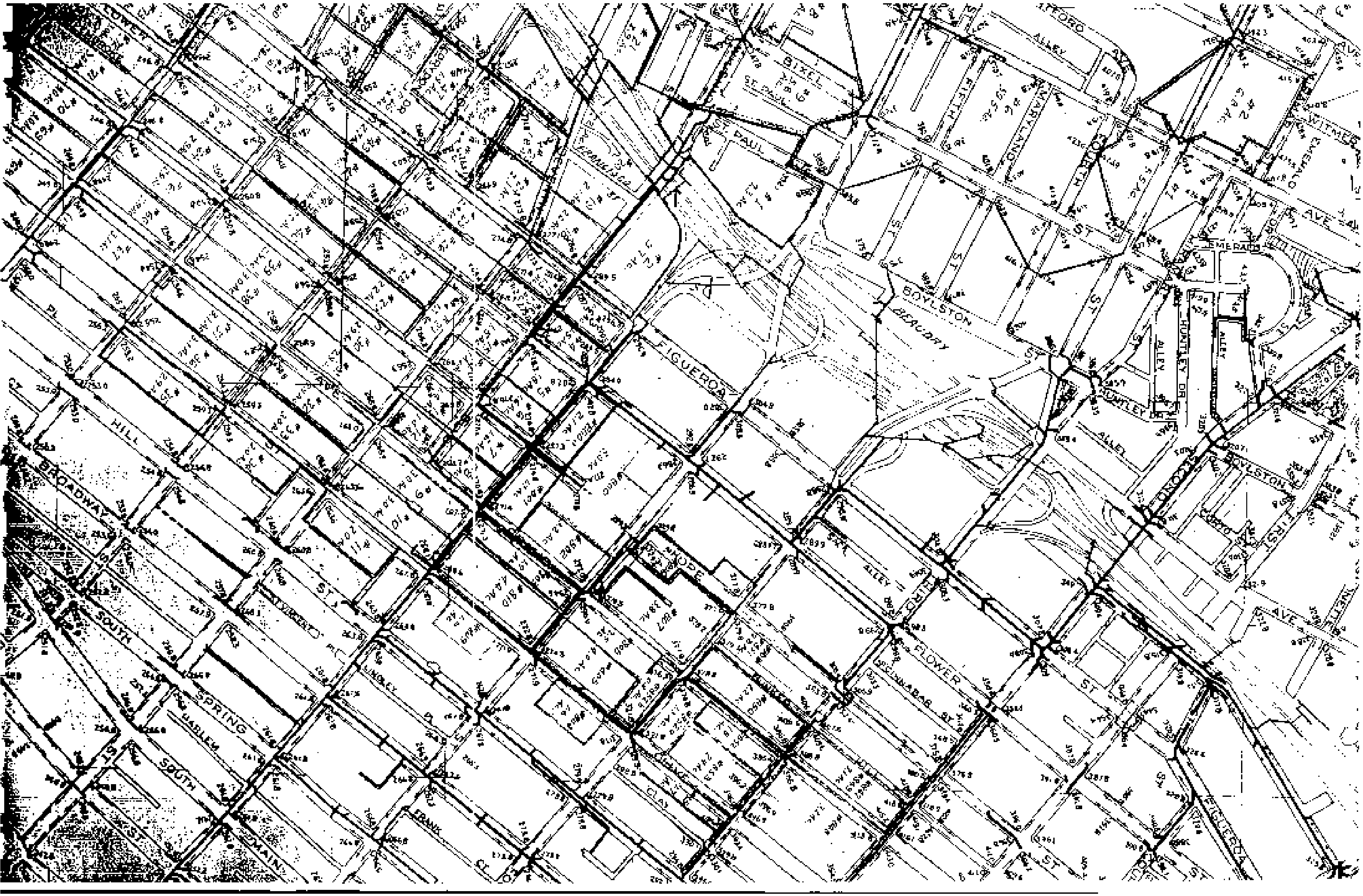
OFFICE STANDARD STORM DRAIN DIVISION

NO. 9


GARLAND
AVE
COLUMBIA
WITMER
HARTFORD
BIXEL
ST PAUL
UNION
ALLEY
DR
ST


BROADWAY
LOS ANGELES
OLIVE
GRAND
FIGUEROA
FLOWER
CAMERON
DE LONG
BLACKSTONE
MAIN
PICO
MAPLE AVE
WALL
SAN JULIAN
HOPE
OLIVE
HILL
BROADWAY
VENICE
BLVD
SANTEE
ST



FIGUEROA
BOYLSTON
BEAUDRY
FLOWER
HILL
BROADWAY
SPRING
SOUTH
MAIN
ST PAUL
BIXEL
FIFTH
MARYLAND
HUNTLEY DR
ALLEY
EMERALD
WITMER
FIRST
FLOWER
CINNABAR ST
CLAY
FRANK
HARLEM
LINDLEY
HOPE


WESTLAKE
CONSTANCE
AVE
BONNIE
BRAE
ALVARADO
BURLINGTON
BEACON
UNION
GRATTAN
VALENCIA
ALBANY
OAK
TOBERMAN
WASHINGTON
FIGUEROA
GARLAND
SUNBURY
ST