

COUNTY OF LOS ANGELES FIRE DEPARTMENT

HYDRAULIC CALCULATOR

		TIP	NOZZLE PRESSURE	G.P.M.	FL per 100'	LENGTH OF HOSE LAYOUT								
						100'	150'	200'	300'	400'	500'	600'	700'	800'
HANDLINES	1"	10/40	100	40	45	145	167	190	235	280	325			
	1 1/2"	10/40	100	40	7	107	111	114	121	128	135	142	149	156
	1 3/4"	Metro 1	75	150	21	96	106	117	138	159	180			
		Elkhart	75	200	36	111	129	147	183	219	255			
	2 1/2"	Metro 2	75	250	15	90	98	105	120	135	150			
		1" SB	50	200	10	60	65	70	80	90	100			
		1-1/8" SB	50	250	15	65	73	80	95	110	125			
		1-1/4" SB	50	325	25	75	88	100	125	150	175			
	MASTER STREAM	Akron Apollo	1-1/4" SB	80	400	2	97	98	99	101	103			
			1-1/2" SB	80	600	4	99	101	103	107	111			
Deck Gun		3/4" SB	80	150										
		1-1/2" SB	80	600										
		2" SB	80	1000										
		FOG	100	1000										
Handline Nozzles				Deck Gun			Akron Apollo Monitor				Elkhart 205BA Variable Flow Nozzle			
HELICOPTER LAY		412	360 GPM @ KamLok - 30 psi @ wye + 30 psi per 100' of 2 1/2"						HIGH RISE		5 psi / floor (to the roof) + 25 psi standpipe FL = System Pressure			
		Firehawk	80 psi with 4" supply, 125 psi with 2 1/2" supply											
							Fire Pump Operations: EP = System pressure minus 100 psi							
GROUND MONITOR		600 GPM Maximum - FL=15 psi 1 1/4" Tip = 400 GPM 1 1/2" Tip = 600 GPM						LADDERPIPE		Straight Tip 1-1/2" Tip 2" Tip 80 psi NP		Pressure 600 GPM = 150 PSI 1000 GPM = 195 PSI		
SPRINKLERS: 150 PSI					FRICTION LOSS APPLIANCES			WATER EDUCTOR			LEGEND			
								Delivers 80-120 gpm Up to 20' lift Pump at 150 psi, Max. 150' 1-3/4" supply to eductor 2-1/2" return from eductor			FL Friction Loss SB Smooth Bore EP Engine Pressure NP Nozzle Pressure			
STANDPIPES: EP = Appliance(25 psi) + 5 psi/floor + hose lay														
AVAILABLE FLOW FROM HYDRANT														
10% or less drop		3 more like volumes												
11%-15% drop		2 more like volumes												
16%-25% drop		1 more like volume												