



## 24 Inch 38-Degree SRCRC (No. 2) Trapezoidal Flume Discharge Table

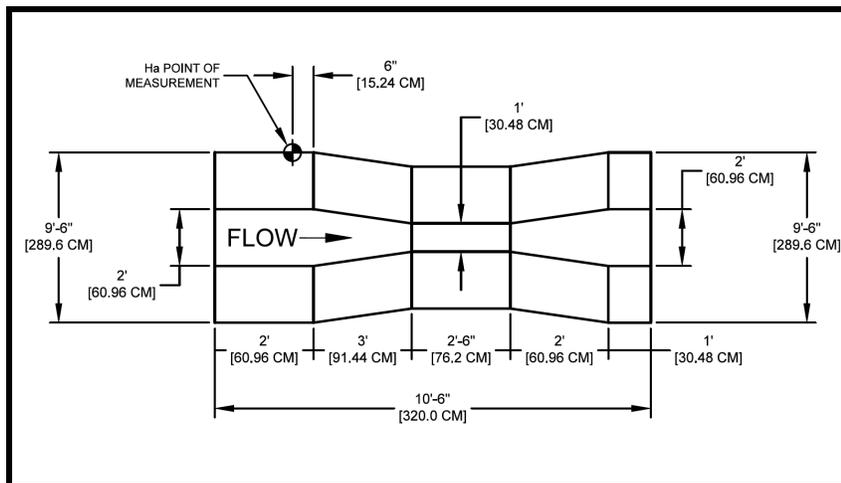
80% Submergence Transition ±2-5% Accuracy

Formulas (H in feet):  $CFS = 0.19 + 1.67 H_{ft}^{1.5} + 4.27 H_{ft}^{2.5}$

Formulas (H in meters):  $L/S = 5.380 + 281.0 H_m^{1.5} + 2357 H_m^{2.5}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.01	0.12	0.0030					
0.02	0.24	0.0061					
0.03	0.36	0.0091					
0.04	0.48	0.0122					
0.05	0.60	0.0152					
0.06	0.72	0.0183					
0.07	0.84	0.0213					
0.08	0.96	0.0244					
0.09	1.08	0.0274					
0.10	1.20	0.0305					
0.11	1.32	0.0335					
0.12	1.44	0.0366					
0.13	1.56	0.0396					
0.14	1.68	0.0427					
0.15	1.80	0.04572					
0.16	1.92	0.0488					
0.17	2.04	0.0518					
0.18	2.16	0.0549					
0.19	2.28	0.0579					
0.20	2.40	0.0610					
0.21	2.52	0.0640					
0.22	2.64	0.0671					
0.23	2.76	0.0701					
0.24	2.88	0.0732					
0.25	3.00	0.0762					
0.26	3.12	0.0792					
0.27	3.24	0.0823					
0.28	3.36	0.0853					
0.29	3.48	0.0884					
0.30	3.60	0.0914	0.6749	302.9	0.4362	19.11	68.77

Excessive error due to fluid-flow properties and boundary conditions





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 Formulas (H in meters):  $L/S = 5.380 + 281.0 H_m^{1.5} + 2357 H_m^{2.5}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	0.7067	317.2	0.4567	20.01	72.01
0.32	3.84	0.0975	0.7396	332.0	0.4780	20.95	75.37
0.33	3.96	0.1006	0.7737	347.2	0.5000	21.91	78.84
0.34	4.08	0.1036	0.8089	363.0	0.5228	22.91	82.43
0.35	4.20	0.1067	0.8453	379.3	0.5463	23.94	86.13
0.36	4.32	0.1097	0.8828	396.2	0.5705	25.00	89.95
0.37	4.44	0.1128	0.9214	413.5	0.5955	26.09	93.89
0.38	4.56	0.1158	0.9613	431.4	0.6213	27.22	97.95
0.39	4.68	0.1189	1.002	449.8	0.6478	28.39	102.1
0.40	4.80	0.1219	1.045	468.8	0.6751	29.58	106.4
0.41	4.92	0.1250	1.088	488.3	0.7032	30.81	110.9
0.42	5.04	0.1280	1.133	508.4	0.7321	32.08	115.4
0.43	5.16	0.1311	1.179	529.0	0.7617	33.38	120.1
0.44	5.28	0.1341	1.226	550.1	0.7922	34.71	124.9
0.45	5.40	0.1372	1.274	571.8	0.8235	36.08	129.8
0.46	5.52	0.1402	1.324	594.1	0.8556	37.49	134.9
0.47	5.64	0.1433	1.375	617.0	0.8885	38.93	140.1
0.48	5.76	0.1463	1.427	640.4	0.9222	40.41	145.4
0.49	5.88	0.1494	1.480	664.4	0.9568	41.93	150.9
0.50	6.00	0.1524	1.535	689.0	0.9922	43.48	156.4
0.51	6.12	0.1554	1.591	714.2	1.029	45.07	162.2
0.52	6.24	0.1585	1.649	740.0	1.066	46.69	168.0
0.53	6.36	0.1615	1.708	766.4	1.104	48.36	174.0
0.54	6.48	0.1646	1.768	793.3	1.142	50.06	180.1
0.55	6.60	0.1676	1.829	820.9	1.182	51.80	186.4
0.56	6.72	0.1707	1.892	849.1	1.223	53.58	192.8
0.57	6.84	0.1737	1.956	877.9	1.264	55.40	199.3
0.58	6.96	0.1768	2.022	907.3	1.307	57.25	206.0
0.59	7.08	0.1798	2.089	937.3	1.350	59.15	212.8
0.60	7.20	0.1829	2.157	968.0	1.394	61.08	219.8
0.61	7.32	0.1859	2.227	999.3	1.439	63.06	226.9
0.62	7.44	0.1890	2.298	1031	1.485	65.07	234.1
0.63	7.56	0.1920	2.370	1064	1.532	67.13	241.5
0.64	7.68	0.1951	2.444	1097	1.580	69.22	249.1
0.65	7.80	0.1981	2.520	1131	1.628	71.36	256.8
0.66	7.92	0.2012	2.597	1165	1.678	73.53	264.6
0.67	8.04	0.2042	2.675	1200	1.729	75.75	272.6
0.68	8.16	0.2073	2.755	1236	1.780	78.01	280.7
0.69	8.28	0.2103	2.836	1273	1.833	80.31	289.0
0.70	8.40	0.2134	2.919	1310	1.886	82.65	297.4
0.71	8.52	0.2164	3.003	1348	1.941	85.04	306.0
0.72	8.64	0.2195	3.089	1386	1.996	87.47	314.7
0.73	8.76	0.2225	3.176	1425	2.053	89.94	323.6
0.74	8.88	0.2256	3.265	1465	2.110	92.45	332.7
0.75	9.00	0.2286	3.355	1506	2.168	95.01	341.9
0.76	9.12	0.2316	3.447	1547	2.228	97.61	351.2
0.77	9.24	0.2347	3.540	1589	2.288	100.3	360.7
0.78	9.36	0.2377	3.635	1631	2.349	102.9	370.4
0.79	9.48	0.2408	3.731	1675	2.412	105.7	380.2
0.80	9.60	0.2438	3.829	1719	2.475	108.4	390.2

Source: *Trapezoidal Flumes for Measuring Flow in Irrigation Channels*, USDA-ARS 41-140, March 1968



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80% Submergence Transition ±2-5% Accuracy

Formulas (H in feet):  $CFS = 0.19 + 1.67 H_{ft}^{1.5} + 4.27 H_{ft}^{2.5}$   
 Formulas (H in meters):  $L/S = 5.380 + 281.0 H_m^{1.5} + 2357 H_m^{2.5}$

FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	3.929	1763	2.539	111.3	400.3
0.82	9.84	0.2499	4.030	1809	2.605	114.1	410.7
0.83	9.96	0.2530	4.133	1855	2.671	117.0	421.1
0.84	10.08	0.2560	4.237	1902	2.738	120.0	431.8
0.85	10.20	0.2591	4.343	1949	2.807	123.0	442.6
0.86	10.32	0.2621	4.451	1997	2.876	126.0	453.5
0.87	10.44	0.2652	4.560	2046	2.947	129.1	464.6
0.88	10.56	0.2682	4.671	2096	3.019	132.3	475.9
0.89	10.68	0.2713	4.783	2147	3.091	135.5	487.4
0.90	10.80	0.2743	4.897	2198	3.165	138.7	499.0
0.91	10.92	0.2774	5.013	2250	3.240	142.0	510.8
0.92	11.04	0.2804	5.130	2302	3.316	145.3	522.8
0.93	11.16	0.2835	5.249	2356	3.393	148.7	534.9
0.94	11.28	0.2865	5.370	2410	3.471	152.1	547.2
0.95	11.40	0.2896	5.492	2465	3.550	155.5	559.7
0.96	11.52	0.2926	5.617	2521	3.630	159.1	572.3
0.97	11.64	0.2957	5.742	2577	3.711	162.6	585.1
0.98	11.76	0.2987	5.870	2634	3.794	166.2	598.1
0.99	11.88	0.3018	5.999	2692	3.877	169.9	611.3
1.00	12.00	0.3048	6.130	2751	3.962	173.6	624.6
1.01	12.12	0.3078	6.263	2811	4.048	177.4	638.2
1.02	12.24	0.3109	6.397	2871	4.134	181.2	651.9
1.03	12.36	0.3139	6.533	2932	4.222	185.0	665.7
1.04	12.48	0.3170	6.671	2994	4.312	188.9	679.8
1.05	12.60	0.3200	6.811	3057	4.402	192.9	694.0
1.06	12.72	0.3231	6.952	3120	4.493	196.9	708.4
1.07	12.84	0.3261	7.095	3184	4.586	200.9	723.0
1.08	12.96	0.3292	7.240	3249	4.679	205.0	737.8
1.09	13.08	0.3322	7.387	3315	4.774	209.2	752.7
1.10	13.20	0.3353	7.536	3382	4.870	213.4	767.9
1.11	13.32	0.3383	7.686	3449	4.967	217.7	783.2
1.12	13.44	0.3414	7.838	3518	5.066	222.0	798.7
1.13	13.56	0.3444	7.992	3587	5.165	226.3	814.4
1.14	13.68	0.3475	8.148	3657	5.266	230.7	830.3
1.15	13.80	0.3505	8.305	3727	5.368	235.2	846.3
1.16	13.92	0.3536	8.465	3799	5.471	239.7	862.6
1.17	14.04	0.3566	8.626	3871	5.575	244.3	879.0
1.18	14.16	0.3597	8.789	3945	5.680	248.9	895.6
1.19	14.28	0.3627	8.954	4019	5.787	253.6	912.4
1.20	14.40	0.3658	9.121	4093	5.895	258.3	929.4
1.21	14.52	0.3688	9.290	4169	6.004	263.1	946.6
1.22	14.64	0.3719	9.460	4246	6.114	267.9	964.0
1.23	14.76	0.3749	9.633	4323	6.226	272.8	981.6
1.24	14.88	0.3780	9.807	4401	6.338	277.7	999.3
1.25	15.00	0.3810	9.983	4480	6.452	282.7	1017
1.26	15.12	0.3840	10.16	4560	6.567	287.8	1035
1.27	15.24	0.3871	10.34	4641	6.684	292.9	1054
1.28	15.36	0.3901	10.52	4723	6.801	298.0	1072
1.29	15.48	0.3932	10.71	4805	6.920	303.2	1091
1.30	15.60	0.3962	10.89	4889	7.040	308.5	1110

Source: Trapezoidal Flumes for Measuring Flow in Irrigation Channels, USDA-ARS 41-140, March 1968



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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.31	15.72	0.3993	11.08	4973	7.162	313.8	1129
1.32	15.84	0.4023	11.27	5058	7.284	319.2	1148
1.33	15.96	0.4054	11.46	5144	7.408	324.6	1168
1.34	16.08	0.4084	11.66	5231	7.533	330.1	1188
1.35	16.20	0.4115	11.85	5319	7.660	335.6	1208
1.36	16.32	0.4145	12.05	5408	7.787	341.2	1228
1.37	16.44	0.4176	12.25	5497	7.916	346.9	1248
1.38	16.56	0.4206	12.45	5588	8.046	352.6	1269
1.39	16.68	0.4237	12.65	5679	8.178	358.3	1289
1.40	16.80	0.4267	12.86	5771	8.311	364.2	1310
1.41	16.92	0.4298	13.07	5864	8.445	370.0	1331
1.42	17.04	0.4328	13.28	5958	8.580	376.0	1353
1.43	17.16	0.4359	13.49	6053	8.717	382.0	1374
1.44	17.28	0.4389	13.70	6149	8.855	388.0	1396
1.45	17.40	0.4420	13.92	6246	8.994	394.1	1418
1.46	17.52	0.4450	14.13	6343	9.135	400.3	1440
1.47	17.64	0.4481	14.35	6442	9.277	406.5	1463
1.48	17.76	0.4511	14.58	6541	9.420	412.8	1485
1.49	17.88	0.4542	14.80	6642	9.565	419.1	1508
1.50	18.00	0.4572	15.02	6743	9.710	425.5	1531
1.51	18.12	0.4602	15.25	6845	9.858	432.0	1554
1.52	18.24	0.4633	15.48	6949	10.01	438.5	1578
1.53	18.36	0.4663	15.71	7053	10.16	445.0	1601
1.54	18.48	0.4694	15.95	7158	10.31	451.7	1625
1.55	18.60	0.4724	16.18	7264	10.46	458.3	1649
1.56	18.72	0.4755	16.42	7371	10.61	465.1	1673
1.57	18.84	0.4785	16.66	7478	10.77	471.9	1698
1.58	18.96	0.4816	16.91	7587	10.93	478.8	1723
1.59	19.08	0.4846	17.15	7697	11.08	485.7	1748
1.60	19.20	0.4877	17.40	7808	11.24	492.7	1773
1.61	19.32	0.4907	17.65	7919	11.40	499.7	1798
1.62	19.44	0.4938	17.90	8032	11.57	506.8	1824
1.63	19.56	0.4968	18.15	8146	11.73	514.0	1849
1.64	19.68	0.4999	18.40	8260	11.90	521.2	1875
1.65	19.80	0.5029	18.66	8376	12.06	528.5	1902
1.66	19.92	0.5060	18.92	8492	12.23	535.9	1928
1.67	20.04	0.5090	19.18	8609	12.40	543.3	1955
1.68	20.16	0.5121	19.45	8728	12.57	550.7	1982
1.69	20.28	0.5151	19.71	8847	12.74	558.3	2009
1.70	20.40	0.5182	19.98	8968	12.91	565.9	2036
1.71	20.52	0.5212	20.25	9089	13.09	573.5	2064
1.72	20.64	0.5243	20.52	9211	13.26	581.2	2091
1.73	20.76	0.5273	20.80	9335	13.44	589.0	2119
1.74	20.88	0.5304	21.08	9459	13.62	596.9	2148
1.75	21.00	0.5334	21.36	9584	13.80	604.8	2176
1.76	21.12	0.5364	21.64	9710	13.98	612.7	2205
1.77	21.24	0.5395	21.92	9838	14.17	620.8	2234
1.78	21.36	0.5425	22.21	9966	14.35	628.9	2263
1.79	21.48	0.5456	22.49	10095	14.54	637.0	2292
1.80	21.60	0.5486	22.78	10226	14.73	645.3	2322



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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.81	21.72	0.5517	23.08	10357	14.91	653.5	2352
1.82	21.84	0.5547	23.37	10489	15.11	661.9	2382
1.83	21.96	0.5578	23.67	10622	15.30	670.3	2412
1.84	22.08	0.5608	23.97	10757	15.49	678.8	2442
1.85	22.20	0.5639	24.27	10892	15.69	687.3	2473
1.86	22.32	0.5669	24.57	11028	15.88	695.9	2504
1.87	22.44	0.5700	24.88	11166	16.08	704.6	2535
1.88	22.56	0.5730	25.19	11304	16.28	713.3	2567
1.89	22.68	0.5761	25.50	11444	16.48	722.1	2598
1.90	22.80	0.5791	25.81	11584	16.68	731.0	2630
1.91	22.92	0.5822	26.13	11726	16.89	739.9	2662
1.92	23.04	0.5852	26.44	11868	17.09	748.9	2695
1.93	23.16	0.5883	26.76	12012	17.30	758.0	2727
1.94	23.28	0.5913	27.09	12156	17.51	767.1	2760
1.95	23.40	0.5944	27.41	12302	17.72	776.3	2793
1.96	23.52	0.5974	27.74	12449	17.93	785.5	2826
1.97	23.64	0.6005	28.07	12596	18.14	794.8	2860
1.98	23.76	0.6035	28.40	12745	18.35	804.2	2894
1.99	23.88	0.6066	28.73	12895	18.57	813.7	2928
2.00	24.00	0.6096	29.07	13046	18.79	823.2	2962
2.01	24.12	0.6126	29.41	13198	19.01	832.8	2997
2.02	24.24	0.6157	29.75	13351	19.23	842.5	3031
2.03	24.36	0.6187	30.09	13505	19.45	852.2	3066
2.04	24.48	0.6218	30.44	13660	19.67	862.0	3101
2.05	24.60	0.6248	30.78	13816	19.90	871.8	3137
2.06	24.72	0.6279	31.13	13973	20.12	881.7	3173
2.07	24.84	0.6309	31.49	14132	20.35	891.7	3209
2.08	24.96	0.6340	31.84	14291	20.58	901.8	3245
2.09	25.08	0.6370	32.20	14452	20.81	911.9	3281
2.10	25.20	0.6401	32.56	14613	21.04	922.1	3318
2.11	25.32	0.6431	32.92	14776	21.28	932.4	3355
2.12	25.44	0.6462	33.29	14939	21.51	942.7	3392
2.13	25.56	0.6492	33.65	15104	21.75	953.1	3429
2.14	25.68	0.6523	34.02	15270	21.99	963.6	3467
2.15	25.80	0.6553	34.40	15437	22.23	974.1	3505
2.16	25.92	0.6584	34.77	15605	22.47	984.7	3543
2.17	26.04	0.6614	35.15	15774	22.72	995.4	3582
2.18	26.16	0.6645	35.53	15945	22.96	1006	3620
2.19	26.28	0.6675	35.91	16116	23.21	1017	3659
2.20	26.40	0.6706	36.29	16288	23.46	1028	3698
2.21	26.52	0.6736	36.68	16462	23.71	1039	3738
2.22	26.64	0.6767	37.07	16637	23.96	1050	3777
2.23	26.76	0.6797	37.46	16812	24.21	1061	3817
2.24	26.88	0.6828	37.85	16989	24.47	1072	3857
2.25	27.00	0.6858	38.25	17167	24.72	1083	3898
2.26	27.12	0.6888	38.65	17346	24.98	1095	3939
2.27	27.24	0.6919	39.05	17527	25.24	1106	3979
2.28	27.36	0.6949	39.46	17708	25.50	1117	4021
2.29	27.48	0.6980	39.86	17890	25.76	1129	4062
2.30	27.60	0.7010	40.27	18074	26.03	1141	4104

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
2.31	27.72	0.7041	40.68	18259	26.29	1152	4146
2.32	27.84	0.7071	41.10	18445	26.56	1164	4188
2.33	27.96	0.7102	41.51	18632	26.83	1176	4230
2.34	28.08	0.7132	41.93	18820	27.10	1188	4273
2.35	28.20	0.7163	42.36	19009	27.37	1200	4316
2.36	28.32	0.7193	42.78	19199	27.65	1212	4359
2.37	28.44	0.7224	43.21	19391	27.92	1224	4403
2.38	28.56	0.7254	43.64	19584	28.20	1236	4446
2.39	28.68	0.7285	44.07	19777	28.48	1248	4490
2.40	28.80	0.7315	44.50	19972	28.76	1260	4535
2.41	28.92	0.7346	44.94	20169	29.04	1273	4579
2.42	29.04	0.7376	45.38	20366	29.33	1285	4624
2.43	29.16	0.7407	45.82	20564	29.61	1298	4669
2.44	29.28	0.7437	46.27	20764	29.90	1310	4714
2.45	29.40	0.7468	46.71	20965	30.19	1323	4760
2.46	29.52	0.7498	47.16	21167	30.48	1336	4806
2.47	29.64	0.7529	47.61	21370	30.77	1348	4852
2.48	29.76	0.7559	48.07	21574	31.07	1361	4898
2.49	29.88	0.7590	48.53	21779	31.36	1374	4945
2.50	30.00	0.7620	48.99	21986	31.66	1387	4992
2.51	30.12	0.7650	49.45	22194	31.96	1400	5039
2.52	30.24	0.7681	49.92	22402	32.26	1414	5086
2.53	30.36	0.7711	50.38	22613	32.56	1427	5134
2.54	30.48	0.7742	50.86	22824	32.87	1440	5182
2.55	30.60	0.7772	51.33	23036	33.17	1454	5230
2.56	30.72	0.7803	51.80	23250	33.48	1467	5279
2.57	30.84	0.7833	52.28	23465	33.79	1481	5328
2.58	30.96	0.7864	52.76	23681	34.10	1494	5377
2.59	31.08	0.7894	53.25	23898	34.41	1508	5426