



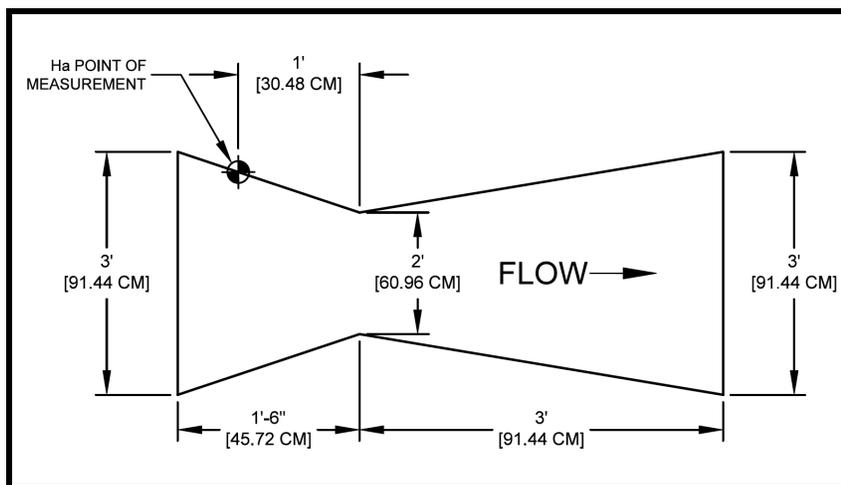
## 54-Inch L x 24-Inch W Cutthroat Flume Discharge Table

70% Submergence Transition    ±3% Accuracy

Formulas (H in feet):    CFS = 8.010  $H_{ft}^{1.72}$     GPM = 3595  $H_{ft}^{1.72}$     MGD = 5.177  $H_{ft}^{1.72}$   
 Formulas (H in meters):    L/S = 1750  $H_m^{1.72}$     M3/HR = 6299  $H_m^{1.72}$

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	0.1526	68.50	0.0986	4.322	15.55
0.11	1.32	0.0335	0.1798	80.70	0.1162	5.092	18.32
0.12	1.44	0.0366	0.2088	93.73	0.1350	5.914	21.28
0.13	1.56	0.0396	0.2397	107.6	0.1549	6.787	24.42
0.14	1.68	0.0427	0.2723	122.2	0.1760	7.710	27.74
0.15	1.80	0.0457	0.3066	137.6	0.1981	8.682	31.24
0.16	1.92	0.0488	0.3425	153.7	0.2214	9.701	34.91
0.17	2.04	0.0518	0.3802	170.6	0.2457	10.77	38.74
0.18	2.16	0.0549	0.4195	188.3	0.2711	11.88	42.74
0.19	2.28	0.0579	0.4604	206.6	0.2975	13.04	46.91
0.20	2.40	0.0610	0.5028	225.7	0.3250	14.24	51.24
0.21	2.52	0.0640	0.5468	245.4	0.3534	15.49	55.72
0.22	2.64	0.0671	0.5924	265.9	0.3829	16.78	60.36
0.23	2.76	0.0701	0.6394	287.0	0.4133	18.11	65.16
0.24	2.88	0.0732	0.6880	308.8	0.4447	19.48	70.11
0.25	3.00	0.0762	0.7381	331.2	0.4770	20.90	75.21
0.26	3.12	0.0792	0.7896	354.4	0.5103	22.36	80.46
0.27	3.24	0.0823	0.8425	378.1	0.5445	23.86	85.85
0.28	3.36	0.0853	0.8969	402.5	0.5797	25.40	91.39
0.29	3.48	0.0884	0.9527	427.6	0.6157	26.98	97.08
0.30	3.60	0.0914	1.010	453.2	0.6527	28.60	102.9

Excessive error due to fluid-flow properties and boundary conditions



Note: Discharge is calculated to top of flume

Sources:    Cutthroat Flume Discharge Relations, Water Management Technical Paper No. 16, Colorado State University, AER71-72RSB6, March 1972  
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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.31	3.72	0.0945	1.069	479.5	0.6906	30.26	108.9
0.32	3.84	0.0975	1.128	506.5	0.7293	31.96	115.0
0.33	3.96	0.1006	1.190	534.0	0.7690	33.70	121.2
0.34	4.08	0.1036	1.252	562.1	0.8095	35.47	127.6
0.35	4.20	0.1067	1.317	590.9	0.8509	37.28	134.2
0.36	4.32	0.1097	1.382	620.2	0.8931	39.14	140.8
0.37	4.44	0.1128	1.449	650.1	0.9362	41.02	147.6
0.38	4.56	0.1158	1.517	680.6	0.9802	42.95	154.5
0.39	4.68	0.1189	1.586	711.7	1.025	44.91	161.6
0.40	4.80	0.1219	1.656	743.4	1.071	46.91	168.8
0.41	4.92	0.1250	1.728	775.7	1.117	48.95	176.1
0.42	5.04	0.1280	1.801	808.5	1.164	51.02	183.6
0.43	5.16	0.1311	1.876	841.9	1.212	53.12	191.1
0.44	5.28	0.1341	1.952	875.8	1.261	55.27	198.9
0.45	5.40	0.1372	2.028	910.4	1.311	57.44	206.7
0.46	5.52	0.1402	2.107	945.4	1.361	59.66	214.7
0.47	5.64	0.1433	2.186	981.1	1.413	61.91	222.7
0.48	5.76	0.1463	2.267	1017	1.465	64.19	231.0
0.49	5.88	0.1494	2.348	1054	1.518	66.51	239.3
0.50	6.00	0.1524	2.431	1091	1.571	68.86	247.8
0.51	6.12	0.1554	2.516	1129	1.626	71.24	256.3
0.52	6.24	0.1585	2.601	1167	1.681	73.66	265.1
0.53	6.36	0.1615	2.688	1206	1.737	76.12	273.9
0.54	6.48	0.1646	2.776	1246	1.794	78.60	282.8
0.55	6.60	0.1676	2.865	1286	1.851	81.12	291.9
0.56	6.72	0.1707	2.955	1326	1.910	83.68	301.1
0.57	6.84	0.1737	3.046	1367	1.969	86.26	310.4
0.58	6.96	0.1768	3.139	1409	2.028	88.88	319.8
0.59	7.08	0.1798	3.232	1451	2.089	91.54	329.4
0.60	7.20	0.1829	3.327	1493	2.150	94.22	339.0
0.61	7.32	0.1859	3.423	1536	2.212	96.94	348.8
0.62	7.44	0.1890	3.520	1580	2.275	99.69	358.7
0.63	7.56	0.1920	3.618	1624	2.338	102.5	368.7
0.64	7.68	0.1951	3.718	1668	2.403	105.3	378.8
0.65	7.80	0.1981	3.818	1714	2.468	108.1	389.1
0.66	7.92	0.2012	3.920	1759	2.533	111.0	399.4
0.67	8.04	0.2042	4.022	1805	2.600	113.9	409.9
0.68	8.16	0.2073	4.126	1852	2.667	116.9	420.5
0.69	8.28	0.2103	4.231	1899	2.735	119.8	431.1
0.70	8.40	0.2134	4.337	1946	2.803	122.8	442.0
0.71	8.52	0.2164	4.444	1995	2.872	125.9	452.9
0.72	8.64	0.2195	4.552	2043	2.942	128.9	463.9
0.73	8.76	0.2225	4.662	2092	3.013	132.0	475.0
0.74	8.88	0.2256	4.772	2142	3.084	135.1	486.3
0.75	9.00	0.2286	4.884	2192	3.156	138.3	497.6
0.76	9.12	0.2316	4.996	2242	3.229	141.5	509.1
0.77	9.24	0.2347	5.110	2293	3.302	144.7	520.7
0.78	9.36	0.2377	5.224	2345	3.377	148.0	532.4
0.79	9.48	0.2408	5.340	2397	3.451	151.2	544.2
0.80	9.60	0.2438	5.457	2449	3.527	154.5	556.1

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	5.575	2502	3.603	157.9	568.1
0.82	9.84	0.2499	5.694	2555	3.680	161.2	580.2
0.83	9.96	0.2530	5.814	2609	3.757	164.6	592.4
0.84	10.08	0.2560	5.935	2663	3.836	168.1	604.7
0.85	10.20	0.2591	6.057	2718	3.914	171.5	617.2
0.86	10.32	0.2621	6.180	2773	3.994	175.0	629.7
0.87	10.44	0.2652	6.304	2829	4.074	178.5	642.4
0.88	10.56	0.2682	6.429	2885	4.155	182.1	655.1
0.89	10.68	0.2713	6.555	2942	4.237	185.6	668.0
0.90	10.80	0.2743	6.682	2999	4.319	189.2	680.9
0.91	10.92	0.2774	6.811	3057	4.402	192.9	694.0
0.92	11.04	0.2804	6.940	3115	4.485	196.5	707.2
0.93	11.16	0.2835	7.070	3173	4.569	200.2	720.4
0.94	11.28	0.2865	7.201	3232	4.654	203.9	733.8
0.95	11.40	0.2896	7.334	3291	4.740	207.7	747.3
0.96	11.52	0.2926	7.467	3351	4.826	211.5	760.9
0.97	11.64	0.2957	7.601	3411	4.913	215.3	774.6
0.98	11.76	0.2987	7.736	3472	5.000	219.1	788.3
0.99	11.88	0.3018	7.873	3533	5.088	223.0	802.2
1.00	12.00	0.3048	8.010	3595	5.177	226.8	816.2
1.01	12.12	0.3078	8.148	3657	5.266	230.8	830.3
1.02	12.24	0.3109	8.288	3719	5.356	234.7	844.5
1.03	12.36	0.3139	8.428	3782	5.447	238.7	858.8
1.04	12.48	0.3170	8.569	3846	5.538	242.7	873.2
1.05	12.60	0.3200	8.711	3910	5.630	246.7	887.7
1.06	12.72	0.3231	8.854	3974	5.723	250.8	902.3
1.07	12.84	0.3261	8.999	4039	5.816	254.8	917.0
1.08	12.96	0.3292	9.144	4104	5.910	258.9	931.7
1.09	13.08	0.3322	9.290	4169	6.004	263.1	946.6
1.10	13.20	0.3353	9.437	4235	6.099	267.3	961.6
1.11	13.32	0.3383	9.585	4302	6.195	271.4	976.7
1.12	13.44	0.3414	9.734	4369	6.291	275.7	991.9
1.13	13.56	0.3444	9.884	4436	6.388	279.9	1007
1.14	13.68	0.3475	10.03	4504	6.485	284.2	1023
1.15	13.80	0.3505	10.19	4572	6.584	288.5	1038
1.16	13.92	0.3536	10.34	4640	6.682	292.8	1054
1.17	14.04	0.3566	10.49	4709	6.782	297.2	1069
1.18	14.16	0.3597	10.65	4779	6.882	301.6	1085
1.19	14.28	0.3627	10.80	4849	6.982	306.0	1101
1.20	14.40	0.3658	10.96	4919	7.084	310.4	1117
1.21	14.52	0.3688	11.12	4990	7.186	314.9	1133
1.22	14.64	0.3719	11.28	5061	7.288	319.3	1149
1.23	14.76	0.3749	11.44	5132	7.391	323.9	1165
1.24	14.88	0.3780	11.60	5204	7.495	328.4	1182
1.25	15.00	0.3810	11.76	5277	7.599	333.0	1198
1.26	15.12	0.3840	11.92	5350	7.704	337.6	1215
1.27	15.24	0.3871	12.08	5423	7.809	342.2	1231
1.28	15.36	0.3901	12.25	5497	7.915	346.8	1248
1.29	15.48	0.3932	12.41	5571	8.022	351.5	1265
1.30	15.60	0.3962	12.58	5645	8.129	356.2	1282

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.31	15.72	0.3993	12.74	5720	8.237	360.9	1299
1.32	15.84	0.4023	12.91	5795	8.346	365.7	1316
1.33	15.96	0.4054	13.08	5871	8.455	370.5	1333
1.34	16.08	0.4084	13.25	5947	8.564	375.3	1350
1.35	16.20	0.4115	13.42	6024	8.674	380.1	1368
1.36	16.32	0.4145	13.59	6101	8.785	385.0	1385
1.37	16.44	0.4176	13.77	6178	8.897	389.8	1403
1.38	16.56	0.4206	13.94	6256	9.009	394.7	1420
1.39	16.68	0.4237	14.11	6334	9.121	399.7	1438
1.40	16.80	0.4267	14.29	6412	9.234	404.6	1456
1.41	16.92	0.4298	14.46	6491	9.348	409.6	1474
1.42	17.04	0.4328	14.64	6571	9.462	414.6	1492
1.43	17.16	0.4359	14.82	6651	9.577	419.7	1510
1.44	17.28	0.4389	15.00	6731	9.693	424.7	1528
1.45	17.40	0.4420	15.18	6811	9.809	429.8	1547
1.46	17.52	0.4450	15.36	6892	9.926	434.9	1565
1.47	17.64	0.4481	15.54	6974	10.04	440.1	1583
1.48	17.76	0.4511	15.72	7056	10.16	445.2	1602
1.49	17.88	0.4542	15.90	7138	10.28	450.4	1621
1.50	18.00	0.4572	16.09	7220	10.40	455.6	1639

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