



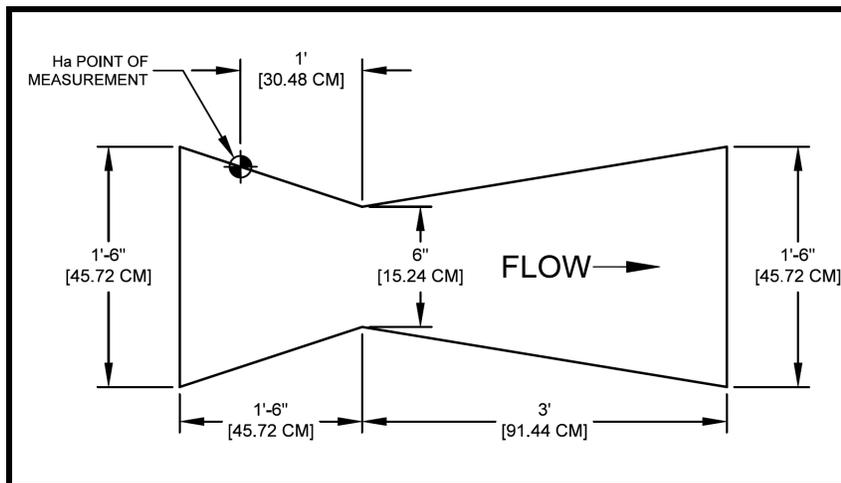
## 54-Inch L x 6-Inch W Cutthroat Flume Discharge Table

70% Submergence Transition    ±3% Accuracy

Formulas (H in feet):    CFS = 1.96 H<sub>ft.</sub><sup>1.72</sup>    GPM = 879.6 H<sub>ft.</sub><sup>1.72</sup>    MGD = 1.267 H<sub>ft.</sub><sup>1.72</sup>  
 Formulas (H in meters):    L/S = 428.2 H<sub>m</sub><sup>1.72</sup>    M3/HR = 1541 H<sub>m</sub><sup>1.72</sup>

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	0.0373	16.76	0.0241	1.058	3.806
0.11	1.32	0.0335	0.0440	19.75	0.0284	1.246	4.484
0.12	1.44	0.0366	0.0511	22.94	0.0330	1.447	5.207
0.13	1.56	0.0396	0.0586	26.32	0.0379	1.661	5.976
0.14	1.68	0.0427	0.0666	29.90	0.0431	1.887	6.788
0.15	1.80	0.0457	0.0750	33.67	0.0485	2.124	7.644
0.16	1.92	0.0488	0.0838	37.62	0.0542	2.374	8.541
0.17	2.04	0.0518	0.0930	41.75	0.0601	2.635	9.480
0.18	2.16	0.0549	0.1026	46.07	0.0663	2.907	10.46
0.19	2.28	0.0579	0.1126	50.56	0.0728	3.190	11.48
0.20	2.40	0.0610	0.1230	55.22	0.0795	3.484	12.54
0.21	2.52	0.0640	0.1338	60.05	0.0865	3.789	13.63
0.22	2.64	0.0671	0.1450	65.05	0.0937	4.105	14.77
0.23	2.76	0.0701	0.1565	70.22	0.1011	4.431	15.94
0.24	2.88	0.0732	0.1684	75.56	0.1088	4.768	17.16
0.25	3.00	0.0762	0.1806	81.05	0.1167	5.115	18.40
0.26	3.12	0.0792	0.1932	86.71	0.1249	5.471	19.69
0.27	3.24	0.0823	0.2062	92.52	0.1332	5.838	21.01
0.28	3.36	0.0853	0.2195	98.50	0.1418	6.215	22.36
0.29	3.48	0.0884	0.2331	104.6	0.1507	6.602	23.75
0.30	3.60	0.0914	0.2471	110.9	0.1597	6.998	25.18

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	0.2615	117.3	0.1690	7.404	26.64
0.32	3.84	0.0975	0.2761	123.9	0.1785	7.820	28.14
0.33	3.96	0.1006	0.2911	130.7	0.1882	8.245	29.67
0.34	4.08	0.1036	0.3065	137.5	0.1981	8.679	31.23
0.35	4.20	0.1067	0.3221	144.6	0.2082	9.123	32.83
0.36	4.32	0.1097	0.3381	151.8	0.2185	9.576	34.46
0.37	4.44	0.1128	0.3545	159.1	0.2291	10.04	36.12
0.38	4.56	0.1158	0.3711	166.5	0.2398	10.51	37.81
0.39	4.68	0.1189	0.3880	174.2	0.2508	10.99	39.54
0.40	4.80	0.1219	0.4053	181.9	0.2620	11.48	41.30
0.41	4.92	0.1250	0.4229	189.8	0.2733	11.98	43.09
0.42	5.04	0.1280	0.4408	197.8	0.2849	12.48	44.92
0.43	5.16	0.1311	0.4590	206.0	0.2967	13.00	46.77
0.44	5.28	0.1341	0.4775	214.3	0.3086	13.52	48.66
0.45	5.40	0.1372	0.4963	222.8	0.3208	14.06	50.58
0.46	5.52	0.1402	0.5155	231.3	0.3331	14.60	52.53
0.47	5.64	0.1433	0.5349	240.1	0.3457	15.15	54.51
0.48	5.76	0.1463	0.5546	248.9	0.3584	15.71	56.52
0.49	5.88	0.1494	0.5746	257.9	0.3714	16.27	58.56
0.50	6.00	0.1524	0.5950	267.0	0.3845	16.85	60.63
0.51	6.12	0.1554	0.6156	276.3	0.3978	17.43	62.73
0.52	6.24	0.1585	0.6365	285.7	0.4114	18.02	64.86
0.53	6.36	0.1615	0.6577	295.2	0.4251	18.63	67.02
0.54	6.48	0.1646	0.6792	304.8	0.4389	19.23	69.21
0.55	6.60	0.1676	0.7009	314.6	0.4530	19.85	71.43
0.56	6.72	0.1707	0.7230	324.5	0.4673	20.48	73.67
0.57	6.84	0.1737	0.7454	334.5	0.4817	21.11	75.95
0.58	6.96	0.1768	0.7680	344.7	0.4963	21.75	78.26
0.59	7.08	0.1798	0.7909	355.0	0.5112	22.40	80.59
0.60	7.20	0.1829	0.8141	365.4	0.5262	23.06	82.96
0.61	7.32	0.1859	0.8376	375.9	0.5413	23.72	85.35
0.62	7.44	0.1890	0.8613	386.6	0.5567	24.39	87.77
0.63	7.56	0.1920	0.8854	397.4	0.5722	25.07	90.22
0.64	7.68	0.1951	0.9097	408.3	0.5879	25.76	92.70
0.65	7.80	0.1981	0.9343	419.3	0.6038	26.46	95.20
0.66	7.92	0.2012	0.9591	430.5	0.6199	27.16	97.73
0.67	8.04	0.2042	0.9842	441.7	0.6361	27.87	100.3
0.68	8.16	0.2073	1.010	453.1	0.6525	28.59	102.9
0.69	8.28	0.2103	1.035	464.7	0.6691	29.32	105.5
0.70	8.40	0.2134	1.061	476.3	0.6859	30.06	108.1
0.71	8.52	0.2164	1.087	488.1	0.7028	30.80	110.8
0.72	8.64	0.2195	1.114	499.9	0.7199	31.55	113.5
0.73	8.76	0.2225	1.141	511.9	0.7372	32.30	116.2
0.74	8.88	0.2256	1.168	524.1	0.7547	33.07	119.0
0.75	9.00	0.2286	1.195	536.3	0.7723	33.84	121.8
0.76	9.12	0.2316	1.223	548.7	0.7901	34.62	124.6
0.77	9.24	0.2347	1.250	561.1	0.8081	35.41	127.4
0.78	9.36	0.2377	1.278	573.7	0.8262	36.20	130.3
0.79	9.48	0.2408	1.307	586.4	0.8445	37.01	133.2
0.80	9.60	0.2438	1.335	599.3	0.8630	37.81	136.1

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
0.81	9.72	0.2469	1.364	612.2	0.8816	38.63	139.0
0.82	9.84	0.2499	1.393	625.3	0.9004	39.46	142.0
0.83	9.96	0.2530	1.423	638.4	0.9194	40.29	145.0
0.84	10.08	0.2560	1.452	651.7	0.9385	41.13	148.0
0.85	10.20	0.2591	1.482	665.1	0.9578	41.97	151.0
0.86	10.32	0.2621	1.512	678.7	0.9773	42.82	154.1
0.87	10.44	0.2652	1.543	692.3	0.9969	43.68	157.2
0.88	10.56	0.2682	1.573	706.0	1.017	44.55	160.3
0.89	10.68	0.2713	1.604	719.9	1.037	45.43	163.4
0.90	10.80	0.2743	1.635	733.8	1.057	46.31	166.6
0.91	10.92	0.2774	1.667	747.9	1.077	47.20	169.8
0.92	11.04	0.2804	1.698	762.1	1.098	48.09	173.0
0.93	11.16	0.2835	1.730	776.4	1.118	48.99	176.3
0.94	11.28	0.2865	1.762	790.8	1.139	49.90	179.6
0.95	11.40	0.2896	1.794	805.4	1.160	50.82	182.9
0.96	11.52	0.2926	1.827	820.0	1.181	51.74	186.2
0.97	11.64	0.2957	1.860	834.7	1.202	52.67	189.5
0.98	11.76	0.2987	1.893	849.6	1.223	53.61	192.9
0.99	11.88	0.3018	1.926	864.6	1.245	54.56	196.3
1.00	12.00	0.3048	1.960	879.6	1.267	55.51	199.7
1.01	12.12	0.3078	1.994	894.8	1.289	56.47	203.2
1.02	12.24	0.3109	2.028	910.1	1.311	57.43	206.6
1.03	12.36	0.3139	2.062	925.5	1.333	58.40	210.1
1.04	12.48	0.3170	2.097	941.0	1.355	59.38	213.7
1.05	12.60	0.3200	2.132	956.7	1.378	60.37	217.2
1.06	12.72	0.3231	2.167	972.4	1.400	61.36	220.8
1.07	12.84	0.3261	2.202	988.2	1.423	62.36	224.4
1.08	12.96	0.3292	2.237	1004	1.446	63.36	228.0
1.09	13.08	0.3322	2.273	1020	1.469	64.38	231.6
1.10	13.20	0.3353	2.309	1036	1.492	65.40	235.3
1.11	13.32	0.3383	2.345	1053	1.516	66.42	239.0
1.12	13.44	0.3414	2.382	1069	1.539	67.45	242.7
1.13	13.56	0.3444	2.419	1085	1.563	68.49	246.4
1.14	13.68	0.3475	2.455	1102	1.587	69.54	250.2
1.15	13.80	0.3505	2.493	1119	1.611	70.59	254.0
1.16	13.92	0.3536	2.530	1135	1.635	71.65	257.8
1.17	14.04	0.3566	2.568	1152	1.659	72.72	261.6
1.18	14.16	0.3597	2.606	1169	1.684	73.79	265.5
1.19	14.28	0.3627	2.644	1186	1.709	74.87	269.4
1.20	14.40	0.3658	2.682	1204	1.733	75.95	273.3
1.21	14.52	0.3688	2.720	1221	1.758	77.04	277.2
1.22	14.64	0.3719	2.759	1238	1.783	78.14	281.2
1.23	14.76	0.3749	2.798	1256	1.809	79.25	285.1
1.24	14.88	0.3780	2.838	1273	1.834	80.36	289.1
1.25	15.00	0.3810	2.877	1291	1.859	81.48	293.2
1.26	15.12	0.3840	2.917	1309	1.885	82.60	297.2
1.27	15.24	0.3871	2.957	1327	1.911	83.73	301.3
1.28	15.36	0.3901	2.997	1345	1.937	84.87	305.4
1.29	15.48	0.3932	3.037	1363	1.963	86.01	309.5
1.30	15.60	0.3962	3.078	1381	1.989	87.16	313.6

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FEET	INCHES	METERS	CFS	GPM	MGD	L/S	M3/HR
1.31	15.72	0.3993	3.119	1400	2.016	88.32	317.8
1.32	15.84	0.4023	3.160	1418	2.042	89.48	322.0
1.33	15.96	0.4054	3.201	1437	2.069	90.65	326.2
1.34	16.08	0.4084	3.242	1455	2.096	91.83	330.4
1.35	16.20	0.4115	3.284	1474	2.123	93.01	334.7
1.36	16.32	0.4145	3.326	1493	2.150	94.20	338.9
1.37	16.44	0.4176	3.368	1512	2.177	95.39	343.2
1.38	16.56	0.4206	3.411	1531	2.204	96.59	347.6
1.39	16.68	0.4237	3.453	1550	2.232	97.80	351.9
1.40	16.80	0.4267	3.496	1569	2.260	99.01	356.3
1.41	16.92	0.4298	3.539	1588	2.287	100.2	360.7
1.42	17.04	0.4328	3.583	1608	2.315	101.5	365.1
1.43	17.16	0.4359	3.626	1627	2.344	102.7	369.5
1.44	17.28	0.4389	3.670	1647	2.372	103.9	374.0
1.45	17.40	0.4420	3.714	1667	2.400	105.2	378.4
1.46	17.52	0.4450	3.758	1687	2.429	106.4	382.9
1.47	17.64	0.4481	3.802	1706	2.457	107.7	387.5
1.48	17.76	0.4511	3.847	1726	2.486	108.9	392.0
1.49	17.88	0.4542	3.892	1747	2.515	110.2	396.6
1.50	18.00	0.4572	3.937	1767	2.544	111.5	401.2

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