

ECONODRAIN[®] #4 SYSTEM - HYDRAULIC DATA

Standard Depth & Slope ¹			Radius Bottom Trench (Std.)				Rectangular Trench (Optional Custom)			
EPS Form Number	[Slope [S _t] = 0.5% or 0.005 ft/ft]		Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)		Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)	
	Min. (in)	Max. (in)			F _k ³ (cfs)	F _k ³ (gpm)			F _k ³ (cfs)	F _k ³ (gpm)
0404	4 1/4	4 3/4	0.23	102	3.14	1,408	0.25	113	3.48	1,560
0405	4 3/4	5 1/4	0.27	119	3.69	1,655	0.29	130	4.02	1,804
0406	5 1/4	5 3/4	0.31	137	4.24	1,904	0.33	148	4.57	2,050
0407	5 3/4	6 1/4	0.35	156	4.80	2,155	0.37	166	5.12	2,298
0408	6 1/4	6 3/4	0.39	174	5.36	2,408	0.41	184	5.68	2,548
0409	6 3/4	7 1/4	0.43	192	5.93	2,662	0.45	202	6.24	2,800
0410	7 1/4	7 3/4	0.47	211	6.50	2,917	0.49	220	6.80	3,053
0411	7 3/4	8 1/4	0.51	229	7.07	3,173	0.53	239	7.37	3,307
0412	8 1/4	8 3/4	0.55	248	7.64	3,430	0.57	257	7.94	3,562
0413	8 3/4	9 1/4	0.59	266	8.21	3,687	0.61	275	8.50	3,817
0414	9 1/4	9 3/4	0.63	285	8.79	3,945	0.65	294	9.08	4,073
0415	9 3/4	10 1/4	0.68	303	9.36	4,203	0.70	312	9.65	4,330
0416	10 1/4	10 3/4	0.72	322	9.94	4,462	0.74	331	10.22	4,587
0417	10 3/4	11 1/4	0.76	341	10.52	4,721	0.78	350	10.79	4,845
0418	11 1/4	11 3/4	0.80	359	11.10	4,980	0.82	368	11.37	5,103
0419	11 3/4	12 1/4	0.84	378	11.67	5,240	0.86	387	11.95	5,361
0420	12 1/4	12 3/4	0.88	397	12.25	5,500	0.90	406	12.52	5,620
0421	12 3/4	13 1/4	0.93	416	12.83	5,760	0.95	424	13.10	5,879
0422	13 1/4	13 3/4	0.97	434	13.41	6,020	0.99	443	13.68	6,138
0423	13 3/4	14 1/4	1.01	453	13.99	6,280	1.03	462	14.25	6,398
0424	14 1/4	14 3/4	1.05	472	14.57	6,541	1.07	480	14.83	6,657
0425	14 3/4	15 1/4	1.09	491	15.15	6,801	1.11	499	15.41	6,917
0426	15 1/4	15 3/4	1.14	510	15.73	7,062	1.15	518	15.99	7,177
0427	15 3/4	16 1/4	1.18	528	16.32	7,323	1.20	537	16.57	7,437
0428	16 1/4	16 3/4	1.22	547	16.90	7,584	1.24	556	17.15	7,697
0429	16 3/4	17 1/4	1.26	566	17.48	7,845	1.28	574	17.73	7,958
0430	17 1/4	17 3/4	1.30	585	18.06	8,106	1.32	593	18.31	8,218
0431	17 3/4	18 1/4	1.35	604	18.64	8,367	1.36	612	18.89	8,479
0432	18 1/4	18 3/4	1.39	623	19.23	8,629	1.41	631	19.47	8,739
0433	18 3/4	19 1/4	1.43	642	19.81	8,890	1.45	650	20.05	9,000
0434	19 1/4	19 3/4	1.47	660	20.39	9,152	1.49	668	20.63	9,261
0435	19 3/4	20 1/4	1.51	679	20.97	9,413	1.53	687	21.22	9,522
0436	20 1/4	20 3/4	1.56	698	21.56	9,675	1.57	706	21.80	9,783
0437	20 3/4	21 1/4	1.60	717	22.14	9,936	1.62	725	22.38	10,044
0438	21 1/4	21 3/4	1.64	736	22.72	10,198	1.66	744	22.96	10,305
0439	21 3/4	22 1/4	1.68	755	23.30	10,460	1.70	763	23.54	10,567
0440	22 1/4	22 3/4	1.72	774	23.89	10,721	1.74	781	24.12	10,828
0441	22 3/4	23 1/4	1.77	793	24.47	10,983	1.78	800	24.71	11,089
0442	23 1/4	23 3/4	1.81	812	25.05	11,245	1.83	819	25.29	11,351
0443	23 3/4	24 1/4	1.85	830	25.64	11,507	1.87	838	25.87	11,612
0444	24 1/4	24 3/4	1.89	849	26.22	11,768	1.91	857	26.45	11,874
0445	24 3/4	25 1/4	1.93	868	26.80	12,030	1.95	876	27.04	12,135

- Standard Depth is measured from the top of the grate rail to the trench invert.
- Q_{max} is based on Manning's Equation n = 0.13 and S_t = 0.5%. The outlet end depth flow area is utilized and the grate area is excluded. The flow values shown do not include site grade slope.
- F_k is used to include site grade slope in trench flow calculations. The equation is: Flow, Q = F_k × (S_s + S_t)^{1/2} where S_s is the site slope and S_t is the trench form slope (ft/ft), (dimensionless).

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