

ECONODRAIN[®] #15 SYSTEM - HYDRAULIC DATA

Standard Depth & Slope ¹			
EPS Form Number	[Slope [S _i] = 0.5% or 0.005 ft/ft]		
	Min. (in)		Max. (in)
1518	12		12 1/2
1519	12 1/2		13
1520	13		13 1/2
1521	13 1/2		14
1522	14		14 1/2
1523	14 1/2		15
1524	15		15 1/2
1525	15 1/2		16
1526	16		16 1/2
1527	16 1/2		17
1528	17		17 1/2
1529	17 1/2		18
1530	18		18 1/2
1531	18 1/2		19
1532	19		19 1/2
1533	19 1/2		20
1534	20		20 1/2
1535	20 1/2		21
1536	21		21 1/2
1537	21 1/2		22
1538	22		22 1/2
1539	22 1/2		23
1540	23		23 1/2
1541	23 1/2		24
1542	24		24 1/2
1543	24 1/2		25
1544	25		25 1/2
1545	25 1/2		26
1546	26		26 1/2
1547	26 1/2		27
1548	27		27 1/2
1549	27 1/2		28
1550	28		28 1/2

Radius Bottom Trench (Std.)			
Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)	
		F _k ³ (cfs)	F _k ³ (gpm)
4.26	1914	59.08	26,515
4.55	2042	63.04	28,296
4.84	2171	67.03	30,087
5.13	2301	71.05	31,889
5.42	2432	75.09	33,701
5.71	2563	79.14	35,520
6.01	2695	83.21	37,347
6.30	2828	87.30	39,182
6.60	2961	91.40	41,022
6.89	3094	95.51	42,869
7.19	3227	99.64	44,721
7.49	3361	103.78	46,578
7.79	3496	107.92	48,440
8.09	3631	112.08	50,306
8.39	3766	116.25	52,177
8.69	3901	120.43	54,051
8.99	4036	124.61	55,928
9.30	4172	128.80	57,809
9.60	4308	133.00	59,693
9.90	4444	137.20	61,580
10.21	4580	141.41	63,469
10.51	4717	145.63	65,361
10.81	4854	149.85	67,256
11.12	4991	154.07	69,153
11.42	5128	158.30	71,051
11.73	5265	162.54	72,952
12.04	5402	166.78	74,855
12.34	5540	171.02	76,760
12.65	5677	175.27	78,666
12.96	5815	179.52	80,574
13.26	5953	183.77	82,483
13.57	6091	188.03	84,394
13.88	6229	192.29	86,306

Rectangular Trench (Optional Custom)			
Q _{max} ² Flow (cfs)	Q _{max} ² Flow (gpm)	(F _k is not a Flow Rate)	
		F _k ³ (cfs)	F _k ³ (gpm)
4.89	2193	67.70	30,384
5.17	2320	71.62	32,144
5.45	2448	75.56	33,915
5.74	2576	79.53	35,695
6.03	2705	83.52	37,484
6.32	2835	87.52	39,282
6.61	2965	91.54	41,086
6.90	3096	95.58	42,899
7.19	3227	99.63	44,717
7.48	3359	103.70	46,542
7.78	3491	107.77	48,373
8.07	3623	111.86	50,208
8.37	3756	115.97	52,049
8.67	3890	120.08	53,895
8.96	4023	124.20	55,745
9.26	4157	128.33	57,599
9.56	4291	132.47	59,457
9.86	4425	136.62	61,319
10.16	4560	140.77	63,184
10.46	4695	144.94	65,052
10.76	4830	149.11	66,924
11.06	4965	153.28	68,798
11.36	5101	157.47	70,675
11.67	5236	161.65	72,555
11.97	5372	165.85	74,437
12.27	5508	170.05	76,322
12.58	5644	174.25	78,209
12.88	5781	178.46	80,098
13.18	5917	182.67	81,989
13.49	6054	186.89	83,882
13.79	6190	191.11	85,777
14.10	6327	195.34	87,674
14.40	6464	199.57	89,572

- 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_i = 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 x (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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