

**Table 3-1**  
**Comparative Flow Rates for Corrugated Metal Pipe (CMP) lined with Snap-Tite®**  
 Based on Manning's equation  $n=.00914$  for Snap-Tite®,  $n=.024$  for CMP,  $s=.001$  ft/ft

CMP			Snap-Tite®				% of Flow Relined
Culvert Size ID (in)	Flow (gpm)	Flow (cfs)	Outside Dia. (in)	DR 32.5 Av. ID (in)	Flow (gpm)	Flow (cfs)	
12	274	0.6	10.75	10.05	448	1.0	164%
15	497	1.1	12.75	11.92	706	1.6	142%
18	808	1.8	14	13.09	906	2.0	112%
18	808	1.8	16	14.96	1294	2.9	160%
21	1218	2.7	16	14.96	1294	2.9	106%
21	1218	2.7	18	16.83	1771	3.9	145%
24	1739	3.9	18	16.83	1771	3.9	102%
24	1739	3.9	20	18.70	2346	5.2	135%
24	1739	3.9	22	20.56	3025	6.7	174%
27	2381	5.3	22	20.56	3025	6.7	127%
27	2381	5.3	24	22.43	3815	8.5	160%
30	3153	7.0	24	22.43	3815	8.5	121%
30	3153	7.0	28	26.17	5755	12.8	182%
36	5128	11.4	28	26.17	5755	12.8	112%
36	5128	11.4	30	28.04	6917	15.4	135%
36	5128	11.4	32	29.91	8216	18.3	160%
42	7735	17.2	34	31.78	9658	21.5	125%
42	7735	17.2	36	33.65	11248	25.1	145%
48	11043	24.6	36	33.65	11248	25.1	102%
48	11043	24.6	42	39.26	16967	37.8	154%
54	15118	33.7	42	39.26	16967	37.8	112%
54	15118	33.7	48	44.87	24224	54.0	160%
60	20023	44.6	48	44.87	24224	54.0	121%
60	20023	44.6	54	50.48	33163	73.9	166%
66	25817	57.5	54	50.48	33163	73.9	128%
72	32559	72.5	63	58.89	50024	111.5	154%
84	49114	109.4	63	58.89	50024	111.5	102%