

Area Method Worksheet for Storm Sewer Design

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			Structures		Design Information								Pipe Information			
Length	Upstream Elevation	Downstream Elevation	Upstream Structure	Downstream Structure	Drainage Area	Design Storm	Roof Area	Pavement Area	Lawn Area	Direct Runoff	Other Runoff	Design Runoff	Storm Sewer Size	Storm Sewer Material	Slope of Storm Sewer (ft/ft)	Pipe Capacity Flowing Full
ft					Acres	Yr	Acres	Acres	Acres	GPM	GPM	GPM	in.		ft/ft	GPM
25.1	700.89	700.74	RD 1	RD 2	0.123	10	0.123	0.000	0.000	206.07	0.00	206.07	6	PVC	0.0060	230.53
24.8	700.74	700.59	RD 2	RD 3	0.103	10	0.103	0.000	0.000	172.56	206.07	378.64	8	PVC	0.0060	496.47
24.9	700.59	700.44	RD 3	RD 4	0.103	10	0.103	0.000	0.000	172.56	378.64	551.20	10	PVC	0.0060	900.16
25.2	700.44	700.29	RD 4	RD 5	0.104	10	0.104	0.000	0.000	174.24	551.20	725.44	10	PVC	0.0060	900.16
25.1	700.29	700.14	RD 5	RD 6	0.104	10	0.104	0.000	0.000	174.24	725.44	899.68	12	HDPE	0.0060	1463.76
9.9	700.14	700.08	RD 6	TEE IN	0.114	10	0.114	0.000	0.000	190.99	899.68	1090.68	12	HDPE	0.0060	1463.76
77.1	701.56	700.08	EXISTING TRENCH DRAIN	TEE IN	0.023	10	0.000	0.023	0.000	30.83	0.00	30.83	6	PVC	0.0192	412.70
8.1	700.08	700.03	TEE IN	MH 1	0.131	10	0.131	0.000	0.000	219.48	1121.50	1340.98	12	HDPE	0.0060	1463.76
			Assumptions: 1) Peak flow of stormwater was calculated using the 'Area method' as described in SPS 382.36(5)(a)1 . 2) When calculating stormwater peak flow, the drainage area to each pipe run was divided by the described divisors in SPS 382.36(5)(a)1 . For roofs the divisor is 26 sf/gpm. For paved or graveled ground surfaces the divisor is 32.5 sf/gpm. For lawns, parks, and similar land surfaces the divisor is 104 sf/gpm. 5) Pipe Capacity flowing flow was calculated using Manning's Equation 6) Manning's n-value = 0.011 for PVC and HDPE pipe													

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24.46
117.83
348.96
174.72
564.08
373.09
381.88
122.79