



6900 TYLERSVILLE ROAD SUITE A  
MASON, OHIO 45040

# THE FOUNTAINS OF FAIRFIELD TOWNSHIP

## STORM SEWER CALCULATIONS

### FORMULAE USED

$Q_r = AC * I$  (required)  
 $V_p = (1.486 / n) * R^{2/3} * S^{1/2}$   
 $Q_p = A_p * V_p$   
 $R = (\text{Pipe Dia.} / 4)$

Designed By: TAC  
 Reviewed By: EMR  
 Date: 7-18-08  
 Sheet: 1 OF 2  
 Job #07M097.000

LOCATION		TOPOGRAPHY					TIME				"Q" Required (c.f.s.)	DESIGN				"Q" Provided (c.f.s.)	TIME		PIPE		REMARKS
From	To	Area Number	Acres	"C" Value	"AC" for Area	"AC" Accumulate	To Inlet "T" (minutes)	In Pipe "Tp" (minutes)	Concentration "T" (minutes)	Intensity "I" 10 Year Storm Sewer		Pipe Size (inches)	"n" Value	Slope in %	Velocity (ft./sec)		Length of Pipe (feet)	In Pipe "Tp"	Inlet Invert	Outlet Invert	
1	3	1	1.66	0.90	1.49	1.49	10.0		10.0	5.15	7.68	24	0.016	0.40	3.70	11.62	169.00	0.8	721.18	720.50	
2	3	2	0.14	0.90	0.13	0.13	10.0		10.0	5.15	0.67	12	0.016	1.67	4.76	3.74	30.00	0.1	725.00	724.50	
3	7	3	1.41	0.90	1.27	2.89	10.0	0.6	10.6	5.06	14.62	30	0.016	0.44	4.50	22.11	228.00	0.8	720.50	719.50	
Fut.4	Fut.5	4	0.21	0.90	0.19	0.19	10.0		10.0	5.15	0.98	12	0.016	0.83	3.36	2.64	90.00	0.4	724.25	723.50	To be installed with Menard's site
Fut.5	6	5	0.11	0.90	0.10	0.29	10.0	0.5	10.5	5.07	1.47	12	0.016	1.14	3.94	3.09	22.00	0.1	723.50	723.25	Install 16'-12" stub to Menard's site
6	7	6	0.11	0.90	0.10	0.39	10.5	0.1	10.6	5.06	1.97	12	0.016	1.28	4.17	3.28	39.00	0.2	723.25	722.75	
7	8	7	0.66	0.90	0.59	3.87	10.6		10.6	5.06	19.58	30	0.016	0.46	4.60	22.60	76.00	0.3	719.50	719.15	
8	9	8	0.62	0.90	0.56	4.43	10.6	0.2	10.8	5.03	22.28	36	0.016	0.38	4.73	33.41	39.00	0.1	719.15	719.00	
9	11	9	0.72	0.90	0.65	5.08	10.8	0.1	10.9	5.01	25.47	36	0.016	0.42	4.97	35.12	84.00	0.3	719.00	718.65	
10	11	10	0.10	0.90	0.09	0.09	10.0		10.0	5.15	0.46	12	0.016	1.28	4.17	3.28	39.00	0.2	723.50	723.00	
11	12	11	0.48	0.90	0.43	5.60	10.9	0.2	11.1	4.99	27.92	36	0.016	0.39	4.79	33.84	203.00	0.7	718.65	717.85	
12	13	MH12	0.00	0.90	0.00	5.60	11.1	0.7	11.8	4.89	27.36	36	0.016	0.39	4.79	33.84	102.00	0.4	717.85	717.45	
13	16	MH13	0.00	0.90	0.00	5.60	11.8	0.4	12.2	4.83	27.05	36	0.016	0.38	4.73	33.41	53.00	0.2	717.45	717.25	
Fut.14	15	14	1.00	0.90	0.90	0.90	10.0		10.0	5.15	4.64	15	0.016	1.50	5.24	6.43	58.00	0.2	721.12	720.25	Install 22'-15" stub to Menard's site
15	16	15	0.15	0.90	0.14	1.04	10.0	0.2	10.2	5.12	5.33	15	0.016	1.92	5.93	7.27	39.00	0.1	720.25	719.50	
16	17	16	2.72	0.90	2.45	9.08	12.2	0.2	12.4	4.80	43.60	42	0.016	0.39	5.31	51.05	77.00	0.2	717.25	716.95	
17	20	17	1.34	0.90	1.21	10.30	12.4	0.2	12.6	4.78	49.19	42	0.016	0.51	6.07	58.38	39.00	0.1	716.95	716.75	
18	19	18	1.85	0.90	1.67	1.67	10.0		10.0	5.15	8.60	18	0.016	2.56	7.73	13.66	39.00	0.1	721.75	720.75	
19	20	19	0.51	0.90	0.46	2.13	10.0	0.1	10.1	5.14	10.94	24	0.016	1.26	6.57	20.63	199.00	0.5	720.25	717.75	
20	22	20	0.58	0.90	0.52	12.95	12.6	0.1	12.7	4.76	61.67	48	0.016	0.42	6.02	75.64	60.00	0.2	716.75	716.50	
Fut.21	22	21	1.07	0.90	0.96	0.96	10.0		10.0	5.15	4.95	15	0.016	2.17	6.30	7.73	69.00	0.2	719.50	718.00	Install 62'-15" stub to Menard's site
22	25	MH22	0.00	0.90	0.00	13.91	12.7	0.1	12.8	4.75	66.05	48	0.016	0.39	5.80	72.89	260.00	0.7	716.50	715.50	
Fut.23	24	23	1.84	0.90	1.66	1.66	10.0		10.0	5.15	8.55	18	0.016	2.27	7.28	12.86	22.00	0.1	718.25	717.75	Install 16'-18" stub to Menard's site
24	25	24	0.21	0.90	0.19	1.85	10.0	0.1	10.1	5.14	9.50	18	0.016	2.56	7.73	13.66	39.00	0.1	717.75	716.75	
25	27	25	2.21	0.90	1.99	17.75	12.8	0.6	13.4	4.67	82.90	48	0.016	0.65	7.49	94.09	178.00	0.4	715.50	714.34	
Fut.26	27	26	0.43	0.90	0.39	0.39	10.0		10.0	5.15	2.01	15	0.016	1.74	5.64	6.92	73.00	0.2	717.75	716.50	Install 65'-15" stub to Menard's site
27	28	MH27	0.00	0.90	0.00	18.14	13.4	0.4	13.8	4.62	83.80	48	0.016	0.65	7.49	94.09	24.00	0.1	714.34	714.18	



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LOCATION		TOPOGRAPHY					TIME				"Q" Required (c.f.s.)	DESIGN				"Q" Provided (c.f.s.)	TIME		PIPE		REMARKS
From	To	Area Number	Acres	"C" Value	"AC" for Area	"AC" Accumulate	To Inlet "T" (minutes)	In Pipe "Tp" (minutes)	Concentration "T" (minutes)	Intensity "I" 10 Year Storm Sewer		Pipe Size (inches)	"n" Value	Slope in %	Velocity (ft. / sec)		Length of Pipe (feet)	In Pipe "Tp"	Inlet Invert	Outlet Invert	
Fut.29	Fut.30	29	0.34	0.90	0.31	0.31	10.0		10.0	5.15	12	0.016	1.05	3.78	2.97	95.00	0.4	723.00	722.00	To be installed with Menard's Site	
Fut.30	Fut.31	30	1.70	0.90	1.53	1.84	10.0	0.4	10.4	5.09	24	0.016	0.45	3.92	12.33	133.00	0.6	722.00	721.40	To be installed with Menard's Site	
Fut.31	Fut.32	31	2.28	0.90	2.05	3.89	10.4	0.5	10.9	5.01	30	0.016	0.49	4.75	23.33	133.00	0.5	721.40	720.75	To be installed with Menard's Site	
Fut.32	Fut.33	32	0.66	0.90	0.59	4.48	10.9	0.4	11.3	4.96	30	0.016	0.62	5.35	26.24	162.00	0.5	720.75	719.75	To be installed with Menard's Site	
Fut.33	Fut.35	33	2.49	0.90	2.24	6.72	11.3	0.5	11.8	4.89	36	0.016	0.49	5.37	37.93	225.00	0.7	719.75	718.65	To be installed with Menard's Site	
Fut.34	Fut.35	34	0.67	0.90	0.60	0.60	10.0		10.0	5.15	12	0.016	3.50	6.90	5.42	10.00	0.0	721.00	720.65	To be installed with Menard's Site	
Fut.35	Fut.37	MH35	0.00	0.90	0.00	7.32	11.8	0.7	12.5	4.79	36	0.016	0.55	5.69	40.19	182.00	0.5	718.65	717.65	To be installed with Menard's Site	
Fut.36	Fut.37	35	0.65	0.90	0.59	0.59	10.0		10.0	5.15	12	0.016	6.00	9.03	7.09	10.00	0.0	720.25	719.65	To be installed with Menard's Site	
Fut.37	Fut.39	MH37	0.00	0.90	0.00	7.91	12.5	0.5	13.0	4.72	36	0.016	0.65	6.18	43.69	139.00	0.4	717.65	716.75	To be installed with Menard's Site	
Fut.38	Fut.39	38	0.85	0.90	0.77	0.77	10.0		10.0	5.15	12	0.016	5.00	8.24	6.47	10.00	0.0	720.00	719.50	To be installed with Menard's Site	
Fut.39	Fut.40	MH39	0.00	0.90	0.00	8.68	13.0	0.4	13.4	4.67	42	0.016	0.47	5.82	56.04	305.00	0.9	716.75	715.32	To be installed with Menard's Site	
Fut.40	Fut.41	MH40	0.00	0.90	0.00	8.68	13.4	0.9	14.3	4.56	42	0.016	0.47	5.82	56.04	107.00	0.3	715.30	714.80	To be installed with Menard's Site	
Fut.41	42	41	1.47	0.90	1.32	10.00	14.3	0.3	14.6	4.52	42	0.016	0.54	6.24	60.07	28.00	0.1	714.80	714.65	Install 22'-42" stub to Menard's Site	
	42	42	0.35	0.90	0.32	10.32	14.6	0.1	14.7	4.51	42	0.016	0.58	6.47	62.26	26.00	0.1	714.65	714.50		
	43	43	0.34	0.90	0.31	10.63	14.7	0.1	14.8	4.50	42	0.016	0.60	6.58	63.32	24.00	0.1	714.50	714.35		
45	46	45	0.47	0.90	0.42	0.42	10.0		10.0	5.15	12	0.016	2.50	5.83	4.58	26.00	0.1	706.50	705.85		
46	47	46	0.37	0.90	0.33	0.75	10.0	0.1	10.1	5.14	12	0.016	3.00	6.38	5.01	26.00	0.1	705.85	705.07		