

Station		Flow Time, Tc (min)			A x C		(8) Rainfall Intensity, I (in/hr)	(9) Total Flow in System, CIA=Q (cfs)	Pipe						(17) Full Capacity, Q _F (cfs)	Velocity (fps)		
(1) From	(2) To	(3) To Inlet	(4) In Pipe	(5) Accumulated	(6) Increment	(7) Total			(10) Size	(11) Type	(12) "n"	(13) Length (ft)	Invert Elevation (ft)			(16) Slope (ft/ft)	(18) Flowing Full, V _F	(19) Design Flow, V
													(14) Upstream	(15) Downstream				
EMH-301	EO-300	0	0.06	32.04	3.888	3.888	2.538	9.95	18	RCP	0.013	20.5	54.56	54.55	0	2.32	0.00	5.63
ECB-303	EMH-302	5.4	0.04	32	0.485	3.888	2.54	9.96	18	RCP	0.013	12.6	54.85	54.67	0.014	12.54	7.14	5.63
ECB-304	ECB-303	5	0.58	5	0.338	0.338	6	2.04	10	HDPE	0.012	130	57.38	55.15	0.017	3.11	5.37	3.75
ECB-350	ECB-303	5.4	0.18	31.82	0.913	3.066	2.551	7.88	15	HDPE	0.012	68.6	55.96	54.95	0.015	8.49	6.90	6.42
MH 55	ECB-350	0	0.33	30.78	1.841	1.841	2.613	4.85	15	HDPE	0.012	158	59.88	56.71	0.02	9.9	7.97	8.03
MH 170	MH 55	0	0.11	30.68	1.841	1.841	2.619	4.86	15	HDPE	0.012	50.7	63.02	62.01	0.02	9.88	7.97	8.02
CB 61	MH 170	5.4	0.49	5.4	0.036	0.036	5.816	0.21	12	HDPE	0.012	97.6	68.10	66.16	0.02	5.44	7.05	3.34
CB 160	MH 170	10.2	0.63	10.2	0.061	0.069	4.566	0.32	12	HDPE	0.012	143	67.14	64.28	0.02	5.45	7.05	3.78
CB 163	CB 160	0	0.97	5.659	0.008	0.008	5.697	0.05	12	HDPE	0.012	124	69.72	67.24	0.02	5.46	7.05	2.14
CB 162	CB 163	5.4	0.26	5.4	0.008	0.008	5.816	0.05	12	HDPE	0.012	33.6	70.50	69.82	0.02	5.49	7.05	2.16
CB 59	MH 170	0	0.06	30.62	1.736	1.736	2.623	4.59	15	HDPE	0.012	13.2	63.25	63.12	0.01	6.95	5.63	3.74
CB 58	CB 59	0	0.2	30.41	1.359	1.359	2.635	3.61	15	HDPE	0.012	72.7	65.15	64.35	0.011	7.34	5.91	5.96
MH 137	CB 58	0	0.13	30.29	1.016	1.016	2.643	2.71	15	HDPE	0.012	41.2	65.66	65.25	0.01	6.98	5.63	5.33
CB 70	MH 137	0	0.62	11.13	0.219	0.219	4.367	0.96	15	HDPE	0.012	148	67.24	65.76	0.01	7	5.63	4.00
CB 72	CB 70	10.2	0.62	10.51	0.03	0.072	4.498	0.33	15	HDPE	0.012	108	68.42	67.34	0.01	7	5.63	2.91
CB 117	CB 72	10.2	0.31	10.2	0.042	0.042	4.566	0.19	12	HDPE	0.012	47.9	69.00	68.52	0.01	3.86	4.99	2.57
CB 173	CB 70	10.2	0.04	10.2	0.146	0.146	4.566	0.67	12	HDPE	0.012	11.9	67.85	67.62	0.019	5.36	6.88	4.66
CB 133	CB 58	5.4	0.06	5.4	0.343	0.343	5.816	2.01	12	HDPE	0.012	23.1	67.75	67.30	0.019	5.38	6.88	6.36
CB 134	CB 59	5.4	0.03	5.4	0.378	0.378	5.816	2.21	12	HDPE	0.012	10.6	67.40	67.20	0.019	5.29	6.88	6.43
ECB-305	EO-400	5	0.39	33.45	2.859	2.859	2.467	7.11	24	RCP	0.013	163	55.66	53.58	0.013	25.57	8.16	6.97
ECB-308	ECB-305	5	0.21	33.24	0.069	2.532	2.478	6.32	15	RCP	0.013	137	61.87	56.16	0.042	13.18	10.66	10.63
ECB-309	ECB-308	5	0.19	33.05	0.262	2.291	2.488	5.75	15	RCP	0.013	103	64.82	61.97	0.028	10.77	8.70	8.92
ECB-310	ECB-309	5	0.12	32.93	0.121	1.969	2.494	4.95	15	RCP	0.013	54.4	66.30	65.15	0.021	9.39	7.54	7.75
EMH-311	ECB-310	0	0.43	32.5	1.85	1.85	2.515	4.69	15	RCP	0.013	217	72.38	66.45	0.027	10.68	8.54	8.42
ECB-313	CB 27	5	0.04	10.4	0.407	1.303	4.523	5.94	15	RCP	0.013	22.1	74.11	73.48	0.028	10.9	8.70	9.07
CB 147	ECB-313	10.2	0.2	10.2	0.442	0.79	4.566	3.64	15	HDPE	0.012	85.6	77.48	75.91	0.018	9.48	7.56	7.22
MH 143	CB 147	0	0.05	6.03	0.349	0.349	5.53	1.94	15	HDPE	0.012	16.6	77.88	77.58	0.018	9.4	7.56	6.04
CB 145	MH 143	0	0.05	5.745	0.078	0.078	5.657	0.44	12	HDPE	0.012	13.4	78.44	78.17	0.02	5.48	7.05	4.19
CB 149	CB 145	5.4	0.34	5.4	0.054	0.054	5.816	0.31	12	HDPE	0.012	78.1	80.10	78.54	0.02	5.45	7.05	3.78
CB 141	MH 143	0	0.24	5.795	0.271	0.271	5.634	1.54	12	HDPE	0.012	94.6	82.00	79.41	0.027	6.39	8.20	6.70
CB 171	CB 141	5.4	0.39	5.4	0.073	0.073	5.816	0.43	12	HDPE	0.012	110	85.70	82.70	0.027	6.39	8.20	4.62
CB 140	CB 141	5.4	0.08	5.4	0.126	0.126	5.816	0.74	12	HDPE	0.012	23.1	82.90	82.46	0.019	5.33	6.88	4.76
ECB-314	ECB-313	5	0.46	5.94	0.302	0.302	5.568	1.7	15	RCP	0.013	37.9	74.58	74.21	0.01	6.38	5.20	1.38
ECB-315	ECB-314	5	0.94	5	0.117	0.117	6	0.71	15	RCP	0.013	32.6	74.71	74.58	0.004	4.08	3.29	0.58
ECB-306	ECB-305	5	0.3	5.347	0.041	0.145	5.84	0.85	24	RCP	0.013	56.7	56.59	56.14	0.008	20.15	6.40	3.18
ECB-307	ECB-306	5	0.35	5	0.053	0.085	6	0.52	15	HDPE	0.012	89.1	60.45	58.64	0.02	9.98	7.97	4.28

Table 11-8 Storm Drain Computation Sheet - English Units 10 YR

Station		Flow Time, Tc (min)			A x C		(8) Rainfall Intensity, I (in/hr)	(9) Total Flow in System, CIA=Q (cfs)	Pipe							(17) Full Capacity, Q _F (cfs)	Velocity (fps)	
(1) From	(2) To	(3) To Inlet	(4) In Pipe	(5) Accumulated	(6) Increment	(7) Total			(10) Size	(11) Type	(12) "n"	(13) Length (ft)	Invert Elevation (ft)		(16) Slope (ft/ft)		(18) Flowing Full, V _F	(19) Design Flow, V
													(14) Upstream	(15) Downstream				
EMH-301	EO-300	0	0.06	32.04	3.888	3.888	2.538	9.95	18	RCP	0.013	20.5	54.56	54.55	0	2.32	0.00	5.63
EMH-316	EMH-311	0	0.29	32.21	0.38	0.38	2.53	0.97	15	RCP	0.013	109	76.82	72.58	0.039	12.76	10.27	6.14
ECB-317	EMH-316	30	2.2	30	0.38	0.38	2.66	1.02	12	CMP	0.024	306	80.12	77.59	0.008	1.75	2.23	2.32
BLDG STRM	MH 137	30	0.29	30	0.797	0.797	2.66	2.14	12	HDPE	0.012	112	68.01	65.76	0.02	5.47	7.05	6.54
CB 27	EMH-312	5	0.03	10.44	0.297	1.47	4.514	6.69	15	RCP	0.013	14.3	73.28	73.05	0.016	8.2	6.58	7.45
EMH-312	EMH-311	0	0.15	10.47	1.47	1.47	4.507	6.68	15	RCP	0.013	47.8	72.92	72.58	0.007	5.45	4.35	5.44
EMH-302	EMH-301	0	∞	32.04	1.97	1.97	2.538	5.04	18	RCP	0.013	10.6	55.59	55.30	0.027	17.37	9.91	0.00
EHDS-51	EMH-301	0	0	32.04	1.97	1.97	2.538	5.04	12	RCP	0.013	1	54.60	54.58	0.02	5.04	6.51	6.42
EMH-302	EHDS-51	0	0	32.04	1.97	1.97	2.538	5.04	12	RCP	0.013	1	54.62	54.60	0.02	5.04	6.51	6.42
POLICE ROOF	ECB-350	30	1.82	30	0.312	0.312	2.66	0.84	10	HDPE	0.012	168	60.20	56.76	0.021	3.4	5.97	1.53

Table 11-8 Storm Drain Computation Sheet - English Units 10 YR

Station	TW	D _o	Q _o	L _o	V _o	V _o ² /2g	H _o	SF _o	H _f	K _o	C _D	C _d	C _Q	C _p	C _B	K	K(V _o ² /2g)	EGL _o 2+7	EGL _i 10+18+19	HGL EGL-7	TOC Elev
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
EMH-301	55.77	18	9.95	20.5	5.63	0.492	0.00	0.008	0.164	1.493	1	0.507	1	1	1	0.757	0.3725862	56.26	56.80	56.31	59.73
ECB-303	56.46	18	9.96	12.6	6.42	0.640	0.00	0.009	0.1134	1.509	1	0.721	1	1	1	1.088	0.84	57.10	58.05	57.41	59.75
ECB-304	57.42	10	2.04	130	5.63	0.492	0.00	0.007	0.9086	1.604	5.832	0.69	0.167	1	1	1.079	0.81	57.91	59.63	59.14	60.58
ECB-350	57.42	15	7.88	68.6	5.63	0.492	0.00	0.013	0.8918	0.411	1.728	0.69	1.243	1	1	0.609	0.15	57.91	58.95	58.46	61.01
MH 55	58.44	15	4.85	158	6.42	0.640	0.00	0.012	1.9008	0.512	1	0.754	1	1	1	0.386	0.65	59.08	61.63	60.99	68.82
MH 170	60.77	15	4.86	50.7	5.17	0.415	0.00	0.015	0.7605	0.608	1	0.409	1	1	1	0.249	1.24	61.19	63.19	62.78	71.45
CB 61	63.91	12	0.21	97.6	5.17	0.415	0.00	0.019	1.8544	1.667	1	0.409	1	1	1	0.682	2.25	64.33	68.43	68.02	71.60
CB 160	63.91	12	0.32	143	5.17	0.415	0.00	0.019	2.7227	0.811	1	0.409	1	1	1	0.332	0.37	64.33	67.42	67.01	72.55
CB 163	67.37	12	0.05	124	2.29	0.081	0.00	0.019	2.3579	1.202	1	0.208	1	1	1	0.25	0.1	67.45	69.91	69.83	83.00
CB 162	69.81	12	0.05	33.6	1.38	0.030	0.00	0.02	0.672	1.563	1	0.116	1	1	1	0.182	0.01	69.84	70.52	70.49	73.50
CB 59	63.91	15	4.59	13.2	5.17	0.415	0.00	0.004	0.0528	1.667	1	0.409	1	1.522	1	1.037	0.63	64.33	65.01	64.60	71.44
CB 58	64.60	15	3.61	72.7	3.74	0.217	0.00	0.01	0.727	0.335	1	0.524	1	1	1	0.175	-0.25	64.82	65.30	65.08	71.78
MH 137	65.92	15	2.71	41.2	4.57	0.324	0.00	0.007	0.2884	0.315	1	0.373	1	1	1	0.117	0.24	66.24	66.77	66.44	72.00
CB 70	66.32	15	0.96	148	4.12	0.264	0.00	0.008	1.1832	0.328	1	0.341	1.718	1	1	0.192	0.3	66.58	68.06	67.80	71.95
CB 72	67.63	15	0.33	108	2.99	0.139	0.00	0.009	0.972	1.658	1	0.247	0.264	1	1	0.108	0.14	67.76	68.87	68.73	72.25
CB 117	68.64	12	0.19	47.9	2.22	0.077	0.00	0.01	0.479	0.354	1	0.177	1	1	1	0.063	-0.12	68.72	69.08	69.00	72.94
CB 173	67.63	12	0.67	11.9	2.99	0.139	0.00	0.012	0.1428	0.841	1	0.247	1.088	1	1	0.226	-0.01	67.76	67.89	67.75	71.85
CB 133	65.92	12	2.01	23.1	4.57	0.324	0.00	0.013	0.3003	1.661	1	0.373	1	1	1	0.62	1.38	66.24	67.92	67.60	71.75
ECB-305	54.30	24	7.11	163	4.86	0.367	0.00	0.012	1.9536	0.301	1	0.319	1.769	1	1	0.17	0.06	56.97	58.99	58.62	61.14
ECB-308	56.61	15	6.32	137	4.86	0.367	0.00	0.036	4.9392	1.333	1	0.319	0.866	1	1	0.368	-0.45	56.97	61.46	61.09	65.87
ECB-309	62.88	15	5.75	103	5.93	0.546	0.00	0.027	2.7702	0.553	1	0.441	1	1	1	0.244	0.34	63.43	66.54	65.99	68.33
ECB-310	65.79	15	4.95	54.4	5.62	0.490	0.00	0.019	1.0336	1.36	1	0.43	1	1	1	0.584	0.5	66.28	67.81	67.32	69.65
EMH-311	67.20	15	4.69	217	5.22	0.423	0.00	0.027	5.8536	1.292	1	0.411	1	1	1	0.531	0.4	67.63	73.88	73.46	76.58
ECB-313	74.32	15	5.94	22.1	6.13	0.583	0.00	0.025	0.5525	0.561	1	0.448	1	1	1	0.251	0.35	74.90	75.80	75.22	79.01
CB 147	75.10	15	3.64	85.6	5.72	0.508	0.00	0.015	1.284	0.482	1	0.434	1	1	1	0.209	0.81	75.60	77.69	77.19	84.00
MH 143	78.25	15	1.94	16.6	4.58	0.326	0.00	0.002	0.0332	0.408	1	0.374	1	1	1	0.153	0.32	78.58	78.93	78.61	84.48
CB 145	78.47	12	0.44	13.4	3.39	0.178	0.00	0.005	0.067	1.667	1	0.32	1	1.036	1	0.552	0.26	78.65	78.98	78.80	84.00
CB 149	78.72	12	0.31	78.1	2.51	0.098	0.00	0.019	1.4839	1.652	1	0.231	1	1	1	0.381	-0.18	78.81	80.11	80.02	83.60
CB 141	78.47	12	1.54	94.6	3.39	0.178	0.00	0.024	2.2704	1.664	1	0.32	1	1	1	0.532	0.94	78.65	81.86	81.68	86.86
CB 171	82.53	12	0.43	110	3.67	0.209	0.00	0.026	2.847	0.404	1	0.34	1	1	1	0.137	0.17	82.74	85.76	85.55	89.70
CB 140	82.53	12	0.74	23.1	3.67	0.209	0.00	0.014	0.3234	1.194	1	0.34	0.871	1	1	0.354	-0.07	82.74	82.99	82.78	86.90
ECB-314	75.10	15	1.7	37.9	5.72	0.508	0.00	0.001	0.0379	1.549	1	0.434	1	1	1	0.672	0.82	75.60	76.46	75.95	78.93
ECB-315	75.94	15	0.71	32.6	1.38	0.030	0.00	0	0	0.998	1	0.526	1	1	1	0.525	0.04	75.97	76.01	75.98	78.86
ECB-306	56.61	24	0.85	56.7	4.86	0.367	0.00	0	0	0.301	1	0.319	1.769	1	1	0.17	0.42	56.97	57.39	57.02	60.74
ECB-307	57.01	15	0.52	89.1	1.77	0.049	0.00	0.019	1.6929	1.332	1	0.197	1	1	1	0.262	1.63	57.06	60.38	60.33	63.93
EMH-316	73.26	15	0.97	109	5.09	0.402	0.00	0.033	3.5838	0.649	1	0.405	1.431	1	1	0.376	0.54	73.66	77.78	77.38	81.42
ECB-317	77.21	12	1.02	306	3	0.140	0.00	0.008	2.4512	1.351	1	0.247	1	1	1	0.334	0.38	77.35	80.18	80.04	87.17
BLDG STRM	66.32	12	2.14	112	4.12	0.264	0.00	0.02	2.24	1.667	1	0.341	0.684	1	1	0.389	0.18	66.58	69	68.7364	74
CB 27	74.22	15	6.69	14.3	5.44	0.460	0.00	0.011	0.1573	0.323	1	0.511	1	1	1	0.165	0.07	74.68	74.9073	74.4478	78.78
EMH-312	73.26	15	6.68	47.8	5.09	0.402	0.00	0.01	0.478	0.489	1	0.405	1	1	1	0.198	-0.68	73.66	73.458	73.0557	78
EHDS-51	56.10	12	5.04	1	5.63	0.492	0.00	0.02	0.02	1.493	1	0.507	1	1	1	0.757	0.22	56.59	56.83	56.3378	59.73
EMH-302	56.44	12	5.04	1	6.42	0.640	0.00	0.02	0.02	1.509	1	0.721	1	1	1	1.088	0.6963268	57.08	57.796333	57.1563	59.97
POLICE ROOF	58.44	10	0.84	168	6.42	0.640	0.00	0.001	0.1676	1.72	3.375	0.754	1	1	1	4.378	3.41	59.08	62.6576	62.0176	63.7

Table 11-8 Storm Drain Computation Sheet - English Units 10 YR