

**COMPUTATION SHEET**  
**HYDRAULIC COMPUTATIONS FOR STORM DRAINS**

**STORM DRAIN HYDRAULIC CALCULATIONS TABLE - PROPOSED CONDITIONS**

STORM LINE NETWORK	FROM	TO	PIPE LENGTH feet	DRAINAGE AREA			Runoff "C"	Incr. cA	Total cA	Tc			I <sub>s</sub> in/hr	I <sub>100</sub> in/hr	Q <sub>s</sub> cfs	Q <sub>100</sub> cfs	Q <sub>TOT</sub> cfs	Pipe Size in.	K	Pipe Slope %	Sf ft/ft	"Q" Cap cfs	HGL		HEAD LOSS CALCULATIONS										Design HGL Elev. ft.	Top of Struct. ft.	Invert Elev.		y ft	COMMENTS
				Incremental No.	Area	Total Area				Inlet min.	Travel min.	Total min.											U/S Elev. ft.	D/S Elev. ft.	V1 (in) ft/sec	V2 (out) ft/sec	V1 <sup>2</sup> /2G ft.	V2 <sup>2</sup> /2G ft.	Struct. Type	Kj	KjV1 <sup>2</sup> /2G	Hk ft.	TO ft.	FROM ft.						
																																					23	24		
ST-1	3+18.80	2+94.80	24.00			0.00	0.75	0.00	0.00	0.00	0.00	6.10	9.80	0.00	0.00	0.00	27	309.509	0.60	0.0000	23.97	561.04	561.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	561.04	558.90	558.75	0				
	2+94.80	2+06.79	88.01	OS3 + OS4 + OSC	4.12	4.12	0.46	1.91	1.91	10.00	0.00	10.00	6.10	9.80	11.64	18.69	18.69	27	309.509	0.60	0.0036	23.97	560.80	560.48	5.59	6.67	0.49	0.89	BEND 60	0.50	0.24	0.24	561.04	558.75	558.23	1.49				
	2+06.79	0+38.24	168.55	B1+B5	0.68	4.80	0.75	0.51	2.42	10.00	0.42	10.42	6.10	9.80	3.11	5.00	23.69	36	666.635	0.30	0.0013	36.51	560.38	560.17	6.67	5.47	0.69	0.46	MH 90 LAT	0.55	0.38	0.10	560.48	557.48	556.97	1.76				
	0+38.24	0+25.09	13.15	B6	0.43	5.23	0.75	0.32	2.74	10.00	0.04	10.46	6.10	9.80	1.97	3.16	26.85	36	666.635	0.30	0.0016	36.51	559.84	559.81	5.47	5.64	0.46	0.49	WYE 60	0.35	0.16	0.33	560.17	556.97	556.93	1.91				
	0+25.09	0+00.00	25.09			5.23	0.75	0.00	2.74	10.00	0.07	10.54	6.10	9.80	0.00	0.00	26.85	36	666.635	0.30	0.0016	36.51	559.32	559.28	5.64	5.64	0.49	0.49	MH 90 BEN	0.00	0.00	0.00	559.81	556.83	556.75	1.91				
ST-1.1	0+06.98	0+00.00	6.98	B7	1.37	1.37	0.75	1.03	1.03	10.00	0.02	10.02	6.10	9.80	6.27	10.07	10.07	21	158.348	0.50	0.0040	11.20	559.31	559.28	5.25	5.25	0.43	0.43	INLET BEG	1.25	0.53	0.53	559.84	561.52	556.53	556.50	1.30	Inlet B7		
ST-2	3+54.52	3+19.63	34.89	OS U2	3.14	3.14	0.75	2.36	2.36	10.00	0.11	10.11	6.10	9.80	14.37	23.08	23.08	3x2	N/A	0.30	0.0022	32.81	561.25	561.17	5.13	5.13	0.41	0.41	INLET BEG	1.25	0.51	0.51	561.76	564.00	557.76	557.66	1.5			
	3+19.63	2+75.05	44.58	B2	0.44	3.58	0.75	0.33	2.69	10.00	0.14	10.26	6.10	9.80	2.01	3.23	26.31	3x2	N/A	0.30	0.0029	32.81	560.93	560.80	5.13	5.32	0.41	0.44	WYE 45	0.50	0.20	0.24	561.17	557.66	557.52	1.85				
	2+75.05	1+84.12	90.93			3.58	0.75	0.00	2.69	10.00	0.28	10.54	6.10	9.80	0.00	0.00	26.31	3x2	N/A	0.30	0.0029	32.81	560.80	560.54	5.32	5.32	0.44	0.44	RAD-20D	1.00	0.44	0.00	560.80	557.52	557.25	1.65				
	1+84.12	0+75.80	108.32	B3	0.30	3.88	0.75	0.23	2.91	10.00	0.34	10.23	6.10	9.80	1.37	2.21	28.52	3x2	N/A	0.30	0.0034	32.81	560.33	559.98	5.32	5.40	0.44	0.45	MH 90 LAT	0.55	0.24	0.21	560.54	557.15	556.83	1.76				
	0+75.80	0+10.22	65.58			3.88	0.75	0.00	2.91	10.00	0.20	10.43	6.10	9.80	0.00	0.00	28.52	3x2	N/A	0.30	0.0034	32.81	559.80	559.58	5.40	5.40	0.45	0.45	BEND 45	0.35	0.18	0.18	559.98	556.83	556.63	1.76				
	0+10.22	0+00.00	10.22	B4	0.46	4.34	0.75	0.35	3.26	10.00	0.03	10.47	6.10	9.80	2.10	3.38	31.90	3x2	N/A	0.30	0.0043	32.81	559.32	559.28	5.40	5.57	0.45	0.48	INLET	0.50	0.23	0.26	559.58	560.74	556.53	556.50	1.91	Inlet B4		
ST-3	0+89.66	0+59.63	10.03	A10	0.87	0.87	0.75	0.85	0.85	10.00	0.04	10.04	6.10	9.80	3.98	6.39	6.39	18	105.03	0.50	0.0037	7.43	555.71	555.67	4.68	4.68	0.34	0.34	INLET BEG	1.25	0.43	0.43	556.13	557.58	552.30	552.00	1.08	Inlet A10		
	0+59.63	0+00.00	59.63			0.87	0.75	0.00	0.65	10.00	0.21	10.25	6.10	9.80	0.00	0.00	6.39	18	105.03	0.50	0.0037	7.43	555.45	555.23	4.68	4.68	0.34	0.34	BEND 45	0.35	0.12	0.22	555.67	552.30	552.00	1.08				
ST-4	0+30.73	0+00.00	30.73	A9	0.74	0.74	0.75	0.56	0.56	10.00	0.11	10.11	6.10	9.80	3.39	5.44	5.44	18	105.03	0.50	0.0027	7.43	555.31	555.23	4.55	4.55	0.32	0.32	INLET BEG	1.25	0.40	0.40	555.71	558.30	552.15	552.00	0.96	Inlet A9		
ST-5	0+47.26	0+22.21	25.05	A8	0.12	0.12	0.75	0.09	0.09	10.00	0.16	10.16	6.10	9.80	0.55	0.88	0.88	21	158.348	0.50	0.0000	11.20	555.50	555.50	2.66	2.66	0.11	0.11	INLET BEG	1.25	0.14	0.14	555.63	558.16	552.12	551.99	0.34	Inlet A8		
	0+22.21	0+00.00	22.21	A7	0.46	0.58	0.75	0.35	0.44	10.00	0.14	10.30	6.10	9.80	2.10	3.38	4.26	21	158.348	0.50	0.0007	11.20	555.25	555.23	2.66	4.31	0.11	0.29	WYE 60	0.35	0.04	0.25	555.50	551.99	551.88	0.75				
ST-6	2+29.27	1+85.66	43.61	A6	0.61	0.61	0.75	0.46	0.46	10.00	0.16	10.16	6.10	9.80	2.79	4.48	4.48	18	105.03	0.50	0.0018	7.43	556.06	555.98	4.41	4.41	0.30	0.30	INLET BEG	1.25	0.38	0.38	556.44	558.40	553.27	553.05	0.88	Inlet A6		
	1+85.66	1+11.73	73.93			0.61	0.75	0.00	0.46	10.00	0.28	10.44	6.10	9.80	0.00	0.00	4.48	18	105.03	0.50	0.0018	7.43	555.88	555.74	4.41	4.41	0.30	0.30	BEND 45	0.35	0.11	0.11	555.98	553.05	552.88	0.88				
	1+11.73	0+00.00	11.73	A5	0.47	1.08	0.75	0.35	0.81	10.00	0.42	10.87	6.10	9.80	2.15	3.45	7.94	21	158.348	0.50	0.0025	11.20	555.51	555.23	4.41	5.06	0.30	0.40	MH 90 LAT	0.55	0.17	0.23	555.74	552.43	551.87	1.10				
ST-7	3+16.88	2+40.27	76.61	A4	0.90	0.90	0.75	0.88	0.88	10.00	0.22	10.22	6.10	9.80	4.12	6.62	6.62	18	105.03	0.80	0.0040	9.39	557.48	557.18	5.74	5.74	0.51	0.51	INLET BEG	1.25	0.64	0.64	558.12	559.93	554.79	554.17	0.93	Inlet A4		
	2+40.27	1+10.98	129.29			0.90	0.75	0.00	0.88	10.00	0.38	10.60	6.10	9.80	0.00	0.00	6.62	21	158.348	0.80	0.0017	14.16	556.66	556.44	5.74	5.77	0.51	0.52	MH 90 BEN	0.00	0.00	0.52	557.18	553.92	552.89	0.93				
	1+10.98	1+06.98	4.00			0.90	0.75	0.00	0.88	10.00	0.01	10.61	6.10	9.80	0.00	0.00	6.62	24	226.268	0.80	0.0009	20.24	556.34	556.33	5.77	5.73	0.52	0.51	SIZE CHNG	1.00	0.52	0.10	556.44	552.64	552.61	0.79				
	1+06.98	0+22.66	84.32	A3	0.82	1.72	0.75	0.62	1.29	10.00	0.25	10.85	6.10	9.80	3.75	6.03	12.64	24	226.268	0.80	0.0031	20.24	555.81	555.55	5.73	6.73	0.51	0.70	WYE 60	0.35	0.18	0.52	556.33	552.61	551.93	1.23				
	0+22.66	0+00.00	22.66			1.72	0.75	0.00	1.29	10.00	0.06	10.91	6.10	9.80	0.00	0.00	12.64	24	226.268	0.80	0.0031	20.24	555.30	555.23	6.73	6.73	0.70	0.70	BEND 45	0.35	0.25	0.25	555.55	551.93	551.75	1.23				
ST-8	4+08.29	3+99.65	8.64	A1	0.17	0.17	0.75	0.13	0.13	10.00	0.03	10.03	6.10	9.80	0.78	1.25	1.25	12	35.63	1.20	0.0012	3.90	557.30	557.29	4.40	4.40	0.30	0.30	INLET BEG	1.25	0.38	0.38	557.68	561.25	557.05	557.05	0.39	Inlet A1		
	3+99.65	2+25.77	173.88			0.17	0.75	0.00	0.13	10.00	0.66	10.69	6.10	9.80	0.00	0.00	1.25	12	35.63	1.20	0.0012	3.90	557.19	556.97	4.40	4.40	0.30	0.30	BEND 45	0.35	0.11	0.11	557.29	557.05	554.96	0.39				
	2+25.77	1+62.47	63.30	A2	0.18	0.35	0.75	0.14	0.26	10.00	0.24	10.93	6.10	9.80	0.82	1.32	2.57	12	35.63	1.20	0.0052	3.90	556.70	556.37	4.40	5.21	0.30	0.42	WYE 45	0.50	0.15	0.27	556.97	554.96	554.20	0.60				
	1+62.47	1+28.80	33.67			0.35	0.75	0.00	0.26	10.00	0.11	10.04	6.10	9.80	0.00	0.00	2.57	12	35.63	1.20	0.0052	3.90	556.22	556.05	5.21	5.21	0.42	0.42	BEND 45	0.35	0.15	0.15	5							