

# STORM DRAIN DESIGN CALCULATIONS

REACH		INFLOW (INLETS & HEADWALLS)			TIME AT		DESIGN	RAINFALL	TOTAL	STORM	SLOPE OF		STRUCTURE	STRUCTURE	FLOW	TIME AT	H.G. AT	REMARKS	
FROM	TO	LENGTH	SOURCE	'CA'	INLET	TOTAL	UPSTREAM	STORM	RAINFALL	TOTAL	STORM	VELOCITY	LOSS	LOSS AT	TIME	DOWNSTREAM	UPSTREAM		
		(ft)			TIME	'CA'	OF REACH	FREQUENCY	'I'	'Q'	SIZE	(ft/sec)	COEFF.	OF REACH	IN	OF REACH	OF REACH		
					(min)		(min)	(yr)	(in/hr)	(cfs)			'Kj'	(ft)	DRAIN	(min)	(ft)		
SYSTEM "K"																			
INLET K-1	15+25	35.34	-	1.29	10	1.29	10.0	100	9.80	12.6	24	4.0	1.25	0.31	0.1	10.1	552.93	EXISTING STORM DRAIN	
15+25	14+04.95	120.05	-	-	-	1.29	10.1	100	9.79	12.6	24	4.0	0.0031	0.00	0.5	10.6	552.51	EXISTING STORM DRAIN	
INLET K-2	14+04.95	23.09	-	1.29	10	1.29	10.0	100	9.80	12.6	21	5.2	0.0063	1.25	0.1	10.1	552.81	EXISTING STORM DRAIN	
14+04.95	8+60.64	544.31	-	-	-	2.58	10.6	100	9.71	25.1	30	5.1	0.0037	0.60	1.8	12.4	552.14	EXISTING STORM DRAIN	
INLET K-3	0+28	66.67	-	2.58	10	2.58	10.0	100	9.80	25.3	24	8.1	0.0125	1.25	0.1	10.1	556.36	EXISTING STORM DRAIN	
0+28	8+60.64	28.00	-	-	-	2.58	10.1	100	9.79	25.3	24	8.1	0.0125	0.00	0.0	10.1	552.00	EXISTING STORM DRAIN	
8+60.64	8+28.70	31.94	-	-	-	5.16	12.4	100	9.44	48.7	39	5.9	0.0035	0.60	0.1	12.5	549.87	EXISTING STORM DRAIN	
INLET K-4	8+28.70	23.09	-	1.39	10	1.39	10.0	100	9.80	13.6	24	4.3	0.0036	1.25	0.0	10.0	552.52	EXISTING STORM DRAIN	
8+28.70	8+12.54	16.16	-	-	-	6.55	12.5	100	9.43	61.8	45	5.6	0.0026	0.60	0.0	12.5	549.46	EXISTING STORM DRAIN	
INLET K-5	8+12.54	55.43	-	0.29	10	0.29	10.0	100	9.80	2.8	21	1.2	0.0003	1.25	0.1	10.1	551.94	EXISTING STORM DRAIN	
8+12.54	7+09.33	103.21	-	-	-	6.84	12.5	100	9.43	64.5	45	5.8	0.0028	0.60	0.3	12.8	549.25	EXISTING STORM DRAIN	
INLET K-6	12+44.78	220.71	-	1.55	10	1.55	10.0	100	9.80	15.2	21	6.3	0.0092	1.25	0.6	10.6	562.61	EXISTING STORM DRAIN	
12+44.78	12+25	19.78	-	-	-	2.79	10.6	100	9.80	12.2	21	5.1	0.0059	1.25	0.2	10.2	560.64	EXISTING STORM DRAIN	
12+25	9+75	250.00	-	-	-	2.79	10.6	100	9.71	27.1	27	6.8	0.0077	0.60	0.0	10.6	559.80	EXISTING STORM DRAIN	
9+75	8+00	175.00	-	-	-	2.79	11.0	100	9.65	26.9	27	6.8	0.0075	0.00	0.3	11.3	553.95	EXISTING STORM DRAIN	
8+00	7+09.33	98.89	-	-	-	2.79	11.3	100	9.60	26.8	27	6.7	0.0075	0.00	0.1	11.4	551.99	EXISTING STORM DRAIN	
7+09.33	6+45	64.33	-	-	-	9.63	12.8	100	9.38	90.3	48	7.2	0.0040	0.60	0.4	12.9	548.73	EXISTING STORM DRAIN	
6+45	4+25	220.00	-	-	-	9.63	12.9	100	9.37	90.2	48	7.2	0.0039	0.00	0.4	13.3	547.98	EXISTING STORM DRAIN	
4+25	3+69.12	55.88	-	-	-	9.63	13.3	100	9.31	89.7	48	7.1	0.0039	0.00	0.0	13.3	546.88	EXISTING STORM DRAIN	
INLET K-7	3+69.12	69.31	-	1.13	10	1.13	10.0	100	9.80	11.1	21	4.6	0.0049	1.25	0.4	10.1	547.04	EXISTING STORM DRAIN	
3+69.12	2+50	119.12	-	-	-	10.76	13.3	100	9.31	100.2	48	8.0	0.0049	0.60	0.1	13.4	545.60	EXISTING STORM DRAIN	
2+50	1+14.63	135.37	-	-	-	10.76	13.4	100	9.29	100.0	48	8.0	0.0048	0.00	0.1	13.5	541.21	BEGINNING H.G. = 538.95	
SYSTEM "K-8"																			
INLET K-8	1+38.55	123.45	-	10.49	10	10.49	10.0	100	9.80	102.8	54	6.5	0.0027	1.25	0.3	10.3	540.91	EXISTING STORM DRAIN	
INLET K-9	0+06.25	73.82	-	2.73	10	2.73	10.0	100	9.80	26.8	30	5.5	0.0043	1.25	0.1	10.1	540.99	EXISTING STORM DRAIN	
INLET K-9.1	0+06.25	24.61	-	0.78	10	0.78	10.0	100	9.80	7.6	21	3.2	0.0023	1.25	0.0	10.0	540.35	EXISTING STORM DRAIN	
0+06.25	1+38.55	6.25	-	-	-	3.51	10.1	100	9.79	34.4	36	4.9	0.0027	0.60	0.0	10.1	539.88	EXISTING STORM DRAIN	
1+38.55	1+25	13.55	-	-	-	14.00	10.3	100	9.76	136.6	54	8.6	0.0048	0.60	0.0	10.3	539.77	BEGINNING H.G. = 538.95	
SYSTEM "L"																			
3+35	3+27.09	7.91	-	31.64	20	31.64	19.7	100	8.08	255.7	8x4	8.0	0.0033	1.25	1.24	0.0	19.7	531.19	EXISTING STORM DRAIN
INLET L-3	3+27.09	12.98	-	1.09	10	1.09	10.0	100	9.80	10.7	18	6.0	0.0104	1.25	0.0	10.0	530.77	EXISTING STORM DRAIN	
3+27.09	3+16.83	10.26	-	-	-	32.73	19.7	100	8.08	264.5	8x4	8.3	0.0036	0.85	0.23	0.0	19.7	529.93	EXISTING STORM DRAIN
0+20	0+10.64	9.36	-	1.92	11	1.92	10.8	100	9.68	18.6	24	5.9	0.0068	0.00	0.0	10.8	530.38	EXISTING STORM DRAIN	
INLET L-4.2	0+10.64	17.96	-	1.16	10	1.16	10.0	100	9.80	11.4	21	4.7	0.0052	1.25	0.44	0.1	10.1	530.84	EXISTING STORM DRAIN
0+10.64	3+16.83	10.64	-	-	-	3.08	10.8	100	9.68	29.8	27	7.5	0.0093	0.60	0.55	0.0	10.8	530.31	EXISTING STORM DRAIN
3+16.83	2+72.91	43.92	-	-	-	35.81	19.7	100	8.08	289.3	8x4	9.0	0.0043	0.85	0.35	0.1	19.8	529.67	EXISTING STORM DRAIN
INLET L-5	3+00	153.23	-	1.38	10	1.38	10.0	100	9.80	13.5	21	5.6	0.0073	1.25	0.61	0.3	10.3	538.26	EXISTING STORM DRAIN
3+00	1+00	200.00	-	-	-	1.38	10.3	100	9.76	13.5	21	5.6	0.0073	0.00	0.00	0.3	10.6	535.00	EXISTING STORM DRAIN
1+00	2+72.91	100.00	-	-	-	1.38	10.6	100	9.71	13.4	21	5.6	0.0072	0.00	0.00	0.1	10.7	530.29	EXISTING STORM DRAIN
2+72.91	1+97.22	75.69	-	-	-	37.19	19.8	100	8.06	299.8	8x4	9.4	0.0046	0.85	0.30	0.1	19.9	529.13	EXISTING STORM DRAIN
INLET L-6	0+31.48	77.05	-	2.69	10	2.69	10.0	100	9.80	26.4	33	4.4	0.0025	1.25	0.38	0.3	10.3	529.35	EXISTING STORM DRAIN
INLET L-6.1	0+31.48	57.52	-	0.94	10	0.94	10.0	100	9.80	9.2	21	3.8	0.0034	1.25	0.28	0.3	10.3	529.25	EXISTING STORM DRAIN
0+31.48	1+97.22	31.48	-	-	-	3.63	10.3	100	9.76	35.4	36	5.0	0.0028	0.60	0.21	0.1	10.4	528.77	EXISTING STORM DRAIN
1+97.22	1+96.20	1.02	-	-	-	40.82	19.9	100	8.04	328.2	8x4	10.3	0.0055	0.85	0.48	0.0	19.9	528.48	BEGINNING H.G. = 527.99
SYSTEM "M"																			
1+20	1+12.62	7.38	-	42.89	22	42.89	21.7	100	7.74	332.0	8x5	8.3	0.0030	1.25	1.34	0.0	21.7	527.90	EXISTING STORM DRAIN
INLET M-3	1+12.62	9.02	-	1.19	10	1.19	10.0	100	9.80	11.7	24	3.7	0.0027	1.25	0.27	0.0	10.0	527.34	EXISTING STORM DRAIN
1+12.62	0+49.08	63.54	-	-	-	44.08	21.7	100	7.74	341.2	8x5	8.5	0.0031	0.85	0.21	0.1	21.8	526.54	EXISTING STORM DRAIN
INLET M-4	8+21.82	472.32	-	0.99	10	0.99	10.0	100	9.80	9.7	18	5.5	0.0085	1.25	0.58	1.0	11.0	545.46	EXISTING STORM DRAIN
INLET M-4.1	8+21.82	37.00	-	1.01	10	1.01	10.0	100	9.80	9.9	18	5.6	0.0089	1.25	0.61	0.1	10.1	539.65	EXISTING STORM DRAIN
8+21.82	3+71.82	450.00	-	-	-	2.00	11.0	100	9.65	19.3	24	6.1	0.0073	0.50	0.34	0.8	11.8	538.71	EXISTING STORM DRAIN
INLET M-4.2	3+71.82	37.00	-	1.00	10	1.00	10.0	100	9.80	9.8	18	5.5	0.0087	1.25	0.60	0.1	10.1	533.78	EXISTING STORM DRAIN
3+71.82	3+64.06	7.76	-	-	-	3.00	11.8	100	9.53	28.6	27	7.2	0.0085	0.50	0.52	0.0	11.8	532.87	EXISTING STORM DRAIN
3+64.06	3+40.40	23.66	-	-	-	3.00	11.8	100	9.53	28.6	27	7.2	0.0085	0.00	0.00	0.0	11.8	532.18	EXISTING STORM DRAIN
INLET M-4.3	3+40.40	5.77	-	1.07	10	1.07	10.0	100	9.80	10.5	18	5.9	0.0100	1.25	0.69	0.0	10.0	531.25	EXISTING STORM DRAIN
3+40.40	3+26.25	14.15	-	-	-	4.07	11.8	100	9.53	38.8	30	7.9	0.0089	0.60	0.49	0.0	11.8	530.51	EXISTING STORM DRAIN
INLET M-4.4	3+26.25	38.50	-	0.80	10	0.80	10.0	100	9.80	7.8	18	4.4	0.0055	1.25	0.38	0.1	10.1	530.98	EXISTING STORM DRAIN
3+26.25	3+10	16.25	-	-	-	4.87	11.8	100	9.53	46.4	33	7.8	0.0077	0.60	0.36	0.0	11.8	529.72	EXISTING STORM DRAIN
3+10	1+00	210.00	-	-	-	4.87	11.8	100	9.53	46.4	33	7.8	0.0077	0.00	0.00	0.4	12.2	528.75	EXISTING STORM DRAIN
1+00	0+28.35	71.65	-	-	-	4.87	12.2	100	9.47	46.1	33	7.8	0.0076	0.00	0.00	0.2	12.4	527.14	EXISTING STORM DRAIN
INLET M-4.5	0+28.35	9.24	-	0.66	10	0.66	10.0	100	9.80	6.5	21	2.7	0.0017	1.25	0.14	0.0	10.0	526.96	EXISTING STORM DRAIN
0+28.35	0+49.08	28.35	-	-	-	5.53	12.4</												