STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE C

FROM	TO	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORM DRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
INLET C2	14+50.75	25.48	0.35	10	0.35	10	100	9.8	3.4	18	1.9	0.001	1.25	0.07	0.2	10.2	601.64	
14+50.75	14+20.56	30.19	-	-	0.35	10.2	100	9.76	3.4	24	1.1	0.0002	0.5	0	0.5	10.7	601.54	
INLET C1	14+20.56	25.33	0.36	10	0.36	10	100	9.8	3.5	18	2	0.0011	1.25	0.08	0.2	10.2	601.64	
14+20.56	13+14.68	105.88	-	-	0.71	10.7	100	9.66	6.9	24	2.2	0.0009	0.5	0.07	0.8	11.5	601.53	
LAT H1	13+14.68	35	3.64	10	3.64	10	100	9.8	35.7	27	9	0.0133	1.25	1.56	0.1	10.1	603.39	
13+14.68	11+16.07	198.73	-	-	4.35	11.5	100	9.52	41.4	36	5.9	0.0039	0.5	0.5	0.6	12.1	601.36	
11+16.07	11+11.07	5	-	-	4.35	12.1	100	9.42	41	42	4.3	0.0017	0.5	0.02	0	12.1	600.08	
INLET C3	11+11.07	25.33	0.4	10	0.4	10	100	9.8	3.9	24	1.2	0.0003	1.25	0.03	0.4	10.4	600.09	
11+11.07	11+00.76	10.31	-	-	4.75	12.1	100	9.42	44.7	42	4.6	0.002	0.5	0.19	0	12.1	600.05	
INLET C4	11+00.76	25.48	0.4	10	0.4	10	100	9.8	3.9	24	1.2	0.0003	1.25	0.03	0.4	10.4	599.88	
11+00.76	10+64.76	36	-	-	5.15	12.1	100	9.42	48.5	45	4.4	0.0016	0.5	0.14	0.1	12.2	599.84	
10+64.76	9+38.52	126.24	-	-	5.15	12.2	100	9.4	48.4	45	4.4	0.0016	0.5	0.15	0.5	12.7	599.64	
9+38.52	9+33.52	5	-	-	5.15	12.7	100	9.32	48	45	4.3	0.0016	0.5	0.14	0	12.7	599.29	
LAT H2	9+33.52	35	2.59	10	2.59	10	100	9.8	25.4	27	6.4	0.0067	1.25	0.79	0.1	10.1	600.16	
9+33.52	7+61.07	172.45	-	-	7.74	12.7	100	9.32	72.1	45	6.5	0.0036	0.5	0.51	0.4	13.1	599.14	
INLET C5	7+61.07	25.33	0.78	10	0.78	10	100	9.8	7.6	24	2.4	0.0011	1.25	0.11	0.2	10.2	598.15	
7+61.07	7+50.76	10.31	-	-	8.52	13.1	100	9.26	78.9	48	6.3	0.003	0.5	0.29	0	13.1	598.01	
INLET C6	7+50.76	25.48	0.78	10	0.78	10	100	9.8	7.6	24	2.4	0.0011	1.25	0.11	0.2	10.2	597.83	
7+50.76	6+00.51	150.25	-	-	9.3	13.1	100	9.26	86.1	48	6.8	0.0036	0.5	0.41	0.4	13.5	597.69	
LAT H3	6+00.51	35	1.81	10	1.81	10	100	9.8	17.7	24	5.6	0.0061	1.25	0.62	0.1	10.1	597.57	
6+00.51	5+05.45	95.06	-	-	11.11	13.5	100	9.2	102.2	6x3	5.7	0.0025	0.5	0.13	0.3	13.8	596.74	
5+05.45	4+60.69	44.76	-	-	11.11	13.8	100	9.16	101.8	6x3	5.7	0.0024	0.5	0.25	0.1	13.9	596.37	
INLET C7	4+60.69	25.33	0.7	10	0.7	10	100	9.8	6.9	24	2.2	0.0009	1.25	0.09	0.2	10.2	596.12	
4+60.69	4+50.37	10.32	-	-	11.81	13.9	100	9.15	108.1	6x3	6	0.0028	0.5	0.31	0	13.9	596.01	
INLET C8	4+50.37	25.48	0.71	10	0.71	10	100	9.8	7	24	2.2	0.001	1.25	0.1	0.2	10.2	595.8	
4+50.37	3+20.61	129.76	-	-	12.52	13.9	100	9.15	114.6	6x3	6.4	0.0031	0.5	0.36	0.3	14.2	595.67	
3+20.61	3+15.61	5	-	-	12.52	14.2	100	9.1	113.9	8x3	4.7	0.0015	0.5	0.03	0	14.2	594.91	
LAT H4	3+15.61	35	1.94	10	1.94	10	100	9.8	19	24	6.1	0.0071	1.25	0.71	0.1	10.1	595.83	
3+15.61	1+89.60	126.01	-	-	14.46	14.2	100	9.1	131.6	8x3	5.5	0.002	0.5	0.3	0.4	14.6	594.87	
INLET C9	1+89.60	25.33	0.65	10	0.65	10	100	9.8	6.4	24	2	0.0008	1.25	0.08	0.2	10.2	594.42	
1+89.60	1+57.73	31.87	-	-	15.11	14.6	100	9.05	136.7	8x3	5.7	0.0022	0.5	0.27	0.1	14.7	594.32	
INLET C10	1+57.73	25.48	0.65	10	0.65	10	100	9.8	6.4	18	3.6	0.0037	1.25	0.25	0.1	10.1	594.32	
1+57.73	1+15.65	42.08	-	-	15.76	14.7	100	9.04	142.5	8x3	5.9	0.0024	0.5	0.29	0.1	14.8	593.98	
1+15.65	1+05.65	5	23.72	0	39.48	14.8	100	9.03	356.5	18x3	6.6	0.0024	0.5	0.41	0	14.8	593.59	
1+05.65	0+21.90	83.75	-	-	39.48	14.8	100	9.03	356.5	18x3	6.6	0.0024	0	0	0.2	15	593.17	
DITCH2	0+21.90	14.85	2.4	20.1	2.4	20.1	100	8.28	19.9	18	11.2	0.0359	1.25	2.46	0	20.1	595.96	
0+21.90	0-5.54	27.44	-	-	41.88	20.1	100	8.28	346.8	18x3	6.4	0.0023	0.5	0.32	0.1	20.2	592.97	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE D

FROM	TO	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORM DRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
INLET D1	4+30.15	25.4	0.59	10	0.59	10	100	9.8	5.8	18	3.3	0.003	1.25	0.21	0.1	10.1	601.35	
4+30.15	4+20.85	9.3	-	-	0.59	10.1	100	9.78	5.8	24	1.8	0.0007	0.35	0.02	0.1	10.2	601.06	
INLET D2	4+20.85	31.11	0.57	10	0.57	10	100	9.8	5.6	18	3.2	0.0028	1.25	0.19	0.1	10.1	601.4	
4+20.85	1+80.15	240.7	-	-	1.16	10.2	100	9.76	11.3	24	3.6	0.0025	0.75	0.16	0.7	10.9	601.03	
INLET D3	1+80.15	31.11	0.48	10	0.48	10	100	9.8	4.7	21	2	0.0009	1.25	0.07	0.3	10.3	600.07	
1+80.15	1+70.85	9.3	-	-	1.64	10.9	100	9.62	15.8	27	4	0.0026	0.75	0.1	0	10.9	599.97	
INLET D4	1+70.85	31.11	0.46	10	0.46	10	100	9.8	4.5	21	1.9	0.0008	1.25	0.07	0.3	10.3	599.94	
1+70.85	1+53.92	16.93	-	-	2.1	10.9	100	9.62	20.2	27	5.1	0.0043	0.75	0.22	0.1	11	599.85	
1+53.92	0+35	118.92	-	-	2.1	11	100	9.61	20.2	27	5.1	0.0043	0.35	0.14	0.3	11.3	599.56	

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ROCKWALL TECHNOLOGY PARK PHASE III

STORM DRAIN HYDRAULIC CALCULATIONS

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