

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE A

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 A1	17+12.81	35.8	0.24	10	0.24	10.0	100	9.80	2.4	18	1.4	0.0005	1.25	0.04	0.1	10.1	608.12	
17+12.81	17+00.81	12	-	-	0.24	10.1	100	9.78	2.3	18	1.3	0.0005	0.5	0.01	0.0	10.1	605.02	
INLET A2	17+00.81	36.75	0.26	10	0.26	10.0	100	9.80	2.5	18	1.4	0.0006	1.25	0.04	0.1	10.1	607.98	PROPOSED INLET
17+00.81	14+14.48	286.33	-	-	0.50	10.1	100	9.78	4.9	18	2.8	0.0022	0.5	0.11	0.7	10.8	604.98	
14+14.48	14+09.48	5	-	-	0.50	10.8	100	9.64	4.8	24	1.5	0.0005	0.5	0.00	0.1	10.9	601.33	
INLET A3	14+09.48	36.3	0.30	10	0.30	10.0	100	9.80	2.9	18	1.6	0.0008	1.25	0.05	0.1	10.1	601.56	
14+09.48	13+99.85	9.63	-	-	0.80	10.9	100	9.62	7.7	24	2.5	0.0012	0.5	0.08	0.1	11.0	601.33	
INLET A4	13+99.85	36.39	0.31	10	0.31	10.0	100	9.80	3.0	18	1.7	0.0008	1.25	0.06	0.1	10.1	601.39	PROPOSED INLET
13+99.85	13+89.53	10.32	-	-	1.11	11.0	100	9.61	10.7	24	3.4	0.0022	0.5	0.13	0.0	11.0	601.24	
13+89.53	12+50	139.53	-	-	1.11	11.0	100	9.61	10.7	24	3.4	0.0022	0.5	0.09	0.3	11.3	601.07	
12+50	11+11.04	138.96	-	-	1.11	11.3	100	9.55	10.6	24	3.4	0.0022	0.25	0.04	0.7	12.0	599.32	
INLET A5	11+11.04	36.37	0.53	10	0.53	10.0	100	9.80	5.2	18	2.9	0.0025	1.25	0.17	0.2	10.2	599.23	
11+11.04	11+01.04	10	-	-	1.64	12.0	100	9.43	15.5	33	2.6	0.0009	0.5	0.02	0.1	12.1	598.97	
INLET A6	11+01.04	36.37	0.58	10	0.58	10.0	100	9.80	5.7	18	3.2	0.0029	1.25	0.20	0.2	10.2	599.25	
11+01.04	8+59.98	241.06	-	-	2.22	12.1	100	9.42	20.9	33	3.5	0.0016	0.5	0.14	0.8	12.9	598.94	
INLET A7	8+59.98	36.16	0.57	10	0.57	10.0	100	9.80	5.6	24	1.8	0.0006	1.25	0.06	0.3	10.3	598.45	
8+59.98	8+51.35	8.63	-	-	2.79	12.9	100	9.29	25.9	36	3.7	0.0015	0.5	0.12	0.0	12.9	598.37	
INLET A8	0+23.05	14.27	0.60	10	0.60	10.0	100	9.80	5.9	24	1.9	0.0007	1.25	0.07	0.1	10.1	598.34	
0+23.05	8+51.35	23.05	-	-	0.60	10.1	100	9.78	5.9	24	1.9	0.0007	0	0.00	0.2	10.3	598.26	
8+51.35	4+00.84	450.51	-	-	3.39	12.9	100	9.29	31.5	36	4.5	0.0022	0.5	0.21	1.0	13.9	598.24	
4+00.84	3+95.72	5.12	-	-	3.39	13.9	100	9.15	31.0	36	4.4	0.0022	0	0.00	0.0	13.9	596.36	
INLET A9	3+95.72	36.03	0.31	10	0.31	10.0	100	9.80	3.0	18	1.7	0.0008	1.25	0.06	0.4	10.4	596.44	
3+95.72	3+84.43	11.29	-	-	3.70	13.9	100	9.15	33.9	36	4.8	0.0026	0.5	0.21	0.0	13.9	596.35	
INLET A10	3+84.43	36.27	0.30	10	0.30	10.0	100	9.80	2.9	18	1.6	0.0008	1.25	0.05	0.4	10.4	596.19	
3+84.43	2+45.79	138.64	-	-	4.00	13.9	100	9.15	36.6	36	5.2	0.0030	0.5	0.24	0.4	14.3	596.11	
2+45.79	2+36.79	9	-	-	4.00	14.3	100	9.09	36.4	4x3	3.0	0.0009	0.5	0.07	0.1	14.4	595.45	
INLET A11	2+36.79	36.37	0.55	10	0.55	10.0	100	9.80	5.4	24	1.7	0.0006	1.25	0.06	0.4	10.4	595.45	
2+36.79	2+28.79	8	-	-	4.55	14.4	100	9.08	41.3	4x3	3.4	0.0011	0.5	0.11	0.0	14.4	595.37	
INLET A12	2+28.79	36.37	0.56	10	0.56	10.0	100	9.80	5.5	24	1.8	0.0006	1.25	0.06	0.3	10.3	595.33	
2+28.79	1+88.57	40.22	-	-	5.11	14.4	100	9.08	46.4	4x3	3.9	0.0014	0.5	0.15	0.1	14.5	595.25	CALCS UPDATED FROM PH-III PLANS BY WIER & ASSOCIATES DATED 4/19/09 WITH NEW STARTING HG = 584.80 ('LAT C1+03' IN SD LINE 'C')
1+88.57	1+03.24	85.33	-	-	5.11	14.5	100	9.06	46.3	4x3	3.9	0.0014	0.5	0.12	0.2	14.7	595.04	

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LINE B

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 B1	6+30.19	36.37	0.31	10	0.31	10.0	100	9.80	3.0	18	1.7	0.0008	1.25	0.06	0.4	10.4	607.08	PROPOSED INLET
6+30.19	6+16.88	13.31	-	-	0.31	10.4	100	9.72	3.0	24	1.0	0.0002	0.35	0.00	0.0	10.4	606.99	
INLET B2	6+16.88	44.55	0.31	10	0.31	10.0	100	9.80	3.0	18	1.7	0.0008	1.25	0.06	0.4	10.4	606.93	
6+16.88	3+48.19	268.69	-	-	0.62	10.4	100	9.72	6.0	24	1.9	0.0007	0.75	0.04	0.6	11.0	606.83	
INLET B3	3+48.19	36.37	0.49	10	0.49	10.0	100	9.80	4.8	18	2.7	0.0021	1.25	0.14	0.1	10.1	603.25	PROPOSED INLET
3+48.19	3+34.88	13.31	-	-	1.11	11.0	100	9.61	10.7	24	3.4	0.0022	0.75	0.14	0.1	11.1	603.01	
INLET B4	3+34.88	44.55	0.49	10	0.49	10.0	100	9.80	4.8	18	2.7	0.0021	1.25	0.14	0.1	10.1	603.25	
3+34.88	0+71.20	263.68	-	-	1.60	11.1	100	9.59	15.3	24	4.9	0.0046	0.75	0.24	0.5	11.6	602.84	
INLET B5	0+71.20	36.37	0.40	10	0.40	10.0	100	9.80	3.9	18	2.2	0.0014	1.25	0.09	0.3	10.3	600.48	PROPOSED INLET
0+71.20	0+52.39	18.81	-	-	2.00	11.6	100	9.50	19.0	24	6.1	0.0071	0.75	0.30	0.1	11.7	600.34	
INLET B6	0+52.39	45.25	0.40	10	0.40	10.0	100	9.80	3.9	18	2.2	0.0014	1.25	0.09	0.3	10.3	600.06	
0+52.39	1+49.97	52.39	-	-	2.40	11.7	100	9.48	22.8	24	7.3	0.0102	0.75	0.41	0.1	11.8	599.91	

STORM DRAIN CALCULATIONS FOR EXISTING 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	0.36	10	0.36	10.0	100	9.80	3.5	18	2.0	0.0011	1.25	0.08	0.0	10.0	601.60	EXISTING INLET
14+50.75	14+20.56	30.19	-	-	0.36	10.0	100	9.80	3.5	24	1.1	0.0002	0.5	0.00	0.1	10.1	600.59	
INLET C1	0+14.43	10.00	0.26	10	0.26	10.0	100	9.80	2.5	18	1.4	0.0006	1.25	0.04	0.0	10.0	601.38	PROPOSED INLET
0+14.43	14+20.56	14.43	-	-	0.26	10.0	100	9.80	2.5	18	1.4	0.0006	0.45	0.01	0.0	10.0	600.87	
14+20.56	13+14.68	105.88	-	-	0.62	10.1	100	9.78	6.1	24	1.9	0.0007	0.5	0.05	0.3	10.4	600.46	
13+14.68	11+80.50	134.18	-	-	0.62	10.4	100	9.72	6.0	36	0.8	0.0001	0.5	0.00	0.5	10.9	599.77	
INLET C3.1	11+80.50	37.43	3.01	10	3.01	10.0	100	9.80	29.5	30	6.0	0.0052	1.25	0.70	0.1	10.1	600.24	PROPOSED DROP INLET
11+80.50	11+16.07	64.43	-	-	3.63	10.9	100	9.62	34.9	36	4.9	0.0027	0.5	0.37	0.1	11.0	599.34	
11+16.07	11+11.07	5.00	-	-	3.63	11.0	100	9.61	34.9	42	3.6	0.0012	0.5	0.01	0.0	11.0	598.79	
INLET C3.2	11+11.07	25.33	0.24	10	0.24	10.0	100	9.80	2.4	24	0.8	0.0001	0	0.00	0.0	10.0	599.64	PROPOSED INLET
11+11.07	11+00.76	10.31	-	-	3.87	11.0	100	9.61	37.2	42	3.9	0.0014	0.5	0.14	0.0	11.0	598.77	
INLET C4	11+00.76	25.48	0.71	10	0.71	10.0	100	9.80	7.0	24	2.2	0.0010	1.25	0.10	0.0	10.0	599.17	EXISTING INLET
11+00.76	10+64.76	36.00	-	-	4.58	11.0	100	9.61	44.0	45	4.0	0.0013	0.5	0.13	0.1	11.1	598.62	
10+64.76	9+38.52	126.24	-	-	4.58	11.1	100	9.59	43.9	45	4.0	0.0013	0.5	0.12	0.2	11.3	598.39	
9+38.52	9+33.52	5.00	-	-	4.58	11.3	100	9.55	43.7	45	4.0	0.0013	0.5	0.12	0.0	11.3	598.07	
LAT H2	9+33.52	35.00	2.99	10	2.99	10.0	100	9.80	29.3	27	7.4	0.0090	1.25	1.05	0.0	10.0	599.44	EXISTING STUBOUT
9+33.52	7+61.07	172.45	-	-	7.57	11.3	100	9.55	72.3	45	6.5	0.0036	0.5	0.53	0.4	11.7	597.94	
INLET C5	7+61.07	25.33	0.21	10	0.21	10.0	100	9.80	2.1	24	0.7	0.0001	1.25	0.01	0.6	10.6	596.80	PROPOSED INLET
7+61.07	7+50.76	10.31	-	-	7.78	11.7	100	9.48	73.8	48	5.9	0.0026	0.5	0.21	0.0	11.7	596.79	
INLET C6	7+50.76	25.48	0.68	10	0.68	10.0	100	9.80	6.7	24	2.1	0.0009	1.25	0.09	0.0	10.0	596.71	EXISTING INLET
7+50.76	6+00.51	150.25	-	-	8.46	11.7	100	9.48	80.2	48	6.4	0.0031	0.5	0.37	0.3	12.0	596.55	
LAT H3	6+00.51	35.00	1.81	10	1.81	10.0	100	9.80	17.7	24	5.6	0.0061	1.25	0.62	0.0	10.0	596.12	EXISTING STUBOUT
6+00.51	5+05.45	95.06	-	-	10.27	12.0	100	9.43	96.8	6x3	5.4	0.0022	0.5	0.13	0.3	12		