

TIME 18:47 FILE: D205-DRAINCAL C5-E205.dwg

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE X																		
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 X1	2+09.72	25.98	0.17	10	0.17	10.0	100	9.80	1.7	18	1.0	0.0003	1.25	0.02	0.4	10.4	577.80	
2+09.72	2+00.21	9.51	-	-	0.17	10.4	100	9.72	1.7	24	0.5	0.0001	0.6	0.00	0.0	10.4	577.77	
INLET X2	2+00.21	31.82	0.17	10	0.17	10.0	100	9.80	1.7	18	1.0	0.0003	1.25	0.02	0.5	10.5	577.75	
2+00.21	1+03.65	95.96	-	-	0.34	10.5	100	9.70	3.3	24	1.1	0.0002	0.4	0.02	0.4	10.9	577.72	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE Y																		
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 Y1	7+21.65	26.11	0.39	10	0.39	10.0	100	9.80	3.8	18	2.2	0.0013	1.25	0.09	0.0	10.0	584.03	
7+21.65	7+12.52	9.13	-	-	0.39	10.0	100	9.80	3.8	24	1.2	0.0003	0.6	0.00	0.0	10.0	583.24	
INLET Y2	7+12.52	31.37	0.35	10	0.35	10.0	100	9.80	3.4	18	1.9	0.0010	1.25	0.07	0.1	10.1	584.01	
7+12.52	4+23.33	289.19	-	-	0.74	10.1	100	9.78	7.2	24	2.3	0.0010	0.4	0.07	0.8	10.9	583.22	
INLET Y3	4+23.33	25.52	0.37	10	0.37	10.0	100	9.80	3.6	18	2.0	0.0012	1.25	0.08	0.0	10.0	581.46	
INLET Y4	4+23.33	25.38	0.34	10	0.34	10.0	100	9.80	3.4	18	1.9	0.0010	1.25	0.07	0.0	10.0	581.45	
4+23.33	1+43.68	279.65	-	-	1.45	10.9	100	9.62	13.9	24	4.4	0.0038	0.25	0.28	0.6	11.5	580.54	
INLET Y5	1+43.68	34.03	0.34	10	0.34	10.0	100	9.80	3.4	18	1.9	0.0010	1.25	0.07	0.1	10.1	578.99	
1+43.68	1+23.42	20.26	-	-	1.79	11.5	100	9.52	17.1	27	4.3	0.0030	0.3	0.20	0.1	11.6	578.17	
INLET Y6	1+23.42	10.41	0.34	10	0.34	10.0	100	9.80	3.4	18	1.9	0.0010	1.25	0.07	0.0	10.0	578.99	
1+23.42	1+03.67	20.3	-	-	2.13	11.6	100	9.50	20.3	27	5.1	0.0043	0.4	0.29	0.1	11.7	577.91	

STORM DRAIN CALCULATIONS FOR STORM DRAIN LINE Z																		
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 Z1	11+04.06	12.12	0.54	10	0.54	10.0	100	9.80	5.3	18	3.0	0.0025	1.25	0.17	0.0	10.0	595.17	
11+04.06	10+90.20	13.86	-	-	0.54	10.0	100	9.80	5.3	24	1.7	0.0005	0.6	0.00	0.0	10.0	593.70	
INLET Z2	10+90.20	39.84	0.54	10	0.54	10.0	100	9.80	5.3	18	3.0	0.0025	1.25	0.17	0.1	10.1	595.17	
10+90.20	7+10.85	379.35	-	-	1.08	10.1	100	9.78	10.6	24	3.4	0.0022	0.4	0.16	0.8	10.9	593.67	
INLET Z3	7+10.85	12.4	0.47	10	0.47	10.0	100	9.80	4.6	18	2.6	0.0019	1.25	0.13	0.0	10.0	589.40	
INLET Z4	7+10.85	35.08	0.48	10	0.48	10.0	100	9.80	4.7	18	2.7	0.0020	1.25	0.14	0.1	10.1	589.41	
7+10.85	4+98.53	212.15	-	-	2.03	10.9	100	9.62	19.5	27	4.9	0.0040	0.25	0.33	0.4	11.3	588.72	
4+98.53	3+66.67	132.03	-	-	2.03	11.3	100	9.55	19.3	30	3.9	0.0022	0	0.00	0.6	11.9	586.42	
INLET Z5	3+66.67	12.04	0.70	10	0.70	10.0	100	9.80	6.9	18	3.9	0.0043	1.25	0.30	0.1	10.1	586.48	
3+66.67	3+53.64	13.03	-	-	2.73	11.9	100	9.45	25.8	36	3.6	0.0015	0.5	0.08	0.1	12.0	586.13	
INLET Z6	3+53.64	39.56	0.74	10	0.74	10.0	100	9.80	7.2	18	4.1	0.0047	1.25	0.32	0.2	10.2	586.54	
3+53.64	2+15.58	138.06	-	-	3.47	12.0	100	9.43	32.7	36	4.6	0.0024	0.3	0.27	0.5	12.5	586.03	
2+15.58	1+04.87	110.71	-	-	3.47	12.5	100	9.35	32.4	36	4.6	0.0024	0.5	0.16	0.4	12.9	585.43	

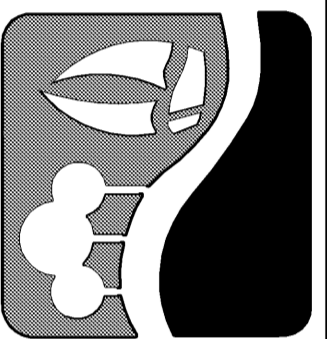
STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LATERAL EX-B6																		
FROM	TO	LENGTH (FT)	CxA	INLET TIME (min.)	TOTAL INTERCEPTED CxA	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORM DRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE 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 B6	1+67.38	80.07	0.82	10	0.82	10.0	100	9.80	8.0	18	4.5	0.0058	1.25	0.40	0.1	10.1	574.94	SEE SD LINE B IN PLANS FOR CORPORATE CROSSING BY WIER & ASSOCIATES DATED 05/17/12

STORM DRAIN CALCULATIONS FOR EXISTING STORM DRAIN LATERAL EX-A3																		
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 A3	1+83.83	70.48	0.67	10	0.67	10.0	100	9.80	6.6	21	2.7	0.0017	1.25	0.15	0.1	10.1	574.58	SEE SD LINE B IN PLANS FOR CORPORATE CROSSING BY WIER & ASSOCIATES DATED 05/17/12

**RECORD  
DRAWING  
02/02/2015**

TO THE BEST OF OUR KNOWLEDGE WIER & ASSOCIATES, INC., HERBY STATES THAT THIS PLAN IS AS-BUILT. THIS INFORMATION PROVIDED IS BASED ON SURVEYING AT THE SITE AND INFORMATION PROVIDED BY THE CONTRACTOR.

PREPARED BY:  
**WIER & ASSOCIATES, INC.**  
 ENGINEERS SURVEYORS LAND PLANNERS  
 701 HIGHLANDER BLVD., SUITE 300 ARLINGTON, TEXAS 76015 METRO (817)467-7700  
 www.WierAssociates.com  
 Texas Firm Registration No. F-2776



**ROCKWALL  
TECHNOLOGY  
PARK  
PHASE IV**

**STORM DRAIN  
HYDRAULIC  
CALCULATIONS**



COPYRIGHT ©  
 WIER & ASSOCIATES, INC.  
 LAST SHEET EDIT  
 DATE: 09-26-2015  
 WA# 12209

**SHEET NO.  
D205**