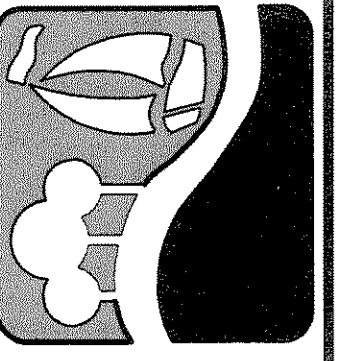


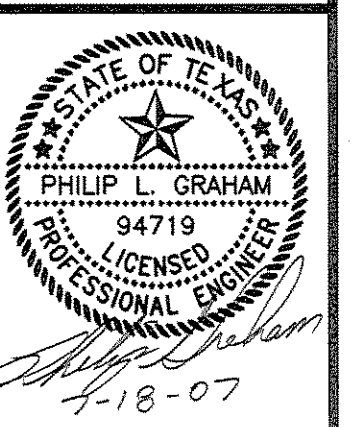
# STORM DRAIN DESIGN CALCULATIONS

FROM	REACH TO	INFLOW (INLETS & HEADWALLS)				TOTAL 'CA'	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yr)	RAINFALL INTENSITY 'I' (in/hr)	TOTAL FLOW 'Q' (cfs)	STORM DRAIN SIZE	VELOCITY (ft/sec)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFF. 'Kj'	STRUCTURE LOSS AT UPSTREAM OF REACH (ft)	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
		LENGTH (ft)	SOURCE	'CA'	INLET TIME (min)														
SYSTEM "A"																			
1+94.41	1+70.83	23.58		289.90	10.0	289.90	10.0	100	9.80	2841.0	9x9	8.8	0.0020	0.00	0.00	0.0	10.0	544.67	
INLET A-3	1+70.83	54.85		1.21	10.0	1.21	10.0	100	9.80	11.9	21	4.9	0.0056	1.25	0.48	0.2	10.2	545.41	
1+70.83	0+91.06	76.77	-	-	-	291.11	10.2	100	9.77	2844.1	9x9	8.8	0.0020	0.00	0.00	0.1	10.3	544.63	
INLET A-4	13+55.71	16.26		0.56	10.0	0.56	10.0	100	9.80	5.5	18	3.1	0.0027	1.25	0.19	0.0	10.0	565.94	
13+55.71	11+76.18	179.53	-	-	-	0.56	10.0	100	9.80	5.5	18	3.1	0.0027	0.50	0.08	0.3	10.3	565.55	
AREA A-4.1	11+76.18	29.73		2.12	10.0	2.12	10.0	100	9.80	20.8	24	6.6	0.0085	0.00	0.00	0.0	10.0	561.82	FUTURE STORM DRAIN EXTENSION
11+76.18	10+53.31	122.87	-	-	-	2.68	10.3	100	9.76	26.2	27	6.6	0.0072	0.30	0.63	0.2	10.5	561.33	
INLET A-4.2	10+53.31	16.31		0.47	10.0	0.47	10.0	100	9.80	4.6	18	2.6	0.0019	1.25	0.13	0.1	10.1	559.49	
10+53.31	10+24.54	28.77	-	-	-	3.15	10.5	100	9.73	30.6	27	7.7	0.0098	0.30	0.72	0.1	10.6	559.33	
INLET A-4.3	10+24.54	119.54		0.55	10.0	0.55	10.0	100	9.80	5.4	18	3.1	0.0026	1.25	0.18	0.2	10.2	560.69	
10+24.54	9+08.24	116.3	-	-	-	3.70	10.6	100	9.71	35.9	27	9.0	0.0134	0.30	0.98	0.2	10.8	558.33	
INLET A-4.4	9+08.24	42.68		1.67	10.0	1.67	10.0	100	9.80	16.4	24	5.2	0.0053	1.25	0.53	0.0	10.0	557.46	
9+08.24	8+23.81	84.43	-	-	-	5.37	10.8	100	9.68	52.0	30	10.6	0.0161	0.30	1.37	0.1	10.9	555.79	
INLET A-4.5	8+23.81	16.31		0.53	10.0	0.53	10.0	100	9.80	5.2	18	2.9	0.0025	1.25	0.17	0.1	10.1	553.27	
8+23.81	4+82.11	341.7	-	-	-	5.90	10.9	100	9.67	57.1	33	9.6	0.0117	0.30	0.91	0.6	11.5	553.06	
INLET A-4.6	4+82.11	16.31		0.65	10.0	0.65	10.0	100	9.80	6.4	18	3.6	0.0037	1.25	0.25	0.1	10.1	548.47	
4+82.11	4+03.46	78.65	-	-	-	6.55	11.5	100	9.57	62.7	36	8.9	0.0088	0.30	0.80	0.1	11.6	548.15	
INLET A-4.7	4+03.46	126.64		0.66	10.0	0.66	10.0	100	9.80	6.5	18	3.7	0.0038	1.25	0.26	0.6	10.6	547.41	
4+03.46	1+75	228.46	-	-	-	7.21	11.6	100	9.56	68.9	42	7.2	0.0047	0.30	0.44	0.5	12.1	546.66	
1+75	1+46.87	28.13	-	-	-	7.21	12.1	100	9.49	68.4	42	7.1	0.0046	0.00	0.00	0.1	12.2	545.15	
INLET A-4.8	1+46.87	16.26		1.14	10.0	1.14	10.0	100	9.80	11.2	24	3.6	0.0025	1.25	0.25	0.1	10.1	545.31	
1+46.87	0+91.06	55.81	-	-	-	8.35	12.2	100	9.47	79.1	48	6.3	0.0030	0.30	0.38	0.1	12.3	545.02	
INLET A-5	7+35.89	16.23		0.43	10.0	0.43	10.0	100	9.80	4.2	18	2.4	0.0016	1.25	0.11	0.0	10.0	566.08	
7+35.89	5+38.11	197.78	-	-	-	0.43	10.0	100	9.80	4.2	18	2.4	0.0016	0.50	0.04	0.3	10.3	565.41	
INLET A-5.1	5+38.11	128.85		0.47	10.0	0.47	10.0	100	9.80	4.6	18	2.6	0.0019	1.25	0.13	0.2	10.2	561.15	
5+38.11	5+18.87	19.24	-	-	-	0.90	10.3	100	9.76	8.8	18	5.0	0.0070	0.30	0.36	0.1	10.4	557.50	
INLET A-5.2	5+18.87	16.26		0.36	10.0	0.36	10.0	100	9.80	3.5	18	2.0	0.0011	1.25	0.08	0.1	10.1	557.10	
5+18.87	3+40.87	178	-	-	-	1.26	10.4	100	9.74	12.3	18	7.0	0.0137	0.30	0.64	0.2	10.6	557.00	
INLET A-5.3	3+40.87	126.57		0.41	10.0	0.41	10.0	100	9.80	4.0	18	2.3	0.0015	1.25	0.10	0.3	10.3	552.56	
3+40.87	2+68.87	72	-	-	-	1.67	10.6	100	9.71	16.2	18	9.2	0.0238	0.30	1.09	0.1	10.7	550.79	
INLET A-5.4	2+68.87	16.26		0.32	10.0	0.32	10.0	100	9.80	3.1	18	1.8	0.0009	1.25	0.06	0.0	10.0	547.84	
2+68.87	1+90.87	78	-	-	-	1.99	10.7	100	9.70	19.3	24	6.1	0.0073	0.30	0.18	0.1	10.8	547.58	
INLET A-5.5	1+90.87	126.57		0.27	10.0	0.27	10.0	100	9.80	2.6	18	1.5	0.0006	1.25	0.04	0.3	10.3	547.32	
1+90.87	0+91.06	92.9	-	-	-	2.26	10.8	100	9.68	21.9	24	7.0	0.0094	0.30	0.59	0.2	11.0	545.93	
0+91.06	0+74.41	16.65	-	-	-	301.72	12.3	100	9.46	2854.3	9x9	8.8	0.0020	0.00	0.00	0.0	12.3	544.47	
SYSTEM "B"																			
INLET B-1	2+30.00	117.50		1.89	10.0	1.89	10.0	100	9.80	18.5	24	5.9	0.0067	1.25	0.67	0.3	10.3	575.19	
INLET B-2	2+30.00	88.63		0.90	10.0	0.90	10.0	100	9.80	8.8	21	3.7	0.0031	1.25	0.26	0.4	10.4	574.25	
2+30.00	2+05.00	25.00	-	-	-	2.79	10.4	100	9.74	27.2	30	5.5	0.0044	0.50	0.20	0.1	10.5	573.72	
SYSTEM "C"																			
INLET C-1	INLET C-2	370.00		0.22	10.0	0.22	10.0	100	9.80	2.2	18	1.2	0.0004	1.25	0.03	1.3	11.3	580.88	
INLET C-2	1+46.00	104.00		0.90	10.0	1.12	11.3	100	9.60	10.8	18	6.1	0.0106	0.50	0.57	0.3	11.6	578.16	

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PHASE I S.H. 205 BYPASS  
 FROM S.H. 276 TO INTERSTATE 30  
**STORM DRAIN  
 DESIGN CALCULATIONS**



RECORD PLANS  
 MARCH 28, 2008

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