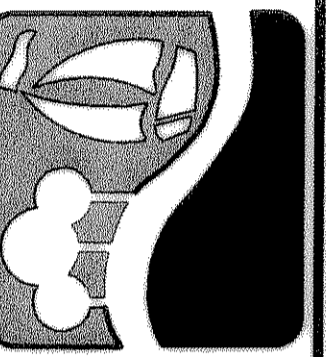


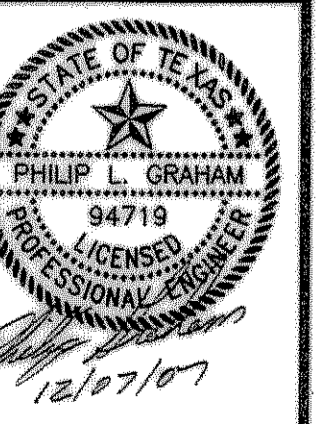
STORM DRAIN DESIGN CALCULATIONS

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	BUFFALO CRK	289.90	10.0	289.90	10.0	9.80	2841.0	9x9	8.8	0.0020	0.00	0.00	0.0	10.0	544.67	EXISTING STORM DRAIN	
INLET A-3	1+70.83	54.85	INLET A-3	1.21	10.0	1.21	10.0	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	9.77	2844.1	9x9	8.8	0.0020	0.00	0.00	0.1	10.3	544.63	EXISTING STORM DRAIN	
INLET A-4	13+55.71	16.26	INLET A-4	0.56	10.0	0.56	10.0	9.80	5.5	18	3.1	0.0027	1.25	0.19	0.0	10.0	565.94	EXISTING STORM DRAIN	
13+55.71	11+76.18	179.53	-	-	-	0.56	10.0	9.80	5.5	18	3.1	0.0027	0.50	0.08	0.3	10.3	565.55	EXISTING STORM DRAIN	
AREA A-4.1	11+76.18	29.73	AREA A-4.1	2.12	10.0	2.12	10.0	9.80	20.8	24	6.6	0.0085	0.00	0.00	0.0	10.0	561.82	FUTURE STORM DRAIN EXTENSTION	
11+76.18	10+53.31	122.87	-	-	-	2.68	10.3	9.76	26.2	27	6.6	0.0072	0.30	0.63	0.2	10.5	561.33	EXISTING STORM DRAIN	
INLET A-4.2	10+53.31	16.31	INLET A-4.2	0.47	10.0	0.47	10.0	9.80	4.6	18	2.6	0.0019	1.25	0.13	0.1	10.1	559.47	EXISTING STORM DRAIN	
10+53.31	10+24.54	28.77	-	-	-	3.15	10.5	9.73	30.6	27	7.7	0.0098	0.30	0.72	0.1	10.6	559.31	EXISTING STORM DRAIN	
INLET A-4.3	0+51.50	64.85	INLET A-4.3	0.55	10.0	0.55	10.0	9.80	5.4	18	3.1	0.0026	1.25	0.18	0.2	10.2	559.10		
0+51.50	10+24.54	51.5	-	-	-	0.55	10.2	9.77	5.4	18	3.1	0.0026	0.50	0.07	0.3	10.5	558.51	EXISTING STORM DRAIN	
10+24.54	9+08.24	116.3	-	-	-	3.70	10.6	9.71	35.9	27	9.0	0.0134	0.30	0.98	0.2	10.8	558.31	EXISTING STORM DRAIN	
INLET A-4.4	9+08.24	42.68	INLET A-4.4	1.67	10.0	1.67	10.0	9.80	16.4	24	5.2	0.0053	1.25	0.53	0.0	10.0	557.46	EXISTING STORM DRAIN	
9+08.24	8+23.81	84.43	-	-	-	5.37	10.8	9.68	52.0	30	10.6	0.0161	0.30	1.37	0.1	10.9	555.77	EXISTING STORM DRAIN	
INLET A-4.5	8+23.81	16.31	INLET A-4.5	0.53	10.0	0.53	10.0	9.80	5.2	18	2.9	0.0025	1.25	0.17	0.1	10.1	553.25	EXISTING STORM DRAIN	
8+23.81	4+82.11	341.7	-	-	-	5.90	10.9	9.67	57.1	33	9.6	0.0117	0.30	0.91	0.6	11.5	553.04	EXISTING STORM DRAIN	
INLET A-4.6	4+82.11	16.31	INLET A-4.6	0.65	10.0	0.65	10.0	9.80	6.4	18	3.6	0.0037	1.25	0.25	0.1	10.1	548.45	EXISTING STORM DRAIN	
4+82.11	4+03.46	78.65	-	-	-	6.55	11.5	9.57	62.7	36	8.9	0.0088	0.30	0.80	0.1	11.6	548.13	EXISTING STORM DRAIN	
INLET A-4.7	0+55	68.26	INLET A-4.7	0.66	10.0	0.66	10.0	9.80	6.5	18	3.7	0.0038	1.25	0.26	0.3	10.3	547.37		
0+55	4+03.46	55	-	-	-	0.66	10.3	9.76	6.4	18	3.6	0.0037	0.00	0.00	0.3	10.6	546.84	EXISTING STORM DRAIN	
4+03.46	1+75	228.46	-	-	-	7.21	11.6	9.56	68.9	42	7.2	0.0047	0.30	0.44	0.5	12.1	546.64	EXISTING STORM DRAIN	
1+75	1+46.87	28.13	-	-	-	7.21	12.1	9.49	68.4	42	7.1	0.0046	0.00	0.00	0.1	12.2	545.13	EXISTING STORM DRAIN	
INLET A-4.8	1+46.87	16.26	INLET A-4.8	1.14	10.0	1.14	10.0	9.80	11.2	24	3.6	0.0025	1.25	0.25	0.1	10.1	545.29	EXISTING STORM DRAIN	
1+46.87	0+91.06	48.9	-	-	-	8.35	12.2	9.47	79.1	48	6.3	0.0030	0.30	0.38	0.1	12.3	545.00	EXISTING STORM DRAIN	
INLET A-5	7+35.89	16.23	INLET A-5	0.43	10.0	0.43	10.0	9.80	4.2	18	2.4	0.0016	1.25	0.11	0.0	10.0	566.08	EXISTING STORM DRAIN	
7+35.89	5+38.11	197.78	-	-	-	0.43	10.0	9.80	4.2	18	2.4	0.0016	0.50	0.04	0.3	10.3	565.41	EXISTING STORM DRAIN	
INLET A-5.1	5+38.11	128.85	INLET A-5.1	0.47	10.0	0.47	10.0	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	9.76	8.8	18	5.0	0.0070	0.30	0.36	0.1	10.4	557.50	EXISTING STORM DRAIN	
INLET A-5.2	5+18.87	16.26	INLET A-5.2	0.36	10.0	0.36	10.0	9.80	3.5	18	2.0	0.0011	1.25	0.08	0.1	10.1	557.10	EXISTING STORM DRAIN	
5+18.87	3+40.87	178	-	-	-	1.26	10.4	9.74	12.3	18	7.0	0.0137	0.30	0.64	0.2	10.6	557.00	EXISTING STORM DRAIN	
INLET A-5.3	3+40.87	126.57	INLET A-5.3	0.41	10.0	0.41	10.0	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	9.71	16.2	18	9.2	0.0238	0.30	1.09	0.1	10.7	550.79	EXISTING STORM DRAIN	
INLET A-5.4	2+68.87	16.26	INLET A-5.4	0.32	10.0	0.32	10.0	9.80	3.1	18	1.8	0.0009	1.25	0.06	0.0	10.0	547.84	EXISTING STORM DRAIN	
2+68.87	1+90.87	78	-	-	-	1.99	10.7	9.70	19.3	24	6.1	0.0073	0.30	0.18	0.1	10.8	547.58	EXISTING STORM DRAIN	
INLET A-5.5	1+90.87	126.57	INLET A-5.5	0.27	10.0	0.27	10.0	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	9.68	21.9	24	7.0	0.0094	0.30	0.59	0.2	11.0	545.93	EXISTING STORM DRAIN	
0+91.06	0+74.41	16.65	-	-	-	301.72	12.3	9.46	2854.3	9x9	8.8	0.0020	0.00	0.00	0.0	12.3	544.47	EXISTING STORM DRAIN	

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PHASE II SH. 205 BYPASS
 FROM SH. 276 TO INTERSTATE 30
**STORM DRAIN
 DESIGN CALCULATIONS**



RECORD PLANS
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