Storm Sewer Design

10 yr. Storm

Project: INTERSTATE COMMERCE I

Job No.: 06F070-001

Formulas Used:
Q_r = ACI
V_p = 1.486 R^(2/3) S^(1/2)/n
Q_p = A_p V_p

Bayer Becker Engineers

Designed By: JLR Date:
Reviewed By: Date:
Revisions: JLR Date: 03/26/07

Revisions: Date:
Revisions: Date:
Revisions: Date:

* SEE SHEET C6

Constant n value: 0.015

LOCATION			TOPOGRAPHY					TIME					DESIGN										
Street	From Structure	To Structure	Area No.	Area (acres)	"C"	A*C (acres)	Cumm. AC (acres)	T_o-inlet (min.)	T_p-pipe (min.)	T_c-conc. (min.)	Intensity (in./hr.)	Q_r (c.f.s.)	Pipe Size (inches)	"n"	Distance (ft.)	Slope (%)	Velocity (ft./sec)	Q_p (c.f.s.)	Flow Time (min.)	T/Grate	Inlet Invert	Outlet Invert	Inlet Clearance
	0.5	2	0.5	2.87	0.93	2.66	2.66	10.00	0.00	10.00	5.15	13.71	18	0.015	121	1.40	6.10	* 10.77	0.33	652.51	638.19	636.50	12.82
DOCK	1	2	1	0.53	0.72	0.38	0.38	10.00	0.00	10.00	5.15	1.97	12	0.015	170	7.10	10.48	8.23	0.27	651.00	647.07	635.00	2.93
	1.5	2	1.5	1.07	0.72	0.77	0.77	10.00	0.00	10.00	5.15	3.99	12	0.015	45	3.00	6.81	5.35	0.11	647.35	636.65	635.30	9.70
DRIVE	2	7	2	0.11	0.80	0.09	3.91	10.00	0.33	10.33	5.10	19.92	24	0.015	144	3.75	12.09	37.97	0.20	638.74	629.22	623.82	7.52
	3	5	3	1.58	0.81	1.28	1.28	10.00	0.00	10.00	5.15	6.60	15	0.015	154	4.00	9.12	11.20	0.28	634.66	630.77	624.61	2.64
	4	5	4	0.41	0.95	0.39	0.39	10.00	0.00	10.00	5.15	2.01	12	0.015	66	1.00	3.93	3.09	0.28	630.08	625.52	624.86	3.56
	5	7	5	0.91	0.61	0.55	2.22	10.00	0.28	10.28	5.11	11.35	24	0.015	146	0.70	5.22	16.40	0.47	628.88	623.86	622.84	3.02
	6	7	6	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	625.51	624.84	3.57
	7	9	7	0.97	0.77	0.75	7.34	10.28	0.47	10.75	5.04	36.99	36	0.015	146	1.00	8.18	57.81	0.30	628.88	621.84	620.38	4.04
	8	9	8	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	66	1.00	3.93	3.09	0.28	630.08	622.08	621.42	7.00
	9	11	9	0.71	0.76	0.54	8.35	10.75	0.30	11.04	4.99	41.67	36	0.015	146	0.70	6.84	48.36	0.36	628.88	620.38	619.36	5.50
	10	11	10	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	622.08	621.41	7.00
	11	13	11	4.94	0.69	3.40	12.21	11.04	0.36	11.40	4.94	60.32	42	0.015	146	0.80	8.11	77.99	0.30	628.88	618.86	617.69	6.52
	12	13	12	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	67	1.00	3.93	3.09	0.28	630.08	622.08	621.41	7.00
	13	15	13	0.63	0.86	0.54	13.22	11.40	0.30	11.70	4.90	64.74	42	0.015	146	0.70	7.58	72.95	0.32	628.88	617.69	616.67	7.69
	14	15	14	0.49	0.95	0.47	0.47	10.00	0.00	10.00	5.15	2.40	12	0.015	72	1.00	3.93	3.09	0.31	630.08	622.08	621.36	7.00
	15	17	15	0.52	0.90	0.47	14.15	11.70	0.32	12.02	4.85	68.67	42	0.015	141	0.80	8.11	77.99	0.29	628.88	616.67	615.54	8.71
	16	17	16	0.57	0.95	0.54	0.54	10.00	0.00	10.00	5.15	2.79	12	0.015	70	1.00	3.93	3.09	0.30	630.08	622.08	621.38	7.00
	17	19	17	1.78	0.87	1.55	16.24	12.02	0.29	12.31	4.81	78.20	48	0.015	178	0.70	8.29	104.16	0.36	628.90	615.18	613.93	9.72
	18	19	18	4.41	0.45	2.00	2.00	10.00	0.00	10.00	5.15	10.28	15	0.015	54	4.40	9.57	11.74	0.09	624.00	619.21	616.83	3.54
	19	20	19	0.21	0.92	0.19	18.43	12.31	0.36	12.67	4.77	87.84	48	0.015	114	0.70	8.29	104.16	0.23	627.72	614.43	613.93	9.29
PORT	21	23	20	8.14	0.50	4.11	4.11	10.00	0.00	10.00	5.15	21.17	30	0.015	158	0.50	5.12	25.14	0.51	619.50	615.84	615.05	1.16
UNION	22	23	21	4.41	0.48	2.11	2.11	10.00	0.00	10.00	5.15	10.87	18	0.015	32	3.40	9.50	16.79	0.06	620.20	616.18	615.09	2.52
DRIVE	23	24	22	0.62	0.84	0.52	6.74	10.00	0.51	10.51	5.07	34.20	36	0.015	289	0.50	5.78	40.87	0.83	620.06	614.55	613.11	2.51
	24	25	23	0.45	0.93	0.42	7.16	10.51	0.83	11.35	4.95	35.43	36	0.015	96	0.50	5.78	40.87	0.28	625.25	613.11	612.63	9.15
COL. 4	26	27	24	0.90	0.95	0.86	0.86	10.00	0.00	10.00	5.15	4.40	15	0.015	72	1.00	4.56	5.60	0.26	633.96	629.27	628.55	3.44
COL. 9	28	29	25	0.82	0.95	0.78	0.78	10.00	0.00	10.00	5.15	4.01	15	0.015	128	1.00	4.56	5.60	0.47	633.96	629.27	627.99	3.44
COL. 14	30	31	26	0.82	0.95	0.78	0.78	10.00	0.00	10.00	5.15	4.01	15	0.015	52	1.00	4.56	5.60	0.19	633.96	629.27	628.75	3.44
COL. 19	32	33	27	0.88	0.95	0.84	0.84	10.00	0.00	10.00	5.15	4.31	15	0.015	52	1.00	4.56	5.60	0.19	633.96	629.27	628.75	3.44