

AS-BUILTS

STORM SEWER CALCULATIONS																
PROJECT: Chesterwood Village, Phase 3				Made By: A.P.		Date: 7/23/2002										
FROM	TO	DRAINAGE AREA (ac.)	C VALUE	AC	CUMULATIVE AC	TIME TO INLET (min.)	TIME OF CONCENTRATION (min.)	INTENSITY	REQUIRED FLOW RATE (cfs)	PIPE SIZE (in.)	n VALUE	PIPE SLOPE (%)	VELOCITY (fps)	PROVIDED FLOW RATE (cfs)	LENGTH OF PIPE (ft.)	TIME IN PIPE (min.)
INV 1	YD 1	0.69	0.55	0.38	0.38	10	10	5.15	1.96	12	0.015	4.38	8.23	6.46	21	0.04
YD 1	YD 2	0.25	0.49	0.12	0.50	10	10.04	5.14	2.58	12	0.015	0.60	3.05	2.39	149	0.82
YD 2	INV 2	0.2	0.51	0.10	0.60	10	10.86	5.02	3.03	15	0.015	0.98	4.52	5.54	174	0.64
4	5	0.21	0.74	0.16	0.16	10	10	5.15	0.80	12	0.015	0.07	1.04	0.82	126	2.02
5	6	0.5	0.77	0.39	0.54	10	12.02	4.85	2.62	15	0.015	1.13	4.85	5.95	120	0.41
3	2	0.39	0.63	0.25	0.25	10	10	5.15	1.27	12	0.015	0.50	2.78	2.18	70	0.42
2	1	0.3	0.73	0.22	0.46	10	10.42	5.09	2.36	15	0.015	0.65	3.68	4.51	189	0.86
1	EX	0.54	0.74	0.40	0.86	10	11.28	4.96	4.29	15	0.015	1.09	4.76	5.84	55	0.19
7	8	0.63	0.75	0.47	0.47	10	10.00	5.15	2.43	12	0.015	1.06	4.05	3.18	104	0.43

Storm Sewer Design

Bayer Becker Engineers

10 yr. Storm

Formulas Used:

$Q_r = ACI$

$V_p = 1.486 R^{(2/3)} S^{(1/2)/n}$

$Q_p = A_p V_p$

Designed By:

ELB

Date:

5/11/01

Reviewed By:

Date:

Revisions:

Date:

Project: Chesterwood Retirement

Job No.: 95-79

AS-BUILTS

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
	Inv.1	Y.Dr.1	Offsite	0.69	0.55	0.38	0.38	10.00	0.00	10.00	5.15	1.96	12	0.015	21-30	4.38-0.50	2.78	2.18	0.18	885.95	885.95	885.63	-1.00
	Y.Dr.1	Y.Dr.2	1	0.25	0.49	0.12	0.50	10.00	0.20	10.20	5.12	2.57	12	0.015	149-350	0.6-0.70	3.29	2.58	1.77	888.00	885.63	884.88	1.37
	Y.Dr.2	Inv.2	2	0.20	0.51	0.10	0.60	10.20	1.77	11.98	4.86	2.93	15	0.015	174-175	0.98-0.50	3.23	3.96	0.90	887.30	884.63	884.00	1.42
	7	8	3	0.63	0.75	0.47	0.47	10.00	0.00	10.00	5.15	2.43	12	0.015	104-110	1.06-1.00	3.93	3.09	0.47	887.57	884.40	883.30	2.17
Y.Dr.3	4	5	4	0.21	0.74	0.16	0.16	10.00	0.00	10.00	5.15	0.80	12	0.015	126-125	0.07-0.70	3.29	2.58	0.63	888.11	884.94	884.07	2.17
		6	5	0.16	0.95	0.15	0.15	10.00	0.00	10.00	5.15	0.78	12	0.015	55-50	0.21-1.86	5.36	4.21	0.16	887.50	885.00	884.07	1.50
	5	6	6	0.34	0.68	0.23	0.39	10.00	0.63	10.63	5.05	1.95	15	0.015	120	1.13-0.30	2.50	3.07	0.80	887.36	883.82	883.71	2.29
	3	2	7	0.39	0.63	0.24	0.24	10.00	0.00	10.00	5.15	1.26	12	0.015	70	0.50	2.78	2.18	0.42	886.46	882.90	882.55	2.56
	2	1	8	0.30	0.73	0.22	0.46	10.00	0.42	10.42	5.09	2.36	15	0.015	189-191	0.65-0.60	3.53	4.34	0.90	885.99	882.30	881.16	2.44
	1 Ex.CB		9	0.54	0.74	0.40	0.86	10.42	0.90	11.32	4.95	4.26	15	0.015	55-52	0.65-1.09	3.68	4.51	0.24	884.83	881.16	880.85	2.42
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	-1.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.00	0.00	0.00
	0	0	0	0.00	0.00	0.00	0.00	10.00	0.00	10.00	5.15	0.00	12	0.015	1	0.50	2.78	2.18	0.01	0.00	0.0		