COBIDE ENGINEERING INC

SUBDIVISION

Hilton Head Heights
Meaford
1665426 Ontario Inc.

STORM SEWER DESIGN SHEET
5 YEAR STORM

DATE: May 1, 2020
DESIGNED BY: TLB
CHECKED BY: TLB

FILE NUMBERS: 02703

DESIGN PARAMETERS

I = a / ((tc + b) ^c)

a= 1234.576
b= 8.297
c= 0.8510

LOCATION			DRAINAGE AREA							PIPE SELECTION					
	FROM M.H.	TO M.H.	AREA (ha)	C	A x R (ha)	ACCUM. AREA (ha)	T of C (min)	I (mm/h)	Q (m3/s)	LENGTH (m)	PIPE SIZE (mm)	SLOPE %	CAP. (FULL) (m3/s)	VEL. (FULL) (m/S)	TIME OF FLOW (min)
201	CB8	CBMH7	0.042	0.70	0.03	0.03	10.00	104.05	0.008	7.0	300	1.00	0.097	1.37	0.09
202	CBMH7	CBMH8	0.070	0.60	0.04	0.07	10.09	103.64	0.021	41.4	300	4.65	0.209	2.95	0.23
							10.32								
203	CB9	CBMH8	0.089	0.59	0.05	0.05	10.00	104.05	0.015	7.0	300	1.00	0.097	1.37	0.09
							10.09								
204	CBMH8	CBMH9	0.134	0.62	0.08	0.21	10.32	102.53	0.059	41.5	300	7.07	0.257	3.64	0.19
							10.51								
205	CB10	CBMH9	0.079	0.38	0.03	0.03	10.00	104.05	0.009	7.0	300	1.00	0.097	1.37	0.09
							10.09								
206	CBMH9	TICBMH2	0.070	0.40	0.03	0.27	10.51	101.64	0.075	44.9	300	5.24	0.221	3.13	0.24
							10.75								
207	TICB2	TICBMH2	0.068	0.40	0.03	0.03	10.00	104.05	0.008	7.3	300	1.23	0.107	1.52	0.08
							10.08								
208	TICBMH2	OUTLET	0.087	0.36	0.03	0.32	10.75	100.56	0.091	44.9	300	7.10	0.258	3.65	0.21
							10.95								
209	CB7	CBMH6	0.074	0.67	0.05	0.05	10.00	104.05	0.014	7.0	300	1.00	0.097	1.37	0.09
210	CBMH6	CBMH5	0.135	0.61	0.08	0.13	10.09	103.64	0.038	63.6	300	0.44	0.064	0.91	1.17
							11.25								
211	CB6	CBMH5	0.124	0.76	0.09	0.09	10.00	104.05	0.027	7.0	300	1.00	0.097	1.37	0.09
							10.09								
212	CBMH5	CBMH4	0.253	0.62	0.16	0.38	11.25	98.34	0.105	59.5	375	0.55	0.130	1.18	0.84
							12.10								
213	CB5	CBMH4	0.179	0.67	0.12	0.12	10.00	104.05	0.035	7.0	300	1.00	0.097	1.37	0.09
							10.09								
214	CBMH4	CBMH3	0.205	0.61	0.13	0.63	12.10	94.88	0.166	65.6	450	0.51	0.204	1.28	0.85
							12.95								

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	FROM M.H.	TO M.H.	AREA (ha)	C	A x R (ha)	ACCUM. AREA (ha)	T of C (min)	I (mm/h)	Q (m3/s)	LENGTH (m)	PIPE SIZE (mm)	SLOPE %	CAP. (FULL) (m3/s)	VEL. (FULL) (m/S)	TIME OF FLOW (min)
215	CB4	CBMH3	0.192	0.64	0.12	0.12	10.00	104.05	0.036	7.0	300	1.00	0.097	1.37	0.09
							10.09								
216	CBMH3	CBMH2	0.205	0.61	0.12	0.88	12.95	91.62	0.223	74.5	450	0.93	0.275	1.73	0.72
							13.67								
217	CB3	CBMH2	0.325	0.55	0.18	0.18	10.00	104.05	0.052	15.3	300	0.50	0.068	0.97	0.26
							10.26								
218	CBMH2	STMMH1	0.167	0.58	0.10	1.15	13.67	89.06	0.285	14.9	525	0.80	0.385	1.78	0.14
							13.81								
219	CB2	STMMH1	0.829	0.32	0.27	0.27	10.00	104.05	0.077	4.4	300	1.35	0.112	1.59	0.05
							10.05								
	STMMH1	CBMH1	0.000	0.51	0.00	1.42	13.81	88.59	0.349	53.5	600	0.46	0.416	1.47	0.61
							14.41								
220	CB1	CBMH1	0.217	0.55	0.12	0.12	10.00	104.05	0.035	7.0	300	1.00	0.097	1.37	0.09
							10.09								
221	CBMH1	TICBMH1	0.436	0.39	0.17	1.71	14.41	86.57	0.410	73.2	750	0.49	0.779	1.76	0.69
							15.10								
222	TICB1	TICBMH1	0.329	0.52	0.17	0.17	10.00	104.05	0.049	7.0	300	1.00	0.097	1.37	0.09
							10.09								
223	TICBMH1	OGS	0.304	0.55	0.17	2.04	15.10	84.39	0.479	15.9	750	0.32	0.630	1.43	0.19
224	OGS	POND	0.000	0.51	0.00	2.04	15.29	83.82	0.476	14.3	750	0.28	0.589	1.33	0.18
							15.29								

COBIDE ENGINEERING INC

Subdivision: Hilton Head Heights
Date: July 20, 2020
Designed By: TLB
Checked By: TLB
File Number: 02703

Post Development Runoff Coefficients

	Area/ Width	"C"
House Area =	250.0	0.90
Road Width =	3.9	0.90
Driveway Width =	6.0	0.90
Driveway Length =	10.0	0.90
Pervious Area		0.20

AREA ID	Total Area (ha)	Houses (#)	Road (m)	Driveways (#)	Pervious (ha)	Impervious (ha)	Balanced 'C'
201	0.042	0.5	25	1	0.01	0.03	0.70
202	0.070	1	25	1	0.03	0.04	0.60
203	0.089	1	45	2	0.04	0.05	0.59
204	0.134	2	45	2	0.05	0.08	0.62
205	0.079		45		0.06	0.02	0.38
206	0.070		45		0.05	0.02	0.40
207	0.068		50		0.05	0.02	0.40
208	0.087		50		0.07	0.02	0.36
209	0.074	1	40	2	0.02	0.05	0.67
210	0.135	2	40	2	0.06	0.08	0.61
211	0.124	2	65	4	0.02	0.10	0.76
212	0.253	4	65	4	0.10	0.15	0.62
213	0.179	3	60	3	0.06	0.12	0.67
214	0.205	3	60	3	0.09	0.12	0.61
215	0.192	3	65	3	0.07	0.12	0.64
216	0.205	3	65	3	0.08	0.12	0.61
217	0.325	4	85	4	0.16	0.16	0.55
218	0.167	2	75	2	0.08	0.09	0.58
219	0.829	3	115	3	0.69	0.14	0.32
220	0.217	3	55	3	0.11	0.11	0.55
221	0.436	3	60	3	0.32	0.12	0.39
222	0.329	4	75	4	0.18	0.15	0.52
223	0.304	4	75	4	0.15	0.15	0.55
TOTAL	4.614				2.554	2.060	0.51

Notes:

Taken from the Mimistry of the Environment - Guidelines for the Design of Storm Sewers

- Pervious area has a runoff coefficient equal to 0.2