



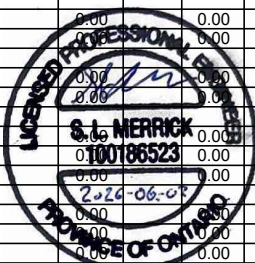
APPENDIX D

SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION				COMM		INSTIT		PARK		C+H	INFILTRATION			PIPE			PIPE		PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL.		
						AREA (ha)	POP.																			(FULL) (m/s)	(ACT.) (m/s)	
FERN CASEY STREET																												
Contribution From JARGEAU ROAD, Pipe 49A - 51A						1.72	152										0.00	0.00										
Contribution From JARGEAU ROAD, Pipe 50A - 51A						0.30	26										0.00	0.00										
	51A	55A	0.80		70	2.82	248	3.5	2.80					1.20	0.19	0.80	4.02	1.33	4.33	83.0	300	0.20	43.25	0.10	0.61	0.39		
	55A	61A	0.77		68	3.59	316	3.5	3.54					1.20	0.19	0.77	4.79	1.58	5.31	79.0	300	0.20	43.25	0.12	0.61	0.41		
	61A	62A	0.79		70	4.38	386	3.4	4.28					1.20	0.19	0.79	5.58	1.84	6.32	81.0	300	0.20	43.25	0.15	0.61	0.43		
	62A	66A	0.80		70	5.18	456	3.4	5.02					1.20	0.19	0.80	6.38	2.11	7.32	82.0	300	0.20	43.25	0.17	0.61	0.45		
To FRANK BENDER STREET, Pipe 66A - 76A						5.18	456							1.20			6.38											
STREET 5																												
Contribution From JARGEAU ROAD, Pipe 23A - 25A						2.30	204										0.00	0.00										
Contribution From JARGEAU ROAD, Pipe 24A - 25A						0.38	33										0.48	0.08	0.86	3.16								
	25A	26A	0.56		49	3.24	286	3.5	3.22					0.48	0.08	0.56	3.72	1.23	4.52	43.5	200	0.60	25.41	0.18	0.81	0.61		
	26A	28A	1.03		91	4.27	377	3.4	4.19					0.48	0.08	1.03	4.75	1.57	5.83	79.5	250	0.25	29.73	0.20	0.61	0.47		
	28A	30A	0.63		56	4.90	433	3.4	4.78					0.48	0.08	0.63	5.38	1.78	6.63	48.5	375	0.15	67.91	0.10	0.61	0.39		
	30A	36A	1.02		90	5.92	523	3.4	5.71					0.48	0.08	1.02	6.40	2.11	7.90	79.0	375	0.35	103.73	0.08	0.94	0.55		
	36A	37A	1.06		93	6.98	616	3.3	6.67					0.48	0.08	1.06	7.46	2.46	9.21	82.0	375	0.45	117.62	0.08	1.06	0.63		
To FRANK BENDER STREET, Pipe 37A - 38A						6.98	616							0.48			7.46											
JARGEAU ROAD																												
	12A	13A	0.18		15	0.18	15	3.7	0.18					0.00	0.00	0.18	0.18	0.06	0.24	37.0	200	4.00	65.60	0.00	2.09	0.46		
To FRANK BENDER STREET, Pipe 13A - 14A						0.18	15							0.00			0.18											
	24A	25A	0.38		33	0.38	33	3.7	0.39					0.48	0.48	0.08	0.86	0.86	0.28	0.75	29.5	200	0.35	19.40	0.04	0.62	0.29	
To STREET 5, Pipe 25A - 26A						0.38	33							0.00	0.00		0.38											
	50A	51A	0.30		26	0.30	26	3.7	0.31					0.00	0.00	0.30	0.30	0.10	0.41	31.5	200	0.35	19.40	0.02	0.62	0.25		
To FERN CASEY STREET, Pipe 51A - 55A						0.30	26							0.00	0.00		0.30											
	22A	23A	1.15		102	1.15	102	3.6	1.19					0.00	0.00	1.15	1.15	0.38	1.57	88.5	200	1.20	35.93	0.04	1.14	0.57		
	23A	25A	1.15		102	2.30	204	3.5	2.32					0.00	0.00	1.15	2.30	0.76	3.08	88.5	200	0.35	19.40	0.16	0.62	0.45		
To STREET 5, Pipe 25A - 26A						2.30	204							0.00	0.00		2.30											
	48A	49A	0.86		76	0.86	76	3.6	0.89					0.00	0.00	0.86	0.86	0.28	1.18	89.0	200	0.65	26.44	0.04	0.84	0.42		
	49A	51A	0.86		76	1.72	152	3.6	1.75					1.20	1.20	0.19	2.06	2.92	0.96	2.91	89.0	200	0.35	19.40	0.15	0.62	0.44	
To FERN CASEY STREET, Pipe 51A - 55A						1.72	152							1.20			2.92											
	95A	96A	1.98		174	1.98	174	3.5	1.99					0.00	0.00	1.98	1.98	0.65	2.65	108.0	250	0.25	29.73	0.09	0.61	0.37		
	96A	99A				1.98	174	3.5	1.99					0.00	0.00	0.00	1.98	0.65	2.65	77.5	300	0.20	43.25	0.06	0.61	0.34		
To STREET 4, Pipe 99A - 100A						1.98	174							0.00			1.98											
	97A	98A				0.00								0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.5	250	0.25	29.73	0.00	0.61	0.03	
	98A	99A				0.00	0							0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.0	250	0.25	29.73	0.00	0.61	0.03	
To STREET 4, Pipe 99A - 100A						0.00	0							0.00			0.00											
	1A	2A	0.15		0	0.15	0				1.62	1.62	0.00	0.00		1.77	1.77											
	2A	3A	0.16		0	0.15	0			2.31	3.93	0.00	0.00	0.00	1.91	2.31	4.08	1.35	3.26	65.5	250	0.35	35.18	0.09	0.72	0.45		
						0.31	0			5.82	9.75	0.00	0.00	0.00	4.74	5.98	10.06	3.32	8.06	65.5	250	0.25	29.73	0.27	0.61	0.51		

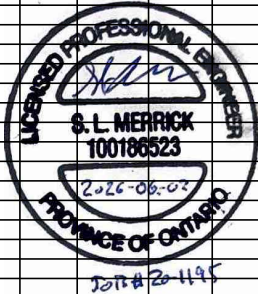


DESIGN PARAMETERS Park Flow = 9300 L/ha/day Average Daily Flow = 280 l/p/day Comm/Inst Flow = 28000 L/ha/day Industrial Flow = 35000 L/ha/day Max Res. Peak Factor = 4.00 Commercial/Inst./Park Peak Factor = 1.50 Institutional = 0.32 l/s/ha										Industrial Peak Factor = as per MOE Graph Extraneous Flow = 0.330 L/s/ha Minimum Velocity = 0.600 m/s Manning's n = 0.013 (Pvc) Townhouse coeff= 2.7 Single house coeff= 3.4										Designed: _____ Checked: _____ Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 3										PROJECT: TRAILSEDGE PHASE 5 LOCATION: City of Ottawa File Ref: 20-1195 Date: June 2, 2026										Sheet No. 1 of 4	
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SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION						COMM		INSTIT		PARK		C+H+	INFILTRATION				PIPE							
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL.	
						AREA (ha)	POP.																			(FULL) (m/s)	(ACT.) (m/s)
	137A	141A	0.03		2	2.22	131	3.6	1.51		0.00		0.00		0.00	0.00	0.03	2.22	0.73	2.25	5.5	200	0.35	19.40	0.12	0.62	0.41
To STREET 2, Pipe 141A - 142A						2.22	131				0.00		0.00		0.00			2.22									
STREET 2																											
Contribution From STREET 1, Pipe 137A - 141A						2.22	131				0.00		0.00		0.00		2.22	2.22									
Contribution From STREET 1, Pipe 140A - 141A						0.67	40				0.00		0.00		0.00		0.67	2.89									
	141A	142A	0.06		3	2.95	174	3.5	1.99		0.00		0.00		0.00	0.06	2.95	0.97	2.97	10.5	200	0.35	19.40	0.15	0.62	0.44	



DESIGN PARAMETERS Park Flow = 9300 L/ha/da 0.10764 l/s/ha Average Daily Flow = 280 l/p/day Comm/Inst Flow = 28000 L/ha/da 0.3241 l/s/ha Industrial Flow = 35000 L/ha/da 0.40509 l/s/ha Max Res. Peak Factor = 4.00 Commercial/Inst./Park Peak Factor = 1.50 Institutional = 0.32 l/s/ha										Industrial Peak Factor = as per MOE Graph Extraneous Flow = 0.330 L/s/ha Minimum Velocity = 0.600 m/s Manning's n = (Conc) 0.013 (Pvc) 0.013 Townhouse coeff= 2.7 Single house coeff= 3.4										Designed: C.B. Checked: S.M. Dwg. Reference: Sanitary Drainage Plan, Dwg. No. 3					PROJECT: TRAILSEDGE PHASE 5 LOCATION: City of Ottawa File Ref: 20-1195 Date: June 2, 2026					Sheet No. 4 of 4	
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SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION						COMM		INSTIT		PARK		C+H		INFILTRATION			PIPE							
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL.	
						AREA (ha)	POP.																			(FULL) (m/s)	(ACT.) (m/s)
TRUNK 2																											
	1203A	1204A	0.36		52	0.36	52	3.6	0.61		0.00		0.00	4.59	4.59	0.74	4.95	4.95	1.63	2.99	81.0	300	0.65	77.96	0.04	1.10	0.52
	1204A	1205A	0.75		108	1.11	160	3.5	1.84		0.00		0.00		4.59	0.74	0.75	5.70	1.88	4.46	111.0	300	0.20	43.25	0.10	0.61	0.39
	1205A	1206A	0.77		111	1.88	271	3.5	3.05		0.00		0.00		4.59	0.74	0.77	6.47	2.14	5.93	74.0	300	0.20	43.25	0.14	0.61	0.43
	1206A	1207A	0.97		140	2.85	411	3.4	4.55		0.00		0.00		4.59	0.74	0.97	7.44	2.46	7.74	75.0	300	0.20	43.25	0.18	0.61	0.46
	1207A	1208A				2.85	411	3.4	4.55		0.00		0.00		4.59	0.74	0.00	7.44	2.46	7.74	100.5	300	0.20	43.25	0.18	0.61	0.46
	1208A	1209A	1.77		255	4.62	666	3.3	7.18		0.00		0.00		4.59	0.74	1.77	9.21	3.04	10.96	14.5	300	0.20	43.25	0.25	0.61	0.51
	1209A	1210A	1.64		237	6.26	903	3.3	9.55		0.00		0.00		4.59	0.74	1.64	10.85	3.58	13.87	112.5	300	0.20	43.25	0.32	0.61	0.54
	1210A	1211A	2.83		408	9.09	1311	3.2	13.50		0.00		0.00		4.59	0.74	2.83	13.68	4.51	18.75	120.0	300	0.20	43.25	0.43	0.61	0.59
	1211A	1212A				9.09	1311	3.2	13.50		0.00		0.00		4.59	0.74	0.00	13.68	4.51	18.75	43.5	300	0.20	43.25	0.43	0.61	0.59
	1212A	1091A				9.09	1311	3.2	13.50		0.00		0.00		4.59	0.74	0.00	13.68	4.51	18.75	10.0	300	0.20	43.25	0.43	0.61	0.59
	1091A	1093A				9.09	1311	3.2	13.50		0.00		0.00		4.59	0.74	0.00	13.68	4.51	18.75	33.5	300	0.20	43.25	0.43	0.61	0.59
	1093A	1094A	1.16		118	10.25	1429	3.2	14.61		0.00		0.00		4.59	0.74	1.16	14.84	4.90	20.25	84.0	450	0.12	98.76	0.21	0.62	0.49
	1094A	1095A	0.52		53	10.77	1482	3.1	15.11		0.00		0.00		4.59	0.74	0.52	15.36	5.07	20.92	81.0	450	0.12	98.76	0.21	0.62	0.49
To TRUNK 1, Pipe 1095A - 1096A						10.77	1482				0.00		0.00		4.59			15.36									
TRUNK 1																											
	1007A	1008A				0.00				1.87	1.87		0.00		0.00	1.14	1.87	1.87	0.62	1.75	58.0	300	0.65	77.96	0.02	1.10	0.44
	1008A	1009A				0.00	0			1.19	3.06		0.00		0.00	1.86	1.19	3.06	1.01	2.87	86.5	300	0.25	48.35	0.06	0.68	0.37
	1009A	1010A				0.00	0			0.90	3.96		0.00		0.00	2.41	0.90	3.96	1.31	3.71	86.5	300	0.25	48.35	0.08	0.68	0.40
	1010A	1011A				0.00	0			2.04	6.00		0.00		0.00	3.65	2.04	6.00	1.98	5.63	46.0	300	0.25	48.35	0.12	0.68	0.46
	1011A	1012A				0.00	0			1.02	7.02		0.00		0.00	4.27	1.02	7.02	2.32	6.58	97.5	375	0.15	67.91	0.10	0.61	0.39
	1012A	1013A				0.00	0			2.12	9.14		0.00		0.00	5.55	2.12	9.14	3.02	8.57	125.5	375	0.15	67.91	0.13	0.61	0.42
	1013A	1014A				0.00	0			2.12	11.26		0.00		0.00	6.84	2.12	11.26	3.72	10.56	88.0	375	0.15	67.91	0.16	0.61	0.45
	1014A	1022A				0.00	0			1.18	12.44		0.00		0.00	7.56	1.18	12.44	4.11	11.66	93.0	375	0.15	67.91	0.17	0.61	0.46
	1022A	1023A				0.00	0			6.81	19.25		0.00		0.00	11.70	6.81	19.25	6.35	18.05	100.5	375	0.15	67.91	0.27	0.61	0.52
	1023A	1024A	0.72		73	0.72	73	3.6	0.86		19.25		0.00		0.00	11.70	0.72	19.97	6.59	19.14	82.0	450	0.12	98.76	0.19	0.62	0.48
	1024A	1025A	0.19		20	0.91	93	3.6	1.09		19.25		0.00		0.00	11.70	0.19	20.16	6.65	19.44	79.0	450	0.12	98.76	0.20	0.62	0.48
	1025A	1026A	0.14		15	1.05	108	3.6	1.26		19.25		0.00		0.00	11.70	0.14	20.30	6.70	19.65	58.0	450	0.12	98.76	0.20	0.62	0.48
	1026A	1027A	0.24		25	1.29	133	3.6	1.54		19.25		0.00		0.00	11.70	0.24	20.54	6.78	20.01	63.5	450	0.12	98.76	0.20	0.62	0.49
	1027A	1028A				1.29	133	3.6	1.54		19.25		0.00		0.00	11.70	0.00	20.54	6.78	20.01	25.0	450	0.12	98.76	0.20	0.62	0.49
	1028A	1029A	0.52		53	1.81	186	3.5	2.13		19.25		0.00		0.00	11.70	0.52	21.06	6.95	20.77	93.0	450	0.12	98.76	0.21	0.62	0.49
	1029A	1037A	0.48		49	2.29	235	3.5	2.66		19.25		0.00		0.00	11.70	0.48	21.54	7.11	21.47	93.0	450	0.12	98.76	0.22	0.62	0.49
	1037A	1040A	3.56		360	5.85	595	3.3	6.45		19.25		0.00		0.00	11.70	3.56	25.10	8.28	26.43	79.0	450	0.12	98.76	0.27	0.62	0.52
	1040A	1049A	1.54		156	7.39	751	3.3	8.03		19.25		0.00		0.00	11.70	1.54	26.64	8.79	28.52	79.0	450	0.12	98.76	0.29	0.62	0.53
	1049A	1058A	4.52		457	11.91	1208	3.2	12.51		19.25		0.00		0.00	11.70	4.52	31.16	10.28	34.49	81.0	450	0.12	98.76	0.35	0.62	0.56
	1058A	1059A	5.68		574	17.59	1782	3.1	17.90		19.25		0.00	1.37	1.37	11.92	7.05	38.21	12.61	42.43	121.5	450	0.12	98.76	0.43	0.62	0.60
	1059A	1090A	0.46		47	18.05	1829	3.1	18.33		19.25		0.00		1.37	11.92	0.46	38.67	12.76	43.01	121.5	450	0.12	98.76	0.44	0.62	0.60
			2.41		348	20.46	2177			5.07	24.32		0.00	0.59	1.96		8.07	46.74									
Contribution From TRUNK 1, Pipe 1094A - 1095A						14.50	1465	34.96	3642	2.9	34.18		0.00		1.96	15.09	14.50	61.24	20.21	69.48	68.5	450	0.15	110.42	0.63	0.69	0.73
	1095A	1096A	0.50		51	46.23	5175	2.8	46.71		24.32		0.00		6.55	15.84	0.50	77.10	25.44	87.98	79.5	525	0.12	148.98	0.59	0.69	0.72
	1096A	1107A	1.98		200	48.21	5375	2.8	48.30		24.32		0.00		6.55	15.84	1.98	79.08	26.10	90.23	76.0	525	0.10	136.00	0.66	0.63	0.67
			1.91		276	50.12	5651				24.32		0.00		6.55		1.91	80.99									
			4.43		448	54.55	6099				24.32		0.00		6.55		4.43	85.42									
	1107A	1108A	9.77		987	64.32	7086	2.7	61.57	4.28	28.60		0.00		6.55	18.44	14.05	99.47	32.83	112.83	97.5	525	0.22	201.72	0.56	0.93	0.95
	1108A	1133A	0.31		32	64.63	7118	2.7	61.81		28.60		0.00	1.16	7.71	18.62	1.47	100.94	33.31	113.75	47.5	600	0.22	288.00	0.39	1.02	0.96
	1133A	1A (B.O.)				64.63	7118	2.7	61.81		28.60		0.00		7.71	18.62	0.00	100.94	33.31	113.75	15.5	600	0.10	194.17	0.59	0.69	0.71



DESIGN PARAMETERS										Designed: V.W.					PROJECT: Trailsedge North												
Park Flow = 9300 L/ha/da 0.10764 l/s/ha Average Daily Flow = 280 l/p/day Comm/Inst Flow = 35000 L/ha/da 0.4051 l/s/ha Industrial Flow = 35000 L/ha/da 0.40509 l/s/ha Max Res. Peak Factor = 4.00 Commercial/Inst./Park Peak Factor = 1.50 Institutional = 0.41 l/s/ha										Industrial Peak Factor = as per MOE Graph Extraneous Flow = 0.330 L/s/ha Minimum Velocity = 0.600 m/s Manning's n = (Conc) 0.013 (Pvc) 0.013 Townhouse coeff= 2.7 Single house coeff= 3.4					Checked: W.L.												

Novatech Project #: 118224
 Project Name: BMR
 Date Prepared: 10/4/2019
 Date Revised: 3/10/2022
 Input By: Dan Coffey
 Reviewed By: Sam Bahia
 Drawing Reference: 118224-GP AND 118224-SAN

Legend: PROJECT SPECIFIC INFO
 USER DESIGN INPUT
 CUMULATIVE CELL
 CALCULATED DESIGN CELL OUTPUT
 CALCULATED ANNUAL CELL OUTPUT
 CALCULATED RARE CELL OUTPUT
 USER AS-BUILT INPUT



LOCATION				DEMAND																	DESIGN CAPACITY											
STREET	AREA	FROM MH	TO MH	RESIDENTIAL FLOW								INDUSTRIAL / COMMERCIAL / INSTITUTIONAL FLOW					EXTRANOUS FLOW		TOTAL DESIGN FLOW	PROPOSED SEWER PIPE SIZING / DESIGN												
				SINGLES	SEMI/TOWNS	APARTS	PARK AREA (ha)	POPULATION (in 1000's)	CUMULATIVE POPULATION (in 1000's)	PEAK FACTOR M	AVG POPULATION FLOW Q(c) (L/s)	PEAKED DESIGN POP FLOW Q(p) (L/s)	PEAKED ANNUAL RARE POP FLOW Q(AR - Res) (L/s)	RESIDENTIAL DRAINAGE AREA (ha.)	CUMULATIVE RES DRAINAGE AREA (ha.)	COMMERCIAL / INSTITUTIONAL AREA (ha.)	CUMULATIVE COMMERCIAL / INSTITUTIONAL AREA (ha.)	AVG DESIGN COMMERCIAL / INSTITUTIONAL FLOW Q (c) (L/s)		COMMERCIAL / INSTITUTIONAL PEAK FACTOR	CUMULATIVE ICI DRAINAGE AREA (ha.)	PEAKED DESIGN ICI FLOW Q (C) (L/s)	CUMULATIVE EXTRANOUS DRAINAGE AREA (ha.)	DESIGN EXTRAN. FLOW Q(e) (L/s)	LENGTH (m)	PIPE SIZE (mm) AND MATERIAL	PIPE ID ACTUAL (m)	ROUGH. (m)	DESIGN GRADE (%)	CAPACITY (L/s)	FULL FLOW VELOCITY (m/s)	Qpeak Design / Qcap
Street 9	A1, A2	165	163			168		0.353	0.353	4.00	1.14	3.66	1.96	2.730	2.730	0.000	0.000	0.00	1.00	0.000	0.00	2.730	0.90	4.56	57.8	250 PVC	0.254	0.013	0.30	34.0	0.67	13.4%
	A3	163	161			14		0.038	0.391	4.00	1.27	4.05	2.17	0.470	3.200	0.000	0.000	0.00	1.00	0.000	0.00	3.200	1.06	5.11	109.4	250 PVC	0.254	0.013	0.25	31.0	0.61	16.5%
	A4	161	159			4		0.011	0.401	4.00	1.30	4.16	2.23	0.150	3.350	0.000	0.000	0.00	1.00	0.000	0.00	3.350	1.11	5.27	14.1	250 PVC	0.254	0.013	0.50	43.9	0.87	12.0%
Street 2	A5	159	151			28		0.076	0.477	3.98	1.55	4.93	2.64	0.830	4.180	0.000	0.000	0.00	1.00	0.000	0.00	4.180	1.38	6.31	112.1	250 PVC	0.254	0.013	0.25	31.0	0.61	20.3%
	A6	157	155			27		0.073	0.073	4.00	0.24	0.76	0.41	0.760	0.760	0.000	0.000	0.00	1.00	0.000	0.00	0.760	0.25	1.01	102.8	200 PVC	0.203	0.013	0.35	20.2	0.62	5.0%
	A7	155	153			4		0.011	0.084	4.00	0.27	0.87	0.47	0.170	0.930	0.000	0.000	0.00	1.00	0.000	0.00	0.930	0.31	1.17	13.8	200 PVC	0.203	0.013	0.50	24.2	0.75	4.9%
Street 2	A8	153	151			10		0.027	0.111	4.00	0.36	1.16	0.62	0.330	1.260	0.000	0.000	0.00	1.00	0.000	0.00	1.260	0.42	1.56	62.5	200 PVC	0.203	0.013	0.35	26.2	0.62	7.7%
	A9	151	145			8		0.022	0.609	3.93	1.97	6.21	3.32	0.330	5.770	0.000	0.000	0.00	1.00	0.000	0.00	5.770	1.90	8.11	76.3	250 PVC	0.254	0.013	0.25	31.0	0.61	26.1%
	A10	147	145			14		0.038	0.038	4.00	0.12	0.39	0.21	0.450	0.450	0.000	0.000	0.00	1.00	0.000	0.00	0.450	0.15	0.54	63.2	250 PVC	0.254	0.013	0.25	31.0	0.61	1.7%
Chemlin de Jarreau Road	A11	147	EX			25		0.068	0.068	4.00	0.22	0.70	0.38	0.780	0.780	0.000	0.000	0.00	1.00	0.000	0.00	0.780	0.26	0.96	99.4	200 PVC	0.203	0.013	0.65	27.6	0.85	3.5%
	A12	145	141			9		0.024	0.671	3.90	2.18	6.80	3.64	0.330	6.550	0.000	0.000	0.00	1.00	0.000	0.00	6.550	2.16	8.96	77.3	300 PVC	0.305	0.013	0.20	45.1	0.62	19.9%
Voie de Cerulean Way	A13	143	141			2		0.005	0.005	4.00	0.02	0.06	0.03	0.080	0.080	0.000	0.000	0.00	1.00	0.000	0.00	0.080	0.03	0.08	16.6	200 PVC	0.203	0.013	0.65	27.6	0.85	0.3%
	A14	141	139			20		0.068	0.745	3.88	2.41	7.49	4.01	0.800	7.430	0.000	0.000	0.00	1.00	0.000	0.00	7.430	2.45	9.84	113.9	300 PVC	0.305	0.013	0.20	45.1	0.62	22.0%
Lumen Place	A15	139	137			2		0.007	0.752	3.88	2.44	7.55	4.05	0.190	7.610	0.000	0.000	0.00	1.00	0.000	0.00	7.610	2.51	10.07	14.6	300 PVC	0.305	0.013	0.50	71.3	0.98	14.1%
	A16	137	129			6		0.020	0.772	3.87	2.50	7.75	4.15	0.270	7.880	0.000	24.320	7.88	1.50	24.320	11.82	32.200	10.63	30.19	62.8	300 PVC	0.305	0.013	0.20	45.1	0.62	66.9%
Voie de Cerulean Way	A17	143	133			6		0.016	0.016	4.00	0.05	0.17	0.09	0.210	0.210	0.000	0.000	0.00	1.00	0.000	0.00	0.210	0.07	0.24	56.5	200 PVC	0.203	0.013	0.65	27.6	0.85	0.9%
Street 5	A18	135	133			3		0.010	0.010	4.00	0.03	0.11	0.06	0.150	0.150	0.000	0.000	0.00	1.00	0.000	0.00	0.150	0.05	0.16	33.1	200 PVC	0.203	0.013	0.65	27.6	0.85	0.6%
	A19	133	131			7		0.024	0.050	4.00	0.16	0.52	0.28	0.280	0.640	0.000	0.000	0.00	1.00	0.000	0.00	0.640	0.21	0.73	40.4	200 PVC	0.203	0.013	0.35	20.2	0.62	3.6%
Lumen Place	A20	131	129			14		0.048	0.098	4.00	0.32	1.01	0.54	0.560	1.200	0.000	0.000	0.00	1.00	0.000	0.00	1.200	0.40	1.41	84.3	200 PVC	0.203	0.013	0.35	20.2	0.62	7.0%
	A21	129	127			6		0.020	0.890	3.83	2.88	8.84	4.74	0.330	9.410	0.000	0.000	0.00	1.00	0.000	0.00	9.410	3.11	11.95	73.0	300 PVC	0.305	0.013	0.20	45.1	0.62	26.5%
	A22	127	125			10		0.034	0.924	3.82	3.00	9.16	4.91	0.440	9.850	0.000	0.000	0.00	1.00	0.000	0.00	9.850	3.25	12.41	55.7	300 PVC	0.305	0.013	0.20	45.1	0.62	27.5%
	A23	125	123			2		0.007	0.931	3.82	3.02	9.22	4.94	0.120	9.970	0.000	0.000	0.00	1.00	0.000	0.00	9.970	3.29	12.51	12.4	300 PVC	0.305	0.013	0.50	71.3	0.98	17.5%
	A24	123	121			3		0.010	0.941	3.82	3.05	9.31	4.99	0.150	10.120	0.000	0.000	0.00	1.00	0.000	0.00	10.120	3.34	12.65	23.0	300 PVC	0.305	0.013	0.20	45.1	0.62	28.0%
Voie de Persimmon Way	A25	121	113			15		0.051	0.992	3.80	3.22	9.78	5.24	0.620	10.740	0.000	0.000	0.00	1.00	0.000	0.00	10.740	3.54	13.32	96.2	300 PVC	0.305	0.013	0.20	45.1	0.62	29.5%
	A26	119	117			17		0.058	0.058	4.00	0.19	0.60	0.32	0.710	0.710	0.000	0.000	0.00	1.00	0.000	0.00	0.710	0.23	0.83	103.0	200 PVC	0.203	0.013	0.35	20.2	0.62	4.1%
	A27	117	115			2		0.007	0.065	4.00	0.21	0.67	0.36	0.160	0.870	0.000	0.000	0.00	1.00	0.000	0.00	0.870	0.29	0.96	14.0	200 PVC	0.203	0.013	0.50	24.2	0.75	4.0%
Voie de Persimmon Way	A28	115	113			7		0.024	0.088	4.00	0.29	0.92	0.49	0.330	1.200	0.000	0.000	0.00	1.00	0.000	0.00	1.200	0.40	1.31	63.2	200 PVC	0.203	0.013	0.35	20.2	0.62	6.5%
	A29	113	201			6		0.020	1.101	3.77	3.57	10.77	5.77	0.290	12.230	0.000	0.000	0.00	1.00	0.000	0.00	12.230	4.04	14.80	73.8	300 PVC	0.305	0.013	0.20	45.1	0.62	32.8%
Street 8	FUTURE	CAP	99					0.375	0.375	4.00	1.22	3.89	2.08	3.090	3.090	0.000	0.000	0.00	1.00	0.000	0.00	3.090	1.02	4.91	31.6	200 PVC	0.203	0.013	0.35	20.2	0.62	24.2%
	-	99	101					0.000	0.375	4.00	1.22	3.89	2.08	3.090	3.090	0.000	0.000	0.00	1.00	0.000	0.00	3.090	1.02	4.91	39.6	200 PVC	0.203	0.013	0.35	20.2	0.62	24.2%
	A30	101	103			8		0.027	0.402	4.00	1.30	4.17	2.23	0.550	3.640	0.000	0.000	0.00	1.00	0.000	0.00	3.640	1.20	5.37	12.3	200 PVC	0.203	0.013	0.50	24.2	0.75	22.2%
	A31	103	201			5		0.017	0.419	4.00	1.36	4.35	2.33	0.270	3.910	0.000	0.000	0.00	1.00	0.000	0.00	3.910	1.29	5.64	47.9	200 PVC	0.203	0.013	0.35	20.2	0.62	27.8%
Rue de Beaugency Street	A32	105	107			12		0.041	0.041	4.00	0.13	0.42	0.23	0.500	0.500	0.000	0.000	0.00	1.00	0.000	0.00	0.500	0.17	0.59	83.4	200 PVC	0.203	0.013	0.35	20.2	0.62	2.9%
	A33	107	109			2		0.007	0.048	4.00	0.15	0.49	0.26	0.120	0.620	0.000	0.000	0.00	1.00	0.000	0.00	0.620	0.20	0.70	28.3	200 PVC	0.203	0.013	0.35	20.2	0.62	3.4%
	A34	109	111			4		0.014	0.061	4.00	0.20	0.63	0.34	0.210	0.830	0.000	0.000	0.00	1.00	0.000	0.00	0.830	0.27	0.91	26.6	200 PVC	0.203	0.013	0.35	20.2	0.62	4.5%
TRUNK SANITARY SEWER	-	111	207			0		0.000	0.061	4.00	0.20	0.63	0.34	0.000	0.830	0.000	0.000	0.00	1.00	0.000</												

SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION				COMM		INSTIT		PARK		C+I		INFILTRATION			PIPE								
STREET	FROM M.H.	TO M.H.	AREA (ha)	POP.	CUMULATIVE		PEAK FLOW (l/s)	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL			
					AREA (ha)	POP.																	(FULL) (m/s)	(ACT.) (m/s)		
North West Sanitary Trunk																										
Trunk 1	1007A	1008A			0.00	0																				
COMMERCIAL	1008A	1009A			0.00	0							1.57	2.58	2.58	0.85	2.42	58.00	200.00	0.65	26.44	0.09	0.84	0.52		
COMMERCIAL	1009A	1010A			0.00	0							1.57	0.00	2.58	0.85	2.42	86.50	250.00	0.25	29.73	0.08	0.61	0.37		
COMMERCIAL					0.00	0							2.35	1.29	3.87	1.28	3.63	86.50	250.00	0.25	29.73	0.12	0.61	0.41		
COMMERCIAL					0.00	0								0.22	4.09											
COMMERCIAL	1010A	1011A			0.00	0							3.48	1.63	5.72	1.89	5.37	39.50	300.00	0.20	43.25	0.12	0.61	0.00		
COMMERCIAL	1011A	1012A			0.00	0							4.08	0.99	6.71	2.21	6.29	99.50	375.00	0.15	67.91	0.09	0.61	0.38		
COMMERCIAL	1012A	1013A			0.00	0							4.93	1.41	8.12	2.68	7.61	117.00	375.00	0.15	67.91	0.11	0.61	0.40		
COMMERCIAL	1013A	1014A			0.00	0							5.79	1.41	9.53	3.14	8.93	112.00	375.00	0.15	67.91	0.13	0.61	0.41		
COMMERCIAL	1014A	1022A			0.00	0							6.73	1.54	11.07	3.65	10.38	83.50	375.00	0.15	67.91	0.15	0.61	0.44		
COMMERCIAL	1022A	1023A			0.00	0							7.02	18.09												
	1023A	1024A	0.65	66	0.65	66	3.63	0.78					10.99	7.02	18.09	5.97	16.96	96.50	375.00	0.15	67.91	0.25	0.61	0.51		
	1024A	1025A	0.20	21	0.85	87	3.61	1.02					10.99	0.65	18.74	6.18	17.95	81.00	450.00	0.12	98.76	0.18	0.62	0.47		
	1025A	1026A	0.13	14	0.98	101	3.59	1.18					10.99	0.13	19.07	6.29	18.46	51.00	450.00	0.12	98.76	0.19	0.62	0.48		
	1026A	1027A	0.20	21	1.18	122	3.58	1.42					10.99	0.20	19.27	6.36	18.77	74.00	450.00	0.12	98.76	0.19	0.62	0.48		
	1027A	1028A			1.18	122							10.99	0.00	19.27	6.36	17.35	11.00	450.00	0.12	98.76	0.18	0.62	0.47		
	1028A	1029A	0.40	41	1.58	163	3.54	1.87					10.99	0.40	19.67	6.49	19.35	100.00	450.00	0.12	98.76	0.20	0.62	0.48		
	1029A	1037A	0.60	61	2.18	224	3.50	2.54					10.99	0.60	20.27	6.69	20.22	94.00	450.00	0.12	98.76	0.20	0.62	0.48		
	1037A	1040A	3.30	334	5.48	558	3.36	6.08					10.99	3.30	23.57	7.78	24.85	79.00	450.00	0.12	98.76	0.25	0.62	0.51		
	1040A	1049A	1.45	147	6.93	705	3.31	7.56					10.99	1.45	25.02	8.26	26.81	79.00	450.00	0.12	98.76	0.27	0.62	0.52		
	1049A	1058A	4.50	455	11.43	1160	3.21	12.07					10.99	4.50	29.52	9.74	32.80	81.50	450.00	0.12	98.76	0.33	0.62	0.56		
PARK	1058A	1059A	5.80	586	17.23	1746	3.10	17.54			1.27	1.27	11.20	7.07	36.59	12.07	40.81	120.50	450.00	0.12	98.76	0.41	0.62	0.59		
	1059A	1090A	0.70	71	17.93	1817	3.09	18.20					11.20	0.70	37.29	12.31	41.71	123.00	450.00	0.12	98.76	0.42	0.62	0.59		
PARK, EXT FUT			4.30	620	22.23	2437			5.27	23.36	0.56	1.83	10.13	47.42												
	1090A	1095A	12.65	1278	34.88	3715	2.89	34.79		23.36	1.83	14.49	12.65	60.07	19.82	69.10	75.00	450.00	0.15	110.42	0.63	0.69	0.73			
Contribution from Trunk 2, MH 1094A-1095A					10.74	1478				0.00		4.64		15.38												
	1095A	1096A	0.50	51	46.12	5244	2.78	47.24		23.36	6.47	15.24	0.50	75.95	25.06	87.54	79.00	525.00	0.12	148.98	0.59	0.69	0.72			
	1096A	1107A	2.26	229	48.38	5473	2.77	49.13		23.36	6.47	15.24	2.26	78.21	25.81	90.18	86.50	525.00	0.10	136.00	0.66	0.63	0.67			
	1107A	1108A	4.24	429	52.62	5902	2.74	52.41		23.36	6.47	15.24	4.24	82.45	27.21	94.86	87.00	525.00	0.42	278.71	0.34	1.29	1.16			
PARK	1108A	1132A	0.06	8	52.68	5910	2.74	52.48		23.36	1.16	7.63	15.43	1.22	83.67	27.61	95.52	31.50	525.00	0.10	136.00	0.70	0.63	0.68		
CONTRIBUTION FROM EXTERNAL					0.96	144	53.64	6054	2.73	53.56	4.42	27.78		7.63	5.38	89.05										
			0.95	137	54.59	6191				27.78		7.63		0.95	90.00											
	1132A	1133A	9.80	990	64.39	7181	2.68	62.37		27.78		7.63	18.11	9.80	99.80	32.93	113.41	15.50	600.00	0.10	194.17	0.58	0.69	0.72		
	1133A	1A (B.O.)			64.39	7181	2.68	62.37		27.78		7.63	18.11	0.00	99.80	32.93	113.41	15.50	600.00	0.10	194.17	0.58	0.69	0.72		
To MH 1A By Other																										
Trunk 2																										
PARK	1203A	1204A	0.40	58	0.40	58				0.00		4.64	4.64	0.75	5.04	5.04	1.66	2.41	81.00	300.00	0.65	77.96	0.03	1.10	0.48	
	1204A	1205A	0.89	129	1.29	187	3.53	2.14		0.00		4.64	0.75	0.89	5.93	1.96	4.85	111.00	300.00	0.20	43.25	0.11	0.61	0.40		
	1205A	1206A	0.83	120	2.12	307	3.46	3.44		0.00		4.64	0.75	0.83	6.76	2.23	6.42	74.00	300.00	0.20	43.25	0.15	0.61	0.44		
	1206A	1207A	1.03	149	3.15	456	3.40	5.02		0.00		4.64	0.75	1.03	7.79	2.57	8.34	75.00	300.00	0.20	43.25	0.19	0.61	0.47		
	1207A	1208A			3.15	456				0.00		4.64	0.75	0.00	7.79	2.57	3.32	100.50	300.00	0.20	43.25	0.08	0.61	0.37		



DESIGN PARAMETERS Park Flow = 9300 L/ha/da Average Daily Flow = 280 l/p/day Comm/Inst Flow = 35000 L/ha/da Industrial Flow = 35000 L/ha/da Max Res. Peak Factor = 4.00 Commercial/Inst./Park Peak Factor = 1.50 Mixed Use Institutional = 35000.00 L/ha/da Institutional = 0.405 l/s/ha										Harmon Correction Factor = 0.800 Industrial Peak Factor = as per MOE Graph Extraneous Flow = 0.330 L/s/ha Minimum Velocity = 0.600 m/s Manning's n = (Conc) 0.013 (Pvc) 0.013					Designed: R.B. Checked: K.M.		PROJECT: Orleans EUC MUC LOCATION: City of Ottawa File Ref: 14-733 Date: October, 2019 Sheet No. 1 of 2				
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SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION				COMM		INSTIT		PARK		C+H		INFILTRATION			PIPE										
STREET	FROM M.H.	TO M.H.	AREA (ha)	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL.			
					AREA (ha)	POP.																			(FULL) (m/s)	(ACT.) (m/s)		
	1208A	1209A	1.90	274	5.05	730	3.31	7.83		0.00					4.64	0.75	1.90	9.69	3.20	11.78	14.50	300.00	0.20	43.25	0.27	0.61	0.51	
	1209A	1210A			5.05	730				0.00					4.64	0.75	0.00	9.69	3.20	3.95	112.50	300.00	0.20	43.25	0.09	0.61	0.38	
	1210A	1211A			5.05	730				0.00					4.64	0.75	0.00	9.69	3.20	3.95	120.00	300.00	0.20	43.25	0.09	0.61	0.38	
	1211A	1212A	3.98	574	9.03	1304	3.18	13.44		0.00					4.64	0.75	3.98	13.67	4.51	18.70	43.50	300.00	0.20	43.25	0.43	0.61	0.59	
	1212A	1091A			9.03	1304				0.00					4.64	0.75	0.00	13.67	4.51	5.26	10.00	300.00	0.20	43.25	0.12	0.61	0.41	
	1091A	1093A	0.53	54	9.56	1358	3.17	13.95		0.00					4.64	0.75	0.53	14.20	4.69	19.39	33.00	300.00	0.20	43.25	0.45	0.61	0.59	
	1093A	1094A	0.64	65	10.20	1423	3.16	14.57		0.00					4.64	0.75	0.64	14.84	4.90	20.22	84.00	375.00	0.15	67.91	0.30	0.61	0.53	
	1094A	1095A	0.54	55	10.74	1478	3.15	15.09		0.00					4.64	0.75	0.54	15.38	5.08	20.92	84.50	375.00	0.15	67.91	0.31	0.61	0.54	
To Trunk 1, Pipe 1095A-1096A					10.74	1478				0.00					4.64			15.38										
North East Sanitary Trunk																												
External Commercial					0.00	0				10.40	10.40					10.40	10.40											
Mixed Use Block*					2.43	2531	2.43	2531	3.00	24.61	2.43	12.83				4.86	15.26											
	204A	205A			2.43	2531				6.33	22.61		0.19	0.19	13.77	6.52	25.23	8.33	22.10	525.00	375.00	0.14	65.60	0.34	0.59	0.53		
To Pipe 205A - 206A					2.43	2531				22.61				0.19			25.23		22.10									
	201A	202A			0.00	0				5.67	5.67				3.45	5.67	5.67	1.87	5.32	266.00	200.00	0.32	18.55	0.29	0.59	0.51		
	202A	203A			0.00	0				0.00	5.67				3.45	0.00	5.67	1.87	5.32	176.00	250.00	0.24	29.13	0.18	0.59	0.44		
	203A	205A			0.00	0				10.44	16.11				9.79	10.44	16.11	5.32	15.11	292.50	250.00	0.24	29.13	0.52	0.59	0.60		
Contribution from Pipe 204A - 205A					2.43	2531							0.19			25.23												
	205A	206A			2.43	2531				38.72			0.19	23.56	0.00	41.34	13.64	37.20	150.50	375.00	0.20	78.41	0.47	0.71	0.70			
To Existing Vanguard Drive Sanitary					2.43	2531				38.72			0.19			41.34		37.20										
South West Sanitary Trunk																												
Mixed Use Block					3.66	528	3.66	528			3.66	3.66				2.22	7.32	7.32										
Mid-High Density Residential					15.19	1535	18.85	2063	3.06	20.46	4.32	7.98				4.85	19.51	26.83										
	301A	302A	2.28	329	21.13	2392	3.02	23.41				7.98	0.43	0.43	4.92	2.71	29.54	9.75	38.08	791.00	375.00	0.14	65.60	0.58	0.59	0.61		
To Sanitary By Others							21.13	2392				7.98		0.43			29.54		38.08									
Road					0.89	0	0.89	0							0.00	0.89	0.89	0.29	0.29	49.00	200.00	0.32	18.55	0.02	0.59	0.23		
To Existing Sanitary, Fern Casey Street							0.89	0				0.00			0.00			0.89		0.29								
Mid-High Density Residential					3.69	532	3.69	532	3.37	5.81		0.00		0.00	0.00	3.69	3.69	1.22	7.03	49.00	200.00	0.32	18.55	0.38	0.59	0.55		
To Existing Sanitary, Axis Way							3.69	532				0.00		0.00			3.69		7.03									
South East Sanitary Trunk																												
Existing Medium Density**					0.99	227	0.99	227	3.50	2.57		0.00	0.23	9.34	0.36	5.73	1.22	10.69	3.53	11.83	114.00	250.00	0.24	29.13	0.41	0.59	0.56	
To Existing Sanitary to Gerry Lalonde Drive							0.99	227				0.00		9.34	0.36			10.69		11.83								

*Note: Proposed population 2531 per background servicing study
 **Note: Existing population 227 per background servicing study

DESIGN PARAMETERS					
Park Flow =	9300	L/ha/da	0.108	Harmon Correction Factor =	0.800
Average Daily Flow =	280	l/p/day		Industrial Peak Factor = as per MOE Graph	
Comm/Inst Flow =	35000	L/ha/da	0.405	Extraneous Flow =	0.330 L/s/ha
Industrial Flow =	35000	L/ha/da	0.405	Minimum Velocity =	0.600 m/s
Max Res. Peak Factor =	4.00			Manning's n = (Conc)	0.013 (Pvc)
Commercial/Inst./Park Peak Factor =	1.50	if ICI >20%	1.00		0.013 (Pvc)
Mixed Use	35000.00	L/ha/da			
Institutional =	0.405	l/s/ha			

Designed:	R.B.	PROJECT	Orleans EUC MUC
Checked:	K.M.	K. MITIC 100122349 LOCATION:	City of Ottawa
Dwg. Reference:		14-733	Sheet No. 2
Date:	October, 2019		of 2



SANITARY SEWER CALCULATION SHEET



Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION				COMM		INSTIT		PARK		C+I+I		INFILTRATION			PIPE										
STREET	FROM M.H.	TO M.H.	AREA (ha)	POP.	CUMULATIVE		PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL.			
					AREA (ha)	POP.																			(FULL) (m/s)	(ACT.) (m/s)		
NW Quadrant to Nature Trail Crescent	1133A	1A (B.O.)			64.33	7168	2.68	62.26		35.83				7.63	23.00	0.00	107.79	35.57	120.83									
Per Sanitary Sewer Calculation Sheet - prepared by DSEL, October 2018					64.33	7168	2.68		35.83					7.63					120.83									
3490 Innes Rd. Future Dev. Blocks					4.33	1402	3.16	14.36	5.40	5.40				0.00	3.28	9.73	9.73	3.21	20.85									
Future Dev. Blocks taken at EUC Phase 3 CDP Mid-High Residential Density (144 pop/ha)																												
3490 Innes Road					19.75	1516	3.14	15.43	0.00	0.00			1.42	1.42	0.23	21.17	21.17	6.99	22.65									
Per Sanitary Sewer Calculation Sheet - Caivan Communities Orleans Village - prepared by DSEL, May 2018																												
Total to Existing Nature Trail Crescent sewer					88.41	10086	2.56	83.68	41.23	41.23			9.05	9.05	26.51	138.69	138.69	45.77	155.96									

DESIGN PARAMETERS										Designed:		PROJECT:					
Park Flow =	9300	L/ha/da	0.108	Harmon Correction Factor =	0.800			BK		Orleans EUC MUC							
Average Daily Flow =	280	l/p/day		Industrial Peak Factor = as per MOE Graph						LOCATION:							
Comm/Inst Flow =	35000	L/ha/da	0.405	Extraneous Flow =	0.330	L/s/ha				City of Ottawa							
Industrial Flow =	35000	L/ha/da	0.405	Minimum Velocity =	0.600	m/s				File Ref:		14-733	Date:	October, 2018	Sheet No.	1	
Max Res. Peak Factor =	4.00			Manning's n = (Conc)	0.013	(Pvc)	0.013			Dwg. Reference:						of	1
Commercial/Inst./Park Peak Factor =	1.50	if ICI >20%	1.00	if ICI <20%													
Mixed Use	28000.00	L/ha/da															
Institutional =	0.405	l/s/Ha															

