Corporation of the City of Quinte West **Sanitary Collection System** 2023 Annual Performance Report



A Natural Attraction



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Executive Summary

In June of 2023 the City of Quinte West was issued a Consolidated Linear Infrastructure Environmental Compliance Approval (CLI ECA) for a Municipal Sewage Collection System, ECA Number: 163-W601. The Sanitary Collection System of the City of Quinte West consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, partially separate sewers, nominally separate sewers, 3.45 kilometers of combined sewers mainly in Batawa, sewage pumping stations, and forcemains, with discharge into Telephone Rd, Trip Blvd, Front St, Sidney St, West St, etc. in Trenton, and Trent St N and S in Frankford, and Sewage Treatment Plants in Trenton, Frankford, Batawa, Bayside, and Carrying Place.

Douglas Road Sewer Lift Station	1 Foster Stearns Road, Trenton, ON, KOK 1B0
Louis Street Sewer Lift Station	36 Hannah Street, Trenton, ON, K8V 2A5
Water Street Sewer Lift Station	3 Water Street, Trenton, ON, K8V 4L9
Bay Street Sewer Lift Station	151 Bay Street, Trenton, ON, K8V 1H9
Dundas Street Sewer Lift Station	42 Ontario Street, Trenton, ON, K8V 5S9
Telephone Road West (1) Sewer Lift Station	17450 Telephone Road, Trenton, ON, KOK 3M0
Telephone Road East (2) Sewer Lift Station	17637 Telephone Road, Trenton, ON, K8V 5P4
Wal-Mart Sewer Lift Station	17450 Highway 2, Trenton, ON, KOK 1B0
Chester Road Sewer Lift Station	259 West Street, Trenton, ON, K8V 2M9
Sidney Street Sewer Lift Station	402 Sidney Street, Trenton, ON, K8V 6N6
Couch Crescent Sewer Lift Station	11 Couch Crescent, Trenton, ON, K8V 1G8
Brookshire Meadows Lift Station	3 Birchmount Street, Trenton, ON, KOK 1B0
Orchard Lane Pump Station	79 Orchard Lane, Trenton, ON, K8V 5P4
Woodland Heights Lift Station	1 Deerview Drive, Trenton, ON

In Trenton, there are a total of fourteen (14) Sewage Pumping Stations, shown below;



In Frankford, there are a total of three (3) Sewage Pumping Stations, listed below;

Riverside Drive Sewer Lift Station	208 Riverside Parkway, Frankford, ON, K0K 2C0
Oxford Street Sewer Lift Station	28 Oxford Street, Frankford, ON, K0K 2C0
Trent Street Sewer Lift Station	100 North Trent Street, Frankford, ON, KOK 2C0

In Carrying Place, as part of the Prince Edward Estates/ Youngs Cove Development there is one (1) additional Sewage Pump Station, listed below;

Young's Cove Sewer Lift Station	49 Weller's Way, Carrying Place, KOK 1L0	
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The annual reporting requirements as per Schedule D of the Quinte West Sanitary Collection System CLI ECA, should include:

- A summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations (if applicable).
- A summary of any operating problems encountered and corrective actions taken.
- A summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.
- A summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
- A summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
- A summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:
 a) Dates;
 - b) Volumes and durations;



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c) If applicable, loadings for total suspended solids, BOD, total phosphorus, and total Kjeldahl nitrogen, and sampling results for E.coli;

d) Disinfection, if any; and

e) Any adverse impact(s) and any corrective actions, if applicable.

 A summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
 a) A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.

b) Details of the establishment and maintenance of a PPCP, including a summary of project progress compared to the PPCP's timelines.

c) An assessment of the effectiveness of each action taken.

d) An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.

e) Public reporting approach including proactive efforts.



Summary and Interpretation of Monitoring Data

The City collects samples at strategic locations in the Sanitary Collection System. In previous years, the collection system was more heavily influenced by industrial flows; the City designed a sampling program to monitor the characteristics of the industrial raw sewage prior to entry into the collection system, and subsequently the treatment plants. The parameters considered for analysis have been selected based on the Industry. Over the last few years the City has seen various industries close their doors, however, the two locations below remained as sampling points for the reporting period.

Marmora S	treet Maintenance H	ole - Monthly Avera	ge Sample Resi	ults			
	BOD5 Concentration (mg/L)	Total Suspended Solids Concentration (<i>mg/L</i>)	4AAP-Phenolics Concentration (mg/L)	Colour Concentration (TCU)	Conductivity Concentration (uS/cm)	COD Concentration (<i>mg/L</i>)	Tannin + Lignin Concentration (mg phenol/L)
January	1156.0	257.5	2.5	219.3	4170.0	1941.3	45.6
February	1307.0	203.8	2.8	283.3	4977.5	2112.5	53.5
March	956.2	146.4	4.7	179.2	4436.0	1304.0	29.6
April	431.8	50.0	48.4	67.8	1640.0	1455.0	98.3
Мау	342.8	49.0	10.4	47.5	1501.0	633.5	24.9
June	110.3	46.0	0.1	43.0	1126.3	204.5	4.5
July	130.3	42.3	0.2	46.0	814.3	222.0	7.1
August	991.2	153.6	29.2	181.0	2289.0	1690.0	58.8



Public Works and Environmental Services Water/Wastewater Division

2023 Annual Performance Report

Sanitary Collection System

September	1736.5	286.0	4.4	265.5	2800.5	2873.0	51.8
October	1808.3	67.3	4.4	377.8	3204.8	2973.0	60.7
November	333.8	123.5	5.9	68.0	1418.0	1929.0	21.6
December	775.8	194.8	9.8	127.8	2307.5	1172.5	36.0
Annual Avg	840	135.0	10.2	158.8	2557.1	1542.5	41.0

Douglas Road	Maintenance Hole - Monthly	Average Sample Results	
	BOD5 Concentration (mg/L)	TSS Concentration (mg/L)	Oil & Grease
January ¹			
February ²	204	124	22
March	443	539	47
April	906	278	142
Мау	1018	485	843
June	639	267	144
July	1227	928	1252
August	876	441	490
September	969	438	255

¹ Sampling commenced February 22, 2023 ² Not average, reflects one sampling event in February



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Annual Avg	881	441	356
December	894	417	179
November	1828	708	375
October	688	225	170



Summary of Operating Problems throughout Monitoring Period

Generally, during the Reporting Period the Sanitary Collection System operated efficiently. The City continues to experience Inflow and Infiltration (I & I) issues throughout the Collection System, however in the last several years the Owner has continued to invest in, and upgrade infrastructure to help reduce the sources of I&I.



Summary of Maintenance performed throughout Reporting Period

The City continues to support an active Preventative Maintenance (PM) program to ensure the Sewage Collection System is maintained in a fit state of repair. Along with scheduled work orders for each pump station (PS), this includes a Sewer Flushing Program to prevent sewer surcharging issues, improve sewer condition, and identify potentially problematic areas which may require additional repair/ maintenance. Outside of Preventative Maintenance, the following Reactive Maintenance activities were completed by staff, or outside contractors as identified:

- Trent Street PS replace 8" check ball
- Orchard Lane PS new pump install
- Hydrostatic probe replacement at various PS
- Sewer lateral rodding at various locations, as required
- Ontario Street and Dundas Street rodding
- On-going CCTV inspections
- Xylem annual submersible pump maintenance at PS
- Semi-annual PS clean-outs of wet wells
- On-going sewer flow monitoring

Flow Monitoring Equipment Calibration and Maintenance

Works Orders are generated on an annual basis to calibrate the Flow Meters. This calibration is completed by a third party contractor. The following figures are copies of the Calibration Certificates for all the Quinte West pump stations, including the Septage Receiving Station, that collect and transmit flow data.



Public Works and Environmental Services Water/Wastewater Division

8	1	nstrume	nt Calibr	ation Cert	ificate			
Customer: The City of Quinte West 7 Creswell Drive PO Box 490 Trenton, ON KIBY 5R6					Motor Informa Date: Location: Meter Under 1 Client Tag: Manufacturer	fest	2023-08-31 Bay St SPS Station Effluent CW00006108 Krohne	
Calibration by: Dan Matchett Standards					Model: Serial Number Totalizer As Fo Totalizer As Le Allowable Erro	: und: ft:	IFC100W A12034539 3616344.75m3 3616363.169m3 15	
Fluke 289 S/N 96220182 NIS Krohne G588 SN:U19277000					Programming DN Size:		250	
instrument Type		0101			Cal Factor: Zero Cal:		GKL 7.7931 N/A	
Magnetic Flow Meter						-	10.575	
					Calibration Du	5.	Aug-24	
Method of verification Secondary VSE/Velocity Sim	ulation							
Units: UPS	85							
Zero: 0.00 Span: 200.00								
	Flow Test			and accounting	ans: sens	-		
	Sim Setting	1.000 X 2.00 X 2.00	Meter Display	1000-100-000-X-2-0-	Disp Error%	mA Error %		
	a	0.000	0.000	1.00000	0.000	0.050		
	A	28.813	28.700		0.056	0.348		
	8	57.627	57.900		0.136	0.300		
	c	115.254	115.300	13.247	0.023	0.202		
	0 0							
				Average Error%	0.05	0.23		
				Result:	19455	PASS		
	Totalizer Test							
	Sim Flow			115.254	LFS			
	Start Tot End Tot			3616351.000 3616360.000	M3 M3			
	Volume Sir			9.000	M3			
	Time(Sec			77.790				
	Calculated Tot			8.966	2			
	Error			0.384				
	Resu	20	10	PASS	10			
					45			
Commente								
Comments: Unit passes calibration.								
contractor canceration.								
Veryne Blanker al were an								
Tower Electronics Canada Inc. 2687 Hwy 40								
Fower Electronics Canada Inc 2687 Hwy 40 KDK 3MO							Calibrations Service Sales	



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The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

Customer: The City of Quinte Wes 7 Creswell Drive PO Box 490 Trenton, ON KBV SR6	t			Meter Inform Date of Test: Location: Moter Linder Client Tag: Manufacturer	Test	2028-08-31 Brookshire 595 Station Flow QW00005695 Endress & Hauser		
Calibration by: Dan Matchett Standards:			Model: Serial Numbe Totalzer As Fr Totalzer As Li Allowable Erro	ound: eft: or%:	Pro53 HA066416000 11780m3 11787m3 5			
Endress and Hauser Fie Instrument Type Magnetic Flow Meter	ou check s	/#.00003313	aus car bue Ap	m 2024		Programming DN Size: Cal Factor: Zero:	rerementers.	75 1.0069 -3
						Calibration D	Je:	Aug-24
Method of verification EnH Field Check Verific		ration						
Units	LPS							
Zeroc	0.00							
	25.00 M3 Flow	Test						
Totalizer:		m Setting	Sim Flow LPS	Meter Display	Current Output	Disp Error%	mA Error %	
	- 31	0.000	0.000	0.000	3.998	0.000	0.050	
		6.250	6.250	6.137	7.950	0.452	0.625	
	1	12.500	12.500	12.346	11.900	0.616	0.833	
	1	18.750	18.750	18.521	15.864	0.916	0.850	
		25.000	25.000	24.694	19,817	1.224	0.915	
	849 - C	6	X - 78	ŝ	Average Error%	0.64	0.65	
				8	Result:	PARS	PASS	
	Tota	lizer Test						
		Sim Flow	Rate		25.000	LPS		
		Start Tol	talizer		11785.000	M3		
	-	End Tot Volume Si			11787.000 2.000	M3 M3		
	-	Time(See			81.000	143		
	0	sculated Tot			2.025			
		Error	1%		-1.235			
	1	Resu	its (ASS			
Comments: Unit passes verificatio	n.							
Fower Electronics Canada	nt.				Přecanada ca w beznada ca			Calibrations Service Select

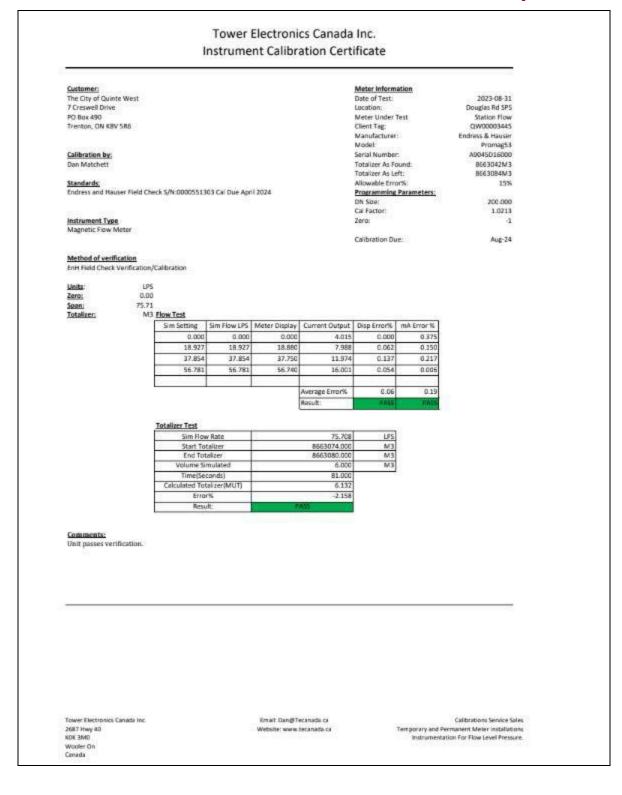


Water/Wastewater Division

		Instrum	ent Calib	ration Cer	tificate		
Customer: The City of Quinte Wes 7 Creswell Drive PO Box 490 Trenton, ON KBV 5R6 Calibration Ior: Dan Matchett Standards: Endress and Hauser Fiel Instrument Trope		303 Cal Due Apr	Meter Inform Date of Test: Location: Meter Under Client Tag: Manufacturer Model: Serial Number Totalzer As Ic Totalzer As Ic Programming DN Sue: Cal Factor: Zero:	fest : : und: ft: ur%;	2023-08-31 Dougles Rd Septage N/A Endress & Hauser Pro50 K2026716000 2756677L 277689L 5 300 1.2493		
Magnetic Flow Meter					Calibration Du	o:	0 Aug-24
Method of verification EnH Field Check Verific Units Zero:	ation/Calibration LPS 0.00						
Spon: 10 Totalizer:	M3 Flow Test					5	
	Sim Setting 0.000	Sim Flow LPS 0.000		Current Output 4.041	Disp Enior% 0.000	mA Error %	
	25.000	25.000	0.000	7.816	0.000	1.025	
	50.000	50.000	49.849	11.680	0.151	1.000	
	75.000	75.000	74.979	15.950	0.021	0.313	
	100.000	100.000	98.147	19.716 Average Error%	1.853	1.420	
				Result:	PASS	PASS	
	Totalizer Test Sim Flov	v Rate		100.000	LPS		
	Start To	talizer		2765220.000	L		
	End Tot Volume S			2774000.000 8780.000	1		
	Time(Se			89.550			
	Calculated Tol Erro	and the second		8955.000	ę		
	Res		9	A55			
Comments: Unit passes verificatio	a.						
<u>21</u>							
Tower Electronics Canada I 2687 Hary 40 KDK 8M0	nc.			(Tecanada ca w.tecanada.ca			Calibrations Service Sales of Permanent Meter Installations entation For Flow Level Pressure



Public Works and Environmental Services Water/Wastewater Division





Water/Wastewater Division

		l		Electronio ent Calibra				
Customer: The City of Quir 7 Creswell Drive PO Box 490 Trenton, ON K8			Meter Inform Date of Test: Calibration D Location: Meter Under Client Tag: Manufacture	lue: r Test	2023-08-31 Aug-24 Dundas SP5 FM1 QW00005644 Siemens			
Calibration by: Dan Matchett Standards: Sitrans FM MAC	5 Verificator 6	0Hz 5/N N1MO1/	Model: Serial Numbe Totalizer As I Totalizer As I Allowable Er Programmin DN Size:	Found: Left:	MAG6000 081802H064 4124071M3 4124075M3 15% 500.000			
Instrument Typ Magnetic Flow Method of veri	Meter					Cal Factor: Zero Cal: Qmax: Operating Ti Flow Directio		281.4464 0 1500LPS 2974 Positive
				Flow Test				
<u></u>	Velocity		rrent Output		Frequency (
L 1	M/S	Theoretical	Actual	Deviation%	Theoretical	Actual	Deviation%	
	0.500	4.800	4.801	-0.021	0.500	0,500	0.000	
	1.000	5.600	5.599	0.018	1.000	1.000	0.000	
-	3.000	8.800	8.796	0.045	3.000	3.000	0.000	
H								
75		Average	Error%	0.014	Average	Error%	0.000	
	(j	Rest	alt:	PASS	Rest	alt:	Pass	
	3		Sensor	Verification		1		
	0	Insula		9	ASS			
		Magnetic	Circuit		A55	3		
Comments: Unit passes ver	ification							
<u></u>								



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The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

<u>2</u>		1	nstrume	ent Calibra	tion Cert	ificate		
Customer:						Meter Infor	mation	
The City of Qui	nte West					Date of Test	(meriphene) (meriphene)	2023-08-
7 Creswell Drive						Calibration D		Aug
PO Box 490						Location:		Dundas S
Trenton, ON K8	BV SR6					Meter Under	r Test	FN
						Client Tag: Manufacture	1993) 1993	QW0000564 Sieme
Calibration by:						Model:		MAG60
Dan Matchett						Serial Numb		081802H0
0.752229423						Totalizer As		6416961N
Standards:	G Verificator 6	0Hz S/N N1MO1	40001 Cel Dere	Eeb 2024		Totalizer As Allowable Er		6416965A
Journa min mina	a verificator 6	orst synt numO1	HOUVE CBI DUC	100 2024			nor: ng Parameters:	15
						DN Size:	<u></u> }	400.00
						Cal Factor:		136.922
Instrument Typ						Zero Cal: Qmax:		10006
Magnetic Flow	wieter					Qmax: Operating Ti	melDavsk	10000
Method of veri	ification					Flow Direction		Positiv
-	M/S	Theoretical 4 800	Actual 4.801	Deviation%	Theoretical 0.500	Actual	Deviation%	
	0.500	4.800	4.801	-0.021	0.500	0.500	0.000	
H		5.600	5.599	0.018	1.000	1.000	0.000	
þ	1.000	8,800	8,795				0.000	
Ē	3.000	8.800	8.796	0.045	5.000	3.000	0.000	
		Average	Error%	0.014	Average	Error%	0.000	
			Error%			Error%		
		Average Rest	Error% Jt: <u>Sensor</u> 1	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Rest	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
		Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
Comments:	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
Comments: Unit passes ve	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
Unit passes ver	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		
Unit passes ver Tower Electronics 2687 Hwy 40	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Resu	Error%		Calibrations Service
Unit passes ver	3.000	Average Resu Insula	Error% ult: <u>Sensor 1</u> ation	0.014 PASS Verification	Average Res ASS ASS Constants	Error%	0.000 Pass	Calibrations Service ermanent Meter Instalia tion For Flow Level Pres



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The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

2023 Annual Performance Report Sanitary Collection System

	Instrume	ent Calibration C	ertificate	
Customer:			Meter Information	
The City of Quinte We	est		Date:	2023-08-31
7 Creswell Drive			Location:	Orchard Lane SPS
PO Box 490			Meter Under Test	Station Flow
Trenton, ON K8V 5R6			Client Tag: Manufacturer:	QW00005419 EnH
			Model:	Promag 400
Calibration by:			Serial Number:	L5005916000
Dan Matchett			Totalizer As Found:	201107.45M3
Para da ada			Totalizer As Left:	201107.45M3
Standards: Fluke 289 5/N 962201	82 NIST Cal Due April 2024		Programming Paramete	rs:
These and synt sources			DN Size:	100.000
			Cal Factor:	1.048
Instrument Type			Zero:	3
Magnetic Flow Meter			Calibration Due:	Aug. 24
			calibration Due:	Aug-24
Method of verificatio	m			
Endress Hauser Heart	beat Internal Verification			
Units: LPS				
Zero: 0.00				
Span: 100.00				
Totalizer: n/a				
1	Heatbeat Technology Test	Result		
3	Shot Time Symmetry	PASSED		
	Hold Voltage Symmetry	PASSED		
3	Coil Current Loss	PASSED		
	Coil Current Stability	PASSED		
	Coil Resistance	PASSED		
	Cable Defect 1	PASSED		
	Cable Defect 2	PASSED		
	Cable Defect 3	PASSED		
	External Reference Voltage	RASSED		
	Linearity of Electrode Circ Offset of Electrode Circuit	PASSED PASSED		
	Input Module	PASSED		
	Overal Verification Result	PASSED		
8	Verification Completed according to D		7.6a	
Comments: Unit passes verificat	ion within 5% of actual values.			



Water/Wastewater Division

2023 Annual Performance Report Sanitary Collection System

0		1	nstrume	ent Calibra	tion Cert	tificate		
0.20132358973577						12212340212897	1000000	
Customer:						Meter Inform		2022 00 22
The City of Quin 7 Creswell Drive						Date of Test: Calibration D		2023-08-31 Aug-24
PO Box 490	50					Location:	we.	17637 Telephone Rd SP5
Trenton, ON K8V	V SR6					Meter Under	Test	Station Effleunt
						Client Tag:		QW00005421
Colline they have						Manufacture Model:	STC .	Siemens
Calibration by: Dan Matchett						Serial Numb	er:	Mag5000 IXF90320350
						Totalizer As I		184143.9M3
Standards:						Totalizer As I		184144.1M3
Sitrans FM MAG	5 Verificator 6	0Hz 5/N N1MO1	40001 Cal Due	Feb 2024		Allowable En		15%
						DN Size:	g Parameters	200.000
						Cal Factor:		28.26383
Instrument Type						Zero Cal:		1
Magnetic Flow N	Meter					Qmax:	and Date of the	100LP5
Method of verif	fication					Operating Ti Flow Direction		1399 Positive
2								_
	100000 10	11 2.11		Flow Test	(220)		19	
H	Velocity		rrent Output r	and the second se		avency Output		
- F	M/S	Theoretical	Actual	Deviation%	Theoretical	Actual	Deviation?	-
H	0.500	4.800	4.802 5.602	-0.042	0.500	0.500	0.000	-
H	3.000	8.800	8.801	-0.036	3.000	3.002	-0.067	-
H						- INNA		-
H	8	1	6			1		1
<u> </u>	1	Average	Error%	-0.030	Average	Ervor%	-0.022	
	55	Res	ult:	PASS	Res	alt:	Pass	
	03					-		
	1	0427.4	the second se	Verification	115			
		Insula	10100 C		65 105			
	10	Magneti	CLIFCUIT	6 <u></u>	120			
<u>Comments:</u> Unit passes ver	ification							



Water/Wastewater Division

7 Crewell Drive Calibration Due: Àug- PO Box 490 Location: 17450 Telephone Rd S Trenton, ON K8V 5R6 Meter Under Test Station Fix Calibration by: Manufacturer: Sieme Calibration by: Model: Mag50 Dan Matchett Serial Number: 0XF902203 Standards: Totalizer As Found: 163280.17M Sitrans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 163280.27M Totalizer As Fund: 163280.17M Totalizer As Fund: 163280.17M Sitrans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 163280.27M Instrument Type DN Size: 100.00 Magnetic Flow Meter Qmax 70L Magnetic Flow Meter Qmax 70L Operating Time(Days): 23	Sustainer: Meter information 7 Cresnell Drive Date of Test: 2023-08. 9 Date AG Calibration Due: Aug. 9 Date AG Date of Test: 2023-08. Trenton, ON KBV SRG Calibration Due: Aug. Calibration by: Date of Test: Station Re Dan Matchett Manufacturer: Stem Strans FM MAG Verificator 60Hz S/N N1MO140001 Cal Due Feb 2024 Totakter As Left: 15280.17N Strans FM MAG Verificator 60Hz S/N N1MO140001 Cal Due Feb 2024 Allowable Error: 15980.25N Instrument Type Calibration Error: 15980.25N Magnetic Flow Meter Quark: 2000 Magnetic Flow Meter Quark: 7000 In Line Flow to Flow with Velocity comparison. Flow Direction: Position: The flow to Flow with Velocity comparison. Flow Direction: Position:					Electronic				
The City of Quinte West Date of Test: 2023-08. 7 Creswell Drive Calibration Due: Aug. 9 Sox 430 Location: 17450 Telephone Rd 5 Trenton, ON KBV SR6 Meter Under Test Station Fill Calibration by: Mondacturer: Siene Dam Matchett Mondacturer: Siene Standardz: Totalizer As Found: 163280.176 Sitrans FIM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 15 Magnetic Flow Meter Operating Time[Days): 23 Instrument Type Zero Cal: Operating Time[Days): 23 Method of verification Flow Test Operating Time[Days): 23 In Line Flow to Flow with Velocity comparison. Flow Test Programing Time[Days): 23 Model Aston A Aston A Ston A	The City of Quinte West Date of Test: 2023-08- Calibration Due: Aug. 7 Greswell Drive Calibration Due: Aug. 7 Greswell Drive Calibration Due: Aug. 7 Greswell Drive Calibration Due: Aug. 7 Greswell Drive Moter Test Station File 7 Greswell Drive Moter Test Station File 7 Greswell Drive Model Meter Under Test 7 Greswell Drive Model Model 9 Greswell Drive Model Model 9 Greswell Drive Model Model 9 Greswell Drive Date of test: 153280.17h 10 Matchett Serial Number: 04902203 10 Matchett Serial Number: 04902203 10 Matchett Serial Number: 04902203 10 Matchett Date of test: 153280.17h 11 Greswell Drive Totalizer A Stound: 153280.27h 11 Greswell Drive For Totalizer A Stound: 153280.27h 12 Greswell Drive Date of Drive A Store 1000 13 Greswell Drive Qmax 700 14 Greswell Drive Meter Qmax 700 14 Magnetic Flow Weith Velocity comparison. Flow Drection: Postation 14 Deviation N	2			istrume	ant canora	nion cert	incate		
2 Creswell Drive PD 800, 490 Calibration Due: Aug. 17450 Telephone Rd 2 PD 800, 490 Location: 17450 Telephone Rd 2 Trenton, ON K8V 585 Meter Under Test Station File Calibration by: Dan Matchett Model: Mag50 Dan Matchett Model: Mag50 Standards: Totakizer As Found: 163280.178 Magnetic Flow Meter Qmax: 700 Magnetic Flow Meter Qmax: 701 Magnetic Flow Nethor Flow with Velocity comparison. Filow Direction: Position In Line Flow to Flow with Velocity comparison. Filow Direction: Position My/S Theoretical Actual Deviation?k 0.030 0.030 1.000 5.600 5.602 0.036 1.000 1.000	2 Creswell Drive PD Sox 490 Trenton, ON K8V SMS Trenton, ON K8V SMS Trenton, ON K8V SMS Meter Under Test Calibration Due: 17450 Telephone RdS Client Tag: Model: Mag500 Client Tag: Model: Mag500 Dan Matchett Sarial Number: UKP9022045 Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Sitrans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Magnetic Flow Meter Magnetic Flow Meter Magnetic Flow Meter Magnetic Flow Meter Magnetic Flow With Velocity comparison.	Customer:								
PO Box 490 Location: 17450 Telephone Rd S Trenton, ON KBV SRG Meter Under Test Station Rd Celent Tag: Manufacturer: Station Rd Celent Tag: Manufacturer: Station Rd Dan Matchett Serial Number: DVP02203 Standards: Totaker As Found: 163280.176 Sitrans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 12 Programming Parameters: DN Size: 100.0 Cal Factor: 5.9539 Sitrams FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 13 Magnetic: Flow Meter Qmax 70L Operating Time[Days]: 23 Magnetic: Flow Meter Qmax 70L Operating Time[Days]: 23 Method of verification In Line Flow to Flow with Velocity comparison. Position: Position: Position: Velocity Second 4.800 1.000 1.001 0.1001 0.1001 Noted Second Second Actual Deviation% Mosition% Nection: Position In Line Flow to Flow with Velocity comparison. Second	PO Box 490 Location: 17450 Telephone Rd St Trenton, ON KBV SRG Meter Under Test: Station Flo Celent Tag: Manufacturer: Sterent Celent Tag: Manufacturer: Sterent Dan Matchett Serial Number: DK*902034 Dan Matchett Serial Number: DK*902034 Standards: Totaker As Left: 163280.17M Sitrans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 15 Programming Parameters: DN Size: 100.00 DN Size: 00.00 Cal Factor: 5.95393 Instrument Type Zero Cal: Magnetic Flow Meter Operating Time(Days): 235 Matchet Qmax 70Li Operating Time(Days): 235 Magnetic Flow Meter Qmax 70Li Operating Time(Days): 235 Motod of verification In Line Flow to Flow with Velocity comparison. 235 In Une Flow to Flow with Velocity comparison. Postation* Velocity Current Output mA Frequency Output Mas Actual Deviation* 0.056 10.000 5.600 5.602 0.036									2023-08-3
Trenton, ON KBV SR6 Meter Under Test Station Fle Calibration by: Manufacturer: Sterial Number: DVP90203 Dan Matchett Serial Number: DVP90203 Standards: Totakizer As Found: 163280.175 Sitrans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 12 Programming Parameters: Don Site 100.0 Distrument Tupe Zero Cal: Max 70L Magnetic Flow Meter Qmax 70L Magnetic Flow Meter Qmax 70L Method of verification Broguency Output Max Programming Parameters: In Line Flow to Flow with Velocity comparison. Flow Direction: Prost Velocity Comparison Frequency Output Max Position: Model Asso 4.800 4.802 0.042 0.500 1000 5.600 5.602 0.036 1.000 1.001 1000 5.600 5.602 0.036 1.000 1.000 1000 5.600 5.602 0.036 1.000 1.000 1000 5.600 5.602 0.036 1.000 1.000 1000 5.600 5.602 0.036 1.000 1.000 <	Trenton, ON KBV SR6 Meter Under Test Station Flor Calibration by: Model Megg0203 Dan Matchett Serial Number: 00'0002030 Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Totalizer As Found: 163280.17M Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Fron: 163280.17M Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Totalizer As Left: 163280.17M Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Fron: 163280.17M Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Fron: 163280.17M Instrument Type Totalizer As Left: 163280.17M Magnetic Flow Meter Qmaxic 700.00 Operating Time(Days): 235 In Line Flow to Flow with Velocity comparison. Flow Direction: Position: In Line Flow to Flow with Velocity comparison. Flow Test Actual Deviation% My3 Theoretical Actual Deviation% Theoretical Actual Deviation% 0.000 1.000 5.600 5.602 0.036 1.000 0.000 1.000 3.000 8.801 0.011 2.000 3.002 0.067 1.000 3.600 8.801 0.011 2.000		we							Aug-2
Calibration by: Dan Matchett Manufacturer: Magio Sieme Magio Dan Matchett Serial Number: Totalizer As Left: DataBase As Left: 	Calibration by: Dan Matchett Client Tag: Manufacturer: Sternet Maddet Dan Matchett Serial Number: DEF90220174 Standards: Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Totakeer As Left: 163280.128 Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 15 Brogramming Parameters: DN Stre: 00.00 Cal Factor: 5.93939 Instrument Type Zero Cal: 00 235 Magnetic Flow Meter Qmax: 704 Magnetic Flow With Velocity comparison. Flow Direction: Postball In Line Flow to Flow with Velocity comparison. Flow Jest Notable Velocity Current Output mA Frequency Output khr. Postball MyS Theoretical Actual Deviation% Theoretical Actual Deviation% 0.000 1.000 5.600 5.602 0.035 1.000 1.000 5.600 5.602 0.035 0.000 1.000 5.600 5.602 0.035 1.000 1.000 1.000 5.600 5.602 0.035 1.000 1.000 1.000 5.600 5.602 0.035 1.000 1.000 1.000 5.600 5.602 0.035 0.0067 1.		OU COE							
Calibration by: Dam Matchett Mindet: Mag50 Dam Matchett Serial Number: 07920203 Standards: Totalizer As Found: 163280.176 Sitrans FM MAG Verificator 60Hz S/N N1M0140001 Cal Due Feb 2024 Allowable Error: 163280.176 Distrument Type Totalizer As Left: 163280.176 Magnetic Flow Meter Operating Time(Days): 704 Magnetic Flow Meter Operating Time(Days): 704 In Line Flow to Flow with Velocity comparison. Flow Test Post In Line Flow to Flow with Velocity comparison. Flow Test Post Velocity Current Outout Max Fressuency Outout Max Post M/5 Theoretical Actual Deviation% Theoretical Actual Deviation% 0.000 0.000 1.000 5.600 5.602 0.035 1.000 1.001 0.000 3.000 4.800 4.802 0.042 0.500 0.000 1.000 5.600 5.602 0.035 1.000 1.001 0.001 0.000 3.000 4.800 4.802 0.011 3.000 0.067 1.000 5.600 5.602 0.035 1.000 1.001 0.056 0.001 3.000 4.800 4.802 0.011	Calibration by: Dam Matchett Manufacturer: Stema Dam Matchett Serial Number: 00420000000000000000000000000000000000	Trenton, UN K	USV 580						riest	Stabon Ploy
Dan Matchett Serial Number: DF90203 Standards: Totalizer As Found: 163280.176 Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 163280.176 Strans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 163280.176 Instrument Type Totalizer As Left: 163280.176 Magnetic Flow Meter Quercant As Left: 163280.176 Magnetic Flow Meter Quercant Quercant As Left: 5.9539 Magnetic Flow Meter Quercant Quercant Quercant Quercant As Left: 700 In Line Flow to Flow with Velocity comparison. Flow Test Position: Flow Tost Flow Direction: Position: Position: In Line Flow to Flow with Velocity comparison. Flow Test Actual Deviation% Model Association Associati Association Association Association Association Associat	Dan Matchett Serial Number:: DXF9022034 Standards: Totalizer As Found: 163280.17M Sitrans FM MAG Verificator 60Hz 5/N N1M0140001 Cal Due Feb 2024 Allowable Error: 15 Programming Parameters: D0 Site: 100.00 Cal Factor: 5.95393 Instrument Type Zero Cal: Magnetic Flow Meter Operating Time(Days): 235 In Line Flow to Flow with Velocity comparison. Flow Test Position: In Line Flow to Flow with Velocity comparison. Flow Test Position: Velocity Current Output mA Frequency Output khz Position: In Une Flow to Flow with Velocity comparison. 0.500 0.500 0.000 10000 5.600 5.602 -0.036 1.000 1.001 -0.100 3.000 8.801 -0.011 3.000 3.002 -0.067 Average Erront% -0.030 Average Erront% -0.056 Result: MASS Result: Paus								er:	Siemen
Standards: Totalizer As Found: 163280.17h Strans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 13 Programming Parameters: DN Size: 100.0 Cal Factor: 5.9539 Instrument Type Zero Cal: 23 Magnetic Flow Meter Qmax: 70 Method of verification Operating Time[Days): 23 In Line Flow to Flow with Velocity comparison. Flow Test Position: Velocity Strans August	Standards: Totalizer As Found: 163280.17M Strans FM MAG Verificator 60Hz S/N N1MO140001 Cal Due Feb 2024 Allowable Error: 15 Programming Parameters: DN Size 100.00 Cal Factor: 5.95393 Instrument Type Zero Cal: 200 Magnetic Flow Meter Qmax: 704 Magnetic Flow Meter Qmax: 704 Method of verification Bow Direction: Position: In Line Flow to Flow with Velocity comparison. Position: Position: Velocity Current Output mA Erequency Output Mix Position: M/5 Theoretical Actual Deviation% Theoretical M/5 Theoretical Actual Deviation% 0.000 10000 5.600 5.602 -0.036 1.000 -0.050 10000 5.600 5.602 -0.036 1.000 -0.056 Result: Pass Result: Pass	Calibration by	<u>y:</u>							Mag500
Standards: Totalizer As Left: 163280.25M Sitrans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 15 Programming Parameters: OD Size: 100.0 Cal Factor: 5.9539 Instrument Type Qmax: 700 Magnetic Flow Meter Qmax: 700 Method of verification Gomax: 700 In Line Flow to Flow with Velocity comparison. Postation? 23 Most to Flow with Velocity comparison. Flow Test Postation? Velocity Current Output mA Frequency Output khz Postation? M/S Theoretical Actual Deviation? 0.001 10:00 5:600 6:502 0.036 1.000 1.001 0.1001 10:00 5:602 4:036 4:002 4:030 0.0057 10:00 5:603 6:03 0.000 1.001 0.1001 10:00 5:802 4:036 Average Error% -0.036 Average Error% -0.056 Result: Pasts Result: Pasts Result: Pasts	Standardi: Totalizer As Left: 163280.25M Sitrans FM MAG Verificator 60Hz 5/N N1MO140001 Cal Due Feb 2024 Allowable Error: 15 Programming Parameters: DN Size: 100.00 Cal Factor: 5.95393 Instrument Type Zero Cal: 0perating Time(Days): 235 Magnetic Flow Meter Qmax: 0perating Time(Days): 235 In Line Flow to Flow with Velocity comparison. Flow Test Position: Position: Velocity Current Output mA Frequency Output khz Position: M/S Theoretical Actual DeviationXi 0.001 0.000 0.000 0.000 10000 5.600 6.602 0.036 1.000 1.001 0.100 10000 5.600 6.602 0.036 1.000 1.001 0.100 10000 5.600 6.602 0.036 1.000 1.001 0.100 10000 5.600 6.002 0.036 1.000 1.001 0.056 Result: Pasts Result: Past	Dan Matchett	52 C							
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Flow Test Velocity Current Output mA Frequency Output khz M/S Theoretical Actual Deviation% 0.500 4.800 4.802 -0.042 0.500 0.500 0.000 1.000 5.600 5.602 -0.036 1.000 1.001 -0.100 3.000 8.800 8.801 -0.011 3.000 3.002 -0.057 Average Error% -0.030 Average Error% -0.056 Result: Pass Sensor Verification Mass Result: Pass Result: Pass	Elow Test Velocity Current Output mA Frequency Output khz M/S Theoretical Actual Deviation% 0.500 4.800 4.802 -0.042 0.500 0.500 0.000 1.000 5.600 5.602 -0.036 1.000 1.001 -0.100 3.000 8.800 8.801 -0.011 3.000 3.002 -0.067 Average Error% -0.030 Average Error% -0.056 Result: Pass Sensor Verification 10.01 9.055 9.055 9.055 9.055	Method of ve	rification							Positiv
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The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

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Customer: The City of Quinty 7 Creswell Drive PO Box 490 Trenton, ON KBV Calibration by: Dan Mischett						Meter Information Date: Location: Meter Under Test Client Tag: Manufacturer: Model Serial Number: Totalizer As Found:	2023-08-3 Frankford Trent Street SP Pump Flox QW00003711 Rirohm IFC100V C10179
Standards: Fluke 289 S/N 965 Krohne GS8B SN I Instrument Type	U19277000					Totalizer As Left: Allowable Error% Programming Para DN Size: Cal Factor: Zero Cal:	8456903.87M 157 meters: 250.00 GRI, 8.148
Magnetic Flow M						Calibration Due:	Aug-2
Method of verifis Secondary VSE/Vi Units Zaro: Span:	elocity Simu LPS 0.00 150.00						
lotalizer:	M3	Flow Test	Sim Flow 195 1	Anter Dicelary C	unnet Outeur	Nice Ecode in A	Error %
		Sim Setting 0.000	Sim Flow LPS N 0.000	Aeter Display C 0.000	urrent Output 3.999	Disp Error% mA 0.000	0.025
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		8	60.957	61.000	10.518	0.029	0.352
		c	121.913	122.000	17.021	0.058	0.100
					erage Error% sult:	0.04 PASS	0.10 PASS
	1	Totalizer Test Sim Flow	Rate		121.913	LPS	
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		End Tot Volume Si			\$456895.000 8.000	M3 M3	
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		Erro Resu		PAS	0.955		
Comments; Unit passes calib SCADA display n		y, while the flow	meter reads L/s				
ower Electronics C 687 Yeavy 40 0X 3M0 Kodler On	anata inc			Email DandiTeca			Calibration Service orany and Permanest Meter Installu notrumentation For Flow Level Pre-



The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

	1020			s Canada	52.047.07		
10 c	h	nstrume	nt Calibra	tion Certi	ficate		752
Customer:					Meter Informa	tion	
The City of Quinte West					Date:		2023-08-31
7 Creswell Drive					Location:		Trenton Walmart
PO Box 490					Meter Under Tr	est	Station Flow
Trenton, ON K8V 5R6					Client Tag:		QW00003392
					Manufacturer: Model:		Fischer MAGXM
Calibration by:					Serial Number:		455759
Dan Matchett					Totalizer As Fou		3801638M3
					Totalizer As Lef	t	3801653M3
Standards:					Allowable Error	96:	5
F&P Sim 1 Cal Due April 2					Programming P	arameters:	
Flue 289 S/N 96220182 N	IIST Cal April 2024				DN Size:		150
Instrument Tunn					Cal Factor: Zero:		166.6670
Instrument Type Magnetic Flow Meter					Leito.		0
magnetic run meter					Calibration Due	e.	Aug-24
Method of verification							
Secondary VSE/Velocity S	Simulation						
Units:	LPS						
Appendiant .	0.00						
Span: 50	0.47						
Totalizer:	M3 Flow Test		20120200000000			2000/00/00/210	
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	0.000	0.000	0.000	4.002	0.000	0.050	
	7.570	12.610	12.500	7.965	0.218	0.408	
	15.140	25.250	25.150	11.968	0.198	0.306	
	22.710	37.850	37.790	15.971	0.119	0.176	
	30.280	50.470	50.420	19.970	0.099	0.150	
	20 C			Average Error%	0.13	0.22	
				Result:	PASS	PASS	
					1		
	Totalizer Test	P.11.		- CO. 4770			
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	Sim Flow Start Toi End Tot Volume Si Time(See Calculated Tot	talizer alizer mulated conds) talizer(MUT)		3801647.000 3801651.000 4.000 79.000 3.987	M3 M3 M3		
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Comments:	Sim Flow Start Tol End Tot Volume Si Time(Sec Calculated Tot Error Resu	talizer alizer mulated conds) talizer(MUT) r%		3801647.000 3801651.000 4.000 79.000 3.987 0.323	M3 M3 M3		
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	Sim Flow Start Tol End Tot Volume Si Time(Sec Calculated Tot Error Resu	talizer alizer mulated conds) talizer(MUT) r%	- 8	3801647.000 3801651.000 4.000 79.000 3.987 0.323	M3 M3 M3		
	Sim Flow Start Tol End Tot Volume Si Time(Sec Calculated Tot Error Resu	talizer alizer mulated conds) talizer(MUT) r%		3801647.000 3801651.000 4.000 79.000 3.987 0.323	M3 M3 M3		
	Sim Flow Start Tol End Tot Volume Si Time(Sec Calculated Tot Error Resu	talizer alizer mulated conds) talizer(MUT) r%	- 0	3801647.000 3801651.000 4.000 79.000 3.987 0.323	M3 M3 M3		
	Sim Flow Start Tol End Tot Volume Si Time(Sec Calculated Tot Error Resu	talizer alizer mulated conds) talizer(MUT) r%	- 0	3801647.000 3801651.000 4.000 79.000 3.987 0.323	M3 M3 M3		
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Unit passes verification. Tower Electronics Canada In 2687 Hwy 40 00K 3M0	Sim Flow Start Tot End Tot Volume Sin Time(Sec Calculated Tot Erron Resu	talizer alizer mulated conds) talizer(MUT) r%		3801647.000 3801651.000 79.000 3.987 0.323 ASS	M3 M3 M3		
Unit passes verification. Tower Electronics Canada In 1687 Hay 40	Sim Flow Start Tot End Tot Volume Sin Time(Sec Calculated Tot Erron Resu	talizer alizer mulated conds) talizer(MUT) r%	Email: Dar@Te Website: www.b	3801647.000 3801651.000 79.000 3.987 0.323 ASS	M3 M3 M3		Calibrations Service Sala nanent Meter Installation n For Flow Level Pressure



Water/Wastewater Division

	1	nstrume	ent Calibr	ation Cert	ificate		
Customer: The City of Quinte West 7 Creswell Drive PO Box 490 Trenton, ON KBV 5R6					Meter Inform Date of Test: Location: Meter Under Client Tag: Manufacturer	Test	2023-08-31 Water 51 SPSP Station Flow QW00006107 Endress & Hauser
Calibration by: Dan Matchett Standards:					Model: Serial Number Totalizer As Fe Totalizer As Le Allowable Em	ound. eft:	Pro53 F7079E16000 5444739m3 5444839m3 5
Endress and Hauser Field Ch Instrument Type Magnetic Flow Meter	eck S/N:0000551:	803 Cal Due Apr	11 2024		Programming DN Size: Cal Factor: Zero: Calibration Du	Parameters:	450.000 1.1764 1 Aug-24
Method of verification EnH Field Check Verification	/Calibration				caloredon or	(he)	
Units: LPS Zero: 0.00 Span: 375.00	2						
	Flow Test				MINE DE LA COMPANY		
	Sim Setting			Current Output		and the second se	
	0.000	0.000		3.991		1	
	93.750	93.750		7.988		0.150	
	187.500 281.250	187.500 281.250		11.976	1.	0.200	
	375.000	175.000	12.000	19.975	0.256		
	L			Average Error%	0.14	0.15	
				Result:	PASS	PASS	
	Totalizer Test						
	Sim Flor	w Rate		375.000	LFS	6	
	Start To	talizer	8	5444800.000	M3		
	End Tor			5444824.000			
	Volume S Time(Se	Construction of the second sec		24.000 63.000		li i	
	Calculated To		1	23.625			
	Erro			1.587			
	Rest	ute	1 (1	ASS	12		
Comments: Unit passes verification.							
2							



Public Works and Environmental Services Water/Wastewater Division

27			instrum	ient Callo	ration Cer	uncate			
Customer: The City of Quinte We 7 Creswell Drive PO Box 490 Trenton, ON KBV 5R6						Meter Inform Date of Test: Location: Meter Under Dient Tag: Manufacture	Test	2023-08-31 Youngs-Cove SPS Raw QW00007359 Endress & Hauser	
Calibration by: Don Matchett						Model: Serial Numbe Totalizer As F Totalizer As U	er: Found:	Pro10 NC004016000 75678.3m3 75684.9m3	
Standards: Endress and Hauser F	ield Che	eck 5/N:00005513	803 Cai Due Ag	pril 2024		Allowable Err Programming DN Size: Cal Factor:	ror%: g Parameters:	15 100 1.6261	
Instrument Type Magnetic Flow Meter						Zero:		۵	
						Calibration D	ue:	Aug-24	
Method of verificatio EnH Field Check Verifi		Calibration							
		Calibration							
Units: Zero:	LP5 0.00								
Spen:	20.00								
Totalizer:	M3	Flow Test	film Harrison	Interest Preset	furmer 0 to 1	Dire French	and former 1		
		Sim Setting 0.000	Sim Flow LPS		Current Output 3 990	Disp Error% 0.000	Contraction of the second s		
		5.000	5.000	1	8.027	0.250			
	- 8	10.000	10.000		11.995	0.100			
	1 li	15.000	15.000		15.991	0.265	A CONTRACTOR OF A		
	1	20.000	20.000	20.005	19.989	6.025	0.055		
	0.0			1	Average Error%	0.13			
					Result:	PASS	PA65		
		Totaline Test							
	1	Totalizer Test Sim Floy	Bate	1	20.000	LPS	1		
	1	Start To		1	75682.400		• · · ·		
	1	End Tot	alizer		75684.200	M3			
	1	Volume Si Time(Sec			1.800		3		
	5	Calculated Tot			1.808	1			
	- 21	Erro	1%		-0.442	1.07			
	1	Resu	lt:		8.85				
<u>Comments:</u> Unit passes verificat	ion.								



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The Corporation of the City of Quinte West Public Works and Environmental Services

Water/Wastewater Division

	1	nstrume	nt Calibra	tion Cert	ificate		
Sustamer: The City of Quinte West 7 Creswell Drive PO Box 490 Trenton, ON KBV 5R6					Meter Inform Date of Test Calibration D Location: Meter Under Client Tag: Manufacture Model:	Due: r Test	2023-08-31 Aug: 24 Youngs Cove SP5 Station Effleum QW 7373 Siemens
Calibration by: Dan Matchett Standards:					Serial Numb Totalizer As Totalizer As	Found: Left:	Mag5000 N1L9110155 556841290 556844320
Sitrans FM MAG Verificator	LOUG SYN NUMOU	40001 Cal Due I	reb 2024		DN Size: Cal Factor:	ror: ig Parameters:	159 100.000 7.8241
Instrument Type Magnetic Flow Meter Method of verification					Zero Cal: Qmax: Operating Ti Flow Directio		1 100 787 Positive
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11/2/2/2/2/2/	5.600	0.0550	122211222-016		0000000		
3.000	8.800						
3.000	8.800						
3.000	Average	and solve and so	-0.055	Average	C.040722	0.011	
3.000		ilt:	PASS	Average Resu	C.040722	0.011 Pass	
3.000	Average Resu	ilt: Sensor V	PASS	Resu	C.040722	1111111	
3.000	Average	Sensor V	PASS	Resu 155	C.040722	1111111	
<u>Comments:</u>	Average Resu Insula	Sensor V	PASS Verification P	Resu 155	C.040722	1111111	
Comments: Unit passes verification.	Average Resu Insula	Sensor V	PASS Verification P	Resu 155	C.040722	1111111	
Comments: Unit passes verification.	Average Resu Insula	Sensor V	PASS Verification P	Resu 55		Pass	Calibrations Service Sa manent Meter installato



Summary of complaints received throughout the reporting period

The City encourages public engagement via social media campaigns, newspaper ads, and on the Quinte West website. The City welcomes customer feedback through the use of our website customer service reporting tool, as well as a direct phone extension to the Water/ Wastewater department. Below is a summary of specific Operations Performed in the Sanitary Collection System as a response to public inquiries and/or complaints received during the reporting period.

Date	Service Area	Operations Performed
2023-11-23	Frankford	Flush Sewer Main
2023-12-05	Frankford	Flush Sewer Main
2023-02-10	Trenton	Rod Sewer Main
2023-03-06	Trenton	Flush Sewer Main
2023-05-01	Trenton	Flush Sewer Main
2023-05-01	Trenton	Rod Sewer Main
2023-05-01	Trenton	Rod Sewer Main
2023-05-11	Trenton	Flush Sewer Main
2023-05-01	Trenton	Rod Sewer Main
2023-11-13	Trenton	Odour Complaint
2023-06-13	Trenton	Flush Sewer Main
2023-08-11	Trenton	Odour Complaint
2023-11-22	Trenton	Odour Complaint
2023-09-11	Trenton	Rod Sewer Main
2023-11-13	Trenton	Rod Sewer Main
2023-11-13	Trenton	Rod Sewer Main



Summary of all Alterations to the Authorized System

During the Reporting Period the following Forms were submitted as Alterations to the Authorized System. Of note, not all projects submitted during the Reporting Period (listed below) have been completed at the time of this report.

Form	Project Name	Submitted By
Form SS1	Windover Street	Developer
Form SS1	Trailside Crescent	Developer
Form SS2	Trailside Crescent	Developer
Form SS1	Carrying Place Industrial Park	City
Form SS1	Frankford Road	City
Form SS1	Heber Street	City
Form SS1	Huff Avenue	City
Form SS1	March Street	City

See <u>Appendix A</u> for the Significant Drinking Water Threat (SDWT) Assessment Report for Proposed Alterations to the Sanitary Collection System and/or to the Stormwater Collection System.

Summary of Collection System Overflows or Spills throughout the Monitoring Period

There are no Collection System Overflow(s) (CSO) or Spill(s) of Sewage to report for the monitoring period.

Summary of Efforts Made to Reduce CSO

In addition to the City's Preventative Maintenance program outlined in section, <u>Summary of Maintenance</u> <u>performed throughout Reporting Period</u>, the City also has a very comprehensive Capital Program. Below is a list of capital expenditures that occurred throughout the reporting period, followed by a list of 2024 Capital Projects with estimated budgetary requirements.



Public Works and Environmental Services Water/Wastewater Division 2023 Annual Performance Report Sanitary Collection System

- Heber Street sanitary sewer reconstruction (\$350,000)
- Woodland Heights oversizing (\$1.4 million)
- Electrical upgrades at SPS (\$41,700)
- March St sanitary sewer reconstruction (\$266,000)
- Trent St Pump and Forcemain upgrade Design (\$84,400)
- Generator replacements Design (\$36,400)
- FBI Trunk Lowering Engineering (~ \$1.17 million)
- Water Street PS addition of third pump (\$110,000)

2024 Capital Projects & Estimated Budget

- Lifecycle pump upgrades at Douglas Road (\$140,000)
- Louis St and Sidney St PS generators (\$250,000)
- Louis St Forcemain relocation to West St, to reduce flows on Leopold and Mart St sanitary sewers where there have been flooding events due to flows exceeding sewer capacity in this area (\$50,000)
- Sewage PS control panel and SCADA upgrades at two Telephone Rd PS (\$200,000)
- Trent St Sewage PS generator replacement (\$150,000)
- Trenton/ Frankford/ Batawa sewer rehabilitation to reduce inflow (\$200,000)
- Victoria Avenue full reconstruction: Dundas St W to King St, aging sanitary (\$720,000 (entire project))

Proactive Efforts

In 2019 the City contracted a third-party Engineering Firm to construct a calibrated sanitary collection system hydraulic model of the City of Quinte West's Sanitary Collection System. The intent of this calibrated hydraulic model was to assess the current capacity of the system and identify available capacity for growth.

With the implementation of the City's Sanitary Collection System CLI ECA in June of 2023, the City now has the ability to utilize the calibrated hydraulic model to ensure available capacity before approving any Alterations to the Authorized System.

Establishment of Pollution Prevention Control Plan (PPCP)

In accordance with Schedule E of the CLI ECA the City intends to submit a new PPCP for the Authorized System on, or before May 21, 2027.



Procedure F-5-1 & F-5-5 objectives and next steps

In addition to the efforts outlined above, in 2019 the City retained a third-party Engineering Firm for the review of their existing sanitary sewer system in Frankford, Batawa and Trenton. The objective of these studies were to identify sources of I & I and provide the City with recommendations for mitigation, remediation, and next steps. In 2021, the City was provided with the Final Reports, of which included the highlighted Recommendations and Next Steps, below;

- Complete CCTV of the sewers not currently completed to identify sources of inflow and infiltration;
- Complete manhole inspections on manholes not currently completed to identify sources of inflow
- and infiltration;
- Review sewers identified within the CCTV work for remediation including replacement or lining;
- Review manholes within drainage areas identified for repair including strategies such as grouting joints, repairing cracks, lining or waterproofing structures and repairing broken or non-existing parging.
- Complete additional flow monitoring of specified drainage area to narrow down the areas of influence from inflow and infiltration;
- In Frankford a roof leader / sump pump disconnection program could be implemented to help reduce direct connections.
- Based on the CCTV records, remedial repair action could be reviewed to repair the sewers in the Sidney St, Batawa area to mitigate potential inflow in that area.

Since the receipt of this report the City has actively taken steps toward addressing the Recommendations and Next Steps as outlined above. In 2022, the City spent over \$49,000 on Flow Monitoring and \$41,000 on CCTV. While in 2023, the City spent approximately \$24,000 on Flow Monitoring and over \$75,000 on CCTV in the Sanitary Collection System. As the City of Quinte West continues to grow it will be critical to keep prioritizing maintenance of the Sanitary Collection System infrastructure, while ensuring adequate capacity.



Appendix A: Significant Drinking Water Threat (SDWT) Assessment Report for Proposed Alterations to the Sanitary Collection System and/or to the Stormwater Collection System



Significant Drinking Water Threat (SDWT) Assessment Report for Proposed Alterations to the Sanitary Collection System and/or to the Stormwater Collection System

1. Introduction

This Assessment Report has been prepared in accordance with the City of Quinte West's Stormwater Collection System Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA) 163-S701, and the Sanitary Collection System CLI-ECA 163-W601, Schedule E section 8.0 and section 7.0, respectively. Under the Stormwater Collection System and Sanitary Collection System CLI-ECA's the City must ensure that any Alteration to the Authorized System(s) is designed, constructed, and operated in such a way as to be protective of sources of drinking water in Vulnerable Areas as identified in the Source Protection Plan (SPP). As such, this report outlines the circumstances under which any proposed alterations could pose a significant drinking water threat and outline the criteria used to determine how significant drinking water threats are assessed.

The Reporting Period for this Assessment Report is October 1, 2022 to October 1, 2023.

2. Circumstances Posing a SDWT and Related Policy

The activities prescribed to be drinking water threats under the Clean Water Act (CWA), 2006 are those considered to be man-made. These activities, as listed in the Act, are provided below. Activities 1-18 and 21-22 are potential threats to water quality, and activities 19 and 20 are potential threats to water quantity;

- 1. The establishment, operation or maintenance of a waste disposal site within the meaning of Part V of the Environmental Protection Act.
- 2. The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.
- 3. The application of agricultural source material to land.
- 4. The storage of agricultural source material.
- 5. The management of agricultural source material.
- 6. The application of non-agricultural source material to land.
- 7. The handling and storage of non-agricultural source material.
- 8. The application of commercial fertilizer to land.
- 9. The handling and storage of commercial fertilizer.
- 10. The application of pesticide to land.
- 11. The handling and storage of pesticide.



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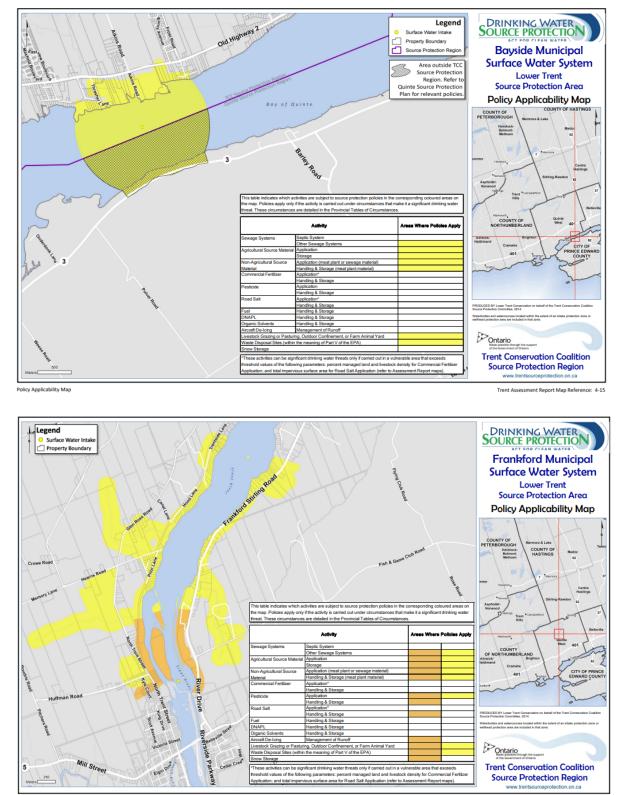
- 12. The application of road salt.
- 13. The handling and storage of road salt.
- 14. The storage of snow.
- 15. The handling and storage of fuel.
- 16. The handling and storage of a dense non-aqueous phase liquid.
- 17. The handling and storage of an organic solvent.
- 18. The management of runoff that contains chemicals used in the de-icing of aircraft.
- 19. An activity that takes water from an aquifer or a surface water body without returning the water taken to the same aquifer or surface water body.
- 20. An activity that reduces the recharge of an aquifer.
- 21. The use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm-animal yard.
- 22. The establishment and operation of a liquid hydrocarbon pipeline. O. Reg. 385/08, s. 3; O. Reg. 206/18, s.1.

Each prescribed drinking water threat has a set of circumstances that determine whether a particular instance of the activity is a significant, moderate, or low drinking water threat in each type of vulnerable area. These circumstances reflect various aspects of the activity. For some activities, there are separate sets of circumstances that determine if the activity is a chemical threat or a pathogen threat. Chemical threats are the aspects of an activity that can result in chemical contamination of a drinking water source, and include a wide variety of substances. A pathogen threat is a micro-organism that causes disease, and often comes from human or animal waste. Some activities are both chemical and pathogen threats. The details and definitions of each prescribed threat is contained in the 2021 Technical Rules under the CWA.

The City of Quinte West falls under the Lower Trent Source Protection Area (SPA) which, along with four other SPA's, is governed by the Trent Source Protection Plan. The Trent SPP outlines in greater detail the delineation and scoring of vulnerable areas within the Lower Trent SPA. The vulnerable areas delineated around surface water intakes are called intake protection zones (IPZ), and those delineated around groundwater wells are called wellhead protection areas (WHPA), both types occur within the Lower Trent SPA. These areas are further subdivided based on factors described in the Trent SPP. Please refer to the Policy Applicability Maps below for each drinking water system in the Lower Trent SPA.



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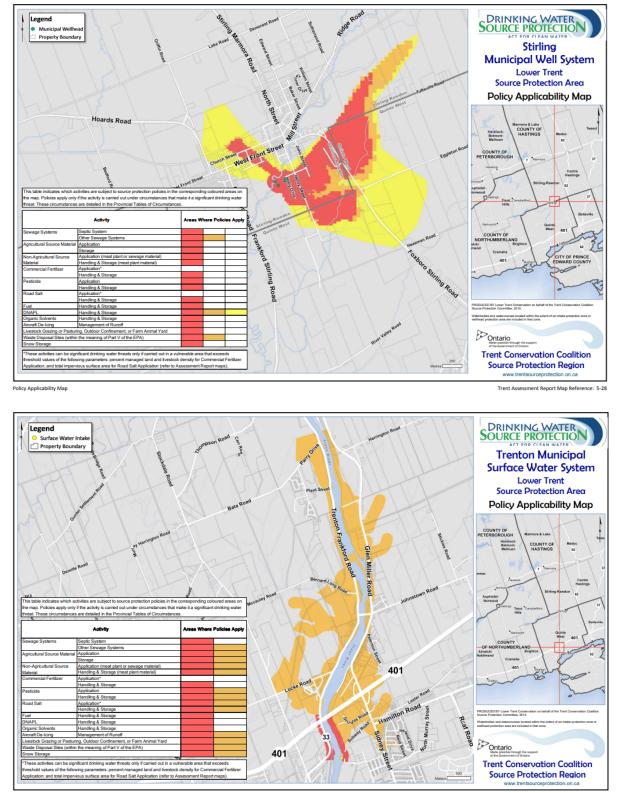


Policy Applicability Map

Trent Assessment Report Map Reference: 4-13



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Policy Applicability Map

Trent Assessment Report Map Reference: 4-14



Under the Clean Water Act, 2006, "The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage is an activity prescribed to be a drinking water threat". Given the variety of activities associated with sewage systems this drinking water threat is divided into several subcategories. Table 1 below is taken from *Chapter 4: Policies*, in the Trent SPP and outlines the Threat Subcategory along with applicable policies.

Threat Subcategory Sewage System or	Applicable Policies ¹	Applicable Area ²						
Sewage Works:		IPZ / WHI	& PA-E			WHI A-D	PA	
Septic System	S-1 to S-5, S-9, S-10	10	-	-		10	-	
Septic System Holding Tank	S-1 to S-5, S-9, S-10	10	-	-		10	-	
Sanitary Sewers and Related Pipes	S-6, S-7, S-9, S-10	10	-	-		10	-	
Combined Sewer Discharge from a Stormwater Outlet to Surface Water	S-2, S-3, S-9, S-10	10	9	8		-	-	
Industrial Effluent Discharge	S-2, S-3, S-9, S-10	10	9	8		-	-	
Storage of Sewage	S-2, S-3, S-9, S-10	10	9	-		10	8	
Sewage Treatment Plant Bypass Discharge to Surface Water	S-2, S-3, S-9, S-10	10	9	8		-	-	
Sewage Treatment Plant Effluent Discharges (Includes Lagoons)	S-2, S-3, S-9, S-10	10	9	8		-	-	
Discharge of Untreated Stormwater from a Stormwater Retention Pond	S-3, S-8, S-9, S-10	10	9	8		10	-	

Table 1: Summary of Sewage System Threats

Examining each threat and applicable policy is described in further detail in the Trent SPP. In order to determine whether a specific activity and/ or set of circumstances would be considered a SDWT the Policy Applicability Maps in conjunction with the 2021 Technical Rules, and Policy text would be utilized.

¹ General policies may also apply for these activities

² Indicates the minimum vulnerability score that would result in a significant threat in at least one threat circumstance



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3. Assessing Proposed Alterations

As required in Schedule E of both aforementioned CLI-ECA's, this section describes the process for assessing any Proposed Alteration(s) to identify drinking water threats as defined by the CWA.

- 1. When a proposed development is received by the City's Planning Department, they assess the location using our internal GIS mapping tool with the Lower Trent SPP Applicable Policy mapping filter as a layer.
- 2. If the proposed development falls within a vulnerable area the Planning Department flags the submission for the Risk Management Official.
- 3. Using the Applicable Policy Mapping, the Trent SPP, in consultation with the MECP Technical Rules, the Risk Management Official (RMO) determines whether or not the activity and circumstances are a SDWT.
- 4. As required, the RMO consults with the Developer and/ or Planning Department.

For Capital Projects, or projects initiated from within the City, the Department initiating the project is responsible for verifying whether the location falls within a vulnerable area, and flagging to the RMO, as required. Steps 3-4 listed above are completed.

4. List of Proposed Alterations

This section outlines the Proposed Alterations received during the *Reporting Period* that were assessed for SDWT. Any components, equipment, or Sewage Works identified as a SDWT will remain in this section of the report for the operational life of the Sewage Works.

Submission Date	Description of Project	Location	Developer-Lead/ Municipal-Lead	Identified as a SDWT	Approval Issue Date		
There were no SDWT identified during this reporting period.							

4.1 Proposed Sanitary Alterations

4.2 Proposed Stormwater Alterations

Submissio	Description of	Location	Developer-Lead/	Identified	Approval		
n Date	Project		Municipal-Lead	as a SDWT	Issue Date		
There were no SDWT identified during this reporting period.							



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5. Design Considerations to Mitigate Risk

This section is intended to provide a summary of design considerations and other measures that have been put into place to mitigate risks resulting from the construction or operation of the components, equipment or sewage works identified as a SDWT in Section 4.0. There were no SDWT identified during the *Reporting Period*, therefore no mitigation activities or measures were required.

6. Conclusion

This Assessment Report has been prepared in accordance with the City of Quinte West's Stormwater Collection System CLI-ECA, and the Sanitary Collection System CLI-ECA, Schedule E section 8.0 and section 7.0, respectively. Under the Stormwater Collection System and Sanitary Collection System CLI-ECA's the City must ensure that any Alteration to the Authorized System(s) is designed, constructed, and operated in such a way as to be protective of sources of drinking water in Vulnerable Areas as identified in the Source Protection Plan (SPP). During the *Reporting Period* of October 1, 2022 to October 1, 2023 the City has identified no SDWT from the Proposed Alterations submitted in accordance with the aforementioned CLI-ECA's.

7. References

- 1. Appendices including Policy Applicability Maps (Updated February 2, 2022), <u>https://trentsourceprotection.on.ca/images/SPPs/2022-02-02-Trent_Approved_S</u> <u>PP_Appendices.pdf</u>
- 2. Source Water Protection Information Portal, https://swpip.ca/
- 3. Trent Approved Source Protection Plan (Updated February 2, 2022), <u>https://trentsourceprotection.on.ca/</u>
- 4. 2021 technical rules under the Clean Water Act, (December 03, 2021), https://www.ontario.ca/page/2021-technical-rules-under-clean-water-act