

The Corporation of the County of Prince
Edward

Water and Wastewater Services

Operational Reports

Annual and Municipal Summary Reports

For The

Ameliasburgh Hamlet Water Treatment Plant & Water Distribution
System

Consecon/Carrying Place Water Distribution System

Peat's Point Subdivision Well Supply & Water Distribution System

Picton Water Treatment Plant & Water Distribution System

Rossmore/Fenwood Gardens Water Distribution System

Wellington Water Treatment Plant & Water Distribution System



TheCounty
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The Corporation of the
County of Prince Edward
**Water and Wastewater
Services**



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Ameliasburgh Water Treatment Plant & Water Distribution System



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2020 Annual Report

Ameliasburgh Drinking Water System

Drinking-Water System Number: 220005697
 Drinking-Water System Name: Ameliasburgh Hamlet Water Treatment Plant
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Small Municipal Residential System (SMRS)
 Period being reported: January 01, 2020 - December 31, 2020

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Please visit www.pecounty.on.ca</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Ameliasburgh Hamlet Water Treatment Plant.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [] N/A [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

Source water for the Ameliasburgh Hamlet Water Treatment Facility is received from Roblin Lake, transmitted through a 200mm diameter polyethylene intake pipe which conveys water from Roblin Lake to the raw water well. A raw water sample line is installed at the raw-water pump discharge for monitoring and analysis. The plant; with a total rated capacity of 360 m³/day, operates as a dual train pressure filtration system. Operational processes include coagulation, clarification, filtration and disinfection by sodium hypochlorite chemical feed (see specifications below). The facility also houses a Supervisory Control and Data Acquisition (SCADA) system and continuous analyzers for monitoring purposes. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Sample hydrants and system maintenance hydrants exist throughout the distribution system. Based on operational limitations of the Ameliasburgh Hamlet Water Treatment Plant, fire protection is not provided by hydrants connected to the municipal water supply.

List all water treatment chemicals used over this reporting period.

- Sodium Hypochlorite 12%, NSF60
- Hyper-Ion 2021, NSF60
- Filter Media, NSF61

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- Repair of pipe and valve work,
- Improvements to the Supervisory Control and Data Acquisition System (SCADA),
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Annual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,
- Repairs, maintenance and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2020 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	15	0 - <20	0-620	Not Applicable	
Treated	Not Applicable				
Distribution	26	0	0	26	0 - 1

Note: Three treated water samples were collected in follow-up to reported adverse water quality events (noted above). All samples were returned free of total coliform and e.Coli presence.

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of HPC Results (min – max)
Turbidity (Raw)	203	0.12 - 2.61 NTU
Turbidity (Filter Effluent 1)	8760	0.02 - 0.95 NTU
Turbidity (Filter Effluent 2)	8760	0.02 - 0.88 NTU
Chlorine (Treated)	8760	1.43-5.01 mg/L
Chlorine (Distribution)	106	0.70 – 1.45 mg/L
Fluoride	Not Applicable	

Note: Any values outside of normal operating ranges that resulted in reportable events or operational observation have been noted in the Adverse Water Quality Incident summary (above).

*Values reported as 0.00NTU/mg/L can be attributed to system maintenance and/or calibration of equipment.

NOTE: For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable				

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	2	10 µg/L	<0.01 - 1.13	µg/L	No
Distribution (Period 2: 15/06/2020 to 15/10/2020)	2	10 µg/L	0.05 - 0.25	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2019/2020 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony	02/02/2016	0.00007	mg/L	N
Arsenic	02/02/2016	0.0002	mg/L	N
Barium	02/02/2016	0.0252	mg/L	N
Boron	02/02/2016	0.013	mg/L	N
Cadmium	02/02/2016	0.000003	mg/L	N
Chromium	02/02/2016	0.00003	mg/L	N
Lead	See Summary			
Mercury	02/02/2016	0.00001	mg/L	N
Selenium	02/02/2016	0.00015	mg/L	N
Sodium	06/02/2018	12.00	mg/L	N
Uranium	02/02/2016	0.000062	mg/L	N
Fluoride	06/02/2018	0.07	mg/L	N
Nitrite	14/01/2020	<0.003	mg/L	N
	07/04/2020	<0.003	mg/L	N
	14/07/2020	<0.003	mg/L	N
	06/10/2020	<0.003	mg/L	N
Nitrate	14/01/2020	1.16	mg/L	N
	07/04/2020	0.377	mg/L	N
	14/07/2020	0.048	mg/L	N
	06/10/2020	0.139	mg/L	N

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	02/02/2016	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	02/02/2016	<0.01	µg/L	N
Azinphos-methyl	02/02/2016	<0.05	µg/L	N
Benzene	02/02/2016	<0.32	µg/L	N
Benzo(a)pyrene	02/02/2016	<0.004	µg/L	N
Bromoxynil	02/02/2016	<0.33	µg/L	N
Carbaryl	02/02/2016	<0.05	µg/L	N
Carbofuran	02/02/2016	<0.01	µg/L	N
Carbon Tetrachloride	02/02/2016	<0.16	µg/L	N
Chlorpyrifos	02/02/2016	<0.02	µg/L	N
Diazinon	02/02/2016	<0.02	µg/L	N
Dicamba	02/02/2016	<0.20	µg/L	N
1,2-Dichlorobenzene	02/02/2016	<0.41	µg/L	N
1,4-Dichlorobenzene	02/02/2016	<0.36	µg/L	N
1,2-Dichloroethane	02/02/2016	<0.35	µg/L	N
1,1-Dichloroethylene(vinylidene chloride)	02/02/2016	<0.33	µg/L	N
Dichloromethane	02/02/2016	<0.35	µg/L	N
2-4 Dichlorophenol	02/02/2016	<0.15	µg/L	N
2,4-dichlorophenoxyacetic acid,(2,4-D)	02/02/2016	<0.19	µg/L	N
Diclofop-methyl	02/02/2016	<0.40	µg/L	N
Dimethoate	02/02/2016	<0.03	µg/L	N
Diquat	02/02/2016	<1	µg/L	N
Diuron	02/02/2016	<0.03	µg/L	N
Glyphosate	02/02/2016	<1	µg/L	N
Malathion	02/02/2016	<0.02	µg/L	N
Metolachlor	02/02/2016	<0.01	µg/L	N
Metribuzin	02/02/2016	<0.02	µg/L	N
Monochlorobenzene	02/02/2016	<0.3	µg/L	N
Paraquat	02/02/2016	<1	µg/L	N
Pentachlorophenol	02/02/2016	<0.15	µg/L	N
Phorate	02/02/2016	<0.01	µg/L	N
Picloram	02/02/2016	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	02/02/2016	<0.04	µg/L	N
Prometryne	02/02/2016	<0.03	µg/L	N
Simazine	02/02/2016	<0.01	µg/L	N
2-Methyl-4-chlorophenoxy acetic acid (MCPA)	02/02/2016	<0.00012	mg/L	N
THM (Latest annual average)	14/01/2020	57.25	µg/L	N
	07/04/2020			
	14/07/2020			
	06/10/2020			

Parameter	Sample Date (DD/MM/YY)	Result Value	Unit of Measure	Exceedance
HAA (Latest annual average)	14/01/2020	53.01	µg/L	N
	07/04/2020			
	14/07/2020			
	06/10/2020			
Terbufos	02/02/2016	<0.01	µg/L	N
Tetrachloroethylene	02/02/2016	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	02/02/2016	<0.20	µg/L	N
Triallate	02/02/2016	<0.01	µg/L	N
Trichloroethylene	02/02/2016	<0.44	µg/L	N
2,4,6-Trichlorophenol	02/02/2016	<0.25	µg/L	N
Trifluralin	02/02/2016	<0.02	µg/L	N
Vinyl Chloride	02/02/2016	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Ameliasburgh Hamlet Water Treatment Plant.			

The Corporation of the County of Prince Edward
Ameliasburgh Hamlet Water Treatment Plant, DWS No. 220005697
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	220005697
Drinking-Water System Name:	Ameliasburgh Hamlet Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Small Municipal Residential System (SMRS)
Period being reported:	January 1, 2020 – December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-206 Issue No. 2
 - Drinking Water Works License No. 162-106 Issue No. 2

2020 Municipal Summary Reports: Ameliasburgh Drinking Water System

Issue Date: February 25, 2021

Revision Date: 0. February 25, 2021

- Permit to Take Water No. 7705-9HANT3
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks (MECP). Non-compliance events cited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		May 8, 2020	
Inspection Review Period:		April 9, 2019 to May 8, 2020	
Compliance Rating:		100.00%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Ameliasburgh Hamlet Water Treatment Plant. As follows:

Ameliasburgh DWS: Raw Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m³	m³/d	m³/d	m³/d
January	1826.63	47.35	58.92	72.07
February	1762.94	44.39	60.79	75.89
March	1638.07	45.67	52.84	75.38
April	1149.21	27.30	38.31	59.54
May	1381.30	29.75	44.56	58.74
June	1584.58	45.33	52.82	60.89
July	1911.92	46.32	61.67	73.52
August	1835.91	42.57	59.22	74.12
September	1814.49	41.68	60.48	74.97
October	1853.49	37.06	59.79	72.26
November	1273.69	34.65	42.46	51.78
December	1495.55	39.57	48.24	62.34
Annual	19527.78	27.30	53.35	75.89

Ameliasburgh DWS: Raw Water Flow Comparison		
Max Daily Water Taking Volume as per PTTW	360 m ³	% of Maximum
Actual Maximum Daily Water Taking	75.89 m ³	21.08 %
Actual Mean Daily Water Taking	53.35 m ³	14.82 %

Ameliasburgh DWS: Treated Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m³	m³	m³	m³
January	1714.74	44.85	55.31	67.60
February	1658.45	41.84	57.19	71.15
March	1535.42	42.25	49.53	70.74
April	1058.46	25.38	35.28	55.32
May	1283.11	27.78	41.39	54.36
June	1475.75	42.83	49.19	58.10
July	1792.50	43.91	57.82	68.57
August	1722.53	40.35	55.57	69.23
September	1704.94	39.39	56.83	69.89
October	1740.97	34.98	56.16	67.46
November	1183.48	32.59	39.45	47.53
December	1396.10	37.40	45.04	57.96
Annual	18266.45	25.38	49.91	71.15

Ameliasburgh DWS: Treated Water Flow Comparison		
Rated Capacity as per MDWL/DWWP	360 m ³	% of Maximum
Actual Maximum Daily Capacity	71.15	19.76 %
Actual Mean Daily Capacity	49.91	13.86 %

Operational Reports

Annual and Summary Reports



Consecon/Carrying Place Water Distribution System



The County
PRINCE EDWARD COUNTY • ONTARIO



2020 Annual Report

Consecon/Carrying Place Drinking Water System

Drinking-Water System Number: 260005099
 Drinking-Water System Name: Consecon/Carrying Place Water Distribution System
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Large Municipal Residential System (LMRS)
 Period being reported: January 1, 2020 - December 31, 2020

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Please visit www.pecounty.on.ca</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Consecon/Carrying Place Water Distribution System.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [] N/A [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

The Consecon/Carrying Place Water Distribution System is a standalone water distribution system that is owned and operated by The Corporation of the County of Prince Edward. Treated distribution water is supplied to the Consecon/Carrying Place Drinking Water System by the Trenton Drinking Water System (The Supplier), which is owned and operated by The City of Quinte West. By-law No. 1996-2007 (or as amended) specifies the terms and conditions of the Water Taking Agreement between The Supplier and The County. The Trenton Water Treatment System supplies treated water to the system through a transmission line beneath the Bay of Quinte to the County of Prince Edward. Water flows are recorded at a metering station in the Trenton Drinking Water System prior to connection to the Consecon/Carrying Place DWS, and confirmed against a flow meter located in Carrying Place. A Booster Station in Carrying Place houses three (3) in-line booster pumps to increase water pressure and supply the Consecon Tower, one (1) fire pump, re-chlorination equipment and continuous monitors for chlorine and pressure. All connections between the flow meter chamber and the booster station rely on the pressure from the Trenton Drinking Water System. From the Booster Station, water is distributed to consumers and the Consecon Water Storage Tower. The Consecon Water Storage Tower also houses continuous chlorine and pressure monitoring equipment. All connections south of the Booster Station receive pressure from the Water Storage Tower. The Booster Station and Water Storage Tower both contain distribution water sample points. Fire protection hydrants are located throughout the water distribution system.

List all water treatment chemicals used over this reporting period.

- Sodium Hypochlorite 12%, NSF 60
- Additional treatment chemicals applied at the Trenton Water Treatment Facility. Please see the Trenton Water Treatment Plant 2018 Annual Report for further information.

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- Improvements to the Supervisory Control and Data Acquisition System (SCADA),
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,

- Generator inspection, regular service and repairs,
- Repairs, maintenance and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2020 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	Not Applicable				
Treated					
Distribution	131	0	0	61	0 - 2

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min – max)
Turbidity	Not Applicable	
Chlorine (Distribution)	530	0.52 - 3.14 mg/L
Chlorine (Carrying Place Booster Station)	8760	0.00* – 5.00 mg/L
Chlorine (Consecon Tower)	8760	0.00* – 3.91 mg/L
Fluoride	Not Applicable	

Note: Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).
*Values reported as 0.00NTU/mg/L can be attributed to system maintenance and/or calibration of equipment.

NOTE: For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable to the Consecon/Carrying Place Water Distribution System.				

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	4	10 µg/L	0.03 - 0.27	µg/L	No
Distribution (Period 2: 15/06/2020 to 15/10/2020)	4	10 µg/L	0.13 - 0.73	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2019/2020 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

<i>Please see the Trenton Water Treatment Plant 2020 Annual Report for all treated water inorganic parameter result values not listed here.</i>

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Lead*	See Summary			
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Please see the Trenton Water Treatment Plant 2020 Annual Report for all treated water organic parameter result values not listed here.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor				
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlordane (Total)				
Chlorpyrifos				
Cyanazine				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Dinoseb				
Diquat				
Diuron				
Glyphosate				
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls (PCB)				
Prometryne				
Simazine				
THM (Latest annual average)	07/01/2020	75.33	µg/L	N
	04/02/2020			
	03/03/2020			
	07/04/2020			
	12/05/2020			
	09/06/2020			
	07/07/2020			
	11/08/2020			
	08/09/2020			
	06/10/2020			
	05/11/2020			
HAA (Latest annual average)	01/12/2020	64.01	µg/L	N
	07/01/2020			
	04/02/2020			
	03/03/2020			
	07/04/2020			
	12/05/2020			
	09/06/2020			
	07/07/2020			
	11/08/2020			
	08/09/2020			
	06/10/2020			
03/11/2020				
01/12/2020				
Temephos				
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenoxy Acetic Acid (2,4,5-T)				
Trifluralin				
Vinyl Chloride				

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable. Please see the Trenton Water Treatment Plant 2020 Annual Report for Further Information Regarding Inorganic and Organic Parameter Result Values.			

The Corporation of the County of Prince Edward
Consecon/Carrying Place Standalone Distribution System, DWS No. 250005099
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	260005099
Drinking-Water System Name:	Consecon/Carrying Place Water Distribution System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2020 – December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws> with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-202 Issue No. 2
 - Drinking Water Works License No. 162-102 Issue No. 2

2020 Municipal Summary Reports: Consecon/Carrying Place Drinking Water System

Issue Date: February 25, 2021

Revision Date: 0. February 25, 2021

- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		August 19, 2020	
Inspection Review Period:		May 13, 2019 to August 19, 2020	
Compliance Rating:		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Consecon/Carrying Place Distribution System. As follows:

Consecon/Carrying Place DWS: Received Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	8364.64	201.04	269.83	426.48
February	7771.16	200.57	267.97	454.27
March	8355.83	197.09	269.54	796.70
April	8367.61	116.07	278.92	455.00
May	10467.35	303.45	337.66	417.68
June	11496.93	238.91	383.23	922.00
July	11381.03	186.75	367.13	616.25
August	11621.78	193.83	374.90	893.44
September	12385.23	126.47	412.84	875.31
October	8957.69	91.36	288.96	568.11
November	8735.31	98.59	291.18	518.37
December	9175.47	70.84	295.98	429.26
Annual Total	117080.03	70.84	319.89	922.00

As a standalone water distribution system, the Consecon/Carrying Place Water Distribution System does not have a rated capacity for treatment as the Trenton Water Treatment Plant supplies water to the system for distribution users. Despite this, a Water Service Agreement with the City of Quinte West outlines a maximum daily flow limit as outlined below. A summary comparison of Consecon/Carrying Place Water Distribution System flows to the Water Service Agreement can be reviewed as follows:

Consecon/Carrying Place DWS: Received Water Flow Comparison	
Mean Total Flow as per Service Water Agreement	187610 m ³
Max Daily Flow as per Service Water Agreement	1262 m ³
Mean Daily Volume as Per Service Water Agreement	514 m ³
Actual Total Flow	117080.03 m ³ 62.41 % of Mean Total Flow
Actual Maximum Daily Flow	922.00 m ³ 73.06 % of Maximum Daily Flow
Actual Mean Daily Flow	319.89 m ³ 62.24 % of Mean Daily Flow

Operational Reports

Annual and Summary Reports



Peat's Point Subdivision Well Supply & Water Distribution System



The County
PRINCE EDWARD COUNTY • ONTARIO

2020 Annual Report

Peat's Point Drinking Water System

Drinking-Water System Number: 220005704
 Drinking-Water System Name: Peat's Point Subdivision Well System
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Small Municipal Residential System (SMRS)
 Period being reported: January 1, 2020 to December 31, 2020

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Please visit www.pecounty.on.ca</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to the Peat's Point Subdivision Well Supply System.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [] N/A [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

Source water at the Peat's Point Subdivision Well Supply is received from a 36.9m deep, 150mm diameter drilled GUDI well (Groundwater Under the Direct Influence of Surface Water) located inside a pump house and equipped with a submersible pump rated at 55.8L/min. Disinfection is provided by means of cartridge filtration (two (2); 1 duty, 1 standby), ultraviolet radiation supplied by two (2) (1 duty, 1 standby; both in service) ultraviolet disinfection units, and Sodium Hypochlorite chemical feed. Treated water undergoes Chlorine contact in a 12m x 400mm diameter contact pipe, and pressure to the distribution system is provided by two (2) hydro-pneumatic pressure tanks. The pump house also houses a Supervisory Control and Data Acquisition (SCADA) system and continuous analytical equipment for regulative monitoring purposes. Sample hydrants are located throughout the looped distribution system. Based on operational limitations of the Peat's Point Subdivision Well Supply Water Treatment Facility, fire protection is not provided by means of municipal water supply.

List all water treatment chemicals used over this reporting period.

- Sodium Hypochlorite 12%, NSF60

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- End-of-life purchase and installation of existing ultraviolet disinfection unit,
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Generator inspection, regular service and repairs,
- Repairs, maintenance and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
February 28, 2020	Turbidity	Max 1.25	NTU	<ul style="list-style-type: none"> Operator responded to site in response to high and high-high Turbidity (AIT102) alarm call-out. An exceedance of turbidity above 1NTU was noted in trending between 1947h-2003h for a total of 16 minutes to a maximum of 1.25NTU at 1952h. Grab sample collected at 2003h was 0.37NTU. Operators increased disinfection and adjusted flow control valve and monitored over several pump runs. After troubleshooting, Operator restored instrument back to service. All parameters restored to normal ranges. No further corrective actions required. 	February 28, 2020
March 23, 2020	Turbidity	Max 1.16	NTU	<ul style="list-style-type: none"> Operator was conducting maintenance and flushing on the UV reactor while turbidity instrument was in calibration mode. Individual grab sample was returned at 1.16NTU as a result of particulate from lines sloughing off during flushing of the UV system. Grab sample not representative of true water quality. Turbidity instrument was cleaned and flushed. No additional grab samples greater than 1NTU. 	March 23, 2020

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min – max)
Raw	14	0	0	Not Applicable	
Treated	Not applicable for Small Municipal Residential Systems				
Distribution	26	0	0	26	0 - 0

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of HPC Results (min – max)
Turbidity (Raw)	55	0.13 - 1.83 NTU
Turbidity (Filter Effluent)	8760	0.04 – 10.0 NTU
Chlorine (Treated)	8760	1.05 - 5.00 mg/L
Chlorine (Distribution)	106	0.77 - 2.33 mg/L
Fluoride	Not Applicable	

Note: Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

*Values reported as 0.00NTU/mg/L can be attributed to system maintenance and/or calibration of equipment.

NOTE: For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable to Peat's Point Subdivision Well Supply System.				

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Result	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	1	10 µg/L	0.18	µg/L	No
Distribution (Period 2: 15/06/2020 to 15/10/2020)	1	10 µg/L	0.35	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2019/2020 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony	02/02/2016	<0.00002	mg/L	N
Arsenic	02/02/2016	<0.0002	mg/L	N
Barium	02/02/2016	0.241	mg/L	N
Boron	02/02/2016	0.066	mg/L	N
Cadmium	02/02/2016	<0.000003	mg/L	N
Chromium	02/02/2016	0.00003	mg/L	N
Lead*	See Summary			
Mercury	02/02/2016	<0.00001	mg/L	N
Selenium	02/02/2016	0.00004	mg/L	N
Sodium	06/02/2018	31.9*	mg/L	Y
Uranium	02/02/2018	0.000404	mg/L	N
Fluoride	06/02/2018	0.20	mg/L	N
Nitrite	07/01/2020	<0.003	mg/L	N
	07/04/2020	<0.003	mg/L	N
	14/07/2020	<0.003	mg/L	N
	06/10/2020	<0.003	mg/L	N
Nitrate	07/01/2020	<0.006	mg/L	N
	07/04/2020	<0.006	mg/L	N
	14/07/2020	<0.006	mg/L	N
	06/10/2020	<0.006	mg/L	N

**Note: Sample results indicated elevated sodium levels in the drinking water in 2018. Written notification was provided to system users and a sodium factsheet was provided. See 2018 Annual Report AWQI summary for details.*

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	02/02/2016	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	02/02/2016	<0.01	µg/L	N
Azinphos-methyl	02/02/2016	<0.05	µg/L	N
Benzene	02/02/2016	<0.32	µg/L	N
Benzo(a)pyrene	02/02/2016	<0.004	µg/L	N
Bromoxynil	02/02/2016	<0.33	µg/L	N
Carbaryl	02/02/2016	<0.05	µg/L	N
Carbofuran	02/02/2016	<0.01	µg/L	N
Carbon Tetrachloride	02/02/2016	<0.16	µg/L	N
Chlorpyrifos	02/02/2016	<0.02	µg/L	N
Diazinon	02/02/2016	<0.02	µg/L	N
Dicamba	02/02/2016	<0.20	µg/L	N
1,2-Dichlorobenzene	02/02/2016	<0.41	µg/L	N
1,4-Dichlorobenzene	02/02/2016	<0.36	µg/L	N
1,2-Dichloroethane	02/02/2016	<0.35	µg/L	N

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	02/02/2016	<0.33	µg/L	N
Dichloromethane	02/02/2016	<0.35	µg/L	N
2-4 Dichlorophenol	02/02/2016	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	02/02/2016	<0.19	µg/L	N
Diclofop-methyl	02/02/2016	<0.40	µg/L	N
Dimethoate	02/02/2016	<0.03	µg/L	N
Diquat	02/02/2016	<1	µg/L	N
Diuron	02/02/2016	<0.03	µg/L	N
Glyphosate	02/02/2016	<1	µg/L	N
Malathion	02/02/2016	<0.02	µg/L	N
2-Methyl-4-chlorophenoxy acetic acid (MCPA)	02/02/2016	<0.00012	mg/L	N
Metolachlor	02/02/2016	<0.01	µg/L	N
Metribuzin	02/02/2016	<0.02	µg/L	N
Monochlorobenzene	02/02/2016	<0.3	µg/L	N
Paraquat	02/02/2016	<1	µg/L	N
Pentachlorophenol	02/02/2016	<0.15	µg/L	N
Phorate	02/02/2016	<0.01	µg/L	N
Picloram	02/02/2016	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	02/02/2016	<0.04	µg/L	N
Prometryne	02/02/2016	<0.03	µg/L	N
Simazine	02/02/2016	<0.01	µg/L	N
THM (Latest annual average)	14/01/2020	34.00	µg/L	N
	07/04/2020			
	14/07/2020			
	06/10/2020			
HAA (Latest annual average)	14/01/2020	11.35	µg/L	N
	07/04/2020			
	14/07/2020			
	06/10/2020			
Terbufos	02/02/2016	<0.01	µg/L	N
Tetrachloroethylene	02/02/2016	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	02/02/2016	<0.20	µg/L	N
Triallate	02/02/2016	<0.01	µg/L	N
Trichloroethylene	02/02/2016	<0.44	µg/L	N
2,4,6-Trichlorophenol	02/02/2016	<0.25	µg/L	N
Trifluralin	02/02/2016	<0.02	µg/L	N
Vinyl Chloride	02/02/2016	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Peat's Point Subdivision Well Supply System.			

The Corporation of the County of Prince Edward
Peat's Point Water Treatment Plant, DWS No. 220005704
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	220005704
Drinking-Water System Name:	Peat's Point Subdivision Well System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Small Municipal Residential System (SMRS)
Period being reported:	January 1, 2020 - December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

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- Safe Drinking Water Act, 2002,
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario,
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-205 Issue No. 2
 - Drinking Water Works License No. 162-105 Issue No. 2

- Permit to Take Water No. 4752-9HDK9E
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events cited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		September 9, 2020	
Inspection Review Period:		July 11, 2019 to September 9, 2020	
Compliance Rating:		100.00%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Peat's Point Water Treatment Plant. As follows:

Peat's Point DWS: Well Pump Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	211.22	5.43	6.81	9.77
February	166.37	4.16	5.74	7.80
March	230.23	4.60	7.43	9.84
April	273.69	7.42	9.12	11.94
May	309.81	8.75	9.99	14.35
June	340.97	7.60	11.37	14.26
July	390.49	9.92	12.60	16.69
August	332.15	7.76	10.71	18.80
September	311.11	7.64	10.37	15.81
October	285.67	6.80	9.22	14.40
November	256.81	7.01	8.56	10.05
December	275.91	6.92	8.90	12.18
Annual Total	3384.43	4.16	9.25	18.80

Peat's Point DWS: Flow Comparison to Maximum Water Taking Volume		
Max Daily Water Taking Volume as per PTTW	80.40 m ³	% of Maximum
Actual Maximum Daily Water Taking	18.80	23.38 %
Actual Mean Daily Water Taking	9.25	11.50 %

Peat's Point DWS: Flow Comparison to Rated Capacity		
Rated Capacity as per MDWL/DWWP	80.40m ³	% of Rated Capacity
Actual Maximum Daily Capacity	18.80	23.38 %
Actual Mean Daily Capacity	9.25	11.50 %

Operational Reports

Annual and Summary Reports



Picton Water Treatment Plant & Water Distribution System



The County
PRINCE EDWARD COUNTY • ONTARIO



2020 Annual Report

Picton Drinking Water System

Drinking-Water System Number: 220000987
 Drinking-Water System Name: Picton Water Treatment Plant
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Large Municipal Residential System (LMRS)
 Period being reported: January 1, 2020- December 31, 2020

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people?

Yes [] No [x]

Is your annual report available to the public at no charge on a web site on the Internet?

Yes [x] No []

Please visit www.pecounty.on.ca

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

Shire Hall
332 Main Street,
Picton, ON
K0K 2T0

Complete for all other Categories.

Number of Designated Facilities served:

Did you provide a copy of your annual report to all Designated Facilities you serve?

Yes [] No []

Number of Interested Authorities you report to:

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

Yes [] No []

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Macaulay Village Distribution System	260062712

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [x] No []

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

Source water for Picton Water Treatment Plant is received from the Bay of Quinte (Picton Bay) via a 91 m long, 400 mm diameter intake pipe, within which pre-chlorination is applied for zebra mussel control. The secondary intake pipe (north intake) is approximately 305 m long, 400 mm diameter steel pipe, but does not include a sample line or chlorine injection point for zebra mussel control. The North intake is not currently in-use, but available as a redundant measure in the event of intake failure. The plant operates as a conventional filtration system with a total rated capacity of 10,400 m³/day. Operational processes include coagulation, flocculation, filtration and disinfection by means of chlorine gas (see specifications below), as well as continuous analyzers for regulative monitoring and operational controls. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Fluoridation is also provided by means of a chemical feed system. Within the Picton Water Distribution System, the Picton High-Level Reservoir/Booster Station and the Bloomfield Water Tower exist as treated water storage and control facilities. Both sites include re-chlorination and additional continuous monitoring equipment utilized for operational checks. The Picton High-Level Reservoir also houses booster pumps to assist in distribution system pressure maintenance in the Macaulay Village subdivision. Fire protection and sample hydrants are located throughout the water distribution system.

List all water treatment chemicals used over this reporting period.

- Chlorine Gas, NSF 60
- Clar+Ion, NSF 60
- Granular Activated Carbon, NSF 61
- Hydrofluorosilicic Acid, NSF 60
- Powdered Activated Carbon, NSF 61

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- Repair shoreline and installation of breakwater wall around water treatment plant in follow-up to recent years flooding impacts,
- Improvements to the Supervisory Control and Data Acquisition System (SCADA),
- Purchase and installation of replacement chlorinator parts and annual service,
- Purchase and installation of replacement peristaltic sample pump,
- Service and repairs to backflow preventers,

2020 Annual Reports: Picton Drinking Water System

Issue Date: February 25, 2021

Revision Date: 0. February 25, 2021

- Purchase and installation of data logger device at the High Level Reservoir,
- Purchase of data logger device as essential spare part,
- Installation of pressure device at Mallory Road Chamber,
- Regular annual maintenance to equipment at the water treatment plant including the sedimentation basins, backwash/supernatant tank, track-vac system, chlorine leak detectors, and turbidity analyzers,
- Response and repairs for distribution events, including watermain breaks, service connection leaks, and valve leaks/repairs,
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Annual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,
- Repairs, maintenance and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
June 5, 2020	Secondary Disinfection Chlorine Residual	0.00	mg/L Free Chlorine	<ul style="list-style-type: none"> • Operator was called to site in response to low pressure concerns at establishment in a construction area. • After investigation it was found that the contractor had not connected the overland water supply to the establishment's service connection. • The contractor connected the service connection as intended, restoring proper fresh water feed from the distribution system. • Operations staff flushed all taps in the establishment to restore fresh water. Grab samples were collected to confirm chlorine residual. • No further corrective actions required. 	June 5, 2020
June 24, 2020	Improperly disinfected water potentially directed to water users	Other Observation	N/A	<ul style="list-style-type: none"> • Category 2 watermain break on a temporary overland watermain occurred resulting in full pipe separation, complete pressure loss and potential for 4 service connections to be impacted by contaminants. • The affected pipes were disinfected and the break was repaired. Flushing past the break location was completed. • Free chlorine residual samples were collected downstream of the break location and bacteriological samples were collected. • Samples results were returned free of bacteriological presence. No further corrective actions required. 	June 24, 2020-June 26, 2020

August 20, 2020	Improperly disinfected water potentially directed to water users	Other Observation	N/A	<ul style="list-style-type: none"> Category 2 watermain break occurred due to construction work resulting in potential for service connections to have been impacted by contaminants. A boil water advisory was implemented by the Hastings and Prince Edward Counties Health Unit for 109 potentially impacted service connections. Watermain repairs were conducted and extensive flushing and chlorine residual monitoring was completed. Two sets of bacteriological samples were collected upstream, downstream and at the location of the break. Sample results were not returned free of bacteriological presence. (See next event.) Additional two sets of samples were collected and returned free of bacteriological presence. No further corrective actions required. Boil water advisory was lifted on August 25, 2020. 	August 20, 2020 - August 25, 2020
August 22, 2020	Total Coliform	5	CFU	<ul style="list-style-type: none"> Sample collected on August 21, 2020 in response to boil water advisory due to Category 2 watermain break (see above event) was returned with TC = 5CFU on August 22, 2020. Mains were flushed and distribution residual was increased via flushing. Two consecutive sets of samples were collected on August 22, 2020 and August 24, 2020. Sample results were returned free of bacteriological presence No further corrective actions required. 	August 21, 2020 - August 25, 2020
October 20, 2020	Total Coliform	1	CFU	<ul style="list-style-type: none"> Routine sample collected at Golf Course Sample Hydrant resulted in TC = 1CFU. Resample locations were thoroughly flushed and resamples collected upstream and at the source of the adverse sample result. There is no downstream sample location. Resample results were returned free of bacteriological presence. No further corrective actions required. 	October 22, 2020 - October 24, 2020

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	52	0 - 52	0 - 3600	Not Applicable	
Treated	52	0	0	52	0 - 1
Distribution	315	0	0-5	132	0 - 2

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min - max)
Turbidity (Raw)	8760	0.00 - 40.00 NTU
Turbidity (Raw)	152	0.34 - 7.2 NTU
Turbidity (Filter Effluent 1)	8760	0.09 - 0.48 NTU
Turbidity (Filter Effluent 2)	8760	0.10 - 0.52 NTU
Turbidity (Filter Effluent 3)	8760	0.12 - 0.38 NTU
Turbidity (Filter Effluent 4)	8760	0.10 - 0.42 NTU
Chlorine (Treated)	8760	0.00* – 2.98 mg/L
Chlorine (Distribution 1- Macaulay Village HLR and Booster Station)	8760	0.93 – 4.18 mg/L
Chlorine (Distribution 2 – Bloomfield Elevated Storage Tank)	8760	0.00* – 6.61 mg/L
Fluoride	8760	0.20 - 1.18 mg/L

Note: Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).
 *Values reported as 0.00NTU/mg/L can be attributed to system maintenance and/or calibration of equipment.

NOTE: For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	MDWL 162-104, Issue Number 2 Issue Date: August 15, 2016	
Parameter	Total Suspended Solids (TSS)	
Annual Average Concentration Limit	15 mg/L	
Date Sampled (DD/MM/YYYY)	Result	Unit of Measure
07/01/2020	8	mg/L
11/02/2020	12	mg/L
03/03/2020	11	mg/L
07/04/2020	10	mg/L
05/05/2020	5	mg/L
02/06/2020	4	mg/L
07/07/2020	2	mg/L
04/08/2020	<2	mg/L
01/09/2020	<2	mg/L
06/10/2020	<2	mg/L
03/11/2020	8	mg/L
01/12/2020	2	mg/L
Annual Average:	6	mg/L

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Distribution	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	9	10 µg/L	0.01 - 0.30	µg/L	No
Distribution (Period 2: 15/06/2020 to 15/10/2020)	9	10 µg/L	0.04 - 0.39	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2019/2020 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Antimony	04/02/2020	<0.09	µg/L	N
Arsenic	04/02/2020	0.3	µg/L	N
Barium	04/02/2020	31.8	µg/L	N
Boron	04/02/2020	8	µg/L	N
Cadmium	04/02/2020	<0.003	µg/L	N
Chromium	04/02/2020	0.19	µg/L	N
Lead*	See Summary			
Mercury	04/02/2020	<0.01	µg/L	N
Selenium	04/02/2020	0.05	µg/L	N
Sodium	06/02/2018	10.1	mg/L	N
Uranium	04/02/2020	0.002	µg/L	N
Fluoride	06/02/2018	0.60	mg/L	N
Nitrite	07/01/2020	<0.003	mg/L	N
	07/04/2020	<0.003	mg/L	N
	07/07/2020	<0.003	mg/L	N
	06/10/2020	<0.003	mg/L	N
Nitrate	07/01/2020	0.236	mg/L	N
	07/04/2020	0.449	mg/L	N
	07/07/2020	0.150	mg/L	N
	06/10/2020	0.086	mg/L	N

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor	04/02/2020	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	04/02/2020	<0.01	µg/L	N
Azinphos-methyl	04/02/2020	<0.05	µg/L	N
Benzene	04/02/2020	<0.32	µg/L	N
Benzo(a)pyrene	04/02/2020	<0.004	µg/L	N
Bromoxynil	04/02/2020	<0.33	µg/L	N
Carbaryl	04/02/2020	<0.05	µg/L	N
Carbofuran	04/02/2020	<0.01	µg/L	N
Carbon Tetrachloride	04/02/2020	<0.17	µg/L	N
Chlorpyrifos	04/02/2020	<0.02	µg/L	N
Diazinon	04/02/2020	<0.02	µg/L	N
Dicamba	04/02/2020	<0.20	µg/L	N
1,2-Dichlorobenzene	04/02/2020	<0.41	µg/L	N
1,4-Dichlorobenzene	04/02/2020	<0.36	µg/L	N
1,2-Dichloroethane	04/02/2020	<0.35	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	04/02/2020	<0.33	µg/L	N
Dichloromethane	04/02/2020	<0.35	µg/L	N
2,4 Dichlorophenol	04/02/2020	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	04/02/2020	<0.19	µg/L	N
Diclofop-methyl	04/02/2020	<0.40	µg/L	N
Dimethoate	04/02/2020	0.06	µg/L	N
Diquat	04/02/2020	<1	µg/L	N
Diuron	04/02/2020	<0.03	µg/L	N
Glyphosate	04/02/2020	<1	µg/L	N
Malathion	04/02/2020	<0.02	µg/L	N
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	04/02/2020	<0.00012	mg/L	N
Metolachlor	04/02/2020	<0.01	µg/L	N
Metribuzin	04/02/2020	<0.02	µg/L	N
Monochlorobenzene	04/02/2020	<0.3	µg/L	N
Paraquat	04/02/2020	<1	µg/L	N
Pentachlorophenol	04/02/2020	<0.15	µg/L	N
Phorate	04/02/2020	<0.01	µg/L	N
Picloram	04/02/2020	<1	µg/L	N
Polychlorinated Biphenyls (PCB)	04/02/2020	<0.04	µg/L	N
Prometryne	04/02/2020	<0.03	µg/L	N
Simazine	04/02/2020	<0.01	µg/L	N

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
THM (Latest annual average)	07/01/2020	83.62	µg/L	N
	04/02/2020			
	03/03/2020			
	07/04/2020			
	05/05/2020			
	02/06/2020			
	07/07/2020			
	04/08/2020			
	01/09/2020			
	06/10/2020			
	03/11/2020			
	01/12/2020			
HAA (Latest annual average)	07/01/2020	75.82	µg/L	N
	04/02/2020			
	03/03/2020			
	07/04/2020			
	05/05/2020			
	02/06/2020			
	07/07/2020			
	04/08/2020			
	01/09/2020			
	06/10/2020			
	03/11/2020			
	01/12/2020			
Terbufos	04/02/2020	<0.01	µg/L	N
Tetrachloroethylene	04/02/2020	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	04/02/2020	<0.20	µg/L	N
Triallate	04/02/2020	<0.01	µg/L	N
Trichloroethylene	04/02/2020	<0.44	µg/L	N
2,4,6-Trichlorophenol	04/02/2020	<0.25	µg/L	N
Trifluralin	04/02/2020	<0.02	µg/L	N
Vinyl Chloride	04/02/2020	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not applicable to the Picton Water Treatment Plant.			

The Corporation of the County of Prince Edward
Picton Water Treatment Plant, DWS No. 220000987
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	220000987
Drinking-Water System Name:	Picton Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2020 - December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per Regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-204 Issue No. 3

- Drinking Water Works License No. 162-104 Issue No. 2
- Permit to Take Water No. 6135-9HCPDY
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks (MECP). Non-compliance events cited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		November 12, 2020	
Inspection Review Period:		October 7, 2019 to November 12, 2020	
Compliance Rating:		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Picton Water Treatment Plant. As follows:

Picton DWS: Raw Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	56978.25	1115.89	1838.01	2370.44
February	56419.55	1322.37	1945.50	2931.66
March	58735.77	1562.77	1894.70	2492.34
April	56080.08	1201.48	1869.34	2540.31
May	68566.84	1398.11	2211.83	3294.98
June	84269.62	1894.35	2808.99	4178.46
July	98403.58	2473.94	3174.31	3719.70
August	99263.07	2570.98	3202.03	4004.25
September	86851.94	2140.85	2895.06	3743.85
October	75989.90	1844.98	2451.29	2868.13
November	80799.60	1724.04	2693.32	3492.73
December	64382.86	1414.72	2076.87	2797.24
Annual Total	886741.07	1115.89	2422.79	4178.46

Picton DWS: Treated Water Flow Comparison		
Rated Capacity as per MDWL/DWWP	10400 m ³	% of Maximum
Actual Maximum Daily Capacity	4178.46 m ³	40.18 %
Actual Mean Daily Capacity	2422.79 m ³	23.30 %

Picton DWS: Treated Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	50552.00	923.36	1630.71	2248.00
February	50369.33	1120.15	1736.87	2693.57
March	51853.72	1280.23	1672.70	2157.05
April	50058.49	1024.28	1668.62	2376.33
May	62572.00	1219.25	2018.45	2989.87
June	78018.11	1497.08	2600.60	3816.12
July	89809.22	2258.34	2897.07	3468.29
August	89176.10	2084.42	2876.65	3703.40
September	76365.66	1559.34	2545.52	3215.05
October	67534.50	1525.14	2178.53	2768.18
November	73025.54	1530.69	2434.18	3186.75
December	58019.65	1343.81	1871.60	2596.22
Annual Total	797354.33	923.36	2178.56	3816.12

Picton DWS: Treated Water Flow Comparison		
Rated Capacity as per MDWL/DWWP	10400 m ³	% of Maximum
Actual Maximum Daily Capacity	3816.12 m ³	36.69 %
Actual Mean Daily Capacity	2178.56 m ³	20.95 %

Operational Reports

Annual and Summary Reports



Rossmore/Fenwood Gardens Water Distribution System



The County
PRINCE EDWARD COUNTY • ONTARIO



2020 Annual Report

Rossmore/Fenwood Gardens Drinking Water System

Drinking-Water System Number: 220005008
 Drinking-Water System Name: Rossmore/Fenwood Gardens Water Distribution System
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Large Municipal Residential System (LMRS)
 Period being reported: January 1, 2020 - December 31, 2020

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Please visit www.pecounty.on.ca</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Not Applicable to Rossmore/Fenwood Garden Water Distribution System.	

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [] No [] N/A [x]

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

The Rossmore/Fenwood Gardens Water Distribution System is a standalone water distribution system. The System is owned and operated by The Corporation of the County of Prince Edward. Treated water is supplied via a transmission line beneath the Bay of Quinte to the Rossmore/Fenwood Gardens Drinking Water System by the Belleville Drinking Water System (The Supplier), which is owned and operated by The City of Belleville. By-law No. 3451-2014 (or as amended) specifies the terms and conditions of the Water Taking Agreement between The Supplier and The County. Water flows are recorded at the Belleville Water Treatment Plant and at the point of entry into the Rossmore/Fenwood Gardens Drinking Water System by a flowmeter within a valve chamber and instrumentation building located on Ridley Street. The building houses a flow meter, a pressure transmitter, a datalogger and a chlorine analyzer. Fire protection and sample hydrants are located throughout the water distribution system.

List all water treatment chemicals used over this reporting period.

- Not applicable; chemical application is carried out at the Belleville Water Treatment Plant. Please see the Belleville Water Treatment Plant 2019 Annual Report for further information.

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- Installation of replacement distribution sample hydrant,
- Response and repairs for distribution events, including watermain breaks, service connection leaks, and valve leaks/repairs,
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Distribution system maintenance activities, hydrant flushing and valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2020 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	Not Applicable				
Treated					
Distribution	156	0	0	62	0 - 1

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min - max)
Turbidity	Not Applicable	
Chlorine	528	0.46 - 1.91 mg/L
Fluoride	Not Applicable	

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	Parameter	Date Sampled	Result	Unit of Measure
Not Applicable.				

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	4	10 µg/L	0.02 - 0.32	µg/L	No
Distribution (Period 2: 15/06/2020 to 15/10/2020)	4	10 µg/L	0.15 - 0.29	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2016/2017 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

2020 Annual Reports: Rossmore/Fenwood Gardens Drinking Water System

Issue Date: February 25, 2021

Revision Date: 0. February 25, 2021

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

Please see the Belleville Water Treatment Plant 2020 Annual Report for all treated water inorganic parameter result values not listed here.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
Lead*	See Summary			
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite				
Nitrate				

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Please see the Belleville Water Treatment Plant 2020 Annual Report for all treated water organic parameter result values not listed here.

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Alachlor				
Aldicarb				
Aldrin + Dieldrin				
Atrazine + N-dealkylated metabolites				
Azinphos-methyl				
Bendiocarb				
Benzene				
Benzo(a)pyrene				
Bromoxynil				
Carbaryl				
Carbofuran				
Carbon Tetrachloride				
Chlordane (Total)				
Chlorpyrifos				
Cyanazine				
Diazinon				
Dicamba				
1,2-Dichlorobenzene				
1,4-Dichlorobenzene				
Dichlorodiphenyltrichloroethane (DDT) + metabolites				
1,2-Dichloroethane				
1,1-Dichloroethylene (vinylidene chloride)				
Dichloromethane				
2-4 Dichlorophenol				
2,4-Dichlorophenoxy acetic acid (2,4-D)				
Diclofop-methyl				
Dimethoate				
Dinoseb				
Diquat				
Diuron				
Glyphosate				
Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				

Parameter	Sample Date (DD/MM/YYYY)	Result Value	Unit of Measure	Exceedance
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM (Latest annual average)	07/01/2020	67.20	µg/L	N
	07/04/2020			
	07/07/2020			
	06/10/2020			
HAA (Latest annual average)	07/01/2020	50.09	µg/L	N
	07/04/2020			
	07/07/2020			
	06/10/2020			
Temephos				
Terbufos				
Tetrachloroethylene				
2,3,4,6-Tetrachlorophenol				
Triallate				
Trichloroethylene				
2,4,6-Trichlorophenol				
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)				
Trifluralin				
Vinyl Chloride				

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable. Please see the Belleville Water Treatment Plant 2020 Annual Report for Further Information Regarding Inorganic and Organic Parameter Result Values.			

The Corporation of the County of Prince Edward
Rossmore/Fenwood Gardens Standalone Distribution System, DWS No. 220005008
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	220005008
Drinking-Water System Name:	Rossmore/Fenwood Gardens Water Distribution System
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2020 - December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

The following list details the contents of the Municipal Summary Report package provided to Municipal Council. Documents provided electronically are subject to change, and as such, to ensure currency, full working legislative documents can be reviewed at <https://www.ontario.ca/laws>, with support documentation available at the Ministry of the Environment, Conservation and Parks Drinking Water Ontario website, available at <https://www.ontario.ca/page/drinking-water>.

- Safe Drinking Water Act, 2002,
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-201
 - Drinking Water Works License No. 162-101

- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks Non-compliance events sited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		June 15, 2020	
Inspection Review Period:		September 18, 2019 to June 15, 2020	
Compliance Rating:		100.00%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Rossmore/Fenwood Gardens Distribution System. As follows:

Rossmore/Fenwood Gardens DWS: Received Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³ /day	m ³ /day	m ³ /day
January	7040.00	160.00	227.10	270.00
February	6600.00	140.00	227.59	270.00
March	6970.00	190.00	224.84	260.00
April	6490.00	150.00	216.33	260.00
May	8680.00	190.00	280.00	480.00
June	10960.00	220.00	365.33	490.00
July	14980.00	260.00	483.23	790.00
August	12540.00	210.00	404.52	1150.00
September	8260.00	170.00	275.33	370.00
October	6550.00	150.00	211.29	260.00
November	6190.00	180.00	206.33	260.00
December	7040.00	190.00	227.10	310.00
Annual Total	102300.00	140.00	279.08	1150.00

Note: Flows as measured at the Belleville Water Treatment Plant.

As a standalone water distribution system, the Rossmore/Fenwood Gardens Water Distribution System does not have a rated capacity for treatment as the Belleville Water Treatment Plant supplies water to the system for distribution users. Despite this, a Water Service Agreement with the City of Belleville outlines a maximum daily flow limit as outlined below. A summary comparison of Rossmore/Fenwood Gardens Water Distribution System flows to the Water Service Agreement can be reviewed as follows:

Rossmore/Fenwood Gardens DWS: Received Water Flow Comparison		
Maximum Total Flow as per Service Water Agreement	328500 m ³	
Maximum Daily Flow as per Service Water Agreement	2250 m ³	
Actual Total Flow	102300.00 m ³	31.14 % of Mean Total Flow
Actual Maximum Daily Flow	1150.00 m ³	51.11 % of Maximum Daily Flow
Actual Mean Daily Flow	279.08 m ³	12.40 % Maximum Daily Flow

Operational Reports

Annual and Summary Reports



Wellington Water Treatment Plant & Water Distribution System



The County
PRINCE EDWARD COUNTY • ONTARIO

2020 Annual Report

Wellington Drinking Water System

Drinking-Water System Number: 220008729
 Drinking-Water System Name: Wellington Water Treatment Plant
 Drinking-Water System Owner: The Corporation of the County of Prince Edward
 Drinking-Water System Category: Large Municipal Residential System (LMRS)
 Period being reported: January 1, 2020 - December 31, 2020

<u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u>	<u>Complete for all other Categories.</u>
<p>Does your Drinking-Water System serve more than 10,000 people? Yes [] No [x]</p> <p>Is your annual report available to the public at no charge on a web site on the Internet? Yes [x] No []</p> <p>Please visit www.pecounty.on.ca</p> <p>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <p>Shire Hall 332 Main Street, Picton, ON K0K 2T0</p>	<p>Number of Designated Facilities served: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [] No []</p> <p>Number of Interested Authorities you report to: <input type="text"/></p> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
Wellington on the Lake (WOTL Freehold Distribution System)	260085787

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

Yes [x] No [] N/A []

Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via the web: Visit www.pecounty.on.ca
- Public access/notice via Government Office
- Public access/notice via a newspaper
- Public access/notice via Public Request
- Public access/notice via a Public Library
- Public access/notice via other method: Water Bill Notification

Describe your Drinking-Water System.

Source water for Wellington Water Treatment Plant is received from Lake Ontario via a 1,475 m long, 500 mm diameter intake pipe, within which pre-chlorination is applied for zebra mussel control. The plant operates as a direct filtration system with a total rated capacity of 2,488 m³/day. Operational processes include coagulation, flocculation, filtration and disinfection by means of sodium hypochlorite (see specifications below), as well as continuous analyzers for monitoring purposes. Additionally, the plant is equipped with filter backwash and residue management capabilities and the associated valves and appurtenances. Within the Wellington Water Distribution System, the Wellington Water Tower exists as an above ground treated water storage facility which houses additional continuous monitoring equipment. Fire protection and sample hydrants are located throughout the water distribution system.

List all water treatment chemicals used over this reporting period.

- Sodium Hypochlorite 12%, NSF 60
- Clar+Ion A405P, NSF 60
- Filter Media, NSF 61

Were any significant expenses incurred to?

- Install required equipment
- Repair required equipment
- Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred.

- Investigative dives and repairs to intake line and zebra mussel control system (ongoing),
- High lift pump rebuilds,
- Installation of two replacement continuous turbidity meters,
- Improvements to the Supervisory Control and Data Acquisition System (SCADA),
- Response and repairs for distribution events, including watermain breaks, service connection leaks, and valve leaks/repairs,
- Purchase and installation of regular consumable items,
- Annual regulative and preventative maintenance including calibration of flow meters, backflow prevention certification and analytical instruments,
- Annual inspection and cleaning of the raw water intake line,
- Generator inspection, regular service and repairs,

- Repairs, maintenance and preventative maintenance kits for chemical metering pumps,
- Distribution system maintenance activities, hydrant flushing and valve turning programs,
- Purchase of parts/equipment to improve the distribution maintenance program.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
No Adverse Water Quality Incidents were experienced in the 2020 operational year.					

Microbiological testing done under the Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

Source	Number of Samples	Range of <i>E.coli</i> Or Fecal Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	52	0 - 1	0 - 200	Not Applicable	
Treated	52	0	0	52	0 - 8
Distribution	132	0	0	61	0 - 27

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03 during the period covered by this Annual Report.

Parameter	Number of Grab Samples	Range of Results (min – max)
Turbidity (Raw)	239	0.17 - 3.7 NTU
Turbidity (Filter Effluent 1)	8760	0.00 – 0.71 NTU
Turbidity (Filter Effluent 2)	8760	0.02 – 1.23 NTU
Chlorine (Treated)	8760	1.01 - 2.99 mg/L
Chlorine (Distribution - Wellington Tower)	8760	1.19 – 4.13 mg/L
Fluoride	Not Applicable	

Note: Any values outside of normal operating ranges that resulted in reportable event or operational observation have been noted in the Adverse Water Quality Incident summary (above).

*Values reported as 0.00NTU/mg/L can be attributed to system maintenance and/or calibration of equipment.

NOTE: For continuous monitors 8760 is used as the number of samples.

Summary of additional testing and sampling carried out in accordance with the requirement of an approval, order or other legal instrument.

Date of Legal Instrument Issued	MDWL 162-103, Issue Number 2 Issue Date: 15/08/2016	
Parameter	Total Suspended Solids (TSS)	
Annual Average Concentration Limit	15 mg/L	
Date Sampled (DD/MM/YYYY)	Result	Unit of Measure
07/01/2020	2	mg/L
11/02/2020	<2	mg/L
3/03/2020	2	mg/L
7/04/2020	31	mg/L
5/05/2020	26	mg/L
2/06/2020	<2	mg/L
7/07/2020	2	mg/L
4/08/2020	<2	mg/L
1/09/2020	2	mg/L
6/10/2020	<2	mg/L
3/11/2020	<2	mg/L
1/12/2020	2	mg/L
Annual Average:	6.42	mg/L

Summary of regulative lead testing results carried out as per Ontario Regulation 170/03, Schedule 15.1 during this reporting period.

Location	# Grab Samples	Max Allowable Limit	Range of Results	Unit of Measure	Resample Required?
Distribution (Period 1: 15/12/2019 to 15/04/2020)	4	10 µg/L	0.02 - 0.07	µg/L	No
Distribution (Period 2: 15-Jun-2020 to 15/10/2020)	4	10 µg/L	0.06 - 0.20	µg/L	No

Note: All values represented have been tabulated using values from both sampling periods in the 2019/2020 calendar year. The drinking water system qualified for plumbing sample exemptions as per Ontario Regulation 170/03.

Summary of inorganic parameters tested during this reporting period or the most recent sample results.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	04/02/2020	0.1	µg/L	N
Arsenic	04/02/2020	0.6	µg/L	N
Barium	04/02/2020	22.1	µg/L	N
Boron	04/02/2020	30	µg/L	N
Cadmium	04/02/2020	<0.003	µg/L	N
Chromium	04/02/2020	0.2	µg/L	N
Lead*	See Summary			
Mercury	04/02/2020	<0.01	µg/L	N
Selenium	04/02/2020	0.16	µg/L	N
Sodium	06/02/2018	16.00	mg/L	N
Uranium	04/02/2020	0.356	µg/L	N
Fluoride	06/02/2018	0.12	mg/L	N
Nitrite	07/01/2020	<0.003	mg/L	N
	07/04/2020	<0.003	mg/L	N
	07/07/2020	<0.003	mg/L	N
	06/10/2020	<0.003	mg/L	N
Nitrate	07/01/2020	0.368	mg/L	N
	07/04/2020	0.391	mg/L	N
	07/07/2020	0.246	mg/L	N
	06/10/2020	0.229	mg/L	N

Summary of organic parameters sampled during this reporting period or the most recent sample results.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	04/02/2020	<0.02	µg/L	N
Atrazine + N-dealkylated metabolites	04/02/2020	0.08	µg/L	N
Azinphos-methyl	04/02/2020	<0.05	µg/L	N
Benzene	04/02/2020	<0.32	µg/L	N
Benzo(a)pyrene	04/02/2020	<0.004	µg/L	N
Bromoxynil	04/02/2020	<0.33	µg/L	N
Carbaryl	04/02/2020	<0.05	µg/L	N
Carbofuran	04/02/2020	<0.01	µg/L	N
Carbon Tetrachloride	04/02/2020	<0.17	µg/L	N
Chlorpyrifos	04/02/2020	<0.02	µg/L	N
Diazinon	04/02/2020	<0.02	µg/L	N
Dicamba	04/02/2020	<0.20	µg/L	N
1,2-Dichlorobenzene	04/02/2020	<0.41	µg/L	N
1,4-Dichlorobenzene	04/02/2020	<0.36	µg/L	N
1,2-Dichloroethane	04/02/2020	<0.35	µg/L	N
1,1-Dichloroethylene (vinylidene chloride)	04/02/2020	<0.33	µg/L	N
Dichloromethane	04/02/2020	<0.35	µg/L	N

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
2-4 Dichlorophenol	04/02/2020	<0.15	µg/L	N
2,4-Dichlorophenoxy acetic acid (2,4-D)	04/02/2020	<0.19	µg/L	N
Diclofop-methyl	04/02/2020	<0.40	µg/L	N
Dimethoate	04/02/2020	<0.06	µg/L	N
Diquat	04/02/2020	<1	µg/L	N
Diuron	04/02/2020	<0.03	µg/L	N
Glyphosate	04/02/2020	<1.00	µg/L	N
Malathion	04/02/2020	<0.02	µg/L	N
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	04/02/2020	<0.00012	mg/L	N
Metolachlor	04/02/2020	<0.01	µg/L	N
Metribuzin	04/02/2020	<0.02	µg/L	N
Monochlorobenzene	04/02/2020	<0.3	µg/L	N
Paraquat	04/02/2020	<1	µg/L	N
Pentachlorophenol	04/02/2020	<0.15	µg/L	N
Phorate	04/02/2020	<0.01	µg/L	N
Picloram	04/02/2020	<1	µg/L	N
Polychlorinated Biphenyls(PCB)	04/02/2020	<0.04	µg/L	N
Prometryne	04/02/2020	<0.03	µg/L	N
Simazine	04/02/2020	<0.01	µg/L	N
THM (Latest annual average)	07/01/2020	38.75	µg/L	N
	07/04/2020			
	07/07/2020			
	06/10/2020			
HAA (Latest annual average)	07/01/2020	23.10	µg/L	N
	07/04/2020			
	07/07/2020			
	06/10/2020			
Terbufos	04/02/2020	<0.01	µg/L	N
Tetrachloroethylene	04/02/2020	<0.35	µg/L	N
2,3,4,6-Tetrachlorophenol	04/02/2020	<0.20	µg/L	N
Triallate	04/02/2020	<0.01	µg/L	N
Trichloroethylene	04/02/2020	<0.44	µg/L	N
2,4,6-Trichlorophenol	04/02/2020	<0.25	µg/L	N
Trifluralin	04/02/2020	<0.02	µg/L	N
Vinyl Chloride	04/02/2020	<0.17	µg/L	N

List any inorganic or organic parameter(s) that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample
Not Applicable to the Wellington Water Treatment Plant.			

The Corporation of the County of Prince Edward
Wellington Water Treatment Plant, DWS No. 220008729
Municipal Summary Reports, 2020

Facility Specifications

Drinking-Water System Number:	220008729
Drinking-Water System Name:	Wellington Water Treatment Plant
Drinking-Water System Owner:	The Corporation of the County of Prince Edward
Drinking-Water System Category:	Large Municipal Residential System (LMRS)
Period being reported:	January 1, 2020 - December 31, 2020

Ontario Regulation 170/03, Schedule 22

Requirements of Summary Reports for Municipalities

As per Ontario Regulation 170/03, Schedule 22, a Summary Report must be prepared for each Large Municipal Residential (LMRS) and Small Municipal Residential (SMRS) drinking water system in the province of Ontario. As per the regulation, Summary Reports shall include a list of the requirements of the Act, the regulations, approvals and any orders applicable to the system that failed to be met at any time during the reporting period (January 1 – December 31, previous calendar year). The report must be provided no later than March 31 to members of Municipal Council. Copies are available to members of the public free of charge at www.pecounty.on.ca or by visiting the Corporation of the County of Prince Edward Municipal Offices located at 332 Main Street, Picton, ON.

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- Safe Drinking Water Act, 2002
 - Ontario Regulation 128/04, Certification of Drinking Water System Operators and Water Quality Analysts
 - Ontario Regulation 169/03, Ontario Drinking Water Quality Standards
 - Ontario Regulation 170/03, Drinking Water Systems, applicable schedules:
 - Ontario Regulation 242/05, Compliance and Enforcement
 - Ontario Regulation 453/07, Financial Plans
- Procedure for Disinfection of Drinking Water in Ontario
- Drinking Water System Control Documents
 - Drinking Water Works Permit No. 162-203 Issue No. 2
 - Drinking Water Works License No. 162-103 Issue No. 2

- Permit to Take Water No. 3640-9HDNF6
- “Guide for Members of Municipal Councils”, PIBS # 7889e

As per Ontario Regulation 170/03, Schedule 22, the report must include a list of requirements that were not met at any time during the period covered by the report, and for each failure outlined, identify the duration of time over which the failure was endured and the measures that were taken to correct the failure. For all adverse water quality incidents (AWQI) that occurred throughout the reporting period, please refer to the summary provided in the 2018 Annual Report. Other events of non-compliance with regulation are highlighted through the Annual Compliance Inspection conducted by the Ministry of the Environment, Conservation and Parks. Non-compliance events cited in the most recent Compliance Inspection Report are summarized below.

Inspection Period: 2020/2021			
Inspection Date:		November 27, 2020	
Inspection Review Period:		December 18, 2019 to November 27, 2020	
Compliance Rating:		100%	
Statement of Non-Compliance	Regulative Instrument	Duration of Failure	Event Summary & Corrective Measures
<p><i>At the time of reporting, no additional events of non-compliance have been identified for the 2019/2020 operational year. Please see the 2020 Annual Report for a summary of all Adverse Water Quality Incidents.</i></p>			

Annual Flow Summary

As required by Schedule 22-2(3) 1., an annual flow summary for 2020 raw and treated water flows have been included for the Wellington Water Treatment Plant. As follows:

Wellington DWS: Raw Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³ /day	m ³ /day	m ³ /day
January	20704.11	543.79	667.87	1258.04
February	19422.80	529.55	669.75	773.94
March	21116.86	606.82	681.19	758.40
April	20827.94	626.20	694.26	772.61
May	24845.61	633.67	801.47	1011.86
June	34219.70	835.47	1140.66	1441.65
July	36659.00	802.77	1182.55	1433.03
August	32627.53	745.95	1052.50	1345.15
September	29894.21	803.03	996.47	1222.83
October	24611.99	658.90	793.94	982.30
November	22987.20	692.75	766.24	838.49
December	24106.05	680.79	777.61	841.41
Annual Total	312023.01	529.55	852.04	1441.65

Wellington DWS: Raw Water Flow Comparison		
Max Daily Water Taking Volume as per PTTW	2488 m ³	% of Maximum
Actual Maximum Daily Water Taking	1441.65 m ³	57.94 %
Actual Mean Daily Water Taking	852.04 m ³	34.25 %

Wellington DWS: Treated Water Flows 2020				
Month	Total Flow	Minimum Daily Flow	Average Daily Flow	Maximum Daily Flow
	m ³	m ³	m ³	m ³
January	19241.04	521.06	620.68	1129.77
February	18299.62	522.31	631.02	726.37
March	19764.82	551.32	637.57	733.35
April	19475.62	559.18	649.19	733.02
May	23459.43	625.35	756.76	942.00
June	32753.27	761.81	1091.78	1489.15
July	35224.30	722.66	1136.27	1439.41
August	31028.15	701.11	1000.91	1367.56
September	28160.39	740.49	938.68	1121.62
October	23160.87	630.45	747.12	1040.81
November	21906.66	669.84	730.22	834.54
December	22932.50	674.16	739.76	820.28
Annual Total	295406.67	521.06	807.12	1489.15

Wellington DWS: Treated Water Flow Comparison		
Rated Capacity as per MDWL/DWWP	2488 m ³	% of Maximum
Actual Maximum Daily Capacity	1489.15 m ³	59.85 %
Actual Mean Daily Capacity	807.12 m ³	32.44%



The Corporation of the County of Prince
Edward

Water and Wastewater Services

Operational Reports

Reference Material



TheCounty
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**The Corporation of the City of Belleville,
Environmental Services Department**

2020 Summary and Annual Reports for Belleville and Point Anne Hamlet Drinking Water Systems

January 1st, 2020 to December 31st, 2020



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2020 Summary Report – Belleville

Drinking Water System Number: 220001628

Drinking Water System Name: Belleville Drinking Water System

Drinking Water System Owner: The Corporation of the City of Belleville

Drinking Water System Category: Large Municipal Residential

Ontario's Safe Drinking Water Act sets the framework for safe drinking water in the Province of Ontario. Further, Ontario Regulation 170 / 03 (O. Reg. 170 / 03) sets requirements for public waterworks for sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

This summary report has been prepared in accordance with Schedule 22 of Ontario Regulation 170 / 03. Free copies are available on our website and in person at the Water Operations Centre. We will post notice of availability on our website and / or through the local newspapers.

For further information about provincial drinking water requirements visit the Ministry of Environment [Conservation and Parks website](#) and select "Drinking Water".

Ontario Regulation 170 / 03, Schedule 22 – Summary Reports for Municipalities

This section outlines the requirements of Schedule 22 and how we are achieving them.

- **Section 22-1** states that this Schedule applies to both large and small municipal residential systems.
 - The Belleville Drinking Water System is a large municipal residential system and as such we will complete and submit a summary report. This summary report is prepared in accordance with Schedule 22 of O. Reg. 170 / 03.
- **Section 22-2 (1)** requires that we complete a Summary Report by March 31st of each year and submit it to council members.
 - Each year we prepare a Summary Report to fulfill this requirement. This report covers January 1st to December 31st, 2020 and was submitted to council prior to March 31st, 2021.
- **Section 22-2 (2) (a) and (b)** requires that we provide a list of any requirements that we did not meet at any time during the period covered by the annual report.
 - The Belleville Drinking Water System met all requirements for the period of January 1st to December 31st, 2020.
 - O. Reg 170 / 03, Section 11 (6) (b) and (d) requires that we prepare any details about adverse water quality incidents and share this with the public. Details about adverse water quality incidents are included as part of every annual report.
- **Section 22-2 (3)** requires us to submit flow summaries and comparisons in relation to the rated flow capacities stated in the system approvals.
 - This report includes the flow summary and flow rate comparisons, found on page 10.
- **Section 22-2 (4)** requires us to provide a copy of this summary report to any municipality that the drinking water system supplies water to.

- The Belleville Drinking Water System supplies water to the Rossmore / Fenwood Gardens Distribution System (WW# 260005008) and we will provide a copy of this summary report to them.
- **Section 22-3** states that we do not have to submit a compliance report for any drinking water systems that comply with Section 22-2.
 - We are compliant with Section 22-2 and therefore, we have not submitted a compliance report.

Quantities and Flow Rates of Water Taken and Supplied

Table 1: Raw Water

Values in Mega Litres (M.L), unless otherwise noted

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (M.L per day)	Peak Instantaneous Flow Rate (Litres per minute)
January	721.950	23.289	26.300	20.990	47.850	33229
February	677.350	23.357	24.770	21.110	40.950	28438
March	717.700	23.152	25.360	21.110	41.860	29069
April	661.720	22.057	23.300	21.120	43.760	30389
May	743.460	23.983	28.560	21.440	42.410	29451
June	819.410	27.314	32.090	22.230	43.760	30389
July	917.360	29.592	33.310	24.160	48.820	33903
August	776.230	25.040	28.880	21.110	47.650	33090
September	725.890	24.196	26.110	21.790	46.040	31972

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (M.L per day)	Peak Instantaneous Flow Rate (Litres per minute)
October	684.950	22.095	24.300	19.760	44.930	31201
November	647.060	21.569	22.990	20.150	45.250	31424
December	702.600	22.665	25.120	17.760	44.240	30722

Annual Totals:

- Total Annual Volume = 8795.680 (total sum of January to December values)
- Average Daily Volume overall = 24.026 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 33.310 (July)
- Minimum Daily Value reached = 17.760 (December)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 48.820 (July)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 33903 (July)

Table 2: Treated Water

Values in Mega Litres

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value
January	644.070	20.776	23.010	19.080
February	612.070	21.106	22.390	18.940
March	647.710	20.894	22.830	18.870
April	595.670	19.856	21.000	19.060
May	667.490	21.532	25.620	18.970
June	705.470	23.516	27.380	19.680
July	777.700	25.087	29.170	19.010
August	679.220	21.910	25.640	18.030
September	629.540	20.985	22.880	18.680
October	589.990	19.032	20.690	16.860
November	563.090	18.770	19.670	17.170
December	589.280	19.009	20.710	15.760

Annual Totals:

- Total Annual Volume = 7701.300 (total sum of January to December values)
- Average Daily Volume overall = 21.039 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 29.170 (July)
- Minimum Daily Value reached = 15.760 (December)

Water Flow Comparisons

Raw Water Comparisons

- Maximum daily volume allowed under the current Permit to Take Water (6883-9KRK5R) = **72.640 Mega Litres**
- Peak instantaneous flow rate allowed under the current Permit to Take Water (6883-9KRK5R) = **50.444 Litres per minute**

The Belleville Drinking Water System Actuals for the Year 2020:

- Maximum daily volume = **33.310 Mega Litres**
- Peak instantaneous flow rate = **33903 Litres per minute**

The Belleville Drinking Water System did not exceed the approved maximum daily volume or peak instantaneous flow rate stipulated in the current Permit to Take Water.

Treated Water Comparisons

- Maximum allowable daily volume entering the distribution system under Municipal Drinking Water License 151-101 = **72.700 Mega Litres**

The Belleville Drinking Water System Actuals for the Year 2020:

- Maximum daily volume = **29.170 Mega Litres**

The Belleville Drinking Water System did not exceed the maximum daily plant volume stipulated in the Municipal Drinking Water License.

Belleville Drinking Water System 2020 Annual Report

Waterworks number 220001628, January 1st, 2020 to December 31st, 2020

This report is prepared in accordance with Section 11 of Ontario Regulation 170 / 03. O. Reg. 170 / 03 sets requirements for public waterworks with regards to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

The Belleville Drinking Water System also supplies drinking water to the Rossmore / Fenwood Gardens Distribution System. In accordance with Section 11 (2.1) a copy of this report is provided to the Rossmore / Fenwood Gardens Operating Authority.

Ontario Regulation 170/03, Section 11 – Annual Reports

This section outlines the requirements of Section 11 and how we are achieving them.

- **Section 11 (1):** the owner of a drinking water system must ensure that an annual report is prepared in accordance with this section.
 - This annual report fulfils the requirements of Section 11.
- **Section 11 (2):** the owner of a drinking water system, other than a large municipal residential system or a small municipal residential system
 - The Belleville Drinking Water System is a large municipal residential system and therefore section 11 (2) does not apply to us.
- **Section 11 (2.1):** if a drinking water system is connected to and receives all of its water from another drinking water system, the owner of the system from which the water is obtained shall ensure

that, when the annual report for the system is prepared, a copy of the report is given to the owner of the system that obtains the water.

- The Belleville Drinking Water System supplies water to the Rossmore / Fenwood Gardens Distribution System (WW# 260005008). A copy of this annual report will be provided to them.
- **Section 11 (3):** as a large municipal residential drinking water system, our annual report must cover the period from January 1 to December 31 and be prepared not later than February 28 of the following year.
 - This annual report covers the period from January 1st – December 31st, 2020 and was prepared prior to February 28th, 2021.
- **Section 11 (4):** Applies to non-municipal seasonal residential systems and large non-municipal non-residential systems.
 - The Belleville Drinking Water System is classified as a large municipal residential system and therefore this subsection does not apply.
- **Section 11 (5):** Applies to small non-municipal non-residential systems
 - The Belleville Drinking Water System is classified as a large municipal residential system and therefore this subsection does not apply.
- **Section 11 (6)(a):** Our annual report must contain a brief description of the drinking water system, including a list of water treatment chemicals the system uses during the period covered by the report.
 - A description of the Belleville Drinking Water System can be found in this report beginning on page 16.
- **Section 11 (6)(b):** Our annual report must summarize any reports made to the Ministry under Section 18 (1) of the Act or Section 16-4 of Schedule 16 during the period covered by the report.
 - A chart showing all Adverse Water Quality Incidents and corrective actions can be found on page 21 of this report.

- **Section 11 (6)(c):** Our annual report must summarize the results of the tests required under this Regulation, an approval, or a municipal drinking water license or order (including an OWRA order) during the period covered by the report. If tests regularly required under this Regulation were not required during the current reporting period, summarize the most recent results of those tests.
 - Test results for the Belleville Drinking Water System can be found in this report beginning on page 22.
- **Section 11 (6)(d):** Our annual report must describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report.
 - All corrective actions taken by the Belleville Drinking Water System under Schedule 17 can be found in the chart located on page 21.
- **Section 11 (6)(e):** Our annual report must describe any major expenses incurred during the period covered by the report to install, repair, or replace equipment.
 - A description of major expenses incurred during the period of this report can be found on page 32.
- **Section 11 (6)(f):** Our annual report must include a statement of where a report prepared under Schedule 22 will be available for inspection under Subsection 12 (4).
 - The Belleville Drinking Water System Summary Report, prepared under Schedule 22, can be found on-line at www.belleville.ca and at the Water Operations Centre.
- **Section 11 (7):** The owner of a drinking water system shall ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy.
 - Copies of the Belleville Drinking Water System annual report are available to the public, upon request and free of charge, at the Water Operations Centre.
- **Section 11 (8):** If a drinking water system is connected to and receives all of its drinking water from another drinking water system, the owner of the system that obtains the water shall ensure that a copy

of an annual report for the system from which the water is obtained is given, without charge, to every person who requests a copy.

- The Rossmore / Fenwood Gardens Distribution System (WW# 260005008) obtains water from the Belleville Drinking Water System and as such is responsible for this subsection. A copy of the City of Belleville's report is provided to Prince Edward County in accordance with section 11 (2.1).
- **Section 11 (9): Subsections (7) and (8) do not apply to an annual report that is more than two years old.**
 - Annual reports dating back to 2008 for the Belleville Drinking Water System are available to the public, upon request and free of charge, by contacting the Water Operations Centre.
- **Section 11 (9.1):** Every time that an annual report is prepared for a drinking water system, the owner of the system shall ensure that effective steps are taken to advise the users of water from the system that copies are available, without charge, and how a copy may be obtained.
 - The Belleville Drinking Water System utilizes both, the local newspaper and the City of Belleville website (www.belleville.ca) to inform the public when the annual report is available.
- **Section 11 (10):** If a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet.
 - The Belleville Drinking Water System Annual and Summary Reports are available on-line at www.belleville.ca.
- **Section 11 (11):** Applies to designated facilities under subsection (2)
 - Subsection (2) does not apply to the Belleville Drinking Water System and therefore Section 11 (11) is also not applicable.
- **Section 11 (12) to (17) have been revoked.**

- **Section 11 (18):** If section 12 of Ontario Regulation 459/00 and Section 15 of Ontario Regulation 505/01 did not apply to the owner of a system to which Subsection (5) applies, no report is required to be prepared under Subsection (5) until May 31, 2006 and, despite that subsection, the report required to be prepared not later than May 31, 2006 shall cover the period from June 1, 2005 to March 31, 2006.
 - Subsection (5) does not apply to the Belleville Drinking Water System and therefore this section does not apply.
- **Section 11 (19) has been revoked.**

Belleville Plant Description and Water Treatment Process

Raw Water Intake Facilities

The source of water for the City of Belleville is the Bay of Quinte south of Sidney Street. A 750mm diameter intake pipe extends 430 meters into the Bay, to a depth of 5.5 meters. A 900mm diameter intake pipe also extends 490 meters into the Bay, to a depth of 5.5 meters. Potassium permanganate is added in the intake for taste and odor control, and as a deterrent to Zebra mussels.

Low Lift Pumping Station

The raw water flows through the intake pipes to the traveling intake screen (10mm mesh) located in the raw water well. This removes large debris such as fish, weeds, and shells. Four low lift pumps (rated for 290 L/s) lift the water from the Bay level to the rapid mix tanks. From the rapid mix tanks, the water will flow by gravity through the various plant processes.

Pre-Treatment Facility

The coagulant is mixed with the raw water flowing through the two trains of two-cell up-flow rapid mix tanks, each with a volume of 245 m³ and a 5.6 kW propeller type mixer. From the rapid mix tanks, the water will flow by gravity to the coagulation / flocculation process. The pre-treatment process consists of 2 parallel trains.

Coagulation

Aluminum sulphate (alum) is added at the rapid mix tanks, as a coagulant to form a 'floc'. This floc is made up of alum and suspended particles (dirt, color, organics) which are found in raw water. This is the first stage of the coagulation/flocculation process.

The coagulated water/alum solution gently flows by gravity to the three-stage spiral up-flow flocculation tanks, each cell having a volume of 184 m³, to a common discharge channel. This water, with floc forming in it, flows by gravity to either the dissolved air flotation process (spring, summer, fall) or the sedimentation process (winter). The flocculation process consists of 3 parallel trains.

Dissolved Air Flotation Facility

The Dissolved Air Flotation process is used when the Bay of Quinte is free of ice. Daily changing weather conditions, such as wind and rain, cause increases in raw water turbidity. Summer and fall weather promote organic growth, such as algae. The dissolved air flotation process handles these changing conditions very well, with minimal coagulant dose adjustment.

In this process, two separate two-cell dissolved air flotation tanks receive the water from the coagulation/flocculation process. Here, an aerated water solution is bubbled gently through this water, causing the floc to attach to air bubbles and rise to the surface. The cleaner water remains at the bottom of the tank. This cleaner water then flows, by gravity, to the filtration process. The 'float', or residual, is comprised of dirt, organics, some color, bacteria, viruses, and other particulate. It is removed on a scheduled basis and pumped to the on-site waste treatment facility.

The aerated solution is produced on-site by forcing compressed air into treated water, in two 13.5 m³ saturation tanks. The dissolved air flotation process consists of two parallel trains.

Sedimentation

Sedimentation is used as an alternate to the dissolved air flotation process when the Bay is covered with ice. With ice cover, the raw water quality is relatively constant, and the normal sedimentation process works well. It is also less energy intensive than the dissolved air flotation process.

During the winter months, the flocculated water flows, by gravity, from the coagulation/flocculation process directly to two separate inclined plate settlers, where the floc adheres to the plates, and

eventually becomes heavy enough to slide down the plates as the volume of settled material increases. The cleaner water rises to the top of the plate settler and flows by gravity to the filtration process.

The settled material contains dirt, organics, some color, bacteria, viruses, and other particulate. This waste material is slowly removed from the bottom by a vacuum and pumped to the on-site waste treatment facility.

The sedimentation process consists of two parallel trains.

Filtration

The filtration process consists of twelve (12) parallel granular activated carbon (GAC) gravity filters. These filters receive the water from the dissolved air flotation or sedimentation process. This water arrives on the top of the filter, and then settles through the GAC and sand media by gravity, and any remaining particulate is trapped in this media. The GAC also removes tastes and odors by adsorption. The water settles through the sand media, into the underdrains, and then falls to the chlorine contact chamber. The filters operate in a parallel design and can each filter 6 Mega Litres (ML) of water per day. The filters each have a surface area of 38.5 m² and contain a layer of GAC over a layer of sand, supported by stainless steel or clay tile underdrains. The filters are monitored for effluent turbidity, head loss and flow. The filters are cleaned by backwashing every 48 hours using treated city water.

Disinfection

Sodium hypochlorite (hypo) is used to post-disinfect the filtered water in the chlorine contact chamber. A very small amount of hypo is also added at the rapid mixers to maintain plant hygiene. Dosage varies based on the biological demand. This chlorinated water is held for a prescribed time to ensure thorough oxidation of any pathogens. The 'CT' free chlorine residual is monitored.

Fluoridation

After disinfection, fluoride is added to the water to provide dental health protection for consumers.

High Lift Pumping Station

At this point, the treatment process is complete, and the water is safe for consumer use.

Five vertical turbine-type high lift pumps, each rated at 240 L/s, pump the treated water to the consumer via the distribution system. Alternatively, two transfer pumps rate at 81 L/s can be used to pump treated water directly to the Water Treatment Plant Reservoir.

Waste Treatment Facility

The water used to backwash filters, the 'float' from the dissolved air flotation process and the sediment from the plate settles, is dewatered, and concentrated in the on-site waste treatment facility. The thickened sludge is pumped to the City sewage treatment plant for further treatment. The liquid residual, or supernatant, flows by gravity back to the Bay.

Computer/SCADA

Computer technology is used to monitor operations and record data. A Supervisory Control and Data Acquisition (SCADA) system provides communication with, and control of, all plant and reservoir/pumping station operations. Experienced, licensed water treatment operators use this technology to operate the Belleville Water Treatment facility.

Distribution

The treated water pumped into the distribution system from the High Lift pumping station may go directly to a consumer, or may go to the elevated storage, or one of three storage reservoirs (Water Treatment Reservoir, North Park Reservoir, or Pine Street Reservoir).

The Distribution System is comprised of approximately 224 kilometers of water main, 1264 hydrants, 13,794 service connections and 1,235 ICI customers.

The City of Belleville also supplies water to the County of Prince Edward for the Rossmore / Fenwood Gardens Distribution System (DWSN# 260005008).

Chemicals Used During This Reporting Period

- Sodium Hypochlorite
- Aluminum Sulphate
- Hydrofluorosilicic Acid
- Potassium Permanganate
- Sodium Bisulphite

O. Reg. 170 / 03 Compliance Tests and Reports - Belleville

Notifications and Corrective Actions – Belleville

In accordance with Schedule 16 and Schedule 17 (O. Reg 170 / 03).

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
February 5 th 2020 AWQI 149548	TC	1	cfu/100mL	Flushed and resampled site plus upstream and downstream (February 5 th 2020)	February 6 th 2020
July 1 st 2020 AWQI 150464	TC	1	cfu/100mL	Flushed and resampled site plus upstream and downstream (July 1 st 2020)	July 6 th 2020

Operational Testing – Belleville

In accordance with Schedule 7 (O. Reg. 170 / 03).

Notes:

- 8760 denotes results from continuous monitoring
- N.T.U refers to Nephelometric Turbidity Units
- mg/L represents milligrams per litre

Parameter	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure
Turbidity	8760	0.02 to 2.00	N.T.U
Free Chlorine at CT Location	8760	1.79 to 3.61	mg/L
Free Chlorine in Distribution	8760	0.18 to 2.86	mg/L
Fluoride	8760	0.00 to 0.88	mg/L

Microbiological Testing – Belleville

In accordance with Schedules 10 and 17 (O. Reg. 170 / 03) and with the Belleville Municipal Drinking Water License.

Water Type	Number of Samples	Range of E. Coli or Fecal Results (minimum to maximum)	Range of Total Coliform Results (minimum to maximum)	Number of H.P.C Samples	Range of H.P.C Results (minimum to maximum)
Raw	52	0 to 22	0 to greater than 400	52	30 to greater than 2000
Treated	52	0 to 0	0 to 0	52	Less than 10 to 60
Distribution	797	0 to 0	0 to 1	452	Less than 10 to 70

Chemical Testing – Belleville

In accordance with Schedule 13 (O. Reg. 170 / 03). Sample results for Schedule 23 and Schedule 24 can be found on starting on page 26 of this report.

Notes:

- µg/L represents micrograms per litre
- mg/L represent milligrams per litre

Parameter	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure
Trihalomethane	4	45 to 87	µg/L
Haloacetic Acids	4	34.5 to 58.1	µg/L
Nitrate and Nitrite	4	less than 0.1 to 0.5	mg/L
Sodium	4	11.8 to 15.0	mg/L

Lead Testing Summary – Belleville

In accordance with Schedule 15.1 (O. Reg. 170 / 03).

Location Type	Number of Samples	Range of Results (minimum to maximum)	Number of Exceedances
Lead - Plumbing	0	Not Applicable	0
Lead - Distribution	0	Not Applicable	0
Alkalinity - Distribution	8	86 to 90	0
pH - Plumbing	0	Not Applicable	0
pH - Distribution	8	7.02 to 7.22	0

The Belleville Drinking Water System has reached exemption status regarding the Lead Sampling Program. Following the Winter Lead Sampling Period (December 2012 to April 2013) the Belleville Drinking Water System satisfied the requirements of Sections 15.1 to 15.5(9) of Ontario Regulation 170 / 03, and as such began sampling in accordance with Sections 15.1 to 15.5(10).

Inorganic Testing – Belleville

In accordance with Schedule 23 (O. Reg. 170 / 03)

Notes:

- µg/L represents micrograms per litre

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	June 2 nd 2020	less than 0.09	µg/L	No
Arsenic	June 2 nd 2020	0.2	µg/L	No
Barium	June 2 nd 2020	31.5	µg/L	No
Boron	June 2 nd 2020	10	µg/L	No
Cadmium	June 2 nd 2020	less than 0.003	µg/L	No
Chromium	June 2 nd 2020	0.16	µg/L	No
Mercury	June 2 nd 2020	less than 0.01	µg/L	No
Selenium	June 2 nd 2020	0.05	µg/L	No
Uranium	June 2 nd 2020	0.035	µg/L	No

Organic Testing – Belleville

In accordance with Schedule 24 (O. Reg. 170 / 03).

Notes:

- µg/L represents micrograms per litre
- mg/L represent milligrams per litre
- < represents “less than” the value that follows it

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachor	June 2 nd 2020	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	June 2 nd 2020	<0.01	µg/L	No
Azinphos-methyl	June 2 nd 2020	<0.05	µg/L	No
Benzene	June 2 nd 2020	<0.32	µg/L	No
Benzo(a)pyrene	June 2 nd 2020	<0.004	µg/L	No
Bromoxynil	June 2 nd 2020	<0.33	µg/L	No
Carbaryl	June 2 nd 2020	<0.05	µg/L	No
Carbofuran	June 2 nd 2020	<0.01	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Carbon Tetrachloride	June 2 nd 2020	<0.17	µg/L	No
Chlorpyrifos	June 2 nd 2020	<0.02	µg/L	No
Diazinon	June 2 nd 2020	<0.02	µg/L	No
Dicamba	June 2 nd 2020	<0.20	µg/L	No
1,2-Dichlorobenzene	June 2 nd 2020	<0.41	µg/L	No
1,4-Dichlorobenzene	June 2 nd 2020	<0.36	µg/L	No
1,2-Dichloroethane	June 2 nd 2020	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	June 2 nd 2020	<0.33	µg/L	No
Dichloromethane	June 2 nd 2020	<0.35	µg/L	No
2,4-Dichlorophenol	June 2 nd 2020	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	June 2 nd 2020	<0.19	µg/L	No
Diclofop-methyl	June 2 nd 2020	<0.40	µg/L	No
Dimethoate	June 2 nd 2020	<0.06	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Diquat	June 2 nd 2020	<1	µg/L	No
Diuron	June 2 nd 2020	<0.03	µg/L	No
Glyphosate	June 2 nd 2020	<1	µg/L	No
Malathion	June 2 nd 2020	<0.02	µg/L	No
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	June 2 nd 2020	<0.00012	mg/L	No
Metolachlor	June 2 nd 2020	<0.01	µg/L	No
Metribuzin	June 2 nd 2020	<0.02	µg/L	No
Monochlorobenzene	June 2 nd 2020	<0.3	µg/L	No
Paraquat	June 2 nd 2020	<1	µg/L	No
Pentachlorophenol	June 2 nd 2020	<0.15	µg/L	No
Phorate	June 2 nd 2020	<0.01	µg/L	No
Picloram	June 2 nd 2020	<1	µg/L	No
Polychlorinated Biphenyls (PCB)	June 2 nd 2020	<0.04	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Prometryne	June 2 nd 2020	<0.03	µg/L	No
Simazine	June 2 nd 2020	<0.01	µg/L	No
Terbufos	June 2 nd 2020	<0.01	µg/L	No
Tetrachloroethylene	June 2 nd 2020	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	June 2 nd 2020	<0.20	µg/L	No
Triallate	June 2 nd 2020	<0.01	µg/L	No
Trichloroethylene	June 2 nd 2020	<0.44	µg/L	No
2,4,6-Trichlorophenol	June 2 nd 2020	<0.25	µg/L	No
Trifluralin	June 2 nd 2020	<0.02	µg/L	No
Vinyl Chloride	June 2 nd 2020	<0.17	µg/L	No

Inorganic or Organic Parameters – Belleville

Inorganic or organic parameters that exceeded half the standard prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

Based on quarterly samples taken January 13th, April 15th, July 21st, and October 19th 2020, our annual average concentration for Trihalomethane is 57.0 µg/L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 100 µg/L.

Based on quarterly samples taken January 13th, April 15th, July 21st, and October 19th 2020, our annual average concentration for Haloacetic acids is 45.9 µg/L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 80 µg/L.

Wastewater Sampling – Belleville

As per Municipal Drinking Water License 151-101.

Parameter	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure	Average
Total Suspended Solids	12	less than 3 to 11	mg/L	5.75
BOD5	12	less than 3	mg/L	less than 3
Total Phosphorus	12	less than 0.01 to 0.03	mg/L	0.01

Monetary Expenses – Belleville

Significant monetary expenditures during 2020 include:

1. Replacement of GAC in 3 filters
2. Four plant valve actuator replacements
3. Generator maintenance
4. Intake inspection
5. Various online monitoring equipment chemical analyzers
6. Primary and Secondary Communication Circuits
7. Replaced Potassium permanganate line to 900 mm intake
8. Replaced air compressor for Saturator
9. Bus bar repair on transformer

W.D water main replacement projects (with our Engineering department):

- Moira St. (Ponton to Howard)

W.D subdivision water main installation projects (with our Engineering department):

- Potters Creek, phase 8

Site Plan Large water service installation projects (greater than 50 mm and water main extensions):

- 459 Sidney St. Police Station
- 405 Bell Blvd. (future car wash)
- 135 Station St. (Magnolia Apartments)
- Parkdale School water service upgrade
- Wendy's Restaurant (Bridge & Sidney)
- CN Rail Yard (service upgrade north side of tracks)
- 2 Dundas St W (Harbourview residential)

Water main relining

- Second St. to Sixth St.
- Smith Cres.
- Henry St. (Murney to Octavia)

2020 Summary Report – Point Anne

Drinking Water System Number: 220004359

Drinking Water System Name: Point Anne Hamlet Drinking Water System

Drinking Water System Owner: The Corporation of the City of Belleville

Drinking Water System Category: Small Municipal Residential

Ontario's Safe Drinking Water Act sets the framework for safe drinking water in the Province of Ontario. Further, Ontario Regulation 170 / 03 (O. Reg. 170 / 03) sets requirements for public waterworks for sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

This summary report has been prepared in accordance with Schedule 22 of Ontario Regulation 170 / 03. Free copies are available on our website and in person at the Water Operations Centre. We will post notice of availability on our website and / or through the local newspapers.

For further information about provincial drinking water requirements visit the Ministry of Environment, [Conservation and Parks website](#) And select "Drinking Water".

Ontario Regulation 170/03, Schedule 22 – Summary Reports for Municipalities

This section outlines the requirements of Schedule 22 and how we are achieving them.

- **Section 22-1** states that this Schedule applies to both large and small municipal residential systems.
 - The Point Anne Hamlet Drinking Water System is a small municipal residential system and as such we will complete and submit a summary report. This summary report is prepared in accordance with Schedule 22 of O. Reg. 170 / 03.
- **Section 22-2 (1)** requires a Summary Report to be completed by March 31st of each year and given to members of council.
 - This summary report covers the period from January 1st to December 31st, 2020 and was prepared and submitted to council prior to March 31st, 2021.
- **Section 22-2 (2) (a) and (b)** requires us to provide a list of any requirements that we did not meet any time during the period covered by this report.
 - The Point Anne Hamlet Drinking Water System met all requirements for the period of January 1st to December 31st, 2020.
 - As per O. Reg 170 / 03 Section 11(6) (b) and (d), details on adverse water quality incidents can be found in the Point Anne Hamlet Drinking Water System Annual Report.
- **Section 22-2 (3)** requires that we submit a flow summaries and comparisons of flow to rated capacities stated in system approvals.
 - The required flow information can be found beginning on page 37 of this report.
 - The comparison of flow rates versus approved rated capacities can be found on page 42.
- **Section 22-2 (4)** requires that a copy of this summary report be given to any municipality that the Drinking Water System supplies water.

- The Point Anne Hamlet Drinking Water System does not supply water to any other system.
- **Section 22-3** states that compliance reports are not required for drinking water systems that comply with Section 22-2.
 - We are compliant with Section 22-2 and therefore, we have not submitted a compliance report.

Quantities and Flow Rates of Water Taken and Supplied

Table 1: Raw Water

Values in Cubic Metres (C.M), unless otherwise noted

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (C.M per day)	Peak Instantaneous Flow Rate (Litres per minute)
January	469.54	15.15	18.96	13.16	34.56	24.00
February	442.02	15.24	17.35	12.99	28.32	19.67
March	444.01	14.32	17.00	12.04	28.32	19.67
April	464.93	15.50	18.03	12.79	28.08	19.50
May	479.66	15.47	17.33	11.19	27.12	18.83
June	559.17	23.92	18.64	14.86	42.72	29.67
July	720.45	23.24	27.83	16.66	32.64	22.67
August	754.60	24.34	30.25	18.40	33.12	23.00
September	720.98	24.03	28.95	18.99	32.40	22.50

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (C.M per day)	Peak Instantaneous Flow Rate (Litres per minute)
October	752.03	24.26	30.16	20.00	48.48	33.67
November	688.74	22.96	26.15	19.76	32.64	22.67
December	674.64	21.76	28.16	14.56	45.60	31.67

Annual Totals:

- Total Annual Volume = 7170.77 (total sum of January to December values)
- Average Daily Volume overall = 20.02 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 30.25 (August)
- Minimum Daily Value reached = 11.19 (May)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 48.48 (October)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 33.67 (October)

Table 2: Filtered Water

Values in Cubic Metres (C.M), unless otherwise noted

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (C.M per day)	Peak Instantaneous Flow Rate (Litres per minute)
January	438.50	14.15	18.17	12.57	30.96	21.50
February	408.35	14.08	16.35	11.94	27.12	18.83
March	421.62	13.60	15.60	11.61	26.64	18.50
April	439.69	14.66	17.06	11.95	27.12	18.83
May	455.67	14.71	16.72	10.42	26.88	18.67
June	467.68	15.59	18.78	12.51	27.36	19.00
July	557.60	17.99	22.11	13.36	27.60	19.17
August	578.23	18.65	23.14	14.31	32.88	22.83
September	543.56	18.12	21.53	14.87	27.36	19.00
October	588.21	18.97	24.11	15.93	29.04	20.17

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value	Peak Instantaneous Flow Rate (C.M per day)	Peak Instantaneous Flow Rate (Litres per minute)
November	574.06	19.14	21.73	16.49	28.08	19.50
December	567.82	18.32	23.55	12.11	21.20	14.72

Annual Totals:

- Total Annual Volume = 6041.19 (total sum of January to December values)
- Average Daily Volume overall = 16.50 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 24.11 (October)
- Minimum Daily Value reached = 10.42 (May)
- Highest Peak Instantaneous Flow Rate (M.L per day) reached = 32.88 (August)
- Highest Peak Instantaneous Flow Rate (Litres per minute) = 22.83 (August)

Table 3: Treated Water

All values in Cubic Metres

Month	Total Monthly Volume	Average Daily Volume	Maximum Daily Value	Minimum Daily Value
January	248.65	8.02	11.28	6.75
February	230.67	7.95	9.82	6.26
March	233.39	7.53	8.75	6.49
April	250.09	8.34	10.26	7.04
May	255.66	8.25	10.33	5.78
June	255.87	12.37	8.53	6.81
July	326.47	10.53	14.19	8.08
August	312.01	10.06	13.16	7.45
September	272.37	9.08	11.33	7.22
October	323.93	10.45	12.14	8.77
November	342.41	11.41	13.40	9.74
December	359.56	11.28	17.49	6.11

Annual Totals:

- Total Annual Volume = 3411.08 (total sum of January to December values)
- Average Daily Volume overall = 9.61 (total sum of January to December values divided by 12)
- Maximum Daily Value reached = 17.49 (December)
- Minimum Daily Value reached = 5.78 (May)

Water Flow Comparisons

Raw Water Comparisons

- Maximum daily volume allowed under the current Permit to Take Water (6206-AVJR89) = **108.00 Cubic Metres**
- Peak instantaneous flow rate allowed under the current Permit to Take Water (6206-AVJR89) = **91.00 Litres per minute**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2020:

- Maximum daily volume = **30.25 Cubic Metres**
- Peak instantaneous flow rate = **33.67 Litres per minute**

The Point Anne Hamlet Drinking Water System did not exceed the approved maximum daily volume or peak instantaneous flow rate stipulated in the current Permit to Take Water.

Treated Water Comparisons

- Maximum allowable daily volume entering the distribution system under Municipal Drinking Water License 151-102 = **108 Cubic Metres**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2020:

- Maximum daily volume = **17.49 Cubic Metres**

The Point Anne Hamlet Drinking Water System did not exceed the maximum daily volume stipulated in the Municipal Drinking Water License.

Filtered Water Comparisons

- Maximum allowable flow rate entering the Package Treatment Plant Subsystem Component under Municipal Drinking Water License 151-102 = **75.00 Litres per Minute**
- Maximum allowable flow rate entering the Cartridge Filters Subsystem Component under Municipal Drinking Water License 151-102 = **24.30 Litres per Minute**

The Point Anne Hamlet Drinking Water System Actuals for the Year 2020:

- Package Treatment Plant Maximum Flow Rate = **22.83 Litres per Minute**
- Cartridge Filters Maximum Flow Rate = **21.50 Litres per Minutes**

The Point Anne Hamlet Drinking Water System did not exceed the maximum flow rates stipulated in the Municipal Drinking Water License.

Point Anne Hamlet Drinking Water System 2020 Annual Report

Waterworks number 220004359, January 1st, 2020 to December 31st, 2020

This report has been prepared in accordance with Section 11 of Ontario Regulation 170 / 03. Regulation 170 / 03 sets requirements for public waterworks with regards to sampling and testing, levels of treatment, licensing of staff, and notification of authorities and the public about water quality.

Ontario Regulation 170 / 03, Section 11 – Annual Reports

This section outlines the requirements of Section 11 and how we are achieving them.

- **Section 11 (1)** requires the owner of a drinking water system to prepare an annual report in accordance with this section.
 - This annual report fulfils the requirements of Section 11.
- **Section 11 (2):** “The owner of a drinking water system, other than a large municipal residential system or a small municipal residential system . . .”
 - The Point Anne Hamlet Drinking Water System is a small municipal residential system and therefore Section 11 (2) does not apply.
- **Section 11 (2.1)** states that if a drinking water system is connected to and receives all of its water from another drinking water system, the owner of the system from which the water is obtained shall ensure that, when the annual report for the system is prepared, a copy of the report is given to the owner of the system that obtains the water.
 - There are no drinking water systems connected to the Point Anne Hamlet Drinking Water System.

- **Section 11 (3)** as a small municipal residential drinking water system, our annual report must cover the period from January 1 to December 31 and be prepared not later than February 28 of the following year.
 - This annual report covers the period from January 1st – December 31st, 2020 and was prepared prior to February 28th, 2021
- **Section 11 (4)** : “In the case of non-municipal seasonal residential systems and large non-municipal non-residential systems . . . ”
 - The Point Anne Hamlet Drinking Water System is classified as a small municipal residential system and therefore this section does not apply.
- **Section 11 (5)**: “In the case of small non-municipal non-residential systems . . . ”
 - The Point Anne Hamlet Drinking Water System is classified as a small municipal residential system and therefore this section does not apply.
- **Section 11 (6)(a)** requires our annual report to contain a brief description of the drinking water system, including a list of water treatment chemicals the system uses during the period covered by the report.
 - A description of the Point Anne Hamlet Drinking Water System can be found in this report beginning on page 5.
- **Section 11 (6)(b)** requires our annual report to include summaries of any reports we made to the Ministry under Section 18 (1) of the Act or Section 16 (4) of Schedule 16 during the period covered by the report.
 - A chart showing all Adverse Water Quality Incidents and corrective actions can be found on page 54 of this report.
- **Section 11 (6)(c)** requires our annual report to include summaries of the test results that are required under this Regulation, an approval, or a municipal drinking water licence or order (including

an OWRA order) during the period covered by the report. If tests required under this Regulation were not required during the reporting period, we must summarize the most recent results of tests of that parameter.

- Required test results for the Point Anne Hamlet Drinking Water System can be found in this report beginning on page 55.
- **Section 11 (6)(d)** states that our annual report must describe any corrective actions taken under Schedule 17 or 18 during the period covered by the report.
 - All corrective actions taken by the Point Anne Hamlet Drinking Water System under Schedule 18 can be found in the chart located on page 54.
- **Section 11 (6)(e)** states that our annual report must describe any major expenses incurred during the period covered by the report to install, repair, or replace equipment.
 - A description of major expenses incurred during the period of this report can be found on page 66.
- **Section 11 (6)(f)** requires that, in the case of a large or small municipal residential system, the annual report must include a statement of where a report prepared under Schedule 22 will be available for inspection under Subsection 12(4).
 - The Point Anne Hamlet Drinking Water System Summary Report, prepared under Schedule 22, is available on our website or at the Water Operations Centre.
- **Section 11 (7)** requires the owner of a drinking water system to ensure that a copy of an annual report for the system is given, without charge, to every person who requests a copy.
 - Copies of the Point Anne Hamlet Drinking Water System annual report are available to the public, upon request and free of charge, at the Water Operations Centre.
- **Section 11 (8)** states that if a drinking water system is connected to and receives all of its drinking water from another drinking water system, the owner of the system that obtains the water shall ensure

that a copy of an annual report for the system from which the water is obtained is given, without charge, to every person who requests a copy.

- There are no drinking water systems connected to the Point Anne Hamlet Drinking Water System.
- **Section 11 (9)** states that Subsections (7) and (8) do not apply to an annual report that is more than two years old.
 - Annual Reports dating back to 2008 for the Point Anne Hamlet Drinking Water System are available to the public by contacting the Water Operations Centre.
- **Section 11 (9.1)** states that every time an annual report is prepared for a drinking water system, the owner of the system shall ensure that effective steps are taken to advise users of water from that system that copies are available, without charge, and how a copy may be obtained.
 - The Point Anne Hamlet Drinking Water System utilizes both the local newspaper and the City of Belleville website (www.belleville.ca) to inform the public of Annual Report availability.
- **Section 11 (10)** states that if a large municipal residential system serves more than 10,000 people, the owner of the system shall ensure that a copy of every report prepared under this section is available to the public at no charge on a website on the Internet.
 - Although the Point Anne Hamlet Drinking Water System serves less than 10,000 people, our Annual and Summary Reports are available on our website.
- **Section 11 (11)** “The obligation to ensure that a report be given to the interested authority for a designated facility under Subsection (2) . . .”
 - Subsection (2) does not apply to the Point Anne Hamlet Drinking Water System and therefore Section 11 (11) does not apply.
- **Section 11 (12) to (17) have been revoked.**
- **Section 11 (18)** states that if Section 12 of Ontario Regulation 459 / 00 and Section 15 of Ontario Regulation 505 / 01 did not apply to the owner of a system to which Subsection (5) applies, no report

is required under Subsection (5) until May 31, 2006. Further, despite Subsection (5), the report required not later than May 31, 2006 shall cover the period from June 1, 2005 to March 31, 2006.

- Subsection (5) does not apply to the Point Anne Hamlet Drinking Water System and therefore this section does not apply.
- **Section 11 (19) has been revoked.**

Point Anne Hamlet Plant Description and Water Treatment Process

Raw Water Intake

The source of water for the Point Anne system is a combination of surface water and groundwater.

The surface water is taken from the Bay of Quinte south of the water treatment plant. A 100mm diameter pipe extends approximately 105m from the raw water intake well into the Bay of Quinte at a depth of approximately 2m below the water surface. Water flows by gravity from the Bay into the raw water intake well. Flow of surface water is controlled with a flow control valve on the intake pipe within the raw water intake well.

Groundwater is able to enter the raw well through an opening that is controlled by a 100mm flow control valve.

With these flow control valves, the source water may be groundwater, surface water or a combination of both. Groundwater may also infiltrate the raw well through uncontrolled cracks or joints.

Low Lift Pumping

Two submersible pumps (each rated at 1.26 L/s) located in the raw water intake well along with associated piping deliver water to either the Package Treatment Unit (Waterboy Unit) or the Cartridge Filter System. Back-up pumps are stored at the Belleville Water Treatment Plant.

Cartridge Filter System - Filtration

The cartridge filter system consists of three roughing filters and one finishing filter. All four filters operate in series. The first filter has a pore-size range of 20 to 1 micron rated for 90% removal. The next two filters have a pore-size range of 1.0 to 0.5 microns rated for 99% removal. The finishing filter is certified to NSF 53 and has an effective pore-size of 1.0 micron and a removal rating of 99.9%.

Pressure sensors and gauges are located on the influent and effluent lines for each cartridge canister. These are used to determine the pressure differential across the filter media allowing operators to monitor the life of the filters.

Water exiting the finishing filter can either go to waste or can go the chlorine contact tank. The effluent from this process is monitored for turbidity with alarms and controls set to divert to waste if turbidity climbs above operational set points.

The rated capacity for this process is 24.3 L/min.

Package Treatment Unit - Coagulation

A chemical feed system consisting of a 150L storage tank and two flow-paced metering pumps feed aluminum sulphate (alum) to the bottom of the rapid mixer tank. Here, the alum mixes with raw water, by means of a mechanical mixer, to begin the formation of floc.

This is the first of the 2-stage coagulation/flocculation process.

Package Treatment Unit - Flocculation

The coagulated water/alum solution flows through a notched weir into the slow mixer/flocculation tank. Here, a mechanical mixer stirs the water slowly to further the formation of the floc.

This floc consists of alum and suspended particles (dirt, color, organics) that are found in the raw water.

This is the second of the 2-stage coagulation/flocculation process.

Package Treatment Unit - Sedimentation

The flocculated water flows through piping to the bottom of inclined plate settlers. Here, the floc adheres to the plates, and eventually becomes heavy enough to slide down the plates, as the volume of settled

material increases. The cleaner water rises to the top of the plate settler and flows hydraulically to the filtration process. The settled material, containing dirt, organics, color, bacteria, viruses, and other particulate, is removed during filter backwashing.

Package Treatment - Filtration

The mixed media filter is used to further remove particulate from the water. The filter consists of sand and anthracite media and is equipped with an under drain system that is connected to two (2) pumps. The first pump is used to deliver water to the chlorine contact tank or to the waste stream. The effluent from this process is monitored for turbidity with alarms and controls set to divert to waste if turbidity climbs above operational set points. The second pump is used to backwash the filter.

Disinfection

Sodium hypochlorite is used to post-disinfect the filtered water in the chlorine contact tank.

The sodium hypochlorite chemical feed system consists of a 20L storage tank and two (2) flow-paced metering pumps, with automatic switch over, to feed hypochlorite to the filtered water as it enters the contact tank. Dosage varies based on the biological demand.

The chlorine contact tank consists of an inlet diffuser, baffles and an overflow effluent collector. The tank volume is 2.2 m³. Here, the chlorinated water is held for a prescribed time period to ensure inactivation of any pathogens. The initial and "CT" free chlorine residuals are monitored and recorded.

High Lift Storage

The high lift clear well is a finished water storage area and has a total volume of 23 m³. This well receives water from the chlorine contact tank and provides a flooded suction for the high lift pumps.

High Lift Pumping

At this point the treatment process is complete and the water is ready for consumer use.

Two (2) high lift pumps, each capable of delivering approximately 27m³/day, deliver water through a common header to the distribution system.

These pumps provide constant positive pressure to the distribution system with the use of controls and automatic starts that are based on pressure control setpoints.

Controls and measures are in place to provide power, such as UPS power, in the event of a power failure.

Computer/SCADA

Computer technology is used to monitor operations and record data. A Supervisory Control and Data Acquisition (SCADA) system provides communication among, and control of, all plant operations. The SCADA system also communicates with the Belleville Water Treatment Plant allowing experienced, licensed water treatment operators to monitor and control the Point Anne Water Treatment Plant.

Wastewater

The water used to backwash the filter and the sediment from the plate settlers is discharged overland through a 100mm diameter discharge pipe to a point approximately 15m from the Bay of Quinte shoreline.

Distribution System

The treated water is delivered directly to the consumer through the distribution system from the high lift pumps. The distribution system is comprised of approximately 208m of 100mm diameter water main. It is

a linear network with no looping. There are currently five (5) service connections to the network that supply twelve residential properties. There are no non-residential properties located on the system.

Chemicals used over this Reporting Period

- Sodium Hypochlorite
- Aluminum Sulphate

O. Reg. 170 / 03 Compliance Tests and Reports – Point Anne

Notifications and Corrective Actions – Point Anne

In accordance with Schedule 16 and Schedule 18 (O. Reg 170 / 03)

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
May 21 st 2020 AWQI 150026	Observation of improperly disinfected water	Observation	Not Applicable	Boil water advisory issued. Bacteriological samples taken May 22 nd 2020 to May 24 th , 2020. Boil water advisory lifted May 25 th 2020.	May 25 th , 2020

Operational Testing – Point Anne

In accordance with Schedule 7 (O. Reg 170 / 03).

Notes:

- 8760 denotes results from continuous monitoring
- NTU refers to Nephelometric Turbidity Units
- mg/L represent milligrams per litre

Parameter	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure
Turbidity	8760	0.03 to 0.73	NTU
Free Chlorine at C.T Location	8760	0.98 to 2.92	mg/L
Free Chlorine in Distribution	234	0.95 to 1.85	mg/L
Fluoride	0	No fluoridation	Not Applicable

Microbiological Testing – Point Anne

In accordance with Schedule 11 (O. Reg 170 / 03)

Parameter	Number of Samples	Range of E. Coli or Fecal Results (minimum to maximum)	Range of Total Coliform Results (minimum to maximum)	Number of HPC Samples	Range of HPC Results (minimum to maximum)
Raw	52	0 to 76	Less than 10 to 1420	52	70 to greater than 2000
Treated	55	0 to 0	0 to 0	55	less than 10 to 20
Distribution	55	0 to 0	0 to 0	55	less than 10 to 210

Chemical Testing – Point Anne

In accordance with Schedule 13 (O. Reg 170 / 03). Sample results for Schedule 23 and Schedule 24 can be found starting on page 59 of this report.

Notes:

- mg/L represent milligrams per litre
- µg/L represents micrograms per litre

Parameter	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure
Trihalomethane	4	48 to 107	µg/L
Haloacetic Acids	4	41.2 to 110	µg/L
Nitrate and Nitrite	4	less than 0.1 to 2.0	mg/L
Sodium	4	13.7 to 20.6	mg/L
Fluoride	1 (June 13 th , 2016)	0.1	mg/L

Lead Testing Summary – Point Anne

In accordance with Schedule 15.1 (O. Reg 170 / 03)

Notes:

- mg/L represent milligrams per litre

Location Type	Number of Samples	Range of Results (minimum to maximum)	Unit of Measure	Number of Exceedances
Lead - Plumbing	0	Not Applicable	mg/L	0
Lead - Distribution	1	0.00258	mg/L	0
Alkalinity - Distribution	2	90 to 198	mg/L	Not Applicable
pH - Plumbing	0	Not Applicable	Not Applicable	0
pH - Distribution	2	7.40 to 7.61	Not Applicable	0

The Point Anne Hamlet Drinking Water System has reached exemption status in the Lead Sampling Program. Following the Winter Lead Sampling Period (December 2011 to April 2012), the Point Anne Hamlet Drinking Water System satisfied the requirements of Section 15.1-5 (9) of Ontario Regulation 170 / 03 and as such began sampling in accordance with Section 15.1-5 (10).

Inorganic Testing – Point Anne

In accordance with Schedule 23 (O. Reg 170 / 03)

Notes:

- mg/L represent milligrams per litre
- < indicates that the results was “less than” the value that follows it

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Antimony	June 13 th , 2016	< 0.0001	mg/L	No
Arsenic	June 13 th , 2016	0.0003	mg/L	No
Barium	June 13 th , 2016	0.033	mg/L	No
Boron	June 13 th , 2016	0.010	mg/L	No
Cadmium	June 13 th , 2016	< 0.00002	mg/L	No
Chromium	June 13 th , 2016	< 0.002	mg/L	No
Mercury	June 13 th , 2016	< 0.00002	mg/L	No
Selenium	June 13 th , 2016	< 0.001	mg/L	No
Uranium	June 13 th , 2016	< 0.00005	mg/L	No

As per Section 13-2 (3) of Ontario Regulation 170 / 03, small municipal residential systems are required to be sampled and tested for Schedule 23 parameters at least once every 60 months. As such, the next

sampling and testing for Schedule 23 parameters for the Point Anne Hamlet Drinking Water System will occur prior to June 13th, 2021.

Organic Testing – Point Anne

In accordance with Schedule 24 (O. Reg 170 / 03)

Notes:

- µg/L represents micrograms per litre
- < indicates that the results was "less than" the value that follows it

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachor	January 12, 2016	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	January 12, 2016	<0.01	µg/L	No
Azinphos-methyl	January 12, 2016	<0.05	µg/L	No
Benzene	January 12, 2016	<0.32	µg/L	No
Benzo(a)pyrene	January 12, 2016	<0.004	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Bromoxynil	January 12, 2016	<0.33	µg/L	No
Carbaryl	January 12, 2016	<0.05	µg/L	No
Carbofuran	January 12, 2016	<0.01	µg/L	No
Carbon Tetrachloride	January 12, 2016	<0.16	µg/L	No
Chlorpyrifos	January 12, 2016	<0.02	µg/L	No
Diazinon	January 12, 2016	<0.02	µg/L	No
Dicamba	January 12, 2016	<0.20	µg/L	No
1,2-Dichlorobenzene	January 12, 2016	<0.41	µg/L	No
1,4-Dichlorobenzene	January 12, 2016	<0.36	µg/L	No
1,2-Dichloroethane	January 12, 2016	<0.35	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
1,1-Dichloroethylene (vinylidene chloride)	January 12, 2016	<0.33	µg/L	No
Dichloromethane	January 12, 2016	<0.35	µg/L	No
2,4-Dichlorophenol	January 12, 2016	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	January 12, 2016	<0.19	µg/L	No
Diclofop-methyl	January 12, 2016	<0.40	µg/L	No
Dimethoate	January 12, 2016	<0.03	µg/L	No
Diquat	January 12, 2016	<1	µg/L	No
Diuron	January 12, 2016	<0.03	µg/L	No
Glyphosate	January 12, 2016	<1	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Malathion	January 12, 2016	<0.02	µg/L	No
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	January 12, 2016	<0.00012	mg/L	No
Metolachlor	January 12, 2016	<0.01	µg/L	No
Metribuzin	January 12, 2016	<0.02	µg/L	No
Monochlorbenzene	January 12, 2016	<0.3	µg/L	No
Paraquat	January 12, 2016	<1	µg/L	No
Pentachlorophenol	January 12, 2016	<0.15	µg/L	No
Phorate	January 12, 2016	<0.01	µg/L	No
Picloram	January 12, 2016	<1	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Polychlorinated Biphenyls (PCB)	January 12, 2016	<0.04	µg/L	No
Prometryne	January 12, 2016	<0.03	µg/L	No
Simazine	January 12, 2016	<0.01	µg/L	No
Terbufos	January 12, 2016	<0.01	µg/L	No
Tetrachloroethylene	January 12, 2016	<0.35	µg/L	No
2,3,4,6-Tetrachlorophenol	January 12, 2016	<0.20	µg/L	No
Triallate	January 12, 2016	<0.01	µg/L	No
Trichloroethylene	January 12, 2016	<0.44	µg/L	No
2,4,6-Trichlorophenol	January 12, 2016	<0.25	µg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Trifluralin	January 12, 2016	<0.02	µg/L	No
Vinyl Chloride	January 12, 2016	<0.17	µg/L	No

As per Section 13-4 (3) of Ontario Regulation 170 / 03, small municipal residential systems are required to be sampled and tested for Schedule 24 parameters at least once every 60 months. As such, the next sampling and testing for Schedule 24 parameters for the Point Anne Hamlet Drinking Water System will occur prior to January 12, 2021.

Inorganic or Organic Parameters – Point Anne

Inorganic or organic parameters that exceeded half the standard prescribed in Schedule 2 of the Ontario Drinking Water Quality Standards.

Based on quarterly samples taken January 13th, April 15th, July 21st, and October 19th 2020, our annual average concentration for Trihalomethane is 67.3 µg / L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 100 µg / L.

Based on quarterly samples taken January 13th, April 15th, July 21st, and October 19th 2020, our annual average concentration for Haloacetic acids is 65.5 µg / L. This exceeds one-half of the Schedule 2 standard, but does not exceed the regulated limit of 80 µg / L.

Monetary Expenses – Point Anne

Relatively significant monetary expenditures during 2020 include

1. Intake inspections
 2. Intake cleaning
 3. Various online monitoring equipment chemical analyzers
 4. Replaced both High Lift pumps
- Each of these expenditures was included in approved operating or capital budgets.
 - No distribution monetary expenditures occurred in 2020.

Corporation of the City of Quinte West

Trenton/Bayside Drinking Water System (Trenton Service Area)

2020 Annual Drinking Water System Report



A Natural Attraction



A Natural Attraction

The Corporation of the City of Quinte West
 Public Works and Environmental Services
 Water/Wastewater Division
2020 Annual Drinking Water System Report
(Trenton Service Area)

2020 Annual Drinking Water System Report	4
Drinking Water System Information	4
Does your Drinking Water System service more than 10,000 people?	4
Is your Annual Report available to the public at no charge on a website	4
Location where Summary Report required under O.Reg.170/03 Schedule 22 will be available for inspection	4
List all Drinking Water Systems (if any), that receive all of their Drinking Water from your System:	4
Indicate how you notified system users that your annual report is available, and is free of charge.	5
Description of the Drinking Water System	5
List all water treatment chemical used over this Reporting Period:	6
Were any significant expenses incurred to:	6
Provide a brief description, and a breakdown of monetary expenses incurred to facilitate Equipment upgrades:	6
Notices submitted in accordance with subsection 18(1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period:	7
Microbiological Testing completed in accordance with Schedule 10, 11, or 12 of Regulation 170/03 during this Reporting Period:	8
Operational Testing completed in accordance with Schedule 7, 8, or 9 of O.Reg.170/03 during this Reporting Period:	8
Summary of additional testing and sampling carried out in accordance with the requirement of an Approval, Order, or other Legal Instrument:	9
Summary of Inorganic parameters tested during this Reporting Period or the most recent Sample Results:	10
Summary of Lead Testing under Schedule 15.1 during this Reporting Period:	11
Summary of Organic parameters sampled during this Reporting Period:	12
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2020 Annual Drinking Water System Report

Drinking Water System Information

Drinking Water System Number:	220001619
Drinking Water System Name:	Trenton/Bayside Drinking Water System (Trenton Service Area)
Drinking Water System Owner:	The Corporation of the City of Quinte West
Drinking Water System Category:	Large Municipal-Residential System
Period being Reported:	January 1, 2020 through December 31, 2020

Does your Drinking Water System service more than 10,000 people?

Yes

Is your Annual Report available to the public at no charge on a website

Yes, please visit www.quintewest.ca

Location where Summary Report required under O.Reg.170/03 Schedule 22 will be available for inspection

Water/Wastewater Division Administration Office

25 Couch Crescent

Trenton, ON, K8V 1GB

List all Drinking Water Systems (if any), that receive all of their Drinking Water from your System:

Carrying Place/Consecon Water Distribution System, DWS number 260005099



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Indicate how you notified system users that your annual report is available, and is free of charge.

- Public access/notice via City website
- Public access/notice via Government Office
- Public access/notice via newspaper
- Public access/notice via City social media platform(s)
- Public access/notice via a Public Library
- Public access/notice via other method:

Description of the Drinking Water System

The Trenton Water Treatment Plant draws water from the Trent River upstream of Dam No. 1 through two intake pipes; one 53 m long, 400 mm diameter raw water intake pipe, and a second, 18 m long, 600 mm diameter intake. This conventional, chemically assisted filtration plant has a rated capacity of 35,800 cu.m/day. Processes used at the filtration plant include flocculation, sedimentation, and Granular Activated Carbon Filtration. Chlorine gas is applied as a disinfectant before filtered water enters two interconnected baffled clearwells with a combined capacity of 5,454 cu.m. The potable (drinkable) water is then pumped into the distribution system through a set of four (4) highlift pumps. There are two elevated water storage tanks in service. The first is the 2nd Dug Hill Road Water Tower; capacity 2,273 cu.m, the second is the Oak Street Water Tower; capacity 2,273 cu.m. Three Booster Pumping Stations are located within the Trenton WDS; they are Catherine Street Booster Pumping Station, Mount Pelion Booster Pumping Station, and Telephone Road Booster Pumping Station. These stations are used to boost system pressure, and supply water into areas at a higher elevation than the Water Treatment Plant.

The Trenton distribution system services approximately 22,000 people in the Trenton community, in addition to part of CFB Trenton. The Trenton Water Treatment plant also supplies all drinking water to the Carrying Place and Consecon Water Distribution System in



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Prince Edward County. In 2015 the City installed a watermain along Old Hwy 2 that effectively connected the Trenton Water Distribution System (WDS) to the Bayside WDS. On April 21, 2017 the Trenton, and Bayside Drinking Water System’s were consolidated and governed under one Drinking Water Works Permit (DWWP) # 163-202, and Municipal Drinking Water Licence (MDWL) # 163-102. Each system is still assigned a separate Drinking-Water System number by the Ministry of Environment, Conservation and Parks.

List all water treatment chemical used over this Reporting Period:

- ✓ Aluminum Sulphate (Tradename: Alum)
- ✓ Chlorine Gas

Were any significant expenses incurred to:

- ✓ Install Required Equipment?
- Repair required Equipment?
- ✓ Replace required Equipment?

Provide a brief description, and a breakdown of monetary expenses incurred to facilitate Equipment upgrades:

Preventative Maintenance (PM) activities for lubrication, inspections, testing and cleaning of equipment is scheduled and completed routinely, along with other lifecycle replacement needs. In addition to the PM activity, the following Capital expenditures were incurred this Reporting Period:

Rebuild outer shell of Telephone Road Booster Station complete with asphalt paving for pest control	~\$28,000
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Victoria Avenue watermain replacement	\$80,500
Catherine Street watermain replacement	\$171,000
King Street watermain replacement	\$527,000
Queen Street watermain replacement	\$390,400
Campbell Street watermain replacement	\$104,000

Notices submitted in accordance with subsection 18(1) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period:

Incident Date (DD-MM-YY)	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date (DD-MM-YY)
14-JUL-20	<i>Total Coliform</i>	1	cfu/100mL	Resample and Test upstream/downstream/point of adverse, all sample results clear. No further Corrective Actions required.	16-JUL-20



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Microbiological Testing completed in accordance with Schedule 10, 11, or 12 of Regulation 170/03 during this Reporting Period:

	Number of Samples	Range of E.Coli (min - max)	Range of Total Coliform (min - max)	Number of Heterotrophic Plate (HPC) Count Samples	Range of HPC results (min - max)
Raw	52	1 - 200	18 - 7400	NA	NA
Treated	52	0 - 0	0 - 0	52	0 - 5
Distribution	396	0 - 0	0 - 1	185	0 - 89

Operational Testing completed in accordance with Schedule 7, 8, or 9 of O.Reg.170/03 during this Reporting Period:

Parameter	Number of Grab Samples	Range of Results (min-max)
Turbidity, (NTU)	8760	0.000 ¹ - 0.616
Primary Disinfection FAC ² , (mg/L)	8760	0.97 ³ - 2.94
Secondary Disinfection FAC, (mg/L)	8760	0.52 - 3.24

¹ Value obtained when analyzer fails. Five (5) events occurred throughout reporting period. Desiccant Pouch (analyzer component) required replacement. Lasts less than 1 min. Before alarm interlock shuts filter down.

² Free Available Chlorine. Defined as the free amount of chlorine available in water.

³ Suspected erroneous reading. CT calculation performed using this value. CT(req) = 16.34mg/L*min, CT(ach) = 236.13 mg/L*min.



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Summary of additional testing and sampling carried out in accordance with the requirement of an Approval, Order, or other Legal Instrument:

In accordance with Condition 4.0 of MDWL #163-102, monthly samples must be collected and tested for Total Suspended Solids, and Total Residual Chlorine, from the following waste streams that may impact the natural environment:

- Waste Residual Management Sedimentation Tank - Clear Water Discharge

Condition 1.5 of the MDWL outlines the maximum annual average concentration for each of these parameters. As a result of detectable Total Chlorine⁴ in cold water temperatures in 2018, the decant system had to be shut down and a dechlorination system installed. The system resumed operation February 24, 2020. Outlined below are sample results obtained throughout those months that the system was in service. Of note, the system was offline for maintenance or repair between May 21, 2020 - June 10, 2020, and again between July 8 - July 13, 2020.

Monitoring month	Total Flow (cu.m)	Total Suspended Solids (mg/L)	Minimum Total Residual Chlorine (mg/L)	Maximum Total Residual Chlorine (mg/L)
January, 2020	<i>No Data, no discharge</i>	<i>No Data, no discharge</i>	<i>No Data, no discharge.</i>	<i>No Data, no discharge.</i>
February, 2020	2,049	3	0.02	0.02
March, 2020	11,007	4	0.00	0.04
April, 2020	10,203	< 2	0.01	0.02

⁴ Total Residual Chlorine. Defined as the total amount of chlorine available in water.



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May, 2020	5,408	6	0.00	0.03
June, 2020	8,697	< 2	0.00	0.02
July, 2020	7,786	ND ⁵	0.00	0.04
August, 2020	10,167	3	0.02	0.06
September, 2020⁶	10,153	2	0.02	0.02
October, 2020⁷	10,393	2	0.00	0.03
November, 2020	9,489	2	0.01	0.02
December, 2020	9,771	2	0.01	0.02
Annual Average	8,648	2.8		0.02

Summary of Inorganic parameters tested during this Reporting Period or the most recent Sample Results:

Inorganic Compound Results				
Parameter	Sample Date (dd/mmm/yy)	Result Value	Unit of Measure	Exceedance?
Antimony	07-JAN-20	0.09	ug/L	NO
Arsenic	07-JAN-20	0.2	ug/L	NO
Barium	07-JAN-20	31.7	ug/L	NO
Boron	07-JAN-20	8	ug/L	NO
Cadmium	07-JAN-20	0.003	ug/L	NO

⁵ ND means No Data. Sample submission missed due to system being inoperational for a period of time.

⁶ Sample submitted 06-OCT-20 for monthly composite.

⁷ Sample submitted 03-NOV-20 for monthly composite.



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Chromium	07-JAN-20	0.09	ug/L	NO
Mercury	07-JAN-20	0.01	ug/L	NO
Selenium	07-JAN-20	0.06	ug/L	NO
Sodium	07-JAN-20	10.6	mg/L	NO
Fluoride	07-JAN-20	0.06	mg/L	NO
Uranium	07-JAN-20	0.044	ug/L	NO
Nitrate	07-JAN-20 07-APR-20 07-JUL-20 06-OCT-20	0.312 0.302 0.122 0.044	mg/L	NO
Nitrite	07-JAN-20 07-APR-20 07-JUL-20 06-OCT-20	0.003 0.003 0.003 0.003	mg/L	NO

Summary of Lead Testing under Schedule 15.1 during this Reporting Period:

Lead Sampling Results				
Sampling Period	Location Type	Number of Samples	Range of Lead Results (ug/L), 'min-max'	Number of Exceedances
Winter Sampling Period ⁸	Drinking Water System exempt from sampling in accordance with Section 15.1-5(9) under Schedule 15 of O.Reg.170/03. Sampling and testing for Lead not required until Winter 2021/2022 for sampling period.			
Summer Sampling	Drinking Water System exempt from sampling in accordance with Section 15.1-5(9) under Schedule 15 of O.Reg.170/03. Sampling and			

⁸ Winter Sampling Period runs from December 15 - April 15. The last sample collected in accordance with the Regulation was sampled on April 9, 2019.



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Period ⁹	testing for Lead not required until Summer 2022 sampling period.
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Summary of Organic parameters sampled during this Reporting Period:

Organic Compound Results				
Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	07-JAN-20	0.02	ug/L	No
Atrazine + N-dealkylated metabolites	07-JAN-20	0.01	ug/L	No
Azinphos-methyl	07-JAN-20	0.05	ug/L	No
Benzene	07-JAN-20	0.32	ug/L	No
Benzo(a)pyrene	07-JAN-20	0.004	ug/L	No
Bromoxynil	07-JAN-20	0.33	ug/L	No
Carbaryl	07-JAN-20	0.05	ug/L	No
Carbofuran	07-JAN-20	0.01	ug/L	No
Carbon Tetrachloride	07-JAN-20	0.17	ug/L	No
Chlorpyrifos	07-JAN-20	0.02	ug/L	No

⁹ The Summer Sampling Period runs from June 15 through October 15. The last sample collected in accordance with the Regulation was sampled on September 16, 2019.



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Diazinon	07-JAN-20	0.02	ug/L	No
Dicamba	07-JAN-20	0.20	ug/L	No
1,2-Dichlorobenzene	07-JAN-20	0.41	ug/L	No
1,4-Dichlorobenzene	07-JAN-20	0.36	ug/L	No
1,2-Dichloroethane	07-JAN-20	0.35	ug/L	No
1,1-Dichloroethylene (vinylidene chloride)	07-JAN-20	0.33	ug/L	No
Dichloromethane	07-JAN-20	0.35	ug/L	No
2-4 Dichlorophenol	07-JAN-20	0.15	ug/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	07-JAN-20	0.19	ug/L	No
Diclofop-methyl	07-JAN-20	0.40	ug/L	No
Dimethoate	07-JAN-20	0.06	ug/L	No
Diquat	07-JAN-20	1	ug/L	No
Diuron	07-JAN-20	0.03	ug/L	No
Glyphosate	07-JAN-20	1	ug/L	No
Malathion	07-JAN-20	0.02	ug/L	No



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2 methyl-4-chlorophenoxyacetic acid (MCPA)	07-JAN-20	0.00012	mg/L	No
Metolachlor	07-JAN-20	0.01	ug/L	No
Metribuzin	07-JAN-20	0.02	ug/L	No
Monochlorobenzene	07-JAN-20	0.3	ug/L	No
Paraquat	07-JAN-20	1	ug/L	No
Pentachlorophenol	07-JAN-20	0.15	ug/L	No
Phorate	07-JAN-20	0.01	ug/L	No
Picloram	07-JAN-20	1	ug/L	No
Polychlorinated Biphenyls(PCB)	07-JAN-20	0.04	ug/L	No
Prometryne	07-JAN-20	0.03	ug/L	No
Simazine	07-JAN-20	0.01	ug/L	No
THM (NOTE: show latest annual average)	06-OCT-20	54	ug/L	No
HAA (Running Annual Average)	06-OCT-20	59.1	ug/L	No
Terbufos	07-JAN-20	0.01	ug/L	No



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Tetrachloroethylene	07-JAN-20	0.35	ug/L	No
2,3,4,6-Tetrachlorophenol	07-JAN-20	0.20	ug/L	No
Triallate	07-JAN-20	0.01	ug/L	No
Trichloroethylene	07-JAN-20	0.44	ug/L	No
2,4,6-Trichlorophenol	07-JAN-20	0.25	ug/L	No
Trifluralin	07-JAN-20	0.02	ug/L	No
Vinyl Chloride	07-JAN-20	0.17	ug/L	No

Inorganic or Organic parameter(s) that have exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards:

None.



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2020 Summary Report to Council

In accordance with Schedule 22 requirements outlined in Ontario Regulation 170/03, a Summary Report shall be prepared no later than March 31 for the preceding year, and supplied to members of municipal council.

The Report shall list the requirements of the Act, Regulations, Drinking Water Works Permit, Municipal Drinking Water Licence, and any Orders applicable to the system that were not met at any time during the period covered by the Report.

The Report must also include a summary of the quantities and flow rates of potable (drinkable) water supplied during the Reporting Period, including monthly average and maximum daily flows. A comparison of these flows to the rated capacity and flow rates approved in the system Drinking Water Works Permit, and Municipal Drinking Water Licence, must also be provided.

Prescribed Instruments applicable to the Trenton DWS

The Trenton DWS is governed by, and must operate their DWS primarily in accordance with, the following Acts and Regulations at minimum:

- Safe Drinking Water Act, 2002;
- O. Reg. 128/04 – Certification of Drinking Water System Operators and WQA
- O. Reg. 170/03 – Drinking Water Systems
- O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- Environmental Protection Act, where applicable;
- Clean Water Act, where applicable;
- Municipal Drinking Water Licence 163-102;
- Drinking Water Works Permit 163-202;
- Permit to Take Water 1007-9HJP6L, expires April 30, 2024.



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Councillors wishing to obtain a copy of any Act or Regulation are welcome to contact the Compliance Coordinator at amyr@quintewest.ca to obtain a current consolidated copy and interpretation of the legislation.

Compliance with Prescribed Instruments, Acts and Regulations

Safe Drinking Water Act

In addition to the single Adverse Water Quality event detailed in section [Notices submitted in accordance with subsection 18\(1\) of the Safe Drinking Water Act or section 16-4 of Schedule 16 of O.Reg. 170/03 and reported to Spills Action Centre during this Reporting Period](#), the following noteworthy activities occurred through the Reporting Period.

NSF International conducted an offsite Surveillance Audit on October 27, 2020. The intent of the audit is to confirm continued conformance to the Drinking Water Quality Management Standard. There were no Non-Conformances identified in the Audit Report; three (3) Opportunities for Improvement to the documented Operational Plan were suggested.

After a successful re-accreditation audit in 2019, the City was required to apply for a Municipal Drinking Water Licence renewal in 2020.

Clean Water Act

The Source Protection Plan was approved by the Minister of Environment, Conservation and Parks, and came into effect on January 1, 2015. The City has put the necessary internal processes in place with the Planning, Building, and Public Works Departments to screen applications and ensure compliance with the Source Protection Plan. In 2020 there were 10



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applications submitted to the Risk Management Official for review and approval specific to the Trenton system. In general the screening, application, and approval processes implemented by staff seem to be working reasonably well. Throughout the screening and verification process it has been determined that currently there are three (3) Risk Management Plans required for affected properties in the Intake Protection Zone surrounding the Trenton Intake. Draft RMP's have been distributed to affected property owners for review, and to start the consultation/negotiation process.

Permit to Take Water

The City operates its Trenton Water Treatment Plant in accordance with Permit to Take Water (PTTW) number 1007-9JHP6L which expires on April 30, 2024. This Permit allows the City to take 35,800 cu.m/day from the Trent River watershed at a maximum flow rate of 530.4 L/s. The maximum recorded daily taking was 17,978.3 cu.m/day on July 21, 2020. The maximum recorded flow rate was 495.2 L/s on December 1, 2020.

For a detailed summary of water quantities and flow rates, see [2020 Water Quantity and Flow Rates \(Raw Water Assessment\)](#).

Drinking Water Works Permit/Municipal Drinking Water Licence

The City applied for renewal of its Municipal Drinking Water Licence, and Drinking Water Works Permit in 2020. The Trenton/Bayside DWS is now governed by Number: 05 of Municipal Drinking Water Licence number 163-102, and Issue Number: 08 of Drinking Water Works Permit number 163-202. The Municipal Drinking Water Licence will expire September 28, 2025. Noteworthy changes to the City's Licence are listed below:

- The new Licence requires development of a Harmful Algal Bloom monitoring, reporting and sampling plan by March 28, 2021.



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- The Watermain Disinfection Procedure was revised in August, 2020. This version 2.0 requires adoption by March 28, 2021.

In accordance with Condition 1.1 of the MDWL, the Trenton Water Treatment Plant has a rated capacity to treat and distribute 35,800 cu.m/day. Over the Reporting Period the maximum daily volume of treated water distributed to the distribution system was 16,402 cu.m/day on July 21, 2020. The Annual Average Daily Flow pumped to the Distribution System was 10,371 cu.m/day. For a detailed summary of treated water quantities and flow rates, see [2020 Water Quantity and Flow Rates \(Treated Water Assessment\)](#).

The City achieved a 100% Inspection Rating on its 2020 MECP Compliance Inspection, however, one regulatory non-compliance was cited as water quality monitoring requirements imposed by the MDWL (or DWWP) issued under Part V of the SDWA were not met for the month of July, 2020. Staff received an email from the Compliance Coordinator advising of correct sampling procedures, no further action was required by MECP.



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2020 Water Quantity and Flow Rates (Raw Water Assessment)

Raw Water Flow: PTTW Limit = 35,800 cu.m/d			
Month	Average Daily Flow (cu.m/d)	Maximum Daily Flow (cu.m/d)	Total Monthly Flow (cu.m/month)
January	9,313	10,288	288,693
February	9,663	10,581	280,229
March	9,782	10,910	303,245
April	10,027	11,639	300,797
May	11,017	13,871	341,528
June	13,546	16,194	406,371
July	15,234	17,978	472,249
August	12,960	15,561	401,754
September	11,853	12,919	355,582
October	10,331	11,840	320,266
November	10,140	12,375	304,204
December	10,759	13,374	333,535
Total Raw Water Flow =			4,108,453



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2020 Water Quantity and Flow Rates (Treated Water Assessment)

Treated Water Flow: Facility Rated Capacity = 35,800 cu.m/day			
Month	Average Daily Flow (cu.m/d)	Maximum Daily Flow (cu.m/d)	Total Monthly Flow (cu.m/month)
January	8,461	9,444	262,280
February	8,844	9,626	256,463
March	8,933	9,833	276,930
April	9,124	10,574	273,714
May	10,140	12,611	314,325
June	12,416	14,373	372,488
July	14,198	16,402	440,128
August	12,113	14,775	375,497
September	11,048	12,226	331,434
October	9,600	11,049	297,587
November	9,330	11,462	279,910
December	9,833	12,270	304,811
Total Treated Water Flow =			3,785,565

- Annual Average Daily (Treated Water) Flow = 10,371 cu.m/day. This accounts for 29% of the facility Rated Capacity.
- Maximum Daily (Treated Water) Flow = 16,402 cu.m/day. This accounts for 46% of the facility Rated Capacity during record peak daily flow conditions.



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Historical Flow Comparison

The facility has operated at 27% of its rated capacity over the past five years. The facility saw a 10% increase in demand from 2019 to 2020. This is likely attributed to a dry summer and increase in demand from an increase in population. Water/Wastewater Services calculates population figures for regulatory reporting requirements using service connection numbers as their baseline. The population is calculated to have increased by 4.8% in 2020. Further demand will be placed on the Trenton DWS once the Frankford/Batawa DWS is connected to the Trenton water supply. Booster Pumps will be sized to supply 30LPS and are being designed to supplement flows to the Frankford/Batawa system. The Tender to construct a Booster Station and install a watermain, will be distributed in the Spring of 2021.

