

January 31st, 2025

Mr. Jean-François Durocher

Water Compliance Officer
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks

Subject:

2024 - Annual and Summary Report for the St-Isidore Drinking Water System

Dear Mr Durocher:

Please see attached, the annual and summary report for the St-Isidore Drinking Water System that covers the period from January 1st, 2024 to December 31, 2024.

This document has been prepared in accordance with Sections 11 and 22 of Ontario Regulation 170/03 under the *Safe Drinking Water Act, 2002*. The Annual Report and Summary Report for the St-Isidore Drinking Water System are due by February 28, 2025.

The Annual Report includes:

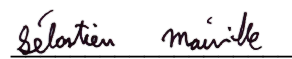
- A summary of the water system's compliance with applicable legislation and regulations.
- A description of any adverse water quality incidents and corrective actions taken.

The Summary Report includes:

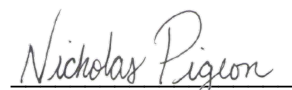
1. The quantities and flow rates of water supplied to consumers served by the St-Isidore Drinking Water System, including monthly averages.
2. A comparison of these values to the system's rated capacity to ensure compliance with regulatory requirements.

This report is also distributed to the Members of the Municipal Council.

Sincerely,



Sebastien Mainville
Water and Wastewater Manager



Nicholas Pigeon, CET
Water and Wastewater Director, ORO

In preparing this document, which includes both the Annual Report and the Summary Report, we have complied with the following requirements under Ontario Regulation 170/03:

- Identified any instances of non-compliance with the *Safe Drinking Water Act, 2002*, the Regulation, the system's approval, the Drinking Water Works Permit, the Municipal Drinking Water License, and any applicable orders during the reporting period.
- Specified the duration of each non-compliance event and the corrective actions taken (as required for both reports).
- Summarized the quantities and flow rates of water supplied, including monthly averages and maximum daily flows (as required for the Summary Report).
- Compared the flow summary to the system's rated capacity as outlined in the system approval, Drinking Water Works Permit, or Municipal Drinking Water License, or—if applicable—an agreement with another system under subsection 5(4) (Summary Report requirement).
- Included information on adverse water quality incidents and measures taken to address them (Annual Report requirement).

Comparison:

During the period of January 1 to December 31, 2024:

- The maximum daily flow to the St-Isidore distribution system was 679.75 m³/day. This occurred in November, and it represented 53% of the rated available capacity of 1277 m³/day. The rated capacity is the amount of water that has been agreed upon to be supplied from the Alfred-Plantagenet Township to the Nation Municipality.
- The average daily distribution flow in the St. Isidore Drinking Water System was 229 m³/day.



Drinking - Water Systems Regulation O. Reg.170/03

System Information

Drinking Water System Name:	St-Isidore Water Distribution System
Drinking Water System Number:	260091026
Drinking Water System Owner:	The Corporation of the Nation Municipality
Operating Authority:	The Nation municipality
Drinking Water System Category:	Large municipal Residential
Period being reported:	Jan. 1, 2024 to Dec. 31, 2024

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 ()

Summary Report (170/03 Schedule 22) will be available for inspection at:

The Nation municipality website

List all Drinking-Water System, which receive all of their drinking water from your system:

Drinking Water System Name	Drinking Water System Number
N/A	N/A

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)

St-Isidore Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2024

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

☒ (X) Public access / Notice via the web

☐ () 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 another method_____

Describe your Drinking Water System

The St-Isidore drinking water system is supplied with chloraminated water from the Lefaiivre WTP in Alfred-Plantagenet Township. The water first reaches the Plantagenet booster station which consists of: one 84.4 m3 clearwell ; two high lift pumps each rated at 20 L/sec.; a chemical feed system designed to boost the chloramine level when needed; one flow meter; two Cl2 analyzers (free and total); and one 125 KW standby power generator. The high lift pumps deliver water from the clearwell to the water tower in the village of St-Isidore, from where the water is gravity fed to the community. The water tower is equipped with one flow meter; and two Cl2 analyzer (Free and Total) for ongoing residual monitoring. This operation is fully automated and remotely monitored by the SCADA System. Water Operators perform manual checks, log data, take water samples for water quality monitoring, and perform maintenance of the system. This facility operates under C of A # 7256-6NEMJ7.

List all water treatment chemicals used over this reporting period

Chemical Name	Supplier
Sodium Hypochlorite	Brenntag
Ammonium Sulfate	Brenntag
(Primary and secondary disinfection is achieved at Lefaiivre WTP)	

Were any significant expenses incurred to?

☐ () Install required equipment

☒ (X) Repair required equipment

☐ () Replace required equipment

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

Calibration of Flow meter	\$	2,500.00
Fire Hydrant inspection and flushing	\$	3,750.00
Watermain break on County road 9	\$	15,000.00
SCADA upgrade - phase 2	\$	92,000.00

Provide information on the notices submitted under subsection 18(1) of the Safe Drinking Water Act, section 16-4 of Schedule 16 of O.Reg. 170/03, or any Adverse Water Quality Incidents (AWQIs), other observations and non-compliance that occurred during the reporting year and were reported to the Spills Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
03-Aug-24	Lost of communication and trending	N/A	N/A	Problem was caused by power failure, restored communication, no water was directed to users, no further action required	03-Aug-24
06-Oct-24	Low combined chlorine residual	<0.25	mg/L	Received low combined chlorine residual from Plantagenet, isolated valve, flushed until back to normal. No water directed to users.	08-Oct-24

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

	Number of samples	Range of E.Coli Or Fecal Results (min#)-(max#)	Range of Total Coliform Results (min#)-(max#)	Number of HPC samples	Range of HPC Results (min#)-(max#)
Distribution	159	0 - 0	0 - 0	53	0 - 0

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

	Number of Grab samples	Range of Results (min#)-(max#)	For continuous monitors use 8760 as the number of samples.	
Chlorine Combined Dist. Syst. St-Isidore	8760	0.29 - 2.68		
Chlorine Combined Dist. Syst. Plantagenet	8760	0.47 - 2.98		
Chlorine Combined Dist. System	237	0.35 - 2.83		

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
N/A				

St-Isidore Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2024

Summary of Inorganic parameters tested during this reporting period or the most recent sample results				
Parameter	Sample date	Result value (mg/L)	Limit (mg/L)	Exceedance
Hardness	11-Apr-24	41.9		
Conductivity	11-Apr-24	202		
Iron	11-Apr-24	0.010		
Magnesium	11-Apr-24	3.07		
Manganese	11-Apr-24	0.005		
Sodium	Due in 2028		Health >20 reportable (Limit: 200)	

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of samples	Limit of Lead Results	Range of Lead Results		Number of Exceedance
			(min #) - (max #)		
Plumbing	N/A				N/A
Distribution	4	0.01	0.00004	0.00017	No
PH	5	N/A	6.55	7.08	N/A
Alkalinity	5	N/A	34	51	N/A

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

Parameter	Sample date	Result value (mg/L)	Limit	Exceedance
Trihalomethanes (THM)	2024 RAA	0.048	0.100 mg/L	No
Haloacetic acids (HAA)	2024 RAA	0.030	0.80 mg/L	No

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
Chloramines (combined)	Max Value: 2.98	mg/L	Jan - Dec (January 30th, 2024)

St-Isidore Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2024

2024 Summary Report St-Isidore Water Distribution System

The Nation Municipality
St-Isidore Water Distribution System

Classification: Class 3 Water Distribution

Water Source: Surface Water (Lefaire Water Treatment)

Serviced Population: 1200

Total Designated Capacity (m3/day): 1277

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	SUM
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Distribution System / Flows - Plantagenet Booster Station

Flows (m3/day)

Avg.	269.22	265.92	268.43	285.35	309.04	319.72	304.37	271.11	264.08	276.24	275.21	243.22	
Max.	425.60	424.87	421.64	465.74	525.49	538.40	483.64	440.13	510.02	516.18	679.75	410.51	
Min.	198.69	97.05	195.42	181.63	154.34	173.70	219.49	192.07	0.00	0.00	0.00	129.44	
Total	8345.69	7711.76	8321.43	8560.35	9580.19	9591.47	9435.47	8404.54	7922.48	8563.54	8256.34	7539.93	102233.19

St-Isidore tower Flowmeter (m3/day)

Avg.	200.03	204.73	208.81	224.30	243.20	271.93	272.26	236.86	227.01	230.28	217.23	206.53	
Max.	242.12	231.68	325.27	277.86	309.81	417.36	342.23	339.65	307.21	351.64	249.38	243.39	
Min.	175.46	186.17	184.53	156.52	193.48	194.46	206.41	194.57	207.46	189.21	190.80	184.66	
Total	6200.83	5937.25	6473.17	6729.08	7539.13	8157.78	8440.18	7342.53	6810.39	7138.56	6516.94	6402.38	83688.22

Distribution System / Health - Chlorine Residuals - (St-Isidore Tower Process)

Minimum Total Cl2 (mg/L)

Avg.	1.79	1.88	1.94	1.89	1.83	1.81	1.66	1.38	0.97	0.92	0.92	1.37	
Min.	1.55	1.55	1.60	1.76	1.52	1.51	1.43	1.24	0.41	0.76	0.36	0.98	

Maximum Total Cl2 (mg/L)

Avg.	2.19	2.29	2.23	2.19	2.21	2.15	2.10	1.92	1.63	1.52	1.60	1.96	
Max.	2.33	2.46	2.31	2.43	2.39	2.32	2.30	2.14	2.26	1.82	1.96	2.29	

Minimum Free Cl2 (mg/L)

Avg.	0.09	0.07	0.06	0.05	0.09	0.06	0.05	0.06	0.06	0.08	0.07	0.06	
Min.	0.03	0.06	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.06	0.06	0.05	

Maximum Free Cl2 (mg/L)

Avg.	0.11	0.09	0.07	0.06	0.11	0.08	0.07	0.08	0.10	0.11	0.11	0.09	
Max.	0.14	0.13	0.08	0.07	0.13	0.12	0.09	0.09	0.13	0.14	0.15	0.16	

Minimum Combined Cl2 (mg/L)

Avg.	1.70	1.81	1.88	1.84	1.74	1.74	1.60	1.32	0.91	0.84	0.84	1.30	
Min.	1.47	1.43	1.55	1.53	1.44	1.44	1.36	1.17	0.36	0.68	0.29	0.91	

Maximum Combined Cl2 (mg/L)

Avg.	2.09	2.21	2.17	2.15	2.11	2.08	2.04	1.85	1.55	1.46	1.52	1.89	
Max.	2.20	2.34	2.24	2.38	2.29	2.24	2.23	2.08	2.17	2.68	1.85	2.18	

Mean Combined Cl2 (mg/L)

Avg.	1.79	1.95	1.97	1.93	1.88	1.84	1.70	1.44	1.04	0.99	1.04	1.45	
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Mean Total Cl2 (mg/L)

Avg.	1.88	2.02	2.03	1.96	1.97	1.91	1.76	1.50	1.10	1.04	1.12	1.52	
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Mean Free Cl2 (mg/L)

Avg.	0.09	0.08	0.06	0.05	0.09	0.07	0.06	0.06	0.07	0.08	0.08	0.07	
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