



February 27, 2018

Mr. Marc Legault

The Corporation of the Nation Municipality
958 Hwy # 500 West, R.R. # 3
Casselman, ON

Subject: Summary and Annual Report for the St Isidore Drinking Water System.

Mr. Legault,

The following document includes the Summary Report for the St Isidore Drinking Water System, covering the period from January 1st to October 31st 2017. The Summary Report is completed in accordance with O.Reg 170/03 Schedule 22 under the Safe Drinking Water Act, which requires for it to be completed by February 28 of the following year.

The Summary Report includes a summary of the quantities and flow rates of the water supplied during the period covered including monthly average and maximum daily flow.

It is to be distributed among the members of the municipal council and the board of directors of the Nation Corporation.

Sincerely,

A handwritten signature in blue ink, appearing to read "L. Airoldi".

Luc Airoldi

Project Manager

cc Doug Renaud, The Nation Municipality



The Nation Municipality

Report for St-Isidore Drinking Water System

2017 Summary and Annual report

Date : February 2017
NRéf. : 058-P-0001826-048- EX-R-2017-00



Summary Report for the St Isidore Drinking Water System

Background

O. Reg. 170/03 Schedule 22 Summary Reports for Municipalities applies for small and large municipal residential systems. The St Isidore Drinking Water System is considered to be a large municipal residential system as it is a “municipal drinking water system that serves a major residential development and serves more than 100 private residences” as defined in Section 1 of O.Reg.170/03.

The summary report must be prepared by February 28 of the following year and must be given to:

- ▶ in the case of a drinking water system owned by a municipality, the members of the municipal council;
- ▶ in the case of a drinking water system owned by a municipal service board established under section 195 of the *Municipal Act, 2001*, the members of the municipal service board; or
- ▶ in the case of a drinking water system owned by a corporation, the board of directors of the corporation.

The Summary Report must:

- ▶ list the requirements of the Act, the regulations, the system’s approval, 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; and
- ▶ for each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measures that were taken to correct the failure
- ▶ A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- ▶ A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system’s approval, drinking water works permit or municipal drinking water licence, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.



Content

The following table lists the requirements that the system failed to meet and the measures taken to correct the failures.

Drinking Water Legislation and	Requirements the system failed to meet	Duration of the failure	Corrective measures taken	Status
Safe Drinking Water Act, 2002	None	N/A	N/A	N/A
Ontario Regulations: O.Reg. 128/04 O.Reg. 169/03 O.Reg. 170/03	None	N/A	N/A	N/A
Systems approval: Certificate of Approval	None	N/A	N/A	N/A
Drinking Water Works Permit under O.Reg 188/03	None	N/A	N/A	N/A
Municipal Drinking Water Licence under O.Reg 188/03	None	N/A	N/A	N/A
Provincial Officer's Order	None	N/A	N/A	N/A



Comparison:

The St Isidore Drinking Water System has no rated capacity as it receives its treated water from the Lefavre Water Treatment Plant in the Alfred and Plantagenet Municipality. During the January 1st to October 31st 2017 year, the maximum daily flow of 339 m³/d occurred during the month of April. The average daily flow was 259 m³/d and the minimum daily flow was 136 m³/d during the month of June.



2017 Summary Report St Isidore Water Distribution System



Municipality: Village of St Isidore in Nation Township

Facility: St Isidore Water Distribution System

Works: 220003573 - St Isidore de Prescott Water Distribution System

Classification: Class 3 Water Distribution

Water Source: Surface Water (Lefavre Water Treatment Plant)

Serviced Population: 1200

Period: 2017-01-01 to 2017-12-31

Total Designed Capacity (m3/day):

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
DistributionSystem \ Flows - Plantagenet Booster Station													
Flows (m3/day)													
Avg.	223	254	232	235	230	254	252	278	272	358			259
Max	705	782	483	454	436	380	349	426	350	1214			1214
Min	161	162	193	194	188	189	136	192	199	206			136
Total	6923	7109	7186	7041	7124	7626	5795	8339	8170	11100			76414
St-Isidore tower Flowmeter (m3/day)													
Avg.	172	171	178	186	177	214	228	242	235	234			204
Max	208	196	330	339	228	353	338	387	278	355			387
Min	140	156	156	154	156	156	79	147	186	194			79
Total	5330	4788	5508	5594	5493	6410	5235	7265	7040	7259			59921
Distribution System \ Health - Chlorine Residuals													
Minimum Total Cl ₂ (mg/L)													
Avg.	1,33	1,02	1,23	1,33	1,35	1,47	1,30	1,19	1,40	1,35			1,30
Min	0,49	0,47	0,45	0,81	0,69	1,00	0,58	0,51	0,99	0,54			0,45
Maximum Total Cl ₂ (mg/L)													
Avg.	2,51	2,15	2,59	2,53	2,23	2,39	2,04	1,83	2,12	2,16			2,26
Max	2,92	2,99	2,96	2,87	2,57	2,54	2,32	2,22	2,83	2,90			2,99
Minimum Free Cl ₂ (mg/L)													
Avg.	0,10	0,09	0,14	0,12	0,07	0,11	0,12	0,09	0,07	0,10			0,10
Min	0,08	0,04	0,11	0,10	0,05	0,09	0,10	0,03	0,05	0,05			0,03
Maximum Free Cl ₂ (mg/L)													
Avg.	0,13	0,13	0,18	0,15	0,09	0,12	0,14	0,12	0,12	0,13			0,13
Max	0,20	0,18	0,23	0,18	0,14	0,15	0,18	0,16	0,98	0,37			0,98
Minimum Combined Cl ₂ (mg/L)													
Avg.	1,22	0,92	1,09	1,37	1,27	1,37	1,18	1,09	1,32	1,27			1,21
Min	0,33	0,40	0,31	0,67	0,60	1,00	0,46	0,38	0,91	0,46			0,31
Maximum Combined Cl ₂ (mg/L)													
Avg.	2,38	2,05	2,43	2,41	2,16	2,30	1,92	1,73	2,04	2,06			2,15
Max	2,80	2,84	2,84	2,72	2,46	2,73	2,20	2,13	2,77	2,90			2,90
Mean Combined Cl ₂ (mg/L)													
Avg.	2,01	1,54	1,95	2,16	1,92	2,07	1,78	1,51	1,63	1,67			1,82



OPTIONAL ANNUAL REPORT TEMPLATE

Drinking-Water System Number:	220003573
Drinking-Water System Name:	St Isidore Water Distribution System
Drinking-Water System Owner:	The Corporation of the Nation Municipality
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1 st to October 31 st 2017

<p><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></p> <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>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Municipal Office The Corporation of the Nation Municipality 958 Hwy 500 W, RR # 3 Cassleman, ON, K0A1M0</p> </div>	<p><u>Complete for all other Categories.</u></p> <p>Number of Designated Facilities served:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <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:</p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <p>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [] No []</p>
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Note: For the following tables below, additional rows or columns may be added or an appendix may be attached to the report

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
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 []



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

- 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 other method _____

Describe your Drinking-Water System

The St Isidore water distribution system is designed to deliver chloraminated water from the Plantagenet Booster Pump Station (Plantagenet source water is from Lefaiivre WTP). The Plantagenet Booster Pump Station has two high lift pumps rated at 20 L/s, one 84.4 m³ clearwell, a chloramination system consisting of two chemical dosing pumps, 250 L solution/containment mixing tank for dosing Ammonium Sulfate into the transmission watermain, one out flowmeter, two automatic chlorine analyzers, to determine the combined chlorine residual, and one 125 kW power generator. This facility operates under Certificate of Approval number 7256-6NEMJ7
 The source water for the village of St Isidore is primarily supplied by the Lefaiivre WTP.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite, Ammonium Sulphate (dosage administrated in Lefaiivre WTP and Plantagenet pumping station)

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

- Repairs to fire hydrants	3 000\$
-Changed bolts on valve, installed anode, corrosion	3 000\$
-	

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
None					

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	129	0	0-0	43	<2 - 2

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 #)
Chlorine Combined Dist. Syst.	8760	*0.31-2.90

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

*NOTE: Record the unit of measure if it is **not** milligrams per litre.*

**Average per day of combine chlorine in distribution syst. : 1,21 –2,15 mg/l*

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	N/A	N/A	N/A	N/A



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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Barium	April 12, 2017	0.014	mg/l	no
Manganese	April 12, 2017	0.001	mg/l	no
Iron	April 12, 2017	0.005	mg/l	no
Hardness	April 08, 2015	29	mg/l	no

*only for drinking water systems testing under Schedule 15.2; this includes large municipal non-residential systems, small municipal non-residential systems, non-municipal seasonal residential systems, large non-municipal non-residential systems, and small non-municipal non-residential systems

Summary of lead testing under Schedule 15.1 during this reporting period

(applicable to the following drinking water systems; large municipal residential systems, small municipal residential systems, and non-municipal year-round residential systems)

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Plumbing			N/A
Distribution	3	0.00008 - 0.00125 mg/l	0
Alkalinity	3	40 - 49 mg/l CaCo3	N/A
pH	3	7.35 – 7.75	N/A



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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
THM (NOTE: show latest annual average)	Jan 10, Apr11, July 12, Oct 17	52.02	ug/L	No
HAA (NOTE: show latest annual average)	Feb 21, Apr11, July 12, Oct 17	27.35	ug/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
N/A	N/A	N/A	N/A

February 2, 2018

Mme. Christina Des Rochers
Ministry of the Environment
2430 Don Reid Drive
Ottawa, ON K1H 1E1

Subject:

2017 - Annual Report for the St-Isidore Drinking Water System

Dear Mme Des Rochers,


Please see attached, the summary report for the St-Isidore Drinking Water System that covers the period from November 1, 2017 to December 31, 2017. A similar report covering the period of January 1, 2017 to October 31, 2017 has been prepared and submitted separately by the SIMO Group. SIMO has been the Operating Authority of the St. Isidore Drinking Water System during that period.

This summary report has been completed in accordance with O. Reg. 170/03 Schedule 22 under the Safe Drinking Water Act. The target due date for this report is March 31st, 2018.

This summary report includes the quantities and flow rates of the water supplied by the Township of Alfred-Plantagenet to The Nation Municipality.

This report is also distributed to the Members of the Municipal Council and the Board of Directors of the Nation Municipality.

Sincerely,


Nicholas Pigeon, CET
O.I.C. Water and Wastewater


Doug Renaud,
Deputy Director of Public Works


Desmond Verasammy, CET
Overall Responsible Operator

In the preparation of this summary report, we have complied with the following requirements:

- List the requirements of the Act, the regulations, the systems approval, drinking water works permit, municipal drinking water license and any orders applicable to the system that were not met at any time during the period covered by the report;
- For each requirement referred to in clause (a) that was not met, specify the duration of the failure and the measurements that were taken to correct the failure;
- A summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows;
- A comparison of the summary referred to in paragraph 1 to the rated capacity and flow rates approved in the system approval, drinking water works permit or municipal drinking water license, or if the system is receiving all of its water from another system under an agreement pursuant to subsection 5 (4), to the flow rates specified in the written agreement.

Comparison:

During the period of November 1, 2017 and December 31, 2017:

- The maximum daily flow to the St. Isidore distribution system was 498 m³/day. This occurred in December, and it represented 39% 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 318 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:	220003573
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:	Nov 1, 2017 to Dec 31, 2017

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:

<p>Municipal Office The Corporation of the Nation municipality 958 Route 500 West Casselman, ON K0A1M0</p>

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

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

<p>(X) Public access / Notice via the web</p> <p>() Public access / notice via government Office</p> <p>() Public access / notice via a newspaper</p> <p>() Public access / notice via Public Request</p> <p>(X) Public access / notice via a Public Library</p> <p>() Public access / notice via another method_____</p>

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
- () Repair required equipment
- () Replace required equipment

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

Calibration of Flow meter	\$ 1,500.00

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 Spill Action Centre.

Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
None					

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	9	0 - 0	0 - 0	9	< 2

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#)	<i>For continuous monitors use 8760 as the number of samples.</i>
Chlorine Combined Dist. Syst,	8760	0.30 - 2.90	

Note: Record the unit of measure if it is not milligrams per liter. *Average per day of combine chlorine in distribution syst.; min. 1.66 - max. 2.38 mg/L.

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-Isidores Drinking Water System

Ontario Regulation 170/03, Section 11 Annual Report 2017

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
Barium			1	
Manganese				
Iron				
Hardness				
Alkalinity				
pH				
Sodium				

Summary of Lead testing under Schedule 15.1 during this reporting period

Location Type	Number of samples	Range of Lead Results	Range of Lead Results (min #) - (max #)		Number of Exceedance
Plumbing	N/A				N/A
Distribution	N/A				No

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

Parameter	Sample date	Result value	Limit	Exceedance
THM (Note : show last annual average)				
Chloroform				
Bromodichloromethane				
Bromoform				
Dibromochloromethane				

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