



February 27, 2017

**Ms. Mary McCuaig, CAO/Clerk**  
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.**

Dear Ms. McCuaig,

The following document includes the Summary Report for the St Isidore Drinking Water System, covering the period from January 1<sup>st</sup> to December 31<sup>st</sup> 2016. 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: Desmond Verasammy, Team Aquatic  
Marc Legault, Director of Public Works, The Nation Municipality



# **The Nation Municipality**

## **Report for St-Isidore Drinking Water System**

### **2016 Summary and Annual report**

Date : February 2017  
NRéf. : 058-P-0001826-048- EX-R-2016-00



## 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	1 Total coliform (27-01-16)	28-01-2016 ( 1 day)	(3) Resample 0cfu/100ml	Complete
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 2016 year, the maximum daily flow of 1096 m<sup>3</sup>/d occurred during the month of May (After painting, full the Tower). The average daily flow was 213m<sup>3</sup>/d and the minimum daily flow was 137m<sup>3</sup>/d during the month of June. This represents an increase of consumption of 9.1% compared to the Year 2015.



## 2016 Summary Report St Isidore Water Distribution System

**Municipality:** Village of St Isidore in Nation Towns

**Facility:** St Isidore Water Distribution System

**Works:** 220003573 - St Isidore de Prescott \

**Classification:** Class 3 Water Distribution

**Water Source:** Surface Water (Lefaire Water Treati

**Period:** 2016-01-01 to 2016-12-31



**Serviced Population:** 1200

**Total Designed Capacity (m3/day):**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Sum
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### DistributionSystem \ Flows - Plantagenet Booster Station

Flows (m3/day)

Avg.	279	217	220	230	349	317	290	250	216	229	215	209	<b>252</b>
Max	1640	296	322	354	1157	928	756	336	310	518	349	268	<b>1640</b>
Min	117	113	119	119	112	160	168	200	129	105	109	171	<b>105</b>
Total	8641	6302	6833	6901	10819	8251	8990	7754	6035	7114	6453	6476	<b>90570</b>

St-Isidore tower Flowmeter (m3/day)

Avg.	184	180	174	188	296	337	246	220	185	185	183	175	<b>213</b>
Max	281	210	197	221	1096	732	782	285	245	244	230	206	<b>1096</b>
Min	158	159	147	164	159	137	156	156	147	160	161	152	<b>137</b>
Total	5711	5234	5404	5639	9162	8771	7625	6821	5564	5737	5475	5417	<b>76559</b>

### Distribution System \ Health - Chlorine Residuals

Minimum Total Cl<sub>2</sub> (mg/L)

Avg.	1,41	1,31	1,27	1,47	1,37	1,27	0,95	0,86	0,91	0,95	1,12	1,36	<b>1,19</b>
Min	1,07	0,98	0,63	0,71	0,84	0,59	0,52	0,01	0,52	0,48	0,59	1,13	<b>0,01</b>

Maximum Total Cl<sub>2</sub> (mg/L)

Avg.	2,54	2,32	2,55	2,74	2,30	2,10	1,78	1,64	1,84	1,83	2,23	2,50	<b>2,20</b>
Max	2,85	2,74	2,90	2,99	2,58	2,21	2,17	2,17	2,19	2,85	2,81	2,70	<b>2,99</b>

Minimum Free Cl<sub>2</sub> (mg/L)

Avg.	0,10	0,11	0,12	0,13	0,11	0,12	0,08	0,05	0,05	0,05	0,07	0,10	<b>0,09</b>
Min	0,06	0,09	0,10	0,12	0,04	0,06	0,07	0,04	0,04	0,05	0,05	0,07	<b>0,04</b>

Maximum Free Cl<sub>2</sub> (mg/L)

Avg.	0,13	0,15	0,15	0,15	0,13	0,15	0,08	0,06	0,06	0,06	0,09	0,12	<b>0,11</b>
Max	0,21	0,21	0,23	0,20	0,24	0,49	0,11	0,07	0,08	0,07	0,10	0,18	<b>0,49</b>

Minimum Combined Cl<sub>2</sub> (mg/L)

Avg.	1,30	1,17	1,13	1,32	1,23	1,17	0,87	0,85	0,86	0,91	1,04	1,26	<b>1,09</b>
Min	0,97	0,83	0,52	0,58	0,51	0,49	0,45	0,56	0,47	0,43	0,52	1,01	<b>0,43</b>

Maximum Combined Cl<sub>2</sub> (mg/L)

Avg.	2,42	2,18	2,41	2,61	2,18	1,97	1,70	1,58	1,78	1,77	2,15	2,39	<b>2,09</b>
Max	2,76	2,59	2,77	2,89	2,49	2,08	2,05	2,11	2,14	2,79	2,72	2,60	<b>2,89</b>

Mean Combined Cl<sub>2</sub> (mg/L)

Avg.	1,95	1,74	1,86	2,87	1,92	1,76	1,43	1,36	1,45	1,29	1,57	1,97	<b>1,76</b>
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**OPTIONAL ANNUAL REPORT TEMPLATE**

<b>Drinking-Water System Number:</b>	220003573
<b>Drinking-Water System Name:</b>	St Isidore Water Distribution System
<b>Drinking-Water System Owner:</b>	The Corporation of the Nation Municipality
<b>Drinking-Water System Category:</b>	Large Municipal Residential
<b>Period being reported:</b>	January 1 <sup>st</sup> to December 31 <sup>st</sup> 2016

<p><b><u>Complete if your Category is Large Municipal Residential or Small Municipal Residential</u></b></p> <p><b>Does your Drinking-Water System serve more than 10,000 people? Yes [ ] No [ X ]</b></p> <p><b>Is your annual report available to the public at no charge on a web site on the Internet? Yes [X ] No [ ]</b></p> <p><b>Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.</b></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><b><u>Complete for all other Categories.</u></b></p> <p><b>Number of Designated Facilities served:</b></p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <p><b>Did you provide a copy of your annual report to all Designated Facilities you serve? Yes [ ] No [ ]</b></p> <p><b>Number of Interested Authorities you report to:</b></p> <div style="border: 1px solid black; padding: 2px; width: fit-content;">N/A</div> <p><b>Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? Yes [ ] No [ ]</b></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 Lefavivre WTP). The Plantagenet Booster Pump Station has two high lift pumps rated at 20 L/s, one 84.4 m<sup>3</sup> 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 Lefavivre WTP.

**List all water treatment chemicals used over this reporting period**

Sodium Hypochlorite, Ammonium Sulphate (dosage administrated in Lefavivre 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	1 000\$
-Changed bolts on valve, installed anode, corrosion	25 000\$
-Painted water Tower	220 000\$

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
27-01-2016	Total coliform	Sampling	1 cfu/100ml	Resample (3)	28-01-2016 Complete

**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	156	0	0-1	52	<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	*0.43-2.89

*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. : 1,09 –2,09 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 07, 2015	0.011	mg/l	no
Manganese	April 08, 2015	0.005	mg/l	no
Iron	April 08, 2015	0.014	mg/l	no
Hardness	April 08, 2015	29	mg/l	no
Alkalinity	February 17, 2016	35	mg/l	no
pH	February 17, 2016	7.50		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	1	0.00008-0.00008	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
<b>THM</b> (NOTE: show latest annual average)	Jan 15, Apr 27, July 12, Oct 04	44.75	ug/L	No
Chloroform	<b>Jan 15, Apr 27, July 12, Oct 04</b>	41.60	ug/L	No
Bromodichloromethane	<b>Jan 15, Apr 27, July 12, Oct 04</b>	2.95	ug/L	No
Bromoform	<b>Jan 15, Apr 27, July 12, Oct 04</b>	<0.1	ug/L	No
Dibromochloromethane	<b>Jan 15, Apr 27, July 12, Oct 04</b>	<0.1	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