



WATER QUALITY SERVICES

10072923 CANADA INC.

3408 Rosslyn Road
Rosslyn, ON P7K 0P8

February 28, 2018

Municipality of Oliver Paipoonge
Wayne Hanchard, CAO
3250 Hwy. 130
Rosslyn, ON P7K 0B1

Dear Wayne,

Enclosed is the 2017 Annual and Annual Summary Reports for the Rosslyn Village Subdivision Well Supply located at 125 Maple Street in Rosslyn Village.

We have also enclosed a copy of the Drinking-Water Systems Regulation O.Reg. 170/03, Part III Form 2 Section 11. Annual Report. This is no longer required to be sent to the Ministry of Environment but a copy should be kept on site. It should be made available to the public and to the Ministry on request as noted in the 'Providing Safe Drinking Water to the Public, June 2006 – Summary of Requirements'. The location where this can be made available should be the Oliver Paipoonge Municipal Office as stated in the Annual Report.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

John Gervis, General Manager

cc: Water Quality Services

Telephone: (807) 344-9174

Fax: (807) 285-4349

e-mail: wqsjohn@shaw.ca



***THE MUNICIPALITY OF
OLIVER
PAIPOONGE/ROSSLYN
VILLAGE

DRINKING WATER SYSTEM
ANNUAL SUMMARY REPORT
FOR THE YEAR 2017***

**RE: TERMS AND CONDITIONS OF
THE SAFE DRINKING WATER ACT 2002
REGULATION 170/03**

INDEX

SYSTEM INFORMATION & DESCRIPTION

SUMMARY OF NON-COMPLIANCE

RESULTS OF TESTS

EXPENSES

SUMMARY OF FLOWS

COMMENTS

APPENDIX A LABORATORY RESULTS

APPENDIX B M.O.E. INSPECTION REPORT

ANNUAL SUMMARY REPORT

This report combines the requirements of O. Reg. 170/03 Section 11 "Annual Reports" and Schedule 22 "Summary Reports for Municipalities". A copy of this report is available at:

Municipality of Oliver Paipoonge Office
3250 Highway 130
Rosslyn, ON P7K 0B1

System users will be notified of the reports availability by:
Notice at the Oliver Paipoonge Municipal Office.

SYSTEM INFORMATION

Drinking Water System Number:	260001081
Drinking Water System Name:	Rosslyn Village Subdivision Well Supply
Drinking Water System Owner:	Municipality of Oliver Paipoonge
Drinking Water System Category:	Small Municipal Residential
Drinking Water System Permit to Take Water Number:	3684-65WJW8
Reporting Period	January 1 st , 2017 to December 31 st , 2017
Drinking Water Permit Number:	293-201
Municipal Drinking Water Works Licence Number:	293-101

SYSTEM DESCRIPTION

Rosslyn Village receives its raw water supply from two drilled wells. The first has a depth of 34.5 metres and the second has a depth of 38.7 meters. Sodium hypochlorite is used for disinfection. Two spin-down filters (a 100 micron and a 20 micron) filter the water before going into the contact tanks. Five 454 litre tanks are located in the water treatment facility to provide storage and retention time. Two pressure tanks which maintain the discharge pressure are located adjacent to the storage tanks. In-line monitors record continuous flows, turbidity and chlorine readings. Information on the in-line monitoring data base is accessed on line using Endress Houser Field Data Manager Software program. The equipment allows off-site monitoring complete with the capability of providing reports and alarms. A stand-by diesel generator provides emergency hydro in the event of power failure

SUMMARY OF NON-COMPLIANCE

NOTIFICATIONS (as required by the Act, reg. 170/03, C of A and orders)

The following notification was submitted to the Ministry of the Environment via The Spills Action Centre, The Ministry of Health via the Medical Officer of Health Office.

On October 12, 2017 a 'Boil Water' advisory was put in place. Due to flushing done at the east end of Maple Street, settled sediment was disturbed and got into private plumbing. The system was flushed. Two consecutive resamples were taken with good results. On October 20, 2017 the 'Boil Water' advisory was lifted.

RESULTS OF TESTS

Ontario Regulation 170/03 requires Small Municipal Residential Systems to submit 1 raw water sample monthly from each well and one distribution sample bi-weekly.

Microbiological testing done under 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 #)
Raw	25	Absent	Absent		
Treated					
Distribution	31	Absent	Absent	31	0 – 1 CFU/ml

Nitrate/Nitrite

Treated water is tested for nitrate and nitrite concentrations on a quarterly basis in accordance with Schedule 13 of Ontario Regulation 170/03. All results were below the associated Ontario Drinking Water Quality Standards.

Nitrate and Nitrite Sampling Results:

Sample Date	Nitrate Result	Nitrite Result	Nitrate & Nitrite
Result			
2017	mg/L	mg/L	mg/L
Feb. 6/17	<0.020	<0.010	<0.040
May 4/17	<0.20	<0.010	<0.040
July 26/17	0.024	<0.010	<0.040
Nov. 22/17	<0.020	<0.010	<0.040
ODWQS	10	1	10.0

Trihalomethanes

The Ontario Drinking Water Quality Standards for total trihalomethanes (THMs) is calculated as a running annual average.

Total Trihalomethanes Sampling Results

Sample Date 2017	THMs Result ug/l	2016 Annual Average ug/L	2015 Annual Average ug/L	2014 Annual Average ug/L	ODWQS ug/L
Feb. 6/17	7.4	13.73	22.82	22.82	100
May 4/17	7.3				
July 26/17	20.4				
Nov. 22/17	7.8				

Treated source tests for sodium and fluoride are required every 60 months. The last sodium and fluoride testing was done with Schedule 23 & 24 inorganic and organic sampling and was conducted in 2016.

Sodium is naturally occurring in the area. A Drinking Water Advisory issued by the Thunder Bay District Health Unit is in place.

The next Schedule 23 & 24 is due in 2021.

Lead Sampling

The Rosslyn Village Drinking Water System is now exempt from plumbing samples. In the Winter Sampling Period there were pH and alkalinity samples taken from the distribution system and in the Summer Sampling Period there were lead, pH and alkalinity samples taken.

Lead Sampling Results

Sample Date	pH	Alkalinity mg/L as CaCO ₃	Lead Result ug/L
April 14/17	7.5	80.7	
Oct. 13/17		83.4	<1.0

Chlorine

In addition, The Procedure for Disinfection of Drinking Water in Ontario states "The maximum chlorine residual at any time and at any location within the distribution system should not exceed 4.0 mg/L when measured as free chlorine". There were no reportable instances in 2017 for the maximum free chlorine being exceeded.

Specifically, Regulation 170/03 says the following with respect to reporting chlorine residuals measured in the distribution system

16-3. (1)

4. If the drinking water system is required to take free chlorine residual tests under clause 7 (2) (a) or to provide secondary disinfection in accordance with section 1-5 of Schedule 1 or section 2-5 of Schedule 2, the system provides chlorination, the system does not provide chloramination and a report under subsection 18 (1) of the Act has not been made in respect of free chlorine residual in the preceding 24 hours, a result indicating that the concentration of free chlorine residual is less than 0.05 milligrams per litre in,
 - i. a distribution sample that is a grab sample, or
 - ii. two distribution samples that are tested by continuous monitoring equipment, if the two samples were taken 15 minutes or more apart and the later of the two samples was the first sample that was taken 15 minutes or more after the earlier sample.

The free chlorine analyzer is located in the Water Treatment Plant and records measured values and sends them to the data base. The signal is also connected to an automatic dialer that calls operators in the event chlorine residuals drop below or rise above alarm set points.

There were no reportable instances in 2017 for failure to meet the minimum chlorine concentration

Turbidity

Turbidity measurement is essentially the measurement of how clean the water is. The standard is not based on an aesthetic value but instead on a value that ensures the disinfection process within the treatment plant is effective. The turbidity in the drinking water system is monitored continuously by an in-line monitor. The turbidity level must not exceed 4.0 NTU. The highest reading in 2016 was 3.83 NTU.

Operational testing done under Schedule 7, 8 or 9 of Regulation 170/03

	Number of Grab Samples	Range of Results (min #)-(max #)	Unit of Measure
Turbidity	8760	0.29 – 3.83	NTU
Chlorine	8760	0.33 – 1.57	mg/L
Fluoride (If the DWS provides fluoridation)			

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

EXPENSES

Expenses incurred during this reporting period include

Waterworks

\$30,849.23	Maintenance Contract WQS
\$1,105.65	Telephone
\$3,520.24	Hydro
\$3,760.52	Testing/Lab fees ALS
\$1,322.88	Meter calibration
\$166.69	Hydrochloride
\$1,584.41	Maintenance
\$125.37	Sodium
\$63,195.52	Project #1 – Reservoir Project
Total	\$105,630.51

SUMMARY OF FLOWS

As per the 'Permit to Take Water', the rate of taking shall not exceed a maximum of 136 litres/minute from either well; however, the maximum daily rate of taking water from either well shall be 124,378.5 litres per day for a maximum total taking of 248,757 litres per day. There were no exceedances of water taking during the period January 1st 2017 to December 31st, 2017

Monthly Treated Water Flows 2014, 2015, 2016 and 2017

(Rated capacity is 249.12 m³ per day)

The unit of measure used is metres cubed (m³).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	333.5	287.6	344.4	344.7	392.5	451.1	386.7	263.1	265.1	328.5	369.6	344.4
2015	340.5	274.1	341.6	300.4	355.6	473.2	435.1	411.9	388.8	312.1	261.3	282.6
2016	866.2	479.7	466.6	460.7	551.5	579.9	582.4	622.4	470.9	476.6	435.5	470.2
2017	431.4	380.9	416.4	506.6	476.2	548.7	546.6	597.3	400.9	472.1	403.4	438.7

Daily Average Volumes and Maximum Daily Volumes for Each Month 2017

North Well

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
8.25	8.28	7.89	7.19	8.77	9.94	10.37	11.69	7.86	7.92	7.44	8.19
12.4	10.0	9.50	11.2	12.6	19.6	14.6	21.3	11.7	15.6	12.2	12.5

South Well

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7.62	7.50	7.36	10.11	8.55	9.70	9.81	10.27	7.36	8.18	6.76	7.11
10.6	8.9	8.9	83.5	12.2	16.1	13.4	18.0	10.8	30.1	11.20	10.4

The above tables list daily average volumes on the first line and the maximum daily volumes for each month. The unit of measure used is metres cubed (m³).

SUMMARY

2016

Treated Water				Distribution	
Month	Turbidity NTU Minimum	Turbidity NTU Maximum		CL2 mg/L Minimum	CL2 mg/L Maximum
January	0.27	2.86		0.77	2.87
February	0.17	2.22		0.84	2.94
March	0.15	1.95		1.07	2.75
April	0.47	1.68		0.95	3.27
May	0.07	1.71		0.71	2.94
June	0.01	1.65		0.68	2.81
July	0.01	1.59		1.05	2.94
August	0.02	1.42		0.84	2.71
September	0.04	1.40		0.91	2.74
October	0.01	1.38		1.17	2.68
November	0.07	0.59		0.89	2.94
December	0.59	1.62		0.99	1.86
Range	0.01	2.22		0.71	3.27

COMMENTS BY THE O.R.O.

In the Spring of 2018, an above ground reservoir will be put in place to help with water quality and delivery issues. This should improve the quality of the Municipal drinking water. We are looking forward to monitoring the improvements in the drinking water going forward.

Any inquiries can be forwarded to wqsjohn@shaw.ca.



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

ANNUAL REPORT

Drinking-Water System Number:	260001081
Drinking-Water System Name:	Rosslyn Village Subdivision Well Supply
Drinking-Water System Owner:	Municipality of Oliver Paipoonge
Drinking-Water System Category:	Small Municipal Residential
Period being reported:	January 1 to December 31, 2017

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 [] No [X]

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

Oliver Paipoonge Municipal Office

Complete for all other Categories.

Number of Designated Facilities served:

None

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 []

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 []



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

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

Rosslyn Village receives its raw water supply from two drilled wells. The first has a depth of 34.5 metres and the second has a depth of 38.7 metres. Sodium hypochlorite is used for disinfection. Five 900 litre tanks are located in the water treatment facility to provide storage and retention time. Two pressure tanks which maintain the discharge pressure are located adjacent to the storage tanks. In-line monitors record continuous flows, turbidity and chlorine readings. Information on the in-line monitoring data base is accessed through dial up using an Endress Houser Field Data Manager Software program. The equipment allows off-site monitoring data acquisition program. The equipment allows off-site monitoring complete with the capability of providing reports and alarms. A stand-by diesel generator provides emergency hydro in the event of power failures.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite

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

- See Below



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

EXPENSES

- Expenses incurred during this reporting period include
- Waterworks
- \$30,849.23 Maintenance Contract WQS
- \$1,105.65 Telephone
- \$3,520.24 Hydro
- \$3,760.52 Testing/Lab fees ALS
- \$1,322.88 Meter calibration
- \$166.69 Hydrochloride
- \$1,584.41 Maintenance
- \$125.37 Sodium
- \$63,195.52 Project #1 – Reservoir Project
- Total \$105,630.51

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
Oct. 12/17	Physical	Flushing of dead end caused high turbidity.		'Boil Water' issued. Two consecutive samples taken with good results.	Oct. 12/17
				Restored system pressure, flushed and sampled up-stream and down-stream – 24 hrs. apart. Good results	

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 #)
Raw	24	Absent	Absent		
Treated					
Distribution	31	Absent	Absent	31	0 – 1 CFU/ml



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

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 #)	Unit of Measure	NOTE: For continuous monitors use 8760 as the number of samples.
Turbidity	8760	0.01 – 2.22	NTU	
Chlorine	8760	0.71 – 3.27	mg/L	
Fluoride (If the DWS provides fluoridation)				

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

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				
Arsenic				
Barium				
Boron				
Cadmium				
Chromium				
*Lead				
Mercury				
Selenium				
Sodium				
Uranium				
Fluoride				
Nitrite	Nov. 22/17	<0.010	mg/L	none
Nitrate	Nov. 22/17	<0.020	mg/L	none

*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



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

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 #)	Unit of Measure	Number of Exceedances
Plumbing				
Distribution	1	<1.0	ug/L	none

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				
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				



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

Heptachlor + Heptachlor Epoxide				
Lindane (Total)				
Malathion				
Methoxychlor				
Metolachlor				
Metribuzin				
Monochlorobenzene				
Paraquat				
Parathion				
Pentachlorophenol				
Phorate				
Picloram				
Polychlorinated Biphenyls(PCB)				
Prometryne				
Simazine				
THM (NOTE: show latest annual average)	Nov. 22/17	10.73	ug/L	None
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

Next Schedule 23 & 24 due 2021

North Well Flow Data 2017

RAW WATER					
Month	Monthly Total Flow m/3	Daily Average Flow m/3	Month	Monthly Total Flow m/3	Daily Average Flow m/3
Jan. 1	3199.9		Aug. 1	5119.8	
Jan. 31	3455.9		Aug. 31	5482.3	
Total	256	8.258064516	Total	362.5	11.69354839
Feb. 1	3445.9		Sept. 1	5482.3	
Feb. 28	3687.8		Sept. 30	5726.2	
Total	241.9	8.639285714	Total	243.9	8.13
Mar. 1	3687.8		Oct. 1	5726.2	
Mar. 31	3932.5		Oct. 31	5971.8	
Total	244.7	7.893548387	Total	245.6	7.922580645
Apr. 1	3932.5		Nov. 1	5971.8	
Apr. 30	4178.2		Nov. 30	6202.3	
Total	245.7	8.19	Total	230.5	7.683333333
May 01	4178.2		Dec. 1	6202.3	
May 31	4470.1		Dec. 31	6456.3	
Total	291.9	9.416129032	Total	254	8.193548387
June 01	4470.1				
June 30	4788.4				
Total	318.3	10.61			
July 01	4788.4				
July 31	5119.8				
Total	331.4	10.69032258			
Max. Month	362.5				
Max. Av. Day	11.69354839				
Total Flow	3266.4				
Av.Mon.Flow	272.2				

Chart recorder was installed at the end of February 2016

South Well Flow Data 2017

RAW WATER					
Month	Monthly Total Flow m/3	Daily Average Flow m/3	Month	Monthly Total Flow m/3	Daily Average Flow m/3
Jan. 1	2855.6		Aug. 1	4693.5	
Jan. 31	3092		Aug. 31	5022.5	
Total	236.4	7.625806452	Total	329	10.61290323
Feb. 1	3092		Sept. 1	5022.5	
Feb. 28	3302.2		Sept. 30	5250.7	
Total	210.2	7.507142857	Total	228.2	7.606666667
Mar. 1	3302.2		Oct. 1	5250.7	
Mar. 31	3530.1		Oct. 31	5531.4	
Total	227.9	7.351612903	Total	280.7	9.05483871
Apr. 1	3530.1		Nov. 1	5531.4	
Apr. 30	3833.6		Nov. 30	5741.1	
Total	303.5	10.11666667	Total	209.7	6.99
May 01	3833.6		Dec. 1	5741.1	
May 31	4098.5		Dec. 31	5971.6	
Total	264.9	8.54516129	Total	230.5	7.435483871
June 01	4098.5				
June 30	4389.3				
Total	290.8	9.693333333			
July 01	4389.3				
July 31	4693.5				
Total	304.2	9.812903226			
Max. Month	329				
Max. Av. Day	10.61290323				
Total Flow	3116				
Av.Mon.Flow	259.6666667				

Rosslyn Village Turbidity & cL2

2017

Treated Water				Distribution	
Month	Turbidity NTU Minimum	Turbidity NTU Maximum		CL2 mg/L Minimum	CL2 mg/L Maximum
January	0.27	2.86		0.77	2.87
February	0.17	2.22		0.84	2.94
March	0.15	1.95		1.07	2.75
April	0.47	1.68		0.95	3.27
May	0.07	1.71		0.71	2.94
June	0.01	1.65		0.68	2.81
July	0.01	1.59		1.05	2.94
August	0.02	1.42		0.84	2.71
September	0.04	1.4		0.91	2.74
October	0.01	1.38		1.17	2.68
November	0.07	0.59		0.89	2.94
December	0.59	1.62		0.99	1.86
Range	0.01	2.22		0.71	3.27