



REVISION FROM THE FEBRUARY 22, 2024 SUBMITTED REPORT

March 8, 2024

Municipality of West Grey

402813 Grey Road 4

RR#2

Durham, ON

NOG 1R0

Attention: Geoff Aitken, Manager of Public Works

**RE: Neustadt Drinking Water System
2023 Annual and Summary Reports**

Geoff,

Please find attached the 2023 Annual and Summary Reports for the Neustadt drinking water system, in accordance with Section 11(1) of O. Reg. 170/03. This report covers the period from January 1 to December 31, 2023 and meets the requirement of being prepared by February 28 of this year.

Please ensure that a copy of this report is given, without charge, to every person who requests a copy. In addition, please make certain that effective steps are taken to advise residents that copies of the report are available, and of how a copy can be obtained.

Finally, as per Schedule 22 of O. Reg. 170/03, please ensure that at least a copy of the Summary Report is given to the members of municipal council no later than March 31, 2024.

If you have any questions regarding the report, we would be pleased to address them and you should contact the undersigned accordingly.

Sincerely,

Scott Gowan - Project Manager

Veolia North America
555 Rene-Levesque Blvd W
Montreal, QC H2Z 1B1
www.Veolianorthamerica.com

Part 1 - ANNUAL REPORT (as required by O. Reg 170/03, Section 11)

Drinking-Water System Number:	220002147
Drinking-Water System Name:	Neustadt Drinking Water System
Drinking-Water System Owner:	Municipality of West Grey
Drinking-Water System Category:	Large Municipality Residential
Period being reported:	January 1 - December 31, 2023

Complete if your Category is Large Municipal Residential or Small Municipal Residential	Complete for all other Categories
Does your Drinking-Water System serve more than 10,000 people? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number of Designated Facilities served: n/a
Is your annual report available to the public at no charge on a website on the Internet? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Did you provide a copy of your annual report to all Designated Facilities you serve? <input type="checkbox"/> Yes <input type="checkbox"/> No
Location where Summary Report required under O.Reg. 170/03 Schedule 22 will be available for inspection. Municipality of West Grey 402813 Grey Road #4 Durham, ON N0G 1R0	Number of Designated Facilities served: n/a Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility? <input type="checkbox"/> Yes <input type="checkbox"/> 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
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?

n/a

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

<input checked="" type="checkbox"/> Public access/notice via the Web	<input checked="" type="checkbox"/> Public access/notice via Government Office	<input type="checkbox"/> Public access/notice via a newspaper
<input type="checkbox"/> Public access/notice via the Public Request	<input type="checkbox"/> Public access/notice via a Public Library	<input type="checkbox"/> Public access/notice via other method

Describe your Drinking Water System

Three GUDI wells: Well No. 2 with a capacity of delivering 10.6 L/s (well pump does not meet that capacity); Well No. 3 with a submersible pump capable of delivering 6.1 L/s; and Well No. 1 with a submersible pump capable of delivering 3.2 L/s. Pumping station No. 2 transfers flow monitored raw water from Well No. 2 and Well No. 3 (each well with online turbidity meters) to Well No. 1 pumphouse. Well No. 1 pumphouse contains the treatment equipment, including, but not limited to, flow meters, sodium hypochlorite disinfection system (primary disinfection), UV disinfection system, cartridge filters, online chlorine and turbidity analyzers, low level alarms and auto dialer. There is a water tower with a volume of 1200m³. It is equipped with an on-line chlorine analyzer. Post chlorinators are in place to booster chlorine levels leaving the tower, if required. During the 2023 year, it was not required.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite - 12%

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

Well 1 - New well pump installed
 Well 1 - New Level sensor installed
 Well 2 - Replacement Turbidity Analyzer was installed

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	Corrective Action	Corrective Action Date
n/a				

Microbiological testing done under the Schedule 10, 11, 12 of Regulation 170/03, during this reporting period					
	Number of Samples	Range of E.Coli Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw Well #1	50*	0 - 1	0 - 9	n/a	n/a
Raw Well #2	52	0 - 0	0 - 0	n/a	n/a
Raw Well #3	50	0 - 0	0 - 1	n/a	n/a
Treated POE	52	0 - 0	0 - 0	52	<10 - 10
Distribution	104	0 - 0	0 - 0	52	<10 - 52

*Only 50 samples were collected due to a new well pump install for Well #1.

Operational testing under Schedule 7, 8, or 9 of Regulation 170/03 during the period covered			
	Number of Grab Samples	Range of Results (min #) - (max #)	Units
Turbidity - Treated	8760	0.03 - 1.14* <i>See corresponding table below</i>	NTU
Chlorine - Treated	8760	0.81 - 2.00 A max of 2.00 occurs due to a chlorine spike when the well starts. The max the SCADA will record is 2.00 mg/L.	mg/L
Chlorine - Distribution	417	0.73 - 1.46	mg/L
Fluoride (if DWS provided fluoridation)	n/a	n/a	n/a

*For continuous monitors use 8760 as the number of samples

*high turbidity incidents were either too short to be reportable (<15min) or occurred when system was off

PLEASE NOTE THE EXPLANATIONS FOR THE FOLLOWING RESULTS:

Turbidity - Treated (for all results above 1 NTU)	
April 17 Removed from data	SCG calibration conducted, there was no supply to the distribution from the well house.
July 18	The turbidity was over 1 for less than 5 minutes after replacing the filters.
October 11 Removed from data	Ait 04 reading high but was not supplying distributor at time of run for calibration /cleaning
December 6 Removed from data	The turbidity was over 1 NTU when the system was off.

Turbidity -Treated (for all results with a 0.00 NTU) - removed values from data	
April 17	SCG calibration conducted, there was no supply to the distribution from the well house
August 17	Power off due to ATS installed by Dewar.

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	Range of Results	Units of Measure
December 1, 2009	UV Transmittance	2023 (monthly)	98.0-99.0	% Transmittance

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

Parameter	Sample Date	Result	Distribution	Unit of Measure	Exceedance
Alkalinity	Mar. 27, 2023 Aug. 14, 2023	-	265 260	mg/L	No
Antimony	Aug. 14, 2023	<0.6	-	µg/L	No
Arsenic	Aug. 14, 2023	2.1	-	µg/L	No
Barium	Aug. 14, 2023	120	-	µg/L	No
Boron	Aug. 14, 2023	29	-	µg/L	No
Cadmium	Aug. 14, 2023	<0.003	-	µg/L	No
Chromium	Aug. 14, 2023	0.11	-	µg/L	No
Lead-see summary below					
Mercury	Aug. 14, 2023	<0.01	-	µg/L	No
Selenium	Aug. 14, 2023	0.06	-	µg/L	No
Sodium	Aug. 4, 2020	5.3	-	mg/L	No
Uranium	Aug. 14, 2023	0.234	-	µg/L	No
Fluoride	Aug. 30, 2021	1.08	-	mg/L	No
Nitrite	Feb. 6, 2023 May 8, 2023 Aug. 14, 2023 Nov. 13, 2023	<0.003 <0.003 <0.003 <0.003	-	mg/L	No

Nitrate	Feb. 6, 2023	0.007	-	mg/L	No
	May 8, 2023	<0.006			
	Aug. 14, 2023	<0.006			
	Nov. 13, 2023	<0.006			

Summary of Lead Results during this reporting period (Winter: Dec. 15/21 - Apr. 15/22;
Summer: June 15/22- Oct. 15/22)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples Taken)	Distribution Locations	Distribution System	Any Adverse Water Quality Incidents?
Winter April 11, 2022	n/a	Firehall	0.14	No
Summer October 3, 2022	n/a	Firehall	0.24	No

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

Parameter	Sample Date	Result	Unit of Measure	Exceedance
Alachlor	Aug. 14, 2023	<0.02	µg/L	No
Atrazine + N-dealkylated metabolites	Aug. 14, 2023	<0.01	µg/L	No
Azinphos-methyl	Aug. 14, 2023	<0.05	µg/L	No
Benzene	Aug. 14, 2023	<0.32	µg/L	No
Benzo(a)pyrene	Aug. 14, 2023	<0.004	µg/L	No
Bromoxynil	Aug. 14, 2023	<0.33	µg/L	No
Carbaryl	Aug. 14, 2023	<0.05	µg/L	No
Carbofuran	Aug. 14, 2023	<0.01	µg/L	No
Carbon Tetrachloride	Aug. 14, 2023	<0.17	µg/L	No
Chlorpyrifos	Aug. 14, 2023	<0.02	µg/L	No
Diazinon	Aug. 14, 2023	<0.02	µg/L	No
Dicamba	Aug. 14, 2023	<0.20	µg/L	No
1,2-Dichlorobenzene	Aug. 14, 2023	<0.41	µg/L	No
1,4-Dichlorobenzene	Aug. 14, 2023	<0.36	µg/L	No

1,2-Dichloroethane	Aug. 14, 2023	<0.35	µg/L	No
1,1-Dichloroethylene (vinylidene chloride)	Aug. 14, 2023	<0.33	µg/L	No
Dichloromethane	Aug. 14, 2023	<0.35	µg/L	No
2-4 Dichlorophenol	Aug. 14, 2023	<0.15	µg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug. 14, 2023	<0.19	µg/L	No
Diclofop-methyl	Aug. 14, 2023	<0.40	µg/L	No
Dimethoate	Aug. 14, 2023	<0.06	µg/L	No
Diquat	Aug. 14, 2023	<1.00	µg/L	No
Diuron	Aug. 14, 2023	<0.03	µg/L	No
Glyphosate	Aug. 14, 2023	<1.00	µg/L	No
HAA	Feb. 6, 2023 May 8, 2023 Aug. 14, 2023 Nov. 13, 2023	<5.3 <5.3 <5.3 <5.3	µg/L	No
Malathion	Aug. 14, 2023	<0.02	µg/L	No
MCPA	Aug. 14, 2023	<0.00012	µg/L	No
Metolachlor	Aug. 14, 2023	<0.01	µg/L	No
Metribuzin	Aug. 14, 2023	<0.02	µg/L	No
Monochlorobenzene	Aug. 14, 2023	<0.30	µg/L	No
Paraquat	Aug. 14, 2023	<1.00	µg/L	No
Pentachlorophenol	Aug. 14, 2023	<0.15	µg/L	No
Phorate	Aug. 14, 2023	<0.01	µg/L	No
Picloram	Aug. 14, 2023	<1.00	µg/L	No
Polychlorinated Biphenyls(PCB)	Aug. 14, 2023	<0.04	µg/L	No
Prometryne	Aug. 14, 2023	<0.03	µg/L	No
Simazine	Aug. 14, 2023	<0.01	µg/L	No
THM (NOTE: show latest annual average)	2023 Average	13.2 (distribution)	µg/L	No
Terbufos	Aug. 14, 2023	<0.01	µg/L	No
Tetrachloroethylene	Aug. 14, 2023	<0.35	µg/L	No

2,3,4,6-Tetrachlorophenol	Aug. 14, 2023	<0.20	µg/L	No
Triallate	Aug. 14, 2023	<0.01	µg/L	No
Trichloroethylene	Aug. 14, 2023	<0.44	µg/L	No
2,4,6-Trichlorophenol	Aug. 14, 2023	<0.25	µg/L	No
Trifluralin	Aug. 14, 2023	<0.02	µg/L	No
Vinyl Chloride	Aug. 14, 2023	<0.17	µg/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	Sample Date	Result Value	Unit of Measure	ODWS Criteria
n/a				

Part 2 - SUMMARY REPORT (as required by O. Reg 170/03, Section 22)

Non-Compliance with Legislations, Regulations, Approvals & Orders

During this period, the Facility was operated in full compliance with the Act, the regulations and the Facility’s approval, save and except for the following:

No non-compliances in 2023 were reported.

Permit to Take Water (PTTW) Flow Comparison

Well #1 Raw Water Flow

Month	Raw Water Flow		
	Average Daily m3	Maximum Daily m3	Monthly Total m3
Jan '23	4.5	11.9	140
Feb '23	4.5	15.1	125
Mar '23	4.3	10.9	133
Apr '23	3.9	9.6	118
May '23	11.8	62.3	365
Jun '23	27.2	64.8	817
Jul '23	24.6	58.9	762
Aug '23	24.2	57.7	750
Sep '23	26.5	53.9	796
Oct '23	20.8	54.0	644
Nov '23	21.3	48.4	638
Dec '23	22.3	59.0	690
Annual Summary			
Average	16.4		
Maximum		64.8	
Total			5,976
PTTW Capacity	276	276	
%Capacity	5.9	23.5	

Well #2 Raw Water Flow

Month	Raw Water Flow		
	Average Daily m3	Maximum Daily m3	Monthly Total m3
Jan '23	62.6	147.7	1,942
Feb '23	58.6	133.0	1,641
Mar '23	54.3	186.4	1,682
Apr '23	65.9	232.5	1,977
May '23	102.9	210.1	3,191
Jun '23	72.3	166.9	2,170
Jul '23	67.1	193.6	2,081
Aug '23	53.9	137.6	1,670
Sep '23	56.3	158.8	1,690
Oct '23	60.8	149.6	1,884
Nov '23	64.7	158.1	1,941
Dec '23	62.8	142.6	1,945
Annual Summary			
Average	65.2		
Maximum		232.5	
Total			23,815
PTTW Capacity	916	916	
%Capacity	7.1	25.4	

Well #3 Raw Water Flow

Month	Raw Water Flow		
	Average Daily m3	Maximum Daily m3	Monthly Total m3
Jan '23	46.7	121.4	1,448
Feb '23	50.8	182.6	1,421
Mar '23	57.9	137.1	1,794
Apr '23	56.2	141.8	1,687
May '23	17.6	99.8	546
Jun '23	44.5	107.2	1,336
Jul '23	42.6	98.2	1,320
Aug '23	42.4	103.2	1,313
Sep '23	46.2	94.7	1,385
Oct '23	33.4	88.7	1,036
Nov '23	33.9	78.4	1,017
Dec '23	38.3	98.8	1,188
Annual Summary			
Average	42.4		
Maximum		182.6	
Total			15,493
PTTW Capacity	527	527	
%Capacity	8.0	34.6	

Combined Raw Water Flow

Month	Combined Raw Water Flow		
	Average Daily m3	Maximum Daily m3	Monthly Total m3
Jan '23	113.9	156.4	3,530
Feb '23	113.9	197.7	3,188
Mar '23	116.4	186.4	3,609
Apr '23	126.0	232.5	3,781
May '23	132.3	210.1	4,102
Jun '23	144.1	195.0	4,323
Jul '23	134.3	193.6	4,162
Aug '23	120.4	179.8	3,733
Sep '23	129.0	159.4	3,871
Oct '23	115.0	149.6	3,564
Nov '23	119.9	158.1	3,596
Dec '23	123.3	157.8	3,823
Annual Summary			
Average	124.1		
Maximum		232.5	
Total			45,284
PTTW Capacity	1719	1719	
%Capacity	7.2	13.5	

Municipal Drinking Water Licence (MDWL) Flow Comparison

Month	Treated Water Flow		
	Average Daily m3	Maximum Daily m3	Monthly Total m3
Jan '23	94.9	129.9	2,941
Feb '23	94.1	163.9	2,635
Mar '23	99.6	164.0	3,089
Apr '23	107.5	195.3	3,225
May '23	111.9	183.4	3,468
Jun '23	124.7	167.3	3,742
Jul '23	112.4	160.4	3,485
Aug '23	100.8	149.4	3,125
Sep '23	107.2	131.1	3,216
Oct '23	99.1	122.0	3,071
Nov '23	102.2	134.3	3,065
Dec '23	104.5	135.2	3,240
Annual Summary			
Average	104.9		
Maximum		195.3	
Total			38,302
Rated Capacity	916	916	
%Capacity	11.5	21.3	