



February 25, 2022

Municipality of West Grey
402813 Grey Road 4
RR#2
Durham, ON
N0G 1R0

Attention: Brent Glasier, Direct of Infrastructure and Public Works

**RE: Neustadt Drinking Water System
2021 Annual Report**

Brent,

Please find attached the 2021 Annual Operations Report 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 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, 2022.

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

Sincerely,

VEOLIA WATER CANADA INC.

A handwritten signature in black ink, appearing to read "G Prangley", written over a light blue horizontal line.

Greg Prangley
Project Manager

Veolia North America

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Montreal, QC H2Z 1B1

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2021 ANNUAL REPORT FOR WATER SYSTEMS

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 Municipal Residential
Period being reported:	January 1 – December 31, 2021

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 web site 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 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 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

<p>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.</p> <p>There is a water tower with a volume of 1200m³. It is equipped with an on-line chlorine analyzer. Post</p>

chlorinators are in place to booster chlorine levels leaving the tower, if 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
Tower free chlorine analyzer \$5180
New radio system \$8000
Well #2 inspection and repair of pitless adapter \$6000
Repaired pressure reducing valves \$2000
Replacement filters \$6,166

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	Units	Corrective Action	Corrective Action Date
January 25, 2021	UV disinfection	Brief loss of UV while system was running	n/a	None. Water was still safe to use	Jan. 25, 2021

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 Results (min #) - (max #)	Range of Total Coliform Results (min #) - (max #)	Number of HPC Samples	Range of HPC Results (min #) - (max #)
Raw Well #1	51	0	0	n/a	n/a
Raw Well #2	52	0	0-3	n/a	n/a
Raw Well #3	51	0	0-2	n/a	n/a
Treated (POE)	52	0	0	52	<10 - 50
Distribution	104	0	0	52	<10 - 20

Well #1 and #3 off line for a week in August

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 #)	Units
Turbidity - Treated	4860	0.04-0.73	NTU
Chlorine-Treated	4860	0.25**-2.00	mg/L
Chlorine - Distribution	416	0.71-1.61	mg/L
Fluoride (If the DWS provides fluoridation)	NA	NA	

** low chlorine events shut down the system as designed. Water was not going to users.

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	Unit of Measure
December 1, 2009	UV transmittance	2021 (monthly)	98.0-100	% transmittance

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

Parameter	Sample Date	Result Value POE	Distribution	Unit of Measure	Exceedance
Antimony	Aug 30/21	ND	-	mg/L	NO
Arsenic	Aug 30/21	1.3	-	µg/L	NO
Barium	Aug 30/21	0.13	-	mg/L	NO
Boron	Aug 30/21	0.029	-	mg/L	NO
Cadmium	Aug 30/21	ND	-	mg/L	NO
Chromium	Aug 30/21	0.25	-	µg/L	NO
Lead-see results below					
Mercury	Aug 30/21	ND	-	mg/L	NO
Selenium	Aug 30/21	ND	-	mg/L	NO
Sodium	Aug 4/20	5.3	-	mg/L	NO
Uranium	Aug 30/21	0.298	-	µg/L	NO
Fluoride	Aug 30/21	1.08	-	mg/L	NO
Nitrite	Feb 8/21	<0.003	-	mg/L	NO
Nitrate	Feb 8/21	<0.006	-	mg/L	NO
Nitrite	May 17/21	<0.003	-	mg/L	NO
Nitrate	May 17/21	0.007	-	mg/L	NO
Nitrite	Aug 30/21	<0.003	-	mg/L	NO
Nitrate	Aug 30/21	0.041	-	mg/L	NO
Nitrite	Nov. 15/21	<0.003	-	mg/L	NO
Nitrate	Nov. 15/21	<0.006	-	mg/L	NO

Summary of Lead Results during this reporting period (Winter: Dec. 15/20-April 15/21; Summer: June 15-Oct. 15/21)

Sampling Period	Range of Results (µg/L) from Residential Samples (# of Samples taken)	Non-residential locations (µg/L)	Distribution System (µg/L)	Any Adverse Water Quality Incidents?
Winter	n/a	n/a	n/a	NO
Summer	n/a	n/a	n/a	NO

Only alkalinity testing was required in this reporting period

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

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance
Alachlor	Aug 30/21	ND	µg/L	NO
Atrazine + N-dealkylated metabolites	Aug 30/21	ND	µg/L	NO
Azinphos-methyl (Guthion)	Aug 30/21	ND	µg/L	NO
Benzene	Aug 30/21	ND	µg/L	NO
Benzo(a)pyrene	Aug 30/21	ND	µg/L	NO
Bromoxynil	Aug 30/21	ND	µg/L	NO
Carbaryl	Aug 30/21	ND	µg/L	NO
Carbofuran	Aug 30/21	ND	µg/L	NO

Carbon Tetrachloride	Aug 30/21	ND	µg/L	NO
Chlorpyrifos	Aug 30/21	ND	µg/L	NO
Diazinon	Aug 30/21	ND	µg/L	NO
Dicamba	Aug 30/21	ND	µg/L	NO
1,2-Dichlorobenzene	Aug 30/21	ND	µg/L	NO
1,4-Dichlorobenzene	Aug 30/21	ND	µg/L	NO
1,2-Dichloroethane	Aug 30/21	ND	µg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	Aug 30/21	ND	µg/L	NO
Dichloromethane	Aug 30/21	ND	µg/L	NO
2,4-Dichlorophenol	Aug 30/21	ND	µg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	Aug 30/21	ND	µg/L	NO
Diclofop-methyl	Aug 30/21	ND	µg/L	NO
Dimethoate	Aug 30/21	ND	µg/L	NO
Diquat	Aug 30/21	ND	µg/L	NO
Diuron	Aug 30/21	ND	µg/L	NO
Glyphosate	Aug 30/21	ND	µg/L	NO
HAA (four quarter average)	Q1 – Q4 2021	<5.3	µg/L	NO
Malathion	Aug 30/21	ND	µg/L	NO
MCPA	Aug 30/21			
Metolachlor	Aug 30/21	ND	µg/L	NO
Metribuzin	Aug 30/21	ND	µg/L	NO
(Mono)chlorobenzene	Aug 30/21	ND	µg/L	NO
Paraquat	Aug 30/21	ND	µg/L	NO
Pentachlorophenol	Aug 30/21	ND	µg/L	NO
Phorate	Aug 30/21	ND	µg/L	NO
Picloram	Aug 30/21	ND	µg/L	NO
Polychlorinated Biphenyls(PCB)	Aug 30/21	ND	µg/L	NO
Prometryne	Aug 30/21	ND	µg/L	NO
Simazine	Aug 30/21	ND	µg/L	NO
THM (NOTE: show latest annual average)	Q1 – Q4 2021	11.9	µg/L	NO
Terbufos	Aug 30/21	ND	µg/L	NO
Tetrachloroethylene	Aug 30/21	ND	µg/L	NO
2,3,4,6-Tetrachlorophenol	Aug 30/21	ND	µg/L	NO
Triallate	Aug 30/21	ND	µg/L	NO
Trichloroethylene	Aug 30/21	ND	µg/L	NO
2,4,6-Trichlorophenol	Aug 30/21	ND	µg/L	NO
Trifluralin	Aug 30/21	ND	µg/L	NO
Vinyl Chloride	Aug 30/21	ND	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
Fluoride	Aug. 30/21	1.08	mg/L	1.5

Part 2 – SUMMARY REPORT (as required by O. Reg. 170/03, Schedule 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:

- 1) There was one instance where the UV was not running while water was being produced. On January 25, the UV reactor was restarted at the startup of the well cycle to address a wiper alarm. The well pumps were running, causing a pause in UV disinfection for a period of less than one (1) minute

Actions Required:

Corrective actions were completed at the time of the occurrence. No further actions required

System Capability Assessment								
Comparison of Flow Rates (m ³ /d):								
Month	Average Flow	Maximum Flow	Well 1 Avg Flow	Well 1 Max Flow	Well 2 Avg Flow	Well 2 Max Flow	Well 3 Avg Flow	Well 3 Max Flow
January	106	182	21.1	67.3	53.6	176	41.0	130
February	100	142	20.7	52.5	50.8	155	37.6	101
March	110	348	19.2	123	65.3	213	35.6	239
April	104	166	21.2	49.9	51.8	182	40.3	95.9
May	128	456	25.8	56.6	67.1	456	50.0	117
June	132	217	27.0	79.5	84.0	256	45.4	127
July	123	241	33.2	90.2	47.4	233	61.2	171
August	125	398	14.1	72.7	98.6	455	28.1	147
September	115	258	26.6	93.7	54.2	194	54.5	206
October	104	150	20.7	59.2	60.7	179	38.6	115
November	105	198	20.0	71.7	66.0	234	36.9	131
December	107	157	18.4	61.5	72.6	188	36.0	119
AVERAGE	113		22.4		64.5		42.2	
MAXIMUM	-	456	-	123	-	456	-	186
SYSTEM (PTTW) CAPACITY	916	916		276		916		527
% CAPACITY	12.4%	49.8%		44.6%		49.8%		45.4%