

Ministry of the Environment,
Conservation and Parks
Drinking Water and Environmental
Compliance Division
West Central Region
Hamilton District Office

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July 31, 2024

Darrin Wills
Engineering Technologist, DWQMS
Town of Niagara-on-the-Lake 1593
Four Mile Creek Rd Virgil, ON
Darrin.Wills@notl.com

Re: MECP Inspection - Bevan Heights Distribution System (DWS# 260062452)

Dear Mr. Wills,

Please find the enclosed copy of the inspection report # 1-369368142 for the Bevan Heights Distribution System completed under the Ministry's focused inspection protocol to assess compliance with Safe Drinking Water legislation. The report is based on conditions encountered at the time of inspection, and subsequent follow-up.

If applicable, any items with found within the section entitled "Non-Compliance/Non-Conformance Items" which have sections under legislative requirements outline non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, licenses, permits, orders, or guidelines. Please ensure that the required actions are completed within the prescribed timeframe, if applicable.

The items with "Not Applicable" legislative requirements provide information to the owner or operating authority outlining practices or standards established through existing and emerging industry standards that should be considered in order to advance current efforts. These items do not, in themselves, constitute violations. More recommendations may also be provided within the body of the report.

In order to measure individual inspection results, the Ministry has established an inspection compliance risk framework based on the principles of the Inspection, Investigation & Enforcement (II&E) Secretariat and advice of internal/external risk experts. The Inspection

Summary Rating Record (IRR), included as an Appendix of the inspection report, provides the Ministry, the system owner and the local Public Health Units with a summarized quantitative measure of the drinking water system's annual inspection and regulated water quality testing performance. IRR ratings are published (for the previous inspection year) in the Ministry's Chief

Drinking Water Inspectors' Annual Report. Please note, the IRR will be sent separately and prior to any public release (typically within 1-2 month of the completion of the inspection).

Thank you for your time and assistance during the inspection process. If you have any questions or concerns, do not hesitate to contact me or Elizabeth Chee Sing, Water Compliance Supervisor, West Central Region at 519-400-6731 or Elizabeth.cheesing@ontario.ca .

Sincerely,

A handwritten signature in cursive script that reads "Karl VanHeyst".

Karl VanHeyst
Provincial Officer
Drinking Water and Environmental Compliance Division

cc:

Darren Mackenzie- Manager Of Public Works, Town of Niagara-on-the-Lake

Colin Horne - Niagara Public Health Department

Jason Wolf - Niagara Public Health Department

Leilani Lee-Yates - Niagara Peninsula Conservation Authority

Thomas Proks- Niagara Peninsula Conservation Authority

Elizabeth Chee Sing – Water Compliance Supervisor, MECP

File



BEVAN HEIGHTS DISTRIBUTION SYSTEM

NIAGARA-ON-THE-LAKE, ON

INSPECTION REPORT

System Number: 260062452
Entity: CORPORATION OF THE TOWN
OF NIAGARA-ON-THE-LAKE
Inspection Start Date: July 24, 2024
Inspection End Date: July 29, 2024
Inspected By: Karl VanHeyst
Badge #: 1143



(signature)



Ministry of the Environment, Conservation and Parks

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INTRODUCTION

Scope

The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry drinking water policies and guidelines during the inspection period. The ministry utilizes a comprehensive, multi-barrier approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as management practices.

This drinking water system is subject to the legislative requirements of the Safe Drinking Water Act, 2002 (SDWA) and regulations made therein, including Ontario Regulation 170/03, "Drinking Water Systems" (O. Reg. 170/03). This inspection has been conducted pursuant to Section 81 of the SDWA.

This is a virtual focused (desktop) inspection, there was no site visit for this inspection.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

Facility Contacts and Dates

On June 17, 2024, water compliance officer Karl VanHeyst contacted the Town of Niagara-on-the-Lake that he was planning an announced virtual (desktop) focused inspection of the Niagara-on-the-Lake Distribution System, DWS # 260001380.

During the Inspection, the Inspector liaised with Darrin Wills, Engineering Technologist to obtain the required documentation and information. The water compliance officer asked that the requested documentation be available for inspection by July 8, 2024.

The inspection period was from September 1st, 2023 – June 15, 2024.

Systems/Components

The Town of Niagara-on-the-Lake is the Owner and Operator of the Town's two separate drinking water distribution systems:

- The Niagara-on-the-Lake Distribution System (DS), DWS # 260001380, which receives treated water from the St. Catharines (DeCew) Water Treatment Plant and the Niagara Falls Water Treatment Plant.

•The Bevan Heights Distribution System, DWS # 260062452, receives treated water from the City of Niagara Falls Distribution System. This water is treated by the Niagara Falls Water Treatment Plant which is owned and operated by the Region of Niagara.

Both Niagara-on-the-Lake Distribution Systems utilize the same management system (i.e. same operations and maintenance manual, procedures, and staff) and much of the information is similar, however, this report focuses solely on the Bevan Heights Distribution System. The Bevan Heights Distribution System is a class 1 small municipal residential system that receives treated water from the City of Niagara Falls Distribution system.

The Bevan Heights Distribution System serves approximately 80 customers, through approximately 2 km of Town watermains which are 150 mm in size. The system consists primarily of PVC watermains and there are approximately 16 fire hydrants and 19 valves located throughout the system.

Permissions/Approvals

DRINKING WATER WORKS PERMIT

Permit Number: 069-202, Issue Number: 5

MUNICIPAL DRINKING WATER LICENCE

Licence Number: 069-102, Issue Number: 4

NON-COMPLIANCE

This should not be construed as a confirmation of full compliance with all potential applicable legal requirements. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

RECOMMENDATIONS

This should not be construed as a confirmation of full conformance with all potential applicable BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

INSPECTION DETAILS

This section includes all questions that were assessed during the inspection.

Ministry Program: DRINKING WATER | **Regulated Activity:** DW Municipal Residential

Question ID	DWMR1034001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-2 (5); SDWA O. Reg. 170/03 7-2 (6);			
Question: Was secondary disinfectant residual tested as required for the small municipal residential distribution system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Secondary disinfectant residual was tested as required. The Town is required to take two sets of free chlorine residual (FCR) samples per week, at least 48 hours apart.			

Question ID	DWMR1099001	Question Type	Information
Legislative Requirement(s): Not Applicable			
Question: Do records show that water provided by the drinking water system met the Ontario Drinking Water Quality Standards?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records showed that all water sample results met the Ontario Drinking Water Quality Standards.			

Question ID	DWMR1082001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 11-2 (1); SDWA O. Reg. 170/03 11-2 (2); SDWA O. Reg. 170/03 11-2 (6);			
Question: Were distribution microbiological sampling requirements prescribed by Schedule 11-2 of O. Reg. 170/03 for small municipal residential systems met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Distribution microbiological sampling requirements were met. The Bevan Heights DS is required to take one microbiological sample per week. In addition,			

at least 25% of these samples must also be tested for Heterotrophic Plate Count (HPC). All distribution bacteriological sample requirements were met during the inspection period..

Question ID	DWMR1096001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 6-3 (1);			
Question: Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records confirmed that chlorine residual tests were conducted as required.			

Question ID	DWMR1086001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6.1 (1); SDWA O. Reg. 170/03 13-6.1 (2); SDWA O. Reg. 170/03 13-6.1 (3); SDWA O. Reg. 170/03 13-6.1 (4); SDWA O. Reg. 170/03 13-6.1 (5); SDWA O. Reg. 170/03 13-6.1 (6);			
Question: Were haloacetic acid sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Haloacetic acid sampling requirements were met. Haloacetic Acid (HAA) samples were collected and tested on a quarterly basis with an annual running average of 14.5 ug/L. The limit for this parameter is 80 ug/L.			

Question ID	DWMR1087001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 13-6 (1); SDWA O. Reg. 170/03 13-6 (2); SDWA O. Reg. 170/03 13-6 (3); SDWA O. Reg. 170/03 13-6 (4); SDWA O. Reg. 170/03 13-6 (5); SDWA O. Reg. 170/03 13-6 (6);			
Question: Were trihalomethane sampling requirements prescribed by Schedule 13-6 of O. Reg. 170/03 met?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Trihalomethane sampling requirements were met. Trihalomethane (THM) samples were collected and tested on a quarterly basis with an annual running average of 33.2 ug/L.			

The drinking water standard for THMs is 100 ug/L, expressed as a running annual average.

Question ID	DWMR1060001	Question Type	Legislative
Legislative Requirement(s): SDWA 31 (1);			
Question: Did the operations and maintenance manual(s) meet the requirements of the Municipal Drinking Water Licence?			
Compliance Response(s)/Corrective Action(s)/Observation(s): The operations and maintenance manual(s) met the requirements of the Municipal Drinking Water Licence.			

Question ID	DWMR1062001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 7-5;			
Question: Did records or other record keeping mechanisms confirm that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was done by a certified operator, water quality analyst, or person who met the requirements of Schedule 7-5 of O. Reg. 170/03.			

Question ID	DWMR1073001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 23 (1);			
Question: Was an overall responsible operator designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): An overall responsible operator was designated for all subsystem. According to the DWQMS Personnel Coverage document provided, (PW-DW-PRO-007001-Revision 6, Dated May 2017). The Town has designated the Engineering Technologist, DWQMS as the Primary ORO for both of the Town of Niagara-on-the-Lake's DWS's. In the absence of the ORO (i.e., training, vacation, illness, etc.), the Lead Hand - Water/Wastewater acts as a Backup ORO for the Town.			

In the absence of both the Primary and Backup ORO, another qualified operator will act as the back-up ORO, as appointed by the Department Supervisor.

Bevan Heights DS is classified as a Class 1 Distribution System which received Certificate #5064 on April 24, 2007.

The designated ORO is Darrin Wills, who holds a valid Class 2 license, expiring Aug 31, 2025.

Question ID	DWMR1074001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 25 (1);			
Question: Were operators-in-charge designated for all subsystems which comprise the drinking water system?			
Compliance Response(s)/Corrective Action(s)/Observation(s): Operators-in-charge were designated for all subsystems.			

Question ID	DWMR1075001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 128/04 22;			
Question: Were all operators certified as required?			
Compliance Response(s)/Corrective Action(s)/Observation(s): All operators were certified as required.			

Appendix A

A. Stakeholder Appendix

APPLICATION OF THE RISK METHODOLOGY USED FOR MEASURING MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEM INSPECTION RESULTS



The Ministry of the Environment (MOE) has a rigorous and comprehensive inspection program for municipal residential drinking water systems (MRDWS). Its objective is to determine the compliance of MRDWS with requirements under the Safe Drinking Water Act and associated regulations. It is the responsibility of the municipal residential drinking water system owner to ensure their drinking water systems are in compliance with all applicable legal requirements.

This document describes the risk rating methodology, which has been applied to the findings of the Ministry's MRDWS inspection

results since fiscal year 2008-09. The primary goals of this assessment are to encourage ongoing improvement of these systems and to establish a way to measure this progress.

MOE reviews the risk rating methodology every three years.

The Ministry's Municipal Residential Drinking Water Inspection Protocol contains 15 inspection modules consisting of approximately 100 regulatory questions. Those protocol questions are also linked to definitive guidance that ministry inspectors use when conducting MRDWS inspections.

ontario.ca/drinkingwater

The questions address a wide range of regulatory issues, from administrative procedures to drinking water quality monitoring. The inspection protocol also contains a number of non-regulatory questions.

A team of drinking water specialists in the ministry assessed each of the inspection protocol regulatory questions to determine the risk (not complying with the regulation) to the delivery of safe drinking water. This assessment was based on established provincial risk assessment principles, with each question receiving a risk rating referred to as the Question Risk Rating. Based on the number of areas where a system is deemed to be non-compliant during the inspection, and the significance of these areas to administrative, environmental, and health consequences, a risk-based inspection rating is calculated by the ministry for each drinking water system.

It is important to be aware that an inspection rating less than 100 per cent does not mean the drinking water from the system is unsafe. It shows areas where a system’s operation can improve. The ministry works with owners and operators of systems to make sure they know what they need to do to achieve full compliance.

The inspection rating reflects the inspection results of the specific drinking water system for the reporting year. Since the methodology is applied consistently over a period of years, it serves as a comparative measure both provincially and in relation to the individual system. Both the drinking water system and the public are able to track the performance over time, which encourages continuous improvement and allows systems to identify specific areas requiring attention.

The ministry’s annual inspection program is an important aspect of our drinking water safety net. The ministry and its partners share a common commitment to excellence and we continue to work toward the goal of 100 per cent regulatory compliance.

Determining Potential to Compromise the Delivery of Safe Water

The risk management approach used for MRDWS is aligned with the Government of Ontario’s Risk Management Framework. Risk management is a systematic approach to identifying potential hazards, understanding the likelihood and consequences of the hazards, and taking steps to reduce their risk if necessary and as appropriate.

The Risk Management Framework provides a formula to be used in the determination of risk:

RISK = LIKELIHOOD × CONSEQUENCE
(of the consequence)

Every regulatory question in the inspection protocol possesses a likelihood value (L) for an assigned consequence value (C) as described in **Table 1** and **Table 2**.

TABLE 1:	
Likelihood of Consequence Occurring	Likelihood Value
0% - 0.99% (Possible but Highly Unlikely)	L = 0
1 – 10% (Unlikely)	L = 1
11 – 49% (Possible)	L = 2
50 – 89% (Likely)	L = 3
90 – 100% (Almost Certain)	L = 4

TABLE 2:	
Consequence	Consequence Value
Medium Administrative Consequence	C = 1
Major Administrative Consequence	C = 2
Minor Environmental Consequence	C = 3
Minor Health Consequence	C = 4
Medium Environmental Consequence	C = 5
Major Environmental Consequence	C = 6
Medium Health Consequence	C = 7
Major Health Consequence	C = 8

The consequence values (0 through 8) are selected to align with other risk-based programs and projects currently under development or in use within the ministry as outlined in **Table 2**.

The Question Risk Rating for each regulatory inspection question is derived from an evaluation of every identified consequence and its corresponding likelihood of occurrence:

- All levels of consequence are evaluated for their potential to occur
- Greatest of all the combinations is selected.

The Question Risk Rating quantifies the risk of non-compliance of each question relative to the others. Questions with higher values are those with a potentially more significant impact on drinking water safety and a higher likelihood of occurrence. The highest possible value would be 32 (4×8) and the lowest would be 0 (0×1).

Table 3 presents a sample question showing the risk rating determination process.

TABLE 3:							
Does the Operator in Charge ensure that the equipment and processes are monitored, inspected and evaluated?							
Risk = Likelihood × Consequence							
C=1	C=2	C=3	C=4	C=5	C=6	C=7	C=8
Medium Administrative Consequence	Major Administrative Consequence	Minor Environmental Consequence	Minor Health Consequence	Medium Environmental Consequence	Major Environmental Consequence	Medium Health Consequence	Major Health Consequence
L=4 (Almost Certain)	L=1 (Unlikely)	L=2 (Possible)	L=3 (Likely)	L=3 (Likely)	L=1 (Unlikely)	L=3 (Likely)	L=2 (Possible)
R=4	R=2	R=6	R=12	R=15	R=6	R=21	R=16

Application of the Methodology to Inspection Results

Based on the results of a MRDWS inspection, an overall inspection risk rating is calculated. During an inspection, inspectors answer the questions related to regulatory compliance and input their “yes”, “no” or “not applicable” responses into the Ministry’s Laboratory and Waterworks Inspection System (LWIS) database. A “no” response indicates non-compliance. The maximum number of regulatory questions asked by an inspector varies by: system (i.e., distribution, stand-alone); type of inspection (i.e., focused, detailed); and source type (i.e., groundwater, surface water).

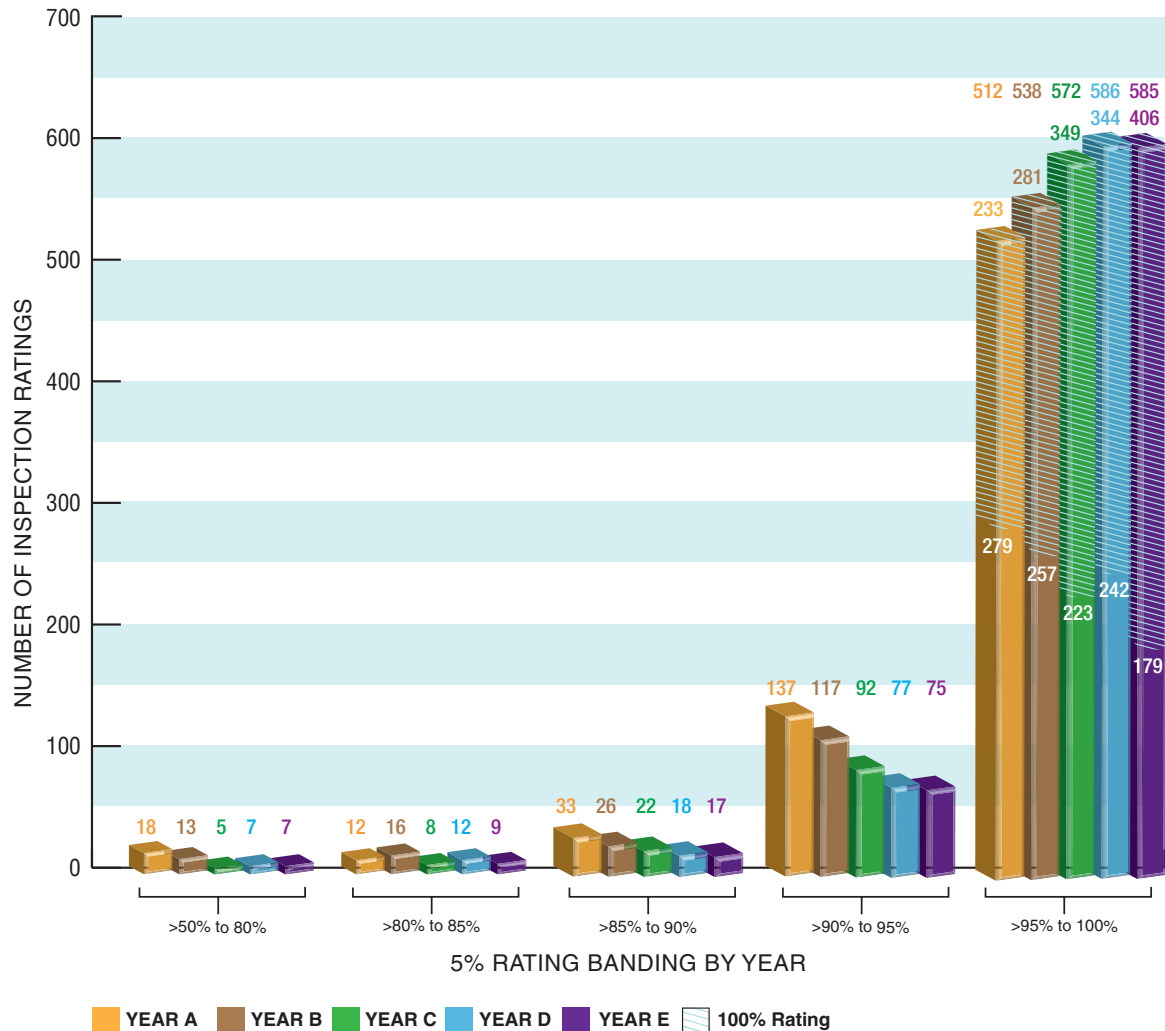
The risk ratings of all non-compliant answers are summed and divided by the sum of the risk ratings of all questions asked (maximum question rating). The resulting inspection risk rating (as a percentage) is subtracted from 100 per cent to arrive at the final inspection rating.

Application of the Methodology for Public Reporting

The individual MRDWS Total Inspection Ratings are published with the ministry’s Chief Drinking Water Inspector’s Annual Report.

Figure 1 presents the distribution of MRDWS ratings for a sample of annual inspections. Individual drinking water systems can compare against all the other inspected facilities over a period of inspection years.

Figure 1: Year Over Year Distribution of MRDWS Ratings



Reporting Results to MRDWS Owners/Operators

A summary of inspection findings for each system is generated in the form of an Inspection Rating Record (IRR). The findings are grouped into the 15 possible modules of the inspection protocol,

which would provide the system owner/operator with information on the areas where they need to improve. The 15 modules are:

1. Source

2. Permit to Take Water

3. Capacity Assessment

4. Treatment Processes
5. Treatment Process Monitoring

6. Process Wastewater

7. Distribution System

8. Operations Manuals
9. Logbooks

10. Contingency and Emergency Planning

11. Consumer Relations

12. Certification and Training
13. Water Quality Monitoring

14. Reporting, Notification and Corrective Actions

15. Other Inspection Findings

For further information, please visit www.ontario.ca/drinkingwater



Ministry of the Environment, Conservation and Parks

Appendix B

B. MOE Inspection Summary Rating Record

Ministry of the Environment, Conservation and Parks - Detailed Inspection Rating Record (Reporting Year - 2024-25)

DWS Name: BEVAN HEIGHTS DISTRIBUTION SYSTEM
DWS Number: 260062452
DWS Owner Name: CORPORATION OF THE TOWN OF NIAGARA-ON-THE-LAKE
Municipal Location: NIAGARA-ON-THE-LAKE

Regulation: O.REG. 170/03
DWS Category: DW Municipal Residential
Type of Inspection: Focused
Compliance Assessment Start Date: Jul-24-2024
Ministry Office: Niagara District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 128

Inspection Risk Rating:	0.00%
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FINAL INSPECTION RATING:	100.00%
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