



WIARTON DRINKING WATER SYSTEM Physical Address: 897 BAYVIEW ST, , SOUTH

BRUCE PENINSULA, ON NON

0N0

INSPECTION REPORT

Entity: ONTARIO CLEAN WATER

AGENCY

THE CORPORATION OF THE

TOWN OF SOUTH BRUCE

PENINSULA

Inspection Start Date: December 11, 2024 Site Inspection Date: December 11, 2024 Inspection End Date: February 04, 2025 Inspected By: Robert Graham

Badge #:

1667

(signature)



INTRODUCTION

Purpose

This announced, focused inspection was conducted to confirm compliance with Ministry of the Environment, Conservation and Parks' (MECP) legislation and conformance with ministry drinking water policies and guidelines.

Scope

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 and the operation of the system. The inspection of the drinking water system (DWS) included both the physical inspection of the component parts of the system listed in section 4 "Systems Components" of the report and the review of data and documents associated with the operation of the DWS during the review period.

This DWS 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 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

The Wiarton DWS is a Large Municipal Residential DWS (serves a major residential development and serves more than 100 private residences), Classified as a Class 3 Water Treatment Subsystem and a Class 2 Distribution Subsystem, owned by the Corporation of the Town of South Bruce Peninsula (Owner) and operated by the Ontario Clean Water Agency (OCWA/Operating Authority/OA). Information reviewed for this inspection covered the time period of December 15, 2023, the day following the previous inspection, to the inspection date on December 11, 2024. MECP Water Compliance Officer (WCO) Bob Graham met with OCWA staff members, Senior Operations Manager, Leo-Paul Frigault, Process & Compliance Technician, Karla Young and Operator, Dan Caesar, as part of the inspection process.

Systems/Components

The Wiarton Drinking Water System, located at the north end of Bayview Street, Wiarton, UTM Coordinates NAD 83, Zone 17 N, 489279.00 m E, 4955711.00 m N., consists of a surface water source, a drinking water treatment plant, one booster pumping station, one elevated storage tank and approximately 23.5 kilometers of distribution watermains.

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The Wiarton drinking water system is supplied by two 450 mm diameter polyethylene raw water intakes extending into Colpoy's Bay (Georgian Bay). The main intake extends approximately 180 metres into the bay. The second (back up) intake extends approximately 45 metres into the bay. Both intakes are equipped with zebra mussel control (sodium hypochlorite).

Treatment at the Wiarton drinking water system includes: pH adjustment or de-chlorination using sodium metabisulphite; chemically-assisted filtration (flocculation and dual media filters) using polyaluminium chloride; pre and post chlorination (sodium hypochlorite) and UV irradiation. An activated carbon feed system is also available for taste and odour control but is not currently in use.

The Wiarton distribution system has approximately 1062 service connections and serves an estimated population of 2,300 residents. There are approximately 23.5 kilometres of watermains and approximately 87 fire hydrants. Approximately 54% of the watermains are constructed of PVC with the remainder constructed of cast iron and ductile iron. The standpipe and booster station are located in a fenced area near the intersection of Jenny and Gould Streets. The standpipe has a volume of greater than two days water storage (2,893 cubic metres). The booster station services a pressure zone in the area of Gould Street, Daniel Street and Jenny Street.

Permissions/Approvals

This drinking water system was subject to specific conditions contained within the following permissions and/or approvals at the time of the inspection, in addition to the requirements of the SDWA and its regulations (please note this list is not exhaustive):

- Municipal Drinking Water Licence, Licence Number: 094-102, Issue Number: 4, dated March 6, 2020,
- Drinking Water Works Permit, Permit Number: 094-202, Issue Number: 4, dated March 6, 2020,
- Permit To Take Water Number 1354-CWWSNN, dated March 4, 2024.

Background and Compliance

As described previously, the Wiarton Drinking Water System, located at the north end of Bayview Street, Wiarton, UTM Coordinates NAD 83, Zone 17 N, 489279.00 m E, 4955711.00 m N., consists of a surface water source, a drinking water treatment plant, one booster pumping station, one elevated storage tank and approximately 23.5 kilometers of distribution watermains.

Drinking water produced at the Wiarton WTP is being transported from the Wiarton Water Treatment Plant to the Oliphant DWS pumphouse, which is operating as a storage reservoir and a re-chlorination station and supplying drinking water to the Oliphant DWS. The Oliphant DWS is owned by The Corporation of the Town of South Bruce Peninsula and operated by OCWA.

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The Wiarton WTP (donor) also serves the Oxenden Distribution System (receiver) which is located east of the Town of Wiarton, in the Township of Georgian Bluffs. This distribution system is owned by the Township of Georgian Bluffs and operated by OCWA. Oxenden is a residential area with population of less than 500 consumers. The receiving system is claiming exemptions to O. Reg. 170/03 available under subsection 5 (4), and an agreement with the donor satisfies the requirements prescribed by subsection 5(4). On September 18, 2019 a Water Supply Agreement was adopted between The Corporation of The Town of South Bruce Peninsula (donor) and The Corporation of The Township of Georgian Bluffs (receiver) in Georgian Bluffs By-Law 2019-105 for the Oxenden Distribution System. The Water Supply Agreement replaces a previous expired agreement between The Town of Wiarton and The Township of Keppel (Keppel By-Law 455-97) dated April 14, 1997.

CT calculation provided by the OA.

The total treatment credits as listed in the Wiarton Disinfection Performance Assessment are; Crypto is achieved by 2 log filtration and 24 log UV credits, Giardia is achieved by 2 log filtration, 0.1 log chlorine contact and 24 log UV credits, viruses is achieved by 1 log filtration, 3 log chlorine contact and 3 log UV credits. According to the Procedure for Disinfection if Drinking Water in Ontario for a 3 log (99.99%) Inactivation of Viruses by Free Chlorine with a Raw Water temperature of 0.5 degrees Celsius, with a pH between 6 – 9 is required for a CT value = 9

Clearwell capacity =751 m3

Minimum clearwell level =60%

Baffle ratio = 0.3

Flow rate = 5400 m3/day (3.75 m3/min)

Effective Contact time = $(751 \times 0.6 \times 0.3) / 3.75$

Effective Contact Time = 135.18 / 3.75 = 36.04 min

CT (required) = Disinfection Residual Concentration (mg/L) x Effective contact time (min)

Minimum Disinfection Residual (mg/L) = CT (required) / Effective contact time (min)

Minimum Disinfection Residual (mg/L) = 9/36.04 = 0.249

A minimum Free Chlorine Concentration of 0.25 mg/L is required to meet primary disinfection with a minimum clearwell volume of 450.6 m3 (60%).

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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.

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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.

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INSPECTION DETAILS

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

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

Question ID	DWMR1012001	Question Type	Legislative
Legislative Ro	equirement(s): 1);		

Question:

Did the owner have a harmful algal bloom monitoring plan in place that met the requirements of the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner had a harmful algal bloom monitoring plan in place which met the requirements.

Condition 6.0, Schedule C of the MDWL requires the Owner to develop a Harmful Algal (Cyanobacteria) Bloom monitoring, reporting and sampling plan on or before November 16, 2020. A Harmful Algal Bloom Monitoring, Reporting And Sampling Plan Standard Operating Procedure was implemented on 2013-07-02 and was subsequently revised on 2020-11-16, 2020-12-18 and 2020-12-22 to meet the above-referenced Licence.

Question ID	DWMR1014001	Question Type	Legislative	
Legislative Requirement(s): SDWA 31 (1);				
Question:				

Was flow monitoring performed as required by the Municipal Drinking Water Licence or Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Flow monitoring was performed as required.

Question ID	DWMR1016001	Question Type	Legislative
Legislative Ro	equirement(s):		

Question:

Was the owner in compliance with the conditions associated with maximum flow rate or the rated/operational capacity in the Municipal Drinking Water Licence?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner was in compliance with the conditions associated with maximum flow rate and/or

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the rated/operational capacity conditions.

Condition 1.1 of Schedule C of the MDWL identifies that the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system at the Wiarton Water Treatment Plant shall not exceed 5,400 m3/day. During the inspection review time period the maximum daily flow of treated water was recorded at 1517.36 m3 in September 2024, representing approximately 28% of the maximum daily flow rate.

Question ID	DWMR1018001	Question Type	Legislative
Legislative Re	equirement(s):		

Question:

Did the owner ensure that equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner ensured that equipment was installed as required.

The equipment installed at the Wiarton DWS plant compares favourably to the equipment listed in the DWWP issued for the Wiarton DWS. The process flow diagram included in Schedule D of the Permit also appears to be accurate. All equipment described in the Permit appeared to be installed and operational on the date of this inspection, with exception of; the low lift works Travelling Screen and the Activated Carbon Feed System for taste and odour control. Both are described by OCWA as functional but typically not use due to the high quality source water of Georgian Bay.

Question ID	DWMR1023001	Question Typ	e Legislative
_	equirement(s): eg. 170/03 1-2 (2);		

Question:

Did records indicate that the treatment equipment was operated in a manner that achieved the design capabilities prescribed by O. Reg. 170/03, Drinking Water Works Permit and/or Municipal Drinking Water Licence at all times that water was being supplied to consumers?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Records indicated that the treatment equipment was operated in a manner that achieved the design capabilities prescribed.

Treatment for a surface water source is required to achieve 2-log removal or inactivation of Cryptosporidium oocysts, a 3-log removal or inactivation of Giardia cysts and a 4-log removal or inactivation of viruses. These requirements are reportedly met by coagulation, clarification and filtration followed by UV disinfection and chlorination with sodium hypochlorite for both primary and secondary disinfection purposes. According to Schedule E of the MDWL, the direct filtration process is credited with 2 log Giardia cyst removal, 2 log Cryptosporidium

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oocyst removal and 1 log virus removal credits, if the filtration process meets the following criteria:

- -a chemical coagulant is used at all times when the treatment plant is in operation;
- -chemical dosages are monitored and adjusted in response to variations in raw water quality;
- -effective backwash procedures are maintained, including filter-to-waste or an equivalent procedure during filter ripening to ensure that the effluent turbidity requirements are met at all times:
- -filtrate turbidity is continuously monitored from each filter; and, -the performance criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month are met for each filter.

The UV disinfection process is credited with 3 log Giardia cyst removal, 2 log Cryptosporidium oocyst removal and 2 log virus removal credits, if the UV disinfection process meets Licence Schedule E UV treatment criteria.

The Chlorination process is credited with 1+ log virus removal credits if the chlorination process meets MDWL Schedule E chlorination treatment criteria.

Records reviewed indicate that the Wiarton Water Treatment Plant was operated to achieve the necessary UV criteria, CT requirements and filter performance criteria for primary disinfection purposes during the inspection cycle.

Question ID	DWMR1026001	Question Type	Legislative
1			

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-6 | (2);

Question:

If primary disinfection equipment did not use chlorination or chloramination, was the equipment equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 1-6 of O. Reg. 170/03?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Primary disinfection equipment was equipped with alarms or shutoff mechanisms that satisfied the standards.

Schedule E of the MDWL identifies that the Direct Filtration (two (2) dual media gravity filters) and the UV disinfection system are credited with primary disinfection pathogen log removal/inactivation credits.

The Direct Filtration system is credited with primary disinfection pathogen log removal/inactivation credits of 2 for Cryptosporidium Oocysts, 2 for Giardia Cysts and 1 for Viruses, provided that the treatment process is fully operational and log removal/inactivation credit assignment criteria is being met. The criteria includes:

- 1. A chemical coagulant shall be used at all times when the treatment plant is in operation;
- 2. Chemical dosages shall be monitored and adjusted in response to variations in raw water quality:
- 3. Effective backwash procedures shall be maintained including filter-to-waste or an equivalent procedure during filter ripening to ensure that effluent turbidity requirements are

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met at all times:

- 4. Filtrate turbidity shall be continuously monitored from each filter; and
- 5. Performance criterion for filtered water turbidity of less than or equal to 0.3 NTU in 95% of the measurements each month shall be met for each filter.

The UV disinfection system is credited with primary disinfection pathogen log removal/inactivation credits of 2 for Cryptosporidium Oocysts, 3 for Giardia Cysts and 2 for Viruses, provided that the treatment process is fully operational and log removal/inactivation credit assignment criteria is being met. Schedule C of the MDWL further identifies that the UV disinfection equipment at the Wiarton WTP shall maintain a minimum continuous pass-through UV dose of 40 mJ/cm2.

To ensure that the above-referenced Schedule requirements are met, and that the UV disinfection system satisfies the standards described in Section 1-6 (1) of Schedule 1 of Ontario Regulation 170/03, a low SCADA alarm set point trigger of 41.0 mj/cm2 acts as a banner alarm and a low low alarm set point of 40.0 mJ/cm2, if triggered, shuts down the DWS high lift pumps ceasing water production and notifies the on-call operator to attend the site.

The turbidity alarm set points on the two filter trains is high 0.30 NTU and high/high 0.8 NTU at which time the plant shuts down ceasing water production until rectified. In both instances, the alarms are sent to OCWA operators notifying of the plant shutdown and notifies the on-call operator to attend the site.

Question ID	DWMR1024001	Question Type	Legislative
Legislative R	equirement(s):		
SDWA I O. Re	eg. 170/03 1-2 (2);		

Question:

Did records confirm that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection was operated as required.

Following completion of the intended chlorine contact time for primary disinfection purposes, free available chlorine residual is maintained out and into the distribution system for secondary disinfection purposes to reduce the potential for microbial re-growth within the distribution system, and in accordance with section 1-5 of Schedule 1, O.Reg.170/03. DWS data reviewed during the inspection review period identified that the free chlorine residuals sampled/tested in the distribution system exceeded the minimum distribution system chlorine residual regulatory limit of 0.05 mg/L.

Question ID	DWMR1033001	Question Type	Legislative	
Legislative Requirement(s):				
SDWA O. Re	eg. 170/03 7-2 (3); SDWA O.	Reg. 170/03 7-2 (4	.);	

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Question:

Was secondary disinfectant residual tested as required for the large municipal residential distribution system?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Secondary disinfectant residual was tested as required.

The Wiarton DWS provides chlorination for secondary disinfection purposes in accordance with Section 1-5, Schedule 1, Ontario Regulation (O.Reg.) 170/03. Currently there is no continuous monitoring of secondary disinfectant occurring within the distribution system and the municipality is required to conduct secondary disinfection monitoring by grab samples. Subsection 7-2 (3), Schedule 7, O.Reg.170/03 requires the Owner to ensure that at least seven distribution samples are taken each week and that those samples be tested immediately for free chlorine residual. Where secondary disinfection chlorine testing is not being conducted on a daily basis or by continuous monitoring, Subsection 7-2 (4), Schedule 7, O.Reg.170/03 requires that:

- 1. At least four of the samples must be taken on one day of the week, at least 48 hours after the last sample was taken in the previous week.
- 2. At least three of the samples must be taken on a second day of the week, at least 48 hours after the last sample was taken on the day referred to in paragraph 1.
- 3. When more than one sample is taken on the same day of the week under paragraph 1 or
- 2, each sample must be taken from a different location.

Records provided by OCWA and reviewed during the inspection period indicate that OCWA complied with these requirements, testing free chlorine residual for secondary disinfection monitoring purposes from 2 locations 7 days a week. Additionally, records identify that OCWA is testing free chlorine residual for secondary disinfection monitoring at four samples locations on one day of the week, with at least 48 hours after the last sample was taken in the previous week, followed by four samples taken on a second day of the week, at least 48 hours after the last sample was taken on the day, each from a different location, as referred to above in Subsection 7-2 (4).

On the date of this inspection, OCWA operators measured the free available chlorine residual in the distribution system at three locations and found the free available chlorine residual to be adequate with results of 1.16 mg/L at the Booster Station, 1.12 mg/L at Pump Station No. 1 and 1.32 mg/L at the Filter Building.

Question ID	DWMR1030001	Question Type	Legislative	
Legislative Requirement(s):				
SDWA O. Re	SDWA O. Reg. 170/03 7-2 (1); SDWA O. Reg. 170/03 7-2 (2);			

Question:

Was primary disinfection chlorine monitoring being conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit or at/near a location where the intended CT had just been achieved?

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Primary disinfection chlorine monitoring was conducted as required.

Question ID	DWMR1032001	Question Type	Legislative
	equirement(s):		
SDWA O. Re	eg. 170/03 7-3 (2);		

Question:

If the drinking water system obtained water from a surface water source and provided filtration, was continuous monitoring of each filter effluent line performed for turbidity?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Continuous monitoring of each filter effluent line was performed for turbidity.

For large municipal residential systems that use surface water or GUDI as the source and are required to provide filtration, Reg.170/03, Schedule 7 section 7(3)(2) requires continuous monitoring equipment of each filter effluent line. Continuous monitoring for turbidity is required only for the filter effluent that is directed to the next treatment process/stage (and eventually to the distribution system). Gaps in data should correlate to times when the plant was not treating water, or for maintenance of the analyzer; this is being met. The filter train alarms are present to help ensure compliance with the Procedure for Disinfection of Drinking Water in Ontario effluent turbidity requirements of being less than or equal to 0.30 NTU in 95% of the measurements recorded each month on each filter effluent line.

Question ID	DWMR1035001	Question Type	Legislative
_	equirement(s):		

SDWA | O. Reg. 170/03 | 6-5 | (1)1-4;

Question:

Were operators examining continuous monitoring test results and did they examine the results within 72 hours of the test?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Operators were examining continuous monitoring test results as required.

Question ID	DWMR1038001	Question Type	Legislative
Legislative Requirement(s):			
SDWA O. Re	eg. 170/03 6-5 (1)1-4;		

Question:

Was continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements performing tests for the parameters with at least the minimum frequency and

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recording data with the prescribed format?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Continuous monitoring equipment that was being utilized to fulfill O. Reg. 170/03 requirements was performing tests for the parameters with at least the minimum frequency and recording data with the prescribed format.

Question ID	DWMR1037001	Question Type	Legislative
Question ID	DVVIVIR 1037001	Question Type	Legisia

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:

Were all continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or Municipal Drinking Water Licence or Drinking Water Works Permit or order, equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All required continuous monitoring equipment utilized for sampling and testing were equipped with alarms or shut-off mechanisms that satisfied the standards

The Wiarton water treatment plant is equipped with continuous analyzers and SCADA alarms for free chlorine and turbidity. At the time of inspection, the alarm set points for the clearwell water chlorine analyzer is low 0.75 mg/L and low/low 0.70 mg/L; when the low low alarm is triggered, the system locks out ceasing water production ensuring the system meets their CT requirements and allows time for an operator to intervene.

The turbidity set points on the two filter trains is high 0.30 NTU and high/high 0.8 NTU at which time the plant shuts down ceasing water production until rectified. In both instances, the alarms are sent to OCWA operators notifying of the plant shutdown.

 Question ID
 DWMR1040001
 Question Type
 Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 6-5 | (1)1-4; SDWA | O. Reg. 170/03 | 6-5 | (1)5-10;

Question:

Were all continuous analysers calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All continuous analysers were calibrated, maintained, and operated as required.

The potable water plant is equipped with continuous analysers for pH, chlorine residual, turbidity, and temperature. Analyzer verifications are completed by operators a minimum of once per month, or as needed to meet the manufacturer's recommendations, to ensure

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effective operation and accuracy. The calibration results are recorded in facility log books and monthly process and compliance status reports. Annual analyzer accuracy verification checks and calibrations were performed by ClearTech on May 3, 2024. Annual flow meters accuracy verification checks and calibrations were performed by SCG Flowmetrix on May 28 and 29, 2024.

Question ID	DWMR1108001	Question Type	Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 6-5 | (1)5-10; SDWA | O. Reg. 170/03 | 6-5 | (1.1);

Question:

Where continuous monitoring equipment used for the monitoring of free chlorine residual, total chlorine residual, combined chlorine residual or turbidity, required by O. Reg. 170/03, Municipal Drinking Water Licence, Drinking Water Works Permit, or order triggered an alarm or an automatic shut-off, did a qualified person respond as required and take appropriate actions?

Compliance Response(s)/Corrective Action(s)/Observation(s):

A qualified person responded as required and took appropriate actions.

Question ID	DWMR1039001	Question Type	Legislative	
Landalothus Danishansant/a):				

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-6 | (3);

Question:

If primary disinfection equipment that does not use chlorination or chloramination was used, did the owner and operating authority ensure the equipment had a recording device that continuously recorded the performance of the disinfection equipment?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner and operating authority ensured that the primary disinfection equipment had a recording device that continuously recorded the performance of the disinfection equipment.

Question ID	DWMR1109001	Question Type	Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 1-6 | (1); SDWA | O. Reg. 170/03 | 1-6 | (2);

Question:

If the system used equipment for primary disinfection other than chlorination or chloramination and the equipment malfunctioned, lost power, or ceased to provide the appropriate level of disinfection, causing an alarm or an automatic shut-off, did a certified operator respond as required and take appropriate actions?

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A certified operator responded as required and took appropriate actions.

Question ID	DWMR1042001	Question Type	Legislative		
Legislative Requirement(s):					
SDWA 31 (1);				

Question:

If UV disinfection was used, were duty sensors and reference UV sensors checked and calibrated as per the requirements of Schedule E of the Municipal Drinking Water Licence or at a frequency as otherwise recommended by the UV equipment manufacturer?

Compliance Response(s)/Corrective Action(s)/Observation(s):

All UV sensors were checked and calibrated as required.

Records provided by OCWA identify that duty UV sensors were checked monthly against a reference UV sensor, with the calibration ratio (intensity measured with the duty sensor/intensity measured with the reference UV sensor) documented to be less than or equal to 1.2, in compliance with Schedule E of the MDWL. Reference UV sensors shall be checked against a Master Reference Assembly at a minimum frequency of once every three years or on a more frequent basis depending upon the recommendations of the equipment manufacturer.

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	DWMR1083001	Question Type	Legislative
	equirement(s): eg. 170/03 10-3;		

Question:

Were treated microbiological sampling requirements prescribed by Schedule 10-3 of O. Reg. 170/03 for large municipal residential systems met?

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Treated microbiological sampling requirements were met.

Section 10-3 of Schedule 10, O.Reg.170/03 requires the Owner to ensure samples are collected at least once every week from the system's treated water at the point of entry into the distribution system. The samples collected are required to be tested for E.Coli and total coliform, and general bacteria populations expressed as colony counts on a heterotrophic plate count. Records reviewed in the course of this inspection indicate that the Owner complied with these requirements. There were no concerns identified with the results obtained.

Question ID	DWMR1081001	Question Type	Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 10-2 | (1); SDWA | O. Reg. 170/03 | 10-2 | (2); SDWA | O. Reg. 170/03 | 10-2 | (3);

Question:

Were distribution microbiological sampling requirements prescribed by Schedule 10-2 of O. Reg. 170/03 for large municipal residential systems met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Distribution microbiological sampling requirements were met.

The owner of a large municipal residential drinking water system shall ensure that if the system serves a population of 100,000 or less, at least 8 distribution samples plus one for every thousand people served by the system are taken every month. At least one of the samples must be taken each week. As Wiarton's DWS population is estimated to be 2300 residents, ten samples must be collected from the distribution system on a monthly basis at a minimum. These samples are required to be tested for E.Coli. and total coliform; and at least 25 percent of the samples are required to be tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. Records obtained indicate that the Owner is routinely collecting three distribution samples each week in order to comply with, and exceed, the regulatory requirement. Each of those samples were tested for E.Coli., total coliform, and approximately one third of the samples were tested for general bacteria populations expressed as colony counts on a heterotrophic plate count. There were no concerns identified with the results obtained.

Question ID	DWMR1096001	Question Type	Legislative
•	equirement(s): eg. 170/03 6-3 (1);		

Question:

Did records confirm that chlorine residual tests were conducted at the same time and location as microbiological samples?

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Records confirmed that chlorine residual tests were conducted as required.

Question ID	DWMR1084001	Question Type	Legislative	
Legislative Requirement(s):				
SDWA O. Reg. 170/03 13-2;				

Question:

Were inorganic parameter sampling requirements prescribed by Schedule 13-2 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Inorganic parameter sampling requirements were met.

Sampling and testing for inorganic parameters has been conducted for the Wiarton DWS in accordance with Schedule 13-2 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 23; this requirement has been met. The OA provided the most recent results for samples collected on January 2, 2024.

Question ID	DWMR1085001	Question Type	Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 13-4 | (1); SDWA | O. Reg. 170/03 | 13-4 | (2); SDWA | O. Reg. 170/03 | 13-4 | (3);

Question:

Were organic parameter sampling requirements prescribed by Schedule 13-4 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Organic parameter sampling requirements were met.

(5); SDWA | O. Reg. 170/03 | 13-6.1 | (6);

Sampling and testing for organic parameters has been conducted for the Wiarton DWS in accordance with Schedule 13-4 of Ontario Regulation 170/03. The regulation requires that samples are to be collected every 12 months and tested for each parameter listed in Schedule 24; this requirement has been met. The OA provided the most recent results for samples collected on January 2, 2024.

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	

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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.

Section 13-6.1 (1)of Schedule 13, O.Reg.170/03 requires the Owner/OCWA to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Haloacetic Acids (HAA), and tested for HAAs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. A drinking water quality standard of 80 micrograms per Litre (ug/L) for haloacetic acids took effect under O.Reg.169/03 "Ontario Drinking Water Quality Standards" (ODWQS) on January 1, 2020. It is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly HAA results for a drinking water system. HAAs will generally form at the beginning of the distribution system. Sampling for the inspection period occurred on January 2 (18.9 ug/L), April 2 (15.3 ug/L), July 2 (16.2 ug/L) and October 1, 2024 (18.4 ug/L). During the inspection review period there were no concerns with the RAA concentration for HAAs in the Wiarton DWS. The Ontario Drinking Water Quality Standard is a RAA concentration of 80 ug/L.

Question ID DWM	1R1087001
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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.

Section 13-6 of Schedule 13, O.Reg.170/03 requires the Owner/OCWA (Operating Authority) to ensure that at least one distribution sample is taken every 3 months from a point in the drinking water system's distribution system, or in plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of Trihalomethanes (THMs), and tested for THMs. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. A drinking water quality standard of 100 micrograms per Litre (ug/L) for THMs is in effect under O.Reg.169/03 "Ontario Drinking Water Quality Standards" (ODWQS) and it is expressed as a Running Annual Average (RAA), where the RAA is defined as the average for quarterly THM results for a drinking water system. Sampling for the inspection period occurred on January 2 (34.0 ug/L), April 2 (32.0

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ug/L), July 2 (47.0 ug/L), and October 1, 2024 (50.0 ug/L). During the inspection review period there were no concerns with the RAA concentration for THMs in the Wiarton DWS. The Ontario Drinking Water Quality Standard is a RAA concentration of 100 ug/L.

Question ID	DWMR1088001	Question Type	Legislative
Legislative Requirement(s):			

SDWA | O. Reg. 170/03 | 13-7;

Question:

Were nitrate/nitrite sampling requirements prescribed by Schedule 13-7 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Nitrate/nitrite sampling requirements were met.

Section 13-7 of Schedule 13, O.Reg.170/03 requires the Owner/OCWA to ensure that at least one water sample is taken every three months and tested for nitrates and nitrites. Section 6-1.1 of Schedule 6, O.Reg.170/03 requires that these samples be taken at least 60 days, and not more than 120 days, after a sample was taken for that purpose in the previous three month period. The Owner complied with these requirements when they conducted the required monitoring on January 2, April 2, July 2, October 1, 2024. There were no concerns identified with the sample results obtained.

 Question ID
 DWMR1089001
 Question Type
 Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 13-8;

Question:

Were sodium sampling requirements prescribed by Schedule 13-8 of O. Reg. 170/03 met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Sodium sampling requirements were met.

Section 13-8 of Schedule 13, O.Reg.170/03 requires that the Owner/OCWA to ensure that a water sample is taken every 60 months and tested for sodium. Records previously provided by the Owner indicate that OCWA conducted sampling for sodium on January 3, 2023 and achieved a result of 6.70 mg\L. The next sodium sample results are due in January 2028.

Question IDDWMR1090001Question TypeLegislativeLegislative Requirement(s):
SDWA | O. Reg. 170/03 | 13-9;

Question:

Where fluoridation is not practiced, were fluoride sampling requirements prescribed by Schedule 13-9 of O. Reg. 170/03 met?

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Fluoride sampling requirements were met.

Section 13-9 of Schedule 13, O.Reg.170/03 requires the Owner/OCWA to ensure that at least one water sample is taken every 60 months and tested for fluoride. Records previously provided by the Owner indicate that OCWA conducted sampling for fluoride on January 3, 2023 and achieved a result of 0.06 mg/L, below the Ontario Regulation 169/03 Ontario Drinking Water Quality Standard of 1.5 mg/L for fluoride. The next fluoride sample results are due in January 2028.

Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Were water quality sampling requirements imposed by the Municipal Drinking Water Licence and Drinking Water Works Permit met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Water quality sampling requirements were met.

Wastewater from the backwash process for the chemically-assisted filtration system is discharged to a wastewater sedimentation tank where suspended solids are permitted to settle. MDWL Schedule C, Table 3 identifies that the annual average concentration of Backwash Wastewater Facility Suspended Solids discharged from the holding tank shall not exceed 25 mg/L and the annual average concentration of total chlorine residual shall not exceed 0.02 mg/L. Table 7 identifies that Backwash Wastewater Suspended Solids and total chlorine residual parameters shall be comprised of manual composite samples taken monthly at the point of discharge from the filter backwash tank. During the inspection review period the above requirements were met and there were no concerns with the results.

Question ID	DWMR1104001	Question Type	Legislative
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Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 16-6 | (1); SDWA | O. Reg. 170/03 | 16-6 | (2); SDWA | O. Reg. 170/03 | 16-6 | (3); SDWA | O. Reg. 170/03 | 16-6 | (3.1); SDWA | O. Reg. 170/03 | 16-6 | (3.2); SDWA | O. Reg. 170/03 | 16-6 | (4); SDWA | O. Reg. 170/03 | 16-6 | (5); SDWA | O. Reg. 170/03 | 16-6 | (6);

Question:

Were immediate verbal notification requirements for adverse water quality incidents met?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Immediate verbal notification requirements for adverse water quality incidents were met.

On February 28, 2024, OWCA provided immediate verbal reporting of AWQI No. 164537 concerning a Total Coliform (8 cfu/100mL) treated water point of entry adverse water sample test result exceedance at the DWS. The verbal report was given by OCWA staff speaking in

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person by telephone to the office of the Medical Officer of Health or an on-call person, and the MECP Spills Action Centre as required under SDWA | O. Reg. 170/03 | 16-6 | (1).

Question ID DWMR1101001 Question Type Legislative

Legislative Requirement(s):

SDWA | O. Reg. 170/03 | 17-1; SDWA | O. Reg. 170/03 | 17-10 | (1); SDWA | O. Reg. 170/03 | 17-11; SDWA | O. Reg. 170/03 | 17-12; SDWA | O. Reg. 170/03 | 17-13; SDWA | O. Reg. 170/03 | 17-14; SDWA | O. Reg. 170/03 | 17-2; SDWA | O. Reg. 170/03 | 17-3; SDWA | O. Reg. 170/03 | 17-4; SDWA | O. Reg. 170/03 | 17-5; SDWA | O. Reg. 170/03 | 17-6; SDWA | O. Reg. 170/03 | 17-9;

Question:

For large municipal residential systems, were corrective actions, including any steps directed by the Medical Officer of Health, taken to address adverse conditions?

Compliance Response(s)/Corrective Action(s)/Observation(s):

Corrective actions were taken to address adverse conditions.

On February 28, 2024, OCWA reported AWQI No. 164537 concerning a Total Coliform (8 cfu/100mL) treated water point of entry adverse water sample test result exceedance at the DWS as required. The required regulatory Corrective Actions, to resample and test as soon as reasonably possible in respect of Total Coliforms, were undertaken. The resample and test results returned 0 cfu/100mL E.coli, and 0 cfu/mL Total Coliform. No additional steps were directed by the Medical Officer of Health, to address adverse conditions, beyond the above described MECP regulatory Corrective Actions.

Question IDDWMR1114001Question TypeLegislative

Legislative Requirement(s):

SDWA | 31 | (1);

Question:

Did the owner have evidence that, when required, all legal owners associated with the drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner had evidence that the required notifications were made.

OCWA provided the following information that, when required, all legal owners associated with the drinking water system were notified of the requirements of the Municipal Drinking Water Licence and Drinking Water Works Permit:

"Procedure for contractors to have appropriate documents for watermain commissioning: In order to ensure that contractors are aware of the Owner/OCWA's SOP for Commissioning new watermains, contract/tender documents and the following clause was added to tender documents related to new or replacement water mains: "Watermain testing and commissioning to be completed in accordance with Standard Operating Procedures (SOP)

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per OCWA standards. All necessary forms shall follow the format specified in the SOP and OCWA staff to review watermain commissioning report prior to any final connections."

Additionally, the Owner completed a standardized check list that will be used during all preconstruction meetings that summarizes key requirements for each project. OCWA's SOP is included in this checklist as part of the watermain section to ensure it is discussed/reviewed during pre-construction meetings.

Question ID DV	VMR1054001	Question Type	Information
Legislative Requirement(s): Not Applicable			

Question:

Was an agreement in place that satisfied the requirements prescribed by subsection 5(4) of O. Reg. 170/03?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The agreement in place satisfied the requirements.

Question ID	DWMR1055001	Question Type	Legislative
•	equirement(s): eg. 170/03 5 (5);		

Question:

If there were standalone distribution systems connected to this donor system, was the owner of the donor system in compliance with all agreements made under subsection 5(4) of O. Reg. 170/03?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner of the donor system was in compliance with all agreements.

The receiving system was claiming exemptions to O. Reg. 170/03 available under subsection 5 (4), and the agreement with the donor satisfied the requirements prescribed by subsection 5 (4).

On September 18, 2019 a Water Supply Agreement was adopted between The Corporation of The Town of South Bruce Peninsula (donor) and The Corporation of The Township of Georgian Bluffs (receiver) in Georgian Bluffs By-Law 2019-105 for the Oxenden Distribution System. The Water Supply Agreement replaces a previous expired agreement between The Town of Wiarton and The Township of Keppel (Keppel By-Law 455-97) dated April 14, 1997.

Question ID	DWMR1060001	Question Type	Legislative
Legislative Ro	equirement(s):		

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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.

Condition 16, Schedule B of the Licence prescribes that the operations and maintenance manual include at a minimum:

- -the requirements of the licence and associated procedures;
- -the requirements of the drinking water works permit for the drinking water system;
- -a description of the processes used to achieve primary and secondary disinfection within the drinking water system, including where applicable a copy of the CT calculations that were used as the basis for primary disinfection under worst case operating conditions;
- -procedures for monitoring and recording the in-process parameters necessary for the control of any treatment subsystem and for assessing the performance of the drinking water system; -procedures for the operation and maintenance of monitoring equipment;
- -contingency plans and procedures for the provision of adequate equipment and material to deal with emergencies, upset conditions and equipment breakdown; and,
- -procedures for the dealing with complaints related to the drinking water system, including the recording of the nature of the complaint and any investigation and corrective action taken in respect to alterations to the drinking water system must also be incorporated into the operations and maintenance manual prior to the alterations coming into operation.

Operations and maintenance manuals are available to staff at the potable water plant. The Owner has also developed and maintains standardized SOPs for each of their drinking water systems, which are maintained and made fully available in an electronic format. The contents of the SOPs and manuals appear to be sufficient, enabling staff to safely operate the drinking water system. As it pertains to the CT provisions, operators are familiar with the operational criteria necessary to achieve primary disinfection.

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.

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Question ID	DWMR1071001	Question Type	BMP
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Legislative Requirement(s):

Not Applicable

Question:

Did the owner provide security measures to protect components of the drinking water system?

Compliance Response(s)/Corrective Action(s)/Observation(s):

The owner provided security measures to protect components of the drinking water system.

The Wiarton water treatment plant has a lockable access gate and water treatment plant doors and is equipped with an intruder alarm and signage restricting access to the site. The Wiarton Booster station and standpipe have perimeter fencing with a lockable gate restricting access to the site. At the time of inspection there were no issues of unauthorized access, vandalism and/or cyber security issues impacting the DWS reported by OCWA during the inspection time period.

Question ID	DWMR1073001	Question Type	Legislative
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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.

The ORO for the Wiarton DWS is James Learn, with back-up being provided by Billy Shearer.

 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.

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Ministry of the Environment, Conservation and Parks

Ministère de l'Environnement, de la Protection de la nature et des Parcs



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.				

	,		
Question ID	DWMR1076001	Question Type	Legislative
Legislative Requirement(s): SDWA O. Reg. 170/03 1-2 (2);			
Question: Were adjustments to the treatment equipment only made by certified operators?			
•	Response(s)/Corrective Action(some the treatment equipment were o	, , ,	d operators.

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

DWS Name: WIARTON DRINKING WATER SYSTEM

DWS Number: 220002681

DWS Owner: THE CORPORATION OF THE TOWN OF SOUTH BRUCE PENINSULA

Municipal Location: SOUTH BRUCE PENINSULA

Regulation: O.REG. 170/03

DWS Category: DW Municipal Residential

Type of Inspection: Focused

Compliance Assessment Start Date: Dec-11-2024

Ministry Office: Owen Sound District Office

Maximum Risk Rating: 545

Inspection Module	Non Compliance Risk (X out of Y)
Capacity Assessment	0/30
Certification and Training	0/42
Distribution System	0/14
Logbooks	0/14
Operations Manuals	0/14
Reporting & Corrective Actions	0/91
Source	0/0
Treatment Processes	0/228
Water Quality Monitoring	0/112
Overall - Calculated	0/545

Inspection Risk Rating: 0.00%

Final Inspection Rating: 100.00%

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

DWS Name: WIARTON DRINKING WATER SYSTEM

DWS Number: 220002681

DWS Owner Name: THE CORPORATION OF THE TOWN OF SOUTH BRUCE PENINSULA

Municipal Location: SOUTH BRUCE PENINSULA

Regulation: O.REG. 170/03

DWS Category: DW Municipal Residential

Type of Inspection: Focused

Compliance Assessment Start Date: Dec-11-2024

Ministry Office: Owen Sound District Office

All legislative requirements were met. No detailed rating scores.

Maximum Question Rating: 545

Inspection Risk Rating: 0.00%

FINAL INSPECTION RATING: 10

100.00%