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**Ministère
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December 21, 2018

Town of Wasaga Beach
30 Lewis Street
Wasaga Beach, Ontario
L9Z 1A1

Attention: Mr. George Vadaboncoeur - Chief Administrative Officer, CAO
Re: Drinking Water System Inspection Report – Wasaga Beach Drinking Water System (220002137)

Please find enclosed the Ministry of the Environment, Conservation and Parks Inspection Report for the Wasaga Beach Drinking Water System (Drinking Water System # 220002137) inspection. The compliance assessment took place on November 15, 2018.

The primary focus of this inspection was to confirm compliance with Ministry of the Environment, Conservation and Parks legislation and control documents, as well as conformance with Ministry drinking water related policies for the inspection period. The Ministry is implementing a rigorous and comprehensive approach in the inspection of water systems that focuses on the source, treatment, and distribution components as well as water system management practices.

Section 19 of the Safe Drinking Water Act (Standard of Care) creates a number of obligations for individuals who exercise decision-making authority over municipal drinking water systems. Please be aware that the Ministry has encouraged such individuals, particularly municipal councillors, to take steps to be better informed about the drinking water systems over which they have decision-making authority. These steps could include asking for a copy of this inspection report and a review of its findings. Further information about Section 19 can be found in "Taking Care of Your Drinking Water: A Guide for Members of Municipal Councils" found under "Resources" on the Drinking Water Ontario website at www.ontario.ca/drinkingwater. 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 and risk experts. The Inspection Summary Rating Record (IRR), included as Appendix A of the inspection report, provides the Ministry, the system owner and the associated 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 Inspector's Annual Report.

Please note that as of June 29, 2018 the Ministry of the Environment and Climate Change's name has changed to the Ministry of the Environment, Conservation and Parks. This name change will take some time to be reflected in ministry materials and systems.

If you have any questions or concerns regarding the rating, please contact Craig Seabrook, Drinking Water Program Supervisor, at 705-739-6392.

If you have any questions or concerns regarding this inspection report, please contact the undersigned.

Sincerely,



Darren Haines
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CC Medical Officer of Health, Simcoe Muskoka District Health Unit
Christina Weider, Simcoe Muskoka District Health Unit
Kevin Lalonde, Town of Wasaga Beach, Director of Public Works
Richard Eagle, OCWA, Manager
Robyn Waher, OCWA, Compliance Technician
Barrie District Office File, Ministry of the Environment, Conservation and Parks



Ministry of the Environment, Conservation and Parks

**WASAGA BEACH DRINKING WATER SYSTEM
Inspection Report**

Site Number:	220002137
Inspection Number:	1-18PL9
Date of Inspection:	Nov 15, 2018
Inspected By:	Darren Haines

OWNER INFORMATION:

Company Name:	WASAGA BEACH, THE CORPORATION OF THE TOWN OF	Unit Identifier:	
Street Number:	30		
Street Name:	LEWIS St		
City:	WASAGA BEACH	Postal Code:	L9Z 1A1
Province:	ON		

CONTACT INFORMATION
INSPECTION DETAILS:

Site Name:	WASAGA BEACH DRINKING WATER SYSTEM
Site Address:	700 VETERAN'S Way WASAGA BEACH ON L0L 2P0
County/District:	WASAGA BEACH
MECP District/Area Office:	Barrie District
Health Unit:	SIMCOE MUSKOKA DISTRICT HEALTH UNIT
Conservation Authority:	Nottawasaga Valley Conservation Authority
MNR Office:	Midhurst Regional Office
Category:	Large Municipal Residential
Site Number:	220002137
Inspection Type:	Announced
Inspection Number:	1-18PL9
Date of Inspection:	Nov 15, 2018
Date of Previous Inspection:	

COMPONENTS DESCRIPTION

Site (Name):	MOE DWS Mapping	Sub Type:	
Type:	DWS Mapping Point		

Site (Name):	JENETTA STREET PUMPHOUSE WELL 1 RAW	Sub Type:	Ground Water
Type:	Source		

Comments:

The Jenetta Well #1 (MOE Water Well Record # 5731664) was completed in 6/05/1995 by International Water Supply Ltd. (MOE Well Contractor # 2081).

This is a double cased 410 and 610 mm diameter 69.7 m deep groundwater well, located within the well pumphouse equipped with a vertical turbine pump, rated at a capacity of 60.6 L/s at 81.0 m TDH discharging into the chlorine contact chamber. The well pump is equipped with a discharge line with an air relief valve, sample tap, pressure gauge and switches, and pump control valve. It is connected to a 250 mm diameter pipeline header with a flow meter and a surge relief valve extending outside the building wall.

Site (Name):	JENETTA STREET PUMPHOUSE WELL 2 RAW	Sub Type:	Ground Water
Type:	Source		

Comments:

The Jenetta Well #2 (MOE Water Well Record # 5731668) was completed in 6/05/1995 by International Water Supply

Ltd. (MOE Well Contractor # 2081).

This is a double cased 410 mm and 610 mm diameter 67.1 m deep groundwater well located within the well pumphouse equipped with a vertical turbine well pump, rated at a capacity of a 60.6 L/s at 81.0 m TDH discharging to the chlorine contact chamber. The well pump is equipped with a discharge line with an air relief valve, sample tap, pressure gauge and switches, and pump control valve. It is connected to a 250 mm diameter pipeline header with a flow meter and a surge relief valve extending outside the building wall.

Site (Name): JENETTA STREET PUMPHOUSE WELL 3 RAW
Type: Source **Sub Type:** Ground Water
Comments:

The Jenetta Well #3 (MOE Water Well Record # 5731666) was completed in 6/05/1995 by International Water Supply Ltd. (MOE Well Contractor # 2081).

This is a double cased 410 mm and 610 mm diameter 66.8 m deep groundwater well located within the well pumphouse, equipped with a vertical turbine well pump rated at a capacity of 60.6 L/s at 81.0 m TDH, discharging into the chlorine contact chamber. The well pump is equipped with a discharge line with an air relief valve, sample tap, pressure gauge and switches, and pump control valve. It is connected to a 250 mm diameter pipeline header with a flow meter and a surge relief valve extending outside the building wall.

Site (Name): POWERLINE ROAD PUMPHOUSE WELL 1 RAW
Type: Source **Sub Type:** Ground Water
Comments:

The Powerline Well #1 (MOE Water Well Record # 5716860) was completed in 4/16/1980 by Snider Drilling Ltd. (MOE Well Contractor # 4816).

Well #1 is a 580 millimetre (mm) diameter groundwater emergency stand-by groundwater well. It is located within the well pumphouse equipped with a vertical turbine well pump, rated at a capacity of 60.6 Litres per second (L/s) at 47.2 m Total Dynamic Head (TDH). The well discharges to the grade level storage reservoir.

Site (Name): POWERLINE ROAD PUMPHOUSE WELL 2 RAW
Type: Source **Sub Type:** Ground Water
Comments:

The Powerline Well #2 (MOE Water Well Record # 5716861) was completed in 4/16/1980 by Snider Drilling Ltd. (MOE Well Contractor # 4816).

Well # 2 is a 580 mm diameter 57.9 m deep groundwater well located within the well pumphouse equipped with a vertical turbine well pump, rated at a capacity of 60.6 L/s at 47.2 m TDH. The well discharges to the grade level storage reservoir.

Site (Name): POWERLINE ROAD PUMPHOUSE WELL 3 RAW
Type: Source **Sub Type:** Ground Water
Comments:

The Powerline Well #3 (MOE Water Well Record # 5729667) was completed in 5/05/1992 by International Water Supply Ltd. (MOE Well Contractor # 2081).

Well #3 is a 61.7 m deep groundwater well, located within the well pumphouse. The well was adequately grouted with 1.5 m holeplug and cement grout seals at the top and base of the confining layer to prevent water flow from the upper aquifer to the lower aquifer. The well is equipped with a vertical turbine well pump, rated at a capacity of 60.6 L/s at 47.2 m TDH. The well discharges to the grade level storage reservoir.

Site (Name): POWERLINE ROAD PUMPHOUSE WELL 4 RAW
Type: Source **Sub Type:** Ground Water
Comments:

The Powerline Well #4 (MOE Water Well Record # 5737100) was completed in 8/09/2002 by International Water Supply Ltd. (MOE Well Contractor # 2081).

Well #4 is a double cased 410 and 610 mm diameter 61 m deep groundwater well located within the well pumphouse. The well is equipped with a vertical turbine well pump, rated at a capacity of 60.6 L/s at 47.2 m TDH. The well discharges to the grade level storage reservoir. The well pump is equipped with a well pump discharge line, an air release valve, sample tap, pressure gauge and switch, and pump control valve.

Site (Name): JENETTA PUMPHOUSE TREATED
Type: Treated Water POE **Sub Type:** Pumphouse

Comments:

The Jenetta (Spruce Street) pumphouse is a 21.8 m by 25.8 m building which is located approximately 120 m north-east of the intersection of Mosley Street and Spruce Street. It is equipped with the three (3) vertical turbine well pumps each rated at a capacity of 60.6 L/s at 81.0 m TDH. Each well pump has a 150 mm diameter discharge line, equipped with air release valve, sample tap, pressure gauge and switches and pump control valve, connected to a 250 mm diameter pipeline header with a flow meter, together with a test line with a surge relief valve extending outside the building wall. In addition, the pumphouse contains the following:

- a chlorine contact chamber, consisting of a 2.1 m diameter buried, unbaffled concrete pipeline at 48.4 m in length, located outside the pumphouse;
- a sodium hypochlorite disinfection system, consisting of a bulk storage hypochlorite solution tank of 2,724 L capacity and two chemical feed pumps (one duty, one standby) each capable of 29.0 L/hr with a feed line injecting into the common well pump header pipeline in the well pumphouse proportioned to flow;
- a Pre Contact Chamber chlorine residual analyzer monitors the chlorine residual immediately upstream or prior to the treated water entering the contact pipe for a Pre-Warning of a Problem with the Chlorination System;
- a Post Contact Chamber chlorine residual analyzer monitors the chlorine residual immediately downstream of the contact Chamber for Primary Disinfection;
- a sodium silicate iron sequestering treatment system consisting of a minimum of one drum storage tank of approximately 205 L capacity, two metering pumps (one duty, one standby) rated at 5.0 L/hr with a feed line injecting the chemical into the common well pump header pipeline in the well pumphouse proportioned to flow; and,
- a 400 kW diesel generator set with a control panel , transfer switch and two associated fuel oil storage tanks of 1113 L capacity each.

Site (Name): POWERLINE PUMPHOUSE TREATED
Type: Treated Water POE **Sub Type:** Pumphouse

Comments:

The Powerline Road facility consists of a well pumphouse building and a separate high lift building containing five (5) vertical turbine high lift pumps each rated at a capacity of 94.5 L/s at 71.0 m TDH. The well pumphouse building houses the four wells and includes:

- a 175 kW diesel generation set with a control panel , transfer switch and two fuel oil storage tanks of 1135 L capacity.
- a sodium silicate iron sequestering treatment system consisting of a minimum of one drum storage tank of 205 L capacity and three positive displacement metering pumps each rated at 15 L/hr injecting the chemical into a common pump header proportioned to flow; The high lift pumping station building is 20.0 m by 22.0 m containing an office/laboratory, utility room and a maintenance room and includes the following:
 - a single cell baffled reservoir (approximately 25.9 m by 25.9 m by 4.57 m deep) and 2 separate high lift pump cells (approximately 7.89 m by 7.89 m by 6.10 m deep), having a combined available storage capacity of 3405 m³, a liquid level regulator system with alarms (transducer and emergency floats), goose necked vents with insect screens, overflow pipe outlet with air gap, and watertight access hatchways on each cell;
 - a sodium hypochlorite disinfection system, consisting of one 14,000 L capacity fibreglass bulk storage hypochlorite solution tank located in a separate adjacent room, alternating pre chlorination chemical metering pumps (one duty, one standby), a pre-chlorination feed line that injects into the common well pump header pipeline in the well

pumphouse, (metering pump flow rates are adjustable and are paced with the pumphouse flowmeter), a post-chlorination feed line that injects into the high lift pump discharge header and can use one of the two available metering pumps,

- a Pre Reservoir chlorine residual analyzer monitors the chlorine residual immediately upstream or prior to the treated water entering the reservoir for a Pre-Warning of a Problem with the Chlorination System;
- a Post Reservoir chlorine residual analyzer monitors the chlorine residual immediately downstream of the reservoir for Primary Disinfection; and
- a 500 kW diesel generator set with control panel, transfer switch and two fuel oil storage tanks each of 1113 L capacity.

The high lift pumping station building is 20.0 m by 22.0 m containing an office/laboratory, utility room and a maintenance room and includes the following:

- a single cell baffled reservoir (approximately 25.9 m by 25.9 m by 4.57 m deep) and 2 separate high lift pump cells (approximately 7.89 m by 7.89 m by 6.10 m deep), having a combined available storage capacity of 3405 m³, a liquid level regulator system with alarms (transducer and emergency floats), goose necked vents with insect screens, overflow pipe outlet with air gap, and watertight access hatchways on each cell; and,
- a 500 kW diesel generator set with control panel, transfer switch and two (2) fuel oil storage tanks each of 1113 L capacity.

A bulk water filling station (Aqualoader TFS-3-M3) rated for 1100 L/m (300 usgpm) was installed at the Powerline facility in 2012.

Site (Name): WATER TOWER # 1 - HWY 92 TOWER
Type: Other **Sub Type:** Reservoir

Comments:

This elevated tank, constructed in 1983, is located on River Road West (Highway 92) approximately 980 meters North-East of Zoo Park Road. It is a steel spheroid tank, has an approximate height of 38.1 meters, 19.8 meters in width, and an approximate capacity of 2,812 cubic meters. This elevated tower is connected to the distribution system via a 400 millimeter diameter line and has a 300 millimeter diameter overflow piping directed to a 5 meter by 5 meter engineered soak away swale located approximately 20 meters South of the tower.

Site (Name): WATER TOWER # 2 - SUNNIDALE RD TOWER
Type: Other **Sub Type:** Reservoir

Comments:

An elevated storage tank is located on the west side of Sunnidale Road (County Road 10) approximately 120 metres south of Andrew Court. It is a concrete pedestal with a steel tank having a capacity of 9550 cubic metres (m³). Constructed in 1995, it has a height of approximately 39.5 meters and a tank dimension of approximately 31 meters with a working water height of approximately 34.7 meters. The elevated tower is connected to the distribution system via a 400 millimeter diameter line and has a 300 millimeter diameter overflow set at approximately 35 meters within the tank which is directed to a storm water chamber located approximately 375 meters South-East at Wasaga Sands Drive.

Site (Name): DISTRIBUTION SYSTEM
Type: Other **Sub Type:** Other

Comments:

The Town of Wasaga Beach distribution system has approximately 11,248 customer accounts that comprise residential, institutional and commercial consumers. Of these service connections, there are approximately 542 are non-residential service connections (predominantly commercial retail). There are approximately 200 kilometres of various sized piping comprising ductile iron, asbestos cement, steel and plastic pressure piping. There are approximately 1,200 fire hydrants and 1,350 valves placed strategically throughout the distribution system for fire protection and the isolation of portions of the system during main and service connection breaks. There are seven (above and below grade) surface water crossings for distribution mains at the

Nottawasga River, Lamont Creek, and Sturgeon Creek.

The population served by the Wasaga Beach drinking water system is difficult to determine due to the tourist nature of the Town, it is however estimated to be approximately 17,537 people.

INSPECTION SUMMARY:

Introduction

- **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 related 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 report is based on a "focused" inspection of the system. Although the inspection involved fewer activities than those normally undertaken in a detailed inspection, it contained critical elements required to assess key compliance issues. This system was chosen for a focused inspection because the system's performance met the ministry's criteria, most importantly that there were no deficiencies as identified in O.Reg. 172/03 over the past 3 years. The undertaking of a focused inspection at this drinking water system does not ensure that a similar type of inspection will be conducted at any point in the future.

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.

On November 14, 2018, the Ministry conducted an announced inspection of the Wasaga Beach drinking water system (DWS# 220002137). The Wasaga Beach DWS services the Town of Wasaga Beach and is classified as a Large Municipal Residential drinking water system. The Town of Wasaga Beach Public Works Department holds responsibility for the water distribution system while the treatment works and elevated tanks are the responsibility of OCWA.

The Town of Wasaga Beach currently obtains its water supply from two well fields; the Powerline Road Well Field and the Jenetta Street Well Field, each with an associated structure housing treatment equipment. The Powerline Road facility has a capacity of 15,707 m³/day with four drilled groundwater wells. Treatment processes at this facility include a sodium hypochlorite disinfection system and a sodium silicate iron sequestration system. An in-ground 3405 m³ reservoir and a back-up diesel generator are also provided at this facility. The Jenetta Street facility has a capacity of 15,707 m³/day with three drilled groundwater wells. Treatment processes at this facility include a sodium hypochlorite disinfection system and a sodium silicate iron sequestration system. A 400 kW diesel back-up generator is provided.

Both the Powerline Road pump house and the Jenetta Street pump house were visited by the Ministry as part of this inspection.

The inspection review period for this report is from December 6, 2017 to November 14, 2018.

During this review period, the Owner operated under Municipal Drinking Water License 131-101 and Drinking Water Works Permit 131-201 and is also subject to the regulatory requirements of the Safe Drinking Water Act and the Drinking Water Systems Regulation 170/03.

This report includes a compliance review of both the License and Permit for the Wasaga Beach DWS.

Source

- **The owner was maintaining the production well(s) in a manner sufficient to prevent entry into the well of surface water and other foreign materials.**

On the Wasaga Beach DWS, the Powerline production Wells #1, Well #2, Well #3, and Well #4 are within the pump

Source

house. The Jenetta production Well #1, Well #2 and Well #3 are also all contained within the Jenetta pump house. At the time of the inspection, it appeared that the Owner was maintaining all of the production wells in a sufficient manner in order to prevent the entry of surface water and other foreign materials.

- **Measures were in place to protect the groundwater and/or GUDI source in accordance with any the Municipal Drinking Water Licence and Drinking Water Works Permit issued under Part V of the SDWA.**

Drinking Water Works Permit #131-201, Drinking water Works License #131-101 and Permit to Take Water#7234-7VSR2W does not stipulate any specific conditions in order to protect the groundwater wells for the Wasaga Beach DWS.

An excerpt from the Wasaga Beach 2015 raw water assessment report dated January 2015, states that the Nottawasaga Valley Source Protection Area Approved Assessment Report was completed with Chapter 17 covering the Town of Wasaga Beach Drinking Water Supply System. This report examined the wellhead protection area and assessed groundwater vulnerability with the intent of identifying any drinking water issues. To quote from this report "No Drinking Water Issues were identified for the Wasaga Beach municipal water supply system."

Capacity Assessment

- **There was sufficient monitoring of flow as required by the Municipal Drinking Water Licence or Drinking Water Works Permit issued under Part V of the SDWA.**

Schedule C, Section 2.0 of Municipal Drinking Water Licence# 131-101, issued on 7/18/2011, requires continuous flow measurement and recording of the flow rate and daily volume of water flowing into and from the treatment systems at both the Powerline Road Pump house and Jenetta Street Pump house locations. To capture flow data, the Owner has installed mechanical flow measuring devices on both the lines from the raw water into the treatment system and the treatment system into the distribution system at both the Jenetta and Powerline pump houses. All flows from the Jenetta and Powerline pump houses are recorded and monitored by the Operating Authority and were provided to the Ministry as part of this inspection.

- **The owner was in compliance with the conditions associated with maximum flow rate or the rated capacity conditions in the Municipal Drinking Water Licence issued under Part V of the SDWA.**

Section 1 of Schedule C of Drinking Water Licence# 131-101, issued on 7/18/2011 provides the rated capacity of 15,707 m³/day for the Powerline facility and 15,707 m³/day for the Jenetta facility. Permit To Take Water (PTTW)# 7365-9VSRRB issued to the Owner for the Wasaga Beach DWS on May 11, 2015 restricts water taking to 31,00 cubic meters per day from the combined seven raw water wells.

Based on flow records provided to the Ministry by the Owner, for the Wasaga Beach DWS, none of the above stated maximum flow rate parameters for the above noted authorizing documents, were exceeded during the inspection review period.

Treatment Processes

- **The owner had ensured that all equipment was installed in accordance with Schedule A and Schedule C of the Drinking Water Works Permit.**

All equipment that is identified in Schedule A and C of Drinking Water Works Permit 131-101, issued to the Owner for the Wasaga Beach DWS, has been installed. The Owner stated during the course of this inspection that no new treatment equipment has been installed, besides what was stated on their Form 1,2 or 3 and no alterations have been made to the Wasaga Beach DWS during the inspection review period.

- **The owner/operating authority was in compliance with the requirement to prepare Form 2 documents as required by their Drinking Water Works Permit during the inspection period.**

The Owner/Operating Authority submitted three Form 2 submissions during the review period for the Wasaga Beach DWS. One Form 2 submission was for a soft starter for the Powerline high lift pumps and the other two

Treatment Processes

submissions were for Variable drives at both the Jenetta and Powerline road pump houses.

- **Records Indicated that the treatment equipment was operated in a manner that achieved the design capabilities required under Ontario Regulation 170/03 or a Drinking Water Works Permit and/or Municipal Drinking Water Licence issued under Part V of the SDWA at all times that water was being supplied to consumers.**

Section 1-3 of Schedule 1 Ontario Regulation (O.Reg.) 170/03 requires the Owner of a drinking water system that obtains water from a raw water supply that is ground water to ensure provision of water treatment equipment that is designed to be capable of achieving, at all times, primary disinfection in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario, including at least 99 per cent (2.0-log) removal or inactivation of viruses by the time water enters the distribution system. This is the case for the treatment train comprising the Wasaga Beach drinking water system.

To satisfy these requirements, the Owner/Operating Authority has installed free available chlorine residual chemical disinfection systems, and employs the CT disinfection concept to quantify the capability of the chemical disinfection system and ensure the provision of effective pathogen inactivation for primary disinfection purposes. Documents reviewed and observations made indicate that the primary disinfection treatment equipment was being operated in compliance with Sch. 1 of O.Reg.170/03.

Specifically, disinfectant contact time required for the CT concept is provided in a dedicated baffled reservoir as is the case with the Powerline facility or a dedicated water main for Jenetta prior to the conveyance of drinking water to users connected to the distribution system.

- **Records confirmed that the water treatment equipment which provides chlorination or chloramination for secondary disinfection purposes was operated so that at all times and all locations in the distribution system the chlorine residual was never less than 0.05 mg/l free or 0.25 mg/l combined.**

During the review of records provided by the Owner, it was found that during the inspection review period, that all of the free chlorine residuals obtained by system operators within the

Wasaga Beach distribution system, had residuals above 0.05 mg/L. Secondary disinfectant residuals are monitored by the Owner through the use of continuous chlorine analyzers, which are linked to the Owners SCADA system and through the collection of weekly distribution chlorine residuals obtained by system operators.

Treatment Process Monitoring

- **Primary disinfection chlorine monitoring was conducted at a location approved by Municipal Drinking Water Licence and/or Drinking Water Works Permit issued under Part V of the SDWA, or at/near a location where the intended CT has just been achieved.**

The Owner has installed, at both the Powerline Road and Jenetta pump house, a free chlorine residual analyzer which is supplied with continuous samples taken from a point where the intended contact time has just been completed for primary disinfection purposes. Both analyzers are linked via a Programmable Logic Controller (PLC) to the Supervisory Control and Data Acquisition (SCADA) system for monitoring and alarming purposes. Additional pre- and post contact time analyzers are installed at both treatment facilities to provide an advance warning of potential disinfection issues.

- **The secondary disinfectant residual was measured as required for the distribution system.**

Secondary disinfection residual sampling and testing is being performed by continuous monitoring equipment located at the Wasaga Beach Wastewater Treatment Plant (30 Woodland Drive). The Operating Authority also utilizes a handheld colourimeter to perform tests within the distribution system and perform comparisons for calibration of the on-line analyzers.

- **Operators were examining continuous monitoring test results and they were examining the results within 72 hours of the test.**

Treatment Process Monitoring

Based on documents given to the Ministry by the Operating Authority for this inspection, they indicate that Operators examine continuous monitoring test results within 72 hours after the test is conducted and make a note of this review within a log sheet maintained at the Jenetta Street and Powerline Road facility. Specifically, Operators note minimum, average and maximum readings of chlorine residual and turbidity at the Powerline as well as chlorine at the distribution system analyzer located at the Water Pollution Control Plant.

- **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, were equipped with alarms or shut-off mechanisms that satisfy the standards described in Schedule 6.**

The Operating Authority utilizes continuous analyzers to monitor chlorine residuals for primary and secondary as well as turbidity on the Wasaga Beach DWS. These analyzers are linked to the Owner's SCADA system for monitoring and alarming purposes. Should continuous monitoring equipment generate a measurement of results above or below the prescribed set point, the continuous monitoring equipment malfunctions, or if there is a loss of power to the continuous monitoring equipment, an alarm is sounded, the well pumps are locked out and the on-duty Operator notified. Documents provided to the Ministry by the Operating Authority indicated that continuous monitoring equipment alarms are regularly tested.

- **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 specified in the Table in Schedule 6 of O. Reg. 170/03 and recording data with the prescribed format.**
- **All continuous analysers were calibrated, maintained, and operated, in accordance with the manufacturer's instructions or the regulation.**

Documents provided by the Owner for the Wasaga Beach DWS indicated that the Town effects weekly maintenance checks and calibrations on all the Free chlorine analyzers. Annual calibrations of the analyzers are performed by an external contractor in accordance with the operations manual procedure and manufacturer's manual. The annual calibrations by an external contractor were performed in October 2018.

Operations Manuals

- **The operations and maintenance manuals contained plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

The Operating Authority's Operations & Maintenance manuals for the Wasaga Beach DWS that was reviewed as part of this inspection, appears to provide sufficient information/guidance for the safe and efficient operation of the Wasaga Beach DWS. Operations and Maintenance Manuals are updated on a regular basis as required.

- **The operations and maintenance manuals met the requirements of the Drinking Water Works Permit and Municipal Drinking Water Licence Issued under Part V of the SDWA.**

Logbooks

- **Records or other record keeping mechanisms confirmed that operational testing not performed by continuous monitoring equipment was being done by a certified operator, water quality analyst, or person who suffices the requirements of O. Reg. 170/03 7-5.**

Only adequately certified operators are employed by the Operating Authority to operate the Wasaga Beach drinking water system. These operators conduct all of the operational tests, record all of the results obtained, make all of the log entries, and collect all of the required samples to be sent to the appropriate accredited laboratory.

Security

Security

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

Both the Powerline Road and Jenetta pump houses are locked and equipped with an intrusion alarm. Both pump houses are generally visited on a daily basis by operational staff. All other monitoring stations and sample stations within the Wasaga Beach distribution system are locked to prevent unauthorized access. Access to all locked premises is restricted solely to the Operating Authority's water system operators.

Certification and Training

- **The overall responsible operator had been designated for each subsystem.**

The Overall Responsible Operator had been designated by the operating authority, who has overall operational responsibility for the Wasaga Beach drinking water system. The ORO is in possession of an operator's certificate to match the classification of the facility. The Operating Authority formally designated an Overall Responsible Operator (ORO) with the provision of a back-up ORO in the event the designated ORO is unable to act.

- **Operators in charge had been designated for all subsystems which comprised the drinking-water system.**

The Operating Authority has designated all of their licensed operators who are employed as Operator's In Charge for the Wasaga Beach DWS.

- **All operators possessed the required certification.**
- **Only certified operators made adjustments to the treatment equipment.**

Water Quality Monitoring

- **All microbiological water quality monitoring requirements for distribution samples were being met.**

Subsection 10-2 of Schedule 10 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to collect at a minimum 8 microbiological samples within the distribution system plus one additional sample for every 1000 people served on a monthly basis; with at least one distribution sample taken each week.

Subsection 10- 2 further stipulates that each of the distribution samples collected are tested for Escherichia coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count, if subsection 2-5 (1) of Schedule 2 applies to the system, as is the case for the Wasaga Beach drinking water system. Records provided and reviewed in the course of this inspection indicate that the Operating Authority has complied with these sampling requirements as stated above. Documents indicate that typically 8 distribution water samples were obtained and tested once per week of which at least two of these samples were additionally tested for Heterotrophic Plate Count (HPC) in addition to Escherichia Coli and Total Coliform bacteria.

- **All microbiological water quality monitoring requirements for treated samples were being met.**

Subsection 10-3 of schedule 10 of O. Reg. 170 requires that the Owner and the operating authority of a large municipal residential DWS such as the Wasaga Beach DWS, ensure that a water sample is taken at least once every week from the point at which water enters the distribution system. The Owner and operating authority are required to ensure that each of these samples are tested for E.coli, total coliforms and general bacteria population expressed as colony counts on a heterotrophic plate count.

Records reviewed for this inspection indicate that the Owner has complied with these requirements. Documents indicate that treated water point of entry locations (Powerline Road and Jenetta) are sampled and tested once per week and tested for Escherichia coli, total coliforms, and general bacteria population

Water Quality Monitoring

expressed as colony counts on a heterotrophic plate count.

- **All inorganic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-2 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to ensure that at least one water sample is taken every 36 months if the system obtains water from a raw water supply that is ground water, such is the case for the Wasaga Beach drinking water system, and have those samples tested for every parameter set out in Schedule 23. The Operating Authority obtained Inorganic sample analysis for the Wasaga Beach DWS on January 2, 2018. The Operating Authority did not report any AWQI's as a result of these samples. Inorganic samples are not required again until January 2021.

- **All organic water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-4 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system to ensure that at least one water sample is taken every 36 months if the system obtains water from a raw water supply that is ground water, such is the case for the Wasaga Beach drinking water system, and have those samples tested for every parameter set out in Schedule 24. The Operating Authority obtained Organic sample analysis for the Wasaga Beach DWS on January 2, 2018. The Operating Authority did not report any AWQI's as a result of these samples. Organic samples are not required again until January 2021.

- **All haloacetic acid water quality monitoring requirements prescribed by legislation are being conducted within the required frequency and at the required location.**

Section 13-6.1 requires the owner of a drinking water system that provides chlorination or chloramination and the operating authority for the system to ensure that at least one distribution sample is taken in each calendar quarter, from a point in the drinking water systems distribution system, or plumbing that is connected to the drinking water system, that is likely to have an elevated potential for the formation of haloacetic acids. The owner of the drinking water system and the operating authority for the system shall also ensure that each of the samples taken under subsection (1) is tested for haloacetic acids.

The Operating Authority conducted this required Haloacetic acid monitoring on January 2, 2018, April 17, 2018, July 3, 2018 and October 9, 2018.

- **All trihalomethane water quality monitoring requirements prescribed by legislation were conducted within the required frequency and at the required location.**

Section 13-6 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Wasaga Beach drinking water system, 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, and tested for trihalomethanes.

The Operating Authority conducted this required monitoring on January 2, 2018; April 17, 2018; July 3, 2018 and October 9, 2018. All of the THM results provided to the Ministry by the Owner were below the THM standard of 100ug/L as set out in the ODWQS.

- **All nitrate/nitrite water quality monitoring requirements prescribed by legislation were conducted within the required frequency for the DWS.**

Section 13-7 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Wasaga Beach drinking water system, to ensure that at least one distribution sample is taken every 3 months and no more than 120 days from the date of the last sample for Nitrates/Nitrites.

Water Quality Monitoring

The Operating Authority conducted this required monitoring on January 2, 2018; April 17, 2018; July 3, 2018 and October 9, 2018. All of the Nitrate/Nitrite results provided to the Ministry by the Operating Authority were below the standard of 10 mg/L as set out in the ODWQS.

- **All sodium water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Sections 13-8 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Wasaga Beach drinking water system, to ensure that at least one water sample is taken every 60 months and tested for Sodium. The Owner conducted Sodium sampling on July 3, 2018. The result of the Sodium samples were within the prescribed limits for Sodium.

- **All fluoride water quality monitoring requirements prescribed by legislation were conducted within the required frequency.**

Section 13-9 of Schedule 13 Ontario Regulation 170/03 requires the Owner and the operating authority of a large municipal residential drinking water system, such as the Wasaga Beach drinking water system to ensure that at least one water sample is taken every 60 months and tested for Fluoride. The Owner conducted Fluoride sampling on July 3, 2018. The result of the Fluoride samples were within the prescribed limits for Fluoride.

- **All water quality monitoring requirements imposed by the Municipal Drinking Water Licence and Drinking Water Works Permit were being met.**
- **Records confirmed that chlorine residual tests were being conducted at the same time and at the same location that microbiological samples were obtained.**

A review of the Wasaga Beach DWS records provided by the Owner for the inspection period found that each time a microbiological sample was taken by the Owner in the distribution system or at the pump house, a corresponding chlorine residual was also taken by the Owner. All of the in-house monitoring and sampling information that the Owner undertakes for the Wasaga Beach DWS is recorded on a monthly data spreadsheet as well as on the sample submission sheet.

Water Quality Assessment

- **Records showed that all water sample results taken during the inspection review period did not exceed the values of tables 1, 2 and 3 of the Ontario Drinking Water Quality Standards (O.Reg. 169/03).**

Reporting & Corrective Actions

- **Where required continuous monitoring equipment used for the monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person responded in a timely manner and took appropriate actions.**

Logbooks that were provided by the Operating Authority were reviewed where the Operator responded to alarm calls during the review period. In all cases, the Operator responded in a timely manner and took the appropriate actions. The Owner does have a written procedure for responding to alarms which is kept in their Emergency and Contingency plan.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

Not Applicable

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

Not Applicable

SIGNATURES

Inspected By:

Darren Haines

Signature: (Provincial Officer)



Reviewed & Approved By:

Craig Seabrook

Signature: (Supervisor)



Review & Approval Date:

2018-12-20

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

Inspection Rating Record

Ministry of the Environment - Inspection Summary Rating Record (Reporting Year - 2018-2019)

DWS Name: WASAGA BEACH DRINKING WATER SYSTEM
DWS Number: 220002137
DWS Owner: Wasaga Beach, The Corporation Of The Town Of
Municipal Location: Wasaga Beach

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: November 15, 2018
Ministry Office: Barrie District

Maximum Question Rating: 459

Inspection Module	Non-Compliance Rating
Source	0 / 28
Capacity Assessment	0 / 30
Treatment Processes	0 / 60
Operations Manuals	0 / 28
Logbooks	0 / 14
Certification and Training	0 / 42
Water Quality Monitoring	0 / 124
Reporting & Corrective Actions	0 / 21
Treatment Process Monitoring	0 / 112
TOTAL	0 / 459

Inspection Risk Rating 0.00%

FINAL INSPECTION RATING: 100.00%

Ministry of the Environment - Detailed Inspection Rating Record (Reporting Year - 2018-2019)

DWS Name: WASAGA BEACH DRINKING WATER SYSTEM
DWS Number: 220002137
DWS Owner: Wasaga Beach, The Corporation Of The Town Of
Municipal Location: Wasaga Beach

Regulation: O.REG 170/03
Category: Large Municipal Residential System
Type Of Inspection: Focused
Inspection Date: November 15, 2018
Ministry Office: Barrie District

Maximum Question Rating: 459

Inspection Risk Rating | 0.00%

FINAL INSPECTION RATING: | 100.00%