The Municipality of West Grey
/ Veolia Water Canada Inc.

Drinking Water Quality Management System

Operational Plan / QMS Manual

MUNICIPALITY OF WEST GREY DRINKING WATER SYSTEMS

DURHAM DRINKING WATER SYSTEM
NEUSTADT DRINKING WATER SYSTEM

REVISION V2.02
June 2025

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Element 1 - Quality Management System

DWQMS Operational Plan

Rev. 2.02 (June 2025)

The Drinking Water Quality Management Standard (DWQMS) v.2 requires an Operating Authority to establish a Quality Management System (QMS) for each system that it operates.

The Operating Authority (Veolia Water Canada Inc.), must develop a QMS to conform to the requirements that are laid out in the Drinking Water Quality Management Standards. Accomplishing this will help reduce or eliminate negative situations that may occur as a result of non-conformance.

A QMS is a system to establish policies and objectives, and achieve those objectives, and assist in the direction and control of the organization with regard to quality.

An Operational Plan is a document or series of documents that outlines the policies, processes and procedures for the overall quality management of the drinking water system, and is the documentation of the QMS.

The QMS is documented in this Operational Plan as part of the effort to ensure clean, safe, and reliable drinking water is supplied to all customers served.

- Durham - population of 2,755 (taken from the 2021 Census report)
- Neustadt - population of 546 (taken from the 2021 Census report)

The QMS shall be reviewed annually to ensure that the procedures are correct and current. The review will include the QMS Representative, as well as, but not mandatory, the Owner Representative, Project Manager and Operators of the system.

Element 3 - Commitment & Endorsement Procedure

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As a requirement of the DWQMS (Drinking Water Quality Management Standard) 2.0, released February 2017 by the Ministry of Environment, Conservations and Parks (MECP), the Operating Authority must ensure that a ***Commitment and Endorsement*** form is reviewed and signed by the appropriate personnel. The Commitment and Endorsement is in-place to ensure that both the Operating Authority and the Owners are aware of their duties and responsibilities in regards to the West Grey Quality Management System (QMS) to ensure potable water to the consumer.

Owner (Mayor and Council)

The Owner of the Neustadt and Durham Drinking Water Systems is the Municipality of West Grey, and it is required that the Mayor and Council review the QMS when new Council Member(s) have taken Office (the timeframe may vary, to allow council member(s) to adjust to their new roles), or when requested. If there is a council member turnover between elections, then that individual member will have a training session in regards to their role and responsibility with the DWQMS. This is completed by the Operating Authority (QMS Rep. or Project Manager) through a presentation of the QMS, whether that be in person or virtual. Once the QMS has been reviewed with the Owner, and they agree to their responsibility to ensure potable water - mainly to certify that the needs to ensure safe drinking water to the consumer will be met (financially, or providing the required resources), the Mayor may then sign-off on the ***Commitment and Endorsement*** form, located in Element 3 of the Operational Plan.

Owner Representatives (CAO and Director of Operations)

The Director of Infrastructure and Public Works, and the CAO (optional) take part in a Management Review once every calendar year with the QMS Rep., the Project Manager, and/or the Assistant Project Manager. During this meeting, the duties and responsibilities of the CAO and Director of Operations to provide clean, safe drinking water is reviewed as well.

Operating Authority (OA) Representatives (Area Manager, Project Manager and QMS Rep.)

The OA Reps. discuss their duties and responsibilities with the Owner Reps. once every calendar year during the Management Review, as indicated above. The OA Reps. also partake in an annual DWQMS Training session provided by the QMS Rep.

All meetings indicated above are conducted through in-person or virtual, presented by the QMS Rep. A sign-off sheet for Management Reviews is filed within the Google Shared Drive (West Grey Management Reviews), as well as emailed to all personnel involved. Evidence of the presentation to Council is kept on Council Meeting Records.

For both the Owner Representatives and the Operating Authority Representatives, it is not required to sign the ***Commitment and Endorsement*** form annually, only if there is a change in personnel, as Management Review sign-off is sufficient proof that their duties and responsibilities were reviewed.

Element 4 - QMS Representative

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The QMS Representative, in conjunction with the Project Manager, will establish, implement, and maintain the policies, processes, and procedures required for the DWQMS. In addition, the QMS Representative will report on the performance of the QMS and any need for improvement to Top Management (see ***Communication Protocol*** below).

The responsibilities of the QMS Representative are listed in the Responsibilities Table in Appendix E, as part of Element 9, Organizational Structure, Roles, Responsibilities, and Authorities.

COMMUNICATION PROTOCOL

As it is the responsibility of the QMS Rep. to communicate all MAJOR changes (system change, personal change, new elements added, etc.) of the DWQMS to Top Management, and Owner Representative(s), the following steps should be taken depending whom the information is for.

a. When there is a Mayor or Council turnover, or the Director of Infrastructure and Public Works changes, an overview of the Operational Plan, and corresponding responsibilities are presented to these members during a Council Meeting, or Virtual training.

b. On an annual basis, refresher training is delivered to the Director of Infrastructure and Public Works - who will then relay the necessary information to the Mayor and Council Members. If the Mayors and Council Members wish for more information, the QMS Rep. may provide such information to those asking.

c. When immediate changes occur with the Operational Plan that the Owner and Top Management are required to know, the QMS Rep. will relay such changes to the Project Manager, who will then relay the information to the Owner and Top Management during monthly meetings.

APPENDIX E

APPENDIX E1: Organization Chart – Veolia Water Canada

APPENDIX E2: Responsibilities Table – Veolia Water Canada

Element 5 - Documents & Records Control

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A process is in place for the control and management of the documents and records required by the Quality Management System (QMS).

This process is to ensure that documents are kept up to date with applicable legislation and regulations, and changes in operations. The process also ensures that documents and records are legible, are properly stored, and can be easily located and identified. Retention times and disposal methods are listed in the Document and Records Control Table.

The procedure for Document and Records control can be found in Appendix A.

APPENDIX A

APPENDIX A1: Procedure for Document and Records Control

APPENDIX A2: Document and Records Control Table

APPENDIX A3: Document Approval – Change Form

Element 6 - Drinking Water System Description

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All water systems listed below are owned by the Municipality of West Grey and operated by Veolia Water Canada Inc.

Durham Drinking Water System Description

The Durham Drinking Water System is owned by the Municipality of West Grey and is operated by Veolia Water Canada Inc. The system consists of three wells. Well #2 and 2A are both groundwater wells under the direct influence of surface water (GUDI), while Well #1B was reclassified as strictly a groundwater well in 2022.

Well #1B is located within a pumphouse at 172 South Street E in the Town of Durham. It consists of a 300mm diameter drilled well to an approximate depth of 78m. The well is equipped with a submersible pump, with a variable frequency drive, capable of delivering 17L/s (1020L/min).

Well #2 is located within a pumphouse at 543 George Street East (access to the pumphouse is off of Lambton St E). It consists of a 300mm diameter drilled well to an approximate depth of 75m. The casing extends into the limestone bedrock at a depth of approximately 13m. The well contains a submersible pump, with a variable frequency drive, rated for 17L/s. Well #1 has a system capacity of 1375m^3/d while #2 has a capacity of 1636m^3/d (this data is found in the MDWL).

Well #2A is also located within the same pumphouse as Well #2. It is a 250mm diameter well that is about 68m deep. The variable speed submersible pump has a capacity of 1,134L/min. The capacity of the wellhouse has not changed.

The raw water quality is typically very good. It is very rare for there to be any instances of bacteriological growth. Well #1B typically has a turbidity of 0.1-0.4 NTU, while Well #2 usually has turbidity between 0.1-0.4NTU. The turbidity in well #2A is typically between 0.1-0.4 NTU and is now part of the duty pump rotation. For annual daily use information, please refer to the most recent water system Annual Report.

Other than the usual water usage increases in the summer months (where flows are still within system capacity), there are no operational challenges due to event-driven fluctuations. There are no critical upstream or downstream processes that are relied upon to provide safe drinking water.

Well #1B Treatment Facility was upgraded in the Winter/Spring of 2005. The upgrades included the installation of two cartridge filters (4.5 micron in size), each having a treatment capacity of 18.9L/s (1134L/min), a primary disinfection system consisting of two UV disinfection reactors (one duty and one standby) and a sodium hypochlorite secondary disinfection system. The UV

equipment is provided with a quartz cleaning system and an on-line UV intensity monitor with alarm. The facility is also equipped with a 70kW standby diesel engine generator set.

The Well #2 Pumphouse (containing the same equipment as well #1B) was upgraded twice in 2017, first to add the new well and then in the fall to include a new contact chamber to meet CT. The pumphouse contains two cartridge filters, each having a treatment capacity of 18.9L/s and equipped with a 4.5 micron size filter cartridge. A primary disinfection system, consisting of two UV disinfection reactors (one duty and one standby) was installed. The system is also equipped with a quartz cleaning system and an online UV intensity monitor with alarm. The secondary disinfection chlorination system consists of two chemical feed pumps (one duty, one standby) and a 200L chemical storage tank with low level alarm.

The Durham distribution system services the Town of Durham. Storage capacity for the system is provided by a 2,273m^3 concrete reservoir and a 909m^3 steel standpipe located at the north end of town. The system is set up as a two tier system due to the differences in elevation from the north and south end of town. The south end (lower tier) is supplied by the three production wells and water is directed to the reservoir, which provides pressure for the lower tier. A pump transfers the water from the reservoir to the standpipe for the upper tier. A booster station is used to boost pressure (for upper tier).

Treated water from Well #1B enters the distribution system through a 200mm diameter water main along South Street and Well #2/2A discharges water to a contact chamber (to meet CT) and then to the distribution system through a 150mm diameter water main along George Street East. There are about 120 hydrants in the Durham distribution system.

Neustadt Drinking Water System Description

The Neustadt Drinking Water system is owned by the Municipality of West Grey and is also operated by Veolia Water Canada Inc. The system consists of three wells, all groundwater wells are under the direct influence of surface water (GUDI). Well #1 is located on part lot 2, concession 12 in the Township of West Grey. It is a 200mm diameter steel cased, 38.1m deep groundwater well. The well is equipped with a submersible pump capable of delivering 3.2L/s. The well is cemented into the bedrock at an approximate depth of 20m.

Well #2 is located on Lot 4, Concession 12. It is a 200mm diameter, steel cased, 29.6m deep groundwater well on the north side of pumping station #2. It is capable of delivering 10.6L/s.

Well #3 is located on Lot 4, Concession 12. It is a 150mm diameter, steel cased, 30.8m deep bedrock groundwater well located on the north side of pumping station #2. The well is equipped with a submersible pump capable of delivering 6.1L/s.

Wells 1 and 3 run together, typically for a week, and then duty is switched over to well #2 for the next week. This continues unless there is an issue with a well.

The raw water quality is typically very good. There are usually no issues with bacteriological growth. Well #1 has turbidity levels typically between 0.4-2.5 NTU, Well #2 0.2-1.4 and #3 0.1-2.5NTU. For the average daily use information, please refer to the current water system Annual report on the West Grey Google shared drive.

Other than the usual water usage increases in the summer months (where flows are still within system capacity), there are no operational challenges due to event-driven fluctuations. There are no critical upstream or downstream processes that are relied upon to provide safe drinking water.

Pump station #1 is located on Part lot 2, Concession 12 in West Grey. It consists of the following:

- A cartridge filter system which consists of one (“rough”) cartridge (with 5 micron filters), one filter with a one micron size (“finished”) filter cartridge, and is certified for 2.0 log Cryptosporidium oocysts removal. There is an online turbidity meter on the discharge line from the pumphouse and a raw turbidity meter (well #1 only)
- Ultraviolet disinfection system consisting of two UV disinfection reactors (one duty and one standby), each with a flux density of at least 40mJ/cm^2, a quartz cleaning system and an online UV intensity monitor with alarm.
- Disinfection using chlorination consisting of two chemical feed pumps (one duty and one standby) each rated at 0.9L/hr and a 100L chemical storage tank with a low level alarm

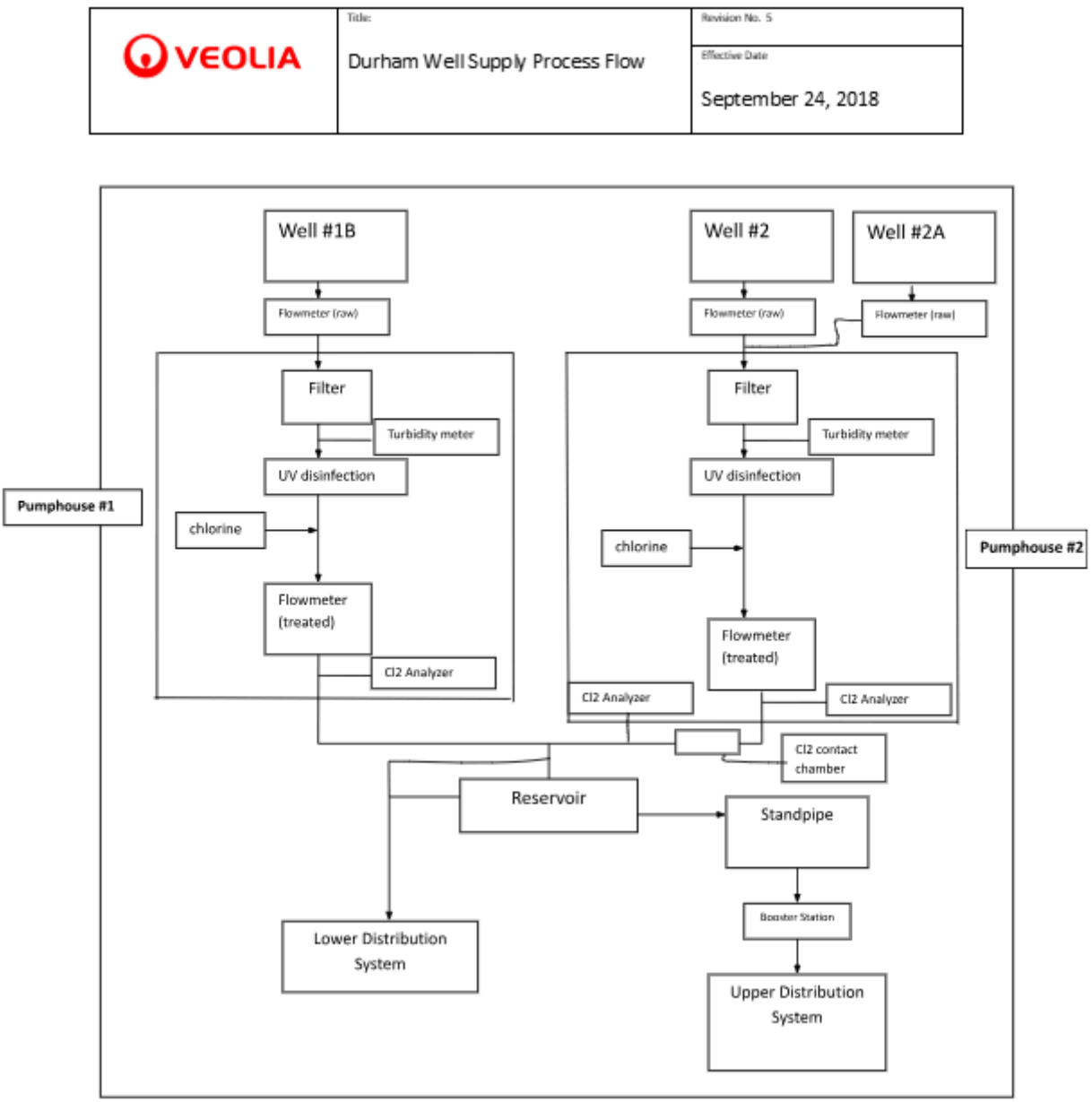
Pump station #2 is located on Part Lot 1, Concession 13 in the Municipality of West Grey. It houses 75mm process piping from well #2 and well #3, an air release valve on the head from well#2 and well #3, four pressure gauges (two on each header), flow control valves on each header, two 75mm diameter mechanical flow meters rated at 0-20L/s with totalizer, a 75mm test line to waste and isolation valves for each well supply, and pump controls and instrumentation for each well. Turbidity meters are in place for each well to measure raw turbidity.

The water tower is located east of County Rd 10 on Part Lot 1, Concession 13. The volume of the tower is 1200m^3. It is equipped with an on-line chlorine analyzer on the tower inlet. Post chlorinators are in place to booster chlorine levels leaving the tower, if required. A flow meter was installed on the outlet side of the tower in 2022 for additional monitoring

The Neustadt distribution system, installed in 1995, services the Village of Neustadt and contains 55 hydrants. The water mains are mainly comprised of six inch PVC piping.

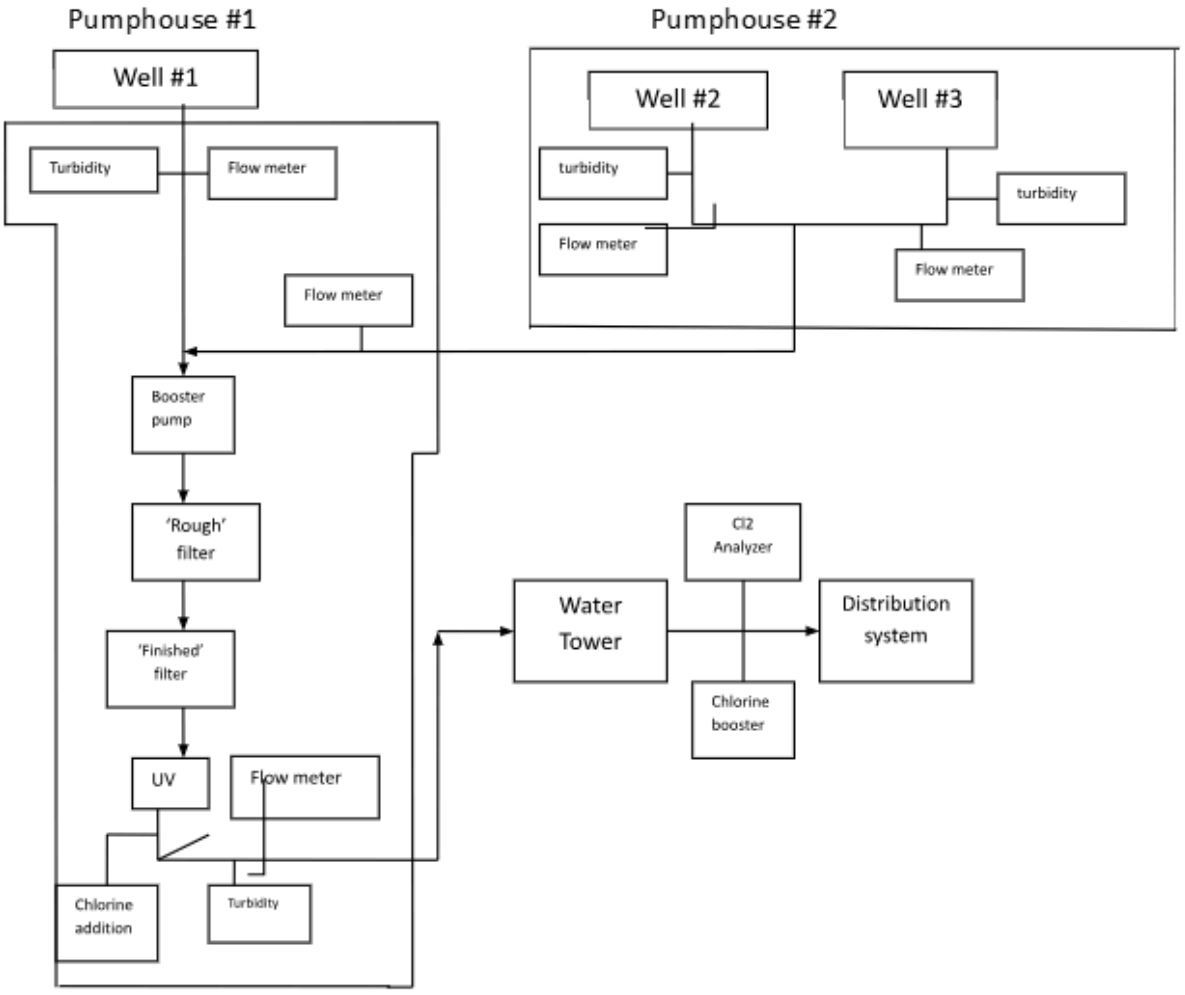
For process diagrams for both Durham and Neustadt, see below.

Durham Process Flow Diagram



Neustadt Process Flow Diagram

	Title:	Revision No. 5
VEOLIA	Neustadt DWS Process Flow	Effective Date September 24, 2018



Revision History

Version	*Date*	*Author*	*Description*	*Approved by*
2.03	June 2025	B. McGarrity - QMS Rep.	Updated format and added new logo	S. Gowan - PM
2.03	June 25, 2025	B. McGarrity - QMS Rep.	Included a better description of how to access Pumphouse 2	S. Gowan - PM

Element 7 - Risk Assessment

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A Risk Assessment Procedure has been established and implemented to determine the potential hazards and critical control points that exist in the water treatment system.

A Risk Assessment Table has been developed to list potential hazards and their effects, and the associated monitoring and control measures. Critical Control Points (CCP) and Critical Control Limits (CCL) are identified using a Risk Priority Number system described in the risk assessment procedure.

For emergency situations or hazardous events outside the regular monitoring and control process, a Contingency Plan is available for response to deviations from Critical Control Limits (CCL).

An Operational Plan and Contingency Plan are readily available for Operators' reference on Google Drive.

Procedures are implemented for reporting and recording deviations from Critical Control Limits (CCL).

An Annual Management Review, as described in Element 20, takes place to ensure the system is current and the risk assessment procedure and outcomes are reviewed and maintained.

A full updated Risk Assessment is to be conducted once every 36 months in addition to reviews held once every calendar year (unless a 36 month review has been completed within that year).

The current year Risk Assessment or Risk Review can be located on Google Drive. All previous year Annual Reviews and 36 Month Risk Assessments can also be found on Google Drive.

APPENDIX B

APPENDIX B1: Risk Assessment Procedure

APPENDIX B2: Durham Risk Assessment Table

APPENDIX B3: Neustadt Risk Assessment Table

Element 8 - Risk Assessment Outcomes

Please see the following appendix for details on the individual systems for the Municipality of West Grey. For reporting deviations from CCP, please refer to the procedure WG-CCP-801 (Disinfection Control).

APPENDIX C

APPENDIX C1: Durham Risk Assessment Outcomes

APPENDIX C2: Neustadt Risk Assessment Outcomes

Element 9 - Organizational Structure, Roles, Responsibilities & Authorities

The system Owner (The Municipality ofWest Grey), and the Operating Authority (Veolia Water Canada), have an organizational structure in place to ensure the management of safe drinking water. Only qualified Operators (those who have received the proper training and certification) are granted permission to access the drinking water for Durham and Neustadt.

Though the Owner Representatives are not the direct Operational Staff, it is required that they have the appropriate knowledge on all Systems. This is completed when position changeover occurs, through a council meeting as a refresher to the Mayor, Deputy Mayor and Council Members (these council meetings are also open to the public). Once every calendar year, a Management Review is also required.

The following individuals are to be present during this review (whether in-person, video, or if unavailable, a conclusion email will be sent):

- Project Manager and/or Assistant Project Manager (Operating Authority)
- QMS Rep. (Operating Authority)
- Director of Infrastructure and Public Works (Owner Representative)

Job descriptions are created for each Operating Authority and Owner positions, and are outlined in the Responsibilities Table, showing title, responsibilities and authorities. Organizational Charts show the relationship of roles in the structure. These can be found in Appendix E.

APPENDIX E

APPENDIX E1: Organizational Chart - Operating Authority
APPENDIX E2: Responsibilities Table - Operating Authority
APPENDIX E3: Organizational Chart - Owner
APPENDIX E4: Responsibilities Table - Owner

Element 10 - Competencies

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All personnel performing duties directly affecting drinking water quality must have adequate training and be competent in their position. This relates to legislative as well as DWQMS requirements. Competencies

Legislative Requirements

The Water Treatment Plant Operator-In-Charge (OIC) shall, at a minimum, maintain the following classification certifications per O. Reg. 128/04, (with exceptions for relief periods as specified in the legislation):

Durham	- Water Distribution and Supply Class I - Water Treatment Class I
Neustadt	- Water Distribution and Supply Class I - Water Treatment Class I

Additionally, annual training is provided to ensure that personnel meet or exceed minimum standards for annual training hours and continuing education hours as established in O. Reg. 128/04.

Veolia is required to provide competent operators to maintain effective water treatment. It is required as part of the operator's responsibility to monitor and ensure he / she receives adequate annual training hours to maintain his / her operator certification for the operation of the Water Treatment Plant.

An annual review (more frequently as required) of training records and certifications is made by the Project Manager, Assistant Project Manager, or QMS Rep., or designate to ensure classifications are current and competency is maintained. Operators are advised by the Project Manager/Assistant Project Manager of upcoming requirements.

The Project Manager may also recommend training courses and approve training registration requests as appropriate. The Assistant Project Manager assists in course arrangements and maintains and monitors the employee training matrix.

Effectiveness of outside training is evaluated by the Project Manager, after completion, by discussions with the employee. Certifications from the training, when provided, are filed with the employee training records, and added to the Training Matrix.

To ensure Operator Certificates/Licences/Required Training is kept current, a reminder schedule is now in-place that will email the Project Manager, QMS Rep. and the Operator (who's licence/certificate is coming due) reminds every six months, three months and one month prior to expirations. With this new program established, important certificates, licences and training should not become expired, as there will be enough time for renewal procedures.

In-House Training Requirements

In-house training such as new employee orientation, internal systems (SCADA etc.), refresher training is provided by the Project Manager / Overall Responsible Operator or designate.

Training session records are to be noted by the employee, signed by the trainer and trainee, and forwarded to the QMS Rep. for filing and entering in the Training Matrix.

QMS Awareness Training Requirements

All personnel must be aware of the Quality Management System and their requirements under the QMS, especially those pertaining to their specific roles.

The QMS Operational Plan, and any changes to procedures affecting personnel, will be reviewed with employees by the Project Manager and/or QMS Representative at least prior to the accreditation audit, and as appropriate throughout the development of the Operational Plan (Document and Records Control, Risk Assessment, for example) and when changes may be made to the Operational Plan.

APPENDIX D

APPENDIX D1: Competency Requirements Table

APPENDIX D2: Training Matrix

Element 11 - Personnel Coverage

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The Operating Authority shall implement and conform to the following procedure:

The West Grey Facilities are staffed from Monday to Sunday from 8:00 a.m. until 4:30 p.m. and are attended to on weekends for normal daily rounds.

The Project Manager, or delegate, is the primary Overall-Responsible-Operator (ORO).

There is an assigned on-call water Operator during off-hours. The schedule is posted in the office of the Operating Authority, as well as on Google Drive for easy access for all Operators.

The on-call Operator conducts a physical verification of conditions at the pumphouse once per day during weekends and statutory holidays.

The normal on-call schedule for water system Operators shall be from start time on Monday to start time the following Monday. The Project Manager, or Assistant Project Manager establishes and maintains the on-call schedule.

At all times the pumphouses are monitored by SCADA. The SCADA system has an auto-dialer that has been programmed to contact personnel whenever conditions warrant.

The on-call Operator is the designated Operator-In-Charge (OIC) and will respond to, and investigate all alarms within 60 minutes. After evaluating the situation, the Operator will correct the problem or will call the ORO who will then provide help, whether that means by himself/herself or calling another Operator at his/her discretion based on the situation.

The ORO is available by cell phone when not physically at the pumphouse.

Veolia Water Canada is a non-unionized operation, and labour disputes are unlikely. Management Personnel are trained in operations if backup Operators are required.

In the event that the required number of competent, trained personnel are unavailable for any reason, appropriate action must be taken. The Project Manager will be notified of this situation, and reach out to neighbouring Operators for assistance.

APPENDIX G

APPENDIX G1: After Hours Dispatch and Response to Auto-Dialer Alarm Procedure

Element 12 - Communications

DWQMS Operational Plan
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The QMS Rep. shall ensure that the Owner is provided a current copy of the Operational Plan. The Owner shall also be advised of any changes to the Quality Management System, following revisions, and a status update shall be communicated following Management Reviews. This communication may take place during the regular annual report to Council by the liaison, or separate meetings arranged as necessary.

In addition to the Operational Plan, potential changes and Management Reviews, other relevant information could include audit reviews, risk assessment changes, and provision for infrastructure information. The procedure for this information to be communicated to the Owner is that the Project Manager/Assistant Project Manager will communicate to the Owner, through the Owner's liaison, the Director of Infrastructure and Public Works. This can take place at Council Meetings, or Committee Meetings, as applicable.

Operating Authority Personnel will be informed of the QMS and any changes or updates through staff meetings with the Project Manager/Assistant Project Manager and/or the QMS Representative following the original implementation. The QMS Policy is posted at all Pumphouses. In addition to the QMS Policy, the Operational Plan is kept on Google Drive, to ensure Operators have easy and quick access to all current documents (Contingency Plans and Standard Operating Procedures), that are needed at the time.

Essential Suppliers shall receive information regarding the QMS from the Operating Authority as required for purchasing as described in Element 13.

The Owner shall make the Operational Plan available for viewing by the public at accessible locations in the geographical area, served by the subject system. Consumers or the General Public will have access to the QMS policy and the complete Operational Plan at the Operating Authority and the Municipality Offices. As well, a refined copy of the Operational Plan is located on the Municipal Website.

Element 13 - Essential Suppliers & Services

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All essential Chemical, Material, Equipment, and Part Suppliers, and Service Providers must meet the Quality and Performance standards suitable for the production and delivery of safe drinking water to the customer.

Essential suppliers of chemicals and materials must meet NSF / ANSI (National Sanitary Foundation / American National Standards Institute) standards.

Ontario legislation requires that Laboratories performing drinking water testing must be accredited for the parameters being tested, and Operating Authorities must use accredited labs as required for testing.

Documentation on quality and other supplier requirements are provided to all essential suppliers and service providers indicated in Appendix HI: Essential Suppliers and Services Table, via letter. These *Supplier Letters* are distributed once a supplier or service becomes essential to help guarantee that safe drinking water is constantly provided to the consumer. Refresher letters are also distributed on a five-year rotation, to ensure that all essential suppliers and services continue to meet Veolia requirement (view appendix H2 for Supplier Distribution List)

The QMS Representative reviews the requirements annually, or more frequently as may be required for changes. The suppliers are then informed by the Project Manager/Assistant Project Manager, QMS Representative, Administrative Assistant, or designate.

Meetings are held with contractors and service providers prior to work being carried out on water treatment equipment. They are accompanied by a Water Operator to ensure water plant and distribution system requirements are understood and met prior to performing their task.

On receipt of goods and services, materials and packing slips are checked against the Purchase Order or invoice by appropriate personnel with knowledge of the goods, services, materials or parts to ensure requirements are met. If an issue is noted the supplier is contacted by the appropriate person. Operators are sufficiently trained and knowledgeable to ensure the proper materials are received and available.

Appendix H lists the Essential Suppliers and Services, Procurement information, and Quality expectations.

APPENDIX H

APPENDIX H1: Essential Supplies and Services Table
APPENDIX H2: Essential Supplier and Service Letter - Distribution Frequency

Element 14 - Review and Revision of Infrastructure

On an annual basis a summary of the Water Treatment System is prepared by the Operating Authority's Project Manager / Assistant Project Manager and is submitted to the Owner. Included in the Summary Report is a review and updates on the Operating Authority's infrastructure and related programs.

The procedure will be for the Project Manager / Assistant Project Manager to compile information received from the Operators throughout the year based on work orders and observations relating to the infrastructure of the water treatment system. This information will be summarized in the Infrastructure section of the annual summary report and presented to the Owner on an annual basis. The Annual Summary is required to be submitted to the MECP by March 1st , and to the Owner by March 30th of each year.

The report shall cover the infrastructure in place - the water system infrastructure necessary to operate and maintain the system includes buildings, workspace, associated utilities, process equipment, supporting services, vehicles, distribution system and elevated storage. The report will advise on the adequacy or condition of the infrastructure, with recommendations warranted.

An Infrastructure Review is carried out as part of the DWQMS requirements, at least once every calendar year. An *Infrastructure Review Documented* form will be completed during the review process as a means to document and record when and what topics were covered during the review. These completed forms are kept in the Infrastructure Reviews folder in the Google Shared Drive. For further information, review Appendix O1 - Infrastructure Review Procedure.

APPENDIX O

APPENDIX O1: Infrastructure Review Procedure
APPENDIX O1.A: Form 14-01 - Infrastructure Review Documented

Element 15 - Infrastructure Maintenance, Rehabilitation & Renewal

DWQMS Operational Plan
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The Operating Authority maintains a documented summary of the Operating Authority's infrastructure maintenance, rehabilitation, and renewal programs for the water treatment and distribution system (view a summary of programs on page 2). This assists in ensuring the infrastructure required is in place and is adequately maintained, or plans for improvement are in place for continued safe drinking water to be provided to the customer.

The summary, along with the long term forecast of major infrastructure maintenance, rehabilitation and renewal activities are kept current, and is communicated to the Owner Representative (who will then communicate to the Owner), at least once every Calendar Year. Please review form O1.A *Documented Infrastructure Review* (within the Google Shared Drive) for the summary and long term forecast discussion.

Monitoring of the effectiveness of the maintenance, rehabilitation, and renewal programs is a requirement of the DWQMS, and is carried out by monitoring the maintenance work order system and assessing the amount of planned (preventive action) versus unplanned (corrective action) maintenance activity.

Corrective Action - action to ***eliminate the cause*** of a detected nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

Preventative Action - action to ***prevent the occurrence*** of nonconformity of the QMS with the requirements of the DWQMS or other undesirable situation.

A Computerized Maintenance system (Jobs Plus) generates work orders for routine equipment servicing and preventive maintenance for designated equipment in the water treatment and distribution system. Preventative Maintenance can also be entered into the Jobs Plus system by the Project Manager or Operator as proof completed maintenance work.

A summary of key infrastructure material and equipment from (the Computerized Maintenance Management System - CMMS or Jobs Plus, etc) is generated by the Project Manager / ORO and also added to the annual infrastructure summary.

Summary of Veolia Water Canada's Infrastructure Maintenance, Rehabilitation and Renewal Program

PROGRAM	FREQUENCY
Generator Test Run	***Durham*** - monthly ***Neustadt*** - monthly
Generator Inspection (outside company)	***Durham*** - biannual ***Neustadt*** - biannual
Flushing - Hydrant / Blow Offs	***Durham*** - biannual ***Neustadt*** - biannual
Chlorine Injection Point - Cleaning	***Durham*** - Monthly ***Neustadt*** - Monthly
Flow Meter Calibration	***Durham*** - Annual third-party calibration ***Neustadt*** - Annual third-party calibration

Element 16 - Sampling, Testing & Monitoring

DWQMS Operational Plan
Rev. 2.02 (June 2025)

The Operating Authority maintains a sampling, testing, and monitoring process as required by the Ontario Regulation 170/03, including under conditions challenging to the system, as shown in the Table in ***Appendix F***.

Specific sampling and monitoring procedures are established for operating the water facilities, and are listed in the Operations Manual. The non-routine sample schedule is located on Google Shared Drive.

Test results are reported to the Operating Authority by the Accredited Lab and Operator Test results are recorded in the logbook in the pump houses by the Operator.

All sampling and test records from the SCADA and data logger systems, laboratories, and Operators are recorded, properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Operations Manual.

The procedure is for test results to be provided to the Owner on a monthly basis by the Operating Authority, who compiles the data and forwards the results to the Owner, The accredited Lab also forwards test results to the owner on a monthly basis, unless otherwise requested by the Owner to forward the results to the Operating Authority only.

A summary of the sampling and monitoring requirements of the various pump house process steps, including frequency, location, quality targets, challenging conditions, and records, is shown in the appropriate system section tab at the back of this document.

APPENDIX F

APPENDIX F1: West Grey Sampling Schedule

Element 17 - Measuring & Recording Equipment Calibration

The Operating Authority maintains a calibration and maintenance process, as required for the measurement and recording equipment used in the water systems. Procedures are established for calibration and maintenance of this equipment, and are listed in the Operations Manual.

Specific equipment procedures are available in the Equipment Manufacturer's Manuals and Users Manuals are available for Operators as required.

Certified sub-contractors are used as required for maintenance and calibration of flow meters, and records maintained.

All calibration and maintenance records are properly filed and maintained according to procedures as outlined in the Document and Records Control Procedures, and the Water Systems Operations Manual.

A summary of the calibration and maintenance requirements, for the pump house measurement and recording instruments, including method, frequency, and records is shown in Appendix J - Measurement and Recording Equipment Calibration Table. The Table is maintained by the Operating Authority as revisions are required.

APPENDIX I

APPENDIX I1: Measurement and Recording Equipment Calibration Table

Revision History

Version	Date	Author	Description	Approved by
2.03	June 2025	B. McGarrity - QMS Rep.	Updated format and added new logo	S. Gowan - PM
2.03	June 25, 2025	B. McGarrity - QMS Rep.	Changed Appendix letter to I from J	S. Gowan - PM

Element 18 - Emergency Management

DWQMS Operational Plan
Rev. 2.01 (May 2025)

An emergency, with regard to drinking water, is a potential situation or service interruption that may result in the loss of the ability to maintain a supply of safe drinking water to consumers.

Some emergency situations that could occur include chemical, biological, or radiological contamination, major distribution line or watermain breaks, interruptions in pressure, or loss of power. Procedures or Contingency Plans related to potential emergency situations can be found in the Operations Manual or Contingency Plan.

A Contingency Plan (Emergency Response Plan) for the Operating Authority is available on Google Drive. Water System Operators and staff are kept up to date with annual reviews of the Operations Manual and Contingency Plan, or as required if changes occur.

It is the responsibility of the Safety Coordinator, and/or QMS Rep. to ensure that employees are aware of the Contingency Plan and are trained in their responsibilities with regard to emergency preparedness.

During an emergency situation, it is the responsibility of the Municipality of Brockton (Owner) to keep the public and media informed (when deemed necessary) of current situations. There may be certain situations that do not require such actions from the Municipality. This discretion is left to that of the Municipality.

A list of emergency contacts and essential suppliers and services is kept with the Contingency Plan. The Contingency Plan can be found in the following locations:

1. Pumphouse
2. Operations and Maintenance Manual for each Drinking Water System (QMS Rep. desk)
3. Google Shared Drive (West Grey - Operational Files → QMS → Contingency Plans)

In addition to the above, the Owner has an Emergency Response Plan, in accordance with current legislation and regulations, at the municipal office that provides information and contact information in the case of a water related emergency situation.

Emergency Response Testing is accomplished by review of one or more Contingency Plan procedures on a regular basis (minimum annually) in the form of a meeting with Operators and employees to ensure awareness of the procedures and allow discussion and input on situations that could arise as an emergency situation.

Potential Emergency Situations

Neustadt

1. Loss of Pressure in Distribution System
2. Chlorination Equipment Failure
3. Well Pump Shut Down
4. Low Chlorine or High Turbidity Alarm
5. Distribution System Low Chlorine Residual
6. Resampling of System - Bacteriological Adverse Result
7. Watermain Break
8. Spillage of Water Treatment Chemicals
9. Flooding
10. Contamination of Well/Aquifer
11. Loss of Monitoring due to Loss of Power at Tower Facility
12. SCADA Communication Failure
13. Failure of UV Disinfection Equipment
14. Other Emergencies (Fire, Flood, Earthquake, Vandalism)

Durham

1. Chlorination Equipment Failure
2. Well Pump Shut Down
3. Low Chlorine or High Turbidity Alarm
4. Distribution System Low Chlorine Residual
5. Resampling of System - Bacteriological Adverse Result
6. Watermain Break
7. Spillage of Water Treatment Chemicals
8. Diesel Generator at well house 1B Unworkable when Required During Power Failure
9. Well house Flooding
10. Contamination of Well/Aquifer
11. SCADA Communication Failure
12. Failure of UV Disinfection Equipment
13. Loss of Pressure in the Distribution System
14. Other Emergencies (Fire, Earthquake, Vandalism)

Element 19 - Internal Audits

DWQMS Operational Plan
Rev. 2.03 (June 26, 2025)

An Internal Audit procedure has been established by the Operating Authority to comply with the Drinking Water Quality Management Standard V2.0. The intent of the procedure is to evaluate conformity of the QMS with the requirements of the Standard.

The Procedure, found in Appendix J1, identifies the internal audit criteria, the frequency recommended for the audit schedule, the scope, method and requirement for documentation of the audits.

The procedure also describes how Corrective Action Reports (CARs) are initiated and addressed to provide irreversible corrective actions to deficiencies found in the audits.

Previous internal and external audit results should be reviewed for consideration when planning the internal audit.

An Internal Audit Checklist is also included as Appendix J2 to assist with the audit.

Internal Audits are required to be completed at least once every Calendar Year.

APPENDIX J

APPENDIX J1: Internal Audit Procedure and Schedule

APPENDIX J2: Internal Audit Checklist

Revision History

Version	Date	Author	Description	Approved by
2.02	June 2025	B. McGarrity - QMS Rep.	Updated format and added new logo	S. Gowan - PM
2.03	June 26, 2025	B. McGarrity - QMS Rep.	Changed Appendix letter to I from J	S. Gowan - PM

Element 20 - Management Review

DWQMS Operational Plan
Rev. 2.03 (June 26, 2025)

A Management Review procedure has been established by the Operating Authority to comply with the DWQMS standard. The intent of the procedure is to provide a structured mechanism for Top Management to perform a review of prescribed topics covering compliance, consumer, performance, and audit information based on the Quality Management System.

Top Management for the Operating Authority is defined, in Element 9 Organizational Structure, Roles, Responsibilities and Authorities, and Appendix E2, as the Director of Infrastructure and Public Works and Project Manager/Assistant Project Manager. A Municipality representative is also included in the management review.

The Procedure, found in Appendix K1, identifies the management review process and specific topics to be assessed.

A Management Review is required to be conducted at least once every Calendar Year (anytime between January - December). A copy of the Management Review can be found on the Google Shared Drive when required.

A report of the results of the management review is reported to the Owner by the Project Manager on an annual basis. Use Appendix K2: Management Review Template, as a form to complete during Management Reviews as a means to communicate results to the appropriate people.

APPENDIX K

APPENDIX K1: Management Review Procedure

APPENDIX K2: Management Review Template

Element 21 - Continual Improvement

DWQMS Operational Plan
Rev. 2.03 (June 26, 2025)

The Operating Authority shall strive to continually improve the effectiveness of its Quality Management System through the use of corrective actions.

The review of the Operations Plan by a third party represents the first step in improving the effectiveness of the QMS. Ongoing annual Management Reviews and resulting corrective actions will be the basis for further improvement.

Corrective Actions are added to the Corrective Actions Tracking Sheet when identified. Sources of Corrective Actions include:

a) Internal Audits
b) External Audits
c) AWQIs
d) MECP Inspection Reports

The QMS Rep is responsible for ensuring corrective actions are identified, implemented and their effectiveness monitored in the Corrective Actions Tracking Sheet.

Preventative Actions are added to the Preventative Actions Tracking Sheet, when identified. Sources of Preventative Actions may include:

a) Opportunities for Improvement
b) Staff Suggestions
c) Owner Suggestions
d) Risk Assessment Outcomes
e) Emergency Response Training Outcomes
f) Management Reviews

The QMS Rep is responsible for ensuring preventative actions are identified, implemented and their effectiveness monitored in the Preventative Actions Tracking Sheet.

Best Management Practices (BMPs) are added to the BMPs Tracking Sheet, when identified. BMPs are to be reviewed, at minimum once every 36 months. Sources of BMPs include:

a) BMPs published by the MECP
b) Customer Complaints
c) Training Sessions
d) Staff Feedback
e) Publications by Professional Organizations

The QMS Rep is responsible for ensuring BMPs identified are implemented and their effectiveness monitored in the Best Management Practices Tracking Sheet.

Continual improvement of the Operational Plan will be scheduled within the calendar year to concentrate on specific elements each month. Each element within the agenda is subject to change depending on schedule conflicts of the QMS Rep. and those who may be involved. A sample schedule is provided in the appendix shown below.

Appendix N

Appendix L1: Corrective Actions Tracking Sheet

Appendix L2: Preventative Actions Tracking Sheet

Appendix L3: Best Management Practices Tracking Sheet

Appendix L4: Annual Element Review of the Operational Plan

Revision History

Version	Date	Author	Description	Approved by
2.02	June 2025	B. McGarrity - QMS Rep.	Updated format and added new logo	S. Gowan - PM
2.03	June 26, 2025	B. McGarrity - QMS Rep.	Changed Appendix letter to L from N	S. Gowan - PM