

The Corporation of the Village of Westport

Drinking Water System Operational Plan

VERSION 2.0



Owner: The Corporation of the Village of Westport

Operator: The Corporation of the Village of Westport

Document History

Revision #	Effective Date	Description	Section Changed	Author	Approved by	Revised Operational Plan Uploaded
1	October 1, 2014	Initial Release		AECOM /David Wallond	Ted Joynt	
2	January 15, 2017	Revising	All sections	Ted Joynt	Ted Joynt	
3	February 12, 2017	Wording clarification	All sections	Ted Joynt	Ted Joynt	
4	June 19, 2018	Removed Manager of Infrastructure reference and inserted Supervisor of Public Works	Those effected	Ted Joynt	Ted Joynt	
5	September 23, 2018	Updated revision footer to 5		Ted Joynt	Ted Joynt	
6	October 7, 2018	Further updating formatting in operational plan		Ted Joynt	Ted Joynt	
7	May 19, 2019	Updating to Version 2.0, change revision date to 2019		Ted Joynt	Ted Joynt	
8	May 30, 2019	Added Supervisor of Public Works (endorsement)	Commitment and Endorsement	Ted Joynt	Ted Joynt	Up loaded
9	May 12, 2020	Added to the Operation Plan "Introduction" reference to Version 2.0 DWQMS	Ted Joynt	Ted Joynt	Ted Joynt	Not uploaded
10	June 8, 2020	Specified roles of Top Corporate Management and Top Operational Management as well as QMS Rep	Element 3 Commitment and Endorsement	Ted Joynt	Ted Joynt	Not uploaded
11	May 12, 2020	Added to Element 4 QMS Representative reference to an alternate QMS Representative	Element 4	Ted Joynt	Ted Joynt	Not uploaded
12	May 12, 2020	Removed reference to section 1.3.1 of the standard in Element 1 and 3	Element 1 and 3	Ted Joynt	Ted Joynt	Not uploaded
13	May 12, 2020	Added reference to Well Inspection to Element 14 Planned Maintenance	Element 14	Ted Joynt	Ted Joynt	Not uploaded
14	May 12, 2020	Added to Element 16 Sampling that the Owner is provided all sampling result through the annual Report	Element 16	Ted Joynt	Ted Joynt	Not uploaded
15	May 12, 2020	Reference made to	Element 17 (1)	Ted Joynt	Ted Joynt	Not uploaded

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		manufacturers recommendation made in OP				
16	June 8, 2020	Clarified Responsibilities for Top Corporate and Top Management	Element 3 Commitment and Endorsement	Ted Joynt	Ted Joynt	Not uploaded
17	June 9, 2020	Added addition document references Page 7		Ted Joynt	Ted Joynt	Not uploaded
18	July 12, 2020	Additional column was added to the Document History verifying whether the latest revision were uploaded to the Municipal Website	Document History	Ted Joynt	Ted Joynt	Not uploaded
19	July 21, 2020	Added signed policy	Element 2	Ted Joynt	Peter Evans	Uploaded

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Introduction

General

Recommendations made in Part Two of Justice Dennis R. O'Connor's Walkerton Inquiry Report stated that the Ministry should move towards a municipal licensing regime incorporating the concepts of quality management. This recommendation forms the basis of the Municipal Drinking Water Licence (MDWL) program.

On April 6, 2017 the Ministry of Environment Conservation and Parks (MOECP) released revisions to the Drinking Water Quality Management Standard (DWQMS Version 2.0). The revised standard was developed in cooperation with the water sector and incorporates feedback from stakeholder groups representing municipalities across Ontario. Owners and operating authorities of Municipal Residential Drinking Water Systems were given until the end of 2019 to transition to DWQMS Version 2.0

The Key changes are:

1) Flexible Timelines

The DWQMS has been revised to incorporate some flexibility in scheduling annual audits within a calendar year (Appendix A- Elements 18/19).

2) Consideration of Climate Change

The standard has been revised to ensure that all system owners are aware of the risks of climate change and are incorporating them into infrastructure planning activities (Appendix A- Element 15).

3) Risk Assessment

The MOECP outlined a list of potential hazardous events to be considered as part of the annual Risk Assessment (Appendix A- Element 7).

4) Continual Improvement

It required municipalities to develop a procedure for continual improvement that includes applicable best management practices and a documenting procedure for corrective and preventative actions (Appendix A-Element 21).

The MDWL is a new approvals framework for municipal residential drinking-water systems, replacing the current approvals instrument, the Certificate of Approval. Requirements for the issuance of an MDWL, as outlined in subsection 44.1 of the Safe

Drinking Water Act (SOWA), are essentially the same as Recommendation 1. The requirements for the issuance of a licence are:

- A drinking water works permit (replacing a Certificate of Approval);
- A permit to take water;
- An approved operational plan;
- An accredited operating authority; and
- An approved financial plan, if required.

The first two elements of the licence are based on existing Ministry programs. The next two elements of the licence, the operational plan and the accreditation of the operating authority, will be fulfilled through the implementation of the Drinking Water Quality Management Standard (DWQMS).

To obtain a Municipal Drinking Water Licence (MDW L)

- ✓ An operating authority must be accredited by a third party accreditation body for each subject system that it operates;
- ✓ Accreditation will be based on the operating authority having a Quality Management System (QMS) in place that meets the requirements of the DWQMS ; and
- ✓ The operating authority will be required to document its Quality Management System (QMS) in an operational plan which will be endorsed by the owner and submitted to the Ministry for acceptance

A quality management system (QMS) is a system to:

- Establish policy and objectives and achieve those objectives ; and
- To direct and control an organization with regard to quality.

The operational plan is the documentation of the QMS. It is not an Operations and Maintenance Manual.

In accordance with the MDWL requirements, **this Operational Plan serves as a Quality Management System Guidance Manual** that describes the methods by which The Village of Westport implements Quality Management. The Plan is written to meet or exceed the requirements of the Ministry of the Environment prescribed standard and is applicable to the management and operation of those works described in Section 6 of this Plan.

Regulations

- ✓ Safe Drinking Water Act, 2002
(SOWA) Ontario Water
Resources Act, 1990
- ✓ Ontario Regulation 170/03 - Drinking Water Systems
- ✓ Ontario Regulation 128/04 - Certification of Drinking Water System and Water Quality Analysts
- ✓ And all supporting Ontario Regulations

References

- ✓ Ministry of the Environment, "Drinking Water Quality Management Standard, October 2006.
- ✓ Ministry of the Environment and Climate Change, "Implementing Quality Management: A Guide for Ontario's Drinking Water Systems, PIBS 6320e, July 2007 .
- ✓ Ministry of the Environment Conservation and Parks "Ontario's Drinking Water Quality Management Standard, Pocket Guide", April 6, 2017.
- ✓ Potential Hazardous Events for Municipal Residential Drinking Water Systems to consider in the DWQMS Risk Assessment February 2017
- ✓ Accreditation Protocols for the OA for Drinking Water Systems November 2016
- ✓ Directors Directions

Definitions:

Accredited Operating Authority - a person or entity that is given responsibility by the owner for the management, operation, maintenance or alteration of a drinking water system and has been accredited after demonstrating conformance to the requirements of the Drinking Water Quality Management Standard to the satisfaction of the accreditation body authorized by the Ministry of Environment.

Action Item - a deficiency of the OMS identified through management review which requires corrective action

Audit - a systematic and documented verification process that involves objectively obtaining and evaluating documents and processes to determine whether a quality management system conforms to the requirements of the Drinking Water Quality Management Standard.

Authority - official permission or approval to carry out tasks and make decisions regarding the drinking water system

Competence - the combination of observable and measurable knowledge, skills and abilities which are required for a person to carry out assigned duties

Compliance - the fulfillment of a regulatory requirement

Conformance - the fulfillment of a Drinking Water Quality Management Standard requirement

Control Measure - includes any processes, physical steps, or other contingencies that have been put in place to prevent or reduce a hazard.

Control Point (CP) - a step in the drinking water system process where primary control is applied to prevent or reduce the likely occurrence of a hazardous event with associated drinking water health hazards.

Corrective Action - 1) action to eliminate the cause of a detected non-conformity with the Drinking Water Quality Management Standard, Quality Management System, or other undesirable situations 2) action taken in response to reported adverse water quality identified under Schedule 16 of Ontario Regulation 170/03 to immediately restore proper drinking water disinfection or treatment including any actions taken as directed by the Medical Officer of Health

Corrective Action Record (CAR)- a form used to record the non-conformance and to track the corrective action to improve the non-conformity.

Critical Control Limit (CCL) - the point at which a critical control point response procedure is initiated.

Critical Control Point (CCP) - an essential step in the drinking water system process where primary control measures can be applied and the results measured to ensure the safety of drinking water delivered to the customer by preventing or eliminating a drinking water health hazard or reducing the hazard to an acceptable level

Customer - the drinking water end user

Document - information recorded or stored by means of any device which is revised to remain current. For the Drinking Water Quality Management System they include policies, operational plans, procedures, GIS/network drawings, legislation, regulations, and standards, but not records. (See Records)

Drinking Water Emergency - a situation or service interruption that may result in the loss of the ability to maintain a supply of safe drinking water to consumers.

Drinking Water System - the system of connected works, excluding plumbing, which is established for the purpose of providing users of the system with drinking water

Duty - an authorized task or decision regarding the drinking water system that is required to fulfill responsibilities identified in the Operational Plan and associated procedures

DWQMS - Drinking Water Quality Management Standard

Emergency - a situation which requires immediate action to protect and preserve the health, safety and welfare of persons and to limit or prevent damage and destruction of property, infrastructure and the environment

Emergency Response - the effort to mitigate the impact of an emergency on customers

Hazard - a source of danger or a property that may cause drinking water to be unsafe for human consumption. The hazard may be biological, chemical, physical or radiological in nature.

Hazardous Event - an incident or situation that can lead to the presence of a hazard

Infrastructure - the set of interconnected structural elements that provide the framework for supporting the operation of the drinking water system, including buildings, workspace, process equipment, hardware and software, and supporting services, such as transportation or communication

Major Drinking Water Emergency - an emergency which is adversely affecting or will adversely affect the supply of safe drinking water to a significant portion of the system or to critical facilities such as hospitals, nursing homes and medical clinics

Minimum Critical Control Point (Minimum CCP) - an essential step in the drinking water system process where control measures must be applied to meet minimum treatment requirements for primary and secondary disinfection as outlined in the Procedure for Disinfection of Water in Ontario.

Monitoring - checks or systems that are available to detect hazards or the potential for hazards

Non-compliance - the failure to fulfill a regulatory requirement

Non-conformance - the failure to fulfill a Drinking Water Quality Management Standard or quality management system requirement

Operating Authority - Village of Westport Drinking Water System, as authorized by the owner to undertake the management, operation, maintenance or alteration of the drinking water system

Overall Responsible Operator (ORO) - The owner or operating authority of a municipal residential subsystem shall designate an operator to be the ORO who holds a certificate for that type of subsystem and that is of the same class as or higher than the class of that subsystem.

Owner - Corporation of the Village of Westport

Potential Major Drinking Water Emergency - an emergency with the potential to adversely affect the supply of safe drinking water to a significant portion of the system or to critical facilities such as hospitals, nursing homes and medical clinics

Preventative Action - action intended to eliminate the cause or causes of potential non-conformance(s).

Record - information recorded or stored by means of any device which provides proof of activities performed and results achieved. For the Drinking Water Quality Management System they include log

books, laboratory test results, water quality data, system performance data, completed operation and maintenance forms, photographs, audio/video recordings, and "As Built"/record drawings

Responsibility - an overarching requirement, identified in the Operational Plan, for which persons having duties and authorities impacting the safe and reliable supply of drinking water to the customer are held accountable

Role - a management or staff position within the Smiths Falls Drinking Water System for which responsibilities, duties, and authorities have been identified

The Standard - the Drinking Water Quality Management Standard

Key Acronyms

CWA - Clean Water Act, 2006

DWQMS - Drinking Water Quality Management Standard

DWWP - Drinking Water Works Permit

HLP - High Lift Pump

MDWLP - Municipal Drinking-WaterLicense Program

MOECC - Ministry of the Environment and Climate Change

PTTW - Permit to Take Water

QMS - Quality Management System

RWW - Raw Water Well

SCADA - Supervisory Control and Data Acquisition

SOWA - Safe Drinking Water Act, 2002

WTP - Water Treatment Plant

1. Quality Management System

This document is the drinking water Operational Plan for the Village of Westport Water Treatment and Distribution System (referred to as Drinking Water System). The Westport Treatment and Distribution System is owned and operated by the Corporation of the Village of Westport.

The QMS for the Village of Westport Drinking Water System covers the treatment and the distribution of potable drinking water to consumers within the Village of Westport, as described in Section (Element) 6.

This Operational Plan serves as a Quality Management System (QMS) Guidance Manual that describes the methods by which the Village of Westport implements Quality Management. The Plan is written to meet or exceed the requirements of the Ministry of the Environment prescribed standard which is applicable to the management and operation of those works described in Section 6 of this Plan.

2. Quality Management Policy

The Village of Westport operates and maintains the Village of Westport Drinking Water System.

The Village of Westport is committed to complying with all applicable legislative and regulatory requirements for the operation of the Village of Westport Drinking Water System. The Village of Westport further commits, by way of this Operational Plan, to the provision of safe drinking water, the maintenance of the Drinking Water System and to the continual improvement of the Quality Management System.

The Village of Westport shall accomplish these goals through the dedication, support and participation of all employees and the maintenance and continual improvement of our Quality Management System.

A handwritten signature in cursive script that reads "Robin Jones". The signature is written in black ink and is positioned above a horizontal line.

The Corporation of the Village of Westport
Robin Jones Mayor

Date: July 20, 2020

3 Commitment and Endorsement

- 3.1 The Drinking Water System owner, the Corporation of the Village of Westport supports the implementation, maintenance and continual improvement of a drinking water Quality Management System, as documented in this Operation Plan.

- 3.2 The Corporation of the Village of Westport, as the owner of the Drinking Water System, (represented by the Village of Westport Mayor), endorses this Operational Plan.

- 3.3 Top Corporate Management, represented by the Chief Administrative Officer(CAO) commits to the following and shall:
 - a. Provide the resources to ensure that the Operational Plan conforms to the requirement of the DWQMS.

 - b. ensure that the Quality Management System (QMS) described herein is effectively implemented, maintained and continually improved;

- 3.4 Top Operational Management and Operating Authority represented by the Supervisor of Public Works endorse this Operational Plan. In support of that endorsement ,
3.4
The Designated QMS representative and alternate, appointed by Top Management acknowledge the roles and responsibilities of that appointment.

Date June 24/2019 Robin Jones, Mayor
The Corporation of the Village of Westport
Robin Jones Mayor

Date June 24, 2019 Paul Snider
Paul Snider CAO

Date June 24/19 Peter Evans
Peter Evans Supervisor of Public Works

Date June 24/19 Ted Joyce
Ted Joyce QMS Representative

4 Element 4 - Quality Management Representative

4.1 The Village of Westport Drinking Water System is the Owner and Operating Authority.

4.2 The responsibility and authorities of the QMS Representative are therefore assigned to a licensed water system operator or outside third party who has received the required training to carry out the responsibilities of the appointment, including internal auditing. Should a staff member take the required DWQMS training that staff member can act as an alternate QMS Representative.

4.3 The QMS Representative has the responsibility to the Village of Westport for the implementation, maintenance and continual improvement of the QMS as outlined in the procedures. Top management shall appoint and authorize a Quality Management System Representative who, irrespective of all other responsibilities shall:

4.3.0 Ensure that the process and procedures required for a QMS that are consistent with the type, size and complexity of the subject waterworks, are documented, implemented and maintained;

4.3.1 Ensure that process and procedures are in place for reporting on the performance of the QMS, including the need for any improvement, to the owner;

4.3.2 Ensure that an effective Document Control procedure had been developed and implemented to ensure that the QMS documentation remains current and is ready available; and

4.3.3 Ensure that all legislation and regulations, and relevant aspects of the QMS are effectively understood by the QMS representative.

5 Element 5 - QMS Document and Record Control

- 5.1 Details regarding OMS document identification, retention, storage and disposal are contained within the Document Control Procedure , attached as Annex B. OMS records are retained according to the Record Control Procedure attached as Annex C.
- 5.2 A master list of the OMS documents has been created and can be found in Annex A of the Operational Plan. The Master List identifies the Document Types, the individual Document Titles and the current Revision Status of each.
- 5.3 The OMS Representative ensures that current versions of all documents are in use by OMS Representative at all times through the development, Implementation and regular audit of the Document Control Procedure. The Document Control Procedure, Annex B, is applicable to all documentation included in the Master List of Documents. The procedure describes the steps for the development, distribution, changing and disposition of OMS Documents.
- 5.4 A Control of Records procedure, Annex C, has been developed and implemented to ensure that the records required by the Ontario DWOMS and the Village of Westport Drinking Water System Operational Plan are properly retained , protected, available when and where required and disposed of.

6 Element 6 - Drinking Water System

6.1 The Village of Westport Drinking Water System, Number 21000 1004, is described as the Westport Drinking Water System Class 2 Facility. The source water is referred to as a Groundwater Under the Direct Influence of Surface Water (GUDI) supply system. The GUDI designation was assigned based upon the results from the original well, Well # 1, which was decommissioned in February 2005

Well 1 was decommissioned and has not been used as a production well since February 2005 This was the result of a combination of factors and due to these factors and the microbiological results Well 1 was abandoned.

6.3 The source water comes from two wells:

6.3.1 Well# 2 is 200mm in diameter and drilled to a depth of 33.5m groundwater production well, located east of Highway 42 between George Street and Spring Street in the Village of Westport (NAO 2: UTM Zone 18: 389044 00m E , 49441.00m N.). The well is equipped with an 11 kw submersible pump with an unconfirmed capacity of 363L/min; and

6.3.2 Well# 3 is 200mm in diameter and drilled to a depth of 40.0m groundwater production well, located east of Highway 42 between George Street and Spring Street in the Village of Westport (NAO 26: UTM Zone 18: 389122.00m E., 4946801.00m N.). The well is equipped with a 11 kw submersible pump with a rated capacity of 625L/min.

6.2 Water Characteristics

The source water characteristics are:

- 6.2.1 Temperature: 10°C, constant year round;
- 6.2.2 Turbidity Range:

Well #2:	0.06 to 0.11
Well #3:	0.89 to 0.98
- 6.2.3 ph

Well # 2:	7.06
Well# 3:	7.11
- 6.2.4 Other Characteristics: The raw water from the wells is not subject to seasonal fluctuations, nor are there any challenges to the system.

6.3 Disinfection

6.3.1 Primary disinfection is provided by two in-line Ultraviolet (UV) units. There is one unit per well supply line.

6.3.2 There is also a 200 L s storage tank for hypochlorite solution as well, as hexametaphosphate which can be added as a sequestering agent, The Hexametaphosphate system is no longer used. There are 2 chemical metering pumps (1 duty, 1 standby, each rated at 3.6L/h dedicated to Well No. 2 and Well No. 3 raw water supplies, complete with automatic switchover with feed line discharging to the well pump header.

6.4 Online Instrumentation

The following components are integrated in the system;

6.4.1 One (1) chlorine residual analyser to provide continual monitoring of chlorine residual levels;

6.4.2 One (1) turbidity meter to provide continual monitoring to turbidity levels; and

6.4.3 Two (2) 50mm diameter flowmeters with by-pass, one (1) for each water supply line.

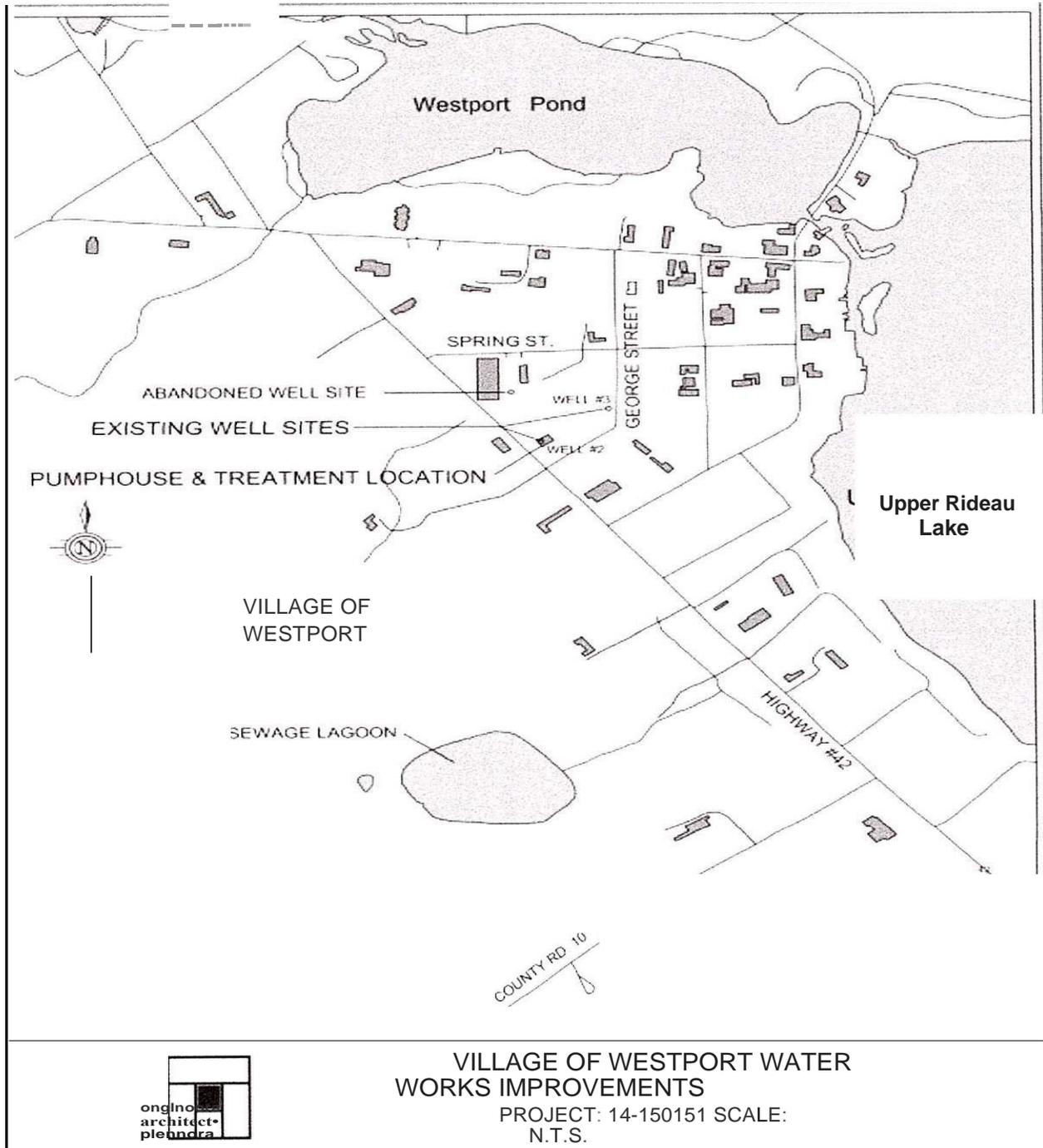
6.5 Water Distribution System

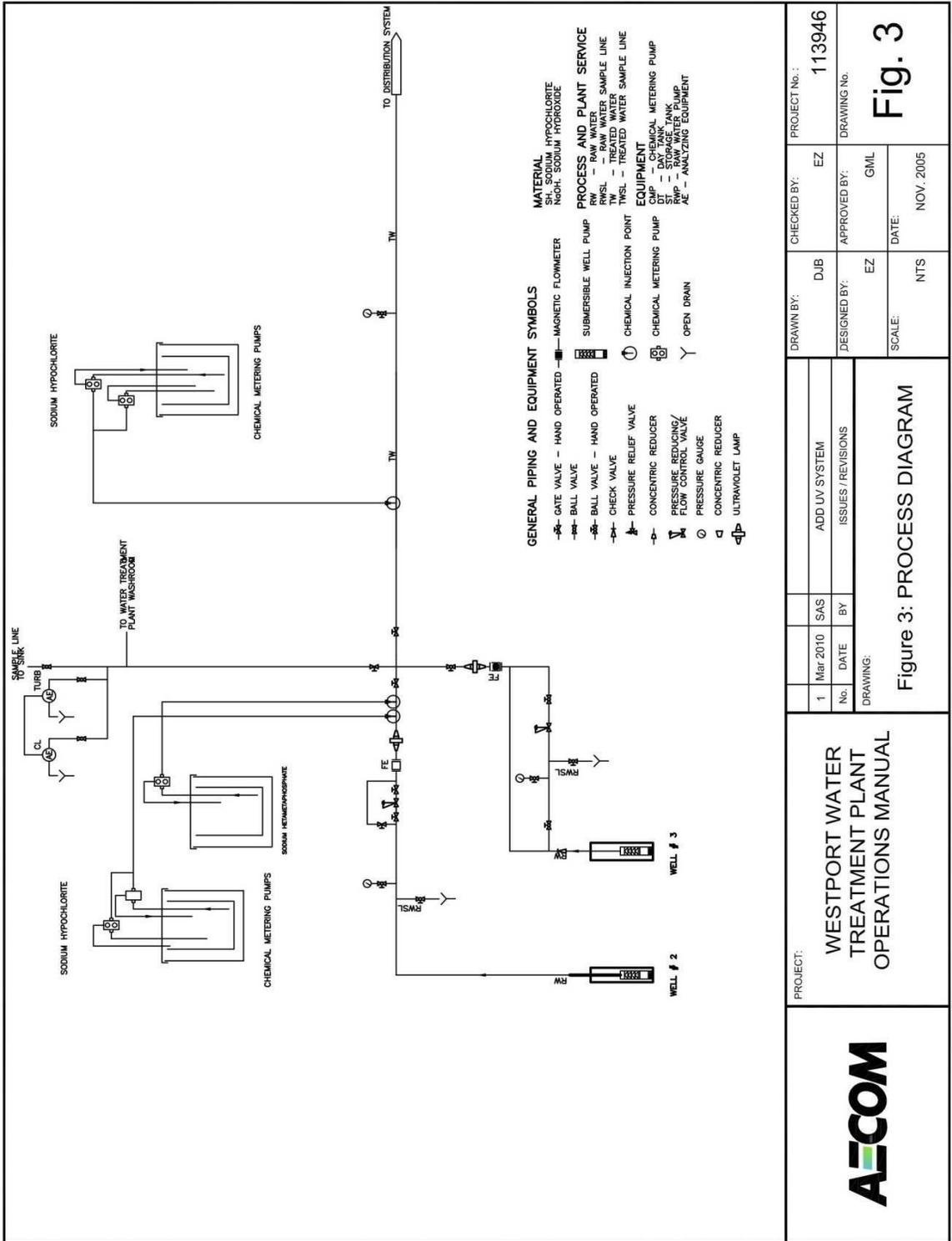
6.5.1 The distribution system consists of plastic mains, sizes range from 100 mm to 200 mm and one (1) elevated 455m³ steel storage tank, 285 residential and commercial service connections and 43 hydrants.

6.5.2 There is in-line pressure reducing/flow control valves and flowmeters on the supply line from each well.

6.6 Drinking Water System Process Schematic

The following diagrams outline the Drinking Water System Process Schematic.





PROJECT:		WESTPORT WATER TREATMENT PLANT OPERATIONS MANUAL	
DRAWING:		ADD UV SYSTEM	
1	Mar. 2010	SAS	BY
No.	DATE	BY	ISSUES/ REVISIONS
DRAWING:			
DRAWN BY:		DJB	
CHECKED BY:		EZ	
PROJECT No.:		113946	
DESIGNED BY:		EZ	
APPROVED BY:		GML	
SCALE:		NTS	
DATE:		NOV. 2005	
Fig. 3			

Element 7 - Risk Assessment Purpose

The procedure describes how to:

- identify potential hazardous events to the water distribution system
- assess the risks associated with the occurrence of hazardous events
- rank the hazardous events according to the associated risks
- identify control measures to address potential hazards and hazardous events
- Identify Critical Control Points (CCPs) and associated methods of monitoring and controlling them.

7.2 Scope

This procedure is applicable to all equipment processes and activities that constitute the water distribution system.

7.3 References

DWQMS Elements 7 & 8 Risk Assessment

7.4 Procedure

The Risk Assessment Spreadsheet shall be used to document this process.

7.5 Hazard / Hazardous Event Identification

The QMS Representative shall assemble a team to discuss and identify all potential hazards to the drinking water treatment and distribution system owned and operated by the Village of Westport. The team members shall include the QMS Representative, ORO and the CAO.

The QMS Representative may invite other members of the Water Services team as participants in the risk assessment activity

Each of the process areas of the water treatment and the water distribution systems shall be reviewed in order to identify potential hazardous events and associated/resulting hazards. The hazardous events and resulting hazards shall be recorded on the Risk Assessment spreadsheet.

Control measures shall be identified, recorded, and put into place to either eliminate or mitigate the impact of each identified hazardous event or hazard.

Names of the participants and the date(s) when the Risk Assessment was conducted shall be recorded on the Risk Assessment spreadsheet

7.6 Ranking Risk

Each hazard identified shall be "ranked" by the team according to:

Likelihood is the probability/likelihood of a hazard or hazardous event occurring

Severity is the potential impact to health or impact on operations if the hazard or hazardous event occurs

Detectability is a measure of the ability to detect the presence of the hazard or hazardous event

The actual "ranking criteria" can be found by opening the tab marked "Criteria" in the Risk Assessment spreadsheet.

The reliability and redundancy of equipment shall be considered in this ranking. Control measures, monitoring and response procedures shall be identified and considered when assigning ratings to hazardous events and resulting hazards.

The total risk shall be determined by adding the individual scores for likelihood, severity, and detectability, in order to determine the Risk Priority Number.

7.7 Critical Control Points

All hazards or hazardous events which have a Risk Priority Number (RPN) greater than nine (9) shall be considered Critical Control Points (CCPs). Regardless of their final ranking, the following shall be identified as CCPs;

- Chemical Feed
- Primary Disinfection
- Secondary Disinfection
- System Pressure

For each critical control point, the following information shall be recorded into the Risk Assessment Table:

Reference to monitoring procedures or SOPs, to describe what is monitored to indicate that the process step has gone out of specified critical control limits

Reference to response procedures or SOPs, to describe the response to deviation from critical control limits, including reporting and recording of information, and the reliability and redundancy of equipment

If required, the OMS Representative shall draft the response procedures for deviations to critical control limits, as per the Control of Documents Procedure.

7.8 General

Supporting notes and comments, as needed, shall be recorded in the table.

Every year, the OMS Representative shall assemble a team of knowledgeable process owners to review the risk assessment and ensure that the information and assumptions remain current and valid. The review shall be conducted prior to the OMS Management Review.

If the OMS Representative determines that the Risk Assessment requires updating due to process or technological changes to any of the subject waterworks, then using the existing spreadsheet go to Step 5.2 of this procedure.

The OMS Rep shall ensure the risks are assessed at least every 36 months and considers the reliability and redundancy of equipment

Associated Documents

- Risk Assessment Spreadsheet
- CCP Response SOPs
- Annexes D , E and F

8 Element 8 - Risk Assessment Outcomes

8.1 Annex E, documents the initial hazard identification exercise conducted for the Village of Westport Drinking Water System. All hazards were identified and categorized according to the Risk Assessment Procedures, Annex D.

8.2 The Critical Control Response Work Instructions can be found at Annex F.

9 Organization Structure, Roles, Responsibilities and Authorities

9.1 Organization Structure

The Corporation of the Village of Westport is the owner and operating authority of the Village of Westport Drinking Water System as previously described in Section 2 and 6 of this Operation Plan.

The Village of Westport Drinking Water System can be operated by a contracted service.

The Operating Authority may at its discretion use the following services:

- a. Independent water sampling and testing services;
- b. Independent auditors; and
- c. Contracted Back-up operators.

9.2 Operational Roles, Responsibilities and Authorities

9.2.1 Mayor/Council (Owner)

Responsibilities	Authorities
<p>In addition to ensuring the provision of safe and reliable municipal water supply, in accordance with all legislation and regulatory requirements, to the serviced areas of the Village of Westport.</p> <p>The owner is also responsible for:</p> <ul style="list-style-type: none"> Endorsing the DWOMS for the Village of Westport Drinking Water System. 	<p>On behalf of the electorate of the Village of Westport, the owner is authorized to:</p> <ul style="list-style-type: none"> • manage or delegate management of utility assets review; • provide / review / approve administrative policy direction; and

9.2.2 Top Management

Responsibilities	Authorities
<p>The Village of Westport is responsible for ensuring safe, reliable, and compliant operation of all systems under the responsibility of the Operator.</p> <p>The Village is also responsible for:</p> <ul style="list-style-type: none"> Operating and maintaining the Village of Westport Drinking Water System • Implementing and continual improvement of the QMS 	<p>The Top Management is authorized by Village of Westport to:</p> <ul style="list-style-type: none"> • Operate and maintain the Village of Westport Drinking Water System • Implement and continual improvement of the OMS • Assess and report upon the condition of the Drinking Water System infrastructure to the Owner • Make recommendations to the Owner regarding the operation of the Drinking Water System • Ensure that the operation of the Drinking Water System is in compliance with all applicable legislation and regulations • Allocate the necessary resources for the safe operation of the works based upon the recommendations of the Overall Responsible Operator • Ensure that all operators are licensed • Ensure that all operators are properly trained • Prepare operating budgets • Communicate with the owner, the public, regulatory authorities, other utilities, and various professional organizations on behalf of the Village of Westport • Advise the owner on water policies and bylaws • Provide direct supervision of all operating authority staff and contracted part-time employees/contractors • Monitor/audit the QMS process

	<ul style="list-style-type: none"> Report on the performance of the Drinking Water System and the OMS to the Owner
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9.2.3 QMS Representative

Responsibilities	Authorities
<p>The QMS Representative is responsible for:</p> <ul style="list-style-type: none"> Implementing and continual improvement of the QMS Ensuring that the process and procedures required for a QMS that are consistent with the type, size and complexity of the subject waterworks, are documented, implemented and maintained 	<p>The QMS Representative is authorised by the Village of Westport to:</p> <ul style="list-style-type: none"> Implement and continual improvement of the OMS Ensure that the process and procedures required for a QMS that are consistent with the type, size and complexity of the subject waterworks, are documented, implemented and maintained Ensure that process and procedures are in place for reporting on the performance of the OMS, including the need for any improvement, to the owner; <ul style="list-style-type: none"> Report to the Top Management on the performance of the OMS and any need for improvement Ensure that an effective Document Control procedure had been developed and implemented to ensure that the OMS documentation remains current and is ready available Ensure that all legislation and regulations, and relevant aspects of the OMS are effectively communicated, appropriate to drinking water system personnel Ensure that the most current versions of documents required by the OMS are being used at all times Ensure that personnel are aware of all current regulatory requirements that pertain to their duties within the operation of the drinking water system Ensure the promotion of awareness and effectiveness of the OMS throughout the operating authority. <p>Promote the benefits and value of the QMS and report OMS results to Top Management and to the Drinking Water System Owner Representative</p>

9.2.4 Overall Responsible Operator (ORO)

Responsibilities	Authorities
<p>The Overall Responsible Operator is responsible for ensuring safe, reliable, and compliant operation of all systems under the responsibility of the Operating Authority.</p>	<p>The Overall Responsible Operator is authorized by the Village of Westport to:</p> <ul style="list-style-type: none"> • Operate and maintain the Village of Westport Drinking Water System • Implement and continual improvement of the OMS • Assess and report upon the condition of the Drinking Water System infrastructure to the Owner • Make recommendations to the Owner regarding the operation of the Drinking Water System • Ensure that the operation of the Drinking Water System is in compliance with all applicable legislation and regulations • Prepare and submit Regulatory Reports • Make process adjustments on the basis sampling, testing and monitoring results • Allocate the necessary resources for the safe operation of the works based upon the recommendations of the Overall Responsible Operator • Provide input in the preparation of the operating budget • Communicate with the owner, the public, regulatory authorities, other utilities, and various professional organizations on behalf of the Village of Westport • Advise the owner on water policies and bylaws • Monitor/audit (if trained) the QMS process • Report annually to the owner on the QMS audit reports and recommendations

9.2.5 Operator

Responsibilities	Authorities
<p>The Drinking Water System Operator is responsible for monitoring and maintaining processed water quality, the maintenance of treatment and the maintenance of the distribution system including valves and hydrants and flushing.</p>	<p>The Operator is authorised by Top Management to monitor and maintain processed water quality, the maintenance of treatment and the maintenance of the distribution system including valves and hydrants and flushing.</p>

9.2.6 Part-time Operator (employee or contractor)

Responsibilities	Authorities
<p>The Part-time Drinking Water Systems Operator is responsible for monitoring and maintaining processed water quality</p>	<p>The Part-time Operator is authorised by Top Management and the Overall Responsible Operator to monitor and maintain processed water quality, the maintenance of treatment and the maintenance of the distribution system including valves and hydrants and flushing.</p>

9.2.7 Engineering Consulting Firm

Responsibilities	Authorities
As directed by the owner	The Engineering Consultant Firm is authorised by the Owner, the Corporation of the Village of Westport to: Provide Engineering advice and recommendations on the Drinking Water System maintenance plan and System improvements and upgrades.

10- Element 10 - Competencies

The following table summarises the competency requirements for the Operating Authority staff.

All operators shall meet the requirement for licensing as per O . Reg. 128/04. It is the Top Management responsibility to ensure that all operators receive the appropriate training in order to comply with the Regulation. All the operators shall ensure that appropriate training is schedule in order to comply with the Regulation

Title	Competencies	Additional Knowledge and Skills
Top Management	<ul style="list-style-type: none"> • WHMIS Certification • Health and Safety Training • Must have a basic understanding of the DWS and how it works 	<ul style="list-style-type: none"> • Basic Project Management (task definition , scheduling, resource application) • Supervisory skills • Oral and written communication skills (report writing) • Working knowledge of the SOWA and O . Reg. 170/03 and 128/04.
Overall Responsible Operator	<ul style="list-style-type: none"> • Operator Licence meeting the system classification requirement • WHMIS Certification • Health and Safety Training • Valid Drivers Licence 	<ul style="list-style-type: none"> • Supervisory skills • Mechanical aptitude • Knowledge of pumps, valves and hydraulics • Basic Computer literacy • Knowledge of the SOWA and O . Reg. 170/03 and 128/04.
Operator	<ul style="list-style-type: none"> • Operator Licence meeting the system classification requirement • WHMIS Certification • Health and Safety Training • Valid Drivers Licence 	<ul style="list-style-type: none"> • Mechanical aptitude • Knowledge of pumps, valves and hydraulics • Basic Computer literacy • Knowledge of the SOWA and O Reg. 170/03 and 128/04.

Part-time Operator	<ul style="list-style-type: none"> • Operator Licence meeting the system classification requirement • WHMIS Certification • Health and Safety Training • Valid Drivers License 	<ul style="list-style-type: none"> • Mechanical aptitude • Knowledge of pumps, valves and hydraulics • Basic Computer literacy • Knowledge of the SOWA and O. Reg. 170/03 and 128/04.
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11 Element 11 - Personnel Coverage

11.1 The Village of Westport office is located at 30 Bedford St. in Westport, ON.

11.2 Coverage is provided using Village staff or can be covered through a contracted agency using a combination of on-site and on-call staffing supplemented by Supervisory Control and Data Acquisition (SCADA) based alarms and notification.

11.3 The Overall Responsible Operator is available by phone as well as on-site to maintain the subject infrastructure as required.

11.4 The key components of the Drinking Water System are alarmed. All system alarms are forwarded to the ORO as they occurred, 24 hours a day, 7 days a week. The alarms may be accessed remotely by the ORO. The Drinking Water System will automatically shut-down under certain alarm conditions.

11.5 The following table summarises the personnel coverage for the Village of Westport Drinking Water System:

			Remarks
Monday-Friday	Operations	SCADA	Operator is on-site as required to operate and maintain the Drinking Water System Operator remotely access the Drinking Water System to assess the alarm and take the appropriate action
Weekend & Statutory Holidays	SCADA	SCADA	Operator remotely access the Drinking Water System to assess the alarm and take the appropriate action

11.6 If for unforeseen situation, the regular operator is not able to operate and maintain the Village of Westport Drinking Water System a licensed back-up operator is available

11.6 The Personnel Coverage Procedure is attached at Annex G.

11.8 The Emergency Contact List is attached at Annex H.

12 Element 12 - Communication

- 12.1 The Requirements for communicating relevant aspects of the OMS to the Owner, Supplier and Public have been documented in a Communication Procedures, Annex I.
- 12.2 The following summarises the OMS Communications requirements:
 - 12.2.1 The OMS Representative shall ensure the owner is provided with a current copy of the Operational Plan.
 - 12.2.2 The OMS Representative shall keep the owner informed of any changes to the OMS, the adequacy of infrastructure requirements, the outcome on-going activities as a result of Management Review and other OMS issues.
 - 12.2.3 Personnel will be informed of the OMS and any changes or updates to it through quarterly staff meetings with the OMS Representative or in a draft format.
 - 12.2.4 Essential suppliers shall receive information regarding the OMS from the purchaser, if and when necessary.
 - 12.2.5 Consumers are informed of the OMS and any significant changes by the village Website or newsletters.
 - 12.2.6 The OMS Operational Plan and, the OMS policy are to be posted on the Village web site.

13 Element 13 - Essential Supplies and Services

13.1 General

- 13.1.1 Annex J contains a list of suppliers and services deemed essential for the treatment and delivery of safe drinking water and the associated control method for procuring the required goods, supplies and services.
- 13.1.2 A Supply Quality Assurance Procedure to ensure the quality of essential supplies and services is attached at Annex K.
- 13.1.3 The Suppliers list is reviewed annually by the OMS Representative or Supervisor of Public Works to ensure that the list is current and up-to-date.

14 Review and Provisions of Infrastructure and Resources

14.1 General

14.1.1 The Drinking Water System infrastructure consist of two (2) GUDI wells, one treatment pump house, one 455m³ elevate steel storage tank and a plastic pipe water mains. The system is relatively new and has not historically been in need of replacement or repairs

14.1.2 The Review and Provisions of Infrastructure and Resources procedures are outlines at Annex L - Infrastructure Review Procedures.

14.1.3 Annually, the Operating Authority prepares a summary of the infrastructure maintenance, rehabilitation and renewal programs and specifically looks at unplanned maintenance work to determine if additional planned maintained is required. This summary will be communicated to the owner during the yearly Management Review meeting

14.2 Planned Maintenance

14.2.1 Planned maintenance and preventive maintenance are scheduled activities that have been approved by the owner based on the Operating Authority recommendations and the approved business/operating budget for the fiscal year in which the activities are taken place.

14.2.2 Planned maintenance includes and is not limited to:

- 14.2.2.1 Well Inspections as per requirements
- 14.2.2.2 Valves exercising
- 14.2.2.3 2 Hydrant pressure test
- 14.2.2.4 Hydrant flushing
- 14.2.2.5 Mainflushing
- 14.2.2.6 Preventive maintenance on the treatment plant/equipment
- 14.2.2.7 Leak detection

14.3 Unplanned Maintenance

14.3.1 Unplanned maintenance tasks result from equipment malfunction or breakage.

14.3.2 Unplanned maintenance is authorized by the Supervisor of Public Works or in his absence the ORO. The Overall Responsible Operator (or designate) responds to

unplanned maintenance issues.

14.3.3 Measures to prepare for and expedite unplanned maintenance include:

14.3.3.1 Equipment redundancy

14.3.3.3 Readily available update as built plans and drawings including electrical

14.3.3.4 Pre-selected excavating, electrical and plumbing contractors

15 Infrastructure Maintenance, Rehabilitation and Renewal

15.1 Replacement of aging equipment, as well as upgrades, expansions, and in-ground systems improvement are considered Rehabilitation and Renewal projects/program.

15.2 Infrastructure Maintenance, Rehabilitation and Renewal projects/program are approved by the Village of Westport Council based on the recommendations of the Owner, Supervisor of Public Works, independent engineering consultant firm and the Operating Authority.

15.3 Annex L, Infrastructure Review Procedure, describes the Infrastructure Maintenance, Rehabilitation and Renewal Procedure.

16 Element 16 - Sampling Testing and Monitoring

The Village of Westport Drinking Water System uses a sampling program as prescribed by legislative requirements. This program is described in detail in the procedure entitled Sampling, Monitoring and Analysis attached as Appendix M.

Copies of bacteriological and chemical analytical results are entered into a spreadsheet which is kept on a computer at the town hall.

All analytical results are summarized for review by the Owner in the Annual Report for the Water Treatment Plant. This annual report is also made available to any interested member of the public via the Town's website or upon request.

Sampling, Testing and monitoring of the treated water is conducted by the Operating Authority as required by the Ontario Regulation 170/03 and the Drinking Water Works Permit (DWWP).

A Sampling, Testing and Monitoring Procedures have been developed and are attached at Annex M. The procedures contain, and not limited to, the following:

- Who is authorized by the Village of Westport to carry out these activities

- Where and when the activities are carried out
- How the activities and the results are documented and reported
- Sampling protocol
- Testing protocol

17 Element 17 - Measurement and Recording Equipment/Instrumentation

- 17.1 To ensure that the Drinking Water System Testing and Monitoring Procedure are accurate and precise all testing and monitoring equipment must be calibrated at the manufacturers recommendations or as required
- 17.2 A Calibration and Recording Equipment Procedure, Annex N, has been developed and implemented that conforms to the requirements of the DWQMS. The procedure identifies measurement and recording equipment that is calibrated on-site by competent person and equipment that is either calibrated off-site at an accredited calibration facility or on-site by an accredited technician.

18 Element 18 - Emergency Management

This procedure describes conditions at the Village of Westport Drinking Water System that are considered to be emergencies, as well as those persons responsible for initiating the response and recovery measures. The Emergency Management procedure, attached as Annex O , describes the general response and recovery processes to be followed when dealing with a drinking water emergency and evaluating the effectiveness of completed response and recovery operations. The procedure also identifies the requirements for and the processes used to identify potential drinking water emergencies, develop contingencies to respond to potential emergencies, and evaluate the effectiveness of those contingencies. The Village of Westport has an Emergency Response Plan This plan identify the Villages overall role during Municipal emergencies and the internal mechanisms to fulfill that role. For specific drinking water emergencies, the Drinking Water System plans contain response plans for critical infrastructure failure which outlines the response and recovery actions, consideration, and corporate level responsibilities for major drinking water emergencies.

Emergencies

Typical emergencies are identified in the most recent hazard identification and risk assessment exercise.

Responses

In the event of an emergency, the Overall Responsible Operator shall be contacted immediately.

Officials from the Village of Westport shall be notified in the event that a defined emergency is or has occurred. Under these circumstances, the Village of Westport Supervisor of Public Works or CAO shall

be contacted according to the relevant instructions.

Response may include:

- Cease or restrict the operation of the system
- In case of a spill contact the MECP spills action center forthwith
- In case of adverse water reported by the certified laboratory, contact the local Medical Officer of Health, MOE spills action center and take appropriate corrective actions as outline in O . Reg. 170/03 or by the Medical Officer of Health.
- Provide users of the system with an alternative supply of drinking water.

Recovery

The Village of Westport top management for the drinking water system will hold a meeting as soon as deemed appropriate to discuss recovery and prevention measures. Other individuals may be invited to this meeting, depending on the emergency.

General

The Village of Westport has identified Potential Emergency Situations in its risk assessment which could result in service interruptions.

Emergency Contact List;

The detailed Emergency Contact information is attached at Annex H.

See also Essential Supplies and Service List, Annex J.

Associated Documents

- Emergency Contact List
- Village of Westport Emergency Response Plan
- Response to Adverse Water Procedures
- Emergency Contact List

19 Element 19 - Internal Audits

Internal audits are conducted to ensure that the QMS conforms to the requirements of the Village of Westport Operational Plan and to the Ontario DWQMS and to explore opportunities for improvement.

All sections of the OMS will be subject to an internal audit at least once every calendar year and at least one month before the annual Management Review.

The Village of Westport may, from time-to-time request that internal audits be conducted by a trained auditor from a neighbouring municipality or from a Consulting Firm.

The Internal Audit Procedure is included at Annex P.

20 Management Review

A Management Review will be completed annually by Top Management, The Owner, and the OMS Representative to evaluate the continual suitability, adequacy and effectiveness of the QMS. The procedures associated with the Management Review process are documented at Annex R.

21 Continual Improvement

The Village of Westport Water System strives to continually improve the effectiveness of its QMS through the use of corrective actions, preventive actions/opportunities for improvement and/or best management practices. Sources could include but not limited to internal or external audits (as per the Internal Audit Procedure), Ministry inspections, consumer and staff suggestions, and management reviews (as per the Management Review Procedure). As required, the OMS will be modified and/or updated to improve operational results while maintaining compliance with all applicable regulations.

The Village of Westport is committed to the consumer to ensure a consistent supply of safe, high quality drinking water and to maintain and continuously improve its QMS and to meet all applicable regulations.

A detailed procedure on continual improvement can be found in Annex S.