

DRINKING WATER QUALITY MANAGEMENT STANDARD

OPERATIONAL PLAN

OMI

WATER OPERATING AUTHORITY FOR THE



Plympton-Wyoming

Water Distribution System

This Operational Plan defines and documents the Quality Management System (QMS) for the Corporation of the Town of Plympton-Wyoming WDS which is operated by: **Operations Management International Canada Inc. (OMI)**

This documents sets out the policies and procedures with respect to quality management in accordance with the requirements of the Province of Ontario's Drinking Water Quality Management Standard 2.0 (DWQMS)

System No. 260006594

Approved and Authorized for Use – December 12, 2023

A handwritten signature in black ink, appearing to read 'Joe Bloomfield'.

Joe Bloomfield – OMI Project Manager
Top Management

OMI	Title: Table of Contents	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Reviewed by: QMS Representative		Approved by: Top Mangement

Quality Management System - Operational Plan -Table of Contents

Contents

- 1. Quality Management System 2
- 2. Quality Management System Policy 3
- 3. Commitment and Endorsement..... 4
- 4. Quality Management System Representative 5
- 5. Document and Records Control 6
- 6. Drinking Water System..... 7
- 7. & 8. Risk Assessment and Outcomes 9
- 9. Organizational Structure, Roles, Responsibilities and Authorities 10
- 10. Competencies 11
- 11. Personnel Coverage..... 13
- 12. Communication 14
- 13. Essential Suppliers and Services 15
- 14. Review and Provision of Infrastructure..... 16
- 15. Infrastructure, Maintenance, Rehabilitation and Renewal 17
- 16. Sampling, Testing and Monitoring 18
- 17. Measurement and Recording 20
- 18. Emergency Management 21
- 19. Internal Audit 22
- 20. Management Review..... 23
- 21. Continual Improvement 24
- Annex A – Commitment & Endorsement..... 25
- Annex B – System Schematic 26
- Annex C – Operations Organization Chart 27
- Annex D - Organizational Responsibilities and Authorities..... 28
- Annex E - Essential Supplies and Services Listing – Contact List 30
- Annex F – Policy Statement 33
- Procedure A - QMS Document and Record Control..... 34
- Procedure B – Risk Assessment and Outcomes..... 37
- Procedure C – Not Applicable for this System 44
- Procedure D – Personnel Coverage 24/7..... 45
- Procedure E – Internal Audit 46
- Procedure F - Management Review..... 48

OMI	Title: Quality Management System	Approval Date: Oct-29-2021
		Revision No: 2
		Page 1 of 1
Element 1		
Reviewed by: QMS Representative		Approved by: Top Management

1. Quality Management System

This document will be the Quality Management System Operational Plan for Plympton-Wyoming Water Distribution System. (Number-260006594)

The Quality Management System for Plympton-Wyoming covers the transmission and distribution of potable drinking water to consumers within the Plympton-Wyoming Water Distribution System. Treated potable water is purchased from Lambton Area Water Supply System (LAWSS) (Number-210000906).

The Plympton-Wyoming Distribution System supplies potable water to the BluePoint Lookout Condominium WDS (Number-260096980)

Operations Management International Canada Inc. is the Operating Authority for the Plympton-Wyoming Water Distribution System. Top Management duties are performed by the OMI Project Manager and in his/her absence the Area Manager.

Owner Representative for the Plympton-Wyoming Water Distribution system is Plympton-Wyoming's Director of Public Works

	<small>Ministry of the Environment, Conservation and Parks</small>	Schedule C – Director's Directions for Operational Plans (Subject System Description Form) <small>Municipal Residential Drinking Water System</small>		
<small>Fields marked with an asterisk (*) are mandatory.</small>				
<small>Owner of Municipal Residential Drinking Water System * The Corporation of the Town of Plympton-Wyoming</small>				
Subject Systems				
<small>Name of Drinking Water System (DWS) *</small>	<small>Licence Number *</small>	<small>Name of Operating Subsystems (if applicable)</small>	<small>Name of Operating Authority *</small>	<small>DWS Number(s) *</small>
1. Plympton-Wyoming DWS	035-101	Blue Point Lookout Condominium DWS	Operations Management International (OMI)	260006594
Contact Information for Questions Regarding the Operational Plan				
Primary Contact				
<small>Last Name *</small> Culnan	<small>First Name *</small> Cathy	<small>Middle Initial</small>		
<small>Title *</small> QMS Rep - Operator II	<small>Telephone Number *</small> 519-466-4631	<small>ext.</small>	<small>Email Address *</small> cathy.culnan@jacobs.com	
Secondary Contact				
<small>Last Name</small> Bloomfield	<small>First Name</small> Joseph	<small>Middle Initial</small>		
<small>Title</small> Project Manager	<small>Telephone Number</small> 519-381-0542	<small>ext.</small>	<small>Email Address</small> joe.bloomfield@jacobs.com	

OMI	Title: Quality Management System Policy	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Element 2		
Reviewed by: QMS Representative		Approved by: Top Management

2. Quality Management System Policy

The Operating Authority for the Plympton-Wyoming Water Distribution System is committed to the principals and objectives set out in the QMS Policy:

The Operating Authority's policy is to:

1. Comply with all water legislative requirements and regulations
2. Supply clean safe drinking water to meet the consumers' requirements
3. Maintain and continually improve the effectiveness of the Quality Management System
4. Provide effective communication between the Operating Authority Personnel, the Owner and the Public
5. Establish and maintain a QMS that is consistent with the Policy

The QMS Policy is approved by Top Management

The QMS policy is accessible to the Public on the Plympton-Wyoming website at www.plympton-wyoming.com

OMI

DRINKING WATER QUALITY MANAGEMENT SYSTEM POLICY STATEMENT

The Water Operating Authority, (**Operations Management International Canada Inc. – OMI**) is committed to providing safe drinking water to all residents. The Drinking Water Quality Management System will guide the operations and programs undertaken throughout the distribution system owned by: The Corporation of the Town of Plympton-Wyoming.

The Water Operating Authority is committed to:

- The maintenance and continual improvement of the Quality Management System
- The consumer to providing safe drinking water
- Complying with applicable legislation and regulations
- Providing the Quality Management in a form that can be communicated to all Operating Authority personnel, the Owner and the public
- Shall establish and maintain a Quality Management System that is consistent with the Policy

Approved By:  : July-21-2021
**Joe Bloomfield – Project Manager – Top Management
Operations Management International Canada Inc. (OMI)**

**Refer to:
Annex F – Policy Statement**

DWQMS Operational Plan

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OMI	Title: Commitment and Endorsement	Approval Date: Dec-12-2023
		Revision No: 2
		Page 1 of 1
Element 3		
Reviewed by: QMS Representative		Approved by: Top Management

3. Commitment and Endorsement

The Owner Representative (Director of Public Works) of the Plympton-Wyoming WDS and the Operating Authority's Top Management will endorse the Operational Plan of the Drinking Water Quality Management System.

- a) ensuring that a QMS is in place that meets the requirements of the Standard
- b) ensuring that the Operating Authority is aware of all applicable legislative and regulatory requirements
- c) communicating the QMS according to the procedure for communications, and
- d) determining, obtaining or providing the resources needed to maintain and continually improve the QMS
- e) the Owner Representative and OA's Top Management will endorse the Operational Plan and should be re-endorsed when there is a major change in the plan's content or when the majority of signing parties are no longer filling positions.

**DRINKING WATER QUALITY MANAGEMENT SYSTEM
COMMITMENT AND ENDORSEMENT
Plympton-Wyoming Drinking Water System**

The Operational Plan has been reviewed and endorsed by the Owner Representative and the Operating Authority's Top Management. The Owners commitment to an effective Quality Management System is evidenced by the resources provided during implementation and maintenance of the Operational Plan and the QMS.

The Owner and Top Management of the Operating Authority (as defined in Annex C) determines, obtains, and provides the resources needed to implement, maintain, and continually improve a Quality Management System which meets the requirements of the Drinking Water Quality Management Standard. The QMS for the drinking water system is documented in the Operational Plan.

Top Management ensures the Operating authority is aware of all applicable legislative and regulatory requirements and the QMS is communicated according to procedure (Element # 12)

Top Management demonstrates their endorsement of the Operational Plan through reporting to the Owner Representative on the recommendations and results of Management Review and by key signatures below:

Date: December 12, 2023: 
Owner Representative – Paul daSilva (Director of Public Works)

Date: December 12, 2023: 
Operating Authority – Joe Broomfield (Top Management)

Revision Date: December/2023

**Refer to:
Annex A - Endorsement**

DWQMS Operational Plan
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OMI	Title: Quality Management System Representative	Approval Date: Oct-29-2021
		Revision No: 1
		Page 1 of 1
Element 4		
Reviewed by: QMS Representative	Approved by: Top Management	

4. Quality Management System Representative

Top Management appoints the role of QMS Representative. In his/her absence the Project Manager shall perform the duties of QMS Rep.

The Quality Management System representative irrespective of other responsibilities shall:

- a) administer the Quality Management System by ensuring the processes and procedures needed for the Quality Management System are established and maintained
- b) report to Top Management on the performance of the Quality Management System and any need for improvement
- c) ensure that current versions of documents required by the Quality Management System are being used at all times
- d) ensure that personnel are aware of all applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system, and
- e) promote awareness of the Quality Management System throughout the Operating Authority

Designation of DWQMS Representative

Element # 4 of the DWQMS Operational Plan describes the requirements for the role of DWQMS Representative

Top Management shall appoint and authorize a Quality Management System Representative

I the undersigned shall appoint Cathy Culnan to fulfill the role of DWQMS Representative for the Plympton-Wyoming Water Distribution System

Regards,



Joe Bloomfield, July 21/2021
Top Management – Project Manager,

**Refer to:
Annex D – Organization Responsibilities**

DWQMS Operational Plan

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OMI	Title: Document and Records Controls	Approval Date: Oct-29-2021
		Revision No: 1
		Page 1 of 1
Element 5		
Reviewed By: QMS Representative	Approved by: Top Management	

5. Document and Records Control

All records to demonstrate compliance and or conformance shall be maintained per the Safe Drinking Water Act (SDWA)

All documents and records received are reviewed, acted upon if needed, and retained as per Procedure A.

Operational Plans that are the subject of an audit by an auditor for the accrediting body shall be retained for 10 years by the Owner of the Operational Plans and Accredited Operating Authority for the subject system to which the Operational Plans apply.

Refer to:
Procedure A - Document and Records Control

OMI	Title: Drinking Water System	Approval Date: Dec-12-2023
		Revision No: 3
		Page 1 of 2
Element 6		
Reviewed by: QMS Representative	Approved by: Top Management	

6. Drinking Water System

The Corporation of the Town of Plympton-Wyoming is the Owner of the Plympton-Wyoming WDS. Operations Management International Canada Inc (OMI) is the Operating Authority.

Plympton-Wyoming purchases potable drinking water from the Lambton Area Water Supply System (LAWSS # 210000906) which is situated in Point Edward on the southern tip of Lake Huron. LAWSS is owned by the Lambton Area Water Supply Joint Management Board whose municipal members are:

Owner	Distribution System	Operating Authority
Corporation of the City of Sarnia	Sarnia WDS	City of Sarnia
Corporation of the Village of Point Edward	Village of Point Edward WDS	Village of Point Edward
Corporation of the Township of St Clair	St Clair WDS	Township of St Clair
Corporation of the Town of Plympton-Wyoming	Plympton-Wyoming WDS	OMI
Corporation of the Township of Warwick	Township of Warwick WDS	OCWA
Corporation of the Municipality of Lambton Shores	Lambton Shores WDS	OMI
Corporation of the Municipality of Brooke-Alvinston	Brook-Alvinston WDS	OCWA

There is approximately 78 Km's of transmission lines owned by LAWSS. The transmission lines also supply water to Forest, Warwick/Watford and Brooke-Alvinston. Water meters, which are located on municipal boundary lines, record the water flow and are monitored by LAWSS through the SCADA system. This network supplies water to urban as well as rural areas. Two (2) bulk water fill up stations allow residents to purchase potable water either in Camlachie or on London Line at Egremont Road.

Water supplied by LAWSS supplies sufficient secondary disinfection to meet the regulatory requirements within the distribution system. LAWSS performs sampling and monitoring to ensure safe drinking water is supplied to the system. Supplemental re-chlorination is practiced at the LAWSS East Lambton Booster Station which feeds the Plympton-Wyoming Distribution System.

To maintain disinfection residuals in the WD system, the fire hydrants and dead ends are flushed regularly.

The Town of Plympton-Wyoming receives an annual drinking water quality report from LAWSS.

OMI	Title: Drinking Water System	Approval Date: Dec-12-2023
		Revision No: 3
		Page 2 of 2
Element 6		
Reviewed by: QMS Representative	Approved by: Top Management	

Potable water for Plympton-Wyoming is distributed throughout the system as follows:

Wyoming:

Wyoming consists of one steel standpipe with a storage capacity of 1586 m3. Continuous pressure monitoring takes place in the chamber used to fill the Wyoming Standpipe. Results are captured by the LAWSS SCADA system. Distribution piping ranges in size 100 mm to 200 mm, also components of the distribution system consist of hydrants, water services, dead-end blow offs and water main isolation valves.

Plympton:

Plympton consists of Distribution piping ranging in size 50 mm to 200 mm, also components included are hydrants, water services, dead-end blow offs and water main isolation valves.

BluePoint Lookout Condominium: (#260096980)

The Plympton-Wyoming WDS supplies potable water to the Bluepoint Lookout Condominium WDS. OMI is the Operating Authority for the subject system.

The BluePoint Condominium WDS consists of a flow meter & chamber, piping ranging in size 50 mm to 200 mm, also components include hydrants, residential water services, dead-end blow offs and water main isolation valves.

During a loss of water emergency Plympton-Wyoming has emergency water connection capabilities. The locations are:

Location	Owners	Operating Authority
Mandaumin Rd & Confederation Line	City of Sarnia	City of Sarnia
Churchill Rd & Canada Drive	Township of Enniskillen	Township of Enniskillen
Townsend Line & Lakeshore Rd	West Lambton Shores	OMI
Egremont Rd & Forest Rd	Warwick	OCWA
Mandaumin Rd & Lakeshore Rd	LAWSS	OCWA
Confederation Rd & Mandaumin	Town of Petrolia	OCWA

Refer to:

Annex B – System Schematic

SOP # 7 – Emergency Connection / Alternate Supply

OMI	Title: Risk Assessment and Risk Assessment Outcomes	Approval Date: Dec-12-2023
		Revision No: 3
		Page 1 of 1
Element 7 and Element 8		
Reviewed by: QMS Representative		Approved by: Top Management

7. & 8. Risk Assessment and Outcomes

Top Management, QMS Representative and Operators make up the Risk Assessment team that:

- considers the potential hazardous events and associated hazards, as identified in the MOECP document “Potential Hazardous Events for Municipal Residential Drinking Water Systems” – dated April/2022 as it may be amended. A copy of this document is available at www.ontario.ca/drinkingwater
- identifies additional potential hazards and hazardous events and associated hazards
- assesses the risks associated with the occurrence of hazardous events
- ranks the hazardous events according to the associated risks
- identifies the control measures to address the hazards and hazardous events
- identifies the Critical Control Points and their respective Critical Control Limits
- document procedures and/or processes to monitor the Critical Control Limits
- document procedures to respond to deviations from the Critical Control Limits
- procedures for reporting and recording deviations from the Critical Control Limits
- considers the reliability and redundancy of equipment

Hazardous events and hazards were assessed on the basis of likelihood, severity and detectability. The assessment criteria are summarized in the associated tables as shown in Procedure B. Values were combined to give an overall level of risk.

The Risk Assessment team will meet once every Calendar Year to discuss, confirm and verify the risk assessments to ensure that the information and assumptions remain current and valid.

Once every thirty-six months the QMS Representative will assemble the Risk Assessment team to conduct a new Risk Assessment & Outcomes meeting, to ensure the risks are being re-assessed and agreed upon.

**Refer to:
Procedure B - Assessment & Outcomes**

OMI	Title: Organizational Structure, Roles, Responsibilities and Authorities	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Element 9		
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9. Organizational Structure, Roles, Responsibilities and Authorities

Top Management shall keep the operational structure, respective roles, responsibilities, and authorities current, and shall communicate this information to the Operating Authority's personnel and the Owner Representative.

Personnel shall be kept informed of their roles and responsibilities during the once every Calendar Year Operational Plan review.

Refer to:

Annex C – Organizational Structure

Annex D – Organizational Responsibilities and Authorities

Procedure F – Management Review

OMI	Title: Competencies	Approval Date: Nov-18-2022
		Revision No: 2
		Page 1 of 2
Element 10		
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10. Competencies

The following table illustrates the competencies required by personnel whose duties directly affect drinking water quality.

Function	Required Competencies	Desired Competencies
Project Manager	Class I Operator Certification Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors Demonstrated expertise in the principles of supervision and training; principles of budget preparation and expenditure control; and safe work practices Valid Driver's License	First Aid including CPR Confined Space Training WHIMS Leadership Training DWQMS Audit Training DWQMS Provincial Workshop training
Lead Operator	Class I Operator Certification Knowledge of principles and practices of water distribution, operating principles of valves, pumps and motors Valid driver's License Knowledge of DWQMS	First Aid including CPR Confined Space Training WHIMS Leadership Training DWQMS Provincial Workshop training
Operators	Minimum OIT Certification Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors Valid Driver's License Knowledge of DWQMS	Class 1 Certification First Aid including CPR Confined Space Training WHIMS
OIT's	OIT Certification Knowledge of the principles and practices of water distribution, operating principles of valves, pumps and motors Valid Driver's License Knowledge of DWQMS	Class 1 Certification First Aid including CPR Confined Space Training WHIMS

OMI	Title: Competencies	Approval Date: Nov-18-2022
		Revision No: 2
		Page 2 of 2
Element 10		
Reviewed by: QMS Representative		Approved by: Top Management

Activities to develop and/or maintain competencies for personnel performing duties directly affecting drinking water quality include the following:

- Certified Operators are responsible for completing the annual number of required training hours as per applicable regulations (Reg 128/04) This training consists of both continuing education and on the job training and is delivered using a combination of methods. (e.g. classroom courses, virtual courses and custom courses/sessions)
- Once every Calendar Year Certified Operators are required to complete a review of the Operational Plan. The Operator Certification list is also distributed to identify upcoming Operator licence expiration to ensure Operator competencies.
- As a reminder OWWCO (Ontario Water Wastewater Certification Office) also issues the Operator a renewal notice before the certification license expires.
- Once every Calendar Year the Operational Plan review & Emergency testing, exercise and training is conducted to ensure that personnel are aware of the relevance of their duties and how they affect safe drinking water.
- Certified Operators are also required to complete the mandatory drinking water course to the requirements for license renewal.
- The Project Manager take reasonable steps to ensure that every Operator has the opportunity to attend on-going training to meet operator license requirements. Individual employee records are maintained and tracked in accordance with Element 5.

TABLE
ANNUAL TRAINING FOR OPERATORS

Type and Class of Subsystem Where the Operator is Employed	Training Requirements	Minimum Total Hours
Limited Groundwater or Limited Surface Water	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	20
Class I Water Treatment or Class I Distribution or Class I Distribution and Supply	7 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	30
Class II Water Treatment or Class II Distribution or Class II Distribution and Supply	12 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	35
Class III Water Treatment or Class III Distribution or Class III Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	40
Class IV Water Treatment or Class IV Distribution or Class IV Distribution and Supply	14 hours or more of continuing education, with the remaining hours to at least the minimum total as on-the-job practical training	50

O. Reg. 128/04, s. 29, Table.

OMI	Title: Personnel Coverage	Approval Date: Dec-12-2023
		Revision No: 2
		Page 1 of 1
Element 11		
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11. Personnel Coverage

The primary Overall Responsible Operator (ORO) is tracked through the facility Log book. All activities are documented in the logbook.

The 24/7 personnel coverage procedure ensures that sufficient and competent personnel are available for duties that directly affect drinking water quality. The Organizational chart in Procedure D – Personnel Coverage, demonstrates how after hour emergencies are conducted. The on-call answering service dials directly to the on-call phone which is forwarded to the cell phone carried by the OA's on-call staff person.

Operators and OIT's (operators-in training) can work on their own with an OIC (operator-in-charge) being readily available by phone. Employees not licensed cannot make any operational changes to the system. Sub-contractors if required are prequalified and used at the discretion of the OIC.

Competent OA's personnel can be utilized from nearby projects in times of potential staff shortages, throughout peak holiday season and during emergencies

Refer to:
Procedure D – Personnel Coverage

OMI	Title: Communications	Approval Date: Jan-27-2022
		Revision No: 0
		Page 1 of 1
Element 12		
Reviewed by: QMS Representative		Approved by: Top Management

12. Communication

The QMS Representative shall ensure the Owner Representative is provided with a current copy of the Operational Plan. The QMS Rep shall keep the Owner Representative informed of any changes and other issues to the QMS.

Top Management discusses the adequacy of infrastructure & requirements, the outcome of management reviews and other issues related to the distribution system with the Owner Representative.

Project Manager submits a monthly report to Owner Representative that summarizes the repairs and any maintenance in the Distribution system.

Operating Authority personnel will be informed of the QMS and of any changes or updates to it through the staff meetings/reviews with the QMS Representative. A current version of the Operational Plan is available for review by staff at the Water Department.

Essential suppliers identified by the Operating Authority and/or Owner Representative shall receive information by email and/or an essential supplies information letter regarding any regulatory/legislation changes that may affect the services provided and the quality of the products that are supplied which then can directly affect the safety of drinking water, or directly from the Operating Authority regarding supplies & purchase orders.

Consumers may also be informed of issues within the WDS (shut down notices/bulletins) and any significant changes in the QMS through the municipal website www.Plympton-Wyoming.com

The QMS policy can be viewed at the Water Department and on the Municipal web site.

All complaints received from the consumer are reported to the Owner Representative and the Operating Authority will take necessary action to address the issue.

**Refer to:
Annex F**

OMI	Title: Essential Supplies and Services	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 1
Element 13		
Reviewed by: QMS Representative	Approved by: Top Management	

13. Essential Supplies and Services

Where applicable, supplies must meet or be equal to AWWA specifications. Supplies are verified against the order requisition/packing slip when received. Chemicals purchased for use in the drinking water process must meet AWWA Standards and be ANS/NSF certified.

Annex E contains a list of suppliers, agencies and contractors that has been developed. The Supplier's/Agencies which are deemed to be "Essential" are identified in red font with a single "E" preceding the supplier/agency. This list is reviewed once every Calendar Year to ensure that it is current and up-to-date.

Contractors are selected based on their qualifications and ability to meet the facility's needs without compromising operational performance and compliance with applicable legislation and regulations.

Contracted personnel including suppliers may be requested or required to participate in additional relevant training/orientation activities to confirm conformance with facility procedures.

If necessary, appropriate control measures are implemented while contracted work is being carried out and communicated to all relevant parties to minimize the risk to the integrity of drinking water system and the environment.

All third-party drinking water analysis services are provided by accredited and licensed laboratories.

Calibration services are provided by qualified personnel.

Refer to:
Annex E - Essential Supplies/Services & Contact List
MECP - Disinfection of Watermains – Aug 2, 2020

OMI	Title: Review and Provision of Infrastructure	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Element 14		
Reviewed by: QMS Representative	Approved by: Top Management	

14. Review and Provision of Infrastructure

The Owner Representative and the OA's Top Management will, once every Calendar Year, tour the facilities and evaluate the inventory for the WDS in order to determine that the proper infrastructure is in place to operate and maintain the subject system safely and effectively, in addition, considers the current outcomes of the Risk Assessment documented under Element 8 – Procedure B, to ensure the adequacy of the infrastructure necessary to operate and maintain the system. The results of this review will also be discussed at the Management Review.

This review will also determine the adequacy and need of replacement of parts, repairs and/or any upgrades within the infrastructure to reduce the likelihood or impact of a hazard or hazardous event.

The Owner Representative shall receive a copy of the Infrastructure Tour & Review meeting minutes.

Top Management will communicate with the Owner Representative once every Calendar Year at the Management Review, the results of the Infrastructure review/evaluation and include any capital plan proposals. This ensures that the adequate infrastructure needs are added to the capital plan and that the proper funding is available to maintain the subject system.

Refer to:
Procedure B – Risk Assessment & Outcomes

OMI	Title: Infrastructure Maintenance, Rehabilitation and Renewal	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Element 15		
Reviewed by: QMS Representative		Approved by: Top Management

15. Infrastructure, Maintenance, Rehabilitation and Renewal

The Operating Authority has a water distribution maintenance program.

Planned Maintenance activities includes inspection/maintenance and regular flushing of distribution hydrants and the dead-end system main lines for both Distribution system's. Also, a program that includes exercising of the distribution system's main valves to ensure proper functioning during an emergency. Records of these activities are be kept at the Water Department. Notice of activities that may affect the consumers are posted on the Plympton-Wyoming website or consumers may be notified directly.

The maintenance program is reviewed during the Operational Plan review where Operators may offer input regarding the effectiveness of the maintenance program.

Unplanned Maintenance activities may include emergency water main breaks, emergency shut offs (leaks or frozen lines) and is conducted as required and completed by licensed Operators under the direction of the ORO. All maintenance is completed within government regulations and AWWA standards.

Operating Authority provides monthly operating reports to the Plympton-Wyoming Owner Representative which summarizes any repairs and maintenance to the drinking water system.

At least once every Calendar Year during the Management review, the long term forecast of major infrastructure maintenance, rehabilitation and renewal activities included in the Owner's Capital Plan and any recommendations from the OA that was identified at the Infrastructure Tour & Review will be reviewed by the OA and Owner Representative to ensure all parties have an opportunity to provide input.

OMI	Title: Sampling, Testing and Monitoring	Approval Date: July-21-2021
		Revision No: 1
		Page 1 of 2
Element 16		
Reviewed by: QMS Representative		Approved by: Top Management

16. Sampling, Testing and Monitoring

Sterile sample bottles are received from the laboratory with qualified Operators collecting the required samples.

Relevant sampling, testing, and monitoring is done upstream of the Plympton-Wyoming WDS by LAWSS, which is operated by OCWA. They ensure that the water supplied meets the Ontario Drinking Water Quality Standards (ODWQS) and has a minimum chlorine residual of 0.20 mg/l.

LAWSS has online chlorine residual analyzers with 24/7 alarm capabilities which monitor the treated water leaving the plant and downstream.

The sampling schedule is as follows:

- a) Four (4) samples are collected in various locations throughout the Plympton-Wyoming Water Distribution system on a weekly basis and analyzed for E. coli, and Total Coliform at the accredited laboratory
- b) One (1) sample is collected in various locations throughout the Plympton-Wyoming Water Distribution system weekly and analyzed for HPC (Heterotrophic Plate Count) at the accredited laboratory
- c) One (1) sample is collected quarterly from various locations within the Plympton-Wyoming Distribution system and analyzed for HAA's (Haloacetic Acids) at the accredited laboratory
- d) One (1) sample is collected quarterly from the Wyoming Sewage Treatment Plant (water main dead end - furthest point in system) and analyzed for THM's (Trihalomethanes) at the accredited laboratory
- e) Lead analysis is completed as required by Reg 170/03.
- f) Seven (7) chlorine residuals shall be taken each week

Chlorine residuals are analyzed manually by the operator at these sites simultaneously while the microbiological samples are collected. The laboratory will notify the Operating Authority immediately, orally, of any adverse readings.

OMI	Title: Sampling, Testing and Monitoring	Approval Date: July-21-2021
		Revision No: 1
		Page 2 of 2
Element 16		
Reviewed by: QMS Representative	Approved by: Top Management	

The Plympton-Wyoming Distribution system’s pressure is manually monitored by the Operators and documented.

The Operating Authority provides an annual report to the Plympton-Wyoming Owner Representative and the BluePoint Lookout Condominium Owner which includes any adverse readings. Laboratory results from the Plympton-Wyoming WDS are received by the Plympton-Wyoming WDS Owner Representative and the OA’s Project Manager.

LAWSS annual report is sent to the Plympton-Wyoming Owner Representative.

Results of analysis from the laboratory are entered onto secured data programs by the accredited laboratory. The data programs are: the DWIS (Drinking Water Information System) for MECP (Ministry of the Environment, Conservation & Parks) to review and the LRMA (Laboratory Results Management Application) for MOHLTC (Ministry of Health & Long-Term Care) to review.

Sampling testing and monitoring results are accessible to the Public on the Town’s website – in the annual report

Refer to:
SOP # 1 – Adverse Water Quality Incident
SOP # 16 – Distribution Microbiological Sampling

OMI	Title: Measurement and Recording Equipment Calibration and Maintenance	Approval Date: Dec-12-2023
		Revision No: 1
		Page 1 of 1
Element 17		
Reviewed by: QMS Representative		Approved by: Top Management

17. Measurement and Recording

All calibrations are performed by qualified personnel

The Operating Authority conducts a performance verification of the DPD Pocket Colorimeter (used to analyze chlorine residuals in the distribution system) according to the manufacturers' procedure and results are recorded. Accuracy of this equipment is essential to providing quality drinking water to the consumer with confidence that the characteristics of the water meet and/or exceed legislated requirements.

All standards and reagents that are utilized during calibrations and/or verification activities are checked before use to ensure they have not expired. Any expired standards or reagents are properly disposed of and replaced with new as applicable.

Any device which does not meet the specified performance requirements must be removed from service and labelled "out-of-service" until the unit has been repaired, replaced or successfully calibrated.

Refer to:
Pocket Colourimeter equipment manual (kept with unit)
SOP # 13 – Performance Verification of DPD Pocket Colorimeter

OMI	Title: Emergency Management	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 1
Element 18		
Reviewed by: QMS Representative		Approved by: Top Management

18. Emergency Management

Some examples of potential emergency situations/service interruptions would consist of:

- adverse water quality incident (AWQI)
- community complaints (taste/odour/colour)
- water main breaks, service line breaks,
- interruptions in pressure / loss of pressure
- loss of water supply / contamination

The Risk Assessment & Outcomes chart for the WDS contained in the QMS Operational Plan, Procedure B, can be referenced for emergency procedures which includes information regarding associated SOP's and Contingency plans.

Staff notifies the ORO by phone or email during an emergency situation. The ORO notifies the Owner representative.

Plympton-Wyoming has a Municipal Emergency Response Plan which documents their roles and responsibilities during an emergency.

A list of Emergency Contacts and Essential Supplies & Services are included in the Operational Plan (Annex E) This list is updated once every Calendar Year and will be kept current by the QMS Representative.

Emergency response testing, exercise and training will be completed once every Calendar Year and meeting minutes for the emergency response and testing are on record at the Water Department for review.

If there is a water problem after hours, the resident will call the Municipal Office listed in the telephone book and on the Municipal web-site. A message can be left, or directions are available to contact staff after hours. The call will be directed to the on-call Operator and the problem investigated.

Refer to:
Annex E – Essential Supplies & Services – Contact List
Procedure D – Personnel Coverage

OMI	Title: Internal Audit	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 1
Element 19		
Review by: QMS Representative		Approved by: Top Management

19. Internal Audit

Once every Calendar Year, the Internal Audit shall be conducted following Procedure E in the Operational Plan.

The Auditor reviews the facility's policies & procedures and the results of previous internal/external audits are also considered. The status of any corrective actions and other QMS documents are also reviewed prior of the audit.

Auditor may engage in activities that may include:

- reviewing & discussing documents and/or records with Operators
- considering the results of previous Internal and External Audits
- review of identified Best Management Practices
- review the MECP annual Inspection report
- review Community Complaints to identify possible improvements

The Audit shall be performed by personnel with adequate skills, training and/or experience. All Elements and corresponding Annex's & Procedures are audited once every Calendar Year.

The audit date shall be determined between the QMS representative and the Internal auditor.

Written record of the audit results shall be submitted to OA's Top Management.

When a Corrective Action or non-conformity is identified through the auditing process, an action plan to rectify the issue is developed by the QMS Representative through the Action Tracking Register (CAR's, OFI's, BMP, Action Items, Revisions) spreadsheets.

A Non-Conformity is documented on the CAR's spreadsheet with a "root cause" and "action implemented" categories to ensure continual maintenance and improvement of the QMS

A 90-day evaluation is conducted on the corrective actions by the QMS Rep to ensure completion and/or resolution.

Refer to:

Procedure E - Internal Audit

OMI	Title: Management Review	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Element 20		
Reviewed by: QMS Representative		Approved by: Top Management

20. Management Review

OA's Top Management will implement and conform to the Management Review procedure (Procedure F) with Owner Representative once every Calendar Year to evaluate the continuing stability, adequacy and effectiveness of the QMS.

The Owner Representative will receive the results of the Management Review by email.

Refer to:
PROCEDURE F - Management Review

OMI	Title: Continual Improvement	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 1
Element 21		
Reviewed by: QMS Representative		Approved by: Top Management

21. Continual Improvement

The Water Operating Authority shall strive to continually improve the effectiveness of its Quality Management System through the use of corrective actions. On-going Management Reviews and resulting corrective actions will be the basis for further improvement.

Corrective Actions, Preventative Actions and Best Management Practices are recorded on the Action Tracking Register spreadsheets. Sources may be identified and implemented through:

Corrective Actions

Internal or external audits, opportunity for improvement, result of other events such as an incident/emergency, community/owner complaint, other/staff reviews, operational checks, inspections or audits, emergency response training outcomes/training sessions, management reviews

Preventative Actions

Internal or external audits as OFI's, during a management review or through other means such as staff/owner suggestions, MECP inspections, evaluation of incidents/emergency response/tests, analysis of data/trends, non-conformances identified at other drinking water systems, considering and implementing any BMP's, staff suggestions/feedback, risk assessment outcomes, emergency response training outcomes/training sessions, management reviews

Best Management Practices (BMP)

Changes to legislative or regulatory requirements and BMP's published by the MECP, audit findings and staff reviews, MECP inspections, drinking water industry-based standards, staff suggestions/feedback, emergency response training outcomes/training sessions, management reviews, best practices with neighboring systems

Best Management Practices – Reviewing, considering and implementing any identified Best Management Practices, including any published by the Ministry of Environment Conservation and Parks and available on www.ontario.ca/drinkingwater, at least once every thirty six months.

The Action Tracking Register Report will be completed during the once every Calendar Year Management Review to ensure the actions recorded are implemented and are effective in corrective and preventing a re-occurrence of the non-conformity. Additionally the effectiveness of these items shall be reviewed at the time of the Management Review by reviewing the number of MECP non-compliances, internal and external audit results, consumer complaints etc.

Refer to:

Action Tracking Register Report
Annual MECP Inspection Report

OMI	Title: Commitment & Endorsement	Approval Date: Dec-12-2023
		Revision No: 2
		Page 1 of 1
Annex A – Commitment & Endorsement		
Reviewed by: QMS Representative	Approved by: Top Management	

Annex A – Commitment & Endorsement

DRINKING WATER QUALITY MANAGEMENT SYSTEM COMMITMENT AND ENDORSEMENT Plympton-Wyoming Drinking Water System

The Operational Plan has been reviewed and endorsed by the Owner Representative and the Operating Authority's Top Management. The Owners commitment to an effective Quality Management System is evidenced by the resources provided during implementation and maintenance of the Operational Plan and the QMS.

The Owner and Top Management of the Operating Authority (as defined in Annex C) determines, obtains, and provides the resources needed to implement, maintain, and continually improve a Quality Management System which meets the requirements of the Drinking Water Quality Management Standard. The QMS for the drinking water system is documented in the Operational Plan.

Top Management ensures the Operating authority is aware of all applicable legislative and regulatory requirements and the QMS is communicated according to procedure (Element # 12)

Top Management demonstrates their endorsement of the Operational Plan through reporting to the Owner Representative on the recommendations and results of Management Review and by key signatures below:

Date: December 12, 2023:



Owner Representative – Paul daSilva (Director of Public Works)

Date: December 12, 2023:

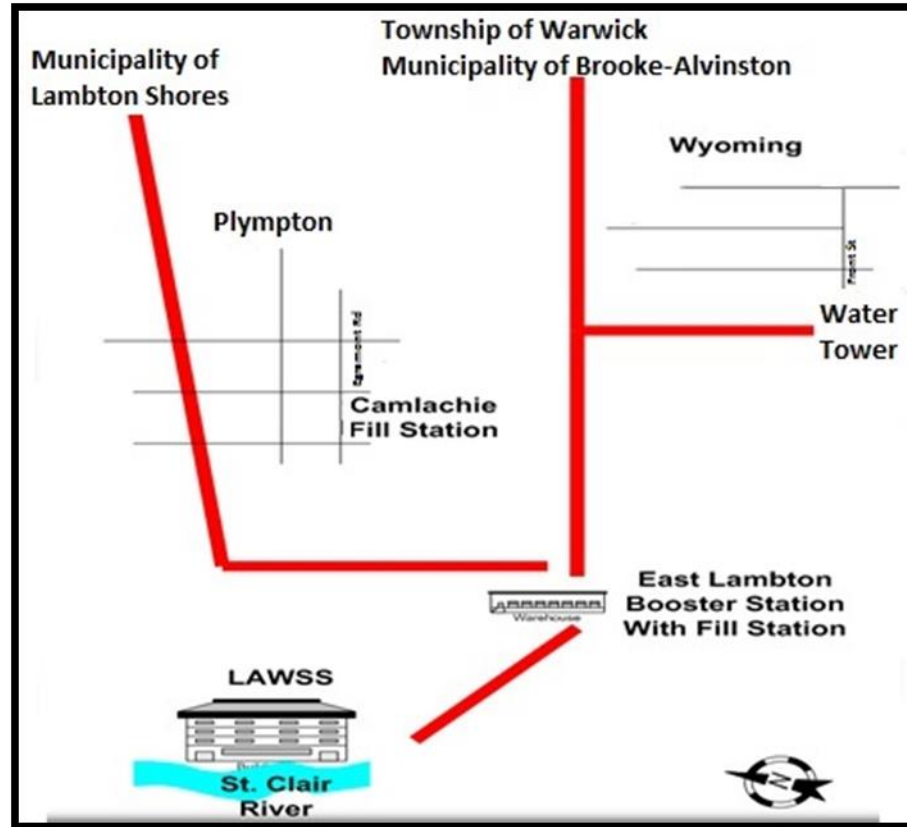


Operating Authority – Joe Bloomfield (Top Management)

Revision Date: December/2023

OMI	Title: System Schematic	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Annex B		
Reviewed by: QMS Representative		Approved by: Top Management

Annex B – System Schematic

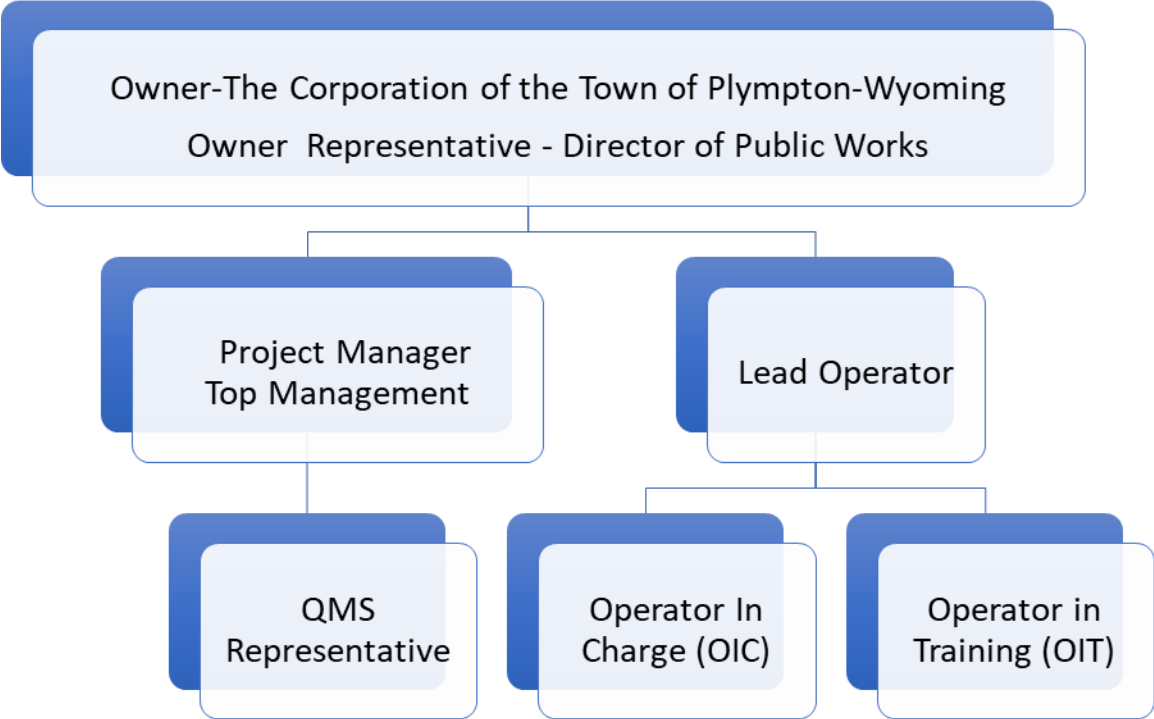


DWQMS Operational Plan

Uncontrolled When Printed

OMI	Title: Operations Organization Chart	Approval Date: July-21-2021
		Revision No: 1
		Page 1 of 1
Annex C		
Reviewed by: QMS Representative		Approved by: Top Management

Annex C – Operations Organization Chart



OMI	Title: Organizational Responsibilities	Approval Date: July-21-2021
		Revision No: 1
		Page 1 of 2
Annex D		
Reviewed by: QMS Representative		Approved by: Top Management

Annex D - Organizational Responsibilities and Authorities

Title	Responsibilities	Authorities
Owners (Mayor/Council) (Water & Sewer Committee)	<ul style="list-style-type: none"> - ultimate responsibility for the provision of safe drinking water - ensure compliance with applicable legislation and regulations - participate in Water & Sewer Committee meetings - provide resources 	<ul style="list-style-type: none"> - financial, administrative authority related to the distribution of safe water - recommend and approve budget items, rates, and bylaws pertaining to water
Owner Representative (Director of Public Works)	<ul style="list-style-type: none"> - participate in management reviews - communicate with Top Management - ensure compliance with applicable legislation and regulations - communications with Mayor and Council about QMS and water distribution system - communicates with Water & Sewer committee 	<ul style="list-style-type: none"> - review and recommend budget items, rates, and bylaws pertaining to water - financial, administrative authority related to the distribution of safe water
Operating Authority Top Management (Project Manager)	<ul style="list-style-type: none"> - perform ORO duties - communication with Owner/Owner Rep - prepares reports and maintains records - schedule and oversee the day to day activities relating to Operators - communications during emergency - ensure compliance with applicable legislation and regulations - lead for Management reviews - designates QMS Rep - develop procedures and processes 	<ul style="list-style-type: none"> - oversee adverse water quality incidences and responses - recommend changes to the QMS - monitors processes and equipment - QMS Rep in absence of regular QMS Rep
Lead Operator	<ul style="list-style-type: none"> - communicates with Top Management & Owner/Owner Rep - communicates with Operators - respond to and documents public complaints - communications during emergency report and act on any incidents of non-compliance 	<ul style="list-style-type: none"> - oversee adverse water quality incidences and responses - recommend changes to the QMS - monitors processes and equipment

OMI	Title: Organizational Responsibilities	Approval Date: July-21-2021
		Revision No: 1
		Page 2 of 2
Annex D		
Reviewed by: QMS Representative		Top Management

Title	Responsibilities	Authorities
Operator	<ul style="list-style-type: none"> - performs day to day operations and maintenance - communicates with Top Management, Operators & Lead Operator - report and act on any incidents of non-compliance - regular maintenance of water system - respond to and document public complaints 	<ul style="list-style-type: none"> - responds to water quality incidents and public complaints - monitors processes and equipment - recommend changes to the QMS
QMS Representative	<ul style="list-style-type: none"> - communication with Owner Rep, Top Management & Operators - prepare reports - document and record control - record minutes of meetings - administer the QMS by ensuring that processes needed for the QMS are established and maintained - report to Top Management on the performance of the QMS and any need for improvement - ensure that personnel are aware of the applicable legislative and regulatory requirements that pertain to their duties for the operation of the subject system - promotes awareness of the QMS throughout the Operating Authority 	<ul style="list-style-type: none"> - recommend changes to QMS - update and document changes to QMS
OIT (Operator in Training)	<ul style="list-style-type: none"> - Perform day to day operations and maintenance under the direction of the OIC 	<ul style="list-style-type: none"> - recommend changes to QMS - monitors processes and equipment

OMI	Title: Essential Supplies/Services and Emergency Contact List	Approval Date: Dec-12-2023
		Revision No: 2
		Page 1 of 3
Annex E		
Reviewed by: QMS Representative		Approved by: Top Management

Annex E - Essential Supplies/Services & Emergency Contact List

Essential Suppliers and corresponding Supplies are identified in red

Plympton-Wyoming		
Director of Public Works	519-845-3939 (office)	Paul DaSilva - 519-383-2347 (cell)
Municipal office	519-845-3939	
BluePoint Lookout Condominium	289-288-3430	Kyle Bittman
Plympton-Wyoming Public Works		
Rob Brooks	519-402-0137	
Plympton-Wyoming on call	519-331-2068	
OMI		
24/7 Answering Service	1-866-399-1643	Also OMI Lambton Shores Contact number
Doug Marsh	519-466-4586 (cell)	
Cathy Culnan	519-466-4631 (cell)	
Derek Daly	519-381-3211 (cell)	
Lee Tomlinson	519-381-3207 (cell)	
Joe Bloomfield	519-381-0542 (cell)	Project Manager
	LAWSS – Water Supplier	
LAWSS Plant	519-344-7429	
LAWSS on-call cell	519-332-9327	
Adverse Water Contacts		
MOH (Lambton Health Unit)	519-383-8331	519-383-7092 (fax)
SAC (Spill Action Center)	1-800-268-6060	1-800-268-6061 (fax)
SAC (Spill Action Center)	moe.sac.moe@ontario.ca	
MECP District office	519-336-4030	519-336-4280 (fax)
E - SGS laboratories (London)	519-672-4500 (office) 519-870-7345 (after hours)	Sample Analysis: E-coli, Total Coliforms, Lead, HPC, THM, HAA
E - Hach Canada	1-800-227-4224 ext: 6152	Chlorine residual reagents, DPD Colorimeters, Verification reagents
Equipment & Parts Suppliers		
E - Iconix Water Products	519-668-6095 (office)	8,10,12-inch piping 1- & 2-inch curb stops Hydrants and hydrant parts Distribution & Isolation valves

OMI	Title: Essential Supplies/Services And Emergency Contact List	Approval Date: Dec-12-2023
		Revision No: 2
		Page 2 of 3
Annex E		
Reviewed by: QMS Representative	Approved by: Top Management	

Repairs/Contractors/Excavators		
Plympton-Wyoming Public Works Dept.	519-845-3939	519-331-0311 (after hrs.)
E - Vozza Contracting	519-464-6376 (cell)	VAC truck, Excavation & Repair
Copes Construction	519-344-5221	VAC truck, Excavation & Repair
VanBree Drainage	519-828--3641	VAC truck, Excavation & Repair
Gillier Drainage	519-365-7323	VAC truck, Excavation & Repair
Bluewater Power	519-466-0293	VAC truck, Excavation & Repair
VAC Trucks/Plumbing		
Central Sanitation	519-336-2465 (office)	519-490-4339 (after hours)
CT Environmental	1-519-236-7401 (office)	519-476-4956 (24/7 cell)
Badger	519-472-6181 (office)	519-521-1491 (on-call cell)
Bluewater Plumbing	519-332-8050	
JR Plumbing	519-882-4129	
Plympton Plumbing	519-845-3726	
Electrical		
DMW	519-336-3003 (office)	519-336-3995 (fax)
Kirt Roach (DMW)	519-490-4787 (cell)	
Electrozad	519-336-8550	519-336-4812 (fax)
Bulk Fuel		
Waddick Fuels (Petrolia)	519-882-2420 (office)	1-888-561-0999 (24/7)
Mackenzie Oil	519-336-0521 →	Also answering service after Hrs.
Suppliers of Bottled & Bulk Water		
Kern Water (Sarnia) (bottled water)	519-542-4211 (office)	519-381-5485 (after hours)
Culligan (Sarnia) (bottled water)	519-339-0146 (office)	1-800-265-4606
Huron Water Supply (bulk) (3500 gal)	519-383-3240 (Mark)	519-383-4055 (Shawn)
Harold Marcus Ltd (bulk) (8000 gal)	519-695-3734 (office)	519-695-2249 (fax)
Harold Marcus Ltd	1-800-265-9426 (24/7)	
Township of Enniskillen		
Municipal Office	519-882-2490	
Mike Cummings	519-331-5580	
Jake Van-Damme	519-331-9538	
After Hours Pager	519-339-8128	

OMI	Title: Essential Supplies/Services and Emergency Contact List	Approval Date: Dec-12-2023
		Revision No: 2
		Page 3 of 3
Annex E		
Reviewed by: QMS Representative		Approved by: Top Management

Other		
Town of Petrolia	519-882-2350 (office)	
Ontario One Call Locates (ID-32707)	1-800-400-2255	Town ID#-32707
Union Gas Emergencies	1-877-969-0999	
Bluewater Power	519-337-8201	(electrical)

OMI	Title: Policy Statement	Approval Date: July-21-2021
		Revision No: 1
		Page 1 of 1
Annex F		
Reviewed by: QMS Representative		Approved by: Top Management

Annex F – Policy Statement

OMI

DRINKING WATER QUALITY MANAGEMENT SYSTEM

POLICY STATEMENT

The Water Operating Authority, (**Operations Management International Canada Inc. – OMI**) is committed to providing safe drinking water to all residents. The Drinking Water Quality Management System will guide the operations and programs undertaken throughout the distribution system owned by: The Corporation of the Town of Plympton-Wyoming.

The Water Operating Authority is committed to:

- The maintenance and continual improvement of the Quality Management System
- The consumer to providing safe drinking water
- Complying with applicable legislation and regulations
- Providing the Quality Management in a form that can be communicated to all Operating Authority personnel, the Owner and the public
- Shall establish and maintain a Quality Management System that is consistent with the Policy

Approved By:  : July-21-2021
 Joe Bloomfield – Project Manager – Top Management
Operations Management International Canada Inc. (OMI)

OMI	Title: QMS Document and Record Control	Approval Date: Jan-27-2022
		Revision No: 0
		Page 1 of 3
Procedure A		
Reviewed by: QMS Representative	Approved by: Top Management	

Procedure A - QMS Document and Record Control

Documents: includes a map, chart, graph, survey, logbook, forms, photograph, and information stored by means of any device.

- Documents are generated electronically to ensure legibility and are identifiable though a title/header.
- Electronic documents are retrievable and stored on a shared web-based network, (SharePoint) secured by username and password. The network is subjected to daily backups. Electronic versions for disposal will be stored in a Historical/Obsolete file
- Obsolete documents (due to changes) shall be collected and destroyed.

Record: a document which states the results achieved and/or provide the proof of activities being performed

- Records will be shredded and disposed of after applicable retention time has expired
- Records shall be stored in such a manner as to prevent deterioration.
- Records shall be legible and permanently rendered in ink. Pencil or any other erasable marker shall not be used to record processes, product information or data.
- Records shall show the name or initials of the recorder, date and time (if appropriate) the record was generated.
- QMS related water distribution records will be retrievable at the Water Department

Creating New or Updating Existing Documents

- The need for document changes or for new document(s) or procedures may be identified through audits, management reviews or staff reviews. The QMS Representative is responsible for creating new document(s) or can delegate the task of creating the new document(s)
- Any employee or contract operator may request a change to an existing QMS document. The request must be made in writing, dated and submitted to QMS Representative

OMI	Title: QMS Document and Record Control	Approval Date: Jan-27-2022
		Revision No: 0
		Page 1 of 3
Procedure A		
Reviewed by: QMS Representative	Approved by: Top Management	

The request must include the following information:

1. The reason for new or changed document: Must belong in one or more of these categories:
 - Enhances process control
 - Reduces risk
 - Supports regulatory requirements
 - May improve operational efficiency

2. Outline of document change or new document content
 - Narrative format is acceptable

- The requester shall develop the new/revised document and submit it to Top Management for approval.
- Electronic versions of the new/changed documents will be created by the QMS Representative and approved by Top Management.

Approving Documents

- QMS related documents shall be approved by Top Management.
- The QMS Representative shall be responsible for ensuring that copies of the new or changed document show the revision number and/or date modified and are distributed.

Reviewing Documents

- The Operational Plan and procedures shall be reviewed once every Calendar Year for applicability and relevance.

Document Availability

- All procedures, instructions and forms are retained in the QMS binders
- Equipment manuals and specifications are kept at the Public Works Office/Garage
- As Built drawings are kept at the Municipal Office & Public Works Garage
- Municipal Drinking Water License and Municipal Water Works Permit are kept the Municipal Office and on the Town's web-site for staff and the public to view/review

OMI	Title: QMS Document and Record Control	Approval Date: Jan-27-2022
		Revision No: 0
		Page 2 of 3
Procedure A		
Reviewed by: QMS Representative		Approved by: Top Management

This procedure is applicable to the following QMS documents

- Operational Plan
- Internal, External Audits, QMS meeting minutes
- Procedures/SOP's
- Forms
- Equipment Manuals
- As Built Drawings

QMS Record Control

This procedure is applicable to all records that demonstrate conformance to DWQMS requirements. All records that demonstrate compliance are covered by the Ontario Safe Drinking Water Act (OSDWA)

Documents and records must have designated minimum retention times, which must comply with applicable legislated requirements, and conform to the DWQMS.

Record Retention Time Legislation

Operator training records 2002	5 years O. Reg. 128/04 under <i>SDWA</i> ,
Annual Reports and Summary Reports 2002	5 years O. Reg. 170/03 under <i>SDWA</i> ,
Log books and other record-keeping mechanisms 2002	5 years O. Reg. 128/04 under <i>SDWA</i> ,
Lab analyses of water samples for chemical tests 2002	15 years O. Reg. 170/03 under <i>SDWA</i> ,
Lab analyses of water samples for microbiological, chlorine and turbidity tests, and fluoride tests where fluoridation is provided 2002	5 years O. Reg. 170/03 under <i>SDWA</i> ,

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 1 of 7
Procedure B		
Reviewed by: QMS Representative		Approved by: Top Management

Procedure B – Risk Assessment and Outcomes

Top Management, QMS Representative and Operators make up the Risk Assessment team that identifies the potential hazards and hazardous events which could affect the quality and operations of the water system, and the control measures to address the hazards, identify the Critical Control Points (CCP) & Critical Control Limits (CCL), and the being associated methods of monitoring and controlling them.

The Risk Assessment team shall consider the MECP document – “Potential Hazardous Events for Municipal Residential Drinking Water Systems” – dated April/2022, as it may be amended. A copy is available at www.ontario.ca/drinkingwater

Hazardous events and hazards were assessed on the basis of likelihood, severity and detectability. The assessment criteria are summarized in the associated tables shown in Procedure B. The values were combined to give an overall level of risk as shown. All hazards or hazardous events with an overall risk factor greater than 7 (seven) are associated with a CPP & CCL

The reliability and redundancy of equipment is considered when assigning ratings to the hazard and hazardous events.

The once every Calendar Year Risk Assessment and Outcomes review will monitor the Critical Control Limits and respond to any deviations from the Critical Control Limits. The meeting minutes will record and report the deviations and procedures will be developed from the findings. Results from the meeting minutes will be submitted for the once every Calendar Year Management Review meeting.

The Risk Assessment team will meet once every Calendar Year to discuss, confirm and verify the risk assessments to ensure the information and assumptions remain current and verify the validity of the information used in the Risk Assessment.

Once every thirty-six months, the Top Management will assemble the team to conduct a new Risk Assessment to ensure the risks are re-assessed and agreed upon.

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 1 of 7
Procedure B		
Reviewed by: QMS Representative		Approved by: Top Management

Description	Column A - Likelihood of Hazardous Event Occurring	Rating
Rare	May occur in exceptional circumstances, and has not occurred in past	1
Unlikely	Could occur at some time, historically has occurred less than once every 5-10 years	2
Possible	Has occurred or may occur once or more per year	3
Likely	Has occurred or may occur on a monthly to quarterly basis	4
Very Likely	One or more occurrences on a monthly or more frequent basis	5

Description	Column B - Severity of Hazardous Event Occurring	Rating
Insignificant	Insignificant impact, little public exposure, little or no health risk	1
Minor	Limited public exposure, minor health risk	2
Moderate	Minor public exposure, minor health risk	3
Major	Large population at risk	4
Catastrophic	Major impact for large population, complete failure of systems	5

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 3 of 7
Procedure B		
Reviewed by: QMS Representative		Approved by: Top Management

Description	Column C - Detectability of Hazardous Event	Rating
Very Detectable	Easy to detect, visual	1
Moderately Detectable	Increased flow rates, system pressure complaints	2
Normally Detectable	Visually detectable but not on rounds or regular basis	3
Poorly Detectable	Visually detectable but not inspected on a regular basis	4
Undetectable	Cannot detect	5

Column D – Is the total rating value of the overall level of risk

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 4 of 7
Procedure B		
Reviewed by: QMS Representative	Approved by: Top Management	

Activity or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency Procedure or Contingency Plan	A	B	C	D	CCP?	Critical Control Limits	Reference Procedure
Source Water (LAWSS)	Contamination of source water Source Water Supply Shortfall or Loss	Chemical or biological contamination of source water Loss of water to consumers AWQI	No control.	Online monitoring system by water supplier (LAWSS)	Isolate distribution system from supply. Notify Health Unit – follow direction Notify OA of emergency connection location Flush line & analyze for Chlorine residual	2	3	1	6	No		SOP # 1 SOP # 14 SOP # 7
Distribution	Watermain break within distribution system	Quantity-Quality Low pressure-back siphoning Bacteriological or chemical contamination	Storage in Standpipe	Customer complaints, low pressure or high flow through supply meters, visual if at ground.	Repair according to SOP Water Main Break, stock repair material, Microbiological testing as necessary. Notify Health Unit as necessary (boil water order) Analyze for Chlorine residual	5	2	1	8	Yes	Pressure maintained > 20 psi Free Chlorine residual > 0.20 mg/l	SOP # 1 SOP # 6 SOP # 14

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 5 of 7
Procedure B		
Reviewed by: QMS Representative	Approved by: Top Management	

Activity or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency Procedure or Contingency Plan	A	B	C	D	CCP?	Critical Control Limits	Reference Procedure
Distribution	AWQI Loss of chlorine residual Watermain dead ends	Biological contamination Total Coliform / E-coli exceedance	Legislated under O. Reg. 170/03 Must be a result of "0" cfu/mL)	Weekly chlorine testing in distribution system Ongoing watermain construction to eliminate dead ends Weekly Bacteriological sampling/analysis in distribution system	Flush distribution system to increase chlorine dosage and resample. Notify Health Unit as necessary (boil water order) Resample upstream & downstream	2	4	1	7	Yes	Free Chlorine residual > 0.20 mg/l "0" cfu/mL	SOP # 1 SOP # 2 SOP # 3 SOP # 14 O. Reg 170/03
Distribution	Commissioning of new watermains causing contamination	Biological contamination Potential AWQI Potential Loss of Water		Follow procedures for watermain repair Check chlorine residual and conduct microbiological testing	Follow corrective action per O. Reg. 170/03. Notify Health Unit as necessary (boil water order) Resample if necessary	1	2	1	4	No		SOP # 1 SOP # 6 SOP # 14
Distribution	Biofilm	Biological and quality Loss of chlorine residual		Visual inspection of pipe breaks, reduced flow in pipes, inability to maintain chlorine residual Flushing and swabbing Cleaning as per AWWA	Check Chlorine residual Flush system main lines to maintain system chlorine residual	2	1	2	5	No		SOP # 1 SOP # 2 SOP # 3 SOP # 14

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 6 of 7
Procedure B		
Reviewed by: QMS Representative	Approved by: Top Management	

Activity or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency Procedure or Contingency Plan	A	B	C	D	CCP?	Critical Control Limits	Reference Procedure
Distribution	Loss of pressure – watermain break, major fire Sustained Pressure loss	Potential AWQI Low pressure/ back siphoning Bacteriological or chemical contamination Water hammer	Storage in Standpipe	Consumer complaints Backflow contamination prevented by backflow preventers on all service connections Emergency connection/Alternate supply	Check pressure and chlorine residual, discussions with MECP and Health Unit if low Notify Health Unit as necessary (boil water order) Restore pressure and chlorine residual. Conduct sampling per MECP and Health Unit direction	4	2	1	7	Yes	Pressure shall be maintained > 20 psi	SOP # 1 SOP # 4 SOP # 6 SOP # 7 SOP # 14
Distribution	Backflow from private plumbing (cross connection)	Biological and chemical contamination	Backflow preventers on all service connections	Meters are installed on all water services that are in use. Backflow required on all active water services through bylaw	Notify Health Unit and MOE Spills Action Centre, if necessary, communicate boil water order after consultation with Health Unit Emergency Connection	1	3	1	5	No		SOP # 1 SOP # 7 Bylaw # 67 of 2017
Distribution	THM Exceedance (RAA)	AWQI		Quarterly sampling	Notify SAC & MECP via written notice within 7 days of the completion quarter. Follow direction from MOH	1	1	5	7	Yes	0.100 mg/L (100 ug/L)	SOP # 16
Distribution	HAA Exceedance (RAA)	AWQI		Quarterly sampling	Notify SAC & MECP via written notice within 7 days of the completion quarter. Follow direction of MOH	1	1	5	7	Yes	0.080 mg/L (80 ug/L)	SOP # 17

OMI	Title: Water Distribution System Risk Assessment and Outcomes	Approval Date: Dec-12-2023
		Revision No: 4
		Page 7 of 7
Procedure B		
Reviewed by: QMS Representative	Approved by: Top Management	

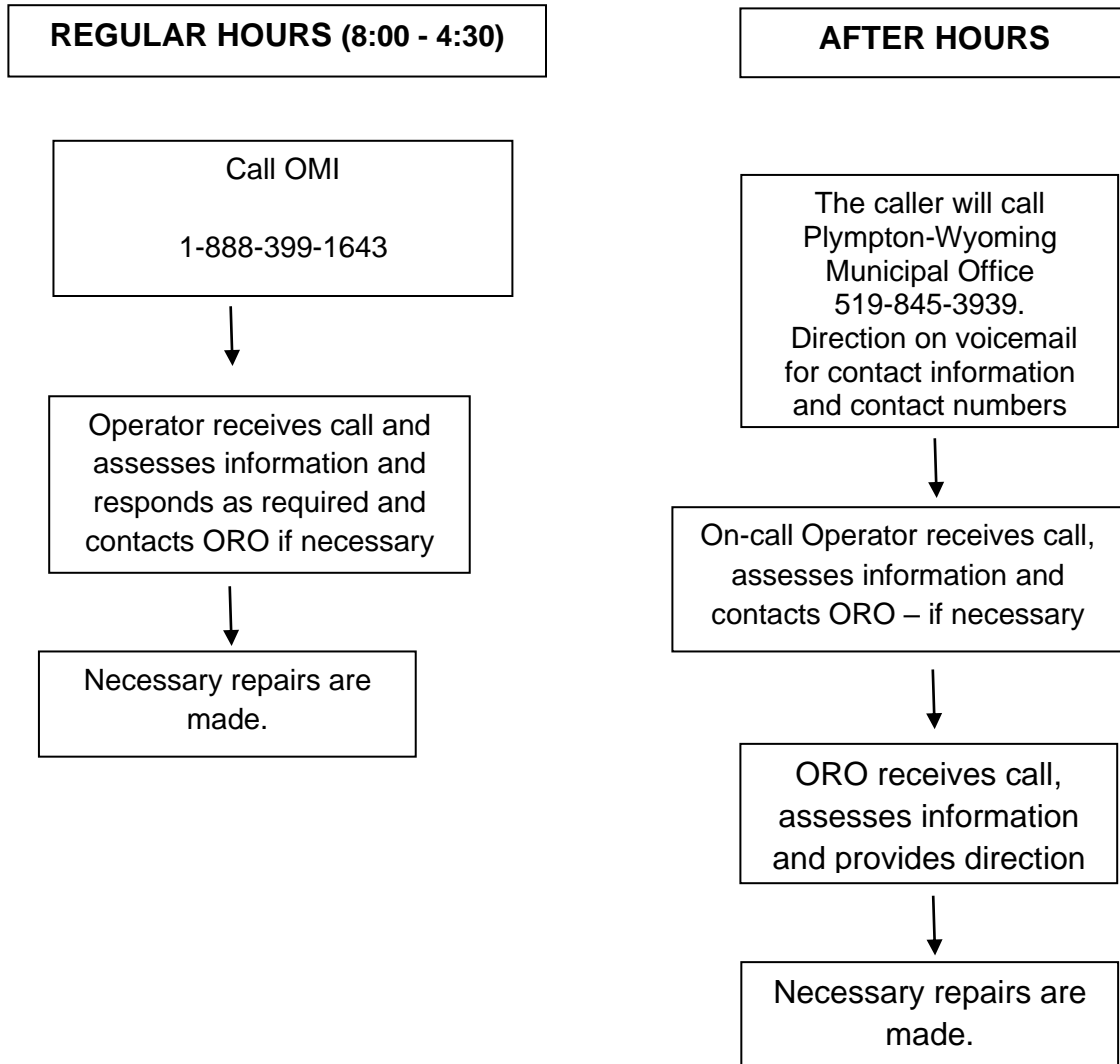
Activity or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency Procedure or Contingency Plan	A	B	C	D	CCP?	Critical Control Limits	Reference Procedure
Distribution	Long Term Impacts of Climate Change -Drought -Heat Wave -Deep Freeze -Sustained Extreme Temperatures	Potential for Increased demand Potential reduction in water Potential for water conservation	Storage in Standpipe	Monitor Chlorine residuals Hydrants are pumped out to prevent freezing	Issue Water Conservation protocol Flush main to ensure Chlorine residual	2	3	1	6	No		SOP # 1 SOP# 2 SOP # 7 SOP # 11
Distribution	Extreme weather events -Tornado -Flooding -Ice Storm	Potential for AWQI Potential for loss of water Increased demand Frozen services		Environmental monitoring trends Historical Events News reports	Monitor chlorine residuals in system Issue Water Conservation protocol Emergency connection to neighbouring system	2	2	1	5	No		SOP # 1 SOP # 7 SOP # 11
Distribution	Terrorist threat	Potential for AWQI Potential for loss of water		Observant staff News reports	Check chlorine residual, Notify Health Unit as necessary (boil water order)	1	1	4	6	No		SOP # 1 SOP # 3 SOP # 7
Distribution	Vandalism Cyber Security Threat	Potential for AWQI Potential loss of data		Observant staff Routine Inspections Fences, gates, locks Data backup	Check chlorine residual Notify Health Unit as necessary (boil water order) Contact Authorities Hard copies available	1	3	1	5	No		SOP # 1 SOP # 3
Distribution	Pandemic	Staff Shortage Loss of Staff		Masks, gloves, hand sanitizer, disinfecting workplace On-site COVID questionnaire	Follow Federal & Provincial Guidelines, alternating Staff, scheduled work from home OMI Continuity Plan	2	2	1	5	No		Federal & Provincial Orders

OMI		Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Procedure C		
Reviewed by: QMS Representative	Approved by: Top Management	

Procedure C – Not Applicable for this System

OMI	Title: Personnel Coverage 24/7	Approval Date: Jan-26-2021
		Revision No: 0
		Page 1 of 1
Procedure D		
Reviewed by: QMS Representative		Approved by: Top Management

Procedure D – Personnel Coverage 24/7



OMI	Title: Internal Audit	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 2
Procedure E		
Reviewed by: QMS Representative	Approved by: Top Management	

Procedure E – Internal Audit

Internal audits are conducted to ensure that the QMS conforms to the requirements of the DWQMS. These requirements include ensuring that the QMS has been effectively implemented and properly maintained.

Audits conducted by Operating Authority

Auditor Training

- All internal auditors must have successfully completed the DWQMS internal auditing training.

Internal Audit Schedule.

- The audit schedule is developed every year by the QMS Representative.
- Each Element and corresponding Annex & Procedure of the Standard is audited at least once every Calendar Year.

Audit Planning

- At least one week prior to the audit, the auditor shall review all related QMS documentation including previous internal and external audits, action tracking register, best management practices & MECP annual inspection report

Audit Check List

- Meeting Date, Time and Location
- Invitees to the meeting
- Review and consider the outcomes from previous audit
- Review and consider the outcomes from previous external audit
- Review MECP Inspection report
- Action Tracking Register Spreadsheets: CAR's, OFI's, Action items, Continual Improvement/Best Management Practices, Revisions
- Identify elements scheduled for internal audit - 1 through 21 with corresponding Annex's & Procedures.

OMI	Title: Internal Audit	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 2
Procedure E		
Reviewed by: QMS Representative		Approved by: Top Management

Conducting the Audit

- The auditor shall observe activities, review records and interview personnel as necessary to ensure that the status of the audited element of the QMS has been effectively covered.

Reporting the Results

- The auditor shall submit a completed report to QMS Representative
- The report shall include any requirement for corrective actions
- Any Corrective actions that are identified through the auditing process shall be communicated to the responsible individual and included as part of Management Review input.
- Top Management shall receive a copy of the report by email.

Audits Conducted by another Municipality

Auditors

- Outside auditors must provide proof of competency prior to conducting an audit.

Audit Schedule

- Audits are to be conducted per the Operating Authority's schedule.

Planning and Conducting the Audit and Reporting the Results

- Audits may be planned and conducted per the procedures of the auditing Municipality. Prior approval by QMS Rep.
- Audit results may be reported per the procedures of the auditing Municipality as long as the results are documented. Requirements for corrective action must be indicated.

OMI	Title: Internal Audit	Approval Date: Jan-27-2022
		Revision No: 1
		Page 1 of 2
Procedure E		
Reviewed by: QMS Representative		Approved by: Top Management

Procedure F - Management Review

This procedure defines the Management Review process to ensure the continuing suitability, adequacy and effectiveness of the QMS.

Review Once Every Calendar Year

The Management Review is convened by Top Management. Attendees include the Owner Representative and the QMS Representative.

Review Input

The QMS Representative shall provide information and data concerning the following categories, for the review:

- incidents of regulatory non-compliance
- incidents of adverse drinking water tests
- deviations from critical control point limits and response actions
- the efficiency of the risk assessment process
- internal and 3rd party audit results
- results of emergency response testing
- operational performance
- raw water and drinking water quality trends
- status and follow-up actions items from previous management reviews – refer to Action Tracking Register report
- corrective actions, preventative actions and best management practices – refer to Action Tracking Register report
- changes that could affect the Quality Management System
- Consumer feedback
- the resources needed to maintain the Quality Management System
- results of the infrastructure review
- Operational Plan currency, content and updates
- staff suggestions

OMI	Title: Management Review	Approval Date: July-21-2021
		Revision No: 1
		Page 2 of 2
Procedure F		
Reviewed by: QMS Representative	Approved by: Top Management	

Review Process

The Management Review shall be a planned event. A minimum of two hours shall be set aside by the participants to ensure a thorough review of the QMS is conducted.

Each input category shall be reviewed to identify if, where and when improvements to the QMS and its procedures are required.

The QMS Representative or designate shall make note of any changes or action items required during the review. All action items will be recorded on the action tracking register report spreadsheets.

Review Output

The output from the Management Review shall include meeting minutes maintained by the QMS Representative. The minutes shall include:

- the date and time of the management review and the names of the participants and attendees
- any identified deficiencies
- a list of "action" items. All action items shall identify an individual responsible and the proposed time lines for implementation
- recommendation(s) for any resources needed for maintenance or improvement of the QMS

The meeting minutes will be provided to Plympton-Wyoming Owner Representative and Top Management.