TOWN OF FORT FRANCES

Operations and Facilities Executive Committee

AGENDA - July 8, 2015, 8:30 AM

MEETING - Civic Centre

Session #014

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Call to Order		
Disclosure of pecuniary interest and the general nature thereof		
Approval of Previous Committee Minutes		
3.1	Minutes from meeting of this Committee on June 17, 2015	2 - 3
Non-agenda Items		
New Business		
5.1	DWQMS Management Review	4 - 150
5.2	May 2015 Drinking Water Systems Monthly Summary Report.	151 - 159
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5.4	Semi Annual Division Report.	164 - 168
Outstanding Items		
6.1	Sanitary Sewer By-law - to be discussed at a later date	
Information		
7.1	Annual Energy Consumption Submission and Corporate Energy Consumption Review	169 - 180
7.2	Operations and Facilities Division - Environmental Area - Operations Statistics - April 2015	181 - 183
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Adjourn / Next Meeting Date		
8.1	Next meeting date is Wednesday September 9, 2015	

TOWN OF FORT FRANCES

MINUTES SESSION NO. #013 June 17, 2015

The meeting of Operations & Facilities Executive Committee of the Town of Fort Frances was held in the Civic Centre on June 17, 2015 from 8:25 a.m. to 10:15 a.m.

PRESENT: Paul Ryan, Chairperson, Doug Kitowski, June Caul and Doug Brown

ALSO PRESENT: Mayor Avis, (Travis Rob, Patrick Briere, Arlene Byrnes and Doug Herr - 8:30 a.m. to 9:45 a.m.)

1. Call to Order

1.1. The meeting was called to order at 8:25 a.m.

2. Disclosure of pecuniary interest and the general nature thereof

2.1. None

3. Approval of Previous Committee Minutes

3.1. Minutes from meeting of this Committee on June 3, 2015 - the minutes from the meeting on June 3, 2015 were approved as circulated.

4. Non-agenda Items

4.1. Update on Tender Results for the front end loader and snowblower attachment - Doug Brown informed the Operations and Facilities Executive committee that an administration report for awarding the tender for the loader and snowblower attachment is going forward to Council and that Transport Canada is reviewing the tender submissions.

5. Outstanding Items

5.1. Review and Endorsement of the Sewer System Management By-Law (Final Draft) - the administration report was reviewed along with pertinent sections of the new by-law. The Operations and Facilities Executive committee wants to review the prosed changes and discuss at a later meeting. Travis Rob, Doug Herr, Patrick Briere and Arlene Byrnes left the meeting at 9:45 a.m.

6. New Business

6.1. Tender No. 15-OF-07 - Rental Rates for Equipment and Vehicles - the administration report was reviewed and will be forwarded to Council for approval.

6.2. Request from Megan Walchuk, Property Owner of 1500 Colonization Road West to Plant Trees on the Town's Highway or R.O.W. - the administration report was reviewed and will be forwarded to Council for approval.

7. Information

7.1. 2015 Capital Budget - the Capital Budget spreadsheet was reviewed and will be forwarded to Council as information only. No action required.

7.2. Fort Frances Wastewater Treatment Facility May 2015 Monthly Report - the OCWA monthly report for May 2015 was reviewed and will be forwarded to Council as

information only. No action required.

7.3. Aircraft Landings 2015 as of May 30, 2015 - the airport spreadsheet as of May 2015 was reviewed and will be forwarded to Council as information only. No action required.

7.4. 2015 Tonnage at Landfill Site - updated June 1st, 2015 - the landfill site spreadsheet as of May 2015 was reviewed and will be forwarded to Council as information only. No action required.

7.5. Operations and Facilities Division - Public Works Area - Operations Statistics - April 2015 - the Public Works Area Operational Statistics for the Month of April 2015 were reviewed and will be forwarded to Council as information only. No action required.

7.6. Operations and Facilities Division - Public Works Area - Operations Statistics - May 2015 - the Public Works Area Operational Statistics for the Month of May were reviewed and will be forwarded to Council as information only. No action required.

8. Adjourn / Next Meeting Date

8.1. The meeting adjourned at 10:15 a.m.

_____
Executive Committee Chair

_____
D. Brown, Manager of Operations & Facilities

June 30, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

Subject: Drinking Water Quality Management System (DWQMS) – Management Review Meeting - Endorsement by Owners

Over the past 12 months a couple of significant milestones have been completed in regards to the Drinking Water Quality Management System and are summarized below:

1) **External 12 - month Surveillance Audit** (Table Top verification process) completed by SAI Global on November 25, 2014-Auditor Mr. Rod Seabrook
2) **4th Internal Audit** completed by Mr. Travis Rob from March 30 to April 27, 2015.
3) **4th Management Review Meeting** held on Tuesday June 30, 2015 to review the implementation of the DWQMS for the period June 2014 to May 31, 2015.

Please find attached the agenda package plus the associated documents which were reviewed at the June 30th, 2015 Management Review meeting and the corresponding meeting minutes. Also the September 26, 2014 revision (No. 6) of the DWQMS Operational Plan is attached for your review as there are three Councilors on Council at this time who were not involved in endorsing the original operational plan for the drinking water system and also several revisions have taken place since the original plan was endorsed and adopted by Council. Presently under the process outlined in the Operational Plan Element No. 20 - Management Review (See pages No. 74 & 75 of Operational Plan) - there were four (4) action items that Council (owner) must review and endorse at this time:

Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 2) **Installation of two additional valves along Sinclair Avenue between Victoria Avenue & Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued.** The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 3) **Installation of a looping water main c/w necessary between Lillie Avenue & Webster Avenue abutting the old West End rink property.** The

timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

Action Item No. 4) **Ensure both Cemetery Irrigation Systems are properly plumbed to ensure the proper backflow protection c/w meter is in place.** The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner). The Riverview Cemetery Irrigation system modifications can take place at the same time as completing action item No. 1

The Operations & Facilities Executive Committee recommends the following;

1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 30, 2015.
2) That Council (owner) has reviewed and accepted the following four (4) action items as a result of the management review meeting held on June 30, 2015;

   Action Item No. 1) **Replace approximately 500 meters of 150mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

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Respectfully Submitted,
Operations & Facilities Division

D. Brown, P. Eng.
Manager of Operations & Facilities

Council approval of this report will ensure the following:

1) That Council (owner) has reviewed the agenda package and minutes of the management review meeting held on June 30, 2015.

2) That Council (owner) has reviewed and accepted the following four (4) action Items as a result of the management review meeting held on June 30, 2015:

Action Item No. 1) **Replace approximately 500 meters of 150 mm diameter water main along Colonization Road West** (from 1302 Colonization Road West to 1448 Colonization Road West). The timeline is in accordance with the 2016 budget process where the O & F Division Management will prepare the cost estimate for installation and present this capital expenditure to Council (owner).

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Fort Frances Drinking Water System
Management Review - Meeting Agenda

Date: **Tuesday June 30, 2015**

Time: **8:00 a.m.**

Location: **Fort Frances Water Treatment Plant**

A. Introduction:

Reference to Operational Plan - Element 20 Management Review

- See attached Element No. 20.

Period: June 01, 2014 to May 31, 2015

B. Review Items:

1. Incidents of regulatory non-compliance:

Ministry of the Environment (MOE) Annual Inspection Report (2014 - 15)
Date of Inspection: October 10, 2014
Non-compliance with Regulatory Requirements: Five (5) items identified.

1. *Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities required under O. Reg. 170/03 or a Permit, Licence or Approval issued under Part V of the SDWA at all times that water was being supplied to consumers.*

   Records reviewed during the inspection revealed that the system was not providing the required level of treatment throughout the inspection review period.

   Daily turbidity records were reviewed for the inspection review period and two separate incidents occurred where there were turbidity exceedances. On March 27, 2014 – Filter No. 4 and on April 4, 2014 – Filter No. 1. Both exceeded 1 NTU while the plant was directing water to the next stage of treatment. Fifteen minutes later another reading above 1 NTU was recorded while the plant continued to send water to the next stage of treatment.

   During these events water treatment equipment was not operating in accordance with the Ministry's Procedure for Disinfection of Drinking Water in Ontario and did not achieve the design capabilities required under O. Reg. 170/03, Schedule 1, subsection 1-4, at all times that water was being supplied to consumers.

   Action(s) Required:

   None.

2. *Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test.*

   O. Reg. 170/03 Schedule 6, section 6-5(1) 3. Requires that test results recorded under paragraph 1 or 2 of this section must be examined, within 72 hours after the tests are conducted, by a certified operator in the case of a large municipal system.

   During the inspection daily turbidity data was reviewed and there were two separate events where there was turbidity exceedances and abnormalities. A review of the daily log books showed that there was no acknowledgement of documentation by operators in regards to these events.

   Action(s) Required:

   Effective immediately, operators are to be more diligent when examining continuous monitoring test results. Any process upsets are to be acknowledged and documented in the daily log books.

   By January 30, 2015 the Municipality of Fort Frances shall ensure a Standard Operating Procedure for reviewing continuous monitoring test results is developed and a copy of the same sent to the reporting officer.

   Action(s) Taken:

   A Standard Operating Procedure for reviewing continuous monitoring test results was developed jointly with the plant operators. A copy of the SOP was sent to the officer via email January 30, 2015.

3. *All continuous monitoring equipment utilized for sampling and testing required by O. Reg. 170/03, or approval or order, were not equipped with alarms or shut-off mechanisms that satisfied the standards described in Schedule 6.*

   In accordance with Schedule 6, section 6-5, continuous monitoring equipment must be designed and operated in accordance with standards:

   The continuous monitoring equipment must cause an alarm to sound immediately if the equipment malfunctions or loses power or a test result for a parameter is above/below the maximum/minimum alarm standards.

   If the standards are not met, then the continuous monitoring equipment must have a feature that ensures that no water is directed to users of water sampled by the equipment in the event that the equipment malfunctions of loses power of a test for a parameter is above/below the maximum/minimum alarm standard.

   A review of trending data confirmed that the above requirements were not met on March 27 and April 4, 2014 when turbidity levels exceeded 1 NTU and no alarm was sounded. The continuous monitoring analyzer have a delay on the filter effluent turbidity alarm; therefore, an alarm does not sound immediately when a test is below/above the minimum/maximum alarm standard.

Action(s) Required:

By January 23, 2015 the Municipality of Fort Frances shall ensure that the Fort Frances WTP is equipped with continuous monitoring equipment that will at a minimum:

a) Cause an alarm to sound immediately when a test result is 0.1 mg/L less than the concentration of free chlorine residual that is required to achieve primary disinfection; and

b) Cause an alarm to sound immediately when filter effluent turbidity exceeds 1 NTU and the filter effluent is directing water to the next treatment process.

Submit a written description of the updated alarm settings to the reporting officer.

Action(s) Taken:

A written update of alarm settings had been sent to the reporting officer via email January 21, 2015.

4. *All required notifications of adverse water quality incidents were not immediately provided as per O. Reg. 170/03 16-6.*

O. Reg.170/03, Schedule 16, subsection 16-6 states:

1) A person who is required to report immediately under section 16-4 or 16-5 or under section 18 of the Act shall do so in accordance with this section and section 16-8.

2) An immediate report required under the section above must be given by speaking in person or by telephone with a person referred to in subsection (3). During the inspection, turbidity data was assessed for compliance with O. Reg. 170/03 and on March 27 and April 4, 2014 there were turbidity exceedances which constituted an adverse water quality incident.

These adverse water quality incidents were not reported in accordance with Schedule 16 of O. Reg. 170/03.

Action(s) Required:

None.

5. *Where required continuous monitoring equipment, used for monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut-off, a qualified person did not respond in a timely manner and/or did not take appropriate actions.*

O. Reg. 170/03, Schedule 6, subsection 6-5(1) 5. states that:
The continuous monitoring equipment must be designed and operated in accordance with the standards (See item 3 above).

A review of turbidity data for the inspection review period revealed two separate adverse water quality incidents where turbidity exceedances occurred and operators did not respond to these alarms.

Action(s) Required:

Effective immediately, operators must ensure all alarm events and operator response times are recorded and documented in plant log books.

Overall Responsible Operators, Environmental & Facilities Supt. and O. & F. Division Manager met with the Ministry of the Environment Investigations & Enforcement Branch May 7, 2015 to give statements as part of their investigation of the incidents described above. There is a possibility of fines being levied to the Municipality and/or personnel.

2014 Annual Summary Report (Schedule 22) – O. Reg. 170/03
Regulatory requirement: No later than March 31
Reported to O. & F. Executive Committee and Council.
Council Approval March 9, 2014.
Date submitted to Ministry of the Environment (MOE): March 11, 2015
Letters sent March 11, 2015 to the Owners that connect and receive water from the Town's Water Distribution System:
Non-compliance with Regulatory Requirements: None

2014 Annual Report – O. Reg. 170/03
Regulatory requirement: Not later than February 28
Date submitted to Ministry of the Environment (MOE): January 27, 2015
Non-compliance with Regulatory Requirements: None

O. Reg. 450/07: Charges for Industrial and Commercial Water Users
Regulatory requirement: Not later than March 31
Date submitted to Ministry of the Environment (MOE): January 19, 2015
Non-compliance with Regulatory Requirements: None

2. Incidents of adverse drinking water tests:

Water Treatment Plant:
No adverse treated water samples.

Water Distribution System:
Adverse water quality - review each
Where, when, why

See Attachment. – B.2.

3. Deviations from critical control-point limits and response actions:

The QMS Team had undertaken a Risk Assessment review of the risks and their critical control-points/response actions July 22, 2014.

No changes in limits or response actions.

Next Risk Assessment Review (from scratch) scheduled – prior to July 22, 2015.

Risks with a threshold above or equal 8 (Threshold – 8):
1. Rail car derailment (Spill of chemical or contamination):
2. Loss of pressure: water mains break, major fire
3. Cross connection

Reference - Element 7/8

4. The effectiveness of the risk assessment process:

Operators reviewed the Risk Assessment process July 22, 2014, no changes to process. (Reviewed on a yearly basis in accordance with Element 7.)

5. Internal and third party audit results:

Internal Audit results:

Latest Internal Audit:

April 24, 2015, resolved May 28, 2015 - undertaken by Travis Rob.
One (1) corrective action identified and action taken to resolve.

List CAR's and copies of Corrective Action Records are attached.
Operational Plan to be amended reflecting non-conformances.

Previous Audit:
Issued June 4, 2014, resolved July 16, 2014 – undertaken by Travis Rob.
Five (5) corrective actions identified and actions taken to resolve them.
(Identified in the previous Management Review)

External Audit results:

Latest Off-site External Audit:
24-Month Surveillance Audit (November 25, 2014), resolved January 8, 2015 - undertaken by SAI GLOBAL - Accreditation Program for Operating Authorities. Two (2) non-conformances were identified and actions taken to resolve them.

List CAR's and copies of Corrective Action Records are attached.

Previous On-Site External Audit -
12-Month Surveillance Audit (November 26, 2013) - by SAI GLOBAL
No corrective actions identified.

See Attachment B.5.

6. Results of emergency response testing:

Standard Operating Procedures identified in the Emergency Response Binder had been reviewed with the Water System Operators September 25, 2014.

Emergency SOP's Reviewed:

1. Policy 4.24 – SOP No. 1 – for the Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower.
2. Policy 4.23 – SOP No. 2 – for Pandemic Situation – Affecting the Water Treatment Plant Operators & Community.
3. Policy 4.15 – SOP No.3 – for Water Main Breaks and Repairs.
4. Policy 4.6 – SOP No. 4 – for breakdown of equipment at the Water Treatment Plant
5. Policy 4.5 – SOP No. 5 – for Hydropower Outage for Operating the Water System
6. Policy 4.4 – SOP No. 6 – for Raw Water Source Contamination

Update Municipal Emergency Management listing in Emergency Response Binder March 24, 2015.

Additional emergency response training scheduled for the fall of 2015.

7. Operational performance:

WTP:

Actions & recommendations from MOE:

As a result of the October 2014 MOE inspection.

1. Continuous monitoring equipment for chlorine and turbidity sampling and testing is to sound an alarm for;
   a) Chlorine residual – test result is less than 0.1 mg/L – set point is 1.2 mg/L.
   b) Turbidity (filters) – test results greater than 1 NTU and directing water to the next stage of the treatment process. Set points – maximum is 0.8 NTU and minimum is 0.3 NTU.
2. Developed a Standard Operating Procedure for Reviewing Continuous Monitoring Turbidity Test Results.

Personnel:

As of May 19, 2015 – Water Treatment Plant Operator Class 3 is no longer employed with the Town.

As of June 1, 2015 – Vacancy filled – Paul Lemesurier
Full complement

Maintenance issues:

1. On-going issues with Honeywell upgraded both 60hp high-lift motors with VFDs. Honeywell in the process of resolving.

2. Emergency Standby Generator (2014 Capital), awaiting delivery of generator. Installation of switching gear, wiring, etc. in progress.

No other issues.

Distribution System:
Actions & recommendations from MOE:
No operational changes

Personnel:
Water Distribution Operator Class 2 (OIC), Paul LeMesurier awarded the positon of Water Treatment Operator.
In the process of filling the vacant position.

Maintenance issues:
Numerous water main/service breaks throughout the Town, since the last Management Review.

Two additional water main breaks have occurred on Colonization Road West (1300 blk.). Was slated for replacement in 2014, postponed due to lack of funding. Still recommended for replacement.

See Attachment B.7.

Reported approximately 26 frozen water services, not as cold as previous winter season.

During valve exercising some of the isolation valves began leaking or are very hard to turn. Replacement of these valves is recommended. Six (6) valves were to be replaced in 2014. Contractor didn't complete the replacement of the valves in 2014 and was carried to 2015. No additional valve replacements scheduled for 2015.

Some existing fire hydrants are obsolete, no parts to maintain them. Six (6) fire hydrants were scheduled for replacement in 2014. Contractor didn't complete the replacement of the hydrants in 2014 and was carried to 2015. No additional hydrant replacements scheduled for 2015.

8. Raw water supply and drinking water quality trends:

No changes in raw water supply and drinking water quality trends.

Regular seasonal water turnover of Rainy Lake.

See Chart - Attachment B.8. (Information obtained from DWSP sampling).

9. Follow-up on action items from previous management review:

Two (2) items identified in the last management review:

1. Memorial Sportsplex Complex – investigate and determine if feasible to provide internal looping of the two water services presently servicing this facility.

Status: Email from Jason Kabel – June 23, 2015: "I had Randy White come by to discuss the idea, as I recollect, he and someone else (sorry, I don't recall who) accessed the feasibility and the result was that it 'would be very expensive to complete' and not a great deal of benefit other than perhaps eliminating some, but not necessarily all, of the flushing that is done now.

Perhaps Randy can offer more detail if it is needed."

2. Replacement of approximately 500 metres of 150 mm diameter water main along Colonization Road West (from 1302 Colonization Rd. W. to 1448 Colonization Rd. W.)

Status: Due to lack of funding the project has been postponed to 2016. To go through the 2016 Capital Budget process. Construction season.

3. Installation of a back-up electrical generator at the WTP to ensure potable drinking water can be manufactured during extended periods of time (greater than 24 hours) when there is no electrical power available had been approved in the 2013 Capital Budget. The value budgeted for the purchase of the standby generator was insufficient for size of generator required. Therefore the purchase of the standby generator had been deferred to the 2014 Capital Budget.

Status: Back-up generator has been pre-purchased from Wajax Power Systems, awaiting delivery. Expected to receive in July 2015. MC Lough Electrical has been awarded the installation of the generator and its components. They are presently at the plant completing the installation. Hatch Mott McDonald Ltd. has been retained to design, tender, environmental review, contract administration services for its installation.

10. The status of management action items identified between reviews:

No management action items identified between reviews.

11. Changes that could affect the Quality Management System (QMS):

Internal/External Audit: No issues.

Management Review: No issues.

Any new business development upstream of water intake. Could contamination of raw water source or supply. No concerns at this time.

Information Only:
Where to find – electronically: Revision Updates – Last version. Check electronic version (latest version) found in W:\QMS Documentation\QMS Operational Plan\…file name. (September 26, 2014; Revision No. 6)

12. Consumer feedback:

Customer complaints: Last period – 19 complaints, this period 13 complaints.

Notes:

1. Construction projects last year and in 2015, therefore dead-end mains have been temporarily created as a result – causes stagnate and discoloured water issues.
2. Result of water main breaks.
3. Maintenance activities – valve exercising

Customer Complaint Processing form – See Attachment B.12

13. The resources needed to maintain the Quality Management System (QMS):

Council's commitment to provide the following:

Personnel – No issues.

Financial – No issues.

14. The results of infrastructure review:

Six (6) year capital plan (In OP – Appendix I)
On an annual basis –
Proposed Infrastructure upgrades are discussed and reviewed with operators.
Council reviews and approves.

WTP:
On a monthly basis the WTP Overall Responsible Operator generates a report outlining operational and maintenance activities. The report is circulated and reviewed by the Environmental & Facilities Supt., Manager of O. & F., the O. & F. Executive Committee and Council.

Upgrades for this period:

Interior painting of floors and process piping.

Water Distribution System:
On a monthly basis Environmental & Facilities Supt. generates a report outlining maintenance activities. The report is circulated and reviewed by the Manager of O. & F. and the O. & F. Executive Committee and Council.

Upgrades during this period:

Water main valve exercise program: 20% per year

Hydrant flushing: flushing annually

Fire hydrant replacements:
- (2015) - King's Highway Reconstruction (Bay City) - 2 hydrants.
- 2014 carried over in 2015 - six (6) to be replaced - (T. Veert Contracting).

Water main isolation valve replacements:
- (2015) - King's Highway Reconstruction (Bay City) - 13 valves.
  - Nelson Street - Butler Ave. to wood yard - 2 valves.
- 2014 carried over in 2015 - six (6) to be replaced - (T. Veert Contracting).

Water main replacement (Construction Projects):
- Third St. E.: Crowe Avenue to Frenette Avenue

Water main installations (new) (Construction Projects):
- None

Water meters/backflow device installations – ICI sector, on going.

Scheduled for 2015 Construction:

Replacement/new installation of water mains and services along the following streets:

a. King's Highway: York Ave. to Wright Ave.
b. Nelson Street: Butler Ave. to Shevlin Wood Yard.

Water meters/backflow device installations – ICI sector.

15. Operational plan currency, content and updates:

Current revision date – September 26, 2014, Rev. 6

Updates (since previous period):

Audits - Amended OP after the audit review.

List CAR's and provide copies of Corrective Action Records. See Attachment B.5

Document Request Changes (DRC) – document changes to Operation Plan other than the CAR changes as described above. (Spelling, grammar, personnel change, etc.). A result of conducting staff meetings to review the Elements within the Operation Plan. The Operation Plan will be amended following the Management Review.

16. Staff suggestions:

Any concerns from operators/staff.

20 Management Review

20.1 Review Frequency

Top management shall review the QMS once every twelve (12) months to assess and ensure the continuing suitability, adequacy and effectiveness of the QMS.

Management review(s) shall be included in the internal audit schedule.

20.2 Review Participants

Management review participants shall include:

- CAO
- Operations & Facilities Manager
- Environmental & Facilities Superintendent (QMS Representative)
- Overall Responsible Operator
- Operator In Charge (Water Distribution System)

The Operations & Facilities Manager may include other personnel at his discretion.

Attendees shall be notified of the management review meeting by e-mail and/or internal memo.

20.3 Review Input

The QMS Representative and the Secretary/Receptionist shall provide a summary of the following information in a suitable format to the management review meeting attendees at least seven (7) days prior to the meeting:

- Incidents of regulatory non-compliance.
- Incidents of adverse drinking-water tests.
- Deviations from critical control-point limits and response actions.
- The effectiveness of the risk assessment process.
- Internal and third-party audit results.
- Results of emergency response testing.
- Operational performance.
- Raw water supply and drinking water quality trends.
- Follow-up on action items from previous management reviews.
- The status of management action items identified between reviews.
- Changes that could affect the QMS.
- Consumer feedback.
- The resources needed to maintain the QMS.
- The results of the infrastructure review.

- Operational plan currency, content and updates.
- Staff suggestions.

20.4 Review Process

The QMS Representative shall prepare a meeting agenda and distribute the meeting agenda with the management review data.

The management review participants shall review all data presented, and where necessary, identify opportunities for improvements. These may include opportunities for improvement related to the:

- Effectiveness of the QMS and related procedures.
- Ability of the Operating Authority to implement the QMS
- Provision of adequate human and financial resources.
- The level of consumer satisfaction.

For all opportunities identified, the management review participants shall identify action items, personnel responsible for implementing action items and timelines for action items.

Records of management reviews, recommendations, decisions, action items, personnel responsibilities, and timelines shall be forwarded to the Operations & Facilities Executive Committee upon completion for acceptance and then forward to Council (Owner) of the Town of Fort Frances for review and acceptance.

Records shall be maintained by the QMS Representative. The records shall reflect all new action items and any decisions made by the Management Review Team, deficiencies, personnel responsible for action items, and timelines.

Item B.2

Incidents of Adverse Drinking Water Tests
Distribution System

	Location	Incident Date	Parameter	Work Being Done	Resolution/Corrective Action
1.	362 Daniel Ave.	May 31, 2014	Total Coliform (Present)	Thawing of water service (Used Pulse De-icer)	June 13, 2014 – AWQI No. 117722 - Flushed area where adverse occurred. Took samples upstream, at source and downstream, two sets not less than 24 hours apart as per MOE requirements. Notified Ministry of the Environment (MOE), Spills Action Centre (SAC), Ministry of Health (MOH) and Northwestern Health Unit.
2.	362 Daniel Ave.	June 07, 2014	Total Coliform (Present)	Thawing of water service (Used Pulse De-icer)	June 24, 2014 – AWQI No. 117882 – Adverse result of resampling for the above (AWQI No. 117722). Had customer flushing his service line on a constant basis. Took a samples upstream, at source and downstream, two sets not less than 24 hours apart as per MOE requirements. Notified Ministry of the Environment (MOE), Spills Action Centre (SAC), Ministry of Health (MOH) and Northwestern Health Unit.

Memo

To: Doug Herr, QMS Representative

Date: May 28, 2015

RE: Closure of CAR's resulting from 2015 Internal Audit

Doug,

Please accept this letter as notification of the completion and closure of the CAR's created in the April 27, 2015 Internal Audit of the Town of Fort Frances Operational Plan.

CAR #	Element
2015-001	Element 5 – Management Review

The above-mentioned CAR has been reviewed and signed off with my approval and returned to you for inclusion in the document and Management Review process. If you have any further questions, comments or concerns, please do not hesitate to contact myself.

Regards,

Travis Rob, EIT
DWQMS Internal Auditor

Fort Frances Drinking Water System
DWQMS FORM

CORRECTIVE ACTION

CAR #	2015-001
Date	April 24, 2015
Element	Element 20 – Management Review
Description of Nonconformance	A Management review had not been completed within 12 months as outlined in the standard
Root Cause	The Management Review process was put off as a result of the Town being under a "State of Emergency". The Town of Fort Frances declared a "State of Emergency" commencing June 12, 2014 at 13:45 p.m. In regards to the current amounts of rain and the potential for flooding. Maintaining the Town's infrastructure and customer service in a time of crisis was of a higher priority at the time. The "State of Emergency" is still in place.
Description of Corrective Action Taken	Once the Town's infrastructure and customer services were restored to a manageable state, the Management Review process was completed.
Sign-off - Corrective Action Complete	Name and Date Doug Herr, QMS Representative May 28, 2015
Long-Term Corrective Action	Due to the circumstances mentioned above the Management Review process will be scheduled to meet with the timeline requirements of Element 20.
Validation Sign-off – Corrective Action Effective	Travis Rob, QMS Internal Auditor May 28/15.

FORTFRANCES
BOUNDLESS

FOR IMMEDIATE RELEASE **JUNE 12, 2014**
1345PM

FROM/DE: Town of Fort Frances Emergency Control Group

ATTENTION: Declaration of State of Emergency in The Town of Fort Frances.

The Town of Fort Frances has declared a state of emergency in regards to the large accumulation of rainfall over the last couple of days. The current saturation of the ground and weather forecast over the next few days is showing more precipitation, which has prompted Mayor Avis to declare the emergency.

The Town of Fort Frances is working to ensure that the situation at the Sewage Treatment Plant is stabilized as soon as possible but for us to be able to do this we are still asking all residents in Fort Frances & Couchiching First Nation to please ensure that your sump pumps are not connected to the storm sewer system.

An information phone line has been set up at The Town of Fort Frances and the number to call is (807) 274-1818. We are advising any residents with questions or concerns to call this number and staff will be available to answer any questions or have messages relayed to the appropriate department for follow-up.

Again, please stay tuned to 93.1 The Border for further updates in regards to the state of emergency.

-30-

Contact:
Patrick Briere, Public Information Officer
Town of Fort Frances
(807) 274-5323 ext. 255.
(807) 276-2293
pbriere@fort-frances.com
patrickbriere@hotmail.com

SAI GLOBAL
ASSURANCE SERVICES

January, 09, 2015

Project No.: 1631580-01

Mr. Doug Brown
Operations and Facilities Manager
The Corporation of the Town of Fort Frances
OAP - 224
320 Portage Avenue
Fort Frances, ON
CAN P9A 2P9

SUBJECT: NONCONFORMANCE REPORTS

Dear Mr. Brown,

Please find below the status of the non-conformance reports identified during the audit of your management system on 11/25/2014.

NCR No.	Clause	Description	Status
2014-01	19	Internal Audits	Closed
2014-02	20	Management Review	Closed

Corrective actions taken to resolve the non-conformances have been reviewed and found to be fully satisfactory in meeting the requirements of DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS):2006. As a result your organization will be recommended for continued registration.

Thank you for your cooperation in this matter.

Sincerely,

Rod Seabrook
Team Leader

20 Carlson Court, Suite 200
Toronto, ON CAN M9W 7K6
Telephone: 416-401-8700 Facsimile: 416-401-8650

Failure to provide action plans as arranged with SAI Global and/or to implement correction and corrective action within the nominated time frames may lead to a recommendation that your certification be denied or suspended.

Activity #:	1631580-01	**Client:**	The Corporation of the Town of Fort Frances OAP - 224	**App/Cert:**	
Function/Area/Process:	Internal Audits			**Site:**	320 Portage Avenue, Fort Frances
Std. and Clause No(s):	DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS):2006 19	NCR#:	2014-01	**Category:**	Minor

Section 1- Details of non-conforming situation:

Non-conforming situation:

An internal audit of Element 21 of the Standard and requirements of the Operational Plan (continual improvement of the effectiveness of its Quality Management System through the use of corrective actions) was not apparent

Requirement:

19. Internal Audits PLAN – The Operational Plan shall document a procedure for internal audits that: a) evaluates conformity of the QMS with the requirements of this Standard DO – The Operating Authority shall implement and conform to the procedure

Objective evidence:

Internal audit records.pdf - 2014

Clearance Due Date: 01/24/2015

Audit Team Leader	**Name**	Rod Seabrook	**Organization's acknowledgement of receipt of NCR**	**Name**	Doug Brown
	Date:	11/25/2014		**Date:**	11/25/2014

SAI Global Verification Method: Off-site review of objective evidence.

Section 2- Organization's Response: (Attach separate sheet if required)

Root Cause Analysis (record or attach 5 why, 8D, fishbone diagram, etc to support this analysis):
An oversight.

Correction with completion dates (what was the immediate fix? Submit objective evidence of correction):
No corrective action at this time. In future internal audits reports an overview statement addressing Element 21 will be included.

Corrective Action Taken/Planned (with completion date(s) (record what action is planned or will be taken to prevent recurrence. Submit objective evidence of completed corrective actions):
The review of Element 21 is conducted by the internal auditor through out the entire audit process. In an oversight by the auditor, no explicit acknowledgement of the conformance of element #21 was stated in the internal audit report. Discussions between SAI Global and the Town of Fort Frances Internal Auditor on November 27, 2014 confirmed this and an overview statement addressing Element 21 will be included in subsequent internal audit reports.

SAI Global Limited Copyright 2009 - ABN 67 050 611 642

Organization Representative : Name: Doug Herr Date:

08-01-2015

Section 3- SAI Global Response Review:

Reviewer: Date:

Section 4- SAI Global Verification of Corrective Action for effectiveness

Section 5- SAI Global NCR Closure:

Name: Date:

SAI Global Limited Copyright 2009 - ABN 67 050 611 642

Failure to provide action plans as arranged with SAI Global and/or to implement correction and corrective action within the nominated time frames may lead to a recommendation that your certification be denied or suspended.

Activity #:	1631580-01	**Client:**	The Corporation of the Town of Fort Frances OAP - 224	**App/Cert:**	
Function/Area/Process:	Management Review			**Site:**	320 Portage Avenue, Fort Frances
Std. and Clause No(s):	DRINKING WATER QUALITY MANAGEMENT STANDARD (DWQMS):2006 20	NCR#:	2014-02	**Category:**	Minor

Section 1- Details of non-conforming situation:

Non-conforming situation:

More than 12 months have elapsed between the 2013 and 2014 management reviews

Requirement:

20. Management Review DO – Top Management shall implement and conform to the procedure and shall: a) ensure that a management review is conducted at least once every twelve months

Objective evidence:

Management review record.pdf - 2014 pg 44

Clearance Due Date: 01/24/2015

Audit Team Leader	**Name**	Rod Seabrook	**Organization's acknowledgement of receipt of NCR**	**Name**	Doug Brown
	Date:	11/25/2014		**Date:**	11/25/2014

SAI Global Verification Method: Off-site review of objective evidence.

Section 2- Organization's Response: (Attach separate sheet if required)

Root Cause Analysis (record or attach 5 why, 8D, fishbone diagram, etc to support this analysis):
The Management Review process was put off as a result of the Town being under a "State of Emergency". The Town of Fort Frances declared a "State of Emergency" commencing June 12, 2014 at 13:45 p.m. in regards to the current amounts of rain and the potential for flooding. Maintaining the Town's infrastructure and customer service in a time of crisis was of a higher priority at the time. The "State of Emergency" is still in place.

Correction with completion dates (what was the immediate fix? Submit objective evidence of correction):
Once the Town's infrastructure and customer services were restored to a manageable state, the Management Review process was completed.

Corrective Action Taken/Planned (with completion date(s) (record what action is planned or will be taken to prevent recurrence. Submit objective evidence of completed corrective actions):
Due to the circumstances mentioned above the Management Review process will be scheduled to meet with the timeline requirements of Element 20 in 2015.

SAI Global Limited Copyright 2009 - ABN 67 050 611 642

Organization Representative : Name: Doug Herr Date: 08-01-2015

Section 3- SAI Global Response Review:

Reviewer: Date:

Section 4- SAI Global Verification of Corrective Action for effectiveness

Section 5- SAI Global NCR Closure:

Name: Date:

SAI Global Limited Copyright 2009 - ABN 67 050 611 642

CAR LOG

Attachment B.5

CAR NUMBER	ELEMENT	DESCRIPTION (Non-conforming situation)	DATE ISSUED	ASSIGNED TO	REPLY REQUIRED BY	DATE RESOLVED	COMMENTS	OPERATIONAL PLAN REV. NUMBER
November 25, 2014 - External 24 Month Surveillance Audit by SAI Global - Accreditation Program for Operating Authorities.								
2014-01	19	**Internal Audits:** An internal audit of Element 21 of the Standard and requirements of the Operational Plan was not apparent.	November 25, 2014	Doug Brown	January 24, 2015	January 9, 2015	Issued by SAI GLOBAL - Accreditation Program for Operating Authorities	6
2014-02	20	**Management Review:** More than 12 mnths have elasped between the 2013 and 2014 management reviews.	November 25, 2014	Doug Brown	January 24, 2015	January 9, 2015	Issued by SAI GLOBAL - Accreditation Program for Operating Authorities	6
April 24, 2015 - Internal Audit by Travis Rob.								
2014-01	20	**Management Review:** A Management review had not been completed within the 12 months as outlined in the standard.	April 24, 2015	Doug Herr	June 8, 2015	May 28, 2015	Internal Auditor - Travis Rob (TOFF)	6

EMERGENCY BINDER RECORD SHEET

PERSON	DATE	TIME	ACTIVITY OR DESCRIPTION OF WORK
Brad Webb	Dec. 16/13	10:00 am	Read SOP # 1 - 6
Doug Brown	May 12/14	7:45 Am	Read SOP # 1, 2, 3, 4, 5 & 6
Brad Webb	May 26/14	3:00 Pm	Read SOP 1-6 and rest of BOOK
Lori Pattison	May 28/14	11:45 am	reviewed Municipal Emergency Management Listings
Doug HERR	SEPT. 25, 2014	2:30 P.M.	READ SOPs 1-6 WITH THE FOLLOWING STAFF: MIKE ALLEN, PAUL LEMESURIER, GREG WIEDENHOEFT, TRAVIS GEORGE, BRAD WEBB, DOUG HERR & LORI PATTISON.
Randy White	Sept 29/14	2:00pm	Read SOPs 1 to 6 Randy White
Doug Brown	March 11/15	12:00 noon	Read SOP No. 1, 2, 3, 4, 5 & 6.
Travis George	March 27/15	7:30 am	Read SOP # 1, 2, 3, 4, 5, 6
Lori Pattison	March 24/15	9:00 am	Reviewed Municipal Emergency Management Listings
Lori Pattison	March 31/15	10:45 am	Read SOP #1-6

EMERGENCY BINDER RECORD SHEET

PERSON	DATE	TIME	ACTIVITY OR DESCRIPTION OF WORK
Doug Brown	June 12/12	1:30 to 3:30	Read - SOP No. 1, 2, 3 4 5 & 6 with the following staff: Randy White, Brad Webb Mike Allen, Paul Lemenicier & Travis Rob Doug Herr
Doug Brown	Jun 13/12	8:30 am	up dated / Revised public Works Emergency Contact listing
Doug Brown	June 13/12	10:20 am	replaced SOP No 3, 4, 5 & 6 with unapproved or Draft policies
DOUGLAS HERR	JUNE 27, 2012	1:00 P.M.	REPLACED DRAFT SOPS No. 3, 4, 5 & 6 WITH APPROVED SOPS
DOUGLAS HERR	JUNE 28, 2012	8:35 AM	REPLACED COMMUNITY CONTROL GROUP CONTACT LISTING WITH AN UPDATED EMERGENCY MANAGEMENT PROGRAM COMMITTEE LISTING.
Sandra Robertson	Nov 26, 2012	1:45 pm	Updated Suppliers of Bottle Drinking Water, removed outdated Resource Contacts and updated Table of Contents
Greg Wiedenhoeft	Dec 19, 2012	7:30AM - 9:30AM	Read - SOP No. 1, 2, 3, 4, 5 & 6
Sandra Robertson	Jan 21, 2013	12:20 pm	Updated Public Works Emergency Contact Listing
DOUG HERR	FEB. 19, 2013		EMERGENCY RESPONSE TRAINING - SOP No 3 - COMPLETED.
DOUGLAS HERR	FEB. 21, 2013	9:30 a.m	UPDATED SOP No. 3 (JUNE 2012 to FEBRUARY 2013)
~~DOUGLAS HERR~~			
RANDY MCARTHUR	APR. 24/13	3:00 pm	Read SOP 1-6
DOUG HERR	SEPT. 26, 2013	8:00 a.m.	READ - SOP 1, 2, 3, 4, 5 & 6 WITH THE FOLLOWING STAFF: RANDY WHITE, MIKE ALLEN, PAUL LEMESURIER, RANDY MCARTHUR & GREG WIEDENHOEFT, AND LORI PATTISON
Lori Pattison	Oct 16/2013	1:00 pm	Replace emergency contact listing

Attachment B.7

Water Main Breaks

(June 01, 2014 to May 31, 2015)

1.	Lillie Avenue – 500 blk. (3 breaks)	June 16, 2014
2.	720 Fifth Street West	December 3, 2014
3.	700 Fifth Street West	January 14, 2015
4.	1448 Colonization Road West	January 20, 2015
5.	Church Street – 500 blk.	January 26, 2015
6.	1330 Colonization Road West	March 4, 2015
7.	Sinclair Street at Victoria Avenue	March 10, 2015
8.	Webster Avenue – 500 blk.	May 5, 2015
9.	Nelson Street – 500 blk.	May 19, 2015
10.	Sixth Street West – 200 blk.	May 26, 2015

Water Service Breaks

(June 01, 2014 to May 31, 2015)

1.	Phair Avenue – 953	June 3, 2014
2.	Elm Avenue at Riverview Drive	June 24, 2014
3.	Mowat Avenue at First Street East	June 26, 2014
4.	Riverview Drive - 613	August 14, 2014
5.	King's Highway - 401	October 15, 2014
6.	Third Street West - 412	March 10, 2015
7.	Calder Drive (Point Park)	May 25, 2015

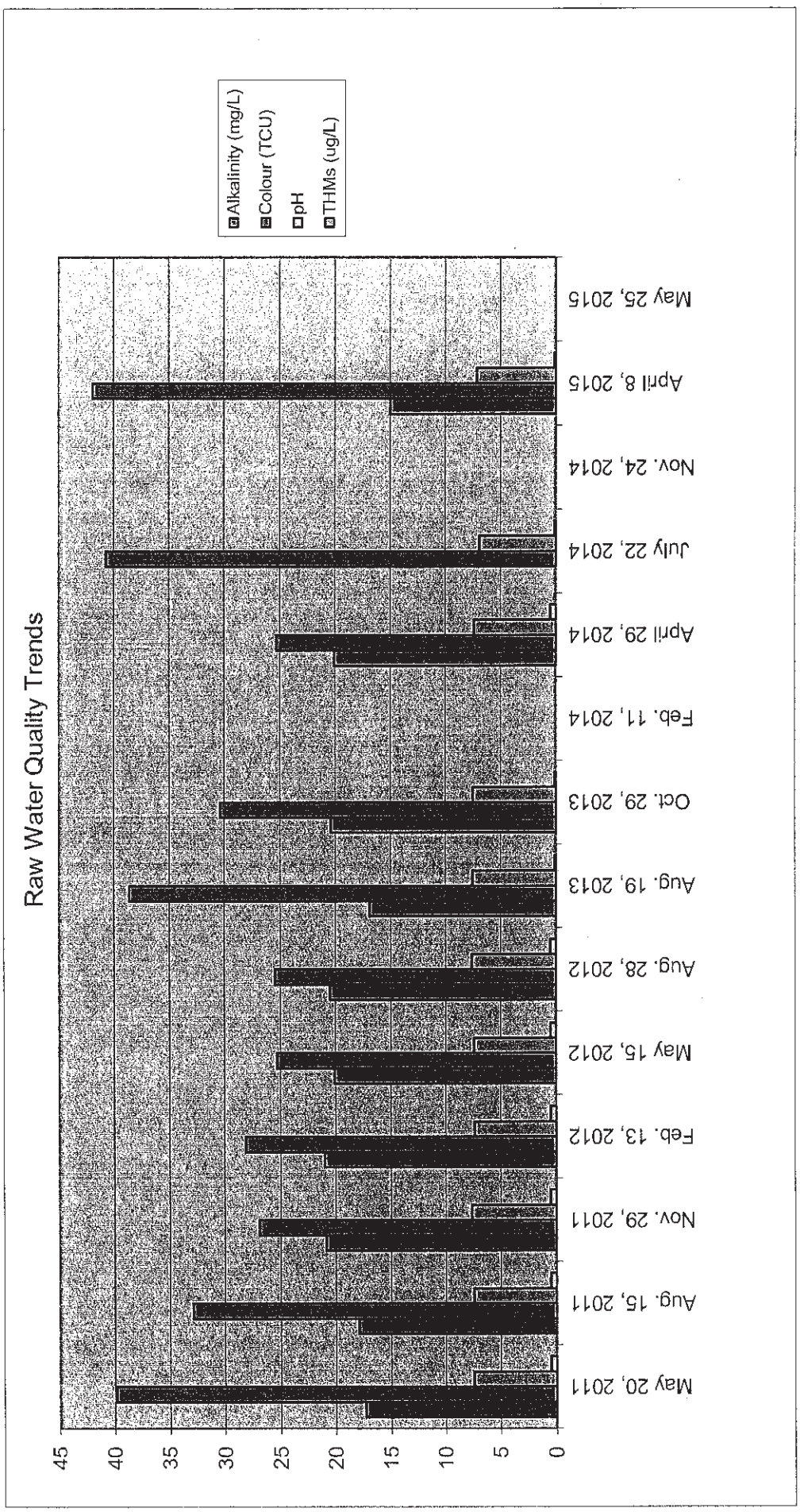
Attachment B.8

Raw Water Supply and Drinking Water Quality Trends

Raw Water Quality Trends:

	Paramaters			
	Alkalinity	Colour	pH	THMs
Date Sampled	(mg/L)	(TCU)		(ug/L)
May 20, 2011	17.3	39.9	7.45	0.5
Aug. 15, 2011	17.9	32.9	7.44	0.5
Nov. 29, 2011	20.9	26.9	7.62	0.5
Feb. 13, 2012	21	28.1	7.36	0.5
May 15, 2012	20.1	25.3	7.37	0.5
Aug. 28, 2012	20.5	25.5	7.56	0.5
Aug. 19, 2013	16.9	38.6	7.52	0.1
Oct. 29, 2013	20.4	30.4	7.46	0.1
Feb. 11, 2014	Samples Froze			
April 29, 2014	20.1	25.3	7.37	0.5
July 22, 2014		40.7	6.91	0.1
Nov. 24, 2014	Samples Froze			
April 8, 2015	15	41.9	7.13	0.1
May 25, 2015	Data not received from lab			

Alkalinity - defined as its capacity to neutralize acid. (pH less than 7)
pH - A measure of the acidity or alkalinity of a solution (Neutral is 7)
THMs (Trihalomethanes) - Are created when chlorine is added to water. They are toxic chemical substances that consist of a methane molecule and one of the halogen elements.
Data collected from other sources


Raw Water Quality Trends
Alkalinity (mg/L)
Colour (TCU)
pH
THMs (ug/L)
45
40
35
30
25
20
15
10
5
0
May 20, 2011
Aug. 15, 2011
Nov. 29, 2011
Feb. 13, 2012
May 15, 2012
Aug. 28, 2012
Aug. 19, 2013
Oct. 29, 2013
Feb. 11, 2014
April 29, 2014
July 22, 2014
Nov. 24, 2014
April 8, 2015
May 25, 2015

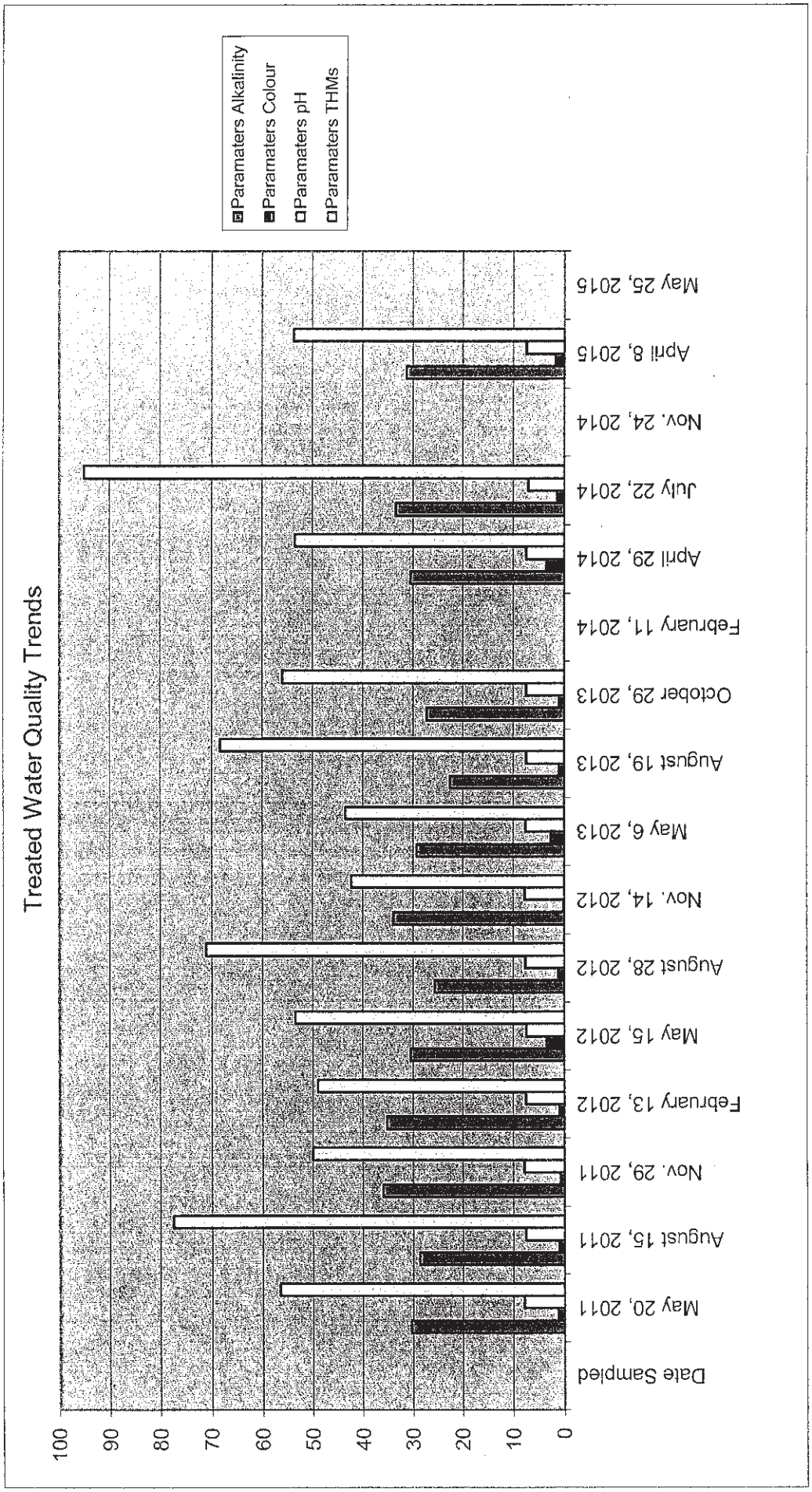
Attachment B.8

Treated Water Quality Trends:

	Paramaters			
	Alkalinity	Colour	pH	THMs
Date Sampled	(mg/L)	(TCU)		(ug/L)
May 20, 2011	30.4	1.3	7.87	56.5
August 15, 2011	28.7	1.1	7.53	77.5
Nov. 29, 2011	36	0.8	7.9	50
February 13, 2012	35.2	1	7.59	49
May 15, 2012	30.5	3.5	7.46	53.5
August 28, 2012	25.6	1.2	7.63	71
Nov. 14, 2012	33.9	0.2	7.73	42.3
May 6, 2013	29.3	2.6	7.59	43.5
August 19, 2013	22.6	1.1	7.43	68.3
October 29, 2013	27.2	1.1	7.49	56
February 11, 2014	Samples Froze			
April 29, 2014	30.5	3.5	7.46	53.5
July 22, 2014	33.4	1.5	7.09	95.0
Nov. 24, 2014	Samples Froze			
April 8, 2015	31.3	1.8	7.43	53.7
May 25, 2015	Data not received from lab			

Alkalinity - defined as its capacity to neutralize acid. (pH less than 7)
pH - A measure of the acidity or alkalinity of a solution (Neutral is 7)
THMs (Trihalomethanes) - Are created when chlorine is added to water. They are toxic chemical substances that consist of a methane molecule and one of the halogen elements.
Data collected from other sources

Attachment B.8



Attachment B.12

Customer Complaints

	Location	Received	Resolved	Complaint	Resolution
1.	230 Second St. E.	June 11, 2014	June 11, 2014	Discoloured water	Valve exercising, using hydrant to flush out debris. Had Owner run cold water until cleared.
2.	622 Third St. E.	June 26, 2014	June 26, 2014	Discoloured water	Flushed hydrant Third St. E. at Phair Ave. until water became cleared. Dead end main due to reconstruction of Third St. E.
3.	823 Fourth St. E.	July 8, 2014	July 9, 2014	Discoloured water	Had Owner run cold water until cleared. Dead end main due to reconstruction of Third St. E.
4.	850 Third St. E.	July 8, 2014	July 8, 2014	Discoloured water	Had Owner run cold water until cleared. Dead end main due to reconstruction of Third St. E.
5.	801 Third St. E.	July 10, 2014	July 10, 2014	Discoloured water	Had Owner run cold water until cleared. Dead end main due to reconstruction of Third St. E.
6.	801 Third St. E.	July 11, 2014	July 11, 2014	Discoloured water	Forwarded to Dennis Lavenan, Town's on-site inspection. He will have contractor deal with the issue. Had Owner run cold water until cleared. Dead end main due to reconstruction of Third St. E.
7.	801 Third St. E.	July 12, 2014	July 12, 2014	Discoloured water	Issue passed on to contractor. Dead end main due to reconstruction of Third St. E.
8.	935 Victoria Ave. N.	Sept. 11, 2014	Sept. 11, 2014	Low water pressure	Water operator went to investigate – found no issues.

9.	1032 Second St. E.	Oct. 16, 2014	Oct. 16, 2014	Low water pressure	Water distribution operators checked and there is something going on there, might be able to pulsate to identify issue. Owner to change main valve to a ball style and contact us once done.
10.	838 Armit Ave.	Oct. 17, 2014		Bad smell to water	Nothing done.
11.	710 Crowe Ave.	Feb. 03, 2015	Feb. 6, 2015	Bad taste and smell in water	Visited residence. Tested the chlorine residual and took a bacti sample, as well as at a neighbours. Send to laboratory for analysis – results came back good. Gave customer a copy of the results.
12.	1006 Webster Ave.	April 7, 2015	April 13, 2015	Oily film on water	Flushed service line and to bacti samples – no adverse. Possibly something going on within the building. Maureen Thompson (RRDSSAB) & NWHU notified.
13.	Sorting Gap Marina	May 24, 2015	May 27, 2015	Discoloured water	Flushed the fire hydrant near the Marina until water cleared. Left a message with Leana Moffitt, Memorial Sportsplex inform her what was done.

Town of Fort Frances
Fort Frances Drinking Water System
Meeting Minutes

DATE: Tuesday June 30, 2015

TIME: 8:00 a.m.

LOCATION: Fort Frances Water Treatment Plant

IN ATTENDANCE: Mark McCaig, Doug Brown, Doug Herr, Randy White, Paul Lemesurier, Brad Webb and Greg Wiedenhoeft.

Part of the QMS Operational Plans requires that management shall review the QMS once every twelve (12) months to assess and ensure the continuing suitability, adequacy and effectiveness of the QMS. Element 20 – Management Review was discussed. Management Reviews shall be included in the internal audit schedule.

Item #	Item Discussed	Action Taken
1.	**Incidents of regulatory non-compliance:** Ministry of the Environment (MOE) Annual Inspection Report (2014-15) Date of Inspection: October 10, 2014 Non-compliance with regulatory Requirements – Five (5) items identified. 1. Records did not indicate that the treatment equipment was operated in a manner that achieved the design capabilities require under O.Reg. 170/03 or a Permit, Licence or Approval issued under Part V of the SDWA at all times that water was being supplied to consumers. 2. Operators were not examining continuous monitoring test results or they were not examining the results within 72 hours of the test. 3. All continuous monitoring equipment utilized for sampling and testing required y O.Reg. 170/03, or approval or order, were not equipped with alarms or shut off mechanisms that satisfied the standards described in Schedule 6. 4. All required notifications of adverse water quality incidents were not immediately provided as per O.Reg. 170/03 16-6.	

	5. Where required continuous monitoring equipment, used for monitoring of chlorine residual and/or turbidity triggered an alarm or an automatic shut off, a qualified person did not respond in a timely manner and/or did not take appropriate actions. Records reviewed during the inspection revealed that the system was not providing the required level of treatment throughout the inspection review period. Daily turbidity records were reviewed for the inspection review period and two separate incidents occurred where there were turbidity exceedances. On March 27, 2014 – filter No. 4 and on April 4, 2014 – Filter No. 1. Both exceeded 1 NTU while the plant was directing water to the next stage of treatment. Fifteen minutes later another reading above 1 NTU was recorded while the plant continued to send water to the next stage of treatment. As a result the above 5 non-compliances occurred. Overall Responsible Operators, Environmental & Facilities Superintendent and the Operations and Facilities Division Manager met with the Ministry of the Environment Investigations and Enforcement Branch on May 7, 2015 to give statements as part of their investigation of the incidents described above. There is the possibility of fines being levied to the Municipality and/or Personnel. By January 23, 2015 the Municipality of Fort Frances shall ensure that the Fort Frances WTP is equipped with continuous monitoring equipment that will at a minimum a) cause an alarm to sound immediately when a test result is 0.1 mg/l less than the concentration of free chlorine residual that is required to achieve primary disinfection and b) cause an alarm to sound immediately when filter effluent turbidity exceeds 1 NTU and the filter effluent is directing water to the next treatment process. Submit a written description of the updated alarm settings to the reporting officer. Effective immediately, operators are to be more diligent when examining continuous monitoring test results. Any process upsets are to be acknowledged and documented in the daily log books. A Standard Operating Procedure for reviewing continuous monitoring test results was developed jointly with the plant operators and a copy was sent to the officer via email January 30, 2015. This will ensure all alarms events and operator response times are recorded and documented in plant log books.	A written update of alarm settings has been sent to the reporting officer via email on January 21, 2015.

2.	**Incidents of adverse drinking water tests:** WTP: No adverse treated water samples Distribution: Adverse water quality – Total Coliform - 362 Daniel Avenue – after thawing frozen water line – failed first test then resampled	Resolved in a timely manner
3.	**Deviations from critical control-point limits and response actions:** Operator review: No changes in limits or response actions Next Risk Assessment Review scheduled prior to July 22, 2015. In process of going through Risk Assessment for changes. Risks above threshold (Threshold – 8): 1. Rail car derailment (Spill of chemical or contamination): 2. Loss of pressure: water mains break, major fire 3. Cross connection	On Going Process
4.	**The effectiveness of the risk assessment process:** Risk Assessment Process –the Operators reviewed the Risk Assessment process – there are a few minor changes to be made – waiting for a meeting to be scheduled to review the changes prior to implementation. (Reviewed on a yearly basis in accordance with Element 7).	Ongoing Process

5.	**Internal and third party audit results:**	
	Internal Audit Results: Latest Internal Audit: Issued April 24, 2015 – resolved May 28, 2015. One (1) Corrective Action was identified and the action has been resolved.	All Corrective Actions have been resolved
	Previous Audits: June 4, 2014 – Resolved July 16, 2014 Five (5) corrective actions identified and actions taken to resolve them. (undertaken by Travis Rob – Identified in the previous management review).	All Corrective Actions have been resolved
	External Audit Results: Latest off-site External Audit: 24 Month Surveillance Audit (November 25, 2014) – resolved January 8, 2015 – undertaken by SAI Global – accreditation program for operating authorities – Two (2) non-conformances were identified and actions taken to resolve them. Previous ON-Site External Audit 12 Month Surveillance Audit (November 26, 2013) by SAI Global – no corrective actions identified. .	All Corrective Actions have been resolved.

6.	**Results of emergency response testing:** Standard Operating Procedures identified in the Emergency Response Binder had been reviewed with the Water System Operators on September 25, 2014. Emergency SOP's Reviewed 1. Policy 4.24 – SOP No.1 – for the Destruction (Bombing/Major fire) of Water Treatment Plant of Water Tower. 2. Policy 4.23 – SOP No. 2 – for Pandemic Situation – Affecting the Water Treatment Plant Operators and Community. 3. Policy 4.15 – SOP No. 3 – for Water Main Breaks and Repairs. 4. Policy 4.6 – SOP No. 4 – for breakdown of equipment at the Water Treatment Plant. 5. Policy 4.5 – SOP No. 5 – for Hydropower Outage for Operating the Water System. 6. Policy 4.4 – SOP No. 6 – for Raw Water Source Contamination Updated Municipal Emergency Management Listing in Emergency Response Binder March 24, 2015. Additional emergency response training is scheduled for the fall of 2015.	Updated September 25, 2014.

7.	**Operational performance:** **WTP:** Actions & recommendations from MOE No operational changes Personnel – as of May 19, 2015 – Water Treatment Plant Operator Class 3 is no longer employed with the Town. Maintenance issues – Honeywell upgraded both 60hp high-lift motors with VFDs – in the process of resolving. Emergency Standby Generator (2014 Capital), awaiting delivery of generator, installation of switching gear, wiring, etc. in process. Get confirmation of expected delivery date in writing from supplier. No other issues. **Distribution System:** Actions & recommendations from MOE No operational changes Personnel – Water Distribution Operator Class 2 (OIC), Paul LeMesurier awarded the position of Water Treatment Operator. In the process of filling the vacant position. Maintenance issues: Numerous water main/service breaks through the Town since the last Management Review. Two additional water main breaks have occurred on Colonization Road West (1300 block) – was slated for replacement in 2014 but postponed due to lack of funding. Still recommended for replacement. Reported approximately 26 frozen water services, not as cold as previous winter. During valve exercising some of the isolation valves began to leak or are difficult to turn. Replacement of these valves is recommended. Six (6) valves were replaced in 2014. Contractor did not completed in 2014 and was carried over to 2015. There are no additional valve replacements scheduled for 2015. Some existing fire hydrants are obsolete, no parts to maintain them. Six (6) fire hydrants were replaced in 2014.	

8.	**Raw water supply and drinking water quality trends:** No changes in raw water supply and drinking water quality trends. Regular seasonal water turnover of Rainy Lake.	No Changes
9.	**Follow-up on action items from previous management review:** Two (2) items were identified in the last management review.	
	1. Memorial Sportsplex Complex – investigate and determine if Feasible to provide internal looping of the two water services Presently servicing this facility.	Determined that this would not be beneficial
	2. Replacement of approximately 500 meters of 150 mm diameter Water main along Colonization Road West (from 1302 Colonization Road West to 1448 Colonization Road West).	Put in 2016 budget process
	3. Installation of a back up electrical generator at the WTP to ensure potable drinking water can be manufactured during extended periods of time when there is no electrical power available.	Currently in process of being installed
10.	**The status of management actions items identified between reviews:** No management action items were identified between reviews.	
11.	**Changes that could affect the Quality Management System (QMS):**	
	Internal Audit, Management Review and External Audit – no issues	Ongoing
	Management Review – no issues	
	Any new business development upstream of water intake: Contamination of raw water source or supply – no concerns at this time.	
	Where to find OP – electronically found in W:\QMS Documentation\QMS Operational Plan\….file name. (September 26, 2014; Revision No. 6)	

12.	**Consumer feedback:** Customer complaints – last period 19 in comparison to 13 this period. 1. Construction projects last year and in 2015, therefore dead-end mains have been temporarily created as a result – causes stagnate and discoloured water issues. 2. Result of water main breaks. 3. Maintenance activities – valve exercising.	Ongoing .
13.	**The resources needed to maintain the Quality Management System (QMS):** Council's commitment to provide the following: Personnel – No issues Financial – No issues	Ongoing
14.	**The results of infrastructure review:** Six (6) year capital plan (In OP – Appendix I) On an annual basis – Proposed Infrastructure upgrades are discussed and reviewed with operators. Council reviews and approves. **WTP:** On a monthly basis the WTP Overall responsible operator generates a report outlining operational and maintenance activities. The report is circulated and reviewed by the Environmental & Facilities Supt., Manager of O.& F., the O. & F. Executive Committee and Council.	

Upgrades for this period:

Interior painting of floors and process piping.

Water Distribution System:
On a monthly basis Environmental & Facilities Supt. generates a report outlining maintenance activities. The report is circulated and reviewed by the Manager of O. & F. and the O. & F. Executive Committee and Council.

Upgrades during this period:
Water Main valve exercise program – 20% per year
Hydrant flushing: flushing annually
Fire Hydrant replacements:
- (2015) King's Highway Reconstruction (Bay City(2 hydrants
- (2014) six (6) replaced – carried over in 2015 (Veert)

Water main isolation valve replacements:
2015 – King's Highway Reconstruction (Bay City) - 13 valves
Nelson Street – Butler Ave to wood yard – 2 valves
2014 – carried over in 2015 – six (6) to be replaced (Veert)

Water main replacement (Construction Projects):
- Third St. E; Crowe Avenue to Frenette Avenue

Water meters/backflow device installations – ICI sector, ongoing

Scheduled for 2014 Construction

Replacement/new installation of water mains and services along the following streets:
a. King's Highway: York Ave to Wright Ave.
b. Nelson Street: Butler Ave. to Shevlin Wood Yard

15.	**Operational plan currency, content and updates:** Current revision date – September 26, 2014 - Revision 6 Updates – since previous period Audits – Amended OP after the audit review Document Request Changes (DRC) – document changes to Operation Plan other than the CAR changes as described above. (Spelling, grammar, personnel change, etc.). A result of conducting staff meetings to review the Elements within the Operation Plan. The Operation Plan will be amended following the Management Review.	Ongoing
16.	**Staff Suggestions** 1. Replace approximately 500 meters of 150 mm diameter water main along Colonization Road West (from1302 Colonization Road West to 1448 Colonization Road West). 2. Installation of two additional valves along Sinclair Avenue between Victoria and Armit Avenue in order that the hospital facility can avoid unnecessary boil water advisories being issued. 3. Installation of a looping water main necessary between Lillie Avenue and Webster Avenue abutting the old West End Rink property. 4. Ensure both Cemetery Irrigation Systems are properly plumbed to ensure the proper backflow protection.	
	Meeting Adjourned 9:20 a.m. Please report any errors or omissions. Minutes prepared by: Lori Pattison	

QUALITY MANAGEMENT SYSTEM

OPERATIONAL PLAN

TOWN OF FORT FRANCES
Water System

September 26, 2014
Revision No. 6

QUALITY MANAGEMENT SYSTEM (QMS)
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APPENDICES

Appendix A - Document Change Request Form (DCR)

Appendix B - Equipment Information Form (EIF)

Appendix C - Standard Purchase Agreement

Appendix D - Outline of Operations/Maintenance Schedules

Appendix E - Standard Operating Procedure for Flushing of Water Mains

Appendix F - Procedure for Identifying & Responding to Adverse Sample Results

Appendix G - Corrective Action Form

Appendix H - Listing of All Correction Actions

Appendix I – Summary of Rehabilitation, Renewal and Routine Maintenance Activities – 5-year Capital Budget

Appendix J - Town of Fort Frances Drinking Water Distribution System

1 Introduction

Quality Management can be defined as the policy and associated organizational structures, procedures and evaluation measures that ensure the capability of delivering a product to specified standards. The use of Quality Management systems by modern industry has steadily increased over the last 30 plus years since the development of the first ISO standard in 1986. Whether implemented voluntarily or as a requirement of suppliers to larger manufacturers, Quality Management has repeatedly proven beneficial in terms of accountability, quality control, efficiency and productivity.

Although historically used on a voluntary basis by some progressive water utilities, the idea of mandated province-wide implementation of a Quality Management Standard by drinking water system owners originated as a recommendation in the Part Two Report of the Walkerton Inquiry. In brief, Recommendations 51 through 57 from the report state the following:

- Drinking water systems should be operated by authorities that are accredited based on successful third party audits conducted by a certified accrediting body.
- The Ministry of the Environment, in partnership with other relevant stakeholders, should develop a Drinking Water Quality Management Standard against which third party audits will be conducted.
- All municipalities should prepare Operational Plans describing how the requirements of the Quality Management Standard are achieved.

The Provincial Government has committed to implementing all recommendations tabled by the report author, The Honourable Dennis R. O'Connor.

In accordance with those recommendations, the Operational Plan serves as a Quality Management System Guidance Manual that describes the methods by which the Town of Fort Frances, Operations & Facilities Division, implements Quality Management as it relates to the Drinking Water System. The Plan is written to meet the requirements of the Ministry of the Environment prescribed standards and is applicable to the management and operation of those works described in Element 6, Drinking Water System Process Description, of this Plan.

2 Quality Management System Policy

Through this policy the Town of Fort Frances Operations and Facilities Division's employees responsible for the water system, will produce and supply safe drinking water to all of it's customers. In doing so it will comply with all applicable legislative and regulatory requirements, while continually maintaining and improving the Quality Management System.

3 Commitment and Endorsement

The water system owner, the Town of Fort Frances, and the operating authority, the Operations & Facilities Division, commit to the implementation, maintenance and continual improvement of a Drinking Water Quality Management System (QMS) for the Town of Fort Frances Water System, as documented in this Operational Plan. Endorsement by the Owner (represented by Mayor and Council), and top management (represented by the CAO and by the Operations & Facilities Division Manager) acknowledges the need for and supports the provision of sufficient resources to maintain and continually improve the QMS.

The Designated QMS Representative and alternate, appointed by Town of Fort Frances top management, acknowledge the roles and responsibilities of that appointment

Jan 25TH/2010
Date

Town of Fort Frances – Mayor
Roy Avis

Jan. 25/10
Date

Town of Fort Frances – Councilor
Rick Wiedenhoeft

January 25TH 2010
Date

Town of Fort Frances – Councilor
Paul Ryan

Jan. 25/10
Date

Town of Fort Frances – Councilor
John Albanese

Jan. 25/10
Date

Town of Fort Frances – Councilor
Sharon Tibbs

Jan 25/10
Date

Town of Fort Frances – Councilor
Andrew Hallikas

Jan 25/10
Date

Town of Fort Frances – Councilor
Ken Perry

Jan. 25th/10
Date

Town of Fort Frances – CAO
Mark McCaig

JAN. 25, 2010
Date

Designated QMS Representative
Environmental & Facilities Superintendent
Doug Herr

Jan 25TH/10
Date

Designated QMS Representative (alternate)
Operations & Facilities Manager
Doug Brown

4 Quality Management System (QMS) Representation

Designated QMS Representative/QMS Team

Title	QMS Roles
Designated QMS Representative: (Environmental & Facilities Superintendent)	• Promotes awareness of the QMS throughout the Town of Fort Frances' Operations and Facilities Division and reports QMS results to staff. • Ensures QMS documentation is prepared and maintained, as needed • Provides all staff with technical and administrative consultation related to QMS documentation preparation and implementation, as needed • Reviews and approves QMS documentation • Implementation and oversight of documentation control procedure • Internal auditing and external audit liaison • QMS communications and training • Reporting of QMS results and improvements to top management • Ensure that personnel is aware of all applicable legislative and regulatory requirements that pertain to their duties
Designated QMS Representative "Alternate" (Operations & Facilities Manager)	• Performs all roles of Designated QMS Representative • Appoints QMS Designated Representative and Alternate • Provides technical and administrative consultation related to QMS document preparation • Reviews and approves QMS documentation
QMS Team (Operations & Facilities Manager, Environmental & Facilities Superintendent, Secretary/Receptionist, ORO & OIC Water Treatment Plant and OIC Water Distribution)	• Reviews and approves QMS documentation • Reviews and approves proposed changes to QMS documents by consensus • Ensures QMS documentation is maintained and kept current. • Develops control procedures for any hazards associated with a critical control point derived through a risk assessment. • Develops, reviews and approves Standard Operating Procedures for potential emergency situations or service interruptions pertaining to the Drinking Water System. • Review all elements of the Drinking Water QMS at least once a year

5 Quality Management System (QMS) Document & Records Control

5.1 Introduction

Details for managing documents and records that describe how documents and records required by the Quality Management System (QMS) are readily identifiable, as well as retrievable, protected, retained and disposed of are outlined in the Document Control and Record Control procedures described herein.

5.2 Document Control Procedure

Procedure Description

This procedure outlines the methods used by the Town of Fort Frances Water System employees to control the creation, approval, distribution, and disposal of all documents related to the Quality Management System (QMS).

Reason for Procedure

Consistent control ensures the currency, accuracy and ease of retrieval of each QMS document. Proper maintenance of documents is critical for conformance with the Drinking Water Quality Management Standard (DWQMS), and also for compliance with drinking water legislation.

Responsibility

The designated QMS Representative shall be responsible to ensure that all QMS documents are kept current, properly formatted and controlled. All documents must meet the approval of the QMS team prior to the QMS Representative issuing a revised QMS document. The presence of a signature in the QMS header on the document indicates this approval process was adhered to.

Procedure

a) Documents requiring control by the QMS include:

- Internal Documents
  - Operational Plan
  - Emergency Operating Procedures

° Annual Management Review Documentation

° Emergency Response Binder

- External Documents

° Town of Fort Frances Emergency Plan

° Equipment Maintenance Manuals

The methods by which control over records will be exercised are described in the Records Control Procedure.

b) The QMS Representative shall maintain a document and record master control table.

c) Internal Document:

1) A standard header shall identify all QMS internal documents. This header contains the title of the document, QMS element reference number, indication of revision, and signature of approval from the QMS Representative.

2) A standard footer shall identify all QMS internal documents. This footer contains the following wording " Town of Fort Frances QMS Operational Plan and the last revision date.

3) All original QMS internal documentation shall be stored on the Town's central computer system. The electronic version shall be password protected to restrict access to the QMS Representative and Alternate. The original (electronic version) shall display the digital signature of approval of the QMS representative. Printed copies of the internal documentation shall display the words "Uncontrolled When Printed" in the document footer.

4) The currency of each internal document is ensured by comparison of the revision date in the document footer to that of the original stored at the Water Treatment Plant Control Room.

5) Any employee of the Town of Fort Frances Water System may request the creation of a new internal QMS document or a change to an existing internal document. A document change request form shall be used any time changes to internal documents or the creation of a new internal QMS document is required. The QMS team will meet to review the proposed change and once consensus

by the QMS team is reached, the QMS representative will be authorized to change the internal document.

6) Following the internal QMS document procedure will ensure that all internal QMS documents are kept current, properly formatted and controlled.

d) External Documents:

1) Each external document affected by the QMS shall be clearly marked as "Controlled Copy" and signed by the QMS Representative.

2) The controlled copy of external QMS documents shall be stored at the Water Treatment Plant Control Room.

3) The Secretary/Receptionist will review and update the Town's Emergency Plan once annually, as new information becomes available or when existing information is updated/revised. The Secretary/Receptionist shall notify the QMS representative of any updates/revisions. Refer to section e) Communication Procedure for New Documents or a change/update to a Document.

4) Current equipment manuals shall be indicated on the Equipment Manual Listing – Currency Review form located in the equipment files at the WTP Control Room. On an annual basis the ORO of the water system will confirm that the revision date of all the equipment maintenance manuals have not changed or been updated. If changed/updated is to notify the QMS representative so the communication change procedure is followed as outlined in section "e)" below.

e) Communication Procedure for New Documents or a change/update to a Document:

New, changed or updated internal or external documents will be made available to all affected employees. The QMS Representative will forward an email to all water system employees when a new document is created or there is a change/update to a document.

f) Obsolete internal and external QMS documents are to be promptly removed from use by the QMS representative or the Secretary/Receptionist. This will only occur once a revised document has been approved by the QMS team and signed

off by the QMS representative. Hard copies will be destroyed and recycled if possible.

Associated Documents

- *Document Change Request (DCR) Form* *Appendix "A"*
- *Equipment Information Form (EIF)* *Appendix "B"*
- *Document and Record Master Control Table, see Section 5.4*

5.3 Records Control Procedure

Procedure Description

This procedure provides guidance for the identification, use, retention, storage, protection and disposal of all records generated by the Quality Management System (QMS).

Reason for Procedure

Consistent control ensures the ease of retrieval of each record generated by the Town of Fort Frances Water System employees. Proper maintenance of records is critical for conformance with the Drinking Water Quality Management Standard (DWQMS), and also for compliance with drinking water legislation and regulations.

Responsibility

The designated QMS Representative or the Secretary/Receptionist shall be responsible for ensuring that an effective method for controlling all QMS records exists.

Procedure

a) Records requiring control by the QMS include;

- DWQMS Team Meeting Minutes
- Management Review Meeting Minutes
- Internal/ External Audit Reports
- Completed Corrective Action Requests
- Completed Change Document Request forms
- Water Treatment Plant Monthly Reports
- Water Tower Log Book
- Water Treatment Plant Log Book
- Water Distribution Log Book
- Water Distribution System Sampling & Chlorine Residual Log Book for WTP Operators
- ALS Laboratory Results for Microbiological Tests

- ALS Laboratory Results for Chemical Tests
- ANSI/NSF Certification of Chemical Products used at WTP
- WTP Equipment & Instrumentation Calibration Records
- Customer Complaint Forms in regards to the Water System
- DWQMS Management Review Report
- Water Distribution System – Monthly Maintenance Activities

b) Records will be retained electronically and/or in hard copy, but retention time will be in accordance with applicable government regulations.

c) Filing and storage of paper records shall be such that they are protected from damage and are readily retrievable. Records are kept in filing cabinets in the Water Treatment Plant Control Room or Operation & Facilities Office.

d) Electronic records are stored on the Town's control computer system and are backed up on a regular basis.

e) All hard copy records outlined under the QMS older than required by applicable government regulations may be destroyed and if possible recycled by the Secretary/Receptionist.

f) All electronic records under the QMS will be retained in the Town's central computer system. Disposal of QMS electronic files older than required by appropriate regulatory requirements will be completed by Town's IT (Information and Technology) Manager when time is available to complete this task.

5.4 Document & Record Master Control Table

Document & Record Master Control Table

NR= not required

			Document Requirements				Record Requirements	
	Document or Record?	Type of Document	File Location (of Master)	Location of Printed Documents	Authorized Editor	Internal/ external	File Location	Disposal Method
1	D	Town of Fort Frances Emergency Plan	Town's Central Computer System	Town hall in banker boxes	Fire Chief- Town of Fort Frances	External	NR	If possible Recycle Hard Copy
2	R	Water Treatment Plant Monthly Reports	NR	NR	NR	Internal	O & F Division office & W: Drive	If possible Recycle Hard Copy
3	D	WTP - Equipment Maintenance Manuals	WTP Control Room	WTP Control Room	Various equipment manufacturers	External	NR	If possible Recycle Hard Copy
4	R	Water Tower Logbook	NR	NR	NR	NR	Current year at Water Tower, previous years at WTP control room	If possible Recycle Hard Copy
5	R	Water Treatment Plant Logbook	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
6	R	Water Distribution System Logbook	NR	NR	NR	NR	O & F Division (Sewer & Water) office	If possible Recycle Hard Copy
7	R	Water Distribution System Sampling & Chlorine Residual Logbook for WTP Operators	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
8	R	ALS laboratory Results for Microbiological Tests	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy

Document & Record Master Control Table

NR= not required

			Document Requirements				Record Requirements	
	Document or Record?	Type of Document	File Location (of Master)	Location of Printed Documents	Authorized Editor	Internal/ external	File Location	Disposal Method
9	R	ALS laboratory Results for Chemical tests	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
10	R	ANSI/NSF Certification of Chemical Products used at WTP	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
11	R	WTP Equipment & Instrumentation Calibration Records	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
12	R	Customer Complaint Forms in regards to the Water System	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
13	R	QMS Team Meeting Minutes	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
14	R	DWQMS Internal Audit Checklists	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
15	R	DWQMS Internal Audit Report	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
16	R	DWQMS External Audit Report	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
17	R	DWQMS Management Review Report	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
18	D	QMS Operational Plan	Town's Central Computer System	WTP Control Room	QMS Team	Internal	NR	If possible Recycle Hard Copy
19	R	Completed Document Change Request Forms	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy

Document & Record Master Control Table

NR= not required

			Document Requirements				Record Requirements	
	Document or Record?	Type of Document	File Location (of Master)	Location of Printed Documents	Authorized Editor	Internal/ external	File Location	Disposal Method
20	R	Management Review Meeting minutes	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
21	R	Completed CAR's Corrective Action Request Forms	NR	NR	NR	NR	WTP Control Room	If possible Recycle Hard Copy
22	D	Emergency Response Binder	Town's Central Computer System	WTP Control Room	QMS Team	Internal	NR	If possible Recycle Hard Copy
23	D	Town of Fort Frances Annual Management Review Documents	Town's Central Computer System	WTP Control Room	QMS Team	External		If possible Recycle Hard Copy
24	R	Town of Fort Frances Water Distribution System Monthly Maintenance Activity Reports	NR	NR	NR	Internal	O. & F. Division office & W: Drive	If possible Recycle Hard Copy

6 Drinking Water System Process Description

6.1 Introduction

The Town of Fort Frances water supply system provides a potable water supply to the residents and businesses of the Town of Fort Frances. Connected to the Town's water system is Couchiching First Nation, which borders the northeast limits of the Town, Lakeview Trailer Court and Walleye Trailer Court. The Owner and operating authority for each subsystem is as follows:

a) Couchiching First Nation Reserve: Partnership – Couchiching First Nation and Federal Government.
b) Lakeview Trailer Park: Cheryl Elaine Armstrong
c) Walleye Trailer Park: Walleye Trailer Park Ltd. (Carl Felix and Norma May Piotrowski).

The facility consists of a Class III conventional design water treatment plant having an approved capacity of 17,000 m^3/day and a Class II distribution system both owned and operated by the Town of Fort Frances.

6.2 Source Water

The water treatment plant draws water from Upper Rainy River. Raw water characteristics are as follows:

pH range from 6.0 – 7.6
Temperature range from 0.5 – 24 Celsius
Colour range 5 – 60 True Colour Units
Turbidity range 1 – 16 N.T.U.

6.3 Events Affecting Source Water Quality

Spring and fall turnover of the river water affect plant operations for a short duration, which can be corrected by making the appropriate physical and/or chemical adjustments to the elevated levels of turbidity in the treatment process. Also due to the cold water temperature during the winter months some minor chemical adjustments may be necessary.

6.4 Threats To Raw Water Quality

Based on a source or raw water protection pre-screening survey completed by Cambium Environmental Inc. in October of 2006, there are a few potential hazards or risks near the Water Treatment Plant's (WTP) source water intake which could negatively impact on raw water quality.

The Area of Interest (as defined by MOE) contains a few petroleum fuel storage tanks, as well as an active railway line where railcars containing inorganic and organic toxic chemicals and compounds cross the Ranier Bridge on a regular basis.
The railway line is approximately 400 meters northeast of the WTP's raw water intake. Should a derailment take place within the area of interest there is a potential for contaminating the Town's raw water supply. Also on the USA side of the Ranier Bridge, railway ties are being stored within the area of interest that poses a risk to raw water quality.

Finally, within the area of interest along both sides of the shoreline there are residential properties where home heating products (furnace oil) and improperly engineered septic system could pose a risk to raw water quality.

6.5 System Start Up and Operation

The Water Treatment Plant in Fort Frances is located at 901 Colonization Road East, UTM Coordinates: NAD83, Zone 15, Easting 472938.00m, Northing 5384735.00m.

Raw water is supplied from the upper portion of Rainy River through an intake structure located approximately 190 metres northeast of the Water Treatment Plant. The intake structure is equipped with bar screens to prevent logs and other debris from entering the intake line. The raw water is gravity fed into the plant through a 630mm diameter polyethylene pipe passing through two (2) sets of stainless steel screens before entering the raw water well.

The raw water well is equipped with two (2) 30 horsepower electric motors with vertical turbine pumps with each capable of delivering 100 L/s. Also one (1) 40 horsepower electric motor with vertical turbine, variable speed drive pump capable of providing flows in the range of 40 to 150 L/s. Raw water is pumped from the raw water well to the solid contact clarifiers. En route the raw water passes through a flow meter (MagMeter), which maintains an accurate flow measurement as well as integrates with the operational control of the chemical feed pumps. Liquid alum is introduced to the raw water through injection points then passes through an inline flash mixer where rapid mixing occurs before flowing into the clarifiers.

The alum-water solution splits off into two (2) separate lines before entering the clarifiers. Poly electrolyte is added and rapidly mixed to promote the formation of floc masses. Settling of the floc particles in the process water occurs forming a sludge blanket. The sludge blanket acts as a filter media where water flowing up through the blanket works like a finely meshed net catching other smaller particles. The processed water at the top of the clarifiers flows into collector flumes to the filter influent flumes to the four (4) dual media gravity filters.

The sludge blanket in each clarifier is on an automatic blow-down controlled through the computer control system. Operators inspect the sludge blanket at least once per day and can increase/decrease the blow-down to maintain an optimum sludge blanket in the clarifiers.

The dual media filters is made up of a top layer of anthracite, 500 mm thickness while the filter media below is silica sand, 400 mm thick. The processed water is carried over the filter media where suspended solids are removed as it gravity flows through the media.

Each of the four (4) filters is equipped with a turbidity meter installed on the filter effluent, which are alarmed in case of media breakthrough or an upset in process. Periodically the filter media will need to be backwashed to remove/flush out the suspended particles.

The processed water flows to the contact chamber, located between the two (2) reservoir cells or clear wells. In the contact chamber chlorine, soda ash and hydrofluorosilic acid (fluoride) is added. The contact chamber is baffled to enhance proper mixing and contact time for the chlorine entering the reservoirs or clear wells.

The treated water then enters clear wells (two wells) located beneath the Water Treatment Plant main floor. Clear Well No. 1 and No. 2 have a capacity of 2565 m^3 and 1465m^3, respectively. Treated water from the clear well is pumped into the distribution system through the four high lift vertical turbine pumps. Each pump is equipped with electric motors. High lift pump No. 1 and No. 4 have 60 horsepower variable speed drive motors capable of providing flows up to 63.1L/s, No. 2 is 100 horsepower/94.7L/s and No. 3 is 125 horsepower/126.2L/s.

Chlorine-fluoride analyzers located on the distribution line within the plant monitors the treated water as it is pumped out of the clear wells into the distribution system.

6.6 Distribution System and Elevated Storage Tank

Treated water is pumped from the Water Treatment Plant clear wells into the distribution system. Distribution piping typically ranges in size from 100mm to 400mm and may consist of cast iron, ductile iron, transite or PVC, depending on location and date of installation. Refer to Appendix “J” for map of the entire the Town of Fort Frances’ Drinking Water System, which is further broken down into five (5) sections showing more detail.

The elevated water storage tank/water tower is located in the west end of Fort Frances at the southeast side of the intersection of Colonization Road West and McIrvine Road. UTM Coordinates: NAD83, Zone 15, Easting 468,540.00m and Northing 5,383,616.00m. The elevated storage tank is an integral component of the distribution system as it

provides relatively constant system pressure and a reserve volume of water for community fire protection.

Secondary treatment, re-chlorinating of the treated water is done at this location to achieve and maintain residuals within provincial regulations through the distribution system. Calcium hypochlorite, granular form (65%) is mixed in a day tank with treated water and pumped into the influent line at the re-circulating pump. The re-circulating pump runs at all times.

The free available chlorine residual is measured at least once a day and recorded in the logbook kept at the facility.
The elevated storage tank operates on a level control telemetry system with the high lift pumps at the Water Treatment Plant starting and stopping when the water level rises or drops within the tank. High lift pumps No. 1 and No. 4 have 60 horsepower variable speed drive motors capable of providing flows up to 63.1L/s, No. 2 high lift pump has a 100 horsepower motor capable of pumping 94.7 L/s and No. 3 high lift pump has a 125 horsepower motor capable of pumping 126.2 L/s.

The Water Tower has four (4) 400mm isolation valves, one (1) altitude valve and one (1) check valve.

6.7 Water Treatment Plant – Brief Description

RAW WATER INTAKE

↓

LOW LIFT PUMP

↓

CLARIFIERS

↓

FILTERS

↓

CONTACT CHAMBER

↓

RESERVOIR CELLS

↓

HIGHLIFT PUMP WELL

↓

TO DISTRIBUTION SYSTEM

Intake Structure

Located approximately 190 metres northeast of the Water Treatment Plant.

Intake Line

630mm diameter Polyethylene Pipe

Screen Chamber

Two stainless steel screens

Pump Well

Raw water enters pump well from screen chamber, gravity fed.

Low Lift Pumps

There are two (2) low lift pump units each electrically driven by 30 hp motors, with a rated capacity to deliver 100 L/s. Also one (1) 40 horsepower electric motor with vertical turbine, variable speed drive pump capable of providing flows in the range of 40 to 150 L/s.

Raw Water Flow Metering System

This unit counts the “litres” of water as it passes through the unit.

In Line Mixer (Initiating Pre-Treatment)

The mixer is equipped with four chemical application injectors and the following chemicals can be added to the treatment process at this point:

1. Liquid Alum
2. Soda Ash
3. Carbon Slurry

Raw Water Influent Line

This 450mm diameter pipe carries the raw water to the clarifiers.

Clarifiers

The raw water, after pre-treatment, enters primary mixing and reaction zone of each unit through the 450mm diameter inlet pipe. Activated carbon, soda ash and polymer can be added to the process in this zone.

Recycled solids are drawn up into the bottom of the zone by the re-circulator impeller to be mixed with the incoming pre-treated water. The re-circulated solids provide additional particle surface area to absorb and entrap precipitates in the raw water. The solids settle to the bottom of the clarifier to form a sludge blanket. Chemical addition and solids present in the raw water result in new solids being continually added to this sludge blanket. The pre-treated water then flows upward and into the effluent box at the top of the clarifiers.

Filter Influent Flume

Settled water from the effluent box is piped through two 450mm diameter lines to the filter influent flume for distribution to the filters.

Filters

Four gravity filters are provided. Each unit consists of ecodyne filtration equipment installed within a square concrete tank. The dual-media gravity filters are to remove any particles in suspension that have carried over from the solids contact clarifiers.

The filter media on top of the under drain system consists of a 500mm thickness of anthracite over 400mm thickness of silica sand.

The filtered water then enters the chemical contact chamber.

Chemical Contact Chamber

This chamber is located between the two reservoir storage cells and underneath the filters. Soda Ash solution, chlorine solution and hydrofluosilic acid are added to the process in the chamber.

Reservoir Cells

Two reservoir cells are provided, Cell No. 1 has a capacity of approximately 2,565 m^3 (564,300 gallons) and Cell No. 2 has a capacity of approximately 1,465 m^3 (322,300 gallons) where the total capacity of the two reservoir cells is 4,030 m^3 (886,600 gallons).

Treated Water Pump Wells

The treated water pump well contains the fire pump, the filter backwash pump and high lift pumps number 1, 2, 3 and 4. It is located between the two reservoirs cells.

High Lift Pumps

These four units draw water from the treated water pump wells and are of varying capacities and are controlled by the water elevation in the Elevated Storage Tank/Water Tower.

High lift pump No. 1 and No. 4 – equipped with a 60hp variable frequency drive electric motor capable of providing flows up to 63.1 L/s.

High Lift Pump No. 2 – equipped with a 100hp electric motor, rated to deliver 94.7 L/s.

High Lift Pump No. 3 – equipped with a 125hp electric motor rated to deliver 126.2 L/s.

Fire Pump

This unit draws water from the pump well and is rated to deliver 220.0 L/s. A 220-h.p.diesel motor powers this pump.

Backwash Pump

The backwash pump is used for back washing the filters and draws water from the pump well. This unit is rated to deliver 300 L/s and is equipped with a 75 hp electric motor.

Plant Effluent Discharge Header

The plant effluent discharge header receives the flow from the high lift pumps and the fire pump and directs it to the Town's water distribution system. Also there is one chlorine-fluoride analyzer, which continually monitors the concentration of these two chemicals prior to entering the water distribution system.

Rated Capacity Of The Plant

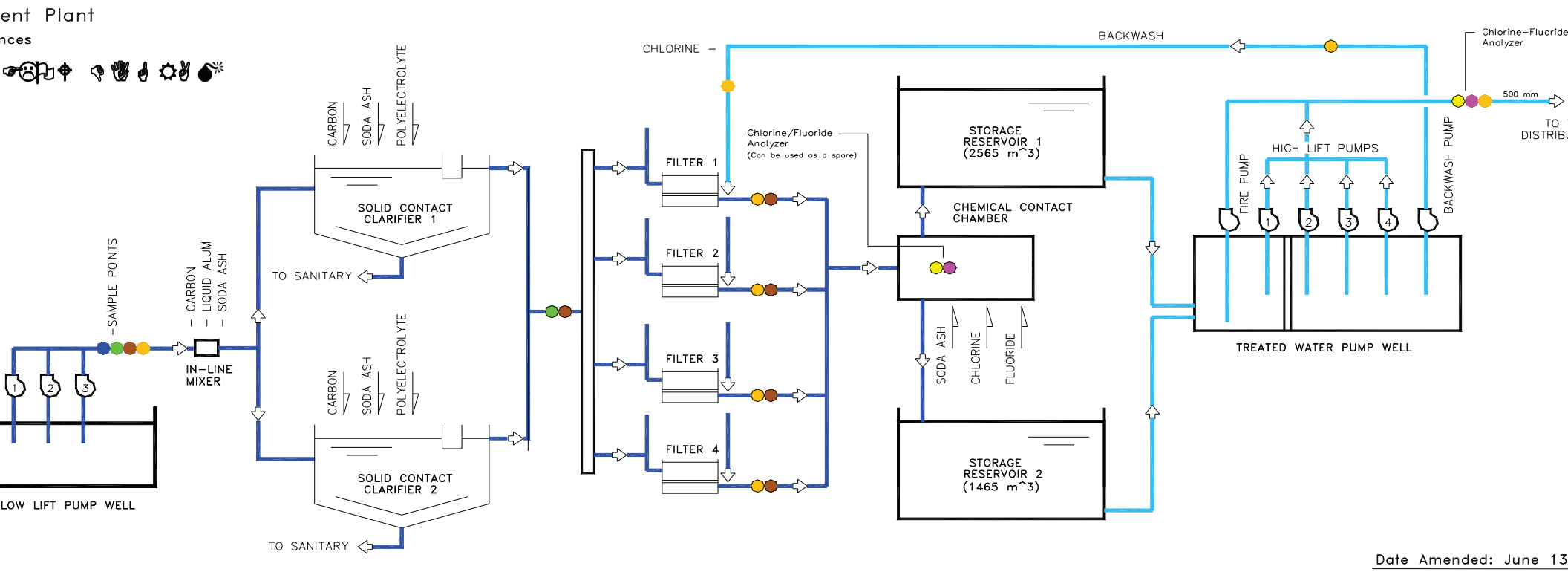
17,000 m3/d or 3,744,493 gallons per day.
196.76 litres/sec or 11.806 m^3/min

Computer

The computer process control system known as a S.C.A.D.A. System (Supervisory Control and Data Acquisition) is the heart of the Water Treatment Plant. It starts the plant, opens and closes valves, starts and stops motors, maintains the set chemical dosages, back washes filters and many more operational adjustments.

Elevated Storage Tank

The Elevated Storage Tank pressure gauge, controls the high lift pumps. As the water tower tank fills the controls shut down the pumps and as the water tower tank empties the controls start the pumps. The level is sent back to the S.C.A.D.A. System at the Water Treatment Plant. The free available chlorine residual is measured at least once a day and recorded in the logbook kept at the facility.


ent Plant
nces
SAMPLE POINTS
CARBON
LIQUID ALUM
SODA ASH
IN-LINE MIXER
LOW LIFT PUMP WELL
CARBON
SODA ASH
POLYELECTROLYTE
SOLID CONTACT CLARIFIER 1
TO SANITARY
SOLID CONTACT CLARIFIER 2
TO SANITARY
FILTER 1
FILTER 2
FILTER 3
FILTER 4
CHLORINE
Chlorine/Fluoride Analyzer
(Can be used as a spare)
STORAGE RESERVOIR 1 (2565 m^3)
CHEMICAL CONTACT CHAMBER
SODA ASH
CHLORINE
FLUORIDE
STORAGE RESERVOIR 2 (1465 m^3)
BACKWASH
FIRE PUMP
HIGH LIFT PUMPS
BACKWASH PUMP
TREATED WATER PUMP WELL
Chlorine-Fluoride Analyzer
500 mm
TO DISTRIBU
Date Amended: June 13

7 Risk Assessment

7.1 Introduction

The process for hazard identification includes an assessment of each process step associated with the treatment and distribution of drinking water for the Town of Fort Frances.

7.2 Procedure

In general, the procedure will:

- Identify and rank potential hazards to the water system
- Identify control measures to address hazards
- Identify Critical Control Points (CCPs) and associated methods of monitoring and controlling them.

Each of the process areas of the water system shall be reviewed to identify hazards. The following processes were included in the Risk Assessment:

- Source Water
- Raw Water/Well (including pumps)
- Primary Disinfection System
- Clear Wells
- Pump wells (including pumps)
- Secondary Disinfection System
- Distribution System
- Control Systems

Once hazards are identified the next step is to determine the critical control points (CCP'S). This process involves a risk assessment by prioritizing hazards and identifying points where control may be implemented to eliminate or minimize the hazards. Equipment reliability and redundancy are considered as part of the risk assessment for each process stated above.

The risk assessment is determined by rating the likelihood, severity and detectability of the hazard identified in each of the process areas. The hazards are rated on a scale of 1 to 5 as outlined in table below.

RATING	LIKELIHOOD	SEVERITY	DETECTABILITY
1	RARE	INSIGNIFICANT	VERY DETECTABLE
2	UNLIKELY	MINOR	MODEREATELY DETECTABLE
3	POSSIBLE	MODERATE	NORMALLY DETECTABLE
4	LIKELY	MAJOR	POORLY DETECTABLE
5	VERY LIKELY	CATASTROPHIC	UNDETECTABLE

The rating for the likelihood, severity and detectability is then added to give an overall level of risk for each hazard or hazardous event. All hazards or hazardous events, which have an overall, risk rating greater than or equal to 8 (threshold value) are considered critical and are associated with a critical control point.

The QMS team developed a control procedure for any hazard associated with a critical control point.

Critical limits are established for values that measure critical/hazardous events. The limits provide operators with a range of acceptable values within which no preventative or corrective actions are required.

Critical limits define the point at which an operator must take action to prevent escalation of the critical/hazardous event or to correct the critical/hazardous event.

Critical limits are based on regulatory requirements, process monitoring capabilities and historical plant performance. Process alarms (if available) are manually set at or near the critical limits.

Following the conclusion of the Risk Assessment process and the implementation of all resulting procedures and measures, the QMS Team shall meet once a year to review the validity of the assumptions and the currency of the information used in the risk assessment. A risk assessment will be conducted from scratch once every thirty-six (36) months. The QMS Representative shall carry out any changes to procedures.

8 Risk Assessment Outcomes

8.1 Introduction

The Town of Fort Frances has established, implemented and maintains this procedure to determine what potential hazards and critical control points exist in the Water Treatment and Distribution system.

8.2 Town of Fort Frances Risk Assessment

DESCRIPTION	LIKELIHOOD OF HAZARD OCCURRING	RATING
RARE	May occur in exceptional circumstances, or has not occurred.	1
UNLIKELY	Could occur at some time, historically has occurred annually or less than annually.	2
POSSIBLE	Has occurred once or more per year.	3
LIKELY	Has occurred on a monthly or quarterly basis.	4
VERY LIKELY	One or more occurrences on a monthly or more frequent basis.	5

DESCRIPTION	SEVERITY OF HAZARD OCCURRING	RATING
INSIGNIFICANT	Insignificant impact, little disruption to normal operation.	1
MINOR	Minor impact for small population, some manageable operation disruption, some increase in operational requirements.	2
MODERATE	Minor impact for small population, significant modifications to normal operations but manageable. Increase monitoring and operational requirements.	3
MAJOR	Major impact for small population, system significantly compromised and abnormal operation of it all.	4
CATASTROPHIC	Major impact for large population, complete failure of all systems.	5

DESCRIPTION	DETECTABILITY OF HAZARD	RATING
VERY DETECTABLE	Very easy to detect SCADA monitored.	1
MODEREATELY DETECTABLE	Moderately detectable, problem is indicated promptly by testing results.	2
NORMALLY DETECTABLE	No alarm present, visually detectable on rounds or regular maintenance.	3
POORLY DETECTABLE	Poorly detectable, visually detectable but not inspected on a regular basis; would not be detectable before a problem was evident; lab tests that are not done on a regular basis.	4
UNDETECTABLE	Undetectable, cannot detect.	5

<u>The Town's Threshold Number is 8</u>

TOWN OF FORT FRANCES RISK ASSESSMENT

Element or Process Step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency Procedure or Contingency Plan	Likelihood	Severity	Detectability	RISK PRIORITY NUMBER	CRITICAL CONTROL POINT	CRITICAL CONTROL LIMIT	Control Procedure
Source Water	Rail car derailment (Spill of chemical or contaminant)	Chemical/ Biological contamination of source water	Depends on location and type of contamination	Notification to MOE Spills Action Centre of the spill and potential for contamination of source water.	Shut off raw water intake line valve. Stop producing water until plume passes. Run off water tower. Implement water restriction. Haul water, if necessary. Test water raw & treated.	1	4	3	8	YES	No Control -lable limit	Refer to Emergency Response Binder (ERB) – S.O.P. #6 for Raw Water Source Contamination
	Highway Accident (Spill of chemical or contaminant)	Chemical/ Biological contamination of source water	Depends on location and type of contamination	Notification to MOE Spills Action Centre of spill and potential for contamination of source water.	Shut down intake. Stop producing water until plume passes. Run off water tower. Implement water restriction. Haul water, if necessary. Test water raw & treated.	1	2	1	4	NO		
	Proximity of septic fields on Rainy Lake	Biological contamination of source water		Conventional water treatment operations to treat source water. Weekly bacteriological testing of raw & treated water. Continuous monitoring for chlorine & filtered water turbidity.		1	1	5	7	NO		
	Collapse or breakage of single intake pipe	Quantity/ Quality		Low lift pumps shut down on low-level alarm.	Run off water tower. Implement water restriction and haul water, if necessary.	1	4	1	6	NO		

TOWN OF FORT FRANCES RISK ASSESSMENT

	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency procedure or contingency plan	Likelihood	Severity	Detectability	RISK PRIORITY NUMBER	CRITICAL CONTROL POINT	CRITICAL CONTROL LIMIT	Control Procedure
Treatment	Failure of SCADA	Quantity/ Quality			Run on manual.	2	2	1	5	NO		
	High lift pump Failure	Quantity/ Quality		Low Pressure.	Back up pumps.	2	1	1	4	NO		
	Loss of Coagulant – Plugging of lines, pump failure.	Biological & Chemical contamination	Crypto/ Giardia not removed with out coagulant	Pump failure alarm. Pump overload alarms. Critical Control limit for filter effluent turbidity is <1.0 NTU for 10 min., shuts down filter & sends alarm.	If main coagulant is not applied, restore as soon as possible with back up system. Monitor turbidities and chlorine residuals for any exceedance. Report to MOH and MOE SAC as per O. Reg. 170/03.	2	3	1	6	NO		Switch to backup system, which is on-line and ready to go.
	Loss of Polymer Plugging of lines, pump failure.	Shorter filter runs		Backwash alarm. Visual inspections throughout the day.	Repair polymer feed system. Note: if turbidity exceeds 1.0 NTU for 15 min. Report to MOH & MOE SAC per O. Reg. 170/03.	3	2	1	6	NO		
	Flocculator failure	Shorter filter runs		Backwash alarm. Visual inspections throughout the day. Alarms on rake drive & mixer.	Repair parts on hand. Note: if turbidity exceeds 1.0 NTU for 15 min. Report to MOH & MOE SAC per O. Reg. 170/03.	1	3	1	5	NO		
	Filter breakthrough or Under drain failure	Biological contamination	Crypto/ Giardia not removed with out coagulant	On –line filter effluent turbidity meters. Critical control limit for filter effluent turbidity is <1.0 NTU for 10 min., shuts down filter & sends alarm.	If reaches a turbidity of 1.0 NTU for 15 min shuts down filter & sends alarm. Report to MOH & MOE SAC per O. Reg. 170/03.	2	4	1	7	NO		Once alarmed take filter off line. Repair filter
	Backwash pump failure	Quantity/ Quality		Alarm on backwash pump and filter backwash alarms.	Spare backwash motor & ability to use high lift pumps.	1	1	1	3	NO		

TOWN OF FORT FRANCES RISK ASSESSMENT

Element or Process step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency procedure or contingency plan	Likelihood	Severity	Detectability	RISK PRIORITY #	CRITICAL CONTROL POINT	CRITICAL CONTROL LIMIT	Control Procedure
Treatment	High Turbidity off filters	Biological & Chemical contamination		Filter shuts down if turbidity reaches set point of <1.0 NTU for 10 minutes	Take filter off line and repair.	2	2	1	5	NO		Take filter off line and repair.
	Vandalism	Quantity/ Quality		Plant Alarms	Visual monitor	1	2	1	4	NO		
	Fire	Quantity/ Quality		Plant Alarms	Refer to Emergency Response Binder (ERB) – S.O.P. #1 for the Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower	1	5	1	7	NO		
	Power Failure	Quantity/ Quality		Plant Alarms	Refer to Emergency Response Binder (ERB) – S.O.P. #5 for Hydro Power Outage for Operating the Water System	1	5	1	7	NO		
	Chemicals - Poor Quality	Quantity/ Quality	Guaranteed by supplier	Plant Alarms Upsets process	Stop using and order replacement	1	5	1	7	NO		All chemicals are NSF/ANSI certified
	Chemicals - Unavailability	Quantity/ Quality	Keep in stock two (2) week supply		Contact alternate suppliers	1	3	2	6	NO		
Primary Disinfect ion	Chlorinator failure	Biological contamination	Bacteria & Viruses not inactivated without chlorine	On line chlorine analyzer alarm. Critical control limit 1.10 mg/L.	Switch to standby chlorinator & spare parts to make repairs. Note: if CT requirements not met report to MOH & MOE SAC per O.Reg 170/03.	1	5	1	7	NO		Switch to standby chlorinator & spare parts to make repairs

TOWN OF FORT FRANCES RISK ASSESSMENT

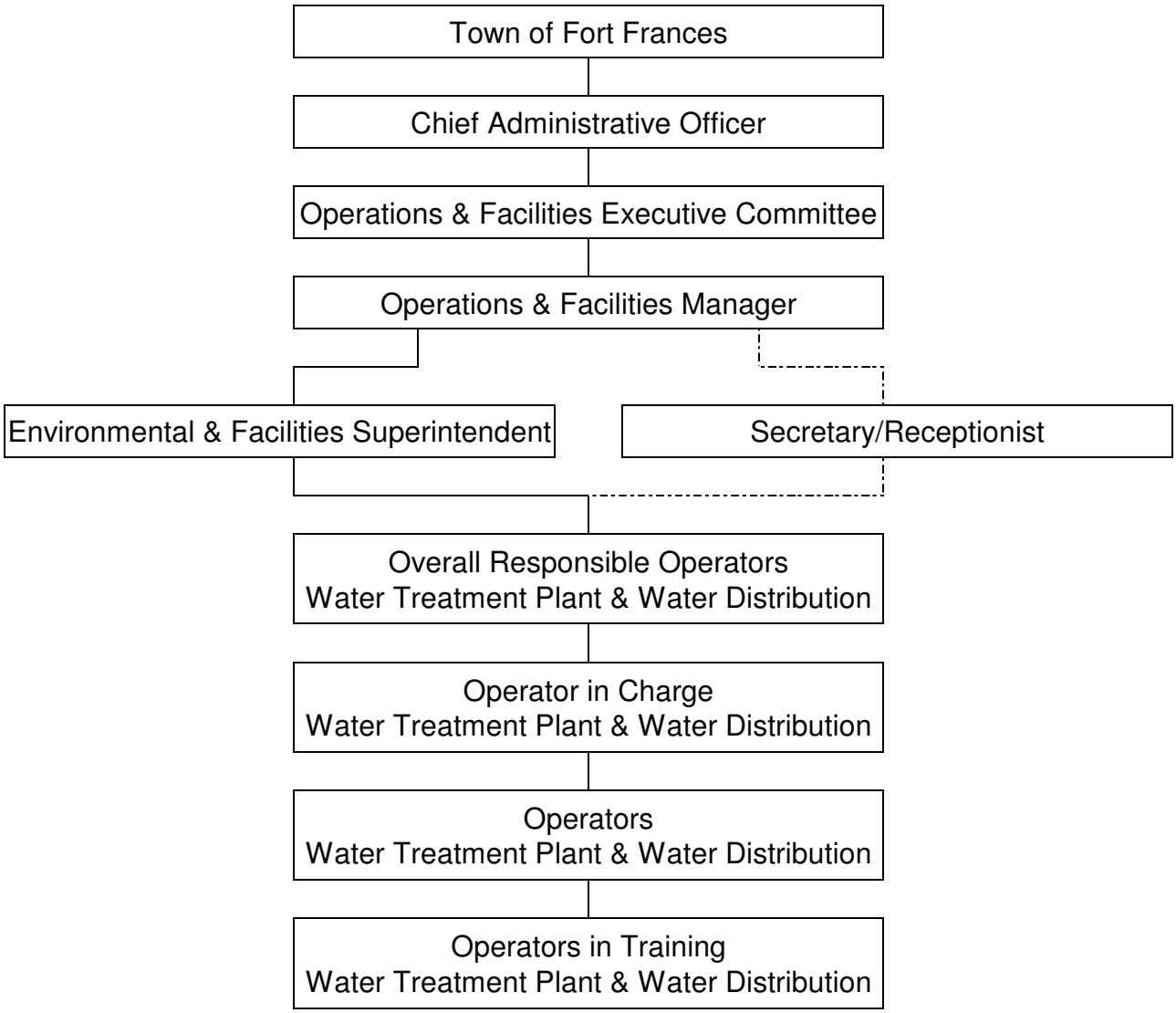
Element or Process step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency procedure or contingency plan	Likelihood	Severity	Detectability	RISK PRIORITY #	CRITICAL CONTROL POINT	CRITICAL CONTROL LIMIT	Control Procedure
Reservoir	Loss of structural integrity of reservoir-leakage into reservoir.	Biological & Chemical contamination		On line chlorine analyzer. Weekly bacteriological testing. Daily treated water analysis.	Isolate one (1) reservoir. Notify MOH & MOE SAC. Drain, repair, clean and disinfect per AWWA procedures, increase chlorine dosage and issue water restrictions.	1	4	1	6	NO		
Distribution	Breakage of single pipe from plant to distribution system	Quantity/ Quality	Run from water tower as long as possible	Fire pump start alarm. Low level tower alarm.	If system pressure compromised. Report to MOH & MOE SAC. Repair, flush distribution system, increase chlorine and conduct sampling in distribution system.	1	5	1	7	NO		Refer to Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs
	Loss of chlorine residual (Secondary disinfection)	Biological contamination	Legislated under O.Reg. 170/03	Daily residual at water tower, weekly monitoring at locations in town.	Report to MOH & MOE SAC as required by O. Reg. 170/03. Flush system increase chlorine dosage and resample.	2	3	2	7	NO		See O Reg. 170/03 requirements for corrective actions
	Loss of pressure watermain break, major fire	Biological & Chemical contamination		Customer Complaints, low level alarm at water tower. Fire pump runs alarm at plant.	If system pressure compromised and potential for backflow exists, report to MOH & MOE SAC. Follow procedure for water main breaks and repairs. Refer to Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs.	3	2	3	8	YES	Tower 6m – 8m Reservoir 3000mm – 5000mm	See Appendix "E" Standard Operating Procedure for Flushing of Water Mains
	Cross Connection	Biological & Chemical contamination	Backflow prevention devices	Visual / high risk.	If backflow suspected, report to MOH & MOE SAC. Isolate area, flush the system and sample as needed. Re-pressurize system.	1	3	4	8	YES	No Control-lable limit	See Appendix "E" Standard Operating Procedure for Flushing of Water Mains

TOWN OF FORT FRANCES RISK ASSESSMENT

Element or Process step	Description of Hazard	Potential Result of Hazard	Comments	Available Monitoring & Control Measures	Emergency procedure or contingency plan	Likelihood	Severity	Detectability	RISK PRIORITY #	CRITICAL CONTROL POINT	CRITICAL CONTROL LIMIT	Control Procedure
Distribution	Water Tower Structural / Contaminated	Quantity/ Quality Biological & Chemical contamination		Low pressure/Low level.	Isolate water tower.	1	2	3	6	NO		
	Hypo Pump Failure (Plugged)	Biological & Chemical contamination		Low chlorine residual in distribution system.	Switch lines, repair/replace defective pump with spare pump at water plant/tower.	3	1	3	7	NO		
	Bio-film	Quantity/ Quality		Weekly checks	Refer to Appendix "E" S.O.P. for Flushing of Water Mains	1	3	3	7	NO		

9 Organizational Structure, Roles, Responsibilities & Authorities

Organization Chart



Chief Administrative Officer

Responsibilities	Authorities
The CAO is responsible for arranging reports to the Mayor & Council on the Municipal Water System. The CAO will receive information and reports from the Operations & Facilities Manager, Environmental & Facilities Superintendent and Transportation Superintendent regarding issues that are relevant to the overall operation of the water system. The CAO is "top management" in regards to QMS documentation. Involved in the annual Management Review process.	The CAO is authorized by Mayor and Council to ensure that management and staff is in place to ensure the Municipal Water System is supplying safe and reliable drinking water.

Operations & Facilities Executive Committee

Responsibilities	Authorities
The Operations & Facilities Executive Committee is responsible to review and discuss all management and operational aspects of the water system. The main goal is to ensure the provision of safe and reliable potable water is provided to all customers connected to the Town's water system. All administration water information and operational reports are reviewed and revised if necessary prior to being forwarded to Council for approval or acceptance.	In accordance with the Town's procedural Bylaw # 21/94 the Operations & Facilities Committee is appointed by the Council of the Town of Fort Frances. The Operations & Facilities Executive Committee consists of three (3) members of Council and the Operations & Facilities Manager.

Operations & Facilities Manager

Responsibilities	Authorities
The Operations & Facilities Manager is responsible for ensuring that operations within the Municipal Water Supply System is safe and operations are in compliance with current regulations. The Operations & Facilities Manager must provide the CAO and Mayor & Council with current technical and administrative information and advice in regards to the Town's water system. The Operations & Facilities Manager is "top management" in regards to QMS documentation. To initiate on an annual basis the Management Review process. Ensuring a safe and adequate supply of water for all customers. QMS Team member	The Operations & Facilities Manager has the authority to ensure staff is in place to manage the Water Supply System, develop administrative and technical policies, evaluate and prioritize long term utility needs. To be on site (Water Treatment Plant) during MOE and auditor inspections.

Environmental & Facilities Superintendent

Responsibilities	Authorities
Responsibilities include preparing reports for capital expenditures, budgeting, maintenance activities and infrastructure condition assessments for the CAO, Operations & Facilities Manager, Regulatory Authorities and the Public.	Develop, approve and implement maintenance and safety practices, policies and procedures. Communicate with Regulatory Agencies, Public and owner.

The Environmental & Facilities Superintendent is also responsible for the management of the daily operations of the Water Treatment Plant and the water distribution system. The Superintendent will provide guidance to and receive feedback from the operators on regular operations and future needs. Is assigned communication responsibilities to the QMS as it relates to operating authority staff and suppliers. Annual involvement with the Management Review process. Ensuring a safe and adequate supply of water for all customers. QMS Team member	Inspect and approve distribution, infrastructure, installations and repairs. Evaluate and prioritize long term, rehabilitation and upgrading needs. Review and provide comments on technical reports and proposals. Evaluate and recommend contractors and construction materials and maintenance equipment. Approve payment for goods and services received. To be on site (Water Treatment Plant) during MOE and auditor inspections.

Secretary/Receptionist

Responsibilities	Authorities
Directs customer complaints to operators Confirms on an annual basis or when new information or revised information becomes available, the revision date of the town's emergency plan (Town's corporate drive - "G" drive). Notify the QMS representative if updated. Removes from use obsolete internal and external QMS documents once approved and signed off. Ensures that all records generated by the QMS are properly controlled and maintained. Provide, on an annual basis a summary of	

the Drinking Water QMS information for the management review meeting. QMS Team member	

Overall Responsible Operators (ORO)

Responsibilities	Authorities
The ORO or Chief Plant Operator is responsible for the supervision of daily operations and staff at the Water Treatment Plant and Water Distribution System.	The ORO is authorized to make any process adjustments to ensure the safety and adequate supply of drinking water.
The ORO ensures that all operations are in compliance with current MOE regulations.	The ORO is authorized to purchase process chemicals, lab supplies, testing services and equipment parts.
The ORO must maintain a minimum Class III Water Treatment Certificate as well as a minimum Class II Distribution.	The ORO is also authorized to direct the duties of the plant operators and supervise any on site contractors.
The ORO is to assist in preparing annual operating and capital budgets.	To be on site (Water Treatment Plant) during MOE and auditor inspections.
Works in a safe manner in accordance with the Occupational Health & Safety Act and Regulations.	
Prepares a monthly summary report of the Town's Drinking Water System outlining drinking water sampling, testing & monitoring. Report also includes any maintenance activities performed within the water treatment plant during that period.	
Ensuring a safe and adequate supply of water for all customers.	
Develops annual staff on-call schedule.	

Annually is involved with the Management Review process. QMS Team member	

Operators In Charge (OIC) – Water Treatment Plant

Responsibilities	Authorities
The OIC has the responsibilities and authority to: • Make data entries in the log books, and log sheets • Perform on and off site water tests • Make and record process adjustments • Sampling at the plant and within the water distribution system • Customer Complaints • Assist in preparing annual operating and capital budgets The OIC is responsible to follow all the current MOE regulations. Works in a safe manner in accordance with the Occupational Health & Safety Act and Regulations. Ensuring a safe and adequate supply of water for all customers. QMS Team member	The OIC has the authority to: • To order process chemicals • To order equipment and parts • To order lab supplies • Collect samples • Perform testing • Perform maintenance

Operator In Charge (OIC) – Water Distribution System

Responsibilities	Authorities
The OIC is responsible for the supervision of daily operations and maintenance of the water distribution	To do testing/water sampling – chlorine tests, pressure tests, etc.

system. Ensuring a safe and adequate supply of water for all customers. Works in a safe manner in accordance with the Occupational Health & Safety Act and Regulations. Responsible to follow current MOE regulations and guidelines. Record keeping. Provide location/information of water infrastructure to GIS personnel. Assist in preparing annual operating and capital budgets. Annually involved in the Management Review process. QMS Team member	To direct staff and contractors in the repair and maintenance of the Distribution System i.e. main valves, hydrants, services and shutoffs.

Operators – Water Treatment and Water Distribution Systems

Responsibilities	Authorities
Operators are responsible for the daily operations and maintenance of the water systems. Ensuring a safe and adequate supply of water for all customers. Works in a safe manner in accordance with the Occupational Health & Safety Act and Regulations. Responsible to follow current MOE regulations and guidelines.	Works under the direction of the ORO/OIC.

Record keeping. Record keeping (Authorized by the ORO/OIC). Provide location/information of water infrastructure to GIS personnel.	

Operator In Training (OIT) – Water Treatment and Water Distribution Systems

Responsibilities	**Authorities**
The OIT can perform all routine operational duties except duties specifically delegated to the ORO or OIC. Ensuring a safe and adequate supply of water for all customers. Works in a safe manner in accordance with the Occupational Health & Safety Act and Regulations. Responsible to follow current MOE regulations and guidelines. Record keeping. Provide location/information of water infrastructure to GIS personnel.	Works under the direction of the ORO/OIC or other operators. Such work to include, but not limited to: • Chlorine testing • Water sampling • Pressure testing

10 Competencies

10.1 Identifying Competencies

The following identifies competencies required for the Town of Fort Frances staff whose performance has a direct impact on drinking water quality.

Operations & Facilities Manager

Shall posses advanced theoretical and working knowledge of the Town's Drinking Water System. Shall posses the necessary administrative and leadership skills that are expected of a senior level manager to lead, direct and supervise the Environmental & Facilities Superintendent. Shall posses working knowledge of the Safe Drinking Water Act and all applicable regulations. Recommended to attend the following courses: Workplace Hazardous Material Information System (WHMIS), First Aid Training and Confined Space Training.

Environmental & Facilities Superintendent

Shall posses advanced theoretical and working knowledge of the Town's Drinking Water System. Also should posses the necessary administrative and leadership skills that are expected of a mid-level manager to lead, direct and supervise all the water operators of the Town's drinking water system. Shall posses working knowledge of the Safe Drinking Water Act and all applicable regulations. Shall attend the following courses: Workplace Hazardous Material Information System (WHMIS), First Aid Training and Confined Space Training.

Operator

Ontario Regulation 128/04 requires that all Water Treatment and Distribution operators' shall be working towards operating licenses appropriate to the class of facility where they are employed.

The Over All Responsible Operator (OROs) shall have a minimum of a Class III Water Treatment certificate and a Class II Distribution certificate.

All operators shall have at least an Operator in Training (OIT) level certificate, while ultimately working towards obtaining a Class III Water Treatment and/or a Class II Distribution certification.

Shall attend the following courses: Workplace Hazardous Material Information System (WHMIS), First Aid Training and Confined Space Training.
Operators are required to have skills and knowledge in the following areas:

Treatment Plant Operators

An understanding of the concepts of water borne diseases, pathogens and other bacteria related to water and the reasons for water treatment and disinfection. A basic knowledge of math, science and chemistry used in the treatment process is required.

An understanding of the water treatment process, including chemically assisted filtration and the CT concept, to ensure proper disinfection.

Knowledge of the Safe Drinking Water Act and all applicable regulations and identifying, reporting and responding to adverse drinking water conditions as required.

An understanding of the importance of the policies and procedures and the potential for not following them.

Perform lab analyses and interpreting results.

Mechanical aptitude.

Working knowledge of the operation of the water treatment system using the SCADA (Supervisory Control and Data Acquisition) System.

Working knowledge of the operation of the water treatment system without the SCADA (Supervisory Control and Data Acquisition) System on line.

An ability to handle emergency situations.

Adjusting and checking chemical feed rates.

Safe practice for handling chlorine and for maintaining and repairing the chlorinators.

Knowledge of the chemicals used in the water treatment process and safe handling practices.

Distribution System Operators

Good understanding of the Town of Fort Frances water distribution system.

Understanding of secondary disinfection.

Knowledge of the Safe Drinking Water Act and all applicable regulations and identifying, reporting and responding to adverse drinking water conditions as required.

Safely repair and maintain distribution system in accordance with AWWA standards and Town of Fort Frances policies. Follow regulatory requirements for disinfection of new and repaired water mains and water services.

Conducting valve maintenance and repairs.

Conducting hydrant maintenance and repairs.

Maintaining a current log book.

Keep information current with GIS personnel.

Maintaining good public relations.

10.2 Satisfying Competencies

The following satisfies the competency requirements for the Town of Fort Frances staff.

Management

Top Management is briefed on operating conditions and is provided updates required by regulations at regular meetings.

Management regularly attends relevant drinking water training courses, conferences and seminars.

New Operators (OITs)

The Environmental Superintendent will explain the job with the new operator and go through the job description. After successful completion of the OIT Water Treatment and Water Distribution Preparation Course (60 hrs), exam and completion of MOE Entry-Level Course. A new operator will train under an experienced operator until a satisfactory level of competence has been reached. The Environment & Facilities Superintendent with input from the Overall Responsible Operators will determine when a satisfactory level of competence has been reached, through observation and peer review. OIT's take direction from ORO's and OIC's.

Class I Water Treatment & Distribution Operators

After a level of competence has been reached in accordance with O. Reg. 128/04), the operator must successfully complete the Class I Water Treatment & Water Distribution Preparation Course and Class I exam to become a Class I Water Treatment or Distribution Operator.

Class II Water Treatment & Distribution Operators

After working approximately one year at the Class I level the operator can advance to a Class II Water Treatment or Distribution operator by successfully completing the Class II Water Treatment and/or Distribution preparation course and Class II exam. Providing they have the appropriate Certified Educational Units.

Class III Water Treatment Operators

After working approximately one year at the Class II level the operator can advance to a Class III Water Treatment operator by successfully completing the Class III Water Treatment Preparation Course and Class III exam. Providing they have the appropriate Certified Educational Units and has obtained two (2) years experience as an Operator In Charge.

As part of the licensing requirements all operators experience extensive on the job training. Specific requirements are listed in O. Reg. 128/04.

Other than the preparation courses noted above some other courses that operators should attend are:

Gas Chlorination Workshop
Hypo Chlorination – Disinfection Workshop
Watermain Disinfection Workshop
Water Treatment Proficiency course
Filter Operation and Maintenance course
Pump Maintenance & Repair
Hydrant Maintenance & Repair
MS Word and Excel – Computer Software

10.3 Ensuring Competencies

The level of competency required for personnel who may directly affect drinking water is outlined above. These requirements are based on the organizational structure, roles, responsibilities and the job description associated. All legislative and requirements have been factored into the competencies.

To ensure that personnel is aware of the importance of the employee responsibilities and its impact on drinking water quality will be promoted through the following activities:

1) hiring process - the Town of Fort Frances may administer certain tests, conduct interviews, verify references and/or request specific documentation as part of the hiring process in order to confirm skills, experience and knowledge to ensure competency of the operations staff.

2) training courses/conferences
3) review job descriptions
4) staff meetings
5) annual performance evaluations – review past accomplishments and setting future goals
6) review of relevant legislative and regulatory requirements
7) review of roles and responsibilities relevant to the QMS detailed in Element 9.
8) review and update of relevant policies and procedures, and
9) review of relevant competency requirements.

11 Personnel Coverage

The Water Treatment Plant in Fort Frances is deemed a Class III facility while the Distribution System is a Class II.

The Water Treatment Plant in Fort Frances is currently staffed with three (3) certified operators. These operators work on a rotating on-call system with each operator being on-call for a week period. The operator on-call period begins on a Tuesday at 7:30 a.m. and ends the following Tuesday at 7:30 a.m. at which time the next operator on-call begins. All three (3) operators participate in the rotation system. The Overall Responsible Operator (ORO) in conjunction with other Water Treatment Plant operators establishes the annual on-call rotation schedule. The hours of work at the Water Treatment Plant in Fort Frances are 7:30 a.m. to 4:00 p.m. Monday to Friday with the exception of statutory holidays. On-call duties include coverage on weekends and statutory holidays.

The Town of Fort Frances has a designated ORO for the Water Treatment Plant and the Distribution System with a back up ORO in place. Each day they are recorded in the Water Treatment Plant, Water Tower and Distribution log books.

The ORO is responsible for the supervision of daily operations and staff at the Water Treatment Plant and the Water Distribution System. In accordance with O. Reg. 128/04 the Town will provide the necessary operators.

The Water Treatment Plant in Fort Frances is monitored by an alarm system, which when is activated sends a signal to a central dispatch for any after hour alarms. The central dispatch will then contact the on-call operator to respond. The operator will respond as soon as practicable after becoming aware of the alarm. If the on-call operator cannot be reached or respond to the activated alarm, central dispatch will move onto the next operator on the rotation list until one is contacted and able to respond.

For the water distribution system after hours on-call coverage is monitored by the Public Works Department.

Rationale

A licensed operator is capable of completing the weekend monitoring tasks at the Water Treatment Plant and Water Tower. Where circumstances arise that additional staff is required the operator can request the assistance of any of the off duty licensed operators. Contact information for all operators is documented and posted on the bulletin board at the Water Treatment Plant.

Non Standard Operating Situations

The Town has a working relationship with the Ontario Clean Water Agency (OCWA). OCWA management has agreed to provide assistance to the Town during non-standard situations and will be designated as the Overall Responsible Operator (ORO) for the water system during these situations.

12 Communications

12.1 Introduction

The Operations & Facilities Manager is top management as it relates to the Quality Management System (QMS) document and communication responsibilities. The Operations & Facilities Manager has delegated or assigned communication responsibilities to the QMS representative (Environmental & Facilities Superintendent) as it relates to the Operating Authority Staff and Suppliers.

12.2 Target Audience - Town of Fort Frances Mayor and Council (Owner)

QMS Communication Method - The Operations & Facilities Manager (top management) keeps the Operations & Facilities Executive Committee current of the Operational Plan and any changes or issues regarding the QMS. The Operations & Facilities Executive Committee forwards the reports to the Chief Administrative Officer (CAO) for comments and then the reports are presented to Council for approval.

12.3 Target Audience -Town of Fort Frances Operating Authority

QMS Communication Method – Environmental & Facilities Superintendent (QMS representative) or designate will inform all Town of Fort Frances water system personnel of all revisions to the QMS by email. All updated QMS documents will be stored at the Water Treatment Plant in the Control Room and electronically in the Town's computer system.

12.4 Target Audience – Suppliers

QMS Communication Method - Essential suppliers will receive information from the Environmental & Facilities Superintendent regarding the QMS if and when it relates to them either by phone, fax or e-mail.

12.5 Target Audience – Public

QMS Communication Method - The general public can gain access, for viewing only to the approved Quality Management System Operational Plan and revisions at the following locations:

1) Town Hall (Civic Center) through the Town's Clerk. The Clerk is the Freedom of Information Officer for the Corporation of the Town of Fort Frances.
2) The Town of Fort Frances web site.

13 Essential Supplies & Services

13.1 Introduction

In order to reduce the risks to the quality and safety of the Drinking Water System from outside sources, this element identifies the suppliers and services which are deemed as essential to the delivery of safe drinking water and describes how the quality of these services are ensured.

13.2 Suppliers and Services

Below is a list of all Suppliers and services deemed essential for the production and delivery of safe water. All chemical supplies must meet ANSI and NSF Standards. Appropriate paperwork must be provided upon chemical delivery to confirm the product being delivered. All laboratories must be accredited to test the parameters for all samples that are submitted to them.

a) Chemicals:

Chlorine	Brenntag Canada Inc. 681 Plinquest Street Winnipeg, Manitoba R2J 2X2 204-233-3416	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285
Fluoride **(Hydrofluorosilicic Acid)**	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285	Brenntag Canada Inc. 681 Plinquest Street Winnipeg, Manitoba R2J 2X2 204-233-3416
Aluminum Sulphate	General Chemical 145 McDougall Street Thunder Bay, On. P7B 6T9 807-345-7643	Border Chemical Company 104 Regent Avenue Winnipeg, Manitoba R2C 5G2 204-222-3276

Soda Ash Dense	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285	Brenntag Canada Inc. 681 Plinquest Street Winnipeg, Manitoba R2J 2X2 204-233-3416
Poly	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285	N/A
Calcium Hypochlorite	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285	Brenntag Canada Inc. 681 Plinquest Street Winnipeg, Manitoba R2J 2X2 204-233-3416

Chemicals are ordered when supplies reach the following levels:

Chlorine – when approximately two (2) tonners are left
Fluoride – when approximately two (2) - 136 kg. drums are left
Aluminium Sulphate – at low level (Level 10 on tank)
Soda Ash – when the silo is at low level
*Poly – when supply is one-half depleted (15 – 25 kg. bags)
Calcium Hypochlorite – order four (4) - 30 kg. pails annually

* Supplier retains a supply on hand for the Town of Fort Frances Water Treatment Plant.

b) Pump/Analyzer/Meter Parts:

Poly **Aluminum Sulphate**	Mequipco Ltd. Unit 305 - Pembina Hwy. Winnipeg, Manitoba R3T 5J3 204-982-1040
Fluoride	Metcon Sales & Engineering Unit 3 - 15 Connie Crescent Concord On. L4K 1L3 905-738-2355

Chlorinator and Analyzers	Mequipco Ltd. Unit 305 - Pembina Hwy. Winnipeg, Manitoba R3T 5J3 204-982-1040
Turbidity Analyzers	Clear Tech 340 Saulteaux Cresent Winnipeg, Manitoba R3J 3T2 204-981-3285
Other Meters **(Bench Turbidity Analyzer)** **(pH Analyzer)** **(Drell)**	Hach Sales & Service 34-1313 Border Street Winnipeg, Manitoba R3H 0X4 204-957-7259 204-232-9992 (cell) 800-665-7635
High & Low Lifts	Power & Mine Supply 675 Harold Crescent Thunder Bay, Ontario P7C 5H6 807-622-4044 807-622-3235 (fax)

c) Other Services:

Electrical Services	Galbraith Electric 633 Riverview Drive Fort Frances, Ontario P9A 2V8 807-274-2445 807-275-9527 (cell)
Plumbing Services	Pryde's Plumbing & Heating 515 Mowat Avenue Fort Frances, Ontario P9A1Z1 807-274-9458 (office) 807-274-7801 (Scott) 807-275-9597 (Scott – cell) 807-274-3583 (Keith) 807-275-9596 (Keith – cell)

S.C.A.D.A. System & Instrumentation	Lakeside Process Controls 7 Sylvan Way Winnipeg, Manitoba R2R 2B9 204-633-9197 204-632-9608 (fax)
Accredited Laboratory Services	ALS Laboratory 1081 Barton Street Thunder Bay, Ontario P7B 5N3 807-623-6463 1-800-668-9878 (toll free) 807-623-7598 (fax)
Calibrations **Flow meters, chemical feed** **Pumps cl2 analyzers**	Lakeside Process Controls 7 Sylvan Way Winnipeg, Manitoba R2R 2B9 204-633-9197 204-632-9608 (fax)
Calibrations **(Bench Turbidity Analyzer)** **(pH Analyzer) (Drell)** **(online turbidity analyzers)**	Hach Sales & Service 34-1313 Border Street Winnipeg, Manitoba R3H 0X4 204-957-7259 204-232-9992 (cell)

d) Water Distribution:

System Parts	Wolseley Waterworks 1300 St. Mathews Avenue Winnipeg, Manitoba R3G 3K4 204-786-7861 Emco Western Supply 933 Tungsten Street Thunder Bay, Ontario P7B 5Z3 807-345-6543

Water Meters

Wolseley Waterworks
1300 St. Mathews Avenue
Winnipeg, Manitoba
R3G 3K4
204-786-7861

Elster Metering
1100 Walkers Line, Ste 101
Burlington, Ontario
L7N 2G3
905-634-4895

13.3 Quality Control Procedure

The Fort Frances Water Treatment Plant and Distribution System Operators ensure the quality of products delivered through a number of initiatives;

1. Formal contracts and agreements
2. Tender process
3. Engineering specifications

Documentation must be provided prior to delivery, which specifies the intended delivery time, proper licensing, accreditation and/or specifications outlined in the purchasing agreements. If all conditions set out in the agreements are met, delivery of goods or services will be accepted.

13.4 Purchase Agreement

When purchasing any goods and services pertaining to the Town's water system, the Town's Procurement Policy shall be followed.

14 Review and Provision of Infrastructure

Generally in the fourth quarter of each year, the Environmental & Facilities Superintendent will meet with all the water operators (Distribution and Treatment) to review the adequacy of the infrastructure in order to operate and maintain the entire water system. At this meeting the water quality consumer complaints records, equipment and machinery breakdown records, process control data, GIS database and the monthly reports will be reviewed. The goal of this meeting is to develop a 5-year infrastructure needs program, which outlines a prioritized list of maintenance, rehabilitation and renewal requirements for the water system with emphasis being placed on the up-coming year. All infrastructure needs (maintenance, rehabilitation & renewal) will be prioritized, in order that senior management and Council can make adjustments if financial resources are not available.

The Environmental & Facilities Superintendent will distribute the minutes of this meeting by email to the Operations & Facilities Division Manager and all staff in attendance of this meeting.

In October and/or November, the Environmental & Facilities Superintendent will prepare the necessary cost estimates for all infrastructure needs in order that annual operating and capital budget for the water system are developed. This information will be submitted electronically to the Operations & Facilities Division Manager. The Operations & Facilities Division Manager will review the infrastructure needs and budget information and meet with the Environmental & Facilities Superintendent to review the infrastructure needs, the submitted budget information and confirm the prioritized infrastructure needs for the up-coming year.

The Operations & Facilities Division Manager will confirm by email to the Town's CAO that a meeting in regards to the adequacy of the infrastructure necessary to maintain and operate the water system took place between the Environmental & Facilities Superintendent and the Operations & Facilities Division Manager.

Next, the entire budget document for the Operations & Facilities Division, which includes the water system, will be forwarded to all members of the Operations & Facilities Executive Committee (some members of Council) and Council (Owner) for their review prior to the second Operations and Facilities Executive Committee meeting scheduled in November of each year.

The Operations & Facilities Manager will explain all aspects of the water system including the adequacy of the infrastructure to maintain and operate the water system including the financial impacts to the members of the Operations & Facilities Executive Committee. The Operations & Facilities Executive Committee will make no adjustments in the budget document. However, the Operations & Facilities Executive Committee will

review a prioritized list of infrastructure needs for the water system. Administration prepares minutes of all the Operations & Facilities Executive Committee meetings. These minutes are approved by the Operations & Facilities Executive Committee and forwarded to Council for their review.

Several special budget meetings of Committee of the Whole of Council will take place where the water system infrastructure needs and budget will be reviewed and adjusted by Administration as instructed by Council.

The last step in the process is the adequacy of the infrastructure to maintain and operate the water system for the up-coming year is endorsed and approved by Council (owner) through the budget approval process.

15 Infrastructure Maintenance, Rehabilitation and Renewal

15.1 Infrastructure Maintenance, Rehabilitation and Renewal - Water Treatment Plant

The water operators at the Town's Water Treatment Plant (WTP) perform daily, weekly, quarterly and annual maintenance activities as per the operations/maintenance schedules outlined in Appendix "D". Each Overall Responsible Operators (ORO) has over 20 years experience operating and maintaining the WTP. Equipment manufacturers and/or suppliers originally define scheduled maintenance tasks. The original contractor who constructed the WTP outlines these tasks in the original Operations and Maintenance Manuals supplied. The ORO operators have revised and/or adjusted these scheduled maintenance tasks to meet the needs of the WTP in accordance with their observations and operating experience.

Through a public tendering process plumbing, HVAC & mechanical, instrumentation and carpentry maintenance tradesmen or companies are retained for a 1 to 3 year term to assist the water operators in completing larger maintenance tasks or projects at the Water Treatment Plant.

All large equipment renewal or replacement infrastructure upgrades at the WTP are contracted through a public tendering process.

The Town has completed an inventory and valuation of all the Town's tangible capital assets in order to comply with Public Sector Accounting Board (PSAB) Standard 3150, which came effective on January 1st, 2009. This requirement is the first step as the Town moves towards a strategic long-term integrated planning and management of all its tangible capital assets. The next step is to select a computer based preventative maintenance software program for all of the Town's tangible capital assets.

15.2 Communication Method with the Owner - Infrastructure Maintenance, Rehabilitation and Renewal at the Water Treatment Plant

The WTP operators record all planned and unplanned maintenance activities at the WTP in the WTP logbook. A monthly report is prepared by the ORO of the WTP where all planned and unplanned maintenance activities are listed.

The monthly report is reviewed and signed–off by the Environmental & Facilities Superintendent, the Operations and Facilities (O& F) Manager and the CAO. Next, the monthly report is forwarded to the O & F Executive Committee of Council for review and acceptance. Then the O & F Executive Committee forwards the monthly report to Council for their review and acceptance. This review process takes place every month and usually in the month following the month in-question.

15.3 Water Distribution System Infrastructure Maintenance, Rehabilitation and Renewal

Planned Maintenance of the Water Distribution System

The Water Distribution System Operators in conjunction with the Operations & Facilities Division workforce perform planned maintenance activities on the water distribution system. The Environmental & Facilities Superintendent in conjunction with the Water Distribution System Operators and the Operations and Facilities Manager develop the annual planned maintenance schedule. Under normal operating circumstances, the annual maintenance schedule is as follows:

1) Exercising and inspection of approximately 20% of the water distribution isolation valves and hydrant isolation valves.

2) Fire Hydrant Flushing program usually in the fall time.

3) Inspection of all fire hydrants – removal of the standing water from the standpipe above the main positive displacement valve. Greasing of the main valve stem on a five (5) year cycle and inspection of the fire hydrant identification marker.

4) On a 3-5 year basis the Water Tower tank is inspected in accordance with AWWA Standard – (M42).

Unplanned Maintenance of the Water Distribution System

In regards to unplanned maintenance activities on the water distribution system, there are two main categories:

1) Repairs to water mains or water service lines due to leaks. These unplanned repairs are budgeted annually based on the previous 3-years of experience and must be repaired. The repairs are done on a required basis and in accordance with the procedures outlined in the Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs.

2) Due to exercising water distribution isolation valves, fire hydrant valves or property line curb stop valves leaks may occur that must be repaired. Repair or replacement of these leaking valves occur and are repaired in accordance with the procedures outlined in the Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs.

Records/Communication of Unplanned and Planned Maintenance of the Water Distribution System with the Owner

The water distribution operators record all planned and unplanned maintenance activities within the water distribution system logbook. This information is forwarded to the Environmental and Facilities Superintendent and the Engineering Department to ensure all maintenance activities are entered into the GIS database, thus creating an electronic database of all maintenance activities. On a monthly basis water distribution system maps are developed by the Engineering Department outlining all maintenance activities.

On a monthly basis the Environmental and Facilities Superintendent prepares a summary report outlining all the maintenance activities that has occurred within the water distribution system. This report is forwarded on a monthly basis to the Operations and Facilities Executive committee of Council for review. Next this report is forwarded to Council as a whole for their review.

Rehabilitation and Renewal of the Water Distribution System

In regards to rehabilitation or renewal upgrades of the water distribution system, these larger infrastructure projects don't just assess the water distribution system in isolation. As outlined in Section15.1 – tangible capital assets have been inventoried and evaluated under PSAB Standard 3150.

Starting January 1st, 2009, strategic long term integrating planning and management of all Public Works linear tangible capital assets is being implemented.

All municipal infrastructure and linear systems such as the storm sewer system, the sanitary sewer system, the water distribution system, the sidewalk network, the street lighting system and roadways are being assessed prior to considering or designing a large Public Works linear rehabilitation project. These large projects are being publicly tendered out where a general contractor performs this work during the construction season. A general rule of thumb is if the water main is near the end of its useful life it is replaced within the Town's road allowance.

15.4 Summary of Rehabilitation, Renewal and Routine Maintenance Activities for the Water System

On an annual basis the O & F Division Manager prepares a 5-year capital budget document for the entire O & F Division. Included in this budget document is a summary of all major rehabilitation and renewal capital expenditures planned for the water system for the next 5 years.

Through the annual budgeting process, the owner (Municipal Council) of the water system reviews the planned 5 –year capital budget document where eventually the owner on an annual basis finalized and approves the capital expenditures for the water system. See Appendix "I" for the most recent 5-year capital budget as it pertains to the water system (water distribution system & water treatment plant) as it relates to rehabilitation and renewal items.

All routine maintenance activities are summarized within the water operator's logbooks that are considered records of the water system.

16 Sampling, Testing & Monitoring

16.1 Water Treatment Plant Sampling, Testing & Monitoring Procedures

In accordance with O. Reg. 170/03 – Laboratory Services Notification (Schedule 6, subsection 6-9 (4)) ALS Laboratory is identified as being the licensed laboratory that will perform laboratory testing for the Town of Fort Frances' Drinking Water System.

The Water Treatment Plant (WTP) in Fort Frances has a sampling program based on the requirements set out in O. Reg. 170/03 and Fort Frances Drinking Water System Licence #224-101. The sampling plan and schedule is as follows:

FORT FRANCES WATER SYSTEM
Sampling Plan

Table 1: Bacteriological Testing (Minimum Requirements)

Sample location	**Frequency** (Regulatory Reference)	**TC Bacteria**	**EC Bacteria**	**Notes**
Raw Water- WTP	One (1) sample per week (O. Reg. 170, 10-4)	YES	YES	
*** Treated – WTP**	One (1) sample per week (O. Reg. 170, 10-3)	YES	YES	
*** Distribution – DWS**	Sixteen (16) samples per month (O. Reg. 170, 10-2)	YES	YES	If the population increases above 9000, 17 samples must be collected monthly (i.e., minimum 8 plus 1 for every 1000 people served by the system). At least one sample must be collected each week.

* Chlorine residuals must be taken at the same time and location as treated and distribution water samples collected for bacteriological testing.

Table 2: Chemical Testing (Minimum Requirements)

	Sample Type	Frequency (Regulatory Reference)	Notes
Inorganics (Schedule 23)	Treated	One (1) sample every 12 months (O. Reg. 170, 13-2)	
Organics (Schedule 24)	Treated	One (1) sample every 12 months (O. Reg. 170, 13-4)	
Nitrate & Nitrite	Treated	One (1) sample every 3 months (O. Reg. 170, 13-7)	
Sodium	Treated	One (1) sample every 60 months (O. Reg. 170, 13-8)	
Lead	Private Residences (Plumbing System)	20 sample locations during each period (Reduced – C of A No. PB220000978RR-01) (O. Reg. 170, 15.1)	In every third 12-month period samples are to be taken in each sampling periods (December 15 to April 15 and June 15 to October 15). Require for two consecutive periods. (3 samples to be taken at each location and tested for lead, total alkalinity & pH)
	Non-Residences (Plumbing System)	2 sample locations during each period (Reduced – C of A No. PB220000978RR-01) (O. Reg. 170, 15.1)	
	Distribution System (**)	3 sample locations during each period (Reduced – C of A No. PB220000978RR-01) (O. Reg. 170, 15.1)	
Total Alkalinity pH	Distribution System ((**) Only when lead testing is not performed as outlined above)	3 sample locations, every 12-monthperiod in each sampling period (O. Reg. 170, 15.1 – 5(10))	Three (3) distribution locations in each sampling periods (December 15 to April 15 and June 15 to October 15) every 12-month period. (2 samples taken at each location and tested for total alkalinity & pH)
Lead		Same sample locations as above, every third 12-monthperiod in each sampling period (O. Reg. 170, 15.1 – 5(10))	In conjunction with total alkalinity and pH testing, in every third 12-month period samples are to be taken in each sampling periods (December 15 to April 15 and June 15 to October 15). (1 sample taken at each location and tested for lead)
THMs	Distribution	One (1) sample every 3 months (O. Reg. 170, 13-6)	Must be collected from a point that is likely to have elevated THMs.

A competent certified operator oversees all water sampling taken at the Water Treatment Plant (WTP). A competent certified operator performs in-house testing at least once per day and the results are recorded on a monthly log sheet.
In-house daily testing consists of the following:

- PH testing done on the raw, settled and treated water.
- Turbidity testing done on the raw, settled and treated water.
- Free and total chlorine done on the treated water.
- Fluoride residual is measured on the treated water.
- Alum residual is measured on the filtered water.

On a weekly basis bacteriological samples, consisting of one (1) raw water sample and one (1) treated water sample are taken at the WTP. These samples are sent to an accredited lab for analysis.

Appendix “F” is devoted to identifying and responding to adverse sample results.

The SCADA computer process control system monitors and trends process treatment parameters as well as levels of raw water in the raw water wells, level of treated water in the reservoirs and whether or not the pumps in the WTP are in the “running” position or in “off” position such pumps as the backwash pumps and the low lift pumps and the high lift pumps and the chemical feed pumps (soda ash pumps, polymer pumps, fluoride pumps, carbon pumps and alum pumps). Chemical residuals are also monitored and trended such as chlorine and fluoride. There is a turbidity meter on the downstream side of each one of the four dual media filters, which is monitored and trended. The WTP operators may adjust treatment processes affecting water quality based upon the information and data provided by the SCADA system. Any adjustments made to process treatment parameters are recorded in the daily logbook at the WTP.

16.2 Water Distribution System Sampling, Testing & Monitoring Procedures

Fort Frances’ Water Distribution System has a sampling program based on the requirements set out in O. Reg. 170/03 and its Drinking Water System Licence (Lic. #224-101). See sampling plan and schedule as outlined in Table 1 and 2 in Section 16.1.

A competent certified water system operator oversees all water sampling taken within the water distribution system. Water samples are collected in the distribution system for bacterial and chemical properties. On a weekly basis, four (4) bacteriological samples are taken from the water distribution system, where they are sent to an accredited lab for analysis. Chemical samples are collected as outlined in Section 13 of the O. Reg. 170/03,which are sent to an accredited lab for analysis as well. The water distribution

system operator records water sampling information, i.e., location, date, time and operator name taking the sample and signs off within a logbook.

When maintenance activities occur within the water distribution system, the operators sample in accordance to the O. Reg. 170/03 and as outlined in the Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs. Lead sampling/testing is done in accordance to O. Reg. 170/03 Schedule 15.

In addition to the bacteriological and chemical testing, free chlorine residuals are taken each time bacteriological samples are obtained. When maintenance activities occur within the water distribution system, operators test according to the O. Reg. 170/03 and as outlined in the Emergency Response Binder (ERB) – S.O.P. #3 for Water Main Breaks and Repairs. All testing results are kept on file at the Water Treatment Plant.

On a daily basis, the water is tested for free available chlorine (FAC) residual at the Water Tower. The chlorine residual and time of sampling are recorded in the Water Tower logbook.

The Water Treatment Plant operators monitor on a daily basis the free available chlorine (FAC) residual at the Water Tower. This data used by the operator to ensure that secondary treatment within the water distribution system is being maintained. On a regular basis a competent certified operator reviews a spreadsheet outlining all chlorine residuals.

16.3 Communication of Water System Sampling, Testing & Monitoring Procedures with the Owner

The Overall Responsible Operator (ORO) prepares a monthly summary report outlining information in regards to drinking water sampling, testing and monitoring of the entire water system. All levels of management responsible for the drinking water system review this monthly report.

The Operations and Facilities Executive Committee reviews this monthly summary report where the report is accepted and forwarded to the CAO prior to being endorsed or accepted by Council (owner). Annually all water testing and sampling results are summarized in the drinking water system Annual Compliance Report that is submitted to Council for acceptance.

17 Measurement and Recording

All flow meters, portable chlorine analyzers and continuous water quality analyzers are calibrated annually by an outside, qualified contractor. All contractor calibration records are kept on file at the Water Treatment Plant.

Continuous water quality analyzers are calibrated in-house; by competent certified operators in accordance with manufactures specifications.

An electronic maintenance management program records and tracks maintenance activities of the plant's equipment. On a monthly basis a report of these activities are generated for the operator to review.

Qualified Contractors used for performing calibrations are listed in Element 13 (Essential Supplies and Services).

18 Emergency Management

18.1 Introduction

During the course of developing a new Drinking Water Quality Management System for the Town of Fort Frances water system, several QMS team meetings took place, where a list of six (6) potential emergency situations or service interruptions was developed, circulated and agreed on by the QMS team. The process of approving these six (6) potential emergency situations or service interruptions is recorded in the QMS meeting minutes. There are six (6) main emergency situations where Standard Operating Procedures (SOP) were developed. An emergency response binder located at the Water Treatment Plant in the Control Room has been developed which outlines the six (6) standard operating procedures for emergency situations, emergency contact information, contact information for bottle water suppliers and a binder record sheet. Water system staff as part of their training requirements will review this emergency response binder.

18.2 Town of Fort Frances – Water System - Potential Emergency Situations

1. Destruction (Bombing/Major Fire) of Water Treatment Plant or Water Tower - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 1 in the emergency response binder.

2. One or More Water Treatment Plant Operators are Sick and can't perform their duties to ensure a safe continuous supply of potable drinking water is available to the community. See Standard Operating Procedure No. 2 in the emergency response binder.

3. Water Main Breaks & Repairs - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 3 in the emergency response binder.

4. Breakdown or Malfunction of Critical Treatment Process Equipment at the Water Treatment Plant - A Standard Operating Procedure is in place. See Standard Operating Procedure No. 4 in the emergency response binder.

5. Loss of Electrical Power for an Extended Period Time - due to the following natural disasters such as snow blizzard, ice storm, flooding, tornado, fires or a lightning strike. A Standard Operating Procedure is in place. See Standard Operating Procedure No. 5 in the emergency response binder.

6. Contamination of Raw Water Source - due to a derailment or highway spillage where toxic chemicals are discharged into the river near Water Treatment Plant raw water intake piping. A Standard Operating Procedure is in place. See Standard Operating Procedure No. 6 in the emergency response binder.

18.3 Emergency Response Binder

In the Control Room at Water Treatment Plant, there exists an Emergency Response Binder that contains the following;

1. All six (6) Standard Operating Produces (SOP) for these emergency situations.

2. A contact list of all water staff, all Public Works staff, the Town Community Control Group members, suppliers of bottle drinking water, and the resource contact list from the Town of Fort Frances Emergency Plan.

3. Record Sheet indicating when the water system staff or supervisors have annually reviewed and/or used the emergency information binder for a training exercise and/or when the information in the Binder has been revised or updated.

The Secretary/Receptionist will update the Emergency Response Binder as necessary when new information or revised information becomes available. The Secretary/Receptionist will be required to fill-in the record sheet contained in the binder once information is updated in the binder.

18.4 Connection to Town's Emergency Community Control Group (Municipal Emergency Planning Measures)

Municipal departments and divisions routinely respond to situations requiring fire, police, ambulance and Public Works services; however, some emergency situations may escalate beyond the scope of normal operations. The Town of Fort Frances has developed an Emergency Plan to aid/assist or guide in the response to any emergency situation. Under Provincial legislation, the Town is required to develop, implement and annually train on its Emergency Plan.

The Operations & Facilities Manager or designate is a key member of the Town Community Control Group. The six (6) potential emergency situations or service interruptions for the water system would eventually trigger the Town Community Control Group to be assembled to assist in the situation.

18.5 Annual Training on Emergency Preparedness

On an annual basis all the staff within the water system will review the Emergency Response Binder and the six (6) potential emergency situations or service interruptions where at a minimum the Standard Operating Procedures or Contingency Plans will be reviewed. The Town's Emergency Community Control Group will annually be involved in a table-top exercise or mock field exercise, which at times may include the water system staff. All training activities will be recorded in minutes of meetings or internal memo minutes. These avenues of record will outline training activities, participants, date and time. A copy of training memos will be placed in all participant personnel file.

19 Internal Audits

19.1 Purpose:

This procedure describes the Internal Audit process, which is used to verify that:

- the QMS conforms to the requirements of the DWQMS, and
- the QMS has been effectively implemented and properly maintained.

19.2 Scope:

This procedure is applicable to all process and activities addressed in the Operational Plan for the drinking water treatment and distribution systems in the Town of Fort Frances.

19.3 Definitions and Acronyms:

CAR – Corrective Action Report
DWQMS – Drinking Water Quality Management Standard

19.4 Procedure:

Preparation

a) Internal audits shall only be conducted by persons having the following qualifications:
   - Internal employees who have completed internal audit training,

   or
   - Employees of other operating authorities who have completed internal audit training. Outside Auditors shall provide proof of competency prior to conducting an audit.

b) Internal Audits of the QMS as documented in the Operational Plan are conducted annually. The QMS Representative shall schedule the audits to ensure that all elements of the DWQMS are sampled at least once in a twelve (12) month period.

c) The audit QMS checklist(s) shall be created and maintained by the Representative jointly with the Overall Responsible Operator or Auditor. The checklist(s) shall be used by the Internal Auditor as a guideline, for record-keeping purposes, and for conducting the interviews and document review during the audit.

Conducting the Audit

a) The Auditor shall observe activities, review records, review previous internal and external audit results, and interview personnel as necessary to ensure that the status of the audited QMS has been effectively covered.

b) No audits may be planned and/or conducted without the QMS Representative's permission.

Reporting the Results

a) The Auditor shall submit a completed report, including the DWQMS checklist, to the Overall Responsible Operator (ORO) and QMS Representative within a reasonable time of the internal audit.

b) The report shall include any corrective actions requests (CARs) required to address discrepancies between the QMS and the DWQMS, or between the QMS and how it is actually implemented, including a reference to the applicable section of the Standard.

c) The QMS Representative shall designate responses to CARs to the responsible individual.

d) It shall be the responsibility of the QMS Representative to ensure that all CARs are followed up and responses to the CARs are provided to the Internal Auditor within 45 days of the internal audit.

e) CARs shall be completed, addressed and filed at the Water Treatment Plant office.

f) The QMS Representative shall communicate the results of the audit to the Manager of Operations & Facilities.

Corrective Action/Corrective Action Procedure

a) The purpose of this procedure is:

- to describe how Corrective Actions are initiated, assigned, documented and verified as being effective.
- to detect all non-conformities of the QMS with respect to the requirements of the DWQMS and to all drinking water activities within the Town of Fort Frances.

Procedure

a) Corrective Actions shall be initiated through the identification of non-conformities within the drinking water treatment and distribution systems or the DWQMS. Non-conformities may be detected by any number of methods including:
   - Internal or External Audits
   - End user complaints
   - Management Reviews
   - Operator feedback

b) Non-conformities shall be reported to the QMS Representative who shall determine if a Corrective Action is required.

Investigating and Completing a Corrective Action

a) The QMS Representative shall assign a Corrective Action to appropriate staff when it is determined that a Corrective Action is required. Each non-conformance shall require a separate Corrective Action form.

b) The Corrective Action form shall be completed with the following information:
   - The date the Corrective Action was initiated
   - A description of the roots cause of the non-conformance
   - A description of the corrective actions being taken
   - Responsibilities and timelines for corrective actions
   - Signoff by the responsible employee once the corrective action(s) is complete

c) The root cause shall be determined. The “5-why” technique may be used, where the question ‘why’ is simply asked five (5) times and the root cause is usually the answer.

d) The Corrective Action Assignee shall report progress to the QMS Representative based on established timelines.

e) Corrective Actions shall be closed out once verified as being effective by the QMS Representative or their designate. The purpose of verifying is to ensure that the corrective root cause was identified and that the solution was effective.

Tracking of Corrective Actions

a) The QMS Representative shall maintain a listing of all completed Corrective Actions.

19.5 Associated Documents and Records:

- Record of Auditor Training
- Internal Audit Schedule
- Completed Internal Audit Checklist
- Audit Report
- Correction Action Report (CAR)

20 Management Review

20.1 Review Frequency

Top management shall review the QMS once every twelve (12) months to assess and ensure the continuing suitability, adequacy and effectiveness of the QMS.

Management review(s) shall be included in the internal audit schedule.

20.2 Review Participants

Management review participants shall include:

- CAO
- Operations & Facilities Manager
- Environmental & Facilities Superintendent (QMS Representative)
- Overall Responsible Operator
- Operator In Charge (Water Distribution System)

The Operations & Facilities Manager may include other personnel at his discretion.

Attendees shall be notified of the management review meeting by e-mail and/or internal memo.

20.3 Review Input

The QMS Representative and the Secretary/Receptionist shall provide a summary of the following information in a suitable format to the management review meeting attendees at least seven (7) days prior to the meeting:

- Incidents of regulatory non-compliance.
- Incidents of adverse drinking-water tests.
- Deviations from critical control-point limits and response actions.
- The effectiveness of the risk assessment process.
- Internal and third-party audit results.
- Results of emergency response testing.
- Operational performance.
- Raw water supply and drinking water quality trends.
- Follow-up on action items from previous management reviews.
- The status of management action items identified between reviews.
- Changes that could affect the QMS.
- Consumer feedback.
- The resources needed to maintain the QMS.

- The results of the infrastructure review.
- Operational plan currency, content and updates.
- Staff suggestions.

20.4 Review Process

The QMS Representative shall prepare a meeting agenda and distribute the meeting agenda with the management review data.

The management review participants shall review all data presented, and where necessary, identify opportunities for improvements. These may include opportunities for improvement related to the:

- Effectiveness of the QMS and related procedures.
- Ability of the Operating Authority to implement the QMS
- Provision of adequate human and financial resources.
- The level of consumer satisfaction.

For all opportunities identified, the management review participants shall identify action items, personnel responsible for implementing action items and timelines for action items.

Records of management reviews, recommendations, decisions, action items, personnel responsibilities, and timelines shall be forwarded to the Operations & Facilities Executive Committee upon completion for acceptance and then forward to Council (Owner) of the Town of Fort Frances for review and acceptance.

Records shall be maintained by the QMS Representative. The records shall reflect all new action items and any decisions made by the Management Review Team, deficiencies, personnel responsible for action items, and timelines.

21 Continual Improvement

The Town of Fort Frances will establish and maintain a Drinking Water Quality Management System that will be regularly reviewed, improved and upgraded by management and employees involved in the supply of drinking water. The Town will continually improve by upgrading equipment and infrastructure.

The Town will show its improvement by having fewer customer complaints. When appropriate, the Town of Fort Frances will modify/update adjust processes and procedures (while remaining in compliance with the Safe Drinking Water Act and all applicable regulations) to improve operations and customer satisfaction.

APPENDICES

DOCUMENT CHANGE REQUEST FORM

Requested By: _____ **Date:** _____

Department: _____

Type of Change:

Edit Existing Document **Create New Document** **Delete Document**

Changes Requested:

_____

_____

_____

_____

Justification for Changes:

_____

_____

_____

_____

Proposed Changes:

_____

_____

_____

Approval:

QMS Representative: _____ **Date:** _____

Comments:

_____

EQUIPMENT INFORMATION FORM

EQUIPMENT NAME:		**MAKE:**	
MODEL / SERIES:	**S/N:**	**R.P.M.:**	**HORIZ. /VERT.:**
TRANSMISSION:		**SIZE/CAP.:**	
TANK:		**TYPE:**	
SEALS:		**SHAFT DIAMETER:**	
MOTOR MAKE:			
HP:	**AMPS:**	**VOLTS:**	**S/N:**
RPM:	**TYPE:**	**CODE:**	**FRAME:**
DUTY:	**TEMP:**	**DESIGN:**	**CLASS:**
BEARINGS:		**MOTOR CONTROLS:**	

MAINTENANCE:	DATE:	INITIALS:

OUTLINE OF OPERATIONS/MAINTENACE SCHEDULES

The following is a list of the responsibilities and duties carried out at the Water Treatment Plant on a daily, weekly, monthly, quarterly and annual basis.

Daily Operations:

- Flow Readings
- Chemical Readings
- AM or PM Residual Testing
- Backwash Filters
- Check Chemical Feed Systems
- Check poly pumps
- Check Sample Pumps
- Check Clarifiers (blow down and mixing)
- Adjust Flows and Chemical Feeders according to demand
- Jar Tests if required
- Go to Water Tower and take a Cl2 residual and if required, add Calcium Hypochlorite and water then mix the day tank
- Check the Calcium Hypochlorite Pump at the Tower
- In the winter during extreme cold temperatures turn the heating system on at the Tower
- Handle Water Customer Complaints - (Distribution System - Pressure and Water Quality)
- Drain Air Compressors and check oil in each one
- Clean poly cup
- Fill out logbook and records in accordance with Ministry of Environment requirements i.e. - operator in charge, time of day of adjustment etc.

Weekly Operations:

- Sampling (Microbiological)
- Filling Chemical Feeders
- Plant and Water Tower yard maintenance (grass cutting and trimming, snow removal)
- Cleaning plant
- Water Meter Repairs
- Water Meter Installations

Monthly Operations:

- Flows and Residuals summary report for each month
- Order Aluminum Sulphate - the main Coagulant

- Equipment Maintenance (greasing of High Low Lift Pumps and Clarifier Drive Systems)
- Monthly Reports

Quarterly Operations:

- DWSP Samples
- WTP and Water Tower Quarterly Samples
- Airport Samples
- Ordering of Chemicals (Chlorine, Fluoride and Soda Ash)
- Cleaning and Inspection of the Inline Aluminum Sulphate Mixer
- Run Standby Fire Pump

Annual Operations:

- Clean Clear Wells
- Clean Raw Water Wells
- Clean Clarifier Wells
- Clean Contact Chamber
- Take each Filter off line and check media loss and also check underneath each filter
- Annual Report
- Advertise for Chemical Suppliers for the year
- Prepare Capital List for budgeting purposes
- Building Maintenance

Miscellaneous Operations:

During the Winter months (low demand season - November to March) is when the Operators perform annual inspection work such as, draining and cleaning of clear wells, clarifiers, raw water wells, and the contact chamber.

Also try to do any building maintenance and pump rebuilds and/or motor rebuilds and maintenance such as oil changes.

Chlorine samples are taken at water main breaks and at new water main installations

Along with increased record keeping and reporting, sampling has also increased.
We also handle any day-to-day customer complaints in regards to pressure and water quality.

Standard Operating Procedure for Flushing of Water Mains

1. PURPOSE:

To provide a procedure which outlines the events and responsibilities of Town employees for flushing of water mains.

2. RESPONSIBILITY:

All individuals in the Operations & Facilities Division workforce, at all levels and functions, are responsible for understanding and carrying out the responsibilities and duties outlined in the policy.

3. PROCEDURE:

A. GENERAL:

i. Flushing of the water mains is done initially to remove any debris or dirt left in the pipe after installation. After installation is completed, the distribution system should be maintained by flushing at a minimum frequency of once per year.

ii. Swabbing may be required if the integrity of the distribution system cannot be maintained by flushing.

iii. Notify the Water Treatment Plant Operator(s) of which water mains will be flushed.

B. GUIDELINE:

i. Pre-plan an entire day's flushing using the available distribution system maps. Traffic control and warning devices are to be used where traffic is being affected.

ii. Determine which sections of the mains are to be flushed at one time, the valves to be used and the order, which the pipelines will be flushed.

iii. Notify all costumers who will be affected of the dates and times of the flushing through billings, newspaper, local radio or T.V. announcements. Explain the intent and objective of the flushing program.

iv. Start at or near a source of supply and work outward into the distribution system.

v. Assure that an adequate amount of flushing water is available at sufficiently high pressures. A minimum flushing velocity of 0.75 m/sec (1.50 m/sec preferred) or 2.5fps (5.0 fps preferred) should be used. One or more fire hydrants may be used for flushing so that minimum velocities can be obtained. Please see the chart below for pipe diameter and number of hydrants required to flush effectively.

vi. Isolate the section to be flushed from the rest of the system. Close the valves slowly to prevent water hammer.

vii. Open the fire hydrant or blow-off valve slowly.

viii. Direct flushing water away from traffic, pedestrians and private property. Avoid erosion damage to streets, lawns and yards by the use of tarpaulins and lead-off discharge devices such as diffusers. Avoid flooding, which can cause traffic problems.

ix. Open hydrant fully for a period long enough (5-10 minutes) to stir up the deposits inside the water main. Assure that the system pressures in nearby areas do not drop below 138 kPa (20 psi).

x. Record all pertinent data regarding the flushing operation as well as a description of the appearance and odour of the water flushed.

xi. Collect two (2) water samples from each flowing hydrant, one in the beginning (about 2 to 3 minutes after the hydrant is opened) and the second sample when the discoloured water turns clear (just before closing the hydrant). After the flushing water becomes clear test the free chlorine residuals to ensure they are at the 0.2 mg/L range with the minimum being 0.05 mg/L and record this information on the Hydrant Maintenance Report. Slowly close the hydrant or blow-off valves.

xii. After one section of pipe has been flushed, move on to the next section to be flushed and repeat the same procedures.

xiii. Prepare a record of inspection and maintenance operations and any repair work to be done. (See Appendix A; Water Main Flushing Report).

A record of the hydrant performance should be kept on an individual basis and records maintained in GIS.

Pipe Diameter (Minimum)		**Required Flow Rate***		**No. of Hydrants Required**
Inches Open**	**Millimetres**	**GPM**	**L/S**	
4	100	100	6	1
6	150	200	13	1
8	200	400	25	1
10	250	600	38	1
12	300	900	57	2
16	400	1600	100	2

*Based on 0.75 m/s (2.5 ft/s) at 280 kPa (40 psi) pressure
**Based on hydrant with one 63 mm (2 1/2 in.) outlet.

Coordinate with flushing aspects of "Hydrant Maintenance" program.

NOTIFICATION REQUIREMENTS

FOR WHEN

WATER DOES NOT MEET

ACCEPTABLE STANDARDS

FOR LARGE

MUNICIPAL RESIDENTIAL SYSTEMS

THE FOLLOWING PROCEDURES MUST BE FOLLOWED WHEN TEST RESULTS EXCEED HEALTH RELATED PARAMETERS OR INDICATE ADVERSE WATER QUALITY

- The Laboratory must notify the M.O.E. and the local Medical Officer of Health and the owner of the Waterworks.
- The Waterworks owner after being notified by the Lab must immediately inform the M.O.E. and the Local Medical Officer of Health even though the Laboratory has already done so.
- All notifications must be made to a live person and be followed up in writing within 24 hours.
- The Medical Officer of Health is responsible for declaring that the drinking water is unsafe and advising the public of any precautions that should be taken, such as boiling water.
- The Ministry of the Environment is responsible for ensuring that the Waterworks owner takes corrective action.
- The M.O.E. Spills Action Center must be notified when the Waterworks owner becomes aware of a M.A.C. or I.M.A.C. exceedances or an adverse water quality condition.

CORRECTIVE ACTIONS

- The Waterworks owner must also provide confirmation that corrective action is being taken.

Correction Action may include:

- Re-sampling
- Increasing the chlorine dose
- Flushing water mains

In addition, direction may also be given by the local Medical Officer of Health and the Ministry of the Environment.

The most important action to take is to notify the local Medical Officer of Health and the Ministry of the Environment.

If it is a Microbiological problem, making sure there is an appropriate level of Chlorine Residual in the distribution system is vital.

RE-SAMPLING

Re-sampling should consist of a minimum of three samples for each positive site. One sample should be collected at the affected site, one at an adjacent location on the same distribution line and the third sample should be collected upstream toward the water source. A Chlorine Residual must be recorded at each sampling site.

MEDICAL OFFICER OF HEALTH

Regular Office Hours
Monday to Friday 8:30 a.m. to 4:30 p.m.
Telephone: 807-468-3147
After Hours: 807-468-7109 for the answering service to relay messages
or 1-800-830-5978 after hours

NORTHWESTERN HEALTH UNIT - KENORA

Regular Office Hours
Monday to Friday 8:30 a.m. to 4:30 p.m.
Telephone: 807-468-3147
or 1-800-830-5978 (Toll Free)
Fax: 807-468-4970

SPILLS ACTION CENTER

Telephone: 1-800-268-6060 (Toll Free)
Fax: 1-800-268-6061

MINISTRY OF THE ENVIRONMENT – KENORA AREA OFFICE

Telephone: 807-468-2718
or 1-888-367-7622 (Toll Free)
Fax: 807-468-2735

NORTHWESTERN HEALTH UNIT – FORT FRANCES

Telephone: 807-274-9827
or 1-800-461-3348 (Toll Free)
Fax: 807-274-0779
Brian Norris Cell #274-9480

THE TOWN OF FORT FRANCES

NEW CELLULAR PHONE NUMBERS

WATER TREATMENT PLANT

RANDY WHITE (ORO)	275-8733
BRAD WEBB (WT4 – Alternate ORO)	275-5215
MIKE ALLEN (OIC)	275-6175

DISTRIBUTION SYSTEM

PAUL LEMESURIER (OIC)	275-5045
GREG WIEDENHOEFT	275-8814
TRAVIS GEORGE	271-0407

PUBLIC WORKS STANDBY (After Hours) 275-9754

FORT FRANCES AIRPORT 275-9760

LANDFILL SCALES 275-5147

OPERATIONS & FACILITIES MANAGER

DOUG BROWN 275-9755

ENVIRONMENTAL & FACILITIES SUPERINTENDENT

DOUGLAS HERR 275-5254

TRANSPORTATION SUPERINTENDENT

MILT STRACHAN 275-5255

CORRECTIVE ACTION FORM

CAR #	Number assigned from log
Date	
Element	
Description of Nonconformance	
Root Cause	Core reason for non-conformance Use the '5Y' method – ask 'why it occurred 5 times, and discover the root cause Often related to lack of training, procedures, resources, etc.
Description of Corrective Action Taken	
Sign-off: Corrective Action Complete	Name and Date
Long-Term Corrective Action	If applicable
Validation Sign-off – Corrective Action Effective	

Listing of Completed Corrective Actions

CAR No.	Element	Description	Date Issued	Assigned to	Date Resolved

Summary of Rehabilitation, Renewal and Routine Maintenance Activities for the Water System.

The spreadsheet identifies the most recent 5-year capital budget items as it pertains to the rehabilitation and renewal of the water system (water distribution system & water treatment plant).

Capital Budget	2014 Total Cost	2014 Grants/LTD or Trust Fund	2014 Town's Cost	2015 Total Cost	2015 Grants/LTD or Trust Fund	2015 Town's Cost	2016 Total Cost	2016 Grants/LTD or Trust Fund	2016 Town's Cost	2017 Total Cost	2017 Grants/LTD or Trust Fund	2017 Town's Cost	2018 Total Cost	2018 Grants/LTD or Trust Fund	201 Tow Co
m															
	$181,391.00		$181,391.00	$100,000.00		$100,000.00	$100,000.00		$100,000.00	$100,000.00		$100,000.00	$100,000.00		$100,0
	$5,000.00		$5,000.00	$5,000.00		$5,000.00	$5,000.00		$5,000.00	$25,000.00		$25,000.00	$5,000.00		$5,00
	$37,500.00		$37,500.00												
Crowe Ave. to	$297,182.00		$297,182.00												
- Reid Ave. to			$0.00			$0.00			$0.00			$0.00	$528,573.48		$528,5
d Ave. to			$0.00			$0.00			$0.00			$0.00			$0.
ackflow Preventors			$0.00			$0.00			$0.00			$0.00			$0.
	$12,000.00		$12,000.00	$10,000.00		$10,000.00	$10,000.00		$10,000.00	$10,000.00		$10,000.00	$10,000.00		$10,0
t Street -1355			$0.00			$0.00			$0.00	$468,897.00		$468,897.00			$0.
result from			$0.00	$400,000.00		$400,000.00	$400,000.00		$400,000.00	$400,000.00		$400,000.00	$400,000.00		$400,0
5 m)			$0.00			$0.00			$0.00			$0.00	$120,000.00		$120,0
(823 m)			$0.00			$0.00			$0.00			$0.00	$2,000,038.00		$2,000,
m)				$150,000.00		$150,000.00									
n)							$150,000.00		$150,000.00						
d (110 m)				$72,000.00		$72,000.00									
Riverview										$348,353.14	-$232,235.43	$116,117.71			
5m)				$230,000.00		$230,000.00						$0.00			
m)							$200,000.00		$200,000.00						$0.
n Road East- 470			$0.00			$0.00	$289,372.00		$289,372.00			$0.00			$0.
			$0.00			$0.00			$0.00	$20,000.00		$20,000.00			$0.

Capital Budget	2014	2014	2014	2015	2015	2015	2016	2016	2016	2017	2017	2017	2018	2018	201
	Total	Grants/LTD or	Town's	Total	Grants/LTD or	Town's	Total	Grants/LTD or	Town's	Total	Grants/LTD or	Town's	Total	Grants/LTD or	Tow
	Cost	Trust Fund	Cost	Cost	Trust Fund	Cost	Cost	Trust Fund	Cost	Cost	Trust Fund	Cost	Cost	Trust Fund	Co
m															
	$60,000.00		$60,000.00	$40,000.00		$40,000.00	$40,000.00		$40,000.00	$40,000.00		$40,000.00	$40,000.00		$40,00
cy Boilers			$0.00			$0.00			$0.00			$0.00			$0.
			$0.00			$0.00	$12,000.00		$12,000.00			$0.00			$0.
Clear wells			$0.00	$25,000.00		$25,000.00			$0.00			$0.00			$0.
Chemical Feed			$0.00			$0.00			$0.00			$0.00			$0.
			$0.00			$0.00	$25,000.00		$25,000.00	$25,000.00		$25,000.00	$25,000.00		$25,00
	$300,000.00		$300,000.00			$0.00			$0.00			$0.00			$0.
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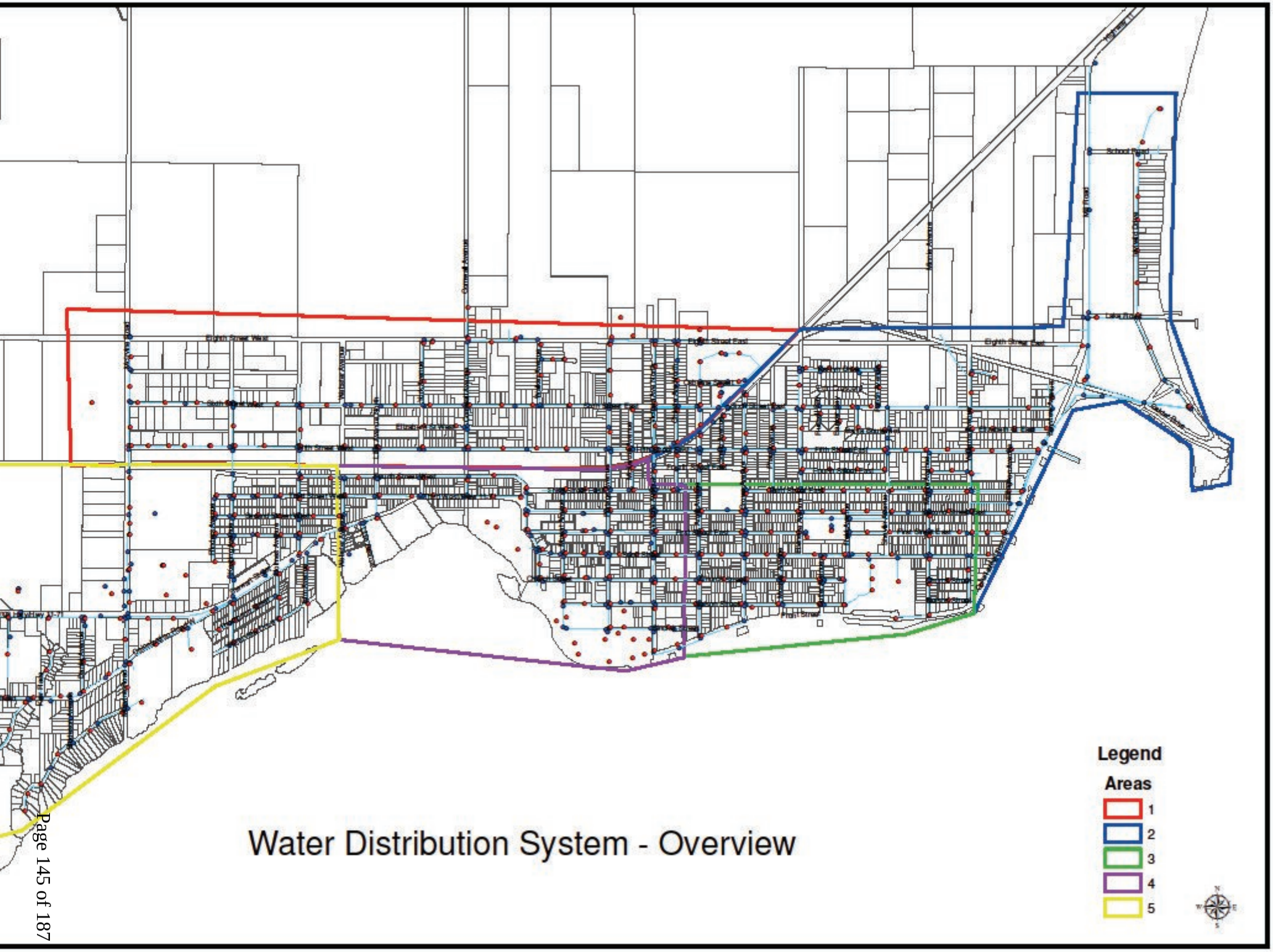
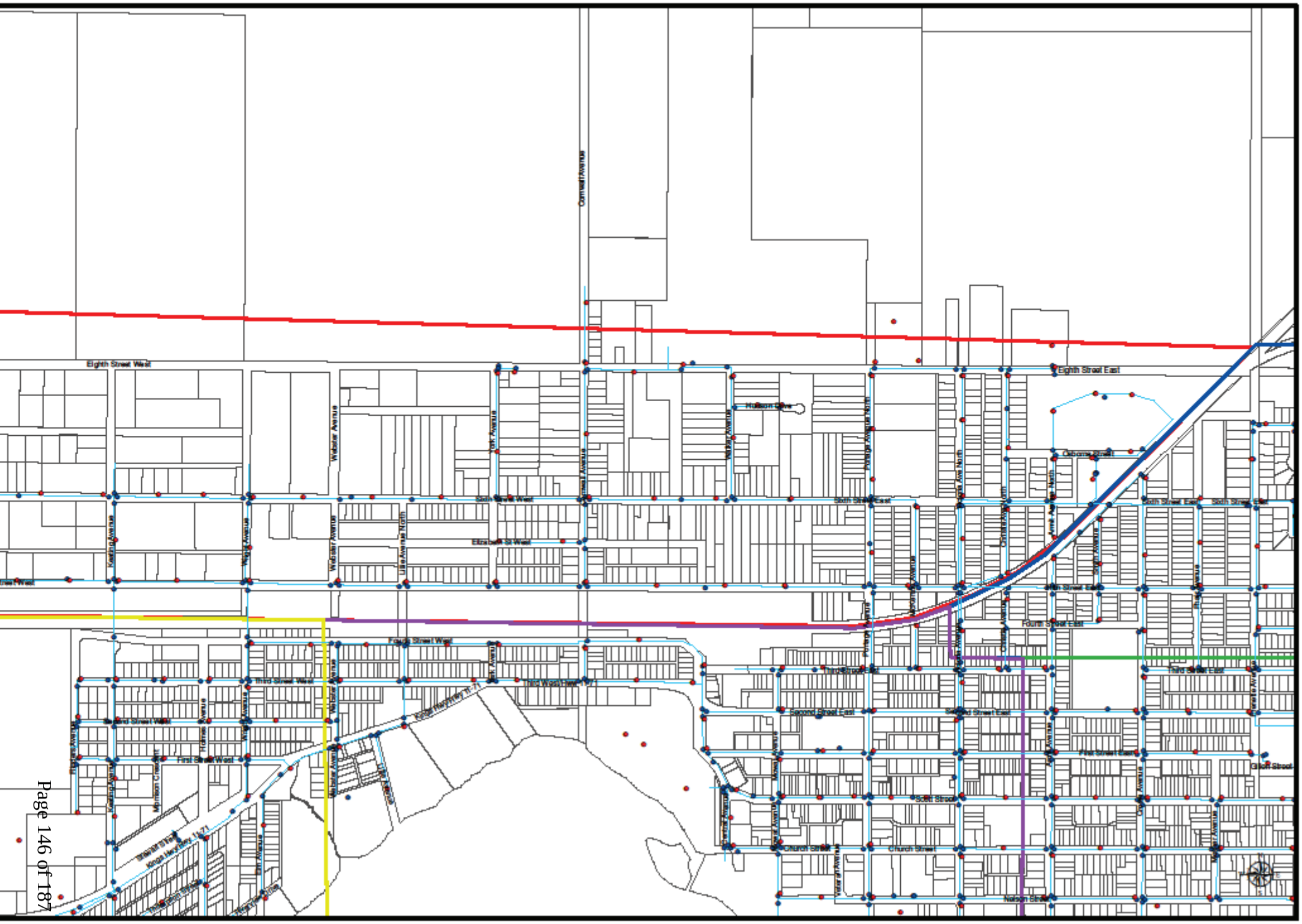
ent, etc.			$0.00			$0.00			$0.00	$25,000.00		$25,000.00	$25,000.00		$25,00
otal Water System	**$893,073.00**	**$0.00**	**$893,073.00**	**$1,032,000.00**	**$0.00**	**$1,032,000.00**	**$1,231,372.00**	**$0.00**	**$1,231,372.00**	**$1,462,250.14**	**-$232,235.43**	**$1,230,014.71**	**$3,253,611.48**	**$0.00**	**$3,253,**

Town of Fort Frances' Drinking Water Distribution System:

A single map showing the Town of Fort Frances' entire drinking water distribution system with five (5) additional maps, further breaking down the system into sections showing more detail.


Water Distribution System - Overview
Legend
Areas
1
2
3
4
5

Area 1


Eighth Street West
Eighth Street East
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Webster Avenue
York Avenue
Hudson Drive
Osborne Street
Sixth Street West
Sixth Street East
Elizabeth St West
Fourth Street East
Fourth Street West
Third Street West
Third Street East
Second Street West
Second Street East
First Street West
First Street East
Scott Street
Church Street
Nelson Street
Keating Avenue
Wright Avenue
Morrison Crescent
Hanover Avenue
Mohawk Avenue
Ontario Avenue
Moore Avenue
Wellington Avenue
Victoria Avenue
Avenue A North
Central Avenue
Ann Avenue
Ann Avenue North
Ann Avenue South
Ann Street
Ann Street East
Ann Street West
Ann Street Alley
Fairville Avenue
Fairville Avenue North
Fairville Street
Fairville Street East
Fairville Street West
Fairville Street Alley
Victoria Avenue
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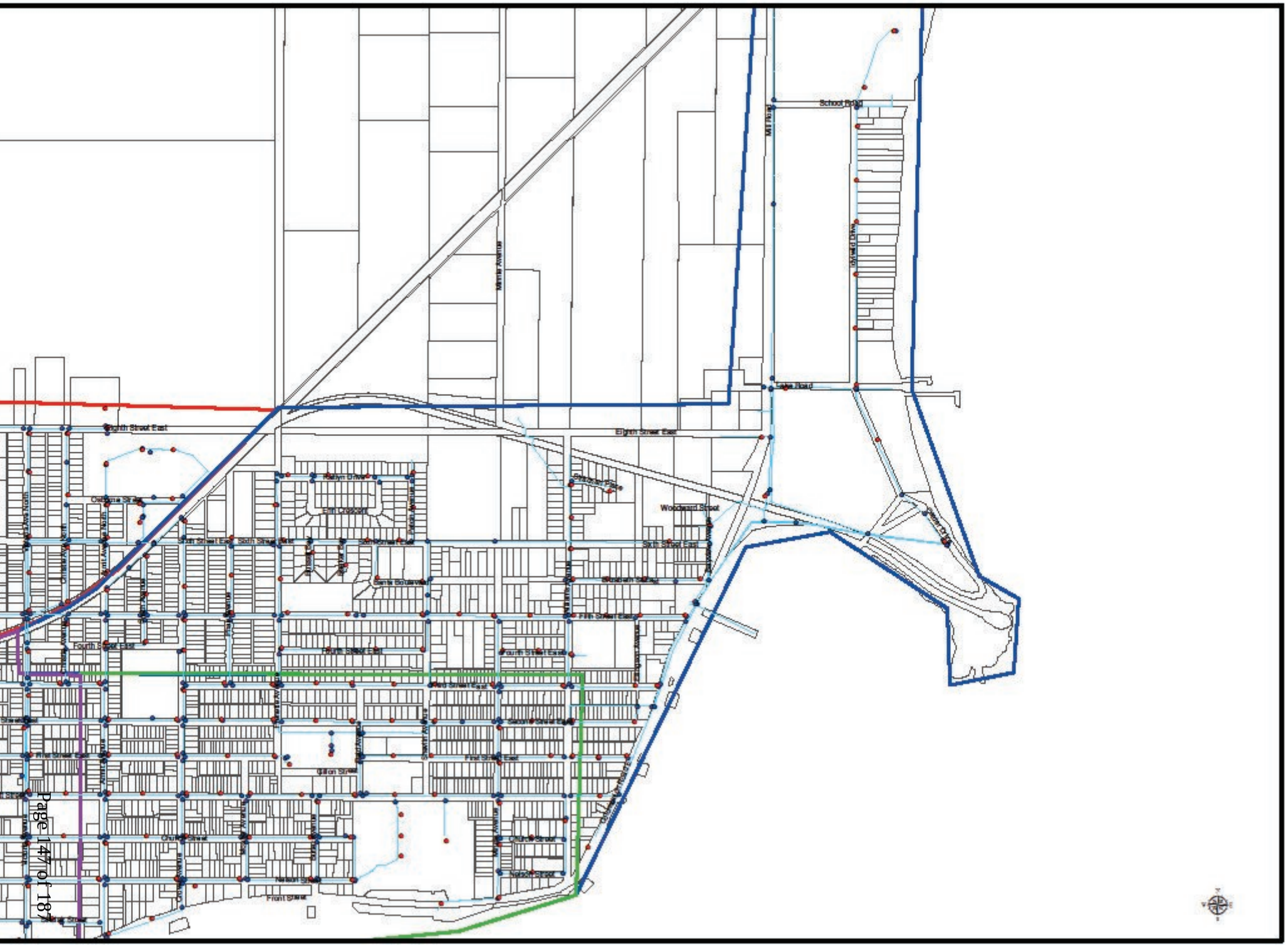
Victoria Avenue Alley

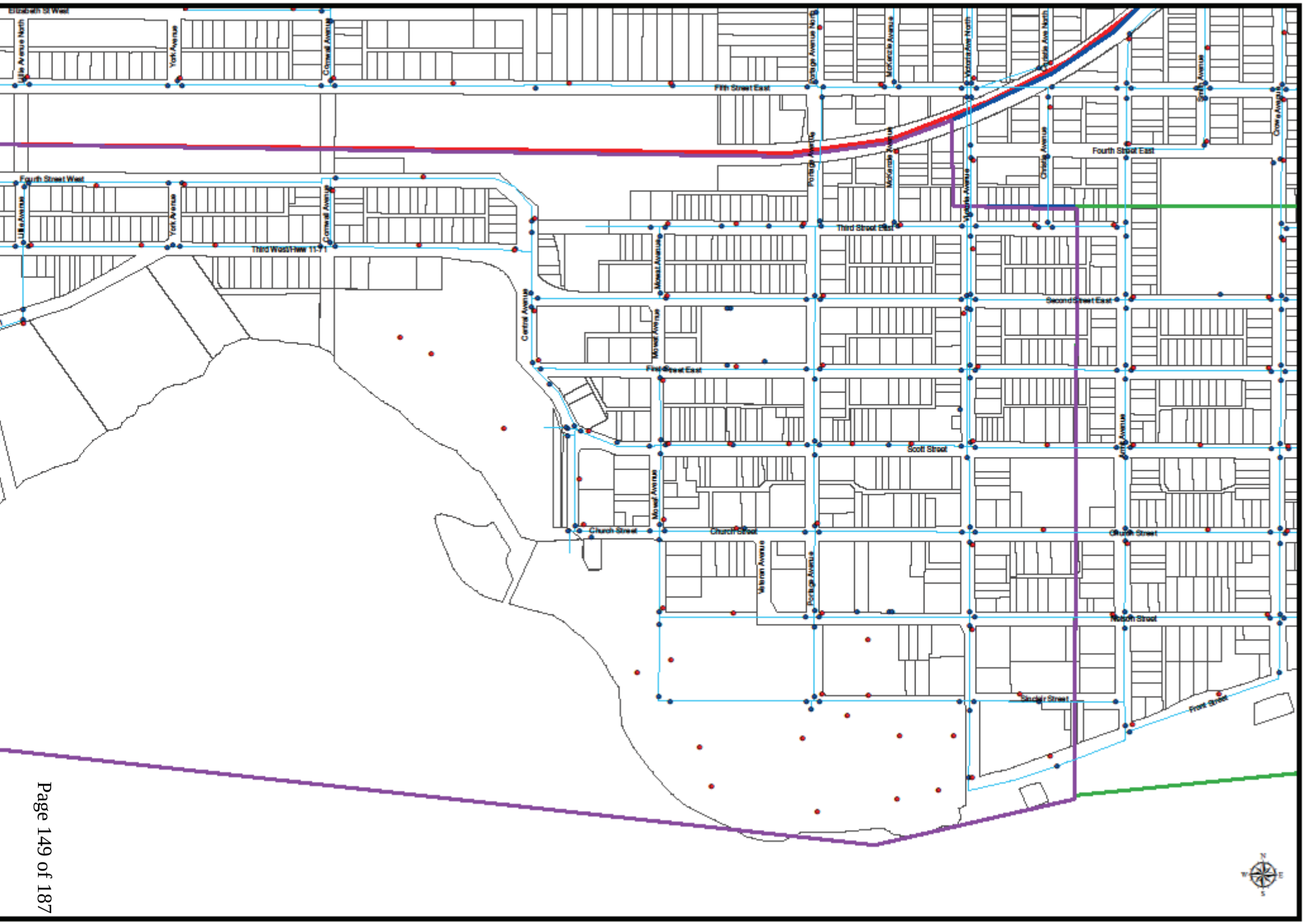
Area 2


Eighth Street East
Eighth Street East
Mill Road
School Road
Lake Road
Osborne Street
Sixth Street East
Sixth Street East
Woodward Street
Fifth Street East
Fourth Street East
Fourth Street East
Fourth Street East
Third Street East
Second Street East
First Street East
First Street East
Church Street
Church Street
Nelson Street
Nelson Street
Front Street

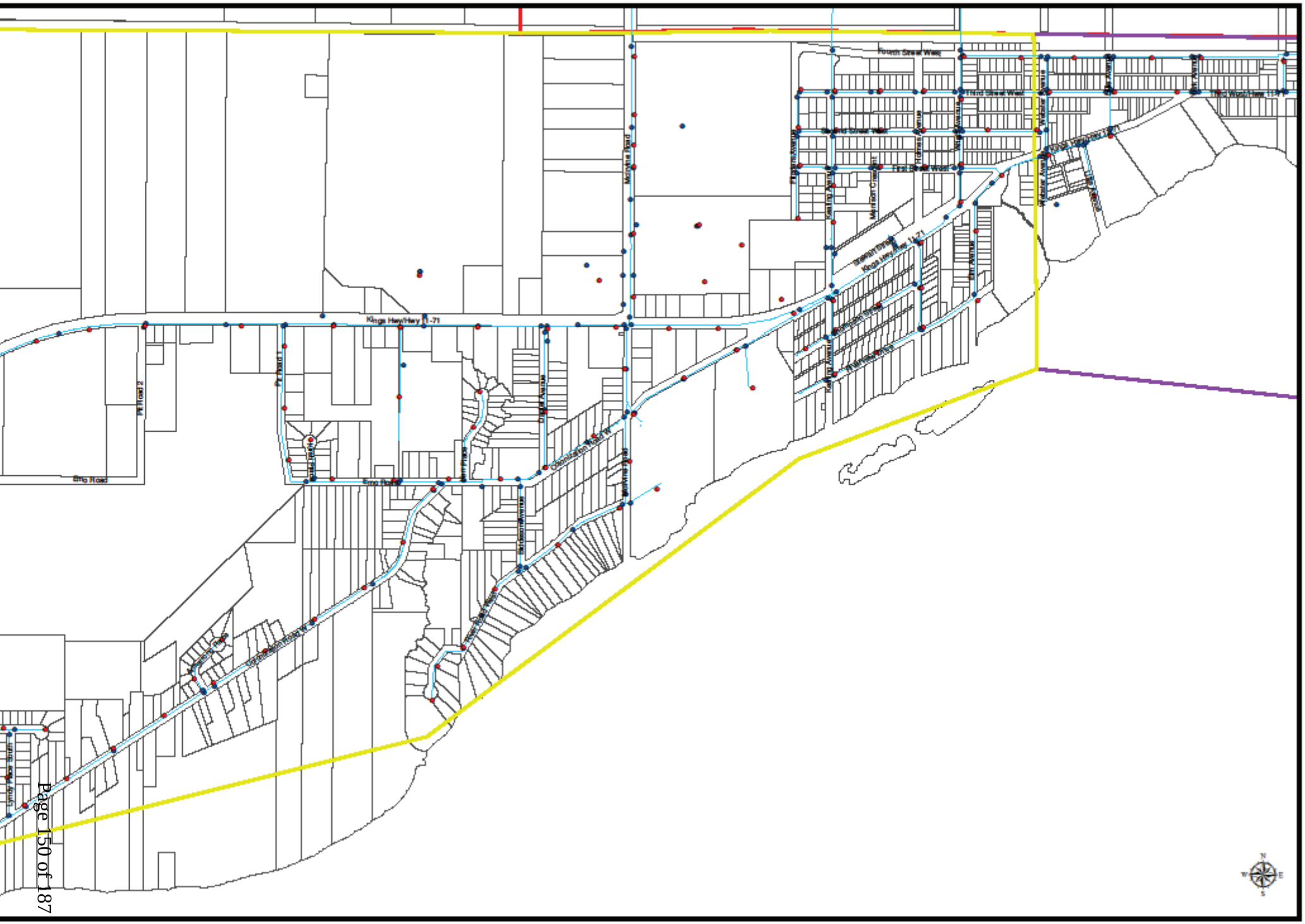
Area 3

Pratt Avenue
Franklin Avenue
Third Street East
Williams Avenue
Second Street East
Second Street East
Reid Avenue
First Street East
First Street East
Franklin Avenue
Glen Street
Sherlin Avenue
Minnie Avenue
Scott Street
Church Street
Cornwallis Point E
Butler Avenue
Cross Avenue
Mosher Avenue
Nelson Street
Nelson Street
Front Street

Area 4


Elizabeth St West
Lillie Avenue North
York Avenue
Cornwall Avenue
Fifth Street East
Portage Avenue North
McKenzie Avenue
Victoria Ave North
Victoria Ave North
Lillie Avenue
Crowe Avenue
Fourth Street East
Fourth Street West
Lillie Avenue
York Avenue
Cornwall Avenue
Third Street East
Third West Hwy 11-71
Victoria Avenue
Christie Avenue
Midwest Avenue
Second Street East
Central Avenue
Midwest Avenue
First Street East
Scott Street
Arthur Avenue
Midwest Avenue
Church Street
Church Street
Church Street
Victoria Avenue
Portage Avenue
Nelson Street
Sinclair Street
Front Street

Area 5


Fourth Street West
Third Street West
Second Street West
First Street West
Kings Hwy/Hwy 11-71
Kings Hwy/Hwy 11-71
Kings Hwy/Hwy 11-71

June 16, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: May 2015 Drinking Water Systems Monthly Summary Report

Please find attached the May 2015 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the May 2015 report as presented.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Manager of Operations & Facilities

Council approval of this report will accept the May 2015 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.

c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

May, 2015

Monthly Summary Report
Water Systems

Prepared by: Randy White, ORO
Senior Water Treatment Plant Operator

Dated: June 16, 2015

1) **Introduction -**

This report contains the major maintenance activities and operational events that occurred during the month of May 2015 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 26002736. This information report has been prepared for Council to better understand how the water systems they own and operate are maintained on a monthly basis. Also, this report will assist Council as Directors of the Corporation in exercising its obligation to meet a reasonable Standard of Care as outlined in Section 19 of the Safe Drinking Water Act.

2) **Flow Data**

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) **Microbiological (Health Related) Water Analysis– Main Water System # 220000978**

Water Treatment Plant (treated): 4 samples taken no adverse results
Water Treatment Plant (raw): 4 samples taken no adverse results
Water Distribution System: 16 samples taken where 25% of samples were tested for heterotrophic plate count HPC no adverse results

We take microbiological samples on a weekly basis, which includes 1 raw sample, 1 treated sample and 4 distribution samples. The 4 distribution samples are taken at different locations throughout the distribution system.

4) **Microbiological (Health Related) Water Analysis– Airport Groundwater Well # 26002736**

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purpose in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05)*. The operators do a visual inspection of the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

5) **Free Available Chlorine Residual (FAC) – Main Water System – # 220000978**

FAC residuals are taken at a minimum daily at both the Water Treatment Plant and within the Water Distribution System.

6) **Free Available Chlorine residual (FAC) – Airport Groundwater Well System # 26002736**

Signs posted, exempt from testing.

7) **Maintenance Activities at the WTP**

May 4th - cleaned all 4 check valves on the poly unit
- cleaned top and bottom tanks on the poly unit

May 6th - greased plant equipment
- calibrated soda ash and alum feeders
- flushed poly lines to the clarifiers

May 7th - meeting with Ministry of the Environment

May 8th - Honeywell worked on High Lift Motors No. 1 and No.4

May 12th - changed the filters on the dust collector

May 15th - calibrated distributor chlorine analyzer
- took grab samples from all 4 filters
- worked on the chlorination system at the Tower

May 21st - working on new chlorination system

May 26th - calibrated distribution chlorine analyzer

May 27th - changed bearings and chain on clarifier No. 2

8) **Water Complaints –**

- Poor Pressure – 0 complaints
- Water Quality – 0 complaints

9) **Other Miscellaneous Information:**

May 4th
- took weekly routine bacti samples.
- took seasonal samples - soccer field.

May 7th
- water main break repair - water samples - 560 Webster Ave. - 1st set.
- hydrant replacement (HYD129) - water samples - 618 First St. W. at Morrison Cresc. - 1st set.
- hydrant replacement (HYD146) - water samples - 654 Riverview Dr. - 1st set.

May 11th
- took weekly routine bacti samples.
- water main break repair - water samples - 560 Webster Ave. - 2nd set.
- hydrant replacement (HYD129) - water samples - 618 First St. W. - 2nd set.
- hydrant replacement (HYD146) - water samples - 654 Riverview Dr. - 2nd set.
- season opening samples - Point Park.
- valve replacement (VAL551) - water samples - Minnie Ave. at Front St. (N. Side) - 1st set.

May 12th
- valve replacements (VAL440) - water samples - Frenette Ave. at Fifth St. E. (S. Side) - 1st set
- valve replacement (VAL551) - water samples - Minnie Ave. at Front St. (N. Side) - 2nd set.
- took micro samples at Sunny Cove
- took quarterly samples at Sunny Cove

May 13th
- valve replacements (VAL440) - water samples - Frenette Ave. at Fifth St. E. (S. Side) - 2nd set
- hydrant replacement (HYD344) - water samples - Sorting Gap - 1st set

May 14th
- hydrant replacement (HYD344) - water samples - Sorting Gap - 2nd set.
- valve replacement (VAL523) - water samples - Third St. E. at Williams Ave. (E. Side) - 1st set
- season opening - Point Park washroom

May 19th
- took weekly routine bacti samples
- frozen water line - 400 Central Ave. (Tourist Info. Centre) - 1st set
- did quarterly samples at the Plant and Tower

May 20th - fozen water line - 400 Central Ave. (Tourist Info. Centre) - 2nd set
- valve replacement (VAL523) - water samples - Third St. E. at Williams Ave. (E. Side) - 2nd set
- water main break repair - Nelson St. (500 blk.) - water samples - 1st set

May 21st - water main break repair - Nelson St. (500 blk.) - water samples - 2nd set.
- valve replacements (VAL211 & VAL212) - Mowat Ave. at Church St. (S. & E. Sides) - water samples - 1st set

May 25th - took weekly routine bacti samples
- valve replacements (VAL211 & VAL212) – Mowat Ave. at Church St. (S. & E. Sides) - water samples - 2nd set
- hydrant replacement (HYD068) - York Ave. at Eight St. W. - water samples - 1st set.
- water main break repair - Lillie Ave. (500 blk.) - water samples - 1st set.
- DWSP sampling

May 27th - hydrant replacement (HYD068) - York Ave. at Eight St. W. - water samples - 2nd set.
- water main break repair - Lillie Ave. (500 blk.) - water samples - 2nd set.
- service repair - Fort Frances Cemetery - 1st set
- water main break repair – Sixth St. W. (200 blk.) - water samples - 1st set

May 28th - water main break repair - Sixth St. W. (200 blk.) - water samples - 2nd set
- service repairs - Fort Frances Cemetery - 2nd set
- temporary water line (Bay City) - Lillie Avenue - 1st set
- temporary water line (Bay City) - York Avenue - 1st set

10) In order to acknowledge that all levels of responsibility within the Corporation of the Town of Fort Frances have received and reviewed this monthly report, it is necessary to sign-off in the appropriate location below:

- Randy White, ORO, Senior WTP Operator: _____
- Doug Herr, Environmental & Facilities Supt.: _____
- Doug Brown, Manager of Operations & Facilities: _____
- Mark McCaig, CAO: _____
- Paul Ryan, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- June Caul, Councillor: _____
- John Albanese, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, Councillor: _____

Note: Once all signatures have been obtained, the report will be distributed and made available to the public. If you have any questions, please feel free to contact myself or Randy White, Senior WTP Operator at 274-2325.

Monthly Report May 2015

Town of Fort Frances - WTP - 220000978
May 2013/2014 vs 2015 Flow and Operating Data

Flow Data MAY	Units	2013		2014		2015	
		Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m^3		142840		167920		175810
Raw Maximum Day	m^3		6170	Tuesday 27th	6440	Saturday 02nd	5940
Raw Minimum Day	m^3		4050	Sunday 25th	4590	Friday 01st	5260
Raw Avgerage Daily Consumption	m^3		4610		5420		5670
Total Treated Water	m^3		118680		142970		12010
Treated Water Maximim Day Consumption	m^3	Friday May 17	4270	Monday 26th	5390	Sunday 03rd	4380
Treated Water Minimim Day Consumption	m^3	Monday May 20	3410	Saturday 17th	4030	Monday 18th	3450
Treated Water Average Day Consumption	m^3		3830		4610		3870
Daily Average Per Household Consumption Rate	m^3		1.01		1.22		1.02
* Daily Average Per Person Consumption Rate	m^3		0.48		0.58		0.48
Monthly Averages - Operating Parameters WTP:							
FAC Residual - Treated Water	mg/L		1.78		1.48		2.05
Total Chlorine Residual - Treated Water	mg/L		2.08		1.76		2.28
Aluminum Sulphate - Raw Water	mg/L		34		34.5		35.1
Aluminum Sulphate - Treated Water Residual	mg/L		0.06		0.04		0.05
Fluoride - Treated Water	mg/L		0.63		0.59		0.62
Soda Ash - Raw Water	mg/L		34		34.9		35.5
PH - Adjusted	mg/L		7.2		7.18		7.17
Temperature	C		6.5		6.5		10.4
Quantity of Chemical Used:	kg						
Aluminum Sulphate	kg		4856.6		5793.2		6182.4
Polyelectrolyte	kg		37.5		62.5		50.0
Chlorine Gas	kg		450		520		709
Soda Ash - Used for PH Adjustment	kg		4856.6		5860.3		6255.1
Fluoride	kg		350		358		427

* The Canadian Average is 450 Litres (0.45 m^3) per day.
* Population is 7986
* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
May 2015

Operating Data	Units	*MAC or Range	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	Average
Flow rates																																			
Raw Water	10^3 M^3	17	5.63	5.26	5.94	5.65	5.66	5.55	5.71	5.54	5.90	5.64	5.54	5.65	5.60	5.68	5.54	5.54	5.91	5.50	5.68	5.68	5.60	5.78	5.73	5.89	5.47	5.64	5.70	5.74	5.82	5.93	5.71	175.81	5.67
Peak Instantaneous - Raw Water	L/s	n/a	65.80	65.81	65.86	65.86	65.84	65.88	65.84	65.83	65.89	65.94	65.95	65.92	65.85	65.88	65.91	66.04	66.09	65.44	66.01	66.18	66.46	66.81	66.77	66.77	66.82	66.8	66.89	67.08	67.35	**67.47**	67.23	2054.27	66.27
Treated Water	10^3 M^3	17	3.70	3.63	4.38	4.26	3.82	4.32	3.81	3.81	3.92	3.75	3.76	3.95	3.85	4.15	3.84	3.48	3.90	3.45	3.80	3.72	3.66	4.04	3.88	4.11	3.96	4.20	3.92	4.06	3.73	3.60	3.64	120.10	3.87
Peak Instantaneous - Treated Water	L/s	n/a	81.25	82.89	81.08	83.43	84.67	84.06	85.81	83.30	**114.92**	81.41	84.80	86.73	87.29	89.63	81.90	81.78	80.09	79.05	79.55	81.77	81.37	81.13	81.58	80.07	82.30	89.26	81.97	84.58	84.76	80.15	80.36	2602.94	83.97
BackWash Water	10^3 M^3	n/a	0.217	0.230	0.217	0.219		0.232	0.208	0.219	0.231	0.214	0.217	0.231	0.217	0.218	0.232	0.216	0.217	0.234	0.218	0.449	0.218	0.218	0.233	0.214	0.219	0.234	0.218	0.218	0.234	0.214	0.218	6.874	0.229
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.78	0.76	0.74	0.77	0.57	0.59	0.59	0.63	0.59	0.55	0.59	0.57	0.58	0.59	0.60	0.58	0.60	0.60	0.60	0.61	0.64	0.60	0.61	0.63	0.59	0.58	0.60	0.57	0.61	0.63	0.65	19.20	0.62
Turbidity Information																																			
Raw Water	NTU	n/a	1.37	1.31	1.44	1.39	1.41	1.45	1.49	1.41	1.39	1.47	1.49	1.52	1.59	1.75	1.64	1.58	1.64	1.75	1.64	1.73	1.77	1.71	1.63	1.77	1.54	1.47	1.49	1.51	1.57	1.55	1.59	48.06	1.55
Settled Water	NTU	n/a	0.09	0.08	0.07	0.08	0.10	0.08	0.09	0.16	0.15	0.14	0.12	0.11	0.12	0.10	0.11	0.13	0.11	0.09	0.08	0.08	0.12	0.11	0.12	0.11	0.11	0.12	0.13	0.12	0.12	0.10	0.12	3.37	0.11
Treated Water	NTU	1	0.04	0.04	0.04	0.04	0.06	0.05	0.04	0.08	0.09	0.09	0.07	0.08	0.06	0.07	0.06	0.06	0.04	0.04	0.07	0.06	0.08	0.09	0.07	0.06	0.05	0.07	0.06	0.05	0.07	0.06	0.06	1.90	0.06
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.19	7.16	7.24	7.21	7.12	7.21	7.26	7.10	7.15	7.10	7.18	7.25	7.29	7.15	7.20	7.21	7.16	7.22	7.15	7.19	7.11	7.15	7.11	7.21	7.18	7.12	7.18	7.15	7.20	7.05	7.01	222.21	7.17
pH - Settled water	no units	n/a	6.25	6.09	6.14	6.00	6.51	6.41	6.02	6.19	6.27	6.31	6.39	6.42	6.36	6.41	6.36	6.39	6.34	6.39	6.41	6.40	6.45	6.41	6.39	6.45	6.47	6.45	6.36	6.39	6.45	6.37	6.42	196.67	6.34
pH - Raw Water	no units	n/a	7.06	7.01	7.00	6.96	6.75	6.86	7.06	7.00	6.99	7.03	7.06	7.01	7.06	7.01	7.04	7.09	7.00	7.13	7.08	7.02	7.00	7.05	7.01	6.99	6.98	7.00	7.02	7.15	7.10	7.00	6.89	217.41	7.01
FAC - Treated Water	mg/l	0.2 to 4	2.10	1.94	2.14	2.18	1.78	1.93	1.95	1.97	2.01	1.98	2.04	2.00	2.04	1.98	2.14	2.00	1.96	1.89	2.00	2.15	2.01	2.00	2.18	2.10	2.18	1.87	2.09	1.89	2.20	2.25	2.21	63.16	2.04
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.37	2.26	2.41	2.44	2.24	2.36	2.27	2.19	2.20	2.19	2.29	2.19	2.26	2.17	2.31	2.23	2.18	2.20	2.15	2.26	2.17	2.15	2.34	2.37	2.48	2.19	2.36	2.17	2.41	2.45	2.38	70.64	2.28
Temperature	C	15	7.0	7.0	8.0	9.0	9.0	9.00	9.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	9.0	9.0	10.0	10.0	9.0	10.0	10.0	10.0	12.0	12.0	12.0	12.0	14.0	15.0	15.0	14.0	14.0	322.0	10.4
Fluoride used (Total Daily Consumption)	kg	n/a	14.0	13.0	13.0	13.0	13.0	13.0	14.0	14.0	16.0	14.0	14.0	15.0	14.0	14.0	14.0	13.0	14.0	14.0	13.0	14.0	13.0	13.0	13.0	14.0	12.0	12.0	12.0	14.0	16.0	16.0	16.0	427.0	13.8
Chlorine used (Total Daily Consumption)	kg	n/a	20.0	20.0	22.0	23.0	22.0	23.0	22.0	23.0	24.0	23.0	22.0	23.0	23.0	23.0	22.0	22.0	24.0	22.0	22.0	23.0	22.0	25.0	24.0	25.0	22.0	24.0	23.0	24.0	24.0	25.0	23.0	709.0	22.9
Soda ash (Total Daily Consumption)	kg	n/a	211.1	197.3	222.8	211.9	212.3	197.0	202.7	196.7	209.5	200.2	196.7	200.6	198.8	201.6	193.9	206.9	192.5	198.8	198.8	196.0	202.3	200.6	206.2	191.5	197.4	199.5	200.9	203.7	207.6	199.9	199.9	6255.1	201.8
Soda Ash - Dosage	mg/l	n/a	37.5	37.5	37.5	37.5	37.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1102.0	35.5
Alum residual - (Total Daily Consumption)	kg	n/a	201.0	187.8	212.1	201.7	202.1	195.9	201.6	193.9	206.5	197.4	193.9	197.8	196.0	198.8	193.9	206.9	192.5	198.8	198.8	196.0	202.3	200.6	206.2	191.5	197.4	199.5	200.9	203.7	207.6	199.9	199.9	6182.4	199.4
Alum residual - Dosage	mg/l	n/a	35.7	35.7	35.7	35.7	35.7	35.3	35.3	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1089.1	35.1
Alum residual - Treated Water	mg/l	0.1	0.07	0.04	0.06	0.04	0.07	0.06	0.07	0.08	0.08	0.08	0.06	0.07	0.06	0.04	0.04	0.08	0.03	0.04	0.04	0.04	0.04	0.04	0.06	0.05	0.06	0.05	0.05	0.06	0.05	0.03	0.02	1.66	0.05
Poly bags added (25 kg bags)	kg							0.5		0.5														0.5			0.5							50.0	

July 3rd, 2015

Report To: Mayor & Council

From: Doug Brown, Manager of Operations & Facilities

SUBJECT: Tender 15-OF- 06 - Supply of New Heavy Duty Mechanical Broom Sweeper and Trade-in of 2001 Elgin Whirlwind Vacuum Truck

As you are aware the approved 2015 capital budget included the purchase of one (1) new Heavy Duty Mechanical Broom Sweeper for the Public Works Area of the Operations & Facilities Division. The total capital budget is $ 325,000.

The tender call was advertised on April 22, 2015 in the Fort Frances Times with the tender closing on Tuesday, June 23, 2015 at 2:00 p.m. The tender documents and specifications were developed to be generic in nature to ensure all broom sweeper manufacturers (Elgin & Badger) could meet the specifications and that the Town could select the low tender. Two tender specifications were distributed with 4 tender bids being submitted.

Please find attached an administration report prepared by Milt Strachan, Transportation Superintendent outlining the results of the tenders received. Spreadsheet No. 1 is a summary of the results of the tender. The sweeper will be delivered in 140 to 168 days prior to the 2016 road sweeping activity once the Town issues a purchase order to the supplier. The net cost to the Town is $314,753.86, which is $10,246.14 below the approved budget.

The Operations & Facilities Executive Committee recommends the following;

1) That one (1) Sweeper Broom as outlined in the tender documents 15-OF-06 be awarded to tender bidder, Joe Johnson Equipment Inc. at a total cost of $349,520.30 (all taxes included).

Respectfully Submitted
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Operations and Facilities Manager

Council approval of this report will ensure the following;

1) That one (1) Sweeper Broom as outlined in the tender documents 15-OF-06 Be awarded to tender bidder, Joe Johnson Equipment Inc. at a total cost Of $349,520.30 (all taxes included).

2015Junesweeperbroom

June 30, 2015

Report To: Doug Brown, Manager of Operations and Facilities

From: Milt Strachan, Transportation Superintendent

SUBJECT: Tender 15-OF- 06 – Supply and Delivery of one (1) New Heavy Duty Mechanical Broom Sweeper

The tender closed on June 23, 2015. There were four (4) bids received. All four bids were submitted by Joe Johnson Equipment Inc. out of West St. Paul, Manitoba.

All four sweepers meet the specifications, but bids C and D are used (Lease Returns). For the difference in pricing from the "new" bids in A and B, I don't think we should entertain buying a used sweeper.

Bids A and B are identical in all specifications. The price difference being that for Bid A, we can get a chassis built in Winnipeg for less cost but because of supply and demand will have to wait 280 to 295 days for delivery. The chassis in Bid B is a factory built chassis from Peterbilt. The price is higher but the delivery time is 140-168 days. It is my recommendation that we go with Bid B at a little higher cost but we will have the new sweeper in time for our next sweeping season.

I also recommend that we take the trade in value of $10,000.00. I don't think anybody in the area would pay that much for it although it would be handy to have a back up on occasion, the maintenance costs are quite high and we don't really have anywhere to store it other than out in the elements.

Respectfully Submitted

Milton Strachan
Transportation Superintendent

Spreadsheet #1 - Tender No. 15-OF-06 - Results - New Heavy Duty Mechanical Broom Sweeper
June 23, 2015

Equipment Description	A **Joe Johnson Equipment**	B **Joe Johnson Equipment**	C **Joe Johnson Equipment**	D **Joe Johnson Equipment**
Manufacturer	Elgin	Elgin	Elgin	Elgin
Model	Eagle	Eagle	2014 Eagle Used	2015 Eagle Used
New Broom Sweeper	$311,573.00	$319,310.00	$277,900.00	$299,777.00
Trade-in of 2001-Existing Elgin Whirlwind Sweeper	($10,000.00)	($10,000.00)	($10,000.00)	($10,000.00)
Subtotal	$301,573.00	$309,310.00	$267,900.00	$289,777.00
HST	$39,204.49	$40,210.30	$34,827.00	$37,671.01
Total Price (includes all taxes)	$340,777.49	$349,520.30	$302,727.00	$327,448.01
Net Cost to the Town New Loader	**$306,880.68**	**$314,753.86**	**$272,615.04**	**$294,877.08**
2015 Budgeted Amount	$325,000.00	$325,000.00	$325,000.00	$325,000.00
Over/Under Budget By	($18,119.32)	($10,246.14)	($52,384.96)	($30,122.92)
Difference from Low bidder	$34,265.64	$42,138.82	$0.00	$22,262.04
Delivery Date from issuance of a Purchase Order # by Town	280 to 295 days	140 to 168 days	21 to 30 days	21 to 30 days

OPERATIONS & FACILITIES DIVISION UPDATE REPORT
JANUARY 1st to MAY 31st, 2015

Mr. Mayor, Fellow Councilors, Staff, Media and Citizens, it is a pleasure to report to you this evening on the activities of the Operations and Facilities Division. As you know, our Division is responsible for the Public Works Area, Parks and Cemeteries, the Waste System, the Fort Frances Airport, the Water System and the Wastewater System. I will highlight some of the main activities which took place from January 1st, 2015 to the end of May in each of these areas of responsibility.

Public Works

In regards to the Roadways:

The 2015 winter snow fighting season was considered a mild one compared to 2014. There were only 6 snowfall events during the first five months of 2015 compared to 11 snowfall events in 2014. As a result, the Town spent $4,233.32 for the rental of private trucks to haul snow, this past winter compared to $47,361.48 during the same period in 2014. A 5-man crew worked 5 days per week on midnights for a 17-week period from November 24, 2014 to March 20, 2015. A new 85 foot diameter by 37 feet high winter control sand storage structure has been approved in the 2015 capital budget where construction is under way with the completion date by Mid-September. Also the Town recently signed an agreement with The Rainy River District Trapper's Council to address nuisance beavers within the built-up area of the community.

In regards to Fleet Management

The new tandem snow plow truck went into service on January 29, 2015, which replaced an 18-year old single axle plow truck. Also this budget year Council has approved the

purchase of a new sweeper to replace the 2001 Elgin Sweeper. Another sidewalk machine will be added to the fleet to improve the removal of snow from the sidewalks.

In regards to the water system:

From January 1st to the end of May, the Town manufactured 588,640 cubic meters of treated water, which is a 26.1 % reduction, compared to the same period last year. Remember in 2014 there was a lot of bleeding taking place within the water distribution system to ensure water service lines did not freeze as the extreme cold temperatures drove the frost down deeper than normal. A new standby generator is on schedule to be fully operational sometime in July where McLough Electrical ltd. out of Dryden Ontario has most of the on-site electrical work complete and is just waiting for the generator to arrive. Bay City Contracting out of Thunder Bay was awarded the Road Reconstruction of King's Hwy. 11-71 from York Avenue to Wright Avenue and has been on-site since May 19, where the 1919 water mains and sanitary sewer lines are being replaced. Also Bay City will be reconstructing a block of Nelson Street between Butler Avenue and the Woodyard where the water mains, sanitary sewer mains and service lines will be replaced. The 2015 portion of this project is scheduled to be completed by September 18, 2015 where the King's Hwy. 11-71 reconstruction project is the main focus at this time as the detour route is an inconvenience to the community as the USA Border traffic has substantially increased since the fall of 2008 global recession event.

In regards to the wastewater system:

Over the last 5 months the Town has treated and discharged 887,198 cu. meters of wastewater, which is a decrease of 27.9% compared to the same period last year. Presently Associated Engineering has been retained to design the removal and

replacement of the dewatering equipment in the head works building at the Sewage Treatment Plant (STP) facility where the project is on schedule to have the new dewatering equipment fully operational around November 1st, 2015. In the future, the biosolids from the STP will go directly to the landfill site to be used as cover material. When comparing the treated water discharged from the Sewage Treatment Plant to the manufactured water from the Water Treatment Plant, there is difference a of 298,558 cu. meters of groundwater and/or surface water entry into the sanitary sewer system commonly referred to as "inflow and infiltration (I/I) loading during this period. In order to reduce this volume, please inspect your sump pump system used for your basement foundation weeping tile system to ensure it is not discharging directly into the sanitary sewer system. Your sump pump water (groundwater) should be discharged onto your property then travel along the ground onto the roadway and eventually discharge into the storm sewer system and not into the sanitary sewer system. This groundwater doesn't have to be treated at the Sewage Treatment Plant. Please do your part by alleviating any groundwater or surface water discharging into the sanitary sewer system.

<u>In regards to the Waste Management System:</u>

Household Hazardous Waste Day has been scheduled on Saturday September 19, 2015 where the Town has tendered together with Kenora & Dryden to retain a common MHSW service provider, in order to obtain better pricing. Upgrades at the recycling drop off depot/ transfer station property on 6th street are well under way where two stationary compactor units will be installed in the near future. The new equipment will reduce the amount of manpower resources required to empty the 4- 6 cubic yard bins and load the

walking floor trailers. Also hopefully eliminating the over flow of recyclables on Monday mornings. The general public will continue to have access to drop off their recyclables at the depot 24 hours/7 days a week – 365 days per year.

In regards to the Parks and Cemeteries:

The annual flowers throughout the Town have been planted as of June 25th. The repairs to the Point Park retaining wall which was damaged by the June 2014 flood event should be completed prior to July 1st, 2015. Twenty walkway light poles are being replaced along the waterfront walkway. The new poles are made of aluminum instead of steel thus will not rust or corrode. Also these light poles are coated with a thermoplastic coating to provide resistance to dog urine. In regards to fleet replacement in the Parks area, the Town will purchase a new ½ ton truck to replace a 22-year old truck.

In regards to the Fort Frances Airport:

The amount of air traffic is up at the Fort Frances Airport compared to last year, where 43 additional aircrafts landed as of the end of May (984 in 2015 versus 941 in 2014). Overall revenue is also up by $20,824 compared to the same period last year. Recently surveillance cameras have been installed on the terminal building to assist in obtaining revenue during periods when the airport facility is un-attended. The Town obtained a 100% grant from Transport Canada from the ACAP funding program to replace the 1994 front-end loader and snow blower attachment. The new loader and snowblower attachment will be in place prior to when the snow flies.

Summary

The members of the Operations & Facilities Executive Committee would like your cooperation to improve the quality of life for all citizens within the community by ensuring that the trees and hedges on your property which are parallel to the Town's sidewalks are trimmed back to ensure all impediments are no closer than six (6) inches (150 mm) from the back edge of the sidewalk. This will ensure all citizens can walk safely and comfortably on the Town's sidewalks. In closing, on behalf of Council, I wish you and your family a safe and happy summer holiday and also would like to thank you in advance for your cooperation in making Fort Frances a better place to live.

F/n: 2015Junesemiannual report

June 17, 2015

Report To: Operations and Facilities Executive Committee

From: Travis Rob, Chief Building Official, Facilities/Special Projects Coordinator

RE: Annual Energy Consumption Submission and Corporate Energy Consumption Review As Outlined in the Town of Fort Frances Energy Consumption and Demand Management Plan.

Background

In 2011 the Ontario Government passed O. Reg. 397/11 Energy Conservation and Demand Management Plans outlining annual energy reporting and planning for Municipalities, municipal Service Boards, Universities and Colleges, Schools and Hospitals. This regulation outlined what facilities were to be reported on and the data that was to be reported. The first reporting year for energy consumption and greenhouse gas emission data was 2013 with data from 2011. The Town of Fort Frances has been submitting energy reports in accordance with the regulation since the initial submission deadline of July 1, 2013. On June 18, 2014 the Town of Fort Frances 5 Year Energy Conservation and Demand Management Plan was taken to the Operations and Faculties Executive Committee and then to Council on June 23 for approval and was submitted to the Ministry of Energy prior to the July 1, 2014 Deadline. In accordance with Chapter 3 of the Energy Conservation and Demand Management Plan, the following is an annual report of the energy consumption of the Town of Fort Frances

Amendments to the Regulation

For the 2015 reporting year there has been some amendments to the reporting requirements for municipalities. New for this year is for multi-use buildings (Multiple uses within the same building, for example the Memorial Sports Centre and Civic Centre), the old standard was to separate the consumption based on floor area used and report on each of the uses individually. Now the reporting will be under the primary use reported over the entire floor area. Further to this the required reporting on the consumption of waste water pumping stations has been removed. The reporting on treatment facilities are still required.

Information

Due to the wealth of data, analysis available and required for the review of energy data, the following information contained in this report is a summary of the energy consumption and solar generation from the Town of Fort Frances Facilities. A further review of the detailed data and analysis of the Town of Fort Frances energy consumption will be completed at the O&F Executive Committee meeting. The data for the 2015 energy submission to the Ministry of Energy contains information for the 2013 year consumption. This report will encompass all data to the end of 2014.

Electrical

Attached to this report is an overview of the 2011 base year for electrical consumption as well as 2012, 2013, and 2014 years. The items marked with an asterisk are all of the facilities that are heated solely or partially with electrical energy. There is a column showing the difference between the current year and base year consumption.

Natural Gas

The following is an overview of the 2011 base year for natural gas consumption as well as 2012, 2013, and 2014 years. There is a column showing the heating degree days, as natural gas usage is largely driven by the outdoor air temperature. There are also columns showing the difference from the base year of 2011.

Solar

The 4 – 10kW solar installations have been online and generating power since late in 2011 under the Ontario Power Authority MicroFIT program. At the time of the Town's enrolment in the program, a 20 year contract to supply power via a rooftop solar generation system was signed for $0.80 per kWh. There is no requirement to annually report on the solar generation to the Ministry of Energy, however traditionally an annual report to Council has been completed outlining the solar generation. This past year we did see an issue with the Memorial Sports Centre where a disconnect switch on an inverter failed causing a reduction in generated power through the winter months. A replacement inverter was received under warranty and the faulty unit was replaced.

Conclusions and Recommendations

Although not every facility is seeing a reduction in consumption every year, due primarily to changes in weather patterns from year to year and the above data not being normalized to heating degree days, the overall trend in normalized consumption is downward showing that our energy initiatives are working. Throughout the year ideas and initiatives come up and this committee is an excellent venue to discuss these and bring them forward as energy initiatives. Recently the idea of adding motion sensors to the lights at the outdoor rinks was brought up as a way to save energy when the weather is either too cold, snowy, etc. and the outdoor rinks are not being used. This could save unnecessary power usage when the rinks are not being utilized.

Respectfully Submitted,

Travis Rob, EIT

Chief Building Official, Facilities/Special Projects Coordinator

Electricity Consumption

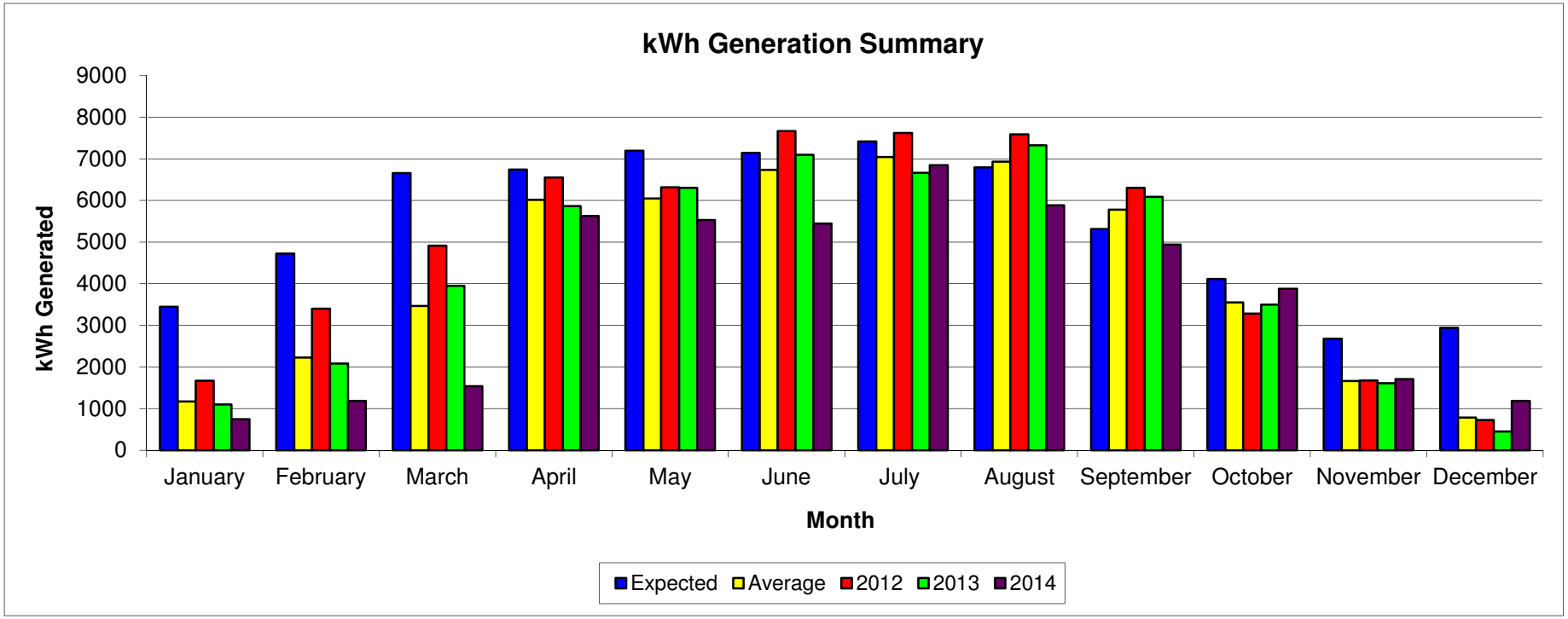
	2011 - Baseline		2012			2013			2014		
	Total Consumption (kWh)	Total Cost ($)	Total Consumption (kWh)	Total Cost ($)	Difference From Baseline	Total Consumption (kWh)	Total Cost ($)	Difference From Baseline	Total Consumption (kWh)	Total Cost ($)	Difference From Baseline
Museum	124518.26	$ 12,934.16	106787.99	$ 10,096.07	-17730.27	100699.96	$ 10,705.68	-23818.30	112252.42	$ 13,211.48	-12265.84
Memorial Sports Centre*	540324.47	$ 57,434.30	605646.82	$ 59,102.08	65322.35	407863.44	$ 55,109.37	-132461.03	549459.27	$ 59,273.96	9134.80
Memorial Sports Centre A*	2060205.95	$ 190,560.19	1900960.90	$ 171,320.48	-159245.05	1726885.03	$ 185,713.10	-333320.92	1777281.12	$ 176,849.87	-282924.83
Hallett	1658.65	$ 526.18	1067.55	$ 476.70	-591.10	1065.06	$ 700.46	-593.59	1962.08	$ 711.52	303.43
Sorting Gap*	46148.56	$ 4,760.16	44610.32	$ 4,015.75	-1538.24	43538.22	$ 4,465.30	-2610.34	37154.54	$ 4,219.00	-8994.02
Public Works	158900.90	$ 14,990.98	134694.38	$ 13,123.85	-24206.52	122535.19	$ 13,387.98	-36365.71	116251.40	$ 14,240.39	-42649.50
Fort Frances Cemetery*	83238.89	$ 7,928.96	75305.02	$ 7,145.39	-7933.87	76616.41	$ 8,309.41	-6622.48	77995.48	$ 9,375.90	-5243.41
Riverview Cemetery*	49686.65	$ 4,825.18	40175.43	$ 3,908.05	-9511.22	31618.49	$ 3,635.19	-18068.16	33646.98	$ 4,142.46	-16039.67
Civic Centre*	646061.57	$ 65,147.27	656977.70	$ 61,555.61	10916.13	600197.26	$ 62,749.42	-45864.31	580279.63	$ 60,071.65	-65781.94
Dog Pound*	18384.91	$ 1,996.22	17075.46	$ 1,860.03	-1309.45	19678.31	$ 2,391.25	1293.40	18670.43	$ 2,424.97	285.52
Sister Kennedy Centre 1	63938.02	$ 6,242.01	71475.53	$ 7,070.92	7537.51	68296.65	$ 7,570.27	4358.63	64115.23	$ 7,832.28	177.21
Sister Kennedy Centre 2	1163.53	$ 525.61	1376.14	$ 495.77	212.61	3108.74	$ 877.63	1945.21	6112.61	$ 1,112.43	4949.08
East End Hall	10057.67	$ 1,234.80	10562.67	$ 1,291.76	505.00	11759.80	$ 1,667.04	1702.13	9885.26	$ 1,626.42	-172.41
Point Park Garage*	83.33	$ 272.61	15.12	$ 392.85	-68.21	63.93	$ 644.64	-19.40	84.90	$ 104.17	1.57
Vanjura	1165.48	$ 362.29	462.73	$ 425.21	-702.75	399.99	$ 666.27	-765.49	0.00	$ 511.02	-1165.48
Lions Park	16569.35	$ 1,781.77	20129.54	$ 2,224.33	3560.19	17625.06	$ 2,362.53	1055.71	15845.93	$ 2,286.96	-723.42
Daycare	113506.77	$ 11,745.12	105304.21	$ 10,209.28	-8202.56	94709.47	$ 10,383.47	-18797.30	96037.27	$ 12,568.89	-17469.50
St. Frances Sports Fields	1285.15	$ 499.34	1440.70	$ 512.76	155.55	1407.89	$ 759.38	122.74	1912.91	$ 707.00	627.76
McIrvine Road Rink	5209.86	$ 834.06	5958.90	$ 755.08	749.04	6107.64	$ 1,157.11	897.78	7064.73	$ 1,193.60	1854.87
North End Rink*	15840.60	$ 1,779.04	10874.91	$ 1,318.28	-4965.69	13848.33	$ 1,835.57	-1992.27	16078.42	$ 2,132.63	237.82
Water Tower	41851.34	$ 4,109.87	41058.64	$ 3,888.74	-792.70	42321.06	$ 4,552.38	469.72	40897.03	$ 4,732.46	-954.31
Street Lights	1231535.63	$ 126,968.35	1115184.58	$ 109,882.30	-116351.05	1231535.64	$ 130,121.47	0.01	414928.58	$ 55,148.03	-816607.05
Tourist Info Building	0.00	$ -	0.00		0.00	0.00	$ -	0.00	12624.42	$ 1,571.19	12624.42
Airport	137086.6	$ 18,967.77	128763.06	$ 18,808.39	-8323.54	111778.80	$ 19,049.40	-25307.80	109195.45	$ 20,179.22	-27891.15
Sunny Cove Camp Office*	11477.88	$ 2,183.56	4325	$ 1,098.03	-7152.88	4394.4149	$ 1,168.49	-7083.47	4999.08	$ 1,404.62	-6478.80
Russell Hall*	7413	$ 1,466.37	8431	$ 1,667.59	1018.00	7645.0827	$ 1,589.39	232.08	8500.2224	$ 1,934.09	1087.22
McGregor Hall*	2620	$ 839.08	2367	$ 820.43	-253.00	2507.2512	$ 880.85	-112.75	1814.8592	$ 870.63	-805.14
Water Treatment Plant	813205.32	$ 78,577.11	721579.09	$ 70,787.50	-91626.23	663507.37	$ 76,177.58	-149697.95	663507.37	$ 76,177.58	-149697.95
Sewage Treatment Plant	1511377.58	$ 143,636.77	1510820.23	$ 133,619.77	-557.35	1438388.10	$ 141,756.40	-72989.48	1519960.15	$ 150,273.08	8582.57
Portage Avenue Storm Lift Station	8081.03	$ 1,070.22	4446.94	$ 762.71	-3634.09	3028.63	$ 882.86	-5052.40	6718.95	$ 1,185.62	-1362.08
Central Ave Lift Station	147238.84	$ 13,833.05	132438.81	$ 12,284.04	-14800.03	147220.38	$ 15,497.52	-18.46	158134.04	$ 18,452.62	10895.20
5th Street Lift Station	44623.63	$ 4,444.77	37275.87	$ 3,609.46	-7347.76	41577.57	$ 4,268.54	-3046.06	48566.69	$ 5,648.68	3943.06
Minnie Avenue Lift Station	1698.56	$ 564.47	1414.45	$ 512.10	-284.11	1570.15	$ 775.02	-128.41	2098.09	$ 724.71	399.53
White Pine Lift Station	29526.54	$ 2,994.21	24395.65	$ 2,498.77	-5130.89	33733.32	$ 3,716.11	4206.78	31736.37	$ 3,783.44	2209.83
Boundary Road Lift Station	5679.41	$ 826.30	7412.81	$ 1,019.19	1733.40	7546.27	$ 1,343.50	1866.86	7417.24	$ 1,266.24	1737.83
Patcin Avenue Lift Station	2406.48	$ 586.89	1957.51	$ 557.44	-448.97	2371.16	$ 847.89	-35.32	2734.51	$ 789.06	328.03
TOTAL:	**7953770.41**	**$ 787,449.04**	**7552772.66**	$ 719,116.71		**7087150.07**	$ 777,718.47		**6543299.24**	$ 717,166.68	

Natural Gas Consumption

					Difference From Base Year				Difference From Base Year				**Difference From Base Year**	
Facility	2011 Consumption (m^3)	2011 Billing HDD	2012 Consumption (m^3)	2012 Billing HDD	Consumption (m^3)	HDD	2013 Consumption (m^3)	2013 Billing HDD	Consumption (m^3)	HDD	2014 Consumption (m^3)	2014 Billing HDD	Consumption (m^3)	HDD
Museum	6470.454	6916.8	4520.415	4734.8	-1950.039	-2182	7761.205	7563.8	1290.751	647	10392.783	8138.1	3922.329	1221.3
Sister Kennedy	7505.28	6179.8	4873.705	4786.7	-2631.575	-1393.1	8598.524	7497.7	1093.244	1317.9	5160.228	8176.9	-2345.052	1997.1
Sister Kennedy Shop	3020.719	5337.5	2906.545	4786.7	-114.174	-550.8	3856.363	7497.7	835.644	2160.2	1219.509	8176.9	-1801.21	2839.4
McIrvine Rink	4256.96	6351.4	3235.29	4809.2	-1021.67	-1542.2	5603.44	7416.2	1346.48	1064.8	5739.27	8160.9	1482.31	1809.5
Library	5889.056	6129.9	2080.782	4815.9	-3808.274	-1314	5708.24	7497.7	-180.816	1367.8	6055.965	8176.9	166.909	2047
East End Hall	5794.478	6102.4	4036.382	4712.6	-1758.096	-1389.8	6208.963	7479.6	414.485	1377.2	6092.127	8261.3	297.649	2158.9
Water Treatment Plant	79918.157	6102.4	54823.594	4737.8	-25094.563	-1364.6	85843.378	7479.6	5925.221	1377.2	95145.697	8261.3	15227.54	2158.9
Sewage Treatment Plant 1	7432.953	6229.1	7961.495	4809.7	528.542	-1419.4	12047.951	6065.7	4614.998	-163.4	15169.122	8113.8	7736.169	1884.7
Water Tower	21500.484	6953.4	8631.907	4809.7	-12868.577	-2143.7	11004.776	7848.2	-10495.708	894.8	66924.399	8150	45423.915	1196.6
Sewage Treatment Plant 2	36714.116	6229.1	36383.083	4809.7	-331.033	-1419.4	61911.605	7439.2	25197.489	1210.1	67703.299	8113.8	30989.183	1884.7
Public Works	26975.055	6145.1	20129.06	4715.6	-6845.995	-1429.5	40010.542	7490.9	13035.487	1345.8	42720.009	8263.9	15744.954	2118.8
Daycare	4606.651	6992.3	5769.441	4715.6	1162.79	-2276.7	11180.03	7490.9	6573.379	498.6	19750.737	8294.6	15144.086	1302.3
Civic Centre	60047.804	6916.8	30349.372	4734.8	-29698.432	-2182	57672.149	7403.9	-2375.655	487.1	72120.788	8258.2	12072.984	1341.4
Memorial Sports Centre1	132342.865	6962.5	116503.747	4786.7	-15839.118	-2175.8	189608.307	7497.7	57265.442	535.2	200687.047	8176.9	68344.182	1214.4
Memorial Sports Centre2	57494.116	6129.9	49104.225	4786.7	-8389.891	-1343.2	81523.252	7497.7	24029.136	1367.8	95955.199	8176.9	38461.083	2047
TOTAL	**459969.148**	**95678.4**	**351309.043**	**71552.2**	**-108660.105**	**-24126.2**	**588538.725**	**111166.5**	**128569.577**	**15488.1**	**710836.179**	**122900.4**	**250867.031**	**27222**

Solar Energy Generation

	Expected	2012		2013		2014		Average	kWh Total To Date	Revenue To Date
		kWh	Revenue	kWh	Revenue	kWh	Revenue			
January	3444	1667	$ 1,336.54	1101	$ 974.08	743	$ 648.88	1170.3	3511	$ 2,959.50
February	4720	3400	$ 2,726.68	2082	$ 1,863.09	1185	$ 1,049.52	2222.3	6667	$ 5,639.29
March	6658	4916	$ 4,431.46	3950	$ 3,511.58	1535	$ 1,742.81	3467.0	10401	$ 9,685.85
April	6740	6550	$ 5,912.29	5865	$ 5,291.50	5625	$ 5,073.32	6013.3	18040	$ 16,277.11
May	7192	6319	$ 5,702.94	6302	$ 5,686.86	5527	$ 4,984.49	6049.3	18148	$ 16,374.29
June	7143	7667	$ 6,924.57	7099	$ 6,409.14	5444	$ 4,909.28	6736.7	20210	$ 18,242.99
July	7417	7620	$ 6,881.98	6663	$ 6,014.02	6844	$ 6,178.04	7042.3	21127	$ 19,074.04
August	6794	7585	$ 6,850.25	7323	$ 6,612.14	5883	$ 5,307.13	6930.3	20791	$ 18,769.52
September	5312	6306	$ 5,691.15	6088	$ 5,492.92	4941	$ 4,453.44	5778.3	17335	$ 15,637.51
October	4116	3281	$ 2,965.12	3497	$ 3,144.79	3877	$ 3,489.18	3551.7	10655	$ 9,599.09
November	2675	1677	$ 1,496.08	1610	$ 1,434.68	1707	$ 1,522.58	1664.7	4994	$ 4,453.34
December	2942	724	$ 632.41	446	$ 379.79	1185	$ 742.30	785.0	2355	$ 1,754.50
TOTAL:	**65153**	**57712**	**$51,551.47**	**52026**	**$46,814.59**	**44496**	**$40,100.97**	**51411.33**	**154234**	**$ 138,467.03**


kWh Generation Summary
kWh Generated
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
January
February
March
April
May
June
July
August
September
October
November
December
Month
Expected
Average
2012
2013
2014

Press TAB to move to input areas. Press UP or D

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2011

Confirm consecutive 12-month period (month-year to month-year)	January 1, 2011 to December 31, 2011
Type of Public Agency (Sector):	**Municipal**
Agency Sub-sector	**Municipality**
Organization Name	The Corporation of the Town of Fort Frances

Please fill in the mandatory fields indicated in red, in addition to submitting data on your energy usage.

Operation Name	Operation Type	Address	City	Postal Code	Total Floor Area of the Indoor Space in which Operation is Conducted	Average # Hours Per Week	Annual Flow (Mega Litres)	Electricity	Natural Gas	Fuel Oil 1 & 2	Fuel Oil 4
Gatsby Administration Centre	*Administrative offices and related facilities, including municipal council chambers*	*512 Smithson Avenue*	*Toronto*	*M7A 2J1*	*361,280.00 Square feet*	*40*		*5,103,348.00000 kWh*	*410,325.00000 Cubic meter*		
Museum	Cultural facilities	259 Scott St.	Fort Frances	P9A 1G8	9,359.00 Square feet	40		124,518.26000 kWh	6,470.00000 Cubic meter		
Sister Kennedy Centre	Community centres	401 Nelson St.	Fort Frances	P9A 1B3	7,366.00 Square feet	40		63,938.02000 kWh	7,505.00000 Cubic meter		
East End Hall	Community centres	1227 5th St. E.	Fort Frances	P9A 3P9	6,184.00 Square feet	13		10,057.67000 kWh	5,794.47800 Cubic meter		
Public Works	Storage facilities where equipment or vehicles are maintained, repaired or stored	900 wright Ave	Fort Frances	P9A 3J9	15,591.00 Square feet	50		158,900.90000 kWh	26,975.05500 Cubic meter		
Riverview Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	1319 Colonization Road W.	Fort Frances	P9A 2T6	2,535.00 Square feet	40		49,686.65000 kWh			
Fort Frances Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	401 Kings Highway	Fort Frances	P9A 3P9	4,225.00 Square feet	40		83,238.89000 kWh			
Sunny Cove	Community centres	#960 Highway 11	Fort Frances	P9A 3P9	15,000.00 Square feet	24		21,510.88000 kWh			
Civic Centre Administration	Administrative offices and related facilities, including municipal council chambers	320 Portage Ave.	Fort Frances	P9A 3P9	17,636.00 Square feet	40		258,424.63000 kWh	24,019.12200 Cubic meter		
Civic Centre OPP Offices	Police stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	6,197.12 Square feet	168		258,424.63000 kWh	24,019.12200 Cubic meter		
Civic Centre Fire Hall	Fire stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	12,468.40 Square feet	168		129,212.31400 kWh	12,009.56000 Cubic meter		
Fort Frances Library and Technology Centre	Public libraries	601 Reid Ave.	Fort Frances	P9A 0A2	15,000.00 Square feet	50		69,928.00000 kWh	5,889.86000 Cubic meter		
Water Treatment Plant	Facilities related to the treatment of water	901 Colonization Road E.	Fort Frances	P9A 3P9	16,000.00 Square feet	40	1623.01000	813205.32 kWh	79,918.16 Cubic meter		
Sewage Treatment Plant	Facilities related to the treatment of sewage	2 Mcirvine Road	Fort Frances	P9A 3P9	6,672.00 Square feet	40	2512.25500	1511377.58 kWh	44,147.06900 Cubic meter		
Church St. Lift Station	Facilities related to the pumping of sewage	325 Minnie Ave	Fort Frances	P9A 3P9		0	12.02700	1698.56 kWh			
White Pine Lift Station	Facilities related to the pumping of sewage	740 Scott St.	Fort Frances	P9A 3P9		0	176.89100	29,526.54000 kWh			
Boundary Road Lift Station	Facilities related to the pumping of sewage	1715 Colonization Road W.	Fort Frances	P9A 3P9		0	23.21200	5,679.41000 kWh			
Patcin Ave. Lift Station	Facilities related to the pumping of sewage	932 Kaitlyn Drive.	Fort Frances	P9A 3P9		0	21.74100	2,406.48000 kWh			
Ice For Kids Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	56,037.24 Square feet	100		1,227,321.63200 kWh	84,021.84780 Cubic meter		
52 Canadians Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	53,883.92 Square feet	100		864,126.28400 kWh	80,794.61910 Cubic meter		
Memorial Sportsplex	Indoor swimming pools	720 Scott St.	Fort Frances	P9A 1H8	16,687.94 Square feet	100		439,154.50460 kWh	25,020.51410 Cubic meter		
Central Ave Lift Station	Facilities related to the pumping of sewage	712 Central Ave	Fort Frances	P9A 3P9		0	998.35000	147,238.84000 kWh			

Energy Type and Amount Purchased and Consumed in Natural Units										Total (These columns will calculate when file is Saved)			
4 & 6	Propane	Coal	Wood	District Heating	Renewable?	If Yes, enter Emission Factor	District Cooling	Renewable?	If Yes, enter Emission Factor	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litres)	Comments
				25.64000 Giga Joule - steam or hot water	*No*		*23.40500 Giga Joule - chilled water*	*No*			*Click above cell to toggle units*	*Click above cell to toggle units*	
										22,193.81749	20.65178		
										19,304.19724	19.50848		
										11,759.81016	11.58475		
										63,711.83931	28.57968		
										3,974.93200	19.60026		
										6,659.11120	19.70151		
										1,720.87040	1.43406		
										66,085.17097	29.12761		
										66,085.17097	82.89246		
										33,042.58351	20.59986		
										16,729.76834	8.83494		
										216,151.85101	103.90985	1,024.36687	
										204,375.84702	296.84694	788.36057	
										135.88480		141.22890	
										2,362.12320		166.91940	
										454.35280		244.67560	
										192.51840		110.68856	
										257,039.70460	37.83711		
										221,882.59105	31.97231		
										82,436.81988	42.25009		
										11,779.10720		147.48219	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	UP or DOWN ARROW in column A to	**Energy Consumption and Greenhouse Gas Emissions Reporting - for 2012**														
2	**Confirm consecutive 12-mth period (mth-yr to mth-yr)**															
3	**Sector**															
4	**Agency Sub-sector**	**Town**														
5	**Organization Name**	**Town of Fort Frances**	**Please fill in the mandatory fields indicated in red, in addition to submitting data on your energy usage.**													
6																
7										**Electricity**		**Natural Gas**		**Fuel Oil 1 & 2**		**Fuel Oil 4**
8	**Operation Name**	**Operation Type**	**Address**	**City**	**Postal Code**	**Total Floor Area**	**Unit**	**Avg hrs/wk**	**Annual Flow (Mega Litres)**	**Quantity**	**Unit**	**Quantity**	**Unit**	**Quantity**	**Unit**	**Quantity**
9	*Stephenson Building*	*Administrative offices and related facilities, including municipal council chambers*	*2160 Yonge Street*	*Toronto*	*M7A 2G5*	*135034*	*Square meters*	*70*	*23516.00224*	*2181065*	*kWh*	*125300*	*Cubic meter*		*Litre*	
10	Museum	Cultural facilities	259 Scott St.	Fort Frances	P9A 1G8	9359	Square feet	40	0	106788	kWh	4520.415	Cubic Meter	0	Litre	0
11	Sister Kennedy Centre	Community centres	401 Nelson St.	Fort Frances	P9A 1B3	7366	Square feet	40	0	72851.67	kWh	7780.25	Cubic Meter	0	Litre	0
12	East End Hall	Community centres	1227 5th St. E.	Fort Frances	P9A 3P9	6184	Square feet	8	0	10562.67	kWh	4036.382	Cubic Meter	0	Litre	0
13	Public Works	Storage facilities where equipment or vehicles are maintained, repaired or stored	900 wright Ave	Fort Frances	P9A 3J9	15591	Square feet	50	0	134694.4	kWh	20129.06	Cubic Meter	0	Litre	0
14	Riverview Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	1319 Colonization Roa	Fort Frances	P9A 2T6	2535	Square feet	40	0	40175.43	kWh	0	Cubic Meter	0	Litre	0
15	Fort Frances Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	401 Kings Highway	Fort Frances	P9A 3P9	4225	Square feet	40	0	75305.02	kWh	0	Cubic Meter	0	Litre	0
16	Sunny Cove	Community centres	#960 Highway 11	Fort Frances	P9A 3P9	15000	Square feet	33	0	15123	kWh	0	Cubic Meter	0	Litre	0
17	Civic Centre Administration	Administrative offices and related facilities, including municipal council chambers	320 Portage Ave.	Fort Frances	P9A 3P9	17636	Square feet	40	0	262791.1	kWh	12139.75	Cubic Meter	0	Litre	0
18	Civic Centre OPP Offices	Police stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	6197.12	Square feet	168	0	262791.1	kWh	12139.75	Cubic Meter	0	Litre	0
19	Civic Centre Fire Hall	Fire stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	12468.4	Square feet	168	0	131395.5	kWh	6069.874	Cubic Meter	0	Litre	0
20	Fort Frances Library and Technology C	Public libraries	601 Reid Ave.	Fort Frances	P9A 0A2	15000	Square feet	50	0	271471	kWh	2080.782	Cubic Meter	0	Litre	0
21	Water Treatment Plant	Facilities related to the treatment of water	901 Colonization Road	Fort Frances	P9A 3P9	0	Square feet	40	1591.67	721579.1	kWh	54823.59	Cubic Meter	0	Litre	0
22	Sewage Treatment Plant	Facilities related to the treatment of sewage	2 Mcirvine Road	Fort Frances	P9A 3P9	0	Square feet	40	2042.078	1510820	kWh	44344.58	Cubic Meter	0	Litre	0
23	Church St. Lift Station	Facilities related to the pumping of sewage	325 Minnie Ave	Fort Frances	P9A 3P9	0	Square feet	1	9.565	132438.8	kWh	0	Cubic Meter	0	Litre	0
24	White Pine Lift Station	Facilities related to the pumping of sewage	740 Scott St.	Fort Frances	P9A 3P9	0	Square feet	1	135.01	24395.65	kWh	0	Cubic Meter	0	Litre	0
25	Boundary Road Lift Station	Facilities related to the pumping of sewage	1715 Colonization Roa	Fort Frances	P9A 3P9	0	Square feet	1	5.606	7412.81	kWh	0	Cubic Meter	0	Litre	0
26	Patcin Ave. Lift Station	Facilities related to the pumping of sewage	932 Kaitlyn Drive.	Fort Frances	P9A 3P9	0	Square feet	1	13.745	1957.51	kWh	0	Cubic Meter	0	Litre	0
27	Ice For Kids Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	56037.24	Square feet	100	0	1105328	kWh	71791.05	Cubic Meter	0	Litre	0
28	52 Canadians Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	53883.92	Square feet	100	0	746591.7	kWh	68975.72	Cubic Meter	0	Litre	0
29	Memorial Sportsplex	Indoor swimming pools	720 Scott St.	Fort Frances	P9A 1H8	16687.94	Square feet	100	0	383216.8	kWh	24841.2	Cubic Meter	0	Litre	0
30	Central Ave Lift Station	Facilities related to the pumping of sewage	712 Central Ave	Fort Frances	P9A 3P9	0	Square feet	1	748.07	132438.8	kWh	0	Cubic Meter	0	Litre	0
31	5th Street Lift Station	Facilities related to the pumping of sewage	1330 5th Street E.	Fort Frances	P9A 3P9	0	Square feet	1	341.71	37275.87	kWh	0	Cubic Meter	0	Litre	0

	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1																				
2																				
3																				
4																				
5																				
6	Energy Type and Amount Purchased and Consumed in Natural Units															Total (calculated in webform)				
7	& 6	Propane		Coal		Wood		District Heating				District Cooling								
8	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit	Renewable?	If Yes, enter Emission Factor	Quantity	Unit	Renewable?	If Yes, enter Emission Factor	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)	Building / Operation Identifier	Comments
9	*Litre*		*Litre*		*Metric Tonne*		*Metric Tonne*	*26.73*	*Giga Joule*	*No*	*0*	*20.506*	*Giga Joule*	*No*	*0*					*max. 255 characters*
10	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			18802.33817	16.54343013	0		
11	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			21706.2251	21.11572522	0		
12	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			8645.731618	8.644960832	0		
13	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			50992.5945	22.36043621	0		
14	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			3858.448297	15.84829586	0		
15	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			7232.294121	17.82367337	0		
16	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			1452.41292	1.0082	0		
17	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			48190.19637	22.21646948	0		
18	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			48190.19637	63.22447457	0		
19	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			24095.09149	15.71210158	0		
20	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			30006.05747	19.57233914	0		
21	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			172951.4163	0	819.4110518		
22	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			228938.2131	0	970.6310471		
23	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			12719.42235	0	13846.18923		
24	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			2342.958226	0	180.6951337		
25	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			711.9262724	0	1322.299322		
26	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			187.9992604	0	142.4161513		
27	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			241885.7986	33.34045842	0		
28	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			202110.0254	27.45995968	0		
29	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			83769.5849	38.78390826	0		
30	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			12719.42235	0	177.0406513		
31	Litre	0	Litre	0	Metric Tonne	0	Metric Tonne	0	Giga Joule			0	Giga Joule			3579.974555	0	109.086272		

Press TAB to move to input areas. Press

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2013

Confirm consecutive 12-mth period (mth-yr to mth-yr)	Jan/2013 - Dec/2013
Sector	Municipality
Agency Sub-sector	Municipal
Organization Name	Town of Fort Frances

Please fill in the mandatory fields indicated in red, in addition to submitting data on your energy usage.

Operation Name	Operation Type	Address	City	Postal Code	Total Floor Area	Unit	Avg hrs/wk	Annual Flow (Mega Litres)	Electricity		Natural Gas		Fuel Oil 1 & 2		Fuel Oil 4 & 6	
									Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit
Stephenson Building	*Administrative offices and related facilities, including municipal council chambers*	*2160 Yonge Street*	*Toronto*	*M7A 2G5*	*135,034.00*	*Square meters*	*70*	*23516.00224*	*2,181,065.00000*	*kWh*	*125,300.00000*	*Cubic meter*	*Litre*		*Litre*	
Civic Centre Administration	Administrative offices and related facilities, including municipal council chambers	320 Portage Ave.	Fort Frances	P9A 3P9	17,636.00	Square feet	40	0.00000	600,197.30000	kWh	57,672.15000	Cubic Meter				
East End Hall	Community centres	1227 5th St. E.	Fort Frances	P9A 3P9	6,184.00	Square feet	8	0.00000	11,759.80000	kWh	6,208.96300	Cubic Meter				
Fort Frances Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	401 Kings Highway	Fort Frances	P9A 3P9	4,225.00	Square feet	40	0.00000	76,616.41000	kWh						
Fort Frances Library and Technology (	Public libraries	601 Reid Ave.	Fort Frances	P9A 0A2	15,000.00	Square feet	50	0.00000	64,159.00000	kWh	5,708.24000	Cubic Meter				
Memorial Sportsplex	Indoor recreational facilities	720 Scott St.	Fort Frances	P9A 1H8	107,000.00	Square feet	100	0.00000	20,707,590.00000	kWh	271,131.60000	Cubic Meter				
Museum	Cultural facilities	259 Scott St.	Fort Frances	P9A 1G8	9,359.00	Square feet	40	0.00000	100,700.00000	kWh	7,761.20500	Cubic Meter				
Public Works	Storage facilities where equipment or vehicles are maintained, repaired or stored	900 wright Ave	Fort Frances	P9A 3J9	15,591.00	Square feet	50	0.00000	122,535.20000	kWh	40,010.54000	Cubic Meter				
Riverview Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	1319 Colonization Ro	Fort Frances	P9A 2T6	2,535.00	Square feet	40	0.00000	31,618.49000	kWh						
Sewage Treatment Plant	Facilities related to the treatment of sewage	2 Mcirvine Road	Fort Frances	P9A 3P9	0.00		40	2295185.00000	1,438,388.00000	kWh	73,959.55000	Cubic Meter				
Sister Kennedy Centre	Community centres	401 Nelson St.	Fort Frances	P9A 1B3	7,366.00	Square feet	40	0.00000	68,296.65000	kWh	8,598.52400	Cubic Meter				
Sunny Cove	Community centres	#960 Highway 11	Fort Frances	P9A 3P9	15,000.00	Square feet	33	0.00000	14,546.75000	kWh						
Water Treatment Plant	Facilities related to the treatment of water	901 Colonization Roa	Fort Frances	P9A 3P9	0.00		40	1398270.00000	76,177.58000	kWh	85,843.38000	Cubic Meter				

Energy Type and Amount Purchased and Consumed in Natural Units														Total (calculated in webform)				
Propane		Coal		Wood		District Heating				District Cooling								
Quantity	Unit	Quantity	Unit	Quantity	Unit	Quantity	Unit	Renewable?	If Yes, enter Emission Factor	Quantity	Unit	Renewable?	If Yes, enter Emission Factor	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)	Building / Operation Identifier	Comments
	Litre		*Metric Tonne*		*Metric Tonne*	*26.73000*	*Giga Joule*	*No*	*0.00000*	*20.50600*	*Giga Joule*	*No*	*0.00000*					*max. 255 characters*
														154,658.72111	68.78680	0.00000		
														12,632.71901	12.57233	0.00000		
														5,823.76656	18.13406	0.00000		
														15,669.00657	8.32166	0.00000		
														2,086,634.05459	220.45903	0.00000		
														22,327.95213	19.57307	0.00000		
														84,959.15283	35.13298	0.00000		
														2,403.38466	12.47278	0.00000		
														249,164.67079	0.00000	0.96917		
														21,447.96659	21.67796	0.00000		
														1,105.72756	0.96978	0.00000		
														168,088.22221	0.00000	0.70695		

TOWN OF FORT FRANCES

Operations and Facilities Division - Environmental Area - Operations Statistics

(April 2015)

STAFFING:

See Operations Statistics (April) 2015 prepared by M. Strachan, Superintendent of Transportation

OVERTIME HOURS - Equivalent Straight Time Hours

See Operations Statistics (April) 2015 prepared by M. Strachan, Superintendent of Transportation

WATER DISTRIBUTION:

Water Main Breaks:
- Number of water main breaks: None

Hydrant Repairs:
- Number of hydrant repairs: None

Hydrant Replacements:
- Number of hydrant replacements: None

Hydrant Installations (NEW):
- Number of new hydrant installations: None

Main Valve Repairs:
- Number of main valve repairs: None

Main Valve Replacements:
- Number of main valve replacements: None

Water Service Breaks:
- Number of water service breaks: None

Water Service Repairs:
- Number of water main valve repairs: None

Water Service Terminations:
- Number of water service repairs: None

Water Service Turn "Off/On":

- Number of water service turn "Off/On": Twenty-three (23)
    - 1628 Colonization Rd. W., 1107 Williams Ave., 516 Third St. W., 901 Banta Blvd., 1205 Elizabeth St. E.
    - 1150 Walker Ave. N., 1242 Colonization Rd. W., 533 Scott St., 928 Frenette Ave., 1444 Colonization Rd. W.
    - 1002 River Rd. W., 838 Third St. E., 1025 River Rd. W., 252 Sixth St. W., 622 Third St. E.,
    - 638 First St. W., 806 Shevlin Ave., 535 Riverview Dr., 1271 idylwild Dr., 306 Victoria Ave.,
    - 920 Armit Ave. (2) and 1101 Front St.

Frozen Water Services:

- Number of frozen water services: Two (2)
    - 907 Victoria Ave. N. and 1205 Elizabeth St. E.

Water Meter Installations/Replacements:

- Number of water meter installations/replacements: None

Backflow Preventer Installations/Replacements:

- Number of backflow preventer installations/replacements: None

Backflow Preventer Annual Testing:

- Number of backflow preventer tested: Nineteen (19)
    - 330 Scott St., 300 Eighth St. E., 256 Scott St., 1000 King's Hwy., 440 McIrvine Rd., 515 Portage Ave.,
    - 516 Mowat Ave., 310 Church St., 339 Scott St., 940 Fifth St. W., 261 Scott St., 516 Portage Ave.,
    - 401 Mowat Ave., 417 Scott St., 601 Mowat Ave., 600 Fifth St. W., 522 Second St. E.,
    - 522 Church St. and 550 Osborne St.

Other Information:

- Summarized final costs for invoicing of private works associated with private works
- Replaced missing markers on fire hydrants.
- April 7 , 2015 - Completed lead sampling as per O. Reg. 170/03 (Distribution Only).
- April 22, 2015 - P. Lemesurier and G. Wiedenhoeft attended a course on Traffic Control - Temporary Work Zones.

WATER TREATMENT PLANT:

- April, 2015 - In receipt of the Water Treatment Facility Monthly Report.
- April 7, 2015 - Completed lead testing in the distribution system only.
- April 23, 2015 - R. White and B. Webb attended a course on Working from Heights.

SEWERAGE COLLECTION:

Wastewater Main Backups:

- Number of wastewater main backup: One (1)
    - Church St. (300 blk.)

Sewer Main Repairs:

- Number of sewer main repairs: One (1)
    - Church St. (300 blk.)

Sewer Manhole Repairs:

- Number of sewer manhole repairs: None

Sewer Service Repairs:

- Number of sewer service repairs: One (1)
  - 808 Kaitlyn Dr.

Sewer Service Terminations:

- Number of sewer service repairs: None

Sewer Service Replacements:

- Number of sewer service repairs: None

Other Information:

- Cleaned eleven (11) plugged sewer services at the following locations:
  - 352 Church St., 318 Third St. W., 308 Butler Ave., 352 Second St. E., 1204 Third St. E., 301 Butler Ave.,
  - 613 Second St. E., 560 Church St., 617 Nelson St., 415 Second St. E. and 923 Christie Ave. N.
- Traced various building sewer services.
- CCTV inspected various building sewer services.

WASTE-WATER TREATMENT FACILITY:

- April, 2015 - Received the Wastewater Treatment Facility Monthly Report.

WASTE MANAGEMENT:

Garbage Collection:

- Number of complaints regarding garbage collection:
  - Town - 0 complaints, Asselin's - 2 complaints

Sanitary Landfill (Waste Disposal Site):

Landfill Scales functioning properly during this period.

- Amount of residential waste delivered to the landfill:
  - 248,210 kgs (248.21 tonnes)
- Amount of ICI waste delivered to the landfill:
  - 346,160 kgs (346.16 tonnes)

Recycling:

- Number of complaints regarding recycled materials:
  - Town - 0 complaints, Asselin's - 0 complaints
- Amount of recycled waste diverted from the landfill:
  - 40,860 kgs (40.86 tonnes) Metro

Prepared By: D L H — Environmental & Facilities Superintendent

Date: 24-06-2015

TOWN OF FORT FRANCES

Operations and Facilities Division - Environmental Area - Operations Statistics

(May 2015)

STAFFING:

See Operations Statistics (May) 2015 prepared by M. Strachan, Superintendent of Transportation

OVERTIME HOURS - Equivalent Straight Time Hours

See Operations Statistics (May) 2015 prepared by M. Strachan, Superintendent of Transportation

WATER DISTRIBUTION:

Water Main Breaks:
- Number of water main breaks: Three (3)
    - Webster Ave. (500 blk.), Nelson St. (500 blk.) and in front of 213 Sixth St. W.

Hydrant Repairs:
- Number of hydrant repairs: None

Hydrant Replacements:
- Number of hydrant replacements: Four (4)
    - In front of 618 First St. W. (HYD129), in front of 654 Riverview Dr. (HYD146),
    - in front of 1101 Front St. (HYD344) and York Ave. N. at Eighth St. W. (HYD068)

Hydrant Installations (NEW):
- Number of new hydrant installations: None

Main Valve Repairs:
- Number of water main valve repairs: None

Main Valve Replacements:
- Number of water main valve replacements: Six (6)
    - Minnie Ave. at Front St. (VAL551), Frenette Ave. at Fifth St. (VAL440), Third St. E. at Williams Ave. (VAL523),
    - Church St. at Mowat Ave. (VAL221 & VAL212) and First St. W. at Morrison Cresc. (VAL102)

Water Service Breaks:
- Number of water service breaks: Two (2)
    - 515 Nelson St. and 1301 Calder Dr.

Water Service Repairs:
- Number of water service repairs: None

Water Service Installations (NEW):
- Number of water service installations: One (1)
    - 103 Sixth St. E.

Water Service Terminations:

- Number of water service terminations: None

Water Service Turn "Off/On":

- Number of water service turn "Off/On": Twenty-two (22)
    - 700 McIrvine Rd., 800 Calder Dr. (2), 1301 Calder Dr., 1000 Calder Dr., Point Park (2), 401 King's Hwy.
    - 901 Second St. E., 1214 Third St. E., 1404 King's Hwy., 1103 King's Hwy. (2), 400 Central Ave.,
    - 418 Scott St., 1300 Fifth St. E. (2), 1319 Colonization Rd. W., 621 Church St., 729 Church St.
    - and 1557 Colonization Rd. W. (2)

Frozen Water Services:

- Number of frozen water services: One (1)
    - 400 Central Ave.

Water Meter Installations/Replacements:

- Number of water meter installations/replacements: None

Backflow Preventer Installations/Replacements:

- Number of backflow preventer new installations: None

Backflow Preventer Annual Testing:

- Number of backflow preventer tested: Two (2)
    - 206 Victoria Ave. and 325 Scott St.

Other Information:

- May 4 & 21, 2015 - Completed a connection inspection of the water services at 1050 Walker Ave. N. & 103 Sixth St. E.
- May 25, 2015 - Roto-Rooter commenced cleaning and televising of the sanitary sewer mains
- Summarized final costs for invoicing of private works associated with private works
- Recorded locations of curbs stops at various locations.
- Sunny Cove Camp - continued with the re-assembling of the equipment for water system.
- Traced water service lines at various locations.
- Commenced with the valve exercising program (Area 1) and hydrant valve exercising.

WATER TREATMENT PLANT:

- May, 2015 - In receipt of the Water Treatment Facility Monthly Report.
- MC Lough Electric on site working on the installation of the new generator

SEWERAGE COLLECTION:

Wastewater Main Backups:

- Number of wastewater main backup: None

Sewer Main Repairs:

- Number of sewer main repairs: Two (2)
    - Nelson St. - 800 blk. And Wright Ave. (500 blk.)

Sewer Manhole Repairs:
- Number of sewer manhole repairs: None

Sewer Service Repairs:
- Number of sewer service repairs: One (1)
    - 986 King's Hwy.

Sewer Service Replacements:
- Number of sewer service installations: One (1)
    - 390 McIrvine Rd.

Sewer Service Installations (NEW):
- Number of water service installations: One (1)
    - 103 Sixth St. E.

Sewer Service Terminations:
- Number of water service terminations: None

Other Information:
- Cleaned eight (8) plugged sewer services at the following locations:
    - 407 Sixth St. W., 713 Webster Ave., 546 Second St. W., 1060 Cornwall Ave. N., 401 King's Hwy.
    - 1002 Crowe Ave. and 808 McKenzie Ave. (2).
- May 4 & 21, 2015 - Completed a connection inspection of the sewer services at 1050 Walker Ave. N. & 103 Sixth St. E.
- Recorded locations of cleanouts at various locations.
- Sewer main flushing (Dead Ends)
- Traced sanitary sewer service lines at various locations.

WASTE-WATER TREATMENT FACILITY:

- May, 2015 - Received the Wastewater Treatment Facility Monthly Report.

WASTE MANAGEMENT:

Garbage Collection:
- Number of complaints regarding garbage collection:
    - Town - 0 complaints, Asselin's - 0 complaints

Sanitary Landfill (Waste Disposal Site):
Landfill Scales functioning properly during this period.
- Amount of residential waste delivered to the landfill:
    - 306,170 kgs (306.17 tonnes)
- Amount of ICI waste delivered to the landfill:
    - 466,650 kgs (466.65 tonnes)

- May 9, 2015 - Free tipping day at the landfill for yard waste only (206 vehicles)
- May 19, 2015 - K.J. Refrigeration on site to remove the refrigerants from the appliances.
- May 5, 6 & 29, 2015 - Hauled cover material to landfill - cover garbage.

Recycling:

- Number of complaints regarding recycled materials:
    - Town - 0 complaints, Asselin's - 1 complaint
- Amount of recycled waste diverted from the landfill:
    - 28,910 kgs (28.91 tonnes) Metro

Prepared By: _____ Environmental & Facilities Superintendent

Date: _____