Corporation of the Township of

Fauquier-Strickland

Fauquier Water Treatment and

Distribution Systems

Financial Plan

Water Financial Plan

Township of Fauquier-Strickland: Revised July 2014

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Water Financial Plan

1. Introduction and Summary

In 2007, the Ministry of the Environment (MOE) issued Ontario Regulation 453/07 *Financial Plans* under the *Safe Drinking Water Act, 2002*. The regulation and accompanying guideline prescribes the requirements for Financial Plans to be prepared as part of the Municipal Drinking-Water License Program set out in Part V of the SDWA. This regulation was designed by the MOE in response to Justice Dennis O'Connor's Walkerton Inquiry recommendations. The intent is to ensure that municipalities plan for the long-term financial sustainability of their drinking-water systems and ensure the safety of their drinking water into the future. This report has been created to comply with the requirements of O. Reg. 453/07 and covers the Township of Fauquier-Strickland distribution system which includes all pipes, valves, treatment systems, pumping stations and reservoirs. The financial statements included in this report projects 7 years into the future.

The plan laid out in this document, will maintain Fauquier-Strickland's Advantage of a safe, clean and secure water supply for this and future generations of Fauquier-Strickland residents. The Township of Fauquier-Strickland is a firm believer that financial planning is essential to ensure that a drinking water system provides value not just for today's customers but also for future generations. The financial plan represents a balanced approach. Reliable infrastructure and performance of the water system are key elements to not only economic development but also quality-of-life and safety in the community. Efforts continue to further enhance and protect water quality and reliability. Utilities are continually faced with the renewal needs of an aging infrastructure and inflation, particularly on construction costs. Re-thinking past practices and investing in new approaches, while ensuring the reliability of the service, have become fundamental to the daily delivery of clean water.

Water Financial Plan

The Financial Plan is a summary of various capital and operational expenditures and revenues for the next 7 years. Following approval of the Financial Plan by Council, any requested changes will be made and the plan will be published to the public and submitted to the Ministry of Municipal Affairs and Housing, as required by the legislation. Hard copies will be available to the public on request.

1.1. Service Context

The supply of fresh, clean water is a very important service to the Township of Fauquier-Strickland and is part of Fauquier-Strickland's Advantage. Residents expect to be able to turn on their tap at any time and be able to trust that the water coming out is safe to drink. The Township of Fauquier-Strickland owes a duty of care to residents and businesses to ensure that water is available, clean and safe and it is this responsibility that guides staff in its day to day operations,

long term planning and recommendations to Council. Below is a description of the objectives and principles of the waterworks in Fauquier-Strickland.

1.1.1. Fauquier-Strickland Water Service Objectives and Financial Principles

Below are the broad objectives and financial principles for the Fauquier-Strickland Water Service that was adopted by the Township of Fauquier-Strickland.

i. Growth pays for growth

ii. Pay-as-you-go for operating and routine life cycle expenditures,

iii. Strive for inter-generational equity to avoid burdening future generations in order to benefit current rate payers,

iv. Use debt to smooth out cash requirements for large infrequent life cycle or system improvement projects,

v. Build reserve funds to provide cash for emergency repairs and/or moderate cash requirements for intermittent medium sized projects,

vi. Use reserve funds to balance annual revenue fluctuations ,

vii. Set rates to achieve financial sustainability in the "near" term *(target year is 2019)*

viii. Address cash requirements for new legislation driven improvements at the time that they are known and use reserve funds or debt as appropriate,

ix. Commit to life cycle infrastructure renewal needs,

x. Commit to life cycle infrastructure renewal needs when it is less expensive to renew infrastructure that is approaching failure than to attempt to maintain and repair it;

1.1.2. Water Operations

The municipality and OCWA provides continuing maintenance of the water treatment and distribution system in the Township of Fauquier-Strickland to ensure that water can be conveyed to the residents of Fauquier-Strickland. OCWA as the operating authority is responsible for the treatment operation processes, valve controls, the low lift pumping station, disinfection

equipment, reservoirs and any other element of the system in accordance with the operating contract. OCWA is also responsible for both preventative and unplanned maintenance of the water treatment facility as well as regular inspection of hydrants, isolation valves and monitoring water quality of the distribution system.
(An agreement has been signed for the period that covers 2013 to 2017)

Annual Price for the Initial Term

Subject to any adjustments made pursuant to other provisions of this Agreement, the Client shall pay OCWA a price for the Services for each Year of the Initial Term in the following amounts (the "Annual Price"):

(i) For Year One from January 1, 2013 through to December 31, 2013 inclusive: $138,346.00.

(ii) For Year Two and subsequent Years: $138,346.00 plus the CPI Adjustment, plus an adjustment for maintaining the Insurance which is renewed annually by OCWA. The CPI Adjustment shall be calculated as soon as necessary information is available from Statistics Canada. In Year Two of the Agreement, the CPI Adjustment shall be added to the Annual Price for Year One of the Agreement and for subsequent Years, on a cumulative basis.

$120,049.46 for water and $18,296.54 for sewage are included in the Annual Price.
A projection of 1.2% per year for the CPI Adjustment for 2014 and 2015, and 2% for subsequent years.

2013	2014	2015	2016	2017	2018	2019
$120,049	$121,490	$122,948	$125,407	$127,915	$130,473	$133,082

1.2. Historical Perspective

1.2.1. Overview

The residents of the Township of Fauquier-Strickland first voted to establish a public water supply system in the 1970's. The Fauquier Surface Water Supply System is owned by the Corporation of the Township of Fauquier-Strickland. It is a stand alone system that neither receives nor sends water to another system or community.

The Ontario Clean Water Agency is the operating authority of the water treatment plant and the distribution system. The Fauquier-Strickland distribution system serves a population of approximately 325 residents and has approximately 153 service connections. All network piping in this system consists of iron ductile or iron piping that was installed in 1973/74. The water main leaving the water treatment plant is a 152 mm water line going to all residential and

commercial services. The distribution system has 15 hydrants, and six (6) dead end locations. The Corporation of the Township of Fauquier-Strickland has an active flushing program and flushes the entire system annually.

1.2.2. Water By-laws

The Township of Fauquier-Strickland has a by-law that specifies the rates to be charged for Water Services. That by-law is to achieve cost recovery through a user-pay approach. The by-law is a By-law to establish a water service rate which states the rates that will be charged for services.

1.2.3. Infrastructure Deficit

An infrastructure deficit is the difference between infrastructure funding needs and revenues. The deficit stands at an unsustainable level without the help of senior level of governments.

2. Water System Needs and Revenue Requirements

The Township of Fauquier-Strickland's distribution system contains approximately 4.5 km of water mains, 15 hydrants, as well as approximately 154 water services. The average age of water distribution system components is approximately 40 years old.

The water treatment plant is equipped with two 100 mm intake pipes, which draw raw water from the Groundhog River at a maximum rate of 545 m^3/d. The intakes are located at different elevations in the river and are equipped with 12 gauge aluminum raw water screens with a 3/16" clear opening. The raw water is gravity fed from the intake structures into a wet well housed in the low lift pumping station. Each intake structure has an isolation gate, which permit one or both intakes to draw water, depending on water quality. The water from the wet well is pumped to a common raw water header by two submersible low lift pumps (one duty and one standby); each rated at 6.3 L/s. Water levels in the wet well automatically control the two low lift pump activity.

A magnetic flow meter measures the raw water as it flows through the raw water header. Soda ash is injected prior to the static mixer using two metering pumps (one duty and one standby). Polyaluminum Chloride (PAC1) is also injected prior to the static mixer using two duty pumps. Soda ash is used for pH adjustment and PAC1 is used in the coagulation and flocculation process.

The water is then divided and enters two Neptune Waterboy treatment package plants consisting of a flocculation tank with mixer, clarifier and multimedia gravity filter. The water is mechanically mixed in the flocculation tank and at this point polymer is added to create a more settled floc. The water is gravity fed to the clarifier equipped with tube settlers, a motorized valve with a timer to allow for the systematic removal of sludge and automatic siphons to evacuate wash water generated during a filter backwash operation. The clarified water then passes through a filter composed of anthracite, sand and garnet.

Manual back washing of the filters is usually carried out every day. The backwashing enters a surge tank, which is connected to the sewage system for final disposal. The filter water from both package plants merge into a common discharge pipe where sodium hypochlorite is added, before entering two interlocking baffled clear wells. Sodium hypochlorite is injected using one duty pump; volume 341 m³ which are connected by an 8" valve. The valve remains open except when the clear wells are being cleaned. Two high lift pumps, each rated at 8.7 L/s are used to pump the treated water to a common header where pH adjustment and chloramination occur before entering the distribution system.

The Fauquier distribution system consists of approximately 4.5 kilometers of 6" iron ductile (or iron) water mains with 153 service connections. This system supplies residential and commercial users but no industrial facilities. There are approximately six dead end locations.

The plant is also equipped with a standby diesel generator that is available to provide emergency power during a power failure.

The street address of the Facility is as follows: 12 Gravel Avenue, Fauquier, Ontario

Water Distribution- Within the town site of Fauquier-Strickland

2.1. Capital

1. On an annual basis, the Operations Manager (OCWA) and/or designate conducts a review of the drinking water system's infrastructure to assess its adequacy for the operation and maintenance of the system.

2. The output of the review is a letter from OCWA which summarizes capital works recommendations and estimates expenditures. The letter is submitted to the owner for review and comment. The timelines and responsibilities for implementation of priority items are determined and documented by OCWA and the owner.

3. The Operations Manager or designate ensures that results of there view are included as input to the Management Review process.

2.1.1. Asset Management

See Township of Fauquier-Strickland Municipal Asset Management Plan.

2.1.2. System Improvements

While it is important to maintain the system in working condition, it also at times becomes necessary or desirable to improve the system. The Township of Fauquier-Strickland is

committed to maintaining a strong, healthy environment through protecting the sources of water that we share. Related Legislation:

The "Licensing of Municipal Drinking Water Systems" (O. Reg. 188/07) requires 5 components:

1. A Drinking Water Works Permit (DWWP)
2. An Accepted Operational Plan
3. Accreditation of the Operating Authority
4. A Financial Plan
5. A Permit to Take Water (PTTW)

The Fauquier-Strickland Operational Plan has been submitted and approved. This Operational Plan has been developed with OCWA's operating practices in mind and utilizing OCWA personnel to implement it. OCWA act as the Accreditated Operating Authority. The Drinking Water Works Permit application has been received.

2.1.3. Growth

Non-growth is funded through the budget, meaning these costs are funded by the users and directly impact this Financial Plan.

2.2. Operations and Maintenance

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OCWA, under contract with the Township of Fauquier-Strickland, maintains a program of scheduled inspection and maintenance of infrastructure for which it is operationally responsible. Specific requirements related to the general operation and routine maintenance of the drinking water system is contained within the contractual agreement with the owner. Records of these activities are maintained as per DWQMS. The operations and maintenance budget is used to keep the system operating safely as well as to perform the necessary testing, maintenance and repairs to keep the water treatment and distribution systems functioning.

A major component of this budget is OCWA service charges. Maintenance is generally divided into two major categories, preventative maintenance and unplanned maintenance. These two categories are described in more detail below.

The two critical elements of OCWA's approach to infrastructure maintenance, rehabilitation and renewals are:

1) A computerized Work Management System (WMS) that allows users to:

• Enter detailed asset information
• Generate and process work orders
• Access maintenance and inspection procedures
• Plan, schedule and document all asset related tasks and activities
• Access maintenance records and asset history

2) Development of a list of capital works required for the water systems and regular consultation with the owner to set priorities:

Maintenance plans are developed according to the manufacturer's instructions, regulatory requirements, industry standards, and/or client service requirements. Equipment Operation and Maintenance (O&M) manuals are accessible to staff at the locations specified in QEMS Procedure QP-01 Document and Records Control.
To assist in monitoring the effectiveness of the program, Regional Managers, Operations Managers and Operational & Compliance Managers are provided with Monthly Operational Reports (MOIR) and Action/Analysis Plans (AAP) which address items listed in the Required Actions section of annual Inspection Reports from the Ministry of the Environment. In addition, OCWA's Senior Management Committee is provided with hub and regional summary reports on an ongoing basis.

The owner is provided with a Monthly Report which is generated from operations.
An Annual Compliance/Summary Report is produced by the Kirkland Lake Compliance Department and is also provided to the owner every year.

2.2.1. Preventative Maintenance

Preventative maintenance represents a proactive approach to maintaining the water treatment and distribution systems. Acts of preventative maintenance often address issues before they cause a major problem or breakdown and can result in significant cost savings. Hydrant maintenance is conducted yearly. Isolation valves are exercised to ensure functionality and identify deficiencies.

2.2.2. Unplanned Maintenance

Unplanned maintenance typically consists of repairing equipment failure, leaks or other deficiencies (e.g. dosing pumps, damaged hydrants, etc.) that are reported by OCWA personnel, the public, or municipal staff. For facilities, required maintenance work may be identified by Operators during regular visits to the facilities. Unplanned maintenance can be costly and disruptive for the customers, which is why significant effort and focus is put on preventative maintenance.

3. Financial Model and Budget Process

3.1. Financial Model

Council understands the impact of rate increases both in the short and the long term. Below is the recommended scenario shown to Council and on which this Financial Plan is based as well as a description of the budget process.

3.2. Budget Process

The rates charged for Water Services support costs that can be broken into two broad types of expenditures, Capital and Operating. In the budget process, these two expenditures are approved by Council at the same time.

3.2.1 Operating Budget Process

Operating Costs are generally those costs that relate to operational issues. These expenditures do not increase the value of the system or its life but are required to ensure the reliable delivery of safe clean water to the community and achieve the anticipated life of the infrastructure components. It is generally accepted that due to the immediate benefit and short term impact of operating expenditures, they will be funded through the collection of user rates within the same year the costs are incurred.

3.2.2. Capital Budget Process

Capital Costs are those expenditures which are believed to increase the value of the system, improve the system, replace existing assets and/or extend the lifespan of those assets.
On an annual basis, projects are reviewed and adjusted to reflect changes. Senior levels of government implication always has to be considered when major projects are being planned.

3.3. Revenues and Rates

As our water treatment plant ages and demand has basically remained the same over the past decade, this has become a very challenging area to forecast for the water treatment and distribution budget. Annual rate increases are based on the Long Term Financial Plan which considers the funding needs for both Operating and Capital. The need to build adequate Reserve Funds and to maintain appropriate levels of debt as well, are also built into the rate setting within the Long Term Financial Plan.

4. Capital Financing

The expenditures required to maintain, improve and/or grow the water supply and distribution systems are collected from users through a water service rate. Since the treatment plant and the distribution infrastructure major capital expenditures are predicted in the near future, funding from senior levels of government will have to be considered when planning for capital expenditures.

4.1. Financing Options

The preferred funding source for lifecycle renewal works is pay-as-you-go. This funding is comes from the current year's revenues. This ensures that the taxpayers who are benefiting most are paying for the works. When a project has a significant life span and funding is not otherwise available it may be appropriate to issue debt, thereby transferring costs to future benefitting generations, but all other options has to be considered before. From time to time senior levels of government will invite application for funding. These funding sources often have stringent

criteria for eligibility and timing of works. Alternatively, ongoing permanent funding is provided through programs such as the Federal Gas Tax program. In view of our aging population, aging infrastructure and the relatively poor condition of our water treatment plant, users will not be able to sustain the financial requirements for renewal. Senior levels of government will have to provide permanent infrastructure funding until the infrastructure deficit is brought down to a manageable level.

4.2. Inter-Generational Equity

A guiding principle for financing decisions is the concept of generational equity for municipal capital works intended to equitably distribute the costs across present and future users. This means that the generation which will receive the most benefit of the works should bear the majority of the cost of the works. Some of the means to achieve this include: Paying for replacement and renewal works through pay-as-you-go financing; issuing debt for only long term projects, with a significant impact on benefits for future years, if no other options are suitable.

4.3. Reserve Funds Policy

Capital budgets can vary significantly year over year, and large non-recurring projects can create funding needs that are best funded over time. It is the intent to target a minimum reserve fund balance based on the asset value of the system.

4.4. Growth Pays for Growth

This portion of water supply system growth is supported by the water service rates.

4.5. Debt Management

The overall goal of the municipality's debt management strategy is not to use debt financing to fund the "average" capital budget. Debt financing should ultimately be used exclusively to fund large, extraordinary works, or to mitigate the impact of larger than average total capital budget along with the assistance of senior level of governments.

4.6 Senior Government Funding

The challenge lies not in making small systems safe, rather the challenge is to be economically viable. Small system owners do not have the economy of scale that bigger or larger systems owners have. If permanent funding is not committed by senior levels of government, this will impose an unsurmountable challenge to small water works system such as the one for Fauquier-Strickland.

5. Financial Statements

Format

In June 2006, the Public Sector Accounting Board (PSAB) approved PS3150, requiring municipalities to report Tangible Capital Assets (TCA) in their Statement of Financial Position effective January 1, 2009. Starting with the 2009 audited financial statements all municipalities are moving to a full accrual financial statement format. This change requires the inclusion of tangible capital assets, related accumulated amortization, removal of capital and reserve and reserve fund statements, introduction of accumulated surplus including all reserve and reserve funds balances. The attached forecast financial statements have been prepared under these new requirements.

Financial Information (Plan)

Revenues (Projections)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
User fees	$192545	$202998	$209088	$215822	$221822	$228477	$228477
Penalties	400	500	500	500	500	500	500
Subsidy	62180	166094	100000	100000	100000	100000	100000
Reserve	--	--	--	--	--	--	--
Subtotal	**255125**	**369592**	**309588**	**315861**	**322322**	**328977**	**328977**

Expenses (Projections)

	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
OCWA	$120049	$121490	$122948	$125407	$127915	$130473	$133082
Write-off	3718	3322	2200	1500	1500	1500	1500
Operations	76728	51971	54570	57298	60163	60163	60163
Capital	60268	199188	125000	125000	125000	120000	115000
Amort.	28094	28094	28094	29000	29000	29000	29000
Reserve	--	--	--	--	--	--	--
Subtotal	**288857**	**404065**	**332812**	**338205**	**343578**	**341136**	**338745**
Surplus							
Deficit	$33732	$34473	$23224	$22344	$21256	$12159	$9768

Revised July 4, 2014