

**Corporation of the Township
of
Mattice – Val Côté**

**Mattice Water Treatment and
Distribution Systems**

Financial Plan

MATTICE – VAL CÔTÉ WATER FINANCIAL PLAN

Water Financial Plan

Township of Mattice – Val Côté: Revised August 2020

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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 Mattice – Val Côté distribution system which includes all pipes, valves, treatment systems, pumping stations and reservoirs. The financial statements included in this report project 7 years into the future.

The plan laid out in this document will maintain Mattice – Val Côté’s advantage of a safe, clean, and secure water supply for this and future generations of Mattice– Val Côté residents. The Township of Mattice – Val Côté 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

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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 in the Township of Mattice – Val Côté and is part of Mattice – Val Côté’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 Mattice – Val Côté 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 Mattice – Val Côté.

1.1.1 Mattice – Val Côté Water Service Objectives and Financial Principles

Below are the broad objectives and financial principles for the Mattice – Val Côté Water Service that was adopted by the Township of Mattice – Val Côté.

- 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 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,
- 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 when it is less expensive to renew infrastructure that is approaching failure than to attempt to maintain and repair it.

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1.1.2 Water Operations

The municipality and OCWA provides continuing maintenance of the water treatment and distribution system in the Township of Mattice – Val Côté to ensure that water can be conveyed to the residents of Mattice – Val Côté. 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 2020 to 2029)

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, 2020 through to December 31, 2020 inclusive: \$165,223.00.
- ii) For Year Two and subsequent Years: \$165,223.00 plus the CPI Adjustment, plus an adjustment for maintaining the Insurance renewed annually by OCWA, plus an adjustment for flows. 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.

\$142,648.00 for water and \$22,575.00 for sewage are included in the Annual Price.

1.2 Historical Perspective

1.2.1 Overview

The residents of the Township of Mattice – Val Côté first voted to establish a public water supply system in the 1970's. The Mattice Surface Water Supply System is owned by the Corporation of the Township of Mattice – Val Côté. 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 Mattice – Val Côté distribution system serves a population of approximately 445 residents and has approximately 204 service connections. All network piping in this system consists of pvc piping and some ductile iron piping that was installed in the 1970's and 1980's. 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 25 hydrants, and thirteen (13) dead end locations. The Corporation of the Township of Mattice – Val Côté has an active flushing program and the operating authority flushes the entire system annually.

1.2.2 Water By-laws

The Township of Mattice – Val Côté 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 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 Mattice – Val Côté's distribution system contains approximately 4.3 km of water mains, 25 hydrants, as well as approximately 204 water services. The average age of water distribution system components is approximately 40 years old.

The Water Treatment System is located at 249 Parkview Avenue in the Town of Mattice. The system is designed to treat raw water from the Missinaibi River for the removal of colour, turbidity and other impurities in order to provide a high quality effluent for potable and domestic use.

Raw water is introduced to the system via one of two (one standby) pumps, each rated at 11.0 L/s located in the wet well building adjacent to the river. The raw water inlet valve opens on plant start up, low clear well level, or another control signal. The valve closes automatically on plant shutdown.

The facility houses a dual train package water treatment plant, chlorine contact tank, chemical storage, dosing equipment, high lift pumps, office, laboratory, and personnel facilities. The treatment process is a completely automatic, gravity flow operation consisting of two-process trains with a treatment capacity of 905 m³/day. The trains provide flash mixing, coagulation, flocculation, and up flow clarification using settling tubes and high-rate filtration through a dual media system. The filter is comprised of sand and anthracite and is backwashed when a pressure transmitter indicates total head loss, when filtered turbidity values are high, or by elapsed time. The turbidity off each filter is continuously monitored and information is relayed to the plant control panel.

Backwash water and sludge from the bottom of the clarifier is automatically removed and discharged to the sanitary sewer.

The plant is provided with five chemical storage and dosing systems: alum, sodium hydroxide, sodium hypochlorite, polymer and ammonia solution. Each system consists of a solution tank, chemical feed pumps, and a mixer where applicable.

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The treated water enters a baffled chlorine contact tank (reservoir/storage) that has a capacity of 808 m³ before it is distributed to the residences of Mattice. Free chlorine residual is continuously monitored in the reservoir where primary disinfection has been achieved. Ammonium Sulphate is added at the discharge of the chlorine contact tank to produce a combined chlorine residual before entering the distribution system.

Standby power consists of a 130 kW diesel generator and is located in a separate room with the ability to provide power for the entire facility including the low lift building.

The Mattice distribution system consists of approximately 4.3 kilometers of 6" pvc piping and some iron ductile water mains with 204 service connections. This system supplies residential and commercial users but no industrial facilities. There are approximately thirteen dead end locations.

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 estimate 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 their view are included as input to the Management Review process.

2.1.1 Asset Management

See Township of Mattice – Val Côté 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 Mattice – Val Côté 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 Mattice – Val Côté 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 acts as the Accredited 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

OCWA, under contract with the Township of Mattice – Val Côté, 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 details 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 charges 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 have to be considered when major projects are being planned.

3.3 Revenues and Rates

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. 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 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 and aging infrastructure, 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 Mattice – Val Côté.

5. Financial Statements

Format

In June 2006, the Public Section 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.

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Financial Information (Plan)

Revenues (Projections)

	2020	2021	2022	2023	2024	2025	2026
User fees	\$218,566	\$222,937	\$227,396	\$231,944	\$236,583	\$241,315	\$246,141
Subsidy	--	--	--	--	--	--	--
Reserve	--	--	--	--	--	--	--
Subtotal	\$218,566	\$222,937	\$227,396	\$231,944	\$236,583	\$241,315	\$246,141

Expenses (Projections)

	2020	2021	2022	2023	2024	2025	2026
OCWA	\$142,648	\$145,501	\$148,411	\$151,379	\$154,407	\$157,495	\$160,645
Salaries	\$4,000	\$4,000	\$4,000	\$4,100	\$4,100	\$4,100	\$4,200
Amortization	\$66,514	\$66,514	\$66,514	\$66,514	\$66,514	\$66,514	\$66,514
Utilities	\$28,000	\$28,500	\$29,000	\$29,500	\$30,000	\$30,500	\$31,000
Maintenance/capital	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Subtotal	\$281,162	\$284,515	\$287,925	\$291,493	\$295,021	\$298,609	\$302,359
Surplus							
Deficit	\$62,596	\$61,578	\$60,529	\$59,549	\$58,438	\$57,294	\$56,218