

To: Her Worship Mayor Sue McKortoff and Members of Council
From: Jared Brounstein, Director of Operational Services
Date: March 22, 2022
Subject: Water Metering Implementation Plan
Tracker No: AI-470

RECOMMENDATION:

That the Water Metering Implementation Plan be endorsed by Council.

And that the necessary steps be taken to ensure financial capacity to start the implementation of a Universal Water Metering Program in 2023, through the borrowing of up to \$4,704,000.00 in capital funds.

That the 2023 Five Year Financial Plan include the necessary operational increases to reflect the introduction of a water metering program at \$50,000.00 per year starting in 2024.

CAO Comments:

Approved for Council consideration. J. Zakall

Executive Summary:

A universal water metering program is one of the final steps in realizing our water conservation goals. The implementation plan completed by TRUE Consulting is the guiding document as it provides the necessary goals and objectives as well as the financial needs to install inside meters on all residential dwellings and bulk meters on most multifamily developments.

With an estimated capital cost of \$4,704,000.00 to implement the program; steps now need to be taken to ensure that the Five-Year Financial Plan reflects those costs and that the necessary borrowing be approved by both Council and the elector.

Background:

At the request of Council in early 2020, a universal water metering implementation plan was to be development to provide details on the type of installation, the costs associated with a metering program, both capital and operational, as well as provide a road map to completion.

A Request for Proposal (RFP) was released in late 2020 with TRUE Consulting being the success proponent and tasked with developing the Town's Water Metering Implementation Plan. The RFP detailed the following as key review items to be prepared by the successful consultant:

- Inside vs Outside Meters

- One meter, one property approach or multiple meters on multi-family developments or mixed-use sites
- Type of meters and reading technology
- Mobile (AMR) or fixed network (AMI)
- Cost requirements
- Grant funding availability
- Ongoing operating costs
- Rollout methodology including Public Communication
- Software and hardware requirements
- Ongoing installation needs and recommendations
- Who is responsible?
- Finance Department impacts and funding strategy

TRUE Consulting has now completed the Water Metering Implementation Plan with the following recommendations:

- The Town move forward with an inside meter installation program for the majority of water users with multi-family development being outfitted with bulk meters at the property line when warranted.
- Use of solid-state water meters.
- Continue to use an Automatic Mobile Read (AMR) system already in place.
- Additional technical staff member to oversee and manage the implementation and ongoing O&M of the metering program.
- Start the procurement process to identify a meter provider and installation contractor.

With an estimated capital cost of \$4,704,000.00 for an inside meter installation program for residential customers and a bulk meter installation program for ICI and multi-family customers; the Town will now need to make the necessary funding commitments in 2023 to move forward with the procurement process to identify a meter provider and installation contractor.

The Five-Year Financial Plan has identified capital funding in 2023 and 2024 to complete a Universal Metering Program at \$1,307,000.00 in 2023 and \$2,614,000.00 in 2024. These numbers will need to be increased by 15-20% in order to consider a 4% inflationary adjustment as well as the current uncertainty of supply chains which is impacting material pricing. These adjustments have been reflected in the estimated capital cost of \$4,704,000.00.

The Five-Year Financial Plan will also need to be adjusted in 2023 to reflect the increase in operating cost related to repairs and maintenance of a metering program. There is an anticipated operating increase of \$50,000.00 per year to address meter replacements, meter reading, meter maintenance and other meter related customer concerns.

Options / Discussion

Canada's ECOFISCAL Commission released a report in 2017, titled "ONLY THE PIPES SHOULD BE HIDDEN", the following was taken from the report:

BEST PRACTICE #1

Installing water meters for all residential and commercial users

Water meters have proven benefits. Metering allows water utilities to measure water demand over time and across different users - households, businesses, and institutions. This information allows water utilities to quickly and more accurately identify leaks and improve efficiency, and it also helps with long-term planning.

Water meters are also necessary for implementing volume-based (“volumetric”) user fees. Widespread metering for all households and businesses maximizes these benefits. For example, Ottawa installed smart meters for all its households in 2011, which gives the city high-resolution data on the time and use of water. This allows the city to charge users in part based on their levels of water use, but also to quickly identify and fix leaks, and improve infrastructure planning.¹

The Town of Osoyoos has prioritized reducing domestic water usage consistent with the Province of BC’s Living Water Smart Initiative. Since about 2010, this goal has been formalized in the Town’s water conservation planning initiatives. The objectives of the Water Conservation Plan (January 2010) for the Town of Osoyoos are:

- *Achieve reductions in the maximum day demand such that source capacity upgrading beyond the current system capacity of 25.0 ML/day can be indefinitely deferred.*
- *Comply with the Province’s goals from the Provincial Living Water Smart Initiative.*
 - *by year 2020 municipalities will be 33% more efficient: and*
 - *by year 2020, 50% of all new water for municipalities will come from conservation.²*

Average Day Demand (ADD) per capita has seen a reduction of 34% in per capita since 2000. Maximum Day Demand (MDD) per capita has seen a reduction of 32% since 2000. The observed reductions are in line with BC’s Living Water Smart objective of being 33% more efficient by 2020. Recorded water use in 2021 were as follows:

- *Total Annual Consumption: 2,558 ML*
- *Average Day Demand: 980 L/cap/day*
- *Maximum Day Demand: 19.7 ML/day*
- *Maximum Day Demand: 2,755 L/cap/day³*

The Town has a total water production capacity of 289 l/s; 2021 MDD was 228 l/s which is below our maximum production limit but above our safety limit of n-1 (one well out of service) of 214 l/s.

The n-1 system configuration is referenced to allow for redundancy of the water supply system and therefore plan to provide domestic water system supply in the event of pump failures, well failures, or other system failure events.⁴

Options

Option # 1 that Council moves forward with the recommendations and financial commitments

¹<https://ecofiscal.ca/wp-content/uploads/2017/09/Ecofiscal-Commission-Report-Only-the-Pipes-Should-be-Hidden-FINAL-Sept-26-2017.pdf>

² Water Metering Implementation Plan; January 2022; TRUE Consulting

³ 302-021-Osoyoos- Brounstein-Water Conservation Plan Update; January 2022; TRUE Consulting

⁴ Water Metering Implementation Plan; January 2022; TRUE Consulting

presented in the Water Metering Implementation Plan and this report.

Option # 2 that Council does not move forward with the recommendations and financial commitments presented in the Water Metering Implementation Plan and this report.

Should Council want to pursue Option # 2 as stated above, further consideration will be needed on how the Town will meet our water conservation objectives in the future. The current Water Conservation Plan will need to be updated to reflect that metering is not a financially viable means of reducing water consumption for the community and alternatives will have to be developed to reduce overall water demand. Operational funding will still need to increase to allow for additional staff to educate and monitor our updated water conservation measures, as there will be a continually need to demonstrate that the community is reducing water demand now and in the future for grant and other related funding requests.

Capital funding will further be required to address other means of water consumption/demand reduction initiatives such as:

- District metering
- Leak detection and removal programs
- Water main and water service replacement programs
- Reviewing our water and wastewater rates
- Community Park irrigation upgrades
- Xeriscaping Community Parks
- Low flow fixture initiatives – Town Sponsored
- Xeriscaping initiatives – Town Sponsored
- Expansion of effluent irrigation system
- Stormwater reuse upgrades and projects

This path will also need to be reviewed should other obstacles make water metering unviable.

Without the installation of water meters, the Town does run the risk that alternative demand reduction measures do not satisfy the needs of senior levels of government for grant funding to move larger capital projects forward such as water treatment.

Asterisks below in **Implications** identify some of the costs associated with Option # 2.

Implications:

- a) Community
 - i. Moving towards a user rate structure based on volume, not a fixed fee
 - ii. Resistance to meter installations and reading technology
 - iii. Access challenges to seasonal properties
 - iv. Access challenges to water line locations within buildings
- b) Organizational
 - i. Moving toward quarterly or monthly utility billing from annual
 - ii. Setting water rates that reflect the actual cost of supplying water to a customer
 - iii. Ongoing operation and maintenance of a water metering program
- c) Budget
 - i. Financial/Risk Implications
 - i. Total Capital Cost for Universal Metering - \$6,005,200.00 at the end of the 20 year term (Borrowing assuming 20-year amortization and a 20%

- increase to 2020 estimates)
 - ii. Yearly Capital contribution to service debt – Approx. \$300,260.00 for 20-years
 - iii. Yearly Operation and Maintenance contribution – Approx. \$50,000.00
 - iv. *Addition staff on top of the already approved technical staff member, should metering not move forward – Approx. \$110,000.00 annually
 - v. *Development of a new Water Conservation Plan – Approx. \$65,000.00
 - vi. *Capital programs identified in the updated Water Conservation Plan as required.
 - vii. Loss of senior level government grants should meters not be installed – potential financial loss, millions.
- d) Significant Dates
- i. Borrowing Bylaw and Elector Approval Process Third/Fourth Quarter 2022
 - ii. *Review and update Water Conservation Plan, should water metering not move forward, Fourth Quarter 2022
 - iii. Public Engagement Fourth Quarter 2022
 - iv. Procurement of meter supplier and installation contractor First Quarter 2023
 - v. Installation of meters starting Second/Third Quarter 2023
 - vi. Completion of meter installation Fourth Quarter 2025
 - vii. Mock billing and information process 2026 to 2028
 - viii. Review of water and sewer rates to reflect water consumption 2027
 - ix. Implementation of updated water and sewer rates 2029
- e) Sustainability
- i. Reduce the need for future water sources, reducing impacts to aquifer
 - ii. Encouraging water conservation
 - iii. Being able to quantify water use and account for and/or fine water losses in the system and on private property

Respectfully submitted,



Jared Brounstein, Director of Operational Services