



COUNCIL REPORT

To: Mayor and Council

Date: October 10, 2023

From: Paul Gipps, CAO

Subject: **Pit Meters and Water Regulations Bylaw No. 0274**

Report Prepared by: Allen Fillion, Director of Engineering and Operations

RECOMMENDATION to Consider and Resolve:

THAT Council receive for information the report dated October 10, 2023 from the Director of Engineering and Operations, with respect to water pit meters for new construction; and

THAT Bylaw No. 0274.02 being Water Regulation Amendment Bylaw not be forwarded for reading consideration.

STRATEGIC AREA(S) OF FOCUS

Invest in Infrastructure – We will invest in building, improving and maintaining infrastructure to meet the needs of, and to provide a high quality of life for, current and future generations.

BACKGROUND

At the September 12th, 2022, council meeting, staff were directed to prepare a report to assess the merits of the requirement to have water meters installed within water meter pits for new construction with options to amend the Water Regulation Bylaw No. 0274.

On February 8, 2022, Council unanimously approved amendments to the Water Regulation Bylaw No. 0274 (“Water Bylaw”) in relation to enforcement procedures when access to water meters within a residential dwelling was not granted, as well as the location for water meters for new residential dwelling construction (“new construction”). The amendments outlined in the report sought to assist staff with resolving the issue of replacing a significant number of inoperable water meters as well as the costs and loss of revenue associated with the replacement of the meters. The February 8th report is attached to this report (Attachment 2).

Staff identified the primary cause of the issue to be that the majority of water meters in

the City are located within residential dwellings making access inefficient and operationally expensive to maintain. Approval was sought to allow staff to install a pit meter at an owner's property line at the owner's expense where the City had exhausted all options to seek entry into their home to either repair or replace an inoperable meter. In addition, staff sought to alleviate the issue for future residential developments by requiring all new construction to have meters installed in pits at the property line. This requirement would result in an upfront cost during construction as the cost of installing a pit meter is higher than having a meter within a home as the meter must be adequately protected.

Based on a review by various departments it was determined that having unimpeded, continuous access to the meters by staff would result in greater savings in administrative costs, a reduction in lost revenue, improved safety measures to prevent backflow, less meter bypassing to avoid water charges, and added enhanced leak detection. This approach also aligns with other utility providers who require meters to be placed outside of residential dwellings (e.g. electricity and natural gas), as well as other B.C. municipalities.

Operational and Administrative Procedures for In-home Water Meters

The City reads water meters on a quarterly basis. This process involves physically driving a vehicle with a meter-reader through each neighborhood and collecting data via RF (radio frequency) communication. It takes approximately three days to collect all of the meter-read data and once completed the data is sent to the finance department to process. The finance department uses software that is able to determine which meters have failed and they are then flagged for replacement. This process does not change whether the meter is installed in a pit or within a home.

Meter Replacement:

Pits:

When failed or inoperable meters are located in pits at the property line, the meter technician will attend to the properties which require meter replacement and attempt to contact the owner onsite to see if they are able to shut off the water for thirty (30) minutes to replace the meter. If the owners are not available, the technician will shut off the water by closing the valves inside the pit, replace the meter, and turn the water back on.

Homes:

If the meter is located inside a residential dwelling, staff are required to give advance notice and set up an appointment for the water meter replacement. This begins by taking the list of failed meters and creating a mail-merge using the mailing address associated with the customer's account. The mail merge will populate the notice with the customer's information. The notices will then be double checked by staff to ensure no errors occurred when importing the information.

The first notice is then mailed with a request to contact the Utilities office to book a time and date for the replacement. Appointment times are Monday-Friday from 9am-3pm (do not currently have weekend appointments available).

Appointments are booked in hour-long blocks to accommodate installation and travel time between appointments. However, the process has the potential to take longer as many homes do not have isolation valves for their meter, which means the water lines in the home must be completely drained before the meter can be replaced which can take a significant amount of time. Another common occurrence that can complicate matters involves the main shutoff valve from the home not sealing completely which results in staff being unable to replace the meter until the valve is repaired or replaced.

Many water meters are installed in furnace rooms with no consideration for maintenance or repair. Staff have often encountered water meters installed behind hot water tanks, behind furnaces, inside walls/cabinets, or inside crawl spaces that are inaccessible for City technicians. Staff must then notify the owner that the City bylaw requires unobstructed access to the water meter, and therefore the owner must remove any obstacle. This can be frustrating for the owner as it typically results in unexpected costs such as retaining a plumber or contractor. It also delays the replacement of the meter until unobstructed access is obtained.

If staff do not receive a response from the first mailed notice, they proceed with a 2nd notice, which uses stronger language urging the owner to contact the Utilities department to book an appointment.

If staff do not get a response to the first two letters, a third letter is then hand-delivered to the address through the Bylaw department. The officer attempts to explain to the owner their requirements as per the Water Bylaw and if they do not permit access a ticket will be issued.

There are currently 22 appointments booked, with eighty-nine (89) 1st notices, nine (9) 2nd notices, and three (3) 3rd notices of no response mailed.

If no access is granted after the Bylaw ticketing, staff would then move forward with installing a pit meter at the property line at the owner's expense. Should the owner not pay the invoice for the installation, the amount is transferred to the owner's property taxes.

DISCUSSION

In January 2022, staff brought forward a report to Council explaining these challenges, and at that time there were approximately 625 failing meters that required replacement. As of August 2023, there were 1163 failing meters that required replacement (fail rate of 200 meters per quarter). Staff from various departments must follow the above procedures to secure access to these properties to replace the failed meters. While the average property owner is willing to provide access to their home in order to replace the failed meters, the practical reality is that coordinating these visits is not efficient. Even when property owners are agreeable, their daily schedules impact coordinating an appointment as occurrences such as holidays, last minute emergencies, forgetting an

appointment, etc. make setting appointment times difficult. Currently, it is not possible for the Utilities department to replace the 200 failed meters that occur within a quarterly period. As such, the remaining number of outstanding failed meters gets compounded each quarter as more meters fail during the meter read process. Should the City choose to continue to allow meters to be installed within new residential construction, this situation will be exacerbated and will require further administrative and staffing resources.

FINANCIAL IMPLICATIONS

When water meters are not functioning properly, the finance department continues to collect water consumption revenue through an average flat fee format of estimating. While this process allows staff to temporarily keep consumption revenue losses manageable, it is labour intensive and causes complaints as property owners often feel it is unfair. It moves the City away from individual usage-billing which is one of the key benefits of water meters. As stated above, this may not be caused by a property owner refusing access to their home, but rather the practical reality the City faces in attempting to replace 1163 water meters that are not readily accessible to the utilities department.

The estimated City administrative costs to address inoperable or failing meters is as follows:

- Finance Department: Approximately **\$4,500.00/quarter** to monitor and estimate flat fee rates on accounts with failing meters.
- Utility Department: Approximately **\$7,000/quarter** for preparing/ mailing letters, taking inquiries, making appointments and scheduling work.
- **Total Annual Cost to the City: \$46,000** *doesn't include bylaw's time to deliver notices, etc.

As meters age and fail over their lifespan there is a consistent number of meter replacements required each quarter because not all meters get installed at the same time. The meters we are currently installing have a warranty of 20 years, with a full warranty for the first ten (10) years, and a partial refund for the following year thereafter. As noted previously, the city is currently recording 200 meters failing quarterly and during this time approximately 100 meters can be replaced. It is anticipated this quarterly cost will continue until the City is caught-up, which is currently not possible without further resources.

Water Meter Bypass

Pit meters eliminate revenue loss due to water line bypass (i.e. water theft). It is estimated that there are approximately 150 properties with unauthorized bypasses that have been installed to avoid capturing irrigation water. At a conservative estimate this amounts to an average loss of \$200.00 per property per annum (these properties tend to be high volume water users), for an **annual projected loss of \$30,000.00**.

Pit Meter Costs

Recent quotes from a local supplier as well as discussions with a local contractor estimate the costs in the range of \$2,300 - \$3,900.

The current practice is to require the installation at time of subdivision. Staff recognize that there are additional carrying costs with requiring installation at subdivision, whereby the developer could be holding these costs for two years or greater depending on various factors. An alternate approach could be to require the installation at time of building permit to minimize these carrying costs.

Additional Considerations

Backflow Prevention & Leak Detection

Each pit meter is equipped with dual check valves as a backflow prevention safety measure. Backflow prevention stops water draining from the house if an emergency outage occurs, reducing airlock and water hammer on internal plumbing, protecting the municipal water system from cross contamination, and increasing water quality control.

Leaks are only detected in lines after the meter. If meters are placed inside of the home, any leaks that occur within the service line from the curb stop to the water meter are not detected. The installation of pit meters ensures that if leaks occur, either inside of the house or in the service line, they will be metered, tracked, and addressed more efficiently. This is further aided by the introduction of smart meters.

Smart meters not only provide live hourly updates on water consumption, but also detect and identify any leaks. This allows staff to track and address leaks almost immediately, preventing loss of revenue and reducing water waste. Currently there are 12,000 residential meters in place, with 600 using smart meters.

Current Practice in B.C. and Municipal Adoption

Information from a survey of 11 municipalities across B.C. who currently require the installation of pit meters, 5 of which are located within the Okanagan, can be found in attachment 3.

COUNCIL REPORT / RESOLUTION HISTORY

Date	Report Topic / Resolution	Resolution No.
January 25, 2022	THAT Council give first, second and third reading to City of West Kelowna Water Regulation Amendment Bylaw No. 274.01, 2022	C041/22

February 8, 2022	THAT Council adopt “City of West Kelowna Water Regulations Amendment Bylaw No. 274.01, 2022”.	C055/22
September 12, 2023	<p>THAT Council direct staff to prepare a report on water meters in pits with options to amend the City of West Kelowna Water Regulation Bylaw No. 274, 2021, to assess the merits of the requirement to have water meters installed within water meter pit for new residential construction; and</p> <p>THAT Council direct staff to bring forward a report with options to amend the City of West Kelowna Water Regulation Bylaw No. 274, 2021 back to Council for first, second, and third readings for the October 10, 2023 Council Meeting.</p>	C310/23

1. Alternate Recommendation to Consider and Resolve:

THAT Council direct staff to implement the requirement for pit meters at time of building permit.

2. Alternate Recommendation to Consider and Resolve:

THAT Bylaw No. 0274.02 being Water Regulation Amendment Bylaw be forwarded for reading consideration.

If Council chooses alternate recommendation no. 2, this is to not require pit meters for new construction.

REVIEWED BY

Allen Fillion, Director of Engineering and Operations

Warren Everton, Director of Finance / CFO

Trevor Seibel, Deputy CAO

APPROVED FOR THE AGENDA BY

Paul Gipps, CAO

PowerPoint: Yes ☒ No ☐

Attachments:

1. City of West Kelowna Water Regulation Amendment Bylaw No. 0274.02, 2023
2. Council Report January 25, 2022: Amendments to Water Regulations Bylaw No. 274
3. Municipality Adoption Comparison (Practise in B.C.)