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**Subject:** Large Water Billings – Causes and Response

**Prepared by:** Dan Elliott, Director Financial Services - Treasurer

**Department:** Financial Services

**Date:** September 5, 2017

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**In accordance with the Procedure By-Law, any Member of Council may request that this Information Report be placed on an upcoming General Committee or Council meeting agenda for discussion.**

## **Executive Summary**

This report is to provide Council insight into the causes of occasional unusually large water bills, and staff response to concerns raised when they occur.

- Large water bills occur mainly due to plumbing appliance failures
- Evidence of water running to waste only exists inside the private home and may be difficult to detect
- Homeowners must be accountable for maintaining their properties, and being vigilant for issues which may develop
- Residential water meters are read every three months
- Staff respond consistently to each occurrence
- Homeowner currently held responsible for high billing, and offered payment arrangements to pay the high bill
- Town does not have a relief mechanism in place to relieve owners from high bills incurred

## **Background**

### **The Town's water meters are accurate and reliable**

The Town's residential water meter fleet is comprised of two types of meters. The older mechanical type was installed in all homes beginning in 1991 and continued until early 2015. These devices rely on water movement to advance the mechanical measuring device and dials: water flow powers the device. As these meters age, these meters begin to allow water to flow through the meter without being measured. This is the result

of wear and erosion of the internal parts due to the minerals in the water and the water flow itself. This deterioration or failure of the meter benefits the property owner, while costing the Town lost revenue. It is for this reason the Town is now in the process of systematically changing out these old and wearing meters as is best practice in the industry. Meter tests conducted by an independent lab have shown that old water meters are normally in the range of 90 to 95% accurate, while occasionally, in some circumstances, some flow rates have been only 50% accurate. The Town has never seen a meter test returned where the meter was found to be running to the favour of the Town outside of the American Water Works Association standards of +/- 3%.

A newer “magnetic type” meter was introduced in early 2015 which has no moving parts, remains highly accurate indefinitely, however relies on a long life battery which needs to be replaced after 20 years.

### **Large water bills occur only a few times per year**

The Town issues over 65,000 residential water billings per year. With this many clients, and bills, it is logical to expect that some situations will arise within private plumbing systems which will give rise to unusually high water billings. On average, Financial Services department staff encounter fewer than one incident of extremely high water consumption per month. Many calls come in with concerns their bill is a little higher than normal, but this is normally attributed to outdoor water use due to dry weather.

## **Analysis**

### **Large water bills occur due mainly to plumbing appliance failures**

Large water bills typically arise from one or more of the following sources inside the home:

1. Leaking toilet flappers, or fill valves (leaks through flapper into bowl, or runs to overflow drain in tank, or flapper does not sit down fully and water runs continuously through bowl)
2. Flow through type furnace humidifiers (water flow valve sticks open due to sediment/mineralization/corrosion, water runs to drain continuously)
3. Water softener/pool or spa equipment failure (backflow/backwash cycle valve sticks open due to sediment/mineralization/corrosion, water runs continuously to drain)

4. Outdoor automatic irrigation systems (leaks in system, run too long, set up improperly, operate in wet weather)
5. Outdoor taps (left on and forgotten, sometimes by kids, theft of water by neighbours for pools etc, sprinklers left on all night)
6. Occasionally, high water bills occur due to plumbing breaks with water running into the home causing damage. (frozen pipes in unattended homes, vacation etc)
7. Dry summers with excessive outdoor watering of lawns and gardens

Some of these circumstances may be accompanied by the sound of water running through the pipes, while others will be silent due to the relatively slow but consistent rate of flow.

#### **The Town has limited resources to assist private owners with plumbing issues**

The Town does not inspect or repair internal private plumbing for residents to identify sources of leaks/loss or other problems. Staff resources are limited and therefore not available for this service. Further, at this time, the Financial Services department has only one staff member administering all water and sewer billing activities, including coordinating meter readings, billings, adjustments, customer inquiries, final billings and customer move-ins, new accounts for new construction, managing preauthorized payment plan changes for customer bank changes, move outs and move-ins. While they do their best to handle high water concerns, they are unable and unqualified to enter into private property to inspect plumbing appliances for problems. We refer clients to our online resource for self-help, or suggest they contact a plumber.

#### **Cost of water has increased dramatically in recent years**

In 1993, the combined rate for both water and sewer services was \$0.92 per cubic meter. Today, the combined rate is \$4.33 per cubic meter. Just in the last five years, as is discussed each year at budget, the combined water and wastewater rates have increased by 44% predominantly driven by increasing bulk water costs from the Region. For a homeowner using 100 cubic meters of water per quarter, their billing has increased from \$1,245 per year to \$1,792 per year since May 2013. This cost increase contributes in part to the frequency with which customers become alarmed at their water utility billings.

#### **Staff responses to large billing concerns is consistent**

Staff respond to customer concerns in a similar fashion and discipline with each call as follows:

- Once a customer calls, staff confirm the meter reading to eliminate the very remote possibility of a data error
- Refer the customer to our document on common causes of high water bills for self-analysis. This document can be printed from our website.
- Suggest they engage a plumber for assistance/repair if necessary.
- Obtain a follow up meter reading a couple of days later to determine if leak is still occurring or has been stopped.
- If the meter is one of the new type meters, depending on the severity of the billing, staff will promptly visit the home and download from the meter to a laptop computer the hourly readings for the last thirty days. Hourly consumption is graphically presented. Often this shows that the water flow never stopped moving for a period of time during the nights, and occasionally shows the hour that the issue was corrected.
- Explain that the homeowner is responsible for all water flowing through the meter and that the bill must be paid. Staff will offer a payment plan discussion, for a mutually acceptable plan.

Often the accuracy of the meter is called into question. We advise they are designed in a way that they run to the favour of the client as they age (old style) or that they are highly accurate. If they insist, we will have their meter tested. Test fee is \$180.00. A new meter is installed permanently, and the old meter is sent for testing which is undertaken by an external third party. If the test shows the meter was over registering, the Town waives/refunds the test fee, otherwise the client pays the fee. The meter test fee only covers the cost of the actual lab testing fee, and does not include the cost of the replacement meter or the labour to install it. (a cost to the Town of \$350.00 plus labour).

During the discussion with the client and review of the facts, staff look to see if there is any role the town played in delaying the detection of the problem. In a recent case, due to staff turn-over, the high read was taken on time, however, the billing was delayed in issuance by three weeks. The Town accepted responsibility for three weeks of the excess use, as our labour issue delayed the client in detecting and solving the leak issue.

Experience has shown, particularly with the new hourly download technology, that many homeowners facing these large bills eventually find the problem, repair it, but insist that there was or is no problem; that they did not use the water. Clients will sometimes

attempt to mislead or fail to be honest with staff in an effort to avoid paying the bill. For example, in one recent case, the client claimed a plumber had inspected his property on a Saturday morning and found no issues, however, our hourly reading download a few days later showed that the water stopped continually running during that very morning of the inspection. Clearly there was a plumbing issue and it got repaired.

Staff believe that the above approach is a reasonable balance between the tools and resources available to the Town to monitor and detect problems and the customer needing to be fully responsible for their home plumbing and maintenance.

### **Some municipalities have informal programs to offer financial relief from high consumption billings**

While no municipality in York Region has a formal program of financial relief from high consumption billings, some have informal plans where staff have authority to waive portions of the high consumption billing once per property owner. While this plan is welcomed by the person with the high billing, the cost of such is indirectly cast on all other water rate payers, essentially making them responsible instead of the owner who failed to maintain their property.

The City of London Ontario includes a small surcharge of \$0.25 per month on all residential billings to fund large water billing relief once per owner. Consumption must be at least three times normal to qualify for relief, and evidence of repair must be provided.

Any such programs require staff judgement (normally challenged with respect to consistency), and administrative tracking to monitor the once per customer approach.

### **Advisory Committee Review**

None

### **Financial Implications**

The Town incurs direct cost of the supply of water, and the associated sanitary treatment costs for all water delivered into the Town, whether used wisely, billed out to customers, or lost or wasted. Any program to provide billing relief for large water bills is a direct cost to the water utilities budget. Provision could be made in future budgets to provide an allowance with which the Treasurer and staff can use discretion in providing some relief in situations where excess water use has occurred.

## **Communications Considerations**

The Town website contains comprehensive information on water billing and wise-water use. Throughout the year, Corporate Communications runs public education campaigns advising residents of their responsibilities regarding water usage and tips for reducing plumbing appliance failures that may lead to unusually high water bills.

## **Link to Strategic Plan**

Informing Council of the staff response to occasionally reported high water consumption billings allows improved alignment between Council or community expectations and the programs and services delivered by staff. Such action furthers the Strategic Plan guiding principle of “Leadership in Corporate Management” and improves transparency and accountability to the community.

## **Alternative(s) to the Recommendation**

None.

## **Conclusions**

The Town of Aurora has reliable water meters in place. Occasionally, due to plumbing appliance failures or other causes, residential customers face significantly high water consumption billings. Town staff currently follow a consistent approach to dealing with these customers, ultimately expecting them to accept responsibility. Clearly, due to the financial magnitude, some clients have difficulty accepting responsibility for failing to be diligent in maintaining or monitoring their plumbing system and water use.

## **Attachments**

Attachment #1: Town of Aurora information sheet for detecting water loss in homes.

## **Previous Reports**

None

**Pre-submission Review**

Agenda Management Team review on August 18, 2017

**Departmental Approval**



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**Dan Elliott, CPA, CA**  
**Director of Financial Services**  
**- Treasurer**

**Approved for Agenda**



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**for Doug Nadorozny**  
**Chief Administrative Officer**



## DETECTING WATER LEAKS

Water customers are responsible for all water used, as recorded by their water meter. This includes water lost through leaks.

Dripping or running taps are the most common causes of water waste. These should be repaired as soon as possible. In addition to dripping or running taps, there are four frequent sources of hidden water leaks that can lead to high water use.

To determine if you have a water leak, the first step is to monitor the low flow needle indicator on your water meter. It is usually a small black triangle, red needle or dial on the face of the meter, which spins around when water is flowing. The more water that is flowing, the faster the dial will spin.

When no water is being used in your home, check to see if the dial is moving even slightly. If it is, you have a hidden water leak somewhere in your home.

It is most likely that one or more of your fixtures are leaking. This water is flowing from your home directly into the sanitary sewers. Check the following four likely sources for hidden leaks:

**1. LEAKING TOILET:** A silent toilet leak pours water down the drain quietly. Water will not appear on the floor. Lift off the toilet tank lid. No water should be moving or circulating after a full flush cycle has been completed.

Pull the small hose from the top of the overflow drain stem and check for water flowing. After the flush cycle finishes, if any water continues to flow from the tank fill valve into the tank or overflow drain, you need to replace the fill valve mechanism.

Also, the tank flapper valve occasionally leaks water, requiring the fill valve to activate periodically. To check for this, add four to five drops of food colouring directly into the tank and let it sit for 30 minutes. Check the toilet bowl for indications that the coloured water has now passed from the tank to the toilet bowl. If so, replace the flapper valve. Check your hardware store for correct replacement parts and helpful hints or call a plumber.

**2. FLOW-THROUGH-FURNACE-MOUNTED-HUMIDIFIER:** Newer furnace mounted humidifiers have a drain tube connecting the bottom of the humidifier to a floor drain or nearby drain pipe. If your humidifier has this drain system, check to ensure the water flow control valve closes properly when the system is not operating. During the summer months, close the supply valve off for the season. If water is flowing when the system is not operating, the water flow control valve needs service. Check your owner's manual or call the manufacturer for advice.



**3. WATER SOFTENER SYSTEM:** If your home has a water softener system installed, this system is susceptible to significant undetected water loss. Occasionally, the backflow or backwash feature will stay open, leaving pressurized water flowing directly and quietly into the drain system, wasting massive amounts of water.

If you hear water flowing inside this system when no taps or water fixtures are operating, this may be the source of a leak. Call your maintenance contractor for services immediately. In the meantime, you may wish to open the bypass valves and isolate the water softener system from your household plumbing or unplug the unit altogether.

**4. OUTDOOR WATER TAPS:** Occasionally, large water bills can occur from accidental or unauthorized use of your outdoor tap. Be sure to turn off all water hoses and sprinklers after use to avoid leaving a running hose. When not in use, close off the indoor shut-off valve to prevent such accidents.

Water consumers are responsible for all charges based on the volume of water passing through their water meter. The Town of Aurora is not responsible for any water consumed, wasted or lost that was incurred through the property owner's water meter.

If you have concerns about any possible leaks, please contact a service professional for assistance. The Town of Aurora does not provide in-home plumbing services to detect or correct any possible leaks.