



Vision: Grounded in Agriculture, Growing in Innovation

REPORT TO: Mayor and Members of Council
PREPARED BY: Jonathan Lampman, Infrastructure Supervisor
DEPARTMENT: Infrastructure & Operations
DIVISION: Water
MEETING DATE: Wednesday, February-20-19
SUBJECT: 2018 Year in Review - Water Loss

RECOMMENDATION

That Council receives this report as information only.

EXECUTIVE SUMMARY

In July of 2018 North Middlesex & OCWA staff(s), with the expertise of *Flowmetrix* implemented a pilot/long term water loss program in the municipality starting within the region of Ailsa Craig. “Wins” within the region are equal to 259 m³/day and can be expressed as a 27% reduction. Furthermore our rate of return will get better over time and will continue trend “downward” with proper monitoring and program(s) in place.

As per the Special Budget Council meeting of February 13th, 2019 Council approved the expansion of the program into the region of Parkhill and West McGillivray’s with an investment of \$60,000.00.

LINK TO STRATEGIC PRIORITIES

Leadership: To Create a Positive, Open Organizational Culture By Providing High Quality Public Services

Plans: To Support Robust Industrial, Commercial and Residential Growth By Developing A Safe And Secure Municipality

BACKGROUND

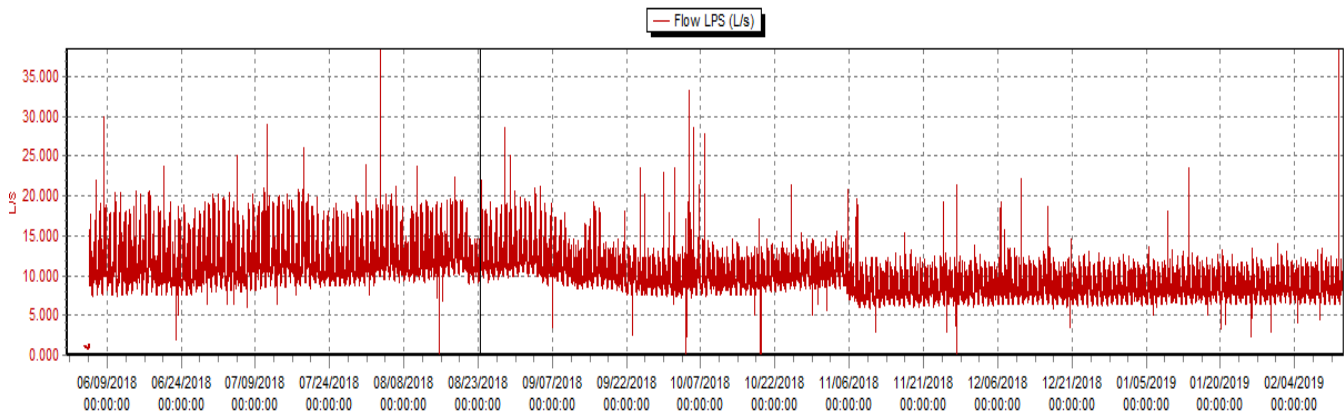
The Municipality has a geographical surface area of roughly 60000 sq. hectares with approximately 460km (+/-) of assorted sizes watermain(s). The leaks are typically brought to the attention of municipal staff through resident complaints or observed by this program; thereafter the leaks are “confirmed” via acoustic listening or “daylighting.” Subsequently the leaks are repaired by the municipality’s Operations staff in conjunction with OCWA and/or a 3rd party contractor. Starting in 2018 North Middlesex & OCWA Staff went on the offensive to find leaks and to correct them with a special focus within the region of Ailsa Craig region.

DISCUSSION

Through flow monitoring installed at the 150mm meter at the Ailsa Craig north boundary OCWA, *Flowmetrix* & North Middlesex staff conducted distribution isolation and district metering exercises t on three (3) separate occasions. The works were completed from 11pm through to 6am in the morning shedding light on actual loss within Ailsa Craig. This was done to limit possible mistakes in flow variation that could be caused by residents or businesses consuming water.

Staff discovered that the leaks were spread throughout Ailsa Craig but where mainly located within the areas of Church St., Jameson St., George St., Hamilton and Finch. In total staff detected and repaired eleven (11) service leaks and zero (0) main leaks (to date).

Below is a graphical representation of the leak detection program:



The above graph illustrates our highest “high” and lowest “low” and that a refined trend in or around October/November 2018 had a significant impact towards savings. Generally, Alisa Craig’s water distribution system has become more efficient with less overall loss throughout.

TABULATED RESULTS WITHIN AILSA CRAIG:

Prior to the Point Non-Revue Water Loss Program consumption = **11.5 l/s**
 After the Point Non-Revue Water Loss Program consumption = **8.5 l/s**
Total Percent Reduction = 27%

FINANCIAL

Overall, in order to determine water losses throughout North Middlesex’s distribution system, municipal staff have compared cubic meters billed by the City of London (via Regional Water/Lake Huron) versus the cubic meters billed to end users or consumers. Variances may therefore be considered non-revenue water to the extent of the following:

2016 Summary of Non Revenue Water		
Total Metres Billed by City of London 2016 (m3)	1874600	
Total Meteres billed to North Middlesex Users (m3)	896390	48%
Variance (m3)	-978210	-52%
Theft of Water (m3)	19564	-2.00%
End User Water Meters (m3)	19564	-2.00%
Pipe Flushing (m3)	320	-0.03%
Fire Fighting (m3)	720	-0.07%
Leaks in System (m3)	-938042	-96%
Non Revenue Water (m3)	-977810	
Non revenue water in \$	\$ (446,663.77)	
12% Actual Acceptable Loss in \$	\$ 49,136.49	

2017 Summary of Non Revenue Water		
Total Metres Billed by City of London 2016 (m3)	1272142	
Total Meteres billed to North Middlesex Users (m3)	735166	58%
Variance (m3)	-536976	-42%
Theft of Water (m3)	10740	-2.00%
End User Water Meters (m3)	10740	-2.00%
Pipe Flushing (m3)	320	-0.06%
Fire Fighting (m3)	720	-0.13%
Leaks in System (m3)	-514457	-96%
Non Revenue Water (m3)	-536576	
Non revenue water in \$	\$ (252,459.01)	
12% Actual Acceptable Loss in \$	\$ 41,507.47	

2018 Summary of Non Revenue Water		
Total Metres Billed by City of London 2018 (m3)	1330696	
Total Meteres billed to North Middlesex Users (m3)	736787	55%
Variance (m3)	-593909	-45%
Theft of Water (m3)	11878	-2.00%
End User Water Meters (m3)	11878	-2.00%
Pipe Flushing (m3)	320	-0.05%
Fire Fighting (m3)	720	-0.12%
Leaks in System (m3)	-569112	-96%
Non Revenue Water (m3)	-593509	
Non revenue water in \$	\$ (279,245.89)	
12% Actual Acceptable Loss in \$	\$ 41,599.01	

CONCLUSION:

- Loss in 2016 = **52%**
- Loss in 2017 = **42%**
- Loss in 2018 = **45%**

Even though municipal staff caught more leaks in Ailsa Craig in 2018 than in any other single year, losses still prosiest elsewhere within the water distribution system. The difference of **3%** from 2017 to 2018 equates to approximately **39,000m³** or a net loss of **\$19,000.00** in addition.

ATTACHMENT

None

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 Approved By: Nandini Syed, CAO/Director of Finance (Treasurer)