



## REQUEST FOR DECISION

RFD#

Date:

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**TO:** Mayor Kogon and Members of Amherst Town Council

**SUBMITTED BY:** Jason MacDonald, Deputy Chief Administrative Officer

**DATE:** February 4, 2019

**SUBJECT:** North Tyndal Wellfield Monitoring Wells Upgrade

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**ORIGIN:** 2019/20 Water Utility Capital Budget Item

**LEGISLATIVE AUTHORITY:** : 37000-01 Procurement Policy and the MGA, Section 65 (z)  
Power to expend money states: *"The council may expend money required by the municipality for...water".*

**RECOMMENDATION:** That \$40,000 be allocated in the 2019/20 water utility capital budget to allow the upgrade of the source water monitoring wells at the North Tyndal Wellfield.

**BACKGROUND:** During the recent Source Water Protection Plan update, our consultant Colin Walker M.Sc. P.Geo, did a thorough review of our monitoring practices and it was recommended that the source water monitoring wells be upgraded to allow samples to be taken at a variety of depths to provide better analysis of potential contamination issues. The consultant has provided an estimate to upgrade the six monitoring wells to current standards at a cost of \$ 40,000.

**DISCUSSION:** Groundwater samples are collected from a network of six deep open borehole wells. The well diameters vary from 6 to 8 inches and are on the order of 100 meters deep. When monitoring wells are sampled the standing water in the borehole must be flushed out to ensure that the water being sampled has been drawn freshly from the aquifer. A standard practice is to calculate the volume of standing water in the well and pump out three times this volume to promote adequate flushing. This volume is on the order of 5000 litres for 6" wells and 10,000 litres for 8" wells. Current flushing requirements are met using permanent high capacity pumps installed in each well.

Our consultant has suggested that current ground water sampling is done from smaller diameter monitoring wells. Wells are typically built using 1" or 2" threaded PVC with machine slotted screens. Screens are set for specific locations in the aquifer. Our consultant suggest reducing the open bore holes we have now to several small diameter wells inside the original bore hole reducing dramatically the time and volume of water that needs to be removed.

**FINANCIAL IMPLICATIONS:** \$40,000 to be included in the 2019/20 water utility capital budget for the upgrading of the existing wells this would also have the impact of reducing our annual sampling costs from approximately \$22,000 to approximately \$18,000.



**COMMUNITY ENGAGEMENT:** Community engagement will be in the form of a news item on our Town web page explaining the process and the results, no other community engagement is contemplated.

**ENVIRONMENTAL IMPLICATIONS:** The upgraded water wells would require less time to monitor and would provide samples at various elevations in the aquifer improving our monitoring of the source water. In addition, approximately 44,700 liters of water will no longer have to be purged from the monitoring wells annually.

**ALTERNATIVES:**

1. This work could be put off for a future year.

**ATTACHMENTS:** May 4 2016 letter report from Colin Walker M.Sc. P.Geo

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Report prepared by: Jason MacDonald, Deputy CAO

Report and Financial approved by: