LUCAN BIDDULPH COUNCIL AGENDA

TUESDAY, DECEMBER 3, 2019 4:30 PM
Lucan Biddulph Township Office
270 Main Street P.O. Box 190 Lucan, ON

SPECIAL MEETING
(Capital Budget 2020)
AGENDA

1. Call to Order

2. Disclosure of Pecuniary Interest & Nature Thereof

3. In-Camera Session

4. Capital Budget 2020

Lucan Waste Water Capital Investment Expenditure

5. Adjournment

Memo

To: Mayor and Council

From: Public Works Manager, Jeff Little

Subject: Lucan Waste Water Capital Expenditure

Date: Dec 3, 2019

BACKGROUND:
The village of Lucan is on a sanitary system that includes a network of pipes, two pumping stations, lagoons and a waste water treatment plant. By law the system is to be financially supported by users.

The lagoons are in good shape and with proper management they will need very little maintenance.

The network of piping was inspected in 2018. The inspection revealed 27% of the pipe to be in poor condition. Through the asset management plan, a workable schedule was developed to replace the aging piping. Note that Alice Street is at the top of the list for sanitary pipe replacement.

The two pumping stations are Nicoline, built in 2009, and Chestnut, built in 1992. Both have life expectance of 50 years. The Chestnut pumping station is the main station. All flow from the village goes through this station to the plant. During heavy flows the pumping station can divert flow to the lagoons so not to overwhelm the plant. The ministry has asked for all the diverted flow to then be brought back through Chestnut and be processed at the plant when time permits. This process is not measured and is done manually. It was also determined that the 20hp pumps used to feed the plant are too big. They cycle on /off causing surging at the plant. An upgrade to this pumping station was approved in 2016 starting with the engineering and then the ECA from the ministry. Upgrades will be $400,000. This portion was finished this year and the project is ready to move forward.

The waste water plant was built in 1992 and has a 50 year life expectance. However, the components that make up the plant have different life cycles and regular maintenance needs to be done. The plant was designed for a maximum daily flow rate of 1100m3. A reevaluation of the plant increased the maximum daily flow rates to 1700m3. The head works component is the location where flow enters the plant. The flow is prepped at this location, meaning garbage, grit and large debris is removed so the flow can be treated. There has been no upgrade or replacement in this component since 1992. The component is starting to fail. Operators are being called in to alarms being trigged by the problems at the head works. The required flow rate is going to increase by 20% due to growth in the next two years. OCWA, the contracted operators of the system have voiced a concern that failure of this component is a possibility. Capital repairs of the grit separator, the gas detection system and repairs to the building all need to be done. Replacement of the head works is estimated at $1,500,000 to $2,000,000. The asset management plan recommends a strategic goal for sustaining assets of 2% to 4% of the replacement cost be

budgeted annually. For the Lucan Waste Water Plant 2% of the replacement cost would be $125,000. This is in 2015 dollars.

DISCUSSION:

B.M. Ross and Associates have been contracted by the Township to review future expansion of the waste water system to accommodate growth. The current waste water system will accommodate about 5 to 6 years of growth.

The issues associated with the head works have been presented to B.M. Ross. With expansion still years down the road but capital repairs being needed now, the question to B.M. Ross was, how do we proceed without wasting capital investment?

Everyone agreed that the Chestnut pumping station upgrades are important and need to be completed but need to be coordinated with the work being done at the head works. (Chestnut pumps in to the head works)

B.M. Ross has confirmed the following. That a head works replacement can be done before expansion, that it can accommodate increased flows in the future if an expansion takes place and that the capital cost would virtually be the same for whatever flow rate the head works is built to.

Option One

Plan for head works replacement after it is determined the current plant can expand and to what volume the plant can expand to. This would require rebuilding or replacing individual systems in the current head works as they fail. This would require more diverted flow to the lagoons, higher operating costs and capital expenditures that will be invested in very short term operations. This option would allow for long term financial planning.

Option Two

Begin the head works replacement now with flow rates that will meet expansion. This would improve the efficiency of the plant, lower operating costs and would eliminate the need for band aid expenditures. Option two is at the planning stage. Details on scope, timeline and financial numbers will need to be determined. Note: B.M. Ross is preparing an application for grant funding under the “Green” stream of ICIP on option two.

FINANCIAL IMPACT:

The cost of the head works will be $1,500,000 to $2,000,000 for option one or two.

Option One will have a need for yearly expenditures until the head works is replaced.

RECOMMENDATION:

That council direct B.M. Ross to continue development of option two. Including summiting the grant application for option two.

That for 2020 budget, option two be used as presented in this report with the understanding that refinement and continued council approval will be needed moving forward.

That council direct the Public Works Manager to bring forward to council a report that details a plan to implement option two for council’s approval.

Jeff Little

Jeff Little, Manager of Public Works