

Memo



To: Tim Del Greco, P.Eng.
From: Tihamer Csiba, P.Eng.
cc: Scott Praill, CET.
Date: November 13, 2020
Subject: Cottam Lagoon Upgrade
Our File: 19-1108

Background

In preparation to tender the Cottam Lagoon Upgrade project Dillon has prepared the pre tender opinion on probable costs and reviewed the possible construction schedule to determine if a pre-purchase of major equipment was required. We also provide a background information for sole sourcing of the major equipment package from Veolia.

Opinion on Probable Costs

An update of the probable costs was completed based on 95% complete drawings and specifications. It is noted that compared to the costs included in the evaluation of treatment alternatives the estimated costs for proceeding with a nitrification alternative are significantly higher (\$1.26 M to 2.5 M). The costs are also higher than the cost of the originally proposed alternative to construct a third facultative lagoon (\$2.0 M) for expansion of the treatment capacity. It is noted that the cost to construct a third lagoon has not been updated to the present cost level.

The increase of the cost is mainly due to the following:

- Increase in unit cost of most of the trades and materials, most specifically concrete;
- Based on the geotechnical report sheet piling is required for excavation for the MBBR tank and building;
- The existing plant PLC needs to be replaced as it cannot be expanded;
- Additional ancillary equipment was required; and
- The building size is larger than originally assumed.

In our opinion constructing the plant expansion using MBBR and tertiary filtration is still the best alternative as this option provides the following advantages:

- Capacity increase by providing a full year operation and elimination of the seasonal discharge;
- Additional redundancy is built in the MBBR for future capacity increase and plant rerating;
- Additional redundancy is built in the tertiary filtration for future capacity increase and plant rerating;

- Existing intermittent filters provide safety backup;
- The treatment process is scalable for future expansion;
- Limited impact of First Nation consultation requirements during the EA Update as no additional land was required for expansion

In addition to the advantages related to the treatment process there are several mitigation measures, as identified in the EA Update, which are not required for the proposed alternative. These mitigation measures were to mitigate the impact of:

- Removal and/or disturbance of trees and ground flora;
- Loss of 8.09 ha of productive farmland;
- Disruption of tile and surface drainage system;
- Impact on Heritage Resources (Possible stage 2 Archaeological Assessment); and
- Temporary disruption of pedestrian and vehicular traffic.

Equipment Procurement

VEOLIA Water Technology Canada (VEOLIA) is offering an innovative and unique combination of two proven technologies for the year-long removal of BOD5/Ammonia and Total Suspended Solids (TSS) for treatment of lagoon effluent. These technologies are the MBBR and the HYDROTECH Discfilter which are both proprietary to VEOLIA. Veolia gained significant experience in both technologies since they have implemented them over more than 1000 plants in the world.

To our knowledge, no other company owns this combination of both technologies, nor do they have the expertise to implement them in the very cold Canadian environment and offer performance guarantee.

Veolia has been developing this unique combination (MBBR + Discfilter in cold climate) in an active collaboration with McGill University and University of Ottawa during the last two decades. The university researchers demonstrated the ability to remove ammonia on an attached film down to 4°C Celsius in collaboration with Veolia. Further research, also in collaboration with Veolia, to demonstrate such removal down to 0.5°C Celsius with the Anox-Kaldness/ VEOLIA media was conducted at Masson-Anger Lagoon plant. Recently, a research about the efficiency of microsieve (HYDROTECH) technology was completed and tested at the Casselman Lagoons in Ontario.

Casselman was the first installation in North-America to implement this treatment combination. No one other than Veolia responded to their recent 2018 preselection bid process - confirming that VEOLIA has a unique offering and proprietary technology and expertise.

To the best of our knowledge, we are of the belief, that based on this unique expertise and combination of patented technologies, the Town of Kingsville should be in a position to consider a non-competitive procurement process, subject to any specific municipal procurement rules.

It has to be noted that the sole source portion is limited to the supply of the above stated equipment and related technologies and that the installation and all ancillary services and equipment should be incorporated into a public tendering process.

Due to the long lead times to procure the equipment (about 6 months after purchase order) we recommend to prepurchase the equipment supplied by Veolia in order to start the operation of the plant expansion before the winter season of 2021. Upon award of the construction contract the purchase order would be transferred to the Contractor who would assume all liabilities of the purchase order.