



Temagami North Sewage Treatment Plant

History

- May 25/15 ECA # 9498-9V7J5Y was issued to the town of Temagami. The application for this ECA was prepared and applied for by the Engineering Group of OCWA.
- Under Item 12 of this ECA
“ Installation of an Effluent Disinfection System, it stated”

Within eighteen (18) months of the issuance date of this approval, the Owner shall submit an application to the Director for the installation of an effluent disinfection system for the Works along with a detailed design drawing, specifications and design calculations for the Proposed Works for approval by the Director.

In OCWA's reporting letter of September 23rd, 2015, they made several observations regarding the intention behind Condition 12 of the new ECA.

1. This condition (12) was added to address the high E. Coli levels in the Lagoon effluent, especially during the winter season which was likely due to short-circuiting of the Lagoon
2. The installation of a disinfection system generally follows the MOECC policies to meet the Coli effluent limits consistently to minimize potential impact to the natural biota, drinking water and recreational use of the receiver. The installation of a disinfection system is also an expensive undertaking.
3. Further, we (OCWA) recommend the Municipality should apply for the Ontario Community Infrastructure Fund or Small Communities Fund for sludge removal at the Lagoon, which could potentially reduce short-circuiting and aid the E. Coli issues.
4. They (OCWA) recommend the Municipality decide expeditiously how it intended to move forward with Condition 12 of the ECA taking into consideration that the preparation of the two reports will take time to complete.

Mitigation of Item 12

- As a result of the direction given in the ECA, the Municipality directed OCWA to approach the Ministry and propose a study be conducted as to the impact on the receiver by the lagoon and if disinfection was required.
- Agreement was reached with the MOECC to conduct a Surface Water Impact Study and prepare a preliminary design brief to address the issue.

- Report #1 - a detailed surface water impact assessment (dispersion modeling) of E. Coli to the receiving lake.
- Report #2 - a preliminary design brief of the existing sewage works which identifies potential causes of E. coli issues.

Following the advice of OCWA's Engineering Group, The Municipality of Temagami issued RFP PW-RFP-001-2016 to prospective consultants, to undertake and complete these assignments.

EXP was the successful proponent and the contract was awarded March 2017.

Extension to Condition 12

- In Stefanos Habtom, of the MOECC, email of August 2015, he indicated that if more time was required, the proponent could request an extension of the eighteen (18) months provided under Condition 12 of the ECA.
- As part of EXP's assignment, application was made an extension of the requirement date was adjusted to May 25, 2018. (ECA # 1975-AN3RZW) dated June 21, 2017

New ECA

- On June 21/17 a new ECA #1975-AN3RZW, applied for by EXP, on behalf of the Municipality, was issued.
- Under Item 13 of the new ECA
“ Installation of an Effluent Disinfection System, it stated”

Before May 25, 2018, the Owner shall submit an application to the Director for the installation of an effluent disinfection system for the Works along with a detailed design drawing, specifications and design calculations for the Proposed Works for approval by the Director.

Report #1

Surface Water Impact Study

- Sampling was initiated in May 2017 and was completed in August 2017
- Sample results indicated the lagoon was having an effect on Net Lake
- Report was completed and delivered to the Municipality and the MOECC.
- This finding brought Item 13 back in play.

OCIF Application

- OCIF criteria indicated funding was available to the Town of Temagami with applications required to be submitted by September 27th, 2017.
- Following the recommendation in OCWA's Reporting Letter, an OCIF Application was submitted to the funding agency. Part of the application was the SWIS report (Report #1), Sewage Treatment Plant Proposal & Drawings (Report #2)
- Funding for the project was denied.

Issues Surrounding Disinfection of the Existing Facility

- There is no footprint for construction of a disinfection facility nor any way to bypass the lagoon during construction.
- The lagoon would need to be dredged.
- In order to take the lagoon off line to dredge, it may require portable treatment equipment as well as significant temporary structural changes.

Estimated Costs for Lagoon Rehabilitation and Disinfection

- Lagoon sludge removal with on site storage (Geotubes) approximately \$1M
- Preparation for new discharge structure approximately \$0.5M (sheet piling or a berm constructed into lagoon)
- UV disinfection approximately \$0.4M (close vessel UV units (2))
- New blower building with upgrades MCC and ferric sulphate storage approximately \$0.4M
- Engineering, Contract Administration, Site Supervision and ECA application \$0.15M
- Total estimated costs: **\$2.45M**



Temagami North Waste Water Treatment Plant Proposal

Rationale for Full Treatment

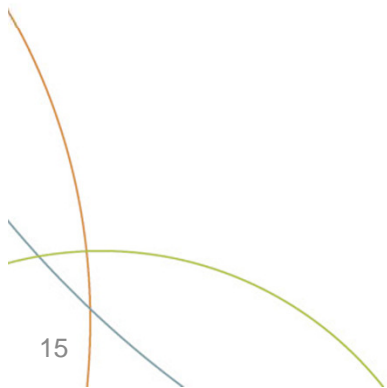
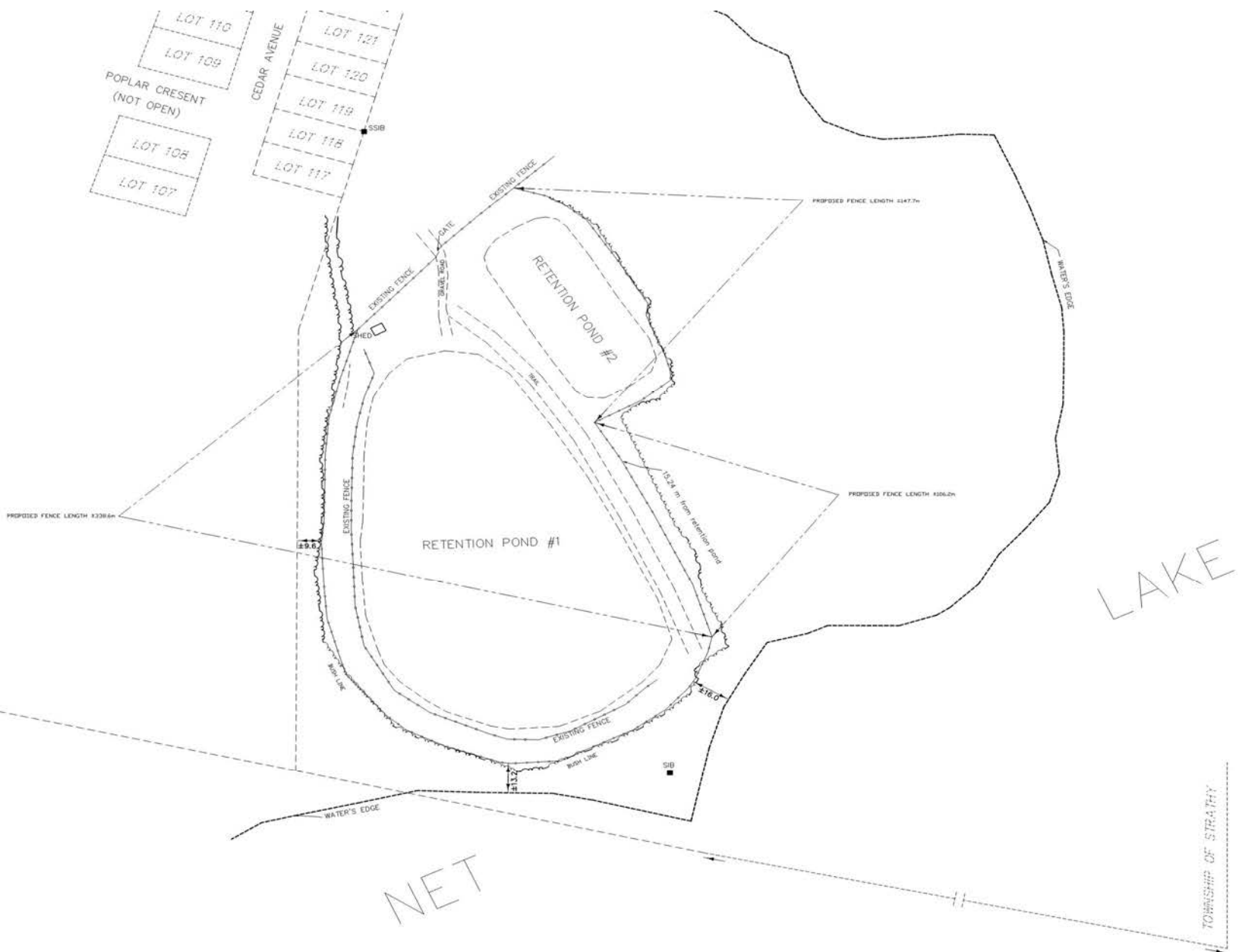
- Full treatment would comply with the intent of the new ECA issued June 21st, 2017.
- Remove the present requirement for ferric addition, including all controls and appurtenances (pH Control)
- Ensure the effluent discharge from the works into Net Lake meets the Ministry's effluent quality requirements.

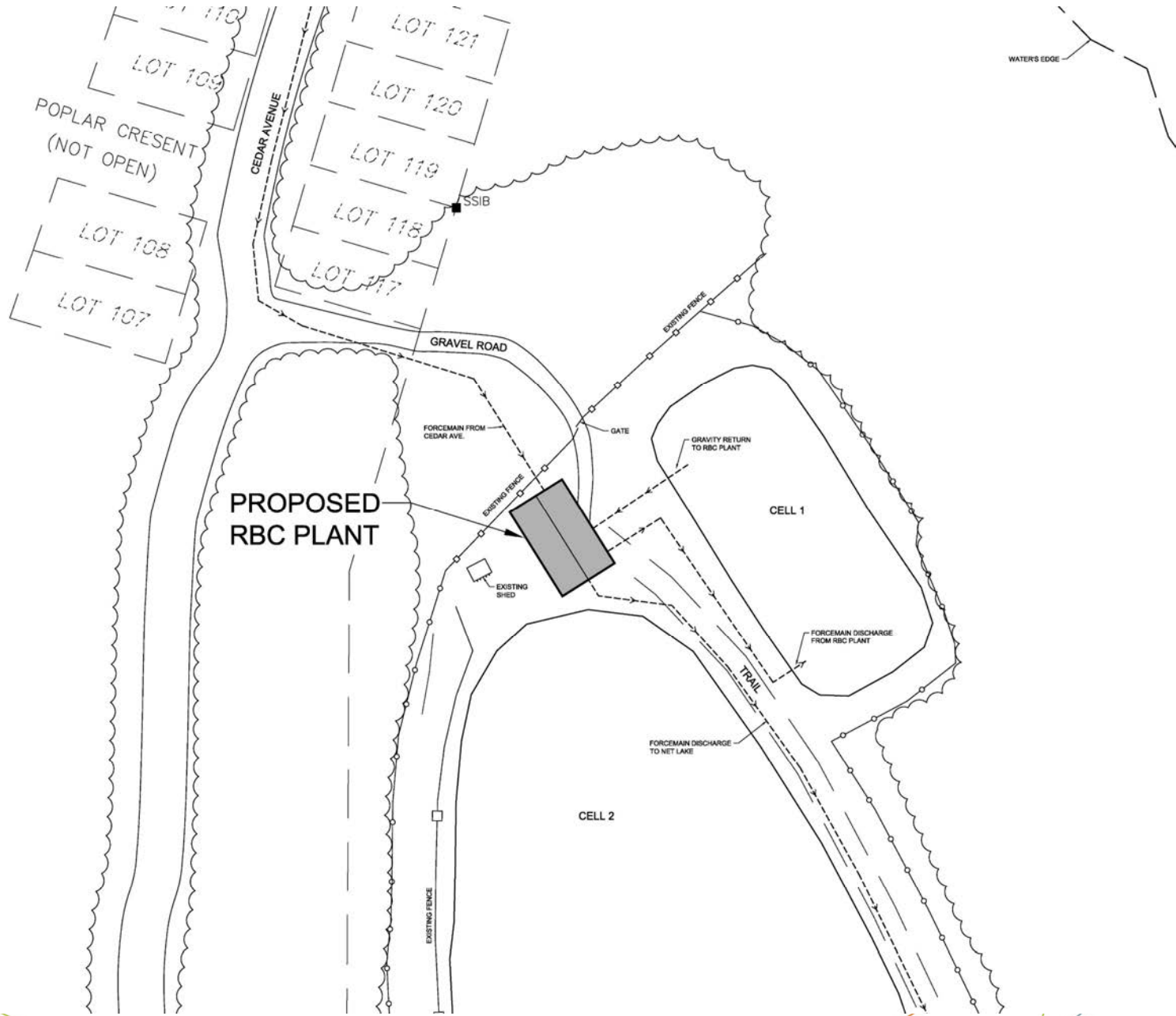


Proposed Solution

Rotating Biological Contactor

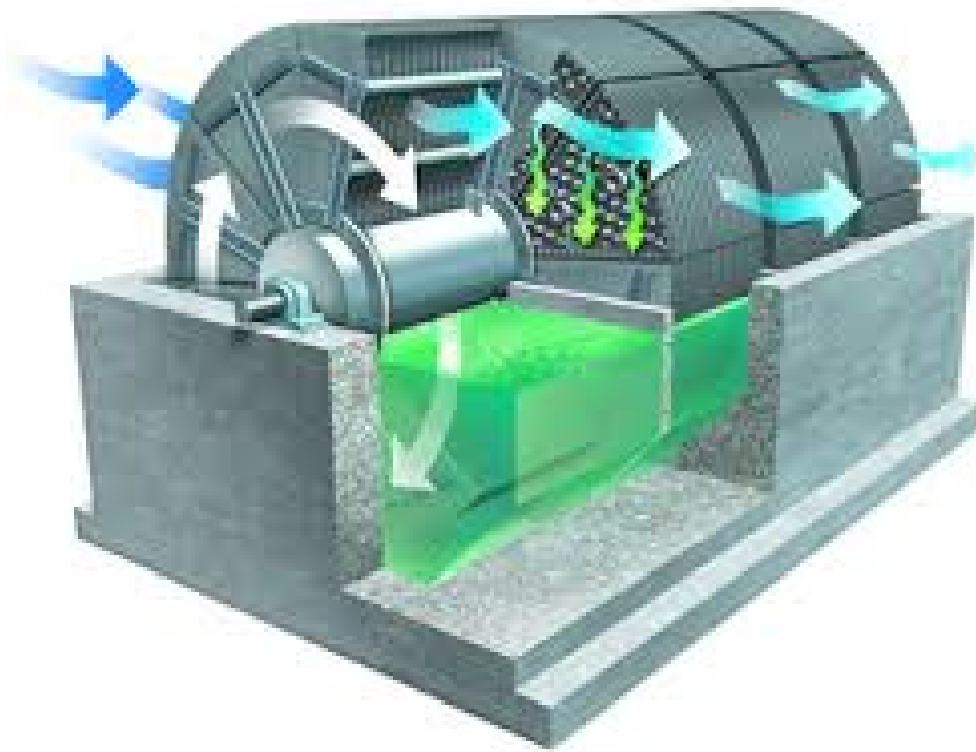
- Biofilms, which are biological growths, become attached to the discs and assimilate the organic materials in the wastewater.
- Aeration is provided by the rotating action, which exposes the media to the air after contacting them with the wastewater, facilitating the degradation of the pollutants being removed. The degree of wastewater treatment is related to the amount of media surface area and the quality and volume of the inflowing wastewater.





Proposed Solution

- RBC (Rotating Biological Contactor)



Facility Components

- A building to house the RBC's
- Bar screens and grit channels for primary treatment
- RBC units
- Clarifier
- Polishing pond (existing)
- Open Channel UV disinfection
- Discharge structure

Installation Representation



EXP'S Concerns

- Timelines are too tight to meet the May 25, 2018 deadline
- There is no simple solution
- The MOECC does not appear to be receptive to an extension to the time line

Questions?

