

**HIGHLIGHTS:**

- Challenge: Excessive zinc in leachate discharge - Leachate trucked to WWTP (> \$100,000/month)
- ECOTHOR®-EC electrocoagulation with magnesium alloy anodes selected after onsite piloting (multiple solutions trialed by the customer)
- Commissioned June 2019
- Design Capacity
  - o 575 m<sup>3</sup>/day, operating 24/7
- Current Operation Flowrate
  - o 685 m<sup>3</sup>/day
- Successful zinc abatement in compliance with regulatory authorities and permits
- Annual savings of over CA\$1,000,000

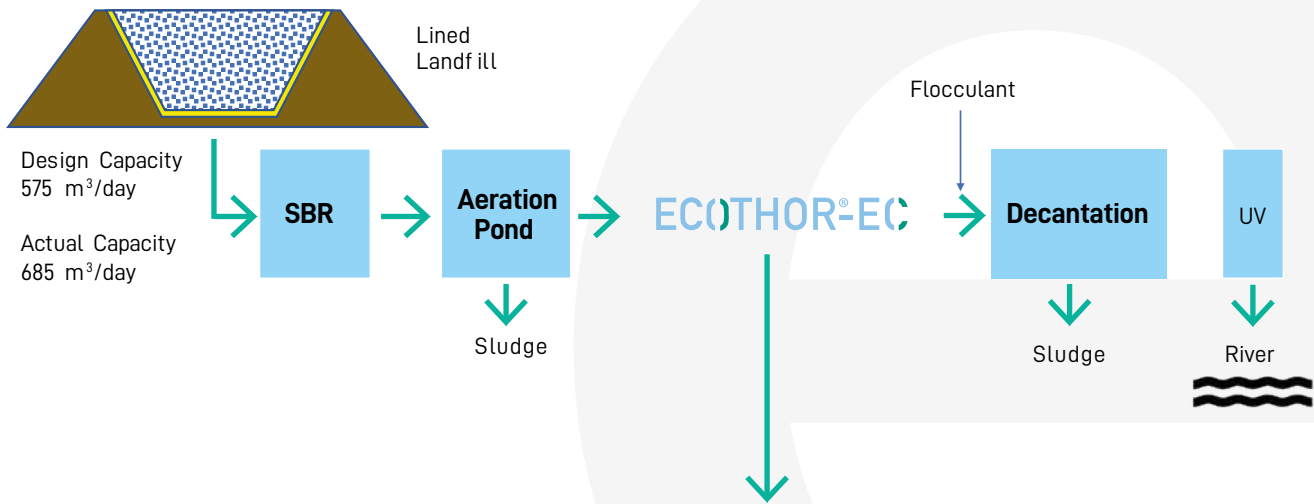


In 2016, with rising zinc levels in its landfill leachate, and faced with exorbitant leachate disposal costs offsite, the Régie de gestion des matières résiduelles de la Mauricie (RGMRM - a municipal organization turned to industry and academia to help address this challenging issue. Various biological, membrane, physiochemical and electrochemical approaches were investigated.

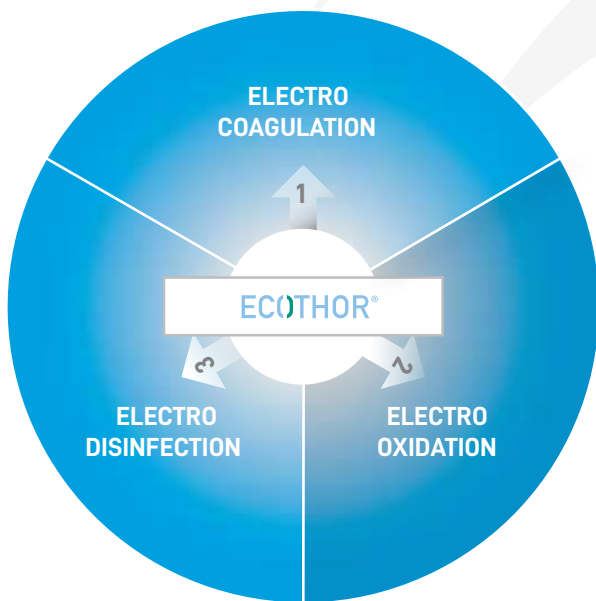
Onsite piloting in 2016-2017 established ECOTHOR® using electrocoagulation as the only solution which provides the required zinc removal performance, all the while drastically reducing the operating costs associated with offsite leachate treatment.

After complying with all regulatory and public acquisition requirements, the ECOTHOR®-EC System, with reactors, control panel and power supplies, was delivered and commissioned late spring 2019 and has been operating ever since.

Summary 2019	
Raw Leachat	0.3-0.8 mg/L Zn
Treated Leachate	0.08-0.2 mg/L Zn
CAPEX (ECOTHOR® only) \$649,000	
OPEX (Anodes & Electricity) \$0.53/m <sup>3</sup>	
Overall Project Payback < 10 months	



**24 ECOTHOR®-16R Reactors configured to operate in electrocoagulation mode with ANO2M (Mg alloy) anodes and with Allen-Bradley PLC (customer spec)**



E2metrix is a Sherbrooke, Quebec-based water and wastewater treatment systems company, with a focus on ECOTHOR®, a “plug & play”, proprietary electrochemical process for treating process water along with industrial and municipal wastewater, either at a greenfield or an existing site. The modular ECOTHOR® reactor can be operated alone or in a bank of multiple reactors to treat wastewater discharge flows from as low as a few m<sup>3</sup> to thousands of m<sup>3</sup> per day to target removal of contaminants including, ammonia nitrogen, phosphorus, suspended solids, metals (ex. Zn, Cu, Ni, As, Se, Mn, Fe, etc.), C<sub>10</sub>-C<sub>50</sub> hydrocarbons, cyanides/thiocyanates, fats/oils & greases, pathogens/bacteria, emerging contaminant (including hormones, pharmaceuticals, PFAS), fluorides, and others.

<b>Low Cost of Ownership</b>	<b>Multiple Contaminant Removal</b>
<b>Fully Automated with Remote Operation</b>	<b>Compact – Small Footprint &amp; Modular</b>
<b>On/Off Capabilities</b>	<b>No moving parts</b>