



## Hazardous Waste PCB Sediment Remediation, Port Hope, ON

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The Port Hope Area Initiative includes the remediation of five former industrial waste sites, as determined by the Legal Agreement of 2001. One of the industrial sites is the 2-hectare Chemetron Lagoon site which was used by the former Chemetron Corporation of Canada. The Port Hope facility, which began operations in 1970, produced and sold pigment to be used for ink in the printing industry and used 5,800m<sup>2</sup> of the site as a man made lagoon to manage the wastewater from the plant. ECC performed as the Prime Contractor for Canadian Nuclear Laboratories (CNL) to execute the design, remediation, water management, and restoration of the Industrial Site through the integration of innovative technologies.

The Chemetron Lagoon project site is in a busy urban area adjacent to a popular waterfront trail, a marshy area, Lake Ontario and the municipal water treatment facility. The contamination present onsite was contained within the wastewater, sludge at the bottom of the lagoon, soils in contact with lagoon sludge or water, and subsurface infrastructure. There was approximately 14,500m<sup>3</sup> of contaminated wastewater to be treated via an onsite portable water treatment system (PWTS) along with ~3,500m<sup>3</sup> of hazardous polychlorinated biphenyls (PCB) contaminated sludge at the bottom of the lagoon. The investigative findings showed that the majority of the contamination at the site related to PCBs, including high levels above the 50-ppm threshold, classifying the material as PCB hazardous waste and requiring disposal at a licensed facility.

ECC completed the dewatering and treatment of the contaminated wastewater of the lagoon through the PWTS installed on the project site. The PWTS featured holding tanks, clarifiers, pH adjustment tanks, sand filters, Organo Clay (OC) and Granular Active Carbon (GAC) vessels to treat the water to a high degree of efficiency and allow for discharge to the adjacent marsh. ECC monitored the effectiveness of the system through regular sampling and analysis to ensure sustainable practices and to minimize environmental impacts.

Upon successful dewatering of the lagoon, the solidification, excavation, and disposal of the hazardous PCB material removal began. The sludge was extremely saturated requiring stabilization and solidification using a solidifying polymer agent to allow safe loading and transport of material to the disposal facility. Measured excavation, handling protocols and effective packaging of the material for transportation allowed for safe shipment of the PCB waste to TUQ4, a licensed treatment and disposal facility.

ECC also performed the demolition and abatement of a pump house and electrical shed containing asbestos; the removal of the associated infrastructure including 2 underground fibreglass storage tanks and 2 underground concrete vault structures; along with the removal of associated inlet and outlet pipes containing hazardous PCB concentrations.

While construction was underway, ECC adhered to stringent health and safety and environmental plans, which included protection of the public and workers from contaminants, dust, odour, and other workplace hazards. The final park-like restoration includes a dog park, observation deck to the adjacent marsh, picnic structure, and plantings. The restoration is expected to be completed by the end of 2024.

### Alicia Kruska

Ms. Kruska has 7 years of experience in executing large scale environmental remediation projects. Managing all aspects of these projects including leadership, design, remediation, construction, and restoration for the execution of complex projects with significant stakeholder engagement.