

## Commercial Case Study – Central Waste Mgmt., Norris Arm, NL Landfill Leachate Treatment



The Central Waste Management Authority CWMA constructed a super landfill in Norris Arm to service the central region of Newfoundland in 2010. The original service population was 70,000 PE but this continues to grow and is expected to reach 250,000 as the landfill is now taking all the waste from the western region of the island as well.

Mr. Sharp P. Eng, our Engineering Manager, was the engineer on record for this wetland design project to solve the high Nitrogen and Ammonia issues with landfill leachate.

A conventional headworks with chemical dosing and settlement, followed by aerated and non-aerated lagoon deal with most of the TSS, TDS, BOD and CBOD issues of the leachate, but the wetland cleans up everything else. At the time the wetland system saved \$ Millions compared to other conventional ammonia treatment system options.

This project, along with others with our similar engineered wetland designs have received numerous environmental excellence awards from such entities as: CME, NRC, FCM, ACWWA, PEGNL, APEGNB, SPAWN, NL Dept. of Env., and other.

Our designs are now generating Carbon Offsets, through our broker Carbon Zero, funds are now starting to flow, where we expect soon to be able to provide a Zero Cost to operate option for our clients. Either the Carbon Offsets will generate sufficient revenue to pay for your low operational cost or we will provide free operations in exchange for future Carbon Offsets.

For details on our Carbon Offsets from our wetlands, see our affiliated company Sharp Management [www.sharpmgmt.ca](http://www.sharpmgmt.ca).



Other Landfill Leachate work. WTS – under our previous name and ownership as Oceans-EWS completed a very successful pilot for treatment of Landfill Leachate in Trinidad & Tobago for SWMCOL – Solid Waste Management Company Ltd. The picture to the left is of the CEO of SWMCOL and the Canadian High Commissioner visiting the pilot which was built in mobile steel waste container bins.

Raw Leachate left, treated effluent right.

