



Case study

# Landfill Leachate PFAS Treatment with ECT<sub>2</sub> FOAM-X™ 3000 Foam Fractionation at Smiths Creek Landfill in Michigan

## CHALLENGE

ECT2 designed and installed a full-scale PFAS treatment system to treat raw landfill leachate at the Smith's Creek Municipal Landfill in St. Clair County, Michigan. The goals of the project were to integrate PFAS treatment into the customer's existing leachate treatment system (35-70 gpm); install the system within an existing building; reduce PFOA from ppb levels to < 60 ppt and PFOS from ~100 ppt < 12 ppt to meet their Industrial Pretreatment Program Permit requirements timeline.



## SOLUTION

An initial off-site pilot was performed at ECT2's R&D facility which indicated that the treatment objective could reliably be achieved via a single fractionator. ECT2 was awarded the full-scale system design and installation in December 2024 and - within six weeks - we finalized a custom design, installed, and commissioned a FOAM-X 3000 fractionator unit, along with ancillary surfactant dosing and Superloading™ equipment, within the customer's existing leachate treatment system building. ECT2's rapid design and installation allowed the project to meet the deadline for funding under the Clean Water Act, while demonstrating treatment of PFOS/PFOA below treatment targets.



## RESULTS

Off-site optimization testing to allow confidence of full-scale design specifically developed for Smiths Creek Landfills total flowrate and IPP PFAS Permit limit. ECT2's FOAM-X™ PFAS Treatment System is operating 24 hours per day, 7 days a week at ~45gpm, meeting targets while partnering with the site and their 3rd party Operator, Michigan Wastewater to optimize efficiency of operation.

## KEY STATS

- Running consistently at 45gpm 24/7
- Single digit ppt effluent on both of the IPP targets (PFOS, PFOA) which are 64ppt PFOS and 12ppt PFOA

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