



LEACHATE MANAGEMENT

As leachate-management costs increase and Publicly Owned Treatment Works (POTWs) restrict or prohibit leachate discharge, the evaluation and implementation of cost-effective solutions are becoming even more important to landfill operations. Golder provides comprehensive leachate management services from minimization, recirculation, and alternate technologies, including active and passive treatment.

LEACHATE MINIMIZATION

Leachate minimization can lower treatment and disposal costs, and reduce liability. To identify minimization opportunities, we can evaluate the leachate collection system and facility generation rates to identify areas with excessive production. Site conditions such as filling sequence, waste volume, design, and climate are then evaluated to help us create a best-



fit minimization plan. Leachate minimization solutions may include:

- Alternative cover materials
- Temporary and intermediate cover systems
- Stormwater diversions
- Changes to working face geometry
- Design and construction techniques
- Evaluation of special waste acceptance

LEACHATE RECIRCULATION

Properly managed leachate recirculation and reuse can significantly reduce leachate disposal costs and enhance landfill gas production. Recirculation volumes must be balanced with the waste-adsorption capacity and associated operational challenges. Evaluation of current waste volumes, precipitation, gas-collection-system performance, and historical recirculation practices help identify acceptable recirculation rates for your facility.

LEACHATE MANAGEMENT



Golder's Denver Testing Laboratory



Leachate treatment tanks

REGULATORY SUPPORT

We understand the importance of regulatory compliance, and can navigate the regulatory process, prepare permit applications, and negotiate with regulatory agencies to ensure the project is on track. We can also identify regulatory options that reduce or eliminate onsite treatment requirements. To provide technical support for discharge to POTWs, we can:

- Conduct odor studies to determine if leachate discharge to the sewer system is causing odor issues
- Perform headwork analysis and mass-balance calculations to evaluate the effect of metals in leachate discharge, or meet National Pollutant Discharge Elimination System-permit limits and sludge quality impacts.

TREATMENT OPTIONS

Site conditions and the variable nature of leachate require a site-specific approach for treatment alternatives. Treatment alternatives may be physical, chemical, biological, or a combination. Golder uses its own water treatment laboratories bench-scale treatability testing of site-specific leachate samples to support alternatives analysis and the design process.

Our experience with treatment projects includes all aspects from conceptual design to construction and plant operations. Treatment projects include a wide range of process operations, such as:

- Evaporation
- Passive biological and wetland treatment
- Active biological treatment
- Reverse osmosis and other membrane processes
- Conventional and advanced oxidation
- Ion exchange and adsorption
- Chemical precipitation
- Air stripping



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