

**ISWA TECHNICAL POLICY NO. 9**  
**SANITARY LANDFILLING AS PART OF**  
**INTEGRATED WASTE MANAGEMENT**

**Policy**

ISWA supports sanitary landfilling as a necessary element of integrated solid waste management. The use of a sanitary landfill should be consistent with provincial/state and local government integrated solid waste management plans and with multi-national, national, state/provincial, and/or local requirements to reduce greenhouse gas emissions. Permitting of sanitary landfills should be consistent with the established capacity needs of local and regional government and their integrated solid waste management plans. The full costs for the siting, design, construction and operation, closure, and post-closure should be represented in the costs assigned to a sanitary landfill within an integrated solid waste management system. The use of sanitary landfills should be consistent with best economic, environmental and public health practices. The use of sanitary landfills should be based on the assurances that during siting, design, construction and operation, closure and post closure, a sanitary landfill will comply with all multi-national, National, provincial/state, and local government rules, regulations, and permits. A performance approach to such compliance, rather than a prescriptive approach, is encouraged.

**Position**

The following are considered to be best practice in the siting, design, construction and operation, and closure of sanitary landfills as part of integrated solid waste management:

1. The selection of sites for sanitary landfills, and the design, construction and operating practices used at these sites, should:
  - be consistent with local land use conditions and zoning codes,
  - assure that bird populations do not pose a hazard to aircraft,
  - protect flood plains, wetlands, and other ecologically sensitive areas,
  - protect archeological, historical, and other culturally sensitive areas,
  - protect against problems caused by unstable geological settings,
  - provide for best practices in design, construction, operation and closure, and
  - minimize impacts on air or water quality and not to otherwise adversely impact upon public health, safety and welfare.

2. Sanitary landfills should be designed by, or under the supervision of, registered professional engineers and other licensed professionals with demonstrated knowledge in sanitary landfill design, to prescribe to the following principles:

- provide for controlled access to the site,
- provide for use by individuals at separate convenience areas, public drop-off areas, or public use areas,
- provide means for the measurement by weight of incoming solid waste,
- provide means for the screening of incoming solid waste,
- provide for control of run-on and run-off ,
- provide for prevention of groundwater contamination,
- provide for prevention of surface water contamination,
- provide for prevention of air quality contamination,
- provide for groundwater, surface water and landfill gas {LFG}/air quality monitoring systems,
- provide for the collection, recovery and management of leachate and LFG condensate,
- allow efficient and safe operations,
- provide for the management and control of LFG, in compliance with National and provincial/state laws, and
- provide for the recovery and treatment of the LFG in compliance with the Kyoto Protocol, and where possible, provide for the utilization of LFG as an energy source.

3. Operation of sanitary landfills should prescribe to the following principles:

- operated under the management of an appropriately certified manager/operator in those locations where certification is required,
- have a manager that has been adequately trained in landfill management practices,
- provide for controlled access and use by only authorized users,
- provide for use by individuals at separate convenience areas, public drop-off areas, or public use areas,
- measure all incoming solid waste by weight,

- conduct random inspections of incoming loads of solid waste designed to detect and prevent the disposal of waste not prescribed in the site permit,
  - accept only wastes included in the permit, permit conditions, or permit amendments,
  - provide for training of on-site personnel, and encourage provincial/state certifications of landfill managers,
  - optimize waste compaction,
  - minimize the site working/disposal face,
  - provide for the use of daily and intermediate covers [earth or alternate materials],
  - provide for vector and bird controls,
  - control run-on and run-off,
  - control litter,
  - prevent groundwater contamination,
  - prevent surface water contamination,
  - prevent air quality contamination,
  - prevent landfill fires,
  - prevent the migration of LFG into the surrounding substrate,
  - prevent the emission of LFG into the atmosphere in compliance with the Kyoto Protocol.
4. Closure and post-closure of sanitary landfills should prescribe to the following principles:
- provide financial assurance for each individual facility for closure and post-closure care, and for identified corrective action,
  - provide a suitable capping system according to local climatic and soil conditions that controls, but does not prevent infiltration of rainfall into the waste.
  - provide on going leachate and LFG capture and treatment.
  - provide suitable revegetation of the capping with native plants and grasses so as to ensure a sustainable plant community
  - continue monitoring to meet permit requirements,

- evaluate the end use of the site in consideration of the potential damage to the final cover system and the proper removal, management, and treatment of leachate and LFG,
  - restrict access to monitoring and control systems of the closed facility to authorized personnel only, and
  - note former landfill use in land records.
5. In recognition of the potential for the methane in landfill gas to contribute to global climate change, all landfills should be designed and operated, both while the landfill is open and after closure, to maximize the collection and destruction of landfill gas and to minimize landfill gas emissions. Where feasible, the energy value of the landfill should be utilized to offset the use of fossil fuel and its contribution to global climate change.
6. Operation of open dumps should be discontinued and care taken to close and prevent future contamination from the sites, according to the following principles:
- waste in open dumps should be excavated with off-site disposal, or formal closure of the site, or co-location of the waste mass with a new sanitary landfill,
  - site testing and/or monitoring to assess risk or to meet regulatory requirements,
  - restrict access to monitoring and control systems of the closed facility to authorized personnel only, and
  - note former waste dumping use in land records.
7. Scavenging at solid waste disposal sites and at open dumps should be discontinued, at least on a gradual basis, and all disposal areas should be secured from scavenging, unless:
- Waste sorting and segregation occurs in designated, controlled sorting areas,
  - Waste sorting and materials segregation should meet work place standards for safety, health protection, and worker exposure.