

Design of a Modern Landfill

Contrary to popular belief water materials do not readily biodegrade in modern landfills. Today's modern municipal solid waste (msw) landfills are designed to discourage biodegradation by isolating the waste from oxygen, sunlight, and water, all of which are required for biodegradation to occur.

How a Landfill Works:

Cell: where the trash is stored inside of a landfill.

Cover material: material, usually soil, that is used in a landfill to cover the refuse after it has been compacted at the end of each day.

Liner: a barrier that prevents trash from contaminating the outside soil and groundwater
Landfill gas: a mixture of methane and carbon dioxide that is generated in landfills.

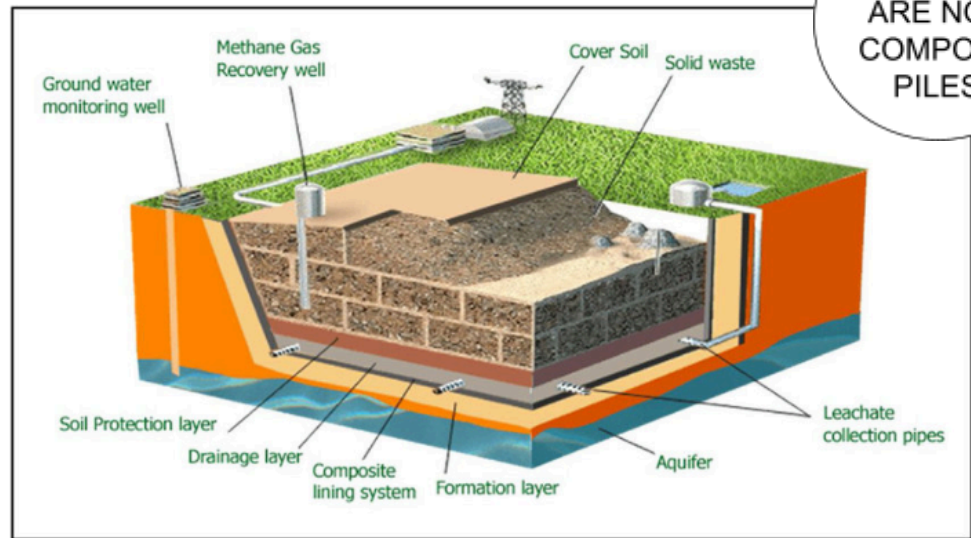
Leachate: liquid that has percolated through solid waste or another medium and has extracted, dissolved or suspended materials from it.

Capping a Landfill

When a landfill is ready to be closed, a final layer of clay and soil “cap” the landfill. Landfill operators continue to monitor the landfill for gas and leachate emissions. Closed landfills are often able to be used as an open place for communities to use for things like parks and other recreational areas.

In Florida:

The largest landfill in Florida is the Okeechobee Landfill. The facility is on 4,100 acres but uses 969 acres for waste. This landfill served the greater south/central Florida area. About 1 million tons of waste is processed every year. This facility opened in 1992 and has about 150 years remaining. Florida combusts an estimated 8% of its overall municipal solid waste, according to 2020 state Department of Environmental Protection (DEP) data, with another 50% going to landfills and the rest counted as recycling.



Schematic overview of a sanitary landfill for municipal solid waste (Millis, 2017).

LANDFILLS
ARE NOT
COMPOST
PILES