

EPA Federal Regulations for Municipal Solid Waste Landfills

Location: (applies to new, existing, and laterally expanding landfills unless otherwise noted)

- ▶ **Airport Safety**— Landfills near airports must show that birds attracted to landfills do not interfere with aircraft.
- ▶ **Floodplains**— Landfills may not be located in areas prone to flooding unless the landfills are designed to withstand floods and keep the waste from being washed out.
- ▶ **Wetlands**— New and laterally expanding landfills may not be built on wetlands unless the landfill is in a state or on tribal lands with an EPA-approved program, and the landfill is shown not to pollute the area. It must also be shown that no alternative site is available.
- ▶ **Fault Areas and Seismic Zones**— New and laterally expanding landfills may not be built in areas prone to seismic activity.
- ▶ **Unstable Areas**— Landfills cannot be located in areas subject to landslides, mudslides, or sinkholes.

Operation:

- ▶ Hazardous wastes must be kept out of landfills.
- ▶ Each day's waste must be covered to prevent the spread of disease by rats and other animals.
- ▶ Methane gas must be monitored and controlled to prevent explosion.
- ▶ Access must be restricted to prevent illegal dumping and unauthorized activities.
- ▶ Ditches and levees must be built to collect and control storm water so waste is not washed into surface water.
- ▶ Liquid waste must not be accepted from tank trucks or 55-gallon drums.
- ▶ Landfills must operate so they do not violate clean air laws and regulations.

Design:

- ▶ New and expanding landfills must be designed for groundwater protection that requires the following:

Composite liners—plastic liner over a 2-foot layer of clay

Leachate collection—a system that collects and treats leachate

Groundwater Monitoring:

- ▶ Must install systems to monitor groundwater and detect contamination. Twice a year groundwater samples must be collected and analyzed for possible contamination.
- ▶ If water becomes contaminated, the owner/operator must reduce the contamination to acceptable levels.

Closure and Postclosure:

- ▶ The final cover must be designed to keep liquid from reaching the buried waste.
- ▶ For 30 years after closure, maintenance of the landfill must continue (for example, maintaining the final cover, monitoring the groundwater, and collecting and monitoring methane gas).

Financial Assurance:

- ▶ Owners/operators must show that they can cover expenses for site closure, post-closure, and cleanups.

Source: U.S. Environmental Protection Agency, *Safer Disposal for Solid Waste: The Federal Regulations for Landfills* (Washington, DC: U.S. EPA, 1993).