



Landfill Odor Frequently Asked Questions

Updated February 2016

Background:

The Orange County Landfill began operating in 1971 and currently encompasses about 5,000 acres of land. More than 3,000 acres of that land is conservation area. The landfill is located on Young Pine Road between State Road 417 and Innovation Way in east Orange County.

When will the landfill close?

The landfill is projected to serve Orange County's disposal needs for the next 50 to 75 years.

What material goes into the landfill?

Private homes, businesses and industry all generate waste and about 2,900 tons of non-hazardous waste is delivered to the landfill every day.

How is waste handled at the landfill?

Waste is delivered by garbage trucks. The delivered waste is spread into layers that are about 18 to 24 inches high. A large machine compresses the waste and the process is repeated and the layers are stacked until the waste is about 20 feet high. At the end of the day the waste is covered with a minimum of six inches of dirt to reduce odors and discourage birds and rodents from getting into the waste.

What is landfill gas?

As waste begins to break down or decompose gases are generated. A majority of the gases are methane and carbon dioxide, which are odorless and colorless. Landfill gas also contains nitrogen, ammonia, sulfur compounds, and other gases that may create odors.

How is the methane gas managed?

Methane gas from the Orange County Landfill is collected and used as fuel at the Orlando Utilities Commission's Stanton Energy Plant and provides electricity for up to 15,000 homes.

Why are the odors a problem now, when they have not been a problem before?

Construction and demolition (C&D) debris waste was mixed with the municipal waste (MSW). C&D waste includes gypsum wallboard (drywall) that generates hydrogen sulfide gas when mixed with the MSW. Most of the odors from the Orange County Landfill are from hydrogen sulfide (H₂S), which smells like sulfur or rotten eggs. These odors are detectable by the human nose at very minute amounts.

Are the odors toxic or a health hazard?

No. The Occupational Health and Safety Administration lists the acceptable upper limit of hydrogen sulfide gas at 20,000 parts per billion (ppb) in the air. The highest reading found in the landfill is 1,900 ppb and off-site of the landfill the highest reading is 140 ppb.

How do odors from the landfill get to my neighborhood?

Landfill gases follow the path of least resistance and can move from the landfill interior and into the atmosphere. Landfill gases may be carried by the wind to neighboring communities. In the absence of wind the gas may settle to ground surface. Neighborhoods nearest to the landfill are most affected in early morning or late evening when wind speed declines.

What is being done to reduce the odors?

The following actions began this past summer:

- Separated MSW and C&D waste disposal
- Added one to three feet of soil over entire active landfill
- Installed two new mobile misting systems that add 1,200 feet of coverage
- Installed 13 temporary vertical gas extraction wells in the center of the thickest parts of the landfill
- Adjusted the fill sequencing to not fill at the top of the landfill during the wet season
- Use soil instead of tarps for daily cover
- Re-grading the landfill to better allow stormwater to shed from the landfill and not infiltrate into it
- Currently closing 40 acres on the north end of the Cell 9-12 landfill. Re-grading efforts by the contractor have led to some odor as waste is uncovered, but they are working hard to cover the exposed areas
- The top level of the landfill has had sod installed to minimize wind erosion of the soil cover in that area
- Installed new horizontal gas collection pipelines
- Adding a 10-foot buffer layer of MSW over entire landfill, which will result in a significant increase in collecting the landfill gas from the mixed waste and a noticeable reduction of the offensive odor that our neighbors are experiencing

Why have the odors been more noticeable lately?

Construction activities for the 40-acre closure and well installations have allowed more gas to escape from the landfill. These construction activities are temporary and will reduce the odors when completed. However, the activities do generate more odors in the short term.

When can we expect some relief from these odors?

We have had very few odor complaints over the years and the source of the recent odor complaints are from the hydrogen sulfide smell coming from the mixture of C&D debris and MSW. The actions being taken to reduce odors will result in significantly less gas odor.