Memo: September 28, 2023

By: Marta Reczko, DEES Utilities Assistant Director

Re: Increased price for biosolids land applications and lime sludge disposal in Florida

The price for biosolids land applications in Florida has increased recently due to several reasons: has increased recently due to several reasons:

1. **Regulatory Changes**: There have been changes in regulations related to biosolids land applications. These changes often come with increased costs for compliance, leading to higher prices. The revisions to Chapter 62-640, F.A.C., became effective June 21, 2021. Effective July 1, 2022, biosolids land application site permits shall comply with two key provisions of **section 403.0855, F.S.**, - the requirement for all biosolids land application sites to be enrolled in a **Florida Department of Agriculture and Consumer Services Best Management Practices** program and the prohibition on the land application of biosolids on soils with a seasonal high water table within 6 inches of the soil surface or depth of biosolids placement.
2. **Environmental Concerns**: Concerns about the environmental impact of biosolids, especially related to water quality, have led to stricter guidelines and requirements for their application. This can increase the cost of treatment, transportation, and application.
3. **Increased Demand**: As the population grows and urban areas expand, there is an increased demand for wastewater treatment, leading to more biosolids production. This can drive up the costs associated with their disposal and application.
4. **Limited Land Availability**: Suitable land for biosolids application may become scarcer, leading to increased costs for securing appropriate sites.

The City of Margate participates in the Broward County regional solution biosolids study:

1. **Interlocal Agreement**: The document is between Broward County and the City of Margate for a Regional Biosolids Solutions Study signed early this year (March 2023). This agreement aims to fund a regional biosolids solutions joint study to inform the feasibility of constructing a biosolids management facility.
2. **Challenges with Biosolids**: The processing and disposal of domestic wastewater Class B biosolids have been challenging for utilities in South Florida. The primary solution for disposing of biosolids is a combination of land application and landfills.
3. **Regional Approach**: Broward County Water and Wastewater Services assembled a utilities group to explore regional solutions. A regional approach might offer economies of scale resources and achieve multi-jurisdictional public support. This would allow participating utilities to diversify and decrease the risk associated with management strategies.

4. **Biosolids Solutions Working Group**: The City of Margate is part of the "Biosolids Solutions Working Group", which also includes Broward County Water and Wastewater Services, Coral Springs Improvement District, Town of Davie, and cities like Cooper City, Fort Lauderdale, Hollywood, Miramar, Pembroke Pines, Plantation, and Sunrise.
5. **Study Objectives**: The study aims to provide the working group with information about the feasibility of constructing a regional biosolids management facility, biosolids processing and disposal, biosolids technologies, process improvements, and holistic alternatives that incorporate both sludge treatment, co-treatment of organics, and energy generation and reuse.
6. **Future Plans**: The parties acknowledge that future studies might be necessary to analyze environmental impacts or to develop plans for new facilities or capital improvements. After the study's completion, an additional interlocal agreement might be required to share the costs of constructing a regional biosolids management facility.

Regarding the price increase for the disposal of lime sludge in Florida:

1. **Regulatory and Environmental Concerns**: Just like with biosolids, there might be stricter regulations and environmental concerns related to the disposal of lime sludge. This can lead to increased costs for treatment, transportation, and disposal. Lime will precipitate most metals in the water, such as iron, manganese, radium, and arsenic. As a result of this reaction, the removed metals are trapped and can be found in the disposal sludge.
2. **Limited Disposal Options**: Limited options might be available for the safe and compliant disposal of lime sludge, leading to increased costs. Lime sludge is used nationwide on farms laid out on fields to help grow crops from corn to wheat. Lime adjusts the pH of the soil for better growth. The lime sludge can also be used as bedding fill for new developments or roads.
3. **Increased Transportation Costs**: The transportation costs for hauling lime sludge have risen, contributing to the overall price increase.
4. **Operational Costs:** The operational costs associated with lime sludge disposal, including labor and equipment, have also seen an upward trend.

Lime stabilization is generally more cost-effective than alternative treatment methods for Water Treatment Plants. Studies comparing lime stabilization to nanofiltration or R.O. technologies found that lime stabilization has unit costs as much as 60 percent lower than other treatment alternatives. Reduced capital cost requirements of lime stabilization are even more dramatic, which is particularly important for municipalities with limited capital budgets.