

Fats, Oils & Grease (FOG) Research

Background:

Grease Traps

One business provides grease trap cleaning for approximately 90% of the restaurants within the City of Key West. They have been in the business for ~40 years. For decades, the grease trap contents have been hauled to a Homestead treatment plant, but now the capacity of that treatment plant has been maxed out and our local hauler was given 4 days' notice that the facility was no longer taking any waste from outside of Miami Dade County. The next closest plant is off Turnpike Exit #69 in Pompano which has doubled the drive time, fuel costs and added \$160 in tolls. Those increased costs have been passed off to the restaurants (approximately 300%) with the same amount of notice which is hard to budget.

A grease trap collects grease at the top and solids at the bottom. The water in the middle goes into the City's sewer. By design, when grease traps are not cleaned out regularly, the trap does not back up, but rather it allows the extra grease and solids to overflow into the City's sewer. Over time, that grease can accumulate in the sewer lines themselves, causing whole sections of the collection system to overflow.

Many of the older grease traps in town are in bad shape and allow saltwater into the wastewater system. This increased salinity in our wastewater disturbs the chemical and biological process of the treatment plant and costs more to regulate and maintain. These costs are also passed on to the end users, all Key West property owners.

Sewer Emergencies

Also, sometimes there are failures in large resort sewer pump stations which require emergency removal of sewage from their holding tanks. Recently there were two failures in the same weekend and there were not enough trucks to move the product to Pompano and back and sewage was spilled on the ground.

A Local FOG Filter

The business owns properly zoned property on Big Pine that it would like to build a local filtering facility and cut out the drivetime. Specifically, they would collect everything from the grease trap like they do now, but instead take it to their facility on Big Pine, which would separate the water from the fats oils and greases (FOG). The water would go into a holding tank for return to the City sewer system for a fee. The FOGs would go into a dumpster to be hauled away once full.

The components for the facility are state of the art and easily obtainable. The permitting for the facility FDEO has estimated 90 days for permitting shouldn't be difficult because they are merely a separating facility.

This option would vastly reduce the volume (80%) and drivetime for the process, greatly reducing the cost to our local restaurants and increasing the likelihood that they will clean their grease traps more often. It will also provide revenue to the City for taking in the filtered water to our wastewater treatment plant, while reducing the FOGs in the City's system. Key West's wastewater treatment plant is the only plant in the keys capable of absorbing new input of this size. A Marathon based grease trap company recently illegally dumped their truck into Marathon's sewer manhole, which overloaded their aerobic system and shut their plant down.

FOG Policy Partnership

Currently, grease trap cleaning is done on a voluntary basis. Best management practices state that grease traps should be cleaned quarterly, but without a policy that mandates this, some restaurants are reducing the high fees by lengthening the time between cleanings.

Additionally, grease traps can only be visually inspected for functionality when they are cleaned. The City does not have a program that mandates an inspection, and anecdotal evidence believes that 25% of the grease traps withing the City are no longer watertight, allowing salt water to overburden our Treatment Plant.

This winter, the Utilities Department intends to write an ordinance that will mandate that all grease trap collections be operated by certified grease trap hauler who will submit a report for each grease trap, which will include a form with 3-4 questions and a couple photos. These inspections will be periodic, not necessarily quarterly, most likely 1-2 times per year. The policy will also mandate a that the grease traps be retrofitted with flow meters to help document the use or misuse of the grease traps. This is common in many other local governments.

According to FDEP's Waste Grease page, that independent entities [FDEP and FDOH] "will verify contracts with the hauler for the grease waste removal, and periodic inspections will be performed to review contracts service manifests.", the page does not mention inspecting the grease trap itself. However the webpage does state that "Local governments are authorized to regulate grease waste removal and disposal."

Video Presentation from [SAB Meeting 8/6/24](#)

Other Related Research:

- Proposed Dewatering System: <https://www.itrdewatering.com/>
- Dewatering 101: <https://www.itrdewatering.com/dewatering101.html>
- Best Management Practices for Businesses: <https://www.clackamas.us/wes/greasebmpfactsheet.html>
- FDEP Grease Waste Rules: <https://floridadep.gov/greasewaste>