



CAPE COD WWTP FIGHTS FOG WITH GREASEZILLA

The Wareham Water Pollution Control Facility improved its FOG-mitigation efforts by separating and recycling FOG



Profile

Located just west of Cape Cod, the town of Wareham, MA, operates a 1.56 million gallon per day biological nutrient removal facility. The facility provides water treatment services to Wareham and surrounding towns.

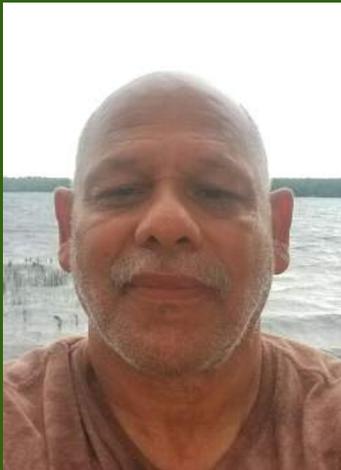
Situated on 66 acres, the Water Pollution Control Facility (WPCF) processes wastewater into near-pristine water, which can safely and ecologically rejoin the waters of the Agawam River.

WPCF manages the area's 61 miles of gravity pipe and 45 pump stations that transport wastewater from residential areas, institutional facilities and more than 125 local restaurants to the treatment plant.



Challenges with FOG

One of the biggest challenges for WPCF has been the discharge of FOG (fats, oils & grease) into the sewer infrastructure. As the most common cause of reported sanitary sewer overflows and combined sewer overflows in the U.S., FOG is made up of animal fats, vegetable oils and cooking grease from food preparation and dishwashing. When FOG enters a sewer system, it cools and adheres to pipes, reducing flow capacity and eventually creating blockages. These blockages can lead to backups and spills that cause health hazards, environmental harm and damage to homes and businesses.



“Everyone has a FOG problem, whether they know if or not. It’s part of everyday living, and most people don’t ever have to worry about it until their sewer lines back up. For those of us trying to provide safe and effective wastewater treatment, FOG can be a constant headache.”

--Guy Campinha, Director WPCF

While enforcement of local ordinances and public awareness campaigns shed light on the problems of FOG, inevitably some materials still get through. In 2015, Campinha asked the town to approve the purchase of Greasezilla®, a hydronic thermal FOG separation system that ecologically separates massive amounts of collected FOG waste and recycles the material into reusable resources. In addition to recycling FOG without the need for chemical treatment, Greasezilla® could also provide new revenue sources and further reduce operational costs associated with trucking out solid waste.

The Solution

Greasezilla® is a turnkey standalone system that separates and processes FOG waste. The system's ecological grease-separating process enables the WPCF to remove FOG from the grease trap waste stream, reduce waste disposal expenses and create new revenue. The system operates without dewatering, leaves nothing to be landfilled and has a total operating cost of 1-2 cents per gallon.

Greasezilla® allows the WPCF to accept grease trap waste from haulers as well as grease skimmed from the treatment plant scum tanks and clarifiers. The FOG entering the system is heated and separated into distinct layers:



- **Brown Grease**, approximately 10 percent of the finished process, is converted into a rich, advanced biofuel (ABF). Five percent of the ABF returns to fuel Greasezilla®, and the remaining 95 percent can be used as a salable fuel substitute on the commodities exchange. The ABF's low-moisture content (less than 1 percent) also makes it an excellent feedstock for biodiesel conversion technologies.
- **Batter**, making up 5 percent of volume, can serve as an excellent feedstock for anaerobic digesters. It can also be treated with traditional processes, composted or be processed with the effluent water.
- **Residual pasteurized effluent water**, comprising approximately 85 percent of the material and nearly free of suspended solids, can be safely discharged into the WPCF for standard treatment.

Results

Over the last five years, in combination with better enforcement and greater public awareness, Greasezilla® has helped Wareham reduce the number of grease-related blockages in the town's sewer infrastructure and pump stations, giving plant employees the ability to focus on other critical operational issues.

"We regularly check all our systems, and our employees do a great job of minimizing breakdowns and maximizing the uptime and efficiency of all our equipment," said Campinha. "Greasezilla® has taken a huge burden and transformed it into an asset. Not only are we saving time and money by streamlining our FOG disposal processes, but we're preventing blockages and backups before they happen. Greasezilla® has become the backbone of our FOG mitigation program."



During its first year, Greasezilla® brought in an estimated \$300,000 in grease disposal fees and now doubles that annually. Because Greasezilla® is capable of processing millions of gallons each year, the WPCF started accepting grease trap waste from large event complexes across southern New England, further increasing the system's ABF output and profitability. Additionally, the growing worldwide demand for biofuel and biodiesel makes Greasezilla's® ABF a valuable commodity in today's market.

"For me, the biggest value is what we save on grease that used to be sent to the incinerator," Campinha added, "Instead of just generating waste, we now decant and send the grease right to Greasezilla® as biofuel, saving us hundreds of thousands of dollars. It's a more sustainable way of handling FOG and it makes a huge impact on our bottom line. "