



**PROBLEM:** Trash and solids flushed down toilets clogging pumps

**SOLUTION:** Auger Monster® and Muffin Monsters®

**CONSULTANT:** New England Environmental

## Monster Solutions

# Monsters Prevent Trash from Escaping This Correctional Facility

**Bridgewater, MA** – Serving 62 years at the Bridgewater Correctional Complex in rural Massachusetts might seem like a long sentence, but not to Leo DuBois. As manager of the on-site wastewater treatment plant Leo loves what he does – keeping Bridgewater State Hospital, Old Colony Correctional Center, Treatment Center for the Sexually Dangerous, and Mass. Alcohol and Substance Abuse Center as well as surrounding environment clean and healthy. A job he's loved for six decades now.

Dealing with prison wastewater isn't easy – the flow tends to be filled with trash. To combat this onslaught of solids, Leo depends on seven Muffin Monster grinders and one Auger Monster screen to handle unwanted solids and prevent sewer lines from clogging on the 1,800 acre campus. The systems are manufactured by JWC Environmental in Costa Mesa, California.

"The first time we used a Muffin Monster was in 1985," said Leo. "Back then the problem was cigarette butts. The pumps would get choked solid, and it was a mess to clean. Everybody smoked back then – the inmates, the guards – everybody. The grinder shredded the cigarettes and there were no more problems."

After the first Muffin Monster success, Leo convinced the prison bosses to install more grinders inside the prisons, the State Hospital and three at the treatment plant. The Muffin Monster uses dozens of intermeshing, razor sharp steel cutter teeth to pull in and shred objects that might cause sewer pipes or pumps to clog – such as towels, jump-suits, trash, shoes and baggies.

Prison managers from across Massachusetts frequently consult with Leo on how best to operate their wastewater systems. Since 1990 JWC has installed over 80 Muffin Monsters in prisons, jails

and correctional facilities throughout the state, and there are nearly 3,000 grinders installed at correctional facilities across the country.

"Prisons are extremely demanding on pumps," said Bob Mack of New England Environmental, JWC's representative in New England. "The grinders protect and ensure the system keeps flowing smoothly, and I'm sure that's something prison guards appreciate."

Leo started work in 1945 as a correctional officer when the population of Bridgewater was 2,000 inmates, 100 milking cows and 1,800 pigs. The complex was a working farm, and since the Town of Bridgewater had no treatment plant at the time, the prison had to operate its own. In 1950, he took over the operation of the existing treatment facility with a crew of up to twenty-five inmates. Leo oversaw the construction of the new secondary treatment facility in 1975 and the expansion in 1986. It was in 1986 that he shed the Corrections Officer uniform that he'd worn for forty-one years to officially don the title of Plant Manager.

The plant currently treats 0.200 million gallons per day (9 l/s) using multichannel oxidation ditches for primary treatment. Leo placed an Auger Monster unit at the front of the plant in order to capture, clean and compact the trash before it has a chance to disrupt the treatment process.

"The Auger works well," said Leo. "I believe you have to run a treatment plant the way you feel. This is a living system, and the microbes have to be healthy and happy so they'll do what they're supposed to do. Every morning I make sure the plant is in tip-top condition, so I know what is happening."

The Auger Monster combines two important technologies in one compact system. First, a grinder breaks-up clumps allowing the spray wash to clean and remove soft organics. Next, the spiral screw lifts the trash out of the channel and deposits it in the operator-installed trash



bag – cleaned, contained and ready for the landfill. The system is almost completely automated and requires very little labor to operate.

The Auger Monster is a crucial tool in fighting the rising tide of trash inside Bridgewater's sewers, according to Christopher Yacino, Environmental Analyst for the Division of Resource Management. Prior to installation of the Auger Monster the treatment plant staff had to clear blocked pumps on a daily basis – a dangerous and dirty job. After installation the staff very rarely has to clean pumps.

“The inmates don't like to empty their trash can so they throw everything into the toilets,” said Christopher. “It gets worse when there is a shakedown – people start flushing everything illegal down the drain – we'll see a flood of material come in here.”

The treatment plant has a strong performance record and in 2006 Leo was selected as State Employee of the Year by then- Governor Mitt Romney. He had already received employee of the year from the Department of Corrections.

“I've gotten more plaques and awards than you can believe,” said Leo. “I've always loved what I do.”

At the treatment plant Leo places emphasis on careful maintenance and providing extensive training for the staff.

Even with 62 years of experience, Leo continues to study, read and attend seminars – looking for new technologies. Right now he's eyeing the latest high-tech treatment process – membrane bioreactors. The microfiltration devices produce incredibly clean water, allowing it to be reused on the prison grounds for irrigation and other non-potable uses. It is a trend Leo has maintained for all of his 62 years at Bridgewater – improving the treatment plant for the benefit of the community and environment.

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