

Beyond the bowl: A tour of Key Largo's wastewater plant

BY THERESA JAWA

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KEY LARGO — The Key Largo Wastewater Treatment District main plant has been compliant with U.S. Environmental Protection Agency's standards since 2010.

District officials are proud of that accomplishment considering the plant facility at mile marker 100.3 underwent a major upgrade that same year.

The EPA didn't expect compliance until January 2016, so Key Largo's wastewater plant was well ahead of the curve, district officials say.

The main plant operates with five full-time employees. At the helm is Jered Primicerio.

The Free Press visited the main plant to find out what happens to sewage — beyond the bowl, and surprisingly, the well-kept

facility was so clean.

Here is a look at where sewage goes.

In Key Largo, from mile marker 106.5 down to approximately mile marker 91, lateral pipes connect homes and businesses into the district's central sewer lines. And under the terms of an interlocal agreement with Islamorada, the Key Largo plant now treats Islamorada's wastewater, which extends its service area to Lower Matecumbe Key.

Ultimately, all wastewater pipes feed into the district's treatment plant at mile marker 100.3, oceanside, directly below the locked front gate. There are at least three pipes that feed into the influent sewer pipes. The district plant has two main influent pipes: one for Key Largo and one for Islamorada.

On average, the Key Largo pipe delivers an average of

1.1 million gallons of sewage each day while the Islamorada pipe currently handles 450,000 gallons.

The two pipes run into Vacuum Station E where wastewater is augured by spinning brush bristles inside the pipe, in order to break down solids. Anything solid that remains get filtered out through screens and disposed of as solid waste.

Some of these solid materials, according to Primicerio, are feminine products, coins, baggies, hygiene wipes and "lots" of toy cars.

Sometimes he finds cash. "I take it and sanitize it," he said. The most he's found so far is \$10.

From Vacuum Station E, the wastewater gets piped into sequencing batch reactors. The district plant has three but only uses SBR 2 and SBR 3 at this time.

These are huge open-air tanks that hold about 1.73 million gallons of fluid.

"We are oversized here for good reason," Primicerio said. "This plant was designed right."

There are two sequencing phases during this stage of treatment: the settlement phase, when bacteria breaks down sewage, and the aeration phase, when blowers feed the bacteria oxygen.

Primicerio said that bacteria need oxygen to eat.

Both SBRs then pipe the wastewater into the equalizer tank to be stabilized. When the tanks fill up more than 4.5 feet, the wastewater then moves into the chlorine contact cham-

ber. The wastewater now has 15 minutes of straight chlorine contact. The treated water has a 10-milligram chlorine residual per liter. This is clear purified water that Primicerio beams over.

This purified water then gets pumped into the Class 1 3,600-foot-deep injection well, past the boulder zone underground.

The district also has two shallow monitoring wells that are tested daily.

From start to finish, the process takes about 4.5 hours. Meanwhile, throughout the day, Primicerio and his staff perform about 30 in-house tests during each process.

In addition to testing, Primicerio said the staff mows the lawn, pinpoints, does repairs and closely monitors each process. "There is always something to do," he said.

District Chairman

Commissioner David Asdourian said, "I think Jered is doing a hell of a job, and everyday he figures out how to handle new issues."

The plant's break room houses three awards: the Florida Department of Environmental Protection's 2013 Award of Excellence and the Florida Rural Water Association's Medium Wastewater Plant of the Year for 2013 and 2014.

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Key Largo sewer plant manager Jered Primicerio shows the wastewater system's chlorine contact chamber.

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