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# PALESTINE HERALD-PRESS

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## City plunges forward, flushes problems away

BY WILLIAM PATRICK  
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Few people, when flushing their toilets, give much thought to where it all goes. Nor do some people think much about what they send into city's underbelly.

"We have seen some pretty interesting stuff floating around down there," Utilities Director Felipe Garcia told the Herald-Press. "Things you wouldn't expect, like underwear, towels, and even a full nightgown."

It's hasn't amused Palestine Wastewater Treatment Supervisor Mark Fletcher and his five-man crew. Disposable rags, baby-wipes, make-up removers, anti-bacterial wipes, as well as other non-flushable items have, for years, caused system failures in the city's wastewater treatment plant.

The problem is noxious for the men who, literally, handle it.

To remove clogs in the system, workers have had to shut down the pumps, stick their hands through razor-sharp impeller blades, and attempt to dislodge the blockage.

"We had to shut the system down and remove the clogs by hand," Garcia said. "It's a tight fit. They don't make a glove thin enough to protect our hands, so we had to do it bare-handed."

Thankfully, the City of Palestine decided a proactive and permanent solution to the problem was necessary to save taxpayers money and ensure worker safety.

After years of research, the city contacted Clearwater Controls, manufacturer of a retrofit device called the "DeRagger II."

The roughly \$5,000 electronic mechanism,



Before

After

Impeller at wastewater treatment facility, before and after installation of new DeRagger II device.

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designed to monitor the amperage, voltage and hertz outputs in the pumps, senses any sort of overload. When it happens, the device immediately reverses the direction of the blades, sending the debris, know as "rag balls," outward, instead of sucking it in and clogging the system.

"Some of the rag balls are almost the size of my desk," Public Works Director Tim Perry said. "The rags collect plastic, other rags, sometimes clothing and assorted debris, and then get sucked into the

pump. The DeRagger senses the stress on the equipment, then shoots them out, and the ball breaks up."

Pumps can handle singular items passing through the blades, Perry added. It's when the debris balls up that problems begin.

Chief Operator Benjamin Day said he even found a hammer caught up in a rag-ball.

"I have no idea how it got there, or how it was flushed," he said. "But there it was: a full hammer head bound up in the rags."

A 2017 Public Works Department report showed pumps required shut-downs an average of 21 times per week, due to rag-balls clogging the system. Manpower, overtime, and equipment costs rose above \$3,000 a week to keep the system operating.

Perry said, after the installation and calibration of the DeRagger device more than eight months ago, the pumps have not needed a single shut down. That means the city has saved roughly \$100,000 since its installation.

"With the savings, we're able to be a lot more proactive as a department," Perry said. "We've upgraded our stations and purchased the back-up pumps we needed. We're looking into portable generators, so we can operate in the community when the power goes out."

Palestine is the first city in Texas to utilize the DeRagger II. Crew members at the wastewater plant think other cities should follow their lead. They can't help but smile when they talk about this piece of equipment: It's made their lives a lot cleaner and safer.

"It's an incredible solution to an age-old problem," Perry said.