



City of Gulfport: Overcoming inflow and infiltration

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The City of Gulfport Public Works Department has become a state leader by establishing an Inflow and Infiltration (I&I) crew to evaluate the City of Gulfport sanitary sewer system.

The City of Gulfport realized we had I&I issues which we had to address. Inflow and infiltration are terms used to describe the ways in which groundwater and stormwater enter into dedicated wastewater or sanitary sewer systems. I&I can potentially allow

sanitary sewer lines to back up into homes or businesses and unnecessarily increases flow to our wastewater treatment plants.

In October 2015, the City of Gulfport budgeted for an I&I project and a crew was established in February 2016 to make this happen. Our I&I crew is responsible for conducting sanitary sewer evaluations which include videoing, smoke testing, and dye testing sanitary sewer systems for infiltration and inflow. This crew was added to the

scope of the City of Gulfport Public Works Privatization Contractor, Utility Partners, LLC. This is the only dedicated I&I crew on the Mississippi Gulf Coast.

Since February 2016, this crew has performed 70 smoke tests which impacted 7,594 residences and businesses. This crew has also completed 1,026 point repairs on the City's sewer system and notified 345 residences and businesses of non-compliant sewer issues in need of repair. One hundred sixty-five of



City of Gulfport (Utility Partners, LLC) I&I crew members Alton Kelly Jr. and John Richardson

these non-compliant sewer issues have been corrected. The City has inspected 548,115 linear feet (20.6%) of the City's approximately 2,650,560 linear feet of sewer lines.

The City of Gulfport Public Works Department recently completed a thorough accreditation process through the American Public Works Association. This process involved the completion of 356 practices, three of which dealt directly with inflow and infiltration. These practices are located in Chapter 31 (Wastewater Collection and Conveyance) of the *Public Works Management Practices Manual*, 8th Edition and are:

- 31.5 Infrastructure Condition
- 31.6 Infrastructure Management
- 31.8 Inflow and Infiltration

I&I also creates increased cost of treat-

ment at our wastewater treatment plants because we are unnecessarily treating stormwater. The attached charts show the lowered flow volume for a lift station prior to us beginning work on February 18, 2016 and how similar rain events affected the same lift station after the work was complete.

All City of Gulfport citizens have benefited from this approach. Each repair benefits the system as whole, not just a specific area. After working towards this goal for multiple years all parties involved have been in full support of this additional crew and have been reaping the benefits since day one of operation. In the past, we were only capable of making repairs to our sanitary sewer system after issues emerged, but the addition of this crew has allowed us to be more proactive in making repairs. This is saving the City

time and money because issues are being resolved prior to the occurrence of major problems.

We expect this crew to more than pay for itself annually. The City knew that the addition of this crew was going to be expensive, but also necessary. As environmental regulations increase and wastewater treatment costs rise, the benefit of this crew will have a positive budget impact for decades to come.

The citizens of the City of Gulfport can have peace of mind knowing that the Public Works Department is working daily to improve the sewer system through the establishment of this dedicated I&I crew. Every day this crew evaluates potential problem areas in order to improve the sewer system capacity with the goal of preventing

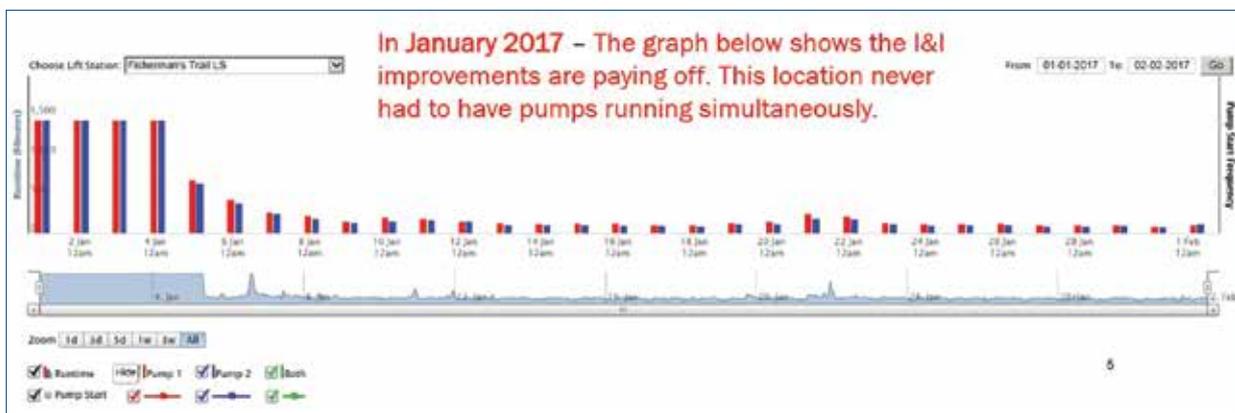
future backups into homes and/or businesses. Furthermore, the addition of this crew will allow funding that would typically have been used for emergency repairs to be used for other projects including future development.

During the 2018 Mississippi Municipal League Conference, the City of Gulfport received the 2018 Municipal Excellence Award for Public Works over 10,000 for the creation and implementation of this I&I crew.

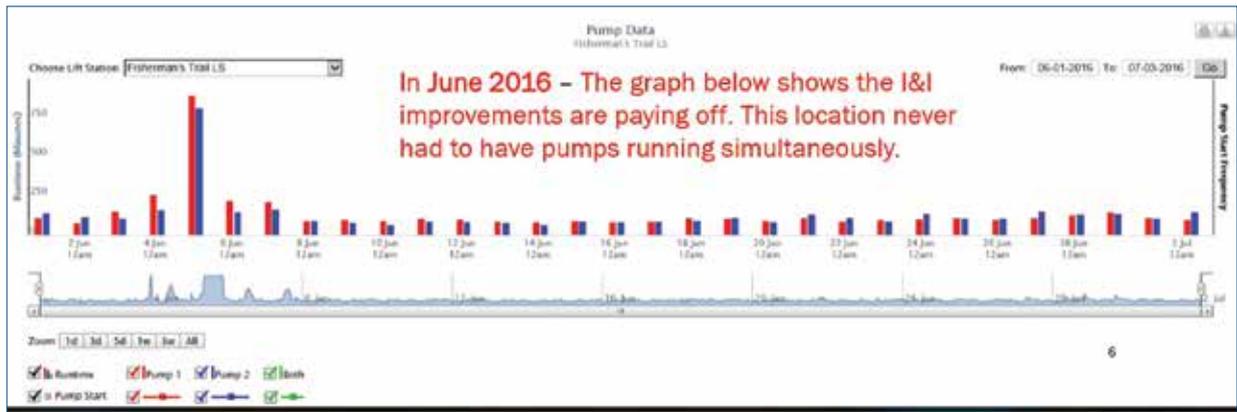
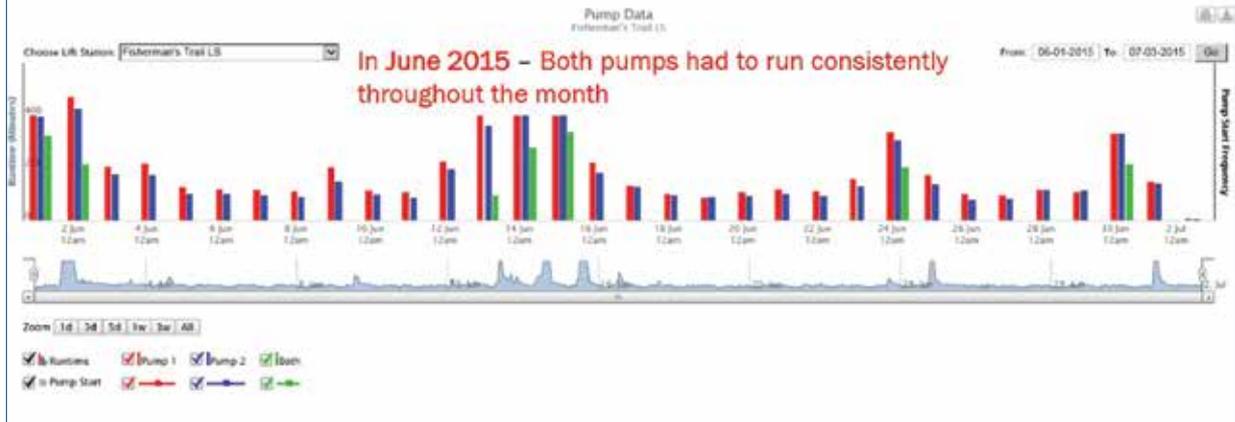
For more information about how the City of Gulfport continues to address I&I, please contact Wayne E. Miller, P.E., at (228) 868-5740 or send e-mail to wmiller@gulfport-ms.gov.

I&I Information

	2018	2017	2016
Average Sewer Connections in the City	29,000	29,000	29,000
Smoke Tests Performed (Areas)	37	10	23
Houses Affected	3,210	1,726	2,658
City Repairs Made	548	233	245
Citizen Defective Sewer Letters Sent	163	96	86
Citizen Repairs Made	104	51	10
Residence Billed \$25 a Month for Non-Compliance	59	37	76



PUMP DATA FISHERMAN'S TRAIL LIFT STATION



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In June 2017 - Both pumps again never had to run both at the same time.

