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Title: Update on Engineering Services for the Wastewater Collection System Assessment to Target Inflow & Infiltration (I&I) Reduction Measures (B)

This item was presented to the UAB on May 9, 2018.

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Attachments: 1. 170451 WWW Collection System Assessment 20171109.pdf, 2. 170451 Eval Tabulation 20171116, 3. 170451 Update on I-I Reduction Measures Project 20180510

Date	Ver.	Action By	Action	Result
5/17/2018	4	City Commission	Approved, as shown above	
5/9/2018	3	Utility Advisory Board		
11/16/2017	2	City Commission	Approved as Recommended	Pass
11/9/2017	1	Utility Advisory Board		

Update on Engineering Services for the Wastewater Collection System Assessment to Target Inflow & Infiltration (I&I) Reduction Measures (B)

This item was presented to the UAB on May 9, 2018.

GRU provides wastewater service to approximately 200,000 people. The GRU wastewater collection system includes over 1,100 miles of piping, 15,500 manholes, 170 lift stations, and 64,000 customer connections. The system receives and treats over 6 billion gallons of wastewater per year and beneficially returns clean water back to the environment. GRU uses best utility practices in operating and maintaining its system.

Like other utilities, we have challenges with portions of our system that are aging and with sanitary sewer overflows (SSOs). The majority of SSOs are related to customers flushing grease and “non-flushable” toiletries into the sewer system. Other causes include wet weather events, infrastructure failures, and third party damage. GRU has several programs to prevent and respond to SSOs including customer education, commercial grease program, construction design standards, system maintenance, and storm response. GRU staff responds to SSOs and other emergencies on a 24/7/365 basis.

Aging infrastructure leads to inflow and infiltration which reduces the capacity of the collection system and treatment plants. GRU has been proactive in addressing aging infrastructure, and has further increased these efforts over the last two years. We have increased our programs for sewer cleaning and inspection, smoke testing, and system monitoring. We have increased our wastewater collection system renewal, replacement, and rehabilitation program to \$7 to \$9 million per year. This program is critical to extending the life of our facilities, recovering system capacity, and reducing the risk of system failures and SSOs. Addressing aging

infrastructure requires a substantial sustained long-term investment. GRU recognizes the need for a comprehensive assessment of the collection system in order to ensure that we are spending the right amount of money on the right things at the right time.

At their November 16, 2017 regular meeting, the City Commission received a presentation from staff regarding Engineering Services for the Wastewater Collection System Assessment to Target Inflow & Infiltration (I&I) Reduction Measures project. The Commission approved staff's recommendation to initiate contract negotiations with the top ranked firm in accordance with the Consultants' Competitive Negotiation Act (CCNA). At the time of the presentation, staff estimated that the cost of the project would be \$750,000 over three fiscal years. During the development of the scope, staff continued to expand their knowledge on ways to address aging infrastructure and received valuable input and expertise from the qualified firm. Additionally, needs for the project were identified from the lessons learned after Hurricane Irma and the 2017 wet season. As such, it was determined to modify the scope to include additional services and utilize more of the contractor resources.

Stormwater can have a significant impact on our wastewater collection system as was experienced during Hurricane Irma. Heavy rainfall and unprecedented flooding caused a substantial amount of inflow to enter the collection system which, in return, caused wastewater releases. The project will incorporate surface inflow source analysis that will identify areas that have higher inflow potential. The results of this analysis will be incorporated into the recommendations for prioritizing I&I reduction efforts.

Value was added to the field investigation portion of the project by implementing a find-and-fix program. While contractors are inspecting and locating defects in the wastewater collection system, they will fix the easy-to-fix defects along with way. These fixes include such things like replacing cleanout caps and installing manhole rain pans. This find-and-fix program will expedite the reduction of inflow experienced in the system.

Excessive I&I cause operational challenges and reduce the available capacity of the wastewater system. The project will determine the GRU collection system's current level-of-service and provide up to three scenarios, including estimated rehabilitation costs, to increase the collection system's level-of-service.

Through the project scope development it was determined that the flow monitoring effort needed to be expanded to acquire additional information in order to make meaningful recommendations for prioritizing I&I reduction efforts. Additionally, GRU personnel will be assisting with components of the project (e.g. hydraulic modeling, field inspections) that is more than what was originally proposed in the initial project cost estimate.

The original cost of the project was estimated at \$750,000. The updated project cost includes additional staff time and additional items to the scope of work, such as the find-and-fix program, that was not included in the original cost estimate. The updated project cost is \$1,800,000 over FY 2018 through FY 2021, which includes both contractor and internal resources. The updated project cost is included in the proposed Water/Wastewater Capital Improvements budget.

The City Commission authorize the General Manager, or his designee, to execute a contract not to exceed \$1,500,000 with the top ranked firm, Jones Edmunds, for professional engineering services for the Wastewater Collection System Assessment to Target Inflow & Infiltration (I&I) Reduction Measures project, subject to approval of the City Attorney as to form and legality, and final appropriation of funds for each year of the project.

UAB: On May 9, 2018, the board voted 4-0 (with members Selvester and Jacobson absent) to advise the City Commission to approve the staff recommendation.

