CITY OF PALMETTO
CITY COMMISSION WORKSHOP MEETING
April 17, 2017
4:30 PM

Elected Officials Present:
Shirley Groover Bryant, Mayor
Brian Williams, Vice Mayor, Commissioner, Ward 3—(Entered the meeting at 4:32 p.m.)
Tamara Cornwell, Commissioner-at-Large 2
Jonathan Davis, Commissioner-at-Large 1
Harold Smith, Commissioner, Ward 1

Elected Officials Absent:
Tambra Varnadore, Commissioner, Ward 2

Staff Present:
Mark Barnebey, City Attorney
Jeff Burton, CRA Director
Jim Freeman, City Clerk
Allen Tusing, Public Works Director
Scott Tyler, Chief of Police
Amber LaRowe, Assistant City Clerk

Mayor Bryant called the meeting to order at 4:30 p.m.

1. UNIVERSITY OF SOUTH FLORIDA (USF) STUDENTS PRESENTATION

Mr. Burton stated that the USF Civil Engineering class was present to discuss and give a presentation regarding the City's utility infrastructure.

Nick Buliga, Gregory Miller, Mark Rothaus, and Joshua Phelps presented the Palmetto Sewer and Master Plan to the City Commission. Their objective was to analyze and improve the sanitary sewer system in Palmetto with two phases. Phase I was an assessment of current wastewater infrastructure, analysis of future utility needs, and their recommendations. In Phase II they selected a capital improvement project, proposed the alternatives, evaluated it and made further recommendations.

Mr. Rothaus discussed the assessment on the infrastructure. He explained the pumps seem to be running longer due to the fat, oil, and grease (FOG) problem and the rags. He further explained that education to the public should be a priority in regards to FOG and rags being dumped down pipes. It wears the pipes out, clogging them up, making pumps work harder. The current infrastructure also has some aging which displays corrosion and leaks. He stated a good option is the cure in place pipe (CIPP) which is a liner in the pipe that cures and hardens which prevents cracking and leaking. Basin 4 has been completed this way with a cost of approximately $700,000.

Mr. Phelps discussed compliance issues. In 2016 there were 22,000 gallons of untreated diluted wastewater released due to abnormal rainfall events; this was minor compared to the issues that other surrounding cities were facing. The Florida Department of Environmental Protection (FDEP) has rated the City of Palmetto in compliance.

Mr. Miller discussed the future utility needs of the City of Palmetto. As population grows, there will be increased flow needed. The City should continue to upgrade the aging infrastructure and address the FOG and rag issue. The recommendation presented was to reline basin 2 next, due to the susceptibility for sanitary sewer overflows (SSO), then perform further relining as urgency requires. He recommended a solution for FOG and rags during Phase II.

Further presentation was given regarding the effects of FOG and rags that are flushed or washed down pipes. The biggest problem with FOG and rags is that there is hardening of pipes and lift stations. This requires semi-annual maintenance at the lift stations. A community outreach was suggested to reduce the residential and other small FOG inputs. The group presented an educational flyer that is attached to and made part of these minutes. The flyer could be mailed out to the public as well as placed on the

City's website. A FOG disposal/recycling program was discussed with an example of other municipalities that currently have the program.

Biological treatment of lift stations was also discussed. This would include an introduction of aerobic bacteria in the wet well to degrade the FOG; this has little to no initial cost. An aeration method was also presented that augments the biochemical processes.

A pump upgrade is another alternative solution and this would pass debris along to the wastewater treatment facility. This will reduce the power consumption, maintenance/service breaks, and pump replacement at the lift stations. This may be a good choice for basin 13 due to the heavy rag/wipe issue. There are several service calls to unclog the pumps in this basin area which is mostly a warehouse district.

Tonya Bartlette, Marisa Blackwood, Cody Miller, and Tyler Houman gave a presentation of the Aquifer Storage and Recovery (ASR) to the City Commission. The background of the ASR was briefly touched on. It was noted that the effluent limitations and monitoring requirements are being met.

Mr. Miller discussed the potable water projections. He stated that the per capita usage is decreasing; however, due to the population increasing in the City, there is more demand for water, therefore, water security is decreasing. The goal of this project is to increase water security for the City by increasing water independence, reduce cost of water for Palmetto, and provide a dependable supply of high quality drinking water.

Three alternatives were presented that include purchase water from Manatee County, indirect potable reuse, and direct potable reuse. Advantages of purchasing from Manatee County include, the infrastructure is in place and it meets FDEP/EPA drinking water standards. The disadvantages include dependence on Manatee County and cost increases over time.

Indirect Potable Reuse (IPR) is the introduction of advanced treated water into an environmental buffer before being withdrawn for potable purposes. The advantages include reduced carbon footprint, water security, and decrease of water stress. The disadvantages include additional setup, public perception and time efficiency. The idea behind IPR is that the water is taken from the wastewater treatment plant (WWTP) then forced through the ultra-violet (UV) disinfection and deoxygenation. The water then goes through the aquifer with ultrafiltration and reverse osmosis. Remineralization is added then disinfection and then final placement into the drinking water distribution system.

Direct Potable Reuse (DPR) was the last alternative discussed. The advantages are water independence, higher quality than IPR, and environmental impact. The disadvantages are that it is expensive, there are process inefficiencies, and the public perception is not 100% positive. The DPR design is not as long as IPR. The water is taken from the WWTP and given ultrafiltration and reverse osmosis, then remineralized. The UV disinfection occurs next with another level of disinfection before being placed into the drinking water distribution system.

There is a "toilet to tap" misnomer with both DPR and IPR alternatives. The team suggested an outreach program could be developed by the City to include public meetings with educational pamphlets made and information placed on the City's website. The City could do a presentation showing that these methods are successfully working in other municipalities.

The final recommendation was the IPR alternative. This would reduce the City's dependence on Manatee County and still provide a clean water source. There would be long term savings for the City and the IPR method would utilize the existing infrastructure.
Tyler Brenfleck, Manny Delgado, Stephen Rousseau, Michael Tavlin, and Peter Zydek gave a presentation on Snead Island Septic Alternatives. The goal of the project was to consider aging septic systems on Snead Island, especially the Gulf and Bay Estates (G&BE). The City's Department of Public

Works is interested in improving sanitation on Snead Island. This group was charged to evaluate Snead Island's sanitation infrastructure and environmental impacts, and design sewage treatment alternatives.

The infrastructure of Snead Island shows that there are existing sewer lines and lift stations from two newer communities to the WWTP; a large part of the Island is on septic tanks. The average life of a septic system is 20-40 years. Most of the Island's septic systems are older than 1997 with ten percent built within the last 20 years. Systems are known to leach nutrients and pathogens with possible health concerns.

The team did environmental sampling in Terra Ceia Bay which is the EPA defined impaired water body. The samples were collected by sea walls at the ends of each lane. The results for the fecal coliform showed at most 60 units per 100 mL with the total inorganic nitrogen results all less than .15 mg/L in the samplings. These results are very good and are well below the level of concern.

The alternatives presented were to upgrade the existing septic systems, decentralized treatment facility, central sanitary sewer connection and septic to cistern conversion. In order to upgrade the existing septic systems the City could continue to repair and replace the septic systems and install aerobic treatment units (ATU) for increased level of treatment.

The group reached out to several different providers of decentralized treatment plants to gain an understanding of efficiency and how they operate. The plant would be on the Island; but is probably not the most feasible due to the WWTP being less than three miles from the Island. Since the WWTP is so close to the Island, a gravity sewer system could be a better alternative. The lift stations can handle the additional flow and they are low maintenance.

A low pressure sewer system was considered as an alternative as well. A grinder pump would be located at each home with a force main down each side street. This would make use of the existing infrastructure and could be tapped into force main 27 with minimal road restoration. The last alternative considered was the vacuum sewer system. This type of system uses a single vacuum station that runs a pump that extends into each house and creates a negative pressure to suck sewage out of a tank that is located at each house. These systems are low maintenance and come with a backup generator.

With any of these alternatives, it would require that each home decommission their existing septic tanks. A septic to cistern conversion is a good option and cheaper than the alternative of abandoning it and filling it with sand.

A review of each alternative and life cycle cost was presented with the gravity collection system being the team's recommendation. This type of system has long term reliability, minimal operation power addition, uses existing lift stations, and is low maintenance.

Professor Sarina Ergas, USF Civil and Environmental Engineering, thanked the City and her students for the presentations they gave. She will be back on May 1 with another three groups for three more water department presentations.

Mayor Bryant adjourned the meeting at 5:52 p.m.

Minutes approved: May 15, 2017

James R. Freeman
James R. Freeman, City Clerk