UTILITIES DEPARTMENT 5-YEAR ACTION PLAN

Since 1992, the City has received $179 million in SPLOST funding and over the same time period has invested nearly $168 million in capital projects for the Water and Wastewater system. This includes SPLOST funding, system revenues, bonds, and GEFA loans.

Since 2009, the Utilities Department has expended over $49 million on sewer system improvement with approximately $5.6 million spent on the Withlacoochee Treatment Plant. When the projects listed below are completed by December 2018, the City will have invested approximately $230 million in capital projects for its Utilities system from 1992 to 2018, a 26-year period.

PUMP STATION, FORCE MAIN, HEADWORKS AND EQUALIZATION BASIN PROJECT

- Design and construct two new master pump stations and two smaller pump stations along with a new force main to a new headworks structure with grit removal and bar screens at the same location for the new Withlacoochee WPCP. In addition a 6.0 MG equalization basin will be included at this site for initial wet weather flows and future flow equalization through the new Treatment Plant. The flow from this project will be gravity fed to the existing WPCP for final treatment and discharge utilizing the existing plant outfall. This project will replace an existing 54-inch gravity sewer main to the current plant as well as the existing influent pump station, both of which are highly prone to severe inflow and flooding from the Withlacoochee River.
- Design of Three Construction Packages to be bid simultaneously:
  - Pump Stations – Major Stations at Gornto Road and Remer Lane with Two Minor Pump Stations at Valdosta State Prison and Trailer Park on 133
  - Forcemains – 6 miles of 30” and 42”
  - Headworks and Equalization Tank
- Project removes over 50% of sewer flow from Meadowbrook Sewer Trunk Line.

RELOCATION OF WITHLACOOCHEE WPCP TO NEW LOCATION 60 FEET ABOVE THE CURRENT FLOOD LEVEL

- This project is planned for use of design build approach to expedite design and construction in the shortest possible time frame. An RFP for design build is expected to be advertised in the summer of 2013 following approval of the RFP by both Georgia EPD and GEFA. Upon completion, the discharge will continue to use the existing WPCP Outfall on the Withlacoochee River.
- Design to Meet Current Permit Limits
  - 12 Million Gallons per Day Average Day Flow
  - 22 Million Gallons per Day Peak Hydraulic Capacity
  - Designed to Allow Future Expansion
  - Maintains Current Discharge Point
- Dual Power Feeds
- Sited Above Flood Plain on City Property
- Estimated Cost - $20 Million
- Design/Build to Accelerate Project Completion

COLLECTION SYSTEM EVALUATION PROGRAM

- Continue implementation of and complete a 5-year system wide plan to evaluate the entire sanitary sewer collection system (300 miles of lines with 75 miles completed) and develop schedule for repairs.
- The evaluation will include the inspection of all manholes and collection system lines using smoke testing first to be followed by Closed Circuit Television (CCTV) Inspections of high priority areas.
- The evaluation will be utilized to prioritize and schedule major point repairs and also to plan and prioritize major rehabilitation projects for the future.
- A schedule to complete major rehabilitation projects identified during the evaluation will be submitted for EPD approval by December, 2018.

MANHOLE REPLACEMENT/REHABILITATION PROGRAM

- Continue existing program completing inspection of approximately 3,390 remaining manholes (2,610 inspected to date) and prioritizing replacement or rehabilitation of the most deteriorated manholes. Complete the replacement or rehabilitation of a minimum of 60 manholes each year until all priority 1 manholes are completed. A schedule will be submitted to EPD for ongoing rehabilitation to address priority 2 and all remaining manholes on an annual basis.

LIFT STATION REHABILITATION/REPLACEMENT PROGRAM

- Continue with existing rehabilitation/replacement program until all existing older lift stations are completed. This will include connection to SCADA and/or auto-dialer systems along with emergency power capabilities for connection to portable generators should power to station be lost.

PURCHASE PORTABLE GENERATORS FOR LIFT STATIONS

- The purchase of three portable generators will be completed (1per year) so that any existing lift station, not wired with two independent electric feeds, can be quickly connected to a portable generator for emergency power needs. In addition to the generators, the city has worked with Godwin Pumps to meet emergency bypass pumping needs at each of our lift stations whenever needed.

PARSON'S RECOMMENDATION FOR REPAIRS TO THE EXISTING WITHLACOOCHEE WPCP

- Following a thorough review of Plant operations with Staff and completion of Plant processes modeling, Parsons has submitted a list of immediate work to ensure the Withlacoochee Plant meets permit requirements until such time as a new Treatment Plant can be completed.

- Parson listed 6 specific projects to be undertaken at a total cost of $2.5 million including contingencies. To expedite this work in the shortest possible time frame, the Utilities Department will bring before City Council at the next scheduled meeting a contract amendment to Parsons existing contract to perform engineering, construction and oversight of those 6 projects using the Design/Build concept.

- EPD has reviewed the proposed plan and approved it. This work should significantly improve treatment capabilities and help to reduce the frequency and amounts of sewer overflows in the Meadowbrook area until the new treatment plant is online.

Withlacoochee WPCP			
System Improvement Considerations			
Sequence	**Location**	**Projected Scope**	**Time Frame to Complete**
1	**<u>Dewatering Building</u>**	**Provide Mobile Belt Filter Press :**	1-2 Months based on current availability of rental press (press may be able to be on site within 1 month of NTP)
		1) Provide 1 - 2.2 Meter mobile Belt Filter Press(BFP) with polymer feed system, conveyor for dewatered Biosolids	Note: Can negotiate a potential lease purchase thus own for new plan
		2) Provide pad for mobile unit adjacent to existing BFP building	
		3) Provide piping for aerobically digested sludge to be fed to existing and new BFP's	
		4) Provide power and breakers for mobile BFP	

2	**Headworks**	**Install new screens on influent flow:**	
		1) Provide and install two (2) new 3/8 inch bar screen in existing aerated grit channels (side 1 and side 2)	Manual Screens within 2 months, Mechanical Screens within 6 months.
		2) Provide "manual" 3/8 inch bar screen downstream of new screens or in adjacent aerated grit chamber for overflows and or maintenance of screen	
		3) Provide pad for container to collect rags from screen conveyor adjacent to structure (side 1 and side 2)	
		4) Clean all 5 inch sand filter ports and top layer of filter media	

3	**RAS Pump Station**	**Provide Pump & Piping to "De-Rag" secondary system:**	
		1) Install an additional RAS pump for both side 1 & 2	
		2) Install piping to discharge RAS upstream of new bar screens to "de-rag" secondary system	4 months based on lead time of Pumps. If pumps improve, 2-3 months is possible.
		3) During de-ragging, by-pass primaries and remove all solids from primary clarifiers.	
		4) Convert exiting primaries to "temporary equalization" or secondary solids storage during high flow events	

4	**Aeration System**	**Replace all air piping and add blower:**	
		1) Replace all air piping on side 1 and side 2. Includes piping from blower to basins and all distributed air piping in tanks(18 inch lines)	3 Months on pipe replacement, 6 months for new blower delivery, MCC section, install, etc.
		2) Add 1 - 1,900 scfm blower to side 2. This will provide 4 - 1,900 scfm blowers to side 1 and side 2	
		3) Remove connection of blower piping to aerobic digester (new blower and piping to be installed at aerobic digester)	
		4) Construct new guide rails and connections an install existing motive pumps of the second nitrification basin associated with side 1	
		5) Add the MCC panels for system as-needed	
		4) Clean all 5 inch sand filter ports and top layer of filter media	

5	**Aerobic digester**	**Provide blowers for Aerobic Digester:**	
		1) Install 2 Positive Displacement blowers (2,000 scfm each) to supply air for aerobic digester (PD blowers needed due to changing water levels in Aerobic Digester)	6 months on new blower and MCC installation
		2) Install pre-fab building to enclose PD blowers for weather and noise reduction	
		3) Install piping as required to eliminate air leakage	
		4) Provide additional MCC and power to new blowers	

6	**Secondary Clarifiers & Sand Filters**	**Remove Hydraulic Bottlenecks:**	
		1) Remove butterfly valves and replace with knife gates	
		2) Provide new flow balancing piping between sand filters	1-2 Months depending on pipe deliveries and shutdown schedules
		3) Repair gates or add new ones to provide proper isolation of filters for cleaning & repair	
		4) Clean all 5 inch sand filter ports and top layer of filter media	