



Technical Memorandum

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PREPARED FOR: *Ms. Alisha Gamble*

COPIES TO: *Mr. Bill Andrew*
Mr. Bob Troxler

PREPARED BY: *Mr. Bobby Sills, AICP*
Mr. Siamak "Mak" Yari, P.E.

SUBJECT: *Capital Improvements Plan and System development charge Re-evaluation*

PROJECT: *Flowery Branch General Services – FY19*

Purpose

The purpose of this technical memorandum (TM) is to provide documentation on the modification of the Flowery Branch Water and Wastewater systems' Capital Improvements Plan (CIP), update of the Systems' development charge (SDC), proposed rate increase implementation plan and suggested ordinance changes.

Background Information

In November 2017, a CIP and Rate Increase plan was presented to the Flowery Branch City Council by Nelsnick Enterprises. At that time, a new wastewater treatment plant was scheduled to be constructed in years 6 and 7 of the CIP. However, it became apparent in Spring of 2018 that various proposed new developments would place an earlier and more significant stress on the existing wastewater treatment plant. Additionally, City's conversations with the Georgia EPD regarding the potential discharge limits of treated wastewater into the Lake Lanier has resulted in further tightening of the discharged nutrients loads. Together these factors have required modifications to the CIP with a focus on the required upgrading of the existing wastewater treatment plant to handle the additional flows and more stringent discharge limits.

As mentioned above, discussions with the Georgia Environmental Protection Division, indicated that the new NPDES permit would lower the capacity of the existing plant from 1.0 MGD to 0.7MGD to meet the proposed higher treatment requirements. As such a new scenario was developed that moved the new plant sooner and enlarged to 1.0 MGD. This plant would be developed in parallel with the existing plant and once operational, the existing plant would be then taken out of service and upgraded. Once these two projects are completed, the City would have a total wastewater treatment capacity of 1.7 MGD.

Capital Improvements Plan Update

The following table is Scenario #3 of the CIP. Total 5-year CIP for wastewater is \$20.5 million and for water is \$3.5 million.

	FY19	FY20	FY21	FY22	FY23
Wastewater					
Wastewater Effluent Discharge Force Main - Phase 1	315,717				
Wastewater Effluent Discharge Force Main - Phase 2				750,000	750,000
Wastewater Expansion Environmental Information Document	20,000				
Wastewater Expansion Environmental Antidegradation Analysis	25,000				
Wastewater Expansion Design Development Report	25,000				
Wastewater Expansion Plant Design/Permits	400,000	400,000			
Construction Management Services		250,000	250,000		
Wastewater Expansion Construction (Parallel Plant)		7,000,000	7,000,000		
Wastewater Pumping Station Modification	80,000				
Upgrade Existing Plant to meet Permit Limits			150,000	1,500,000	1,500,000
Asset Management Project (Collection System/Treatment)		25,000		25,000	
Wastewater System Total	865,717	7,675,000	7,400,000	2,275,000	2,250,000
Water					
Water Meter Asset Replacement Program	180,000				
Water Distribution at Railroad Crossings		250,000	250,000		
Raise 150,000-Gallon Water Tank (Thurmond Tanner Location)	20,000	400,000			
Water Distribution System Upgrade	300,000		300,000		300,000
Well #4 Installation	20,000	210,000			
Well Pumps #1 and #3 Modification		80,000			
SCADA System Improvements		50,000	50,000		
New 250,000-Gallon Elevated Tank Construction	500,000	500,000			
Asset Management Project (Distribution/Treatment)		25,000	25,000		
Water System Total	1,020,000	1,515,000	625,000	0	300,000
Total	\$1,885,717	\$9,190,000	\$8,025,000	\$2,275,000	\$2,550,000

System development charge Update

The methodology has been modified to use the incremental cost approach on the wastewater treatment portion of the SDC. There are two wastewater treatment plant projects that impact the City’s overall capacity. The increase in the wastewater SDC is driven by the inclusion of the new treatment plant within the capital improvements plan (CIP). The table below summarizes the projects’ estimated cost and applicability to new developments. The resulting cost per gallon is provided; however, it does not include a credit for rate revenues that will be used to retire the debt needed for the treatment plant.

Project Name	Value	Expansion	SDC Eligible	SDC Value	Capacity
1.0 MGD Wastewater Plant	\$15,300,000	100%	100%	\$15,300,000	1.0
0.7 Upgrade of Existing Plant	\$3,150,000	0%	100%	\$0	0.7
	\$17,950,000			\$14,800,000	
New Capacity				1.00	
Cost per Gallon (No Credit)				\$15.30	

The expected new development volume through 2028 is expected to add approximately 750,000 per day of wastewater on a peak day basis. This excludes I&I which would add an estimated 10% to this figure, or 825,000 gallons on a peak day¹. The estimated portion of the debt principal paid by new customers is projected to be \$2,600,000 and is provided as a credit in the SDC calculation. As such, new customers/developers will pay for the new treatment plant via rate revenue \$2,600,000 and SDC \$12,700,000. It is estimated that \$9,525,000 in SDC treatment portion will be collected through 2028, with the remainder collected thereafter.

Expected New Developments	750,000	Gallons
Principal Credit (recovered through rate revenue 20-year Term)	\$2,600,000	
Direct Pay by new Developments (2019 – 2028)	\$12,700,000	
SDC after Credit applied	\$12.70	per Gallon
SDC Revenues Projected	\$9,525,000	

The following table provides the impact to the existing wastewater SDC. An additional \$1,003 per EDU should be added to the ordinance. Please note this is related to the wastewater treatment component only.

EDU	180	Gallons
Cost per EDU	\$2,286	per EDU
Treatment Component Existing	\$1,283	per EDU
Wastewater SDC Increase	\$1,003	per EDU

¹ The remaining capacity will be available for new development post 2028, however, planning for treatment expansion prior to this may be advised.

The following table projects the overall revenues for the wastewater portion of the CIP. Please note that this adjustment is related to the wastewater treatment component only. An additional \$2.8 million from the current fund balance, rate revenues and the collection system component will cover the remainder of the \$20.5 million wastewater CIP.

Treatment Plant Only	
New Development Sources of Funds	
SDC	\$12,700,000
Rate Revenue	\$2,600,000
Existing Developments Sources of Funds	
Rate Revenue	\$2,400,000
Total for CIP Debt	
	\$17,700,000

Rate Increase Recommendations

The following is the same rate increase plan provided in November 2017. The table has been updated to assume additional SDC funds, debt proceeds and system growth anticipated in this update as discussed above. The minimum debt coverage factor of 1.44 occurs in FY23. Nelsnick recommends that a factor of 1.25 be a targeted minimum coverage, but circumstances may require the City to temporarily lower coverages. GEFA typically requires a 1.05 minimum total debt coverage².

Debt Coverage Summary	FY19	FY20	FY21	FY22	FY23	FY24
Revenue Bond Annual Debt Service	\$308,093	\$308,804	\$308,366	\$307,786	\$308,016	\$308,016
GEFA Annual Debt Service	\$86,028	\$623,754	\$1,094,264	\$1,228,695	\$1,389,180	\$1,389,180
Funds Available for Debt	\$1,022,299	\$1,945,844	\$2,520,997	\$3,217,825	\$2,436,125	\$2,702,086
Revenue Bond Coverage	3.32	6.30	8.18	10.45	7.91	8.77
GEFA Loan Coverage	2.59	2.09	1.80	2.09	1.44	1.59

Rate Increase Required (November of FY)	FY19	FY20	FY21	FY22	FY23	FY24
Water	5.5%	6.5%	6.5%	5.0%	5.0%	5.0%
Wastewater	5.5%	6.5%	7.0%	7.5%	8.0%	8.0%

Annual Debt Payments	FY19	FY20	FY21	FY22	FY23	FY24
Existing Revenue Bond	\$308,093	\$308,804	\$308,366	\$307,786	\$308,016	\$308,016
Existing GEFA	\$86,028	\$86,028	\$86,028	\$86,028	\$86,028	\$86,028
New Revenue Bond	\$0	\$0	\$0	\$0	\$0	\$0
New GEFA	\$0	\$537,726	\$1,008,236	\$1,142,667	\$1,303,152	\$1,303,152

² GEFA coverage includes all debt including revenue bonds. Revenue Bonds typically require a higher coverage; however, the coverage calculation excludes GEFA related debt. Thus, the revenue bond coverage in the provided table is above 3.0 for all years.

As shown in the previous table, a total of \$1.3 million in annual debt payments will be added to the water and wastewater system. ***For financial planning purposes, it is assumed that new development growth will be significantly slower³***. Thus, the collected SDC funds shown below are much less than discussed previously. This is done for prudent planning purposes. Actual performance should be verified annually.

The cash flow for the CIP is provided in the following table. Significant debt will be required

Cash Flow	FY19	FY20	FY21	FY22	FY23	FY24
Capital Cash (Beginning)	1,980,084	722,545	545,832	639,199	2,045,543	2,234,471
Less: CIP	1,885,717	9,190,000	8,025,000	2,275,000	2,550,000	0
	94,367	8,467,455	-7,479,168	-1,635,801	-504,457	2,234,471
Add: System Funds						
SDC Portion	\$367,800	\$988,770	\$1,222,577	\$1,512,157	\$609,582	\$666,840
Tap Fee Portion	\$32,733	\$66,310	\$81,393	\$99,949	\$33,625	\$36,575
Net Sales/User Fees	\$227,645	-\$41,793	-\$185,602	\$69,238	\$95,721	\$301,476
Add: Revenue Bond Debt Proceeds	0	0	0	0	0	0
Add: GEFA/SRF Debt Proceeds	0	8,000,000	7,000,000	2,000,000	2,000,000	0
Capital Cash (Ending)	\$722,545	\$545,832	\$639,199	\$2,045,543	\$2,234,471	\$3,239,361

There is danger of exceeding capacity at the existing plant while the parallel plant is being construction. In such an event, a temporary development moratorium may be needed. A sample ordinance is being developed separately.

Recommendations

Nelsnick recommends updating the rate ordinance to include a 5.5% increase on base and unit charges and increase the wastewater SDC by \$1,003 per EDU. These should be in effect as soon as practical. Additional, language should be added to the ordinance to allow for temporary developer moratoriums if capacity is not available.

³ The financial planning model results in approximately 2000 EDU's added and 320,000 gallons of billable wastewater by FY24. The estimate used for capital was approximately 4000 EDU's by 2028 or a peak day of 750,000 gallons for treatment added. This is approximately 560,000 gallons in billable volume per day.