

January 14, 2019

Rudolph Chow
Director of Public Works
City of Baltimore
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Mr. Chow:

Raftelis Financial Consultants, Inc. (Raftelis) was engaged by Baltimore City Department of Public Works (DPW) in 2018 to undertake a Financial Planning Study (Study). The purpose of this Study was review and projection of revenues and expenditures within the DPW Water, Wastewater, and Stormwater Enterprise Funds (collectively, the utilities). As a result of the Study, Raftelis developed revenue adjustments, or rate increases, necessary to support the operation, maintenance, capital investment, and financial health of the utilities over a multi-year forecast period. Raftelis employed industry-accepted methodologies as described in the American Water Works M-1 Rates Manual and the Water Environment Federation MOP-27 Manual – Finance and Pricing for Wastewater Systems.

Raftelis developed a financial planning model (model) upon which the conclusions of the Study were based. The model projects operating, and capital expenditures based on approved City budgets. Historical revenues and expenditures captured in the model are consistent with audited financial results in the City Comprehensive Annual Financial Reports (CAFRs). The model projects cash expenditures, bond ordinance requirements, and City financial policy requirements (collectively revenue requirements) and compares them to projected revenues under existing rates. If revenues under existing rates are insufficient to meet projected revenue requirements, the model calculates the rate adjustments necessary to generate sufficient revenue.

Operating Expenditures

Operating expenses used in the model include items like labor, chemicals, energy, and contracted services. Operating expenditures for the utilities are based on the approved FY 2019 budget. These costs for the water and wastewater utility are expected to increase at about 2.4% in FY 2020 due to inflationary increases in items like labor and treatment chemicals. The operating expenses for the stormwater utility have increased at an average annual rate of 4.45% since FY 2016. These increases are related to increasing the level of service according to the designs of the utility implementation. One of the primary drivers for the cost increases is that the stormwater enterprise is now the primary funding source for the street sweeping program; previously this cost was shared with the Department of Transportation.

Capital Debt Requirements and Capital Investment

The other major cost driver for the utilities financial forecast is the requirement to repay outstanding system indebtedness and continue reinvestment in system infrastructure. Approximately \$818 million of additional long-term debt is anticipated to be issued by FY 2022 to fund capital investment for the water, wastewater, and stormwater systems. This level of borrowing represents over \$50 million in annual debt service payments across the utilities. Major projects that are part of this investment include: large water main rehabilitation, upgrades at the water treatment plants, sanitary sewer overflow remediation, digester renovations, enhanced nutrient removal at the wastewater treatment plants, and other sewer system rehabilitation and improvements. These are critical investments in multibillion-dollar infrastructure systems. The utilities plan to fund these capital projects with a mixture of additional long-term debt and

rate-funded capital (pay-as-you-go capital, “Pay-Go”). The current financial plan forecasts these necessary capital investments which influence projected rate increases to fund these investments and support the utilities financial policies that are the basis of critically important credit ratings.

Revenue and Units of Service

The majority of annual revenue received by the utilities is generated from water, wastewater, and stormwater user charges. Customers have been using less metered water according to recent trends. This behavior is consistent with many utilities across the country due to the emergence of high efficiency appliances and low-flow fixtures coupled with increased customer awareness that water is a valuable resource in need of conservation. Since the inception of the stormwater fee, impervious area within the City has remained steady, although rate payers have taken advantage of the various credit and incentive programs over time. The projection of Baltimore City user charge revenue is based on historical revenue and a forecast of customer demand and projected water, wastewater, and stormwater rates throughout the financial plan. It is important to note that the impact of projected rate increases is dampened by the assumption of continued decline in metered water usage. For example, a 9.9% increase in the water rates for FY 2020 is projected to generate 8.2% in additional water revenue. Projected rate increases also account for the cost sharing agreements with surrounding counties. Revenue from Baltimore County is tied directly to the annual cost to operate and maintain the system and therefore fluctuates in similar fashion to the operating budget.

Financial Plan Results

Using the detailed information described above, Raftelis built a financial planning model that develops a separate, comprehensive financial forecast for the water, wastewater, and stormwater utilities. The model is developed to meet the objectives listed below:

- Fund the daily operating and maintenance costs of the water, wastewater, and stormwater utilities and prepare for anticipated operating cost increases;
- Meet existing and proposed debt obligations while maintaining coverage ratios consistent with City bond indentures and financial policies;
- Actively reinvest in system infrastructure to build a sustainable and reliable operation through the use of a responsible blend of long-term debt and pay-go capital; and
- Minimize and shave peaks off any annual rate adjustments to limit impacts to customer bills.

The model allows the utilities to analyze and test several different assumptions and planning options when preparing the financial plan, including:

- Future rate adjustments;
- Customer demand and growth projections;
- The timing and amount of future debt issues;
- Options for future debt parameter assumptions, including the use of capitalized interest; and
- The utilization of reserve funds to balance the cash-needs and financial policies of the utilities.

The financial forecasts for the utilities are presented as attachments to this letter. These forecasts require a 9.9% annual rate increase for water and a 9.0% annual rate increase for wastewater and stormwater from FY 2020 through FY 2022. Projected rate increases beyond the FY 2022 proposal are provided for informational purposes only and are subject to change. Future utilities rate adjustments developed in the forecasts are shown below.

	FY 2020 Proposed	FY 2021 Proposed	FY 2022 Proposed	FY 2023 Forecast	FY 2024 Forecast	FY 2025 Forecast	FY 2026 Forecast	FY 2027 Forecast	FY 2028 Forecast	FY 2029 Forecast
Water	9.90%	9.90%	9.90%	9.90%	9.90%	9.90%	6.00%	3.25%	3.25%	3.25%
Wastewater	9.00%	9.00%	9.00%	6.00%	6.00%	5.00%	3.25%	3.25%	3.25%	3.25%
Stormwater	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	3.25%	3.25%	3.25%

Future debt service costs related to funding the projects that have been identified in the CIP are the major driving factor in the water financial plan. Capital expenditures result in substantial increases in total debt service costs which drive the large increases in revenue requirements which are the basis for proposed rates. The additional revenue from the rate increases support the debt coverage and cash reserve requirements identified in the City's bond ordinance and the utilities investment-grade bond ratings.

DPW understands that these increases affect some customer's ability to afford clean water service. With this in mind, the financial forecast includes establishing and funding a customer assistance program, currently called Baltimore H2O Assists. This program is currently under development and DPW expects to begin the program during fiscal year 2020 and would be eligible to any residential household customer with income at or below 175% of Federal poverty limits. DPW has included an estimate of approximately \$11 million per year in assistance once the program is at full participation.

Raftelis is grateful for the opportunity to work with the City of Baltimore and is pleased to provide this summary of the methodology used to develop utility rates for the utilities. Feel free to contact us for further information or to answer questions as needed.

Respectfully submitted,



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