

RESPONSE TO
PUBLIC ADVOCATE'S INTERROGATORIES
AND
REQUESTS FOR PRODUCTION OF DOCUMENTS
QUESTIONS 1-22

Dated: March 2022

PA-II-1. REFERENCE PWD STATEMENT NO. 3 – PAGE 17.

A. PLEASE PROVIDE THE SUPPORTING DOCUMENTATION FOR THE 20% INCREASE IN CHEMICAL BID COST.

B. PLEASE PROVIDE AN ANALYSIS COMPARING THE RESULTS OF THE WATER DEPARTMENT MOST RECENT COMPLETED CHEMICAL BID COSTS TO THE PREVIOUS PRICES FOR THOSE CHEMICALS.

RESPONSE:

A. The 20% increase in chemicals bid costs was based on the sampling of bid data available in December 2021 during the development of the updated Financial Plan. In addition, the PPI for Industrial Chemicals as of October 2021 reflected a 47.3% annual increase.

B. See Table on following page.

PHILADELPHIA WATER DEPARTMENT
Response to PA Interrogatory

Chemical Name	Calendar 2021 Pricing	Calendar 2022 Pricing	% Pricing Increase
Activated Carbon	\$798	\$798	0%
Ammonia	\$913	\$1,269	39%
Quicklime	\$169	\$200	18%
Ferric Chloride	\$1,805	\$2,276	26%
Fluorosilicic Acid	\$1,530	\$1,921	26%
Hydrated Lime bax	\$167	\$200	19%
Hydrated Lime ql	\$167	\$200	19%
NonIonic Polymer drums	\$468	\$540	15%
Cationic Polymer drums	\$352	\$293	-17%
Polymer liquid cat TE tons	\$1,757	\$3,220	83%
Potassium Permanganate bins	\$10,931	\$11,774	8%
Sodium Phosphate Lime dispersant	\$320	\$633	98%
Zinc OrthoPhosphate	\$1,809	\$2,490	38%
Sodium Hypochlorite night	\$1,485	\$1,904	28%
Sodium Hypochlorite day	\$1,485	\$1,904	28%
Sodium Hydroxide	\$578	\$892	54%
Copper Sulfate	\$20,497	N/A	N/A
Dechlorination Tablets	\$18	\$599	3160%

RESPONSE PROVIDED BY: The Philadelphia Water Department

PA-II-2. REFERENCE PWD STATEMENT NO. 3 – PAGE 17. PLEASE PROVIDE
SUPPORT FOR THE 47% INCREASE IN THE PPI FOR INDUSTRIAL
CHEMICALS.

RESPONSE:

The requested data is provided in PWD Statement 3, Schedule BV-5 at page 14.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-II-3.** REFERENCE PWD STATEMENT NO. 3 – PAGE 17. PLEASE PROVIDE
2 SUPPORT FOR THE CLAIM THAT RECENT CONSUMER PRICE INDEX
3 (CPI) AND PRODUCER PRICE INDEX (PPI) DATA INDICATE INFLATION
4 RATES ARE AT LEVELS NOT SEEN SINCE THE 1970S.

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6 **RESPONSE:**

7 Please refer to PWD Statement 3 Schedule BV-5, at pages 1-6. As CPI is an index of
8 relative cost to consumers, it is a lagging indicator of PPI which is an index of relative
9 costs to producers. In general, inflation rates for PPI would parallel CPI.

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11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-II-4.** REFERENCE PWD STATEMENT NO. 3 – PAGE 16. REGARDING THE
2 STATEMENT “CONTINUED INCREASES IN REGULATORY
3 REQUIREMENTS ASSOCIATED WITH THE CITY’S MUNICIPAL
4 SEPARATE STORM SEWER SYSTEM (MS4) PERMIT REQUIREMENTS,
5 AND THE NEW LEAD AND COPPER RULE. ALL OF WHICH WILL
6 REQUIRE ADDITIONAL PERSONNEL, CONTRACTED SERVICES, AND
7 CAPITAL INVESTMENTS TO ADDRESS.”

8 A. PLEASE IDENTIFY THE SPECIFIC CHANGE/INCREASE IN MS4 PERMIT
9 REQUIREMENTS THAT WOULD RESULT IN INCREASED COSTS.
10 IDENTIFY THE ADDITIONAL PERSONNEL, CONTRACTED SERVICES,
11 AND CAPITAL INVESTMENTS THAT WOULD RESULT FROM THE
12 CHANGES AND THE RELATED COSTS.

13 B. PLEASE IDENTIFY THE SPECIFIC CHANGE/INCREASE IN THE NEW
14 LEAD AND COPPER RULE THAT WOULD RESULT IN INCREASED
15 COSTS. IDENTIFY THE ADDITIONAL PERSONNEL, CONTRACTED
16 SERVICES, AND CAPITAL INVESTMENTS THAT WOULD RESULT FROM
17 THE CHANGES AND THE RELATED COSTS.

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19 **RESPONSE:**

20 A. PWD is currently in negotiations with PADEP regarding the MS4 permit
21 requirements. During these negotiations, PWD is evaluating potential impacts of
22 the revised permit requirements. It is anticipated that the Department will require
23 additional capital and operating expenses to address the following efforts
24 associated with the MS4 permit:

- 25 - MS4 Mapping – Expanded mapping of city-owned separate stormwater
26 infrastructure including field identification, verification, and GIS mapping.
27 This may include additional staff to QA/QC data, perform field
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investigations to verify locations of stormwater infrastructure, dye testing to confirm drainage, etc.

- Municipal Good Housekeeping – Development and implementation of a City-wide good housekeeping program including program development, program tracking, reporting and training.

- This will cover stormwater assets City-wide and require inlet inspection and maintenance requirements.
- This may require materials/equipment to implement pollution prevention best management practices.
- Capital investments may be required to install best management practices at facilities which discharge to creek and rivers.

- Maintenance of Existing Stormwater Infrastructure - Investigation and field verification of existing stormwater infrastructure, condition assessments, resulting repair/rehabilitation and associated equipment needs.

- Litter and Debris Control – Tracking and reporting of litter control program including expanded public outreach. This may include additional staff and resources may be needed to design and implement a Litter Control Pilot Program.

- Pollutant Reduction Plan – Requirement to reduce sediment loading to impaired waterways in the MS4 area by 10% within 5 years. This will require increased resources to plan, design, construct and maintain stormwater management practices on City owned land.

- Capital investments are being evaluated and may include stormwater management practices such as wetlands, stream restoration, street side GSI, GSI on Parks and Recreation and Department of Public Property sites, riparian buffers, gully repairs, floodplain connection, inlet pretreatment devices, end of pipe solutions, etc.

- At this time initial construction cost estimates suggest improvements may cost up to \$750 million.

As noted on page 15 of PWD Statement 3 Schedule BV-4, “While the financial plan beings to address some of these elements, the full impacts are not yet known at this time.”

B. Pursuant to the federal Safe Drinking Water Act, the Department is required to conduct Lead and Copper Rule (“LCR”) monitoring. PWD is on a reduced monitoring schedule due to consistent results below regulatory action levels for lead and copper. The Department conducts monitoring every three years. The next round of LCR sampling is scheduled to occur in 2022. [FY 2023] Note that EPA has delayed the effective date of the new LCR to December 16, 2021, and the compliance date has been delayed until October 16, 2024. The projected costs related to LCR changes in FY 2023 are related to PWD preparations for full compliance in FY 2024.

The new LCR will significantly affect the Department’s operations by requiring the following, among others: significant new efforts in lead public education and notification; new requirements for lead education, sampling and testing in Philadelphia schools and childcare facilities; provision of pitcher filters and follow-up sampling after the replacement of any lead service line; additional sampling to determine effectiveness of corrosion control treatment and additional sampling for any samples indicating elevated lead exposure; and development and maintenance of an inventory of service line materials along with enhanced communications to customers with lead lines. The Department will continue evaluating the effects of implementing the new LCR requirements

on its operations and will take the necessary steps to prepare for full compliance with the rule revisions by the new compliance deadline.

The following initial budget level estimates of additional costs are reflected in Statement 3 Schedule BV-4 to support the Department's initial efforts associated with the New Lead and Copper Rule:

- FY 2023 to FY 2027 additional Salaries and Wages costs included 5 positions (Construction & Engineering: 1, Planning & Environmental Services: 4). FY 2023 included approximately \$69,000 (25% of annual salary costs). FY 2024 included approximately \$284,000 (100% of annual salary costs). Subsequent years were inflated based on inflation factor assumptions.
- Additional Pension and Benefits costs included approximately \$58,000 in FY 2023 and \$239,000 in FY 2024. Subsequent years were inflated based on inflation factor assumptions.
- FY 2023 to FY 2027 additional Services costs of \$300,000 (FY 2023 dollars) in Operations to support compliance efforts.

The above costs are the initial anticipated costs and do not reflect the total cost of compliance.

Each cost is presented at budget level estimates and are subsequently adjusted for the respective actual to budget factor based on the class of costs and division.

RESPONSE PROVIDED BY: Philadelphia Water Department and Black & Veatch Management Consulting, LLC.

PA-II-5. REFERENCE PWD STATEMENT NO. 3 – PAGE 16. PLEASE IDENTIFY THE SPECIFIC CHANGE IN THE RAMP-UP IN CONSENT ORDER AND AGREEMENT (COA) THAT WOULD REQUIRE ADDITIONAL STAFFING. PLEASE IDENTIFY THE NUMBER OF ADDITIONAL STAFF AND THE RELATED COSTS.

RESPONSE:

Increased costs are related to the planning, design, construction and operation and maintenance of the public GSI systems to meet stormwater management goals and COA requirements. While the requirements have not changed, the commitments made by the Department under its COA increase over the 25-year term of the agreement. Stipulated Greened Acre targets in the City's Long Term Control Plan require ongoing implementation of distributed stormwater management systems:

	Year 5	Year 10	Year 15	Year 20	Year 25
Greened Acres	744	2148	3812	6424	9564

The Water Department met its cumulative 10-year greened acre COA requirement of 2,148 greened acres. The 15-year milestone greened acre COA requirement is 3,812 greened acres, meaning an additional 1,664 greened acres are needed within the next 5 years. This represents an increase of 260 greened acres (or 18.5%) compared to the previous 5-year period.

Reduced funding levels would risk failure to meet COA obligations for GSI implementation and prevent adequate maintenance of constructed GSI systems.

Additional staffing needs beginning in FY 2023 include:

Unit	Additional # of positions	Salary*
Operations and Maintenance	15	\$ 679,733.00
Planning	6	\$ 372,760.00
Design and Construction	15	\$ 915,352.00
Grand Total	36	\$ 1,967,845.00

**The Department only funded 25% of the above costs in its submitted FY2023 budget to account for hiring delays.*

In FY 2023, thirty-six (36) new positions are being added. to comply with the Consent Order and Agreement. The COA has accelerated requirements at each 5-year target which will require continued hiring of ground and facility maintenance workers in each fiscal year to maintain the disaggregated infrastructure that is required under the City's COA. The majority of which are required to meet the 15-year milestone requirements under the COA, also known as the Green City, Clean Waters ("GCCW") program.

Please note that as green infrastructure increases, so will future staffing needs for the design, implementation and maintenance of such infrastructure. As such, the updated financial plan projections include the addition of 9 positions each year for the period of FY 2024 through FY 2027.

Based on the above and in context of the updated financial plan projections the following additional staff and related costs are included:

- FY 2023 additional staffing costs included 36 positions (Construction & Engineering: 14, Operations: 15, Planning & Environmental Services: 7). FY 2023 included approximately \$0.5 million (25% of annual salary costs). FY 2024 included approximately \$2.0 million (100% of annual salary costs). Subsequent years were inflated based inflation factor assumptions.

- FY 2024 to FY 2027 staffing costs included an additional 9 positions per year. The additional costs increased from \$0.4 million in FY 2024 to \$1.8 million in FY 2027.

- Additional Pension and Benefits costs included approximately \$0.4 million in FY 2023 to \$3.4 million in FY 2027.

The estimated budget level costs for each cost areas shown above are subject to adjustment based upon actual spending (i.e.application of actual to budget factors) for the respective class of costs and division.

RESPONSE PROVIDED BY: Philadelphia Water Department and Black & Veatch Management Consulting, LLC.

PA-II-6. PLEASE IDENTIFY THE EXPECTED INCREASE IN PENSION COSTS AND
PROVIDE THE SUPPORTING DOCUMENTATION.

RESPONSE:

Refer to attachment Response to PA-II-6.

RESPONSE PROVIDED BY: Philadelphia Water Department and Black & Veatch Management
Consulting, LLC.

PA-II-7. REFERENCE PWD STATEMENT NO. 3, PAGE 17, LINES 20 TO 23. PLEASE IDENTIFY THE SPECIFIC FEDERAL ASSISTANCE PROGRAMS THAT ARE EXPECTED TO END AND SHOW HOW THOSE PROGRAMS HAVE CONTRIBUTED TO THE DEPARTMENT'S IMPROVED REVENUES.

RESPONSE:

The Cares Act, Consolidated Appropriations Act, and American Rescue Plan Act each provided direct cash payments to eligible people and expanded unemployment benefits. The American Rescue Plan Act provided for a one time increase in the Child Tax Credit (provided in the form of monthly payments which ended in calendar year 2021) and funding for emergency rental assistance. Additional federal acts would be required to provide additional assistance. These one-time assistance programs provided funds to assist people in meeting their expenses.

Note: Emergency rental assistance, specifically, has flowed to the Department in the form of Philadelphia Housing Development Corporation (PHDC) grants. PHDC provides emergency rental assistance for renters and landlords. PHDC is currently administering federal COVID relief dollars, which are applied to customer accounts. Emergency water and wastewater bill assistance through the federal Low Income Household Water Assistance Program, has also begun to be disbursed to assist customers. Each of these federal assistance efforts are one-time events and represent finite encumbrances. LIHWAP for example, will run only until September 30, 2023 or when the program expends all the funds. Emergency rental assistance expires September 20, 2022.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC. and Raftelis Financial Consultants, Inc.

1 **PA-II-8.** PLEASE EXPLAIN WHY THE DEPARTMENT ANTICIPATES A DOWNSIDE
2 RISK TO REVENUES AS FEDERAL ASSISTANCE PROGRAMS WANE. DID
3 THE FEDERAL PROGRAMS BRING NEW CUSTOMERS? PLEASE
4 EXPLAIN HOW THE FEDERAL PROGRAMS IMPROVED REVENUES.
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6 **RESPONSE:**

7 As the federal assistance programs discussed in the response to PA-II-7 wane and the
8 economy continues to navigate an uncertain economic recovery, the potential exists that
9 collections may be impacted if customers experience further disruptions due to changes in
10 economic conditions and/or the loss of employment. Also, if customers do not seek
11 assistance or other relief, they may have difficulty paying bills in a timely manner. This in
12 turn may impact collections and PWD's overall revenues.
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14 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-II-9. HAS THE DEPARTMENT RECENTLY CONDUCTED ANY
WATER/WASTEWATER SERVICE AFFORDABILITY STUDIES? IF YES,
PLEASE PROVIDE COPIES OF THE REPORT FROM THE STUDIES.

RESPONSE:

Preparation of this response is in progress and will be provided in the future.

RESPONSE PROVIDED BY: Philadelphia Water Department

PA-II-10. REFERENCE PAGE 7 OF THE FY 2022 TO FY 2027 FINANCIAL PLAN
REPORT.

- A. FOR THE FY 2022 BILLING YEAR COLLECTION FACTORS, PLEASE
PROVIDE THE CALCULATIONS AND SUPPORTING DATA FOR THE 2%
USED TO REDUCE BY COLLECTION FACTORS TO ALIGN WITH FY 2021
EXPERIENCE.
- B. FOR THE FY 2023 BILLING YEAR COLLECTION FACTORS, PLEASE
PROVIDE THE CALCULATIONS AND SUPPORTING DATA FOR THE 1%
USED TO REDUCE BY COLLECTION FACTORS.
- C. PLEASE PROVIDE THE DATA SUPPORTING THE 2% OBSERVED
DECREASE IN COLLECTION.
- D. PLEASE PROVIDE THE BASIS FOR THE ASSUMPTION THAT THE
ECONOMY WOULD BEGIN TO RECOVER IN FY 2023 AND THAT BY FY
2024 THE COLLECTION FACTORS WILL ALIGN WITH THE OVERALL
HISTORICAL AVERAGES.

RESPONSE:

- A. As discussed in Schedule BV-4: FY 2022 to FY 2027 on Page 7, the FY 2021 billing
year collection factor of 84.62% is 2% lower than the historical average billing year
collection factor of 86.66% for FY 2012 to FY 2021, as presented in Appendix C. In
addition, it is nearly 4% lower than the billing year collection factors experienced in FY
2017 and FY 2019. As noted, the FY 2022 billing year collection factor is assumed to
remain at a level similar to FY 2021. The billing year collection factor for FY 2022,
was calculated by subtracting 2% from historical average or:

$$86.66\% - 2\% = 84.66\%$$

Note – only the billing year collection factor was adjusted.

1 B. The FY 2023 billing year collection factor assumes that billing year collections will
2 recover to be 1% lower than historical average, or half the amount below the historical
3 average observed in FY 2021.

4 C. See response to Item A above.

5 D. The assumption is as stated, beginning in FY 2024, collection factors are assumed to
6 align with the historical averages.

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8 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-II-11. WITH RESPECT TO THE WAIVING OF PENALTIES DUE TO COVID, WHO
OR WHAT ENTITY DECIDES WHEN TO END THE WAIVING OF
PENALTIES?

RESPONSE:

The Revenue Commissioner/Chief Collections Officer upon the advice of the Deputy
Revenue Commissioner for Water.

RESPONSE PROVIDED BY: The City of Philadelphia

PA-II-12. REFERENCE TABLE 1-8 BEGINNING ON PAGE 8 OF THE FY 2022 TO FY 2027 FINANCIAL PLAN REPORT.

A. FOR EACH GROUP OF CLASS 100 SALARIES & WAGES, PLEASE PROVIDE THE BREAKDOWN OF THE FY 2023 COSTS SHOWING THE NUMBER OF POSITIONS AND THE RELATED COSTS.

B. FOR SERVICES PRESENTED IN THE TABLE, PLEASE IDENTIFY THE SPECIFIC SERVICES AND THE RELATED AMOUNT FOR FY 2023.

C. PLEASE IDENTIFY WHEN THE \$10 MILLION RELATED TO HURRICANE IDA IS EXPECTED TO BE INCURRED IN 2022, AND EXPLAIN WHY PWD IS INCURRING COSTS IN 2022 FOR A STORM THAT OCCURRED IN AUGUST 2021.

D. PLEASE IDENTIFY WHEN THE ONE-TIME EMPLOYEE BONUSES WILL BE PAID IN 2022 AND WHETHER THERE ARE SPECIFIC CONDITIONS TO TRIGGER PAYMENT OF THE BONUSES.

RESPONSE:

A. Please refer to response attachment PA-II-12.xls.

B. Please refer to response attachment PA-II-12.xls.

C. Fiscal Year 2022 started on July 1, 2021 and ends on June 30, 2022 which means a storm event in August 2021 falls within the Fiscal Year 2022 budget. The additional expenses began immediately following the storm event and continue as of the date of this response.

D. Preparation of this response is in progress and will be provided in the future.

RESPONSE PROVIDED BY: City of Philadelphia Water Department and Black & Veatch Management Consulting, LLC.

PA-II-13. HAS THE LABOR AGREEMENT BEEN RATIFIED? IF NOT, WHEN IS IT
EXPECTED TO BE RATIFIED?

RESPONSE:

The labor agreements have been ratified. DC 47 ratification occurred 10/14/2021
DC33 ratification occurred 9/24/2021.

RESPONSE PROVIDED BY: Philadelphia Water Department

PA-II-14. PLEASE PROVIDE THE NUMBER OF VACANCIES DUE TO
RETIREMENTS AND THE RELATED ANNUAL AMOUNTS FOR FY 2018
THROUGH FY 2021.

RESPONSE:

Please see response attachment PA-II 14,15 and 16.

RESPONSE PROVIDED BY: Philadelphia Water Department

PA-II-15. PLEASE PROVIDE THE NUMBER OF VACANCIES DUE TO REASONS
OTHER THAN RETIREMENTS AND THE RELATED ANNUAL AMOUNTS
FOR FY 2018 THROUGH FY 2021.

RESPONSE:

Please see response attachment PA-II 14,15 and 16.

RESPONSE PROVIDED BY: Philadelphia Water Department

PA-II-16. PLEASE PROVIDE THE NUMBER OF VACANT POSITIONS AS OF THE
END OF FY 2021 AND THE RELATED ANNUAL AMOUNTS.

RESPONSE:

Please see response attachment PA-II 14,15 and 16.

RESPONSE PROVIDED BY: Philadelphia Water Department

PA-II-17. PLEASE PROVIDE SUPPORT FOR THE 4.0% AND 4.5% INTEREST RATES
PRESENTED ON PAGE 12 OF THE FY 2022 TO FY 2027 FINANCIAL PLAN
REPORT.

RESPONSE:

Please refer to response attachment PA-II-17.

RESPONSE PROVIDED BY: Financial Advisors

PA-II-18. PLEASE PROVIDE THE BOND ISSUANCE COST PERCENTAGE FOR
EACH BOND ISSUED DURING FY 2018 THROUGH 2021.

RESPONSE:

Please refer to response attachment PA-II-18.

RESPONSE PROVIDED BY: Philadelphia Water Department and Black & Veatch Management
Consulting, LLC.

PA-II-19. PLEASE EXPLAIN THE REASON FOR THE CHANGE IN THE DEBT
SERVICE COVERAGE FROM 1.20 IN THE 2021 RATE CASE FILING TO
1.30 IN THE FY 2022 TO FY 2027 FINANCIAL PLAN REPORT.

RESPONSE:

The minimum debt service coverage was proposed for the prior proceeding due to
pandemic.

RESPONSE PROVIDED BY: Philadelphia Water Department, PFM Financial Advisory, LLC.
and Acacia Financial Group, Inc. and Black & Veatch Management Consulting, LLC.

PA-II-20. PLEASE PROVIDE THE SUPPORTING CALCULATIONS FOR THE 5.8% INFLATION ESCALATION AS PRESENTED ON PAGE 13 OF THE FY 2022 TO FY 2027 FINANCIAL PLAN REPORT.

RESPONSE:

As stated in PWD Statement 3, Schedule BV-4, the net plant investment is inflated 5.8% per year based on the average annual increase in net plant investment during FY 2019 and FY 2020. The following table summarizes the supporting data.

Fiscal Year	Net Plant Investment	Annual Increase
2019	\$2,655,300,000	6.73%
2020	\$2,783,276,000	4.82%
2 Year Average		5.77%

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-II-21.** AS DISCUSSED ON PAGE 16 OF THE FY 2022 TO FY 2027 FINANCIAL
2 PLAN REPORT, PLEASE IDENTIFY THE AMOUNT INCLUDED IN THE
3 COST OF SERVICE TO RESTORE ACTIVITIES TO PRE-COVID
4 OPERATIONS.

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6 **RESPONSE:**

7 Please note that Statement 3, Schedule BV-4 is a Financial Plan Study and not a Cost of
8 Service Study.

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10 The Financial Plan Study does not include any costs to restore activities to pre-COVID
11 operations. As noted on page 15 of PWD Statement 3 Schedule BV-4, “While the
12 financial plan beings to address some of these elements, the full impacts are not yet known
13 at this time.”

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15 **RESPONSE PROVIDED BY:** Philadelphia Water Department and Black & Veatch Management
16 Consulting, LLC.

PA-II-22. WITH RESPECT TO THE REDUCED CONSUMPTION, AS DISCUSSED ON
PAGE 17 OF THE FY 2022 TO FY 2027 FINANCIAL PLAN REPORT,
PLEASE PROVIDE THE SUPPORTING DATA SHOWING THE REDUCTION
IN CONSUMPTION.

RESPONSE:

PWD Statement 3, Schedule BV-4 at Appendix A presents the historical billed usage per
account by customer type for FY 2019 to FY 2021 and the historical average change on a
1 Year, 2 Year and 3 Year basis.

PWD Statement 3, Schedule BV-4, Table 1-3 (page 6), also presents the historical annual
billed volume (consumption) per account for General Service customers with 5/8" meters
during FY 2015 to FY 2021 and the resulting annual change and two-year average change.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

PA-II-6

Expected Increase in Pension & Benefit Costs

	2022	2023	2024	2025	2026	2027	Reference
Initial Projection (a)	\$ 129,819,399	\$ 134,604,095	\$ 138,824,845	\$ 141,681,561	\$ 144,845,299	\$ 148,071,402	Finplan Model Other Dept O&M-1
Adjustment - Additional Staffing (b)	\$ -	\$ 839,000	\$ 3,839,000	\$ 4,299,000	\$ 4,798,000	\$ 5,323,000	Finplan Model Other Dept O&M-2
Total (c)	\$ 129,819,399	\$ 135,443,095	\$ 142,663,845	\$ 145,980,561	\$ 149,643,299	\$ 153,394,402	Finplan Model Other Dept O&M-3

Notes:

(a) Initial projection of Pension & Benefit costs provided by City Finance as of 1/12/2022

(b) Additional Pension & Benefit costs associated with additional staffing. Costs estimated based upon City's estimated pension costs as a percentage of salary (PWD Statement 3, BV-4, Table 1-8)

Class	Description	Fiscal Year(s)	Budget Estimate	Actual to Budget Factor	Adjustment Amount	Positions	Purpose	Notes
100	Salaries & Wages	2023			\$0.7 million	9	Continued shift in staffing from 9 Positions in Construction & Capital to Operating Budget.	Engineering
100	Salaries & Wages	2023			\$1.0 million	71	Planned FY 2023 additions of 71 new staff positions in Construction & Engineering, Planning & Environmental Services, Operations, Public Affairs, and Human Resources.	Reflects 25% of annual salary costs. See breakdown below.
100	Salaries & Wages	2023			\$1.0 million	NA	Restoration of Temporary Staffing & Other Expenses.	Return budget levels to pre-covid levels

Breakdown:

Class	Description	Fiscal Year(s)	Budget Estimate	Actual to Budget Factor	Adjustment Amount	Positions	Purpose	Notes
			Million \$		Million \$			
Human Resources and Administration								
			0.15	96.16%	0.14	10	Ongoing Operations	
Construction and Engineering								
			0.01	93.86%	0.01	1	Lead & Copper	
			0.19	93.86%	0.18	14	COA	
Operations								
			0.21	94.63%	0.20	15	COA	
			0.13	94.63%	0.12	9	Ongoing Operations	
Planning & Environmental Services								
			0.06	98.85%	0.05	4	Lead & Copper	
			0.10	98.85%	0.10	7	COA	
			0.12	98.85%	0.12	8	Ongoing Operations	
Public Affairs								
			0.04	99.32%	0.04	3	Ongoing Operations	
TOTAL								
			1.00		0.96	71		

Class	Description	Fiscal Year(s)	Budget Estimate	Actual to Budget Factor	Adjustment Amount	Purpose
200	Services	2023			\$7.9 million	Additional ongoing contract services related to regulatory compliance, climate change assessments, and customer service programs.

Breakdown:

Class	Description	Fiscal Year(s)	Budget Estimate	Actual to Budget Factor	Adjustment Amount	Purpose
			Million \$		Million \$	
Operations						
			1.2			The Greened Acre Retrofit Program supports Consent Order and Agreement (COA) requirements as it provides a pathway for the Department to take compliance credit for Greened Acres on project sites that would otherwise be inaccessible
			0.3			To support compliance with the Lead and Copper Rule
			4.5			Increased maintenance at Plants, Fairmount Dam, Cogen, and Sewer Maint
	Subtotal		6.00	86.08%	5.16	
Planning & Environmental Services						
			0.8			Increased flow monitoring and vulnerability climate change assessment
			0.95			Germantown SFR Planning and Research support services such as piloting
	Subtotal		1.75	97.00%	1.70	
Public Affairs						
			0.67			Customer Assistance Program outreach effort (Tiered Assistance Program)
			0.35			Raincheck, digital media planning and source water education
	Subtotal		1.02	98.41%	1.00	
TOTAL						
					7.87	

PA-II 14, 15 and 16

Water Fund

Full Time Position Summary

Operating	FY 22		FY 21		FY 20		FY 19		FY18	
	12/31/2021	Budget	Year -End	Budget	Year -End	Budget	Year -End	Budget	Year -End	Budget
Office of Innovation & technology	92	108	91	108	86	107	83	106	85	97
Office of Fleet Management	43	59	45	59	54	59	54	58	52	58
Water Department	1938	2314	1922	2281	1989	2242	1891	2188	1887	2073
Revenue	168	232	193	232	205	232	206	232	205	232
Procurement	2	2	2	2	1	2	2	2	1	2
Law	36	29	28	29	30	30	31	32	26	32
Mayor's Office of Transportation									-	-
Water, Sewer & Stormwater Rate Board	1	1	1	1	1	1	1	1		
Operating Total	2,280	2,745	2,282	2,712	2,366	2,673	2,268	2,619	2,256	2,494
Capital	FY 22		FY21		FY20		FY19		FY18	
Capital Total	181	199	204	212	178	229	241	330	258	337
Operating & Capital (Total Positions)	2,461	2,944	2,486	2,924	2,544	2,902	2,509	2,949	2,514	2,831
Total Vacancy	483		438		358		440		317	
Class 101 savings (a)	b	\$ 5,900,000		\$ 5,531,068		\$ 1,206,455		\$ 8,825,194		\$ 10,639,585
Class 161 OT saving (overspending) (a)	b	\$ 1,482,000		\$ 3,666,774		\$ 1,818,405		\$ 461,299		\$ (803,220)

a. Class 101 savings results from surplus of Budget over Actual. Since vacancies are budgeted at 25% on average these savings resulted from higher than expected vacancy or delays in hiring. Class 161 (overtime) is presented because high vacancy can put pressure on overtime.

b. Estimate based on 50% of budget

Vacancy's Due to Retirement and Other	FY2022 as of 12-31-21		FY2021		FY2020		FY2019		FY2018
Vacancy due to retirement	31		84		40		59		27
Regular Employee Vacancy other than retirement	56		75		72		76		35
Temp Employee Vacancy	40		26		148		22		42
Total	127		185		260		157		104



March 2, 2022

Memorandum

TO: City of Philadelphia Water Department
FROM: Katherine Clupper, Managing Director, PFM Financial Advisors LLC
Peter Nissen, Managing Director, Acacia Financial Group, Inc.
RE: Interest Rate Assumptions for Financial Planning Purposes

Introduction

The purpose of this memorandum ("Memorandum") is to provide rationale and context for interest rate assumptions used by the Philadelphia Water Department ("PWD" or "Department") to prepare debt service budgets for fiscal years 2023 through 2027. This memorandum is submitted by PFM Financial Advisors, LLC ("PFM") and Acacia Financial Group, Inc. ("Acacia"), as financial advisors to the Department. The information herein is based upon PFM's and Acacia's knowledge of the Department's historical pricing results, as well as the overall municipal bond market.

Assumptions

The table below details the recommended assumptions to be used when budgeting debt service to be paid by PWD over the next five fiscal years. All series utilize a structure that pays a level amount of debt service each fiscal year.

City of Philadelphia Water Department Interest Rate Assumptions for Budgeted Debt Service			
Fiscal Year	Term	Par (000)	Cost of Capital
2023	30 years	\$400,000	4.00%
2024	30 years	\$390,000	4.50%
2025	30 years	\$535,000	5.00%
2026	30 years	\$700,000	5.00%
2027	30 years	\$575,000	5.00%

Historical Pricing

Over the course of the previous five fiscal years (2018-2022), PWD has issued four series of new money bonds to fund various capital projects. A summary of those four series can be found below:

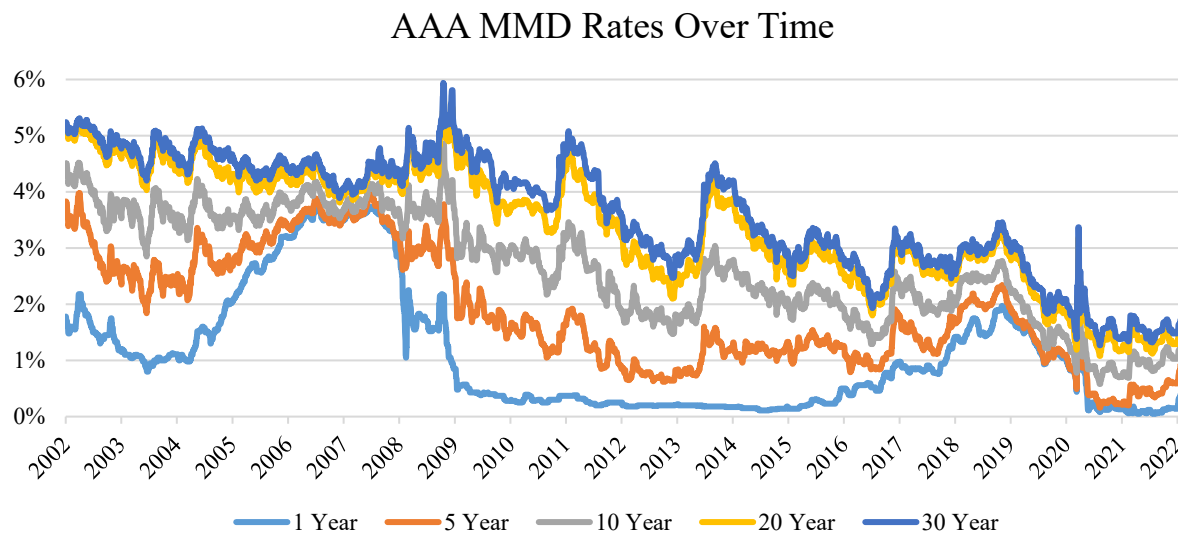
City of Philadelphia Water Department Historical Pricing Results				
Fiscal Year	Series	Maturities	Par (000)	Cost of Capital
2022	2021C	2023-2051	\$231,930	2.81%
2021	2020A*	2035-2050	\$170,605	3.24%
2020	2019B	2023-2054	\$250,660	3.63%
2019	2018A	2019-2053	\$276,935	4.39%

*Only reflects the new money portion of the Series 2020A Bonds

When determining the interest rates to be used in budgeting debt service to be paid by the Department over the next five fiscal years, PFM and Acacia believe it is relevant to consider recent pricing results as a guide with regards to current assumptions. All four of these series were issued on a tax-exempt basis with amortization schedules of at least 30 years. No series meeting these criteria was issued in fiscal year 2018.

Historical Interest Rates

The chart below illustrates the movement of the AAA MMD interest rates over the past twenty years.



While municipal rates are no longer at the all-time lows they have been over the past few years, they are still at relative lows when viewed through a wider historical lens. Nevertheless, dramatic shifts in rates across curve in a short period of time are not uncommon, as can be seen in the numerous peaks and valleys above. Additionally, the general market consensus for future rates is higher owing to comments from the Federal Reserve indicating multiple forthcoming short term rate increases to combat inflationary pressures.



Conclusion

PFM and Acacia both consider the assumed rates and terms used when determining the budgeted debt service for fiscal years 2023 through 2027, which increases from 4.00% to 5.00% over the course of the projections, are reasonable while remaining on the conservative side. The latter is important not only to provide a cushion within the budgeted cashflows, but also because, notwithstanding current market sentiment, no one can predict with certainty the direction of interest rates across the municipal bond market, a fact highlighted by the change of the cost of capital by 1.58% between the issuance of Series 2018A and Series 2021C. The term of thirty years and level debt service calculations represent conservative assumptions and are generally viewed as best practices when financing projects with useful lives similar to those of PWD.

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Fiscal Year	Delivery Date	Series	Issuance Cost	Face Value	Ratio
2022	10/7/2021	2021C	1,612,659	231,930,000	0.70%
2021	6/30/2021	2021B	2,291,309	368,720,000	0.62%
2021	10/7/2020	2020	256,852.00	127,740,000	0.20%
2021	8/6/2020	2020B	681,664	95,025,000	0.72%
2021	8/6/2020	2020A	1,494,143	201,530,000	0.74%
2020	8/14/2019	2019B	1,752,210	250,660,000	0.70%
2019	2/27/2019	2019A	736,505	68,335,000	1.08%
2019	11/28/2018	2018A	1,842,583	276,935,000	0.67%
2018	8/10/2017	2017B	1,302,300	174,110,000	0.75%
		Total	11,970,225	1,794,985,000	0.67%