

RESPONSE TO
PUBLIC ADVOCATE'S INTERROGATORIES
AND
REQUESTS FOR PRODUCTION OF DOCUMENTS
QUESTIONS 1-29

Dated: February 2021

1 **PA-IV-1.** REFERENCE STATEMENT NO. 7A, Q/A 12. PLEASE PROVIDE A
2 COMPLETE COPY OF THE ANALYSIS SUPPORTING THE DEVELOPMENT
3 OF STEP 1: THE PROJECTIONS OF GROSS BILLINGS IN EXCEL FORMAT
4 WITH ALL FORMULAS INTACT.

5
6 **RESPONSE:**

7 Please refer to the responses to PA-ADV-4 and PA-ADV-5 for information regarding the
8 development of demand escalation factors. The Excel version of projected gross billings is
9 included in the requested models provided in response to PA-IV-11. The workpapers for
10 projected gross billings are also provided in PWD Exhibit-6: Black & Veatch
11 Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3,
12 and BV-5, Finplan21_22, Customer Worksheet. Refer to Customer-7 for projected gross
13 water billings, Customer-15 for projected gross sewer billings, and Customer-38 for
14 projected stormwater billings. All gross billings are presented in the context of existing
15 rates.

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17 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-2.** REFERENCE STATEMENT NO. 2, Q/A 46. PLEASE PROVIDE A COMPLETE
2 COPY OF THE ANALYSIS SUPPORTING THE CHANGE IN THE
3 STORMWATER MANAGEMENT FEE IN LIEU OF CHARGES.
4

5 **RESPONSE:**

6 The analysis supporting the proposed changes to the Stormwater Management Fee in Lieu
7 is provided in Appendix A of Schedule BV-6: WP-5, "*Miscellaneous Fees Methodology.*"
8 Please refer to page 55 of the white paper.
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10 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-3.** REFERENCE STATEMENT NO. 7A, PAGE 38, LINES 7-17. PLEASE
2 PROVIDE THE ANALYSIS/DOCUMENTATION SUPPORTING THE CLAIM
3 THAT TOTAL IA INCREASED BY 87.5 MILLION SQ. FT. AND
4 RESIDENTIAL IA INCREASED BY 72.5 MILLION SQ. FT.

5
6 **RESPONSE:**

7 The increase in impervious area is due to the updated stormwater billing data, which is
8 detailed in Schedule BV-6: WP-2 – Stormwater Units of Service.

9
10 As discussed on page 2 of the aforementioned white paper: *“The Water Department*
11 *recently obtained updated Stormwater Billing Data developed using [based upon 2015]*
12 *aerial and infrared imagery. The updated data set provides new impervious area and*
13 *gross area data for billing purposes for properties City-wide. The City-wide total*
14 *impervious area is 1,299 million square feet (sf) and the total gross area is 2,447 million*
15 *sf. Table 1 below presents the impervious area under the prior dataset1 and the updated*
16 *data set.”*

17 **Table 1 Impervious Area Change by Customer Class**

Line No.	Description	Prior Dataset (Square Feet)	Updated Dataset (Square Feet)	Variance (Square Feet)
1	Initial Impervious Area-Residential	482,687,000	554,204,000	72,517,000
2	Initial Impervious Area-Non- Residential	706,470,000	718,062,000	11,592,000
3	Initial Impervious Area-Condominium	22,198,000	25,635,000	3,437,000
4	Initial Impervious Area-Total	1,211,355,000	1,298,901,000	87,546,000

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27 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-4.** REFERENCE STATEMENT NO. 7A, PAGE 39, LINES 1-25. PLEASE
2 IDENTIFY THE IMPACT OF STORMWATER CREDITS ON TOTAL
3 RESIDENTIAL, AND NON-RESIDENTIAL GA AND IA FROM THOSE USED
4 TO SET RATES IN THE TWO PRIOR CASES.

5
6 **RESPONSE:**

7 The table below provides the impact of stormwater credits on total residential, non-residential,
8 and condominium GA and IA. The credit amount reflects the reduction in the billable units of
9 service used to set rates. The credits set forth in the following table are associated with non-
10 residential and condominium customers. Residential customers are not eligible for stormwater
11 credits.

12
13 Total Impact of Credits on Billable Stormwater Units of Service

		FY 2016 Rate Proceeding		FY 2018 Rate Proceeding	
Line	Description	FY 2017	FY 2018	FY 2019	FY 2020
14					
15	No.				
16					
17	1 Impervious Area (SF)	98,006,660	107,239,980	108,341,119	115,721,711
18	2 Gross Area (SF)	274,831,520	291,187,590	352,820,378	372,241,706
19					

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22 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-5.** PLEASE IDENTIFY EACH STORMWATER CREDIT GA AND IA
2 ADJUSTMENT AUTHORIZED FOR THE LAST THREE YEARS. IDENTIFY
3 FOR EACH ADJUSTMENT, THE CUSTOMER'S GA AND IA BEFORE THE
4 ADJUSTMENT AND AFTER THE ADJUSTMENT.

5
6 **RESPONSE:**

7 Please see response attachment PA-IV-5.

8
9 The workbook includes a summary of all of the credit applications, based upon PWD records,
10 that are applicable for Fiscal Year 2018 through Fiscal Year 2020 and the associated area and
11 credit information by parcel. Many parcels have multiple credit applications during the above
12 period primarily due to renewals, so such parcels have multiple entries in the workbook.

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14 **RESPONSE PROVIDED BY:** Philadelphia Water Department
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1 **PA-IV-6. REFERENCE TABLE W-10:**

2 A. PLEASE PROVIDE A DETAILED BREAKDOWN OF LINE ITEMS 3, 7, AND
3 11; AND

4 B. PLEASE PROVIDE A REPRESENTATION EXAMPLE OF THE INVOICES
5 FOR PURCHASED GAS EXPENSES.

6
7 **RESPONSE:**

8 A. A detailed breakdown of Line item 3, Raw Water Power & Pumping – Other operation and
9 maintenance expenses, is presented on PWD Exhibit-6: Black & Veatch Management
10 Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5,
11 Womallo-14, Line 4 (Raw Water Power & Pumping - Baxter Treatment Plant - All Other
12 Costs) and Line 8 (Raw Water Power & Pumping – All Other Treatment Plants - All Other
13 Costs). The O&M expenses allocated to the Raw Water Power & Pumping – Other function
14 include a proportionate share of the Operations Division load control, machine shop and
15 materials management units, and a proportionate share of Water Fund administrative and
16 general costs.

17
18 A detailed breakdown for Line item 7, Purification and Treatment – Power and Pumping –
19 Other expenses, is presented on PWD Exhibit-6: Black & Veatch Management Consulting,
20 LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, Womallo-14, Line
21 26 (Treatment – Treated Water Power & Pumping - Baxter Treatment Plant - L.S. - All
22 Other Costs) and Line 30 (Treatment - Treated Water Power & Pumping - All Other
23 Pumping - All Other Costs). The O&M expenses allocated to the Treatment - Treated Water
24 Power & Pumping - All Other Pumping - All Other Costs function a proportionate share of
25 the Operations Division load control, machine shop and materials management units, and a
26 proportionate share of Water Fund administrative and general costs.

1 A detailed breakdown for Line item 11, Purification and Treatment - Treatment – Other
2 expenses, is presented on PWD Exhibit-6: Black & Veatch Management Consulting, LLC,
3 Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, Womallo-14, Line 15
4 (Treatment - Purification - Baxter Treatment Plant - All Other Costs) and Line 21
5 (Treatment - Purification - All Other Treatment Plants - All Other Costs). The O&M
6 expenses allocated to the Purification and Treatment - Treatment - Other function include
7 the Operation Division treatment plant and treatment headquarters costs, proportionate
8 share of the Operations Division machine shop and materials management unit, and a
9 proportionate share of Water Fund administrative and general costs.

10
11 Note - the same allocation process for the above referenced costs was utilized in and is
12 consistent with prior proceedings.

13
14 B. Gas expenses are allocated based on a summary of FY 2019 and FY 2020 annual gas costs
15 as provided by the Department (PWD Exhibit-6: Black & Veatch Management Consulting,
16 LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, WCOS19,
17 WOMALLO-6, page 831).

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19 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-7.** REFERENCE TABLE WW-14. PLEASE EXPLAIN HOW THE
2 PERCENTAGES IN FOOTNOTE (A) WERE DETERMINED. PROVIDE
3 SUPPORTING WORKPAPERS AND CALCULATIONS.
4

5 **RESPONSE:**

6 The percentages in Footnote (A) of Table WW-14 are based on the ratio of average dry weather
7 flow to average wet weather flow, and are consistent with analogous percentages used in prior
8 rate proceedings (PWD Statement 7A, Schedule BV-5, page 7-36).
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10 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-8.** REFERENCE TABLES SW-3 SW-4, AND SW-5. PLEASE PROVIDE ACTUAL
2 DATA FOR THE LAST FIVE YEARS FOR EACH TABLE.
3

4 **RESPONSE:**

5 Please refer to response attachment PA-IV-8.pdf.
6

7 In reference to table SW-3 (Determination of Billable Gross Area), see table PA-IV-8
8 TABLE 1 for last five years of historical billable Gross Area.
9

10 In reference to table SW-4 (Determination of Billable Impervious Area), see table PA-IV-8
11 TABLE 2 for last five years of historical billable Impervious Area.
12

13 In reference to table SW-5 (Credit projections), see table PA-IV-8 TABLE 3 for last five
14 years of historical number of parcels receiving credits and impervious and gross area credits.
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16 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-9.** REFERENCE TABLE SW-5. PLEASE PROVIDE A DETAILED
2 EXPLANATION OF LINE ITEMS 1-3 AND 5-7.

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4 **RESPONSE:**

5 Line No. 1-3 and 5-7 of Table SW-5: Credit Projections are described in Schedule BV-6: WP-
6 2 – Stormwater Units of Service.

7
8 Line No. 1 represents the total number of parcels projected to receive Impervious Area
9 Reduction (IAR) Credits.

10
11 Line No. 2 represents the total number of parcels projected to receive GA/IA Management
12 Practice Credits.

13
14 Line No. 3 represents the total number of parcels projected to receive stormwater credits as a
15 results of the Stormwater Management Incentive Program (SMIP) and the Greened Acre
16 Retrofit Programs (GARP).

17
18 Line No. 5 represents the reduction in billable impervious area resulting from Impervious
19 Area Reduction (IAR) Credits.

20
21 Line No. 6 represents the reduction in billable impervious area resulting from GA/IA
22 Management Practice Credits.

23
24 Line No. 7 represents the reduction in billable impervious area from stormwater credits
25 resulting from SMIP/GARP.

26
27 For all of the line items noted above, the figures reflected in the table include both existing
28 credits, as of the end of FY 2020, and projected credits thereafter.

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The Factors used to project GA/IA Management Credit for are presented in Table SW-11 and further discussed in the aforementioned white paper.

Projection of GA/IA Management Practice Credits as well as SMIP/GARP Credits are described in the aforementioned white paper.

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

1 **PA-IV-10.** REFERENCE TABLE SW-12. PLEASE PROVIDE ACTUAL DATA FOR THE
2 LAST FIVE YEARS.

3

4 **RESPONSE:**

5 In reference to table SW-12 (Projected number of Billable Accounts), see table PA-IV-10
6 TABLE 1 of response attachment PA-IV-10.pdf for last five years of historical billable
7 accounts.

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

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1 **PA-IV-11.** PLEASE PROVIDE COPIES OF THE COMPANY’S WATER, WASTEWATER,
2 AND STORMWATER COST OF SERVICE STUDIES IN MICROSOFT EXCEL
3 FORMAT WITH ALL FORMULAS INTACT. ALSO, INCLUDE ALL
4 SUPPORTING SCHEDULES AND WORKPAPERS IN EXCEL FORMAT
5 WITH ALL FORMULAS INTACT.
6

7 **RESPONSE:**

8 The Microsoft Excel-based model files were provided to the Public Advocate following the
9 execution of a confidentially agreement.
10

11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-12.** PLEASE EXPLAIN IN DETAIL ANY CHANGES IN THE COST
2 ALLOCATION AND RATE DESIGN METHODOLOGIES SINCE THE LAST
3 PROCEEDING.
4

5 **RESPONSE:**

6 There are no significant changes in the cost allocation and rate design methodologies since
7 the last proceeding. Note that the response to Question 35 in PWD Statement 7A, Direct
8 Testimony of Black & Veatch, identifies a revision to the allocation of water distribution-
9 related operating and maintenance expenses.
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11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-13.** PLEASE EXPLAIN IN DETAIL THE BASIS FOR ANY CHANGES IN THE
2 WATER CUSTOMER CLASS DEMAND FACTORS COMPARED TO THE
3 LAST PROCEEDING.
4

5 **RESPONSE:**

6 There are no changes in the water customer class demand factors compared to the prior
7 proceeding.
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9 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-14.** FOR EACH OF THE PAST THREE FISCAL YEARS, PLEASE PROVIDE FOR
2 THE WATER SYSTEM:

- 3 A. SYSTEM AVERAGE DAY PRODUCTION;
4 B. SYSTEM MAXIMUM DAY PRODUCTION; AND
5 C. SYSTEM MAXIMUM HOUR PRODUCTION.
6

7 **RESPONSE:**

8 System Average Day and Maximum Day Production reflect the Total Water Treatment
9 Plant Output presented in PWD Exhibit-6: Black & Veatch Management Consulting, LLC,
10 Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, WCOS21_22, Wpltallo
11 Worksheet (page 820).
12

13 System Maximum Hour is recorded based on the Total System Water Delivered (Total
14 Districts) presented in PWD Exhibit-6: Black & Veatch Management Consulting, LLC,
15 Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, WCOS21_22, Wpltallo
16 Worksheet (page 821).
17

18 **A. SYSTEM AVERAGE DAY PRODUCTION**

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FY 2018	FY 2019	FY 2020
222.6 MGD	221.8 MGD	220.3 MGD

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22

23 **B. SYSTEM MAXIMUM DAY PRODUCTION; AND**

24

FY 2018	FY 2019	FY 2020
303.9 MGD	258.1 MGD	259.7 MGD

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1 C. SYSTEM MAXIMUM HOUR PRODUCTION

2

FY 2018	FY 2019	FY 2020
346.0 MGD	330.9 MGD	326.0 MGD

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5
6 Note that the Maximum Hour Demand Factors are based on the Total System Water
7 Delivered (Total Districts) presented in PWD Exhibit-6: Black & Veatch Management
8 Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5,
9 WCOS21_22, Wpltallo Worksheet (page 821).

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11 MGD = Millions of gallons per day

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13 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-15.** PLEASE PROVIDE A COPY OF PWD'S MOST RECENT LONG-TERM
2 WATER SUPPLY PLAN.

3
4 **RESPONSE:**

5 The Department's full document is not publicly available due to security concerns. An
6 overview of the plan is available via the following link:

7 https://www.phila.gov/water/wu/Documents/PWD_DrinkingWaterMasterPlan.pdf

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9 **RESPONSE PROVIDED BY:** Stephen J. Furtek, Philadelphia Water Department
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1 **PA-IV-16.** PLEASE PROVIDE AN ESTIMATE OF THE QUANTITY OF WATER USED
2 FOR PUBLIC FIREFIGHTING FOR EACH OF THE LAST THREE YEARS.

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4 **RESPONSE:**

5 The Department does not have an estimate on the quantity of water used for firefighting
6 purposes for each of the last 3 years. However, for purposes of water accountability, an
7 estimate of 55MG/year is currently being used.

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9 **RESPONSE PROVIDED BY:** Donna Schwartz, Philadelphia Water Department

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PA-IV-17. FOR EACH CUSTOMER CLASS REFLECTED IN THE WATER CLASS COST OF SERVICE STUDY, PLEASE PROVIDE MONTHLY SALES FOR THE MOST RECENT 36-MONTH AVAILABLE IN EXCEL FORMAT.

RESPONSE:

Please refer to response attachment PA-IV-17.xlsx

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

1 **PA-IV-18.** PLEASE EXPLAIN IN DETAIL HOW THE MAXIMUM DAY AND
2 MAXIMUM HOUR CAPACITY FACTOR FOR EACH CLASS IN THE
3 WATER CLASS COST OF SERVICE STUDY WAS DETERMINED
4 (INCLUDING PUBLIC AND PRIVATE FIRE). INCLUDE SUPPORTING
5 CALCULATIONS IN EXCEL FORMAT.
6

7 **RESPONSE:**

8 As noted in Section 4.5.2 of Schedule BV-5 on Page 4-9, the customer type extra capacity
9 factors from previous cost of service studies and rate proceedings were used. Based on the
10 following factors, Black & Veatch continued to utilize the results of the capacity factor
11 analysis performed for the prior rate proceeding:

- 12 • The FY 2018 system peak maximum day to average day ratio of 1.39 is consistent
13 with the historical peak maximum day to average day ratio of 1.40 reflected in the
14 capacity factor analysis from prior rate proceedings.
- 15 • The FY 2016 system peak maximum hour to average day ratio of 1.92 remains the
16 historical peak; this data point is reflected in the capacity factor analysis from the
17 prior rate proceedings.
- 18 • A high-level review of the FY 2018 monthly billing data by customer type
19 revealed that the maximum month for some customer types was impacted by a
20 change in the number of bills issued during the monthly billing period, which
21 resulted in overstating the maximum month to average day ratio of the
22 corresponding customer types. Therefore, we do not feel it is appropriate to use
23 FY 2018 in the context of this analysis. This data is under further review.
- 24 • Feedback provided by participants during the Alternative Rate Structure suggested
25 that PWD should further evaluate the customer impacts of potential rate structure
26 changes related to further adjustments with respect to the current declining block
27 rate structure for water usage. Therefore, additional adjustments were not included
28 as part of this rate proposal.

1 The prior capacity factor analysis was completed according to the methodology
2 outlined in Appendix A of AWWA Manual M-1: Principles of Water Rates, Fees,
3 and Charges. Accordingly, at the time of the analysis, Black & Veatch used the
4 monthly customer billing data, and system historical peak demands, and weekly
5 and hourly usage adjustments to derive an estimate of capacity factors for each
6 customer type.

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8 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-19.** PLEASE IDENTIFY THE ANNUAL QUANTITIES OF NON-REVENUE
2 WATER BY TYPE FOR THE MOST RECENT THREE-YEAR PERIOD
3 AVAILABLE. ALSO, IDENTIFY ANNUAL WATER PRODUCTION FOR THE
4 SAME FIVE ANNUAL PERIODS.

5
6 **RESPONSE:**

7 Response attachment response PA-IV-19 is the standard International Water Association /
8 AWWA water balance for the Department for the last five years with key definitions. A
9 detailed description of the water balance can be found in the AWWA M36 Manual.

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11 **RESPONSE PROVIDED BY:** The Philadelphia Water Department
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1 **PA-IV-20.** SINCE ITS LAST CASE, HAS THE PWD CONDUCTED A
2 COMPREHENSIVE HOLISTIC REVIEW OF ITS RATE STRUCTURE FOR
3 WATER SERVICE UNDER WHICH SEPARATE RATE SCHEDULES WERE
4 CONSIDERED FOR CERTAIN CUSTOMER CLASSES? IF NO, WHY NOT?
5 IF YES, PLEASE DESCRIBE THIS REVIEW IN DETAIL AND PRESENT ALL
6 RESULTS AND FINDINGS OF THE REVIEW.
7

8 **RESPONSE:**

9 Since the last rate proceeding, PWD conducted an Alternative Rate Structure Analysis, a
10 facilitated process to consider changes to its rate structure in three areas: water quantity
11 charges, stormwater credits and incentives, and recovery of pension-related expenses. The
12 Department recognizes that a comprehensive review of the current rate structure and
13 analysis of alternative ratemaking methodologies is a lengthy and ongoing process, and
14 the information presented in the Alternative Rate Structure Analysis Report is the first
15 step.
16

17 The Alternative Rate Structure Analysis Report is available on the Water, Sewer and
18 Storm Water Rate Board's website:

19 [https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-](https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-2019.11.05.pdf)
20 [2019.11.05.pdf](https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-2019.11.05.pdf)
21

22 As noted on page 8 of the Alternative Rate Structure Analysis Report: "the City's existing
23 billing system has many limitations and in particular, concerning customer types. Prior to
24 implementing any rates by customer type, the Department would need to address these
25 limitations and verify all customer types."
26

27 **RESPONSE PROVIDED BY:** The Philadelphia Water Department, Black & Veatch Management
28 Consulting, LLC.

1 **PA-IV-21.** PLEASE PROVIDE AN ESTIMATE OF THE REVENUE REDUCTIONS
2 RESULTING FROM STORMWATER CREDITS FOR THE LAST FIVE
3 FISCAL YEARS.

4
5 **RESPONSE:**

6 **CITY OF PHILADELPHIA WATER DEPARTMENT**
7 **FOR THE FISCAL YEARS ENDED JUNE 30, 2020, 2019, 2018, 2017, AND 2016**

Program	Program Type	FY2020	FY 2019	FY 2018	FY 2017	FY 2016
Phase in Program (CAP)	Bill Reduction	1,722,703	2,003,238	2,011,096	2,531,367	3,282,654
Stormwater Credits	Bill Reduction	18,740,626	17,988,320	16,038,856	13,819,758	12,864,862
Community Gardens	Bill Reduction	1,478	9,966	14,320	-	-
Total		\$20,464,807	\$20,001,524	\$18,064,272	\$16,351,125	\$16,147,516

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12 **RESPONSE PROVIDED BY:** Melissa LaBuda Philadelphia Water Department
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1 **PA-IV-22.** PLEASE PROVIDE A COPY OF ANY STUDIES PERFORMED BY THE
2 DEPARTMENT THAT EVALUATE THE EXTENT TO WHICH THE
3 STORMWATER CREDIT PROGRAM HAS REDUCED STORMWATER
4 VOLUMES.

5
6 **RESPONSE:**

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

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9 **RESPONSE PROVIDED BY:** The Philadelphia Water Department

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1 **PA-IV-23.** REFERENCE SCHEDULE BV-4. PLEASE PROVIDE THE WORKPAPERS
2 AND CALCULATIONS SUPPORTING EACH NEWLY CALCULATED
3 CHARGE.

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5 **RESPONSE:**

6 The workpapers supporting Schedule BV-4 are provided in Appendix A of Schedule BV-
7 6: WP-5 entitled "Miscellaneous Fees Methodology."

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

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1 **PA-IV-24.** WHAT IS THE POPULATION OF PWD'S WATER SERVICE TERRITORY?
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3 **RESPONSE:**

4 The Water System's service area includes the City and one wholesale customer outside of
5 the City. According to the 2018 U.S. Census Bureau estimate, the City's population is
6 1,584,138.
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8 **RESPONSE PROVIDED BY:** Melissa LaBuda, Philadelphia Water Department
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1 **PA-IV-25.** REFERENCE BV-1, TABLE W-10. PLEASE IDENTIFY BY LINE-ITEM
2 NUMBER, THE COSTS ASSOCIATED WITH WATER QUALITY TESTING
3 REFLECTED IN TEST YEAR O&M EXPENSE.
4

5 **RESPONSE:**

6 The estimated FY 2022 costs of the Bureau of Laboratory Services (BLS) are included in
7 the following line items in Table W-10.
8

9

10 Line		
No.	Description	FY 2022 Costs
11 3	Raw Water Pumping – Other	\$ 142,084
12 7	Purification & Treatment – Power & Pumping – Other	\$ 540,576
13 11	Purification & Treatment – Other – Other	\$ 2,276,381
14 15	Mains	\$ 2,894,336
15 16	Meters	\$ 90,788
16 17	Fire Hydrants	\$ 25,125
17 18	Filtered Water Storage	\$ 46,881
18 20	Customer Accounting & Collection	\$ 563,660
19 22	Administrative & General	\$ 1,226,467
20		Total
21		\$ 7,806,298

22 Note: The Allocation of the FY 2022 BLS costs is presented on PWD Exhibit-6: Black &
23 Veatch Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2,
24 BV-3, and BV-5, WCOS21_22, Womallo-14, Column 7 (page 843-844).
25

26 There are additional water quality testing costs included in Line 8 (Purification &
27 Treatment – Treatment – Other) of Table W-10 which are associated with the labs located
28 at each of the water treatment plants. The budgeted costs for each water treatment plant

1 include the lab costs at each plant. At this time, the costs for these labs are not readily
2 identifiable as there is not a specific cost center or unit within the treatment plant budgets
3 to isolate these lab costs.
4

5 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-26.** PLEASE IDENTIFY THE FREQUENCY WITH WHICH PWD PERFORMS
2 EACH WATER QUANTITY TEST AND THE CRITERIA WHICH
3 DETERMINE HOW FREQUENTLY EACH WATER QUALITY TEST
4 SHOULD BE PERFORMED (I.E., DAILY WEEKLY PRODUCTION
5 QUANTITY, ETC.).
6

7 **RESPONSE:**

8 The Department performs quantity and quality tests on many aspects of the water and
9 wastewater treatment processes, which include raw water, water in various stages of
10 treatment, potable water, untreated wastewater, wastewater in various stages of treatment
11 and treated wastewater. The frequency of tests is determined by the Safe Drinking Water
12 Act, Clean Water Act, state permits, state regulations and responsible treatment practices.
13

14 **RESPONSE PROVIDED BY:** Donna Schwartz, Philadelphia Water Department
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1 **PA-IV-27.** IN THE WASTEWATER COST OF SERVICE STUDY, PLEASE EXPLAIN
2 HOW THE COSTS ASSOCIATED WITH I/I ARE ALLOCATED TO EACH
3 CUSTOMER TYPE.

4
5 **RESPONSE:**

6 In accordance with the prior rate proceeding decisions, the cost of service and rate design
7 for the current study reflects a 30 percent recovery of pumping and treatment related I/I
8 costs through the service charge and 70 percent through the volume charge (PWD
9 Statement 7A, Schedule BV-5, page 7-36).

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11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-28.** REFERENCE BV-1, TABLE W-10:

2 A. PLEASE IDENTIFY LABOR EXPENSE BY LINE ITEM; AND

3 B. PLEASE IDENTIFY THE EXTENT TO WHICH TREATMENT PLANT
4 LABOR EXPENSE WOULD INCREASE ON A MAXIMUM DAY TO AN
5 AMOUNT HIGHER THAN THAT EXPERIENCED ON AN AVERAGE DAY.

6
7 **RESPONSE:**

8 A. Estimated FY 2022 direct labor expenses are included in the following line items in
9 Table W-10:

10
11

Line No.	Description	FY 2022 Costs
3	Raw Water Pumping – Other	\$ 1,416,414
7	Purification & Treatment – Power & Pumping – Other	\$ 5,388,905
11	Purification & Treatment – Other – Other	\$ 22,653,237
15	Mains	\$ 34,128,804
16	Meters	\$ 1,080,592
17	Fire Hydrants	\$ 296,269
18	Filtered Water Storage	\$ 552,796
20	Customer Accounting & Collection	\$ 1,555,642
22	Administrative & General	\$ 0
	Total	\$ 67,072,659

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24 Note: The Allocation of the FY 2022 direct personnel costs is presented on PWD Exhibit-
25 6: Black & Veatch Management Consulting, LLC, Calculations Supporting Schedules
26 BV-1, BV-2, BV-3, and BV-5, WCOS17_19, Womallo-12, Column 9 (pages 840 and
27 841).
28

1 B. Black & Veatch is not aware of any available staffing or labor analysis which would
2 identify the extent to which treatment plant labor expense would increase on a maximum
3 day to an amount higher than that experienced on an average day.

4
5 It should be noted that the allocation basis for water treatment labor expense reflected in
6 the current cost of service study is consistent with the AWWA's "Principles of Water
7 Rates, Fees, and Charges" Manual of Water Supply Practices M1. As indicated on pages
8 66-67 of the manual: "Expenses other than power, chemical, and customer-related costs
9 can be allocated to cost components on the basis of operating considerations or the design
10 capacity requirements of each facility." The allocation basis for the water treatment labor
11 expense in the current cost of service study reflects the maximum day demand, which is
12 consistent with the design capacity requirement and operating basis of PWD's water
13 treatment facilities.

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15 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-IV-29.** REFERENCE TABLE W-11, FOOTNOTE (C). PLEASE IDENTIFY HOW THE
2 AVERAGE DAY, MAXIMUM DAY, AND MAXIMUM HOUR DEMANDS
3 FOR FIRE PROTECTION SERVICE WERE DETERMINED IN THE COST OF
4 SERVICE STUDIES PREPARED BY B&V PERSONNEL FOR THE FIVE
5 SERVICE TERRITORIES WITH THE NUMBER OF CUSTOMERS MOST
6 COMPARABLE TO THE PHILADELPHIA WATER DEPARTMENT OVER
7 THE LAST FIVE YEARS.

8
9 **RESPONSE:**

10 For Cost of Service studies, where fire protection costs are allocated as part of the
11 analysis, Black & Veatch typically bases fire flow demands on the standards of the
12 Insurance Services Office (ISO), which provides peak fire flow requirements. These fire
13 flow demands are reasonable relative to the Duration of Required Fire Flow as presented
14 in Table 15.2.6 of the National Fire Protection Association (NFPA) Fire Protection
15 Handbook, 20th Edition.

16
17 These standards were referenced in prior cost of service studies to estimate fire flow
18 demands for PWD, New Orleans, Louisiana, and Charleston, South Carolina.

19
20 For New Orleans and Charleston, the cost of fire protection is recovered via retail
21 customer charges.

22
23 For Greater Cincinnati Water Works (GCWW), only the costs of fire hydrant repair and
24 replacement are isolated and in turn recovered from retail customers as part of the water
25 service meter charge.

1 For locales such as the City of Columbia, South Carolina, fire protection demands are not
2 utilized in the Cost of Service analysis nor are fire protection costs disaggregated from
3 retail customer's cost of service.
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6 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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