

PHILADELPHIA WATER DEPARTMENT
REBUTTAL STATEMENT NO. 2

BEFORE THE
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges	Fiscal Years 2024 - 2025
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Rebuttal Testimony

on behalf of

the Philadelphia Water Department

to

Public Advocate Witness Jerome D. Mierzwa

Dated: April 26, 2022

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1 **I. INTRODUCTION AND PURPOSE OF TESTIMONY**

2
3 **1. PLEASE STATE YOUR NAMES AND POSITIONS.**

4 1. Our names are Ann Bui, Dave Jagt, and Brian Merritt. We are employed by the firm of
5 Black & Veatch Management Consulting LLC (Black & Veatch), 11041 Lamar Avenue,
6 Overland Park, Kansas. We are providing testimony on behalf of the City of Philadelphia
7 (the City) Water Department (“Water Department” or “PWD”) in this proceeding as a
8 panel.

9
10 **2. HAVE ANY WITNESSES ON THIS PANEL PREVIOUSLY SUBMITTED**
11 **TESTIMONY IN THIS PROCEEDING?**

12 2. Yes. We provided testimony and schedules in PWD Statement 7.

13
14 **3. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

15 3. In this rebuttal, we provide the Department’s response to recommendations and criticisms
16 of Mr. Jerome D. Mierzwa in his direct testimony (PA St. 2) submitted on behalf of the
17 Public Advocate (“Advocate” or “Public Advocate”).

18
19 **II. CLASS COST OF SERVICE STUDY**

20 **A. Water COSS**

21 **4. DO YOU AGREE WITH MR. MIERZWA’S STATEMENT (PA ST. 2 AT 3)**
22 **THAT PWD’S CLASS COST OF SERVICE (CCOS) STUDY SHOULD REFLECT**
23 **THE CUSTOMER TYPE MAXIMUM DAY AND MAXIMUM HOUR EXTRA**

1 **CAPACITY FACTORS THAT ARE CONSISTENT WITH RECENT**
2 **EXPERIENCE?**

- 3 4. Yes. We agree with Mr. Mierzwa’s statement that PWD’s CCOS Study should reflect
4 customer type maximum day and maximum hour extra capacity factors that are consistent
5 with recent experience. However, we disagree with how Mr. Mierzwa has specifically
6 applied this principle to PWD. As a result, we urge the Rate Board to reject his
7 recommendations as detailed below.

8
9 5. **DO YOU AGREE WITH MR. MIERZWA’S RECOMMENDED ADJUSTMENTS**
10 **(PA ST. 2 at 13-14) TO THE CUSTOMER TYPE MAXIMUM DAY AND**
11 **MAXIMUM HOUR EXTRA CAPACITY FACTORS?**

- 12 5. No. We believe that PWD’s CCOS Study uses reasonable estimates of customer type
13 maximum day and maximum hour extra capacity factors consistent with historical
14 experience and prior CCOS studies. As such, the CCOS Study results provide a
15 reasonable basis to determine the distribution of the proposed revenue increases in this
16 proceeding.

17
18 Mr. Mierzwa’s contention is based on a misapplication of the American Water Works
19 Association’s (“AWWA”) methodology. That is, (1) he does not establish his analysis on
20 the flow data from the year of system historical peak demand, and (2) he fails to
21 recognize that there are variations between the customer class specific weekly and hourly
22 usage adjustment factors reflected in the PWD CCOS Study and those derived from
23 example (generic) calculations in the AWWA Manual M-1, Principles of Water Rates,
24 Fees and Charges, Appendix A (“AWWA Manual” or “Manual”). These generic
25 calculations do not capture the unique circumstances of the PWD system.

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One telling example of PWD’s unique circumstances is the fact that it does not experience seasonal peaking to the extent of other utility systems because its urban customer base does not have summer usage peaks tied to irrigation usage. Since the system has a lower maximum day peaking factor, it experiences more diversity in hourly usage adjustments compared to the examples provided in the AWWA Manual.

It should also be noted that the AWWA Manual provides the following cautionary guidance as to the use of information in Appendix A, “Care must be taken to recognize the usage characteristics of each utility’s customers; the assumptions in this appendix are for illustrative purposes only.” Mr. Mierzwa ignores this guidance in applying generic calculations from the Manual in making his recommendations regarding customer class extra capacity factors.

The table below (i) provides key calculation components associated with Mr. Mierzwa’s recommendation to revise the PWD CCOS Study and (ii) illustrates several ways that Mr. Mierzwa’s recommendations depart from the AWWA methodology. We believe that the inconsistencies shown in the table suggest that his analysis is methodologically flawed.

<u>Calculation Component</u>	<u>AWWA - Methodology</u>	<u>Schedule JDM-1</u>
Customer Class Maximum Monthly Demand	Maximum monthly demand during the year of system historical peak day demand. FY 2018 PWD experienced and Maximum Day to Average Day ratio of 1.30.	Maximum monthly demand based on FY 2019. FY 2019 PWD experienced and Maximum Day to Average Day ratio of 1.16.
Weekly Usage and Hourly Usage Adjustments	Care must be taken to recognize the unique usage characteristics of each utility’s customers; assumptions in Appendix A are for illustrative purposes only.	Utilized illustrative examples presented in AWWA Manual (Appendix A) to develop customer specific extra capacity factors.

Given the above, Black & Veatch does not believe that the PWD CCOS Study should be revised to reflect customer class specific extra capacity factors, as recommended by Mr. Mierzwa. Simply put, the Advocate’s recommendation to modify customer class specific extra capacity factors is the result of a methodologically flawed analysis and is unfounded — it should be rejected.

6. DO YOU AGREE WITH MR. MIERAWA’S RECOMMENDATION (PA ST. 2 AT 3, 15) THAT BASE (AVERAGE DAY) VOLUMES SHOULD BE INCLUDED IN THE ALLOCATION OF COSTS TO PUBLIC AND PRIVATE FIRE PROTECTION SERVICE?

6. No. The fire protection service base and extra capacity demands reflected in the CCOS Study are consistent with previous cost of service studies and adopted rates. No modification is needed here, as the basis for determining fire protection cost of service is methodologically sound.

1 The current estimate of the Total Test Year Water Use for Public and Private Fire
2 Protection reflects the correct units of service and is consistent with the methodology
3 presented in the AWWA Manual of Water Supply Practices – M1, Seventh Edition,
4 Principles of Water Rates, Fees, and Charges. The following references to the AWWA’s
5 M1 Manual support the methodology used in the PWD CCOS Study:

6
7 *Page 75 – “Fire protection service has characteristics that are markedly different*
8 *from other types of water service. The service provided is principally of a standby*
9 *nature - that is, readiness to deliver relatively large quantities of water for short*
10 *periods of time at any of a large number of points in the water distribution system.”*

11
12 *Page 76 – “The total annual volume of water used for fire service is usually*
13 *negligible, at least in relation to that of other classes; however, peak requirements*
14 *for fire service can be quite significant. The Insurance Services Office (ISO)*
15 *periodically defines desired rates of flow for fire service, which is a good source of*
16 *maximum-capacity requirements for fire service. These data must be applied*
17 *judiciously to achieve practical cost allocations.”*

18
19 This methodological approach is further evident on Page 77 of the M1 Manual as shown
20 in Table III.2-1 “Units of service – Base-extra capacity method (test year).” Here the
21 Units of Service for Fire Protection presented in Line 5 do not include units of service for
22 the Base Units of Service (Annual Use or Average Rate); Only “Maximum-Day Units”
23 and “Maximum-Hour Units” are presented for Fire Protection.

1 Please note that consistent with AWWA methodology, the Total Test Year Water Use
2 units presented in Table 4-4 of Schedule BV-2 reflect the estimated billed volume for the
3 metered Private Fire accounts in recognition of the volume charge revenue received from
4 these accounts. Increasing the Total Test Year Water Use units to reflect an estimate of
5 unmetered annual water use for fire protection (basically, standby service) would be
6 inconsistent with the methodology reflected in AWWA's M1 Manual. It bears emphasis
7 that Mr. Mierzwa suggested no cost of service basis why we should depart from this
8 established methodology. We believe that Mr. Mierzwa's recommendation, in this
9 context, is mistaken and that his recommendation should be rejected.

10
11 While we do not agree that an adjustment to the annual private fire protection annual
12 usage is necessary, it should be noted that Mr. Mierzwa's recommendation for the private
13 fire annual usage is not consistent with the recommendations of Lafayette K. Morgan, Jr.
14 and Jennifer L. Rogers. Mr. Mierzwa's proposed annual usage based on the three-year
15 average of the historical private fire annual usage during FY 2020 to FY 2022 does not
16 recognize the uncontested volume escalation factor for private fire protection and
17 recognized in the basis of Mr. Morgan's and Ms. Rogers adjustments to revenue under
18 existing rates presented in Schedule LM_JR-1 and LM_JR-2.

19
20 In addition, it appears that although Mr. Mierzwa did not suggest any revisions to the
21 Private and Public Fire Protection Maximum Day capacities, the results of his proposed
22 cost of service analysis presented in Table 1 of his testimony suggests that he did not
23 adjust the Maximum Day Extra Capacities to reflect his proposed adjustments to the Base
24 (average day) demands. To replicate the revised cost of service presented in Table 1 of
25 Mr. Mierzwa's testimony, both the Base and Maximum Day demands of the Fire

1 Protection services would have to be adjusted as proposed. In order to maintain the basis
2 of the Private and Public Maximum Day demand, the proposed adjustment to the base
3 demand would need to be subtracted from the Maximum Day Extra Capacity demand.
4

5 **7. DO YOU AGREE WITH MR. MIERZWA’S REVISED CCOS STUDY? (PA ST. 2**
6 **AT 16-18).**

7 7. No, we do not agree. As stated in the response to the questions above, we believe that the
8 PWD CCOS Study uses reasonable estimates of customer type extra capacity factors
9 consistent with prior cost of service studies and historical experience and appropriate base
10 and extra capacity demands for fire protection services. As such, the CCOS Study results
11 provide a reasonable basis to determine the distribution of the proposed revenue increases
12 in this rate proceeding.
13

14 **8. DO YOU AGREE WITH MR. MIERZWA’S PROPOSAL (PA ST. 2 AT 20-22)**
15 **WITH RESPECT TO THE DISTRIBUTION OF THE REVENUE INCREASE**
16 **AWARDED FOR FY 2024 IN THIS PROCEEDING?**

17 8. No. The primary basis of Mr. Mierzwa’s proposed distribution of the awarded FY 2024
18 revenue increase is his Revised CCOS Study results presented in Table 1 of his
19 testimony. As noted in the responses to prior questions, we do not agree with the basis of
20 the proposed adjustments to retail customer maximum day and maximum hour extra
21 capacity factors and fire protection base and maximum day demands.
22

23 Although Mr. Mierzwa presents a revised distribution of the awarded FY 2024 revenue
24 increase as the distribution of “Proposed Rates” revenues in Table 2 of his testimony, he
25 does not provide the proposed rate schedule that this distribution of revenues is based on.

1 It appears that the distribution of “Proposed Rates” revenues may be based on his revised
2 CCOS Study results with reductions to specific customer types (Industrial, Hand Billed,
3 Philadelphia Housing Authority and Private Fire Protection) based on gradualism offset
4 by an increase in the Residential customers. It should be noted that with the Department’s
5 current rate structure, where one rate schedule is applied to all customer types, some of
6 these class specific adjustments may not be achievable.

7
8 **9. DO YOU AGREE WITH MR. MIERZWA’S PROPOSAL (PA ST. 2 AT 21) WITH**
9 **RESPECT TO THE DISTRIBUTION OF THE REVENUE INCREASE**
10 **AWARDED FOR FY 2025 IN THIS PROCEEDING?**

11 9. No. Mr. Mierzwa proposes to apply the overall system average percentage increase to
12 establish the FY 2025 proposed rate schedule. This approach is not consistent with prior
13 rate proceedings, where the proposed rate schedules for all test years are based on the
14 CCOS analysis for each test year. We recommend that the Rate Board request the
15 Department submit a schedule of proposed rates based on the updated CCOS analysis as
16 necessary based on the Board’s rate determination.

17
18 **10. PLEASE SUMMARIZE WHY MR. MIERZWA’S VARIOUS PROPOSED**
19 **MODIFICATIONS TO THE PWD CCOS SHOULD BE REJECTED BY THE**
20 **RATE BOARD?**

21 10. Mr. Mierzwa’s various proposed modifications to the PWD CCOS study are based on his
22 revisions to customer type peaking factors and fire protection demands. As discussed in
23 the responses to the previous questions, the basis for these requested revisions are
24 inconsistent with recognized industry approaches described in AWWA’s M1 Manual and
25

1 do not consider the Department's specific customer base characteristics. For these reasons,
2 we request that the Board reject the various modifications recommended by Mr. Mierzwa.

3
4 **B. Wastewater COSS**

5 **11. DOES MR. MIERZWA PROPOSE ANY CHANGES TO THE WASTEWATER**
6 **CCOS?**

7 11. No. See, PA Statement 2 at 4.
8

9 **C. Stormwater COSS**

10 **12. PLEASE RESPOND TO MR. MIERZWA'S PROPOSAL (PA ST. 2 AT 26-28) TO**
11 **MODIFY STORMWATER RATES TO SHARE THE FINANCIAL BENEFITS**
12 **ASSOCIATED WITH THE PWD'S SMIP/GARP PROGRAM.**

13 12. As stated in PWD Statement 7 - Direct Testimony of Black & Veatch, no changes are
14 proposed in the approach to the allocation of stormwater costs nor the stormwater rate
15 structure design. Please also note that the stormwater cost allocation/rate design
16 approach, utilized in the rate filing, is consistent with that approved in prior rate
17 determinations and associated CCOS studies. As further discussed in Statement 7, in
18 accordance with the 2021 Rate Determination, PWD is in the process of evaluating both
19 alternative residential rate structure designs and cost recovery approaches for stormwater
20 credits (including those resulting from the SMIP/GARP program) as it relates to
21 stormwater rates and charges. PWD was able to conduct two stakeholder meetings prior
22 the current filing. As indicated in the monthly Rate Case Settlement Progress reports
23 provided to the Rate Board as well as summarized in the response to PA-IV-27, any
24 proposed rate structure changes require both upgrades to the supporting billing systems
25 and additional discussions with stakeholders.

1
2 Despite the foregoing, Mr. Mierzwa advances recommendations to modify existing
3 stormwater rates to provide “a more equitable sharing of the costs associated with the
4 PWD’s SMIP/GARP Program.” PA Statement 2 at 26. As explained below, his
5 recommendations are not appropriate at this time and should be rejected in this
6 proceeding.

7
8 More specifically, Mr. Mierzwa’s recommendations, while well meaning, will produce
9 unintended results. That is, by establishing stormwater rates based upon the average of
10 rates developed with and without credits, as he suggests, the resulting rates will not
11 recover the stormwater cost of service. This is because non-residential customer bills are
12 calculated based upon their billing units after accounting for credits (i.e., reducing their
13 billable impervious area [IA] and gross area [GA] square footage). So, if Mr. Mierzwa’s
14 recommendation is adopted, a revenue shortfall is the obvious result. This is a
15 fundamental problem with his analysis.

16
17 Mr. Mierzwa’s proposal, as described in his testimony, is also not limited to credits
18 resulting from Stormwater Management Incentive Program (“SMIP”)/Greened Acre
19 Retrofit Program Grants (“GARP”) projects. The billing determinants presented under
20 Item (2) “Rate Design (No SMP/GARP Credits)” in Schedule JDM-2 are based upon
21 2,415,380 IA billing units (i.e. per 500 sf). The IA billing units in Item 1 “Current Rate
22 Design (SMP/GARP Credits)”, which are used in establishing the initial stormwater unit
23 costs, are 2,342,647 IA billing units (per 500 sf), which account for all IA credits. The
24 difference between the IA billing units in items 1 and 2 is 72,733 IA billing units.

1 Converted to square feet the adjustment in IA billing associated with Item 2 utilized in
2 Mr. Mierzwa's proposal is 36,366,500¹.

3
4 As provided in response to PA-VIII-19, the total projected IA credits associated with
5 SMIP/GARP projects for FY 2024, is projected to be 25,683,000 square feet. Mr.
6 Mierzwa's proposal adjusts the IA billing units by more than this amount, which would
7 not limit his suggested adjustment to only credits resulting from SMIP/GARP projects.
8 As of the writing of this testimony, it is unclear what Mr. Mierzwa's proposal is based
9 upon².

10
11 Further, the table below provides a summary of IA Credits based upon the projected
12 FY 2024 credits. Comparing the credits shown in Rows 1-3, it is readily apparent that
13 SMIP/GARP grants do not currently account for the majority of IA credits. Rather, IA
14 credits attributable to SMIP/GARP represent approximately 20% of all credits to be
15 awarded.

	IA Credits (thousand sf)	Percent of Total
Impervious Area Reduction (IAR) Practices	5,057	4.06%
GA/IA Management Practices	93,930	75.34%
SMIP/GARP	25,683	20.60%
Total	124,670	100%

24
25 ¹ 72,733 X 500 = 36,366,500 square feet of Impervious Area

² In response to PWD-II-4, Mr. Mierzwa did not provide a clear delineation of how he determined the stormwater IA and GA units of service he utilized in Item (2) of Schedule JDM-2.

1
2 Therefore, in addition to the revenue shortfall alluded to above — if the underlying intent
3 of Mr. Mierzwa’s recommendation is to shift the impacts of stormwater credits resulting
4 only from SMIP/GARP grants to Non-Residential Stormwater Customers — including all
5 credits, discounts and appeals impacts in the analysis would over-state these impacts.

6
7 Mr. Mierzwa’s recommendation runs counter to the prior rate determinations and current
8 policy that costs related to SMIP/GARP grants are borne by all wastewater customers as
9 they facilitate the Department’s efforts to reach compliance milestones under the Long
10 Term Control Plan (LTCP) Consent Order Agreement (COA). Similarly, based upon the
11 original program premise, credits are recovered from all customers, as the entire system
12 benefits from private stormwater management efforts (that meet stormwater management
13 program criteria).

14
15 Alternatively, if Mr. Mierzwa’s intent is to avoid a revenue shortfall, the credits
16 associated with SMIP/GARP (as well as other IA credits) would need to be reduced from
17 the current levels provided to these customers. This is not clearly stated in his testimony.

18
19 It is important to note that SMIP/GARP program continues to play a critical role in
20 meeting the City’s Greened Acre goals and account for approximately 36% of the overall
21 cumulative greened acres from FY 2011 through FY 2022³. Owners of properties with
22 stormwater management practices (“SMPs”) resulting from SMIP/GARP grants, enter
23 into long-term O&M agreements with the Water Department and are responsible the
24 ongoing maintenance of the facility for the useful life of the SMP or 45 years (whichever

25

³ See Table 1-2: Cumulative Greened Acres on Page 2 of Appendix A: COA Annual Report, available here:
[CityOfPhiladelphia_FY22_NPDES_Annual_Report.pdf](#)

1 is longer). In addition to aiding the City in meeting Greened Acre goals, this approach
2 also provides a financial benefit to all PWD customers, as the property owner is
3 responsible for long-term O&M of the SMP and not the Water Department.
4

5 Changes to the credits provided to existing customers would certainly require outreach
6 and discussion with both current and future grant program participants.
7

8 Despite the disagreement with Mr. Mierzwa's specific recommendations at this time, the
9 Water Department is willing to continue to engage in a comprehensive discussion of
10 potential changes as to stormwater cost recovery. As noted earlier, PWD was only able to
11 hold a limited set of stakeholder meetings prior to the current proceeding and was not
12 positioned to propose and support a change to the recovery of stormwater credits at this
13 time. That said, the Department intends to engage with a broader set of stakeholders to
14 continue its evaluation of potential changes to the stormwater rate structure and
15 associated cost recovery approaches. We believe that it is premature to implement
16 changes in stormwater rate structure. Additional time is needed to evaluate proposed
17 changes in a meaningful way and allow for them to be explored together with other
18 changes to the Department's overall rate structure.
19

20 **13. PLEASE RESPOND TO MR. MIERZWA'S PROPOSAL (PA ST. 2 AT 26, 28-29)**
21 **THAT PWD MODIFY ITS CURRENT RESIDENTIAL STORMWATER RATE**
22 **DESIGN TO PROVIDE FOR CHARGES BASED ON BUILDING TYPE WHEN**
23 **THE NECESSARY UPGRADES TO ITS BILLING SYSTEM ARE COMPLETED.**

24 13. As noted in the prior response and as detailed in PWD Statement 7, PWD is not in a
25 position to recommend, endorse or support a specific residential rate structure change at

1 this time. With limited stakeholder engagement prior to this proceeding, the Water
2 Department has not identified a preferred alternative residential rate structure.

3
4 The current billing structure is appropriate and consistent with industry standards.
5 Uniform Flat Fees remain the most common residential rate structure based upon Black
6 & Veatch’s 2021 Stormwater Utility Survey. In the Water Department’s case, residential
7 customers are billed consistently under the existing rate structure, with an approach
8 vetted with previous stakeholder groups⁴. Stormwater rates are established holistically
9 across the City regardless of location, sewershed or service type (combined versus
10 separate sewer service). Therefore, costs are recovered equally from all residential
11 customers at this time.

12
13 As noted in the *November 2022 Rate Case Settlement Progress Report* provided to the
14 Rate Board, establishing rates by building type is one potential option. As described on
15 pages 22 to 25 of the report, another potential option is to establish tiers for the GA and
16 IA components. A tiered based approach would more readily recognize the differences in
17 residential property characteristics by creating tiers for each charge component. Creating
18 rates by building type would still result in customers on the low and high end of the
19 distribution of each respective building type. This is illustrated by the examples provided
20 on page 25 of the report, which identify examples of both small and large Row and
21 Single-Family Residential homes. The small single family home example has similar
22 characteristics to the small row home example and the large row home has characteristics
23 more similar to the large single-family home (when compared to the small row home).

24
25 ⁴ Alternative residential rate structures (such as tiered residential rates) were examined prior to the initial
implementation of the Stormwater Fee in 2008 and then again during the 2011 Customer Advisory Committee
Process.

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These types of impacts are to be expected within any rate structure, unless properties are billed individually, as are non-residential customers; this approach would add significant administrative costs and resources given that there are over 465,000 residential stormwater accounts.

Both the Establishing Rates by Building Type and Establishing GA and IA Tiered Rate options retain the underlying rate structure, meaning both retain the existing GA and IA components. One alternative that was not explored, as it would impact the non-residential rate structure as well, is whether or not the GA component should be retained. Most utilities only include IA in establishing their stormwater rates and charges, therefore, with any review of the existing rate structure, consideration should be given to the GA component and its use should be reaffirmed with stakeholders.

We do not agree with Mr. Mierzwa’s specific recommended changes to the stormwater rate design (i.e. billing based upon building type) at this time. We do agree with Mr. Mierzwa in that any change should only be implemented once the necessary billing system upgrades are in place to enable an updated rate structure. We also acknowledge his recommendation that phase-in be considered to “provide for gradualism and avoid rate shock,” and would add that this approach should be considered with any potential stormwater rate structure change.

That said, as with Mr. Mierzwa’s recommendation regarding the recovery of SMIP/GARP credits, the Department is willing to continue to evaluate this area. Further, we recommend that the design and recovery of costs related to the stormwater credits and incentives

1 programs, as discussed in the prior question, continue to be explored with a broader range
2 of stakeholders.

3
4 The Water Department is willing to provide the Rate Board with periodic updates on this
5 process, and advise, when, if any, changes to the stormwater residential rate structure could
6 be implemented in a timely fashion, such that the Rate Board can make a determination
7 and the corresponding rate structure can go into place within a reasonable period of time⁵.

8
9 **14. PLEASE RESPOND TO MR. MIERZWA’S RECOMMENDATION (PA ST. 2 AT**
10 **26, 29-30) THAT PWD EVALUATE WHETHER A RATE DISCOUNT (OF 20%)**
11 **SHOULD BE PROVIDED TO RESIDENTIAL CUSTOMERS THAT AGREE TO**
12 **HAVE PWD INSTALL A RAIN BARREL ON THEIR PROPERTY.**

13 14. The Water Department is willing to evaluate potential residential discounts and credits in
14 context of a broader ongoing review of the stormwater rate structure as stated in response
15 to the previous question. That said, we do not agree with Mr. Mierzwa’s recommendation
16 at this time.

17
18 Residential practices such as rain barrels do not offer an equivalent level of stormwater
19 management offered by SMPs designed to meet with Water Department’s stormwater
20 management requirements as defined under Chapter 6 of PWD’s regulations (note - this
21 design requirement is also used for the development of SMIP/GARP funded projects).
22 SMPs must be designed to manage/capture 1.5-inches (or 0.125 feet) of runoff from
23 impervious surfaces. The average amount of impervious area associated with residential
24

25

⁵ The replacement of the Basis2 billing system will take a number of years once underway. This project is currently included in PWD CIP budget.

1 customers, in this rate filing, is 1,190 square feet⁶. A typical rain barrel is 55 gallons,
2 which is equal to approximately 7.35 cubic feet⁷. To capture an amount of runoff
3 equivalent to a SMP sized in accordance with the requirements of PWD Chapter 6,
4 148.75 cubic feet⁸ of storage would need to be provided. This would equate to over 20
5 rain barrels⁹, to manage an amount of runoff equivalent to a private SMP or SMIP/GARP
6 practice. In other words, a single rain barrel offers less than 5% of the required storage.
7 Note - to provide the full benefit, the rain barrel would need to be fully emptied between
8 rainfall events, which requires action by the customer.

9
10 Beyond the storage requirements, residential practices cannot currently be counted
11 toward the greened acre goals. Under the current COA requirements, greened acres
12 require the establishment of an O&M agreement between the Water Department and the
13 property owner.

14
15 Since July 2014, 4,411 rain barrels have been installed City-wide as of March 2023. This
16 is referenced in discovery response PA-IV-38. As noted in the response to the prior
17 question, there are over 465,000 residential accounts. In other words, such a discount
18 would apply to roughly one-percent of residential customers. The Water Department
19 notes that the administrative costs of offering such a discount program to residential
20 customers might be more than the overall level of discounts provided under such a
21 program.

22
23 The decision to provide a residential discount, in recognition on residential activities,

24 ⁶ See page 4, PWD Statement 7, Schedule BV-4: WP-2 Stormwater Units of Service.

25 ⁷ Conversion factor: 7.48 gallon per cubic foot.

⁸ 1,190 square feet x 0.125 feet of runoff = 148.75 cubic feet

⁹ 148.75 cubic feet of storage required / 7.35 cubic feet per 55-gallon rain barrel = 20.23 rain barrels

1 would not reduce PWD’s costs. Conversely, it would likely increase the Water
2 Department’s administrative costs, as the discount would need to be implemented and
3 enabled within the billing system(s). In addition, the provision of discounts would need to
4 be addressed in the development of the rate design, similar to how other discounts are
5 currently handled. This approach shifts the cost recovery to non-discount customers and
6 potentially increases rates overall.

7
8 Mr. Mierzwa cites Ferguson, Pennsylvania’s rain barrel credit program as a basis for his
9 suggestion. Ferguson, Pennsylvania is a small community with a population of 19,284
10 people according to the July 2021 U.S. Census Bureau estimate¹⁰. The entirety of
11 Ferguson is served by a municipal separate storm sewer system (MS4). In FY 2023,
12 Ferguson’s stormwater costs are expected to be \$1.45 million¹¹. In comparison, PWD’s
13 stormwater cost of service in FY 2024 is projected to be \$202 million overall.

14
15 Under Ferguson’s credit program, in order to be eligible for the full 20% credit, rain
16 barrels must be attached to each downspout¹². If rain barrels are attached to half of the
17 downspouts, only half the credit amount (i.e. 10% credit) is offered. A single rain barrel
18 installation for a home with 1 or more downspouts will not result in the full credit offered
19 under their program. Customers must also apply for credit as it is not automatically
20 administered.

21
22 We offer the above details to illustrate that the scope and scale of Ferguson and PWD’s
23

24 ¹⁰

<https://www.census.gov/quickfacts/fact/table/fergusontownshipcentrecountypennsylvania/PST045221#PST045221>

25 ¹¹ <https://www.twp.ferguson.pa.us/public-works/files/cost-service>

¹² See Ferguson’s Stormwater Fee Credit Policy Manual:

https://www.twp.ferguson.pa.us/sites/g/files/vyhli9771/f/uploads/2021-05_stormwater_fee_credit_policy_manual_0.pdf

1 stormwater programs and fees are markedly different. Therefore, Ferguson’s approach
2 may not be applicable in context of the City of Philadelphia. Further, we acknowledge
3 that a number of stormwater utilities (and user fee funded programs) across the country
4 offer residential credits and discounts.

5
6 To be clear, any residential stormwater discount program is likely to be purely a policy
7 decision and will not count toward current compliance requirements as currently defined
8 under the COA. Offering such a discount would have both administrative cost and cost of
9 service impacts. As stated earlier, PWD is willing to explore residential credit and/or
10 discount policies in context of the overall stormwater rate structure with input from
11 stakeholders. PWD asks that the Rate Board reserve decisions concerning rate structure
12 changes for the future.

13
14 **III. CONCLUSION**

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16 **15. DOES THIS CONCLUDE THIS REBUTTAL TESTIMONY?**

17 15. Yes, it does.
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