

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SUPPLEMENTAL DIRECT TESTIMONY OF

EDWARD BARCA

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Responses to Stormwater Directed Questions

June 14, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Edward Barca and I am the Director of Finance for The Pittsburgh Water and
4 Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021 as part of PWSA’s rate filing.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

8 A. The purpose of my Supplemental Direct Testimony is to respond to certain portions of
9 the Commission’s Technical Staff Report and Directed Questions Stage 2, which were
10 issued on May 20, 2021.¹ Responses to other directed questions regarding stormwater
11 are being provided in supplemental direct testimony submitted by PWSA witnesses Tony
12 Igwe (PWSA St. No. 7-SD) and Keith Readling (PWSA St. No. 8-SD).

13 **Q. IS PWSA RESPONDING TO ALL OF THE DIRECTED QUESTIONS AT THIS**
14 **TIME?**

15 A. Yes, but for several of the questions PWSA’s answer will be that the substance of the
16 question needs to be explored outside the rate case. As Mr. Igwe explains in his
17 Supplemental Direct Testimony (PWSA St. No. 7-SD), at this time PWSA is responding
18 substantively to the Directed Questions that relate to PWSA’s rates and tariff and
19 therefore are best addressed as part of the rate case proceeding. PWSA will respond to
20 the other Directed Questions as part of the Stage 2 Stormwater Compliance Plan
21 proceeding. PWSA Exhibit TI-6 identifies each Directed Question topic and whether
22 PWSA proposes to address each item in the rate case or in the Stage 2 Stormwater
23 Compliance Plan.

¹ Order entered May 20, 2021, Attachment B.

1 **II. RESPONSES TO DIRECTED QUESTIONS**

2 **A. 52 Pa. Code § 53.53 – Information to be furnished with proposed general rate**
3 **increase filings in excess of \$1 million (Directed Questions at 5)**

4 **Q. PLEASE DISCUSS THE FILING REQUIREMENTS FOR PROPOSED**
5 **CHANGES IN STORMWATER RATES AND/OR SERVICE AND WHETHER**
6 **ANY ADDITIONAL FILING REQUIREMENTS MAY BE NECESSARY.**

7 A. In submitting this rate filing package, PWSA complied with the filing requirements for
8 water and wastewater service, and submitted the same information for stormwater
9 service. See Volume I of PWSA’s April 13, 2021 rate filing. PWSA does not believe
10 that any additional filing requirements are necessary for changes in stormwater rates or
11 service.

12 **Q. IN YOUR OPINION, DO THE FILING REQUIREMENTS FOR WATER AND**
13 **WASTEWATER UTILITIES AT 52 PA. CODE § 53.53(A)(4) APPLY TO**
14 **PROPOSED CHANGES IN STORMWATER RATES AND/OR SERVICES?**

15 A. Yes, PWSA believes the same filing requirements for water and wastewater rates and/or
16 service apply to stormwater. PWSA has submitted the same information for the
17 stormwater rate filing as it has submitted for the water and wastewater rate filings in
18 compliance with the existing filing requirements.

19 **B. 66 Pa. C.S. § 1311 – Valuation of and return on the property of a public**
20 **utility (Directed Questions at 15)**

21 **Q. SHOULD PWSA BE PERMITTED TO COMBINE ITS STORMWATER**
22 **REVENUE REQUIREMENT WITH ITS WATER OR WASTEWATER**
23 **REVENUE REQUIREMENTS, OR BOTH?**

24 A. Yes. In each of its previous rate cases, PWSA has filed a petition requesting
25 consolidation of its water and wastewater revenue requirements, and the Commission has
26 granted each of these requests. In the current proceeding, PWSA filed a *Petition for*
27 *Consolidation of Water, Wastewater and Stormwater Rate Proceedings and for*

1 *Authorization to Use Combined Water, Wastewater and Stormwater Revenue*
2 *Requirements* on April 13, 2021, which was granted on June 8, 2021.

3 PWSA provides water, wastewater conveyance and stormwater service as a single
4 entity and is eligible to combine its revenue requirements under 66 Pa. C.S. § 1311(c). In
5 the past, PWSA has always determined water and wastewater revenue requirement and
6 rates using combined information.² Allowing PWSA to use a combined revenue
7 requirement, which now includes stormwater, continues PWSA's prior accounting and
8 ratemaking practice. Practically speaking, if PWSA were required to use separate
9 revenue requirements for each of its utilities, the timing and costs associated with
10 submitting entirely separate base rate filings for the water, wastewater and/or stormwater
11 utilities would be extremely burdensome to the point of being nearly impossible.

12 PWSA tariff filings and rate requests contain coordinated plans, rate design
13 changes and tariffs for PWSA's water, wastewater conveyance, and stormwater services.
14 Moreover, PWSA's bonds and other financial instruments apply to the combined
15 water/wastewater/stormwater conveyance system and are evaluated by bond rating
16 agencies on a consolidated company basis. There is no practical way in which to fully
17 separate PWSA's bonds or its revenue requirement between water, wastewater
18 conveyance and stormwater without creating risks of violating PWSA's bond covenants
19 which require that PWSA attain certain financial metrics on an integrated system basis.

² PWSA also manages stormwater that is conveyed both through its combined sewer systems and separate storm sewer systems. PWSA currently does not separately bill customers for stormwater management, rather the costs associated with stormwater management are recovered from customers through the sanitary sewer charges. See PWSA's Comments to Tentative Implementation Order, dated February 7, 2018, which is available at: <http://www.puc.state.pa.us/pdocs/1552657.pdf>. As part of this rate filing, PWSA is proposing to separate stormwater management costs from wastewater and to bill customers for a separate stormwater fee under a new stormwater tariff.

1 **Q. IS IT IN THE PUBLIC INTEREST TO COMBINE PWSA’S WATER,**
2 **WASTEWATER AND STORMWATER REVENUE REQUIREMENTS IN THIS**
3 **WAY?**

4 A. Yes. Use of a combined revenue requirement is warranted and is in the public interest, as
5 well as in the interest of the parties and the Commission. As I explained, PWSA provides
6 water, wastewater conveyance and stormwater service as a single entity and many aspects
7 of its operations overlap and would be difficult to fully separate. Review of PWSA’s
8 revenue requirements on a combined basis will provide the Commission and interested
9 parties an understanding the full scope of PWSA’s operations and will promote the
10 efficient use of the time and resources for PWSA, the parties, and the Commission.
11 Allowing PWSA to combine its water, wastewater and stormwater revenue requirements
12 will advance administrative economy and avoid unnecessary and potentially burdensome
13 costs. For these reasons, it is plainly in the public interest for PWSA to use a combined
14 revenue requirement going forward.

15 **Q. HOW WILL COMBINING WATER/WASTEWATER AND STORMWATER**
16 **OPERATIONS AFFECT PWSA’S ABILITY TO DETERMINE THE**
17 **INDIVIDUAL COST OF SERVICE ASSOCIATED WITH EACH SERVICE?**

18 A. Combining revenue requirement determinations will have no effect on PWSA’s ability to
19 determine and separately present the cost of service associated with each service. As part
20 of its current filing, PWSA has presented the results of a full cost of service analysis that
21 allocates all costs to provide these three services to each in accordance with well accepted
22 cost causation principles.³

³ See Direct Testimony of Harold Smith, PWSA St. No. 5, and accompanying exhibits.

1 **III. TOPICS TO BE ADDRESSED IN STORMWATER STAGE 2 COMPLIANCE**
2 **PLAN**

3 **Q. ARE THERE TOPICS IN THE DIRECTED QUESTIONS THAT SHOULD BE**
4 **ADDRESSED AS PART OF THE STAGE 2 COMPLIANCE PLAN**
5 **PROCEEDING?**

6 A. Yes. The topics listed below are appropriately addressed in the context of the
7 Stormwater Stage 2 Compliance Plan proceeding, which will begin after the conclusion
8 of this base rate case:

- 9 • 52 Pa. Code § 65.16 – System of Accounts (Directed Questions at 7-8);
- 10 • 52 Pa. Code § 65.19 – Filing of Annual Financial Reports (Directed Questions at
11 8-9);
- 12 • 52 Pa. Code § 73.3 – Annual Depreciation Reports (Directed Questions at 10);
- 13 • 52 Pa. Code § 73.5 – Service Life Study Report (Directed Questions at 10-11);
- 14 • 52 Pa. Code § 73.6 – Format for Filing Service Life Study Report (Directed
15 Questions at 11);
- 16 • 52 Pa. Code § 73.7 – Capital Investment Plan Report (Directed Questions at 11);
- 17 • 52 Pa. Code § 73.8 – Format for Filing the Capital Investment Plan Report
18 (Directed Questions at 11); and
- 19 • 66 Pa. C.S. §§ 510 – Assessment for regulatory expenses upon public utilities &
20 3207 – Commission assessment (Directed Questions at 14).

21 **Q. WHY DO YOU PROPOSE TO ADDRESS THESE TOPICS IN THE**
22 **COMPLIANCE PLAN PROCEEDING AND NOT IN THIS BASE RATE CASE?**

23 A. These Directed Questions do not directly relate to PWSA’s stormwater rates or tariff
24 which will be reviewed and approved in this Rate Proceeding. Most of these topics relate
25 to financial reports that must be periodically filed with the Commission and the format of
26 those reports. Other topics relate to whether stormwater should be treated as a separate
27 utility for assessment purposes, and what system of accounts will be used. Whether and
28 how PWSA’s stormwater utility should comply with these regulations is not directly
29 related to the rate case, and therefore would best be addressed in the context of the Stage
30 2 Compliance Plan proceeding.

1 IV. **CONCLUSION**

2 Q. **DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

3 A. Yes. I do reserve the right to supplement this testimony as may be appropriate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SUPPLEMENTAL DIRECT TESTIMONY OF

BARRY KING, PE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024733 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Commissioner Yanora's Directed Questions

June 14, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Barry King and I am the Director of Engineering and Construction for The
4 Pittsburgh Water and Sewer Authority (“PWSA”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony on April 13, 2021 that accompanied the rate filing.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. The purpose of my testimony is to respond to the Directed Questions of Commissioner
9 Ralph V. Yanora served on PWSA on April 30, 2021,¹ to which PWSA filed responses
10 on May 18, 2021.

11 **II. RESPONSES TO DIRECTED QUESTIONS**

12 **A. Backflow Prevention Devices**

13 **Q. PLEASE DESCRIBE COMMISSIONER YANORA’S FIRST DIRECTED**
14 **QUESTION.**

15 A. Commissioner Yanora requested that the parties examine compliance of PWSA’s tariff
16 cross-connection control requirements with 25 Pa. Code §§ 109.709 and 109.609, as well
17 as any applicable provisions of the International Plumbing Code.

18 **Q. WHAT IS PWSA’S POSITION ON THIS ISSUE?**

19 A. PWSA’s tariff complies with 25 Pa. Code §§ 109.709 and 109.609. Section B of Tariff
20 Water – Pa. P.U.C. No. 1 (Original Page No. 32), provides as follows:

21 6. Water Service Connections and Appurtenances: All Customers' services require
22 separate Water Service Line connections, approved Meter and Backflow
23 prevention devices for domestic water services, and a double detector check valve
24 with a bypass Meter for fire protection systems if fire protection systems are
25 required by applicable building codes and/or are indicated on the application. The
26 Authority requires the installation of stop and waste valves and check valves on

¹ <https://www.puc.pa.gov/pcdocs/1701995.docx>.

1 all new or reconstructed customer service lines. The responsibility for the proper
2 installation and maintenance of such valves shall be the customer's and at the
3 customer's sole expense. Additional specifications for service connections are
4 provided in the Authority's Procedures Manual for Developers.

- 5 7. Backflow Prevention Device: The installation of a Backflow device of the type
6 approved by the Authority is required if, in the Authority's opinion, such a device
7 is needed to protect the integrity of the Authority's system. The Backflow
8 prevention device shall be installed, owned, tested, and maintained by the
9 customer at the customer's expense. The location of the backflow prevention
10 device shall be approved by the Authority. The Authority requires the installation
11 of approved double check valves for service lines providing service to residential
12 units.

13 PWSA also follows the Allegheny County Health Department Plumbing Code, Article
14 XV, which was adopted by the International Code Council's Plumbing Code. All storage
15 reservoirs and tanks are covered, with the exception of the Highland I Reservoir. Water
16 from the Highland I Reservoir is disconnected from the distribution system and retreated
17 via a membrane filtration plant prior to pumping back into the system.

18 **Q. WHAT WAS COMMISSIONER YANORA'S REQUEST CONCERNING**
19 **BACKFLOW PREVENTION DEVICES FOR COMMERCIAL AND**
20 **INDUSTRIAL CUSTOMERS?**

21 A. Commissioner Yanora requested the number of commercial and industrial customers that
22 have testable backflow prevention devices and the number of devices that were tested for
23 calendar year 2020.

24 **Q. PLEASE RESPOND.**

25 A. PWSA has 3,672 commercial and industrial customers with testable backflow prevention
26 devices and tested 2,048 of those devices in 2020. In addition, PWSA has commissioned
27 updates to its backflow testing application that will allow for a concentrated effort to
28 enroll any unenrolled devices. In 2021, enrollment will be achieved via a series of
29 notices, and, where necessary, service termination.

1 **Q. DID HE ALSO SEEK INFORMATION ABOUT RESIDENTIAL BACKFLOW**
2 **DEVICES?**

3 A. Yes. Commissioner Yanora asked whether residential customers have American Society
4 of Sanitary Engineers' 1024 backflow assemblies installed at meter locations.

5 **Q. PLEASE RESPOND.**

6 A. Not all residential customers have backflow devices installed; they are installed on new
7 water service installations and when any alterations are made to the interior plumbing.
8 All backflows installed are to approved specifications of either American Water Works
9 Association ("AWWA") or American Society of Sanitary Engineering.

10 **B. Compliance Materials of Operation and Maintenance ("O&M") Plans**

11 **Q. WHAT DID COMMISSIONER YANORA REQUEST WITH RESPECT TO**
12 **COMPLIANCE MATERIALS?**

13 A. Commissioner Yanora asked the parties to address compliance materials of the O&M
14 plans required by 25 Pa. Code §109.702 as they relate to adequate, safe, and reasonable
15 service for utility customers and employees.

16 **Q. HOW DO YOU RESPOND?**

17 A. PWSA has implemented an Environmental Compliance Manual for Water Production
18 (April 9, 2021), which identifies 25 PA Code § 109.702 O&M Plan as a compliance
19 obligation. This obligation is currently being achieved through several different
20 documents as outlined below. PWSA is also planning to update and consolidate the
21 O&M Plan consistent with the requirements of 25 PA Code § 109.702. This activity is
22 being tracked by our Environmental Compliance Director and is scheduled for
23 completion by the end of Q1 2022 in conjunction with a broader update to the
24 Environmental Compliance Manual. Identified improvements include formalization and

1 updates to standard procedures and utilization of technology to increase efficiency and
2 documentation of O&M and compliance related obligations.

3 The current O&M documents include:

- 4
- 5 • Environmental Compliance Manual for Water Production: Description of the
6 facilities, records and reporting, staffing and training.
- 7
- 8 • Standard Operating Procedures (“SOPs”): Maintained by Operations, Compliance,
9 and Laboratory for activities performed within each group. SOPs for Operations
10 include startup and shutdown requirements.
- 11
- 12 • Manufacturer’s Manual: Hard copy and electronic O&M manuals are turned over to
13 operation as part of capital improvements projects and maintained at the water
14 treatment plant.
- 15
- 16 • Emergency Plan and Operating Procedures: Safety and Security maintains four
17 related plans 1) Risk and Resilience Assessment 2) Emergency Action Plan 3)
18 Business Continuity Plan 4) Physical Security Plan.
- 19
- 20 • Sampling and Analyses: Laboratory and Compliance maintains procedures for
21 sampling, analysis, and quality control for system monitoring and regulatory
22 reporting.
- 23
- 24 • Public Notification Elements: Compliance is responsible for public notification
25 process.
- 26
- 27 • Routine maintenance activities: Operations performs routine maintenance activities.
- 28

29 **C. Commercial Meter Testing**

30 **Q. WHAT INFORMATION DID COMMISSIONER YANORA REQUEST**
31 **CONCERNING COMMERCIAL METERS?**

32 A. Commissioner Yanora asked for information on the number of commercial meters in the
33 system, the number tested and the number that passed or failed for year 2020.

34 **Q. PLEASE PROVIDE THAT INFORMATION.**

35 A. See the table below for that information:

36

1

Table BK-1

Subject	Number
Commercial Water Meters	9,827
Commercial Water Meters Tested in 2020	917
Commercial Water Meters Passed Testing in 2020	816
Commercial Water Meters Failed Testing in 2020	101

2

3

D. Valve Maintenance

4

Q. WHAT IS COMMISSIONER YANORA'S QUESTION REGARDING THE EXERCISE OF VALVES?

5

6

A. Commissioner Yanora questioned the number of valves PWSA exercised in calendar year 2020 and the frequency of valve maintenance.

7

8

Q. WHAT IS PWSA'S RESPONSE?

9

A. PWSA plans to dedicate two valve crews to focus on inspecting and exercising valves.

10

These inspections, along with the daily activity of exercising valves for leaks and other scheduled activities, will allow PWSA to inspect 1/5 of our system each year. In

11

response to Commissioner Yanora's directed question, PWSA erroneously indicated on

12

13

May 18, 2021 that it has exercised 916 valves in 2021. As I noted in my Direct

14

Testimony on April 13, 2021, the Authority had inspected 1779 valves as of that time.

15

By way of an update, since January 1, 2021, PWSA has exercised 2,620 valves; our plan

16

moving forward is to inspect and exercise 1/5 or approximately 5,200 valves each year.

17

In 2020, PWSA inspected 2,187 valves.

1 **E. Fire Hydrants**

2 **Q. DID COMMISSIONER YANORA ALSO ASK FOR INFORMATION**
3 **REGARDING RESIDENTIAL FIRE PROTECTION?**

4 A. Yes. Commissioner Yanora requested a description of PWSA’s backflow prevention
5 measures regarding residential fire protection and irrigation and asked whether PWSA
6 has a plan for inspection and testing of fire hydrants.

7 **Q. HOW DO YOU RESPOND?**

8 A. During 2021, PWSA has dedicated two employees to flush and inspect hydrants every
9 day, weather permitting. On average, each employee can inspect 15 hydrants a day.

10 From January 1, 2021 until June 9, 2021, PWSA has inspected 2,144 hydrants throughout
11 our system. We are on track to meet the goal of one-third of our system or 2,504
12 hydrants each year.

13 **Q. WHAT ELSE DID COMMISSIONER YANORA REQUEST WITH RESPECT TO**
14 **FIRE HYDRANTS?**

15 A. Commissioner Yanora asked whether PWSA has surveyed the number of fire hydrants
16 that do not provide a minimum flow rate of 500 gpm.

17 **Q. WHAT IS YOUR RESPONSE?**

18 A. The 2020 Water Distribution Master Plan used the PWSA hydraulic model to assess
19 areas of low fire flow. The distribution system mainly identified areas where a minimum
20 flow of 1,500 gpm at 20 psig could not be met. The report concluded that increasing
21 minimum pipe size to 8-inch would greatly improve fire flow in most areas. Since
22 responding to the directed question, PWSA has rerun the hydraulic model to identify
23 specific hydrants that do not provide a minimum flow of 500 gpm at 20 psig. That
24 number is 374.

1 **F. Lost and Unaccounted For Water**

2 **Q. PLEASE DESCRIBE COMMISSIONER YANORA’S QUESTION CONCERNING**
3 **LOST AND UNACCOUNTED FOR WATER.**

4 A. Commissioner Yanora asked whether PWSA has evaluated its lost and unaccounted for
5 water performance since 2018 and requested any relevant results.

6 **Q. HOW DO YOU RESPOND?**

7 A. PWSA has completed the AWWA Water Audit for 2019 and 2020 and submitted the
8 Audit to the Commission as required. PWSA has a higher water loss than is desirable.
9 Near-term projects to try to quantify water loss include the rehabilitation of existing flow
10 meters at all pump stations, installation of flow meters at the discharge of all tanks and
11 storage reservoirs (under various projects), and the initiation of a district metering
12 program (to commence in 2023/2024). Near-term projects to decrease water loss include
13 the small diameter main replacement program, large diameter main program, and the
14 intermediate main program (to commence in 2023). As part of the large diameter and
15 intermediate main programs, internal pipe inspections will be conducted to detect and
16 quantify leaks.

17 **III. CONCLUSION**

18 **Q. DOES THAT COMPLETE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

19 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SUPPLEMENTAL DIRECT TESTIMONY OF

TONY IGWE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3924779 (Stormwater)

TOPICS:

Responses to Stormwater Directed Questions

June 14, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PWSA.**

3 A. My name is Tony Igwe. I am the Senior Group Manager, Stormwater for The Pittsburgh
4 Water and Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021 which accompanied the filing
7 package supporting the PWSA’s requested base rate increase and the implementation of a
8 stormwater fee.

9 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESIMONY?**

10 A. The purpose of this testimony is to respond to portions of the Commission’s Technical
11 Staff Report and Directed Questions Stage 2, which were issued on May 20, 2021.¹
12 Responses to other directed questions are being provided in supplemental direct
13 testimony submitted by PWSA witnesses Keith Readling (PWSA St. No. 8-SD) and
14 Edward Barca (PWSA St. No. 2-SD).

15 **Q. IS PWSA RESPONDING SUBSTANTIVELY TO ALL OF THE DIRECTED**
16 **QUESTIONS AT THIS TIME?**

17 A. Yes, but for several of the questions the PWSA’s answer will be that the substance of the
18 question needs to be explored outside the rate case. PWSA is responding substantively
19 here to the Directed Questions that relate to PWSA’s rates and tariff and therefore are
20 best addressed as part of the rate case proceeding. PWSA will respond to the other
21 Directed Questions as part of the Stage 2 Stormwater Compliance Plan proceeding,
22 which has been held in abeyance until after this conclusion of this rate case, because

¹ Order entered May 20, 2021, Attachment B.

1 those questions as best addressed in the context of the Compliance Plan proceeding.
 2 Exhibit TI-6 provides a complete list of Directed Questions and identifies whether PWSA
 3 will address each topic as part of the rate case or in the Stage 2 Compliance Plan
 4 proceeding. After the rate case concludes, PWSA will file a Supplemental Stage 2
 5 Stormwater Compliance Plan to provide updated information, respond substantively to
 6 the remaining Directed Questions, and begin the Stormwater Compliance Plan Stage 2
 7 proceeding.

8 **II. BACKGROUND**

9 **Q. DID PWSA FILE A STAGE 2 COMPLIANCE PLAN REGARDING**
 10 **STORMWATER ISSUES?**

11 A. Yes. Consistent with the Commission’s directive in its February 4, 2021 Order, PWSA
 12 filed its Compliance Plan Stage 2: Stormwater on April 9, 2021.² On April 13, 2021,
 13 PWSA filed a Motion to Hold Stormwater Compliance Plan Issues In Abeyance while
 14 this current rate case is pending.

15 **Q. WHAT WAS PWSA’S PURPOSE IN REQUESTING TO HOLD STAGE 2**
 16 **STORMWATER ISSUES IN ABEYANCE?**

17 A. As explained in my Direct Testimony (PWSA St. No. 7 at 37-39), the primary goal for
 18 PWSA regarding Stormwater is to be able to implement its new proposed fee and to
 19 receive Commission approval of its tariff to do so. Holding the Stage 2 Compliance Plan
 20 in abeyance will allow for the review of PWSA’s stormwater rates and tariffs in the rate
 21 case, and any unresolved items related to stormwater service can then be addressed in the

² *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Opinion and Order entered February 4, 2021 (“*Stage 1 February 4, 2021 Order*”). At the same time, PWSA filed Compliance Plan Stage 2: Chapters 14 & 56, DSLPA and Collections which is discussed in more detail by Ms. Quigley.

1 Stage 2 proceeding. In this proposal, PWSA was guided by past experience with the
 2 Stage 1 Compliance Plan and its Initial Rate Case, wherein the parties were able during
 3 the Initial Rate Case litigation to more easily identify issues that would be better referred
 4 to the Stage 2 Compliance Plan proceeding and identified those issues at that time. Thus,
 5 rather than attempting to make these decisions in the rate case, and without the benefit of
 6 litigation (and the views of interested stakeholders), PWSA requested that the Stage 2
 7 Compliance Plan Stormwater issues be held in abeyance until after a final order is issued
 8 in this matter. At that time, the Commission will have approved a stormwater tariff and
 9 will be in a better position to evaluate stormwater compliance issues and the PWSA’s
 10 stormwater compliance plan process.

11 **Q. HAS THE STAGE 2 STORMWATER COMPLIANCE PLAN BEEN HELD IN**
 12 **ABEYANCE?**

13 A. Yes, the Commission granted PWSA’s Motion to hold the Stormwater Stage 2
 14 Compliance Plan in abeyance on May 20, 2021.³

15 **Q. DID COMMISSION STAFF ISSUE DIRECTED QUESTIONS TO PWSA**
 16 **REGARDING STORMWATER TOPICS?**

17 A. Yes, the Commission Staff’s stormwater Directed Questions were issued as part of the
 18 Suspension Order in this rate filing.

19 **III. RESPONSES TO STORMWATER DIRECTED QUESTIONS**

20 **A. Projected Expenditures (Directed Questions at 4)**

³ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Opinion and Order entered May 20, 2021.

1 **Q. FOR COSTS THAT ARE SHARED BY WATER, WASTEWATER AND**
 2 **STORMWATER SERVICE, HOW ARE COSTS ALLOCATED TO THE**
 3 **STORMWATER REVENUE REQUIREMENT?**

4 A. The PWSA has presented extensive testimony and exhibits showing the process of
 5 allocating costs among water, wastewater and stormwater service. See the Direct
 6 Testimony of Harold J. Smith, PWSA St. No. 4 at 11-13, 44; Exhs. HJS-1, HJS-2, and
 7 HJS-5SW. The allocation of these costs among these service categories is a more
 8 expansive version of the allocation that PWSA has presented for informational purposes
 9 in its last two base rate proceedings.

10 **Q. WHAT CRITERIA MUST A PROJECT MEET, IN TERMS OF COST-BENEFIT**
 11 **RATIO, TO BE INCLUDED IN THE CAPITAL INVESTMENT PLAN (CIP)?**

12 A. Due to funding limitations and the need to renew/replace a significant amount of aging
 13 infrastructure, the following criteria are used to evaluate and prioritize capital projects:

- 14 • Capacity – Meets community health needs and growth, as needed;
- 15 • Level of Service – Improvement to customer service;
- 16 • Operations and Maintenance Efficiency – Potential for operating cost savings;
- 17 • Regulatory Compliance – Regulatory compliance schedule and potential fines for
 18 non-compliance;
- 19 • Regional Cooperation/Stewardship – Coordination with external stakeholders and
 20 local communities;
- 21 • Reliability/Operational Flexibility – Location, age, and condition of infrastructure
 22 and risk if action is not taken;
- 23 • Safety – Potential health and safety risks to personnel and the public if action is
 24 not taken; and
- 25 • Sustainability – Energy efficiency and “green” approach to improving water
 26 quality.

27

1 **Q. WHAT STORMWATER PROJECTS ARE INCLUDED IN THE CIP AND HOW**
 2 **DOES PWSA EXPECT TO FINANCE EACH OF THESE PROJECTS?**

3 A. PWSA Exhibit EB-5, which was submitted with Mr. Barca’s Direct Testimony (PWSA
 4 St. No. 2) in this proceeding, is a copy of PWSA’s 2021-2025 Capital Improvement Plan.
 5 A detailed description of each of the stormwater projects included in the CIP is provided
 6 on pages 80-99 of Exhibit EB-5. Each project summary includes a budget and identifies
 7 the funding source(s) for that project.

8 It’s important to understand that, at the present time, 100% of the projects that
 9 have been identified as stormwater-related have or would otherwise be included as
 10 “wastewater” projects with the costs recovered in the PWSA’s wastewater rates.⁴ Thus,
 11 PWSA’s stormwater revenue requirement is a reallocation of revenue requirement that
 12 would otherwise be recovered as part of its wastewater revenue requirement. For this
 13 reason, questions about the appropriate nature and scope of “stormwater only” projects
 14 need not be decided in this rate case and can be addressed in the Stage 2 proceeding.

15 **B. 52 Pa. Code § 69.87 – Tariff Provisions That Limit the Liability of Utilities**
 16 **for Injury or Damage as a Result of Negligence of Intentional Torts (Directed**
 17 **Questions at 10)**

18 **Q. PLEASE DISCUSS THE LIMITATION OF LIABILITY SECTION OF PWSA’S**
 19 **PROPOSED STORMWATER TARIFF.**

20 A. The section of PWSA’s proposed Stormwater Tariff addressing the limitation on liability
 21 for injury or damages as a result of negligence or intentional torts is based on the
 22 language in PWSA’s PUC-approved water and wastewater tariffs.

⁴ See my Direct Testimony, PWSA St. No. 7, at 28, as well as Mr. Smith’s Direct Testimony, PWSA St. No. 5, at 3.

1 **Q. DOES THE PROPOSED STORMWATER TARIFF INCLUDE A SPECIFIC**
2 **DOLLAR AMOUNT IN ITS LIMITATION ON LIABILITY SECTION, AND IF**
3 **NOT, WHY NOT?**

4 A. PWSA’s proposed Stormwater Tariff does not include a specific dollar amount in its
5 limitation on liability section. Likewise, PWSA’s existing water and wastewater tariffs
6 also do not include specific dollar amounts related to injury or damages as a result of
7 negligence or intentional torts.

8 As previously addressed in PWSA’s Stage 1 Compliance Plan proceeding,⁵
9 PWSA’s tariffs do not include specific dollar amounts because because the specific dollar
10 limitations are controlled by Pennsylvania law governing political entities such as PWSA,
11 which is a municipal authority. I am advised by counsel that PWSA is generally immune
12 from suit pursuant to the Tort Claims Act (42 Pa.C.S. §§ 8541-8564). While the Tort
13 Claims Act does enumerate eight very specific exceptions regarding when a suit may be
14 brought against a municipal authority regarding negligence or intentional torts, I am
15 advised by counsel that, even if a suit may be brought the Tort Act limits the damages
16 that can be awarded for “the same cause of action or transaction or occurrence or series of
17 causes of action or transactions or occurrences shall not exceed \$500,000 in the
18 aggregate.” 42 Pa.C.S. § 8553(b).

19 **Q. WHY NOT SET FORTH THE TORT CLAIMS ACT LIMITATIONS IN PWSA’S**
20 **PROPOSED STORMWATER TARIFF?**

21 A. PWSA does not believe this is advisable for several reasons. First, a person’s ability to
22 bring suit for negligence or intentional torts is very limited when the claim involves a

⁵ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage I*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), PWSA St. No. C-4, Direct Testimony of Julie Quigley, at 34-36; *see also* the Stage 1 Joint Petition for Partial Settlement, Section III.V.

1 municipal authority like PWSA. As such, identifying specific dollar limitations in the
2 tariff could be confusing by creating the appearance that such suit can even be brought.
3 Second, the Tort Claims Act comprehensively – and through decades of case law
4 precedent – addresses this issue for municipal authorities like PWSA. As such, I am
5 advised by counsel that the Commission does not have jurisdiction over these issues and
6 – given the body of law outside of Commission jurisdiction that is directly applicable –
7 placing dollar limitation language in the tariff is not necessary. Finally, and if the
8 Commission were still to decide that dollar amounts should be stated in the tariff, the
9 Torts Claim Act does specify eight exceptions regarding PWSA’s immunity from suit but
10 – even if applicable – the overall amount of damages that could be recovered is limited.
11 To be accurate, PWSA’s tariff would need to specifically identify each of these
12 exceptions (all of which have been refined and clarified through decades of case law) as
13 well as the overall cap on damages in the event any of these suits were successful. In
14 PWSA’s judgment, such complex and lengthy language to explain something that is
15 outside the Commission’s jurisdiction, and which is governed by a well-developed body
16 of law does not appear to serve any useful purpose and, more likely, just creates
17 confusion for consumers trying to look at PWSA’s tariff and figure out his or her options
18 regarding negligence and/or intentional torts. For these reasons, PWSA’s position is that
19 its tariff provisions following the model water tariff are sufficient, and no specific dollar
20 limitations addressing injury or damage resulting from negligence or intentional torts
21 should be added.

1 **Q. WHAT IS PWSA’S VIEW REGARDING THE APPLICATION OF LIMITATION**
2 **OF LIABILITY TO MATTERS SPECIFICALLY RELATED TO STORMWATER**
3 **SERVICE?**

4 A. I am advised by counsel that regardless of the “source” of an injury or damage resulting
5 from negligence or intentional tort, a person’s right to bring a suit and their entitlement to
6 damages would be governed by the Tort Claims Act. As such, I do not see any specific
7 reason to provide a specific dollar amount or other terms uniquely related to stormwater
8 service.

9 **Q. HAS PWSA’S LIMITATION ON LIABILITY TARIFF LANGUAGE BEEN**
10 **PREVIOUSLY ADDRESSED BY THE COMMISSION AND THE PARTIES?**

11 A. Yes. This topic was addressed in PWSA’s Stage 1 Compliance Plan proceeding. As part
12 of the partial settlement in that proceeding, the parties “[did] not recommend revisions to
13 PWSA’s tariff to include specific dollar amounts.”⁶ This settlement provision was later
14 approved by the Commission.⁷ As a result, PWSA’s approved water and wastewater
15 tariffs do not include a specific dollar amount for the limitation on liability, and PWSA’s
16 proposed Stormwater tariff likewise should not include a specific dollar amount.

17 **C. PWSA’s Relationship with the City of Pittsburgh (Directed Questions at 12-**
18 **13)**

19 **Q. PLEASE RESPOND TO THE DIRECTED QUESTIONS ON PWSA’S**
20 **RELATIONSHIP WITH THE CITY OF PITTSBURGH RELATED TO**
21 **STORMWATER SERVICE AND OPERATIONS.**

22 A. As I will discuss below, PWSA proposes to address these topics as part of the Stage 2
23 Compliance Plan proceeding. However, I would note two items at this time. First, under

⁶ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Joint Petition for Partial Settlement, Section III.V.

⁷ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Opinion and Order (Mar. 26, 2020).

1 PWSA’s proposal, the City will be charged full stormwater rates when the tariff goes into
2 effect. And second, PWSA is a party to a 30-year lease (Capital Lease Agreement) with
3 the City of Pittsburgh. While the City currently owns the system, including stormwater
4 assets, PWSA has the option to acquire the City’s assets for one dollar upon termination
5 of the lease term in 2025.⁸

6 **D. Bulk Stormwater Agreements (Directed Questions at 13-14)**

7 **Q. DOES PWSA HAVE ANY BULK STORMWATER AGREEMENTS WITH**
8 **OTHER UTILITIES, MUNICIPALITIES OR PUBLIC AUTHORITIES IN**
9 **PLACE AT THIS TIME?**

10 A. No, PWSA does not have any agreements in place regarding bulk stormwater service at
11 this time.

12 **Q. IS PWSA FINANCIALLY RESPONSIBLE TO THIRD PARTIES FOR COSTS**
13 **BORNE BY THE THIRD PARTIES FOR MANAGING STORMWATER THAT**
14 **DOES NOT ENTER A FACILITY OPERATED BY PWSA (SUCH AS COSTS TO**
15 **COLLECT AND CONVEY STORMWATER USING ROADWAYS)?**

16 A. No, PWSA currently is not financially responsible to third parties for costs borne by the
17 third parties for managing stormwater that does not enter a facility operated by PWSA.
18 PWSA does pay conveyance and treatment charges to the Allegheny County Sanitary
19 Authority (“ALCOSAN”) per the agreement between these two parties.

20 **Q. IS PWSA FINANCIALLY RESPONSIBLE FOR COSTS PAID BY A THIRD**
21 **PARTY FOR MANAGING STORMWATER THAT WAS CONVEYED TO THE**
22 **THIRD PARTY BY PWSA?**

23 A. No. PWSA is not currently responsible and is not aware of any plans to require PWSA to
24 be financially responsible for costs paid by a third party for managing stormwater that
25 was conveyed to the third party by PWSA.

⁸ See PWSA’s Revised Compliance Plan at 118, filed April 27, 2020, Docket Nos. M-2018-2640802 and M-2018-2640803

1 **Q. PLEASE DISCUSS PWSA’S APPROACH TO THE COSTS OF CONVEYING**
 2 **STORMWATER GENERATED FROM DEVELOPED PROPERTIES OUTSIDE**
 3 **PWSA’S SERVICE TERRITORY, BUT WITHIN PWSA’S SEWERSHED**
 4 **AREAS, BY CONTRIBUTING MUNICIPALITIES.**

5 A. PWSA is not proposing to include any charges for Contributing Municipality Service at
 6 this time for two major reasons. First, stormwater from these municipalities flows into a
 7 combined sewer system that the City of Pittsburgh developed decades ago, in some cases
 8 by enclosing creeks in which the stormwater originally discharged. Second, future
 9 control of combined sewer and separate sanitary sewer overflows may involve PWSA
 10 and upstream municipalities working together to provide parallel relief sewers to address
 11 these wet weather issues. When such projects are developed, a cost sharing model that
 12 includes upstream communities will be developed. With this approach, PWSA and these
 13 municipalities will work together to provide adequate stormwater management to solve
 14 wet weather issues.

15 **IV. TOPICS TO BE SUBSTANTIVELY ADDRESSED IN STORMWATER STAGE 2**
 16 **COMPLIANCE PLAN**

17 **Q. ARE THERE TOPICS THAT YOU PROPOSE SHOULD BE ADDRESSED**
 18 **SUBSTANTIVELY AS PART OF THE STAGE 2 COMPLIANCE PLAN**
 19 **PROCEEDING?**

20 A. Yes. The topics listed below are appropriately addressed in the context of the Stage 2
 21 Compliance Plan proceeding, which will begin after the conclusion of this base rate case:

- 22 • Memorandum of Understanding with the City of Pittsburgh (Directed Questions
 23 at 4);
- 24 • 52 Pa. Code § 65.2 – Accidents (Directed Questions at 5);
- 25 • 52 Pa. Code § 65.4 – Records (Directed Questions at 5);
- 26 • 52 Pa. Code § 65.17 – Standards of Design (Directed Questions at 8);
- 27 • 52 Pa. Code § 65.21 – Duty of Public Utility to Make Line Extensions (Directed
 28 Questions at 9);

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- 52 Pa. Code § 101 – Public Utility Preparedness through Self-Certification (Directed Questions at 11);
- PWSA’s Relationship with the City of Pittsburgh (Directed Questions at 12-13) (noting that portions of this topic have been addressed in my testimony above); and
- Bulk Stormwater Agreements (Directed Questions at 13-14)

Q. WHY DO YOU PROPOSE TO ADDRESS THESE TOPICS IN THE COMPLIANCE PLAN PROCEEDING AND NOT IN THIS BASE RATE CASE?

A. These Directed Questions address topics such as various types of emergency preparedness plans, reportable accidents, record retention, and design standards, which are not directly related to PWSA’s proposed stormwater rates or tariff. These topics are best addressed in the context of the Stormwater Stage 2 Compliance Plan.

Q. WHY SHOULD STORMWATER LINE EXTENSIONS BE ADDRESSED IN THE STAGE 2 COMPLIANCE PLAN PROCEEDING?

A. The questions regarding line extensions for stormwater are complex and will require significant investigation by PWSA. PWSA proposes to address its compliance with Section 65.21 for stormwater purposes as part of the Stormwater Stage 2 Compliance Plan to allow time for this investigation to occur.

Stormwater line extensions are not as easily performed as water line extensions. The capacity of the existing combined sewer system plays a role in the ability to construct the extension. Because of the extremely limited capacity in PWSA’s combined system due to development over the years, stormwater lines have been extended only for purposes of separating stormwater from wastewater.

In several areas served by the municipal separate storm sewer system (“MS4”) where stormwater piping is not present, natural swales were formerly present along the roadway to convey the flow of stormwater. These have either been paved over or have

1 not been maintained. If PWSA would consider approving a stormwater line extension
2 request by a bone fide service applicant in the MS4 portions of the system, capacity and
3 permits would need to be approved, and the construction funded per the provisions of 52
4 Pa. Code § 65.21.

5 As new facilities are constructed or as existing facilities are replaced, provided
6 that such facilities meet PWSA's standards of design and construction and the existing
7 owner/operator is willing and able to dedicate the facilities to PWSA, the Authority will
8 consider assuming ownership and operation of stormwater facilities installed in its
9 service area to serve the public (i.e., excluding facilities that serve individual lots or a
10 defined, limited and privileged group of lots).

11 Because stormwater line extensions are more complex and require different
12 considerations than water line extensions, PWSA proposes to address this topic fully in
13 the Stage 2 Compliance Plan proceeding.

14 **Q. WHY SHOULD THE RELATIONSHIP WITH THE CITY OF PITTSBURGH BE**
15 **ADDRESSED IN THE STAGE 2 COMPLIANCE PLAN PROCEEDING?**

16 Portions of the questions on PWSA's relationship with the City of Pittsburgh that
17 are directly related to the rate case have been addressed in my testimony above. The
18 remaining parts of this question are not directly related to the rate case and involve long-
19 term planning between PWSA and the City that are in very early stages. PWSA's
20 relationship with the City was previously addressed in the Stage 1 Compliance Plan
21 proceeding, and therefore it is appropriate for the stormwater-specific aspects of this
22 relationship to also be addressed in the Stage 2 Compliance Plan proceeding.

1 **Q. WHY SHOULD BULK STORMWATER AGREEMENTS BE ADDRESSED IN**
2 **STAGE 2?**

3 A. Portions of the questions on bulk stormwater agreements have been addressed in my
4 testimony above. As I indicated, PWSA does not currently have any bulk stormwater
5 agreements in place. Therefore, discussion about how any future bulk stormwater
6 agreements should comply with Commission regulations should be addressed in the
7 Stage 2 Compliance Plan proceeding.

8
9 **V. CONCLUSION**

10 **Q. DOES THAT COMPLETE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

11 A. Yes. However, I reserve the right to supplement this testimony as may be appropriate.

Exhibit TI-6

**List of PUC Staff Stormwater Directed Questions
Being Substantively Addressed in Rate Case or Stage 2 Compliance Plan**

Directed Question Topic	Proceeding
Memorandum of Understanding with the City of Pittsburgh	Stage 2 Compliance Plan
Projected Expenditures	Rate Case
52 Pa. Code § 53.53 – Information to be furnished with proposed general rate increase filings in excess of \$1 million	Rate Case
52 Pa. Code § 65.2 – Accidents	Stage 2 Compliance Plan
52 Pa. Code § 65.4 – Records	Stage 2 Compliance Plan
52 Pa. Code §§ 65.8 – Meters & 65.14 – Measurement	Rate Case
52 Pa. Code § 65.16 – System of Accounts	Stage 2 Compliance Plan
52 Pa. Code § 65.17 – Standards of Design	Stage 2 Compliance Plan
52 Pa. Code § 65.19 – Filing of Annual Financial Reports	Stage 2 Compliance Plan
52 Pa. Code § 65.21 – Duty of Public Utility to Make Line Extensions	Stage 2 Compliance Plan
52 Pa. Code § 65.22 – Customer Advance Financing, Refunds and Facilities on Private Property	Rate Case
52 Pa. Code § 69.87 – Tariff Provisions That Limit the Liability of Utilities for Injury or Damage as a Result of Negligence of Intentional Torts	Rate Case
52 Pa. Code § 73.3 – Annual Depreciation Reports	Stage 2 Compliance Plan
52 Pa. Code § 73.5 – Service Life Study Report	Stage 2 Compliance Plan
52 Pa. Code § 73.6 – Format for Filing Service Life Study Report	Stage 2 Compliance Plan
52 Pa. Code § 73.7 – Capital Investment Plan Report	Stage 2 Compliance Plan
52 Pa. Code § 73.8 – Format for Filing the Capital Investment Plan Report	Stage 2 Compliance Plan
52 Pa. Code § 101 – Public Utility Preparedness through Self-Certification	Stage 2 Compliance Plan
PWSA’s Relationship with the City of Pittsburgh	Rate Case and Stage 2 Compliance Plan
Bulk Stormwater Agreements	Stage 2 Compliance Plan
66 Pa. C.S. §§ 510 – Assessment for regulatory expenses upon public utilities & 3207 – Commission assessment	Stage 2 Compliance Plan
66 Pa. C.S. § 1311 – Valuation of and return on the property of a public utility	Rate Case
Stormwater Credit Program	Rate Case

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SUPPLEMENTAL DIRECT TESTIMONY OF

KEITH READLING

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Responses to Stormwater Directed Questions

June 14, 2021

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C. Stormwater Credit Program (Directed Questions at 15) 6

VII. CONCLUSION 6

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Keith Readling. I am Executive Vice President of Raftelis Financial
4 Consultants, Inc. (“Raftelis”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021, which accompanied the rate filing.

7 **Q. WHAT IS THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

8 A. The purpose of my Supplemental Direct Testimony is to respond to certain portions of
9 the Commission’s Technical Staff Report and Directed Questions Stage 2, which were
10 issued on May 20, 2021. Responses to other Directed Questions are being provided in
11 supplemental direct testimony submitted by PWSA witnesses Tony Igwe (PWSA St. No.
12 7-SD) and Edward Barca (PWSA St. No. 2-SD).

13

14 **II. RESPONSES TO DIRECTED QUESTIONS**

15 A. 52 Pa. Code §§ 65.8 – Meters & 65.14 – Measurement (Directed Questions at
16 6-7)

17 **Q. HOW DID PWSA DETERMINE THAT IMPERVIOUS SURFACE AREA**
18 **MEASURED IN GIS SOFTWARE IS THE APPROPRIATE MEASURE FOR**
19 **STORMWATER BILLING?**

20 A. As stated in my direct testimony (PWSA St. No. 8), “impervious surface area is the most
21 commonly used metric across the United States to charge for costs related to stormwater
22 services like flood control and water quality management... The more impervious area on
23 a property, the more runoff the property generates and the greater the demand for the
24 utility’s combined or separate conveyance, flood control and water quality management
25 services.” Measuring impervious area in GIS software is an accurate way to determine

1 the total impervious surface area across the service area and the amount on each
2 individual parcel. Other bases for a stormwater fee, such as the combination of land use
3 and runoff factors are less accurate approximations of an individual parcel’s impervious
4 surface area and the resultant demand each places on the system.

5 **Q. WHAT WERE THE SPECIFICATIONS OF THE INITIAL IMPERVIOUS AREA**
6 **MEASUREMENT?**

7 A. According to the documentation provided to PWSA by Michael Baker International,
8 impervious surface mapping was done against imagery with 6-inch pixels. The minimum
9 mapping unit for all features is 100 square feet, or less, if the feature is visible in the
10 imagery and could be appropriately collected.

11 **Q. HOW WAS ACCURACY OF THE INITIAL SURFACE MEASUREMENT DATA**
12 **ENSURED?**

13 A. Impervious surface data went through multiple iterations of quality control by Michael
14 Baker International. These efforts included the use of both custom ArcGIS Python
15 scripts and head’s up visual review. Adjustments to the impervious area polygons were
16 made based on quality control findings.

17 **Q. WHAT IS THE ALLOWABLE ERROR IN THE IMPERVIOUS AREA DATA?**

18 A. Throughout the impervious area data development process, there was no “allowable
19 error.” Any errors identified were resolved.

20 **Q. HOW WILL IMPERVIOUS AREA DATA BE MAINTAINED ONCE BILLING**
21 **BEGINS?**

22 A. In my direct testimony, I stated that “PWSA staff will update stormwater billing source
23 data – impervious surface area data and parcel boundary data – in response to customer
24 inquiries and event triggers indicating new or changed development (such as

1 development permits, Certificates of Occupancy issued, building inspections, etc.).
2 Updates will also be made as needed following new releases of aerial imagery.”
3 Customers may request that their measured impervious area be validated, and PWSA
4 staff will do so. If PWSA can access City building permit data, it can be used to identify
5 likely locations where impervious surfaces have changed due to construction or
6 demolition. That is, some types of permits are often related to impervious surface
7 changes, while others may often not be.

8 Impervious area will also be updated upon receipt and review of updated aerial
9 imagery data, which is anticipated every five years.

10 Changes to impervious surface area on each parcel will be audited in PWSA’s
11 stormwater billing information software. PWSA can use those audit data to track
12 instances of updated impervious surface data.

13 **B. 52 Pa. Code § 65.22 – Customer Advance Financing, Refunds and Facilities**
14 **on Private Property (Directed Questions at 9-10)**

15 **Q. HOW WERE PWSA’S PROPOSED CREDIT AMOUNTS CALCULATED?**

16 A. Most stormwater programs set a maximum credit for standard approaches under the
17 understanding that even if all ratepayers did everything possible to install on-site
18 controls, the Authority would still need to provide certain services and so the costs and
19 rates would not trend completely to zero. This is true for PWSA and Raftelis determined
20 from the 2022 budget that about 25% of the costs in 2022 will be support services which
21 include administration, bad debt and credit program costs, and transfers. The remaining
22 75% of costs can be functionalized across several categories including system cleaning,
23 MS4-related, CSO, and flood control. On-site controls like those installed to comply
24 with the 2019 standard will mitigate stormwater demand for all of these functions (except

1 support services), but not completely. Raftelis estimates that about 80% of the non-
 2 support costs might be mitigated by on-site stormwater controls that meet the 2019
 3 standard, such that the maximum credit would best be set at 80% of the non-support
 4 costs.

5 This totals 60% of all costs and this is the basis for the planned 60% credit for
 6 properties complying with the 2019 development standards with regard to their
 7 installation and maintenance of stormwater control measures. This is also consistent with
 8 the planned 50% credit available to residential customers who either disconnect
 9 downspouts, route impervious drainage to street planters, or control runoff from ¾ inch
 10 of rain on impervious surfaces on their parcels, since the mitigative effect of these actions
 11 mirrors that of the types of controls employed on non-residential properties complying
 12 with the 2019 standards.

13 The 45% credit for compliance with the 2016 City of Pittsburgh stormwater
 14 standards reflects the fact that those standards are about 75% as stringent as the 2019 City
 15 of Pittsburgh stormwater standards.

16 **Q. HOW DOES A CUSTOMER ACHIEVING A STORMWATER FEE CREDIT**
 17 **IMPACT EQUITY BETWEEN CUSTOMER CLASSES?**

18 A. PWSA’s cost of service for stormwater relates to impervious area. In the planned rate
 19 structure, impervious area is the sole metric of cost causation, regardless of the customer
 20 class. The rate structure has built-in equivalence between the customer classes by having
 21 non-single family residential (NSFR) properties be billed based on a unit derived from
 22 the single family residential (SFR) property class (the equivalent residential unit, ERU, of
 23 1,650 square feet), i.e. a property with one ERU of impervious area will be billed for one
 24 regardless of customer class. A stormwater fee credit is an adjustment to measured

1 impervious area, necessitated by the fact that runoff from that measured impervious area
 2 is placing a reduced demand on the Authority for service as a result of the stormwater
 3 control measures in place. Though that adjustment to impervious area is occurring at a
 4 property level, impacting either an NSFR or SFR property, it does not change the basis
 5 for the fee – impervious area placing demand on the system – nor does it alter the
 6 necessity for equivalence between the customer classes. Therefore, the revenue reduction
 7 caused by the existence of a credit program should be recovered from all customer
 8 classes through the impervious area rate, in recognition that the reduced units of service
 9 resulting from credits is a refinement of the total demand and total units of service, not a
 10 benefit to one or another customer class.

11 **Q. PLEASE DISCUSS THE POTENTIAL REVENUE LOSS ASSOCIATED WITH**
 12 **PWSA’S PROPOSED CREDIT PROGRAM.**

13 A. As stated in my direct testimony, PWSA anticipates that participation in the credit
 14 program would result in revenue offsets of less than 5% of full billings. (PWSA St. No. 8
 15 at 19).

16 **Q. WHAT TYPE OF “REGIONAL EFFORTS” UNDERTAKEN BY A NON-**
 17 **RESIDENTIAL CUSTOMER WOULD QUALIFY FOR A CREDIT?**

18 A. “Regional efforts” refers to stormwater controls that treat an effective impervious area
 19 larger than that which exists on the same property as the control. This may also be
 20 referred to as “overtreatment.” Through sufficient overtreatment (controlling at least 25%
 21 more runoff than required by 2019 City of Pittsburgh stormwater standards), customers
 22 may achieve a credit up to 100% of their fee. “Regional efforts” do not include monetary
 23 contributions to PWSA to fund facilities that collect, convey, treat and/or dispose of
 24 stormwater for the public.

1 **C. Stormwater Credit Program (Directed Questions at 15)**

2 **Q. HOW HAS PWSA ALLOCATED THE COST OF PROPOSED STORMWATER**
3 **CREDITS ACROSS CUSTOMER CLASSES?**

4 A. This is addressed in PWSA witness Harold Smith’s direct testimony, which explains that
5 costs of the credit program are allocated to classes based on the unadjusted cost of
6 service. (PWSA St. No. 4 at 44). As I discussed above, impervious area is the sole metric
7 of cost causation, regardless of the customer class, and therefore costs of the credit
8 program should be recovered from all customer classes through the impervious area rate,
9 in recognition that the reduced units of service resulting from credits is a refinement of
10 the total demand and total units of service, not a benefit to one or another customer class.

11
12 **VII. CONCLUSION**

13 **Q. DOES THAT COMPLETE YOUR SUPPLEMENTAL DIRECT TESTIMONY?**

14 A. Yes. However, I reserve the right to supplement this testimony as may be appropriate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

WILLIAM J. PICKERING

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Importance of Requested Funding

History of Rate Increases

Low-Income Customer Assistance Programs

Effects of Pandemic

Lead Service Line Remediation Program

July 29, 2021

Revised July 30, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PWSA.**

3 A. My name is William J. Pickering. My position with The Pittsburgh Water & Sewer
4 Authority (“PWSA” or “Authority”) is Chief Executive Officer.

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony April 13, 2021 that accompanied the rate filing.

7 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

8 A. A key purpose of my Rebuttal Testimony is to emphasize the importance of PWSA
9 receiving adequate funding to meet its goals and objectives of continuing to enhance the
10 quality and effectiveness of customer service, provide responsible and responsive
11 operations service, improve infrastructure reliability, and maintain regulatory
12 compliance. With respect to the parties’ numerous proposals that are not currently part of
13 PWSA’s budget or request for rate relief, I address the need to defer them until sufficient
14 funds are available. This testimony also discusses PWSA’s history of rate increases since
15 2016 and highlights the extensive measures PWSA has implemented to moderate the
16 impact on customers and to specifically assist low-income customers. Finally, I am
17 addressing the overall effects of the pandemic on the ability of the Authority’s customers
18 to pay higher rates, noting again the assistance PWSA has provided and continues to
19 furnish.

20 In offering this Rebuttal Testimony, I am responding (either directly and
21 indirectly) to portions of the Direct Testimony of Bureau of Investigation and

1 Enforcement (“I&E”) witnesses Anthony Spadaccio,¹ D. C. Patel,² and Israel E. Gray;³
2 Office of Consumer Advocate (“OCA”) witnesses Dante Mugrace,⁴ David S. Habr,⁵
3 Rodger D. Colton,⁶ Barbara Alexander,⁷ Terry L. Fought,⁸ and Morgan N. DeAngelo;⁹
4 and Pittsburgh United witness Harry Geller.¹⁰ I am also addressing a portion of the
5 Direct Testimony of Office of Small Business Advocate (“OSBA”) witness Brian Kalcic
6 regarding the lead service line remediation program.¹¹

7 **Q. DO YOU HAVE ANY GENERAL COMMENTS ABOUT THE OTHER PARTIES’**
8 **TESTIMONY?**

9 A. Yes. To the extent that PWSA witnesses do not address particular positions expressed by
10 the other parties or respond to specific recommendations made by the witnesses on behalf
11 of the other parties, our silence should not be viewed as agreement. Rather, unless
12 PWSA specifically agrees with a proposal or recommendation, the Authority should be
13 viewed as rejecting it.

14 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

15 A. Yes. I am sponsoring PWSA Exhibit WJP-3, which consists of Updated Rate Case
16 Tables.

1 I&E Statement No. 1.

2 I&E Statement No. 2.

3 I&E Statement No. 4.

4 OCA Statement 1.

5 OCA Statement 2.

6 OCA Statement 4.

7 OCA Statement 5.

8 OCA Statement 6.

9 OCA Statement 7.

10 Pittsburgh United Statement 1.

11 OSBA Statement No. 1.

1 **Q. PLEASE EXPLAIN THE UPDATED RATE CASE TABLES YOU ARE**
2 **PRESENTING AS AN EXHIBIT WITH THIS TESTIMONY.**
3

4 A. PWSA Exhibit WJP-3 includes the Updated Rate Case Tables. Support for the figures in
5 this Exhibit is provided in the testimony of the following PWSA Witnesses: Edward
6 Barca, Harold Smith, and Keith Readling.

7 **II. IMPORTANCE OF REQUESTED FUNDING**
8

9 **Q. DO YOU HAVE OVERALL CONCERNS ABOUT THE LEVEL OF RATE**
10 **INCREASES RECOMMENDED BY I&E AND OCA?**
11

12 A. Yes. The Rebuttal Testimony of PWSA witness Edward Barca addresses in detail the
13 overall rate increase recommendations of I&E and OCA, the financial metrics
14 recommendations of various parties and the proposed adjustments to PWSA's claims for
15 certain revenues and expenses. Through my Rebuttal Testimony, I wish to emphasize the
16 importance of the Commission approving adequate funding for PWSA, which permits it
17 to continue to enhance the Authority's ability to meet regulatory requirements, provide
18 high quality customer service, furnish responsible and responsive operations service,
19 maintain financial health, modernize its system, improve safety, infrastructure reliability
20 and businesses processes, and enhance its billing system. While PWSA has made
21 significant achievements, we need to continue these efforts so that we are a utility of the
22 future that delivers the highest possible quality of services to our customers. Similar to
23 the views expressed by Mr. Barca, I have significant concerns that if the Commission
24 adopts the other parties' recommendations on revenue requirements, PWSA will be
25 forced to drastically cut back its expenditures and, as a result, PWSA's progress will be
26 halted and its ability to maintain the accomplishments that the Authority has achieved
27 will be seriously jeopardized.

1 **Q. SINCE THE OTHER PARTIES HAVE NOT PROPOSED ADJUSTMENTS TO**
2 **THE CONSTRUCTION BUDGET, WHY DO YOU HAVE CONCERNS ABOUT**
3 **PWSA BEING ABLE TO CONTINUE ITS PROGRESS?**
4

5 A. It is not sufficient for PWSA to have an approved construction budget without the
6 necessary Operating and Maintenance (“O&M”) budget to support its capital program.
7 Constructing the various projects identified in the Direct Testimony of PWSA witness
8 Barry King requires PWSA to have an adequate O&M budget that enables it to
9 implement those projects. I also note that PWSA has recently had to address unexpected
10 and urgent sewer repairs, not all of which can be capitalized. Examples include costly
11 emergency repairs of a structural failure of the 120-inch sewer in the vicinity of the CSX
12 railroad tracks near West Carson Street and an emergency rehabilitation required on the
13 M29 outfall sewer in the vicinity of the Allegheny Valley Railroad (“AVVR”) near
14 Second Avenue.

15 **Q. DO YOU HAVE ANY GENERAL OBSERVATIONS ABOUT THE OTHER**
16 **PARTIES’ PROPOSALS?**
17

18 A. Yes. I note that the other parties advance numerous proposals for changes in PWSA’s
19 operations and customer service, which are costly and would require additional funds and
20 staffing. While my list is not exhaustive, and each proposal will be addressed in detail by
21 other PWSA witnesses, examples of these proposed modifications include: 100%
22 Discount of Stormwater Fee to Bill Discount Program (“BDP”) participants;¹² Consumer
23 Education for Stormwater Rate;¹³ Additional Reporting;¹⁴ Extensions of Pandemic

¹² Pittsburgh United Statement 1 at 48.

¹³ OCA Statement 5 at 32.

¹⁴ OCA Statement 5 at 33-34.

1 Measures;¹⁵ Extension of Termination Moratorium;¹⁶ Transition of the BDP to
 2 Percentage of Income Program;¹⁷ Automatic Enrollment of BDP Customers in Pilot
 3 Arrearage Forgiveness Program;¹⁸ Additional Outreach Regarding BDP;¹⁹ Increased
 4 Tracking of Low-Income Customers by Income Level;²⁰ Development of Valve
 5 Maintenance Program and Thorough Record-Keeping Procedure;²¹ Ownership and
 6 Maintenance of Customer’s Sewer Lateral;²² Root Cause Analysis of Complaints;²³ and
 7 Estimated Bill Volumes.²⁴

8 Particularly given the parties’ recommendations relating to PWSA’s overall
 9 revenue requirements, it is not reasonable to expect the Authority to consider adoption of
 10 these proposals, while at the same time not permitting PWSA to charge rates sufficient to
 11 fund our existing fully projected future test year budget. Although the Commission and
 12 the parties are well aware that PWSA does not have shareholders in the way that
 13 investor-owned utilities do, it bears repeating. PWSA’s ratepayers would be the source
 14 of the funds needed for many of the proposed enhancements, which runs directly contrary
 15 to the sentiments expressed by the parties concerning the effects of the proposed rate
 16 increase on PWSA’s customers. I urge the Commission to reject proposals for modifying

15 OCA Statement 4 at 21.

16 Pittsburgh United Statement 1 at 49.

17 OCA Statement 4 at 39-41.

18 OCA Statement 4 at 4-5; Pittsburgh United Statement 1 at 40-41.

19 OCA Statement 4 at 4.

20 Pittsburgh United Statement 1 at 46.

21 I&E Statement No. 4 at 5.

22 OCA Statement 6 at 33.

23 OCA Statement 5 at 36.

24 OCA Statement 5 at 35.

1 PWSA's operations and customer service for which no funding is available, or without
2 awarding substantial rate relief.

3 **Q. IS PWSA WELL-POSITIONED TO CONTINUE ITS FORWARD PROGRESS?**

4 A. Provided that PWSA's obtains approval for the necessary rate relief, the Authority will be
5 in a solid position to continue making progress toward enhancing the quality and
6 effectiveness of customer service, providing responsible and responsive operations
7 service, improving infrastructure reliability, and maintaining regulatory compliance.
8 While PWSA has completed a number of construction projects that are designed to
9 provide more reliable service to customers, meet stricter water quality standards and
10 improve stormwater management, we need to continue these efforts so that we are a
11 utility of the future that delivers the highest possible quality of services to our customers.
12 Continued support from the Commission in the form of rate relief as well as collaborative
13 efforts to improve the safety, quality and reliability of PWSA's water, wastewater and
14 stormwater services are critical.

15 **III. HISTORY OF RATE INCREASES**

16 **Q. ARE YOU AWARE OF CONCERNS THAT HAVE BEEN RAISED DURING**
17 **THIS PROCEEDING ABOUT PWSA'S HISTORY OF RATE INCREASES**
18 **DATING BACK TO 2016?**

19 A. Yes. I am aware of the Direct Testimony of Mr. Geller, which indicates that from 2016
20 to 2021, PWSA's rates have increased for residential households using between 1,000
21 and 5,000 gallons of water per month in amounts ranging from 73.7% to 94.8%.
22 (Pittsburgh United Statement 1 at 17). In addition, I understand that PWSA's history of
23 rate increases was a recurring theme during the public input hearings, with one witness
24 noting that in 2016, the average residential PWSA customer was charged about \$478 per

1 year and that by 2023, the average customer is going to be charged about \$1,093 per year,
2 for an increase over that time of 130%, if PWSA's proposed rate increase is approved.²⁵

3 **Q. DO THESE CALCULATIONS APPEAR TO BE CORRECT?**

4
5 A. Yes, and I appreciate the significance of these increases. However, I note that rates have
6 risen gradually over the last 5-year period, and as part of this filing, PWSA proposes to
7 phase-in the increase over two years. The need for the level of increases since 2016 has
8 been driven by increases in O&M expenses and to fund the numerous essential projects in
9 the Capital Improvement Plan ("CIP") that are key to enhancing the quality of utility
10 services that PWSA provides.

11 In addition, I note that historically, prior to 2016, PWSA's operational and capital
12 investments were artificially restrained to avoid any significant rate increases, as
13 explained by Robert A. Weimar's Direct Testimony in the 2018 rate proceeding. From
14 2015 to 2018, the Authority's management team began to ramp-up its operations by, for
15 example, renewing compliance with existing regulatory requirements, addressing key
16 system deficiencies, improving its staff training, safety and equipment to begin to fully
17 address the longstanding deficiencies, and moving to restore the entire utility's
18 functionality. While PWSA understands the burden any rate increase imposes on our
19 customers, it is important to recognize that during the years prior to 2016, the Authority's
20 rates remained artificially low and it was unable to make the essential investments in the
21 water, sewer, and stormwater systems that were needed to ensure the continued
22 compliance with all regulatory requirements and the provision of the highest quality
23 service to customers. Inadequate investment resulted in equipment failures, water quality

²⁵ June 29, 2021, 1:00 p.m., Tr. 183.

1 and safety issues, a general public concern about the Authority’s utility systems and
 2 various problems with billing that ranged from errors or inaccuracies to delays in
 3 rendering bills. Since then, PWSA has noted that the rate increases are absolutely crucial
 4 if PWSA is to achieve its goals of providing safe, reliable and efficient service of the
 5 highest quality, as well as fully comply with all federal and state regulations and
 6 mandates.

7 PWSA is now focused on becoming a more professional and customer centric
 8 public utility that delivers “best in class” drinking water, wastewater collection and
 9 stormwater related services. In October 2018, PWSA released “Pittsburgh’s Water
 10 Future 2030 and Beyond,” which sets forth a 12-year plan for Pittsburgh’s water system.
 11 Included in this report is PWSA’s vision for rebuilding and upgrading the drinking water,
 12 stormwater and sewer systems. The report details PWSA’s goals including, inter alia,
 13 transparency, accountability, reliability, and affordability.²⁶ In 2019, PWSA issued an
 14 update to its website, which highlights some of PWSA’s key projects – from lead line
 15 replacements to innovative stormwater management solutions to customer assistance
 16 programs and community engagement initiatives.²⁷

17 **Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT THE RATE CASE**
 18 **HISTORY SINCE 2016?**

19
 20 A. Yes. While PWSA’s financial needs are compelling in view of the importance of fully
 21 funding the CIP and enhancing the quality of its services, we are also cognizant of the
 22 financial challenges that many of our customers have faced. In our collective Direct

²⁶ A copy of Pittsburgh’s Water Future 2030 and Beyond is available at:
<https://www.pgh2o.com/sites/default/files/2020-01/PGH2o2030Plan%20-%20Smaller.pdf>

²⁷ A copy of the 2019 Update is available at: <https://pgh2o2030.com/2019-update>

1 Testimony, PWSA proposed a number of measures to mitigate the effect of the rate
 2 increase on customers, particularly those who are low-income. The Other Parties’ Direct
 3 Testimony does not acknowledge the extensive efforts PWSA has undertaken to
 4 moderate the impact of higher rates on our customers. An important proposal offered by
 5 PWSA is to phase-in the requested rate increase over two years. PWSA also requested
 6 just a fraction of the amount that it could have justified by pegging its key financial
 7 metrics – such as days of cash on hand or debt service coverage – to those enjoyed by
 8 comparable benchmark companies. In general, the parties do not recognize the value of
 9 this more gradual impact on all customers’ rates.

10 In addition, as described in greater detail by PWSA witness Julie Quigley’s Direct
 11 Testimony, PWSA has set forth a number of other rate mitigation measures in our
 12 proposal, including: (i) maintaining the current rate structure; (ii) structuring the newly
 13 proposed stormwater fee to apply both gradualism to the rates and to phase-in over the
 14 proposed two year period; and (iii) establishing a new pilot program to incentivize
 15 customers to enroll in paperless billing and establish auto-pay. Further, while PWSA is
 16 introducing a new stormwater fee for customers, the introduction of the fee benefits
 17 residential customers by providing for a more equitable rate structure since residential
 18 customers would no longer be carrying the full burden of stormwater costs that are driven
 19 by non-customers, like surface parking lots and other commercial entities, with large
 20 impervious surfaces.

21 **Q. IS PWSA OTHERWISE FOCUSED ON CUSTOMER SERVICE GOALS?**

22 Yes. PWSA’s recent customer service goals have focused on 1) developing initiatives to
 23 help customers during the COVID-19 pandemic, and 2) promoting a one call resolution
 24

1 to resolve customers’ issues in a professional and courteous manner with a renewed focus
 2 on call quality. These measures further demonstrate PWSA’s commitment to providing
 3 customer-centric services.

4 **Q. IN LIGHT OF THESE FACTS, WHAT DO YOU BELIEVE THE COMMISSION**
 5 **SHOULD CONCLUDE?**

6 A. That PWSA has fully justified and is in serious need of a rate award that grants all or
 7 substantially all of its request if PWSA is going to be able to continue its progress and
 8 provide first rate service to its customers. Unlike investor-owned utility rate cases, there
 9 is no “cushion” in this request that can be cut out with doing serious damage to the
 10 Authority’s operations.

11 **IV. PWSA’S LOW-INCOME CUSTOMER PROGRAMS**

12 **Q. PLEASE DESCRIBE PWSA’S EFFORTS AIMED SPECIFICALLY AT**
 13 **HELPING LOW-INCOME CUSTOMERS.**

14 A. At the outset, I am well aware of the need for PWSA to get in front of the inevitable
 15 hardship low-income customers face as rates rise. As a result, PWSA proposes several
 16 enhancements in this proceeding, as described by Ms. Quigley, to the customer assistance
 17 programs. The proposed modifications to the Winter Moratorium, BDP and Hardship
 18 Grants are all designed to assist customers who may be facing their own financial
 19 challenges. Specific changes include: (i) a proposed expansion of the Winter Moratorium
 20 to include senior citizens, regardless of income level; (ii) proposals to revise the BDP so
 21 that the customers at or below 50% of the FPL qualify for a volumetric rate discount of
 22 50% (as compared to the current discount of 20%) and to offer a 75% discount on the
 23 stormwater fee for customers who meet the general eligibility guidelines for this
 24 program; and (iii) a proposed increase in eligibility income for Hardship Grants from

1 150% to 300% of the FPL. PWSA also proposes to continue the pilot arrearage
2 forgiveness program agreed to in the most recent rate case settlement, which was
3 approved by the Commission.²⁸

4 Another recent initiative includes the launch of the PGH2O Cares Team on
5 February 15, 2021. The primary responsibility of the PGH2O Cares Team is to increase
6 enrollment in PWSA’s customer assistance programs. In addition to tracking enrollment
7 numbers, the team works with Dollar Energy Fund (“DEF”) to enable direct enrollment
8 in the programs and to develop productive relationships with community based
9 organizations to engage low-income customers who have yet to enroll. Specifically with
10 respect to the BDP, PWSA undertook a number of measures designed to improve
11 enrollment by identifying additional eligible customers who had inaccurately been
12 identified by DEF as ineligible. The PGH2O Cares also contacted and worked with
13 customers with high consumption in 2020, which included the scheduling of service
14 appointments, water consumption counseling, BDP recertification, interest removal,
15 payment arrangement enrollment and Allegheny County Sanitary Authority
16 (“ALCOSAN”) referrals. Another important component of PWSA’s efforts includes the
17 use of a geographic information system (“GIS”) tool to target populations for enrollment
18 in customer assistance programs based on highest delinquent balances and pending
19 terminations.

20 Additionally, it is noteworthy that during 2020, PWSA’s Board voted
21 unanimously to suspend water shutoffs and PWSA waived many of the requirements to

²⁸ *Pa. PUC v. Pittsburgh Water and Sewer Authority* (water), Docket No. R-2020-3017951, and *Pa. PUC v. Pittsburgh Water and Sewer Authority* (wastewater), Docket No. R-2020-3017970 (Order entered December 3, 2020).

1 enroll in customer assistance programs. Regardless of ability to pay, customers were
 2 protected with access to necessary water services. Clearly, these measures coupled with
 3 the many proposals advanced in this proceeding, demonstrate that PWSA is committed to
 4 implementing steps that moderate the impacts of rate increases on customers.

5 In summary, the Authority is in urgent need of this rate request due to increases in
 6 operating expenses and to fund the numerous essential projects in the CIP that are key to
 7 enhancing the quality of utility services that PWSA provides. In making this request,
 8 however, we have made a concerted effort through these actions and other proposals
 9 advanced in this proceeding to balance our financial needs against the challenges faced
 10 by our customers, particularly those who are low income, in paying higher rates.

11 **V. EFFECTS OF COVID-19 PANDEMIC ON PENDING RATE INCREASE**
 12 **REQUEST**

13 **Q. HAS ANY PARTY RAISED ISSUES CONCERNING THE EFFECT OF THE**
 14 **COVID-19 PANDEMIC ON THE PENDING RATE INCREASE REQUEST?**

15 A. Yes. On behalf of OCA, Ms. DeAngelo discusses impacts that the COVID-19 pandemic
 16 has had, and continues to have, on Pennsylvania residents. She also addresses how
 17 PWSA customers are facing such effects and states that it is important for the
 18 Commission to consider the impacts in reaching a decision on a rate increase. (OCA
 19 Statement 7 at 1-2.) In discussing these issues, Ms. DeAngelo refers to the
 20 unemployment rate, PWSA’s at-risk accounts, the Household Pulse Survey, testimony at
 21 public input hearings held in this proceeding, employment income in Pennsylvania, the
 22 use of stimulus payments, and the Pennsylvania State Coincident Index. (OCA Statement
 23 7 at 2-12). She concludes that the impacts of the COVID-19 pandemic continue to affect
 24 Pennsylvania residents. (OCA Statement 7 at 12).

1 **Q. DOES OCA MAKE A SPECIFIC RECOMMENDATION AS TO HOW THE**
2 **COMMISSION SHOULD CONSIDER THE EFFECTS OF THE COVID-19**
3 **PANDEMIC ON THE PENDING RATE INCREASE REQUEST?**
4

5 A. No.

6 **Q. DOES PWSA REFUTE ANY OF THE STATISTICS PRESENTED BY MS.**
7 **DEANGELO?**
8

9 A. Not particularly. In general, however, I note that much of the data to which Mr.
10 DeAngelo refers is not specific to PWSA's service territory or customers. For example,
11 the unemployment data she presents is that for Allegheny County. In addition, Allegheny
12 County had an unemployment rate of 5.7% in June 2021, which is below the United
13 States' unemployment rate of 5.9%. (OCA Statement 7 at 2). I further note that while
14 PWSA's at-risk accounts had risen, (OCA Statement 7 at 3-5), PWSA was not
15 terminating residential customers for non-payment during the time this data was
16 collected. As to the Household Pulse Survey, an experimental project in which data was
17 collected to discover the effects of the COVID-19 pandemic, it does not contain data for
18 all residents of Pennsylvania or show impacts within a specific area of Pennsylvania.
19 (OCA Statement 7 at 5-8). Similarly, the unemployment income and how recipients of
20 stimulus payments spend the funds reflect generally results from Pennsylvania residents.
21 (OCA Statement 7 at 8-11). Likewise, the State Coincident Index report on the level of
22 payroll payment throughout Pennsylvania. (OCA Statement 7 at 11-12). Therefore, I do
23 not believe that any of this data demonstrates the need for the Commission to consider
24 ongoing effects of COVID-19 in deciding on the proposed rate increase.

1 **Q. DOES PWSA REFUTE THE ASSERTION THAT THE COVID-19 PANDEMIC**
 2 **CONTINUES TO AFFECT ITS CUSTOMERS?**

3 A. No. However, in my view, PWSA has already addressed the effects of the COVID-19
 4 pandemic on the pending rate increase request. In fact, PWSA began that process during
 5 the last rate case. Under the Joint Petition for Settlement (“Settlement”), which was filed
 6 on September 30, 2020 and approved by the Commission on December 3, 2020, PWSA
 7 agreed to an increase in annual revenues of \$19 million, which was almost \$25 million
 8 less than PWSA had originally proposed.²⁹ In addition, the Settlement terms included a
 9 withdrawal of the request for a multi-year rate plan and the implementation of COVID-19
 10 consumer relief measures. PWSA agreed to these Settlement terms based upon its
 11 recognition of the financial challenges faced by many of its customers due to the COVID-
 12 19 pandemic. Further, PWSA has proactively helped customers during this time.
 13 Importantly, as I have indicated above, PWSA has taken many steps to mitigate the
 14 effects of this rate increase on its customers.

15 **Q. PLEASE HIGHLIGHT SOME OF THE INITIATIVES PWSA HAS**
 16 **UNDERTAKEN TO HELP CUSTOMERS DURING THE COVID-19 PANDEMIC.**

17 A. Since the start of the COVID-19 pandemic, PWSA has implemented various outreach
 18 efforts designed to reach our most vulnerable customers. Through one of these measures,
 19 we provided assistance program flyers to organizations in the community that are
 20 delivering food to residents in need. PWSA also engaged our employees and customers
 21 in campaigns to fund the Hardship Grant Program. Additionally, as I noted earlier,
 22 PWSA implemented changes to its customer assistance programs, which make more

²⁹ *Pa. PUC v. Pittsburgh Water and Sewer Authority (water)*, Docket No. R-2020-3017951, and *Pa. PUC v. Pittsburgh Water and Sewer Authority (wastewater)*, Docket No. R-2020-3017970 (Order entered December 3, 2020).

1 customers eligible for the Bill Discount Program, including a pilot arrearage forgiveness
 2 program, the Hardship Grant Program, and the Winter Moratorium. Of particular note, in
 3 March 2021, PWSA launched a Google Ad Words campaign and made customer
 4 assistance programs more prominent on our website, becoming the third most visited
 5 page. The Ad Words campaign generated 6,615 paid visits from March 23, 2021 through
 6 July 6, 2021. The total page visits was approximately 10,078 for that same period.
 7 Between the Ad Words campaign and making the customer assistance programs more
 8 prominent on the home page of the Authority’s website, PWSA has helped to
 9 significantly inform and build customer awareness about these programs.

10 **VI. LEAD SERVICE LINE REMEDIATION PROGRAM**

11 **Q. IS THERE AN ISSUE RAISED IN THE OTHER PARTIES’ DIRECT**
 12 **TESTIMONY REGARDING PWSA’S LEAD SERVICE LINE REMEDIATION**
 13 **PROGRAM THAT YOU WOULD LIKE TO ADDRESS?**

14 **A.** Yes. OSBA witness Kalcic proposes that the costs of PWSA’s ongoing lead service line
 15 remediation program be allocated to both residential and non-residential customers
 16 because PWSA’s policy is to replace all water infrastructure has recently changed. He
 17 goes on to indicate that PWSA has recently received approval to amend its Lead
 18 Infrastructure Plan as well as its Tariff to permits replacement of non-residential lead
 19 service lines in conjunction with the Authority’s Small Diameter Water Main
 20 Replacement (“SDWMR”) program. (OSBA St. 1 at 10).

21 **Q. CAN YOU RESPOND TO MR. KALCIC’S TESTIMONY?**

22 **A.** Mr. Kalcic is correct that PWSA has determined to modify its policy to replace non-
 23 residential lead service lines when we come across them in the course of our ongoing
 24 SDWMR program. However, PWSA has not as yet modified its Tariff or its Lead

1 Infrastructure Plan to reflect this change. PWSA included these changes in its filing in
 2 response to the Commission’s Order in the Compliance Plan proceeding.³⁰ After we filed
 3 these proposals, however, the Commission staff requested that we remove them because,
 4 in their view, they were beyond the scope of that filing, which was only supposed to
 5 comply with the Commission order.

6 **Q. HOW DO YOU PROPOSE TO ADDRESS THIS?**

7 A. In response to Mr. Kalcic’s testimony, I propose that PWSA be permitted to amend its
 8 Tariff and Lead Infrastructure Plan to solely expand them to include non-residential lead
 9 service lines that PWSA encounters in the course of its SDWMR program. PWSA
 10 proposes to include these modifications as part of its compliance filing in response to the
 11 PUC’s Final Order.³¹

12 **Q. CAN YOU EXPLAIN THE RATIONALE FOR THIS POLICY CHANGE AND**
 13 **WHY IT IS REASONABLE?**

14 A. Yes. When PWSA replaces a water main, PWSA’s policy is to replace all water
 15 infrastructure within the paved roadway (for service lines this means main to curb, or the
 16 portion that is public for residential service lines). Often when old pipes are connected to
 17 new there can be issues due to the disturbance causing a newly-paved street to be
 18 excavated shortly after restoration. By replacing this infrastructure (which is privately
 19 owned for non-residential service lines), PWSA is minimizing future costs and
 20 disturbance to our customers. In doing this, we also recognize the Commission’s concern
 21 related to partial service line replacements and made the determination that if a non-

³⁰ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 and M-2018-2640803 (Order entered June 18, 2020).

³¹ PWSA will share the proposed changes with the parties beforehand.

1 residential service line is lead from the curb to the meter (or 1-inch inside the structure if
2 the meter is in a pit), PWSA will replace it as part of the water main work thereby
3 eliminating a partial service line replacement. The alternative – requiring the non-
4 residential property owner to pay the cost of replacing the line – would inevitably cause
5 opposition and delays, raising costs to the Authority and its customers and ultimately not
6 advancing PWSA’s goal of removing all lead from its system.

7 **Q. HOW MANY NON-RESIDENTIAL LINES DOES PWSA ESTIMATE WILL BE**
8 **AFFECTED BY THIS POLICY?**

9 A. Over the 2020 to 2026 period, we estimate that we will replace about 190 private lead
10 service line replacements at non-residential locations. Based on the average bid prices
11 from the low bidder for our 2021 contracts, we expect the private side replacement costs
12 (for the private side items only) to be about \$3000 per location, so the anticipated spend
13 on non-residential private lead service line replacements from 2020 – 2026 is about
14 \$570,000. This is in 2021 dollars and does not account for any inflation over the period of
15 this work.

16 **VII. CONCLUSION**

17 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

18 A. Yes.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

EDWARD BARCA

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

P-2021-3024779 (Stormwater)

TOPICS:

Revenue Requirement Recommendations of

Other Parties

PWSA's Financial Metrics

PWSA FPFTY Expense Claim

PAYGO

Deferred Covid Expenses

Treatment of Future Grants/Loans

July 29, 2021

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EB-11	Modification to Page 1 of OCA Exhibit DSH-5
EB-12	2021 Operating Budget Projection
EB-13	Operating Budget Request Template
EB-14	2020 and 2021 Operating Budget Comparison
EB-15	Population Count for the Surrounding 36 Communities
EB-16	2021 Recommended Revenue Requirement Comparison

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Edward Barca and I am the Director of Finance for The Pittsburgh Water and
4 Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony (PWSA St. 2), together with accompanying exhibits
7 EB-1 to EB-10, on April 13, 2021.

8 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9 A. My Rebuttal Testimony responds to certain portions of direct testimony submitted by the
10 Bureau of Investigation and Enforcement (“I&E”), the Office of Consumer Advocate
11 (“OCA”), the Office of Small Business Advocate (“OSBA”), and Pittsburgh United.

12 The primary purpose of my rebuttal testimony is to: 1) reply to the various
13 revenue requirement recommendations; 2) address the financial metrics recommendations
14 of various parties; 3) respond to arguments regarding PWSA’s claims for certain
15 revenues and expenses.

16 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

17 A. In my testimony, I respond and comment on the overall rate increase recommendations of
18 Mr. Spadaccio, the witness for I&E, and Mr. Mugrace, the witness from OCA, and the
19 financial standards that are recommended to judge the reasonableness of PWSA’s rate
20 request. I provide further responses to the revenue and expense adjustments proposed by
21 I&E witnesses Mr. Spadaccio and Mr. Patel and OCA witnesses Mr. Mugrace and Mr.
22 Habr.

23

1 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

2 A. Yes. I am sponsoring the following exhibits:

- 3 • **Exh. EB-11:** Exhibit EB-11 provides a modification to Page 1 of OCA Exhibit
4 DSH-5.
- 5 • **Exh. EB-12:** Exhibit EB-12 provides actual 2021 Operating Budget data through
6 June 30, 2021 as well as the projection through December 31, 2021.
- 7 • **Exh. EB-13:** Exhibit EB-13 provides an example of the Operating Budget
8 Request Templates that are submitted by all departments as part of the annual
9 budgeting process.
- 10 • **Exh. EB-14:** Exhibit EB-14 provides actual 2021 and 2020 Operating Budget
11 data through June 30.
- 12 • **Exh. EB-15:** Exhibit EB-15 provides the population count of the 36 communities
13 surrounding the City of Pittsburgh.
- 14 • **Exh. EB-16:** Exhibit EB-16 provides a comparison of the revenue requirement
15 recommendations of OCA and I&E to the revenue requirement that was filed by
16 PWSA.

17

18 **II. REVENUE REQUIREMENT CALCULATION**

19 **Q. HAVE YOU EXAMINED THE DIRECT TESTIMONY FILED BY I&E WITNESS**
20 **MR. SPADACCIO, OCA WITNESS MR. MUGRACE, OSBA WITNESS MR.**
21 **KALCIC, AND PITTSBURGH UNITED WITNESS MR. GELLER?**

22 A. Yes, I have.

23 **Q. PLEASE SUMMARIZE THEIR OVERALL RECOMMENDATION**
24 **REGARDING REVENUE REQUIREMENT.**

25 A. My understanding is that I&E's recommend revenues for PWSA is \$198,550,267.¹ I&E
26 Exh No. 1, Schedule 1. This level of recommended revenues represents an **increase** of

¹ I&E's recommended total system-wide revenue requirement is \$198,550,267 (\$198,493,744 plus a surplus of \$56,523). I&E Exhibit 1, Schedule 1, at column G. That being said, I&E treats uncollectibles as revenue. I&E's recommend revenues includes a reduction of revenues for uncollectible expenses. See I&E Exhibit 1, Schedule 1; PWSA Exh. WJP-1. The OCA's recommended revenues does not include a revenue reduction for uncollectible expenses, as discussed in the next footnote. See PWSA Exh EB-1; PWSA Exh. EB-2; OCA Schedule DM-1. The different treatment of uncollectibles prevents a direct apples to apples comparison between I&E's revenue recommendation and OCA's revenue recommendation. To reconcile the different treatment of uncollectibles, PWSA prepared Exhibit EB-16.

1 \$2,339,804 to the FPPTY revenues from present rates. I&E St. 1 (Spadaccio) at 7, 22-23;
 2 compare column C with column G on I&E Exh No. 1, Schedule 1. However, that equates
 3 to a \$27.7 million **decrease** from PWSA’s requested revenues for the FPPTY (of
 4 \$226,332,362, as shown on PWSA Exh. WJP-1). Compare column E with column G on
 5 I&E Exh 1, Schedule 1.

6 The OCA’s total recommended revenues is \$211,345,766.² OCA St. 1 (Mugrace)
 7 at 6; OCA Schedule DM-1. This recommended level of revenues represents an **increase**
 8 of \$11,185,774 to PWSA’s revenues at present rates. OCA St. 1 (Mugrace) at 6.
 9 However, that equates to a \$21,747,379 million **decrease** from PWSA’s requested
 10 revenues for the FPPTY, as shown on PWSA Exh. EB-2. *See* OCA St. 1 (Mugrace) at 6.
 11 Please see PWSA Exhibit EB-16 for a comparison of the revenue requirement
 12 recommendations.

13 The OSBA and Pittsburgh United did not provide total recommended revenue
 14 requirements. That being said, Pittsburgh United does not support PWSA’s proposed rate
 15 increase. Pittsburgh United St. 1 (Geller) at 8. Mr. Kalcic explains that his direct
 16 testimony, on behalf of OSBA, “should not be construed as a recommendation by the
 17 OSBA that the Commission grant PWSA’s request in whole or in part.” OSBA St. 1
 18 (Kalcic) at 2.

² OCA’s recommended total system-wide revenue requirement is \$211,345,766 (\$210,540,425 plus a surplus of \$905,341). OCA Schedule DM-1 at column 5. That being said, OCA treats uncollectibles as an expense. OCA’s recommended revenues do not include a reduction of revenues for uncollectible revenues. *See* PWSA Exh EB-1; PWSA Exh. EB-2; OCA Schedule DM-1. I&E’s recommend revenues includes a reduction of revenues for uncollectible expenses, as discussed in the above footnote. *See* I&E Exhibit 1, Schedule 1; PWSA Exh. WJP-1. The different treatment of uncollectibles prevents a direct apples to apples comparison between I&E’s revenue recommendation and OCA’s revenue recommendation, as discussed in the above footnote. To reconcile the different treatment of uncollectibles, PWSA prepared Exhibit EB-16.

1 **Q. IS PWSA UPDATING THE COST OF SERVICE MODEL AND THE**
2 **ASSOCIATED REVENUE REQUIREMENTS REQUESTED IN THIS FILING**
3 **DUE TO RECENT PENNVEST FUNDING AWARDS?**

4 A. Yes, see the updated cost of service model presented in Mr. Smith’s rebuttal testimony
5 (PWSA St. 4-R). Specifically, see the changes on the “Future Debt” tab on rows 62 and
6 109. Row 109 represents the addition of the recent \$35.5 million low interest loan to fund
7 the 2021 small diameter water main replacement project. This PENNVEST award results
8 in a \$80,798 increase in the FPPTY revenue requirements with the new requirements
9 being \$232,770,841 compared to \$232,690,043 that was originally filed. However,
10 PWSA will realize a significant savings over the term of the PENNVEST due to a shorter
11 repayment period and lower interest rate than a traditional municipal bond borrowing.

12 Please note that PWSA is doing the same work that PWSA planned to do except
13 now PWSA is borrowing \$35.5 million with the PENNVEST loan instead of borrowing
14 \$38.5 million that PWSA planned to borrow in the bond market. PWSA did not include
15 any amount of the above-described PENNVEST award, since PENNVEST had not acted
16 as of the original filing. The full amount of the amount needed (\$38.5 million) was
17 included in the original filing as a revenue bond because there was no guarantee that any
18 loan or grants would be awarded to PWSA. Now that the award of a loan and grant has
19 been made by PENNVEST, \$38.5 million was subtracted from PWSA’s projected
20 revenue bonds, and \$35.5 million was added as a PENNVEST loan, since PENNVEST
21 made a \$3.0 million dollar grant. The grant can only be use on the parts of the project
22 that relate to lead service line replacements. The grant is reimbursable so PWSA only
23 receives the portions of it as lead service line work is completed. PWSA will draw a
24 portion of it in FY 2022 and FY 2023.

25

1 **Q. DO YOU HAVE A COMMENT RELATIVE TO THESE SUGGESTIONS THAT**
2 **NO RATE INCREASE SHOULD BE GRANTED?**

3 A. At current rates, the projected deficit for PWSA in the FPFTY would exceed \$29 million.
4 (*See* PWSA Exh. EB-1). Absent a substantial rate increase, PWSA would not be able to
5 continue the momentum in the capital program, particularly with those projects that are
6 mandated and have strict timelines. PWSA would again be in the position of deferring
7 operating maintenance and repairs on its aged system. It follows that, by not supporting
8 any increase, Pittsburgh United and the OSBA are implicitly calling for PWSA to
9 arbitrarily decrease construction expenses and cut programs to customers, including low
10 income customers, proportionally to any proposed revenue reduction so that PWSA will
11 have more cash available in order to sustain sufficient financial metrics in the FPFTY and
12 avoid a bond covenant violation. Such a result would place PWSA in a nearly impossible
13 situation of attempting to determine which of its most critical infrastructure and other
14 projects to readjust leaving PWSA at risk for future findings of violating regulatory
15 mandates and/or exposing its customers to unnecessary risk due to a failure to upgrade
16 the aging infrastructure or maintenance programs, which nobody can deny needs to be
17 addressed after years of neglect. The suggestion that PWSA should not receive any rate
18 increase whatsoever is clearly outside the bounds of reasonableness.

19 **Q. WHAT SPECIFIC REVENUE REQUIREMENT ITEMS HAVE THE PARTIES**
20 **PROPOSED TO REDUCE IN THIS PROCEEDING?**

21 A. None of the parties have proposed to reduce PWSA's debt service requirement of
22 \$89,407,272. The vast majority of the revenue requirement reductions from I&E and the
23 OCA are within PWSA's operating and maintenance ("O&M") budget. In making these
24 recommendations, I believe that they have failed to account for several important factors

1 unique to PWSA that makes applying a “business as usual” ratemaking methodology
 2 unreasonable and incorrect.

3 **Q. CAN YOU SUMMARIZE THE ARGUMENTS THAT THE OCA AND I&E HAVE**
 4 **MADE IN THEIR TESTIMONY IN RECOMMENDING THAT A SIGNIFICANT**
 5 **AMOUNT OF PWSA’S PROPOSED RATE INCREASE BE REJECTED?**

6 A. Both the I&E and OCA witnesses have taken issue principally with PWSA Fully
 7 Projected Future Test Year (“FPFTY”) operating expenses. These projected expenses
 8 reflect PWSA’s approved Operating Budget for that year. Nonetheless, both witnesses
 9 claim that the levels of expenses shown in that approved Operating Budget aren’t
 10 reasonable. The principal reason is that PWSA’s actual expenditures in the three years in
 11 which full year actual data is available were less than the amounts authorized in its
 12 operating budgets. They point in particular to the fact that, in 2018-2020, PWSA was
 13 unable to fill all of the positions it had budgeted. Based on these data, OCA and I&E
 14 have each insisted that PWSA’s FPFTY should be adjusted downward to essentially
 15 reflect the levels of expenditures and vacancies that the Authority has experienced in the
 16 past.

17 **Q. DO YOU THINK THIS IS A VALID APPROACH TO DETERMINING A**
 18 **REASONABLE LEVEL OF OPERATING EXPENSES FOR THE FPFTY FOR**
 19 **PWSA?**

20 A. No, I do not for several reasons. First, using expense and hiring levels for the last three
 21 years will lead to seriously skewed results. Obviously, 2020 is not a “typical” year. As I
 22 explain in more detail below, because of the pandemic, PWSA, like most firms,
 23 experienced operational delays across the business. In particular, PWSA found it
 24 impossible to hire for all budgeted positions. While this should obviously invalidate 2020
 25 as a valid comparative, both witnesses nonetheless include data from 2020 in coming up

1 with “average” or “normal” amounts. Their claims should be rejected for this reason
2 alone.

3 Moreover, 2018 and 2019 are not valid years by which to judge the
4 reasonableness of PWSA’s budgeting. In 2018 and 2019, PWSA had just initiated a
5 massive effort to ramp up construction expenditures and operations both to comply with a
6 variety of new and continuing regulatory requirements (including those imposed by the
7 PUC) as well as to improve the quality and levels of service. This substantial jump in
8 budget levels can be seen in the following data:

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	2019 Budget	2018 Budget	2017 Budget
Salaries	26,643,741	21,386,377	18,831,047
Benefits	9,001,163	7,281,447	6,211,309
Direct Operating	38,803,561	34,642,650	24,796,526
Inventory	1,921,185	2,815,278	2,429,421
General & Administrative	35,458,077	28,745,676	19,303,069
Total Operating Expenses	111,827,727	94,871,428	71,571,372

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As can be seen, PWSA's Budget increased 56% between 2017 and 2019; as a result, a significant portion of its Operating Budget in those years was new, representing new projects or significant expansion of existing projects. Because of this, PWSA was unable to fully meet these ambitious expansion efforts because of a number of issues, principally the difficulty it experienced finding and attracting qualified personnel to fill the large number of new positions. This also contributed to the inability to complete large projects included in those budget years because PWSA did not have the staff to manage the projects. Other factors also slowed PWSA's ability to meet its intended expenditure projections including planning for anticipated future regulatory obligations before they were finalized with regulatory bodies. Since there is no choice but to satisfy regulatory obligations, PWSA includes the cost of future obligations within its budgets in anticipation of the obligations being finalized. This is done to ensure the financial resources are allocated in advance so that work can be completed in a timely manner. However, recent regulatory obligations have taken longer than expected to negotiate and

1 finalize, which has inhibited PWSA’s ability to expend the budget allocated in prior
2 years.

3 **Q. DO YOU BELIEVE THAT PWSA HAS GAINED ENOUGH EXPERIENCE**
4 **WITH THE ISSUES THAT HAVE, IN THE PAST, IMPEDED ITS ABILITY TO**
5 **FULLY EXECUTE ITS OPERATING BUDGET?**

6 A. Yes, I do. PWSA has learned from its experience in the initial “ramp up” years of 2018
7 and 2019 and has incorporated a more realistic understanding of what can and cannot be
8 accomplished into its 2021 and 2022 Budgets, the latter of which is the basis for the
9 FPFTY operating expenditures.

10 **Q. IS THERE ANY EVIDENCE TO SUPPORT THAT ASSERTION?**

11 A. Yes. Our 2021 Operating Expenditures, despite the continued effects of the pandemic are
12 tracking very close to the Authority’s 2021 Operating Budget. In fact, PWSA is
13 projecting 2021 Operating Expenditures of \$106,486,691 compared to the 2021
14 Operating Budget of \$110,843,321 (See Exhibit EB-12). That would equate to PWSA
15 spending approximately 96% of the 2021 Operating Budget amount. It should also be
16 pointed out that PWSA has already spent \$54,722,956 or approximately 49% of the total
17 2021 Operating Budget amount through June 30, 2021 (See Exhibit EB-12).

18 The 2021 to date results, I submit, shows that PWSA now has a more complete
19 understanding of the various factors and issues that caused it to not be able to fully
20 expend its Budget levels and provides significant assurances that the Authority’s 2022
21 Budget is a reasonable projection of what its operating expenses will be in that year.

1 **Q. ARE THERE ANY OTHER INDICAS OF REASONABLENESS THAT YOU**
2 **BELIEVE THAT OTHER PARTIES HAVE OVERLOOKED?**

3 A. Yes. As I describe in my direct testimony³ as well as in more detail below, the PWSA
4 budget is a product of a systematic process in which managers carefully consider the
5 level of operations they will need to meet in a given year and the personnel and other
6 expenses that they will need to meet that level of operations. Many of these operational
7 requirements are driven by regulatory mandates imposed by the DEP or the PUC. Those
8 projections are then carefully reviewed by my team and reviewed and vetted additionally
9 by Department Directors, the Chief Operating Officer, the Chief Executive Officer, and
10 the Board. The levels of projections therefore are the product of PWSA subject matter
11 experts who understand their obligations and requirements and translate them into an
12 operating budget. This process itself is evidence of the reasonableness of the projections.
13 In contrast, the witnesses for the opposing parties have made no detailed investigation of
14 this budgeting process. They have simply pointed to historic data or to the fact that the
15 support for an increased budget item was found wanting giving no weight to the fact that
16 expert water and wastewater operations personnel had made the projection. See Exhibit
17 EB-13 for an example of the budget request template that are submitted by all
18 departments as part of the budgeting process. Please note that the budget amounts
19 included within EB-13 are for information purposes only.

³ PWSA St. 1 (Barca) at 18-22.

1 **Q. ARE THERE ANY OTHER REASONS WHY YOU BELIEVE THAT THE PUC**
2 **SHOULD REJECT THE OPPOSING PARTIES’**
3 **“NORMALIZATION/HISTORICAL DATA” APPROACH?**

4 A. Yes. The approach used by the opposing parties may be reasonable when it is applied to
5 an investor-owned utility that is regulated on a rate of return/rate base basis but, for
6 several reasons, is not reasonable for PWSA. First, as I have already discussed, PWSA is
7 in a dynamic, ramp-up mode. Using historical data to condemn future projections is self-
8 defeating and amounts to a repudiation of the Authority’s efforts to repair the neglect and
9 inadequacies of the past. Be sure of this: if PWSA is held to historic spending levels for
10 ratemaking purposes it will be forced to reduce its levels of expenditures to those levels.
11 In turn it will not be able to accomplish the myriad projects and initiatives it has agreed
12 or has been order to do by the regulators.

13 Second, it’s important to note that, unlike investor-owned utilities, PWSA has
14 asked for no increment above the revenues it needs to fund its Operating Budget to be
15 able to attain financial indicators that would be consistent with its peer utilities. As such,
16 PWSA has no “cushion” (such as that produced by a return on equity allowance) to be
17 able to fund its operating budget if it does not receive the revenues it needs to provide
18 that funding. Again, if PWSA receives a rate increase that only reflects a level of
19 employees that it experienced in 2021, for example, it has no way to hire additional
20 employees above that level. That means that all the service improvements that those
21 additional employees could have provided simply will not occur. This is a path toward
22 the inadequate performance and operations that was so widely condemned in the past.

23 Third, unlike an investor-owned utility, if PWSA does encounter unforeseen
24 circumstances and is unable to expend all of its 2022 Budget, it’s important to recognize
25 that 100% of the revenues PWSA collects from customers are retained by PWSA and will

1 be used to support the Authority’s continued operation in a safe and reasonable manner
 2 and will not go to shareholders or an owner. The Authority would, in fact commit to
 3 using any excess revenues net of expenses in 2022 to reduce its cost of service by paying
 4 down debt or other borrowing, adding the amount to its cash on hand, crediting its
 5 Reserve Fund, crediting the amounts to its 2023 Budget or advancing other projects. Any
 6 of these steps will reduce its revenue requirement – and needed rate relief – in future
 7 years.

8 **Q. HAVE ANY OF THE PARTIES COMMENTED ON PWSA’S PROPOSAL TO**
 9 **ELIMINATE TAP FEES AND INSTEAD RECOVER THESE REVNEUES**
 10 **THROUGH BASE RATES?**

11 A. No. This is especially troublesome because OCA and I&E have not incorporated this
 12 change in cost recovery within their revenue requirement recommendation. Tap fees
 13 generate revenues of approximately \$4.0 – 6.0 million per year. These additional
 14 revenues will need to be recovered through base rates within this rate case in order for
 15 PWSA to eliminate its tap fees.

17 **III. ADDITIONAL BONDS TEST**

18 **Q. WHAT WOULD BE THE EFFECT ON PWSA’S FINANCIAL METRICS IF THE**
 19 **REVENUE REQUIREMENT RECOMMENDATIONS OF I&E OR OCA WERE**
 20 **ADOPTED?**

21 A. Adoption of those revenue requirement recommendations or other recommendations that
 22 result in no rate increase would end PWSA’s ability to continue to issue bonds, which
 23 would have grave consequences for PWSA’s ability to continue its ongoing construction
 24 activities. This is due to the fact that PWSA would not be in compliance with the
 25 “Additional Bond Test.”

1 **Q. WHAT IS THE “ADDITIONAL BONDS TEST” AND WHAT IMPACT DOES**
 2 **THAT HAVE AN ISSUING BONDS?**

3 A. As defined in Section 3.02 of the Amended and Restated Trust Indenture (“Indenture”),
 4 the PWSA must satisfy the following additional bonds test prior to issuing additional
 5 bonds:

- 6 • A certificate of (A) a Qualified Independent Consultant, stating that based on the
 7 Authority’s financial records for a Test Period, the Authority would have been
 8 able to meet the Rate Covenant in Section 7.01, taking into account
 - 9 ○ (i) the maximum Annual Debt Service on the proposed Series of
 10 Additional Bonds in the current or any future Fiscal Year,
 - 11 ○ (ii) the additional Net Revenue from the rates, fees and other charges
 12 adjusted to reflect any rate increases that had not been in effect throughout
 13 the Test Period but that have been approved by and can be implemented
 14 by the Authority at the time of delivery of the proposed Series of
 15 Additional Bonds to go into effect within the following five years; and
 - 16 ○ (iii) additional Net Revenues that the Authority may realize from the
 17 addition to the System of the assets it proposes to finance through the
 18 issuance of the proposed Series of Additional Bonds or other funding
 19 sources within the following five years or (B) the Authorized
 20 Representative of the Authority stating that based on the Authority’s
 21 financial records for a Test Period, the Authority has met the Rate
 22 Covenant in Section 7.01, taking into account the maximum Annual Debt
 23 Service on the proposed Series of Additional Bonds. In making the
 24 certifications required under this paragraph, the Authorized Representative
 25 of the Authority or the Qualified Independent Consultant, as applicable,
 26 shall determine and utilize the Additional Indebtedness Test Net Revenues
 27 in place of the Rate Covenant Net Revenues in determining whether the
 28 Authority would have been able to meet the Rate Covenant in Section
 29 7.01.

30
 31 In summary, the Additional Bonds Test requires that the PWSA meet its required
 32 debt service coverage ratios (i.e. Rate Covenant) taking into account current rates and the
 33 maximum annual debt service of a proposed series of bonds prior to issuing additional
 34 bonds. The Indenture does not allow the PWSA to factor in unauthorized future rate

1 increases when calculating the additional bonds test. Failure to satisfy the additional
2 bonds test prohibits the PWSA from issuing bonds.

3 **Q. PLEASE DISCUSS HOW THE OVERALL REVENUE REQUIREMENT**
4 **RECOMMENDATIONS OF I&E AND OCA IMPACT THE PWSA'S ABILITY**
5 **TO SATISFY THE ADDITIONAL BONDS TEST.**

6 A. None of the opposing parties has considered the Additional Bonds Test when determining
7 their overall revenue requirement recommendation. In fact, PWSA would not meet the
8 Additional Bonds Test with the recommendations from I&E or OCA. Their
9 recommendations would require PWSA to substantially cut its the operating budget to a
10 point where it would be able to avoid a violation of the Additional Bonds Test. This
11 would seriously threaten PWSA's ability to continue to provide safe and reliable services.
12 At the very least, many important initiatives and projects would have to be slowed or
13 eliminated. This includes but is not limited 1) freezing hiring and potentially laying off
14 staff. As discussed later in this testimony, the payroll and benefit expense revenue
15 requirement recommendations from both OCA and I&E assumes a smaller number of
16 employees than PWSA currently employs. Eliminating the necessary funding to maintain
17 and expand staffing levels will require PWSA to cut salary and benefits costs in order to
18 meet its financial metrics. This is counterproductive considering the progress PWSA has
19 made to hire qualified staff; 2) reducing project funding for regulatory obligations, such
20 as Washout Disconnections and CSO flow monitoring; and 3) reducing plant and
21 building repairs at PWSA's Water Treatment Plant. Continuing to defer these repairs is
22 eventually going to lead to a physical security breach or catastrophic failure of plant
23 infrastructure. This would put the safety and security of PWSA's customer in jeopardy
24 while also costing more to fix on an emergency basis.

25

1 **IV. OTHER FINANCIAL METRICS**

2 **Q. CAN YOU PLEASE SUMMARIZE THE I&E AND OCA POSITIONS ON THE**
 3 **KEY FINANCIAL METRICS, CASH OR LIQUIDITY AND DEBT SERVICE**
 4 **COVERAGE?**

5 A. Yes. With respect to year-end cash I&E calculates that the level of cash produced by its
 6 recommendation equals 220.93 days of cash. I&E Exh. 1, Schedule 2 (Days Cash on
 7 Hand⁴). Based on the OCA's recommendations, OCA witness Mugrace recommends
 8 year-end cash of \$37,988,219. OCA Schedule DM-20. OCA calculates that this level of
 9 cash equals 134.07 days of cash. OCA Schedule DM-20.

10 **Q. PLEASE SUMMARIZE THE WITNESSES' RECOMMENDATIONS**
 11 **REGARDING DEBT SERVICE COVERAGE.**

12 A. I&E witness Spadaccio claims that I&E's proposed minimal rate increase would
 13 nonetheless mean a debt service coverage ratio of 1.43x for senior debt and 1.16x for
 14 total debt, I&E St No. 1 (Spadaccio) at 13, 22. Witness Habr claims that the OCA's
 15 slightly higher \$11 million recommended revenue requirement would produce a debt
 16 service coverage ratio of 1.46x on PWSA's senior debt and 1.18x on subordinate debt
 17 which he suggests is reasonable, apparently because it is consistent with the debt service
 18 coverages that PWSA showed as being produced by its proposed, \$32 million rate
 19 increase. OCA St. 2 (Haber) at 3-4. *See also* OCA St. 1 (Mugrace) at 6.

20 **Q. CAN YOU RESPOND TO THESE OVERALL RECOMMENDATIONS?**

21 A. Yes. First, the only way either witness can claim that PWSA will enjoy these levels of
 22 cash on hand or debt service coverage is to assume that their witnesses are correct and

⁴ I would note that I do not agree with I&E's methodology to achieve this days cash recommendation. I&E's Schedule 2 shows that PWSA's proposed rates have year-end cash of \$60,035,851 which equals 177.15 days of cash. Schedule 2 also shows that I&E's proposed rates result in year-end cash of \$59,339,166 which equals 220.93 days of cash. So, the Schedule says that having \$696,685 less cash results in 43 more days of cash.

1 PWSA will not spend the amounts that it has budgeted for operating expenditures. I have
2 already discussed (and will discuss further later in my testimony) the reasons why this
3 assumption is unreasonable and unsupported by the evidence. Nonetheless, if the PUC
4 were to essentially reject PWSA's claimed rate increase request based on this faulty
5 premise, PWSA would be required to drastically reduce operating expenditures in order
6 to avoid producing financial results that would violate PWSA's bond covenants. As I've
7 noted, requiring PWSA to reduce expenditures does not make sense given that the PWSA
8 is "ramping up" operations in order to address deferred maintenance as well as upgrade
9 the water and sewer system and taking actions as necessary to comply with numerous
10 Commission compliance requirements and other state mandated regulatory obligations.

11 Second, the levels of cash on hand and debt service coverage that I&E and OCA
12 have characterized as reasonable largely because they are either at or above the levels that
13 would be produced if PWSA's full rate increase were to be granted (assuming that PWSA
14 actually does expend its claimed Operating Budget). But what these parties have failed to
15 acknowledge is that PWSA proposed a rate increase that was substantially below the
16 amount it could have justified if it had targeted financial metrics that were comparable to
17 those earned by similarly situated companies. Mr. Huestis explains this in his rebuttal. In
18 addition, Mr. Huestis explains why the assertions of both Mr. Spadaccio and Mr. Habr
19 that the levels of year-end cash and debt service coverage produced by their
20 recommendations are "adequate" or consistent with what is expected of entities with
21 similar bond ratings are simply not correct.

22

1 **V. PHASE-IN PROPOSAL**

2 **Q. DID ANY OF THE PARTIES COMMENT ON PWSA’S PROPOSAL TO PHASE-**
 3 **IN THE PROPOSED RATE INCREASE?**

4 A. Only I&E witness Spadaccio made any comments. He explained that if “the I&E
 5 recommendation [on the revenue increase] is accepted by the Commission, a phase-in of
 6 rates would be unnecessary due to the increase amount being reasonable to implement in
 7 a single year.” I&E St. 1 (Spadaccio) at 23.

8 **Q. PLEASE RESPOND TO I&E’S TESTIMONY REGARDING THE PROPOSED**
 9 **PHASE-IN.**

10 A. PWSA proposed the phase-in as one way of mitigating the effect of this very necessary
 11 increase on customers. I agree that if the Commission were to deny PWSA any or
 12 minimal rate increase, which is essentially the result of the I&E and OCA position, no
 13 phase in would be necessary or appropriate.

14 **Q. IS THE PHASE-IN NECESSARY REGARDING OCA’S REVENUE**
 15 **REQUIREMENT RECOMMENDATION?**

16 A. No. PWSA would withdrawal its proposal of a phase-in under the proposed revenue
 17 requirement recommendation from OCA. It would also withdrawal the phase-in proposal
 18 under the proposed revenue requirement recommendation from I&E.

19 **VI. EXPENSES IN THE FPFTY**

20 **Q. DID THE PARTIES USE A 3-YEAR HISTORIC AVERAGE OR**
 21 **“NORMALIZATION” METHODOLOGY AS BASIS TO MAKE OPERATIONS**
 22 **AND MAINTENANCE (O&M) EXPENSE ADJUSTMENTS?**

23 A. Yes, Mr. Patel and Mr. Mugrace used a 3-year historic average or “normalization” as a
 24 basis for many of their O&M expense adjustments. I would also state that, in certain
 25 instances, other normalization methodologies in addition to a three-year average are
 26 proposed. For example, Mr. Patel proposes adjustments that increase historic costs by the

1 Consumer Price Index (CPI). See I&E St. 2 (Patel) at 6, 21-23 (chemicals); I&E St. 2
2 (Patel) at 6, 24-26 (materials). Mr. Mugrace proposes adjustments that use half of the
3 PWSA proposal. OCA St. 1 (Mugrace) at 17-18; OCA Schedule DM-4 (postage); OCA
4 St. 1 (Mugrace) at 19-22; OCA Schedule DM-6 (vehicles).

5
6 **Q. DO YOU AGREE WITH THESE METHODOLOGIES?**

7 A. No. In my opinion, normalization or other reductive methodologies “lock in” the past and
8 will create unsustainably low spending levels that will impair PWSA’s ability to provide
9 safe and reliable service to customers.

10 The use of normalization by Mr. Patel and Mr. Mugrace places extensive reliance
11 on past results without any consideration of future needs. In doing so, their normalization
12 recommendations tend ignore future inflation and market conditions. Normalization is
13 also contrary to the Legislature’s express indication that the FPFTY may include
14 projections of costs and expenses. Indeed, the Commission has expressly recognized that
15 fully projected future test year concept was specifically authorized by the General
16 Assembly to reduce regulatory lag and to encourage future plant investment.⁵ Setting
17 future rates requires looking at the anticipated actions and expenses in the future year.
18 Here, if PWSA projects future expenses that are higher than past expenses, the Mr. Patel
19 or Mr. Mugrace (or both) recommend that the projected future expenses be reduced to
20 past spending levels. In doing so, Mr. Patel or Mr. Mugrace (or both) do not show that it
21 is reasonable or appropriate to use past spending levels for the FPFTY. I believe that this

⁵ *Implementation of Act 11 of 2012, Final Implementation Order*, Docket No. M-2012-2293611, 299, P.U.R.4th 367, 2012 WL 3249678 (Pa.P.U.C.) (Order entered August 2, 2012) at 5 (“Act 11 Implementation Order”).

1 approach disregards extensive evidence presented by PWSA regarding the reasonable and
 2 appropriate expenses that should be used in setting forward-looking rates and is
 3 inconsistent with the fully projected future test year concept.

4 **Q. DID THE PARTIES USE A 3-YEAR HISTORIC AVERAGE OR**
 5 **“NORMALIZATION” METHODOLOGY ACKNOWLEDGE THAT FY 2020**
 6 **WAS A UNIQUE YEAR DUE TO THE COVID-19 PANDEMIC?**

7 A. No. The use of a 3-year historic average or “normalization” by Mr. Patel and Mr.
 8 Mugrace failed to acknowledge that fiscal year 2020 was a unique year due to the
 9 COVID-19 pandemic. This artificially lowers the expense adjustments made by Mr. Patel
 10 and Mr. Mugrace because PWSA was forced to implement O&M budget restrictions to
 11 off-set revenue and cash declines caused by the pandemic primarily related to reduced
 12 demand for services, payment forgiveness and higher accounts receivable. PWSA did not
 13 meet its 2020 O&M budgeted amounts because of prudent financial management, not
 14 because of PWSA setting unreliable or unreasonable budget expectations. Furthermore,
 15 PWSA was able to quickly ramp up operations in 2021 in an effort to meet its 2021
 16 O&M budget amounts. The fact that PWSA was able to make such dramatic budget
 17 adjustments within the past 18 months should eliminate Mr. Patel’s concerns.

18 **Q. HAVE THESE RESTRICTIONS BEEN LIFTED FOR THE 2021 O&M BUDGET?**

19 A. Yes.

20 **Q. WHAT IMPACT HAS THAT HAD?**

21 A. Lifting the prior year budget restrictions have enabled PWSA to fill vacant positions,
 22 implement regulatory driven compliance programs, and improve and expand operations.
 23 PWSA has incurred \$54,722,956 of O&M expenses between January 1, 2021 and June
 24 30, 2021, which means approximately 49% of the 2021 Operating Budget has been spent
 25 (See Exhibit EB-12). I should also add that O&M expenses have increased by

1 approximately 33.0% or \$13,571,313 as compared to that same time period (January 1 –
2 June 30) in 2020 (See Exhibit EB-14). This expansion of PWSA’s O&M budget is
3 projected to continue through the remainder of 2021 and into future years. On an
4 annualized basis, PWSA’s 2021 expenditures will be within a few percent of its budgeted
5 levels. This is why PWSA has requested an additional \$9.8 million in this rate proceeding
6 to specifically fund increases in O&M expenses in FPFTY. All parties need to understand
7 that PWSA’s operations are undersized for its large system and associated regulatory
8 requirements. Any reductions to PWSA’s O&M budget will not only make the operating
9 and maintenance of the system difficult, it will likely result in PWSA having to slow its
10 capital spending program as well, because it will not have the personnel to manage and
11 supervise the great number of projects that it is projecting for the next few years. All this
12 will inevitably result in poor levels of service for PWSA’s ratepayers.

13 **Q. DID MR. PATEL CHALLENGE THE RELIABILITY OF PWSA’S DIRECT**
14 **O&M EXPENSE CLAIM AMOUNTS?**

15 A. Yes, Mr. Patel states that PWSA’s FTY and FPFTY O&M expense claim amounts are
16 not fully reliable and produce concerns about the reasonableness of the budgeted amounts
17 (I&E St. No. 2, Page 5, Lines 17-18 and Page 6, Lines 1-2).

18 **Q. WHAT IS YOUR RESPONSE TO THIS CLAIM?**

19 A. As I previously explained, PWSA had to place restrictions on departmental O&M
20 budgets in 2020 in order to cope with the revenue reductions caused by the pandemic.
21 That is the reason that PWSA did not meet its 2020 O&M budgeted amounts, not because
22 of PWSA setting unreliable or unreasonable budget expectations. Furthermore, PWSA
23 was able to quickly ramp up operations in 2021 in an effort to meet its 2021 O&M budget

1 amounts. The fact that PWSA was able to make such dramatic budget adjustments within
2 the past 18 months should eliminate Mr. Patel's concerns.

3 **Q. MR. PATEL IN PARTICULAR APPEARS TO BE TROUBLED BY PWSA'S**
4 **UNDERRUNNING OF ITS BUDGET IN THE 2018-2020 PERIOD. CAN YOU**
5 **COMMENT ON THIS?**

6 A. Yes. I have already explained why the budget verses actual comparison for those years is
7 not appropriate. Moreover, it is important to keep in mind that the nature of fully
8 projected future test years is that they are based *entirely* on projections. As such there is
9 always a level of uncertainty in projections. However, uncertainty related to budgetary
10 estimates does not render a projection unreliable. With the use of a FPFTY, there will
11 always be the potential of revisions of projections as events develop and trends change.
12 However, if the FPFTY budgeting process is rigorous and well established, that FPFTY
13 projection will be a reasonable reflection of what the utility may experience during the
14 period studied. I firmly believe that PWSA's budgeting process is rigorous and well
15 documented and produces reliable results.

16 Finally, while there was an underrun in prior fiscal years, it is important to recall
17 that 100% of that underrun was used to benefit PWSA ratepayers by reducing costs that
18 otherwise would have contributed to a greater rate increase request in this proceeding.
19 Specifically, PWSA was able to fund additional capital projects through its PAYGO
20 program, contribute to the Rate Stabilization Fund, and pay down additional debt. All of
21 these actions reduced the Authority's need for rate relief in this case. PWSA will
22 continue to apply any underrun in budgeted expenditures in 2022 to expenditures or other
23 obligations in future years. Unlike an investor owned utility, such underruns should not
24 be of concern to the PUC since 100% the money is used to benefit ratepayers.

25

1 **Q. MR. MUGRACE APPEARS TO BE TROUBLED BY PWSA’S USE OF**
 2 **INFLATION FACTORS FOR THE BUDGET. OCA ST. 1 (MUGRACE) at 13, 16-**
 3 **17, 23, 27, 32, 34, 39-40; OCA SCHEDULE DM-3, DM-7, DM-9, DM-13, DM-14,**
 4 **AND DM-16. CAN YOU COMMENT ON THIS?**

5 A. Mr. Mugrace opines that inflationary adjustments are not known and measurable and do
 6 not provide a good representation of cost adjustments. He states that these types of
 7 adjustments are blanket or general in nature and may or may not represent accurate
 8 adjustments with respect to the Authority's basket of goods and services. He, therefore,
 9 recommended the removal of \$2,789,515 from PWSA’s claims for the FPFTY.

10 In my view, Mr. Mugrace’s attempted imposition of a “known and measurable”
 11 standard is another example of refusing to accept the Fully Projected Future Test Year
 12 (FPFTY) concept that is legally authorized for Pennsylvania ratemaking. The nature of a
 13 fully projected test year is that it reflects a projection of the costs that the entity is going
 14 to experience. Such projections can not be “known and measurable in the way that Mr.
 15 Mugrace is demanding.

16 In my opinion, it would be an error for the Commission to disallow PWSA’s
 17 inflation expense for expenses that are not otherwise adjusted. OCA witness Mugrace
 18 attempts to characterize PWSA’s adjustments as a blanket inflation adjustment applied to
 19 numerous expense claims. That is not what happened. PWSA applied a reasonable
 20 increase as a targeted adjustment for specific expenses. Those inflation adjustments were
 21 used if PWSA’s subject matter experts who developed the budget were confident that
 22 those expenses were expected to increase in the future and the increase could not be
 23 precisely determined. In fact, I&E witness Patel used the CPI to propose certain
 24 adjustments. I&E St. 2 (Patel) at 22-23, 25-26.

1 PWSA's inflation increase is a reasonable proxy for the price increases that the
 2 PWSA experts have determined are likely to occur, and there is no reason for each
 3 expense to be analyzed separately. Here, more than 92% of the inflation adjustment
 4 relates to various operation expenses. *Cf.* OCA Schedule DM-13 and DM-14 *with* OCA
 5 Schedule DM-3, DM-7, DM-9, and DM-16.⁶

6 **Q. DO YOU HAVE ANY OBSERVATIONS ABOUT THE PARTIES' VARIOUS**
 7 **ADJUSTMENTS TO PWSA'S EXPENSES?**

8 A. Yes. I note that the parties frequently recommend rejecting any increases in expenses and
 9 I want to emphasize that any increase, in and of itself, does not provide a basis for
 10 rejection. To the contrary, PWSA has confidence in the expense items that it included as
 11 part of this rate filing because of the meticulous budget process that the Authority
 12 follows. As I have already testified, all PWSA departments submit to the Finance
 13 Departments their needs for the next two years. The Finance Department meets multiple
 14 times with departments to understand their needs for the next two years. During this
 15 process, line items are adjusted and honed based on historical actuals and projected
 16 increases, as well as available funds. Next, the Finance Department meets with the
 17 Executive Office to review all departmental budgets for further adjustments. For further
 18 perspective, through this rigorous process, approximately \$50M was cut from the
 19 proposed FTY budget. Then, the Finance Department holds a Board education session
 20 with all PWSA Board members to explain expenses and answer questions. Finally, the
 21 PWSA holds a final vote on the proposed budget before the end of the fiscal year. This
 22 review process and Board approval is a significant indicator that the Authority has every

⁶ The operations total consists of the sum of water operations (\$2,517,954) and wastewater operations (\$67,000), *see* OCA Schedules DM-13 and DM-14. The sum of the remaining adjustment is \$204,561, *see* OCA Schedule DM-3, DM-7, DM-9, and DM-16

1 intention of making these expenditures. These numbers were not plucked from the sky.
2 The failure of either Mr. Mugrace or Mr. Patel to give any credit to PWSA's budgetary
3 approval process as expressed in its fully projected future test year, is not reasonable or
4 consistent with the FPFTY concept and should be rejected.
5

6 **VII. RATE CASE EXPENSE**

7 **Q. PLEASE RESPOND TO I&E'S RECOMMENDATION TO REDUCE RATE**
8 **CASE EXPENSES FROM \$2,040,000 IN FPFTY TO \$1,530,000 (I&E ST. 2 AT 9,**
9 **LINES 19-20).**

10 A. Mr. Patel disagrees with PWSA's full expense claim of \$2,040,000 in the FPFTY. He
11 states that this claim is not supported by the Company's historic filing frequency (I&E St.
12 2 at 10, lines 2-3). He recommends a 16-month normalization period with supporting
13 evidence that the Commission has accepted this normalization concept for rate case
14 expenses with Philadelphia Gas Works (PGW), also a cash-flow based utility (I&E St. 2
15 at 13, lines 3-10). In addition, Mr. Patel states, based on I&E Exh. 2, Schedule 3, pp.1-2,
16 that PWSA's next base rate case filing is yet to be determined.

17 **Q. WHAT IS YOUR RESPONSE TO THIS?**

18 A. Normalization is not feasible for PWSA. The reality is, as a cash-flow based utility, that
19 PWSA needs to have the funds available to pay rate case expenses in the year they are
20 due. Otherwise, PWSA would only have enough funds to provide partial payments to the
21 vendors involved in the rate case process and/or not be able to achieve PWSA's financial
22 metrics. I am informed that PGW, in contrast, has higher debt service coverage and year-
23 end cash requirements and goals that result in having a cushion that permits it to better

1 absorb the “normalization” of certain expenses so that recovery is permitted over several
 2 years.

3 Furthermore, PWSA’s next base rate case filing is determined on the outcome of
 4 this rate filings. The revenue requirements in this base rate case are verifiable, justified,
 5 and required in order to operate and maintain PWSA’s large system in a financially
 6 responsible manner. Any reduction to the revenue requirements would force PWSA to
 7 file another rate case in FY 2022 in order to obtain the revenues not obtained in this base
 8 rate case. Based upon I&E’s revenue requirement recommendation (I&E St. 1 at 7, lines
 9 3-16), PWSA would definitely need to file another base rate case in 2022.

10

11 **Q. OCA WITNESS MUGRACE MAKES RECOMMENDATIONS FOR**
 12 **REDUCTIONS PWSA’S RATE CASE EXPENSE. OCA ST. 1 (MUGRACE) AT**
 13 **24-25; OCA SCHEDULE DM-8. PLEASE RESPOND.**

14 A. Mr. Mugrace recommends a two-year (24-month) normalization period for rate case
 15 expenses, which results in a revenue requirement reduction of \$215,565. As I previously
 16 explained, normalization is not appropriate since PWSA is a cash based utility. PWSA
 17 must have sufficient funds to pay for all expenses incurred within the year. Therefore, I
 18 disagree the normalization methodology recommended by Mr. Mugrace.

19

20 **Q. OCA WITNESS MUGRACE RECOMMENDS THAT PWSA UPDATE ITS**
 21 **ACTUAL RATE CASE EXPENSE IN ITS REJOINDER TESTIMONY SO THAT**
 22 **THE FINAL AMOUNT TO BE NORMALIZED WILL REFLECT ACTUAL**
 23 **EXPENSES RATHER THAN PROJECTED EXPENSES. OCA ST. 1 (MUGRACE)**
 24 **AT 25. PLEASE RESPOND.**

25 A. At this time, PWSA expects that its actual rate case expenses will be reasonably close to
 26 it projected rate case expenses. That being said, I fail to see the need to update the
 27 tracking of actual rate case expenses in rejoinder. First, it is unclear to me that such

1 rejoinder would be responsive to recommendations from OCA or I&E. As I noted, Mr.
 2 Mugrace and Mr. Patel recommended that PWSA’s rate case expense be normalized. In
 3 doing so, neither Mr. Mugrace nor Mr. Patel recommended any reductions to PWSA’s
 4 projected rate case expenses. Second, this recommendation by Mr. Mugrace fails to
 5 acknowledge that rate case expenses will continue beyond the submission of rejoinder by
 6 PWSA. Rejoinder is due, based on the current schedule, on Tuesday, August 10 2021.
 7 PWSA will continue to incur rate case expenses until its compliance tariff is accepted.
 8 That date could be in 2022, since and any increase in rates resulting from this proceeding
 9 is suspended until January 12, 2022 (unless otherwise directed by Order of the
 10 Commission).

11

12 VIII. PAYROLL AND EMPLOYEE BENEFIT EXPENSES

13 **Q. PLEASE EXPLAIN I&E’S RECOMMENDATION FOR A \$7,473,648 (\$31,188,177**
 14 **– 23,714,529) REDUCTION TO PWSA’S PAYROLL EXPENSE CLAIM (I&E ST.**
 15 **2 AT 15, LINES 2-3).**

16 A. It is my understanding that Mr. Patel has used a 3-year historic average employee
 17 vacancy formula to justify his payroll expense reduction of \$7,473,648, which reduces
 18 the number of vacant positions proposed in FPFTY by 104. He also states that PWSA
 19 will have issues filling positions if the employee residency requirement is not terminated
 20 (I&E St. 2 at 18, Lines 10-13).

21 **Q. PLEASE EXPLAIN I&E’S RECOMMENDATION FOR A \$1,978,600 (\$8,256,825**
 22 **– 6,278,225) REDUCTION TO PWSA’S EMPLOYEE BENEFITS EXPENSE**
 23 **CLAIM (I&E ST. 2 AT 20, LINES 7-8)**

24 A. It is my understanding that Mr. Patel reduced the employee benefits expense by
 25 subtracting the average employee benefits expense for the same 104 positions that he

1 reduced in his payroll expense recommendation (I&E St. 2 at 20, Lines 11-18). This
 2 resulted in an employee benefits reduction of \$1,978,600.

3 **Q. PLEASE EXPLAIN OCA’S RECOMMENDATION FOR A \$9,819,875**
 4 **(\$39,445,002 – 29,625,127) REDUCTION TO PWSA’S PAYROLL AND**
 5 **EMPLOYEE BENEFITS EXPENSE CLAIM**

6 A. Similar to I&E witness Mr. Patel, it is my understanding that Mr. Mugrace also used a 3-
 7 year historic average or “normalization” to provide his recommendation of a \$9,819,875
 8 reduction to payroll and employee benefits expense.

9 **Q. DO YOU AGREE WITH MR. PATEL’S AND MR. MUGRACE’S**
 10 **RECOMMENDED PAYROLL AND EMPLOYEE BENEFITS EXPENSE**
 11 **REDUCTIONS?**

12 A. No. I disagree for the following reasons, 1) Using his 3-year historic average formula to
 13 provide their recommendations is not valid or appropriate since the PWSA had to
 14 implement a temporary hiring freeze in March of 2020 due to the COVID-19 pandemic.
 15 This stopped PWSA from filling vacancies in 2020. Due to this, using a 3-year historic
 16 average is artificially lowering their payroll and employee expense recommendations and
 17 inconsistent with how PWSA is operating the utility, 2) Between January 1, 2021 – June
 18 30, 2021, payroll and employee benefits expenses have increased by a combined amount
 19 of \$2,102,441 or 14.61% compared to that same period in the prior year. This is
 20 attributable to PWSA increasing its employee count by 19 to a total of 366, which is three
 21 employees more than the total 16 employees added in all of 2020. PWSA anticipates that
 22 this increase to the employee count total will accelerate through the remainder of 2021
 23 and into future years. Two of the 19 positions added in 2021 was a Director of Human
 24 Resources and a Talent Acquisition Specialist. Those positions will be heavily focused on
 25 identifying talent to fill the vacant positions within all of PWSA’s departments.

1 In addition, the Pittsburgh Joint Collective Bargaining Committee (PJCBC), one
 2 of PWSA's union group, ratified a new four-year contract in June 2021 that allows
 3 employees to reside in the City of Pittsburgh **or the surrounding 36 communities**
 4 **(consistent with eliminating the Pittsburgh residency requirement)**. The PWSA Board of
 5 Directors also approved an amended to the Domicile Policy in July 2021 to allow non-
 6 union employees to reside in the City of Pittsburgh or the surrounding 36 communities.
 7 These amendments now make the approximately 365,000 citizens in these communities
 8 eligible to work at PWSA (See Exhibit EB-15). The only group of employees that are
 9 currently still required to live in the City of Pittsburgh is the American Federation of
 10 State, County, and Municipal Employees (AFSCME) union group. However, the
 11 AFSCME union collective bargaining agreement is currently being negotiated, with the
 12 anticipation that the residency requirement will be a negotiated item.

13
 14 **Q. DO YOU AGREE WITH THE VACANCY CALCULATIONS OF EITHER MR.**
 15 **PATEL OR MR. MUGRACE? I&E ST. 2 (PATEL) AT 6, 14-18.**

16 **A.** No. PWSA's budgeted for 434 employees in the FPFTY. *See* I&E. I&E St. 2 (Patel) at
 17 15-18. Mr. Patel calculates a vacancy rate of 24%, and concludes that 104 of the
 18 budgeted positions will be remain vacant in the FPFTY ($434 * 0.24$ equals 104.16). I&E.
 19 I&E St. 2 (Patel) at 15-18. Mr. Mugrace calculates a vacancy rate of 29.76%. OCA St. 1
 20 (Mugrace) at 15. This means that he expects 129 of the budgeted positions to remain
 21 vacant in the FPFTY ($434 * 0.29$ equals 129.158).

22 The unreasonableness of these adjustments can be easily shown by comparing
 23 their recommendations to PWSA's actual current employment levels. As noted, PWSA
 24 budgeted for 434 employees in the FPFTY. *See* I&E St. 2 (Patel) at 17-18. Mr. Patel's

1 recommendation has the effect of limiting PWSA's employee-related expenses to 330
2 (434 - 104) employees. Mr. Mugrace's recommendation has the effect of limiting
3 PWSA's employee related expenses to 304 (434 -129) employees. To put that in context.
4 PWSA had 366 employees as of June 2021. See PWSA St. 1 at 27. So, both Mr. Patel is
5 suggesting that PWSA *will have 36 fewer employees in the FPFTY than it did as of June*
6 *2021* (actual employees in June 2021, 366, less Patel's forecast for employees in the
7 FPFTY, 330). Mr. Mugrace's adjustment similarly would result in permitting PWSA to
8 have a funding level that would support *62 fewer employees in the FPFTY than it did as*
9 *of June 2021* (actual employees in June 2021, 366, less Mugrace's forecast for employees
10 in the FPFTY, 304). I can assure you that PWSA has no intention of laying off or firing
11 so many employees. On the contrary, I firmly believe that PWSA fully intends to
12 maintain its course in the hiring of additional needed employees before and during the
13 FPFTY, and will not have fewer employees in the FPFTY than it did in June 2021.
14 PWSA has identified needed positions to support the daily operations and the increase in
15 capital project workload. PWSA has taken an incremental approach to budgeting these
16 positions to allow for a graduated increase to a full workforce over the next three years.
17 Increased recruiting efforts and the waiver or elimination of the residency requirement for
18 key positions will assist PWSA with reaching its staffing needs. In the FTY, the PWSA
19 has maintained staffing levels and have slightly increased its workforce. Mr. Patel has
20 presented absolutely no facts that would indicate that PWSA will not proceed with these
21 hirings, other than pointing out that the total for the FPFTY is higher than historic
22 averages. This approach, which he uses throughout his testimony is unreasonable and
23 fails to acknowledge that PWSA is in the midst of rehabilitating and expanding its

1 operations and infrastructure as well as coming into compliance with numerous PUC
2 mandates and requirements affirmed in the PUC Compliance Plan Order. Adopting Mr.
3 Patel's recommendations would force PWSA to come to a full stop with these efforts or
4 potentially lay off staff, precisely when the PUC has affirmed that we should be moving
5 full speed towards full compliance. Moving towards full compliance will require more
6 employees, not less, and the FPFTY reflects this reality.

7
8 **IX. CHEMICALS**

9 **Q. PLEASE EXPLAIN I&E'S RECOMMENDATION FOR A \$750,407 (\$5,193,874 –**
10 **4,443,467) REDUCTION TO PWSA'S CHEMICAL EXPENSES (I&E ST. 2 AT 22,**
11 **LINES 2-3).**

12 A. Mr. Patel asserts that PWSA's projection of future chemical expenses is too high when
13 compared to his projection of future chemical costs. Mr. Patel's projection is based on
14 2020 actual chemical expenses as adjusted by him for new chemicals, and by an average
15 of consumer price index (CPI) inflation factors for 2020 (I&E St. 2 at 22, Lines 6-13). He
16 also states that the prior three fiscal years (2018, 2019, and 2020) budget to actual
17 chemical expenses do not support PWSA FPFTY chemical claim (I&E St. 2 at 23, Lines
18 2-17).

19 **Q. PLEASE YOU AGREE WITH MR. PATEL'S CHEMICAL EXPENSE**
20 **REDUCTION?**

21 A. No. Mr. Patel's CPI inflation methodology does not take into consideration changes to
22 business functions that substantially increase the need for additional chemicals, such as
23 PWSA's Microfiltration Plant ramping up to functioning at full capacity. I would also
24 note that OCA witness Mr. Mugrace, contrary to the approach by Mr. Patel, would not
25 allow any inflationary escalations in his recommendations. In doing so, he seems to be

1 ignoring the cost of doing business and market conditions. I disagree with this approach
 2 from Mr. Mugrace since his recommendations place extensive reliance on past results
 3 without any consideration of future needs.

4 I also disagree with Mr. Patel's comparison of the prior three years budget to
 5 actual chemical expense comparison as an indicator to support PWSA's FPFTY chemical
 6 claim for the following reasons 1) The Microfiltration Plant is close to functioning at full
 7 capacity, which is going to result in additional chemical expenses than what was incurred
 8 in prior years when the plant was offline 2) as a result of the pandemic, chemical costs
 9 have increased substantially due to a shortage within the market place. For example,
 10 PWSA paid a 26% markup on its June 2021 order of Sodium Hypochlorite. PWSA
 11 anticipates that this shortage will continue for at least the next fiscal year. The PWSA
 12 must maintain adequate budget totals for chemicals to prepare for unknown market (such
 13 as the current shortage) and source water conditions. Failure to properly treat source
 14 water is a public health issue for all of PWSA's customers.

15
 16 **X. MATERIALS EXPENSE**

17 **Q. PLEASE EXPLAIN I&E'S RECOMMENDATION FOR A \$51,775 (\$571,220 –**
 18 **519,445) REDUCTION TO PWSA'S MATERIAL EXPENSES (I&E ST. 2 AT 25,**
 19 **LINES 2-3).**

20 A. Mr. Patel asserts that PWSA's projection of future materials expenses is too high when
 21 compared to his projection of future materials expenses. His recommendation uses the
 22 same analysis he used for his projection of chemical expenses.

23 **Q. DO YOU AGREE WITH MR. PATEL'S MATERIAL EXPENSE REDUCTION?**

24 A. No. Material expenses are expected to increase as PWSA increases the repairs and
 25 maintenance of its aging system in FPFTY and following future years. In fact, Exhibit

1 EB-12 provides evidence that this has already started to occur with material expenses up
 2 \$40,096 or 19% year-to-date through June 30, 2021 compared to the same time period in
 3 2020.

4

5 **XI. EQUIPMENT**

6 **Q. PLEASE EXPLAIN I&E’S RECOMMENDATION FOR A \$6,287,957 (\$7,578,417**
 7 **– 1,290,460) REDUCTION TO PWSA’S EQUIPMENT EXPENSES (I&E ST. 2 AT**
 8 **27, LINES 6-7).**

9 A. Mr. Patel recommends normalization of each type of equipment over the useful service
 10 life of the respective equipment (I&E St. 2 at 27, lines 21-25 and at 28, lines 1-3). He also
 11 asserts that including the full cost of equipment in the FPFTY unreasonably burdens
 12 ratepayers since the benefits of the equipment will continue past the FPFTY (I&E St. 2 at
 13 29, lines 9-13).

14 **Q. DO YOU AGREE WITH MR. PATEL’S EQUIPMENT EXPENSE REDUCTION?**

15 A. No. I disagree with Mr. Patel’s methodology to normalize the equipment expenses since
 16 PWSA is cash based utility. PWSA fully pays for all expenses within the year that they
 17 are incurred, and must have the funds to do so. Mr. Patel’s recommendation for a cash-
 18 based utility to normalize costs is the equivalent of buying a good or service and only
 19 being able to pay the merchant for a portion of the cost at the time of sale. From an
 20 accounting and budgeting perspective, normalization is not feasible for PWSA.
 21 Moreover, while these items of equipment have useful lives that are longer than one year,
 22 PWSA expects to experience the same level of equipment expenditures in each
 23 subsequent year.

24 Furthermore, even if the PWSA was able to normalize these costs (which is not
 25 possible), Mr. Patel’s assumes all of the expenses within equipment expenses are eligible

1 to be capitalized per PWSA’s Capital Asset Policy. PWSA’s Capital Asset Policy clearly
 2 defines that the minimum capitalization threshold for buildings, structures, and capital
 3 leases is \$25,000, with \$10,000 being the single asset capitalization minimum for all
 4 other assets. The majority of the equipment expenses do not meet those capitalization
 5 thresholds.

6
 7 **Q. PLEASE EXPLAIN OCA’S RECOMMENDATION FOR A \$1,079,305 (\$7,578,417**
 8 **– 6,499,112) REDUCTION TO PWSA’S EQUIPMENT EXPENSES (OCA ST. 1 AT**
 9 **20, LINES 14-29, AT 29, LINES 20-30, AT 32, LINES 20-23, AND AT 38, LINES**
 10 **10-13).**

11 A. Mr. Mugrace seeks to reduce equipment expenses for Finance (Tab 2013, COSS), Water
 12 Quality (Tab 321, COSS), and Plant Operations (Tab 322, COSS) while increasing
 13 equipment expenses for Water Distribution (Tab 325, COSS). He justifies his
 14 recommended reductions with the concept of normalization, which analyzes past
 15 expenses to project future expenses. He also disallows the inflationary equipment
 16 expenses at the Plant Operations.

17 **Q. DO YOU AGREE WITH MR. MUGRACE’S EQUIPMNENT EXPENSE**
 18 **REDUCTION?**

19 A. No. As previously stated, using normalization is not appropriate since actual expenses in
 20 2020 were lower than a typical year due to the COVID-19 pandemic. This is artificially
 21 lowering Mr. Mugrace’s equipment expense reductions.

22 In addition, Mr. Mugrace disallows \$461,250 in inflationary costs related to
 23 equipment purchases at the Plant Operations. He justifies this reduction by stating that
 24 blanket adjustments should not be included in the development of rates (OCA St. 1 at 32,
 25 Lines 20-23). I disagree with this stance since inflationary costs are real cost increases
 26 that are incurred by PWSA. Failure to recognize this will not allow PWSA to recover the

1 appropriate amount through rates to cover the cost of doing business. As a cash based
 2 utility, PWSA must have the funds available each year to cover the full cost of doing
 3 business.

4 Mr. Mugrace also recommends a \$750,000 reduction to vehicle purchases in
 5 account 5190 within the Finance Department. He incorrectly states that PWSA did not
 6 purchase any vehicles in 2018 and 2019 (OCA St. 1 at 20, Lines 24-25) while also stating
 7 that PWSA purchased very few vehicles in 2020 (OCA St. 1 at 20, Line 25). PWSA has
 8 spent approximately \$6,637,117 on vehicles purchase between 2018 and 2020. The table
 9 below summarizes these purchases.

	Fiscal Year	Number of Vehicles Purchased	Amount
	2018	38	\$2,102,604
	2019	38	2,320,215
	2020	18	2,214,298
TOTAL		94	\$6,637,117

11
 12 PWSA’s vehicle fleet was undersized for its operations and in extremely poor
 13 condition when the aggressive replacement cycle started in 2018. At that time, three
 14 vehicles in the fleet were over 20 years old and 10 vehicles were over 15 years old.
 15 PWSA has made progress in rehabilitating its fleet but more work is required. The
 16 vehicle budget had to be reduced to \$750,000 in 2021 due to the significant revenue
 17 reduction in PWSA’s last base rate case, delaying the purchase of an additional 16
 18 vehicles. The budgeted amount for vehicle purchases in FPFTY is sufficient to purchase
 19 these 16 vehicles while also helping PWSA achieve a normal vehicle replacement cycle.

1 **XII. OPERATING CONTRACTS**

2 **Q. PLEASE EXPLAIN I&E’S RECOMMENDATION FOR A \$4,453,678 (\$27,106,585**
 3 **– 22,652,907) REDUCTION TO PWSA’S OPERATING CONTRACT EXPENSES**
 4 **(I&E ST. 2 AT 30, LINES 20-21).**

5 A. Mr. Patel recommends using PWSA’s FTY operating contract expenses claim for its
 6 FPFTY allowance. He states that selecting the FTY claim recognizes both the fact that
 7 the actual expenses are increasing and that PWSA’s budgeted projection for these
 8 expenses has historically been overstated (OCA St. 1 at 35, Lines 14-18).

9 **Q. DO YOU AGREE WITH MR. PATEL’S OPERATING CONTRACT EXPENSES**
 10 **REDUCTION?**

11 A. No. Using PWSA’s FTY claim does not acknowledge the increased costs for line
 12 locating, pump and motor, manhole and point repair, CSO flow monitoring, washout
 13 disconnection (regulatory required), CCTV and heavy cleaning, trunk line transfer to
 14 ALCOSAN and tank inspection costs. In my opinion, Mr. Patel contradicts himself for
 15 using the FTY claim by stating “I recognize that these expenses have exhibited an
 16 upward trend over the 2018 to 2020 actual years; however, at the same time, PWSA has
 17 consistently underspent its budget estimate” (I&E St. 2 at 35, Lines 12-14). He also states
 18 that, in his view, PWSA did not provide supporting documentation for these increases
 19 (I&E St. 2 at 35, Lines 2-4). However, he never requested the specific information he
 20 wanted to review related to these costs. The additional costs for CSO flow monitoring
 21 and CCTV and heavy cleaning are required per the ongoing consent decree discussions
 22 with the EPA related to PWSA’s wet weather program. The washout disconnection
 23 expense is required per PWSA’s consent order and agreement with the PA DEP. The
 24 remaining costs are preventative maintenance contracts that are required to maintain
 25 PWSA’s system.

1 In addition to the increased cost listed above, PWSA also continues to experience
 2 significant increases in the urgent water and sewer contract cost that address emergencies
 3 in PWSA’s aging system. Mr. Patel states that “Furthermore, as PWSA continues to
 4 advance remediation of its system, emergency response work should, theoretically,
 5 decline with the system improvement” (I&E St. 2 at 32, Lines 19-21). This statement
 6 underestimates just how aged PWSA’s system is. It will take at least a decade until
 7 PWSA experiences decreased urgent water and sewer costs as a result of advanced
 8 system remediation. In fact, PWSA’s operating contracts expense through June 30, 2021
 9 have increased approximately \$5.9 million of 14.26% when compared to the prior year.
 10 That increase is led by urgent sewer contract increases, which have increased \$4.2
 11 million or 171.87%.

12 **Q. PLEASE EXPLAIN OCA’S RECOMMENDATION FOR A \$155,987 (\$27,106,585**
 13 **– \$26,950,598) REDUCTION TO PWSA’S OPERATING CONTRACT EXPENSES**
 14 **(OCA ST. 1 AT 31, LINES 11-19, AT 34, LINES 13-15, AND AT 38, LINES 2-10)**

15 A. Mr. Mugrace seeks to reduce operating contract expenses for Plant Operations (Tab 322,
 16 COSS), Sewer Operations (Tab 424, COSS), and increase the expenses for Water
 17 Operation (Tab 325, COSS). Specifically, he recommends reducing the landscaping costs
 18 at Plant Operating because of a lack of support for the increase. He also disallows the
 19 inflationary costs for Sewer Operations.

20 **Q. DO YOU AGREE WITH MR. MUGRACE’S OPERATING CONTRACT**
 21 **EXPENSE REDUCTION?**

22 A. No. As provided in IE-RE-10-D, PWSA is budgeting for an increase in landscaping costs
 23 in an effort to properly maintain all of its facilities. I also disagree with Mr. Mugrace
 24 disallowing the inflationary cost increase for Sewer Operations. PWSA expects increased
 25 inflationary increases related to flagging and traffic setup contracting.

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Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A REDUCTION TO PWSA’S DEBRIS REMOVAL OPERATING CONTRACTS (ACCOUNT 5330). OCA ST. 1 (MUGRACE) AT 37-38; OCA SCHEDULE DM-15 (DEBRIS REMOVAL, OPERATING CONTRACTS).

A. While Mr. Mugrace’s adjustment would *increase* PWSA’s expense claim, I nevertheless oppose because the increase is based on his review of *historical* spending levels in these categories. As I have said many times, determining 2022 expenditure levels by looking exclusively to what PWSA has expended in the past is simply not valid for an entity that is dynamically modernizing and expanding its operations. PWSA’s budgeting process projected a level of expenditure for this item for the FPFTY; that is the level that should be used.

XIII. REPAIRS AND MAINTENANCE

Q. PLEASE RESPOND TO I&E’S RECOMMENDATION FOR A \$1,273,646 (\$14,818,843 - \$13,545,197) REDUCTION TO PWSA’S REPAIRS AND MAINTENANCE EXPENSE CLAIM. I&E ST. 2 (PATEL) AT 6, 36-40.

A. Mr. Patel states that the FPFTY claim amounts for building repairs (account 5405) and plant repairs (account 5462) are not supported and should be reduced. Based on a three-year average, Mr. Patel proposes reductions of \$1,044,189 to the claim for building repairs (account 5405) and of \$229,457 to the claim for plant repairs (account 5462).

That recommendation, however, does not account for the increased work and costs facing PWSA in those sub-categories in the FPFTY. Nor does it acknowledge that work anticipated for FY 2020 (the HTY) was deferred until FY 2022 (the FPFTY).

Building repairs relate to the anticipated increase in repairs, notably at the Water Treatment Plant. Significant repairs were budgeted in the HTY. However, due to the

1 pandemic, that work was deferred. It is now anticipated to occur in FY 2022 (the
 2 FPFTY).

3 Plant repairs have been planned and are necessary to improve safety, ventilation,
 4 and aging infrastructure at the PWSA Water Treatment Plant. Deferring this work will
 5 only exacerbate and continue these conditions. The work was also delayed due to the
 6 pandemic, and is not anticipated to occur in the FPFTY.

7
 8 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A REDUCTION TO**
 9 **PWSA’S REPAIRS AND MAINTENANCE CLAIM. OCA ST. 1 (MUGRACE) AT**
 10 **40; OCA SCHEDULE DM-16 (CONCRETE REPAIRS); OCA ST. 1 (MUGRACE)**
 11 **AT 29-30; OCA SCHEDULE DM-12 (MACHINERY REPAIRS); OCA ST. 1**
 12 **(MUGRACE) AT 37-38; OCA SCHEDULE DM-15 (REPAIRS MAINTENANCE).**

13 A. Mr. Mugrace is focused on three sub-categories of equipment: concrete repairs (5413),
 14 machinery repairs (account 5452) and repairs maintenance (account 5496). He
 15 recommends a reduction of \$1,250,000 to the claim for concrete repairs, a decrease of
 16 \$23,873 to the claim for machinery repairs, and a \$7,335 reduction to the claim for
 17 repairs maintenance.

18 As to concrete repairs (5413), Mr. Mugrace states that the FPFTY claim amount
 19 is not supported, is speculative, and should be reduced to the average cost over two years.
 20 However, Mr. Mugrace never requested the specific information he wanted to support
 21 these costs. In addition, using the average actual expenses for FY 2020 and the budget
 22 amount for FY 2021 is not valid. As I previously explained, the final results for FY 2020
 23 do not represent a “typical” year and cannot be treated as such. Using the budget amount
 24 for FY 2021 is also not valid because PWSA had to make substantial cuts to concrete
 25 repairs in FY 2021 due to the significant revenue reduction in the last base rate case.
 26 PWSA has a backlog of sites that need to be restored in addition to new sites resulting

1 from the ramp up in operations. The City of Pittsburgh is also updating their right-of-way
 2 manual to include increased paving and restoration criteria that will add significant cost
 3 to PWSA restoration sites.

4 Mr. Mugrace states that the FPFTY claim amounts for in machinery repairs
 5 (account 5452) and repairs maintenance (account 5496) are not supported and should be
 6 reduced to the three-year average. Normalizing costs is not a realistic way for PWSA to
 7 recover costs. In addition, even if PWSA could normalize costs, it does not make sense
 8 for machinery repairs and repairs maintenances claims since it is “backwards looking”.
 9 PWSA’s increase in operations is going to result in these claims being higher than in
 10 prior years since more work is being completed.

11

12 **XIV. LEASE AND RENT**

13 **Q. PLEASE RESPOND TO I&E’S RECOMMENDATION FOR A \$309,060**
 14 **(\$1,557,194 - \$1,248,134) REDUCTION TO PWSA’S LEASE AND RENT**
 15 **EXPENSE CLAIM. I&E ST. 2 (PATEL) AT 6, 41-43.**

16 A. Mr. Patel recommends limiting the allowable amount to the claim in the FTY, as opposed
 17 to the claim in the FPFTY. I&E St. 2 (Patel) at 35. This recommendation is based on his
 18 view that PWSA did not provide calculations and documentation to support the proposed
 19 new office space to be rented.

20 I do not agree with Mr. Patel’s claim as PWSA provided the lease agreement and
 21 associated amendments for its administrative offices at 1200 Penn Avenue. Within the
 22 lease agreement includes the justification for the leasing costs. The lease agreement also
 23 includes the additional costs incurred starting in 2019 when PWSA nearly doubled its
 24 office space due to the increase in staffing.

1 Funding is also allocated in the FPFTY funds for another facility to consolidate
2 field staff and the central warehouse. This claim was in the last rate case but had to be
3 reduced due to the revenue reduction. This additional facility will allow PWSA to gain
4 efficiencies in operations, increase safety, and address PWSA's need for equipment
5 storage. The ability to find this type of large space in the City of Pittsburgh is very
6 limited and PWSA must have the funds available to act quickly should PWSA find a
7 suitable location.

8
9 **Q. PLEASE RESPOND TO OCA'S RECOMMENDATION FOR A \$593,100**
10 **REDUCTION TO PWSA'S OFFICE RENT CLAIM. OCA ST. 1 (MUGRACE) AT**
11 **21; OCA SCHEDULE DM-6.**

12 A. Mr. Mugrace states that the FPFTY claim amounts for office rent (account 7255) are not
13 supported and should be reduced to the three-year average. His claim that PWSA spent
14 little dollars in 2019 and increased this account in subsequent years is not correct (OCA
15 St. 1 at 21, lines 19-12). This office rent expense is for the administrative offices that
16 PWSA rents at 1200 Penn Avenue. Prior to 2020, all office rent associated with this
17 location was charged within the Executive Director department (910). The lease for this
18 location was provided in order to justify this claim. Normalizing this claim is not
19 acceptable since PWSA pays a fixed amount annually as per the lease agreement.
20 As I previously explained, PWSA is also including in the FPFTY funds for another
21 facility to consolidate field staff and the central warehouse.

22

1 **XV. PROFESSIONAL SERVICES**

2 **Q. PLEASE RESPOND TO MR. PATEL’S RECOMMENDATION TO EXCLUDE**
 3 **PWSA’S LOBBYING EXPENSE IN ITS ENTIRETY. I&E ST. 2 (PATEL) AT 6,**
 4 **43-47.**

5 A. Mr. Patel recommends excluding PWSA’s lobbying expense claim of \$90,000 for
 6 ratemaking purposes. I&E St. 2 (Patel) at 6, 45.

7 While I understand and acknowledge the Commission’s general rule with respect
 8 to lobbying expense,⁷ I respectfully submit that these amounts are reasonable for PWSA.
 9 PWSA is a municipal authority and has an obligation to maintain lines of communication
 10 with other parts of government. Moreover, I understand that PWSA’s government
 11 relations professionals assist in obtaining information and appropriate funding from
 12 PENNVEST. Accordingly, these expenditures are not so much “lobbying” but
 13 government relations expense. These efforts directly benefit customers. In fact, since
 14 PWSA has no shareholders, all of PWSA’s lobbying efforts accrue to the benefit of
 15 customers. Under these circumstances, I believe that lobbying expense should be deemed
 16 a reasonable pro forma expense for PWSA. It would, therefore, be inappropriate to
 17 exclude PWSA’s claim for lobbying expense in its entirety and I&E’s proposed
 18 adjustment should be rejected.

19 **Q. SHOULD THE COMMISSION DEPART FROM THE COMMISSION’S**
 20 **GENERAL RULE FOR LOBBYING EXPENSES?**

21 A. Yes. Normal regulatory treatment of lobbying expenses is not appropriate for PWSA.
 22 Unlike an investor-owned utility, every dollar of increased surplus accrues to the benefit
 23 of customers since it obviates the need for additional rate increases. Accordingly, PWSA
 24 continues to respectfully request that its lobbying expenses also be included in pro forma

⁷ 66 Pa. C.S. § 1316.

1 expenses. In addition, I am informed by counsel that the PUC can waive provisions of the
 2 Public Utility Code if such a waiver would be reasonable considering PWSA’s special
 3 circumstances.

4 **Q. PLEASE RESPOND TO I&E’S RECOMMENDATION FOR A \$1,727,916**
 5 **REDUCTION TO PWSA’S CLAIM FOR “OTHER” PROFESSIONAL**
 6 **SERVICES. I&E ST. 2 (PATEL) AT 6, 43-47.**

7 A. Mr. Patel states that the FPFTY claim amounts for other professional services (account
 8 7383) are not supported and should be reduced. I do not agree with this for the following
 9 reasons; 1) Mr. Patel suggests to normalize the costs since the investment will provide
 10 multiple years of service. As I previously discussed, normalizing costs is not an option
 11 for PWSA, 2) Mr. Patel never requested the specific documents that he thought was
 12 sufficient to provide a basis for PWSA’s claim. The fact is that PWSA’s claim is justified
 13 and reasonable with many of the claims supported by a contractual agreement that
 14 requires PWSA to pay for services, 3) Mr. Patel states that PWSA’s claim is unreliable
 15 due to historic underspending. However, he does not take into consideration that FY 2020
 16 was not a “typical” year, 4) Mr. Patel’s reduction to PWSA’s claim is hindering the
 17 ability to increase operations at a time when PWSA must do so in order to satisfy as PUC
 18 and other regulatory obligations.

19 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$2,868,728**
 20 **REDUCTION TO PWSA’S CLAIM FOR “OTHER” PROFESSIONAL**
 21 **SERVICES. OCA ST. 1 (MUGRACE) AT 16, 23, 31-32, 35-36; OCA SCHEDULE**
 22 **DM-3, DM-7, DM-10 AND DM-13.**

23 A. Mr. Mugrace states that the FPFTY claim for other professional services (account 7383)
 24 is not supported and should be reduced by a three-year average. I do not agree with Mr.
 25 Mugrace. As I previously explained, normalizing costs is not feasible for PWSA. Also,
 26 he states that PWSA did not provide support for the SCADA upgrade claim within the

1 other professional services account. However, he never requested the specific information
 2 he was looking for to justify the costs from his perspective. The SCADA upgrade is a
 3 verifiable cost that will provide operational enhancements and security improvements
 4 that will benefit rate payers.

5 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR AN \$8,472**
 6 **REDUCTION TO PWSA’S CLAIM FOR ADVERTISING (ACCOUNT 7305).**
 7 **OCA ST. 1 (MUGRACE) AT 16, 26; OCA SCHEDULE DM-3 AND DM-9.**

8 A. Mr. Mugrace states that the FPFTY claim for advertising (account 7305) is not supported
 9 and should be reduced by a three-year average. I do not agree with Mr. Mugrace. He uses
 10 normalization as the basis for his recommended reduction even though it is not feasible
 11 for PWSA. The increase in advertising costs is justified as a result of increased
 12 solicitations and community outreach related to capital project, as explained in IE-RE-17-
 13 D. Mr. Mugrace failed to request additional information if he wanted a more detailed
 14 justification.

15 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$204,051**
 16 **REDUCTION TO PWSA’S CLAIM FOR CONSULTANTS (ACCOUNT 7323).**
 17 **OCA ST. 1 (MUGRACE) AT 16, 21, 26-27, 31-32, 35-36; OCA SCHEDULE DM-3,**
 18 **DM-6, DM-9, DM-10 AND DM-13.**

19 A. Mr. Mugrace states that the FPFTY claim amounts for consultants (account 7323) is not
 20 supported and should be reduced by a three-year average. Specifically, he used
 21 normalization to arrive at his revenue reduction of \$204,051. His justifies this method
 22 because of the disparity of costs from year to year. I do not agree with this method since
 23 FY 2020 does not represent a “typical” year in addition to normalization being an
 24 impossible business practice for PWSA. PWSA’s claim for consultants is justified and
 25 includes very important initiatives such as the EPA wet weather consultant and water

1 quality compliance. Mr. Mugrace failed to request the additional he felt was necessary to
 2 support these costs from his perspective.

3 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$40,000**
 4 **REDUCTION TO PWSA’S CLAIM FOR CONTINGENCIES (ACCOUNT 7328).**
 5 **OCA ST. 1 (MUGRACE) AT 16, 21, 26-27, 31-32, 35-36; OCA SCHEDULE DM-3,**
 6 **DM-6, DM-9, DM-10 AND DM-13.**

7 A. Mr. Mugrace states that the FPFTY claim for contingencies (account 7323) is not
 8 supported and should be reduced by a three-year average. Furthermore, he states that this
 9 cost should not be included because it is an uncertain amount that may or may not occur.

10 I do not agree with Mr. Mugrace. This claim would be utilized for the benefit of
 11 ratepayers to either increase efficiencies or enhance PWSA’s level of service. For
 12 example, PWSA is using this account in FY 2021 to implement an online portal that
 13 allows customers to apply and pay for PWSA permits online. This is currently a manual
 14 process that requires customers to submit a paper check to pay for permits.

15

16 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$65,000**
 17 **REDUCTION TO PWSA’S CLAIM FOR CONSULTING ENGINEER**
 18 **(ACCOUNT 7332). OCA ST. 1 (MUGRACE) AT 21-22; OCA SCHEDULE DM-6.**

19 A. Mr. Mugrace states that the FPFTY claim amounts for consulting engineer (account
 20 7332) is not supported and should be reduced by a three-year average. I do not agree with
 21 Mr. Mugrace. He incorrectly states that no dollars were spent in 2018 and 2019. Prior to
 22 FY 2020, all costs related to the consulting engineer account were spent under the
 23 Engineering and Construction department (930). Furthermore, the consulting engineers
 24 annual report is required per PWSA’s amended and restated bond indenture. PWSA must
 25 have sufficient funds to pay for this report or it will be in non-compliance with its bond
 26 indenture requirements. Normalization, as Mr. Mugrace is suggesting, is not applicable to

1 this claim since PWSA must have sufficient funding to pay for these costs in the year
 2 they are incurred.

3 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$705,200**
 4 **REDUCTION TO PWSA’S CLAIM FOR NON-CAPITAL MISCELLANEOUS**
 5 **SERVICE (ACCOUNT 7335). OCA ST. 1 (MUGRACE) AT 35-36; OCA**
 6 **SCHEDULE DM-10.**

7 A. Mr. Mugrace states that the FPFTY claim for non-capital miscellaneous service (account
 8 7335) should be normalized since the costs will provide benefits in future periods. I do
 9 not agree with Mr. Mugrace. The concept of normalization is not feasible for PWSA.
 10 Sufficient funding must be obtained to pay for the full amount of costs in the period they
 11 are incurred or else PWSA would have no means to pay for costs at all.

12
 13 **XVI. UTILITIES**

14 **Q. PLEASE RESPOND TO I&E’S RECOMMENDATION FOR A \$154,448**
 15 **(\$5,293,104 - \$5,138,656) REDUCTION TO PWSA’S UTILITIES EXPENSE**
 16 **CLAIM. I&E ST. 2 (PATEL) AT 6, 47-50.**

17 A. This recommendation addresses three components of PWSA’s utilities expense claim.

18 As to natural gas and electricity expenses, Mr. Patel recommends a reduction of
 19 \$20,000 for natural gas and of \$128,016 for electricity. I&E St. 2 (Patel) at 50. He states
 20 that PWSA already factored in the FTY budget additional usage and cost of natural gas
 21 and electricity. I&E St. 2 (Patel) at 49. This claim is not correct since the utility costs for
 22 the microfiltration plan is continuing to ramp up over time until it reaches full capacity.
 23 His assumption that the microfiltration plant reached full capacity in FTY is not correct.

24 Next, as to cell phones, Mr. Patel recommends a reduction of \$6,432. I&E St. 2
 25 (Patel) at 50. He disagrees with staffing levels, and seeks a decrease for less than the
 26 budgeted level of staff. I&E St. 2 (Patel) at 49. I discussed PWSA’s budgeted staffing

1 levels in responding to proposed adjustments regarding Payroll Expense and Employee
 2 Benefits Expense, notably that PWSA has maintained and slightly increased staffing
 3 levels in the FTY and will continue to do so in the FPFTY. Costs for daily operational
 4 needs like phone usage will continue to increase.

5
 6 **XVII. MISCELLANEOUS ADMINISTRATIVE EXPENSES**

7 **Q. PLEASE RESPOND TO MR. PATEL’S RECOMMENDATION TO EXCLUDE**
 8 **PWSA’S CLAIM FOR PROBABLE FINES AND PENALTIES, WHICH IS**
 9 **UNDER THE SUB-CATEGORY OF CLAIMS DEDUCTIBLE EXPENSE**
 10 **(ACCOUNT 7715) IN THE MISCELLANEOUS ADMINISTRATIVE**
 11 **CATEGORY, IN ITS ENTIRETY. I&E ST. 2 (PATEL) AT 6, 50-52.**

12 A. Mr. Patel recommends excluding PWSA’s claims related to probable fines and penalties
 13 of \$600,000 for ratemaking purposes. I&E St. 2 (Patel) at 6, 52.

14 Mr. Patel asserts that PWSA’s projection of future claims deductible expenses is
 15 too high when compared to PWSA’s past expenses. However, Mr. Patel does not take
 16 into account that this line item of the PWSA budget is volatile and unpredictable. For
 17 example, in July 2020, the PWSA settled an unexpected action by the PA Attorney
 18 General for \$500,000. The settled amount was much less than the \$1.5M fines facing the
 19 PWSA.

20 Mr. Patel fails to acknowledge that, ultimately, any fines or civil penalties would
 21 be paid by PWSA’s ratepayers. PWSA is a municipal authority. It is **not** an investor
 22 owned utility and lacks shareholder funds. Being a municipal utility with no profit or
 23 return for investors, all expenses incurred, including fines, need to be included in revenue
 24 requirements in the year they are incurred and ultimately recovered from rates. So,
 25 acceptance of Mr. Patel’s position would force PWSA to cut items from operations each
 26 and every time that PWSA faced a fine or penalty from the Commission, the PA DEP or

1 otherwise. Such cuts would, in turn, make it more difficult for PWSA to make it more
 2 difficult for PWSA to maintain (or exceed) regulatory expectations and could lead to
 3 other fines or penalties for non-compliance.

4

5 **XVIII. FEES**

6 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$33,671**
 7 **REDUCTION TO PWSA’S CLAIM FOR MEMBERSHIP FEES (ACCOUNT**
 8 **7010). OCA ST. 1 (MUGRACE) AT 16, 21, 26; OCA SCHEDULE DM-3, DM-6**
 9 **AND DM-9.**

10 A. Mr. Mugrace states that the FPFTY claim for membership fees (account 7010) is not
 11 supported and should be reduced by a three-year average. I do not agree with Mr.
 12 Mugrace. The concept of normalization is not feasible for PWSA. Membership fees are a
 13 legitimate expense that allows PWSA and its employees to collaborate and learn from
 14 other utilities and professionals. This knowledge can then be implemented into PWSA’s
 15 business practices, which will benefit ratepayers. For example, through the American
 16 Water Works Association (AWWA), PWSA’s Chief Executive Officer is a member of
 17 multiple committees that work to address customer affordability as well as the expansion
 18 of customer assistance programs. PWSA’s membership fees claim is also legitimate since
 19 many PWSA employees need to obtain continuing education credits through these
 20 organizations to maintain their professional licenses.

21 Also, as previously stated, Mr. Mugrace is understating the number of employees
 22 that PWSA currently employees. Thus, using his employee count assumptions to reduce
 23 membership costs is not appropriate.

24

1 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$30,253**
 2 **REDUCTION TO PWSA’S CLAIM FOR POSTAGE (ACCOUNT 7115). OCA ST.**
 3 **1 (MUGRACE) AT 18; OCA SCHEDULE DM-4.**

4 A. Mr. Mugrace states that the FPFTY claim for postage (account 7115) is not supported
 5 and should be reduced to half of the FPFTY claim. I do not agree with Mr. Mugrace. The
 6 increase in postage is justified since PWSA will be required to send additional billings to
 7 stormwater only customers once the fee is implemented. This represents billings for new
 8 customers that do not currently receive a bill from PWSA. Normalizing these costs is not
 9 appropriate because postage must be paid in the year the cost is incurred.

10

11 **XIX. SUPPLIES**

12 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A REDUCTION TO**
 13 **PWSA’S SUPPLIES EXPENSES. OCA ST. 1 (MUGRACE) AT 29-30; OCA**
 14 **SCHEDULE DM-12 (LAB); OCA ST. 1 (MUGRACE) AT 29-30; OCA SCHEDULE**
 15 **DM-12 (LAB SUPPLIES); OCA ST. 1 (MUGRACE) AT 33-34, 38; OCA**
 16 **SCHEDULE DM-13, DM-14 AND DM-15 (GROUNDS AND MAINTENANCE).**

17 A. Mr. Mugrace is focused on three sub-categories of supplies: lab (account 7445); lab
 18 supplies (account 7447), and grounds and maintenance (account 7440). He recommends a
 19 reduction of \$57,311 to the claim for lab (account 7445), a reduction of \$7,641 to the
 20 claim for lab supplies (account 7447), and a reduction of \$126,365 to the claim for
 21 grounds and maintenance (account 7440).

22 Mr. Mugrace states that the FPFTY claims for those sub-categories are not
 23 supported and should be reduced to the three-year average. I do not agree with the
 24 revenue requirement reduction proposed by Mr. Mugrace. PWSA is in the process of
 25 expanding its lab operations while at the same time transitioning away for a consultant
 26 who provides lab assistance and equipment to PWSA. Part of this transition includes
 27 buying the necessary lab equipment to fully bring lab operations in house. This is also the

1 reason that little dollars were spent in prior years. Outfitting the lab and fully performing
 2 lab functions in house will be cheaper than paying a lab consultant for their services.
 3 Normalizing these costs is not feasible since PWSA needs to have the funds available in
 4 the year the expense is incurred.

5 I also disagree with the proposed reduction to the grounds and maintenance claim.
 6 PWSA provided adequate support for its grounds and maintenance claim within IE-RE-
 7 18-D. However, Mr. Mugrace is still recommending normalizing the proposed claim,
 8 which is not feasible for PWSA.

9

10 **XX. CITY SERVICES**

11 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION FOR A \$639,868**
 12 **REDUCTION TO PWSA’S CLAIM FOR CITY SERVICES. OCA ST. 1**
 13 **(MUGRACE) AT 41-42; OCA SCHEDULE DM-17.**

14 A. Mr. Mugrace proposes to normalize the Pension Obligations charges, the Fuel Usage
 15 Charges, the Vehicle Repair and Fleet Administrative Charges with the claim for City
 16 Services, since he believes that these costs have a lot of variability. I do not agree with
 17 this proposed approach. PWSA is required by the Cooperation Agreement to make
 18 payments to the City for these costs in the year incurred. Normalizing these costs would
 19 not provide the funds sufficient to make these payments, which would result in non-
 20 compliance with the Cooperation Agreement as well as Act 2020-70⁸.

21

⁸ See, 71 P.S. § 720.213: “A cooperation agreement entered into between the city and authority on or before January 1, 2020, shall:… Notwithstanding 66 Pa.C.S. Pt. I (relating to Public Utility Code), supersede, during the term of the cooperation agreement, any provision of 66 Pa.C.S. Pt. I, a commission regulation, policy statement, order and regulatory proceeding as they pertain to issues covered by the cooperation agreement, including the authority's rates, terms and conditions of service rendered to the city and the respective rights and duties between the authority and the city.”

1 **XXI. PAYGO FINANCING**

2 **Q. PLEASE SUMMARIZE THE POSITIONS OF THE PARTIES WITH RESPECT**
 3 **TO PWSA’S REQUEST THAT IT INCLUDE IN ITS REVENUE**
 4 **REQUIREMENT A SMALL AMOUNT (\$1 MILLION) FOR “PAYGO”**
 5 **FUNDING OF CONSTRUCTION.**

6 A. Mr. Spadaccio opposes the inclusion of this amount claiming that it would be better for
 7 PWSA’s PAYGO funding to come from its DSIC, that PWSA doesn’t need this funding
 8 since it has access to low-cost infrastructure improvement grants, and that “capital
 9 expenditures should be tied to “actual identifiable expenditures.” I&E St. 1 at 19-22.
 10 Neither Mr. Habr or Mr. Mugrace for OCA appear to take issue with PWSA’s proposed
 11 \$1 million inclusion, although Mr. Habr, as he did in PWSA’s last rate case, continues to
 12 insist that PAYGO financing is more expensive for ratepayers compared to bond
 13 financing.

14 **Q. PLEASE RESPOND GENERALLY TO MR. SPADACCIO’S POSITION.**

15 A. I&E’s opposition to this small level of internally generated funds (\$1 million), which
 16 PWSA intends to use for “PAYGO” financing is somewhat confusing, as I&E has never
 17 objected to PWSA using its DSIC to directly finance from rates DSIC eligible
 18 construction. Part of the confusion may be the terminology. While municipal utilities use
 19 the term “PAYGO” another way to characterize these amounts is “internally generated
 20 funds.” Generally, using internally generated funds is used extensively by other
 21 municipal utilities (e.g., PGW) and has salutary effects for the utility and for customers
 22 and should be encouraged.

23

1 **Q. CAN YOU RESPOND TO MR. SPADDICO’S SPECIFIC CONCERNS?**

2 A. None of Mr. Spadaccio’s concerns are valid, in my view. First, while it is true that
3 PWSA has been able to use its DSIC to produce a small amount of PAYGO funding that
4 amount is relatively small compared to PWSA’s total construction funded by DSIC (\$9.6
5 million verses 2022 total projected construction expenditures of \$191.6 million). PAYGO
6 funding, which, as I mentioned, is called “internally generated funds” by other
7 municipalities such as PGW, is extremely important because it reduces reliance on bond
8 financing and gives the Authority more flexibility if the bond markets become
9 overpriced, or if PWSA’s access to bond financing is restricted for some reason. The
10 benefit of using this source of construction funding is not diminished by PWSA’s ability
11 to secure state or federal grants. Those grants reduce PWSA’s need to access the bond
12 market but do not eliminate the Authority’s need to diversify its funding sources. Grants
13 are not a certain or regular source of funding.

14 Mr. Spadaccio also appears also to misunderstand the nature of PWSA’s proposal.
15 PAYGO funding does not change PWSA’s planned construction. PWSA has a detailed
16 and comprehensive “Capital Improvement Plan (“CIP”) that details all of its planned
17 construction. Moreover, its LTIP provides additional detail about the nature of the
18 “DSIC eligible” projects that PWSA is planning in 2022 and beyond. In fact, no party
19 took any issue with either PWSA’s planned construction program or its funding of that
20 program, chiefly through bonds. That PWSA will be using this PAYGO to fund projects
21 in its CIP and/or its LTIP (there is overlap) should provide sufficient assurance that the
22 PAYGO will be able to be tied to “actual identifiable expenditures.” In fact, if it would
23 help, PWSA would be willing to commit to using this base rate PAYGO amount to only
24 fund projects set out in its LTIP.

1 Finally, it's important to keep in mind that PAYGO funding should be
 2 encouraged because, over time, it is cheaper for ratepayers than comparable bond
 3 financing. When the PWSA finances construction via revenue bonds, subsequent year
 4 revenues must be sufficient to pay the annual debt service plus at least 25% or 10%,
 5 depending on which lien the debt is issued under. Due to the debt service coverage factor,
 6 the cost to the ratepayer of funding a portion of the capital improvements with debt rather
 7 than internally generated funds becomes more expensive in a relatively short period of
 8 time.

9
 10
 11 **Q. BUT DOESN'T OCA WITNESS HABR CLAIM THAT THE OPPOSITE IS TRUE**
 12 **AND, DEPENDING ON THE "OPPORTUNITY COST," FUNDING VIA BONDS**
 13 **IS ACTUALLY CHEAPER FOR RATEPAYERS?**

14 A. Yes but his analysis contains several incorrect assumptions. When those assumptions are
 15 corrected the analysis shows that over time, ratepayers are better off when PWSA
 16 finances construction via internally generated funds or PAYGO verses long-term bonds.
 17 First, as I have shown above, a comparison of the revenue requirement effect of financing
 18 construction using long term debt verses internally generated funds should look at a long
 19 (20 years at least) period to recognize that a utility like PWSA is going to issue debt
 20 every year. This means that the nominal cost to ratepayers of financing construction
 21 expenditures via long-term debt will become more expensive that funding via internally
 22 generated funds fairly quickly. Using only ten years of bond issuances and internally
 23 generated funds doesn't present a full picture.

24 But even if one examines just a 10 year period of bond issuance and internally
 25 generated fund expenditures bond issuance is clearly more expensive for customers. This

1 can clearly be seen by examining a modified version of the analysis Mr. Habr presented
2 in his testimony, and which I have attached as Exh. EB-11.

3 Exhibit EB-11 compares the cost to ratepayers of PWSA financing \$100 million
4 of construction each year for ten years by either issuing that amount of debt each year or
5 by paying for the construction through cash, i.e., internally generated funds. First, it's
6 important to note that on a nominal basis, the total cost of the bond financing option
7 exceeds the total cost of the internally generated funds (or PAYGO) option starting in
8 year 17. But, more importantly, by the time that the bonds are fully paid off ratepayers
9 will have paid some \$2 billion dollars verses being charged \$1 billion under the PAYGO
10 option.

11 **Q. BUT DOESN'T MR. HABR CLAIM THAT THE PAYGO OPTION WOULD BE**
12 **MORE EXPENSIVE IF THE TIME VALUE OF MONEY WERE TAKEN INTO**
13 **ACCOUNT SINCE CUSTOMERS ARE REQUIRED TO PAY FOR THE PAYGO**
14 **OPTION IN THE FIRST TEN YEARS WHILE, UNDER THE BOND OPTION,**
15 **THEY PAY A GREATER AMOUNT BUT OVER 40 YEARS?**

16 A. Yes he does, but his analysis incorrectly assumes that under the PAYGO option
17 ratepayers would have to pay in rates not only the \$100 million each year but an
18 additional 25%, presumably to match the debt service coverage requirement of PWSA's
19 bonds. But this makes no sense. There is no additional 25% requirement for the PAYGO
20 option; this in fact is one of the reasons that the PAYGO option is cheaper for ratepayers
21 – unlike the revenue needed to support bond financing ratepayers do not have to pay an
22 additional 25% to cover debt service coverage. When Mr. Habr's incorrect 25% addition
23 to the cost of the PAYGO option is eliminated, PAYGO is cheaper than issuing bonds by
24 close to \$200 million dollars.⁹

⁹ PWSA Exhibit EB-11.

1 **Q. WHAT IS YOUR CONCLUSION?**

2 A. Contrary to the claims of the I&E and OCA witnesses, PAYGO is a reasonable source of
3 financing for PWSA’s construction program and in fact is a cheaper alternative for
4 ratepayers; it should be encouraged and expanded, not opposed.

5

6 **XXII. STORMWATER CREDIT PROGRAM**

7 **Q. PLEASE RESPOND TO THE RECOMMENDATION TO EXCLUDE PWSA’S**
8 **CLAIM OF \$696,685 FOR THE STORMWATER CREDIT PROGRAM, IN ITS**
9 **ENTIRETY. I&E EXH. 1, SCHEDULE 1; I&E ST. 3 (CLINE); OSBA ST. 1**
10 **(KALCIC) AT 41-42.**

11 A. As more fully explained by PWSA Witnesses Tony Igwe (PWSA St. 7-R) and Keith
12 Readling (PWSA St. 8-R), PWSA opposes the exclusion of PWSA’s proposed
13 stormwater credit program. It is unreasonable to direct PWSA to implement a credit
14 program if PWSA is denied the opportunity to recover the costs of the credits.

15

16 **XXIII. ADDITIONAL ADJUSTMENTS**

17 **Q. PLEASE RESPOND TO OCA’S RECOMMENDATION TO ADD \$36,000 IN**
18 **EXPENSES FOR THE ARREARAGE FORGIVENESS PROGRAM PROPOSED**
19 **BY MR. COLTON. OCA ST. 1 (MUGRACE) AT 10-11; OCA SCHEDULE DM-1**
20 **AND DM-2; OCA ST. 4 (COLTON).**

21 A. As more fully explained by PWSA Witness Julie Quigley (PWSA St. 6-R), PWSA
22 opposes the expansion of the arrearage forgiveness program as proposed by Mr. Colton.

23 **Q. DID ANY PARTY COMMENT ON PWSA OWNERSHIP OF SEWER**
24 **LATERALS?**

25 A. Yes. OCA witness Mugrace noted that OCA witness Fought estimates the actual costs
26 related to his recommendation will be less than the estimates in the Report. However, Mr.
27 Mugrace did not make a revenue requirement adjustment in his direct testimony. He

1 reserved the right to update his testimony to reflect additional information on the costs
2 related to Mr. Fought's recommendations.

3 **Q. DOES PWSA HAVE A RESPONSE TO THOSE COMMENTS?**

4 A. Not at this time, since we have not received or reviewed the cost information.

5

6

1

2 **XXIV. COVID-19 RELATED COSTS**

3 **Q. PLEASE RESPOND TO OCA WITNESS MUGRACE’S CONTENTION THAT**
 4 **PWSA IS FOREGOING RECOVERY OF \$1.3 MILLION IN COVID-19**
 5 **RELATED COSTS INCURRED SINCE THE START OF THE PANDEMIC AND**
 6 **CANNOT CLAIM THESE EXPENSES IN ANOTHER FUTURE RATE CASE**
 7 **PROCEEDING OR REQUEST TO DEFER THESE COSTS IN A FUTURE RATE**
 8 **CASE PROCEEDING. OCA ST. 1 (MUGRACE) AT 9.**

9 A. Consistent the Commission’s Secretarial Letter of May 13, 2020¹⁰ and its COVID-19
 10 related Orders,¹¹ PWSA is tracking its COVID-19 related costs and continues to defer
 11 incremental COVID-19 related expenses into a regulatory asset since the start of the
 12 pandemic (March 13, 2020¹²) through a point in the future. Page 4 of the Commission’s
 13 July 15th Opinion and Order provides “that utilities **shall continue** tracking extraordinary,
 14 nonrecurring incremental COVID-19 related expenses and shall maintain detailed
 15 accounting records of such expenses” (emphasis added). Such language indicates that the
 16 applicable period for tracking and deferral continues beyond July 15, 2021.

17 The Commission will need to address recovery of those balances at some time in
 18 the future (after said date). In that future proceeding, the Commission will need to
 19 consider whether each PWSA’s request for recovery of these regulatory assets is
 20 reasonable and necessary. The Commission mandated preservation until a future

¹⁰ <https://www.puc.pa.gov/pdocs/1663110.docx>

¹¹ *See, e.g., Public Utility Service Termination Moratorium; COVID-19 Cost Tracking and Creation of Regulatory Asset*, Docket No. M-2020-3019244 and M-2020-3019775, Opinion and Order entered July 15, 2021. <https://www.puc.pa.gov/pdocs/1711655.docx>.

¹² Consistent with the Emergency Proclamation, and Section 1501 of the Public Utility Code, on March 13, 2020 Pennsylvania Public Utility Commission (“Commission”) Chairman Gladys Brown Dutrieuille issued an Emergency Order which prohibited regulated utilities from terminating service during the pendency of the Emergency Proclamation, unless necessary to ameliorate a safety emergency or unless otherwise determined by the Commission, and also encouraged reconnection of service if such action could be done safely. Public Utility Service Termination Moratorium Proclamation of Disaster Emergency-COVID-19, Docket No. M-2020-3019244 (Emergency Order ratified March 26, 2020) (Emergency Order).

1 proceeding. It is an indefinite deferral of such amount so that it could claim recovery at
 2 some unspecified time in the future. Nothing indicates that PWSA is required to seek
 3 recovery of those costs while it is still incurring those costs. If that was the standard, the
 4 Commission should have so stated and should have so provided for the recovery of such
 5 costs during PWSA’s last base rate case.¹³

6 It is reasonable for PWSA to seek recovery of COVID-related costs once the
 7 recovery period for said costs is complete. Mr. Mugrace is either proposing that COVID
 8 related-costs ended at (or before) April 13, 2021 or that PWSA’s COVID-related costs
 9 need to be divided into two parts (pre- and post-April 13, 2021). Neither option is
 10 reasonable.

11 **XXV. COVID RELATED GOVERNMENT GRANTS**

12 **Q. PLEASE SUMMARIZE THE ISSUE I & E WITNESS CLINE HAS RAISED**
 13 **REGARDING PWSA’S POTENTIAL RECEIPT OF COVID OR**
 14 **INFRASTRUCTURE-RELATED GOVERNMENT GRANTS.**

15 A. Mr. Cline for I&E stated that PWSA had indicated in discovery that it had made
 16 application for grants. He notes that PWSA requested from the City of Pittsburgh
 17 \$143,835,000 over the next three to six years from the Coronavirus Local Fiscal
 18 Recovery Funds (“CLFRF”). Additionally, PWSA indicated that it intends to submit a
 19 request to the Commonwealth of Pennsylvania for \$100,000,000 over five years from the

¹³ In the Settlement of PWSA’s last rate proceeding (R-2020-3017951 (Water) and R-2020-3017970 (Wastewater), et al.), the Parties agreed that the Authority *could* file a claim for deferred COVID-19 related costs in its next case. <https://www.puc.pa.gov/pedocs/1679110.pdf>. That language is discretionary and does not require that PWSA file any such claim in this case.

1 Coronavirus State Fiscal Recovery Fund (“CSFRF”). Both of those funds exist under the
2 American Rescue Plan Act (“ARPA”),¹⁴ which was enacted on March 11, 2021.

3 **Q. WHAT IS MR. CLINE’S POSITION WITH RESPECT TO THESE POTENTIAL**
4 **GRANTS?**

5 A. Mr. Cline claims that “If PWSA receives funds through the CLFRF and/or CSFRF, or
6 similar funding, PWSA track the funding, report the funding details to the Commission
7 and implement a credit on the customers’ bill equal to the amount of the funding.” I&E
8 St. 3 at 7-8.

9 **Q. CAN YOU PROVIDE AN UPDATE ON THE STATUS OF THESE**
10 **APPLICATIONS?**

11 A. Of the \$143,835,000 requested, the City of Pittsburgh awarded PWSA a grant in the
12 approximate amount of \$17,500,000, which will be used to expand PWSA’s lead line
13 replacement program beyond what PWSA had budgeted for 2022.¹⁵ However, it is
14 uncertain when PWSA is able to utilize these funds since the legal agreement for these
15 funds is still being negotiated with the City. In addition, as I previously stated, these grant
16 funds can be reallocated by the City of Pittsburgh at their discretion.

17 PWSA has not received any feedback on the request that was submitted to the
18 Commonwealth of Pennsylvania. Thus, it does not look promising that PWSA will be
19 awarded any funds from this potential source.

¹⁴ Public Law No: 117-2. Section 9901 of the ARPA, *inter alia*, provides funds to certain governmental entities that may be used, among other things, to make necessary investments in water, sewer, or broadband infrastructure. *See* 42 USCS § 802(c)(1)(D) and 803(c)(1)(D)).

¹⁵ City Ordinance 2021-1652.

1 **Q. EVEN IF THESE FUNDING REQUESTS MATERIALIZE DO YOU BELIEVE IT**
2 **WOULD BE APPROPRIATE TO PROVIDE A “CREDIT EQUAL TO THE**
3 **AMOUNT OF THE FUNDING” TO RATEPAYERS?**

4 A. No. Mr. Cline’s recommendation appears to completely ignore well established rules of
5 ratemaking. At this point, we do not know when these grants would become effective and
6 for what projects or periods of time, whether any initial award would actually come to
7 fruition. Importantly, we must determine whether they will fund existing revenue
8 requirements or are for new projects. For example, if the grant is designed to fund an
9 acceleration of an existing project, like, for example, the \$17,500,000 awarded by the
10 City of Pittsburgh, so that the cost is incremental to PWSA’s revenue requirement in the
11 FPFTY then no credit to customers would be appropriate (because the grant is essentially
12 funding future revenue requirement). Moreover, even if the grant does fund an existing
13 expense or capital item that is in PWSA’s revenue requirement claim, a “credit” would
14 not be appropriate unless the grant resulted in PWSA exceeding reasonable levels for its
15 key financial metrics. A “credit” would be completely inappropriate, for example, if
16 PWSA was nonetheless realizing a debt service coverage level below the level of debt
17 service coverage that the Commission deemed “reasonable.”

18 **Q. MR. CLINE APPEARS PARTICULARLY CONCERNED THAT PWSA WILL**
19 **RECEIVE A GRANT “BETWEEN RATE CASES” AND THAT SOMEHOW AS A**
20 **RESULT, IT WILL NOT BE APPROPRIATELY CREDITED TO RATEPAYERS.**
21 **IS THIS CONCERN WELL FOUNDED?**

22 A. No. As Mr. Cline recognizes, PWSA is a municipal utility regulated on a “cash flow”
23 basis. This means that every dollar that PWSA receives “between rate cases” will benefit
24 ratepayers because it will be used to retire existing debt, add to PWSA’s reserve fund, or,
25 at the very least, add to PWSA’s year-end cash balance and improve its debt service
26 coverage. In turn, when PWSA files for a rate increase, the needed rate increase will be

1 less because of these additions to its financial metrics. Thus, Commission can be assured
2 that government grants and loans will benefit both PWSA and its ratepayers regardless of
3 when they are received.

4 **Q. WHAT DOES PWSA RECOMMEND?**

5 A. PWSA will update the Parties and the Commission on any grants that are actually
6 awarded, the nature and purpose of the grant and the time period it covers. If appropriate,
7 PWSA will consider requesting that a proceeding be initiated to consider how to treat the
8 grant. This information would of course allow any other party to request such a
9 proceeding as well.

10

11 **XXVI. CONCLUSION**

12 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

13 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

14

VERIFICATION

I, Edward Barca, hereby state that: (1) I am the Director of Finance for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

07/28/2021 | 5:54 AM PDT

Date: _____

DocuSigned by:

Edward Barca

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Edward Barca
Director of Finance
The Pittsburgh Water and Sewer Authority

Exhibit EB-11

PRESENT VALUE OF DEBT FINANCING EQUALS PRESENT VALUE OF PAYGO FINANCING

		DEBT FINANCING CUSTOMER REQUIRED FUNDS							PAYCO FINANCING CUSTOMER REQUIRED FUNDS			PRESENT VALUE OF CUSTOMER PROVIDED FUNDS		
Year	Capital Expenditure	Bond Issuance Amount	Total Bonds Outstanding	Total Interest @ 4.0%	Principal	Debt Service	Debt Service Coverage Requirement 1.25x	Remaining Debt Service Funds To Support Other Needs	Payco Funds	Customer Required Funds To Support Other Needs	Total Customer Required Funds	Present Value Debt Service Coverage Requirement	Present Value of Total PAYGO Customer Required Funds	Discount Rate
1	\$100,000,000	\$100,000,000	\$100,000,000	\$4,000,000	\$3,333,333	\$7,333,333	\$9,166,667	\$1,833,333	\$100,000,000		\$100,000,000	\$8,779,224	\$95,773,348	4.413181875%
2	\$100,000,000	\$100,000,000	\$196,666,667	\$7,866,667	\$6,666,667	\$14,533,333	\$18,166,667	\$3,633,333	\$100,000,000		\$100,000,000	\$16,663,437	\$91,725,342	4.413181875%
3	\$100,000,000	\$100,000,000	\$290,000,000	\$11,600,000	\$10,000,000	\$21,600,000	\$27,000,000	\$5,400,000	\$100,000,000		\$100,000,000	\$23,719,076	\$87,848,431	4.413181875%
4	\$100,000,000	\$100,000,000	\$380,000,000	\$15,200,000	\$13,333,333	\$28,533,333	\$35,666,667	\$7,133,333	\$100,000,000		\$100,000,000	\$30,008,287	\$84,135,383	4.413181875%
5	\$100,000,000	\$100,000,000	\$466,666,667	\$18,666,667	\$16,666,667	\$35,333,333	\$44,166,667	\$8,833,333	\$100,000,000		\$100,000,000	\$35,589,179	\$80,579,273	4.413181875%
6	\$100,000,000	\$100,000,000	\$550,000,000	\$22,000,000	\$20,000,000	\$42,000,000	\$52,500,000	\$10,500,000	\$100,000,000		\$100,000,000	\$40,516,071	\$77,173,468	4.413181875%
7	\$100,000,000	\$100,000,000	\$630,000,000	\$25,200,000	\$23,333,333	\$48,533,333	\$60,666,667	\$12,133,333	\$100,000,000		\$100,000,000	\$44,839,712	\$73,911,614	4.413181875%
8	\$100,000,000	\$100,000,000	\$706,666,667	\$28,666,667	\$26,666,667	\$54,933,333	\$68,666,667	\$13,733,333	\$100,000,000		\$100,000,000	\$48,607,504	\$70,787,627	4.413181875%
9	\$100,000,000	\$100,000,000	\$780,000,000	\$31,200,000	\$30,000,000	\$61,200,000	\$76,500,000	\$15,300,000	\$100,000,000		\$100,000,000	\$51,863,696	\$67,795,681	4.413181875%
10	\$100,000,000	\$100,000,000	\$850,000,000	\$34,000,000	\$33,333,333	\$67,333,333	\$84,166,667	\$16,833,333	\$100,000,000		\$100,000,000	\$54,649,579	\$64,930,193	4.413181875%
11			\$816,666,667	\$32,666,667	\$32,333,333	\$66,000,000	\$82,500,000	\$16,500,000			\$0	\$51,303,301	\$0	4.413181875%
12			\$783,333,333	\$31,333,333	\$33,333,333	\$64,666,667	\$80,833,333	\$16,166,667			\$0	\$48,142,265	\$0	4.413181875%
13			\$750,000,000	\$30,000,000	\$33,333,333	\$63,333,333	\$79,166,667	\$15,833,333			\$0	\$45,156,790	\$0	4.413181875%
14			\$716,666,667	\$28,666,667	\$33,333,333	\$62,000,000	\$77,500,000	\$15,500,000			\$0	\$42,337,682	\$0	4.413181875%
15			\$683,333,333	\$27,333,333	\$33,333,333	\$60,666,667	\$75,833,333	\$15,166,667			\$0	\$39,676,211	\$0	4.413181875%
16			\$650,000,000	\$26,000,000	\$33,333,333	\$59,333,333	\$74,166,667	\$14,833,333			\$0	\$37,164,087	\$0	4.413181875%
17			\$616,666,667	\$24,666,667	\$33,333,333	\$58,000,000	\$72,500,000	\$14,500,000			\$0	\$34,793,441	\$0	4.413181875%
18			\$583,333,333	\$23,333,333	\$33,333,333	\$56,666,667	\$70,833,333	\$14,166,667			\$0	\$32,556,801	\$0	4.413181875%
19			\$550,000,000	\$22,000,000	\$33,333,333	\$55,333,333	\$69,166,667	\$13,833,333			\$0	\$30,447,074	\$0	4.413181875%
20			\$516,666,667	\$20,666,667	\$33,333,333	\$54,000,000	\$67,500,000	\$13,500,000			\$0	\$28,457,527	\$0	4.413181875%
21			\$483,333,333	\$19,333,333	\$33,333,333	\$52,666,667	\$65,833,333	\$13,166,667			\$0	\$26,581,770	\$0	4.413181875%
22			\$450,000,000	\$18,000,000	\$33,333,333	\$51,333,333	\$64,166,667	\$12,833,333			\$0	\$24,813,739	\$0	4.413181875%
23			\$416,666,667	\$16,666,667	\$33,333,333	\$50,000,000	\$62,500,000	\$12,500,000			\$0	\$23,147,677	\$0	4.413181875%
24			\$383,333,333	\$15,333,333	\$33,333,333	\$48,666,667	\$60,833,333	\$12,166,667			\$0	\$21,578,124	\$0	4.413181875%
25			\$350,000,000	\$14,000,000	\$33,333,333	\$47,333,333	\$59,166,667	\$11,833,333			\$0	\$20,099,897	\$0	4.413181875%
26			\$316,666,667	\$12,666,667	\$33,333,333	\$46,000,000	\$57,500,000	\$11,500,000			\$0	\$18,708,081	\$0	4.413181875%
27			\$283,333,333	\$11,333,333	\$33,333,333	\$44,666,667	\$55,833,333	\$11,166,667			\$0	\$17,398,012	\$0	4.413181875%
28			\$250,000,000	\$10,000,000	\$33,333,333	\$43,333,333	\$54,166,667	\$10,833,333			\$0	\$16,165,266	\$0	4.413181875%
29			\$216,666,667	\$8,666,667	\$33,333,333	\$42,000,000	\$52,500,000	\$10,500,000			\$0	\$15,005,647	\$0	4.413181875%
30			\$183,333,333	\$7,333,333	\$33,333,333	\$40,666,667	\$50,833,333	\$10,166,667			\$0	\$13,915,175	\$0	4.413181875%
31			\$150,000,000	\$6,000,000	\$30,000,000	\$36,000,000	\$45,000,000	\$9,000,000			\$0	\$11,797,698	\$0	4.413181875%
32			\$120,000,000	\$4,800,000	\$26,666,667	\$31,466,667	\$39,333,333	\$7,866,667			\$0	\$9,876,207	\$0	4.413181875%
33			\$93,333,333	\$3,733,333	\$23,333,333	\$27,066,667	\$33,833,333	\$6,766,667			\$0	\$8,136,149	\$0	4.413181875%
34			\$70,000,000	\$2,800,000	\$20,000,000	\$22,800,000	\$28,500,000	\$5,700,000			\$0	\$6,563,925	\$0	4.413181875%
35			\$50,000,000	\$2,000,000	\$16,666,667	\$18,666,667	\$23,333,333	\$4,666,667			\$0	\$5,146,835	\$0	4.413181875%
36			\$33,333,333	\$1,333,333	\$13,333,333	\$14,666,667	\$18,333,333	\$3,666,667			\$0	\$3,873,018	\$0	4.413181875%
37			\$20,000,000	\$800,000	\$10,000,000	\$10,800,000	\$13,500,000	\$2,700,000			\$0	\$2,731,408	\$0	4.413181875%
38			\$10,000,000	\$400,000	\$6,666,667	\$7,066,667	\$8,833,333	\$1,766,667			\$0	\$1,711,678	\$0	4.413181875%
39			\$3,333,333	\$133,333	\$3,333,333	\$3,466,667	\$4,333,333	\$866,667			\$0	\$804,200	\$0	4.413181875%
40			\$0	\$0	\$0									
Total	\$1,000,000,000			\$598,000,000			\$2,025,000,000	\$405,000,000	\$1,000,000,000	\$0	\$1,000,000,000	\$993,325,450	\$794,660,360	

Exhibit EB-12

2021													
The Pittsburgh Water and Sewer Authority													
2021 Operating Budget Projection (Cash Basis)													
As of June 30, 2021													
	January	February	March	April	May	June	July	August	September	October	November	December	
	Actual						Projection						
Operating Expenses													
<i>Executive Director</i>	\$ 137,098	134,678	148,602	142,621	139,643	185,594	156,527	113,632	116,154	1,368,209	110,479	172,940	\$ 2,926,177
<i>Customer Service</i>	526,142	611,636	798,966	772,397	632,565	799,270	834,221	660,286	702,514	679,884	661,666	634,438	8,313,984
<i>Management Information Systems</i>	181,946	3,735,257	393,710	268,814	232,029	1,983,500	324,620	292,778	345,848	321,082	319,902	346,203	8,745,689
<i>Finance</i>	1,288,048	631,237	669,213	392,720	507,027	1,269,999	729,155	855,709	660,754	652,031	733,141	1,454,998	9,844,031
<i>Human Resources</i>	59,115	55,179	54,349	71,094	83,483	89,636	84,745	60,270	94,053	60,743	61,249	95,905	869,821
<i>Legal</i>	549,720	385,420	493,315	625,467	429,123	514,571	632,690	500,261	502,092	499,927	499,879	537,577	6,170,042
<i>Warehouse</i>	36,495	39,452	28,062	40,890	28,567	56,060	47,372	32,087	36,052	32,203	32,222	46,091	455,553
<i>Public Affairs</i>	51,562	125,845	49,918	86,156	87,863	81,373	90,874	96,608	72,204	69,379	69,337	156,297	1,037,414
<i>Engineering & Construction</i>	1,321,111	3,228,795	3,944,589	868,123	1,977,830	3,686,826	3,297,364	3,122,207	3,158,867	3,200,548	3,195,835	(3,527,598)	27,474,497
<i>Environmental Compliance</i>	75,268	118,403	324,375	330,907	166,565	351,968	276,262	250,177	256,052	244,853	250,652	279,085	2,924,566
<i>General Administration</i>	1,012	1,075	1,261	582	573	1,040	1,135	986	873	650	763	965	10,914
<i>Water Quality</i>	61,474	91,572	209,741	320,592	88,962	104,967	164,978	131,965	126,040	118,811	126,381	143,233	1,688,716
<i>Plant Operations</i>	1,510,156	1,077,025	2,486,605	1,037,812	1,602,301	1,225,985	1,820,026	1,558,225	1,512,057	1,829,678	1,863,649	1,155,972	18,679,492
<i>Distribution</i>	947,527	1,171,025	1,022,899	934,206	1,001,623	1,333,787	1,500,552	1,053,683	1,146,331	1,119,538	1,108,450	1,626,652	13,966,273
<i>Sewer Operations</i>	207,902	174,732	211,044	224,623	259,691	310,989	387,796	291,041	306,757	301,862	298,353	404,733	3,379,524
Total	\$ 6,954,575	11,581,328	10,836,649	6,117,004	7,237,844	11,995,566	10,348,317	9,019,915	9,036,648	10,499,398	9,331,958	3,527,491	\$ 106,486,691

Exhibit EB-13

Copy of Barca -PWSA Exhibit EB-13.xlsx
Summary

GL #	GL Description	2021 Budget	2	2	2	2	2	2	3	2	2	2	2	3	Pay Periods
			2	1	0	1	0	1	1	0	1	0	0	0	3
			1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/31/2021	6/30/2021	7/31/2021	8/31/2021	9/30/2021	10/31/2021	11/30/2021	12/31/2021	TOTAL
7711	DISC Asset Reclass	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7712	Cash Discount Taken	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7715	Claims.Deductibles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7720	Customer Refund.CSM	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7721	Customer Refund. AP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7730	Fines.Penalties	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7735	LienBuyBkExp	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7742	Education & Outreach	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7743	Employee Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7750	Inv.Adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7760	Misc Gen.Admin Exp	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7765	One Call	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7770	Publication.Subscription	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7787	3rd Pty LW Exp	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7789	3rd Pty Sew Trt Exp	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7799	Grants Awarded by PWSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	TOTAL ADMINISTRATIVE	4,903,346	352,025	348,065	405,565	412,815	381,099	405,796	384,643	345,478	463,118	449,994	464,797	489,950	4,903,346
8005	City Indirect Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8070	Sewer Direct	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8071	Sewer Indirect	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8180	Non.City Water Reimburse	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8225	Depr Non.Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8230	Depr Utility	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8305	Amort Debt Discount	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8320	Int Exp.Cust Sec Deposit	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8335	Int Exp.LT Debt	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8340	Int Exp.Swap Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8341	Int Exp.LiquidityFee	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8342	Int Exp.ReMktgFee	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8343	RatingFee	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8345	Int Exp.Swap Pmt.Rcpt	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8355	Int Exp.PV Loans	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8360	Revolver Interest	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	GRAND TOTAL	32,315,089	2,602,842	2,477,404	2,587,144	2,641,251	2,586,871	2,629,839	2,936,029	2,678,447	2,742,463	2,695,484	2,731,036	3,006,279	32,315,089

Benefits
GL 4174, 4175, 4180

2021 Budget													
4174: Customer Service Week	1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/31/2021	6/30/2021	7/31/2021	8/31/2021	9/30/2021	10/31/2021	11/30/2021	12/31/2021	TOTAL
Engineer's Week (66 @ \$25/per)	-	-	1,650	-	-	-	-	-	-	-	-	-	1,650
Example B	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	1,650	-	-	-	-	-	-	-	-	-	1,650

2021 Budget													
4175: Uniforms	1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/31/2021	6/30/2021	7/31/2021	8/31/2021	9/30/2021	10/31/2021	11/30/2021	12/31/2021	TOTAL
Engineering New Staff Boots (@\$150)	150	-	-	150	-	-	150	-	-	150	-	-	600
Engineering Replacement Boots (@\$150)	150	-	-	150	-	-	150	-	-	150	-	-	600
Inspector Uniforms (4 @ \$500)	2,400	-	-	-	-	-	-	-	-	-	-	-	2,400
Example D	-	-	-	-	-	-	-	-	-	-	-	-	-
Example E	-	-	-	-	-	-	-	-	-	-	-	-	-
Example F	-	-	-	-	-	-	-	-	-	-	-	-	-
Example G	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	2,700	-	-	300	-	-	300	-	-	300	-	-	3,600

2021 Budget													
4180: Tuition	1/31/2021	2/28/2021	3/31/2021	4/30/2021	5/31/2021	6/30/2021	7/31/2021	8/31/2021	9/30/2021	10/31/2021	11/30/2021	12/31/2021	TOTAL
Barry King (Masters)	3,800	-	-	-	-	-	-	-	-	-	-	-	3,800
Elisabeth Kennedy	-	-	-	-	3,000	-	-	-	3,000	-	-	-	6,000
Megan Hicks	-	-	-	-	3,000	-	-	-	3,000	-	-	-	6,000
Jacob Bishop (Undergraduate)	6,323	-	-	-	7,114	-	-	-	4,742	-	-	-	18,179
Alex Wasko (Masters)	2,218	-	-	-	2,218	-	-	-	2,218	-	-	-	6,653
Maria Natoli (Masters)	4,738	-	-	-	4,738	-	-	-	4,738	-	-	-	14,213
Total	17,078	-	-	-	20,069	-	-	-	17,698	-	-	-	54,845

2022 Budget													
4174: Customer Service Week	1/31/2022	2/28/2022	3/31/2022	4/30/2022	5/31/2022	6/30/2022	7/31/2022	8/31/2022	9/30/2022	10/31/2022	11/30/2022	12/31/2022	TOTAL
Engineer's Week (66 @ \$25/per)	-	-	1,650	-	-	-	-	-	-	-	-	-	1,650
Example B	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	1,650	-	-	-	-	-	-	-	-	-	1,650

2022 Budget													
4175: Uniforms	1/31/2022	2/28/2022	3/31/2022	4/30/2022	5/31/2022	6/30/2022	7/31/2022	8/31/2022	9/30/2022	10/31/2022	11/30/2022	12/31/2022	TOTAL
Engineering New Staff Boots (@\$150)	150	-	-	150	-	-	150	-	-	150	-	-	600
Engineering Replacement Boots (@\$150)	150	-	-	150	-	-	150	-	-	150	-	-	600
Inspector Uniforms (6 @ \$500)	3,000	-	-	-	-	-	-	-	-	-	-	-	3,000
Example D	-	-	-	-	-	-	-	-	-	-	-	-	-
Example E	-	-	-	-	-	-	-	-	-	-	-	-	-
Example F	-	-	-	-	-	-	-	-	-	-	-	-	-
Example G	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3,300	-	-	300	-	-	300	-	-	300	-	-	4,200

2022 Budget													
4180: Tuition	1/31/2022	2/28/2022	3/31/2022	4/30/2022	5/31/2022	6/30/2022	7/31/2022	8/31/2022	9/30/2022	10/31/2022	11/30/2022	12/31/2022	TOTAL
Alex Wasko (Masters)	2,218	-	-	-	2,218	-	-	-	2,218	-	-	-	6,653
Maria Natoli (Masters)	4,738	-	-	-	4,738	-	-	-	4,738	-	-	-	14,213
Ben Grunauer (Masters)	4,738	-	-	-	4,738	-	-	-	4,738	-	-	-	14,213
Example D	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	11,693	-	-	-	11,693	-	-	-	11,693	-	-	-	35,078

Company
 Location
 Job Title

Job Listing												
Job ID	Job Title	Location	Salary	Experience	Education	Skills	Benefits	Openings	Start Date	End Date	Status	Notes
0001	Senior Software Engineer	San Francisco, CA	\$150,000	5-7 years	BS	Python, JavaScript, React	Health, Dental, 401k	10	2023-01-15	2023-03-15	Open	Requires 5+ years Python experience
0002	Product Manager	San Francisco, CA	\$120,000	3-5 years	BS	Product Development, Analytics	Health, Dental, 401k	5	2023-02-01	2023-04-01	Open	Requires 3+ years PM experience
0003	UX Designer	San Francisco, CA	\$90,000	2-4 years	BS	UX Design, User Research	Health, Dental, 401k	8	2023-01-20	2023-03-20	Open	Requires 2+ years UX design experience
0004	Marketing Specialist	San Francisco, CA	\$75,000	1-3 years	BS	Marketing, Social Media	Health, Dental, 401k	12	2023-03-01	2023-05-01	Open	Requires 1+ years marketing experience
0005	Customer Support	San Francisco, CA	\$50,000	0-2 years	High School	Customer Service, Communication	Health, Dental, 401k	20	2023-02-15	2023-04-15	Open	Requires 0-2 years customer support experience

Job Listing												
Job ID	Job Title	Location	Salary	Experience	Education	Skills	Benefits	Openings	Start Date	End Date	Status	Notes
0006	Software Engineer	San Francisco, CA	\$100,000	3-5 years	BS	Python, JavaScript	Health, Dental, 401k	15	2023-01-10	2023-03-10	Open	Requires 3+ years software engineering experience
0007	Business Development	San Francisco, CA	\$85,000	3-5 years	BS	Business Development, Sales	Health, Dental, 401k	10	2023-02-05	2023-04-05	Open	Requires 3+ years business development experience
0008	Operations Manager	San Francisco, CA	\$95,000	5-7 years	BS	Operations Management, Logistics	Health, Dental, 401k	8	2023-03-05	2023-05-05	Open	Requires 5+ years operations management experience
0009	Quality Assurance	San Francisco, CA	\$70,000	2-4 years	BS	Quality Assurance, Testing	Health, Dental, 401k	12	2023-02-20	2023-04-20	Open	Requires 2+ years QA experience
0010	Systems Administrator	San Francisco, CA	\$65,000	3-5 years	BS	Network Administration, Linux	Health, Dental, 401k	10	2023-03-10	2023-05-10	Open	Requires 3+ years sysadmin experience

Exhibit EB-14

2021							
The Pittsburgh Water and Sewer Authority 2021 Operating Budget Projection (Cash Basis) As of June 30, 2021	January	February	March	April	May	June	
	Actual						
	Operating Expenses						
Executive Director	\$ 137,098	134,678	148,602	142,621	139,643	185,594	\$ 888,236
Customer Service	526,142	611,636	798,966	772,397	632,565	799,270	4,140,975
Management Information Systems	181,946	3,735,257	393,710	268,814	232,029	1,983,500	6,795,256
Finance	1,288,048	631,237	669,213	392,720	507,027	1,269,999	4,758,243
Human Resources	59,115	55,179	54,349	71,094	83,483	89,636	412,856
Legal	549,720	385,420	493,315	625,467	429,123	514,571	2,997,616
Warehouse	36,495	39,452	28,062	40,890	28,567	56,060	229,526
Public Affairs	51,562	125,845	49,918	86,156	87,863	81,373	482,715
Engineering & Construction	1,321,111	3,228,795	3,944,589	868,123	1,977,830	3,686,826	15,027,274
Environmental Compliance	75,268	118,403	324,375	330,907	166,565	351,968	1,367,485
General Administration	1,012	1,075	1,261	582	573	1,040	5,542
Water Quality	61,474	91,572	209,741	320,592	88,962	104,967	877,308
Plant Operations	1,510,156	1,077,025	2,486,605	1,037,812	1,602,301	1,225,985	8,939,885
Distribution	947,527	1,171,025	1,022,899	934,206	1,001,623	1,333,787	6,411,067
Sewer Operations	207,902	174,732	211,044	224,623	259,691	310,989	1,388,982
Total	\$ 6,954,575	11,581,328	10,836,649	6,117,004	7,237,844	11,995,566	\$ 54,722,965

2020							
The Pittsburgh Water and Sewer Authority 2020 Operating Budget Projection (Cash Basis) As of June 30, 2020	January	February	March	April	May	June	
	Actual						
	Operating Expenses						
Executive Director	\$ 160,627	111,883	180,830	124,403	98,637	144,006	\$ 820,386
Customer Service	760,435	520,554	540,594	806,603	511,468	619,197	3,758,851
Management Information Systems	146,426	139,835	144,774	152,674	148,576	160,543	892,828
Finance	1,116,758	537,863	680,429	345,972	442,710	803,506	3,927,238
Human Resources	51,941	43,642	40,697	79,147	44,093	92,500	352,020
Legal	454,846	334,402	168,806	413,785	500,795	311,450	2,184,084
Warehouse	22,555	30,212	30,128	33,852	28,130	33,079	177,956
Public Affairs	119,883	95,537	88,814	58,342	95,212	78,739	536,527
Engineering & Construction	1,054,630	985,617	2,612,854	1,762,571	1,960,202	2,080,427	10,456,301
Environmental Compliance	34,329	76,839	33,963	146,064	49,665	57,480	398,340
General Administration	1,950	2,872	3,264	615	1,395	880	10,976
Water Quality	166,584	186,536	108,779	177,531	151,847	148,999	940,276
Plant Operations	1,122,216	1,638,377	1,461,856	1,586,760	1,309,935	1,543,346	8,662,490
Distribution	1,416,022	981,491	1,063,610	915,352	946,519	1,015,442	6,338,436
Sewer Operations	329,871	307,419	294,404	239,647	282,319	241,283	1,694,943
Total	\$ 6,959,073	5,993,079	7,453,802	6,843,318	6,571,503	7,330,877	\$ 41,151,652

Exhibit EB-15

	United States Census	
	Population	Bureau Year Count
Aspinwall Borough	2,724	2019
Baldwin Borough	19,752	2019
Baldwin Township	1,992	2010
Bellevue Borough	8,146	2019
Brentwood Borough	9,386	2019
Carnegie Borough	7,883	2019
Castle Shannon Borough	8,213	2019
Crafton Borough	5,838	2019
Dormont Borough	8,373	2019
Edgewood Borough	3,040	2019
Etna Borough	3,350	2019
Fox Chapel Borough	5,121	2019
Greentree Borough	4,885	2019
Homestead Borough	3,170	2019
Ingram Borough	3,237	2019
Kennedy Township	8,125	2018
McKees Rocks Borough	5,919	2019
Millvale Borough	3,706	2019
Mt. Lebanon Municipality	32,303	2019
Mt. Oliver Borough	3,324	2019
Munhall Borough	11,121	2019
O'Hara Township	8,892	2019
Penn Hills Municipality	40,974	2018
Reserve Township	3,234	2018
Robinson Township	13,673	2018
Ross Township	30,487	2018
Rosslyn Farms Borough	440	2019
Scott Township	16,519	2018
Shaler Township	27,963	2018
Sharpsburg Borough	3,358	2019
Swissvale Borough	8,760	2019
Thornburg Borough	443	2019
West Homestead Borough	1,782	2019
West Mifflin Borough	19,834	2019
Whitehall Borough	13,517	2019
Wilkinsburg Borough	15,485	2019
	364,969	

Exhibit EB-16

	A	B	C	D	E	F	G	H	I	J	K
1	PWSA Exhibit EB-16										
2			PWSA			Other Parties					
3			No Increase		Proposed		I&E		OCA		
4											
5	Direct Testimony Position				32,214,665		2,339,804		11,185,772		
6											
7	Revenues										
8		Base Rates (Billed)	188,249,137		220,463,802		192,201,129		199,769,788		
9		DSIC	9,227,369		9,599,856		8,478,876		8,731,491		
10		Other	2,683,488		2,683,488		2,683,488		2,844,487		
11		Total Revenue (Billed)	200,159,994	¹	232,747,146	²	203,363,493	*	211,345,766	⁷	
12		Less: Bad Debt	(3,949,530)		(5,718,077)		(4,813,225)		(4,708,848)		
13		Less: SW Credit	-		(696,685)		-		(696,685)		
14		Total Revenue (Expected)	196,210,464	³	226,332,383	³	198,550,268	⁵	205,940,233	*	
15											
16		<u>Proposed Increases</u>									
17		Base Rates (Billed)			32,214,665	⁴	3,951,992	*	11,520,651	*	
18		Total Revenue (Billed)			32,587,152	*	3,203,499	*	11,185,772	⁸	
19		Total Revenue (Expected)			30,121,919	*	2,339,804	⁶	9,729,769	*	
20											
21	Revenue Requirements										
22		O&M	125,268,731		125,268,731		99,607,596		104,996,128		
23		Debt	89,407,273		89,407,273		89,407,273		89,407,273		
24		PAYGO	10,227,369		10,599,856		8,478,876		9,731,492		
25		Reserves	1,000,000		1,000,000		1,000,000		1,000,000		
26		Total Expenses	225,903,373	³	226,275,859	³	198,493,745	⁵	205,134,893	*	
27		Plus: Bad Debt Expense	3,949,530		5,718,077		4,813,225		4,708,848		
28		Plus: SW Credit	-		696,685		-		696,685		
29		Total with Add'l Expenses	229,852,903	¹	232,690,622	²	203,306,970	*	210,540,426	⁷	
31											
32		<u>Recommended Reductions</u>									
33		Total Expenses					(27,782,115)	⁵	(21,140,967)		
34		Total with Add'l Expenses					(29,383,652)		(22,150,196)	⁷	

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

REBUTTAL TESTIMONY OF

THOMAS F. HUESTIS

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

Topics:

Support for Proposed Rate Increase
Capital Markets Consideration

July 29, 2021

as revised August 4, 2021

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TABLE OF EXHIBITS

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TH-7	Moody’s Investors Service, Sector Profile 11 May 2021: Water and Sewer Utilities – US. Medians – Rate increases support stable financial metrics in 2019

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. Thomas F. Huestis. I am a Senior Managing Director and Partner with Public Resources
4 Advisory Group, Inc. (“PRAG”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony, PWSA St. No. 3 on April 13, 2021, which
7 accompanied the rate filing.

8 **Q. WHAT IS YOUR ROLE WITH THE PWSA?**

9 A. My firm, PRAG, is the Registered Municipal Advisor to the PWSA and as a Municipal
10 Advisor Representative, I provide the PWSA fiduciary advice and recommendations
11 related to the issuance of municipal securities.

12 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

13 A. The purpose of my Rebuttal Testimony, is to respond to certain portions of the direct
14 testimony submitted by other parties, including the Office of Consumer Advocate
15 (“OCA”) and the Bureau of Investigation and Enforcement (“I&E” and together with
16 OCA, the “Interveners” or the “Parties”). Specifically, my Rebuttal Testimony will
17 respond to the various revenue requirement recommendations, address the financial
18 metrics recommendations of various parties and respond to arguments regarding PWSA’s
19 claims for certain revenues and expenses.

20 **Q. PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.**

21 A. My Rebuttal Testimony relates to the approach that the Interveners have taken to assess
22 the reasonableness of the PWSA’s rate request and the specific recommendations of Mr.
23 Spadaccio and Mr. Patel, the witnesses for I&E, and Mr. Mugrace and Mr. Habr, the

1 witnesses from OCA. It provides further evidence that their recommendations should not
2 be adopted.

3 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

4 A. Yes. I am sponsoring the following exhibits:

- 5 • **Exh. TH-6:** S&P Global Ratings. U.S. Municipal Water and Sewer Utility Sector
6 Is Stable As Median Ratios Show Improved Finances.
- 7 • **Exh. TH-7:** Moody's Investors Service. Water and Sewer Utilities – US.
8 Medians – Rate increases support stable financial metrics in 2019.

9 **II. SUPPORT FOR PROPOSED RATE INCREASE**

10 **Q. CAN YOU SUMMARIZE THE TESTIMONY OF THE OPPOSING PARTIES**
11 **REGARDING THE APPROPRIATE FINANCIAL METRICS AND RESULTING**
12 **RATE INCREASE FOR PWSA?**

13 A. I&E witness Spadaccio claims that the minimal rate increase that I & E recommends
14 would nonetheless mean a debt service coverage ratio of 1.43x for senior debt and 1.16x
15 for total debt, I&E St No. 1 (Spadaccio) at 13, 22. Mr. Spadaccio states that “I&E’s
16 recommendation for senior debt service coverage would be considered ‘Good’ by the
17 Standard & Poor’s analysis above, while the recommendation for total debt service
18 coverage would be considered ‘Adequate.’”(I & E St. 1 at 17).

19 Witness Habr claims that the OCA’s slightly higher \$11 million recommended revenue
20 requirement would produce a debt service coverage ratio of 1.46x on PWSA’s senior debt
21 and 1.18x on all debt including subordinate debt which he suggests is reasonable,
22 apparently because it is consistent with the debt service coverages that PWSA showed as
23 being produced by its proposed, \$32 million rate increase. OCA St. 2 (Haber) at 3-4.

1 **Q. DO YOU AGREE WITH THE APPROACH THE INTERVENERS HAVE TAKEN**
2 **TO EVALUATE THE NEEDS OF THE UTILITY?**

3 A. No. While the Interveners would undoubtedly support granting a for-profit utility
4 company a rate increase that includes a “rate of return” that would permit the firm to
5 maintain and attract capital, they have opposed the Authority from obtaining an adequate
6 “rate of return for reinvestment” back into the system. For municipal utilities, the rate of
7 return for reinvestment means generating debt service coverage. Debt service coverage
8 provides the Authority with funds to improve flexibility, reduce risk, reduce adding to its
9 debt load, the ability to react quickly to unanticipated opportunities and challenges,
10 improve its credit position, lower its cost of doing business, etc.

11 **Q. HOW DOES THIS APPROACH RELATE TO PWSA’S CURRENT RATE**
12 **REQUEST?**

13 A. Rather than simply evaluating whether the debt service coverage ratios produced by the
14 proposed rate increase were “adequate” those parties should have recognized that PWSA
15 could have justified a rate increase that was substantially above its FY 2022 request based
16 on targeted financial metrics comparable to those earned by similarly situated municipal
17 utilities, rating agencies metrics and other standard measures. Instead of asking for a
18 larger rate increase, the PWSA’s Board determined that the Authority should seek the
19 minimum increase needed over the next two years due to the COVID-19 pandemic
20 situation. Unfortunately, the Interveners are not supporting the proposed minimum
21 increase and created an approach that is not appropriate, which Mr. Barca discusses in his
22 rebuttal testimony and I discuss further within this Rebuttal Testimony.

1 **Q. WHAT WERE THE MAJOR FACTORS THAT CONTRIBUTED TO PWSA**
 2 **COMING UNDER PUC SUPERVISION AND WHAT WAS THE EXPECTATION**
 3 **FOR A SUCCESSFUL OUTCOME?**

4 A. The major factors that contributed to the PWSA’s past financial, operational and health
 5 and safety issues were related the lack of investment in operations, maintenance, capital
 6 and inadequate management caused by the lack of will to generate sufficient revenue for
 7 reinvestment into the system. As Mr. Pickering states in his rebuttal testimony “it is
 8 important to recognize that during the years prior to 2016, the Authority’s rates remained
 9 artificially low and it was unable to make the essential investments in the water, sewer,
 10 and stormwater systems that were needed to ensure the continued compliance with all
 11 regulatory requirements and the provision of the highest quality service to customers.
 12 Inadequate investment resulted in equipment failures, water quality and safety issues, a
 13 general public concern about the Authority’s utility systems and various problems with
 14 billing that ranged from errors or inaccuracies to delays in rendering bills.” A successful
 15 outcome was based on the expectation that the PUC would fully support and facilitate
 16 PWSA’s reinvestment into the system.

17 **Q. WHAT IS THE SPECIFIC APPROACH THAT THE INTERVENERS ARE**
 18 **PUSUING? IS THIS A VALID APPROACH?**

19 A. I&E and OCA are proposing to significantly reduce PWSA’s operating expense budget
 20 based on historical average calculations taking into account the differences between the
 21 established budget and actual spending which enables Interveners to propose reducing
 22 the corresponding proposed rate increase. Per Mr. Barca’s Rebuttal Testimony, PWSA
 23 St. No. 2, I&E is proposing a \$27.7 million **decrease** from PWSA’s requested revenues
 24 for the FPFTY and OCA’s reduction equates to a \$21,747,379 million **decrease** from
 25 PWSA’s requested revenues for the FPFTY.

1 This is not a valid approach. The Interveners are ignoring the fact that (i) in a financial
2 and operating turnaround situation, it takes time to ramp up spending and operational
3 improvements, (ii) in 2020, spending had to decrease from the authorized budget due to
4 COVID-19; expense reductions were necessary to balance the expected decline in
5 revenue and (iii) that in the current 2021 fiscal year, the spending is on track and
6 generally consistent with the approved budget.

7 The Interveners consistent objection to the level of proposed rate increase in each filing
8 situation has had the effect of disrupting PWSA's planning and implementation of
9 operational, maintenance, regulatory and supervisory improvements. Also, as outlined in
10 Mr. Barca's Rebuttal Testimony, PWSA St. No. 2R, none of the opposing Parties
11 seriously considered the Additional Bonds Test when determining their overall revenue
12 requirement recommendation. Following the Interveners revenue recommendations
13 would require PWSA to substantially cut its operating budget to a point that would
14 seriously threaten PWSA's ability to continue to provide safe and reliable services in
15 order to achieve sufficient net operating revenue to meet the Additional Bonds Test. **The**
16 **Interveners recommendations have the effect of undermining PWSA management's**
17 **effort to maintain financial health in order to continue its efforts to modernize its**
18 **system and improve safety, reliability, and professional business processes. It is of**
19 **utmost importance to understand that the Parties' approach is in direct conflict**
20 **with what was expected from the Commission's oversight – that PUC would support**
21 **and facilitate PWSA's efforts to generate sufficient resources that will be reinvested**
22 **in to the system to enable PWSA to make financial and operational improvements.**

1 **Q. WHAT IF THE INTERVENERS ARE WRONG AND OPERATING EXPENSES**
2 **ARE SIGNIFICANTLY HIGHER THAN THE INTERVENERS ESTIMATE?**

3 A. The answer is critical operations would not be funded, maintenance would not be
4 accomplished, certain proposed capital projects would have to be cancelled and/or
5 delayed, additional regulatory efforts would be disrupted and the operational level of
6 service would be reduced.

7 **Q. WHAT IF THE INTERVENERS ARE RIGHT AND PWSA'S OPERATIONAL**
8 **EXPENSES ARE MUCH LOWER THAN BUDGETED IN THE FPFTY?**

9 A. The Authority would have more funds to reduce its debt, build its reserves, accelerate the
10 timing for regulatory projects, improve the quality and levels of service and other
11 operational goals and lower its cost of doing business, among others. The Interveners are
12 not taking in account that PWSA is a municipal utility and all of the revenue that it raises
13 stays in the utility to be invested into the system.

14 **Q. WHAT IS THE APPROPRIATE RATE OF RETURN FOR REINVESTMENT**
15 **INTO THE SYSTEM?**

16 A. Currently, an appropriate, reasonable and justifiable level of reinvestment into the utility
17 is a total debt service coverage level (not senior securities only) of 1.50x, which is
18 calculated as revenues of the Authority less operating expense divided by annual debt
19 service on all Authority debt.

20 **Q. WHY IS A REINVESTMENT RATE OF 1.50X TOTAL DEBT SERVICE**
21 **COVERAGE AN APPROPRIATE RATE?**

22 A. The Authority could have validated a higher FPFTY revenue request by comparing all-in
23 coverage levels of to credit agencies' rating methodology and comparison metrics and
24 making other municipal utility peer comparisons.

1 **Q. HOW DOES AN ALL-IN DEBT SERVICE COVERAGE OF 1.50X COMPARE**
 2 **TO MOODY’S RATING AGENCIES CRITERIA?**

3 A. The table below that Mr. Spadaccio used in his testimony supports a rate of return for
 4 reinvestment of 1.50x coverage level of total debt service (Mr. Spadaccio appears to have
 5 assumed that the coverages referred to there were for senior securities only). The table
 6 below is a summary of Moody’s Investors Service Rating Methodology, US Municipal
 7 Utility Revenue Debt showing the “total debt service” coverage subfactor that is part of
 8 Moody’s Financial Strength Factor, which is part of Moody’s Scorecard methodology for
 9 water and sewer utilities. The table illustrates that annual debt service coverage of 1.50x
 10 generates an “A” level financial “score.”

Aaa	Greater than 2.00x
Aa	Greater than 1.70x but less than or equal to 2.00x
A	Greater than 1.25x but less than or equal to 1.70x
Baa	Greater than 1.00x but less than or equal to 1.25x
Ba	Greater than 0.70x but less than or equal to 1.00x
B and Below	Equal to or less than 0.70x

11 **Q. HOW DOES AN ALL-IN DEBT SERVICE COVERAGE OF 1.50X COMPARE**
 12 **TO S&P’S RATING AGENCIES SCORECARD?**

13 A. S&P outlines their assessment of debt coverage in U.S. Public Finance Waterworks,
 14 Sanitary Sewer and Drainage Utility Systems: Rating Methodology and Assumptions,
 15 dated January 19, 2016, with the following scale below:

<u>Score</u>	<u>Initial Assessment</u>	<u>“All-in” Coverage</u>
1	Extremely Strong	1.60 or above
2	Very Strong	1.40 to 1.60x
3	Strong	1.20 to 1.40x
4	Adequate	1.10x to 1.20x

5	Vulnerable	1.00x to 1.10x
6	Highly Vulnerable	Below 1.00x

1 The Standard & Poor’s publication presented by Mr. Spadaccio (I&E St. No. 1 at 16)
 2 dated September 15, 2008 is almost thirteen (13) years old, no longer used and is
 3 inconsistent with S&P’s current rating criteria. The report presented by S&P in 2008 has
 4 been updated and replaced by S&P Global U.S. Public Finance Waterworks, Sanitary
 5 Sewer and Drainage Utility Systems: Rating Methodology and Assumptions, dated
 6 January 19, 2016 and updated on January 12, 2018. The Authority’s proposed rates
 7 would keep them within the “Adequate” assessment, or coverage score of “4” in FY
 8 2022. An all-in coverage of 1.50x would equate to a score of “2” or “Very Strong” in this
 9 respective rating factor and consistent with PWSA’s total debt service coverage in FY
 10 2019.

11 **Q. HOW DOES AN ALL-IN DEBT SERVICE COVERAGE OF 1.50X FOR PWSA**
 12 **COMPARE TO S&P’S METRICS?**

13 A. S&P also publishes their own respective water and sewer median report on a biennial
 14 basis with the most recent report introduced on August 23, 2019 titled U.S. Municipal
 15 Water and Sewer Utility Sector Is Stable As Median Ratios Show Improved Finance.

16 Please see PWSA Exhibit TH-6 to view the full report. As can be seen within S&P
 17 median report and as summarized below, the justifiable all-in debt service coverage of
 18 1.50x is at the “A” category of median, which is what the Authority is currently rated
 19 from S&P.

S&P	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-
All-In Debt Service Coverage	2.38x	2.35x	2.14x	2.01x	1.73x	1.51x	1.39x	1.29x	1.02x	1.04x

1 **Q. HOW DOES AN ALL-IN DEBT SERVICE COVERAGE OF 1.50X FOR PWSA**
 2 **COMPARE TO MOODY’S METRICS?**

3 A. As can be seen in PWSA Exhibit TH-7: Moody’s Investors Service. Water and Sewer
 4 Utilities – US. Medians – Rate increases support stable financial metrics in 2019, and
 5 discussed further within my Rebuttal Testimony, the median for all-in debt service
 6 coverage is 1.80x for “A” rated municipal water and sewer utilities and associated days
 7 cash on hand is 343 days.

8 **Moody’s Medians for Combined Water and Sewer Utilities**

Rating Category	Aaa	Aa	A	Baa	Ba
All-In Debt Service Coverage	3.2x	2.4x	1.5x	1.2x	1.2x

9
 10 The 2021 median report is based on 2019 data – both circumstances prior to the start of the
 11 COVID-19 pandemic. Some highlights of the 2021 report state:

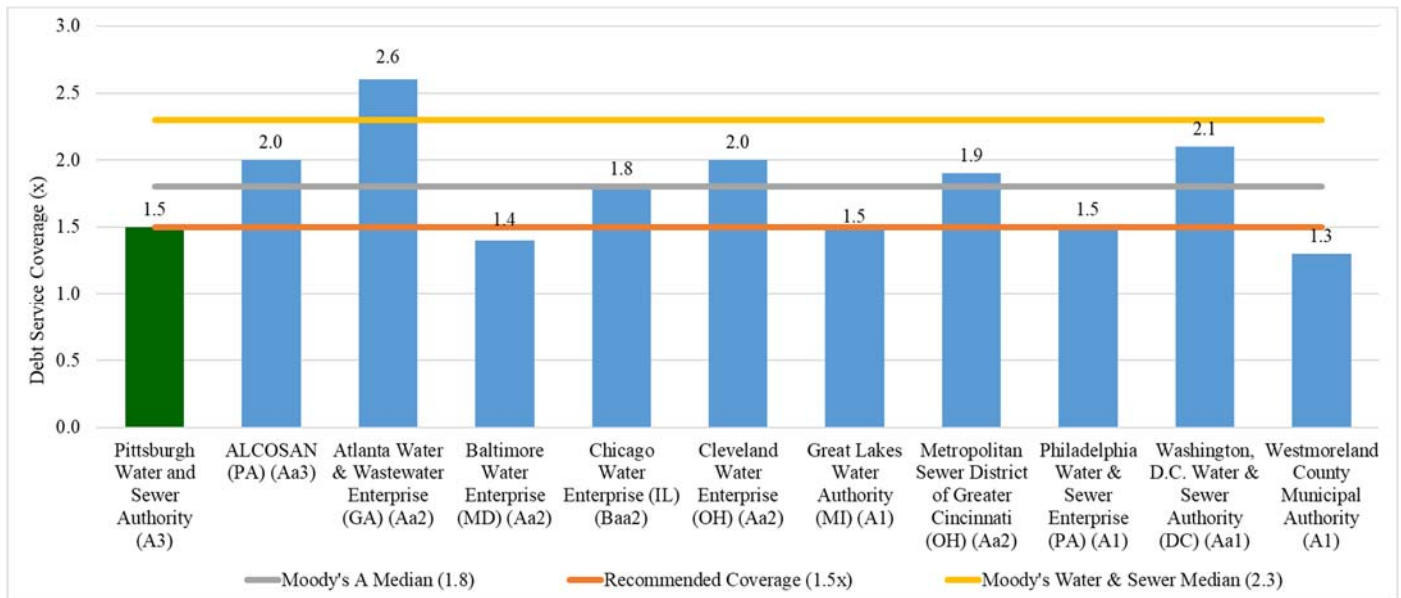
- 12 - “Revenue stability supplied solid base to cover operations and debt service.”
- 13 - “Debt service coverage was healthy for all system types.”
 - 14 o Median total coverage for all rated municipal water and sewer rate remained
 - 15 at just over 2.2x times, indicating a healthy cushion to absorb fluctuations in
 - 16 revenues or expenses
- 17 - “Liquidity remained healthy with median of 477 days cash on hand in 2019.”
- 18 - “Asset condition remained stable, signaling underinvestment in capital projects.”
- 19 - “Debt burden declined modestly in 2019 as net revenues increased.”

20 Overall, Moody’s 2021 Median report demonstrates that an all-in coverage level of 1.50x
 21 for PWSA is a reasonable rate of return for reinvestment, even though the Authority’s
 22 proposed rate increase produces a 1.18x coverage level. Thus, and to drive home the
 23 point, the Authority could have reasonably requested a justifiable revenue requirement of
 24 \$261 million that would enable the PWSA to achieve total debt service coverage of 1.50x
 25 and generate 314 days on hand.

1 **Q. HOW DOES AN ALL-IN DEBT SERVICE COVERAGE OF 1.50X FOR PWAS**
 2 **COMPARE TO CERTAIN MUNICIPAL WATER AND SERWER PEERS?**

3 A. In addition, in comparison with peers presented in my Direct Testimony, PWSA St. No.
 4 3, a total debt service coverage of 1.50x would still be in the bottom half of peers, as well
 5 as below the new medians presented in Moody’s Investors Service’s Water and Sewer
 6 Utilities – US. Medians – Rate increases support stable financial metrics in 2019. Please
 7 see below for the updated chart comparing PWSA to certain peers.

8 **DEBT SERVICE COVERAGE**
 9 **(2019 net revenue divided by 2019 debt service, expressed as a multiple)**



10
 11 ** Philadelphia’s debt service coverage is based on 2020 data.
 12 Sources: Moody’s Investor Service: Water and Sewer Utilities – U.S. Medians – Rate increases support stable financial metrics in
 13 2019, May 11, 2021 (2019 data) and Moody’s Investor Service latest rating reports for each entity (2019 data).
 14

1 **Q. IS THERE A RECENT EXAMPLE OF A COMPARABLE MUNICIPAL WATER**
2 **AND SEWER UTILITY PEER THAT HAD SUCCESS RAMPING UP O&M**
3 **THROUGH CAPITAL REGULATORY COMPLIANCE THAT OVERCAME A**
4 **CHALLENGING FINANCING SITUATION? HOW DO ACTUAL DEBT**
5 **SERVICE COVERAGES COMPARE TO PWSA'S HISTORICAL AND**
6 **FORECASTED COVERAGES?**

7 **A.** The City of Harrisburg's (the "City") water system and sewer system each suffered from
8 a long period of under investment in needed improvements – little capital money has
9 been reinvested in the systems, with significant deferred maintenance. The City's
10 financial stress created a critical shortage of experienced and qualified personnel needed
11 to operate, manage and administer the utility systems. It was determined a transfer of the
12 operations and remaining assets of the utilities to an independent operating authority,
13 modeled after the successful spinoff of the water and sewer departments of the District of
14 Columbia into a newly created DC Water & Sewer Authority, was the best course of
15 action. The legislation was approved and became effective at the end of calendar year
16 2013. The new Capital Region Water sought a public rating for its water credit, the first
17 rating on the utility since their rating under the City was withdrawn in 2011, which
18 ultimately led CRW to secure an "A+" rating from S&P. There are many similarities
19 between PWSA and CRW in terms of the past and challenges each faced – aging
20 facilities, work force issues, operational difficulties, health and safety concerns,
21 regulatory mandates, high debt to capitalization, etc. What is different about the two
22 entities is how CRW and PWSA were able to invest resources into the system in its
23 utilities and how PWSA's recovery implementation has been slowed due to inconsistent
24 authorized rate increases. CRW has implemented multi-year rate increases, has a
25 stormwater fee and has generated healthy coverages that CRW used to reinvest into its
26 systems. The PWSA has experienced the Interveners opposing each proposed rate

1 increase, limiting the progress the Authority could have made in reinvesting in the
 2 systems. Please see below for historical debt service coverage ratios for CRW’s separate
 3 water and sewer credits where the most recent coverages for both credits can be
 4 considered “Extremely Strong” by S&P and would warrant a score of “1.” The historical
 5 coverages of this close peer confirms that PWSA could have justified coverage of 1.5x
 6 and validates that the Commission should approve 100% of the Authority’s proposed rate
 7 increase.

8 **Capital Region Water-**
 9 **Historical Debt Service Coverage Ratios**
 10

Total Debt Service Coverage	2013	2014	2015	2016	2017	2018	2019
Water Credit	1.55x	1.26x	1.23x	2.51x	1.46x	1.61x	1.62x
Sewer Credit	-	-	10.34x	3.63x	1.69x	2.14x	2.47x

11 *2015 Sewer debt service coverage is high due to minimal debt service due.

12 **Q. WHAT “ALL IN” DEBT SERVICE COVERAGE IS PRODUCED BY PWSA’S**
 13 **\$32.1 MILLION REQUEST?**

14 A. The summary schedules submitted with PWSA’s rebuttal testimony shows that the
 15 proposed rate increase produces a debt service coverage on Senior securities only of
 16 1.50x (up from 1.46 in PWSA’s original filing) and a total/“all-in” debt service coverage
 17 of 1.18x.

18 **Q. IF PWSA HAD REQUESTED A RATE INCREASE TO PRODUCE A 1.50X ALL-**
 19 **IN DEBT SERVICE COVERAGE, WHAT AMOUNT OF RATE INCREASE**
 20 **WOULD IT HAVE BEEN ABLE TO JUSTIFY?**

21 A. As mentioned prior, the PWSA could have reasonably requested a justifiable revenue
 22 requirement of \$248.7 million that would enable the PWSA to achieve total debt service
 23 coverage of 1.50x and also generate 314 days on hand (which is comparable to its peers).
 24 The revenue requirement to achieve the 1.50x coverage would have required a rate

1 increase of \$28,235 million of additional revenue over and above the requested \$32.1
 2 million increase, which is an increase of 12.8% over what the PWSA requested.

3 **Q. WHAT DO YOU CONCLUDE RELATIVE TO THE OPPOSING PARTIES**
 4 **REVENUE REQUIREMENT RECOMMENDATIONS?**

5 A. The Commission should reject any implications that the debt service coverages and days
 6 of cash produced by PWSA’s proposed rate increase are reasonable levels. In fact, to be
 7 comparable to its peer companies and comparably rated credits, PWSA could justify
 8 earning much higher financial metrics. Further, the Commission should recognize that
 9 the Authority has already substantially reduced the rate increase that it could have
 10 justified, in an effort to be sensitive to the effect of the pandemic on its customers and the
 11 Pittsburgh community. I fear that a substantial reduction in PWSA’s request in the face
 12 of these efforts will not be viewed favorably by the rating agencies or the investment
 13 community.

14 **III. CAPITAL MARKETS CONSIDERATION**

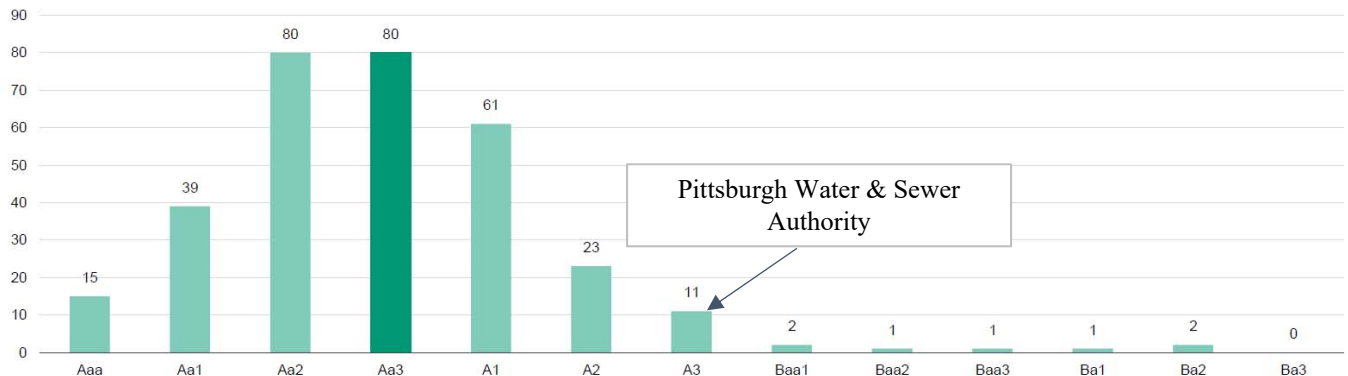
15 **Q. DO YOU AGREE WITH MR. SPADACCIO’S POSITION THAT PWSA SHOULD**
 16 **ONLY SEEK TO MAINTAIN ITS EXISTING CREDIT QUALITY? (I&E ST.**
 17 **NO. 1 AT 23)?**

18 A. No. While I agree that it is very important for PWSA to try to maintain its current bond
 19 rating there are substantial benefits that would accrue for the Authority and its ratepayers
 20 if it were able to improve its ratings as well. As can be seen in the graphic below,
 21 PWSA’s current Moody’s rating of “A3” of the 306 combined municipal water and sewer
 22 utilities that Moody’s rates, only 7 utilities are rated lower than PWSA. The Authority
 23 still ranks in the bottom 6% of all governmental water and sewer utilities that are rated by
 24 Moody’s. Achieving higher credit ratings will allow the PWSA to reduce its cost of
 25 funding and be able to efficiently access the capital market during challenging times. For

1 example, during the great recession, single-A credits were at times unable to efficiently
 2 issue publicly offered bonds and credit spreads made accessing the bond market
 3 expensive compared to higher rated credits. However, I&E’s stated position is for the
 4 Authority to simply “maintain its credit quality.”

5 I would also point out that adoption of the Parties’ recommendations could lead to a bond
 6 rating downgrade. As addressed in my Direct Testimony, PWSA St. No. 3, a rating
 7 downgrade would lead to several negative circumstances. One condition that would
 8 undoubtedly occur is an increase of costs of capital to PWSA and, ultimately, its
 9 ratepayers. My Direct Testimony, PWSA St. No. 3 emphasizes a difference of 44 basis
 10 points between an “A” rated credit versus a “Baa” rated credit. This higher “credit
 11 spread” of 44 basis points would increase annual debt service by an additional \$4.90
 12 million or more than \$147 million of the life of the bond issue with the Authority’s plan
 13 to issue \$1.114 billion in revenue bond debt over the next five years. It’s important to
 14 weigh this risk when considering the costs of denying PWSA’s rate increase claim.

15 **Distribution of Moody’s Ratings for Combined Municipal Water and Sewer**
 16 **Issuers**
 17 *(Median is Shown in Dark Green)*



*Highlighted bar represents median rating
 Source: Moody's Investors Service

18

1 **Q. DO YOU AGREE WITH MR. SPADACCIO’S ASSESSMENT OF THE RATING**
2 **AGENCIES LACK OF CONCERN REGARDING COVERAGE FOR PWSA?**
3 **(I&E ST. NO. 1 AT 14).**

4 A. No. As addressed in my Direct Testimony, Statement No. 3 (as well as in my testimony
5 above), it is imperative for municipal utilities to have coverage that far exceed their
6 minimum requirements. Mr. Spadaccio’s I&E Direct Testimony, Statement No. 1
7 references Moody’s November 5, 2020 report in which it summarizes PWSA’s coverage
8 position of 1.97x and 1.68x for senior and total debt, respectively and also acknowledges
9 the covenants of 125% of senior debt service coverage and 110% of total debt service
10 coverage. Although the Authority’s meets their rate covenants, Moody’s still focuses on
11 this particular financial metric. Moody’s most recent report stated that [PWSA’s]
12 “[i]nability to raise rates sufficiently to meet debt service coverage covenants while also
13 funding significant deferred capital improvements” is a “[f]actor(s) that could lead to a
14 downgrade.” Moody’s recent utilities median report states “Systems’ willingness and
15 ability to adjust rates for operations and debt service drove [median] coverage to 2.2 times
16 in 2019.” Coverage remains well in excess of standard rate covenants that are usually 1.0-
17 1.5 times annual debt service.” (emphasis added). See PWSA Exhibit TFH-7 Moody’s
18 Investors Service. Water and Sewer Utilities – US. Medians – Rate increases support stable
19 financial metrics in 2019. The coverages produced by the proposed rate increase here,
20 however are well below those historic levels of coverage.

21 **Q. DO YOU AGREE WITH MR. SPADACCIO’S AND MR. MUGRACE**
22 **ASSESSMENT OF THE RATING AGENCIES LACK OF CONCERN**
23 **REGARDING CASH ON HAND FOR PWSA? (I&E ST. NO. 1 AT 11) (OCA**
24 **SCHEDULE DM-20).**

25 A. No. My Direct Testimony, PWSA Statement No. 3, highlights the importance of cash
26 reserves and liquidity, as well as summarizes the rating agencies views and opinions of

1 the Authority's days cash on hand position historically. Furthermore, my Direct
 2 Testimony, as well as Mr. Spadaccio's I&E Direct Testimony, Statement No. 1, cites
 3 Moody's November 5, 2020 report stating that the Authority's "Liquidity is particularly
 4 improved and is expected to be maintained at roughly 140 days' cash on hand at the end
 5 of fiscal 2020, up from a critically low 29 days' cash on hand." Although the Authority's
 6 liquidity has improved, it is certainly not prudent to believe that Moody's does not have
 7 concern for PWSA's days' cash on hand. As evidenced in my Direct Testimony, PWSA
 8 Statement No. 3 and Moody's recent rating report of PWSA, the Authority's cash
 9 position is "narrow, though improved, liquidity versus similarly sized peers" and sees this
 10 as a "credit challenge." Thus, Moody's expects that PWSA will seek to improve its cash
 11 on hand overtime to avoid negative rating actions. However, based on the OCA's
 12 recommendations, OCA witness Mugrace recommends year-end cash of \$37,988,219 and
 13 calculates that this level of cash equals 134.07 days of cash, a reduction from the 2020
 14 level. Additionally, in Moody's recent utilities median report, median days cash on hand
 15 for "A" rated credits was 343 days, which is greatly superior to what can be generated
 16 from the Parties' recommended revenue requirements See PWSA Exhibit TH-7
 17 Moody's Investors Service. Water and Sewer Utilities – US. Medians – Rate increases
 18 support stable financial metrics in 2019.

19 **Q. HOW WOULD THE RATING AGENCIES REACT TO THE INTERVENER'S**
 20 **REVENUE REQUIREMENT RECOMMENDATIONS IF THEY WERE**
 21 **ADOPTED BY THE COMMISSION?**

22 A. The rating agencies would react negatively if the Commission, unfortunately, were to
 23 adopt the Parties' recommendations. The agencies would be concerned about (i) the PUC
 24 adopting the Interveners indiscriminate "normalizing" operating budget reductions, which
 25 are inconsistent with budgeting best practices, (ii) that neither the Commission nor any of

1 the opposing Parties seriously considered the Additional Bonds Test when determining
2 their overall revenue requirement recommendation, (iii) that adopting their
3 recommendations would require the PWSA to substantially cut its operating budget to a
4 point that would seriously threaten the Authority's ability to continue to provide safe and
5 reliable services in order to achieve sufficient net operating revenue to meet the Rate
6 Covenant avoid a default, and (iv) that adopting the recommendations would undermine
7 the existing PWSA management. Both Moody's and S&P have in their reports commented
8 on the Commission's oversight of the PWSA as a positive since 2018. As Mr. Spadaccio's
9 testimony states "both [rating agencies] appear confident that the Authority's recently
10 established (April 1, 2018) relationship with the Commission and being subjected to
11 regulatory oversight will yield positive results in strengthening its financial position."
12 However, what the Interveners are proposing will not strengthen PWSA financial position.
13 The rating agencies will continue to support Commission's oversight so long as the
14 agencies believe that the Commission supports the PWSA's efforts to raise the needed
15 revenue to continue to improve operationally and make infrastructure improvements. As
16 a note of caution, in one of the May 28, 2019 face-to-face meetings prior to the rating
17 agencies assigning a rating to PWSA's \$214.145 Water and Sewer First Lien and
18 Subordinate Revenue Bonds, Series A&B of 2019, one I believe a senior rating analyst
19 from one of the rating agencies was initially taken aback by the size of the "hair-cut" in the
20 authorized rate increase that PWSA took compared to the PWSA's request in the initial
21 lastrate case. The rating agencies understand the risk of the Commission not allowing
22 PWSA sufficient resources and disrupting PWSA's planning and implementation of

1 operational, maintenance, regulatory and supervisory improvements and the risk
2 undermining PWSA’s management and rate making ability.

3
4
5 **IV. CONCLUSION**

6 **Q. WHAT DO YOU BELIEVE THE COMMISSION SHOULD CONCLUDE?**

7 That PWSA has not only fully justified a rate award that grants all or substantially all of
8 its request, the Authority has also justified the need for a higher than requested amount
9 based on the need for PWSA to generate a 1.5x total debt service coverage ratio in order
10 be able to adequately reinvest in utility that PWSA will ultimately need to continue its
11 progress and provide first rate service to its customers and improve its financial position.
12 PWSA’s Board determined that the Authority should seek the minimum increase needed
13 over the next two years due to the pandemic situation, and there is no material “cushion”
14 in this request that can be cut out without negatively effecting the Authority’s operations
15 and financial position. Disregarding these facts and refusing to permit PWSA to increase
16 its rates to levels needed to continue to fund its substantial modernization and
17 improvement efforts would not be reasonable.

18 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

19 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

HAROLD J. SMITH

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773	(Water)
R-2021-3024774	(Wastewater)
R-2021-3024779	(Stormwater)

TOPICS:

Modifications to CCOSS Model
Allocation of CAP-BDP, Service Line, and I&I Costs
Allocation of Stormwater Gradualism
Minimum Allowance and Customer Cost Analysis
Minimum Charge for Residential Customers
Readiness to Serve Component

July 29, 2021

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Exhibit No.	Description
HJS-1-R to HJS-3-R	Combined Utility Schedules
HJS-1W-R to HJS-19W-R	Water Schedules
HJS-1WW-R to HJS-18WW-R	Wastewater Schedules
HJS-1SW-R to HJS-9SW-R	Stormwater Schedules

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

2 **Q. PLEASE STATE YOUR NAME**

3 A. My name is Harold J. Smith.

4 **Q. HAVE YOU PREVIOUSLY TESTIFIED IN THIS PROCEEDING?**

5 A. Yes, I submitted direct testimony sponsoring Pittsburgh Water and Sewer Authority's
6 ("PWSA" or the "Authority") class cost of service study ("CCOSS"). The primary
7 purpose of my direct testimony was to describe the principles, methodology, and data
8 utilized in PWSA's CCOSS (the "Original CCOSS").

9 **Q. HAVE YOU REVIEWED THE TESTIMONY SUBMITTED BY THE OTHER**
10 **PARTIES IN THIS RATE CASE?**

11 A. Yes, specifically I have reviewed the testimony submitted by Mr. Cline, representing the
12 Bureau of Investigation and Enforcement ("I&E"); Mr. Rubin, representing the Office of
13 the Consumer Advocate ("OCA"); and Mr. Kalcic, representing the Office of the Small
14 Business Advocate ("OSBA").

15 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

16 A. In my rebuttal testimony I will first address the changes to the CCOSS model that
17 have been incorporated as a result of issues identified through the discovery process. I
18 will then respond to the direct testimony of other witnesses, in the following areas:

- 19 • Allocation of CAP-BDP costs
- 20 • Allocation of Service Line costs
- 21 • Allocation of Lead Service Line (LSL) Replacement costs
- 22 • Inflow and infiltration
- 23 • Allocation of stormwater gradualism adjustment to wastewater conveyance
- 24 rates
- 25 • Minimum Allowance within the Minimum Charge
- 26 • Customer Cost Analysis
- 27 • Residential charge for ¾" and 1" customers

- Development of a Readiness to Serve Component in Rate Design

II. MODIFICATIONS OF THE CCOSS MODEL

Q. PLEASE PROVIDE A BREIF DESCRIPTION OF THE CHANGES MADE TO THE CCOSS MODEL.

A. As a result of the discovery and direct testimony of others, we have made several modifications to the CCOSS model

- In responding to OCA-IV-20, we discovered the projection of Industrial and Commercial customers and usage did not take into account a recent reclassification of Industrial customers when it used a basic average of billings from 2018-2020. This has been corrected using actual billing information for the remaining Industrial customers.
- In responding to OCA-IV-10, we identified two changes we wanted to make to miscellaneous revenue allocation factors:
 - The basis for the allocation of Meter Test Fee revenue was changed from number of bills to number of meters.
 - The basis for the allocation of Penalties & Interest revenue was changed from the number of bills to the same allocation methodology as the Bad Debt Expense which is based on each service’s contribution to the Bad Debt expense. This resulted in small shift of recovery from wastewater and stormwater to water.
- In responding to OCA-IV-21, we discovered some inactive bills were included in the peaking analysis shown on the W>Peaking tab. We have excluded those bills from the analysis in the Rebuttal Model.
- In responding to OCA-V-7, we added 51.43 ERUs to the non-residential stormwater only class due to accounts assigned to meters without a labeled customer category.
- In responding to OSBA-II-1, we discovered a formula error in column Q on the “COS>Summary” tab. This error resulted in the exclusion of DSIC revenue. We

1 have updated the formula to include DSIC revenue. We have also changed the
 2 gradualism adjustment to reach the 1.50 times the system average for the
 3 Industrial class.

- 4 • In responding to OSBA-II-7, we changed the allocation basis for the Bad Debt
 5 Expense for NSWO charges. It is now based on historical class contributions to
 6 Bad Debt Expense. This included corrections to labelling issues identified in Mr.
 7 Kalcic’s response to United-OSBA-I-2.
- 8 • We have updated the City unmetered properties with more accurate information
 9 as it became available since filing in April. This update resulted in a reduction in
 10 the estimated number of unmetered municipal properties and projected municipal
 11 unmetered flows.
- 12 • In responding to Mr. Rubin’s direct testimony, we have adjusted revenues to
 13 account for 134 public fire hydrants that pay the full public fire rates.
- 14 • In responding to I&E-RS-9, we identified that the PWSA was recently awarded a
 15 \$2,976,450 PENNVEST grant and \$35,573,550 loan to replace approximately
 16 25,000 feet of distribution piping and 592 lead service lines. Previously, this was
 17 assumed to be funded through and as part of the revenue bond assumed for 2021.
 18 We reduced the revenue bond by this grant and loan amount, incorporated the
 19 new PENNVEST loan into the FutureDebt tab, and revised the overall debt
 20 expense. As a result, the overall debt expense for the FPFTY increased slightly
 21 (due to the shorter term and no “premium adjustment”), causing an increase to our
 22 revenue request as filed. To mitigate this, minor downward revenue adjustments,
 23 labeled as ‘Adjustment for Revenue (*as filed)’, were factored into the rate design
 24 development of the wastewater conveyance rates and stormwater rate to reduce
 25 and align the overall base rate revenue (water + wastewater conveyance +
 26 stormwater) with the original request.

27 **Q. WHAT ARE THE IMPACTS OF THESE CHANGES?**

28 A. The impact of the changes can be seen in the revised CCOSS schedules I am attaching to
 29 this testimony. Ultimately, the overall change to the proposed rates and charges, as well
 30 as the proposed allocation of the rate increase to individual rate classes, is minimal.

1 **III. ALLOCATION OF THE CAP-BDP TO THE RESIDENTIAL CLASS**

2 **Q. PLEASE DESCRIBE THE RECOMMENDATION OF THE OSBA TO**
3 **ALLOCATE THE COSTS OF THE CAP-BDP TO THE RESIDENTIAL CLASS.**

4 A. Mr. Kalcic recommends that the costs of the CAP-BDP should be recovered solely by the
5 Residential customer class, citing Commission decisions in previous dockets as the basis
6 for this recommendation.

7 **Q. DO YOU AGREE WITH MR. KALCIC'S RECOMMENDATION?**

8 A. No, I do not. PWSA has always recovered the costs of its BDP-CAP from all customer
9 classes and should be allowed to continue doing so. The CAP-BDP benefits the entire
10 Pittsburgh community, including businesses, by helping to ensure that all residents
11 located in PWSA's service area are able to afford water for essential uses, such as
12 drinking, cooking and cleaning. These residents are the workforce that area businesses
13 rely on to keep their businesses running, and the BDP-CAP helps ensure that employees
14 are able to meet their most basic nutrition and hygiene needs. I also am informed that
15 that allocation of CAP costs to all customer classes is the approach taken by the PGW,
16 the other municipal utility fully regulated by the PUC.

17

18 **IV. ALLOCATION OF SERVICE LINE COSTS**

19 **Q. PLEASE DESCRIBE THE RECOMMENDATIONS OF THE OSBA WITH**
20 **RESPECT TO THE RECOVERY OF COSTS RELATED TO SERVICE LINES**

21 A. Mr. Kalcic provided two recommendations with respect to the recovery of costs
22 associated with service lines. First, he recommends that service line costs be recovered
23 through the fixed Minimum Charge. Second, Mr. Kalcic suggests that the costs of the
24 LSL replacement program should be recovered by all customer classes on the basis of
25 equivalent meters.

26 **Q. PLEASE EXPLAIN MR. KALCIC'S RECOMMENDATION RELATED TO**
27 **RECOVERY OF SERVICE LINE COSTS THROUGH THE MINIMUM**
28 **CHARGE?**

1 A. On pages 6-9 of his testimony, Mr. Kalcic discusses the concept of treating service line
 2 costs as customer-related and allocating them based on the weighted-average cost of the
 3 service lines used by each class.

4 **Q. HOW DOES MR. KALCIC’S RECOMMENDED APPROACH DIFFER FROM**
 5 **THE APPROACH USED BY PWSA IN ITS CCROSS?**

6 A. In PWSA’s CCROSS, the value of service line assets is included in the Transmission and
 7 Distribution asset category which are assigned to the Transmission and Distribution
 8 functional categories based on inch-feet of pipe. The Transmission and Distribution
 9 functional costs are then assigned to the Base, Max Day and Pak Hour cost categories
 10 based on system peaking characteristics. The Base, Max Day and Peak Hour cost
 11 categories are then allocated to customer classes based on each class’ peaking
 12 characteristics such that they are recovered through the Volume Charge.

13 **Q. WHICH APPROACH IS THE CORRECT APPROACH FOR RECOVERING**
 14 **THE COSTS ASSOCIATED WITH SERVICE LINES?**

15 A. Both approaches are correct; however, the approach suggested by Mr. Kalcic requires
 16 that the utility have an accurate accounting of the value of its service lines, which is not
 17 the case with PWSA.

18 **Q. WHAT ABOUT THE DATA PWSA PROVIDED IN RESPONSE TO OSBA-II-5?**

19 A. As explained in PWSA’s supplemental response to OSBA-II-5, after careful analysis of
 20 the data provided in response to this data request it became clear that it is not an accurate
 21 reflection of the value of PWSA’s service line assets. As explained in PWSA’s
 22 supplemental response to this data request, only those assets that are currently being
 23 depreciated were included in the asset listing. Additionally, some large water mains are
 24 also included in the listing. It is my understanding that PWSA does not currently have
 25 asset data that segregates service lines from other transmission and distribution assets.

26 **Q. PLEASE DESCRIBE THE RECOMMENDATIONS OF THE OSBA WITH**
 27 **RESPECT TO THE RECOVERY OF COSTS RELATED TO SERVICE LINES**
 28 **REPLACED AS PART OF THE LSLR PROGRAM?**

1 A. In previous cases, Mr. Kalcic argued that LSL replacement costs should be recovered
2 solely by the Residential since only the Residential class was eligible for the benefits. In
3 2021, however, PWSA modified its policy so that non-residential lead service lines
4 became eligible for replacement under PWSA’s small diameter water main replacement
5 program and is proposing to modify its Tariff and PUC approved Plan to reflect that
6 policy change (as explained by Mr. Pickering). Mr. Kalcic’s recommendation recognizes
7 this policy change and suggests that LSLR costs be allocated to all customer classes on
8 the basis of equivalent meters.

9 **Q. DO YOU AGREE WITH MR. KALCIC’S RECOMMENDATION?**

10 A. No. Though PWSA agrees that the costs should be recovered by all customers, PWSA
11 does not agree with the manner in which he is proposing to recover the costs (equivalent
12 meters).

13 **Q. PLEASE EXPLAIN.**

14 A. Currently these costs are treated in the same manner as other service line costs. As
15 described above, costs are assigned to functional categories based on the water system
16 assets. Within the functional categories, costs are allocated to transmission and
17 distribution based on an inch-foot analysis (HJS-5W). Therefore, the LSL replacement
18 costs are recovered proportionally by customer class based on Base, Max Day, and Peak
19 Hour demands. PWSA believes this is a more appropriate recovery of these costs than
20 equivalent meters. In addition, by removing the debt service costs and adding it as an
21 adjustment in Rate Design without an offsetting reduction to the asset allocation, it is
22 likely that Mr. Kalcic has overstated Distribution costs.

23

24 **V. ALLOCATION OF I&I COSTS**

25 **Q. PLEASE DESCRIBE THE RECOMMENDATION OF THE OSBA TO**
26 **ALLOCATE COSTS OF INFILTRATION AND INFLOW (I&I).**

27 A. Mr. Kalcic says that PWSA’s CCOSS fails to properly allocate costs associated with I&I
28 to customer classes. (Kalcic, Page 24, Lines 14-17)

1 **Q. DO YOU AGREE WITH MR. KALCIC'S RECOMMENDATION?**

2 A. No, I do not. While the CCOSS does not utilize the traditional approach of 1) quantifying
3 I&I, 2) assigning responsibility for those quantities to customer classes and then 3)
4 allocating I&I related costs to each class based on their assigned responsibility, PWSA's
5 CCOSS instead assigns responsibility for I&I to the largest contributor of I&I to the
6 wastewater collection system, the stormwater system. In combined sewer systems, the
7 greatest contributors of I&I are the catch basins and storm drains that comprise the
8 stormwater system. By allocating a large portion of wastewater conveyance costs for
9 recovery through the newly proposed stormwater fee, PWSA's CCOSS has accounted for
10 I&I related costs in a way that will recover those costs from the responsible parties in a
11 fair and equitable manner.

12 **VI. ALLOCATION OF STORMWATER GRADUALISM ADJUSTMENT IN**
13 **WASTEWATER RATE DESIGN**

14 **Q. PLEASE DESCRIBE THE RECOMMENDATION OF THE OSBA TO**
15 **ALLOCATE COSTS OF THE STORMWATER GRADUALISM ADJUSTMENT**
16 **IN THE WASTEWATER RATE DESIGN.**

17 A. Mr. Kalcic agrees with the use of gradualism for the implementation of the stormwater
18 rate. However, Mr. Kalcic says the gradualism adjustment of \$12.4 million in the
19 wastewater conveyance rate design should be allocated to classes based on the
20 proportional amount that would have been collected through stormwater rates for ERUS
21 for the respective classes had the adjustment not been made. (Kalcic, Page 31, lines 8-
22 15)

23 **Q. DO YOU AGREE WITH MR. KALCIC'S RECOMMENDATION?**

24 A. No. PWSA's CCOSS allocates the stormwater gradualism "costs" for recovery through
25 the wastewater conveyance charge in the same manner that PWSA's wastewater
26 conveyance costs are allocated. This is appropriate since the nature of the gradualism
27 "costs" are the same as the other costs recovered through the wastewater conveyance
28 charge.

1 **VII. REMOVAL OF MINIMUM ALLOWANCE AND “CUSTOMER COST**
 2 **ANALYSIS”**

3 **Q. DID I&E ADDRESS THE MINIMUM CHARGE IN THEIR TESTIMONY?**

4 A. Yes, Mr. Cline believes that PWSA did not “adequately address” removal of PWSA’s
 5 minimum usage allowance (Cline, Page 10, Line 13) and criticized PWSA for failing to
 6 provide a “traditional customer cost analysis”. Mr. Cline recommends that PWSA
 7 explore options for transitioning away from the inclusion of a minimum allowance in its
 8 Minimum Charge. He also recommends that PWSA provide a “traditional customer cost
 9 analysis” in its next base rate case.

10 **Q. DO YOU AGREE WITH HIS RECOMMENDATION?**

11 A. With regard to Mr. Cline’s recommendation to explore options for removing the
 12 minimum allowance from its Minimum Charge, I am in agreement. As Mr. Cline details
 13 in his testimony, PWSA has been exploring options for eliminating the minimum
 14 allowance since 2016 but has demonstrated that doing so would have resulted in adverse
 15 bill impacts for a large number of PWSA customers and in particular customers enrolled
 16 in the BDP.

17 I do not agree with Mr. Cline’s assertion that PWSA did not perform a
 18 “traditional customer cost analysis”. We have allocated O&M and capital costs to
 19 customer cost categories (Meters and Billing) in a manner consistent with the approach
 20 detailed in the AWWA M-1 manual. In the response to PWSA to I&E-1-3, Mr. Cline
 21 suggests that PWSA perform a customer cost analysis similar to an analysis presented by
 22 Pennsylvania American Water Company (PAWC) in PAPUC Docket No. R-2020-
 23 3019369. Upon review of that analysis, it is apparent that PWSA’s approach to
 24 determining customer costs is consistent with the referenced PAWC analysis with the
 25 exception that the PWSA analysis does not allocate costs to a services component
 26 because PWSA does not have the data required to do so.

27 **VIII. MINIMUM CHARGE FOR RESIDENTIAL CUSTOMERS**

28 **Q. DID OCA ADDRESS THE MINIMUM CHARGE IN THEIR TESTIMONY?**

1 A. Mr. Rubin recommends “that the Residential customer charge for all customers with
 2 meters 1-inch or smaller should be the same, and that it should include a minimum usage
 3 allowance of 1,000 gallons per month.” (Rubin, page 13, lines 15-17).

4 **Q. DO YOU AGREE WITH HIS RECOMMENDATION?**

5 A. I do not agree with making this change to the Minimum Charge for a number of reasons.
 6 First, Mr. Rubin’s recommendation fails to recognize that PWSA’s Minimum Charges
 7 are the same for all customer classes. In order to implement his recommendation PWSA
 8 would need to calculate separate Minimum Charges for each customer class. Doing so
 9 would be an unnecessary complication to PWSA’s rate structure. Second, Mr. Rubin’s
 10 recommendation assumes fire suppression requirements are the only reason that
 11 residential customers have meters larger than 5/8”. This is likely not the case since
 12 customers often request an oversized meter to accommodate lawn irrigation or the filling
 13 of swimming pools. Customers that have an oversized meter for purposes other than fire
 14 suppression should pay the full cost based Minimum Charge. Third, PWSA continues to
 15 explore options for the removal of the minimum allowance from the Minimum Charge
 16 and one of the options that would be considered would involve a phase-out of the
 17 allowance over two or more years. Given that 1,000 gallons is PWSA’s minimum billing
 18 unit it will not be possible to phase out the allowance for those meter sizes that have a
 19 1,000 gallon allowance which will possibly result in inequity among meter sizes.
 20 Changing the minimum allowance for ¾” and 1” meters will only exacerbate this
 21 problem.

22 **IX. READINESS TO SERVE COMPONENT THE MINIMUM CHARGE**

23 **Q. PLEASE SUMMARIZE THE COMMENTS ON THE REMOVAL OF THE**
 24 **READINESS-TO-SERVE COMPONENT OF THE WATER SERVICE**
 25 **MINIMUM CHARGES.**

26 A. Mr. Rubin addressed the readiness-to-serve component in the water minimum charges
 27 and disagrees with its inclusion. In past PWSA rate cases, Mr. Rubin has taken issue with
 28 the allocation of costs to a Readiness-To-Serve cost category during allocation of costs to
 29 Base/Extra Capacity cost categories. In response to his criticism the current model

1 addresses readiness-to-serve as a rate design issue. In this docket, Mr. Rubin states that
 2 “PWSA included an arbitrary 5% increase in the Residential customer charge that is over
 3 and above fully allocated customer-related costs in the COSS. The sole purpose of this
 4 increase is to enhance the Authority’s recovery of revenues through fixed charges (that is,
 5 to make its revenues less sensitive to the amount of water consumed by customers).”
 6 (Rubin, page 10, lines 20-23)

7 **Q. DO YOU AGREE WITH MR. RUBIN’S CHARACTERIZATION OF THE**
 8 **READINESS TO SERVE ADJUSTMENT AS AN “ARBITRARY 5% INCREASE”**
 9 **IN THE RESIDENTIAL CUSTOMER CHARGE?**

10 A. I do not. First, we have assigned 5% of PWSA’s debt service expense for recovery in the
 11 Minimum Charge. While the resulting increase is approximately 5%, we did not
 12 arbitrarily increase the charge by 5%. Second, PWSA’s Minimum Charges are the same
 13 for all customers with the same meter size, regardless of class. Therefore, the increase in
 14 the Minimum Charge resulting from the inclusion of the readiness to serve component is
 15 applicable to all customer classes, not just the Residential class.

16 **Q. DO YOU AGREE WITH MR. RUBIN’S PROPOSAL TO REMOVE THE**
 17 **READINESS-TO-SERVE COMPONENT FROM THE WATER SERVICE**
 18 **MINIMUM CHARGES?**

19 A. No. The readiness-to-serve component of the water minimum charges is an important
 20 component of the PWSA rate structure. The readiness-to-serve component is a common
 21 ratemaking technique that adds numerous key benefits.

22 **Q. IS THE INCLUSION OF A READINESS-TO-SERVE COMPONENT AN**
 23 **INDUSTRY ACCEPTED RATEMAKING PRACTICE?**

24 A. Yes. In fact, the concept of including readiness to serve costs in the fixed charge is
 25 addressed in the AWWA M-1 Manual on page 97. It is a recommended practice used to
 26 capture, “the costs of having a system in place to provide water to the customer
 27 regardless of whether the customer consumes any water in a given service period”
 28 (AWWA M-1 Manual – 7th Edition).

1 **Q. WHAT ARE THE BENEFITS OF THE READINESS-TO-SERVE COMPONENT**
2 **FOR THE WATER SERVICE MINIMUM CHARGES?**

3 A. The benefits of including a readiness-to-serve component in the fixed charge are two-
4 fold. First, a readiness-to-serve component within a fixed charge better aligns revenue
5 recovery with the nature of utility costs, which in PWSA’s case, are largely fixed.
6 Second, the readiness-to-serve component in PWSA’s fixed charge helps to maintain
7 PWSA’s fixed revenue at a level deemed desirable by bond rating agencies. This
8 enhances revenue stability and exposes PWSA to less financial risk thereby contributing
9 to a better bond rating and a lower cost of capital.

10 **Q. IS 5% OF DEBT SERVICE A COST-JUSTIFIABLE AMOUNT TO INCLUDE IN**
11 **A READINESS-TO-SERVE COMPONENT?**

12 A. Yes. While there are no specific guidelines for the amount of debt service that should be
13 allocated to the readiness-to-serve component, 5% is not unreasonably high and it is not
14 an “arbitrary increase” as characterized by Mr. Rubin. In fact, it is likely that a 5%
15 allocation of debt service is an underestimate of the investment PWSA has made to
16 ensure the water system is in place and has the capacity to meet expected customer
17 demands.

18 Additionally, when you consider PWSA’s cost structure, the majority of the Authority’s
19 costs are fixed. In fact, for water, debt service accounts for about 36% of the allocated net
20 revenue requirements alone. Allocating a small portion of the Authority’s debt service
21 better aligns the nature of these costs with their recovery.

22 **Q. ARE YOU PRESENTING ANY EXHIBITS WITH YOUR TESTIMONY?**

23 A. Yes, attached to my testimony is a complete set of schedules generated by the CCOSS
24 model similar to the schedules that were submitted with my direct and supplemental
25 testimony.

26 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

27 A. Yes, it does.

VERIFICATION

I, Harold J. Smith, hereby state that: (1) I am a Vice President of Raftelis Financial Consultants, Inc.; (2) I have been retained by The Pittsburgh Water and Sewer Authority (“PWSA”) and am authority to present rebuttal testimony on its behalf; (3) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (4) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Dated: 07/27/2021 | 1:44 PM PDT

DocuSigned by:
Harold J. Smith
30708602E0BB446...

Harold J. Smith, Vice President
Raftelis Financial Consultants, Inc.

Consultant to:
The Pittsburgh Water and Sewer Authority

Exhibits
HJS-1-R to HJS-3-R
(Combined Utility Schedules)

Pittsburgh Water and Sewer Authority
Revenue Requirements by Utility

	FPPTY 2022			
	Water	Wastewater Conveyance	Stormwater	Total
Base Rate Revenue Requirements				
<u>Operating Expenses</u>				
<i>Direct Operating Expenses</i>				
Administrative Division				
Executive Director	\$ 2,237,558	\$ 468,972	\$ 348,904	\$ 3,055,434
Customer Service	2,551,184	3,203,545	3,032,377	8,787,106
Management Information Systems	3,364,483	705,166	524,626	4,594,275
Finance	5,699,209	1,194,504	888,681	7,782,394
Procurement	-	-	-	-
Human Resources	864,436	181,178	134,792	1,180,406
Legal	4,328,612	907,239	674,963	5,910,814
Public Affairs	939,628	196,938	146,517	1,283,083
Operations Division				
Environmental Compliance	1,392,137	1,292,698	1,292,698	3,977,533
Ops Capital Assets	-	-	-	-
Warehouse	346,692	72,664	54,060	473,416
Water Treatment Plant	22,973,908	-	-	22,973,908
Water Quality (Lab)	1,792,010	-	-	1,792,010
Water Distribution	15,138,386	-	-	15,138,386
Sewer Operations	-	1,718,790	1,718,790	3,437,579
Engineering & Construction Division				
Engineering & Construction	21,574,561	10,164,915	6,790,943	38,530,420
<i>Subtotal: Direct Operating Expenses</i>	\$ 83,202,804	\$ 20,106,610	\$ 15,607,350	\$ 118,916,763
<i>Other Operating Expenses</i>				
Loss / (Gain) on ALCOSAN Billings	\$ -	\$ 1,571,968	\$ -	\$ 1,571,968
City Services	3,500,493	733,673	545,834	4,780,001
Non-City Water Payments	-	-	-	-
<i>Subtotal: Other Operating Expenses</i>	\$ 3,500,493	\$ 2,305,641	\$ 545,834	\$ 6,351,969
<i>Subtotal: Operating Expenses</i>	\$ 86,703,297	\$ 22,412,251	\$ 16,153,184	\$ 125,268,732
<u>Debt Service</u>				
<i>Existing Debt</i>				
Senior Debt Service	\$ 32,928,147	\$ 11,876,756	\$ 11,876,756	\$ 56,681,659
Subordinate Debt Service	5,456,284	1,968,011	1,968,011	9,392,305
<i>Subtotal: Existing Debt</i>	\$ 38,384,431	\$ 13,844,767	\$ 13,844,767	\$ 66,073,964
<i>Proposed Debt</i>				
Revolving Line of Credit Interest	\$ 1,930,527	\$ 1,034,020	\$ 535,453	\$ 3,500,000
Revenue Bonds	8,197,845	3,066,426	2,600,808	13,865,079
SRF Loans	3,582,907	1,298,660	1,163,035	6,044,601
<i>Subtotal: Proposed Debt</i>	\$ 13,711,278	\$ 5,399,106	\$ 4,299,296	\$ 23,409,680
<i>Subtotal: Debt Service</i>	\$ 52,095,709	\$ 19,243,873	\$ 18,144,062	\$ 89,483,644
<u>Capital Expenditures & Transfers</u>				
Internally Generated Funds / PAYGO	\$ 1,000,000	\$ -	\$ -	\$ 1,000,000
Other Transfers to Reserves	640,000	250,000	110,000	1,000,000
Reimbursements from Municipalities	-	-	-	-
Remarketing & Liquidity Charges	-	-	-	-
Bad Debt Expense	2,972,880	1,153,764	1,593,360	5,720,003
Stormwater Credit Program Cost	-	-	696,930	696,930
<i>Subtotal: Capital Expenditures & Transfers</i>	\$ 4,612,880	\$ 1,403,764	\$ 2,400,290	\$ 8,416,934
Total: Base Rate Revenue Requirements	\$ 143,411,886	\$ 43,059,887	\$ 36,697,537	\$ 223,169,310
DSIC Costs	\$ 6,854,031	\$ 2,747,501	\$ -	\$ 9,601,532
Total System Revenue Requirements	\$ 150,265,917	\$ 45,807,389	\$ 36,697,537	\$ 232,770,842

**Pittsburgh Water and Sewer Authority
Allocation Factor Detail**

Factor Derivations - Allocation to Utilities			
<i>Code(s)</i>	<i>Description</i>	<i>Calculations</i>	
D	Customer Service - Meters		
	- This factor uses water and sewer meters to allocate meter costs between utilities	Water Meters Water & Sewer Meters	<u>2022</u> 76,150 <u>72,500</u> 148,650
			<u>Factor</u> 51.23% 48.77%
E	Customer Bills		
	- This factor uses water, sewer, and stormwater bills to allocate billing costs between utilities. Stormwater parcels are used to estimate the number of bills issued.	Water Bills Sewer Bills Stormwater	<u>2022</u> 913,799 1,200,726 <u>1,294,644</u> 3,409,168
			<u>Factor</u> 26.80% 35.22% 37.98%
F	Operations Costs		
	- This factor uses the allocation of the operations budget category as a composite allocation for allocating administrative costs to the utilities	Water Wastewater Stormwater	\$ 63,217,694 13,249,066 <u>9,856,491</u> \$ 86,323,251
			<u>Factor</u> 73.23% 15.35% 11.42%
G	Engineering & Construction		
	- This factor uses the 2022 CIP to allocate engineering and construction costs between utilities.	Water Wastewater Stormwater	\$ 110,747 40,272 <u>19,432</u> \$ 170,450
			<u>Factor</u> 64.97% 23.63% 11.40%
H	Environmental Compliance		
	- This factor is based on PWSA Staff estimates of 35% of Environmental Compliance costs being water-related. The wastewater portion is allocated 50/50 to wastewater/stormwater.	Water Wastewater Stormwater	<u>Factor</u> 35.00% 32.50% 32.50%
I	Customer Service - Composite		
	- This factor is a composite allocation of the allocated Customer Service (911) budget between to allocate Customer Service assets between the utilities.	Water Wastewater Stormwater	<u>2022</u> \$ 2,551,184 3,203,545 <u>3,032,377</u> \$ 8,787,106
			29.03% 36.46% 34.51%
K	Existing Debt Service - Assets		
	- Existing system debt service is allocated between utilities by using system fixed assets. Non-water assets are allocated to wastewater conveyance.	Water Wastewater Stormwater	<u>Factor</u> 58.09% 20.95% 20.95%

Pittsburgh Water and Sewer Authority
City Services Mapped to Budget Departments (1)

Department	GL Code	GL Name	2022
913 Finance	5491	Vehicle Repairs	\$ 780,000
913 Finance	7015	Permits	650,000
913 Finance	7422	Fuel-Gasses	350,000
913 Finance	8005	City Indirect Costs	<u>3,000,000</u>
			\$ 4,780,000

(1) City Services costs are picked up in the specified budget departments so the individual line items can be allocated with similar costs.

Exhibits
HJS-1W-R to HJS-19W-R
(Water Schedules)

Pittsburgh Water and Sewer Authority
 FPPTY 2022 COS & Rate Design
 FPPTY Water Revenue Requirements

HJS-1W-R

	2022 FPPTY Revenue Requirements
Water System Revenue Requirements	
<u>Operating Expenses</u>	
<i>Direct Operating Expenses</i>	
Administrative Division	
Executive Director	\$ 2,237,558
Customer Service	2,551,184
Management Information Systems	3,364,483
Finance	9,199,702
Procurement	-
Human Resources	864,436
Legal	4,328,612
Public Affairs	939,628
Operations Division	
Environmental Compliance	1,392,137
Ops Capital Assets	-
Warehouse	346,692
Water Treatment Plant	22,973,908
Water Quality (Lab)	1,792,010
Water Distribution	15,138,386
Sewer Operations	-
Engineering & Construction	
Engineering & Construction	21,574,561
<i>Other Operating Expenses</i>	
Loss / (Gain) on ALCOSAN Billings	-
Non-City Water Payments	-
<i>Total Operating Expenses</i>	\$ 86,703,297
<u>Debt Service</u>	
Existing Debt	\$ 38,384,431
Future Debt	13,711,278
<i>Subtotal: Debt Service</i>	\$ 52,095,709
<u>Capital Expenditures & Transfers</u>	
Internally Generated Funds / PAYGO	\$ 1,000,000
Internally Generated Funds / PAYGO (DSIC)	6,854,031
Other Transfers to Reserves	640,000
Reimbursements from Municipalities	-
Remarketing & Liquidity Charges	-
Bad Debt Expense	2,972,880
<i>Subtotal: Capital Expenditures & Transfers</i>	\$ 11,466,911
Total: Water System Revenue Requirements	\$ 150,265,917
<i>Capital Costs to be Recovered through DSIC</i>	\$ (6,854,031)
Total: Water System Revenue Requirement (Excl DSIC)	\$ 143,411,886

Pittsburgh Water and Sewer Authority

HJS-2W-R

FPPTY 2022 COS & Rate Design

Assignment to Functional Categories

Water Operating Expenses	FY 2022	Allocation	Water Functional Categories									
			Supply	Treatment	Storage	Transmission	Distribution	Meters	Billing	Fire Protection	Admin Support	
<i>Direct Operating Expenses</i>	<i>FPPTY</i>											
Administrative Division												
Executive Director	\$ 2,237,558	W-H	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,237,558
Customer Service	2,551,184	W-I	-	-	-	-	-	-	707,845	1,843,339	-	-
Management Information Systems	3,364,483	W-H	-	-	-	-	-	-	-	-	-	3,364,483
Finance	9,199,702	W-H	-	-	-	-	-	-	-	-	-	9,199,702
Procurement	-	W-H	-	-	-	-	-	-	-	-	-	-
Human Resources	864,436	W-H	-	-	-	-	-	-	-	-	-	864,436
Legal	4,328,612	W-H	-	-	-	-	-	-	-	-	-	4,328,612
Public Affairs	939,628	W-H	-	-	-	-	-	-	-	-	-	939,628
Operations Division												
Environmental Compliance	1,392,137	W-H	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,392,137
Ops Capital Assets	-	W-H	-	-	-	-	-	-	-	-	-	-
Warehouse	346,692	W-H	-	-	-	-	-	-	-	-	-	346,692
Water Treatment Plant	22,973,908	W-B	-	22,973,908	-	-	-	-	-	-	-	-
Water Quality (Lab)	1,792,010	W-B	-	1,792,010	-	-	-	-	-	-	-	-
Water Distribution	15,138,386	W-D	-	-	-	5,618,975	9,519,411	-	-	-	-	-
Sewer Operations	-	n/a	-	-	-	-	-	-	-	-	-	-
Engineering & Construction Division												
Engineering & Construction	21,574,561	W-J	-	2,845,490	12,291,797	6,297,695	-	-	-	-	-	139,579
<i>Subtotal: Direct Operating Expenses</i>	<i>\$ 86,703,297</i>		<i>\$ -</i>	<i>\$ 27,611,408</i>	<i>\$ 12,291,797</i>	<i>\$ 11,916,670</i>	<i>\$ 9,519,411</i>	<i>\$ 707,845</i>	<i>\$ 1,843,339</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ 22,812,827</i>
<i>Other Operating Expenses</i>												
Loss / (Gain) on ALCOSAN Billings	-	n/a	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-City Water Payments	-	W-H	-	-	-	-	-	-	-	-	-	-
<i>Subtotal: Other Operating Expenses</i>	<i>\$ -</i>		<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>
Allocated Water Operating Costs	\$ 86,703,297		\$ -	\$ 27,611,408	\$ 12,291,797	\$ 11,916,670	\$ 9,519,411	\$ 707,845	\$ 1,843,339	\$ -	\$ -	\$ 22,812,827

Allocated Water Assets			Water Functional Categories									
Row Labels	Allocated Costs	Allocation	Supply	Treatment	Storage	Transmission	Distribution	Meters	Billing	Fire Protection	Admin Support	Total
Struc. and Improvements - Source of Supply and Pumping	3,697,265	W-A	100.00%									100.00%
Structures and Improvements - WTP	18,922,958	W-B		100.00%								100.00%
Structures and Improvements - Transmission and Distribution	-	W-D				37.12%	62.88%					100.00%
Pumping Equipment	13,116,686	W-D				37.12%	62.88%					100.00%
Water Treatment Equipment	77,100,511	W-B		100.00%								100.00%
Distribution Reservoirs and Standpipes	51,673,176	W-C			100.00%							100.00%
Transmission and Distribution Mains	235,658,763	W-D				37.12%	62.88%					100.00%
Meters and Meter Installations	26,514,425	W-E						100.00%				100.00%
Fire Hydrants	10,050,877	W-G								100.00%		100.00%
Office Furniture and Equipment	710,137	W-H									100.00%	100.00%
Office Furniture and Equipment - Computer Hardware	7,639,099	W-H									100.00%	100.00%
Transportation Equipment	6,010,107	W-H									100.00%	100.00%
Tools, Shop and Garage Equipment	1,593,135	W-H									100.00%	100.00%
Laboratory Equipment	149,300	W-B		100.00%								100.00%
Collection Sewers - Gravity	-	n/a										0.00%
Manholes	-	n/a										0.00%
Wastewater Plant	-	n/a										0.00%
Power Operated Equipment	-	n/a										0.00%
Total	452,836,438		\$ 3,697,265	\$ 96,172,769	\$ 51,673,176	\$ 92,338,978	\$ 156,436,470	\$ 26,514,425	\$ -	\$ 10,050,877	\$ 15,952,478	\$ 452,836,438

Allocation Factors for Capital Costs	0.82%	21.24%	11.41%	20.39%	34.55%	5.86%	0.00%	2.22%	3.52%	100.00%
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		Supply	Treatment	Storage	Transmission	Distribution	Meters	Billing	Fire Protection	Admin Support	Readiness-to-Serve
Allocation of Capital Costs											
Debt Service	\$ 52,095,709	\$ 425,345	\$ 11,064,014	\$ 5,944,643	\$ 10,622,963	\$ 17,996,937	\$ 3,050,302	\$ -	\$ 1,156,284	\$ 1,835,223	\$ -
Internally Generated Funds / PAYGO	1,000,000	8,165	212,379	114,110	203,912	345,459	58,552	-	22,195	35,228	-
Other Transfers to Reserves	640,000	5,225	135,922	73,030	130,504	221,094	37,473	-	14,205	22,546	-
Reimbursements from Municipalities	-	-	-	-	-	-	-	-	-	-	-
Remarketing & Liquidity Charges	-	-	-	-	-	-	-	-	-	-	-
Bad Debt Expense (1)	-	-	-	-	-	-	-	-	-	-	-
Total: Allocated Capital Costs	\$ 53,735,709	\$ 438,735	\$ 11,412,315	\$ 6,131,783	\$ 10,957,379	\$ 18,563,490	\$ 3,146,327	\$ -	\$ 1,192,684	\$ 1,892,996	\$ -

(1) Bad Debt Expense allocated directly to customer classes based on each classes responsibility for historical bad debt.

FY 2022 **Allocation**
 FPFTY

Water Revenue Requirement

<u>Functional Categories</u>		
Supply	\$ 438,735	W-AA
Treatment	39,023,722	W-BB
Storage	18,423,580	W-CC
Transmission	22,874,049	W-BB
Distribution	28,082,901	W-CC
Meters	3,854,172	W-DD
Billing	1,843,339	W-EE
Fire Protection	1,192,684	W-FF
Admin Support	24,705,823	W-GG
Readiness-to-Serve (Debt Service)	-	W-HH
Total: Water Revenue Requirements	\$ 140,439,006	

Water Cost Drivers						
<i>Base</i>	<i>Max Day</i>	<i>Peak Hour</i>	<i>Meters</i>	<i>Bills</i>	<i>Readiness-to-Serve</i>	<i>Fire Protection</i>
100.00%						
73.44%	24.90%					1.66%
54.73%	15.56%	21.94%				7.77%
73.44%	24.90%					1.66%
54.73%	15.56%	21.94%				7.77%
			100.00%			
				100.00%		
						100.00%
61.65%	19.57%	8.81%	3.33%	1.59%	0.00%	5.04%
					100.00%	

FY 2022 **Allocation**
 FPFTY

Water Revenue Requirement

<u>Functional Categories</u>		
Supply	\$ 438,735	W-AA
Treatment	39,023,722	W-BB
Storage	18,423,580	W-CC
Transmission	22,874,049	W-BB
Distribution	28,082,901	W-CC
Meters	3,854,172	W-DD
Billing	1,843,339	W-EE
Fire Protection	1,192,684	W-FF
Admin Support	24,705,823	W-GG
Readiness-to-Serve (Debt Service)	-	W-HH
Total: Water Revenue Requirements	\$ 140,439,006	

Water Cost Drivers						
<i>Base</i>	<i>Max Day</i>	<i>Peak Hour</i>	<i>Meters</i>	<i>Bills</i>	<i>Readiness-to-Serve</i>	<i>Fire Protection</i>
\$ 438,735	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
28,658,087	9,718,013	-	-	-	-	647,622
10,082,647	2,867,496	4,041,346	-	-	-	1,432,091
16,798,154	5,696,287	-	-	-	-	379,609
15,368,890	4,370,899	6,160,189	-	-	-	2,182,923
-	-	-	3,854,172	-	-	-
-	-	-	-	1,843,339	-	-
-	-	-	-	-	-	1,192,684
15,230,501	4,835,722	2,177,745	822,759	393,502	-	1,245,595
-	-	-	-	-	-	-
\$ 86,577,014	\$ 27,488,418	\$ 12,379,280	\$ 4,676,931	\$ 2,236,841	\$ -	\$ 7,080,524
\$ 86,577,014	\$ 27,488,418	\$ 12,379,280	\$ 4,676,931	\$ 2,236,841	\$ -	\$ 7,080,524
61.6%	19.6%	8.8%	3.3%	1.6%	0.0%	5.0%

Costs to Recover from Water Charges \$ 140,439,006

Cost Functionalization: Water										
Code	Description	Supply	Treatment	Storage	Transmission	Distribution	Meters	Billing	Fire Protection	Admin Support
W-A	Supply Only	100.00%								
W-B	Treatment Only		100.00%							
W-C	Storage Only			100.00%						
W-D	Transmission & Distribution Only				37.12%	62.88%				
W-E	Meters Only						100.00%			
W-F	Billing Only							100.00%		
W-G	Fire Protection Only								100.00%	
W-H	Admin Support Only									100.00%
W-I	Customer Service						27.75%	72.25%		
W-J	Engineering & Construction		13.19%	56.97%	29.19%					0.65%

Allocation to Cost Drivers: Water								
Code	Description	Base	Max Day	Peak Hour	Meters	Bills	Readiness-to-Serve	Fire Protection
W-AA	Base	100.00%						
W-BB	Maximum Day	73.44%	24.90%					1.66%
W-CC	Peak Hour	54.73%	15.56%	21.94%				7.77%
W-DD	Customer - Meters				100.00%			
W-EE	Customer - Billing					100.00%		
W-FF	Fire Protection							100.00%
W-GG	Admin Support (Composite)	61.65%	19.57%	8.81%	3.33%	1.59%	0.00%	5.04%
W-HH	Readiness-to-Serve						100.00%	

Factor Derivations - Allocation to Functional Categories & Cost Components						
<i>Code(s)</i>	<i>Description</i>	<i>Calculations</i>				
W-I	Customer Service	<u>2022 Customer Service Budget</u>		<u>FPFTY</u>	<u>Meter</u>	<u>Billing</u>
WW-E	- This factor allocates the 2022 customer service budget between meter- and billing-related costs.	Salaries	\$ 4,066,654	28.60%	71.40%	
		Benefits	1,137,504	28.60%	71.40%	
		Computer & Peripherals	10,000	100.00%	0.00%	
		Annual Software Support	134,200	50.00%	50.00%	
		Customer CC Fees	392,400	0.00%	100.00%	
		Postage	569,500	0.00%	100.00%	
		Equip Rental	2,060	100.00%	0.00%	
		Billing Contract	837,399	0.00%	100.00%	
		Meter Services	801,990	100.00%	0.00%	
		Prof Service Other	304,800	20.00%	80.00%	
		Water Liens	84,000	50.00%	50.00%	
		Office Supplies	6,000	50.00%	50.00%	
		TE Airfare	1,400	50.00%	50.00%	
		TE Lodging	1,200	50.00%	50.00%	
		TE SeminarsConferences	2,400	50.00%	50.00%	
		TE Training	5,000	50.00%	50.00%	
		Capital Asset Reclass	(253,000)	0.00%	0.00%	
		Customer Refund CSM	550,000	0.00%	100.00%	
		One Call	33,600	0.00%	100.00%	
		Non.City Water Reimburse	100,000	0.00%	0.00%	
		Total	\$ 8,787,106	\$2,480,499	\$6,459,607	
		<i>Allocation Factors</i>		<i>27.75%</i>	<i>72.25%</i>	

W-D Water Pipe Inventory

- Allocate costs between transmission and distribution functional categories. Assumes Pipes less than or equal to 16" are Distribution-related.

Breakdown		
Distribution	35,292,892	62.9%
Transmission	20,832,160	37.1%
Total	56,125,051	100.0%

Inch-Foot Analysis		
<i>Diameter (in)</i>	<i>Linear Feet</i>	<i>Inch-Feet</i>
0.75	799	599
1	1,315	1,315
1.5	983	1,474
2	11,694	23,388
2.5	16	39
3	268	803
4	141,178	564,711
6	2,196,002	13,176,011
8	1,127,975	9,023,802
10	84,170	841,702
12	604,067	7,248,809
14	1,296	18,147
15	15,500	232,496
16	259,975	4,159,594
18	266	4,783
20	209,650	4,192,996
24	85,170	2,044,075
28	104	2,911
30	116,524	3,495,706
36	83,096	2,991,457
42	11,260	472,925
42.5	12,598	535,431
48	16,552	794,500
50	23,682	1,184,096
50.25	12,005	603,231
60	55,175	3,310,516
66	1,492	98,501
72	3,697	266,159
84	3,979	334,248
96	4,560	437,764
120	524	62,860
	5,085,570	56,125,051

Factor Derivations - Allocation to Functional Categories & Cost Components

Code(s)	Description	Calculations		
W-J	Engineering & Construction	<u>2022 Water CIP Costs</u>	<u>\$\$ Amount</u>	<u>Allocation</u>
		Treatment	\$ 16,422,149	13.19%
	- This factor uses the 2022 Water CIP costs to allocate Engineering & Construction costs to the various functional categories.	Storage	70,939,529	56.97%
		Trans. & Distr.	36,345,826	29.19%
		Admin	805,553	0.65%
		Total Water CIP	\$ 124,513,057	100.00%

W-BB Maximum Day

- Maximum day costs are allocated using a peak day determined using system daily production records. Fire demands are determined in HJS-7W.

Plant Production Data		
2018-2020 Avg Plant Production	69.47	mgd
2018-2020 Avg. Peak Day	86.77	mgd
Peak Hour Factor (1.6)	111.15	mgd
Base	73.44%	
Maximum Day	24.90%	
Fire Protection	1.66%	

W-CC Peak Hour

- Peak hour costs are allocated using an estimated peak hour compared to system average and maximum day processed. Fire demands are determined in HJS-7W.

Plant Production Data		
2018-2020 Avg Plant Production	69.47	mgd
2018-2020 Avg. Peak Day	86.77	mgd
Peak Hour Factor (1.6)	111.15	mgd
Peak Hour / Avg	54.73%	
Max Day (Plug)	15.56%	
Peak Hr / Peak Day	21.94%	
Fire Protection	7.77%	

Equivalency Flow Ratios

- Used to escalate metering and readiness-to-serve costs, these ratios are industry standard and obtained from the American Waterworks Association

Equivalency Ratios				
	Flow		Fire Flow	Fire Equiv
5/8"	1.00	1" or Less	2.50	1.00
3/4"	1.50	1.5"-3"	8.00	6.19
1"	2.50	4"	25.00	38.32
1.5"	5.00	6" or Greater	50.00	111.31
2"	8.00			
3"	16.00			
4"	25.00			
6"	50.00			
8"	80.00			
10"	115.00			
Unmetered	1.00			

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design

Water Units of Service

HJS-6W-R

	Collection Factor	FY 2022 Consumption	Allocated Consumption	Average Day	Maximum Day			Peak Hour			Equivalent Meters	Total Bills	Fire Equivalents
					Cap. Factor	Total Cap.	Extra Cap.	Cap. Factor	Total Cap.	Extra Cap.			
Units of Service													
<u>Retail Service</u>													
Residential (1)	100.0%	2,739,425	2,739,425	7,505	130.0%	9,757	2,252	215.0%	16,136	6,379	817,855	759,140	-
Residential - CAP	100.0%	170,010	170,010	466	130.0%	606	140	215.0%	1,001	396	49,444	48,920	-
Commercial (1)	100.0%	3,050,091	3,050,091	8,356	135.0%	11,281	2,925	225.0%	18,802	7,521	372,779	81,436	-
Industrial	100.0%	201,528	201,528	552	165.0%	911	359	220.0%	1,215	304	8,814	384	-
Health or Education	100.0%	1,133,538	1,133,538	3,106	150.0%	4,658	1,553	250.0%	7,764	3,106	86,166	5,808	-
Municipal - Metered	100.0%	217,323	217,323	595.41	135.0%	804	208	225.0%	1,340	536	11,657	2,422	-
Municipal - Unmetered (2)	100.0%	18,480	18,480	50.63	135.0%	68	18	225.0%	114	46	1,920	336	-
Private Fire Systems	100.0%	14,559	14,559	40	225.0%	90	50	375.0%	150	60	52,888	15,689	42,123
Public Fire	100.0%	-	-	-	100.0%	-	-	100.0%	-	-	-	-	10,028,669
<i>Subtotal: Retail Service</i>		<u>7,544,954</u>	<u>7,544,954</u>	<u>20,671</u>		<u>28,175</u>	<u>7,504</u>		<u>46,522</u>	<u>18,347</u>	<u>1,401,522</u>	<u>914,135</u>	<u>10,070,792</u>
<u>Wholesale & Bulk</u>													
Wholesale	100.0%	844,205	844,205	2,313	135.0%	3,122	810	225.0%	5,204	2,082	-	-	-
Bulk	100.0%	-	-	-	0.0%	-	-	0.0%	-	-	-	-	-
<i>Subtotal: Wholesale & Bulk</i>		<u>844,205</u>	<u>844,205</u>	<u>2,313</u>		<u>3,122</u>	<u>810</u>		<u>5,204</u>	<u>2,082</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total: Water Units of Service		8,389,159	8,389,159	22,984		31,297	8,313		51,726	20,428	1,401,522	914,135	10,070,792

(1) Includes unmetered units and equivalent usage.

(2) Assumed usage for unmetered municipal properties

	Maximum Day				Peak Hour	
	Class MM/AD	System MD/MM	Weekly Use Adjustment	MD Peaking Factor (2)	Estimated MH/MD	MH Peaking Factor (2)
Peaking Factors (1)						
Residential	1.14	1.13	1.00	1.30	1.66	2.15
Commercial	1.20	1.13	1.00	1.35	1.66	2.25
Industrial	1.47	1.13	1.00	1.65	1.33	2.20
Health or Education	1.33	1.13	1.00	1.50	1.66	2.50
Fire System	2.00	1.13	1.00	2.25	1.66	3.75
Wholesale	1.21	1.13	1.00	1.35	1.66	2.25

(1) Peaking factors determined using customer billing information from 2018-2020.

(2) Maximum Day and Maximum Hour peaking factors are rounded.

Pittsburgh Water and Sewer Authority

HJS-7W-R

FPPTY 2022 COS & Rate Design

Fire Protection Cost Allocation and Units of Service

Determination of Allocation Factors for Public & Private Fire Costs

Required Fire Flow	6,000	GPM
Required Duration for Fire Flow (Hours)	4	hours
Maximum Day - Fire	1,440,000	gallons
Maximum Day - System	86,770,000	gallons
% of Maximum Day for Fire	1.66%	
Peak Hour - Fire	360,000	gallons
Peak Hour - System	4,631,333	gallons
% of Maximum Day for Fire	7.77%	

Fire Service Units	Connections	Equivalent Factor	Equivalent Units	Percent
<u>Allocation to Public/Private</u>				
Public Hydrants (City)	7,374	111.31	820,807	97.80%
Public Hydrants (Non-City)	134	111.31	14,916	1.78%
Private Fire				
1" or Less	1,238	1.00	1,238	
1.5"-3"	48	6.19	300	
4"	5	38.32	192	
6" or Greater	16	111.31	1,781	
<i>Subtotal: Private Fire</i>	1,307		3,510	0.42%
Total	8,815		839,233	

Development of Unit Costs of Service	FY 2022 FPFTY	Unit Costs						
		Base	Extra Capacity		Meters	Bills	Readiness-to-Serve	Fire Protection
			Max Day	Peak Hour				
<u>Units of Service</u>								
Retail		7,544,954	7,504	18,347	1,401,522	914,135	1,401,522	10,070,792
Wholesale		844,205	810	2,082	-	-	-	-
Total System Units		8,389,159	8,313	20,428	1,401,522	914,135	1,401,522	10,070,792
Units		<i>kgal</i>	<i>kgal/day</i>	<i>kgal/day</i>	<i>Eq. Cost Meter</i>	<i>Total Bills</i>	<i>Eq. Flow Meter</i>	<i>Eq. Fire Cnx</i>
<u>Allocated Revenue Requirement</u>								
Supply	\$ 438,735	\$ 438,735	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Treatment	39,023,722	28,658,087	9,718,013	-	-	-	-	647,622
Storage	18,423,580	10,082,647	2,867,496	4,041,346	-	-	-	1,432,091
Transmission	22,874,049	16,798,154	5,696,287	-	-	-	-	379,609
Distribution	28,082,901	15,368,890	4,370,899	6,160,189	-	-	-	2,182,923
Meters	3,854,172	-	-	-	3,854,172	-	-	-
Billing	1,843,339	-	-	-	-	1,843,339	-	-
Fire Protection	1,192,684	-	-	-	-	-	-	1,192,684
Admin Support	24,705,823	15,230,501	4,835,722	2,177,745	822,759	393,502	-	1,245,595
Readiness-to-Serve (Debt Service)	-	-	-	-	-	-	-	-
Total: Revenue Requirements	\$ 140,439,006	\$ 86,577,014	\$ 27,488,418	\$ 12,379,280	\$ 4,676,931	\$ 2,236,841	\$ -	\$ 7,080,524
Revenue Offsets	(1,654,402)	\$(1,019,896)	\$(323,820)	\$(145,831)	\$(55,095)	\$(26,350)	\$ -	\$(83,410)
Total: Costs of Service	\$ 138,784,604	\$ 85,557,117	\$ 27,164,598	\$ 12,233,449	\$ 4,621,835	\$ 2,210,490	\$ -	\$ 6,997,114
Gross Unit Cost		\$ 10.20	\$ 3,267.64	\$ 598.85	\$ 3.30	\$ 2.42	\$ -	\$ 0.69
<i>Unit Cost - Retail (\$ / Unit) (Includes Distribution)</i>		\$ 10.40	\$ 3,324.36	\$ 633.06	\$ 3.30	\$ 2.42	\$ -	\$ 0.69
<i>Unit Cost - Wholesale (\$ / Unit) (Excludes Distribution)</i>		\$ 8.37	\$ 2,741.86	\$ 297.30	\$ 3.30	\$ 2.42	\$ -	\$ 0.69

Customer Class Cost of Service	Unit Costs							Total
	Base	Extra Capacity		Meters	Bills	Readiness-to-Serve	Fire Protection	
		Max Day	Peak Hour					
<u>Residential</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	2,739,425	2,252	6,379	817,855	759,140	817,855	-	
Cost of Service	\$ 28,499,651	\$ 7,485,069	\$ 4,038,610	\$ 2,697,061	\$ 1,835,694	\$ -	\$ -	\$ 44,556,086
<u>Residential - CAP</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	170,010	140	396	49,444	48,920	49,444	-	
Cost of Service	\$ 1,768,704	\$ 464,527	\$ 250,638	\$ 163,052	\$ 118,294	\$ -	\$ -	\$ 2,765,215
<u>Commercial</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	3,050,091	2,925	7,521	372,779	81,436	372,779	-	
Cost of Service	\$ 31,731,664	\$ 9,722,902	\$ 4,761,117	\$ 1,229,322	\$ 196,921	\$ -	\$ -	\$ 47,641,926
<u>Industrial</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	201,528	359	304	8,814	384	8,814	-	
Cost of Service	\$ 2,096,600	\$ 1,193,064	\$ 192,243	\$ 29,066	\$ 929	\$ -	\$ -	\$ 3,511,902
<u>Health or Education</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	1,133,538	1,553	3,106	86,166	5,808	86,166	-	
Cost of Service	\$ 11,792,780	\$ 5,162,038	\$ 1,966,028	\$ 284,151	\$ 14,045	\$ -	\$ -	\$ 19,219,042
<u>Municipal - Metered</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	217,323	208	536	11,657	2,422	11,657	-	
Cost of Service	\$ 2,260,925	\$ 692,770	\$ 339,236	\$ 38,442	\$ 5,857	\$ -	\$ -	\$ 3,337,230
<u>Municipal - Unmetered</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	18,480	18	46	1,920	336	1,920	-	
Cost of Service	\$ 192,257	\$ 58,909	\$ 28,847	\$ 6,332	\$ 812	\$ -	\$ -	\$ 287,157
<u>Private Fire System</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	14,559	50	60	52,888	15,689	52,888	42,123	
Cost of Service	\$ 151,463	\$ 165,749	\$ 37,877	\$ 174,410	\$ 37,938	\$ -	\$ 29,267	\$ 596,703
<u>Public Fire Protection</u>								
Unit Costs (\$/unit)	\$ 10.404	\$ 3,324.360	\$ 633.062	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service							10,028,669	
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,967,847	\$ 6,967,847
<u>Wholesale</u>								
Unit Costs (\$/unit)	\$ 8.367	\$ 2,741.861	\$ 297.297	\$ 3.298	\$ 2.418	\$ -	\$ 0.695	
Units of Service	844,205	810	2,082					
Cost of Service	\$ 7,063,074	\$ 2,219,568	\$ 618,853	\$ -	\$ -	\$ -	\$ -	\$ 9,901,496
Total: Costs of Service	\$ 85,557,117	\$ 27,164,598	\$ 12,233,449	\$ 4,621,835	\$ 2,210,490	\$ -	\$ 6,997,114	\$ 138,784,604

Pittsburgh Water and Sewer Authority

FPFTY 2022 COS & Rate Design

Adjustments to Allocated Cost of Service

COS Adjustments		Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal - Metered	Municipal - Unmetered	Private Fire System	Public Fire Protection	Wholesale	Total
Adjustments to Cost of Service													
Public Fire (Title 66 § 1328)	Equivalent Meters		58.4%	3.5%	26.6%	0.6%	6.1%	0.8%	0.1%	3.8%			100.0%
Wholesale Contracts	Unadj. COS		36.5%	2.3%	39.1%	2.9%	15.8%	2.7%	0.2%	0.5%			100.0%
Add: Bad Debt Expense	Class Contribution		76.3%		17.1%	0.7%	1.3%	3.3%		1.2%	0.0%		100.0%
BDP Forgone Revenue	Unadj. COS		37.4%		40.0%	2.9%	16.1%	2.8%	0.2%	0.5%			100.0%
City of Pittsburgh - Phase-In	Unadj. COS		37.7%	2.3%	40.3%	3.0%	16.2%			0.5%			100.0%
City of Pittsburgh - Unmetered	Unadj. COS		37.7%	2.3%	40.3%	3.0%	16.2%			0.5%			100.0%
Gradualism			37.7%	2.3%	40.3%		16.3%	2.8%		0.5%			100.0%
Cost of Service by Class													
Allocated Cost of Service (Unadjusted)		\$	44,556,086	\$ 2,765,215	\$ 47,641,926	\$ 3,511,902	\$ 19,219,042	\$ 3,337,230	\$ 287,157	\$ 596,703	\$ 6,967,847	\$ 9,901,496	\$ 138,784,604
% of COS			32.1%	2.0%	34.3%	2.5%	13.8%	2.4%	0.2%	0.4%	5.0%	7.1%	100.0%
Adjustments to Cost of Service													
	Adjustment												
Public Fire (Title 66 § 1328)	5,225,885		3,049,553	184,362	1,389,988	32,865	321,288	43,466	7,159	197,205	(5,225,885)	-	0
Wholesale Contracts	6,227,952		2,276,115	141,259	2,433,753	179,403	981,791	170,480	14,669	30,482	-	(6,227,952)	-
Add: Bad Debt Expense	2,972,880		2,268,243	-	509,480	19,860	39,772	98,351	-	36,921	254	-	2,972,880
BDP Forgone Revenue	1,445,619		540,588	(1,445,619)	578,028	42,609	233,180	40,490	3,484	7,240	-	-	(0)
City of Pittsburgh - Phase-In	2,160,455		813,769	50,504	870,128	64,141	351,015	(1,476,006)	-	10,898	(684,448)	-	(0)
City of Pittsburgh - Unmetered	312,470		117,697	7,304	125,848	9,277	50,768	-	(312,470)	1,576	-	-	(0)
Gradualism - Industrial (1)	760,000		286,689	17,792	306,544	(760,000)	123,662	21,473	-	3,839	-	-	0
Total: Adjusted Cost of Service		\$	53,908,740	\$ 1,720,816	\$53,855,695	\$3,100,057	\$21,320,519	\$ 2,235,483	\$ -	\$ 884,864	\$ 1,057,767	\$ 3,673,544	\$ 141,757,484
% of COS			38.0%	1.2%	38.0%	2.2%	15.0%	1.6%	0.0%	0.6%	0.7%	2.6%	100.0%

(1) Gradualism adjusted such that class increase for Industrial does not exceed 1.5x overall water system increase

Pittsburgh Water and Sewer Authority
FPPTY 2022 COS & Rate Design
 Forgone Revenue Cost of the Bill Discount Program

HJS-11W-R

Units	Bills	BDP Tier 1 Usage	BDP Tier 2 Usage
5/8"	48,295	115,833	7,394
3/4"	395	659	42
1"	218	216	14
Unmetered	12	n/a	n/a
	<u>48,920</u>	<u>116,707</u>	<u>7,449</u>

Forgone Revenue Cost		Revenue At Full Rates	Revenue at CAP Rates	Difference
Fixed Charges		\$ 1,387,998	\$ -	\$ 1,387,998
Volume Charges (1)	6.0%	<u>115,242</u>	<u>57,621</u>	<u>57,621</u>
Total Forgone Revenue Cost		1,503,241	57,621	1,445,619
Volume Discount	50.0%			

(1) Currently 249 of 4,228 (6%) customers are enrolled in volume discount.

		COS Rate Build-Up - Test Year: 2022									
Water	Min. Usage Proposed	Meter	Billing	Usage	Total COS Rates	Adjustments					Proposed Rates
						Public Fire	R. T.S.	City	CAP-BDP		
Minimum Charge											
5/8"	1	\$ 3.30	\$ 2.42	\$ 16.54	\$ 22.26	\$ 3.73	\$ 1.86	\$ -	\$ -	\$ -	27.85
3/4"	2	4.95	2.42	33.08	40.44	5.59	2.79	-	-	-	48.83
1"	5	8.24	2.42	82.70	93.36	9.32	4.65	-	-	-	107.33
1.5"	10	16.49	2.42	165.39	184.30	18.64	9.29	-	-	-	212.24
2"	17	26.38	2.42	281.17	309.97	29.83	14.87	-	-	-	354.67
3"	40	52.76	2.42	661.57	716.75	59.66	29.74	-	-	-	806.15
4"	70	82.44	2.42	1,157.74	1,242.61	93.22	46.46	-	-	-	1,382.29
6"	175	164.89	2.42	2,894.36	3,061.66	186.44	92.93	-	-	-	3,341.03
8"	325	263.82	2.42	5,375.24	5,641.48	298.30	148.68	-	-	-	6,088.46
10" & Above	548	379.24	2.42	9,063.48	9,445.14	428.80	213.73	-	-	-	10,087.68
Unmetered	1	3.30	2.42	16.54	22.26	3.73	1.86	-	-	-	27.85
Residential - CAP											
5/8"	1	\$ 3.30	\$ 2.42	\$ 16.54	\$ 22.26	\$ 3.73	\$ 1.86	\$ -	(27.84)	\$ -	-
3/4"	2	4.95	2.42	33.08	40.44	5.59	2.79	-	(48.82)	-	-
1"	5	8.24	2.42	82.70	93.36	9.32	4.65	-	(107.33)	-	-
Unmetered	1	3.30	2.42	16.54	22.26	3.73	1.86	-	(27.84)	-	-
Municipal Minimum Charge											
5/8"		\$ 3.30	\$ 2.42	\$ 16.54	\$ 22.26	\$ 3.73	\$ 1.86	(11.14)	\$ -	\$ -	16.71
3/4"		4.95	2.42	33.08	40.44	5.59	2.79	(19.53)	-	-	29.30
1"		8.24	2.42	82.70	93.36	9.32	4.65	(42.93)	-	-	64.40
1.5"		16.49	2.42	165.39	184.30	18.64	9.29	(84.89)	-	-	127.35
2"		26.38	2.42	281.17	309.97	29.83	14.87	(141.87)	-	-	212.80
3"		52.76	2.42	661.57	716.75	59.66	29.74	(322.46)	-	-	483.69
4"		82.44	2.42	1,157.74	1,242.61	93.22	46.46	(552.91)	-	-	829.38
6"		164.89	2.42	2,894.36	3,061.66	186.44	92.93	(1,336.41)	-	-	2,004.62
8"		263.82	2.42	5,375.24	5,641.48	298.30	148.68	(2,435.38)	-	-	3,653.08
10" & Above		379.24	2.42	9,063.48	9,445.14	428.80	213.73	(4,035.07)	-	-	6,052.61
Unmetered Municipal Charge											
5/8"	5/8"	\$ 3.30	\$ 2.42	\$ 16.54	\$ 22.26	\$ 3.73	\$ 1.86	(27.84)	\$ -	\$ -	-
3/4"	3/4"	4.95	2.42	33.08	40.44	5.59	2.79	(48.82)	-	-	-
1"	1"	8.24	2.42	82.70	93.36	9.32	4.65	(107.33)	-	-	-
1.5"	1.5"	16.49	2.42	165.39	184.30	18.64	9.29	(212.24)	-	-	-
2"	2"	26.38	2.42	281.17	309.97	29.83	14.87	(354.66)	-	-	-
3"	3"	52.76	2.42	661.57	716.75	59.66	29.74	(806.15)	-	-	-
4"	4"	82.44	2.42	1,157.74	1,242.61	93.22	46.46	(1,382.29)	-	-	-
Monthly Fire Protection											
		<i>Meter</i>	<i>Billing</i>	<i>Fire</i>	<i>Total</i>	<i>Public Fire</i>	<i>R. T. S.</i>	<i>City</i>	<i>CAP-BDP</i>	<i>Proposed Rates</i>	
<i>Public</i>											
	Per Hydrant (City)	\$ -	\$ -	\$ 77.34	\$ 77.34	\$ (58.00)	\$ -	(7.73)	\$ -	\$ -	11.60
	Per Hydrant (Non-City)	-	-	77.34	77.34	(58.00)	-		-	-	19.33
<i>Private</i>											
	1" or Less	\$ 8.24	\$ 2.42	\$ 0.69	\$ 11.36		\$ 4.65	\$ -	\$ -	\$ -	16.01
	1.5"-3"	26.38	2.42	4.30	33.10		14.87	-	-	-	47.97
	4"	82.44	2.42	26.62	111.49		46.46	-	-	-	157.95
	6" or Greater	164.89	2.42	77.34	244.64		92.93	-	-	-	337.57

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design

Volume Charge Calculation

Unadjusted COS-Based Rates					
Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Billed Volume	Proposed Rates	
Residential	\$ 44,556,086	\$ 19,505,549	\$ 25,050,537	1,919,317	\$ 13.05
Residential - CAP	2,765,215	1,111,124	1,654,091	124,193	13.32
Commercial	47,641,926	15,966,077	31,675,849	2,416,805	13.11
Industrial	3,511,902	569,636	2,942,267	187,735	15.67
Health or Education	19,219,042	4,369,778	14,849,265	958,928	15.49
Municipal - Metered	3,337,230	491,022	2,846,208	197,733	14.39
Municipal - Unmetered	287,157	86,532	200,625	13,680	14.67
Private Fire System	596,703	241,615	355,088	14,559	24.39
Public Fire	6,967,847	6,967,847	-	-	n/a
Wholesale	9,901,496	-	9,901,496	844,205	11.73
Totals	138,784,604	49,309,180	89,475,424	6,677,154	\$ 13.40

Determination of Proposed Rates					
Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates	
Residential + CAP	\$ 55,629,556	\$ 24,080,781	\$ 31,548,774	2,039,785	\$ 15.47
Commercial + Municipal (2)	56,091,177	18,383,063	37,708,114	2,535,445	14.88
Industrial	3,100,057	618,884	2,481,173	187,735	13.22
Health or Education	21,320,519	4,851,236	16,469,282	958,928	17.18
Municipal - Metered					
Municipal - Unmetered					
Private Fire System	884,864	340,006	544,858	14,559	37.43
Public Fire	1,057,767	1,057,543	224	-	n/a
Wholesale	3,673,544	-	3,673,544	n/a	n/a
Totals	\$ 141,757,484	49,331,513	92,425,970	5,736,451	\$ 16.11

Class Increase	Ratio to Total Increase (1)
15.8%	0.81
24.2%	1.25
28.8%	1.48
15.5%	0.80
-1.3%	(0.06)
102.3%	5.26
15.1%	0.77
19.4%	1.00

(1) Gradualism based on maximum of 1.5 class ratio to total increase.

(2) Assumes 60% of billed volume

	2021	2022		
	FTY Prior Tariff Rates	FPFTY Proposed Rates	Percent Difference	Dollar Difference
Existing & Proposed Rates				
<u>Minimum Charge</u>				
5/8"	\$ 27.27	\$ 27.85	2.1%	\$ 0.58
3/4"	44.37	48.83	10.1%	4.46
1"	89.82	107.33	19.5%	17.51
1.5"	175.30	212.24	21.1%	36.94
2"	289.14	354.67	22.7%	65.53
3"	641.48	806.15	25.7%	164.67
4"	1,084.28	1,382.29	27.5%	298.01
6"	2,558.16	3,341.03	30.6%	782.87
8"	4,596.96	6,088.46	32.4%	1,491.50
10" & Above	7,515.81	10,087.68	34.2%	2,571.87
<u>Minimum Charge - CAP (1)</u>				
5/8"	\$ -	\$ -	0.0%	\$ -
3/4"	-	-	0.0%	-
1"	-	-	0.0%	-
<u>Minimum Charges - Municipal</u>				
5/8"	\$ 10.91	\$ 16.71	53.2%	\$ 5.80
3/4"	17.75	29.30	65.1%	11.55
1"	35.93	64.40	79.2%	28.47
1.5"	70.12	127.35	81.6%	57.23
2"	115.66	212.80	84.0%	97.14
3"	256.59	483.69	88.5%	227.10
4"	433.71	829.38	91.2%	395.67
6"	1,023.26	2,004.62	95.9%	981.36
8"	1,838.78	3,653.08	98.7%	1,814.30
10" & Above	3,006.32	6,052.61	101.3%	3,046.29
<u>Fire System Charges</u>				
Private				
1" or Less	\$ 33.24	\$ 16.01	-51.8%	\$ (17.23)
1.5"-3"	101.97	47.97	-53.0%	(54.00)
4"	314.42	157.95	-49.8%	(156.47)
6" or Greater	626.83	337.57	-46.1%	(289.26)
Public				
Per Hydrant (City)	\$ 5.65	\$ 11.60	105.3%	\$ 5.95
Per Hydrant (Non-City)	14.13	19.33	36.8%	5.21
<u>Volume Charge</u>				
Residential	\$ 12.25	\$ 15.47	26.3%	\$ 3.22
Residential - CAP	12.25	15.47	26.3%	3.22
Commercial	11.95	14.88	24.5%	2.93
Industrial	10.31	13.22	28.2%	2.91
Health or Education	15.29	17.18	12.4%	1.89
Municipal	4.78	8.93	86.8%	4.15
Fire System	14.01	37.43	167.2%	23.42
Wholesale	9.16	11.73	28.1%	11.73
<u>Unmetered Charges (per Unit)</u>				
Residential	\$ 64.02	\$ 74.26	16.0%	\$ 10.24
Residential - CAP	36.75	46.41	26.3%	9.66
Commercial	75.07	87.37	16.4%	12.30
<u>Unmetered - Municipal</u>				
5/8"	\$ -	\$ -	0.0%	\$ -
3/4"	-	-	0.0%	-
1"	-	-	0.0%	-
1.5"	-	-	0.0%	-
2"	-	-	0.0%	-
3"	-	-	0.0%	-
4"	-	-	0.0%	-
DSIC (Applies to all retail customers)	5.0%	5.0%	n/a	n/a

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in 2021 and 2022.

	FPFTY Revenue at Existing Rates	FPFTY Indicated COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 46,544,538	\$ 44,556,086	-4.3%	\$ (1,988,452)
Residential - CAP	1,503,111	2,765,215	84.0%	1,262,103
Commercial	43,483,605	47,641,926	9.6%	4,158,321
Industrial	2,407,425	3,511,902	45.9%	1,104,477
Health or Education	18,464,668	19,219,042	4.1%	754,375
Municipal (Metered & Unmetered)	1,688,158	3,624,387	114.7%	1,936,229
Private Fire System	896,243	596,703	-33.4%	(299,540)
Public Fire Protection	522,670	6,967,847	1233.1%	6,445,177
Wholesale	3,192,713	9,901,496	210.1%	6,708,782
Total: Base Rate Revenues	\$ 118,703,132	\$ 138,784,604	16.9%	\$ 20,081,471
	FPFTY Indicated COS by Customer Class	FPFTY Adjusted COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 44,556,086	\$ 53,908,740	21.0%	\$ 9,352,654
Residential - CAP	2,765,215	1,720,816	-37.8%	(1,044,398)
Commercial	47,641,926	53,855,695	13.0%	6,213,769
Industrial	3,511,902	3,100,057	-11.7%	(411,845)
Health or Education	19,219,042	21,320,519	10.9%	2,101,476
Municipal (Metered & Unmetered)	3,624,387	2,235,483	-38.3%	(1,388,905)
Private Fire System	596,703	884,864	48.3%	288,161
Public Fire Protection	6,967,847	1,057,767	-84.8%	(5,910,080)
Wholesale	9,901,496	3,673,544	-62.9%	(6,227,952)
Total: Base Rate Revenues	\$ 138,784,604	\$ 141,757,484	2.1%	\$ 2,972,880
	FPFTY Revenue at Existing Rates	FPFTY Adjusted COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 46,544,538	\$ 53,908,740	15.8%	\$ 7,364,201
Residential - CAP	1,503,111	1,720,816	14.5%	217,705
Commercial	43,483,605	53,855,695	23.9%	10,372,090
Industrial	2,407,425	3,100,057	28.8%	692,632
Health or Education	18,464,668	21,320,519	15.5%	2,855,851
Municipal (Metered & Unmetered)	1,688,158	2,235,483	32.4%	547,324
Private Fire System	896,243	884,864	-1.3%	(11,379)
Public Fire Protection	522,670	1,057,767	102.4%	535,097
Wholesale	3,192,713	3,673,544	15.1%	480,830
Total: Base Rate Revenues	\$ 118,703,132	\$ 141,757,484	19.4%	\$ 23,054,351
	FPFTY Revenue at Existing Rates	FPFTY Revenue at Proposed Rates	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 46,544,538	\$ 53,772,608	15.5%	\$ 7,228,070
Residential - CAP	1,503,111	1,863,642	24.0%	360,531
Commercial	43,483,605	54,011,421	24.2%	10,527,816
Industrial	2,407,425	3,100,740	28.8%	693,315
Health or Education	18,464,668	21,325,616	15.5%	2,860,949
Municipal (Metered & Unmetered)	1,688,158	2,099,457	24.4%	411,298
Private Fire System	896,243	884,941	-1.3%	(11,302)
Public Fire Protection	522,670	1,057,543	102.3%	534,873
Wholesale	3,192,713	3,673,544	15.1%	480,830
Total: Base Rate Revenues	\$ 118,703,132	\$ 141,789,513	19.4%	\$ 23,086,380

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design

FPPTY CCOS Comparison - Water

HJS-15W-R

	Unadjusted COS (1)		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	\$ 44,556,086	32.1%	\$ 46,544,538	39.2%	\$ 53,772,608	37.9%	\$ 7,228,070	15.5%
Residential - CAP	2,765,215	2.0%	1,503,111	1.3%	1,863,642	1.3%	360,531	24.0%
Commercial	47,641,926	34.3%	43,483,605	36.6%	54,011,421	38.1%	10,527,816	24.2%
Industrial	3,511,902	2.5%	2,407,425	2.0%	3,100,740	2.2%	693,315	28.8%
Health or Education	19,219,042	13.8%	18,464,668	15.6%	21,325,616	15.0%	2,860,949	15.5%
Municipal (Metered & Unmetered)	3,624,387	2.6%	1,688,158	1.4%	2,099,457	1.5%	411,298	24.4%
Private Fire System	596,703	0.4%	896,243	0.8%	884,941	0.6%	(11,302)	-1.3%
Public Fire Protection	6,967,847	5.0%	522,670	0.4%	1,057,543	0.7%	534,873	102.3%
Wholesale & Bulk	9,901,496	7.1%	3,192,713	2.7%	3,673,544	2.6%	480,830	15.1%
Subtotal: Base Rate Revenues	\$ 138,784,604	100.0%	\$ 118,703,132	100.0%	\$ 141,789,513	100.0%	\$ 23,086,380	19.4%
DSIC Revenues								
Residential	n/a	n/a	\$ 2,327,227		\$ 2,688,630		\$ 361,403	
Residential - CAP	n/a	n/a	75,156		93,182		18,027	
Commercial	n/a	n/a	2,174,180		2,700,571		526,391	
Industrial	n/a	n/a	120,371		155,037		34,666	
Health or Education	n/a	n/a	923,233		1,066,281		143,047	
Municipal (Metered & Unmetered)	n/a	n/a	84,408		104,973		20,565	
Private Fire System	n/a	n/a	44,812		44,247		(565)	
Public Fire Protection	n/a	n/a	-		-		-	
Subtotal: DSIC Revenues	n/a	n/a	\$ 5,749,387		\$ 6,852,921		\$ 1,103,534	
Total: User Charge Revenues	\$ 138,784,604		\$ 124,452,520		\$ 148,642,434		\$ 24,189,914	19.4%
Other Revenues								
Miscellaneous Revenues	1,654,402		1,654,402		1,654,402		-	0.0%
Total: Water Revenues	\$ 140,439,006		\$ 126,106,922		\$ 150,296,836		\$ 24,189,914	19.2%

(1) Difference between COS & proposed rates is attributed to BDE and rounding

Pittsburgh Water and Sewer Authority

HJS-16W-R

FPFTY 2022 COS & Rate Design

Typical Bill Comparison

	Customer Usage		FTY Existing Rates		FPFTY Proposed Rates	Percent Difference	Dollar Difference
Customer Impacts (1)							
<u>Residential</u>							
	5/8"	1 kgal	\$ 28.63	\$	29.24	2.1%	\$ 0.61
	5/8"	3 kgal	54.36		61.73	13.6%	7.37
	5/8"	5 kgal	80.08		94.22	17.6%	14.13
	5/8"	7 kgal	105.81		126.70	19.7%	20.90
	5/8"	12 kgal	170.12		207.92	22.2%	37.80
	1"	20 kgal	287.25		356.35	24.1%	69.10
<u>Commercial</u>							
	5/8"	3 kgal	\$ 53.73	\$	60.49	12.6%	\$ 6.76
	5/8"	5 kgal	78.82		91.74	16.4%	12.92
	5/8"	12 kgal	166.66		201.11	20.7%	34.45
	1"	13 kgal	194.69		237.69	22.1%	43.00
	2"	80 kgal	1,094.09		1,356.72	24.0%	262.63
	4"	160 kgal	2,267.77		2,857.56	26.0%	589.80
<u>Industrial</u>							
	1"	30 kgal	\$ 364.95	\$	459.72	26.0%	\$ 94.77
	1"	60 kgal	689.71		876.15	27.0%	186.44
	2"	100 kgal	1,202.11		1,524.53	26.8%	322.41
	4"	680 kgal	7,742.05		9,918.81	28.1%	2,176.77
	6"	400 kgal	5,121.81		6,631.31	29.5%	1,509.50
	8"	800 kgal	9,968.92		12,986.36	30.3%	3,017.44
<u>Health or Education</u>							
	5/8"	5 kgal	\$ 92.85	\$	101.40	9.2%	\$ 8.55
	5/8"	10 kgal	173.12		191.59	10.7%	18.47
	1"	40 kgal	656.22		744.06	13.4%	87.84
	2"	50 kgal	833.40		967.69	16.1%	134.30
	4"	200 kgal	3,225.58		3,796.47	17.7%	570.90
	6"	650 kgal	10,311.96		12,076.61	17.1%	1,764.65

(1) Customer bills at existing and proposed rates include a 5% DSIC.

	2022 Revenue @ Existing Rates			2022 Revenue @ COS Rates				2022 Revenue @ Proposed Rates			
	Units	Rates	Revenue	Units	Rates	Collection %	Revenue	Units	Rates	Collection %	Revenue
Base Rate Revenues											
Minimum Charges											
Residential											
5/8"	695,677	\$ 27.27	\$ 18,971,113	695,677	\$ 22.26	100.0%	\$ 15,482,325	695,677	\$ 27.85	100.0%	\$ 19,374,606
3/4"	30,635	44.37	1,359,271	30,635	40.44	100.0%	1,238,971	30,635	48.83	100.0%	1,495,903
1"	28,586	89.82	2,567,604	28,586	93.36	100.0%	2,668,754	28,586	107.33	100.0%	3,068,147
1.5"	84	175.30	14,725	84	184.30	100.0%	15,481	84	212.24	100.0%	17,828
2"	26	289.14	7,518	26	309.97	100.0%	8,059	26	354.67	100.0%	9,221
Unmetered	4,132	64.02	264,531	4,132	61.41	100.0%	253,726	4,132	74.26	100.0%	306,842
<i>Subtotal: Residential</i>	759,140		\$ 23,184,762	759,140			\$ 19,667,317	759,140			\$ 24,272,548
Residential - CAP-BDP											
5/8"	48,295	\$ -	\$ -	48,295	\$ 22.26	100.0%	\$ 1,074,799	48,295	\$ -	100.0%	\$ -
3/4"	395	-	-	395	40.44	100.0%	15,992	395	-	100.0%	-
1"	218	-	-	218	93.36	100.0%	20,311	218	-	100.0%	-
Unmetered	12	36.75	441	12	61.41	100.0%	737	12	46.41	100.0%	557
<i>Subtotal: Residential - CAP-BDP</i>	48,920		\$ 441	48,920			\$ 1,111,839	48,920			\$ 557
Commercial											
5/8"	31,486	\$ 27.27	\$ 858,614	31,486	\$ 22.26	100.0%	\$ 700,715	31,486	\$ 27.85	100.0%	\$ 876,876
3/4"	7,999	44.37	354,930	7,999	40.44	100.0%	323,518	7,999	48.83	100.0%	390,607
1"	15,979	89.82	1,435,234	15,979	93.36	100.0%	1,491,774	15,979	107.33	100.0%	1,715,026
1.5"	10,183	175.30	1,785,080	10,183	184.30	100.0%	1,876,714	10,183	212.24	100.0%	2,161,240
2"	9,498	289.14	2,746,155	9,498	309.97	100.0%	2,943,956	9,498	354.67	100.0%	3,368,537
3"	2,908	641.48	1,865,210	2,908	716.75	100.0%	2,084,069	2,908	806.15	100.0%	2,344,015
4"	2,227	1,084.28	2,415,053	2,227	1,242.61	100.0%	2,767,696	2,227	1,382.29	100.0%	3,078,821
6"	1,011	2,558.16	2,587,152	1,011	3,061.66	100.0%	3,096,363	1,011	3,341.03	100.0%	3,378,895
8"	121	4,596.96	554,700	121	5,641.48	100.0%	680,738	121	6,088.46	100.0%	734,674
10" & Above	-	7,515.81	-	-	9,445.14	100.0%	-	-	10,087.68	100.0%	-
Unmetered	24	75.07	1,802	24	74.70	100.0%	1,793	24	87.37	100.0%	2,097
<i>Subtotal: Commercial</i>	81,436		\$ 14,603,931	81,436			\$ 15,967,336	81,436			\$ 18,050,789
Industrial											
5/8"	72	\$ 27.27	\$ 1,963	72	\$ 22.26	100.0%	\$ 1,602	72	\$ 27.85	100.0%	\$ 2,005
3/4"	12	44.37	532	12	40.44	100.0%	485	12	48.83	100.0%	586
1"	72	89.82	6,467	72	93.36	100.0%	6,722	72	107.33	100.0%	7,728
1.5"	-	175.30	-	-	184.30	100.0%	-	-	212.24	100.0%	-
2"	60	289.14	17,348	60	309.97	100.0%	18,598	60	354.67	100.0%	21,280
3"	24	641.48	15,396	24	716.75	100.0%	17,202	24	806.15	100.0%	19,348
4"	72	1,084.28	78,068	72	1,242.61	100.0%	89,468	72	1,382.29	100.0%	99,525
6"	24	2,558.16	61,396	24	3,061.66	100.0%	73,480	24	3,341.03	100.0%	80,185
8"	24	4,596.96	110,327	24	5,641.48	100.0%	135,395	24	6,088.46	100.0%	146,123
10" & Above	24	7,515.81	180,379	24	9,445.14	100.0%	226,683	24	10,087.68	100.0%	242,104
<i>Subtotal: Industrial</i>	384		\$ 471,877	384			\$ 569,636	384			\$ 618,884
Health or Education											
5/8"	409	\$ 27.27	\$ 11,144	409	\$ 22.26	100.0%	\$ 9,095	409	\$ 27.85	100.0%	\$ 11,381
3/4"	102	44.37	4,511	102	40.44	100.0%	4,112	102	48.83	100.0%	4,964
1"	293	89.82	26,287	293	93.36	100.0%	27,323	293	107.33	100.0%	31,412
1.5"	774	175.30	135,624	774	184.30	100.0%	142,586	774	212.24	100.0%	164,203
2"	1,736	289.14	501,947	1,736	309.97	100.0%	538,101	1,736	354.67	100.0%	615,707
3"	1,160	641.48	744,117	1,160	716.75	100.0%	831,430	1,160	806.15	100.0%	935,134
4"	835	1,084.28	905,012	835	1,242.61	100.0%	1,037,161	835	1,382.29	100.0%	1,153,751
6"	441	2,558.16	1,128,149	441	3,061.66	100.0%	1,350,194	441	3,341.03	100.0%	1,473,394
8"	36	4,596.96	165,491	36	5,641.48	100.0%	203,093	36	6,088.46	100.0%	219,185
10" & Above	24	7,515.81	180,379	24	9,445.14	100.0%	226,683	24	10,087.68	100.0%	242,104
<i>Subtotal: Health or Education</i>	5,808		\$ 3,802,661	5,808			\$ 4,369,778	5,808			\$ 4,851,236
Municipal											
5/8"	1,094	\$ 16.36	\$ 17,900	1,094	\$ 22.26	100.0%	\$ 24,347	1,094	\$ 16.71	100.0%	\$ 18,281
3/4"	71	26.62	1,890	71	40.44	100.0%	2,871	71	29.30	100.0%	2,080
1"	321	53.89	17,299	321	93.36	100.0%	29,968	321	64.40	100.0%	20,672
1.5"	335	105.18	35,235	335	184.30	100.0%	61,740	335	127.35	100.0%	42,662
2"	397	173.48	68,873	397	309.97	100.0%	123,057	397	212.80	100.0%	84,482
3"	133	384.89	51,190	133	716.75	100.0%	95,328	133	483.69	100.0%	64,331
4"	35	650.57	22,770	35	1,242.61	100.0%	43,491	35	829.38	100.0%	29,028
6"	36	1,534.90	55,256	36	3,061.66	100.0%	110,220	36	2,004.62	100.0%	72,166
8"	-	2,758.18	-	-	5,641.48	100.0%	-	-	3,653.08	100.0%	-
10" & Above	-	4,509.49	-	-	9,445.14	100.0%	-	-	6,052.61	100.0%	-
<i>Subtotal: Municipal</i>	2,422		\$ 270,414	2,422			\$ 491,022	2,422			\$ 333,703
Municipal - Unmetered											
5/8"	-	\$ -	\$ -	-	\$ 80.94	100.0%	\$ -	-	\$ -	100.0%	\$ -
3/4"	-	-	-	-	113.79	100.0%	-	-	-	100.0%	-
1"	288	-	-	288	196.05	100.0%	56,462	288	-	100.0%	-
1.5"	-	-	-	-	492.37	100.0%	-	-	-	100.0%	-
2"	-	-	-	-	896.77	100.0%	-	-	-	100.0%	-
3"	-	-	-	-	2,330.45	100.0%	-	-	-	100.0%	-
4"	48	-	-	48	4,807.42	100.0%	230,756	48	-	100.0%	-
<i>Subtotal: Municipal - Unmetered</i>	336		\$ -	336			\$ 287,218	336			\$ -
<i>Subtotal: Minimum Charges</i>			\$ 42,334,086				\$ 42,464,144				\$ 48,127,716

	2022 Revenue @ Existing Rates			2022 Revenue @ COS Rates				2022 Revenue @ Proposed Rates			
	Units	Rates	Revenue	Units	Rates	Collection %	Revenue	Units	Rates	Collection %	Revenue
Fire Protection Charges											
Public (City per Hydrant)	88,488	\$ 5.65	\$ 499,957	88,488	\$ 77.34	100.0%	\$ 6,843,487	88,488	\$ 11.60	100.0%	\$ 1,026,461
Public (Non-City per Hydrant)	1,608	14.13	22,713	1,608	77.34	100.0%	124,360	1,608	19.33	100.0%	31,083
Private											
1" or Less	14,856	\$ 33.24	\$ 493,813	14,856	\$ 11.36	100.0%	\$ 168,723	14,856	\$ 16.01	100.0%	\$ 237,845
1.5"-3"	581	101.97	59,245	581	33.10	100.0%	19,232	581	47.97	100.0%	27,871
4"	60	314.42	18,865	60	111.49	100.0%	6,689	60	157.95	100.0%	9,477
6" or Greater	192	626.83	120,351	192	244.64	100.0%	46,971	192	337.57	100.0%	64,813
<i>Subtotal: Fire Protection Charges</i>			\$ 1,214,945				\$ 7,209,462				\$ 1,397,549
Volume Charge											
Residential	1,906,921	\$ 12.25	\$ 23,359,776	1,906,921	\$ 13.05	100.0%	\$ 24,885,313	1,906,921	\$ 15.47	100.0%	\$ 29,500,060
Residential - CAP-BDP - Tier 1	116,707	12.25	1,429,666	116,707	13.32	100.0%	1,554,543	116,707	15.47	100.0%	1,805,464
Residential - CAP-BDP - Tier 2	7,449	9.80	73,004	7,449	13.11	100.0%	97,662	7,449	7.74	100.0%	57,621
Commercial	2,416,709	11.95	28,879,675	2,416,709	13.11	100.0%	31,683,057	2,416,709	14.88	100.0%	35,960,633
Industrial	187,735	10.31	1,935,548	187,735	15.67	100.0%	2,941,807	187,735	13.22	100.0%	2,481,857
Health or Education	958,928	15.29	14,662,007	958,928	15.49	100.0%	14,853,792	958,928	17.18	100.0%	16,474,380
Private Fire System	14,559	14.01	203,969	14,559	24.39	100.0%	355,089	14,559	37.43	100.0%	544,935
Municipal	197,733	7.17	1,417,744	197,733	14.39	100.0%	2,845,375	197,733	8.93	100.0%	1,765,754
<i>Subtotal: Volume Charge</i>	5,806,741		\$ 71,961,388				\$ 79,216,638	5,806,741			\$ 88,590,704
Wholesale Revenues (Set by Contract)			\$ 3,192,713	844,205	\$ 11.73	100.0%	\$ 9,902,525				\$ 3,673,544
Total: Base Rate Revenues			\$ 118,703,132				\$ 138,792,769				\$ 141,789,513
DSIC Revenues											
Residential			\$ 2,327,227				\$ 2,227,631				\$ 2,688,630
Residential - CAP-BDP			75,156				133,319				93,182
Commercial			2,174,180				2,382,520				2,700,571
Industrial			120,371				175,572				155,037
Health or Education			923,233				961,178				1,066,281
Private Fire System			44,812				29,835				44,247
Municipal			84,408				181,181				104,973
Public Fire			-				-				-
Total: DSIC Revenues			\$ 5,749,387				\$ 6,091,237				\$ 6,852,921
Other Revenues											
Other Revenues			1,654,402				1,654,402				1,654,402
Total: System Revenues			\$ 126,106,922				\$ 146,538,408				\$ 150,296,836
PFPTY Water System Revenue Requirements							\$ 150,265,917	\$ 150,265,917			
Difference (1)							\$ (3,727,509)	\$ 30,919			

(1) Note difference in COS rates is due to bad debt.

Pittsburgh Water and Sewer Authority

HJS-18W-R

FPFTY 2022 COS & Rate Design

Projected Units of Service

	FY 2018 <i>Actual</i>	FY 2019 <i>Actual</i>	HTY FY 2020 <i>Actual</i>	FTY FY 2021 <i>Projected</i>	FPFTY FY 2022 <i>Projected</i>
Units of Service					
<u>Number of Bills</u>					
Residential	781,189	778,119	772,415	766,832	759,140
Residential - CAP	11,077	21,594	30,810	41,228	48,920
Commercial	80,365	80,767	81,432	81,436	81,436
Industrial	1,173	1,158	516	384	384
Health or Education	5,932	5,805	5,688	5,808	5,808
Fire System	14,673	15,222	15,689	15,689	15,689
Municipal	-	-	2,422	2,422	2,422
Municipal - Unmetered	-	-	-	336	336
<i>Total</i>	894,409	902,665	908,972	914,135	914,135
<u>Billable Consumption (kgal)</u>					
Residential	2,041,350	1,874,771	1,951,570	1,951,165	1,906,921
Residential - CAP	31,049	55,055	74,953	98,353	116,707
Residential - CAP Tier 2	-	-	-	6,278	7,449
Commercial	2,723,585	2,517,870	2,023,059	2,041,093	2,416,709
Industrial	183,343	192,645	172,830	187,735	187,735
Health or Education	1,068,428	975,581	832,774	845,266	958,928
Fire System	7,913	21,423	14,340	14,555	14,559
Municipal	-	-	197,733	197,733	197,733
<i>Total</i>	6,055,668	5,637,345	5,267,259	5,342,178	5,806,741
<u>Total Consumption (kgal) (1)</u>					
Residential	2,842,635	2,668,483	2,744,370	2,754,482	2,727,029
Residential - CAP	41,602	75,349	103,594	134,648	159,776
Residential - CAP Tier 2	-	-	-	8,595	10,198
Commercial	3,363,268	3,163,601	2,628,340	2,654,863	3,049,995
Industrial	203,757	209,655	185,839	201,528	201,528
Health or Education	1,253,008	1,158,177	989,429	1,004,270	1,133,538
Fire System	8,887	22,506	15,394	15,625	15,596
Municipal	-	-	217,323	217,323	217,323
<i>Total</i>	7,713,157	7,297,771	6,884,289	6,991,334	7,514,983
<u>Wholesale & Contract Consumption</u>					
Allegheny	7,911	1,030	-	-	-
Aspinwall	81,386	59,842	64,174	64,174	64,174
Bay Valley Foods / Riverbend (2)	462,007	263,171	-	-	-
Fox Chapel	612,616	632,050	674,065	674,065	674,065
Hampton	3,607	2,997	3,346	-	-
PAWC	5,400	2,800	-	-	-
RSRV - 10"	97,405	95,941	92,650	92,650	92,650
RSRV - 6"	14,663	13,532	13,316	13,316	13,316
Sharpsburg	-	-	-	-	-
Westview	6,845	8,410	2,692	-	-
<i>Total</i>	1,291,840	1,079,773	850,243	844,205	844,205

(1) Total consumption represents actual customer usage including the usage captured in minimum allowance.

(2) Riverbend foods closed in July 2019.

Phased-In Rates		
Existing (2021)	Phase In (2022)	Proposed (2023)

Existing & Proposed Rates

Minimum Charge

5/8"	\$ 27.27	\$ 27.56	\$ 27.85
3/4"	44.37	46.60	48.83
1"	89.82	98.58	107.33
1.5"	175.30	193.77	212.24
2"	289.14	321.91	354.67
3"	641.48	723.82	806.15
4"	1,084.28	1,233.29	1,382.29
6"	2,558.16	2,949.60	3,341.03
8"	4,596.96	5,342.71	6,088.46
10" & Above	7,515.81	8,801.75	10,087.68

Minimum Charge - CAP (1)

5/8"	\$ -	-	\$ -
3/4"	-	-	-
1"	-	-	-

Minimum Charges - Municipal

5/8"	\$ 10.91	\$ 16.54	\$ 22.28
3/4"	17.75	27.96	39.06
1"	35.93	59.15	85.86
1.5"	70.12	116.26	169.79
2"	115.66	193.15	283.74
3"	256.59	434.29	644.92
4"	433.71	739.97	1,105.83
6"	1,023.26	1,769.76	2,672.82
8"	1,838.78	3,205.63	4,870.77
10" & Above	3,006.32	5,281.05	8,070.14

Fire System Charges

Private

1" or Less	\$ 33.24	\$ 24.63	\$ 16.01
1.5"-3"	101.97	74.97	47.97
4"	314.42	236.19	157.95
6" or Greater	626.83	482.20	337.57

Public

Per Hydrant (City)	\$ 5.65	\$ 10.04	\$ 15.46
Per Hydrant (Non-City)	14.13	16.73	19.33

Volume Charge

Residential	\$ 12.25	\$ 13.86	\$ 15.47
Residential - CAP	12.25	13.86	15.47
Commercial	11.95	13.42	14.88
Industrial	10.31	11.77	13.22
Health or Education	15.29	16.24	17.18
Municipal	4.78	8.05	11.90
Fire System	14.01	25.72	37.43

Unmetered Charges (per Unit)

Residential	\$ 64.02	\$ 69.14	\$ 74.26
Residential - CAP	36.75	41.58	46.41
Commercial	75.07	81.22	87.37

Unmetered - Municipal

5/8"	\$ -	\$ -	\$ -
3/4"	-	-	-
1"	-	-	-
1.5"	-	-	-
2"	-	-	-
3"	-	-	-
4"	-	-	-

Wholesale

New Customers	9.16	10.45	11.73
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DSIC (Applies to all retail customers) 5.0% 5.0% 5.0%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in 2021 and 2022.

Exhibits
HJS-1WW-R to HJS-18WW-R
(Wastewater Schedules)

Pittsburgh Water and Sewer Authority
 FPPTY 2022 COS & Rate Design
 FPPTY Wastewater Conveyance Revenue Requirements

HJS-1WW-R

	2022 FPPTY Revenue Requirements
Revenue Requirements	
<u>Operating Expenses</u>	
<i>Direct Operating Expenses</i>	
Administrative Division	
Executive Director	\$ 468,972
Customer Service	3,203,545
Management Information Systems	705,166
Finance	1,928,177
Procurement	-
Human Resources	181,178
Legal	907,239
Public Affairs	196,938
Operations Division	
Environmental Compliance	1,292,698
Ops Capital Assets	-
Warehouse	72,664
Water Treatment Plant	-
Water Quality (Lab)	-
Water Distribution	-
Sewer Operations	1,718,790
Engineering & Construction	
Engineering & Construction	10,164,915
<i>Other Operating Expenses</i>	
Loss / (Gain) on ALCOSAN Billings	1,571,968
Non-City Water Payments	-
<i>Total Operating Expenses</i>	<u>\$ 22,412,251</u>
<u>Debt Service</u>	
Existing Debt	\$ 13,844,767
Future Debt	5,399,106
<i>Subtotal: Debt Service</i>	<u>\$ 19,243,873</u>
<u>Capital Expenditures & Transfers</u>	
Internally Generated Funds / PAYGO	\$ -
Internally Generated Funds / PAYGO (DSIC)	2,747,501
Other Transfers to Reserves	250,000
Reimbursements from Municipalities	-
Remarketing & Liquidity Charges	-
Bad Debt Expense	1,153,764
City Bad Debt Expense	-
<i>Subtotal: Capital Expenditures & Transfers</i>	<u>\$ 4,151,265</u>
Total: Wastewater Conveyance System Revenue Requirements	\$ 45,807,388
<i>Capital Costs to be Recovered through DSIC</i>	\$ (2,747,501)
Total: Wastewater Conveyance System Base Rate Revenue Requirement	\$ 43,059,887

Wastewater Conveyance Operating Costs	FY 2022 FPFTY	Allocation	Wastewater Conveyance Functional Categories		
			Collection & Conveyance	Meters	Billing
Operating Expenses					
<i>Direct Operating Expenses</i>					
Administrative Division					
Executive Director	\$ 468,972	WW-D			100.0%
Customer Service	3,203,545	WW-E	27.7%	72.3%	
Management Information Systems	705,166	WW-D			100.0%
Finance	1,928,177	WW-D			100.0%
Procurement	-	WW-D			100.0%
Human Resources	181,178	WW-D			100.0%
Legal	907,239	WW-D			100.0%
Public Affairs	196,938	WW-D			100.0%
Operations Division					
Environmental Compliance	1,292,698	WW-D			100.0%
Warehouse	-	WW-D			100.0%
Ops Capital Assets	72,664	WW-D			100.0%
Water Treatment Plant	-	n/a			
Water Quality (Lab)	-	n/a			
Water Distribution	-	n/a			
Sewer Operations	1,718,790	WW-A	100.0%		
Engineering & Construction Division					
Engineering & Construction	10,164,915	WW-A	100.0%		
Subtotal: Direct Operating Expenses	\$ 20,840,282				
<i>Other Operating Expenses</i>					
Loss / (Gain) on ALCOSAN Billings	1,571,968	WW-D			100.0%
Non-City Water Payments	-	WW-D			100.0%
Subtotal: Other Operating Expenses	\$ 1,571,968				
Total: Operating Expenses	\$ 22,412,251				

Wastewater Conveyance Operating Costs	FY 2022 FPFTY	Allocation	Wastewater Conveyance Functional Categories			
			Collection & Conveyance	Meters	Billing	Admin Support
<u>Operating Expenses</u>						
<i>Direct Operating Expenses</i>						
Administrative Division						
Executive Director	\$ 468,972	WW-D	\$ -	\$ -	\$ -	\$ 468,972
Customer Service	3,203,545	WW-E	-	888,848	2,314,698	-
Management Information Systems	705,166	WW-D	-	-	-	705,166
Finance	1,928,177	WW-D	-	-	-	1,928,177
Procurement	-	WW-D	-	-	-	-
Human Resources	181,178	WW-D	-	-	-	181,178
Legal	907,239	WW-D	-	-	-	907,239
Public Affairs	196,938	WW-D	-	-	-	196,938
Operations Division						
Environmental Compliance	1,292,698	WW-D	-	-	-	1,292,698
Warehouse	-	WW-D	-	-	-	-
Ops Capital Assets	72,664	WW-D	-	-	-	72,664
Water Treatment Plant	-	n/a	-	-	-	-
Water Quality (Lab)	-	n/a	-	-	-	-
Water Distribution	-	n/a	-	-	-	-
Sewer Operations	1,718,790	WW-A	1,718,790	-	-	-
Engineering & Construction Division						
Engineering & Construction	10,164,915	WW-A	10,164,915	-	-	-
<i>Subtotal: Direct Operating Expenses</i>	<u>\$ 20,840,282</u>		<u>\$ 1,718,790</u>	<u>\$ 888,848</u>	<u>\$ 2,314,698</u>	<u>\$ 5,753,032</u>
<i>Other Operating Expenses</i>						
Loss / (Gain) on ALCOSAN Billings	1,571,968	WW-D	-	-	-	1,571,968
Non-City Water Payments	-	WW-D	-	-	-	-
<i>Subtotal: Other Operating Expenses</i>	<u>\$ 1,571,968</u>		<u>\$ 11,883,705</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 2,937,330</u>
Total: Wastewater Conveyance Operating Costs	\$ 22,412,251		\$ 11,883,705	\$ 888,848	\$ 2,314,698	\$ 7,325,000
Allocation Percentage			53.02%	3.97%	10.33%	32.68%

Pittsburgh Water and Sewer Authority

HJS-2WW-R

FPFTY 2022 COS & Rate Design

Assignment to Functional Categories

Allocated Wastewater Conveyance Assets		
System Fixed Assets	Allocated Costs	Allocation
Structures and Improvements - Source of Supply and Pumping	-	n/a
Structures and Improvements - Water Treatment	-	n/a
Structures and Improvements - Transmission and Distribution Plant	562,043	WW-A
Pumping Equipment	944,958	WW-A
Water Treatment Equipment	-	n/a
Distribution Reservoirs and Standpipes	-	n/a
Transmission and Distribution Mains	-	n/a
Meters and Meter Installations	-	n/a
Fire Hydrants	-	n/a
Office Furniture and Equipment	64,295	WW-D
Office Furniture and Equipment - Computer Hardware	-	n/a
Transportation Equipment	1,373,279	WW-D
Tools, Shop and Garage Equipment	5,491	WW-D
Laboratory Equipment	-	n/a
Collection Sewers - Gravity	148,331,475	WW-A
Manholes	9,508,177	WW-A
Wastewater Plant	2,504,102	WW-A
Power Operated Equipment	38,414	
Total	163,332,234	

Wastewater Conveyance Functional Categories				
<i>Collection & Conveyance</i>	<i>Meters</i>	<i>Billing</i>	<i>Admin Support</i>	<i>Readiness-to-Serve</i>
100.00%				
100.00%				
			100.00%	
			100.00%	
			100.00%	
			100.00%	
			100.00%	
\$ 161,850,756	\$ -	\$ -	\$ 1,481,478	\$ -

Allocation Factors for Capital Costs	99.09%	0.00%	0.00%	0.91%	0.00%
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Allocation of Capital Costs		<i>Collection & Conveyance</i>	<i>Meters</i>	<i>Billing</i>	<i>Admin Support</i>	<i>Readiness-to-Serve</i>
Debt Service	\$ 19,243,873	\$ 19,069,324	\$ -	\$ -	\$ 174,548	\$ -
Rate-Funded Capital	-	-	-	-	-	-
Other Transfers to Reserves	250,000	247,732	-	-	2,268	-
Reimbursements from Municipalities	-	-	-	-	-	-
Remarketing & Liquidity Charges	-	-	-	-	-	-
Bad Debt Expense	-	-	-	-	-	-
Total: Allocated Capital Costs	\$ 19,493,873	\$ 19,317,057	\$ -	\$ -	\$ 176,816	\$ -

Pittsburgh Water and Sewer Authority

FPFTY 2022 COS & Rate Design

Allocation to Cost Categories

HJS-3WW-R

		Wastewater Conveyance Cost Drivers					
		<u>FY 2022</u>	<u>Allocation</u>	<i>Volume</i>	<i>Meter</i>	<i>Billing</i>	<i>Readiness-to-Serve</i>
		<i>FPFTY</i>					
Wastewater Conveyance Revenue Requirements							
<u>Functional Categories</u>							
Collection & Conveyance	\$ 30,942,261	WW-AA	100.00%				
Meters	888,848	WW-BB		100.00%			
Billing	2,314,698	WW-CC			100.00%		
Admin Support	7,501,816	WW-DD	90.62%	2.60%	6.78%		
Infiltration & Inflow Costs	258,501	WW-EE	33.00%		67.00%		
Readiness-to-Serve (Debt Service)	-	WW-FF				100.00%	
<i>Total: Wastewater Conveyance Revenue Requirements</i>	<u>\$ 41,906,123</u>						
		<u>FY 2022</u>	<u>Allocation</u>	<i>Volume</i>	<i>Meter</i>	<i>Billing</i>	<i>Readiness-to-Serve</i>
		<i>FPFTY</i>					
Wastewater Conveyance Revenue Requirements							
<u>Functional Categories</u>							
Collection & Conveyance	\$ 30,942,261	WW-AA	\$ 30,942,261	\$ -	\$ -	\$ -	-
Meters	888,848	WW-BB	-	888,848	-	-	-
Billing	2,314,698	WW-CC	-	-	2,314,698	-	-
Admin Support	7,501,816	WW-DD	6,797,999	195,279	508,538	-	-
Infiltration & Inflow Costs	258,501	WW-EE	85,305	-	173,195	-	-
Readiness-to-Serve (Debt Service)	-	WW-FF	-	-	-	-	-
<i>Total: Wastewater Conveyance Revenue Requirements</i>	<u>\$ 41,906,123</u>		<u>\$ 37,825,565</u>	<u>\$ 1,084,127</u>	<u>\$ 2,996,431</u>	<u>\$ -</u>	<u>-</u>
Costs to Recover from Wastewater Conveyance Charges			<u>\$ 37,825,565</u>	<u>\$ 1,084,127</u>	<u>\$ 2,996,431</u>	<u>\$ -</u>	<u>-</u>
			<u>90.3%</u>	<u>2.6%</u>	<u>7.2%</u>	<u>0.0%</u>	

Cost Functionalization: Wastewater Conveyance					
<i>Code</i>	<i>Description</i>	<i>Coll. & Convey.</i>	<i>Meters</i>	<i>Billing</i>	<i>Admin Support</i>
WW-A	Collection & Conveyance Only	100.00%			
WW-B	Meters Only		100.00%		
WW-C	Billing Only			100.00%	
WW-D	Admin Support Only				100.00%
WW-E	Customer Service		27.75%	72.25%	

Allocation to Cost Drivers: Wastewater Conveyance					
<i>Code</i>	<i>Description</i>	<i>Volume</i>	<i>Meter</i>	<i>Billing</i>	<i>Readiness-to-Serve</i>
WW-AA	Volume	100.00%			
WW-BB	Customer - Meters		100.00%		
WW-CC	Customer - Billing			100.00%	
WW-DD	Admin Support (Composite)	90.62%	2.60%	6.78%	
WW-EE	Infiltration & Inflow Costs	33.00%		67.00%	
WW-FF	Readiness-to-Serve				0.00%

Factor Derivations - Allocation to Functional Categories & Cost Components						
<i>Code(s)</i>	<i>Description</i>	<i>Calculations</i>				
W-I	Customer Service	<u>2022 Customer Service Budget</u>		<u>FPFTY</u>	<u>Meter</u>	<u>Billing</u>
WW-E	- This factor allocates the 2022 customer service budget between meter- and billing-related costs.	Salaries	\$ 4,066,654	28.60%	71.40%	
		Benefits	1,137,504	28.60%	71.40%	
		Computer & Peripherals	10,000	100.00%	0.00%	
		Annual Software Support	134,200	50.00%	50.00%	
		Customer CC Fees	392,400	0.00%	100.00%	
		Postage	569,500	0.00%	100.00%	
		Equip Rental	2,060	100.00%	0.00%	
		Billing Contract	837,399	0.00%	100.00%	
		Meter Services	801,990	100.00%	0.00%	
		Prof Service Other	304,800	20.00%	80.00%	
		Water Liens	84,000	50.00%	50.00%	
		Office Supplies	6,000	50.00%	50.00%	
		TE Airfare	1,400	50.00%	50.00%	
		TE Lodging	1,200	50.00%	50.00%	
		TE Seminars/Conferences	2,400	50.00%	50.00%	
		TE Training	5,000	50.00%	50.00%	
		Capital Asset Reclass	(253,000)	0.00%	0.00%	
		Customer Refund CSM	550,000	0.00%	100.00%	
		One Call	33,600	0.00%	100.00%	
		Non.City Water Reimburse	100,000	0.00%	0.00%	
		Total	\$ 8,787,106	\$2,480,499	\$6,459,607	
		<i>Allocation Factors</i>		<i>27.75%</i>	<i>72.25%</i>	

W-D Water Pipe Inventory

- Allocate costs between transmission and distribution functional categories. Assumes Pipes less than or equal to 16" are Distribution-related.

Breakdown		
Distribution	35,292,892	62.9%
Transmission	20,832,160	37.1%
Total	56,125,051	100.0%

Inch-Foot Analysis		
<i>Diameter (in)</i>	<i>Linear Feet</i>	<i>Inch-Feet</i>
0.75	799	599
1	1,315	1,315
1.5	983	1,474
2	11,694	23,388
2.5	16	39
3	268	803
4	141,178	564,711
6	2,196,002	13,176,011
8	1,127,975	9,023,802
10	84,170	841,702
12	604,067	7,248,809
14	1,296	18,147
15	15,500	232,496
16	259,975	4,159,594
18	266	4,783
20	209,650	4,192,996
24	85,170	2,044,075
28	104	2,911
30	116,524	3,495,706
36	83,096	2,991,457
42	11,260	472,925
42.5	12,598	535,431
48	16,552	794,500
50	23,682	1,184,096
50.25	12,005	603,231
60	55,175	3,310,516
66	1,492	98,501
72	3,697	266,159
84	3,979	334,248
96	4,560	437,764
120	524	62,860
	5,085,570	56,125,051

Factor Derivations - Allocation to Functional Categories & Cost Components		
<i>Code(s)</i>	<i>Description</i>	<i>Calculations</i>

W-J	Engineering & Construction - This factor uses the 2022 Water CIP costs to allocate Engineering & Construction costs to the various functional categories.	<table style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left;"><u>2022 Water CIP Costs</u></th> <th style="text-align: right;"><u>\$\$ Amount</u></th> <th style="text-align: right;"><u>Allocation</u></th> </tr> <tr> <td>Treatment</td> <td></td> <td style="text-align: right;">\$ 16,422,149</td> <td style="text-align: right;">13.19%</td> </tr> <tr> <td>Storage</td> <td></td> <td style="text-align: right;">70,939,529</td> <td style="text-align: right;">56.97%</td> </tr> <tr> <td>Trans. & Distr.</td> <td></td> <td style="text-align: right;">36,345,826</td> <td style="text-align: right;">29.19%</td> </tr> <tr> <td>Admin</td> <td></td> <td style="text-align: right;"><u>805,553</u></td> <td style="text-align: right;">0.65%</td> </tr> <tr> <td>Total Water CIP</td> <td></td> <td style="text-align: right;"><u>\$ 124,513,057</u></td> <td style="text-align: right;">100.00%</td> </tr> </table>	<u>2022 Water CIP Costs</u>		<u>\$\$ Amount</u>	<u>Allocation</u>	Treatment		\$ 16,422,149	13.19%	Storage		70,939,529	56.97%	Trans. & Distr.		36,345,826	29.19%	Admin		<u>805,553</u>	0.65%	Total Water CIP		<u>\$ 124,513,057</u>	100.00%
<u>2022 Water CIP Costs</u>		<u>\$\$ Amount</u>	<u>Allocation</u>																							
Treatment		\$ 16,422,149	13.19%																							
Storage		70,939,529	56.97%																							
Trans. & Distr.		36,345,826	29.19%																							
Admin		<u>805,553</u>	0.65%																							
Total Water CIP		<u>\$ 124,513,057</u>	100.00%																							

W-BB Maximum Day

- Maximum day costs are allocated using a peak day determined using system daily production records. Fire demands are determined in HJS-7W.

Plant Production Data		
2018-2020 Avg Plant Production	69.47	mgd
2018-2020 Avg. Peak Day	86.77	mgd
Peak Hour Factor (1.6)	111.15	mgd
Base	73.44%	
Maximum Day	24.90%	
Fire Protection	1.66%	

W-CC Peak Hour

- Peak hour costs are allocated using an estimated peak hour compared to system average and maximum day processed. Fire demands are determined in HJS-7W.

Plant Production Data		
2018-2020 Avg Plant Production	69.47	mgd
2018-2020 Avg. Peak Day	86.77	mgd
Peak Hour Factor (1.6)	111.15	mgd
Peak Hour / Avg	54.73%	
Max Day (Plug)	15.56%	
Peak Hr / Peak Day	21.94%	
Fire Protection	7.77%	

Equivalency Flow Ratios

- Used to escalate metering and readiness-to-serve costs, these ratios are industry standard and obtained from the American Waterworks Association

Equivalency Ratios					
	<i>Flow</i>		<i>Fire Flow</i>	<i>Fire Equiv</i>	
	5/8"	1.00	1" or Less	2.50	1.00
	3/4"	1.50	1.5"-3"	8.00	6.19
	1"	2.50	4"	25.00	38.32
	1.5"	5.00	6" or Greater	50.00	111.31
	2"	8.00			
	3"	16.00			
	4"	25.00			
	6"	50.00			
	8"	80.00			
	10"	115.00			
	Unmetered	1.00			

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design

Wastewater Conveyance Units of Service

HJS-6WW-R

	<u>Collection Factor</u>	FY 2022 Consumption	Allocated Consumption	Average Day	Equivalent Meters	Total Bills
Retail Units of Service						
Residential (1)	100.0%	3,551,983	3,551,983	9,731	1,081,777	1,022,543
Residential - CAP (1)	100.0%	262,713	262,713	720	69,236	68,672
Commercial (1)	100.0%	3,383,439	3,383,439	9,270	428,252	99,982
Industrial	100.0%	211,564	211,564	580	9,306	420
Health or Education	100.0%	1,133,727	1,133,727	3,106	86,166	5,808
Municipal - Metered	100.0%	212,818	212,818	583	13,484	3,288
Municipal - Unmetered (2)	100.0%	18,480	18,480	51	1,920	336
Total: Wastewater Conveyance Units of Service		8,774,725	8,774,725	24,040	1,690,141	1,201,050

Pittsburgh Water and Sewer Authority
FPPTY 2022 COS & Rate Design
Wastewater Conveyance Unit Cost of Service

HJS-7WW-R

	FY 2022	Unit Costs				Total
		<i>Volume</i>	<i>Meter</i>	<i>Billing</i>	<i>Readiness-to-Serve</i>	
Development of Unit Costs of Service	<i>FPPTY</i>					
<u>Units of Service</u>						
Total System Units		8,774,725	1,690,141	1,201,050	1,690,141	
Units		<i>kgal</i>	<i>Eq. Cost Meters</i>	<i>Total Bills</i>	<i>Eq. Flow Meters</i>	
<u>Revenue Requirements</u>						
Collection & Conveyance	\$ 30,942,261	\$ 30,942,261	\$ -	\$ -	\$ -	\$ 30,942,261
Meters	888,848	-	888,848	-	-	888,848
Billing	2,314,698	-	-	2,314,698	-	2,314,698
Admin Support	7,501,816	6,797,999	195,279	508,538	-	7,501,816
Infiltration & Inflow Costs	258,501	85,305	-	173,195	-	258,501
Readiness-to-Serve (Debt Service)	-	-	-	-	-	-
<i>Total: Revenue Requirements</i>	\$ 41,906,123	\$ 37,825,565	\$ 1,084,127	\$ 2,996,431	\$ -	\$ 41,906,123
Revenue Requirement Unit Costs (\$/unit)		\$ 4.3107	\$ 0.6414	\$ 2.4948	\$ -	
<u>Revenue Offsets</u>						
Wastewater Miscellaneous Revenue	(546,206)	(493,020)	(14,131)	(39,056)	-	(546,206)
<i>Total: Revenue Offsets</i>	\$ (546,206)	\$ (493,020)	\$ (14,131)	\$ (39,056)	\$ -	\$ (546,206)
Offset Unit Costs (\$/unit)		\$ (0.0562)	\$ (0.0084)	\$ (0.0325)	\$ -	
Total Unit Costs (\$/unit)		\$ 4.25	\$ 0.63	\$ 2.46	\$ -	
Total: Costs of Service		\$ 37,332,545	\$ 1,069,996	\$ 2,957,376	\$ -	\$ 41,359,917

Pittsburgh Water and Sewer Authority

HJS-8WW-R

FPPTY 2022 COS & Rate Design

Cost Distribution to Customer Classes

Customer Class Cost of Service

	Unit Costs				Total
	Volume	Meter	Billing	Readiness-to-Serve	
Residential					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	3,551,983	1,081,777	1,022,543	1,081,777	
Cost of Service	\$ 15,112,106	\$ 684,853	\$ 2,517,835	\$ -	\$ 18,314,794
Residential - CAP					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	262,713	69,236	68,672	69,236	
Cost of Service	\$ 1,117,727	\$ 43,832	\$ 169,093	\$ -	\$ 1,330,652
Commercial					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	3,383,439	428,252	99,982	428,252	
Cost of Service	\$ 14,395,025	\$ 271,118	\$ 246,188	\$ -	\$ 14,912,332
Industrial					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	211,564	9,306	420	9,306	
Cost of Service	\$ 900,112	\$ 5,891	\$ 1,034	\$ -	\$ 907,037
Health or Education					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	1,133,727	86,166	5,808	86,166	
Cost of Service	\$ 4,823,504	\$ 54,550	\$ 14,302	\$ -	\$ 4,892,356
Municipal - Metered					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	212,818	13,484	3,288	13,484	
Cost of Service	\$ 905,446	\$ 8,536	\$ 8,096	\$ -	\$ 922,079
Municipal - Unmetered					
Unit Costs (\$/unit)	\$ 4.255	\$ 0.633	\$ 2.462	\$ -	
Units of Service	18,480	1,920	336	1,920	
Cost of Service	\$ 78,624	\$ 1,216	\$ 827	\$ -	\$ 80,667
Total: Wastewater Cost of Service	\$ 37,332,545	\$ 1,069,996	\$ 2,957,376	\$ -	\$ 41,359,917

Pittsburgh Water and Sewer Authority
 FPPTY 2022 COS & Rate Design
 Adjustments to Allocated Cost of Service

HJS-9WW-R

COS Adjustments		Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal - Metered	Municipal - Unmetered	Total
<u>Adjustments to Cost of Service</u>										
Add: Bad Debt Expense	Class Contribution		77.3%		17.4%	0.7%	1.4%	3.4%		100.0%
BDP Forgone Revenue	Unadj. COS		45.8%		37.3%	2.3%	12.2%	2.3%	0.2%	100.0%
City of Pittsburgh - Phase-In	Unadj. COS		45.4%	3.3%	37.0%	2.2%	12.1%			100.0%
City of Pittsburgh - Unmetered	Unadj. COS		45.4%	3.3%	37.0%	2.2%	12.1%			100.0%
Gradualism							100.0%			100.0%
Gradualism - Stormwater	Unadj. COS		45.8%		37.3%	2.3%	12.2%	2.3%		100.0%
Adjustment for Revenue (*as filed)	Unadj. COS		45.8%		37.3%	2.3%	12.2%	2.3%		100.0%
Cost of Service by Class										
Allocated Cost of Service (Unadjusted)			\$ 18,314,793	\$ 1,330,652	\$ 14,912,332	\$ 907,037	\$ 4,892,356	\$ 922,079	\$ 80,667	\$ 41,359,916
% of COS			44.3%	3.2%	36.1%	2.2%	11.8%	2.2%	0.2%	100.0%
<u>Adjustments to Cost of Service</u>		<u>Adjustment</u>								
Add: Bad Debt Expense	\$ 1,153,764	891,444	-	200,231	7,805	15,631	38,653	-	-	1,153,764
BDP Forgone Revenue	569,857	260,730	(569,857)	212,292	12,913	69,648	13,127	1,148	-	0
City of Pittsburgh - Phase-In	389,543	176,782	12,844	143,940	8,755	47,223	(389,543)	-	-	(0)
City of Pittsburgh - Unmetered	81,815	37,129	2,698	30,232	1,839	9,918	-	(81,815)	-	-
Gradualism - Residential (1)	350,000	(350,000)	-	-	-	350,000	-	-	-	-
Gradualism - Stormwater (2)	12,400,000	5,684,891	-	4,628,771	281,543	1,518,582	286,212	-	-	12,400,000
Adjustment for Revenue (*as filed)	(13,000)	(5,960)	-	(4,853)	(295)	(1,592)	(300)	-	-	(13,000)
Total: Adjusted Cost of Service			\$25,009,809	\$ 776,336	\$ 20,122,944	\$ 1,219,597	\$ 6,901,766	\$ 870,227	\$ -	\$ 54,900,680
% of COS			45.6%	1.4%	36.7%	2.2%	12.6%	1.6%	0.0%	100.0%

- (1) Gradualism adjustment to Residential as Health & Education subsidy is phased out
 (2) Transfer from Stormwater to Wastewater such that new Stormwater fee is phased in

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Forgone Revenue Cost of the Bill Discount Program

Units

5/8"
3/4"
1"
Unmetered

Bills	BDP Tier 1 Use	BDP Tier 2 Use
68,003	185,242	11,824
451	788	50
218	216	14
12	n/a	n/a
<u>68,684</u>	<u>186,246</u>	<u>11,888</u>

Forgone Revenue Cost

Fixed Charges
Tier 2 Volume Charges (1)
Total Forgone Revenue Cost

6.0%

Revenue At Full Rates	Revenue at CAP Rates	Difference
\$ 532,053	\$ -	\$ 532,053
<u>75,608</u>	<u>37,804</u>	<u>37,804</u>
607,661	37,804	569,857

Volume Discount

50.0%

(1) Currently 249 of 4,228 (6%) customers are enrolled in volume discount.

		COS Rate Build-Up - Test Year: 2022								
Wastewater Conveyance	Min. Usage Existing	Meter	Billing	Usage	Total COS Rates	Adjustments				Proposed Rates
						R.T.S	Stormwater	City	CAP-BDP	
Minimum Charge										
5/8"	1	\$ 0.63	\$ 2.46	\$ 3.99	\$ 7.08	\$ 0.57	\$ -	\$ -	\$ -	\$ 7.66
3/4"	2	0.95	2.46	7.98	11.39	0.85	-	-	-	12.25
1"	5	1.58	2.46	19.95	23.99	1.42	-	-	-	25.42
1.5"	10	3.17	2.46	39.89	45.52	2.85	-	-	-	48.37
2"	17	5.06	2.46	67.82	75.35	4.55	-	-	-	79.91
3"	40	10.13	2.46	159.57	172.17	9.11	-	-	-	181.28
4"	70	15.83	2.46	279.25	297.54	14.23	-	-	-	311.78
6"	175	31.65	2.46	698.13	732.25	28.46	-	-	-	760.72
8"	325	50.65	2.46	1,296.53	1,349.64	45.54	-	-	-	1,395.19
10" & Above	548	72.80	2.46	2,186.16	2,261.42	65.47	-	-	-	2,326.90
Unmetered	1	0.63	2.46	3.99	7.08	0.57	-	-	-	7.66
Residential - CAP										
5/8"	1	\$ 0.63	\$ 2.46	\$ 3.99	\$ 7.08	\$ 0.57	\$ -	\$ -	(7.65)	\$ -
3/4"	2	0.95	2.46	7.98	11.39	0.85	-	-	(12.24)	-
1"	5	1.58	2.46	19.95	23.99	1.42	-	-	(25.41)	-
Unmetered	1	0.63	2.46	3.99	7.08	0.57	-	-	(7.65)	-
Municipal Minimum Charge										
5/8"		\$ 0.63	\$ 2.46	\$ 3.99	\$ 7.08	\$ 0.57	\$ -	\$ (3.06)	\$ -	\$ 4.60
3/4"		0.95	2.46	7.98	11.39	0.85	-	(4.90)	-	7.35
1"		1.58	2.46	19.95	23.99	1.42	-	(10.17)	-	15.25
1.5"		3.17	2.46	39.89	45.52	2.85	-	(19.35)	-	29.03
2"		5.06	2.46	67.82	75.35	4.55	-	(31.96)	-	47.95
3"		10.13	2.46	159.57	172.17	9.11	-	(72.51)	-	108.77
4"		15.83	2.46	279.25	297.54	14.23	-	(124.71)	-	187.07
6"		31.65	2.46	698.13	732.25	28.46	-	(304.29)	-	456.43
8"		50.65	2.46	1,296.53	1,349.64	45.54	-	(558.07)	-	837.12
10" & Above		72.80	2.46	2,186.16	2,261.42	65.47	-	(930.76)	-	1,396.14
Unmetered City										
5/8"	5/8"	\$ 0.63	\$ 2.46	\$ 3.99	\$ 7.08	\$ 0.57	\$ -	\$ (7.65)	\$ -	\$ -
3/4"	3/4"	0.95	2.46	7.98	11.39	0.85	-	(12.24)	-	-
1"	1"	1.58	2.46	19.95	23.99	1.42	-	(25.41)	-	-
1.5"	1.5"	3.17	2.46	39.89	45.52	2.85	-	(48.37)	-	-
2"	2"	5.06	2.46	67.82	75.35	4.55	-	(79.90)	-	-
3"	3"	10.13	2.46	159.57	172.17	9.11	-	(181.27)	-	-
4"	4"	15.83	2.46	279.25	297.54	14.23	-	(311.78)	-	-

Unadjusted COS-Based Rates				
Unadjusted Revenue Requirement	Fixed Charge Revenue	Total Vol Revenue Requirement	Billed Volume	Proposed Rates
Residential	\$ 18,314,793	\$ 7,870,122	\$ 10,444,671	2,531,209 \$ 4.13
Residential - CAP	1,330,652	492,229	838,423	198,170 4.23
Commercial	14,912,332	4,576,012	10,336,320	2,693,278 3.84
Industrial	907,037	142,068	764,969	196,695 3.89
Health or Education	4,892,356	1,050,938	3,841,419	958,980 4.01
Municipal - Metered	922,079	139,675	782,403	193,013 4.05
Municipal - Unmetered	80,667	21,192	59,475	13,680 4.35
Totals	\$ 41,359,916	\$ 14,292,236	\$ 27,067,680	6,785,026 3.99

Volume Charge (per kgal)

Volume Charge (per kgal)

Determination of Proposed Rates				
Adjusted Revenue Requirement	Fixed Charge Revenue	Total Volumetric Rev Req	Equivalent Volume (for Ratemaking)	Proposed Rates
Residential + CAP	\$ 25,786,145	\$ 8,492,025	\$ 17,294,120	2,723,435 \$ 6.36
Commercial + Municipal	20,993,171	4,908,821	16,084,350	2,809,086 5.73
Industrial	1,219,597	147,369	1,072,228	196,695 5.46
Health or Education	6,901,766	1,100,029	5,801,737	958,980 6.05
Municipal - Metered				
Municipal - Unmetered				
Totals	54,900,680	14,648,244	40,252,436	6,688,197 \$ 6.02

Class Increase	Ratio to Total Increase (1)
-16.1%	0.76
-23.2%	1.10
-16.7%	0.80
-31.3%	1.49
-21.0%	1.00

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Proposed Rates

	2021 FTY Prior Tariff Rates	2022 FPFTY Proposed Rates	Percent Difference	Dollar Difference
Existing & Proposed Rates				
<u>Minimum Charge</u>				
5/8"	\$ 8.51	\$ 7.66	-10.0%	\$ (0.85)
3/4"	17.23	12.25	-28.9%	(4.98)
1"	40.92	25.42	-37.9%	(15.50)
1.5"	84.51	48.37	-42.8%	(36.14)
2"	143.07	79.91	-44.1%	(63.16)
3"	326.33	181.28	-44.4%	(145.05)
4"	558.31	311.78	-44.2%	(246.53)
6"	1,338.15	760.72	-43.2%	(577.43)
8"	2,424.04	1,395.19	-42.4%	(1,028.85)
10" & Above	3,991.08	2,326.90	-41.7%	(1,664.18)
<u>Minimum Charge - CAP (1)</u>				
5/8"	\$ -	\$ -	0.0%	\$ -
3/4"	-	-	0.0%	-
1"	-	-	0.0%	-
<u>Minimum Charge - Municipal</u>				
5/8"	\$ 3.40	\$ 4.60	35.1%	\$ 1.20
3/4"	6.89	7.35	6.6%	0.46
1"	16.37	15.25	-6.8%	(1.12)
1.5"	33.80	29.03	-14.1%	(4.77)
2"	57.23	47.95	-16.2%	(9.28)
3"	130.53	108.77	-16.7%	(21.76)
4"	223.32	187.07	-16.2%	(36.25)
6"	535.26	456.43	-14.7%	(78.83)
8"	969.62	837.12	-13.7%	(132.50)
10" & Above	1,596.43	1,396.14	-12.5%	(200.29)
<u>Volume Charge</u>				
Residential	\$ 7.64	\$ 6.36	-16.8%	\$ (1.28)
Residential - CAP	7.64	6.36	-16.8%	(1.28)
Commercial	6.74	5.73	-15.0%	(1.01)
Industrial	6.15	5.46	-11.2%	(0.69)
Health or Education	8.44	6.05	-28.3%	(2.39)
Municipal	2.70	3.44	27.5%	0.74
<u>Unmetered Charges (per Unit)</u>				
Residential	\$ 31.43	\$ 26.74	-14.9%	\$ (4.69)
Residential - CAP	22.92	19.08	-16.8%	(3.84)
Commercial	35.47	30.58	-13.8%	(4.89)
<u>Unmetered - Municipal</u>				
5/8"	-	-	0.0%	\$ -
3/4"	-	-	0.0%	-
1"	-	-	0.0%	-
1.5"	-	-	0.0%	-
2"	-	-	0.0%	-
3"	-	-	0.0%	-
4"	-	-	0.0%	-
DSIC (Applies to all retail customers)	5.0%	5.0%	n/a	n/a

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in 2021 and 2022.

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Comparison of Base Rate Revenues by Customer Class

	FPFTY Revenue at Existing Rates	FPFTY Indicated COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 29,254,362	\$ 18,314,793	-37.4%	\$ (10,939,568)
Residential - CAP	1,495,850	1,330,652	-11.0%	(165,198)
Commercial	26,358,726	14,912,332	-43.4%	(11,446,394)
Industrial	1,466,268	907,037	-38.1%	(559,231)
Health or Education	10,042,474	4,892,356	-51.3%	(5,150,118)
Municipal (Metered & Unmetered)	930,878	1,002,746	7.7%	71,868
Total: Base Rate Revenues	\$ 69,548,557	\$ 41,359,916	-40.5%	\$(28,188,642)

	FPFTY Indicated COS by Customer Class	FPFTY Adjusted COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 18,314,793	\$ 25,009,809	36.6%	\$ 6,695,016
Residential - CAP	1,330,652	776,336	-41.7%	(554,316)
Commercial	14,912,332	20,122,944	34.9%	5,210,613
Industrial	907,037	1,219,597	34.5%	312,560
Health or Education	4,892,356	6,901,766	41.1%	2,009,410
Municipal (Metered & Unmetered)	1,002,746	870,227	-13.2%	(132,519)
Total: Base Rate Revenues	\$ 41,359,916	\$ 54,900,680	32.7%	\$ 13,540,764

	FPFTY Revenue at Existing Rates	FPFTY Adjusted COS by Customer Class	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 29,254,362	\$ 25,009,809	-14.5%	\$ (4,244,553)
Residential - CAP	1,495,850	776,336	-48.1%	(719,514)
Commercial	26,358,726	20,122,944	-23.7%	(6,235,782)
Industrial	1,466,268	1,219,597	-16.8%	(246,671)
Health or Education	10,042,474	6,901,766	-31.3%	(3,140,708)
Municipal (Metered & Unmetered)	930,878	870,227	-6.5%	(60,651)
Total: Base Rate Revenues	\$ 69,548,557	\$ 54,900,680	-21.1%	\$(14,647,878)

	FPFTY Revenue at Existing Rates	FPFTY Revenue at Proposed Rates	Percent Difference	Dollar Difference
Base Rate Revenues				
Residential	\$ 29,254,362	\$ 24,590,517	-15.9%	\$ (4,663,845)
Residential - CAP	1,495,850	1,222,554	-18.3%	(273,296)
Commercial	26,358,726	20,252,870	-23.2%	(6,105,856)
Industrial	1,466,268	1,221,325	-16.7%	(244,943)
Health or Education	10,042,474	6,901,861	-31.3%	(3,140,613)
Municipal (Metered & Unmetered)	930,878	752,013	-19.2%	(178,864)
Total: Base Rate Revenues	\$ 69,548,557	\$ 54,941,140	-21.0%	\$(14,607,417)

Pittsburgh Water and Sewer Authority

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FPPTY 2022 COS & Rate Design

FPPTY CCOS Comparison - Wastewater Conveyance

	Unadjusted COS (1)		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	\$ 18,314,793	44.3%	\$ 29,254,362	42.1%	\$ 24,590,517	44.8%	\$ (4,663,845)	-15.9%
Residential - CAP	1,330,652	3.2%	1,495,850	2.2%	1,222,554	2.2%	(273,296)	-18.3%
Commercial	14,912,332	36.1%	26,358,726	37.9%	20,252,870	36.9%	(6,105,856)	-23.2%
Industrial	907,037	2.2%	1,466,268	2.1%	1,221,325	2.2%	(244,943)	-16.7%
Health or Education	4,892,356	11.8%	10,042,474	14.4%	6,901,861	12.6%	(3,140,613)	-31.3%
Municipal (Metered & Unmetered)	1,002,746	2.4%	930,878	1.3%	752,013	1.4%	(178,864)	-19.2%
Subtotal: Base Rate Revenues	\$ 41,359,916	100.0%	\$ 69,548,557	100.0%	\$ 54,941,140	100.0%	\$ (14,607,417)	-21.0%
DSIC Revenues								
Residential	n/a	n/a	\$ 1,462,718	0.0%	\$ 1,229,526	44.8%	\$ (233,192)	
Residential - CAP	n/a	n/a	74,793	0.0%	61,128	2.2%	(13,665)	
Commercial	n/a	n/a	1,317,936	0.0%	1,012,643	36.9%	(305,293)	
Industrial	n/a	n/a	73,313	0.0%	61,066	2.2%	(12,247)	
Health or Education	n/a	n/a	502,124	0.0%	345,093	12.6%	(157,031)	
Municipal (Metered & Unmetered)	n/a	n/a	46,544	0.0%	37,601	1.4%	(8,943)	
Subtotal: DSIC Revenues	n/a	n/a	\$ 3,477,428	100.0%	\$ 2,747,057	100.0%	\$ (730,371)	
Total: User Charge Revenues	\$ 41,359,916		\$ 73,025,985		\$ 57,688,197		\$ (15,337,788)	-21.0%
Other Revenues								
Miscellaneous Revenues	546,207		546,207		546,207		-	0.0%
Total: Wastewater Conveyance Revenues	\$ 41,906,123		\$ 73,572,193		\$ 58,234,405		\$ (15,337,788)	-20.8%

(1) Difference between COS & proposed rates is attributed to BDE and rounding

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Typical Bill Comparison

	Customer Usage		FTY Existing Rates		FPFTY Proposed Rates	Percent Difference	Dollar Difference
Customer Impacts (1)							
<u>Residential</u>							
	5/8"	1 kgal	\$ 8.94	\$	8.04	-10.0%	\$ (0.89)
	5/8"	3 kgal	24.98		21.40	-14.3%	(3.58)
	5/8"	5 kgal	41.02		34.76	-15.3%	(6.27)
	5/8"	7 kgal	57.07		48.11	-15.7%	(8.96)
	5/8"	12 kgal	97.18		81.50	-16.1%	(15.68)
	1"	20 kgal	163.30		126.86	-22.3%	(36.44)
<u>Commercial</u>							
	5/8"	3 kgal	\$ 23.09	\$	20.08	-13.1%	\$ (3.01)
	5/8"	5 kgal	37.24		32.11	-13.8%	(5.13)
	5/8"	12 kgal	86.78		74.22	-14.5%	(12.56)
	1"	13 kgal	99.58		74.82	-24.9%	(24.76)
	2"	80 kgal	596.07		462.95	-22.3%	(133.13)
	4"	160 kgal	1,223.16		868.85	-29.0%	(354.30)
<u>Industrial</u>							
	1"	30 kgal	\$ 204.40	\$	170.02	-16.8%	\$ (34.39)
	1"	60 kgal	398.13		342.01	-14.1%	(56.12)
	2"	100 kgal	686.20		559.74	-18.4%	(126.45)
	4"	680 kgal	4,525.30		3,824.50	-15.5%	(700.80)
	6"	400 kgal	2,858.00		2,088.68	-26.9%	(769.31)
	8"	800 kgal	5,612.55		4,188.12	-25.4%	(1,424.43)
<u>Health or Education</u>							
	5/8"	5 kgal	\$ 44.38	\$	33.45	-24.6%	\$ (10.93)
	5/8"	10 kgal	88.69		65.22	-26.5%	(23.48)
	1"	40 kgal	353.14		249.03	-29.5%	(104.11)
	2"	50 kgal	442.67		293.54	-33.7%	(149.13)
	4"	200 kgal	1,738.29		1,153.19	-33.7%	(585.09)
	6"	650 kgal	5,614.51		3,816.19	-32.0%	(1,798.31)

(1) Customer bills at existing and proposed rates include a 5% DSIC.

	2022 Revenue @ Existing Rates			2022 Revenue @ COS Rates				2022 Revenue @ Proposed Rates			
	Units	Rates	Revenue	Units	Rates	Collection %	Revenue	Units	Rates	Collection %	Revenue
Base Rate Revenues											
Minimum Charges											
Residential											
5/8"	958,530	\$ 8.51	\$ 8,157,086	958,530	\$ 7.08	100.0%	\$ 6,790,937	958,530	\$ 7.66	100.0%	\$ 7,342,336
3/4"	30,942	17.23	533,125	30,942	11.39	100.0%	352,445	30,942	12.25	100.0%	379,035
1"	28,830	40.92	1,179,728	28,830	23.99	100.0%	691,684	28,830	25.42	100.0%	732,861
1.5"	84	84.51	7,099	84	45.52	100.0%	3,824	84	48.37	100.0%	4,063
2"	26	143.07	3,720	26	75.35	100.0%	1,959	26	79.91	100.0%	2,078
Unmetered	4,132	31.43	129,869	4,132	19.47	100.0%	80,470	4,132	26.74	100.0%	110,490
<i>Subtotal: Residential</i>	<i>1,022,543</i>		<i>\$ 10,010,627</i>	<i>1,022,543</i>			<i>\$ 7,921,318</i>	<i>1,022,543</i>			<i>\$ 8,570,864</i>
Residential - CAP-BDP											
5/8"	68,003	\$ -	\$ -	68,003	\$ 7.08	100.0%	\$ 481,787	68,003	\$ -	100.0%	\$ -
3/4"	451	-	-	451	11.39	100.0%	5,137	451	-	100.0%	-
1"	218	-	-	218	23.99	100.0%	5,220	218	-	100.0%	-
Unmetered	12	22.92	275	12	12.69	100.0%	152	12	19.08	100.0%	229
<i>Subtotal: Residential - CAP-BDP</i>	<i>68,684</i>		<i>\$ 275</i>	<i>68,684</i>			<i>\$ 492,296</i>	<i>68,684</i>			<i>\$ 229</i>
Commercial											
5/8"	43,599	\$ 8.51	\$ 371,030	43,599	\$ 7.08	100.0%	\$ 308,890	43,599	\$ 7.66	100.0%	\$ 333,971
3/4"	9,405	17.23	162,054	9,405	11.39	100.0%	107,133	9,405	12.25	100.0%	115,215
1"	18,949	40.92	775,393	18,949	23.99	100.0%	454,619	18,949	25.42	100.0%	481,684
1.5"	10,651	84.51	900,144	10,651	45.52	100.0%	484,860	10,651	48.37	100.0%	515,205
2"	10,635	143.07	1,521,549	10,635	75.35	100.0%	801,302	10,635	79.91	100.0%	849,843
3"	2,890	326.33	943,094	2,890	172.17	100.0%	497,557	2,890	181.28	100.0%	523,899
4"	2,428	558.31	1,355,763	2,428	297.54	100.0%	722,534	2,428	311.78	100.0%	757,106
6"	1,209	1,338.15	1,618,269	1,209	732.25	100.0%	885,535	1,209	760.72	100.0%	919,964
8"	128	2,424.04	311,085	128	1,349.64	100.0%	173,204	128	1,395.19	100.0%	179,049
10" & Above	62	3,991.08	247,447	62	2,261.42	100.0%	140,208	62	2,326.90	100.0%	144,268
Unmetered	24	35.47	851	24	22.44	100.0%	539	24	30.58	100.0%	734
<i>Subtotal: Commercial</i>	<i>99,982</i>		<i>\$ 8,206,680</i>	<i>99,982</i>			<i>\$ 4,576,381</i>	<i>99,982</i>			<i>\$ 4,820,938</i>
Industrial											
5/8"	72	\$ 8.51	\$ 613	72	\$ 7.08	100.0%	\$ 510	72	\$ 7.66	100.0%	\$ 552
3/4"	12	17.23	207	12	11.39	100.0%	137	12	12.25	100.0%	147
1"	72	40.92	2,946	72	23.99	100.0%	1,727	72	25.42	100.0%	1,830
1.5"	-	84.51	-	-	45.52	100.0%	-	-	48.37	100.0%	-
2"	84	143.07	12,018	84	75.35	100.0%	6,329	84	79.91	100.0%	6,712
3"	24	326.33	7,832	24	172.17	100.0%	4,132	24	181.28	100.0%	4,351
4"	84	558.31	46,898	84	297.54	100.0%	24,994	84	311.78	100.0%	26,190
6"	24	1,338.15	32,116	24	732.25	100.0%	17,574	24	760.72	100.0%	18,257
8"	24	2,424.04	58,177	24	1,349.64	100.0%	32,391	24	1,395.19	100.0%	33,485
10" & Above	24	3,991.08	95,786	24	2,261.42	100.0%	54,274	24	2,326.90	100.0%	55,846
<i>Subtotal: Industrial</i>	<i>420</i>		<i>\$ 256,592</i>	<i>420</i>			<i>\$ 142,068</i>	<i>420</i>			<i>\$ 147,369</i>
Health or Education											
5/8"	409	\$ 8.51	\$ 3,478	409	\$ 7.08	100.0%	\$ 2,895	409	\$ 7.66	100.0%	\$ 3,130
3/4"	102	17.23	1,752	102	11.39	100.0%	1,158	102	12.25	100.0%	1,245
1"	293	40.92	11,976	293	23.99	100.0%	7,022	293	25.42	100.0%	7,440
1.5"	774	84.51	65,383	774	45.52	100.0%	35,218	774	48.37	100.0%	37,422
2"	1,736	143.07	248,370	1,736	75.35	100.0%	130,800	1,736	79.91	100.0%	138,724
3"	1,160	326.33	378,543	1,160	172.17	100.0%	199,712	1,160	181.28	100.0%	210,285
4"	835	558.31	466,003	835	297.54	100.0%	248,349	835	311.78	100.0%	260,232
6"	441	1,338.15	590,124	441	732.25	100.0%	322,922	441	760.72	100.0%	335,478
8"	36	2,424.04	87,265	36	1,349.64	100.0%	48,587	36	1,395.19	100.0%	50,227
10" & Above	24	3,991.08	95,786	24	2,261.42	100.0%	54,274	24	2,326.90	100.0%	55,846
<i>Subtotal: Health or Education</i>	<i>5,808</i>		<i>\$ 1,948,679</i>	<i>5,808</i>			<i>\$ 1,050,938</i>	<i>5,808</i>			<i>\$ 1,100,029</i>
Municipal											
5/8"	1,786	\$ 5.11	\$ 9,119	1,786	\$ 7.08	100.0%	\$ 12,653	1,786	\$ 4.60	100.0%	\$ 8,216
3/4"	134	10.34	1,385	134	11.39	100.0%	1,526	134	7.35	100.0%	985
1"	385	24.55	9,453	385	23.99	100.0%	9,237	385	15.25	100.0%	5,871
1.5"	335	50.71	16,987	335	45.52	100.0%	15,250	335	29.03	100.0%	9,725
2"	432	85.84	37,084	432	75.35	100.0%	32,549	432	47.95	100.0%	20,714
3"	133	195.80	26,041	133	172.17	100.0%	22,898	133	108.77	100.0%	14,466
4"	35	334.99	11,725	35	297.54	100.0%	10,414	35	187.07	100.0%	6,547
6"	48	802.89	38,539	48	732.25	100.0%	35,148	48	456.43	100.0%	21,909
8"	-	1,454.42	-	-	1,349.64	100.0%	-	-	837.12	100.0%	-
10" & Above	-	2,394.65	-	-	2,261.42	100.0%	-	-	1,396.14	100.0%	-
<i>Subtotal: Municipal</i>	<i>3,288</i>		<i>\$ 150,332</i>	<i>3,288</i>			<i>\$ 139,675</i>	<i>3,288</i>			<i>\$ 88,434</i>
Municipal - Unmetered											
5/8"	-	\$ -	\$ -	-	\$ 24.48	100.0%	\$ -	-	\$ -	100.0%	\$ -
3/4"	-	-	-	-	33.14	100.0%	-	-	-	100.0%	-
1"	288	-	-	288	54.44	100.0%	15,679	288	-	100.0%	-
1.5"	-	-	-	-	136.87	100.0%	-	-	-	100.0%	-
2"	-	-	-	-	249.35	100.0%	-	-	-	100.0%	-
3"	-	-	-	-	650.67	100.0%	-	-	-	100.0%	-
4"	48	-	-	48	1,354.59	100.0%	65,020	48	-	100.0%	-
<i>Subtotal: Municipal - Unmetered</i>	<i>336</i>		<i>\$ -</i>	<i>336</i>			<i>\$ 80,700</i>	<i>336</i>			<i>\$ -</i>
<i>Subtotal: Minimum Charges</i>			<i>\$ 20,573,185</i>				<i>\$ 14,403,376</i>				<i>\$ 14,727,861</i>

	2022 Revenue @ Existing Rates			2022 Revenue @ COS Rates				2022 Revenue @ Proposed Rates			
	Units	Rates	Revenue	Units	Rates	Collection %	Revenue	Units	Rates	Collection %	Revenue
Volume Charge											
Residential	2,518,813	\$ 7.64	\$ 19,243,735	2,518,813	\$ 4.13	100.0%	\$ 10,402,699	2,518,813	\$ 6.36	100.0%	\$ 16,019,653
Residential - CAP-BDP - Tier 1	186,246	7.64	1,422,916	186,246	4.23	100.0%	787,819	186,246	6.36	100.0%	1,184,521
Residential - CAP-BDP - Tier 2	11,888	6.11	72,660	11,888	3.84	100.0%	45,650	11,888	3.18	100.0%	37,804
Commercial	2,693,182	6.74	18,152,046	2,693,182	3.84	100.0%	10,341,818	2,693,182	5.73	100.0%	15,431,932
Industrial	196,695	6.15	1,209,676	196,695	3.89	100.0%	765,145	196,695	5.46	100.0%	1,073,956
Health or Education	958,980	8.44	8,093,795	958,980	4.01	100.0%	3,845,512	958,980	6.05	100.0%	5,801,832
Municipal	193,013	4.04	780,546	193,013	4.05	100.0%	781,704	193,013	3.44	100.0%	663,580
<i>Subtotal: Volume Charge</i>	6,758,818		\$ 48,975,373				\$ 26,970,347	6,758,818			\$ 40,213,279
Wholesale and Contract Revenues			\$ -				\$ -				\$ -
Total: Base Rate Revenues			\$ 69,548,557				\$ 41,373,722				\$ 54,941,140
DSIC Revenues											
Residential			1,462,718				\$ 916,201				\$ 1,229,526
Residential - CAP-BDP			74,793				64,006				61,128
Commercial			1,317,936				745,910				1,012,643
Industrial			73,313				45,361				61,066
Health or Education			502,124				244,822				345,093
Municipal			46,544				46,069				37,601
Total: DSIC Revenues			\$ 3,477,428				\$ 2,062,369				\$ 2,747,057
Other Revenues											
Other Revenues			546,207				546,207				546,207
Total: System Revenues			\$ 73,572,193				\$ 43,982,298				\$ 58,234,405
FPFTY Wastewater Conveyance Revenue Requirements							\$ 45,807,388				\$ 58,207,388
Difference							\$ (1,825,090)				\$ 27,017

(1) Note difference in COS rates is combination of bad debt and DSIC.

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Projected Units of Service

	FY 2018 <i>Actual</i>	FY 2019 <i>Actual</i>	HTY FY 2020 <i>Actual</i>	FTY FY 2021 <i>Projected</i>	FPFTY FY 2022 <i>Projected</i>
Units of Service					
<u>Number of Bills</u>					
Residential	1,057,206	1,047,471	1,039,211	1,033,343	1,022,543
Residential - CAP	20,369	32,883	43,244	57,872	68,672
Commercial	99,279	99,279	99,701	99,982	99,982
Industrial	1,181	1,170	548	420	420
Health or Education	5,932	5,805	5,688	5,808	5,808
Municipal	-	-	3,288	3,288	3,288
<i>Total</i>	<u>1,183,967</u>	<u>1,186,608</u>	<u>1,191,680</u>	<u>1,200,714</u>	<u>1,200,714</u>
<u>Billable Consumption (kgal)</u>					
Residential	2,703,956	2,491,965	2,599,739	2,589,928	2,518,813
Residential - CAP	66,466	93,829	118,166	156,955	186,246
Commercial	3,006,528	2,799,696	2,289,641	2,311,806	2,693,182
Industrial	192,007	199,971	181,789	196,695	196,695
Health or Education	1,068,859	975,430	832,652	845,142	958,980
Municipal	-	-	193,013	195,909	193,013
<i>Total</i>	<u>7,037,816</u>	<u>6,560,891</u>	<u>6,215,001</u>	<u>6,296,435</u>	<u>6,746,930</u>
<u>Total Consumption (kgal) (1)</u>					
Residential	3,758,213	3,531,872	3,639,818	3,631,685	3,539,587
Residential - CAP	85,817	124,641	158,636	208,084	246,916
Commercial	3,706,280	3,502,496	2,948,145	2,979,614	3,383,343
Industrial	213,660	218,160	195,873	211,564	211,564
Health or Education	1,253,574	1,158,179	989,429	1,004,270	1,133,727
Municipal	-	-	212,818	216,010	212,818
<i>Total</i>	<u>9,017,544</u>	<u>8,535,349</u>	<u>8,144,719</u>	<u>8,251,228</u>	<u>8,727,957</u>
<u>Wholesale & Contract Consumption</u>					
Bay Valley Foods / Riverbend (2)	180,000	90,000	-	-	-

(1) Total consumption represents actual customer usage including the usage captured in minimum allowance.

(2) Riverbend foods closed in July 2019.

Pittsburgh Water and Sewer Authority

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FPFTY 2022 COS & Rate Design

Proposed Rate Phase-In

Phased-In Rates		
Existing (2021)	Phase In (2022)	Proposed (2023)

Existing & Proposed Rates

Minimum Charge

5/8"	\$ 8.51	\$ 8.09	\$ 7.66
3/4"	17.23	14.74	12.25
1"	40.92	33.17	25.42
1.5"	84.51	66.44	48.37
2"	143.07	111.49	79.91
3"	326.33	253.81	181.28
4"	558.31	435.05	311.78
6"	1,338.15	1,049.44	760.72
8"	2,424.04	1,909.62	1,395.19
10" & Above	3,991.08	3,158.99	2,326.90

Minimum Charge - CAP (1)

5/8"	\$ -	\$ -	\$ -
3/4"	-	-	-
1"	-	-	-

Minimum Charge - Municipal

5/8"	\$ 3.40	\$ 4.85	\$ 6.13
3/4"	6.89	8.84	9.80
1"	16.37	19.90	20.34
1.5"	33.80	39.86	38.70
2"	57.23	66.89	63.93
3"	130.53	152.29	145.02
4"	223.32	261.03	249.42
6"	535.26	629.66	608.58
8"	969.62	1,145.77	1,116.15
10" & Above	1,596.43	1,895.39	1,861.52

Volume Charge

Residential	\$ 7.64	\$ 7.00	\$ 6.36
Residential - CAP	7.64	7.00	6.36
Commercial	6.74	6.24	5.73
Industrial	6.15	5.81	5.46
Health or Education	8.44	7.25	6.05
Municipal	2.70	3.74	4.58

Unmetered Charges (per Unit)

Residential	\$ 31.43	\$ 29.09	\$ 26.74
Residential - CAP	22.92	21.00	19.08
Commercial	35.47	33.03	30.58

Unmetered - Municipal

5/8"	-	\$ -	-
3/4"	-	-	-
1"	-	-	-
1.5"	-	-	-
2"	-	-	-
3"	-	-	-
4"	-	-	-

DSIC (Applies to all retail customers) 5.0% 5.0% 5.0%

(1) Proposed 100% discount on Minimum Charge for CAP-BDP customers in 2021 and 2022.

Exhibits
HJS-1SW-R to HJS-9SW-R
(Stormwater Schedules)

Pittsburgh Water and Sewer Authority

HJS-1SW-R

FPPTY 2022 COS & Rate Design

FPPTY Stormwater Revenue Requirements

**2022
FPPTY
Revenue
Requirements****Stormwater Revenue Requirements**Operating Expenses*Direct Operating Expenses*

Administrative Division

Executive Director	\$ 348,904
Customer Service	3,032,377
Management Information Systems	524,626
Finance	1,434,515
Procurement	-
Human Resources	134,792
Legal	674,963
Public Affairs	146,517

Operations Division

Environmental Compliance	1,292,698
Ops Capital Assets	-
Warehouse	54,060
Water Treatment Plant	-
Water Quality (Lab)	-
Water Distribution	-
Sewer Operations	1,718,790

Engineering & Construction Division

Engineering & Construction	6,790,943
----------------------------	-----------

Subtotal: Direct Operating Expenses

\$ 16,153,184

Other Operating Expenses

Loss / (Gain) on ALCOSAN Billings	\$ -
Non-City Water Payments	-

Subtotal: Other Operating Expenses

\$ -

Subtotal: Operating Expenses

\$ 16,153,184

Debt Service

Existing Debt	13,844,767
Proposed Debt	4,299,296

Subtotal: Debt Service

\$ 18,144,062

Capital Expenditures & Transfers

Internally Generated Funds / PAYGO	\$ -
Internally Generated Funds / PAYGO - DSIC	-
Other Transfers to Reserves	110,000
Bad Debt Expense	1,593,360
Stormwater Credit Program Cost	696,930

Subtotal: Capital Expenditures & Transfers

\$ 1,703,360

Total: Stormwater Revenue Requirements**\$ 36,697,536***Capital Costs to be Recovered through DSIC*

-

Total: Stormwater System Base Rate Revenue Requirement**\$ 36,697,536**

Pittsburgh Water and Sewer Authority

HJS-2SW-R

FPFTY 2022 COS & Rate Design

Net Revenue Requirements

	<u>FY 2022</u> <i>Full COS</i>	<u>FY 2022</u> <i>Proposed</i>
Determination of Revenue Requirement		
Operating Expenses	\$ 16,153,184	\$ 16,153,184
<u>Debt Service</u>		
Existing	\$ 13,844,767	\$ 13,844,767
Proposed	4,299,296	4,299,296
<i>Subtotal: Debt Service</i>	<u>\$ 18,144,062</u>	<u>\$ 18,144,062</u>
<u>Other Capital Costs</u>		
Internally Generated Funds / PAYGO	\$ -	\$ -
Internally Generated Funds / PAYGO - DSIC	-	-
Other Transfers to Reserves	110,000	110,000
Bad Debt Expense (1)	2,510,169	1,593,360
Stormwater Credit Program Cost (1)	1,098,922	696,930
<i>Subtotal: Other Capital Costs</i>	<u>\$ 3,719,092</u>	<u>\$ 2,400,290</u>
<i>Total: Revenue Requirements</i>	<u>\$ 38,016,338</u>	<u>\$36,697,536</u>
<u>Revenue Offsets</u>		
Allocated Offsets	\$ (482,878)	\$ (482,878)
Less: Gradualism Adjustment	-	(12,400,000)
<i>Total: Net Revenue Requirements for Ratemaking</i>	<u>\$ 37,533,460</u>	<u>\$23,814,658</u>

(1) Varies based on level of revenue requirement and fee.

Pittsburgh Water and Sewer Authority

HJS-3SW-R

FPFTY 2022 COS & Rate Design

Stormwater Units of Service

Units of Service

<u>Billable Units - Non Stormwater Only</u>	<u>Parcels</u>	<u>Equivalencies</u>	<u>Equivalent Units</u>
Residential Rate (per ERU)			
Tier 1	12,669	0.5	6,335
Tier 2	57,273	1.0	57,273
Tier 3	13,504	2.0	27,008
Other	4,066	1.0	10,145
<i>Subtotal: Residential Units</i>	<u>87,512</u>		<u>100,761</u>
Residential - CAP			
Tier 1	631	0.5	316
Tier 2	2,636	1.0	2,636
Tier 3	299	2.0	598
Other	83	1.0	142
<i>Subtotal: Residential - CAP Units</i>	<u>3,649</u>		<u>3,692</u>
Commercial	6,395	1.0	85,560
Industrial	22	1.0	1,568
Health or Education	215	1.0	11,739
Municipal	557	1.0	5,784
Other	4,540	1.0	11,588
<i>Subtotal: Billable Units - Non Stormwater Only</i>	<u>102,890</u>		<u>220,692</u>
<u>Stormwater Only</u>			
Residential - SW Only			
Tier 1	305	0.5	153
Tier 2	561	1.0	561
Tier 3	138	2.0	276
Other	1	1.0	3
<i>Subtotal: Residential - SW Only</i>	<u>1,005</u>		<u>993</u>
Non-Residential	3,992	1.0	29,867
<i>Subtotal: Stormwater Only</i>	<u>4,997</u>		<u>30,860</u>
<i>Total: Billable Units</i>	107,887		251,552

Pittsburgh Water and Sewer Authority

FPFTY 2022 COS & Rate Design

Stormwater COS by Customer Class

HJS-4SW-R

Unit Cost Determination		<u>FY 2022</u>
		COS
Stormwater Revenue Requirements	\$	38,016,338
Less: Allocated Offsets		(482,878)
<i>Net Stormwater Revenue Requirements</i>	\$	<u>37,533,460</u>
Stormwater ERUs		<u>251,552</u>
Annual Stormwater Cost per ERU	\$	149.21

Customer Class Cost of Service	ERUs	Full COS Rate		COS by Class	% by Class
		Unit Rate	Unit Rate (Monthly)		
Residential	101,753	\$ 149.21	\$ 12.43	\$ 15,182,347	40.5%
Residential - CAP	3,692	149.21	12.43	550,801	1.5%
Commercial	115,427	149.21	12.43	17,222,675	45.9%
Industrial	1,568	149.21	12.43	233,886	0.6%
Health or Education	11,739	149.21	12.43	1,751,602	4.7%
Municipal	5,784	149.21	12.43	863,060	2.3%
Other	11,588	149.21	12.43	1,729,090	4.6%
	<u>251,552</u>			<u>\$ 37,533,460</u>	<u>100.0%</u>

COS Adjustments		Allocation Method	Residential	Residential - CAP	Commercial	Industrial	Health or Education	Municipal	Other	Total
<u>Adjustments to Cost of Service</u>										
Gradualism - Between WW/Storm	Unadj. COS		40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
Add: Bad Debt Expense	Class Contribution to BDE		77.3%	0.0%	17.4%	0.7%	1.4%	3.4%	0.0%	100.0%
Add: Bad Debt Expense (SWO)	Unadj. COS (Weighted by SWO)		3.1%	0.1%	76.5%	1.0%	7.8%	3.8%	7.7%	100.0%
Add: Cost of Credits and Incentives	Unadj. COS		40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
BDP Forgone Revenue	Unadj. COS		41.1%		46.6%	0.6%	4.7%	2.3%	4.7%	100.0%
City of Pittsburgh - Phase-In	Unadj. COS		40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
Gradualism - Between Classes	Unadj. COS		40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
Adjustment for Revenue (*as filed)	Unadj. COS		40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
Cost of Service by Class										
Allocated Cost of Service (Unadjusted)			\$ 15,182,347	\$ 550,801	\$ 17,222,675	\$ 233,886	\$ 1,751,602	\$ 863,060	\$ 1,729,090	\$ 37,533,460
Exclude: Bad Debt & Credit Program			(1,459,884)	(52,963)	(1,656,075)	(22,490)	(168,428)	(82,989)	(166,263)	(3,609,092)
Net Cost of Service (1)			\$ 13,722,463	\$ 497,838	\$ 15,566,600	\$ 211,396	\$ 1,583,174	\$ 780,071	\$ 1,562,826	\$ 33,924,368
% of COS			40.5%	1.5%	45.9%	0.6%	4.7%	2.3%	4.6%	100.0%
<u>Adjustments to Cost of Service</u>										
	<u>Adjustment</u>									
Gradualism - Between WW/Storm	\$ (12,400,000)		\$ (5,015,821)	\$ (181,969)	\$ (5,689,888)	\$ (77,269)	\$ (578,680)	\$ (285,131)	\$ (571,243)	\$ (12,400,000)
Add: Bad Debt Expense (NSWO)	415,814		321,274	-	72,163	2,813	5,633	13,930	-	415,814
Add: Bad Debt Expense (SWO)	1,177,546		36,546	1,326	900,365	12,227	91,570	45,119	90,393	1,177,546
Add: Cost of Credits and Incentives	696,930		281,910	10,227	319,795	4,343	32,524	16,026	32,106	696,930
BDP Forgone Revenue	250,545		102,855	(250,545)	116,678	1,584	11,867	5,847	11,714	-
City of Pittsburgh - Phase-In	-		-	-	-	-	-	-	-	-
Gradualism - Between Classes	-		-	-	-	-	-	-	-	-
Adjustment for Revenue (*as filed)	(90,000)		(36,405)	(1,321)	(41,298)	(561)	(4,200)	(2,069)	(4,146)	(90,000)
Total: Adjusted Cost of Service			\$ 9,412,822	\$ 75,556	\$11,244,415	\$ 154,533	\$ 1,141,888	\$ 573,793	\$ 1,121,651	\$ 23,724,658
% of COS			39.7%	0.3%	47.4%	0.7%	4.8%	2.4%	4.7%	100.0%

(1) Net Cost of Service excludes Bad Debt Expense and Cost of Credits and Incentives since these costs vary based on the amount of the Stormwater fee.

Pittsburgh Water and Sewer Authority
 FPFTY 2022 COS & Rate Design
 Stormwater Rate Design

HJS-6SW-R

Unit Cost for Ratemaking

FY 2022

Net Stormwater Revenue Requirements	\$ 23,724,658
Add: Cost of BDP Forgone Revenue	250,545
Net Costs to Recover for Ratemaking	<u>\$ 23,975,203</u>
Stormwater ERUs	251,552
Annual Stormwater Cost per ERU for Ratemaking	\$ 95.31
Monthly Stormwater Charge per ERU	\$ 7.95

Monthly Stormwater Rates

	Units	Proposed Rate (\$/ERU)	Revenues	Class COS	Difference (\$)	Difference (%)
<u>Residential</u>						
Tier 1	12,974	\$ 3.98	\$ 619,638			
Tier 2	57,834	7.95	5,517,364			
Tier 3	13,642	15.90	2,602,894			
Other	10,148	7.95	968,119			
<i>Subtotal: Residential</i>	94,598		9,708,015	\$ 9,412,822	\$ 295,192	3.0%
<u>Residential - CAP</u>						
Tier 1	631	\$ 0.99	\$ 7,496			
Tier 2	2,636	1.99	62,948			
Tier 3	299	3.98	14,280			
Other	142	1.99	3,391			
<i>Subtotal: Residential - CAP</i>	3,708		88,115	\$ 75,556	\$ 12,559	14.3%
<u>Non-Residential</u>						
Commercial	115,427	\$ 7.95	\$ 11,011,774			
Industrial	1,568	7.95	149,541			
Health or Education	11,739	7.95	1,119,933			
Municipal	5,784	7.95	551,821			
Other	11,588	7.95	1,105,539			
<i>Subtotal: Non-Residential</i>	146,107		13,938,608	\$ 14,236,280	\$ (297,672)	-2.1%
<i>Total Stormwater</i>	244,413		23,734,738	\$ 23,724,658	\$ 10,080	0.0%

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design

FPPTY CCOS Comparison - Stormwater

HJS-7SW-R

	Unadjusted COS		Revenue at Existing Rates		Revenue at Proposed Rates		Proposed Increase	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Base Rate Revenues								
Residential	\$ 15,182,347	40.5%	\$ -	0.0%	\$ 9,708,015	40.9%	\$ 9,708,015	100.0%
Residential - CAP	550,801	1.5%	-	0.0%	88,115	0.4%	88,115	100.0%
Commercial	17,222,675	45.9%	-	0.0%	11,011,774	46.4%	11,011,774	100.0%
Industrial	233,886	0.6%	-	0.0%	149,541	0.6%	149,541	100.0%
Health or Education	1,751,602	4.7%	-	0.0%	1,119,933	4.7%	1,119,933	100.0%
Municipal (Metered & Unmetered)	863,060	2.3%	-	0.0%	551,821	2.3%	551,821	100.0%
Other	1,729,090	4.6%	-	0.0%	1,105,539	4.7%	1,105,539	100.0%
Subtotal: Base Rate Revenues	\$ 37,533,460	100.0%	\$ -	0.0%	\$ 23,734,738	100.0%	\$ 23,734,738	100.0%
DSIC Revenues								
Residential	n/a	n/a	\$ -	0.0%	\$ -	0.0%	-	0.0%
Residential - CAP	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Commercial	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Industrial	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Health or Education	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Municipal (Metered & Unmetered)	n/a	n/a	-	0.0%	-	0.0%	-	0.0%
Subtotal: DSIC revenues	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%	\$ -	0.0%
Total: User Charge Revenues	\$ 37,533,460		\$ -		\$ 23,734,738		\$ 23,734,738	100.0%
Other Revenues	482,878				482,878		482,878	
Total: Wastewater Conveyance Revenues	\$ 38,016,338		\$ -		\$ 24,217,616		\$ 24,217,616	100.0%

Pittsburgh Water and Sewer Authority

FPPTY 2022 COS & Rate Design
Stormwater Revenue Proof

HJS-8SW-R

	2022 Revenue @ Existing Rates			2022 Revenue @ COS Rates				2022 Revenue @ Proposed Rates			
	Units	Rates	Revenue	Units	Rates	Collection %	Revenue	Units	Rates	Collection %	Revenue
Base Rate Revenue											
<u>Non-Stormwater Only</u>											
Residential											
Tier 1	12,669	\$ -	\$ -	12,669	\$ 6.22	100%	\$ 945,157	12,669	\$ 3.98	100%	\$ 605,071
Tier 2	57,273	-	-	57,273	12.43	100%	8,545,581	57,273	7.95	100%	5,463,844
Tier 3	13,504	-	-	13,504	24.87	100%	4,029,806	13,504	15.90	100%	2,576,563
Other	10,145	-	-	10,145	12.43	100%	1,513,714	10,145	7.95	100%	967,833
<i>Subtotal: Residential</i>	93,591	\$ -	\$ -	93,591			\$ 15,034,258	93,591			\$ 9,613,312
Residential - CAP											
Tier 1	631	\$ -	\$ -	631	\$ 6.22	100%	\$ 47,075	631	\$ 0.99	100%	\$ 7,496
Tier 2	2,636	-	-	2,636	12.43	100%	393,312	2,636	1.99	100%	62,948
Tier 3	299	-	-	299	24.87	100%	89,226	299	3.98	100%	14,280
Other	142	-	-	142	12.43	100%	21,188	142	1.99	100%	3,391
<i>Subtotal: Residential - CAP</i>	3,708	\$ -	\$ -	3,708			\$ 550,801	3,708			\$ 88,115
Non-Residential											
Commercial	85,560	\$ -	\$ -	85,560	\$ 12.43	100%	\$ 12,766,219	85,560	\$ 7.95	100%	\$ 8,162,421
Industrial	1,568	-	-	1,568	12.43	100%	233,886	1,568	7.95	100%	149,541
Health or Education	11,739	-	-	11,739	12.43	100%	1,751,602	11,739	7.95	100%	1,119,933
Municipal	5,784	-	-	5,784	12.43	100%	863,060	5,784	7.95	100%	551,821
Other	11,588	-	-	11,588	12.43	100%	1,729,090	11,588	7.95	100%	1,105,539
<i>Subtotal: Non-Residential</i>	116,240	\$ -	\$ -				\$ 17,343,857	116,240			\$ 11,089,255
<i>Subtotal: Non-Stormwater Only</i>		\$ -	\$ -				\$ 32,928,916				\$ 20,790,682
<u>Stormwater Only</u>											
Residential - SW Only											
Tier 1	305	\$ -	\$ -	305	\$ 6.22	100%	\$ 22,754	305	\$ 3.98	100%	\$ 14,567
Tier 2	561	-	-	561	12.43	100%	83,706	561	7.95	100%	53,519
Tier 3	138	-	-	138	24.87	100%	41,181	138	15.90	100%	26,330
Other	3	-	-	3	12.43	100%	448	3	7.95	100%	286
<i>Subtotal: Residential - SW Only</i>	1,007	\$ -	\$ -	1,007			\$ 148,089	1,007			\$ 94,703
Non-Residential	29,867			29,867	12.43	100%	4,456,455	29,867	7.95	100%	2,849,353
<i>Subtotal: Stormwater Only</i>		\$ -	\$ -				\$ 4,604,544				\$ 2,944,056
Stormwater User Charge Revenue		\$ -	\$ -				\$ 37,533,460				\$ 23,734,738
DSIC Revenues											
Residential		\$ -	\$ -				\$ -				\$ -
Non-Residential		-	-				-				-
<i>Subtotal: DSIC Revenues</i>		\$ -	\$ -				\$ -				\$ -
Other Revenues											
Other Revenues			482,878				482,878				482,878
Total: System Revenues		\$	482,878				\$ 38,016,338				\$ 24,217,616
FPPTY Stormwater Revenue Requirements							\$ 38,016,338				\$ 24,297,536
Difference							\$ -				\$ (79,920)

Pittsburgh Water and Sewer Authority

FPFTY 2022 COS & Rate Design

Proposed Rate Phase-In

HJS-9SW-R

Stormwater

	Phased-In Rates		
	Existing (2021)	Phase In (2022)	Proposed (2023)
Residential (per ERU)			
Tier 1	\$ -	\$ 2.99	\$ 3.98
Tier 2	-	5.96	7.95
Tier 3	-	11.93	15.90
Residential-CAP (per ERU)			
Tier 1	\$ -	\$ 0.74	\$ 0.99
Tier 2	-	1.49	1.99
Tier 3	-	2.99	3.98
Non-Residential Rate (per ERU)			
Commercial	\$ -	\$ 5.96	\$ 7.95
Industrial	-	5.96	7.95
Health or Education	-	5.96	7.95
Municipal	-	5.96	7.95
Other	-	5.96	7.95

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

BARRY KING, PE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Valve Maintenance, Pressures, Meter Testing and
Replacement, Flushing Distribution System,
Ownership and Maintenance of Customer Laterals,
Surface Restoration, and Response to Leaks and Outages

July 28, 2021

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TABLE OF EXHIBITS

BK-3	Lateral Ownership Report
------	--------------------------

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Barry King and I am the Director of Engineering and Construction for The
4 Pittsburgh Water and Sewer Authority (“PWSA”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony on April 13, 2021 that accompanied the rate filing
7 and Supplemental Direct Testimony on June 14, 2021.

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. The purpose of my testimony is to respond to various quality of service recommendations
10 made by Israel E. Gray on behalf of the Bureau of Investigation and Enforcement
11 (“I&E”),¹ Terry L. Fought for the Office of Consumer Advocate (“OCA”),² and Barbara
12 R. Alexander for the OCA.³

13 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

14 A. Yes. I am sponsoring PWSA Exhibit BK-3, which is the Investigation and Evaluation of
15 Assuming Ownership of Wastewater Laterals (“Lateral Ownership Report”) prepared by
16 Collective Efforts, LLC for Raftelis Financial Consultants, Inc. and PWSA.

17 **II. RESPONSES TO RECOMMENDATIONS**

18 **A. Valve Maintenance**

19 **Q. PLEASE SUMMARIZE THE PARTIES’ RECOMMENDATIONS CONCERNING**
20 **PWSA’S VALVE MAINTENANCE PROGRAM.**

21 A. Mr. Gray offers two recommendations relating to valve maintenance, claiming that
22 PWSA needs to: (1) establish valve inspection and maintenance procedures; and (2)

¹ I&E Statement No. 4.

² OCA Statement 6.

³ OCA Statement 5.

1 establish records to be kept as part of the valve inspection and maintenance procedure.
2 He further suggests that PWSA exercising all of its valves over a five-year period is
3 insufficient. (I&E Statement No. 4 at 1). In addition, Mr. Fought addresses the
4 maintenance of isolation valves. As he explains, isolation valves are installed on water
5 mains so that the water can be shut off in sections of the distribution system in case of a
6 water main break or for main repairs and replacements. Although he finds that the
7 Authority's goal to exercise 5,000-5,200 valves per year is acceptable, he recommends
8 that if PWSA determines that too many of the valves cannot be exercised and must
9 instead be repaired or replaced, PWSA should be required to increase the annual amount
10 exercised. He further testifies that isolation valves should be repaired or replaced at the
11 time they are found to be inoperable. (OCA Statement 6 at 11-13).

12 **Q. WHAT IS THE RATIONALE THE PARTIES OFFER TO SUPPORT THEIR**
13 **RECOMMENDATIONS?**

14 A. In my Supplemental Direct Testimony in response to Commissioner Ralph V. Yanora's
15 Directed Questions, I described PWSA's plans to dedicate two crews to inspecting and
16 exercising isolation valves, which would allow PWSA to inspect one-fifth of its system
17 valves each year and complete exercising all the valves in the system within a five-year
18 period. (PWSA St. No. 5 at 17). In his Direct Testimony, Mr. Gray opines that upon
19 reviewing valve manufacturer specifications, he does not believe PWSA's plan to
20 annually exercise one-fifth of the isolation valves is sufficient. Noting that the
21 manufacturer's specifications do not provide the exact frequency at which the valves
22 should be exercised, Mr. Gray refers to the specifications as indicating that valves should
23 be exercised at regular intervals and the frequency should depend on things such as the

1 length of time the valve has been in operation, and on the service condition of the valve.
 2 (I&E St. No. 4 at 3).

3 Mr. Fought indicates in his Direct Testimony that according to the National
 4 Environmental Services Center at West Virginia University, experts recommend
 5 exercising valves annually, if possible, or at least once every two years. (OCA Statement
 6 6 at 12). Despite this information and his recommendation in the prior rate case for
 7 PWSA to exercise 10,000 valves, he accepts PWSA’s current plan for 5,000-5,200,
 8 unless the Authority finds that too many of the valves cannot be exercised and must be
 9 repaired or replaced. (OCA Statement 6 at 13).

10 **Q. WHAT IS YOUR RESPONSE TO MR. GRAY’S OBSERVATION THAT PWSA’S**
 11 **PLAN TO ANNUALLY EXERCISE ONE-FIFTH OF THE ISOLATION VALVES**
 12 **IS INSUFFICIENT?**

13 A. In the Joint Petition for Settlement approved by the Commission on December 3, 2020,
 14 PWSA committed to exercising approximately 5,000 isolation valves per year based on
 15 the funding and staffing resources that are available.⁴ PWSA subsequently increased its
 16 internal goal to 5,200. Increasing the frequency of exercising valves above current levels
 17 would require additional funding and staffing resources that are not included in PWSA’s
 18 current budget and forecasted expenses.

19 Since the submission of my Supplemental Direct Testimony, I have learned that
 20 although PWSA has about 26,000 valves on its system, over 6,000 of them are privately-
 21 owned. PWSA has just over 19,000 valves that it is obligated to inspect. Therefore,
 22 PWSA is reducing its internal target to exercising 4,000 valves per year. Nonetheless, I

⁴ *Pa. Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 and R-2020-3017970 (Order entered December 3, 2020), adopting Recommended Decision issued on October 29, 2020, at 49.

1 note that PWSA does not intend to stop exercising valves when it reaches the internal
2 annual target of 4,000 and will continue to conduct inspections to the extent that funding
3 and staffing is available. Given the lack of an exact frequency in the specifications
4 referenced by Mr. Gray, and this accelerated completion of the inspections, it is PWSA's
5 view that the current plan is acceptable. This is particularly true given the lack of
6 information about prioritizing this process, which I address in more detail below.

7 **Q. WHAT ARE MR. FOUGHT'S SPECIFIC PROPOSALS?**

8 A. Mr. Fought recommends that if PWSA finds a high percentage of valves not working in
9 one-fifth of its system, it should be required to accelerate the exercising of isolation
10 valves. He further indicates that isolation valves should be repaired or replaced at the
11 time they are found to be inoperable. In addition, Mr. Fought proposes that if the valves
12 are not repaired at the time they are identified, PWSA should annually submit a schedule
13 to OCA and the Commission for replacing or repairing those isolation valves. He also
14 recommends that after exercising all of its valves and repairing/replacing those it could
15 not exercise, the Authority should develop a reasonable schedule going forward. (OCA
16 Statement 6 at 13).

17 **Q. WHAT IS PWSA'S RESPONSE TO THESE RECOMMENDATIONS?**

18 A. PWSA is opposed to accelerating the schedule, which would be challenging given current
19 funding and resource availability. However, PWSA agrees with Mr. Fought's testimony
20 that isolation valves should be repaired or replaced at the time they are found to be
21 inoperable. That is generally the approach that PWSA follows today when it is feasible
22 to do so. On occasion, the valve could already be scheduled for near-term replacement
23 and the better business practice is to wait until that time to remedy the issue. In other
24 instances, additional resources may be needed that are not readily available, causing

1 repairs or replacements to be somewhat delayed. Given that PWSA does normally repair
2 or replace valves that are found to be inoperable, I see no need for further reporting about
3 valves that could not be properly exercised. As to developing a reasonable schedule
4 going forward, it is PWSA's intent to continue the rotation cycle that is now in place of
5 exercising approximately one-fifth of its isolation valves each year. Once all of the
6 valves are located during the initial five-year program, it may be feasible to drop to a
7 four-year cycle.

8 **Q. DOES MR. GRAY EXPRESS ANY FURTHER CONCERNS ABOUT PWSA'S**
9 **VALVE MAINTENANCE PLAN?**

10 A. Yes. Mr. Gray expresses concern that PWSA has no criteria for prioritizing which valves
11 should be exercised each year, but rather gives every valve equal priority. He notes that
12 the American Series 2500 Wedge Gate Valve specifications state that valves should be
13 operated at a minimum of once per year, but also allows for what is recommended by the
14 American Water Works Association ("AWWA"). (I&E St. No. 4 at 4).

15 **Q. WHAT IS THE AWWA'S RECOMMENDATION?**

16 A. AWWA recommends that water utilities initiate a valve exercise program that requires all
17 vales to be inspected and operated on a regular basis. Specific components of such a
18 program include the identification of critical valves, the measurement and documentation
19 of valve operation and the development or improvement of data used in a geographic
20 information system ("GIS").⁵

⁵ <https://www.hydrant.com/valve-exercising-and-valve-surveys/>

1 **Q. WHAT OTHER RESEARCH HAS MR. GRAY PERFORMED WITH RESPECT**
2 **TO VALVE MAINTENANCE?**

3 A. Mr. Gray identifies the Standard Operating Procedure (“SOP”) for the City of Flint,
4 Michigan, which performs valve exercising and maintenance in accordance with AWWA
5 Manual, M44. As explained by Mr. Gray, Flint’s SOP calls for the prioritization of
6 maintenance on those valves that are most critical to distribution system performance and
7 those impacting sensitive populations. According to Flint’s SOP, while a three to five
8 year rotation schedule is acceptable for the inspection of gate valves, those affecting
9 hospitals, schools and valves on water mains of diameter 16-inches or greater should be
10 given priority and exercised once per year. (I&E St. No. 4 at 4).

11 **Q. WHAT SPECIFICALLY DOES MR. GRAY RECOMMEND THAT PWSA DO**
12 **REGARDING ITS VALVE MAINTENANCE PROGRAM?**

13 A. Mr. Gray offers two recommendations. Under his first proposal, PWSA would develop a
14 valve maintenance program that prioritizes valves most critical to system performance.
15 He recommends that PWSA’s valve maintenance schedules be based on criteria such as
16 size, location, age and operational history of the valves. Mr. Gray’s second
17 recommendation is for PWSA to develop a thorough record keeping procedure for valve
18 maintenance. He suggests that PWSA maintain records of valve location (GPS
19 coordinates), age, size of the valve, the valve manufacturer, valve serial number, the
20 number of rotations to fully open and fully close the valve, and the overall condition of
21 the valve. Mr. Gray explains that these records will provide insight for scheduling future
22 valve maintenance or replacement and highlight any reliability issues with specific valve
23 manufacturers and/or models. (I&E St. No. 4 at 5).

1 **Q. WHAT IS YOUR RESPONSE TO MR. GRAY'S TESTIMONY ABOUT THE**
2 **PRIORITIZATION OF MAINTENANCE?**

3 A. As to the first recommendation, it is not feasible because PWSA would have to identify
4 the locations of hospitals, schools and other critical locations with valves on water mains
5 of diameter 16-inches or greater and then identify which valves would be needed to
6 isolate those areas. Compiling that information and then developing a plan to
7 inspect/exercise the valves more frequently would be time-consuming and costly, as it
8 would require PWSA to contract this work to either an on-call consultant and/or an in-
9 house team of engineer(s) and GIS staff (which would take longer than a consultant,
10 given current workloads in both departments). Since PWSA's rotation schedule of five
11 years falls within the aforementioned three to five year rotation schedule for gate valves,
12 coupled with PWSA's practice of repairing or replacing inoperable valves, I believe that
13 this aspect of PWSA's valve maintenance program is appropriate and requires no
14 adjustment.

15 Regarding the second recommendation concerning record-keeping procedures, I
16 agree that this should be done. However, PWSA can feasibly only do this on a going
17 forward-basis. For existing valves, PWSA would typically not have a serial number and
18 would not always have a manufacturer name. In addition, it will take time to implement
19 this process, such that PWSA cannot commit to implementation prior to 2022.
20 Maintaining records about new installations would be beneficial in the event that a
21 manufacturer later identifies a flaw in a particular valve, and over time, PWSA would
22 have the records suggested by AWWA and Mr. Gray.

1 **B. Pressures and Pressure Surveys**

2 **Q. PLEASE DESCRIBE MR. FOUGHT’S RECOMMENDATIONS REGARDING**
 3 **PRESSURE AND PRESSURE SURVEYS.**

4 A. Mr. Fought references Commission regulations that require utilities to maintain normal
 5 operating pressure of not less than 25 p.s.i.g. nor more than 125 p.s.i.g. at the main,
 6 except that during periods of peak seasonal loads the pressures at the time of hourly
 7 maximum demand may not be less than 20 p.s.i.g nor more than 150 p.s.i.g. and that
 8 during periods of hourly minimum demand the pressure may not be more than 150 p.s.i.g.
 9 He also refers to the requirements of the Department of Environmental Protection
 10 (“DEP”) for system pressures, noting that DEP has a minimum and normal working
 11 pressure criterion. (OCA Statement 6 at 7-8). Mr. Fought acknowledges that less than
 12 5% of PWSA’s customers have pressures higher or lower than the range allowed by the
 13 Commission’s regulations. His specific recommendations are that: (1) PWSA should be
 14 responsible for all damages to customer facilities where the normal operating pressures
 15 exceed 125 psi unless it installs a pressure reducing valve approved for water supply with
 16 the applicable pressure upstream of the customer’s service line; and (2) PWSA should
 17 reduce normal operating pressures exceeding 125 psi in its mains in order to protect
 18 customer service lines and inside plumbing. OCA Statement at 9-10.

19 **Q. HOW DO YOU RESPOND TO MR. FOUGHT’S RECOMMENDATION FOR**
 20 **PWSA TO BE HELD RESPONSIBLE FOR DAMAGES TO CUSTOMER**
 21 **FACILILTIES WHERE THE NORMAL OPERATING PRESSURES EXCEED**
 22 **125 PSI?**

23 A. For several reasons, PWSA should not be held responsible for damages to customer
 24 facilities where the normal operating pressures exceed 125 psi unless it installs a pressure
 25 reducing valve approved for water supply with the applicable pressure upstream of the
 26 customer’s service line. As an initial matter, the Commission’s regulations do not

1 support Mr. Fought’s proposed remedy. To the contrary, I note that the regulation he
 2 cites in his testimony provides that if a utility is not undertaking to furnish service that
 3 complies with the specifications, it may be found to be furnishing inadequate service and
 4 be subject to directives from the Commission to implement improvements.⁶

5 Further, Mr. Fought’s proposal is not consistent with PWSA’s tariff. With respect
 6 to pressure, the Authority’s tariff requires PWSA to maintain service at historic pressures
 7 at the main and permits PWSA to furnish service at other pressures where necessary to
 8 supply adequate service, which is clearly supported and permitted by 52 Pa. Code §
 9 65.6(a).⁷ PWSA’s tariff provision further states as follows: “If a customer needs the
 10 system pressure reduced, the customer must install and maintain, at the customer’s
 11 expense, a pressure regulator or valve. The pressure regulator will be installed on the
 12 outlet side of the meter.”⁸ In addition, under Section 860-177 of the Allegheny County
 13 Code, Article XV (Water Supply and Distribution), when the water service pressure to a
 14 building exceeds 80 psi, an approved water pressure regulator with strainer shall be
 15 installed to reduce the pressure to the building.⁹

16 Moreover, I have been advised by counsel that the Commission does not have
 17 statutory authority to require a utility to pay a customer damages.¹⁰ Finally, mandating

⁶ 52 Pa. Code §65.6(a).

⁷ This regulation provides that “[a] utility may undertake to furnish a service which does not comply with the foregoing specifications where compliance with such specifications would prevent it from furnishing adequate service to any customer or where called for by good engineering practices.”

⁸ [Tariff Water](#) – Pa. P.U.C. No. 1, Original Page Nos. 32-33, Section B, Paragraph 8.

⁹ <https://ecode360.com/8488949>

¹⁰ *See, e.g., DeFrancesco v. W. Pa. Water Co.*, 453 A.2d 595 (Pa. 1982); *Elkin v. Bell of Pa.*, 491 Pa. 123, 420 A.2d 371 (1980); *Feingold v. Bell Telephone Co. of Pa.*, 383 A.2d 791 (Pa. 1977).

1 that PWSA pay for damages to customers’ facilities would require funds that are not
 2 available.

3 **Q. WHAT IS YOUR RESPONSE TO MR. FOUGHT’S PROPOSAL FOR PWSA TO**
 4 **REDUCE NORMAL OPERATING PRESSURES EXCEEDING 125 PSI?**

5 A. As to Mr. Fought’s proposal for PWSA to reduce normal operating pressures exceeding
 6 125 psi in its mains in order to protect customer service lines and inside plumbing, this
 7 recommendation is not feasible. Due to the terrain and hills throughout the City of
 8 Pittsburgh, this process would require PWSA to decrease pressure in one area and then
 9 increase it again in the next area. That is not a reasonable expectation. The proposal
 10 would require funds to construct new pump stations, tanks and piping connections to
 11 support additional pressure districts, as well as additional staffing resources to maintain
 12 these additional pump stations and tanks that PWSA does not have available for this
 13 purpose.

14 **C. Meter Testing and Replacement**

15 **Q. WHAT IS MR. FOUGHT’S RECOMMENDATION RELATING TO METER**
 16 **TESTING AND REPLACEMENT?**

17 A. Mr. Fought recommends that PWSA continue to test or replace 10,000 meters per
 18 calendar year after 2021 until all undocumented meters are either tested or replaced.
 19 (OCA Statement 6 at 15).

20 **Q. DOES PWSA AGREE WITH THIS RECOMMENDATION?**

21 A. No. In my Direct Testimony, I noted that PWSA had replaced more than 10,000 meters
 22 in 2019, but that the number dropped to 5,550 in 2020 due to the COVID-19 pandemic
 23 and that for 2021, the goal is 8,000 meters. I also indicated PWSA’s target of 10,000
 24 meters resuming after 2021. However, based on additional information obtained since
 25 that time, I note that in 2021, despite the goal of 8,000 meters, PWSA has not yet reached

1 4,000 replacements this year. Difficulties continue related to the COVID-19 pandemic
2 and gaining access to customers' homes. The majority of meters are inside customers'
3 homes and the reality is that some customers are simply not willing to allow PWSA to
4 access those meters. On a more positive note, PWSA has recently hired a new
5 administrator to lead the program designed to allow PWSA to gain access to customers'
6 homes in an effort to achieve this year's goal of replacing 8,000 meters, as well as the
7 intention to replace 8,000 meters in the years following 2021 until all undocumented
8 meters are either tested or replaced. Given the ongoing difficulties with access, PWSA is
9 not willing to commit to replacing 10,000 meters in 2022 and beyond, but intends to
10 make an effort to do so. However, PWSA will not stop at the annual replacement of
11 8,000 meters if access issues are resolved to allow PWSA to replace additional meters.

12 **D. Flushing the Distribution System**

13 **Q. DOES MR. FOUGHT MAKE ANY RECOMMENDATIONS FOR FLUSHING**
14 **THE DISTRIBUTION SYSTEM?**

15 A. Not at this time. As I explained in my Direct Testimony, PWSA is on track to inspect
16 hydrants and flush 1/3 of the distribution system in calendar year 2021. That continues to
17 be the case. Mr. Fought notes that he does not make any recommendations until it is
18 known what the results are of the Authority annually flushing 1/3 of the distribution
19 system. This is a reasonable approach, and PWSA will address any future
20 recommendations at the appropriate time.

1 **E. Ownership and Maintenance of Customer Laterals**

2 **Q. WHAT IS MR. FOUGHT’S RECOMMENDATION CONCERNING OWNERHIP**
 3 **AND MAINTENANCE OF CUSTOMER LATERALS WITHIN PUBLIC**
 4 **RIGHTS-OF-WAYS (“ROWS”) AND EASEMENTS?**

5 A. Referring to PWSA’s wastewater tariff, Mr. Fought notes that customers own and are
 6 responsible for operation, inspection, maintenance, repair, replacement, abandonment, of
 7 sewer laterals within public rights-of-ways and easements all the way to the sewer main.
 8 In comparison, he explains that PWSA’s residential water customers do not own service
 9 lines all the way to the water main because their responsibility stops at the curb box.
 10 (OCA Statement 6 at 21). Citing specific consumer complaints about this issue, Mr.
 11 Fought offered the opinion that customers should not be responsible for owning the sewer
 12 laterals within public ROWs and easements. His reasons are that customers do not
 13 control the use of the land, other utilities are granted permission to install their facilities
 14 near the sewer laterals without the consent of the customers, and customers should not be
 15 responsible for damages to the sewer laterals caused by factors beyond their control.
 16 (OCA Statement 6 at 25-26). Mr. Fought adds that PWSA ownership of sewer laterals
 17 within public ROWS and easements would be more cost effective for all parties. (OCA
 18 Statement 6 at 27). Referring to the Lateral Ownership Report, Act 120 and proposed
 19 Commission regulations, Mr. Fought opines that these measures will not eliminate
 20 OCA’s concerns. As such, he continues to recommend that PWSA take ownership of the
 21 portion of sewer laterals in public ROWs or easements. (OCA Statement 6 at 27-29).
 22 Mr. Fought estimates the costs at \$450,000 per year. (OCA Statement 6 at 33).

23 **Q. WHAT IS PWSA’S POSITION ON MR. FOUGHT’S RECOMMENDATIONS?**

24 A. Upon final direction from the Commission at Docket No. L-2020-3019521 and so long as
 25 consistent with the Commission’s direction, PWSA will establish a plan for repair and

1 replacement of privately owned damaged sewer laterals within the public right-of-way at
2 PWSA's expense for inclusion in an Act 120 plan to be filed with the Commission for
3 approval. Upon advice of counsel, I note that the Commission does not have statutory
4 authority to order PWSA to assume responsibility for damages to private property or take
5 over private property. PWSA will further address this issue in briefing. As to the other
6 issues raised by Mr. Fought's Direct Testimony, I refer to the Lateral Ownership Report,
7 which is attached to this Rebuttal Testimony as PWSA Exhibit BK-3.

8 **F. Surface Restoration**

9 **Q. WHAT DOES MR. FOUGHT RECOMMEND REGARDING SURFACE**
10 **RESTORATION?**

11 A. Mr. Fought addresses Surface Restoration in the context of the Authority's projects that
12 include full lane or curb to curb paving, which is in addition to the typical restoration of
13 roadway payment to its pre-existing usable condition but would show where trenches
14 were excavated. He recommends that PWSA should coordinate with municipalities,
15 other utilities and the Pennsylvania Department of Transportation ("PennDOT")
16 regarding which roadways are going to be impacted by its infrastructure replacement
17 programs. Specifically, he suggests that for planned upgrades and replacements, PWSA
18 should, as much as possible, replace its water and sewer mains just prior to repaving by
19 the City and other municipalities. Mr. Fought recognizes that projects that are an
20 emergency or part of a Department of Environmental Protection or Environmental
21 Protection Agency deadline cannot necessarily be coordinated with other entities. (OCA
22 Statement 6 at 38).

1 **Q. HOW DO YOU RESPOND?**

2 A. I agree with Mr. Fought’s recommendations. In addition to the situations identified by
3 Mr. Fought that do not lend themselves to coordination, I note that PWSA cannot always
4 coordinate with other entities on projects ordered by the Commission, such as the small
5 diameter mains replacement to address lead priority issues. Notwithstanding those
6 limitations, PWSA’s efforts currently include coordination of water, sanitary and storm
7 sewer infrastructure replacements and improvements with the shared planned surface
8 projects of the City of Pittsburgh (through the Departments of Mobility and Infrastructure
9 (“DOMI”) and Public Works (“DPW”)), Allegheny County, PennDOT, other
10 municipalities, and homeowners’ associations. Through this coordination, the entities are
11 able to identify opportunities for collaboration between projects and minimize surface
12 restoration costs. When an infrastructure replacement/improvement project is verified to
13 coincide with a road already scheduled for a paving project, PWSA’s project is
14 coordinated with the appropriate agency/entity to ensure that the design, permitting and
15 construction of PWSA’s project is completed, whenever possible, in time to allow for the
16 road to be paved on schedule.

17 There is also an active ongoing coordination program with other local utilities, the
18 City (through DOMI), and PWSA to ensure the planned surface restoration and other
19 public works construction activities of each organization are realized and integrated
20 across all organizations, to achieve a net savings in road restoration costs and impacts.

21 As part of that effort, PWSA coordinates and hosts (virtual) monthly capital planning
22 utility coordination meetings with regular attendance from the following parties Peoples
23 Gas Company LLC, Columbia Gas of PA, Inc./NiSource, Inc., Duquesne Light
24 Company, Comcast Business Communications LLC, Pennsylvania-American Water

1 Company, the Department of Mobility and Infrastructure from the City of Pittsburgh, and
2 the Port Authority of Allegheny County (“PAT”). PWSA also participates in the
3 “Coordinate PA” System, which is a communication network that facilitates notification
4 and coordination of utility owners, designers, excavators, project owners, and facility
5 owners to improve collaboration on planning and construction activities within the ROW.

6 Finally, PWSA will continue to utilize GIS resources, including the Pennsylvania
7 811 Coordination web service application, to better identify opportunities for
8 collaboration between projects and to meet the need for increased coordination with the
9 local utilities and local, state, county and city government agencies. PWSA has
10 undertaken an active coordination and open dialogue with DOMI to address the need for
11 a consistent set of policies related to the surface restoration requirements, including how
12 the extent/limits of surface restoration are determined, as well as the applicable
13 pavement/concrete specifications for the surface restoration. This coordination is
14 ongoing.

15 **G. Response to Leaks and Outages**

16 **Q. WHAT ISSUE WAS RAISED CONCERNING PWSA’S PERFORMANCE**
17 **RESPONDING TO LEAKS AND OUTAGES?**

18 A. Testifying for OCA, Ms. Alexander discusses PWSA’s internal objective of minimizing
19 service disruption by measuring the number of outages greater than 6 hours that impact
20 more than 2,000 accounts. She explains that PWSA measures the average length of
21 service disruption for water customers due to main breaks, system repairs, low pressure,
22 boil water advisories and operational needs. As Ms. Alexander notes, the target for an
23 average of no longer than 6 hours for a service disruption was met routinely throughout
24 2018 and most of 2019. However, she testifies that starting in November 2019, the

1 length of service outages began to increase and exceeded 6 hours during most of 2020
2 and into 2021. Ms. Alexander further claims that PWSA's performance does not meet
3 the AWWA's guidelines and recommends that the Authority be required to meet its
4 internal target as a condition for any rate increase. OCA Statement 5 at 13-14.

5 **Q. HOW DO YOU RESPOND?**

6 A. Only unplanned disruptions are included in the PWSA metric referenced by Ms.
7 Alexander. In presenting this information, PWSA considers the number of disruptions per
8 1,000 accounts and the average length of disruptions. However, Ms. Alexander's claim
9 appears to be overlooking the portion of PWSA's internal target that relates to service
10 disruptions affecting more than 2,000 customers. While service disruptions for
11 customers sometimes exceed 6 hours, PWSA has not encountered any situation during
12 2021 in which more than 2,000 customers have been affected for longer than 6 hours.
13 Within 4 hours, PWSA is able to provide a water buffalo as needed to meet customers'
14 demands and gives public notice of the availability and location. In addition, upon advice
15 of counsel, I understand that the rate increase cannot be conditioned upon the Authority
16 meeting its internal target.¹¹ PWSA will further address this issue in briefing. Finally, I
17 note that Ms. Alexander does not reference a particular best practice endorsed by the
18 AWWA that PWSA is not following, and in any event, an AWWA guideline is not the
19 equivalent of a Commission standard established by regulations.

20

¹¹ See 66 Pa.C.S. § 523 (Commission can make adjustments to specific components of the utility's claimed cost of service when determining just and reasonable rates if it makes specific findings upon evidence of record regarding adequacy of service).

1 **III. CONCLUSION**

2 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

3 **A.** Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

VERIFICATION

I, Barry King, hereby state that: (1) I am the Director of Engineering for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Dated: 07/27/2021 | 12:43 PM PDT

DocuSigned by:
Barry King
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Barry King
Director of Engineering
The Pittsburgh Water and Sewer Authority

Exhibit BK-3

**INVESTIGATION AND EVALUATION OF
ASSUMING OWNERSHIP OF
WASTEWATER LATERALS**

January 15, 2021

Prepared for:
Raftelis Financial Consultants, Inc.

and

Pittsburgh Water and Sewer Authority
Pittsburgh, Pennsylvania

Prepared by:



Collective Efforts, LLC
Pittsburgh, Pennsylvania

Project Number: 19-37103

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ATTACHMENTS

Attachment A Technical Memorandum: Benchmarking for Wastewater Lateral Ownership and Operation and Maintenance

Attachment B Technical Memorandum: Cost Estimating for Taking Ownership of Wastewater Laterals

Attachment C Technical Memorandum: Position on Insurance for Wastewater Laterals

1.0 INTRODUCTION AND BACKGROUND

Effective April 1, 2018, The Pittsburgh Water and Sewer Authority (PWSA) became subject to the jurisdiction of the Pennsylvania Public Utility Commission (PUC). 66 Pa.C.S. §§ 3201-3209. As such, the PWSA's rates and provision of service are regulated by the PUC. To be in compliance with PUC requirements, a utility's rates and service must be reasonable and non-discriminatory. Utilities are also required to provide certain information and meet certain other requirements as dictated by the PUC. As part of the PWSA's transition to PUC jurisdiction, the PUC conducted a "Compliance Plan" proceeding during which the PWSA's pre-existing operations were reviewed by the PUC (and other interested stakeholders). Stage 1 of the Compliance Plan proceeding resulted in a PUC-approved settlement adopted March 26, 2020 which included a provision requiring the PWSA to "conduct a study to investigate the legal, economic and operational feasibility of owning and/or maintaining (now privately owned) wastewater laterals within the public-right-of-way ("ROW")." The report is to include "the cost, feasibility and appropriateness of alternatives such as facilitating the provision of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals." As required, the PWSA has provided status updates of this study in the PWSA Compliance Plan Progress Reports submitted to the PUC and is sharing this final report with all parties by January 15, 2021. Consistent with the recently approved settlement of the PWSA's most recent base rate case, the PWSA will schedule a meeting with interested parties no later than March 16, 2021 to discuss this report.

The PWSA retained Raftelis Financial Consultants, Inc. (Raftelis) to conduct a study examining the potential costs of the PWSA taking on the ownership of wastewater laterals. The Raftelis Project Team is comprised of Raftelis and Collective Efforts, LLC (Collective Efforts). The Project Team examined this issue by interviewing PWSA representatives, obtaining background information such as current operating procedures and costs of construction and maintenance, and benchmarking research to determine how other utility providers address this issue. The PWSA also requested that the Project Team evaluate the feasibility of insuring the wastewater laterals. Legal issues were evaluated by the PWSA in-house attorneys as well as outside PUC regulatory counsel.

2.0 LEGAL AND REGULATORY FRAMEWORK

As noted above, the PWSA currently operates under the jurisdiction of the Pennsylvania PUC. As a utility, the PWSA is required to receive PUC approval for the rates it charges customers and the terms and conditions under which it provides service to customers. The PUC approved rates and terms of service are set forth in the PWSA's PUC-approved water and wastewater tariffs. The tariffs govern all rates, rules, and regulations that the PWSA must follow to provide service to its customers. The PWSA may propose revisions to the rates and/or terms of service of the tariffs but is required to receive PUC approval before they can be implemented. The PWSA's Wastewater Tariff Supplement No. 5 effective January 14, 2021 is its current PUC-approved tariff governing the PWSA's wastewater conveyance service. The PUC and PWSA requirements and operating procedures regarding lateral ownership are summarized in the following sections.

2.1 PUC Historical Policy Regarding Wastewater Lateral Ownership

A review of legal precedent was conducted to identify PUC wastewater lateral ownership requirements. In individual cases, the PUC has held that a utility should furnish, install and maintain the wastewater lateral from the property line to the main (Falls Township [Sewer] 199 PaPUC LEXIS 202 (1998), *aff'd*, 1998 PaPUC LEXIS 38. In the Falls Township case, the PUC held that, in that instance, requiring homeowners to install and maintain the portion of the sewer lateral in the public right of way (but, nonetheless having the Township maintain ownership) would

not be consistent with the Public Utility Code, 66 Pa.C.S. § 1501 which requires the utility to provide the facilities "necessary and proper for the accommodation, convenience, and safety of its patrons, employees, and the public."

Historically, PUC regulated investor-owned utilities have generally defined ownership of wastewater laterals as extending from the utility's main to the property line or curb. Since this part of the lateral typically includes sections within the public ROW, utility ownership of this section permits the utility to operate and maintain that section of the lateral as its own property. However, there is no law or regulation that requires a PUC-regulated wastewater utility to install, own and maintain the portion of the wastewater lateral in the public ROW and the Falls Township holding is based on the view that a utility is required to provide and maintain all utility-owned facilities used to provide utility service.

2.2 Current Private Ownership Status of Wastewater Laterals in the PWSA Service Territory as Set Forth in the PUC Approved Wastewater Tariff

Pursuant to currently effective PWSA Tariff Wastewater – Pa. P.U.C. No. 1, a "lateral, customer lateral or sewer lateral" is defined as wastewater or sewer lines that connect a property to the PWSA's Collection Mains and carry sewage and/or stormwater from one or more buildings or premises to the PWSA's Collection Mains. (Tariff, Part II at 21). The Tariff further states that ownership of the wastewater lateral that provides service to residential and non-residential properties, up to and including the connection of the wastewater lateral to the sewer main, lies with the property owner. The property owner is responsible for the operation, inspection, maintenance, repair, replacement, abandonment, and removal of the wastewater lateral. (Tariff, Part III, Section B.7.a at 35). Finally, the PUC-approved wastewater tariff provides that if a condition of a wastewater lateral presents a risk to public health or safety or damage to public property and the property owner fails to take prompt action to cure the problem following notice to do so, the PWSA has the right (but not the duty) to make the necessary repair or replacement and charge the property owner with the reasonable cost. If a property owner fails to pay for the repair/replacement the PWSA may file a lien against the property. (Tariff, Part III, Section B.7.b at 35). For properties owned or controlled by the City of Pittsburgh located inside City Parks that are less than 50 acres, ownership and maintenance responsibility for wastewater laterals shall be phased into the City over five years (2020 through 2024). For properties owned or controlled by the City of Pittsburgh located inside City Parks that are greater than 50 acres, ownership and maintenance responsibility for wastewater laterals shall be PWSA's responsibility.

The current private ownership of the wastewater laterals up to and including the connection of the sewer lateral to the sewer main stems from the Pittsburgh Code of Ordinances § 431.04, in which the City of Pittsburgh required property owners to construct, own and maintain laterals from the building to the main.

2.3 Utility Authority Regarding Privately Owned Wastewater Laterals

It is well established that a PUC-regulated utility's ownership and/or maintenance responsibility does not extend to any privately owned service line. See, e.g., *PUC v. Mercer Gas*, Docket No. R-80091297, Opinion and Order entered August 21, 1981. This general rule is reflected in the PWSA's current Wastewater Tariff as set forth in the following provisions:

- The Customer Lateral shall be furnished, installed, maintained and/or replaced, when necessary, by and at the sole expense of the Customer. (Tariff, Part III, Section B.1 at 32); and,

- All customer laterals, connections and fixtures furnished by the customer shall be maintained by the customer in good working order. ...All leaks on the customer lateral or any pipe or fixtures in or upon the customer's premises must be repaired immediately by the customer. (Tariff, Part III, Section B.3 at 33)

2.4 New Law Permitting Utilities to Repair Customer-Owned Wastewater Laterals and Pending PUC Regulations

In 2018, the Public Utility Code was amended to give utilities the legal authority to replace or repair a customer-owned damaged wastewater lateral without requiring utility ownership of the lateral. 66 Pa. C.S. § 1311(b)(2) (referred to as “Act 120”). Act 120 is an apparent effort to address existing law which makes the customer responsible for the repair or replacement of privately owned laterals (which, in the PWSA’s service territory, would include the entire lateral from the premises to the main even where such lateral lies within a public ROW). This new law authorizes a PUC-regulated wastewater utility to recover in its rates the cost of replacing a customer-owned, damaged wastewater lateral in certain circumstances, provided the PUC approves a replacement plan and associated tariff provisions permitting such replacement. Act 120 makes clear that, while the utility may agree to take on responsibility to replace damaged laterals, if it voluntarily decides to propose such a plan, ownership of the repaired facility would, nevertheless, stay with customer, and future maintenance responsibly would remain with the customer as well.

In response to Act 120 (as well as the recent increase in the number of wastewater utilities under PUC jurisdiction due to statutory changes in 2016), the PUC initiated a regulatory rulemaking process to develop new regulations governing wastewater utilities. The final PUC approved regulations are subject to a comment period and further PUC review which may well alter the specifics of the existing proposals. The final PUC approved wastewater regulations will likely not be finalized until early 2022.

The currently proposed wastewater regulations include the following:

- Proposed Title 52 § 66.32 defines “Company’s service lateral” as the portion of a service lateral owned by the company, extending from a main to the inlet connection of a customer’s service lateral at the curb or property line.
- Proposed Title 52 § 66.32 defines “Customer’s service lateral” as the portion of a service lateral owned by the customer, most often extending from the curb, property line or utility connection to a point two feet away from the face of the foundation of the structure.
- Proposed Title 52 § 66.33 authorizes utilities to take on replacement responsibility for damaged customer-owned laterals, and recover the cost of such replacements when it is reasonably necessary in order to remediate:
 - i) Excessive inflow and infiltration (“I&I”) causing, or which is reasonably expected within the next five years to cause, a hydraulically overloaded condition, wastewater overflows, and/or additional flow which is prudent for the entity to avoid; or,
 - (ii) Other design or construction conditions causing, or which are reasonably expected within the next five years to cause, wastewater overflows.
- Proposed Title 52 § 66.38(b) requires the tariff to include a definition for customer’s service lateral that clarifies where the customer-owned portion of a service lateral begins and terminates. Note that the PUC also explains its intent that utilities use the replacement process to perfect the utility’s ownership of the portion of the service laterals located within

the existing public ROW to ensure utilities can obtain necessary permits to complete work within the public ROW in the future. Again, there is nothing in Act 120 that mandates a change in a PUC-regulated utility's ownership of wastewater laterals, nor does the law require a utility to own a wastewater lateral to be able to repair or replace it and receive cost recovery. Thus, while investor-owned utilities generally own the portion of the lateral in the public ROW, such ownership is not legally required.

2.5 Legal and Regulatory Framework Considerations For the PWSA

Any consideration of the PWSA taking on responsibility for customer-owned laterals needs to be in conformance with Act 120 and the final PUC wastewater regulations. That approach points to replacing but not taking ownership or providing continued maintenance responsibility for the full customer-owned lateral where replacement of the damaged lateral would reduce I&I or would otherwise reduce wastewater overflows. The PWSA would need to develop a plan taking into consideration the results of this study, direction from the PUC to all wastewater utilities, its continuing efforts to come into compliance with all PUC regulations, requirements necessary to ensure compliance with other federal and state requirements and the need to balance its myriad of other capital improvement projects underway to modernize its system. Once developed, the PWSA would be required to submit the plan to the PUC for approval before it could undertake the process to repair or replace customer-owned damaged wastewater laterals.

3.0 OWNERSHIP PRECEDENT SET BY OTHER MUNICIPALITIES/AUTHORITIES

An investigation was made into the responsibility that other municipalities and sewer authorities (utilities) place on property owners, concerning the wastewater lateral which connects their property with the sewer main. In addition to responsibility for ownership, an investigation was made into the responsibility that other municipalities and sewer authorities place on owners for Operation and Maintenance (O&M) of the wastewater laterals. The information, which was used in this study, was obtained from official webpages, local codes, phone and email correspondence, and tariffs, when available.

In total, thirty-three (33) utilities were reviewed. These were chosen in order to get a representation from around the Pittsburgh area as well as across the state of Pennsylvania and was not an exhaustive search. Also researched were authorities that are similar to the PWSA in size and area. Therefore, while this study concentrated mostly on those located in-or-around the state of Pennsylvania, there are several from outside the area.

Of the utilities that were researched, twenty-three (23) are located within the state of Pennsylvania and ten (10) are from other states, including Ohio, Maryland, New York, Illinois, and California. Of the Pennsylvania municipalities/authorities reviewed, ten (10) are local to the Pittsburgh area. Seven (7) of those within the Commonwealth of Pennsylvania are governed by the PUC. The number of customers served by those reviewed ranges from as low as 2,000 to over 1.5 million.

Details of the methodologies of compiling the ownership benchmarking data is discussed in the "Benchmarking for Wastewater Lateral Ownership Technical Memorandum" which is included in Attachment A of this report. Included in Attachment A is a table outlining all of the information gathered by this investigation. This includes the utility's name, location of service and contact information, whether it is regulated by the PUC, which portion of the wastewater lateral is the responsibility of the property owner, the number of clients served and relevant notes.

In summary, of the utilities that were researched, it was found that ownership responsibility varies from system to system. However, it was found that the responsibility for structural failures

corresponds with ownership responsibility. It was also found that ownership responsibility does not necessarily correspond with responsibility for O&M of the wastewater lateral.

Ownership Responsibility

There is no instance of a utility (PUC-governed or non-PUC-governed) taking responsibility for the wastewater lateral in its entirety.

As a whole, about half (51.5 percent) of the utilities own/are responsible for the wastewater lateral from the connection at the sewer main up until an actual or assumed point (property line, easement, curb, assumed curb). In the other half (48.5 percent), the utility is responsible for no portion of the lateral.

At a state level, of the twenty-three (23) entities within Pennsylvania, almost forty-eight percent (47.8%) of these utilities hold the property owner responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement. The rest (52.2%) hold property owners responsible for the entire lateral from the structure all the way to the connection at the sewer main.

In the ten utilities local to the Pittsburgh area, half (50%) hold property owners responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement, while the other half (50%) hold property owners responsible for the entire lateral, all the way to the connection at the sewer main.

However, the percentages change in those utilities which are governed by the PUC. Of the seven (7) utilities reviewed that are governed by the PUC, about seventy-one percent (71.4) hold the property owner responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement, while about twenty-nine percent (28.6) hold property owners responsible for the entire lateral, all the way to the connection at the sewer main.

There is also one case in which a property owner is only responsible for the lateral from the structure to a real or assumed point, while a commercial or industrial property has responsibility for the entire lateral, all the way to the connection at the sewer main. This was in Akron OH.

O&M Responsibility

Of the 33 utilities that were researched, 17 were further evaluated for O&M responsibilities. The utilities where the property owner owns the entire wastewater lateral were not further evaluated because, in each of these utilities, the owner is also responsible for the O&M for the entire length of the lateral.

For these 17 utilities, which include all of those governed by the PUC, the property owner owns only a portion of the lateral. It was found, however, that there were several O&M responsibility scenarios for this group including:

- Six (35 percent) utilities hold the property owners responsible for O&M for only the portion that they own;
- Eight (47 percent) utilities hold property owners responsible for O&M for the entire length, regardless of ownership responsibility; and
- Three (18 percent) utilities hold the property owners responsible for O&M for just the portion that they own but must reimburse the utility for damages to the public system where the property owner is found responsible for causing.

Ownership and O&M Precedent

In summary, the takeaway from the ownership and O&M benchmarking findings that were discussed above for the PUC-governed utilities is that precedent has been set for the following scenarios:

- No public PUC-governed utilities own the entire wastewater lateral;
- There are PUC-governed utilities where the property owner owns to the ROW, curb, easement, or property line and;
 - Is responsible for O&M to the ROW, curb, easement, or property line; or
 - Is responsible for O&M to the ROW, curb, easement, or property line but may need to reimburse the municipality/authority for damage caused to the public system; or
 - Is responsible for O&M for the entire lateral;
- There are PUC-governed utilities where the property owner owns the entire lateral and is responsible for O&M for the entire lateral. This is the current status for the PWSA system. This scenario is less common than the scenario where the property owner only owns a portion of the wastewater lateral.

4.0 ECONOMIC FEASIBILITY OF WASTEWATER LATERAL OWNERSHIP AND MAINTENANCE

Cost and infrastructure information was obtained from the PWSA which was the basis for preparing cost estimates for several scenarios for taking ownership. The costing scenarios were developed based on multiple interviews with PWSA representatives and considering the range of ownership scenarios that were identified during the ownership benchmarking study.

Based on the results of the ownership benchmarking study, it was determined that the cost of assuming partial ownership of the wastewater laterals would be evaluated because it is the most likely scenario if the PWSA assumes ownership of wastewater laterals. Partial ownership means that the PWSA would take ownership of the wastewater lateral from the sewer main connection to the edge of pavement, and the property owner would own from the edge of pavement to the connection with the structure. In addition to evaluating partial ownership cost, the cost of assuming ownership of the entire length of lateral has been evaluated as a worst-case scenario.

Several components were needed in order to prepare the cost estimates. These components are:

- Average length of wastewater laterals in the system;
- Number of wastewater laterals in the system;
- Repair and replacement scenarios;
- Line items required for repair and replacement actions; and
- Unit costs of line items.

The development of each of these components is discussed in the following sections.

Additional details about how each of these cost components were developed are included in “Attachment B, Cost Estimating for Taking Ownership of Wastewater Laterals”.

4.1 Costing Scenarios

Discussions with PWSA representatives led to the selection of three of the most likely repair and replace scenarios for cost evaluation. These scenarios are:

- Full replacement
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership Scenario (For main to curb or edge of pavement)
- Spot repair (also known as excavated point repair)
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership (For main to curb or edge of pavement)
- Full lining
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership Scenario (For main to curb or edge of pavement)

Each one of these scenarios was evaluated for residential and commercial properties.

In the PWSA service area, the property owner is currently responsible for ownership and maintenance of the entire length of the wastewater lateral. This is the Existing Ownership Scenario. There is no differential cost to this scenario because the PWSA would not be taking any ownership and would continue current practices under this scenario.

The All Public Ownership Scenario is where the PWSA would assume complete responsibility for ownership of the wastewater lateral from the sewer main connection to the connection point at the structure.

The Private/Public Ownership Scenario is where the PWSA would take ownership of a portion of the wastewater lateral from the point of connection to the curb. The property owner would maintain ownership of the wastewater lateral from the curb to the point of connection at the structure. The curb was selected as the demarcation point between public and private ownership as opposed to the property line because the property line is not an obvious physical location for crew workers who are performing repairs. It would be too time consuming and costly to identify the property line boundary for each lateral prior to performing repairs. The curb or, in the absence of a curb, edge of pavement is an obvious physical demarcation point.

It should be noted that there are properties where the wastewater lateral does not leave the front of the structure to connect to a sewer main in a paved road, but rather, exits a structure from the back and connects to a sewer main that is not in a paved road. In this instance, a curb or edge of pavement could not be used as the demarcation point between a potential public/private split of a wastewater lateral. In cases such as this, it is recommended that a demarcation point be established based on actual property lines and access right-of ways that have been or should be established so that the PWSA can perform repairs if needed. Because there is no average condition and this is not a common situation, such a scenario has not been included as a cost scenario for this study.

4.2 Costing Assumptions

As previously noted, currently the property owner is responsible for the operation, inspection, maintenance, repair, replacement, abandonment, and removal of the wastewater lateral. The PUC-approved wastewater tariff provides that if a condition of a wastewater lateral presents a risk to public health or safety or damage to public property and the property owner fails to take prompt action to cure the problem following notice to do so, the PWSA has the right (but not the duty) to make the necessary repair or replacement and charge the property owner with the reasonable cost. The underlying assumption of the cost estimates for assuming ownership of the wastewater laterals is that, after ownership is assumed, the PWSA will only be responsible for the repair of structural failures to the laterals, and not for O&M activities. As such, no O&M activities are included in the cost scenarios that were previously outlined.

PWSA representatives were interviewed to confirm what activities should be included in each of the repair and replace scenarios. The PWSA provided their “Master Bid List – Unit Items” list that defines and assigns item numbers to activities and construction items (e.g., excavation, pipes, etc.) for all the types of materials and activities that they have used in past construction projects as a basis of available activities to choose relevant repair and replacement line items.

PWSA representatives provided their Master Bid Totals database which compiles all the bids that they received for their construction projects, broken down by bid item. For urgent bid items, the only costs available were the averages of bids received from all contractors for each line item rather than a list of average bids from each contractor bid received for each line item. When available, “urgent” items were used because it is anticipated that most of the repair and replace activities that the PWSA would undertake for wastewater laterals would be emergency repairs due to the fact that repairs must be initiated within 24 hours of being reported. When costs for items were not available in the “urgent category”, the average costs from up to seven contractor bids for each item from the “sewer” and “restoration” categories were used.

Costs for each of the scenarios were calculated by tabulating the bid items and average costs per bid item, and estimated quantities of each bid item that were required for the repair and replacement activities.

The data inputs and cost calculations are included in the Cost Evaluation Tabulation Spreadsheets that are included in the Technical Memorandum in Attachment B.

4.3 Cost Evaluation

Costs for each of the scenarios were calculated by tabulating the bid items and average costs per bid item, and estimated quantities of each bid item that were required for the repair and replacement activities.

4.4 Cost Comparison

As can be seen from the estimates in the Cost Evaluation Tabulation Spreadsheets in the Technical Memorandum in Attachment B, the cost per lateral for the commercial and residential cost scenarios are very similar. This is because there are few differences between the ‘representative’ commercial and residential properties that were assumed. It was assumed that a 10-inch diameter wastewater lateral would be representative for both commercial and residential properties. The same average lengths for laterals were also assumed for commercial and residential properties. The only difference between the types of properties was the width of sidewalk that would need to be restored.

The costs that were calculated per wastewater lateral for each scenario were averaged for the residential and commercial properties and then rounded to the nearest \$500.00 are summarized below.

Scenario	PWSA's Average Cost Per Lateral
• Full replacement	
○ All Public Ownership Scenario	\$35,000.00
○ Private/Public Ownership Scenario	\$20,000.00
• Spot repair	
○ All Public Ownership Scenario	\$19,000.00
○ Private/Public Ownership Scenario	\$19,000.00
• Full lining	
○ All Public Ownership Scenario	\$28,500.00
○ Private/Public Ownership Scenario	\$23,500.00

As can be seen, spot repairs are the least costly type of repair and replacement. In practice, however, one scenario cannot be chosen as the 'selected' or 'default' alternative simply based on cost. This is because a determination of which method is the most appropriate or technically feasible must be made on a case-by-case basis. Doing a spot repair may not always be technically feasible if the entire wastewater lateral has collapsed. Similarly, if excavation is being conducted to identify the location or extent of a wastewater lateral failure, it may be more cost effective in the long run to replace the entire lateral rather than do a spot repair or line the wastewater lateral because: 1) excavation has already been completed; 2) a complete replacement will last longer than the other types of repairs, thus extending the time until the next repair is required; and 3) restoration costs are approximately the same.

There are currently approximately 110,000 wastewater laterals in the PWSA system for which the PWSA bills customers its wastewater conveyance rates. Below are the estimated costs of replacing all of these lines either in full or only those sections within the public ROW:

- 110,000 laterals x \$35,000 (full replacement) = \$3.85 billion
 - This assumes full replacement, public and private sides
- 110,000 laterals x \$20,000 (full replacement, public side only) = \$2.2 billion
 - This assumes that the PWSA would only have to fund the public side replacement of all of their laterals

4.5 Additional Cost Considerations

In addition to the estimated replacement costs discussed above, there are additional costs and efforts that would be required for the PWSA to acquire ownership of the now privately owned wastewater laterals. The PWSA would need to develop the necessary forms and process to present to each customer to execute the transfer of the property as well as ensuring that all necessary legal documents are properly filed to document the new ownership. If private owners are unwilling to cooperate with the transfer of ownership, the PWSA would need to engage in additional legal actions, including condemnation proceedings, which would require additional staffing resources as well as increased legal costs and expenses. We estimate that if the PWSA were to embark upon an effort to acquire ownership of the existing approximately 110,000 customer-owned laterals within its service territory, it would likely incur thousands, if not millions more in costs above and beyond those necessary to replace the wastewater laterals.

5.0 INSURANCE FOR WASTEWATER LATERALS

The PUC stipulated that the PWSA should evaluate the cost, feasibility, and appropriateness of alternatives such as facilitating the provisions of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals. The possibility of insuring wastewater laterals was considered as part of this study. Logistical and legal ramifications of insuring the publicly

owned portions, privately owned portions, and offering or recommending insurance products to private lateral owners were discussed with PWSA representatives.

The PWSA's commitment to studying the appropriateness and feasibility of alternatives such as facilitating the provisions of private line insurance predates the issuance of the PUC's proposed regulations implementing Act 120. Those regulations make clear that the approach authorized by the Public Utility Code and the PUC is for the utility to replace, but not own damaged private sewer laterals, when the replacement will have benefits for the rest of the system. Accordingly, other options, including a utility-provided insurance option, would appear to be outside the scope of these legal and policy parameters. Moreover, and as set forth in greater detail in Attachment C, the PWSA, as a municipal authority, is legally prohibited from offering or recommending specific insurance products to private lateral owners. Therefore, the Project Team did not reach out to other municipalities or authorities to interview them to see if they offer or recommend wastewater lateral insurance to their customers. Further, the Project Team did not reach out to insurance providers to see what their terms and conditions might be for such insurance. See Attachment C which is The Technical Memorandum: Position on Insurance for Wastewater Laterals.

6.0 CONCLUSIONS

After review of the legal, cost and logistical issues, the present structure whereby the customer owns and is responsible for O&M and/or replacement of the entire private lateral is the most current realistic approach for the PWSA for the near term. Based on the survey of other similarly situated wastewater conveyance utilities, maintaining the current status quo is not unique despite the fact that other investor-owned utilities own the portion of the customer lateral in the public ROW.

Also important to consider is that the PWSA is in the process of undertaking many other extremely important construction projects including its ambitious lead service line replacement program and an equally ambitious infrastructure and system modernization upgrade as part of its transition to the PUC's jurisdiction. Requiring the PWSA to embark upon taking ownership of its approximately 110,000 wastewater laterals and/or replacing them all will require the PWSA to divert a significant amount of staff resources and incur substantial expense. In consideration of the recent legal developments regarding this issue, such action is neither feasible nor appropriate.

As discussed, Act 120 and the PUC's recently opened rulemaking will establish a framework enabling the PWSA to replace damaged customer-owned wastewater laterals (without requiring the PWSA to take over ownership) when replacement would provide benefits to the rest of the wastewater system. Therefore, the most prudent course at this time is for the PWSA to monitor the PUC's Act 120 rulemaking and actively evaluate the development of a PWSA-specific Act 120 plan that would be submitted to the PUC for approval.

Ultimately, if the PWSA were to embark upon a plan to replace damaged customer-owned wastewater laterals in accordance with Act 120, the most cost-effective option for the PWSA would be to use full lining as the go-to repair option, but in practice, the type of repair selected will be based on an assessment of the lateral in question.

ATTACHMENTS

**ATTACHMENT A
BENCHMARKING FOR
WASTEWATER LATERAL OWNERSHIP
TECHNICAL MEMORANDUM**



Collective Efforts, LLC
Civil and Environmental Engineers

Ownership of Wastewater Laterals
Prepared for Raftelis Financial Consultants, Inc.
Project No. P-19-37103

TECHNICAL MEMORANDUM
Benchmarking for Wastewater Lateral Ownership and Operation and Maintenance
January 15, 2021

Introduction

As part of the PWSA's transition to PUC jurisdiction, the PUC conducted a "Compliance Plan" proceeding during which the PWSA's pre-existing operations were reviewed by the PUC (and other interested stakeholders). Stage 1 of the Compliance Plan proceeding resulted in a PUC-approved settlement adopted March 26, 2020 which included a provision requiring the PWSA to "conduct a study to investigate the legal, economic and operational feasibility of owning and/or maintaining (now privately owned) wastewater laterals within the public Rights of Way ("ROWs)". The report is to include "the cost, feasibility and appropriateness of alternatives such as facilitating the provision of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals". As required, the PWSA has provided status updates of this study in the PWSA Compliance Plan Progress Reports submitted to the PUC and is sharing this with all parties by January 15, 2021. Consistent with the recently approved settlement of the PWSA's most recent base rate case, the PWSA will schedule a meeting with interested parties no later than March 16, 2021 to discuss this report.

In support of this effort, Collective Efforts performed a benchmarking study to survey how local and non-local wastewater utilities manage the ownership of and operation and maintenance (O&M) of wastewater laterals. This Technical Memorandum was prepared to summarize the methodologies, assumptions, and results of the benchmarking survey.

Benchmarking Study Approach

The meeting on August 6, 2020 was the project kick-off meeting with the project team and the PWSA representatives to outline the steps to be taken for the entire project scope of work, which included a discussion of the approach for evaluating the possibility of the PWSA taking ownership and responsibility for a portion or the entirety of wastewater laterals, which connect private plumbing to the sewer main.

An investigation was made into the responsibility that other municipalities and sewer authorities (utilities) place on property owners, concerning the sewer lateral which connects their property with the sewer main. In addition to responsibility for ownership, an investigation was made into the responsibility that other municipalities and sewer authorities place on owners for O&M of the wastewater laterals. The information which was used in this study was obtained from official webpages, local codes, phone and email correspondence, and tariffs, when available.

In total, thirty-three (33) utilities were reviewed. These were chosen in order to get a representation from around the Pittsburgh area as well as across the state of Pennsylvania. We also sought out Authorities that are similar to the PWSA in size and area. Therefore, while this

study concentrated mostly on those located in-or-around the state of Pennsylvania, there are several from outside the area.

Twenty-three (23) are located within the state of Pennsylvania and ten (10) are from other states, including Ohio, Maryland, New York, Illinois, and California. Of the Pennsylvania utilities reviewed, ten (10) are local to the Pittsburgh area. Seven (7) of those within the Commonwealth of Pennsylvania are regulated by the PUC. The number of customers served by those reviewed ranges from as low as 2,000 to over 1.5 million.

Results of Benchmarking Study

Ownership Responsibility

The results regarding ownership responsibility for the utilities studied are presented in Table 1, including the Municipal Authority's name and location, references, notes and whether it falls under PUC governance.

Of the thirty-three (33) utilities reviewed, in no instance was a utility responsible for the sewer lateral in its entirety. Fifty-one-and-a-half percent (51.5%) hold the property owner responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement, Forty-eight-and-a-half percent (48.5%) hold the property owner responsible for the lateral from the structure to its connection at the sewer main.

At a state level, of the twenty-three (23) entities within Pennsylvania, almost forty-eight percent (47.8%) of these utilities hold the property owner responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement. The rest (52.2%) hold property owners responsible for the entire lateral from the structure all the way to the connection at the sewer main.

In the ten (10) utilities local to the Pittsburgh area, half (50%) hold property owners responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement, while the other half (50%) hold property owners responsible for the entire lateral, all the way to the connection at the sewer main.

Of the seven (7) utilities reviewed that are governed by the PUC, about seventy-one percent (71.4%) hold the property owner responsible for the lateral from where it exits the structure to the property line, curb (or assumed curb), or easement, while about twenty-nine percent (28.6%) hold property owners responsible for the entire lateral, all the way to the connection at the sewer main.

In one notable finding, Akron, Ohio specifies that a property owner is responsible for the lateral from the structure to the right-of-way or easement. However, for commercial and industrial properties, the owner is responsible for the entirety of the lateral, all the way to the point of connection with the sewer main.

Structural Failure Responsibility

The responsibility for repairs due to structural failure coincide with the ownership responsibility. In other words, if a property owner owns the wastewater lateral to the sewer main, it is responsible for fixing structural failures for the entire length. If the property owner owns only a portion of the

wastewater lateral, the owner is only responsible for repairing structural failures on the portion that is owned. Similarly, the utilities are only responsible for repairing structural failures for the portion of the wastewater lateral that it owns.

O&M Responsibility

Table 2 presents the responsibility for O&M for the municipalities and authorities that split the ownership responsibility with the property owners (meaning the property owners own the wastewater lateral to the ROW, curb, easement, or property line [point of ownership]). The systems where the property owners have total ownership responsibility from the structure to the main are not included on this table because they all have complete responsibility for O&M for the entire wastewater lateral.

Of the systems where ownership responsibilities are shared, some municipalities and authorities are responsible for O&M for only the portion of the wastewater lateral that they own. In other cases, municipalities and authorities are not responsible for any O&M for the lateral even if they own part of it (meaning the property owners are responsible for O&M from the structure to the main, even if the municipality or authority owns a portion of it). In other cases, the property owners are responsible for O&M only to the point of ownership but may need to reimburse the municipality or authority if they are responsible for damage to the utilities' wastewater system.

As shown in Table 2, 17 utilities share ownership of the wastewater laterals with the property owners. Five of these systems are governed by the PUC. Of the 17 systems, the property owners are only responsible for O&M for the portion of the wastewater lateral that they own for nine of the systems (six of them are not governed by the PUC). However, for three of these systems, the property owners may also have to reimburse the utility if their actions have caused damage to the utility's system (two of them are governed by the PUC). In contrast, the property owner is responsible for O&M for the entire wastewater lateral, even though they only own a portion of it, in eight of the systems (three are governed by the PUC).

Conclusions

Of the 33 systems that were researched, it was found that ownership responsibility varies from system to system. However, it was found that the responsibility for structural failures corresponds with ownership responsibility. It was also found that ownership responsibility does not necessarily correspond with responsibility for O&M of the wastewater lateral.

Ownership Responsibility

There is no instance of a utility (PUC-governed or non-PUC-governed) taking responsibility for the sewer lateral in its entirety.

As a whole, about half of the utilities own/are responsible for the sewer lateral from the connection at the sewer main up until an actual or assumed point (property line, easement, curb, assumed curb). In the other half, the municipality/authority is responsible for no portion of the lateral.

The same is true for utilities that operate inside Pennsylvania and those that are local to Pittsburgh.

However, the percentages change in those utilities which are governed by the PUC. Of the seven (7) authorities reviewed that are governed by the PUC, the majority own/are responsible for the sewer lateral from the connection at the sewer main up until an actual or assumed point (property line, easement, curb, assumed curb). The remainder have no ownership responsibility for any portion of the lateral.

There are also cases in which a property owner is only responsible for the lateral from the structure to a real or assumed point, while a commercial or industrial property has responsibility for the entire lateral, all the way to the connection at the sewer main.

O&M Responsibility

Of the 33 systems that were researched, 17 were further evaluated for O&M responsibilities. The systems where the property owner owns the entire wastewater lateral were not further evaluated because, in each of these systems, the owner is also responsible for the O&M for the entire length of the lateral.

For the remaining 17 systems, the property owner owns only a portion of the lateral. It was found, however, that there were several O&M responsibility scenarios for this group including:

- Some of the property owners are responsible for O&M for the portion that they own;
- Some of the property owners are responsible for O&M for the entire length, regardless of ownership responsibility; and
- Some of the property owners are responsible for O&M for just the portion that they own, but must reimburse the municipality/authority for damages to the public system where the property owner is found responsible for causing.

Ownership and O&M Precedent

To conclude, amongst the PUC-governed systems, precedent has been set for the following scenarios:

- No public PUC-governed systems own the entire wastewater lateral;
- There are PUC-governed systems where the property owner owns to the ROW, curb, easement, or property line and;
 - Is responsible for O&M to the ROW, curb, easement, or property line; or
 - Is responsible for O&M to the ROW, curb, easement, or property line but may need to reimburse the municipality/authority for damage caused to the public system; or
 - Is responsible for O&M for the entire lateral;
- There are PUC-governed systems where the property owners own the entire lateral and are responsible for O&M for the entire lateral. This is the current status for the PWSA system. This scenario is less common than the scenario where the property owner only owns a portion of the wastewater lateral.

The PWSA would prefer to continue operating such that the property owners own and be responsible for O&M for the entire lateral. The PWSA would only be responsible for structural failure repairs or replacement for the PWSA-owned portion of the lateral if the PWSA takes any ownership. Further, the PWSA would prefer that property owners be required to reimburse the PWSA for damage to the public system caused by failure by property owners not properly maintaining their wastewater lateral.

**TABLE 1
WASTEWATER LATERAL OWNERSHIP RESPONSIBILITY**

Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
LOCAL TO PGH								
Elizabeth Borough Municipal Authority	ELIZABETH BOROUGH, PA	No	1 Locust St. Elizabeth, Pa 15037 412-384-3686		X	LINK	Customers are responsible for the section of sewer line starting at the tap connection on the main sewer line up to the structure. The lateral may extend across roadways..., but it is still the responsibility of the home/building owner.	Serves Approximately 2200 customers. Elizabeth Borough, portions of Lincoln Borough, Elizabeth and Forward Townships.
Findlay Township Municipal Water Authority	FINDLAY TOWNSHIP, PA (Allegheny County)	No	PO Box 409 Clinton PA 15026 724-695-3108	X		LINK	Customers are responsible for the section of sewer line starting at the house all the way to the property line. This is most commonly referred to as the sewer lateral.	Serves 2,295 customers 237 commercial accounts. The rest are residential.
Green Tree Sanitary Sewer Authority	GREEN TREE BOROUGH, PA	No	10 West Manilla Ave. Pittsburgh, PA 15220 412-921-1110		X	LINK	While we remove obstructions in the main line, any root infiltration in the private laterals also causes backups to the property. This is the homeowner's responsibility to correct. * Confirmed with Greentree Borough Engineer/Code Official.	Serves a population of about 4,854 people
McCandless Township Municipal Authority	McCANDLESS TOWNSHIP, PA	No	418 Arcadia Dr. Pittsburgh, PA 15237 412-366-2700		X	PDF LINK	Section 916. ...Property owners shall at times properly maintain all parts and appurtenance of their sanitary sewer facilities from beginning to the wye or other connecting fitting into the Authority's main...	Serves approximately 52,000 customers. 19,081 residential and 822 commercial accounts.
Pennsylvania American Water The Municipal Authority of the City of McKeesport	McKEESPORT, PA	YES	2800 Walnut St. McKeesport, PA 15132 412-673-0850 PA American Water 1-800-565-7292	X		Tariff	Tariff Supplement no. 17: 7. Company Service Line: Company owned wastewater service line from the sewer main of the Company which connects to the Customer Service Line at the edge of the right-of-way or actual property line.	Serves approximately 22,000 accounts with a population of about 64,000 people. Currently provides services for the Cities of McKeesport and Duquesne, Boroughs of White Oak, Port Vue, Liberty, East McKeesport, Dravosburg, Glassport, Versailles, Townships of Elizabeth, and North Versailles.
Moon Township Municipal Authority	MOON TOWNSHIP, PA	No	1700 Beaver Grade Rd. Ste 200 Moon Township, PA 15108 412-264-4300	X		LINK	MTMA is responsible for maintaining the individual sewer service (lateral) from the main to the property line. Service lines (laterals) are generally 4" or 6" for private homes. The service line, from the property line to the house and sewer pipes within the house, are the responsibility of the homeowner.	Serves 9,500 sewage service customers in Moon, Crescent, South Heights, Pittsburgh International Airport, the Air National Guard and Air Force Reserve bases and wholesale sewer service to major areas of Robinson, North Fayette and Findlay Townships. Over 215 miles of sanitary sewer.
Peters Township Sanitary Authority	PETERS TOWNSHIP, PA	No	111 Bell Drive McMurray, PA 15317 724-941-6709	X		LINK	Maintenance and repair of the building sewer is the owner's responsibility from the house to the right of way.	Serves Approximately 6,000 customers.

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Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
Pittsburgh Water and Sewer Authority	PITTSBURGH, PA	YES	1200 Penn Avenue Pittsburgh, PA 15222 412-255-2423		X		Tariff: Ownership of Sewer Laterals serving Residential and Non-Residential Properties, up to and including the connection of the Sewer Lateral to the Sewer Main, lies with the property Owner.	Serves approximately 83,000 customers throughout the City of Pittsburgh.
Pleasant Hills Sanitary Authority	PLEASANT HILLS, PA	No	628 Cochran Mill Rd. Jefferson Hills PA 15025 412-653-3878		X	*	The property owner is responsible for the lateral from the home to the connection with the borough sewer line. * From Pleasant Hills Mayor	Serves 8,300 customers in Pleasant Hills Borough, parts of Baldwin, Whitehall, Jefferson Hills and Bethel Park Boroughs, part of South Park Township.
Municipal Authority of the Township of Robinson	ROBINSON TOWNSHIP, PA	No	4200 Campbells Run Rd. Pittsburgh, PA 15205 412-923-2411		X	*	Property owner is responsible for lateral all the way to the main. * Spoke to the Manager of Wastewater Operations	Serves Approximately 4,900 customers.
Municipal Authority Township of South Fayette	SOUTH FAYETTE TOWNSHIP, PA	No	900 Presto Sygan Rd. Bridgeville, PA 15017 412-257-5100	X		LINK	...lateral defects that are identified within MATSF easements and under roads will generally be repaired by the Authority at no direct cost to the property owner. 3.01.5 - Maintenance and repair of the sewer service lines or building sewers, as well as the cost thereof, will be the responsibility of the user and/or property owner. http://matsf.net/documents/rulesregs.pdf "RULES AND REGULATIONS AND SPECIFICATIONS FOR THE CONSTRUCTION OF SANITARY SEWER LINES AND APPURTENANCES"	Serves Approximately 6,500 customers
OUT OF AREA: PA								
Bethlehem Department of Water & Sewer Resources	BETHLEHEM, PA	YES	10 E. Church St. Bethlehem, PA 18018 610-865-7207		X	LINK	921.02 (m) The owner of any improved property shall maintain and repair the building drain and sanitary sewer lateral at his own expense, and shall remove all trees, tree roots and other obstructions to the building drain and sanitary sewer lateral * Called for verification. The lateral is considered to be from the property to the point of connection at the sewer main.	provides waste water collection and treatment services for all inside-city customers and includes 25,000 accounts. The city also provides bulk collection and treatment services for all or parts of eleven surrounding Municipalities.
Bucks County Water and Sewer Authority	DOYLESTOWN, PA	No	1275 Almshouse Rd. Warrington, PA 18976 215-343-2538		X	LINK	Your "Sanitary Sewer Line" is the lateral sewer line that connects your home to the public sewer system... The main is the responsibility of Bucks County Water and Sewer. The lateral sanitary line that runs from the main to your building is your responsibility to keep in good repair.	Serves Over 100,000 households, business accounts, and some 525,000 people in the southeastern Pennsylvania region.
Erie Sewer Authority	ERIE (CITY), PA	No	120 West 10th St. Erie, PA 16501 814-870-1350	X		*	Property owner is responsible for the lateral from the house to the curb or property line. Called Erie Sewer Authority for confirmation.	serves about 95,000 residents

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Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
Millcreek Township	(ERIE, PA) MILL CREEK TOWNSHIP, PA	No	3608 W 26th St. Erie, PA 16506 814-833-4527		X	PDF LINK	Millcreek Township is responsible for the sewer mains, which usually are located within a street's right of way. The owner of the property served by the system is generally responsible for all parts of the sewer system from that private property to the public mains.	Serves a population of over 53,000 people .
Summit Township Sewer Authority	(ERIE, PA) SUMMIT TOWNSHIP, PA	No	8890 Old French Rd. Erie, PA 16509 814-868-4495		X	PDF LINK	Sanitary Lateral the section of sewer owned and maintained by the customer extending from a connection at the public sanitary sewer main to the house.	Serves over 2,000 property owners . Provides municipal sanitary sewer to designated Summit Township residents.
Pennsylvania American Water Derry Township Water Authority - Wastewater	HERSHEY, PA (Governed by DERRY TOWNSHIP)	YES	670 Clearwater Rd. Hershey, PA 17033 717-566-3237 (Ext. 303)	X		Tariff	Tariff Supplement no. 17: 7. Company Service Line: Company owned wastewater service line from the sewer main of the Company which connects to the Customer Service Line at the edge of the right-of-way or actual property line.	Hershey is an is an unincorporated community in Derby Township. Serves approximately 20,000
Indiana Borough Wastewater	INDIANA BOROUGH, PA	YES	80 North 8th St. Indiana, PA 15701 724-479-9856		X	LINK	§ 360-60 Responsibility for maintenance and repair. Maintenance and repair of all sanitary sewer laterals shall be the responsibility of the property owner. * Called to confirm - Owner responsibility to the main.	Serves a population of about 13,000 people
Wyoming Valley Sanitary Authority	KINGSTON, PA / LUZERN COUNTY	No	179 S. Wyoming Ave. Kingston, PA 18704 570-820-WVSA (9872)		X	LINK	In the event of a blockage or break of a sanitary sewer lateral within the road right-of-way, the property owner shall be responsible for all excavation, repair and restoration costs and shall see that all work is performed in accordance with standards and regulations of the municipality previously enacted. The property owner shall be responsible for his lateral up to its point of connection with the sanitary sewer main.	Serves more than 172,000 Luzerne County residents .
Lancaster City Water and Sewage	LANCASTER CITY, PA	YES	120 North Duke St. P.O. Box 1599 Lancaster, PA 17608 717-291-4820	X		Tariff	PUC Tariff: 7. City Service Line: The wastewater line from the collection facilities of the City which connects to the customer service line at the hypothetical or actual curb line or actual property line. 12. Customer Service Lines: The wastewater line extending from the end of the City Service Line or connection to the point of connection at the customer's premise.	Serves over 110,000 people in the Lancaster area - approximately 43,000 customers
Lancaster Area Sewer Authority	LANCASTER COUNTY, PA	No	130 Centerville Rd. Lancaster, PA 17603 717-299-4843	X		LINK	All service lines shall be maintained and repaired by the owner at the cost of the owner... All lateral sewers from the sewer main to the right-of-way line are the responsibility of the Authority except where an agreement is established between the owner and the Authority such that the lateral sewer is considered as part of the owner's private sewer system.	Serves approximately 36,600 customers in East Hempfield Township, East Petersburg Borough, Manor Township, Mountville Borough, West Hempfield Township, Lancaster Township, Manheim Township, Columbia Borough

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Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
Philadelphia Water Department	PHILADELPHIA, PA	No	1101 Market St. 5th Floor Philadelphia, PA 19107 215-685-6300		X	LINK	Residential customers are responsible from their connection at the main (ferrule) to the premises both for the sewer line as well as their service and supply line. You can find detailed information on our Customer Responsibilities Page.	Serves approximately 1,584,138 individuals Philadelphia and some communities in Bucks, Delaware, Montgomery counties'
Aqua Pennsylvania - Little Washington Wastewater Company) Little Washington Wastewater Co	Philadelphia Suburbs / Media, PA	YES	635 S Ridley Creek Rd Media, PA 19063 610-566-0621	X		Tariff	Company Service Lateral: The pipe or line extending laterally out from the Company collection main that connects to the building service line at the hypothetical or actual curb line, edge of the right-of-way or the actual property line. Customer Service Line: The connecting facilities from the Company sewage supply lines or mains at the curb-line into and within the customer's premises	1.4 mil people served 43,000 Connections 32 counties across PA
York Wastewater Company	YORK, PA	YES	130 East Market Street York, PA 17401 717-845-3601	X		Tariff	From Tariff: Company Service Lateral: The pipe or line extending laterally out from the Company collection main that connects to the building service line at the hypothetical or actual curb line, edge of the right-of-way or the actual property line. Customer Lateral: The wastewater line extending from the end of the Company Lateral or connection to the point of connection at the Customer's premise.	Serves 71,000 customers- over 201,000 people. 49 municipalities in York and Adams Counties, PA. Boroughs of East Prospect, Felton, Jacobus, and West York. Townships of East Manchester (Asbury Pointe Residential Subdivision), Lower Windsor in York County, Letterkenny in Franklin County.
OUT OF AREA: OH								
Akron Sewer Department	AKRON, OH	N/A	2460 Akron-Peninsula Rd. Akron, OH 44313 330-375-2666	X Homeowners See notes	X Commercial and industrial properties See notes	LINK	Owners are responsible to keep laterals free of obstructions all the way from the structure to the sewer main line. However, homeowners are only responsible for sewer lateral structural repairs from the home to the Right-of-Way or Easement Line which is considered the "private" side. The City of Akron is responsible for lateral structural repairs from the Right-of-Way or Easement Line to the sewer main line which is considered the "public". For commercial and industrial properties, the sewer lateral is considered private all the way from the structure to the sewer main line.	... operation and maintenance for approximately 300,000 customers for all City of Akron residents including the surrounding communities
The Metropolitan Sewer District of Greater Cincinnati	CINCINNATI, OH	N/A	1600 Gest St. Cincinnati, Ohio 45204 513-352-4900	X - Repair	X - Cleaning and Maintenance	PDF LINK	The owner of the premises... shall be responsible for the maintenance and cleaning of the building sewer from the building to the point of connection with the public local sewer. Repair and reconstruction of the building sewer in a public street right-of-way or within the specified width of a recorded public easement shall be the responsibility of the District.	Serves more than 850,000. Maintains about 3,000 miles of sanitary and combined sewers.

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Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
Northeast Ohio Regional Sewer District	CLEVELAND, OH	N/A	McMonagle Administration Building 3900 Euclid Ave. Cleveland, Ohio 44115 216-881-8247	X		LINK	* See illustration from NEORS website *1 on the last page of this document	Serves Over 1,000,000 residents in 60 communities. Serves most of Cuyahoga County and a portion of Summit County.
Jefferson County Water and Sewer District	JEFFERSON COUNTY, OH	N/A	P.O. Box 2579 Wintersville, OH 43953 740-283-8577		X	LINK	Section 617. Maintenance and repair of lateral sewers shall be the responsibility of the Customer	Serves approximately 3,275 sewer customers . Serves Jefferson County, Ohio
Mahoning County Sanitary Engineering District	MAHONING COUNTY, OH	N/A	120 Market St. Youngstown, OH 44503 330-758-6641		X	LINK	Property owner is responsible for repairs to the property's internal plumbing system and the lateral sewer line that connects it to the main sewer lines. The lateral sewer line extends from the main sanitary line to the structure.... The Mahoning County Sanitary Engineering Department is responsible for maintenance repairs and replacement of the main sanitary line.	Serves Over 40,000 customers Serves Austintown, Beaver, Boardman, Coitsville, Canfield, Jackson, Milton, Poland Township, Springfield, parts of Damascus, Ellsworth, Petersburg Townships, Villages of Craig Beach, New Middletown, Poland. The City of Campbell.
OUT OF AREA: NY								
Erie County Sewer District Buffalo Sewer Authority	BUFFALO, NY	N/A	65 Niagara Square # 1038 Buffalo, NY 14202 716-851-4664		X	PDF LINK	Building sewer laterals are the private sewerlines that a property owner is responsible for (from the building to the main sewerline).	Serves over 550,000 people in City of Buffalo, parts of Alden, Cheektowaga, Elma, Lancaster, Tonawanda, and West Seneca towns, Depew, Lancaster and Sloan Villages, Erie County Sewer District Numbers 1 & 4
OUT OF AREA: MD								
Baltimore City Department of Public Works Bureau of Water and Wastewater	BALTIMORE CITY, MD	N/A	City Hall Room 250 100 N. Holliday St. Baltimore, MD 21202 410-396-3500	X		LINK	Private property owners are responsible for the condition of the laterals and the associated cleanout on their side of the property line.	Serves over 400,000 accounts There are 3,100 miles of sanitary mains in the whole system. They maintain the 1,400 miles in Baltimore City.
Baltimore County Dept of Public Works, Bureau of Utilities	BALTIMORE COUNTY, MD	N/A	4421 Bucks Schoolhouse Rd. Suite 100 Mailstop 55 Rosedale, Maryland 21237 410-887-1836	X		LINK	The County will make repairs as needed, only to the portion of the house connection that is in the public right-of-way. Anything inside the property boundary is the property owner's responsibility.	Serves Baltimore County, population 827,370

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Municipality/Authority Name	Location	Governed by PUC	Contact information	Property Owner Responsibility from Structure to		Ref.	Notes	Number of Houses or Clients
				Property line	Sanitary main			
OUT OF AREA: IL								
Wheeling Utility Division - Sewer and Water	WHEELING, IL	N/A	2 Community Blvd. Wheeling, IL 60090 847-459-2600		X	LINK	The homeowner is responsible for any maintenance and repair to the sanitary service line from their property to the point of connection with the Village's sewer main.	Serves a population of almost 39,000
OUT OF AREA: CA								
West Valley Sanitation District	SANTA CLAIRA, CA	N/A	100 E Sunnyoaks Ave. Campbell, CA 95008 408-299-2507	X		LINK	... District is only responsible for problems in the public right-of-way; that is, the lateral sewer from the property line cleanout to the main sewer line, usually located in the street. Property owners are responsible for the portion of the building lateral sewer line that is on private property from their residence to the property line cleanout.	serves approximately 110,000 . Service area is approximately 28 square miles.

*1 NEORSD



	Property line	Main
under 10,000	4	5
10,000 - 99,000	4	8
100,000 - 999,999	7	2
Over 1,000,000	2	1
PUC Authority	5	2
PUC non-authority (PA)	6	10
LOCAL (including PUC)	5	5
PA Total	11	12

**TABLE 2
WASTEWATER LATERAL O&M RESPONSIBILITY FOR SYSTEMS THAT SPLIT OWNERSHIP**

MUNICIPALITY/AUTHORITY NAME	LOCATION	PUC Governed	Not PUC Governed	Customers Served	Local	Non-Local PA	Non-Local not PA	Property Owner Owns to Property Line	O& M of Property Owner extends to: Main or ROW (or Curb/Easement/Property Line)*	Exceptions, additions and qualifiers
Findlay Township Municipal Water Authority	FINDLAY TOWNSHIP, PA		x	2,295	x			x	ROW	
Pennsylvania American Water The Municipal Authority of the City of McKeesport	McKEESPORT, PA	x		22,000	x			x	MAIN	
Moon Township Municipal Authority	MOON TOWNSHIP, PA		x	9,500 +	x			x	ROW	
Peters Township Sanitary Authority	PETERS TOWNSHIP, PA		x	6,000	x			x	ROW	
Municipal Authority Township of South Fayette	S FAYETTE TOWNSHIP, PA		x	6,500	x			x	MAIN	
Erie Sewer Authority	ERIE (CITY), PA		x	95,000 pop		x		x	MAIN	
Pennsylvania American Water Derby Township Water Authority - Wastewater	HERSHEY, PA	x		20,000		x		x	MAIN	
Lancaster City Water and Sewage	LANCASTER CITY, PA	x		44,000		x		x	ROW / Possible Reimbursement	Owner Responsibility is to cover cost for damage to city's wastewater system, if caused by the customer
Lancaster Area Sewer Authority	LANCASTER COUNTY, PA		x	36,600		x		x	ROW / Possible Reimbursement	Owner Responsibility is to cover cost for damage to city's wastewater system, if caused by the customer
Aqua Pennsylvania - Little Washington Wastewater Company	Philadelphia Suburbs / Media, PA	x		1,400,000		x		x	ROW / Possible Reimbursement	Any Customer discharging any unauthorized matter into the system, which causes damage to Company facilities or interferes with the operation of the system, will be required to case using the system and pay whatever damages and costs are incurred as a result...
York Wastewater Company	YORK, PA	x		201,000		x		x	MAIN	
Akron Sewer Department	AKRON, OH		x	43,000			x	x	MAIN	
The Metropolitan Sewer District of Greater Cincinnati	CINCINNATI, OH		x	850,000			x	x	MAIN	
Northeast Ohio Regional Sewer District	CLEVELAND, OH		x	1,000,000			x	x	ROW	
Baltimore City Department of Public Works Bureau of Water and Wastewater	BALTIMORE CITY, MD		x	400,000			x	x	MAIN	
Baltimore County Dept of Public Works, Bureau of Utilities	BALTIMORE COUNTY, MD		x	827,370 pop			x	x	ROW	
West Valley Sanitation District	SANTA CLAIRA, CA		x	110,000			x	x	ROW	

Notes:

* Based on language used by the authority or Municipality

Municipalities/Authorities shaded in gray are governed by PUC

Not PUC Governed Authorities/Municipalities

ROW -	6
ROW, with possible reimbursement to the authority -	1
Main-	5

PUC Governed Authorities/Municipalities

ROW -	0
ROW, with possible reimbursement to the authority -	2
Main-	3

**ATTACHMENT B
COST ESTIMATING FOR TAKING
OWNERSHIP OF WASTEWATER LATERALS
TECHNICAL MEMORANDUM**



Collective Efforts, LLC
Civil and Environmental Engineers

Ownership of Wastewater Laterals
Prepared for Raftelis Financial Consultants, Inc.
Project No. P-19-37103

TECHNICAL MEMORANDUM
Cost Estimating for Taking Ownership of Wastewater Laterals
January 15, 2021

Introduction

As part of the Pittsburgh Water and Sewer Authority's (PWSA's) transition to Public Utility Commission (PUC) jurisdiction, the PUC conducted a "Compliance Plan" proceeding during which the PWSA's pre-existing operations were reviewed by the PUC (and other interested stakeholders). Stage 1 of the Compliance Plan proceeding resulted in a PUC-approved settlement adopted March 26, 2020 which included a provision requiring the PWSA to "conduct a study to investigate the legal, economic and operational feasibility of owning and/or maintaining (now privately owned) wastewater laterals within the public Rights of Way ("ROWs)". The report is to include "the cost, feasibility and appropriateness of alternatives such as facilitating the provision of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals". In support of this effort, Collective Efforts performed a benchmarking study to evaluate the cost, feasibility, and appropriateness of alternatives such as facilitating the provisions of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals. As part of PUC compliance, this Technical Memorandum was prepared to present the PWSA's estimated costs for the PWSA to take ownership of wastewater laterals served by the PWSA wastewater collection system.

Methodologies and Assumptions for Cost Estimates

Cost and infrastructure information was obtained from the PWSA which was the basis for preparing cost estimates for several scenarios for taking ownership. The costing scenarios were developed based on multiple interviews with PWSA representatives and considering the range of ownership scenarios that were identified during the ownership benchmarking study.

The main underlying assumption of estimating the cost of assuming ownership of the wastewater laterals is that the PWSA will only be responsible the repair of structure failures to the laterals, and not for operation and maintenance (O&M) activities, as is the current practice.

Based on the results of the ownership benchmarking study, it was determined that the cost of assuming partial ownership of the wastewater laterals would be evaluated because it is the most likely scenario if the PWSA assumes ownership of wastewater laterals. Partial ownership means that the PWSA would take ownership of the wastewater lateral from the sewer main connection to the curb, or in the absence of a curb, the edge of pavement, and the property owner would own from the curb or edge of pavement to the connection with the structure. In addition to evaluating partial ownership cost, the cost of assuming ownership of the entire length of lateral has been evaluated as a worst-case scenario.

Several components are needed in order to prepare the cost estimates. These components are:

- Average length of wastewater laterals in the system;
- Number of wastewater laterals are in the system;
- Repair and replacement scenarios;
- Line items required for repair and replacement actions; and
- Unit costs of line items.

The development of each of these components is discussed in the following sections.

Estimating Average Length of Wastewater Laterals in the System

The methodologies of how the average length of wastewater lateral that was used in the cost estimates are described in the following paragraphs. The tabulation and results of the length estimates are presented in Attachment A.

- *Calculating the Measurement of the Lateral*

An average sewer lateral length was determined by using a diverse sampling of neighborhoods in the areas which the PWSA serves.

Ten (10) neighborhood maps were used. These neighborhoods were as follows. Brookline, Central Business District, Central Lawrenceville, Crafton Heights, Hazelwood, Lincoln Place, Lincoln-Lemington-Belmar, Manchester, Perry North, and Point Breeze.

From those neighborhoods, ten (10) street were chosen. The streets were chosen in order to give us a varied locations, conditions and sizes within the neighborhood. On each street, ten (10) different locations were chosen along its entire length.

- *Calculating the Measurement of the Entire Lateral Length*

To get the measurement of an *entire lateral length* (from the public sewer main to where it enters a structure), the following method was used. Measurements were all taken based on each map's scale with frequent comparisons to what was measured at the same locations on Google Earth.

Measurements were taken from the assumed exit point on one structure, to the assumed exit point of the structure directly across the roadway (and across the main). This was done to ensure the most accurate measurement, since the main is rarely located in the center of the roadway and could be located in the sidewalk/easement on one side.

All totals were entered into the spreadsheet and then divided in half, thus giving a lateral measurement for two (2) separate properties, on either side of the roadway, at that location.

In cases where there are not structures directly across the street from one another, another point on the street was chosen. In a case, such as Central Business District, where it was impossible to consistently get that criteria, the measurement was taken from the assumed exit point of the structure to the assumed position of the main, as drawn on the map. In these cases, the measurement was not divided, and was the assumed length of the entire lateral.

- *Calculating the Measurement of the Average Sewer Lateral Location (Public and Private)*

In order to determine an average length for the portion of the sewer lateral, which may be considered the private lateral (from the curb or assumed curb to where it enters the structure) and that which may be considered the public portion of the lateral (from the curb or assumed curb to the sewer main), the same streets were used. Google Earth was used to measure each street, from curb to curb. In a case where a roadway widened or narrowed, multiple measurements were taken to give an average road width. All totals were entered into the spreadsheet and then divided in half, thus giving a lateral measurement for two (2) separate properties, on either side of the roadway, at that location.

- *Average Sewer Lateral Measurements*

After averaging all of these lengths from all maps and locations, that the average sewer lateral measures thirty-eight (38) LF in its entirety. Thirteen (13) LF of the lateral falls between the connection to the sewer main and the curb (public or authority lateral). Twenty-five (25) LF of the lateral falls between the curb and the point of entry at the structure (the private or customer lateral).

Estimating the Number of Wastewater Laterals in the System

Based on PWSA Customer Service records, there are currently 97,854 residential sewer/wastewater accounts and 12,717 non-residential sewer/wastewater accounts, for a total of 110,571 customers served. The lifespan of a wastewater lateral depends on many factors including age, material of construction, presence of tree roots, etc. Because of these factors, it is difficult to make an assumption of how many wastewater laterals would need to be replaced per year based on physical conditions or uses. The number of annual replacements and repairs was determined by averaging the number of replacement that the PWSA needed to perform over the previous three full years due to actual lateral failures that were reported to the PWSA (2016 through 2019). However, for cost estimating purposes, it has been assumed that there are 110,000 wastewater laterals in the PWSA system that would ultimately need to be repaired or replaced.

Determining Likely Repair and Replace Scenarios

Discussions with PWSA representatives led to the selection of three of the most likely repair and replace scenarios for cost evaluation. These scenarios are:

- Full replacement
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership Scenario (For main to curb or edge of pavement)
- Spot repair (also known as excavated point repair)
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership (For main to curb or edge of pavement)
- Full lining
 - All Public Ownership Scenario (For full length of lateral)
 - Private/Public Ownership Scenario (For main to curb or edge of pavement)

Each one of these scenarios were evaluated for residential and commercial properties.

Determining the Line Items Required for Repair and Replace Actions

PWSA representatives were interviewed to confirm what activities should be included in each of the repair and replace scenarios. The PWSA provided their “Master Bid List – Unit Items” list that defines and assigns item numbers to activities and construction items (e.g., excavation, pipes, etc.) for all the types of materials and activities that they have used in past construction projects as a basis of available activities to choose relevant repair and replacement line items. The selected Master Bid List Items that were used in the cost estimates are included in Appendix C.

Determine Unit Costs of Line Items

PWSA representatives provided their Master Bid Totals database which compiles all the bids that they received for their construction projects, broken down by bid item. For urgent bid items, the only costs available were the averages of bids received from all contractors for each line item rather than a list of average bids from each contractor bid received for each line item. When available, “urgent” items were used because it is anticipated that most of the repair and replace activities that the PWSA would undertake for wastewater laterals would be emergency repairs due to the fact that repairs must be initiated within 24 hours of being reported. When costs for items were not available in the “urgent category”, the average costs from up to seven contractor bids for each item from the “sewer” and “restoration” categories were used. The average unit costs that were used in the cost estimates are presented in Appendix D.

Cost of Repair and Replacement for Sewer Lateral Ownership

Costs for each of the scenarios were calculated by tabulating the bid items and average costs per bid item, and estimated quantities of each bid item that were required for the repair and replacement activities.

As noted above, for cost estimating purposes, it has been assumed that there are 110,000 wastewater laterals in the PWSA. As can be seen from the estimates in the Cost Evaluation Tabulation Spreadsheets, the cost per lateral for the commercial and residential cost scenarios are very similar. This is because there are few differences between the ‘representative’ commercial and residential properties that were assumed. It was assumed that a 10-inch diameter wastewater lateral would be representative for both commercial and residential properties. The same average lengths for laterals were also assumed for commercial and residential properties. The only difference between the types of properties was the width of sidewalk that would need to be restored.

The data inputs and cost calculations are included in the Cost Evaluation Tabulation Spreadsheets that are presented in Appendix E.

Conclusions

The costs that were calculated for each scenario are summarized below.

<u>Residential Scenario</u>	<u>PWSA’s Cost Per Lateral</u>
<ul style="list-style-type: none"> • Full replacement <ul style="list-style-type: none"> ○ All Public Ownership Scenario 	\$35,042.34

- Private/Public Ownership Scenario \$21,021.57
- Spot repair
 - All Public Ownership Scenario \$18,674.91
 - Private/Public Ownership Scenario \$18,674.91
- Full lining
 - All Public Ownership Scenario \$28,490.62
 - Private/Public Ownership Scenario \$23,177.52

Commercial Scenarios	PWSA's Cost Per Lateral
● Full replacement	
○ All Public Ownership Scenario	\$35,245.56
○ Private/Public Ownership Scenario	\$19,334.80
● Spot repair	
○ All Public Ownership Scenario	\$18,878.13
○ Private/Public Ownership Scenario	\$18,878.13
● Full lining	
○ All Public Ownership Scenario	\$28,693.84
○ Private/Public Ownership Scenario	\$23,380.74

Estimated Costs of All Line Replacements

- 110,000 laterals x \$35,000 (full replacement) = \$3.85 billion
 - This assumes full replacement, public and private sides
- 110,000 laterals x \$20,000 (full replacement, public side only) = \$2.2 billion
 - This assumes that the PWSA would only have to fund the public side replacement of all of their laterals

As can be seen, spot repairs are the least costly type of repair and replacement. In practice, however, one scenario cannot be chosen as the 'selected' or 'default' alternative simply based on cost. This is because a determination of which method is the most appropriate or technically feasible must be made on a case-by-case basis. Doing a spot repair may not always be technical feasible if the entire wastewater lateral has collapsed. Similarly, if excavation is being conducted to identify the location or extent of a wastewater lateral failure, it may be more cost effective in the long run to replace the entire lateral rather than do a spot repair or line the wastewater lateral because 1) excavation has already been completed, and 2) a complete replacement will last longer than the other types of repairs, thus extending the time until the next repair is required.

In addition to the estimated replacement costs discussed above, there are additional costs and efforts that would be required for the PWSA to acquire ownership of the now privately owned wastewater laterals. The PWSA would need to develop the necessary forms and process to present to each customer to execute the transfer of the property as well as ensuring that all necessary legal documents are properly filed to document the new ownership. If private owners are unwilling to cooperate with the transfer of ownership, the PWSA would need to engage in additional legal actions, including condemnation proceedings, which would require additional staffing resources as well as increased legal costs and expenses. We estimate that if the PWSA were to embark upon an effort to acquire ownership of the existing approximately 110,000 customer-owned laterals within its service territory, it would likely incur thousands, if not millions more in costs above and beyond those necessary to replace the wastewater laterals.

APPENDICES

**APPENDIX A
WASTEWATER
LATERAL LENGTH ESTIMATES**

AVERAGE OF SEWER LATERAL LENGTHS

Neighborhood	Street	Lateral Length from:		NOTES
		Building to main	Curb to main	
Brookline	Lynnbrook Ave	50	12.5	
Brookline	Fernhill Ave	28	12.5	
Brookline	Pioneer Ave	39	19	
Brookline	Brookline Blvd	26	20	*Much of the main is off of the street
Brookline	edgebrook Ave	44	12.5	
Brookline	Elmbank St	29	12.5	
Brookline	Lamarido St	36	12.5	
Brookline	Hartranft St	44	12.5	
Brookline	Bellaire Ave	44	12.5	
Brookline	Woodbourne Ave	44	12.5	
Brookline	Neighborhood Ave:	38	14	

Central Lawrenceville	Smallman St	25	14	
Central Lawrenceville	38th St	23.5	14	
Central Lawrenceville	Fisk St	32	15	
Central Lawrenceville	Main St	29.5	15	
Central Lawrenceville	Butler St	43	21	
Central Lawrenceville	Plummer St	25	14	
Central Lawrenceville	Locarna Way	52.5	7	
Central Lawrenceville	Home St	25.5	14	
Central Lawrenceville	Carlton St	66.5	14	
Central Lawrenceville	Almond Way	14	6.5	
Central Lawrenceville	Neighborhood Ave:	34	13	

Crafton Heights	Whitewood Dr	25	14	
Crafton Heights	Lessing St	77.5	14	
Crafton Heights	Obey St	44	14	
Crafton Heights	Round Top St	25	14	
Crafton Heights	Hollywood St	35	14	
Crafton Heights	Ringold St	51	10	
Crafton Heights	Strahley St	39.5	14.5	
Crafton Heights	Woodlow St	58.5	18	
Crafton Heights	Crucible St	50	14	
Crafton Heights	OakGlen St	54.5	14	
Crafton Heights	Neighborhood Ave:	46	14	

Hazelwood	Flowers St	31.5	15	
Hazelwood	Indus St	40.5	12	
Hazelwood	Frayne St	41.5	10	
Hazelwood	Susanna Ct	51.5	12.5	
Hazelwood	Chatsworth Ave	40	11	
Hazelwood	Sylvan Ave	41	15	
Hazelwood	Gertrude St	31	14	
Hazelwood	Glen Caladh St	32	15	
Hazelwood	Parade St	42.5	10	
Hazelwood	Monogahelia St	36	21	
Hazelwood	Neighborhood Ave:	39	14	

Lincoln Place	Ellwell Way	48.5	7	
Lincoln Place	Fredanna St	48	7	
Lincoln Place	Leaside Dr	43	13.5	
Lincoln Place	Glenhurst Rd	45	12	
Lincoln Place	Mifflin Rd	28.5	14	
Lincoln Place	Cox PL	49	12	
Lincoln Place	Cox Ave	46	12	
Lincoln Place	Mifflinridge Rd	47	11.5	
Lincoln Place	Century Ave	47.5	12	
Lincoln Place	Delford St	35	12	

Lincoln Place	Neighborhood Ave:	44	11	
Lincoln-Lemington-Belmar	Navarro St	34.5	11	
Lincoln-Lemington-Belmar	Lemington Ave	39.5	15	
Lincoln-Lemington-Belmar	Wilfie St	47	13.5	
Lincoln-Lemington-Belmar	Paulson Ave	43	15	
Lincoln-Lemington-Belmar	Missouri St	34	15	
Lincoln-Lemington-Belmar	Churchland St	27.5	15	
Lincoln-Lemington-Belmar	Ross Gardge Rd	42	11	
Lincoln-Lemington-Belmar	Westmoreland Ave	39.5	15	
Lincoln-Lemington-Belmar	Broadcrest Dr	50.5	12	
Lincoln-Lemington-Belmar	Broadhead St	32	11	
Lincoln-Lemington-Belmar	Neighborhood Ave:	39	13	

Manchester	Adams St	31	17	
Manchester	N Franklin St	32	18	
Manchester	Liverpool St	32.5	21	
Manchester	Beech Ave	30.5	15	
Manchester	Sheffield St	37	17.5	
Manchester	Cameo Way	10	7	
Manchester	Buena Vista St	26	15	
Manchester	Beldale St	16	7	
Manchester	Warner St	14	7	
Manchester	Columbus St	26.5	15	
Manchester	Neighborhood Ave:	26	14	

Perry North	Harbinson Ave	43	15	
Perry North	Woods Run Ave	39	17.5	
Perry North	Vinceton St	27	18	
Perry North	Bonvue St	78	15	
Perry North	Hemphill St	37.5	11	
Perry North	Defoe St	38.5	11	
Perry North	Portola Ave	50.5	12	
Perry North	Delaware St	44.5	12.5	
Perry North	Watson Blvd	45.5	18	
Perry North	Richey Ave	41.5	15	
Perry North	Neighborhood Ave:	45	15	

Point Breeze	Gettysburg St	48.5	17	
Point Breeze	Beechwood Blvd	39	18	
Point Breeze	S Linden Ave	60.5	18	
Point Breeze	Dalzell Pl	128.5	18	
Point Breeze	S Lang Ave	39.5	0	
Point Breeze	N Homewood Ave	53.5	15	
Point Breeze	S Homewood Ave	16.5	0	
Point Breeze	Card Ln	38.5	9	
Point Breeze	Carnegie Pl	39	10.5	
Point Breeze	Meade St	43.5	15	
Point Breeze	Neighborhood Ave:	51	12	

Central Business Dist	Cherry Way	15	10	
Central Business Dist	Tito Way	12.5	10	
Central Business Dist	Barker's Pl	10	10	
Central Business Dist	Exchange Way	10	10	
Central Business Dist	Oliver Ave	21	14	
Central Business Dist	Strawberry Way	10	6	
Central Business Dist	6th St	30	18	
Central Business Dist	Cicil Pl	15.5	9.5	
Central Business Dist	Del Ray Way	22.5	14	
Central Business Dist	Garrison Pl	8	7.5	
Central Business Dist	Neighborhood Ave:	15	11	

Total Length Public length Private Length

TOTAL AVERAGE LENGTHS		38	13	25
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Road Average (LF):	26.5
Does not include measurements where the lateral length was recorded as zero.	
Rounded from average of 26.4	

Aprox. distance (in LF)

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
BROOKLINE - LYNNBROOK AVE	From Building to building, across street on other side of main	100	100	112.5	100	100	100	100	87.5	100	100	100.0	50.0
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - FERNHILL AVE	From Building to building, across street on other side of main	62.5	40	50	62.5	62.5	50	62.5	62.5	50	62.5	56.5	28.3
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - Pioneer Ave	From Building to building, across street on other side of main	87.5	75	65	75	62.5	100	80	75	100	62.5	78.3	39.1
	From curb to curb (Across main)											38.0	19.0
BROOKLINE - Brookline Blvd	From Building to main	18	18	18	18	25	25	25	37	37	37	25.8	25.8
	From curb to curb (Across main)												20.0
BROOKLINE - Edgebrook Ave	From Building to building, across street on other side of main	87.5	75	87.5	75	75	87.5	87.5	50	65	187	87.7	43.9
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - ELMBANK ST	From Building to building, across street on other side of main	62.5	62.5	62.5	62.5	50	50	50	62.5	62.5	62.5	58.8	29.4
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - LAMARIDO ST	From Building to building, across street on other side of main	75	63.5	75	75	62.5	75	62.5	62.5	75	87.5	71.4	35.7
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - HERTRANFT ST	From Building to building, across street on other side of main	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	43.8
	From curb to curb (Across main)											25.0	12.5
BROOKLINE - BELLAIRE AVE	From Building to building, across street on other side of main	100	100	87.5	87.5	75	87.5	75	87.5	87.5	87.5	87.5	43.8
	From curb to curb (Across main)											34.0	17.0
BROOKLINE - WOODBOURNE AVE	From Building to building, across street on other side of main	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5	43.8
	From curb to curb (Across main)											28.0	14.0

2 main lines - measurements taken from Main to building instead of across the street
 * Only some of this line - Much of both main lines seems to be off of the street

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building	
Central Lawrenceville - Smallman St	From Building to building, across street on other side of main	50	50	50	50	50	50	50	50	50	50	50.0	25.0	
	From curb to curb (Across main)											28.0	14.0	
Central Lawrenceville - 38th St	From Building to building, across street on other side of main	50	50	50	37	40	75	50	38	38	38	46.6	23.3	
	From curb to curb (Across main)											28.0	14.0	
Central Lawrenceville - Fisk St	From Building to building, across street on other side of main	87.5	62.5	60	60	65	62.5	62.5	62.5	62.5	50	63.5	31.8	
	From curb to curb (Across main)											30.0	15.0	
Central Lawrenceville - Main St	From Building to building, across street on other side of main	40	60	62	62	62	65	65	62	55	55	58.8	29.4	
	From curb to curb (Across main)											30.0	15.0	
Central Lawrenceville - Butler St	From Building to building, across street on other side of main	62	62	87.5	87.5	87.5	87.5	87.5	100	100	100	86.2	43.1	
	From curb to curb (Across main)											45	38	41.5
Central Lawrenceville - Plummer St	From Building to building, across street on other side of main	50	50	50	50	50	50	50	50	50	50	50.0	25.0	
	From curb to curb (Across main)											28.0	14.0	
Central Lawrenceville - Locarna Way	From Building to building, across street on other side of main	115	112	125	100	138	50	125	112	130	40	104.7	52.4	
	From curb to curb (Across main)											14.0	7.0	
Central Lawrenceville - Home St	From Building to building, across street on other side of main	62	50	50	50	50	50	50	50	50	50	51.2	25.6	
	From curb to curb (Across main)											28.0	14.0	
Central Lawrenceville - Carlton St	From Building to building, across street on other side of main	225	50	62	62	225	17	190	225	225	50	133.1	66.6	
	From curb to curb (Across main)											28.0	14.0	
Central Lawrenceville - Almond Way	From Building to building, across street on other side of main	18	18	26	25	65	25	25	25	25	25	27.7	13.9	
	From curb to curb (Across main)											13.0	6.5	

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
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Crafton Heights - Whitewood Dr	From Building to building, across street on other side of main	100	100	110	180	110	100	75	75	75	100	102.5	51.3
	From curb to curb (Across main)											28.0	14.0
Crafton Heights - Lessing St	From Building to building, across street on other side of main	87.5	87.5	87.5	100	220	220	220	220	220	87.5	155.0	77.5
	From curb to curb (Across main)											28.0	14.0
Crafton Heights - Obey St	From Building to building, across street on other side of main	75	87.5	87.5	125	87.5	87.5	87.5	87.5	87.5	62	87.5	43.7
	From curb to curb (Across main)											28.0	14.0
Crafton Heights - Round Top St	From Building to building, across street on other side of main	100	75	50	50	75	87.5	87.5	87.5	50	50	71.3	35.6
	From curb to curb (Across main)											28.0	14.0
Crafton Heights - Hollywood St	From Building to building, across street on other side of main	87.5	75	87.5	62.5	75	70	50	72	62.5	62.5	70.5	35.2
	From curb to curb (Across main)											24.0	12.0
Crafton Heights - Ringold St	From Building to building, across street on other side of main	87	170	150	90	100	100	85	80	75	87	102.4	51.2
	From curb to curb (Across main)											20.0	10.0
Crafton Heights - Strahley St	From Building to building, across street on other side of main	125	137	100	130	60	40	37	50	50	62	79.1	39.6
	From curb to curb (Across main)									20	37	28.5	14.3
Crafton Heights - Woodlow St	From Building to building, across street on other side of main	87	87	75	137	125	130	137	137	125	125	116.5	58.3
	From curb to curb (Across main)											36.0	18.0
Crafton Heights - Crucible St	From Building to building, across street on other side of main	100	100	120	100	100	87	100	87	87	115	99.6	49.8
	From curb to curb (Across main)											25.0	12.5
Crafton Heights - OakGlen St	From Building to building, across street on other side of main	112	112	112	112	137	100	100	100	100	100	108.5	54.3
	From curb to curb (Across main)											28.0	14.0

20 - Street
37 - in Cul-de-sac

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Hazelwood - Flowers St	From Building to building, across street on other side of main	62	75	62	62	62	62	62	62	62	62	63.3	31.7

	From curb to curb (Across main)												30.0	15.0
Hazelwood - Indus St	From Building to building, across street on other side of main	125	100	100	100	90	100	90	100	0	0		80.5	40.3
	From curb to curb (Across main)												24.0	12.0
Hazelwood - Frayne St	From Building to building, across street on other side of main	90	75	87	87	75	87	87	100	75	62		82.5	41.3
	From curb to curb (Across main)												20.0	10.0
Hazelwood - Susanna Ct	From Building to building, across street on other side of main	112	100	100	100	100	100	105	112	100	100		102.9	51.5
	From curb to curb (Across main)												25.0	12.5
Hazelwood - Chatsworth Ave	From Building to building, across street on other side of main	62	75	75	90	87	62	65	75	137	75		80.3	40.2
	From curb to curb (Across main)												22.0	11.0
Hazelwood - Sylvan Ave	From Building to building, across street on other side of main	87	87	62	50	75	90	87	112	87	87		82.4	41.2
	From curb to curb (Across main)												30.0	15.0
Hazelwood - Gertrude St	From Building to building, across street on other side of main	62	62	62	62	62	62	62	62	62	62		62.0	31.0
	From curb to curb (Across main)												28.0	14.0
Hazelwood - Glen Caladh St	From Building to building, across street on other side of main	75	70	65	62	62	62	62	62	62	62		64.4	32.2
	From curb to curb (Across main)												30.0	15.0
Hazelwood - Parade St	From Building to building, across street on other side of main	50	87	100	90	87	87	75	87	87	100		85.0	42.5
	From curb to curb (Across main)												20.0	10.0
Hazelwood - Monogahelia St	From Building to building, across street on other side of main	100	60	74	74	75	62	75	75	62	62		71.9	36.0
	From curb to curb (Across main)											19	23.0	21.0

*The main runs right between 2 houses on this street - no responsibility

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Lincoln Place - Ellwell Way	From Building to building, across street on other side of main	75	62	87	100	100	90	100	112	112	130	96.8	48.4
	From curb to curb (Across main)											14.0	7.0

Lincoln Place - Fredanna St	From Building to building, across street on other side of main	90	100	100	100	100	100	100	100	100	80	87	95.7	47.9
	From curb to curb (Across main)												14.0	7.0
Lincoln Place - Leaside Dr	From Building to building, across street on other side of main	87	75	75	70	75	87	100	112	112	70		86.3	43.2
	From curb to curb (Across main)												27.0	13.5
Lincoln Place - Glenhurst Rd	From Building to building, across street on other side of main	75	87	100	87	90	100	90	90	90	90		89.9	45.0
	From curb to curb (Across main)												24.0	12.0
Lincoln Place - Mifflin Rd	From Building to main	25	25	25	25	25	37	37	25	37	25		28.6	28.6
	From curb to curb (Across main)												28.0	14.0
Lincoln Place - Cox PL	From Building to building, across street on other side of main	112	100	100	100	87	87	87	87	112	112		98.4	49.2
	From curb to curb (Across main)												24.0	12.0
Lincoln Place - Cox Ave	From Building to building, across street on other side of main	90	100	87	100	100	87	90	87	80	100		92.1	46.1
	From curb to curb (Across main)												24.0	12.0
Lincoln Place - Mifflinridge Rd	From Building to building, across street on other side of main	100	90	87	100	90	100	87	100	100	87		94.1	47.1
	From curb to curb (Across main)												23.0	11.5
Lincoln Place - Century Ave	From Building to building, across street on other side of main	80	90	100	100	100	95	100					95.0	47.5
	From curb to curb (Across main)												24.0	12.0
Lincoln Place - Delford St	From Building to building, across street on other side of main	87	75	62	62	62	62	75	62	62	87		69.6	34.8
	From curb to curb (Across main)												24.0	12.0

* 2 Mains on this street - One of them is off the road
Measurements were taken to main, not across to property across main.

14' - half are 0

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Lincoln-Lemington-Belmar - Navarro St	From Building to building, across street on other side of main	75	75	75	70	62	65	65	65	70	70	69.2	34.6
	From curb to curb (Across main)											22.0	11.0

Lincoln-Lemington-Belmar - Lemington Ave	From Building to building, across street on other side of main	80	80	80	85	80	87	80	75	75	70	79.2	39.6
	From curb to curb (Across main)											30.0	15.0
Lincoln-Lemington-Belmar - Wilfie St	From Building to building, across street on other side of main	125	125	75	65	75	70	70	112	112	112	94.1	47.1
	From curb to curb (Across main)											27.0	13.5
Lincoln-Lemington-Belmar - Paulson Ave	From Building to building, across street on other side of main	75	90	87	87	87	87	87	87	87	87	86.1	43.1
	From curb to curb (Across main)											30.0	15.0
Lincoln-Lemington-Belmar - Missouri St	From Building to building, across street on other side of main	70	75	62	60	70	65	62	62	50	100	67.6	33.8
	From curb to curb (Across main)											30.0	15.0
Lincoln-Lemington-Belmar - Churchland St	From Building to building, across street on other side of main	12	12	12	90	70	62	75	75	75	62	54.5	27.3
	From curb to curb (Across main)											30.0	15.0
Lincoln-Lemington-Belmar - Ross Garden Rd	From Building to building, across street on other side of main	87	100	75	87	87	100	87	112	100	0	83.5	41.8
	From curb to curb (Across main)											22.0	11.0
Lincoln-Lemington-Belmar - Westmoreland Ave	From Building to building, across street on other side of main	62	75	80	80	75	80	75	90	87	87	79.1	39.6
	From curb to curb (Across main)											30.0	15.0
Lincoln-Lemington-Belmar - Broadcrest Dr	From Building to building, across street on other side of main	100	100	100	100	87	100	112	100	100	112	101.1	50.6
	From curb to curb (Across main)											24.0	12.0
Lincoln-Lemington-Belmar - Broadhead St	From Building to building, across street on other side of main	62	75	62	62	62	62	62				63.9	31.9
	From curb to curb (Across main)											22.0	11.0

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Manchester - Adams St	From Building to building, across street on other side of main	62	62	62	62	62	62	62	62	62	62	62.0	31.0
	From curb to curb (Across main)											34.0	17.0
Manchester - N Franklin St	From Building to building, across street on other side of main	75	75	75	62	50	50	50	50	75	75	63.7	31.9

	From curb to curb (Across main)											36.0	18.0
Manchester - Liverpool St	From Building to building, across street on other side of main	62	62	62	62	62	62	62	62	75	75	64.6	32.3
	From curb to curb (Across main)											42.0	21.0
Manchester - Beech Ave	From Building to building, across street on other side of main	62	62	62	62	62	60	60	60	62	62	61.4	30.7
	From curb to curb (Across main)											30.0	15.0
Manchester - Sheffield St	From Building to building, across street on other side of main	70	75	30	35	25	35	75	125	87	187	74.4	37.2
	From curb to curb (Across main)											35.0	17.5
Manchester - Cameo Way	From Building to building, across street on other side of main	20	20	20	20	20	20	20				20.0	10.0
	From curb to curb (Across main)											14.0	7.0
Manchester - Buena Vista St	From Building to building, across street on other side of main	50	50	50	62	62	50	50	50	50	50	52.4	26.2
	From curb to curb (Across main)											30.0	15.0
Manchester - Beldale St	From Building to building, across street on other side of main	25	25	25	37	37	37	37	37	37	25	32.2	16.1
	From curb to curb (Across main)											14.0	7.0
Manchester - Warner St	From Building to building, across street on other side of main	25	25	30	30	37	25	30	25			28.4	14.2
	From curb to curb (Across main)											14.0	7.0
Manchester - Columbus St	From Building to building, across street on other side of main	50	50	50	55	50	50	55	65	50	50	52.5	26.3
	From curb to curb (Across main)											30.0	15.0

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Perry North - Harbinson Ave	From Building to building, across street on other side of main	90	87	85	87	87	87	75	85	85	87	85.5	42.8
	From curb to curb (Across main)											30.0	15.0
Perry North - Woods Run Ave	From Building to building, across street on other side of main	62	60	50	62	50	100	112	137	62	85	78.0	39.0
	From curb to curb (Across main)											35.0	17.5

Perry North - Vinceton St	From Building to building, across street on other side of main	62	62	50	50	50	62	50	50	50	50	53.6	26.8
	From curb to curb (Across main)											36.0	18.0
Perry North - Bonvue St	From Building to building, across street on other side of main	25	75	75	87	100	87	75	87	90	80	78.1	78.1
	From curb to curb (Across main)											30.0	15.0
Perry North - Hemphill St	From Building to building, across street on other side of main	75	75	75	70	75	75	75	75	80		75.0	37.5
	From curb to curb (Across main)											22.0	11.0
Perry North - Defoe St	From Building to building, across street on other side of main	87	87	75	62	50	75	75	100	62	100	77.3	38.7
	From curb to curb (Across main)											22.0	11.0
Perry North - Portola Ave	From Building to building, across street on other side of main	90	90	100	90	112	112	112	100	100	100	100.6	50.3
	From curb to curb (Across main)											24.0	12.0
Perry North - Delaware St	From Building to building, across street on other side of main	90	90	100	112	100	110	72	72	72	72	89.0	44.5
	From curb to curb (Across main)											25.0	12.5
Perry North - Watson Blvd	From Building to building, across street on other side of main	112	112	87	87	87	85	82	85	85	85	90.7	45.4
	From curb to curb (Across main)											36.0	18.0
Perry North - Richey	From Building to building, across street on other side of main	87	87	87	87	75	85	80	80	80	85	83.3	41.7
	From curb to curb (Across main)											30.0	15.0

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Point Breeze - Gettysburg St	From Building to building, across street on other side of main	110	100	100	100	100	90	90	100	87	90	96.7	48.4
	From curb to curb (Across main)											34.0	17.0
Point Breeze - Beechwood Blvd	From Building to building, across street on other side of main	187	187	200	190	187	187	187	150	187	200	186.2	93.1
	From curb to curb (Across main)											36.0	18.0
Point Breeze - Slinden Ave	From Building to building, across street on other side of main	100	100	100	135	135	112	140	125	150	112	120.9	60.5

Point Breeze - Dalzell Pl	From Building to building, across street on other side of main	125	125	125	137	125	125	137	125	125	137	128.6	128.6
	From curb to curb (Across main)											36.0	18.0
Point Breeze - S Lang Ave	From Building to main	30	50	30	30	30	24	50	50	50	50	39.4	39.4
	From curb to curb (Across main)											0.0	0.0
Point Breeze - N Homewood Ave	From Building to building, across street on other side of main	87	100	100	117	117	117	112				107.1	53.6
	From curb to curb (Across main)											30.0	15.0
Point Breeze - S Homewood Ave	From Building to main	25	25	37	25	37	50	32	16	50	37	33.4	16.7
	From curb to curb (Across main)											0.0	0.0
Point Breeze - Card Ln	From Building to building, across street on other side of main	87	75	62	62	75	62	87	87	87	87	77.1	38.6
	From curb to curb (Across main)											18.0	9.0
Point Breeze - Carnegie Pl	From Building to building, across street on other side of main	75	75	75	87	75	80	75	75	87	75	77.9	39.0
	From curb to curb (Across main)											21.0	10.5
Point Breeze - Meade St	From Building to building, across street on other side of main	100	100	100	75	62	87	87	87	87	87	87.2	43.6
	From curb to curb (Across main)											30.0	15.0

2 mains (Measured from house to the main, not across it to other house)
Mains are in sidewalks
Main in SW (Measured from house to the main, not across it to other house)
Mains are in sidewalks

Neighborhood / Street	Method of measurement	1	2	3	4	5	6	7	8	9	10	Average both sides of street	Average LF of lateral per Building
Central Business Dist - Cherry Way	From Building to building, across street on other side of main	25	25	25	37.5	37.5	37.5	25				30.4	15.2
	From curb to curb (Across main)											20.0	10.0
Central Business Dist - Tito Way	From Building to building, across street on other side of main	25	25	25								25.0	12.5
	From curb to curb (Across main)											20.0	10.0
Central Business Dist - Barkers Pl	From Building to building, across street on other side of main	20	20	20								20.0	10.0
	From curb to curb (Across main)											20.0	10.0

Central Business Dist - Exchange Way	From Building to building, across street on other side of main	20	20	20	20	20	20					20.0	10.0
	From curb to curb (Across main)											20.0	10.0
Central Business Dist - Oliver Ave	From Building to building, across street on other side of main	40	55	37.5	45	50	37.5					44.2	22.1
	From curb to curb (Across main)											28.0	14.0
Central Business Dist - Strawberry Way	From Building to building, across street on other side of main	20	20	20	20	15	20	25				20.0	20.0
	From curb to curb (Across main)											12.0	6.0
Central Business Dist - 6th St	From Building to building, across street on other side of main	50	60	60	60	62.5	65					59.6	29.8
	From curb to curb (Across main)											36.0	18.0
Central Business Dist - Cici Pl	From Building to building, across street on other side of main	18	18	18	50	50						30.8	15.4
	From curb to curb (Across main)										25	125	18.8
Central Business Dist - Del Ray Way	From Building to building, across street on other side of main	37.5	37.5	37.5	37.5	50	50	50	50	50	50	45.0	22.5
	From curb to curb (Across main)											28.0	14.0
Central Business Dist - Garrison PL	From Building to building, across street on other side of main	15	18	15	15	15						15.6	7.8
	From curb to curb (Across main)											15.0	7.5

Road Average (LF):	26.4
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Does not include measurements where the lateral length was recorded as zero

**APPENDIX B
ESTIMATE FOR NUMBER OF WASTEWATER
LATERALS REPAIRED OR REPLACED PER
YEAR**

Building Sewer Letters

Year	Lateral failures
2017	44
2018	41
2019	95

AVERAGE YEARLY FAILED LATERALS

17-19	3-year	60
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APPENDIX C
SELECTED MASTER BID LIST ITEMS

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M				
DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
UNIVERSAL ITEMS				
U-1	Mobilization / Demobilization, Permits, Bonds and Insurance, Maintenance and Protection of Traffic	LF	EMERGENCY	
		<p>Payment shall be LUMP SUM prorated according to the percentage of work completed.</p> <p>Basis of Payment: mobilization; demobilization; permits and associated fees; bonds; insurance; project protection; temporary facilities including temporary fencing and the Contractor's field office; weekly progress meetings; coordination with the OWNER and CONSTRUCTION MANAGER, Subcontractors, Subconsultants, and manufacturer's representatives; all pre-construction, construction and post-construction record photographs, and all other incidental work. It includes furnishing and installing all labor, equipment, and materials necessary to properly and satisfactorily maintain vehicular and pedestrian traffic in the work zone area, in accordance with PennDOT Publication 203, PennDOT Publication 213, Allegheny County Department of Public Works Policy and Procedure for Work within County Road Right-Of-Way, and the Pittsburgh DPW Right-of-Way Manual. This includes, but is not limited to furnishing, installing and maintaining protective pedestrian safety fencing, traffic and pedestrian control signs, barrels w/ flashers, flashing arrowboard devices, control barricades w/ flashers, plating of excavations and all excavations not in an active work area, providing temporary access, and/ all other requirements in accordance with the specifications which are not specifically covered by the various traffic control payment items and/or as directed.</p> <p>No additional payment will be made if the CONTRACTOR, for whatever reason, mobilizes/demobilizes more than once at a given location or for mobilization and demobilization from multiple construction sites.</p> <p>CONTRACTOR may request payment of up to 50% of this Bid Item on the first pay application; 20%, invoiced equally over the remaining pay applications, excluding the final invoice; and 30% on the final pay application.</p> <p>Obtaining the ACHD permit for private line replacement is included in Bid Item W-87.</p> <p>The LUMP SUM amount for this item is capped at a maximum 5% of the total bid, excluding Bid Item U-1.</p>		
U-6	Hand Digging and Tunneling	MHR	EMERGENCY	
		<p>Payment shall be made by the unit price bid per MAN-HOUR. Measurement shall be time spent performing said Work as approved by the DIRECTOR prior to commencing work.</p> <p>Basis of Payment: Includes all materials, equipment, tools and labor required to hand dig or tunnel. This item shall be used to provide compensation for hand-digging above and beyond that which is a usual and customary part of pipe, i.e., extended periods digging under existing vaults, near existing fragile equipment, etc. Hand digging which is usual and customary part of pipe installation WILL NOT BE PAID FOR UNDER THIS ITEM and is considered incidental to the work of installing the pipe.</p>		
U-12	Flag Person	MHR		
		<p>Payment shall be made by the unit price bid per MANNHOUR. Measurement for payment shall be based on the actual number of hours provided.</p> <p>Basis of Payment: Includes providing a properly certified uniformed flagperson in accordance with contract specifications and/or as directed by the PROJECT REPRESENTATIVE.</p>		

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M					
	DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
U-13	Off Duty Uniformed Officer	MHR	<p>Payment shall be per MAN-HOUR. Measurement for payment shall be based on: 1) the actual number of man-hours provided when the occurrence is greater than four hours; 2) a value of four hours when the hours of service are four hours or less per occurrence.</p> <p>Basis of Payment: Includes providing off duty uniformed Police to direct and control traffic during construction as required by the approved Maintenance and Protection of Traffic Plan, obstruction permit, or as required by the DIRECTOR in the field.</p>		
U-14	Miscellaneous Work Time for a Full Crew	CHR	<p>Payment shall be made by the unit price bid per HOUR for a full crew(s); labor and equipment. A full crew shall be defined to consist of (2) laborers, (2) operators, (1) truck driver and (1) foreman. Should the actual crew be comprised of less workers than the "full" crew as defined below, then payment for this item shall be prorated based on the actual number of workers in the crew for the duration specified.</p> <p>Basis of Payment: This item shall be used to provide full compensation for all expenses involved with having a crew of workers and equipment at a site performing Work and/or time spent on-site which is not defined by any other contract unit prices.</p> <p>If this item is used for downtime spent waiting by a crew as a result of actions by the AUTHORITY at the discretion of the OWNER, the item shall cover all expenses involved in having a crew of workers and equipment at a site prepared to work, but unable to work due to circumstances outside of their control, up to the end of that eight (8) hour work day. No payment shall be made for additional days.</p> <p>Delays which are a usual and customary part of pipe installation are considered incidental to the work of installing the pipe and WILL NOT BE PAID FOR UNDER THIS ITEM.</p> <p>Delays caused by the CONTRACTOR WILL NOT BE PAID FOR UNDER THIS ITEM.</p> <p>Delays due to Acts of God WILL NOT BE PAID FOR UNDER THIS ITEM.</p> <p>Crew downtime associated with work zone restrictions WILL NOT BE PAID FOR UNDER THIS ITEM.</p>	EMERGENCY	
U-17	Master Plumber Time	MHR	<p>Payment shall be per MAN-HOUR. Measurement for payment shall be based on the actual number of man-hours which a Master Plumber was utilized on the contract to file all necessary permits required for all private property plumbing connections.</p> <p>Basis of Payment: Includes all expenses related to the filing of all permits required to make all private property connections, including permit fees and furnishing the services of a Master Plumber, certified by Allegheny County, to file all permits as required to file all private property connection permits.</p>		
U-18	Journeyman Plumber Time	MHR	<p>Payment shall be per MAN-HOUR. Measurement for payment shall be based on the actual number of man-hours which a JourneymanPlumber was utilized on-site to make all private property plumbing connections.</p> <p>Basis of Payment: Includes furnishing the services of a Journeyman Plumber to make e all private property connections in the field.</p>		
SEWER ITEMS					

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M					
	DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
S-34	Sewer Laterals (4" to 10" PVC)	LF	<p>Payment shall be made by the unit price bid per LINEAR FOOT. Measurement for sewer laterals shall be based on the laying length of the piping installed from the sewer main to either the re-connection point (for connection to existing laterals) or cap (for construction of new laterals).</p> <p>Basis of Payment: Includes furnishing all labor, materials and equipment necessary to install all sewer pipe, fittings, caps, couplings, and pipe zone aggregate in accordance with current City of Pittsburgh and Pittsburgh Water & Sewer Authority Construction Standards at depths and grades shown on the Contract Documents including applicable drawings, or as directed in the field. Fittings and couplings required for sewer lateral installation are incidental to the Work. Limits of pipe zone aggregate is defined as 6-inches below outside of pipe, 12-inches above outside of pipe, and the width of the trench as defined by trench excavation Bid Item S-35.</p> <p>Erosion & Sedimentation control measures shall be incidental to the work</p>	ALL SEWER	
S-35	Trench Excavation 0' - 15' Depth	CY	<p>Payment shall be made by the unit price bid per CUBIC YARD. Measurement shall be based on the laying length of the pipe or fitting, depth of the excavation, and the allowable width of the trench based on the maximum pay width.</p> <p>Basis of Payment: Includes furnishing all labor materials and equipment necessary to perform all unclassified excavation related to sewer construction with the exception of work performed under the exploratory excavation and backfill pay item. This shall include all saw cutting, unclassified excavation, installation and removal of all sheeting, bracing, and shoring of trench and other utilities, trench dewatering, disposal of excavated material and bypass pumping of existing sewerage flows, to all depths up to fifteen feet deep, that is required to install the proposed sewer pipe. Maximum pay width of trench excavation is defined as the diameter of the pipe plus 2 feet or four foot, whichever is greater.</p>	Emergency	
S-37	Aggregate Trench Backfill Above Pipe Zone	EA	<p>Payment shall be made by the unit price bid per CUBIC YARD. Measurement shall be made from an elevation twelve inches above the crown of the pipe to the top of sub-grade elevation and the allowable width of the trench based on the pipe outside diameter plus three feet.</p> <p>Basis of Payment: Work under this item shall include furnishing and installing approved aggregate material in accordance with the contract documents for all contract Work with the exception of the Work performed under the Exploratory Excavation pay item. This item shall include all aggregate backfill material, placement and compaction of backfill material from the top of the pipe zone area (twelve-inches above pipe) to the bottom of the sub base elevation. The width of payment is defined by trench excavation Bid Item S-35.</p>	SEWER Emergency	

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M					
	DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
S-97	Lateral Camera Inspection	LF	<p>Payment shall be made by the unit price bid per LINEAR FOOT of lateral inspected.</p> <p>Basis of Payment: Includes all labor, electronic equipment, and technicians to perform the closed circuit television of selected laterals in a sewer pipe up to 42 inches. Operation of the equipment is to be controlled from above ground with a skilled technician at the control panel in the television studio, controlling the movement of the television camera through the sewer in either direction.</p> <p>Televising equipment for laterals shall have the capability of televising not less than 50 ft up the lateral from the main sewer and include: television camera; television monitor; cables; power source; lights; and other equipment necessary to televise and record the inspection.</p>	2013 LINING	
S-106	Lateral Cleanout and Inspection Stack	EA	<p>Payment shall be made by the unit price bid per EACH. Measurement shall be based on the number of cleanouts and inspection stacks installed on sanitary sewer laterals.</p> <p>Basis of Payment: Includes furnishing all labor, materials and equipment necessary to install all sewer pipe, fittings, caps, couplings, and pipe zone aggregate in accordance with current City of Pittsburgh, Pittsburgh Water & Sewer Authority and Allegheny County Health Department Construction Standards at depths and grades shown on the Contract Documents including applicable drawings, or as directed in the field. Fittings and couplings required for sewer cleanout installation are incidental to the Work. Limits of pipe zone aggregate is defined as 6-inches below outside of pipe, 12-inches above outside of pipe, and the width of the trench as defined by trench excavation Bid Item S-35</p>		
RESTORATION ITEMS					
R-1	Concrete Paving Base (All Classes)	CY	<p>Payment shall be made by the unit price bid per CUBIC YARD installed complete in place. Measurement shall be based on field measurements but shall respect any maximum pay limits noted in the Contract Documents and Standard Details. No payment will be made for concrete in excess of the existing street slab dimensions unless ordered to be placed by the PROJECT REPRESENTATIVE in the field.</p> <p>Basis of Payment: Includes furnishing all materials, equipment, tools, and labor necessary for the complete installation of concrete base course including steel reinforcement. This work shall also include the removal and disposal of existing material(s).</p>	SEWER EMERGENCY	

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M					
	DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
R-3	Concrete Sidewalk and ADA Handicapped Ramp	SY	<p>Measurement used for payment of this item shall be the length and width of sidewalk replacement in SQUARE YARD including expansion joint material complete in place.</p> <p>Basis of Payment: Includes the replacement and installation of all concrete sidewalks and handicapped sidewalk ramps as shown on the Contract Documents including applicable drawings, and in accordance with the City of Pittsburgh Standard Details detailed in these Contract Documents. This item shall include, but not be limited to: saw cutting; demolition and disposal of spoil, placement of subbase aggregate; a slab of City of Pittsburgh Class P Portland cement concrete four (4) inches in depth; planks and walks for accommodation of the public for access to private properties; placement of steel reinforcing; disposal of surplus excavation; furnishing and installing expansion joint material; and all other requirements for a complete installation matching or exceeding existing pavement, as indicated in the Contract Documents, including applicable drawings.</p>	SEWER EMERGENCY	
R-5	Concrete Deck Curb and Deck Radius Curb (All Finishes)	LF	<p>Payment shall be made by the unit price bid per LINEAR FOOT. Measurement shall be the total length measured along the face of the curb.</p> <p>Work under this item shall include the replacement of deck concrete curb and deck radius curb in accordance with details shown in the Contract Documents, including applicable drawings, and/or current City of Pittsburgh Construction Standards.</p> <p>Basis of Payment: Includes but not be limited: removing existing sandstone curb stones (as directed) and transporting them to a designated DPW storage area: saw or other cutting as needed; performing any required demolition, excavation and disposal of any unsuitable material; providing and installing all concrete in place, all steel reinforcement in place, dowel bars, mortar paste, expansion joints, broken stone drains; restoring all sidewalks disturbed or damaged during construction of curb complete.</p>	SEWER EMERGENCY	
R-7	Bituminous Pavement Replacement - Binder Course - Secondary Street	SY	<p>Payment shall be made by the unit price bid per SQUARE YARD installed complete in place. Measurement shall be based on the field dimensions of the paved area.</p> <p>Basis of Payment: Includes, but is not limited to: providing materials for and installing Asphaltic Bituminous Binder Course (up to 2 inches) as required, including all tack coat, sealing materials and expansion joints as required; providing all tools, equipment, labor, and other facilities necessary to provide complete-in-place Replacing and surfacing shall be in accordance with City of Pittsburgh Specifications and the Contract Documents. The Contractor shall furnish his own equipment and labor to haul and place all materials. The Contractor shall use a mechanical paver to complete all paving operations unless otherwise specified by the Director. Duplicate load slips of bituminous material must be provided for each truckload and submitted to the project inspector. This item does not include the replacement of the concrete base course where necessary.</p>	MH, CB, PT REPAIR	
R-8	Crushed Stone Sub-Base	SY	<p>Payment shall be made by the unit price bid per SQUARE YARD of milled area.</p> <p>Basis of Payment: Includes furnishing all labor, equipment, and material necessary to mill and clean the paved areas to the limits shown in the Contract Documents including applicable drawings. Wearing Course milling shall be to a depth of 1.5 inches and in accordance with the governing agency's (City of Pittsburgh, Allegheny County, PennDOT, etc.) specifications and requirements and as shown in the Contract Documents including applicable drawings. Work shall include saw cutting, milling, disposal of waste material, and cleaning of milled street. Work shall also include installing and maintaining traffic worthy temporary paving, replacement or repair of damaged curb, castings, covers, grates, frames, and boxes as directed.</p>	MH, CB, PT REPAIR	

SEWER BID ITEMS USED IN COSTING FOR WASTEWATER LATERAL O&M					
	DESCRIPTION	UoM	TEXT	CONTRACTS	NOTES
R-11	Bituminous Pavement Replacement - Binder Course - Secondary Street	SY	<p>Payment shall be made by the unit price bid per SQUARE YARD installed complete in place. Measurement shall be based on the field dimensions of the paved area.</p> <p>Basis of Payment: Includes, but is not limited to: providing materials for and installing Asphaltic Bituminous Wearing Course (up to 1.5 inches) as required, including all tack coat, sealing materials and expansion joints as required; providing all tools, equipment, labor, and other facilities necessary to provide complete-in-place. The work shall raise/reset castings to grade (0-18"). Replacing and surfacing shall be in accordance with City of Pittsburgh Specifications and the Contract Documents. The Contractor shall furnish his own equipment and labor to haul and place all materials. The Contractor shall use a mechanical paver to complete all paving operations unless otherwise specified by the Director. Duplicate load slips of bituminous material must be provided for each truckload and submitted to the project inspector. This item does not include the replacement of the concrete base course where necessary.</p>	MH, CB, PT REPAIR	
R-13	Bituminous Pavement Replacement - Binder Course - Secondary Street	SY	<p>Payment shall be made by the unit price bid per SQUARE YARD installed complete in place. Measurement shall be based on the field dimensions of the paved area.</p> <p>Basis of Payment: Includes, but is not limited to: providing materials for and installing Asphaltic Bituminous Binder Course (up to 2 inches) as required, including all tack coat, sealing materials and expansion joints as required; providing all tools, equipment, labor, and other facilities necessary to provide complete-in-place Replacing and surfacing shall be in accordance with City of Pittsburgh Specifications and the Contract Documents. The Contractor shall furnish his own equipment and labor to haul and place all materials. The Contractor shall use a mechanical paver to complete all paving operations unless otherwise specified by the Director. Duplicate load slips of bituminous material must be provided for each truckload and submitted to the project inspector. This item does not include the replacement of the concrete base course where necessary.</p>	MH, CB, PT REPAIR	
R-21	Crushed Stone Sub-Base	CY	<p>Payment shall be made by the unit price bid per CUBIC YARD install. Measurement shall be based on final compacted thickness, the length, and the width of base installed.</p> <p>Basis of Payment: Includes furnishing all materials, equipment, tools, and labor necessary for the complete installation of crushed aggregate sub-base course for flexible street and rigid street pavements including required testing. Work under this item shall include the removal and disposal of existing material, subgrade preparation, compaction, testing, and placement of approved crushed sub-base course for street pavements.</p>	SEWER EMERGENCY	

APPENDIX D
AVERAGE UNIT COSTS USED IN COST
ESTIMATES

	Emergency	Emergency						Emergency	Emergency	Lining	Emergency	Emergency	Emergency	Emergency	Emergency	MH, CB, PT REPAIR	MH, CB, PT REPAIR	MH, CB, PT REPAIR	Emergency			
	U1 Mobilization and Demobilization	U6 Hand Digging and Tunneling	U12 Flag Person	U13 Off Duty Uniformed Officer	U14 Miscellaneous Work Time for a Full Crew	U17 Master Plumber Time	U18 Journeyman Plumber Time	S35 Trench Excavation 0' - 15' Depth	S37 Aggregate Trench Backfill Above Pipe Zone	S97 Lateral Camera Inspection (LINING)	S106 (Overlapping #) Inspection Tee/Cleanout	R1 Concrete Paving Base	R3 Concrete Sidewalk and ADA Handicapped Ramp	R5 Concrete Curb and Radius Curb - All Finishes	R7 Cold Patch Bituminous Pavement Replacement	R8 Milling - Wearing Course	R11 Milling - Wearing Course	R13 Bituminous Pavement - Binder Course	R21 Crushed Stone Sub-Base	Construction Inspection	Construction Management	MISC: E&S WYE
	LS	MHR	MHR	MHR	CHR	MHR	MHR	CY	CY	LF	Ea	CY	SY	LF	TON	SY	SY	SY	CY	CHR	CHR	
		\$51.25	\$47.50	\$15.62	\$513.13	\$76.00	\$71.50	\$58.00	\$44.81	\$28.00		\$302.86	\$100.00	\$22.00		\$3.14	\$12.32	\$18.77	\$43.88			
		\$54.41	\$51.67	\$18.77	\$546.91	\$85.00	\$73.00	\$64.98	\$47.50	\$35.00		\$305.00	\$120.00	\$28.75	\$87.50	\$5.19	\$12.37	\$22.60	\$48.88			
		\$57.00	\$52.41	\$29.07	\$567.11	\$88.00	\$81.08	\$67.00	\$55.00	\$37.00		\$377.78	\$128.00	\$30.17	\$118.22	\$6.42	\$13.50	\$29.07	\$51.38			
MEDIAN	7% of	\$59.17	\$54.50	\$34.44	\$586.25	\$94.70	\$83.62	\$69.56	\$58.75	\$44.00	\$1,950.00	\$381.00	\$143.00	\$32.33	\$127.00	\$7.00	\$23.65	\$33.44	\$52.14	5% of Total	5% of Total	5% of Total
	TOTAL	\$66.00	\$57.00	\$37.20	\$625.00	\$96.00	\$85.00	\$71.29	\$62.11	\$100.00		\$398.20	\$151.00	\$37.60	\$128.39	\$10.92	\$26.20	\$37.20	\$53.74			
		\$69.00	\$65.70	\$44.13	\$669.08	\$108.04	\$86.98	\$111.25	\$64.35	\$135.00		\$402.50	\$161.00	\$138.70	\$146.67	\$11.47	\$38.13	\$44.13	\$65.59			
		\$155.00	\$75.00	\$100.00	\$712.50	\$150.00	\$92.67	\$500.00	\$80.00	\$147.00		\$427.94		\$430.99		\$18.00	\$45.26	\$100.00	\$89.00			
AVERAGE	7% of	\$73.12	\$57.68	\$39.89	\$602.85	\$99.68	\$81.98	\$134.58	\$58.93	\$75.14	\$1,950.00	\$370.75	\$133.83	\$102.93	\$121.56	\$8.88	\$24.49		\$57.80	5% of Total	5% of Total	5% of Total
Cost numbers under "Urgent Sewer Repair" tab																						
AVERAGE:	N/A	\$72.09	\$56.19	\$65.58	\$650.00	\$123.25	\$85.69	\$97.35	\$60.50	N/A	N/A	\$415.56	\$128.50	\$35.63	\$115.88	\$7.64	\$37.67	\$42.55	\$63.50	N/A	N/A	N/A
MIN:		\$150.00	\$75.00	\$130.00	\$775.00	\$150.00	\$125.00	\$150.00	\$100.00			\$950.00	\$270.00	\$85.00	\$200.00	\$15.00	\$150.00	\$165.00	\$250.00			
MAX:		\$50.00	\$35.00	\$50.00	\$400.00	\$60.00	\$50.00	\$55.00	\$36.00			\$300.00	\$85.00	\$17.00	\$80.00	\$4.00	\$12.50	\$16.50	\$38.00			
Costs Used (Averages)	7% of	\$72.00	\$56.00	\$65.50	\$650.00	\$123.50	\$85.50	\$97.50	\$60.50	\$75.00	\$1,950.00	\$415.50	\$128.50	\$35.50	\$116.00	\$7.50	\$37.50	\$42.50	\$63.50	5% of Total	5% of Total	5% of Total

**APPENDIX E
COST EVALUATION TABULATION
SPREADSHEETS**

RESIDENTIAL

Replacement (Assumes lateral is replaced in the same trench)											
Pipe and Trench Specifications								Notes			
Linear Feet of Pipe Length	Trench Length		Width		Depth			Length	Width		
Private Side Lateral - From Structure to Curb	25	66%	25	x	4	x	15	=	1,500	=	55.6
Feet (LF)	Feet				Feet		Feet		cubic ft		cubic yd (CY)
Public Side Lateral - From Curb To Main	13	34%	13	x	4	x	15	=	780	=	28.9
Feet (LF)	Feet				Feet		Feet		cubic ft		cubic yd (CY)
Full Lateral - From Structure to Main	38	100%	38	x	4	x	15	=	2,280	=	84.4
Feet (LF)	Feet				Feet		Feet		cubic ft		cubic yd (CY)

Cost Calculation		Cost Items		Unit Cost		Full Lateral		Public Side Lateral		Private Side Lateral		Notes
Code	Description	Unit	Cost	Units	Cost	Units	Cost	Units	Cost	Units	Cost	
U-6	Hand Digging and Tunneling	MHR	\$72.00	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.
U-12	Flag Person	MHR	\$56.00	32.0	\$1,792.00	32.0	\$1,792.00	16.0	\$896.00	16.0	\$896.00	2 Flaggers @ 8 or 16 hrs. ea.
U-13	Off Duty Uniformed Officer	MHR	\$65.50	16.0	\$1,048.00	16.0	\$1,048.00	8.0	\$524.00	8.0	\$524.00	1 Officer @ 8 or 16 hrs.
U-14	Miscellaneous Work Time for a Full Crew	CHR	\$650.00	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00	
U-17	Master Plumber Time	MHR	\$123.50	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00	
U-18	Journeyman Plumber Time	MHR	\$85.50	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00	
S-34	Sewer Laterals (4" to 10" PVC)	LF	\$54.50	38.0	\$2,071.00	13.0	\$708.50	25.0	\$1,362.50			
S-35	Trench Excavation 0' - 15' Depth	CY	\$97.50	84.4	\$8,233.33	28.9	\$2,816.67	55.6	\$5,416.67			
S-37	Aggregate Trench Backfill Above Pipe Zone	CY	\$60.50	71.3	\$4,314.17	24.4	\$1,475.90	46.9	\$2,838.27			Lateral length of 10" pipe
S-97	Lateral Camera Inspection	LF	\$75.00	38.0	\$2,850.00	13.0	\$975.00	25.0	\$1,875.00			Inspection on whole lateral
S-106*	Inspection Tee/Cleanout	EA	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00			Overlapping line number
R-1	Concrete Paving Base	CY	\$415.50	3.3	\$1,353.91	3.3	\$1,353.91					26.5' X 4' x 10"
R-3	Concrete Sidewalk/ADA Handicapped Ramp	SY	\$128.50	1.3	\$166.57	1.3	\$166.57	1.3	\$166.57			5' x 7' Pad
R-5	Concrete Curb and Radius Curb - All Finishes	LF	\$35.50	12.0	\$426.00	12.0	\$426.00					
R-7	Cold Patch Bituminous Pavement Replacement	TON	\$116.00	6.4	\$747.69	6.4	\$747.69					26.5' X 4' X 4"
R-8	Milling - Wearing Course	SY	\$7.50	3.9	\$29.44	3.9	\$29.44					
R-11	Bituminous Pavement Replacement - Wearing Course	SY	\$37.50	3.9	\$147.22	3.9	\$147.22					
R-13	Bituminous Pavement Replacement - Binder Course	SY	\$42.50	3.9	\$166.85	3.9	\$166.85					
R-21	Crushed Stone Sub-Base	CY	\$63.50	2.6	\$167.03	2.6	\$167.03					26.5' (Road Average) X 4' X 8"
SUBTOTALS (For line items Below)					\$28,723.23	\$17,230.79	\$18,289.01					
Contingency					5% of Total Cost	\$1,436.16	\$861.54	\$914.45	Wye, E&S, Addl PVC Fittings			
U-1 Mobilization and Demobilization					5% of Total Cost	\$1,436.16	\$861.54	\$914.45	5% of total Cost			
Construction Inspection					7% of Total Cost	\$2,010.63	\$1,206.16	\$1,280.23	7% of total cost			
Construction Management					5% of Total Cost	\$1,436.16	\$861.54	\$914.45	5% of total cost			
Cost of One Lateral Replacement					\$35,042.34	\$21,021.57	\$22,312.60					

	LF of Replacement	Total Cost for Replacement	Notes
Private Side: Structure to Curb	25.0	\$22,312.60	Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes
Public Side: Curb to Main	13.0	\$21,021.57	
Full Lateral length	38.0	\$35,042.34	

NOTES

Based on "PWSA Standard Details" Cost assumption does not include private property restoration

The total costs of public side- and private side replacement will not equal the total cost of a full lateral replacement.
 This is because there are costs that remain the same, no matter what portion of lateral pipe is replaced:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection Tee
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer	Man Hours		
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework, but do not need to be onsite for day 2 (road restoration).	
U-18 Journeyman Plumber Time	Man Hours		

Unit Cost - Used the Master Bid Totals file. Used the average "Urgent" cost

Private Side only - only 1 work day

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):

6-inches below outside of pipe, 12-inches above outside of pipe	
DEPTH FOR S-37 (All repair & Replace Scenarios)	
10" pipe = 0.833333333 FT	15 FT trench
12" above & 6" below pipe = 1.5 FT	2.333333 FT not filled with S-37
DEPTH NOT filled in S-37 = 2.333333333 FT	12.66667 FT DEEP

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included)

Depths are based on "PWSA Standard Details" R-7 and S-37 are detailed to the left. R-1 and R-21 are:
 R-1 -- 10" reinforced paving base
 R-21 -- 8' compacted 2A aggregate sub-base.

Road width is based on road measurement averages

Average Road Width = 26.5 LF, based off of the lateral average (NOT including those with a "zero" measurement)

R-7 Calculation for Cold patch Tonnage:

(CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)
 (NAPA estimates an average asphalt density of 145 pounds per cubic foot) -
 Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:

Weight density:	104.54	131.96	149.96	100	121.615
Trench Width	Road Width	Density	Total lbs.	Tons	
4	26.5	121.615	12891.19	6.445595	
Sq Yards for Asphalt (R8-11)					3.93

Repair, Spot Repair (Assumes lateral is replaced in the same trench)									
Pipe and Trench Specifications								Notes	
Linear Feet of Pipe Length	Trench Length		Width		Depth				
Lateral - From Structure to Curb or from Curb to Main	Length is an assumed total								
8	8	x	4	x	15	=	480	=	17.8
Feet (LF)	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Width based on language in the Master Bid List - Unit Items									
Depth is an assumed total									

Cost Calculation	Cost Items	Unit Cost	Units	Cost	Full Lateral	Public Side Lateral	Private Side Lateral	Notes	
U-6	Hand Digging and Tunneling	\$72.00	MHR	4.0	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.
U-12	Flag Person	\$56.00	MHR	32.0	32.0	\$1,792.00	16.0	\$896.00	2 Flaggers @ 8 or 16 hrs. ea.
U-13	Off Duty Uniformed Officer	\$65.50	MHR	16.0	16.0	\$1,048.00	8.0	\$524.00	1 Officer @ 8 or 16 hrs.
U-14	Miscellaneous Work Time for a Full Crew	\$650.00	CHR	2.0	2.0	\$1,300.00	2.0	\$1,300.00	
U-17	Master Plumber Time	\$123.50	MHR	8.0	8.0	\$988.00	8.0	\$988.00	
U-18	Journeyman Plumber Time	\$85.50	MHR	8.0	8.0	\$684.00	8.0	\$684.00	
S-34	Sewer Laterals (4" to 10" PVC)	\$54.50	LF	8.0	8.0	\$436.00	8.0	\$436.00	
S-35	Trench Excavation 0' - 15' Depth	\$97.50	CY	17.8	17.8	\$1,733.33	17.8	\$1,733.33	
S-37	Aggregate Trench Backfill Above Pipe Zone	\$60.50	CY	15.0	15.0	\$908.25	15.0	\$908.25	Lateral length of 10" pipe
S-97	Lateral Camera Inspection	\$75.00	LF	38.0	13.0	\$975.00	25.0	\$1,875.00	Inspection on whole lateral
S-106*	Inspection Tee/Cleanout	\$1,950.00	EA	1.0	1.0	\$1,950.00	1.0	\$1,950.00	Overlapping line number
R-1	Concrete Paving Base	\$415.50	CY	3.3	3.3	\$1,353.91			26.5' X 4' x 10"
R-3	Concrete Sidewalk/ADA Handicapped Ramp	\$128.50	SY	1.3	1.3	\$166.57	1.3	\$166.57	5' x 7' Pad
R-5	Concrete Curb and Radius Curb - All Finishes	\$35.50	LF	12.0	12.0	\$426.00			
R-7	Cold Patch Bituminous Pavement Replacement	\$116.00	TON	6.4	6.4	\$747.69			26.5' X 4' X 4"
R-8	Milling - Wearing Course	\$7.50	SY	3.9	3.9	\$29.44			
R-11	Bituminous Pavement Replacement - Wearing Course	\$37.50	SY	3.9	3.9	\$147.22			
R-13	Bituminous Pavement Replacement - Binder Course	\$42.50	SY	3.9	3.9	\$166.85			
R-21	Crushed Stone Sub-Base	\$63.50	CY	2.6	2.6	\$167.03			26.5' (Road Average) X 4' X 8"
SUBTOTALS (For line items Below)						\$15,307.30		\$11,749.15	
	Contingency	5% of Total Cost				\$765.37		\$587.46	Wye, E&S, Addl PVC Fittings
U-1	Mobilization and Demobilization	5% of Total Cost				\$765.37		\$587.46	5% of total Cost
	Construction Inspection	7% of Total Cost				\$1,071.51		\$822.44	7% of total cost
	Construction Management	5% of Total Cost				\$765.37		\$587.46	5% of total cost
Cost of One Lateral Replacement						\$18,674.91		\$14,333.97	

LF of Repair	Total Cost for Replacement	Total costs of public side- & private side replacement
Private Side: Structure to Curb	25	\$14,333.97
Public Side: Curb to Main	13	\$18,674.91
Full Lateral length	38	-----

Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes

Based on "PWSA Standard Details" Cost assumption does not include private property restoration

The total costs of public side- and private side repair will not equal the total cost of a full lateral repair.
 This is because there are costs that remain the same, no matter what portion of lateral pipe is replaced:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection Tee
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer			
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework,	
U-18 Journeyman Plumber Time		but do not need to be onsite for day 2 (road restoration).	

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):

6-inches below outside of pipe, 12-inches above outside of pipe	
DEPTH FOR S-37 (All repair & Replace Scenarios)	
10" pipe = 0.833333333 FT	15 FT trench
12" above & 6" below pipe = 1.5 FT	2.333333 FT not filled with S-37
DEPTH NOT filled in S-37 = 2.33333333 FT	12.66667 FT DEEP

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included)
 Depths are based on "PWSA Standard Details"
 R-7 and S-37 are detailed to the left.
 R-1 and R-21 are:
 R-1 -- 10" reinforced paving base
 R-21 -- 8' compacted 2A aggregate sub-base.

Private Side only - only 1 work day

Road width is based on road measurement averages
Average Road Width = 26.5 LF, based off of the lateral average (NOT including those with a "zero" measurement)

R-7 Calculation for Cold patch Tonnage:

(CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)
 (NAPA estimates an average asphalt density of 145 pounds per cubic foot) -
 Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:

Weight density:	104.54	131.96	149.96	100	121.615
Trench Width	Road Width	Density	Total lbs.	Tons	
4	26.5	121.615	12891.19	6.445595	
Sq Yards for Asphalt (R8-11)					3.93

Repair, Full Lining (Assumes Lateral Defects Do Not Prohibit Lining)										
Pipe and Trench Specifications								Notes		
Linear Feet of Pipe Length	Trench Length		Width		Depth					
Public Side Lateral - From Main to Curb	13	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Private Side Lateral - From Structure to Curb	25	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Full Lateral - From Structure to Main	38	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)

Cost Calculation		Unit Cost		Full Lateral		Public Side Lateral		Private Side Lateral		Notes
Code	Description	Unit	Cost	Units	Cost	Units	Cost	Units	Cost	
U-6	Hand Digging and Tunneling	MHR	\$72.00	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.
U-12	Flag Person	MHR	\$56.00	32.0	\$1,792.00	32.0	\$1,792.00	32.0	\$1,792.00	2 Flaggers @ 16 hrs. ea.
U-13	Off Duty Uniformed Officer	MHR	\$65.50	16.0	\$1,048.00	16.0	\$1,048.00	16.0	\$1,048.00	1 Officer @ 16 hrs.
U-14	Miscellaneous Work Time for a Full Crew	CHR	\$650.00	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00	
U-17	Master Plumber Time	MHR	\$123.50	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00	
U-18	Journeyman Plumber Time	MHR	\$85.50	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00	
S-35	Trench Excavation 0' - 15' Depth	CY	\$97.50	8.9	\$866.67	8.9	\$866.67	8.9	\$866.67	
S-37	Aggregate Trench Backfill Above Pipe Zone	CY	\$60.50	7.5	\$454.12	7.5	\$454.12	7.5	\$454.12	Lateral length of 10" pipe
N/A	Full Lining	LF	See Chart	38.0	\$9,994.00	13.0	\$7,514.00	25.0	\$10,500.00	Assuming 10" pipe
S-97	Lateral Camera Inspection	LF	\$75.00	38.0	\$2,850.00	13.0	\$975.00	25.0	\$1,875.00	Inspection on whole lateral
S-106*	Inspection Tee/Cleanout	EA	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	Overlapping line number
R-3	Concrete Sidewalk/ADA Handicapped Ramp	SY	\$128.50	1.3	\$166.57	1.3	\$166.57	1.3	\$166.57	5' x 7' Pad
R-5	Concrete Curb and Radius Curb - All Finishes	LF	\$35.50	12.0	\$426.00	12.0	\$426.00			
R-7	Cold Patch Bituminous Pavement Replacement	TON	\$116.00	3.2	\$373.84	3.2	\$373.84			13.25' (to center line) X 4' X 4"
R-8	Milling - Wearing Course	SY	\$7.50	2.0	\$14.72	2.0	\$14.72			
R-11	Bituminous Pavement Replacement - Wearing Course	SY	\$37.50	2.0	\$73.61	2.0	\$73.61			
R-13	Bituminous Pavement Replacement - Binder Course	SY	\$42.50	2.0	\$83.43	2.0	\$83.43			13' X 4'
SUBTOTALS (For line items Below)					\$23,352.97		\$18,997.97		\$21,624.36	
	Contingency		5% of Total Cost		\$1,167.65		\$949.90		\$1,081.22	Wye, E&S, Addl PVC Fittings
U-1	Mobilization and Demobilization		5% of Total Cost		\$1,167.65		\$949.90		\$1,081.22	5% of total Cost
	Construction Inspection		7% of Total Cost		\$1,634.71		\$1,329.86		\$1,513.71	7% of total cost
	Construction Management		5% of Total Cost		\$1,167.65		\$949.90		\$1,081.22	5% of total cost
Cost of One Lateral Replacement					\$28,490.62		\$23,177.52		\$26,381.72	

LF of Pipe	Total Cost for Replacement	
Private Side: Structure to Curb	13	\$26,381.72
Public Side: Curb to Main	25	\$23,177.52
Full Lateral length	38	\$28,490.62

Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes

Based on "PWSA Standard Details" Cost assumption does not include private property restoration
 Each trench width is based on 4 sq ft - This could change if an additional trench needs to be dug (based on conditions)

The costs of public side- and private side lining will not equal the cost of a full lateral lining.
 This is because cost of lining per LF changes, based on length & some costs remain the same, no matter what portion is lined:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection Tee
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer			
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework,	
U18 Journeyman Plumber Time		but do not need to be onsite for day 2 (road restoration).	

U-17 & U-18 - Required because sight tee/cleanout will be installed.
 Unit Cost - Used the Master Bid Totals file. Used the average "Urgent" cost

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included).
 Depths are based on "PWSA Standard Details". R-7 and S-37 are detailed below:

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):

6-inches below outside of pipe, 12-inches above outside of pipe	
DEPTH FOR S-37 (All repair & Replace Scenarios)	
10" pipe = 0.83333333 FT	15 FT trench
12" above & 6" below pipe = 1.5 FT	2.333333 FT not filled with S-37
DEPTH NOT filled in S-37 = 2.33333333 FT	12.66667 FT DEEP

Lateral Lining	Length			Lining cost is dependent on many factors, including pipe diameter and length. These prices are based on assumptions
	38 LF	13 LF	25 LF	
10" Diameter	\$263.00	\$578.00	\$420.00	

Based on BLD Industries price
 6" diameter 13 LF: \$5,000 (\$384.62 LF)
 6" diameter 38 LF: \$,7500 (\$197.36 LF)
 10" diameter 13 LF: \$7,500 (\$576.92 LF)
 10" diameter 38 LF: \$10,000 (\$263.16 LF)

Road width is based on road measurement averages

R-7 Calculation for Cold patch Tonnage:

(CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)
 (NAPA estimates an average asphalt density of 145 pounds per cubic foot) -
 Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:

Weight density:	104.54	131.96	149.96	100	121.615
Trench Width	Road Width*	Density	Total lbs.	Tons	
4	13.25	121.615	6445.595	3.222798	
Sq Yards for Asphalt (R8-11)					
				1.96	

*Road Width - from curb to centerline

COMMERCIAL

Replacement (Assumes lateral is replaced in the same trench)										Notes	
Pipe and Trench Specifications											
Linear Feet of Pipe Length		Trench Length		Width		Depth				Length based on Average found in study.	
Private Side Lateral - From Structure to Curb										Width based on language in the Master Bid List - Unit Items Depth is an assumed total Public/Private split is based on lateral length averages taken from PWSA maps.	
25	66%	25	x	4	x	15	=	1,500	=		55.6
Feet (LF)		Feet		Feet		Feet		cubic ft			cubic yd (CY)
Public Side Lateral - From Curb To Main											
13	34%	13	x	4	x	15	=	780	=	28.9	
Feet (LF)		Feet		Feet		Feet		cubic ft		cubic yd (CY)	
Full Lateral - From Structure to Main											
38	100%	38	x	4	x	15	=	2,280	=	84.4	
Feet (LF)		Feet		Feet		Feet		cubic ft		cubic yd (CY)	

Cost Calculation		Cost Items		Unit Cost		Full Lateral		Public Side Lateral		Private Side Lateral		Notes	
				Units	Cost	Units	Cost	Units	Cost	Units	Cost		
U-6	Hand Digging and Tunneling	\$72.00	MHR	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.	
U-12	Flag Person	\$56.00	MHR	32.0	\$1,792.00	32.0	\$1,792.00	16.0	\$896.00	16.0	\$896.00	2 Flaggers @ 8 or 16 hrs. ea.	
U-13	Off Duty Uniformed Officer	\$65.50	MHR	16.0	\$1,048.00	16.0	\$1,048.00	8.0	\$524.00	8.0	\$524.00	1 Officer @8 or 16 hrs.	
U-14	Miscellaneous Work Time for a Full Crew	\$650.00	CHR	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00		
U-17	Master Plumber Time	\$123.50	MHR	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00		
U-18	Journeyman Plumber Time	\$85.50	MHR	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00		
S-34	Sewer Laterals (4" to 10" PVC)	\$54.50	LF	38.0	\$2,071.00	13.0	\$708.50	25.0	\$1,362.50	25.0	\$1,362.50		
S-35	Trench Excavation 0' - 15' Depth	\$97.50	CY	84.4	\$8,233.33	13.0	\$1,267.50	25.0	\$2,437.50	25.0	\$2,437.50		
S-37	Aggregate Trench Backfill Above Pipe Zone	\$60.50	CY	71.3	\$4,314.17	24.4	\$1,475.90	46.9	\$2,838.27	46.9	\$2,838.27	Lateral length of 10" pipe	
S-97	Lateral Camera Inspection	\$75.00	LF	38.0	\$2,850.00	13.0	\$975.00	25.0	\$1,875.00	25.0	\$1,875.00	Inspection on whole lateral	
S-106*	Inspection Tee/Cleanout	\$1,950.00	EA	1.0	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	Overlapping line number	
R-1	Concrete Paving Base	\$415.50	CY	3.3	\$1,353.91	3.3	\$1,353.91	2.6	\$1,050.30	2.6	\$1,050.30	26.5' X 4' x 10"	
R-3	Concrete Sidewalk/ADA Handicapped Ramp	\$128.50	SY	2.6	\$333.15	2.6	\$333.15	2.6	\$333.15	2.6	\$333.15	10' x 7' Pad	
R-5	Concrete Curb and Radius Curb - All Finishes	\$35.50	LF	12.0	\$426.00	12.0	\$426.00						
R-7	Cold Patch Bituminous Pavement Replacement	\$116.00	TON	6.4	\$747.69	6.4	\$747.69					26.5' X 4' X 4"	
R-8	Milling - Wearing Course	\$7.50	SY	3.9	\$29.44	3.9	\$29.44						
R-11	Bituminous Pavement Replacement - Wearing Course	\$37.50	SY	3.9	\$147.22	3.9	\$147.22						
R-13	Bituminous Pavement Replacement - Binder Course	\$42.50	SY	3.9	\$166.85	3.9	\$166.85					13' X 4'	
R-21	Crushed Stone Sub-Base	\$63.50	CY	2.6	\$167.03	2.6	\$167.03					26.5' (Road Average) X 4' X 8"	
SUBTOTALS (For line Items Below)					\$28,889.80	\$15,848.20	\$15,476.42						
Contingency					5% of Total Cost	\$1,444.49	\$792.41	\$773.82	Wye, E&S, Addl PVC Fittings				
U-1 Mobilization and Demobilization					5% of Total Cost	\$1,444.49	\$792.41	\$773.82	5% of total Cost				
Construction Inspection					7% of Total Cost	\$2,022.29	\$1,109.37	\$1,083.35	7% of total cost				
Construction Management					5% of Total Cost	\$1,444.49	\$792.41	\$773.82	5% of total cost				
Cost of One Lateral Replacement					\$35,245.56	\$19,334.80	\$18,881.23						

Private Side: Structure to Curb	LF of Replacement	25	Total Cost for Replacement	\$18,881.23
Public Side: Curb to Main	LF of Replacement	13	Total Cost for Replacement	\$19,334.80
Full Lateral length	LF of Replacement	38	Total Cost for Replacement	\$35,245.56

Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes

NOTES

COMMERCIAL: Wider sidewalk is the only difference

Based on "PWSA Standard Details" Cost assumption does not include private property restoration

The costs of public side- and private side replacement will not equal the cost of a full lateral replacement.
 This is because there are costs that remain the same, no matter what portion of lateral pipe is replaced:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer	Man Hours		
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework,	
U-18 Journeyman Plumber Time	Man Hours	but do not need to be onsite for day 2 (road restoration).	

Unit Cost - Used the Master Bid Totals file. Used the average "Urgent" cost

Private Side only - only 1 work day

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):

6-inches below outside of pipe, 12-inches above outside of pipe	
DEPTH FOR S-37 (All repair & Replace Scenarios)	
10" pipe = 0.83333333 FT	15 FT trench
12" above & 6" below pipe = 1.5 FT	2.333333 FT not filled with S-37
DEPTH NOT filled in S-37 = 2.33333333 FT	12.66667 FT DEEP

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included)

Depths are based on "PWSA Standard Details" R-7 and S-37 are detailed to the left.
 R-1 and R-21 are:
 R-1 -- 10" reinforced paving base
 R-21 -- 8' compacted 2A aggregate sub-base.

Road width is based on road measurement averages

Average Road Width = 26.5 LF, based off of the lateral average (NOT including those with a "zero" measurement)

R-7 Calculation for Cold patch Tonnage:
 (CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)
 (NAPA estimates an average asphalt density of 145 pounds per cubic foot) -
 Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:

Weight density:	104.54	131.96	149.96	100	121.615
Trench Width	Road Width	Density	Total lbs.	Tons	
4	26.5	121.615	12891.19	6.445595	
Sq Yards for Asphalt (R8-11)					
					3.93

Repair, Spot Repair (Assumes lateral is replaced in the same trench)									
Pipe and Trench Specifications								Notes	
Linear Feet of Pipe Length	Trench Length	Width	Depth	Length is an assumed total					
Lateral - From Structure to Curb or from Curb to Main									
8	8	x	4	x	15	=	480	=	17.8
Feet (LF)	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Depth is an assumed total									

Cost Calculation	Cost Items	Unit Cost	Units	Cost	Full Lateral	Public Side Lateral	Private Side Lateral	Notes	
U-6	Hand Digging and Tunneling	\$72.00	MHR	4.0	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.
U-12	Flag Person	\$56.00	MHR	32.0	32.0	\$1,792.00	16.0	\$896.00	2 Flaggers @ 8 or 16 hrs. ea.
U-13	Off Duty Uniformed Officer	\$65.50	MHR	16.0	16.0	\$1,048.00	8.0	\$524.00	1 Officer @ 8 or 16 hrs.
U-14	Miscellaneous Work Time for a Full Crew	\$650.00	CHR	2.0	2.0	\$1,300.00	2.0	\$1,300.00	
U-17	Master Plumber Time	\$123.50	MHR	8.0	8.0	\$988.00	8.0	\$988.00	
U-18	Journeyman Plumber Time	\$85.50	MHR	8.0	8.0	\$684.00	8.0	\$684.00	
S-34	Sewer Laterals (4" to 10" PVC)	\$54.50	LF	8.0	8.0	\$436.00	8.0	\$436.00	
S-35	Trench Excavation 0' - 15' Depth	\$97.50	CY	17.8	17.8	\$1,733.33	17.8	\$1,733.33	
S-37	Aggregate Trench Backfill Above Pipe Zone	\$60.50	CY	15.0	15.0	\$908.25	15.0	\$908.25	Lateral length of 10" pipe
S-97	Lateral Camera Inspection	\$75.00	LF	38.0	13.0	\$975.00	25.0	\$1,875.00	Inspection on whole lateral
S-106*	Inspection Tee/Cleanout	\$1,950.00	EA	1.0	1.0	\$1,950.00	1.0	\$1,950.00	Overlapping line number
R-1	Concrete Paving Base	\$415.50	CY	3.3	3.3	\$1,353.91			26.5' X 4' X 10"
R-3	Concrete Sidewalk/ADA Handicapped Ramp	\$128.50	SY	2.6	2.6	\$333.15	2.6	\$333.15	10' x 7' Pad
R-5	Concrete Curb and Radius Curb - All Finishes	\$35.50	LF	12.0	12.0	\$426.00			
R-7	Cold Patch Bituminous Pavement Replacement	\$116.00	TON	6.4	6.4	\$747.69			26.5' X 4' X 4"
R-8	Milling - Wearing Course	\$7.50	SY	3.9	3.9	\$29.44			
R-11	Bituminous Pavement Replacement - Wearing Course	\$37.50	SY	3.9	3.9	\$147.22			
R-13	Bituminous Pavement Replacement - Binder Course	\$42.50	SY	3.9	3.9	\$166.85			13' X 4'
R-21	Crushed Stone Sub-Base	\$63.50	CY	2.6	2.6	\$167.03			26.5' (Road Average) X 4' X 8"
SUBTOTALS (For line items Below)						\$15,473.88		\$11,915.73	
	Contingency	5% of Total Cost				\$773.69		\$595.79	Wye, E&S, Addl PVC Fittings
U-1	Mobilization and Demobilization	5% of Total Cost				\$773.69		\$595.79	5% of total Cost
	Construction Inspection	7% of Total Cost				\$1,083.17		\$834.10	7% of total cost
	Construction Management	5% of Total Cost				\$773.69		\$595.79	5% of total cost
Cost of One Lateral Replacement						\$18,878.13		\$14,537.19	

LF of Repair	Total Cost for Replacement	Notes
Private Side: Structure to Curb	25.0	Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes
Public Side: Curb to Main	13	
Full Lateral length	38.0	

Based on "PWSA Standard Details" Cost assumption does not include private property restoration

The total costs of public side- and private side repair will not equal the total cost of a full lateral repair.
 This is because there are costs that remain the same, no matter what portion of lateral pipe is replaced:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection Tee
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer			
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework,	
U-18 Journeyman Plumber Time		but do not need to be onsite for day 2 (road restoration).	

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):
 6-inches below outside of pipe, 12-inches above outside of pipe
DEPTH FOR S-37 (All repair & Replace Scenarios)
 10" pipe = 0.83333333 FT 15 FT trench
 12" above & 6" below pipe = 1.5 FT 2.333333 FT not filled with S-37
 DEPTH NOT filled in S-37 = 2.33333333 FT **12.66667 FT DEEP**

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included)
 Depths are based on "PWSA Standard Details"
 R-7 and S-37 are detailed to the left.
 R-1 and R-21 are:
 R-1 -- 10" reinforced paving base
 R-21 -- 8' compacted 2A aggregate sub-base.

Private Side only - only 1 work day

Road width is based on road measurement averages
Average Road Width = 26.5 LF, based off of the lateral average (NOT including those with a "zero" measurement)

R-7 Calculation for Cold patch Tonnage:				
(CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)				
(NAPA estimates an average asphalt density of 145 pounds per cubic foot) -				
Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:				
Weight density:	104.54	131.96	149.96	100
Trench Width	Road Width	Density	Total lbs.	Tons
4	26.5	121.615	12891.19	6.445595
Sq Yards for Asphalt (R8-11)				3.93

Repair, Full Lining (Assumes Lateral Defects Do Not Prohibit Lining)										
Pipe and Trench Specifications								Notes		
Linear Feet of Pipe Length	Trench Length		Width		Depth					
Public Side Lateral - From Main to Curb	13	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Private Side Lateral - From Structure to Curb	25	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)
Full Lateral - From Structure to Main	38	4	x	4	x	15	=	240	=	8.9
Feet (LF)	Feet	Feet		Feet		Feet		cubic ft		cubic yd (CY)

Cost Calculation		Unit Cost		Full Lateral		Public Side Lateral		Private Side Lateral		Notes
Code	Description	Unit	Cost	Units	Cost	Units	Cost	Units	Cost	
U-6	Hand Digging and Tunneling	MHR	\$72.00	4.0	\$288.00	4.0	\$288.00	4.0	\$288.00	1 Laborer @ 4 hrs.
U-12	Flag Person	MHR	\$56.00	32.0	\$1,792.00	32.0	\$1,792.00	32.0	\$1,792.00	2 Flaggers @ 16 hrs. ea.
U-13	Off Duty Uniformed Officer	MHR	\$65.50	16.0	\$1,048.00	16.0	\$1,048.00	16.0	\$1,048.00	1 Officer @ 16 hrs.
U-14	Miscellaneous Work Time for a Full Crew	CHR	\$650.00	2.0	\$1,300.00	2.0	\$1,300.00	2.0	\$1,300.00	
U-17	Master Plumber Time	MHR	\$123.50	8.0	\$988.00	8.0	\$988.00	8.0	\$988.00	
U-18	Journeyman Plumber Time	MHR	\$85.50	8.0	\$684.00	8.0	\$684.00	8.0	\$684.00	
S-35	Trench Excavation 0' - 15' Depth	CY	\$97.50	8.9	\$866.67	8.9	\$866.67	8.9	\$866.67	
S-37	Aggregate Trench Backfill Above Pipe Zone	CY	\$60.50	7.5	\$454.12	7.5	\$454.12	7.5	\$454.12	Lateral length of 10" pipe
N/A	Full Lining	LF	See Chart	38.0	\$9,994.00	13.0	\$7,514.00	25.0	\$10,500.00	Assuming 10" pipe
S-97	Lateral Camera Inspection	LF	\$75.00	38.0	\$2,850.00	13.0	\$975.00	25.0	\$1,875.00	Inspection on whole lateral
S-106*	Inspection Tee/Cleanout	EA	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	1.0	\$1,950.00	Overlapping line number
R-3	Concrete Sidewalk/ADA Handicapped Ramp	SY	\$128.50	2.6	\$333.15	2.6	\$333.15	1.3	\$166.57	10' x 7' Pad
R-5	Concrete Curb and Radius Curb - All Finishes	LF	\$35.50	12.0	\$426.00	12.0	\$426.00			
R-7	Cold Patch Bituminous Pavement Replacement	TON	\$116.00	3.2	\$373.84	3.2	\$373.84			13.25' (to center line) X 4' X 4"
R-8	Milling - Wearing Course	SY	\$7.50	2.0	\$14.72	2.0	\$14.72			
R-11	Bituminous Pavement Replacement - Wearing Course	SY	\$37.50	2.0	\$73.61	2.0	\$73.61			
R-13	Bituminous Pavement Replacement - Binder Course	SY	\$42.50	2.0	\$83.43	2.0	\$83.43			13' X 4'
SUBTOTALS (For line Items Below)					\$23,519.54		\$19,164.54		\$21,912.36	
	Contingency		5% of Total Cost		\$1,175.98		\$958.23		\$1,095.62	Wye, E&S, Addl PVC Fittings
U-1	Mobilization and Demobilization		5% of Total Cost		\$1,175.98		\$958.23		\$1,095.62	5% of total Cost
	Construction Inspection		7% of Total Cost		\$1,646.37		\$1,341.52		\$1,533.87	7% of total cost
	Construction Management		5% of Total Cost		\$1,175.98		\$958.23		\$1,095.62	5% of total cost
Cost of One Lateral Replacement					\$28,693.84		\$23,380.74		\$26,733.08	

	LF of Pipe	Total Cost for Replacement	Total costs of public side- & private side replacement will not equal total cost of a full lateral replacement. For clarification, see notes
Private Side: Structure to Curb	13.0	\$26,733.08	
Public Side: Curb to Main	25	\$23,380.74	
Full Lateral length	38.0	\$28,693.84	

Based on "PWSA Standard Details" Cost assumption does not include private property restoration
 Each trench width is based on 4 sq ft - This could change if an additional trench needs to be dug (based on conditions)

The costs of public side- and private side lining will not equal the cost of a full lateral lining.
 This is because cost of lining per LF changes, based on length & some costs remain the same, no matter what portion is lined:
 U-6 Hand Digging and Tunneling, U-14 Miscellaneous Work Time for a Full Crew, S-106 Inspection Tee
 There are others which are determined by time spent on site. These include:

U-12 Flag Person	Man Hours	These are required for the entirety of work	Full Lateral and Public Side Lateral, requires a second day for road restoration, while Private Side does not
U-13 Off Duty uniformed Officer			
U-17 Master Plumber Time	Man Hours	Plumbers must be onsite for the entirety of the pipework,	
U18 Journeyman Plumber Time		but do not need to be onsite for day 2 (road restoration).	

U-17 & U-18 - Required because sight tee/cleanout will be installed.
 Unit Cost - Used the Master Bid Totals file. Used the average "Urgent" cost

Assuming that the trench will be backfilled and temporarily cold-patched. Later the road will be properly restored (Cost of which is also included).
 Depths are based on "PWSA Standard Details". R-7 and S-37 are detailed below:

S-37 This is the fill ABOVE THE PIPE (applies in replace and repair scenarios):

6-inches below outside of pipe, 12-inches above outside of pipe	
DEPTH FOR S-37 (All repair & Replace Scenarios)	
10" pipe = 0.83333333 FT	15 FT trench
12" above & 6" below pipe = 1.5 FT	2.333333 FT not filled with S-37
DEPTH NOT filled in S-37 = 2.33333333 FT	12.66667 FT DEEP

Lateral Lining	Length			Lining cost is dependent on many factors, including pipe diameter and length. These prices are based on assumptions
	38 LF	13 LF	25 LF	
10" Diameter	\$263.00	\$578.00	\$420.00	

Based on BLD Industries price
 6" diameter 13 LF: \$5,000 (\$384.62 LF)
 6" diameter 38 LF: \$,7500 (\$197.36 LF)
 10" diameter 13 LF: \$7,500 (\$576.92 LF)
 10" diameter 38 LF: \$10,000 (\$263.16 LF)

Road width is based on road measurement averages

R-7 Calculation for Cold patch Tonnage:

(CUBIC FEET) X (WEIGHT DENSITY OF ASPHALT) / 2000 (ton)
 (NAPA estimates an average asphalt density of 145 pounds per cubic foot) -
 Could not find average for Cold patch - Used 4 different manufacturer websites to calculate:

Weight density:	104.54	131.96	149.96	100	121.615
Trench Width	Road Width*	Density	Total lbs.	Tons	*Road Width - from curb to centerline
4	13.25	121.615	6445,595	3.222798	
Sq Yards for Asphalt (R8-11)					
				1.96	

**ATTACHMENT C
POSITION ON INSURANCE FOR
WASTWATER LATERALS TECHNICAL
MEMORANDUM**



Collective Efforts, LLC
Civil and Environmental Engineers

Ownership of Wastewater Laterals
Prepared for Raftelis Financial Consultants, Inc.
Project No. P-19-37103

TECHNICAL MEMORANDUM
Position on Insurance for Wastewater Laterals
January 15, 2021

Introduction

As part of the Pittsburgh Water and Sewer Authority's (PWSA's) transition to Public Utility Commission (PUC) jurisdiction, the PUC conducted a "Compliance Plan" proceeding during which the PWSA's pre-existing operations were reviewed by the PUC (and other interested stakeholders). Stage 1 of the Compliance Plan proceeding resulted in a PUC-approved settlement adopted March 26, 2020 which included a provision requiring the PWSA to "conduct a study to investigate the legal, economic and operational feasibility of owning and/or maintaining (now privately owned) wastewater laterals within the public Rights of Way ("ROWs)". The report is to include "the cost, feasibility and appropriateness of alternatives such as facilitating the provision of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals". The PUC stipulated that the PWSA should evaluate the cost, feasibility, and appropriateness of alternatives such as facilitating the provisions of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals. The possibility of insuring wastewater laterals was considered as part of this study. Logistical and legal ramifications of insuring the publicly owned portions, privately owned portions, and offering or recommending insurance products to private lateral owners were discussed with PWSA representatives during two separate conference call meetings held on August 6 and August 20, 2020. In addition, Legal issues were evaluated by the PWSA in-house attorneys as well as outside PUC regulatory counsel.

In support of this effort, Collective Efforts performed a benchmarking study to evaluate the cost, feasibility, and appropriateness of alternatives such as facilitating the provisions of private line insurance rather than the PWSA owning and/or maintaining the wastewater laterals. As part of PUC compliance, this Technical Memorandum was prepared to summarize the PWSA's position as to whether the PWSA can offer private wastewater lateral insurance to residents served by the PWSA wastewater collection system. This topic was discussed with PWSA representatives during two separate conference call meetings held on August 6 and August 20, 2020.

Summary of Conference Call Meetings and Legal Counsel

The meeting on August 6, 2020 was the project kick-off meeting with the project team and PWSA representatives to outline the steps to be taken for the entire project scope of work, which included a discussion of the approach for evaluating the possibility of the PWSA providing private wastewater lateral insurance to residents in lieu of taking over ownership of the private laterals. The PWSA Corporate Counsel, Ms. Shannon Barkley, noted that it is illegal for a public entity (i.e., municipalities and authorities) to offer a product or service that is in competition with the same product or service that is offered by a private company. The PWSA previously offered a waterline insurance program but was sued by Dominion, a private gas company, that also offered private

waterline insurance. Based on the results of this lawsuit, the PWSA no longer offers this insurance program. In addition, as a public entity, the PWSA cannot show preference for or make recommendations for buying privately offered insurance products.

The discussion on August 6 prompted the second conference call meeting between the Project Team and the PWSA Corporate Counsel, Ms. Shannon Barkley. This meeting was held on August 20, 2020. Ms. Barkley provided citations and documentation regarding the legality of a public entity offering private wastewater lateral insurance. Also discussed during this meeting was the efficacy of the PWSA buying insurance to cover the public portion of the laterals. Ms. Barkley also provided citations and documentation regarding the necessity of the PWSA buying insurance. These issues are discussed further in the following sections.

The PWSA's legal counsel discussed the ramifications of Act 120 and PUC's Proposed Title 52 § 66 that defines "Company's service lateral", "Customer's service lateral" and authorizes utilities to take on replacement responsibility for damaged customer-owned laterals, and recover the cost of such replacements when it is reasonably necessary in order to remediate excessive inflow and infiltration ("I&I") or other design or construction conditions causing, or which are reasonably expected within the next five years to cause, wastewater overflows. They also discussed that there is nothing in Act 120 that mandates a change in a PUC-regulated utility's ownership of wastewater laterals, nor does the law require a utility to own a wastewater lateral to be able to repair or replace it and receive cost recovery. Therefore, Act 120 and the proposed Title 52 § 66 could have a great impact on the discussion of wastewater lateral ownership.

Legality of the PWSA Offering Private Wastewater Lateral Insurance

The PWSA Corporate Counsel provided citations and documents that lay out the legality of the PWSA offering insurance to its customers to cover the private portion of the wastewater laterals.

- The Pennsylvania Municipality Authorities Act (53 Pa. C.S.A. Section 5607) – The Pennsylvania Municipal Authorities Act (MAA) sets forth the limits of power of public entities including authorities. Paragraph (b)(2) of this section states the following:

"The purpose and intent of this chapter being to benefit the people of the Commonwealth by, among other things, increasing their commerce, health, safety and prosperity and not to unnecessarily burden or interfere with existing business by the establishment of competitive enterprises, none of the powers granted by this chapter shall be exercised in the construction, financing, improvement, maintenance, extension or operation of any project or projects or providing financing for insurance reserves which in whole or in part shall duplicate or compete with existing enterprises serving substantially the same purposes."

This was the basis for the PWSA being sued by Dominion Products and Services, Inc. (Dominion), Dominion Retail, Inc, The Manchester Group, LLC (Manchester). After the Utility Line Shield program was discontinued due to it being ruled upon by the court as being illegal, a separate suit was brought by against the PWSA by customer who had purchased the Utility Line Shield insurance product through the PWSA's opt-out program. The basis of the lawsuit against the PWSA, after ULS was out of business, was that the PWSA was deemed to be a guarantor of the ULS program as the customer entered into the

contract through the PWSA, as the PWSA directed the customer to use Shield (endorsed it and backed it). In the lawsuit against, the PWSA, the customer was essentially looking to the PWSA to insure the insurer.

- The Home Rule Charter and Optional Plans Law (53 P.S. Section 1-101 to 1-1309) prohibits home rule charter or optional plan municipalities from engaging in proprietary or private business except as authorized by the general assembly. A pertinent case regarding this law involved the City of Pittsburgh. The City of Pittsburgh operated an asphalt plant and the City Council adopted a resolution authorizing the City to enter into agreements to sell asphalt to other municipalities and governmental agencies outside of the City in order to increase revenue for the City. The Associated Pennsylvania Constructors and several other private companies, that supplied asphalt, sued the City of Pittsburgh due to the agreement to provide asphalt to other municipalities and government agencies. The court found that the sale of asphalt was a function carried on by private enterprise that a local governmental unit was not statutorily required to perform. The City was using the sale of asphalt as a means of raising revenue, making it a propriety function. The Home Rule Charter law prohibits municipalities from engaging in proprietary or private business except as authorized by the general assembly. Therefore, the City was in violation of the statute.

In summary, the PWSA is not permitted, by law, to provide its own wastewater lateral insurance product, that would be in competition with (both water and wastewater) line insurance products that are currently available from for-profit public utilities and other private entities.

Potential Legal Issues with the PWSA Recommending Private Wastewater Lateral Insurance

Not only is the PWSA precluded from offering private insurance to customers for private wastewater laterals, as a governmental entity, it cannot recommend or show preference for any particular programs, unless every product and program available for wastewater lateral insurance was publicly listed and the list was kept up to date. It would, however, be impractical and difficult to maintain such a list. As a municipal government authority, the PWSA cannot be in the position of endorsing one private enterprise over another. The PWSA could be sued if it showed preference for or recommended one product over another. By making a recommendation or showing preference for one product, the PWSA would be, in effect, directing customers to use a product that may or may not be in their best interest to purchase. This reverts to the lawsuit discussed previously where the PWSA was sued by a ratepayer who correctly inferred that the PWSA had endorsed a particular insurance provider, ULS.

Similarly, making a generic recommendation to purchase insurance is problematic in that it or may not be the best option for the customer. If a customer purchased insurance because the PWSA generically recommended to buy insurance, it may be an unnecessary financial burden to carry the insurance. For instance, if a homeowner knew that their private wastewater lateral was brand new or was in good condition and could last for years, it may not be to that homeowner's benefit to purchase sewer lateral insurance.

Legality of Buying Insurance for Public Wastewater Laterals

Assuming that the PWSA could establish if or where to make a demarcation between public and private portions of existing privately-owned wastewater laterals, it would require a financial analysis

and decision by PWSA staff and Board to buy insurance for the publicly owned portions of the laterals.

The Political Subdivision Tort Claims Act “PSTCA,” 42 Pa. C. S. Sec. 8541 et seq. generally states that all negligence lawsuits for money damages against “local agencies”, like the PWSA, are prohibited (under a doctrine called governmental immunity) unless the claim fits within one of the nine exceptions specifically stated in the statute. One of the exemptions relates to utility service facilities. The exemption for utility service facilities states that the agency or employee may be liable if:

“A dangerous condition of the facilities of steam, sewer, water, gas or electric systems owned by the local agency and located within rights- of-way, except that the claimant to recover must establish that the dangerous condition created a reasonably foreseeable risk of the kind of injury which was incurred and that the local agency had actual notice or could reasonably be charged with notice under the circumstances of the dangerous condition at a sufficient time prior to the event to have taken measures to protect against the dangerous condition.”

Further, under the PSTCA, if a claim falls within one or more of the nine liability exceptions, then damages are recoverable from the PWSA but only with limitations. Total damages are limited to \$500,000 per incident.

Another financial issue to be considered would be that it would most likely be cheaper for the PWSA to do repairs themselves than have the insurance carrier’s approved contractors complete the work. In many instances, it cannot be ascertained if a defect or leak is on the public or private side of a line. In such cases, the PWSA normally digs the line to ascertain if the defect is on the public or private portion of the line. Excavating is frequently one of the most costly aspects of line repair. Thus, if the PWSA procured insurance for just the public side, the PWSA will have already had to perform a costly aspect of the repair, i.e., excavation. In addition to the added cost of the insurance carrier’s contractor work, the PWSA may need to sue the insurance contractor if the work was not completed to the PWSA standards. Finally, the PWSA would have to start the work (digging) at a property to determine what the problem was prior to calling in the insurance carrier’s contractor. It may be more cost effective and reduce the time of disruption to the customer if the PWSA completed the work themselves rather than having to call the insurance company and another contractor to complete the work.

Therefore, if the PWSA has policies and programs in place that reduce the reasonably foreseeable risk of dangerous conditions being created, and that also allow the PWSA to be notified of dangerous conditions in time to take measures to protect against the dangerous conditions, it may not be a cost-effective decision for the PWSA to buy insurance on public portions of wastewater laterals if the occurrence of foreseeable dangerous conditions is minimized.

ACT 120 and Proposed Title 52 § 66

In 2018, the Public Utility Code was amended to give utilities the legal authority to replace or repair a customer-owned damaged wastewater lateral without requiring utility ownership of the lateral. 66 Pa. C.S. § 1311(b)(2) (referred to as “Act 120”). Act 120 is an apparent effort to address existing law which makes the customer responsible for the repair or replacement of privately owned laterals (which, in the PWSA’s service territory, would include the entire lateral from the premises to the

main even where such lateral lies within a public ROW). This new law authorizes a PUC-regulated wastewater utility to recover in its rates the cost of replacing a customer-owned, damaged wastewater lateral in certain circumstances, provided the PUC approves a replacement plan and associated tariff provisions permitting such replacement. Act 120 makes clear that, while the utility may agree to take on responsibility to replace damaged laterals, if it voluntarily decides to propose such a plan, ownership of the repaired facility would, nevertheless, stay with customer, and future maintenance responsibly would remain with the customer as well.

In response to Act 120 (as well as the recent increase in the number of wastewater utilities under PUC jurisdiction due to statutory changes in 2016), the PUC initiated a regulatory rulemaking process to develop new regulations governing wastewater utilities. The final PUC approved regulations are subject to a comment period and further PUC review which may well alter the specifics of the existing proposals. The final PUC approved wastewater regulations will likely not be finalized until early 2022.

The currently proposed wastewater regulations include the following:

- Proposed Title 52 § 66.32 defines “Company’s service lateral” as the portion of a service lateral owned by the company, extending from a main to the inlet connection of a customer’s service lateral at the curb or property line.
- Proposed Title 52 § 66.32 defines “Customer’s service lateral” as the portion of a service lateral owned by the customer, most often extending from the curb, property line or utility connection to a point two feet away from the face of the foundation of the structure.
- Proposed Title 52 § 66.33 authorizes utilities to take on replacement responsibility for damaged customer-owned laterals, and recover the cost of such replacements when it is reasonably necessary in order to remediate:
 - i) Excessive inflow and infiltration (“I&I”) causing, or which is reasonably expected within the next five years to cause, a hydraulically overloaded condition, wastewater overflows, and/or additional flow which is prudent for the entity to avoid; or,
 - (ii) Other design or construction conditions causing, or which are reasonably expected within the next five years to cause, wastewater overflows.
- Proposed Title 52 § 66.38(b) requires the tariff to include a definition for customer’s service lateral that clarifies where the customer-owned portion of a service lateral begins and terminates. Note that the PUC also explains its intent that utilities use the replacement process to perfect the utility’s ownership of the portion of the service laterals located within the existing public ROW to ensure utilities can obtain necessary permits to complete work within the public ROW in the future. Again, there is nothing in Act 120 that mandates a change in a PUC-regulated utility’s ownership of wastewater laterals, nor does the law require a utility to own a wastewater lateral to be able to repair or replace it and receive cost recovery. Thus, while investor-owned utilities generally own the portion of the lateral in the public ROW, such ownership is not legally required.

Conclusions

Based on the previous discussion, it has been established that it is not legal for the PWSA to offer insurance to customers for wastewater laterals because doing so would put the PWSA in direct

competition with private vendors who offer the same products. Additionally, as a governmental entity, the PWSA cannot be in the position of recommending one private sector insurance product over another.

If the PWSA took over ownership of the whole line, the PWSA would still have to repair/replace any defects in the line; however, the PWSA would almost never have liability for any property damage that occurred due to the defect, due to the PWSA's governmental immunity under the PSTCA. Therefore, it would not be necessary that the PWSA purchase insurance to cover repairs because the PWSA would not be held liable for any property damage that may occur due to defects. Further, the PWSA anticipates they could complete the work for less cost than paying for insurance for all of the approximately 110,000 sanitary sewer laterals, and equally, or even more, importantly, is the potential for significant delays that would occur with working with a third party. The PWSA would need the flexibility on funding and timing to address these issues and can only do that if they self-finance repairs. Therefore, it will not be necessary to reach out to other municipalities and authorities to query as to whether they carry or provide lateral insurance for their customers.

After review of the legal, cost and logistical issues, the present structure whereby the customer owns and is responsible for O&M and/or replacement of the entire private lateral is the most current realistic approach for the PWSA for the near term. Based on the survey of other similarly situated wastewater conveyance utilities, maintaining the current status quo is not unique despite the fact that other investor-owned utilities own the portion of the customer lateral in the public ROW.

As discussed, Act 120 and the PUC's recently opened rulemaking will establish a framework enabling the PWSA to replace damaged customer-owned wastewater laterals (without requiring the PWSA to take over ownership) when replacement would provide benefits to the rest of the wastewater system. Therefore, the most prudent course at this time is for the PWSA to monitor the PUC's Act 120 rulemaking and actively evaluate the development of a PWSA-specific Act 120 plan that would be submitted to the PUC for approval.

Any consideration of the PWSA taking on responsibility for customer-owned laterals needs to be in conformance with Act 120 and the final PUC wastewater regulations. That approach points to replacing but not taking ownership or providing continued maintenance responsibility for the full customer-owned lateral where replacement of the damaged lateral would reduce I&I or would otherwise reduce wastewater overflows. The PWSA would need to develop a plan taking into consideration the results of this study, direction from the PUC to all wastewater utilities, its continuing efforts to come into compliance with all PUC regulations, requirements necessary to ensure compliance with other federal and state requirements and the need to balance its myriad of other capital improvement projects underway to modernize its system. Once developed, the PWSA would be required to submit the plan to the PUC for approval before it could undertake the process to repair or replace customer-owned damaged wastewater laterals.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

JULIE A. QUIGLEY

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3924779 (Stormwater)

TOPICS:

Collections

Compliance Plan Stage 2

Customer Service

COVID-19 Impacts and Customer Protections

Low-Income Customer Assistance Programs

Miscellaneous Water/Wastewater Tariff Issues

July 29, 2021

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JAQ-10	Minutes February 12, 2021 Low Income Assistance Advisory Committee (LIAAC) Meeting
JAQ-11	PWSA Cost of Service/Rate Study Costing Calculator

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PWSA.**

3 A. My name is Julie A. Quigley. My position with The Pittsburgh Water and Sewer
4 Authority (“PWSA” or “Authority”) is Director of Customer Service.

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony on April 13, 2021, which accompanied the rate filing
7 package.

8 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9 A. The purpose of my testimony is to respond to the testimony of Office of Consumer
10 Advocate (“OCA”) Witnesses Barbara Alexander, Roger Colton, Terry Fought, and Scott
11 Rubin. I will also respond to the testimony of Pittsburgh UNITED (“UNITED”)
12 Witnesses Harry Geller and Michele C.W. Adams. I will respond to an issue raised by
13 Office of Small Business Advocate (“OSBA”) Brian Kalcic. Finally, I will address an
14 issue included in the testimony of Bureau of Investigation and Enforcement (“I&E”)
15 witness D.C. Patel. The topics I will be addressing include these witnesses’
16 recommendations related to:

- 17 • Collections;
- 18 • Compliance Plan Stage 2 issues raised by OCA;
- 19 • Customer service (including performance, complaint handling, response to public
20 input hearing testimony, and stormwater specific issues);
- 21 • COVID-19 impacts and extension of customer protections;
- 22 • Low income customer assistance programs; and,
- 23 • Miscellaneous water/wastewater tariff issues (including larger meter sizes due to
24 city requirements, party lines, and miscellaneous fees).

25 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

26 A. Yes, I am sponsoring PWSA Exhibits JAQ-7 through JAQ-11 which are described in the
27 Table of Exhibits included with the Table of Contents.

1 **Q. BASED UPON YOUR REVIEW OF THE DIRECT TESTIMONY THAT YOU**
 2 **WILL BE ADDRESSING HERE, DO YOU HAVE ANY HIGH-LEVEL**
 3 **OBSERVATIONS YOU WOULD LIKE TO SHARE?**

4 A. Yes. As this is PWSA’s third base rate case since 2018 with the most recent one
 5 effective in January of this year, many of the concerns and recommendations in the other
 6 parties’ direct testimony are similar to those that have been voiced in the past. Some
 7 themes include improving our collections (I&E), improving our customer service
 8 performance (OCA), and enhancing our low income customer assistance programs (OCA
 9 and UNITED). Through the settlement of previous cases, PWSA has made significant
 10 advancement regarding these issues and we are particularly proud of our low income
 11 customer assistance programs. However, along each step of the way, PWSA has been
 12 careful not to levy excess costs on other ratepayers or put at risk our ability to adequately
 13 fund our significant capital budget – the backbone of our ability to provide safe and
 14 reliable service. As I have testified in prior cases, recommendations to enhance our low
 15 income customer assistance programs (whether through more significant revenue loss or
 16 increased programming and implementation costs) must be balanced with the ability of
 17 PWSA to receive the revenues needed to continue to provide adequate, efficient, safe and
 18 reasonable service and the need to avoid excessive rate burdens on non-low income
 19 customers who ultimately pay for these programs.

20 **Q. DO YOU BELIEVE THAT OCA AND UNITED HAVE CONSIDERED THE**
 21 **COST IMPACTS TO PWSA AND ITS RATEPAYERS IF THEIR**
 22 **RECOMMENDATIONS WERE ADOPTED?**

23 A. No, I do not. Mr. Geller, on behalf of UNITED, claims that “PWSA’s current rates are
 24 already unaffordable” and he does not support any further increase in rates. (UNITED St.
 25 No. 1 at 8, 49). Despite this, UNITED proposes significant overhauls of PWSA’s current
 26 Bill Discount Program and Arrearage Forgiveness Program which are simply not possible

1 with PWSA’s current customer information system infrastructure and, even if they were,
2 would result in significant greater expenses for PWSA and its ratepayers.¹ Likewise, Ms.
3 Alexander, on behalf of OCA, recommends that PWSA not be allowed to pursue
4 termination of service to residential customers “until its policies are brought into
5 compliance with Chapter 56 requirements in the [Compliance Plan] Stage 2 proceeding.”
6 (OCA St. No. 5 at 27, 37). At the same time, Mr. Colton, on behalf of OCA,
7 recommends that PWSA revise its current Arrearage Forgiveness Program in a way that
8 would significantly increase PWSA’s uncollectible expense (and is not possible within
9 PWSA’s existing customer information system). (OCA St. No. 4 at 12-17).
10 Unfortunately, my review of these recommendations leads me to conclude that both OCA
11 and UNITED have failed to give serious consideration to the cost impacts of their
12 proposal and, most importantly, the ripple effect on all PWSA ratepayers if PWSA is
13 unable to collect revenue for services rendered or implements significantly costly
14 programs that divert resources from other projects.

15 **Q. CAN YOU EXPLAIN WHAT YOU MEAN BY THE “RIPPLE EFFECT” ON ALL**
16 **PWSA’S RATEPAYERS IF PWSA IS UNABLE TO COLLECT REVENUE?**

17 A. Yes. There are costs to PWSA to provide service. As a public authority, PWSA has no
18 investors and must rely (for the most part) on revenues collected from its ratepayers to
19 fund its operations. While the cost of supporting the ability of low income customers to
20 receive water and wastewater conveyance service may be appropriately shared among all
21 other ratepayers, there is a risk of nonpayment if such costs become unreasonable. If
22 PWSA is unable to recover the costs to provide service, then PWSA will lack the funding

¹ Mr. Geller makes these recommendations while also recognizing that the services provided by PWSA need to be safe and reliable. PWSA Exh. JAQ-7: PWSA-UNITED-I-2.

1 necessary to continue to address aging (and previously neglected) infrastructure issues, to
2 upgrade systems to satisfy compliance with the Commission’s regulations and
3 expectations, to remediate the presence of lead in our service lines, and to work through
4 all the other various regulatory commitments and directives.

5 **Q. HAS PWSA OFFERED A REASONABLE BALANCING OF THESE ISSUES**
6 **THAT THE COMMISSION SHOULD APPROVE?**

7 A. Yes. Even though I am advised by counsel that there are no Commission regulations or
8 statutory requirements requiring PWSA to offer *any* low income customer assistance
9 programs, PWSA has developed robust low income customer assistance program which
10 we continue to refine and enhance as we are able and base these programs on the needs of
11 our customers. PWSA, however, cannot continue to develop these customer assistance
12 programs without the revenues needed to support these programs both in terms of
13 programmatic costs and payment for services rendered (even if not paid by the low
14 income customer). PWSA has an obligation to be mindful of these considerations as it
15 evaluates its existing programming and operations. In my opinion, the recommendations
16 PWSA has offered in this proceeding to enhance our low income customer assistance
17 programs are reasonably tailored in consideration of expected costs and the pressure
18 placed on our ability to pursue collections for non-payment due to the pandemic.

19 **II. COLLECTIONS**

20 **A. Importance of Collections**

21 **Q. DOES PWSA VIEW ITS COLLECTIONS PROCESS AS AN IMPORTANT**
22 **TOOL IN ITS ABILITY TO OFFER ADEQUATE, EFFICIENT, SAFE AND**
23 **REASONABLE SERVICE?**

24 A. Yes, absolutely. As I stated above, PWSA cannot offer adequate, efficient, safe, and
25 reasonable service if it lacks the funds needed to operate and to maintain its systems.

1 While PWSA fully understands and agrees with OCA and UNITED that the availability
2 of water and wastewater conveyance services for all people in its service territory is
3 important, and PWSA is committed to taking the appropriate steps to assist those with an
4 inability to pay, we cannot ignore our concomitant obligation to try to ensure that we are
5 receiving sufficient revenue to offer adequate, efficient, safe, and reasonable service for
6 the benefit of all our customers. Our collections activities play a critical role here
7 because they hold customers accountable for paying for services rendered, and, if they do
8 not do so, then we can stop providing the service. If customers have an inability to pay
9 for services, then they can receive financial assistance through participation in our low
10 income customer assistance programs. Being able to terminate service to those who do
11 not pay is crucial to a successful collections effort.

12 **B. Current Status of Collections**

13 **Q. PLEASE PROVIDE AN UPDATE REGARDING YOUR CURRENT**
14 **COLLECTIONS PROCESSES.**

15 A. Since the Commission's lifting of the moratorium on terminations effective November 9,
16 2020, PWSA has been pursuing payment of charges billed to *non*-residential customers
17 for water and wastewater service using the tools available to us including termination of
18 water service and lien filing. PWSA's Board of Directors was very hesitant to, at least
19 initially, take the same approach to collect unpaid residential water and wastewater
20 charges. In April 2021, PWSA drafted and issued a final notice of non-payment titled,
21 "Avoid Water Shut-off by Contacting Us Now" to any residential customer at risk of
22 termination. The notice encouraged customers to take advantage of new assistance
23 programs (cash assistance, bill discount, and forgiveness programs) and flexible payment
24 plans to keep their water service active. Then, effective June 7, 2021, PWSA again

1 began to issue 10-day shut off notices to owner/occupants and 37-day shut off notices to
2 landlords for only those properties where PWSA had proof in the form of account notes
3 that PWSA had attempted, successfully or unsuccessfully, personal telephone contact
4 with the customer for the purposes of payment counseling and the offering of payment
5 plans and PWSA's customer assistance programs. To date, PWSA has issued a
6 combined total of 2,814 notices. The Board requested that we determine how many of
7 these notices/postings were resolved through payment plans, hardship grants, medicals,
8 or were paid in full. PWSA was happy to report that 38% of all shut off notices/postings
9 issued since June 1, 2021 did not result in the termination of water service but rather
10 resulted in the issuance of payment plans and/or hardship grants and the receipt of
11 medicals or payment in full. This is, in part, due to the personal collection calls made by
12 PWSA personnel after the posting notice date and prior to the actual planned termination
13 of water service. As not all accounts have moved through to the 3 (owner/occupant) or
14 30-day (tenant occupied) shut off posting stage, and because a significant number do not
15 require additional collection activities, to date PWSA has performed 28 actual
16 terminations of water service due to non-payment by a residential customer in June 2021.

17 **Q. DOES MS. ALEXANDER ON BEHALF OF OCA RAISE CONCERNS ABOUT**
18 **THE APRIL 2021 NOTICES AND PWSA'S PROCESSES TO TRANSITION TO**
19 **"NORMAL" SERVICE TERMINATIONS?**

20 A. Yes. The April 2021 notice was an important part of our campaign to enroll customers in
21 its assistance programs and payment plans in an effort to attract hard to reach delinquent
22 customers and avoid shut off of their water service. To that end, the April 2021 notice
23 informed customers that the Commission's moratorium on water shut offs expired March
24 31, 2021, and PWSA views shut offs as a last resort and encourages the customer to

1 contact PWSA to enroll in available programs to help keep water service active.²

2 Despite the clear language and explicitly stated intent of this letter (to assist
3 customer to avoid water shut off by contacting PWSA), Ms. Alexander claims that the
4 letter improperly threatened shut off when there was no intent to termination service in
5 violation of 52 Pa. Code § 56.99. Accordingly, Ms. Alexander recommends that this
6 particular communication “should be investigated further as a potential violation.” (OCA
7 Statement No. 5 at 23.)

8 **Q. HOW DO YOU RESPOND TO MS. ALEXANDERS CONCERNS ABOUT**
9 **PWSA’S APRIL 6, 2021 NOTICE TO CUSTOMERS?**

10 A. I absolutely disagree with her characterization that this letter threatens shut off of service.
11 The letter notes the ability of the Authority to shut off service with the lifting of the
12 Commission’s moratorium and specifically states that PWSA “views shut offs as a last
13 resort.” The purpose of the letter was to encourage customers to contact PWSA and to
14 inform them of the programs available to assist them with payment. As such, I do not
15 agree that it is a threat to shut off service when PWSA had no plans to shut off service.
16 Moreover, PWSA shared this proposed notice with BCS prior to issuance. BCS had no
17 suggested changes.

18 **C. Recommendations Related to Continuing Moratorium on Termination of Service**

19 **Q. DO YOU AGREE WITH MS. ALEXANDER’S VIEW THAT PWSA’S**
20 **COLLECTION PROCESSES ARE DEFICIENT BECAUSE OF THE**
21 **COMMISSION’S ON-GOING REVIEW IN THE STAGE 2 COMPLIANCE PLAN**
22 **PROCEEDING (OCA. ST. NO. 5 AT 27)?**

23 A. No. As I will discuss further below, I categorically disagree with Ms. Alexander’s view
24 that PWSA should not be allowed to pursue termination of service to residential

² See OCA Exhibit BA-3 for a copy of the notice.

1 customers based on her view that our Chapter 56 processes are currently under review in
2 the Stage 2 Compliance Plan proceeding.

3 **Q. MR. GELLER ALSO RECOMMENDS EXTENDING THE MORATORIUM ON**
4 **RESIDENTIAL TERMINATIONS UNTIL AT LEAST APRIL 1, 2022. (UNITED**
5 **STATEMENT 1 AT 26-27). DO YOU AGREE?**

6 A. Respectfully, I do not. It is important for PWSA to begin collecting outstanding charges
7 from customers who have not been paying their bills so that other customers are not
8 unfairly required to shoulder this burden. Termination of service is a very effective tool
9 that PWSA needs to be able to use to collect monies that are owed for utility services
10 rendered. Numerous programs are available to those customers who are the most
11 vulnerable and facing challenging financial situations of their own, and they will be
12 protected. However, termination of service is appropriate for other customers.
13 Otherwise, PWSA's other ratepayers will be required to unfairly subsidize service –
14 which is not a sustainable way for the Authority to continue to operate in the long term.

15 **III. Compliance Plan Stage 2 Issues**

16 **A. Pending Stage 2 Proceeding**

17 **Q. WHAT ISSUES IS THE COMMISSION ADDRESSING AS PART OF THE**
18 **STAGE 2 COMPLIANCE PROCESS?**

19 A. As directed by Chapter 32 and the Commission, PWSA filed its Compliance Plan (and its
20 LITIIP) on September 28, 2018.³ On November 28, 2018, the Commission issued a
21 Secretarial Letter which: (1) referred PWSA's September 28, 2018 Compliance Plan
22 filing to the Office of Administrative Law Judge; and (2) established two stages of review

³ Notice of PWSA's Compliance Plan was published on October 13, 2018. 48 Pa.B. 6635.

1 for PWSA’s Compliance Plan.⁴ Stage 2 was reserved for stormwater and Chapter
 2 14/Chapter 56 customer service issues. The specific issues to be included as part of the
 3 Stage 2 customer service issues include⁵:

- 4 • The language, format and method of providing suspension and termination notice
 5 pursuant to Chapter 14 of the Public Utility Code and Chapter 56 of the
 6 Commission’s regulations;
- 7 • PWSA’s compliance with the Discontinuance of Service to Leased Premises Act
 8 (“DSLPA”), 66 Pa.C.S. §§ 1521-1533; and
- 9 • PWSA’s plan for collections (to include strategies to reduce overall uncollectible
 10 charges to ensure collections practices for residential customers are consistent
 11 with legal requirements).

12 **Q. PLEASE EXPLAIN THE HISTORY AND CURRENT PROCEDURAL STATUS**
 13 **OF THE COMPLIANCE STAGE 2 CUSTOMER SERVICE ISSUES.**

14 A. Litigation related to Stage 2 was to begin after issuance of a final Commission Order in
 15 Stage 1, though Commission staff was directed to hold workshops related to Stage 2
 16 issues in 2019. Regarding customer service issues, the Commission issued a Secretarial
 17 Letter dated January 31, 2019 announcing its intention to conduct a workshop on
 18 February 21, 2019 for the purpose of discussing “PWSA’s compliance with billing and
 19 collections requirements of Chapter 14 of the Public Utility Code and Chapter 56 of the
 20 Commission’s regulations.” According to the Secretarial Letter, the input provided
 21 during the workshop would be used to develop the Commission’s Stage 2 review of
 22 PWSA’s Compliance Plan. The Commission also stated that this would be the first of
 23 four workshops. Further workshops were held on April 23, 2019, July 25, 2019 and

⁴ *Assignment of the Pittsburgh Water and Sewer Authority Compliance Plan to the Office of Administrative Law Judge*, Docket No. M-2018-2640802 (water) and M-2018-2640803 (wastewater), dated November 28, 2018 Corrected.

⁵ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Expedited Motion for Extension of Commission-Created Deadlines filed May 13, 2019 at 8-11.

1 November 4, 2019.

2 Between March 2020 and February 2021, the Commission entered three orders
 3 regarding the Stage 1 Compliance Plan proceeding with the third Commission order
 4 entered on February 4, 2021⁶ providing direction regarding the commencement of Stage
 5 2. Consistent with the February 4, 2021 Order, PWSA filed a Stage 2 Compliance Plan:
 6 Chapters 14 & 56, DSLPA and Collections on April 9, 2021.

7 Subsequently, on May 20, 2021, the Commission entered an Opinion and Order
 8 providing additional direction regarding the procedural schedule for addressing the Stage
 9 2 Compliance Plan issues pertaining to Chapters 14 and 56. More specifically, additional
 10 workshops were to be held, Staff was directed to prepare a Stage 2 report and directed
 11 questions with a referral to the Office of Administrative Law Judge to issue a
 12 recommends decision no later than May 25, 2022.⁷ Per Secretarial Letter dated May 28,
 13 2021, additional workshops regarding Stage 2 customer service issues were held on June
 14 17, 2021 and June 25, 2021.

15 At this point, we are awaiting further action from the Commission to refer the
 16 Stage 2 issues to the OALJ for further litigation and we expect this to occur in about two
 17 weeks (August 9, 2021).

⁶ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Opinion and Order entered February 4, 2021.

⁷ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority – Stage 1*, Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Opinion and Order entered May 20, 2021.

1 **Q. GIVEN THIS BACKGROUND, DOES PWSA SUPPORT ADDRESSING ISSUES**
 2 **IN THIS PROCEEDING THAT ARE BEING CONSIDERED AS PART OF THE**
 3 **STAGE 2 COMPLIANCE PLAN PROCEEDING?**

4 A. No. A significant amount of work has been undertaken on the part of PWSA to provide
 5 information and to work with Commission staff and the parties as part of the Stage 2
 6 process. This has included the preparation of two compliance plans – the most recent one
 7 filed on April 9, 2021 consisted of 71 pages (exclusive of endnotes), copies of all of
 8 PWSA’s various customer notices, communications, forms and detailed information
 9 about PWSA’s various processes. I have personally attended the four BCS sponsored
 10 workshops in 2019 and the two workshops more recently. Much of my time and my
 11 staff’s time has been devoted to preparing responses to questions from staff and
 12 stakeholders about our customer service and collections processes and the two
 13 compliance plans we have filed. In addition, PWSA has responded to numerous
 14 discovery questions about its customer service processes (including collections) in the
 15 context of three rate cases (which includes this one) and, to some extent, the Compliance
 16 Plan Stage 1 proceeding. Additionally (as I will discuss further below), we have worked
 17 informally with parties outside of the various proceedings to try to resolve the issues that
 18 Ms. Alexander raises in this proceeding regarding attempted personal contact prior to
 19 termination.

20 At this point, we are still awaiting official feedback from the Commission
 21 regarding our filed Compliance Plans addressing customer service issues. We have
 22 received some helpful direction from Commission staff in the workshop discussions and
 23 are working through addressing those issues; however, this is not a substitute for official
 24 Commission direction which would provide much needed formal finality regarding the
 25 status of our compliance on the issues. We have also received some feedback throughout

1 the course of the proceedings and workshops mentioned previously from the parties.
2 However, much of the feedback from the parties fails to include any actionable
3 suggestions but rather generally indicates they have “concerns” about our processes.
4 Where actionable feedback has been provided, PWSA has acted. At this point in our
5 transition to Commission jurisdiction, I believe complete actionable and concrete
6 direction about our processes from the Commission is needed. Such direction will not be
7 provided in this proceeding, nor should we expect it to be since the formal litigation
8 phase of Stage 2 will begin within the next few weeks. Given all of this, I do not support
9 further changes to PWSA’s processes on any issue covered by Chapters 14, 56, DSPLA
10 or collections as part of this rate case. I am concerned about the time and costs of
11 expending resources on additional issues raised in this case because conflicting direction
12 may be given by the Commission in the Stage 2 proceeding. While PWSA has made
13 efforts to try to move these issues toward resolution on a faster track, we have not been
14 largely successful, and I am unable to see any other path forward now but patience.

15 **Q. WHAT IS MR. GELLER’S VIEW ON BEHALF OF UNITED ABOUT**
16 **AWAITING FURTHER DIRECTION FROM THE COMMISSION REGARDING**
17 **COMPLIANCE PLAN STAGE 2 CUSTOMER SERVICE ISSUES?**

18 A. UNITED witness Geller notes that “in reviewing PWSA’s terms and conditions of
19 service” he “identified a range of compliance issues related to PWSA’s billing,
20 collections, terminations as well as its treatment of tenants.” However, Mr. Geller
21 specifically states that he will not address those issues in his testimony as he is advised by
22 counsel that they are explicitly reserved for litigation in the on-going Stage 2 Compliance
23 Plan proceeding. He does, however, reserve the right to further comment on various
24 compliance issues if raised by other parties in this proceeding. (UNITED Statement No.
25 1 at 6).

1 **Q. WHAT IS OCA WITNESS ALEXANDER’S VIEW ON AWAITING FURTHER**
 2 **DIRECTION FROM THE COMMISSION REGARDING COMPLIANCE PLAN**
 3 **STAGE 2 CUSTOMER SERVICE ISSUES?**

4 A. Like Mr. Geller, Ms. Alexander acknowledges the on-going Stage 2 proceeding and that
 5 the issues I identified above are to be addressed in that proceeding.⁸ She also states that
 6 she will “refrain from opining on PWSA’s implementation of these issues in detail in
 7 [her] direct testimony.” (OCA Statement No. 5 at 6.)

8 **Q. DOES MS. ALEXANDER IN FACT “REFRAIN FROM OPINING” ON ISSUES**
 9 **SUBJECT TO THE STAGE 2 COMPLIANCE PLAN PROCEEDING IN HER**
 10 **TESTIMONY?**

11 A. No, she does not. She raises a number of issues that are squarely within that proceeding
 12 and have been discussed to varying degrees in the context of the Stage 2 workshops. She
 13 even goes further to recommend that “PWSA should not be permitted to resume
 14 termination of service for nonpayment until its policies are brought into compliance with
 15 Chapter 56 requirements in the Stage 2 proceeding.” (OCA Statement No. 5 at 26).

16 **Q. IS IT REASONABLE TO ADDRESS THE CHAPTER 56 ISSUES MS.**
 17 **ALEXANDER OPINES ABOUT IN THIS PROCEEDING?**

18 A. No, because they are subject to another on-going proceeding. However, because Ms.
 19 Alexander raises them and fails to present a full and accurate picture of the reality of the
 20 situation, I will provide rebuttal testimony in response. However, I wish to be clear that
 21 my doing so is solely for the purpose of building a complete and accurate record in this
 22 proceeding, and it is in no way a concession that the issues are properly addressed here.

⁸ I do not agree with Ms. Alexander’s comment that “Stage 2 was only recently initiated.” (OCA Statement No. 5 at 6). While true that the Commission provided specific dates for the procedural process recently, it is not accurate to create the impression that the Commission, parties, and PWSA have not been working on these issues since 2018. As I explained previously, the opposite is true.

1 **Q. WHAT ABOUT MS. ALEXANDER’S RECOMMENDATION THAT THE**
 2 **COMMISSION PROHIBIT PWSA FROM TERMINATING SERVICE UNTIL**
 3 **AFTER THE COMPLIANCE PLAN STAGE 2 PROCEEDING?**

4 A. I vehemently oppose this outlandish recommendation. I am informed that PWSA has a
 5 right, pursuant to Chapter 14 of the Public Utility Code to terminate a customer’s service
 6 under the conditions set forth in the statute. PWSA believes that its current procedures
 7 are compliant with those requirements as well as the Commission’s Chapter 56
 8 requirements. While a detailed review of those procedures await Stage 2 where, I am
 9 sure that some of PWSA’s procedures may be tweaked to satisfy current Commission
 10 interpretations, expecting PWSA to be 100% compliant with these current interpretations
 11 of Commission regulation and requirement (so many of which are open to policy
 12 interpretations that oftentimes OCA disagrees with the Commission’s view) as a
 13 precondition to pursuing all available collection tools is completely unreasonable and, I
 14 am informed, not supported legally. Notably, on the effective date of the Commission’s
 15 jurisdiction over PWSA in April 2018, perfect compliance was not expected or demanded
 16 by the Commission, as it was always understood that compliance would be a process to
 17 be worked through.⁹ Moreover, it would be irresponsible on the part of the Commission
 18 to deny PWSA the ability to pursue payment for services rendered because, as I
 19 explained previously, PWSA is dependent on the revenues it receives to provide service.
 20 Beyond this, PWSA has followed the Commission’s lead regarding the Stage 2 process
 21 and has complied with all procedural directives therein to include the filing of extensive
 22 information about its systems and participation in six informal workshops. PWSA has

⁹ *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority*,
 Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), Final Implementation Order
 entered March 15, 2018 at 17-24.

1 gone beyond this as well to work with the parties both in formal proceedings and in an
 2 informal way to address their concerns where possible. Depriving PWSA of the ability to
 3 utilize a very valuable collection tool is a wholly inappropriate and disingenuous
 4 recommendation that needs to be summarily rejected.

5 **B. Response to Stage 2 Issues Raised by OCA**

6 **1. Billing Issues**

7 **Q. PLEASE PROVIDE SOME BACKGROUND REGARDING THE CURRENT**
 8 **FORMAT OF PWSA'S BILLS.**

9 A. Reformatting PWSA's customer bills was an early initiative upon coming under the
 10 jurisdiction of the Commission and we launched the new bill design in July 2020.¹⁰ Prior
 11 to launch, significant research and effort occurred regarding how to design the bill and
 12 portray information in a customer user manner. Importantly, this research included
 13 sharing draft designs with the parties in this proceeding (including OCA) and
 14 Commission staff. PWSA considered all of the suggestions received (including ones
 15 from OCA) and was able to incorporate many of them in advance of the new design
 16 launch. Identifying issues before the launch was of significant importance to PWSA both
 17 in terms of the costs of developing the new design and portraying the information in a
 18 smart way for consumers that would remain consistent going forward.

¹⁰ To provide context, the new bill design was in its final stages during the litigation of PWSA's last rate case proceeding. At that time, Ms. Alexander recommends that PWSA conduct research on customer responses to the new bill format on an ongoing basis. PWSA opposed that proposal on the basis that such research is conducted on a daily basis during interactions with customers via telephone and email and PWSA has limited additional dollars to spend on customer response research. *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 (water) and R-2020-3017970 (wastewater), PWSA St. No. 8-R at 24 dated August 18, 2020.

1 **Q. PLEASE SUMMARIZE THE BILL PRESENTMENT ISSUES RAISED BY MS.**
 2 **ALEXANDER ON BEHALF OF OCA.**

3 A. Ms. Alexander raises two issues related to PWSA’s bill design. First, Ms. Alexander
 4 opines that PWSA’s bill for a Bill Discount participant (also receiving arrearage
 5 forgiveness) does not make clear how the discounts and credits impact the customer’s
 6 current charges. (OCA Statement no. 5 at 20). Second, Ms. Alexander addresses
 7 ALCOSAN charges including information about the charges located on PWSA’s bills as
 8 well as PWSA’s handling of unpaid charges related to ALCOSAN. (OCA Statement No.
 9 5 at 20-21)

10 **Q. ARE THESE BILL PRESENTMENT ISSUES PROPERLY RAISED IN THIS**
 11 **PROCEEDING?**

12 A. No as they are currently being addressed in the Compliance Plan Stage 2 proceeding.
 13 More specifically, Subchapter B of Chapter 56 (52 Pa. Code §§ 56-11-56.25) addresses
 14 billing and payment standards. These standards address bill content and charges. As
 15 such, these issues are not appropriately raised in this proceeding. However, I will
 16 provide rebuttal testimony in response since Ms. Alexander has identified them in her
 17 direct testimony.

18 **a. Bill Format Revisions for Bill Discount Participants**

19 **Q. DO YOU AGREE WITH MS. ALEXANDER’S CLAIM THAT PWSA’S**
 20 **CURRENT BILLS FOR BILL DISCOUNT PARTICIPANTS ARE UNCLEAR AS**
 21 **TO HOW THE PROGRAM IMPACTS CURRENT CHARGES?**

22 A. No. The components which make up the current charges are identified and the specific
 23 amount of the current charges is stated in two places on the second page of the bill and
 24 one place on the front of the bill. The additional amount to be paid on the installment
 25 plan is also clearly identified on the front of the bill. The previous balance, less the
 26 received payment, plus the current charges less the credits due to participation in the Bill

1 Discount Program as well as the forgiveness program are all clearly displayed on page
 2 two of the bill. PWSA’s customers are a diverse group¹¹ and developing a cost efficient
 3 billing platform that can capture these differences while maintaining a consistent bill
 4 format was a challenge. In my opinion (and based on feedback we have received from
 5 customers), I believe PWSA’s bill format is reasonable and I know that it is a significant
 6 improvement over the prior design. While we continue to evaluate customer feedback
 7 and are open to future enhancements where they may be justified, I do not support
 8 undertaking such effort at this time based on Ms. Alexander’s opinions in this
 9 proceeding.

10 **b. ALCOSAN Charges**

11 **Q. PLEASE EXPLAIN THE ROLE OF ALCOSAN FOR PWSA’S CUSTOMERS**
 12 **AND IN THE CONTEXT OF THE ALCOSAN CHARGES APPEARING ON**
 13 **PWSA’S BILLS.**

14 A. PWSA provides wastewater conveyance service only which means that PWSA does not
 15 provide wastewater treatment. Rather, PWSA conveys the wastewater of its customers to
 16 the Allegheny County Sanitary Authority (“ALCOSAN,” a non-regulated authority) for
 17 treatment. ALCOSAN treats the wastewater that is conveyed and, through various long-
 18 standing contractual arrangements, ALCOSAN wastewater charges are passed through on
 19 PWSA’s bills via a contract that predates Commission regulation of PWSA. PWSA,
 20 however, does not have any control or authority over the rates that ALCOSAN charges.

¹¹ The Authority provides water service to approximately 80,000 residential, commercial and industrial customers in portions of the City of Pittsburgh; the Borough of Millvale; and portions of Reserve, O’Hara, and Blawnox Townships, Allegheny County. These 80,000 water customers also receive wastewater conveyance service. In addition to customers located in the City, PWSA provides wastewater conveyance for portions of twenty-four neighboring communities. All wastewater is conveyed to the Allegheny County Sanitary Authority (“ALCOSAN”) for treatment. PWSA has approximately 30,000 customers who are wastewater conveyance only customers as they receive their water service from other utilities.

1 Existing contractual relationships require PWSA to pursue all collections related to the
 2 ALCOSAN charges; however, PWSA is required to pay ALCOSAN for 100% of the
 3 charges that are billed to customers.

4 **Q. WHAT ARE MS. ALEXANDER’S RECOMMENDATIONS REGARDING**
 5 **ALCOSAN CHARGES?**

6 A. Ms. Alexander’s primary recommendation is that PWSA “assume responsibility for
 7 responding to any questions or concerns or disputes concerning” ALCOSAN charges and
 8 to remove language from the existing customer bill which (1) explains that PWSA bills
 9 on behalf of ALCOSAN for treatment of wastewater; (2) explains that ALCOSAN rates
 10 are set annually; and, (3) concludes by stating “If you have any questions regarding your
 11 ALCOSAN charges please contact them at 412-766-6696.” (OCA Statement No. 5 at 20-
 12 21). Alternatively, Ms. Alexander recommends that PWSA treat ALCOSAN charges as
 13 “non-utility” charges and eliminate them from collection activities. (OCA Statement No.
 14 5 at 36).

15 **Q. IS MS. ALEXANDER CORRECT IN CLAIMING THAT PWSA WILL NOT**
 16 **ADDRESS ANY ISSUES RELATED TO ALCOSAN WASTEWATER**
 17 **TREATMENT CHARGES APPEARING ON PWSA’S BILL?**

18 A. No. PWSA absolutely recognizes inquiries and disputes concerning ALCOSAN charges
 19 as they appear on PWSA bills. PWSA’s negotiated payment arrangements include these
 20 charges. Further, PWSA works with customers to apply for the ALCOSAN Leak Credit,
 21 where applicable, providing the necessary form to customers. Additionally, PWSA
 22 advises potentially eligible customers of the ALCOSAN Clean Water Assistance Fund
 23 and warm transfers their call to Dollar Energy Fund to apply. Only if a customer has a
 24 question concerning how ALCOSAN rates are enacted or questions concerning the

1 wastewater treatment services that ALCOSAN provides, then the customer is referred to
2 ALCOSAN.

3 **Q. DO YOU AGREE THAT ALCOSAN CHARGES INCLUDED ON PWSA’S BILLS**
4 **HAVE THE SAME IMPACT AS A PURCHASE OF RECEIVABLES (“POR”)**
5 **PROGRAM IN THAT THE PURCHASED RECEIVABLES ARE COLLECTED**
6 **BY PWSA IN THE SAME MANNER AS REGULATED CHARGES SUBJECT TO**
7 **COMMISSION JURISDICTION AND THAT PWSA IS OBLIGATED TO PAY**
8 **ALCOSAN THE FULL AMOUNT OF ITS CHARGES PASSED THROUGH BY**
9 **PWSA?**

10 A. I do agree that like a POR program, PWSA bills ALCOSAN’s wastewater treatment
11 services to PWSA’s customers, purchases 100% of ALCOSAN’s receivables (without
12 recourse) and pursues nonpayment of the ALCOSAN charges through the tools available
13 to PWSA. There are no additional charges assessed by PWSA to customers to cover the
14 costs of this billing arrangement with ALCOSAN. PWSA does not discount the amount
15 paid to ALCOSAN for this cost or uncollectible costs. However, unlike a POR program
16 between two businesses (or Commission regulated entities), PWSA’s contractual
17 arrangement with ALCOSAN dates back to 1955 and implicates other adjacent
18 communities for which other Municipal Agreements are currently in effect.

19 More specifically, as I am advised by counsel, the Pennsylvania Clean Streams
20 Law enacted in 1937 required the City of Pittsburgh and all other sewer municipalities
21 in Allegheny County were required to discontinue the discharge of untreated sewage into
22 the rivers.¹² I understand that in furtherance of the law, the City commissioned a study
23 by ALCOSAN to develop a plan to enable the City and surrounding municipalities to
24 comply with the Commonwealth’s directive. The sewage disposal project, termed
25 “Project Z” was ultimately approved by the Commonwealth and directed to be placed

¹² 35 Penn. Cons. Stat. §§ 691.1–691.1001, The Clean Streams Law (1987).

1 into operation on or before June 30, 1958. An integral part of Project Z includes separate
 2 “Municipal Agreements” executed between the City and/or ALCOSAN with each of the
 3 sewerer boroughs and townships located wholly or partially within the Project Z service
 4 area. In each of these Municipal Agreements, the City covenanted that the rates and
 5 charges for sewage service would be uniform through the service area and all duties and
 6 obligations imposed upon the other municipality would likewise be assumed and borne
 7 by the City. These requirements as well as the services to be provided among the City
 8 and ALCOSAN are set forth in an agreement between ALCOSAN and the City
 9 Agreement dated May 1, 1955¹³ wherein the City (and later PWSA) purchases 100% of
 10 ALCOSAN’s receivables and, in exchange the City (and later PWSA) has the right to
 11 pursue collection of those accounts. As I am advised by counsel, PWSA’s arrangement
 12 with ALCOSAN cannot be neatly analogized to a traditional POR program due to the
 13 legal requirements to enter into the agreements and the broader impacts regarding other
 14 non-regulated municipalities.

15 **Q. SHOULD ISSUES RELATED TO THE CONTRACTUAL RELATIONSHIP**
 16 **BETWEEN ALCOSAN AND PWSA BE ADDRESSED IN THIS PROCEEDING?**

17 A. No, for two reasons. First, as I explained this is a contractual relationship and I
 18 understand that PWSA continues to evaluate its contract with ALCOSAN to include the
 19 process for ALCOSAN billings and PWSA’s obligation to incur ALCOSAN’s bad debt
 20 for uncollectible accounts. Second, Ms. Alexander is raising issues related to PWSA’s
 21 collections processes and billings which are the subject of the Stage 2 Compliance Plan
 22 proceeding and not appropriately address in this rate case. Finally, all parties should

¹³ The agreement was filed in response to Staff data requests in PWSA’s Initial Rate Case, Docket No. R-2018-3002645 and is available on the Commission’s website at: <https://www.puc.pa.gov/pcdocs/1578261.pdf>.

1 recognize that PWSA’s relationship with ALCOSAN is absolutely necessary to PWSA
2 being able to provide safe and adequate wastewater service. PWSA cannot endanger that
3 relationship without fear that its customers will no longer have access to ALCOSAN’s
4 sewage treatment services.

5 **c. Partial Payment Allocation (Stormwater)**

6 **Q. WHAT ISSUES DOES MS. ALEXANDER RAISE REGARDING PWSA’S**
7 **PROPOSED ALLOCATION OF PARTIAL PAYMENTS?**

8 A. Upon reviewing PWSA’s proposed stormwater tariff, Ms. Alexander questions the
9 allocation of partial payments language and notes that “PWSA does not currently have
10 the capability to allocate partial payments according to the percentage of each type of
11 charge compared to the total bill.” (OCA Statement No. 5 at 30-31).

12 **Q. DOES MS. ALEXANDER OFFER ANY RECOMMENDATIONS?**

13 A. No, she sets forth her presumptions and then states that clarification is needed.

14 **Q. DID YOU EXPLAIN PWSA’S PROPOSED PARTIAL PAYMENT ALLOCATION**
15 **PROCESSES IN YOUR DIRECT TESTIMONY?**

16 A. Yes. PWSA currently applies partial payments 100% in the order set forth in the tariff.
17 So, 100% of the payment goes first to pay water, wastewater, and then ALCOSAN.
18 (PWSA St. No. 6 at 30). With the implementation of SAP, PWSA plans to investigate
19 the possibility of allocation of payments by percentages. (PWSA St. No. 6 at 31).
20 PWSA will file a future tariff supplement to set forth its new payment allocation
21 proposals once they are determined.

1 **2. Estimated Bills**

2 **Q. PLEASE DESCRIBE MS. ALEXANDER’S TESTIMONY REGARDING THE**
3 **ISSUANCE OF ESTIMATED BILLS BY PWSA?**

4 A. Ms. Alexander notes that in the most recent rate case, PWSA had established an internal
5 objective to issue 98% of customer monthly bills based on actual meter reading, which
6 would allow approximately 2,000 estimated bills to be issued in each billing cycle. She
7 further observes that in January, February and March 2021, PWSA issued approximately
8 2,600 estimated bills each month. On the basis of this data, Ms. Alexander recommends
9 that the Commission require PWSA to meet the previous 98% standard as a condition of
10 any rate increase. In addition, she proposes that PWSA submit a plan as part of any
11 compliance phase of this rate case to ensure a higher level of performance over time to
12 reduce the volume of estimated bills. (OCA Statement 5 at 18-19).

13 **Q. IS MS. ALEXANDER ACCURATELY CALCULATING THE AMOUNT OF**
14 **ESTIMATED BILLS THAT COULD BE ISSUED AND STILL MEET THE 98%**
15 **OBJECTIVE?**

16 A. No. According to Ms. Alexander, the 98% performance standard would allow
17 approximately 2,000 bills to be estimated each billing cycle. (OCA Statement No. 5 at
18 19). However, her 2,000 calculation appears to be based on an assumption that all
19 111,000 of PWSA’s customers are water service customers. This is incorrect, as PWSA
20 serves approximately 30,000 wastewater conveyance-only customers, and these
21 customers’ water meters are not installed, read, or maintained by PWSA. Using the
22 accurate measure to calculate the 98% performance standard would allow approximately
23 1,600 bills to be estimated each billing cycle. When the correct measure of 1,600 is used,
24 it becomes clear that PWSA is currently issuing approximately 97% of its customers’
25 monthly bills based on actual water meter readings. Importantly, this is a significantly

1 higher percentage than it was four years ago when PWSA issued 89% of its bills based on
2 actual meter readings during each billing period.

3 **Q. IN THE CURRENT PANDEMIC ENVIRONMENT, WHY IS ACHIEVEMENT**
4 **OF THIS RATE EVEN MORE IMPRESSIVE?**

5 A. Access to customers' homes has been limited over the past sixteen months due to the
6 restrictions in place in response to the COVID-19 pandemic. While access is improving
7 and PWSA has implemented a "Non-Access Campaign" to focus on gaining access to
8 customers' homes for meter replacements and meter readings, it continues to be difficult
9 to convince some consumers to allow PWSA representatives into their homes. PWSA
10 has also implemented a Self-Report Meter Reading webform to enable customers to enter
11 their own water meter reading or to call the Advanced Metering Infrastructure
12 Department to provide the reading. Notwithstanding these difficulties, PWSA's efforts
13 have resulted in coming very close to achieving its internal target.

14 **Q. DO THE COMMISSION'S REGULATIONS PERMIT A PUBLIC UTILITY TO**
15 **ESTIMATE USAGE OF SERVICE?**

16 A. Yes. According to the Commission's regulations, a utility may estimate usage of service
17 every other billing month, provided that the utility gives the customer an opportunity to
18 read the meter and report the quantity of usage.¹⁴

19 **Q. IS THE ISSUE OF ESTIMATED BILLS BEING ADDRESSED IN THE STAGE 2**
20 **COMPLIANCE PLAN PROCEEDING?**

21 A. Yes. As such, the issue should not be addressed in this proceeding.

¹⁴ 52 Pa. Code § 56.12(b).

1 **Q. ARE YOU AWARE OF ANY COMMISSION REGULATIONS OR STATUTORY**
 2 **MANDATE REQUIRING PWSA TO ESTABLISH A SPECIFIC INTERNAL**
 3 **TARGET REGARDING THE AMOUNT OF ACTUAL BILLS RECEIVED?**

4 A. No. PWSA set this as an internal objective not directly tied to any Commission
 5 regulation. As Ms. Alexander acknowledged in discovery, the Commission’s regulations
 6 do not establish a standard requiring that a certain percentage of bills be issued based on
 7 actual meter readings during a billing period.¹⁵ Finally, on advice of counsel, I
 8 understand that the rate increase cannot be conditioned upon the Authority meeting its
 9 internal target.¹⁶ PWSA will further address this issue in briefing.

10 **3. Identifying Disputes/Measuring Customer Satisfaction**

11 **Q. HOW DOES PWSA MEASURE CUSTOMER SATISFACTION?**

12 A. As explained more fully in my direct testimony, PWSA developed a program of routine
 13 customer service satisfaction surveys based on input received during the last rate case.
 14 (PWSA St. No. 6 at 14-16). An updated data analysis for the second quarter of 2021 is
 15 included herein as Exh. JAQ-9. As these results show, more customers responded than in
 16 the prior quarter and they expressed even greater satisfaction regarding all five metrics in
 17 comparison to the first quarter of 2021.¹⁷

18 **Q. PLEASE SUMMARIZE MS. ALEXANDER’S CRITICISMS ABOUT HOW**
 19 **PWSA IDENTIFIES DISPUTES AND MEASURES CUSTOMER**
 20 **SATISFACTION.**

21 A. Ms. Alexander states that PWSA’s only method of identifying disputes is to ask at the
 22 end of the transaction whether the customer is satisfied. Based on this, Ms. Alexander
 23 claims that “representatives are not trained to recognize a dispute by other criteria or to

¹⁵ PWSA Exh. JAQ-9: OCA Response to PWSA-III-8.

¹⁶ See 66 Pa.C.S. § 523.

¹⁷ PWSA Exh. JAQ-1 includes the results as of the first quarter of 2021.

1 affirmatively engage the customer in determining whether the result of the decision by
 2 the representative is satisfactory to the customer.” (OCA Statement No. 5 at 15).

3 **Q. ARE THESE CRITICISMS VALID?**

4 A. No. I have several issues with this criticism. First, affirmatively asking the consumer if
 5 he or she is satisfied with the resolution of a complaint is the most reasonable way to
 6 gauge customer satisfaction. Second, PWSA follows all other Commission regulatory
 7 requirements including: (1) making a diligent attempt to negotiate a reasonable payment
 8 arrangement if customer eligible; (2) providing customer with all information necessary
 9 for an informed judgment; (3) issuing a written report to the customer about the results of
 10 PWSA’s investigation; and, (4) providing the customer at all times with information
 11 about how to elevate their concerns if they continue to be unsatisfied.¹⁸ All PWSA’s
 12 customer service representatives are trained to be in compliance with Chapter 56
 13 requirements. I am unaware of any statutory or regulatory requirement setting forth any
 14 other “criteria” Ms. Alexander may have in mind (but did not set forth in her testimony)
 15 to gauge customer satisfaction. Finally, any issue related to PWSA’s compliance with
 16 Chapter 56 regarding customer dispute handling processes is more properly addressed in
 17 the Compliance Plan Stage 2 process.

18 **4. Procedures Immediately Prior to Termination (Personal Contact)**

19 **Q. PLEASE EXPLAIN OCA’S CONCERN REGARDING PWSA’S PROCEDURES**
 20 **IMMEDIATELY PRIOR TO TERMINATION.**

21 A. Ms. Alexander, incorporating her testimony in PWSA’s prior rate case, takes the view
 22 that PWSA is not in compliance with the requirements of 52 Pa. Code 56.94 and 56.334
 23 and that this supports her recommendation that PWSA should not be permitted to resume

¹⁸ 52 Pa. Code §§ 56.161 and 56.381.

1 termination of service for nonpayment “until its policies are brought into compliance with
 2 Chapter 56 requirements in the Stage 2 proceeding.” (OCA Statement No. 5 at 26).
 3 Notably, Ms. Alexander makes this recommendation even while stating that “it is my
 4 understanding that [PWSA’s proposed RFP to resolve this issue] is under review as part
 5 of the Stage 2 proceedings.” (OCA Statement No. 5 at 27).

6 **Q. IF, AS MS. ALEXANDER ACKNOWLEDGES, THIS ISSUES IS BEING**
 7 **ADDRESSED IN STAGE 2, THEN SHOULD THE COMMISSION USE THE**
 8 **DELAYED RESOLUTION AS A REASON TO REQUIRE PWSA TO HALT**
 9 **TERMINATIONS OF SERVICE?**

10 A. Absolutely not. Since PWSA’s Initial Rate Case proceeding in 2018, the parties have
 11 taken the position that PWSA’s current processes are not in compliance with the
 12 Commission’s regulations, as those regulations require PWSA to “knock on the door”
 13 just prior to terminating service. While PWSA does not agree with this view, it has been
 14 working with the parties (and Commission Staff through the Stage 2 working group
 15 process) and has agreed as part of the Compliance Plan Stage 1 process to implement a
 16 process whereby PWSA attempts to reach the customers by telephone prior to
 17 termination.¹⁹ PWSA reports on the outcome of this effort as part of the Quarterly
 18 Compliance Plan Progress Report. PWSA was under the impression that the parties
 19 (specifically OCA) sought to resolve this issue as quickly as possible and PWSA has
 20 been working with the parties to get to the point where, quite frankly, I thought the matter
 21 was resolved. Importantly, PWSA’s intent is to fully comply with the regulations
 22 consistent with the interpretation of their meaning set forth by the other parties through
 23 use of a third-party vendor. As we are proposing full compliance, I do not understand

¹⁹ See PWSA’s *Expedited Motion for Extension of Commission-Created Deadlines* (May 13, 2019), Docket Nos. M-2018-2640802 (water) and M-2018-2640803, at 8 (as approved by May 15, 2019 Secretarial Letter re: Grant of Expedited Motion for Extension of Deadlines).

1 how this approach does not resolve the matter though I do recognize that the Commission
 2 may provide comment or other feedback as part of the Compliance Plan Stage 2
 3 proceeding.

4 **Q. PLEASE DETAIL HOW PWSA HAS BEEN WORKING WITH THE PARTIES**
 5 **REGARDING THE PERSONAL CONTACT REGULATIONS.**

6 A. As PWSA committed to do as part of the Compliance Plan Stage 1 Settlement, in
 7 December of 2019 and January of 2020, PWSA hosted conference calls with OCA,
 8 UNITED and I&E to continue to discuss a path forward regarding this issue. During the
 9 January 2020 conference call, PWSA stated that it planned to include, as part of its
 10 upcoming Request for Proposals (“RFP”) process for a vendor to post termination
 11 notices, that the vendor also agree to perform the requirements of 52 Pa. Code § 56.94.
 12 The parties offered suggestions regarding the language to be included with the RFP, and
 13 it was my understanding that, if implemented, this approach would resolve the matter.²⁰

14 **Q. HAS THERE BEEN FURTHER DISCUSSION ABOUT THE DRAFT RFP**
 15 **ISSUED IN DISCOVERY?**

16 A. Yes, the issue was raised during the June 17, 2021 Compliance Plan Stage 2 workshop by
 17 Ms. Alexander noting that an RFP had been provided in discovery of this rate case. I also
 18 participated in a subsequent informal discussion among interested parties which included
 19 Ms. Alexander wherein the specific language of the RFP as presented in discovery was
 20 discussed. As I committed to do during those conversations, I revised the RFP language
 21 based on the feedback I received and I understand from counsel that the parties have
 22 reviewed the revised RFP and provided additional language feedback. I also understand

²⁰ The status of the RFP, the parties discussion and my understanding that the issuance of the RFP resolved the matter were set forth in my rebuttal testimony in the last rate case. *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 (water) and R-2020-3017970 (wastewater), PWSA St. No. 8-R dated August 18, 2020.

1 from counsel that both OCA and UNITED have advised that they do not have a position
2 on whether using a third-party is the appropriate way to proceed or that the cost (to be
3 determined) is reasonable.

4 **Q. ARE YOU STILL PLANNING TO ISSUE THE RFP WITH THE ADDITIONAL**
5 **REQUIREMENT RELATED TO SECTION 56.94 OF THE COMMISSION'S**
6 **REGULATIONS?**

7 A. Yes, PWSA is currently in the process of publicly releasing the RFP. Once it is released,
8 I estimate that it will take another two months to award the contract and mobilize the
9 vendor before the process can be fully implemented.

10 **Q. WHY HAS PWSA ELECTED TO GO FORWARD WITH ISSUING THE RFP?**

11 A. Because I agree that this issue needs to be resolved and, in my opinion, PWSA has used
12 all reasonable efforts to reach an amicable path forward toward resolution. The concept
13 of issuing an RFP was raised by one of the other parties during our informal discussions
14 and, upon further consideration, PWSA has come to agree that it is a reasonable way to
15 move forward. PWSA has been transparent about its plans, has shared the language of
16 the RFP with the parties, and has accepted feedback regarding the text of the RFP. I
17 believe that it would be irresponsible for PWSA from both a compliance perspective and
18 a customer service perspective to allow whatever the reasons some parties may have for
19 not being willing to provide their affirmative support for this path, or for reserving their
20 rights to challenge it at a later date to delay forward movement on this issue.

1 **5. Municipal Liens, Third Party Debt Collector**

2 **Q. PLEASE EXPLAIN THE ROLE OF MUNICIPAL LIENS IN PWSA’S**
3 **COLLECTIONS PROCESS.**

4 A. PWSA is a municipal authority and has rights pursuant to the Municipal Claims and Tax
5 Liens Act²¹ to apply municipal liens as further security for the collection of overdue
6 water and/or wastewater charges. PWSA pursues these liens in accordance with the
7 Municipal Claims and Tax Liens Act. Prior to coming under the jurisdiction of the
8 Commission, PWSA relied upon our authority to pursue municipal liens as a valuable
9 debt collection tool. I am advised by counsel that, even with the assumption by the
10 Commission of jurisdiction over PWSA, PWSA continues to have the ability to utilize its
11 authority to pursue municipal liens to collect outstanding debts. I am also advised by
12 counsel that the Commission lacks jurisdiction over the specifics of PWSA’s municipal
13 lien process.

14 **Q. DO YOU AGREE WITH MS. ALEXANDER’S VIEW THAT PWSA’S ABILITY**
15 **TO LIEN “CONFLICTS” WITH CHAPTER 56? (OCA STATEMENT NO. 5 AT**
16 **24).**

17 A. No. I do not see the conflict. PWSA provides customers with all Chapter 56 rights and
18 only pursues recording of a lien after that process has been unsuccessful. I do not see this
19 as a conflict. I view PWSA’s ability to lien as another collections tool available to pursue
20 payment for services rendered.

21 **Q. PLEASE EXPLAIN MORE SPECIFICALLY, WHAT A LIEN IS AND WHY IT IS**
22 **AN IMPORANT COLLECTIONS TOOL FOR PWSA?**

23 A. At its core, a lien secures payment of a property owner’s personal debt for unpaid
24 municipal utility bills by creating an encumbrance on the property at which service was

²¹ 52 P.S. §§ 7101-7112.

1 rendered. A lien is created as soon as there are unpaid water or sewer bills. The filing of
 2 the lien merely perfects the preexisting lien. It provides notice to third parties, such as
 3 banks, other creditors, and potential real estate purchasers, that there is an unsatisfied lien
 4 against the real property where the utility service was provided. However, recording of a
 5 lien, like recording of a mortgage, is not entry of a judgment. The lien only becomes a
 6 judgment after a verdict or award entered by the trial court.²²

7 Liens are an important tool for PWSA. As a municipal authority regulated on the
 8 cash flow ratemaking methodology, PWSA does not have any opportunity to seek a
 9 return on equity. This means that collecting payment for services rendered is the primary
 10 source of revenue for the authority and all revenue collected goes back to our customers
 11 in the form of investments in the system. In addition, PWSA’s authority to pursue liens
 12 is a positive incentive for property owners to pay their outstanding bills to PWSA to
 13 ensure clear title to their property. Again, all payments received for services rendered
 14 benefit all of PWSA’s ratepayers.

15 **Q. HOW DO YOU RESPOND TO MS. ALEXANDER’S CLAIM THAT THE**
 16 **“CONFLICT” EXISTS BECAUSE PWSA CAN USE LIEN AUTHORITY TO**
 17 **PURSUE OLDER DEBT THAN ALLOWED BY CHAPTER 56? (OCA**
 18 **STATEMENT NO. 5 AT 24).**

19 A. I do not understand that PWSA has somehow lost our ability to pursue liens by virtue of
 20 coming under the Commission’s jurisdiction, such that the use of one precludes the use of
 21 the other. PWSA’s ability to use collection tools set forth in the Public Utility Code are
 22 limited by the statutes of limitation created by Chapter 56. This does not affect its ability

²² See, e.g., 53 P.S. § 7183 (requiring a verdict, upon trial), 7185 (writ gives notice that action is required if a “judgment may be entered against” the property), 7187 (recovery upon a verdict); see also 53 P.S. § 7106(a.2) (award), 7143 (verdict), 7182 (verdict), 7275 (award), 7276 (verdict), 7143 (using term “final judgment”), 7442 (referring to “a final order or judgment of any court of record”), 7446 (same) 7449 (same), 7452 (same), 7455 (same).

1 to use other legal remedies. While I do agree that the Commission’s Chapter 56 policies
2 have been a more effective collections tool for PWSA, PWSA’s ability to ultimately
3 pursue the property for any unpaid debt is a valuable collections tool that continues to be
4 available to PWSA, regardless of whether PWSA pursues collections via Chapter 56
5 methods.

6 **Q. HOW DO YOU RESPOND TO MS. ALEXANDER’S CLAIM THAT**
7 **CONTINUING TO PURSUE YOUR AUTHORITY TO LIEN DURING THE**
8 **MORATORIUM ON TERMINATIONS WAS INAPPROPRIATE (OCA**
9 **STATEMENT NO. 5 AT 24)?**

10 A. The lien process is not used to terminate service but rather to clear title to a property in
11 the event of a sale. Therefore, I do not agree that PWSA’s announcement that it would
12 “halt all termination activities” due to COVID-19 somehow prevented us from continuing
13 to notify property owners of our authority to record liens and to work with them to
14 receive payment.

15 **Q. NOTWITHSTANDING THE COMMISSION’S LACK OF JURISDICTION**
16 **OVER PWSA’S MUNICIPAL LIEN PROCESS, WHAT RECOMMENDATIONS**
17 **DOES MS. ALEXANDER MAKE REGARDING LIENS?**

18 A. Ms. Alexander states that she could “find no information about this process presented on
19 PWSA’s website or in customer education communications.” Thus, she recommends that
20 the Commission require PWSA “to communicate how and when [its] lien authority will
21 be exercised to its customers and explain. . . [that] customers can still dispute the arrears
22 balance (the amount or why it was incurred) through the Commission’s complaint
23 process.” (OCA Statement No. 5 at 25.)

1 **Q. DO YOU AGREE THAT DIRECTING PWSA’S COMMUNICATIONS**
 2 **REGARDING ITS LIEN PROCESS IS SOMETHING THAT CAN BE**
 3 **ADDRESSED AS PART OF THIS RATE CASE?**

4 A. No. PWSA appreciates the input of OCA and the other advocates regarding its customer
 5 notices and information and would be willing to work with them off-line regarding their
 6 recommendations for how to improve our current communications with customers.
 7 However, as I am advised by counsel that this is not within the Commission’s
 8 jurisdiction, I do not believe it is a recommendation that should be considered in this
 9 proceeding. Ms. Alexander also admitted in discovery that she is unaware of any
 10 regulations or standards for educating customers about lien authority.²³ With this said,
 11 though, I would note that Ms. Alexander is incorrect to claim that PWSA does not
 12 present customers information about its ability to lien. As a general statement, property
 13 owners in Allegheny County are well aware of the availability of the lien process, which
 14 is not exclusive to PWSA. Moreover, PWSA’s website includes information about
 15 liens.²⁴ PWSA also provides a written Unpaid Final Bill notice which advises property
 16 owners that unpaid bills may result in a lien. Finally, the Notice of Intent to Lien letters
 17 referenced by Ms. Alexander are sent prior to the recording of the lien which enables
 18 them to also serve the purpose of educating consumers about PWSA’s liens.

19 **Q. DOES MS. ALEXANDER ALSO RECOMMEND THAT PWSA INCLUDE**
 20 **INFORMATION IN ITS COMMISSION APPROVED TARIFFS ABOUT ITS**
 21 **AUTHORITY TO LIEN?**

22 A. Yes. Ms. Alexander recommends that the tariffs “refer to this collection mechanism that
 23 operates in addition to those Chapter 56 requirements regulated by the Commission.”

²³ PWSA Exh. JAQ-8: OCA Response to PWSA-III-15.

²⁴ See <https://www.pgh2o.com/residential-commercial-customers/account-billing-info/liens>. Typing “liens” in the search box leads directly to this page.

1 (OCA Statement No. 5 at 28). Ms. Alexander does not offer any specific language
 2 recommendations.

3 **Q. WHY DO PWSA’S CURRENT TARIFFS NOT INCLUDE LANGUAGE**
 4 **REGARDING ITS ABILITY TO LIEN?**

5 A. Because liens are not within the jurisdiction of the Commission, I specifically stated in
 6 my direct testimony in PWSA’s initial rate case that PWSA was not proposing to include
 7 lien information in its Initial Tariffs.²⁵ Instead, PWSA proposed the creation of the
 8 Supplemental Service Conditions which are based on PWSA’s prior Rules and
 9 Regulations. PWSA received Commission approval of its initial tariffs without the lien
 10 language. Section G of PWSA’s current tariffs cross-references the Supplemental
 11 Service Conditions.

12 **Q. DO YOU SUPPORT ADDING ADDITIONAL LANGUAGE REGARDING LIENS**
 13 **TO PWSA’S EXISTING TARIFFS?**

14 A. No. I see no reason to change course regarding the current tariff language and use of the
 15 Supplemental Service Conditions and I am concerned that including such language could
 16 create the misimpression that the Commission has the jurisdiction to consider whether a
 17 lien was properly docketed or reduced to judgment. I would note, though, that as part of
 18 the Stage 2 Compliance Plan review of our tariffs, we may get further direction from the
 19 Commission on this issue. I do not support making any changes now in the context of
 20 this case.

²⁵ *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2018-3002645 (water) and R-2018-3002647 (wastewater) PWSA St. No. 8 at 16.

1 **Q. TO BE CLEAR, ARE LIEN ISSUES PROPERLY RAISED IN THIS**
 2 **PROCEEDING?**

3 A. No. Ms. Alexander concedes this point commenting that “this issue may also be under
 4 consideration in the Stage 2 Compliance proceeding.” (OCA Statement No. 5 at 25). To
 5 be abundantly clear, this issue has been the subject of a significant portion of the informal
 6 Stage 2 workshop discussions. While I understand from counsel that the Commission
 7 does not have jurisdiction over issues related to municipal liens themselves, such as the
 8 imposition of the lien, the validity of the lien and the enforcement of the lien, many of
 9 PWSA’s processes and procedures are structured to ensure that PWSA continues to have
 10 access to this valuable collections tool.²⁶

11 **Q. DOES MS. ALEXANDER OFFER A RECOMMENDATION REGARDING**
 12 **HIRING A THIRD-PARTY DEBT COLLECTION AGENCY TO COLLECT**
 13 **OVERDUE BILLS OR BAD DEBT IN THE FUTURE?**

14 A. Yes. In my direct testimony I explained that, at this time, all of PWSA’s collections
 15 activities are handled in-house; however, we plan to evaluate the need for an external
 16 collection agency partnership following the implementation of the ERP set to go-live in
 17 August 2022. (PWSA St. No. 6 at 12-13). In response, Ms. Alexander recommends that
 18 “if PWSA moves to implement this proposal that it do so only after notice and
 19 opportunity to comment from stakeholders and Commission review of any potential
 20 impacts on already approved consumer protection policies and practices.” (OCA
 21 Statement No. 5 at 28).

²⁶ As explained more fully in PWSA’s April 9, 2021 Stage 2 Compliance Plan: Chapters 14 & 56, DSLPA and Collections, this includes PWSA’s process to ensure that the water/wastewater conveyance debt incurred remains with the property. Ms. Alexander notes her “concern” about this in her direct testimony but rightly recognizes that it is an issue for the Compliance Plan Stage 2 proceeding. (OCA Statement No. 5 at 7)

1 **Q. DO YOU AGREE WITH THIS RECOMMENDATION?**

2 A. No. PWSA has an obligation to ensure that its consumer protection policies and practices
 3 are consistent with Commission requirements and that does not change whether or not we
 4 handle debt collection activities with our staff or enter into a third party contract for the
 5 services. PWSA has an obligation to all its ratepayers to continue to evaluate its
 6 operations and the effectiveness of its collections activities and if, in the future, costs can
 7 be streamlined and collections improved by seeking assistance from expert debt
 8 collectors (who are required to comply with Commission requirements), then PWSA
 9 must have the flexibility to proceed without burdensome requirements to communicate
 10 intentions with the parties and/or seek Commission review. Given the time spent and
 11 current status of our effort to work the parties just to resolve the personal contact
 12 requirements, I am not inclined to see the value of this particular recommendation.
 13 Moreover, I would note that all of PWSA’s contracts as well as its processes and
 14 procedures are available for review in future rate cases.

15 **IV. CUSTOMER SERVICE**

16 **A. Customer Service Performance**

17 **1. Performance Standards**

18 **Q. PLEASE SUMMARIZE MS. ALEXANDER’S TESTIMONY REGARDING**
 19 **PWSA’S CUSTOMER SERVICE PERFORMANCE.**

20 A. Looking at 2018, 2019 and 2020, Ms. Alexander focuses on the following three
 21 indicators: (1) percent calls answered in 60 seconds; (2) abandonment rate; and, (3)
 22 average speed of answer. (OCA Statement No. 5 at 11). Based on this data, Ms.
 23 Alexander notes continuing improvement in all three areas since 2018 but notes that the
 24 target of one minute to answer was not met for six of the 12 months. (OCA Statement

1 No. 5 at 12). Ms. Alexander then expresses concern that “the recent relatively superior
 2 level of performance may not continue” once PWSA resumes service terminations.

3 (OCA Statement No. 5 at 12).

4 **Q. HOW DOES MS. ALEXANDER PROPOSE THAT HER SPECULATIVE**
 5 **CONCERNS BE ADDRESSED?**

6 A. Ms. Alexander recommends that PWSA should set a specific performance standard of
 7 achieving a goal of an average speed of answer of 1 minute and abandonment rate of 3%.

8 Ms. Alexander goes further to recommend that these goals “should be required as a
 9 condition of the rate increase and a future resumption of the pre-COVID termination
 10 practice.” (OCA Statement No. 5 at 13).

11 **Q. DO YOU AGREE WITH MS. ALEXANDER’S RECOMMENDATION?**

12 A. While Ms. Alexander is correct about our internal performance goals, I am advised by
 13 counsel that such performance standard measure can not be required as a condition of
 14 approving a rate case.²⁷ I am also dismayed by her speculation that PWSA would not be
 15 able to meet these targets upon resumption of service terminations. Our performance has
 16 significantly improved since coming under the jurisdiction of the Commission and
 17 continues to improve. There is no reason upon which to support a claim that we may fall
 18 short in the future. While I cannot say that will never happen, I am absolutely confident
 19 in all the work that has been done to date and believe that our customer service operations
 20 will continue to improve and provide excellent service regardless of what else may be
 21 occurring.

²⁷ In discovery, Ms. Alexander admitted that the Commission has not imposed her proposed standard or any similar standard for Pennsylvania water utilities. PWSA Exh. JAQ-8: OCA Response to PWSA-III-5.

1 **2. Complaint Handling**

2 **a. 2020 Customer Complaint/Call Log**

3 **Q. DID MR. FOUGHT RAISE CONCERNS ABOUT PWSA’S CUSTOMER**
 4 **COMPLAINT TRACKING IN PWSA’S LAST RATE CASE?**

5 A. Yes, in PWSA’s last rate case, Mr. Fought observed that PWSA’s record of calls for the
 6 years 2018 and 2019 did not clearly indicate the PWSA system (i.e. water, wastewater,
 7 combined sewer or stormwater) that they concerned.²⁸

8 **Q. HAS PWSA ADDRESSED THE ISSUE RAISED BY MR. FOUGHT IN THE**
 9 **LAST RATE CASE?**

10 A. Yes. In January 2020, PWSA implemented SpryMobile-Work Orders and Asset
 11 Management, an extension of the existing web based application with cloud technology
 12 that now enables Field Operations staff to input work orders using iPads to track
 13 corrective and preventative maintenance on water and wastewater assets. The
 14 implementation of SpryMobile permits submission of work orders with descriptions,
 15 denoting water versus wastewater assets.

16 **Q. PLEASE DESCRIBE MR. FOUGHT’S CONCERNS ABOUT THE 2020**
 17 **CUSTOMER COMPLAINT/CALL LOG.**

18 A. In this rate case, Mr. Fought notes that the 2020 Customer Complaint/Call Log does not
 19 include any complaints regarding “pressure” or “no water” or any complaints regarding
 20 high bills and “catch-up” bills due to faulty or non-registering meters. (OCA Statement 6
 21 at 17-18). Mr. Fought also observes that the category “investigate lid” appears to have
 22 many calls concerning the wastewater and stormwater systems that were incorrectly
 23 entered as being related to the water system. (OCA Statement 6 at 18).

²⁸ *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 (water) and R-2020-3017970 (wastewater) OCA St. No. 8 at 20-21.

1 **Q. DID PWSA’S SPRYMOBILE WORK ORDERS THAT WERE USED TO**
2 **PRODUCE THE 2020 COMPLAINT/CALL LOG CAPTURE COMPLAINTS**
3 **FALLING UNDER THE MISSING CATEGORIES IDENTIFIED BY MR.**
4 **FOUGHT?**

5 A. No.

6 **Q. WERE SOME OF THE CALLS IDENTIFIED IN THE 2020 COMPLAINT/CALL**
7 **LOG DEALING WITH THE “INVESTIGATE LID” CATEGORY**
8 **INCORRECTLY CLASSIFIED?**

9 A. Yes.

10 **Q. WHAT DOES MR. FOUGHT RECOMMEND?**

11 A. Mr. Fought recommends that PWSA should provide a “complete and accurate” customer
12 complaint log in future cases, which includes complaints received about pressure, no
13 water, high consumption, high bills and previously unbilled consumption. Further, he
14 recommends that complaints recorded as “investigate lid” should be identified and
15 correctly classified as being related to the water, sewer or stormwater system. (OCA
16 Statement 6 at 18-19).

17 **Q. WHAT IS PWSA’S POSITION ON THESE RECOMMENDATIONS?**

18 A. I appreciate Mr. Fought’s recommendations. As demonstrated over the three years since
19 PWSA has come under the jurisdiction of the Commission, PWSA is actively working to
20 update its systems based on constructive suggestions from the parties as well as the
21 Commission but it must not be forgotten that this is a process that takes time. The
22 complaints identified by Mr. Fought regarding pressure, no water, high consumption, and
23 previously unbilled consumption are currently recorded in customer account notes and
24 are not easily accessible for reporting purposes. PWSA will work with its vendor as part
25 of the SAP implementation to capture these types of complaints in a manner where they
26 are reportable. However, it would be difficult to classify complaints as alleging “high

1 bills” given the various or even multiple reasons that a consumer might be making that
 2 claim. Currently, PWSA customer service representatives are trained to record the
 3 customer’s explanation of his or her complaint in a general “notes” section of our system
 4 when the complaint cannot be more obviously be classified in one of the pre-determined
 5 categories. Because complaints about high bills can involve a number of different
 6 factors, it would be difficult to commit to standardize our reporting of these types of
 7 complaints. As to identifying and correctly classifying investigate lid complaints as
 8 being related to the water, sewer or stormwater system, PWSA will make every effort to
 9 do so, understanding that human error can occur.

10 **b. Volume of Complaints**

11 *i. Identifying Trends Based on 2020 and 2021 Data*

12 **Q. PLEASE DESCRIBE MS. ALEXANDER’S CONCERNS ABOUT COMPLAINTS.**

13 A. Ms. Alexander presents information about the number of complaints against PWSA in
 14 2020 and 2021 to reach the conclusion that PWSA experienced an increase in all
 15 complaint categories, including informal complaints, formal complaints, justified
 16 consumer complaints and verified infractions, for January through April in 2020 and
 17 2021. (OCA Statement 5 at 16). She also references the customer complaints received in
 18 the first quarter of 2021 in comparison with the same data from 2020 and concludes that
 19 the increase in complaints in 2021 raises “compliance concerns” because they occurred
 20 during a period of time when termination was not the root cause because terminations
 21 were not occurring then. (OCA Statement 5 at 17).

22 **Q. DO YOU AGREE THAT MS. ALEXANDER’S COMPARISON OF YEARS 2020**
 23 **AND 2021 IS AN ACCURATE REPRESENTATION OF THE DISPUTES AND**
 24 **INFORMAL COMPLAINTS THAT IT RECEIVES ON A REGULAR BASIS**

1 **AND, FURTHER, THAT THE INCREASE RAISES COMPLIANCE**
 2 **CONCERNS?**

3 A. I do not. The onset of the pandemic in 2020 makes that year an invalid one for
 4 comparison with other “normal” years to try to identify trends. While Ms. Alexander
 5 does recognize this earlier in her testimony, she still relies on it for purposes of trying to
 6 identify trends.²⁹ When 2019 statistics are brought into the comparison, there was a
 7 significant decrease in disputes from 2019 to 2020. While there is an increase in disputes
 8 from 2020 to 2021 even though PWSA did not restart residential terminations during that
 9 time period, the increase is explained by a number of factors that do not evidence any
 10 lack of compliance by PWSA. These include changes in Commission complaint
 11 processing, the delay in PWSA’s ability to complete in-property service appointments to
 12 test meters, and PWSA’s ramped up effort to investigate non-registering meters in that
 13 commenced October 2020.

14 **Q. IS INFORMATION AVAILABLE YET TO DETERMINE “NORMAL” PWSA**
 15 **CONSUMER COMPLAINT TRENDS?**

16 A. No. As I explained previously, PWSA is only beginning to return to its “normal”
 17 collections processes which includes the exercise of authority to terminate service for
 18 non-payment. Until we have returned to normal operations, I do not agree that
 19 conclusions can be drawn about consumer complaint trends based on years 2020 and
 20 2021.

²⁹ See OCA Statement No. 5 at 8 (“In short, the 2020 year does not reflect normal customer service operations. And, due to the dramatic reduction in termination activities and resulting volume of customer calls, 2020 activities do not reflect historical performance of the customer call center, and termination practices.”)

1 **Q. WHY IS A COMPARISON OF 2019 CONSUMER COMPLAINT TRENDS TO**
 2 **2020 CONSUMER COMPLAINT TRENDS MISLEADING?**

3 A. There is a significant decrease in disputes from 2019 and 2020 generally related to
 4 COVID-19 and the moratorium on terminations. Although from January through March
 5 2020, PWSA had in place a winter moratorium for qualifying customers, in a “normal”
 6 year termination activity would have resumed in April 2020. That did not occur, which
 7 directly resulted in a decrease in consumer complaints.

8 **Q. BUT HOW DO YOU RESPOND TO MS. ALEXANDER’S POINT THAT THE**
 9 **INCREASE IN THE NUMBER OF CONSUMER COMPLAINTS FROM 2020 TO**
 10 **2021 RAISES “COMPLIANCE CONCERNS” BECAUSE PWSA STILL WAS**
 11 **NOT EXERCISING TERMINATION RIGHTS DURING THE 2021 PERIOD?**

12 A. Ms. Alexander’s analysis fails to consider any other factors/changes that occurred
 13 between 2020 and 2021, including complaint handling processes at the Commission and
 14 PWSA’s internal efforts regarding collection activities (but not terminating service).
 15 When these issues are properly considered, the upward trend in consumer complaints
 16 from 2020 to 2021 has a reasonable explanation that is not connected to some deficiency
 17 or poor performance on the part of PWSA.

18 **Q. PLEASE EXPLAIN WHAT COMMISSION COMPLAINT HANDLING**
 19 **PROCESSES HAVE INFLUENCED CHANGES IN THE NUMBER OF**
 20 **CONSUMER COMPLAINTS BETWEEN 2020 AND 2021.**

21 A. There was a period of time in 2020 when intake personnel and investigators with BCS
 22 were not accepting new informal complaints. This had a direct impact on decreasing the
 23 number of consumer complaints received in 2020. Once the BCS investigators began
 24 teleworking at the end of April 2020, there was an increase in the number of informal
 25 complaints that were being closed as well as a decrease in the amount of time that it took
 26 for cases to be investigated and closed. Because informal complaints were being
 27 processed and closed faster, this enabled consumers to file formal complaints more

1 quickly than in the past, and this increase was reflected in the 2021 count rather than the
2 2020 count.

3 **Q. DID PWSA’S INVESTIGATIVE ACTIONS DURING 2020 ALSO INFLUENCE**
4 **THE TREND IN CONSUMER COMPLAINTS BETWEEN 2020 AND 2021?**

5 A. Yes. First, there was a period of time in 2020 when PWSA could not complete in-
6 property service appointments to gain access to a customer’s meter for testing. This
7 caused all high consumption disputes requiring meter testing to be delayed and pushed
8 some of these disputes into 2021.

9 Second, in October 2020, PWSA began to dedicate more staff resources to
10 investigating non-registering water meters. While this had the result of delaying
11 additional disputes in 2020, the process led to an increase in justified consumer
12 complaints and verified infractions in 2021. Specifically, 29 of the 41 justified
13 consumption complaints and 39 of the 60 verified infractions were related to non-
14 registering water meters. This is a trend that will continue until PWSA is able to obtain
15 access to the remaining 3,081 identified properties to access the meters for reading and/or
16 replacement. PWSA’s non-access program is specifically focused on addressing this
17 issue, and PWSA continues to track and address zero consumption accounts on a monthly
18 basis.

19 **Q. IS THERE ANOTHER COMMISSION PROCESS REASON DRIVING THE**
20 **PERCEIVED INCREASE IN PWSA’S COMPLAINT STATISTICS IN 2021?**

21 A. Yes. PWSA’s water and wastewater conveyance service is treated by the Commission as
22 two different public utility services even though the charges are on the same customer bill
23 and often a customer files a complaint regarding the full amount of the charges without
24 identifying whether the issue is related to water and/or wastewater conveyance. In the
25 beginning of its exercise of jurisdiction over PWSA, a formal complaint from one

1 customer was generally assigned one docket number. In 2021, however, the Commission
 2 began to more regularly assign two different docket numbers (one for water and one for
 3 wastewater conveyance) for a single complaint, if the consumer checked both the water
 4 and wastewater boxes on the formal complaint form. In 2021, roughly 18% of the formal
 5 complaints received so far fell into this category, i.e., one complaint, by one customer,
 6 addressing billing of the two utility services. The result of this created the inaccurate
 7 appearance that there are more consumers filing complaints against PWSA.

8 **Q. BASED ON YOUR COMPLETE ANALYSIS OF THE ISSUES AT PLAY IN 2020**
 9 **AND 2021, WHAT DO YOU CONCLUDE?**

10 A. First, attempting to extract “trends” from 2020 and 2021 is fraught with error because
 11 those were and are not normal years for a number of reasons directly related to the
 12 pandemic. Second, the increase in complaints between 2020 and 2021, even while the
 13 moratorium on terminations remained in place, is reasonably explained by factors outside
 14 of PWSA’s control, including the delay in processing of complaints, docketing of
 15 complaints, delayed access to meters for testing and ramped up investigative efforts
 16 regarding non-registering meters. For these reasons, I strongly disagree with Ms.
 17 Alexander’s view that the to date complaint data “raises compliance concerns.”

18 ii. *High Consumption/Previously Unbilled Service Complaints*

19 **Q. APART FROM HER CURSORY CONCLUSION BASED ON THE INCREASED**
 20 **NUMBER OF COMPLAINTS FROM 2020 TO 2021, DOES MS. ALEXANDER**
 21 **OFFER AN OPINION ABOUT THE NATURE OF THE COMPLAINTS?**

22 A. Yes, Ms. Alexander notes that “frequent themes” of the complaints received in the first
 23 quarter of 2021 involve previously unbilled service due to non-registering meters, catch-
 24 up consumption, and high consumption. According to Ms. Alexander “the fact that
 25 customers had to file a formal complaint about their high bills suggests that PWSA may

1 not be properly handling the customer’s dispute or offering sufficient means of redress in
 2 the form of a payment plan.” (OCA Statement No. 5 at 18).

3 **Q. DO YOU AGREE THAT THE FILING OF A CUSTOMER COMPLAINT IS**
 4 **INDICATIVE OF A FAILURE OF PWSA TO PROPERLY HANDLE A**
 5 **CUSTOMER’S DISPUTE?**

6 A. No, I do not. PWSA has a duty to all ratepayers to ensure that it is seeking full payment
 7 for services rendered. The fact that a customer may not agree or understand the reasons
 8 underlying his or her usage, which results in higher than expected bills, does not negate
 9 the obligation of PWSA to pursue payment for services rendered. Regarding measuring
 10 consumption, PWSA’s water meters measure and record the volume of water flowing
 11 through them. The meter dial on a water meter is like the odometer on a car. It
 12 continually registers the amount of water that flows through the meter and into the
 13 property. The meter reflects a cumulative total of the water that has run through that
 14 meter since it was installed. The majority of PWSA’s water meters are located inside the
 15 customers’ properties. If a remote device that is attached to the water meter fails to send
 16 a signal with the reading on the water meter, PWSA is without information about the
 17 actual consumption of water in the property. Once access is gained, PWSA has accurate
 18 information about usage which provides the necessary data to address the consumer
 19 complaint, even if that means continuing to seek full payment for services rendered. I
 20 fundamentally disagree with Ms. Alexander’s view that such position reflects some type
 21 of improper complaint handling processes on the part of PWSA.

22 **Q. DOES PWSA SEEK TO MINIMIZE COMPLAINTS AND, IF SO, HOW DOES**
 23 **PWSA MEASURE ITS PROGRESS IN THIS REGARD?**

24 A. PWSA seeks to minimize complaints by ensuring that the consumers with whom it
 25 interacts are satisfied with the level of service that they are provided. PWSA does not

1 measure this level of satisfaction in terms of the complaints received (as Ms. Alexander
2 does) but rather by the customer satisfaction rate (which is included on a monthly basis in
3 the Quarterly Compliance Plan Report) and the results of our After Call Surveys.

4 **Q. CAN YOU PROVIDE MORE INFORMATION ABOUT HOW PWSA**
5 **SPECIFICALLY WORKS WITH CONSUMERS REGARDING CONCERNS**
6 **RELATED TO CONSUMPTION?**

7 A. Yes. PWSA's previously unbilled service letter prompts consumers to contact Customer
8 Service at 412-255-2423 for payment plan options. In addition, when consumers call
9 Customer Service, a representative offers payment arrangements. Frequently, customers
10 decline this option because they believe they should not have to pay a bill that is based on
11 a regulatory back-billing calculation for the time period when PWSA was not receiving
12 the consumption data from the meter. PWSA's Customer Service properly directs
13 dissatisfied customers to the Commission's BCS for the filing of an informal complaint.
14 Typically, BCS dismisses the informal complaints, noting that the Commission's
15 regulations permit PWSA to issue a make-up bill for previously unbilled public utility
16 service, which accrued within the past 4 years for various reasons, including meter
17 failure.³⁰ While BCS normally finds that PWSA should apply a 20% conservation credit
18 due to the customer having no opportunity to reduce their consumption in the identified
19 period, the investigators do not conclude that PWSA's processes for issuing make-up
20 bills are flawed or otherwise in violation of the Commission's regulations. At that point,
21 even though BCS has confirmed the ability of PWSA to issue make-up bills going back
22 four years, many consumers still go to the next level of filing formal complaints.

³⁰ 52 Pa. Code § 56.14.

1 To the extent that improvements can be made to PWSA’s notifications and
 2 procedures for the issuance of make-up bills to reduce the number of complaints, the
 3 Authority is receptive to suggestions. However, this issue is one that the parties,
 4 including OCA, have identified to address during Stage 2 Compliance Plan: Chapters 14
 5 & 56. Therefore, it is neither necessary nor appropriate to vet the issue in this rate case
 6 proceeding.

7 **Q. WHAT DOES MS. ALEXANDER RECOMMEND CONCERNING**
 8 **NONREGISTERING METER, CATCH-UP CONSUMPTION AND HIGH**
 9 **CONSUMPTION COMPLAINTS?**

10 A. Ms. Alexander recommends that the Commission require PWSA to undertake a root
 11 cause analysis of complaints and to identify and adopt reforms to reduce its formal
 12 complaints, verified complaints, and justified infractions. She further proposes that this
 13 analysis evaluate PWSA’s collection policies for issuing make-up bills due to meters not
 14 working properly or being regularly read. (OCA Statement 5 at 18).

15 **Q. WHAT IS PWSA’S POSITION ON THESE RECOMMENDATIONS?**

16 A. PWSA does not believe that undertaking a root cause analysis of complaints would be a
 17 beneficial use of limited ratepayer funds and staffing. Based on the review that PWSA
 18 currently does, and the feedback it receives from BCS, the Authority is already aware of
 19 the major triggers that cause consumers to complain. With respect to the specific
 20 example that Ms. Alexander highlights regarding the issuance of make-up bills, it is not
 21 difficult to understand why consumers file complaints when they are required to pay
 22 larger sums of money than expected due to reasons that might have been beyond their
 23 control. The cause, however, of these make-up bills is not related to any actions being
 24 taken today by PWSA. Rather, these bills accrued due to historical issues with PWSA
 25 not having the necessary resources to identify and/or address meters that were registering

1 zero consumption. With the aggressive meter replacement program that PWSA is
2 currently implementing, the issuance of make-up bills is a trend that may continue for a
3 period of time. It cannot be avoided if PWSA is committed to collecting funds from
4 customers for water that was consumed, so that other ratepayers are not unfairly
5 shouldered with this burden. In addition, as I noted above, PWSA is receptive to making
6 improvements to its notifications and processes, on which it expects to receive feedback
7 during the Stage 2 Compliance Plan addressing customer service issues.

8 **Q. DO YOU AGREE WITH MS. ALEXANDER’S CLAIM THAT PWSA DOES NOT**
9 **HAVE AN INTERNAL GOAL TO LIMIT THE VOLUME OF COMPLAINTS**
10 **FILED BY CONSUMERS?**

11 A. I do not. PWSA tracks complaint volume and is continuously reviewing the trends that
12 emerge in an effort to limit the volume of complaints filed by consumers. During a
13 weekly management meeting, the customer service manager of the Contact Center and
14 Dispatch reports on the number of unresolved customer inquiries, and she works with her
15 staff to resolve these inquiries throughout the week to keep the number, on average, less
16 than 10. Additionally, the senior manager of PUC compliance maintains a spreadsheet of
17 all complaints and their cause. When she sees recurring themes, she consults the
18 customers service manager who then works with the customer service training
19 coordinator to retrain the staff in a concerted effort to reduce the volume of complaints.

20 **B. Public Input Hearing Testimony and Filed Public Comments (Customer Service**
21 **Issues)**

22 **Q. DID YOU REVIEW THE TESTIMONY PROVIDED AT THE PUBLIC INPUT**
23 **HEARINGS IN THIS PROCEEDING ON JUNE 28-30, 2021 AS WELL AS THE**
24 **PUBLIC COMMENTS THAT WERE FILED WITH THE COMMISSION?**

25 A. Yes, I did.

1 **Q. PLEASE SUMMARIZE THE TESTIMONY FROM THE PUBLIC INPUT**
 2 **HEARINGS TO WHICH YOU WILL RESPOND.**

3 A. First, I will respond to certain statements made by PWSA customer William Towne
 4 during the Public Input Hearing on June 28, 2021 at 1:00 pm. *See* TR at 90-108. Second,
 5 several witnesses implied that PWSA’s typical bill calculation is not consistent with the
 6 bills they receive. I will respond to this testimony and explain why there may be some
 7 discrepancy between PWSA’s typical bill calculation and the amounts displayed on
 8 customer bills. *See e.g.* Tr. at 236-237 (Testimony of Amy Scanlon) and 249-251
 9 (Testimony of Teaira Collins). Finally, I will address the filed comments of Drs. Holland
 10 and Sudol regarding PWSA’s use of estimated meter readings.

11 **Q. ARE OTHER PWSA WITNESSES ALSO ADDRESSING THE PUBLIC INPUT**
 12 **HEARING TESTIMONY AND FILED PUBLIC COMMENTS?**

13 A. Yes. Mr. Pickering addresses some of the more general comments regarding the level
 14 and history of PWSA’s rate increases and Mr. Igwe discusses concerns related to
 15 stormwater.

16 ***1. Response to Testimony of Mr. Towne***

17 **Q. PLEASE SUMMARIZE THE TESTIMONY OF MR. TOWNE.**

18 A. Mr. Towne made several unfounded and unreasonable accusations, including claims of
 19 PWSA incompetence, abuse of authority, and misuse of ratepayer funds. *See* TR at 93.
 20 Further, Mr. Towne asserted that PWSA made changes to its water treatment, leading to
 21 increased lead in the water. TR at 94. Mr. Towne also expressed concern about the
 22 interface design of PWSA’s Billing vendor. TR at 94-95.

23 Additionally, Mr. Towne asserted that PWSA repeatedly cut off the water service
 24 to his house without advance notice and that PWSA customers have received improper
 25 shut-off notices by means of a robo-call. Mr. Towne asserted that, in attempting to

1 contact PWSA regarding the shut-off notices, PWSA’s call center failed to answer and
 2 did not provide options for leaving a message or receiving a call back. Tr. at 95-96.

3 Finally, Mr. Towne made preposterous allegations that PWSA has attempted to
 4 cover-up issues, has lied directly to the public, the Commission, the Office of Open
 5 Records, and the Court of Common Pleas, and has defied an Order of the Office of Open
 6 Records. Tr. at 98-100. Mr. Towne also alleged that I have lied to the Commission,
 7 dismissed questions from authorities, and verified statements to which I have no personal
 8 knowledge. Tr. at 102-103.

9 **Q. HOW DO YOU RESPOND TO MR. TOWNE’S CLAIMS OF PWSA**
 10 **INCOMPETENCE, ABUSE OF AUTHORITY, AND MISUSE OF RATEPAYER**
 11 **FUNDS?**

12 A. These conclusions are entirely unfounded. They seem to stem from Mr. Towne’s
 13 assertions regarding PWSA’s changes to its water treatment, issuance of shut-off notices,
 14 and claims that PWSA is spending ratepayer funds to litigate a proceeding against Mr.
 15 Towne in the Court of Common Pleas. I will discuss Mr. Towne’s assertions related to
 16 PWSA’s changes to its water treatment and issuance of shut-off notices below. Mr.
 17 Towne’s claim that PWSA is misusing ratepayer funds because it is actively representing
 18 itself in a Right-to-Know (“RTK”) proceeding initiated by Mr. Towne demonstrates a
 19 lack of understanding of the law. PWSA is permitted to recover reasonable litigation
 20 costs, and PWSA has a right to challenge RTK requests if it reasonably believes that
 21 disclosure of the information is barred under the RTK law. These facts, certainly, do not
 22 support a conclusion that PWSA has misused ratepayer funds.

1 **Q. MR. TOWNE ALLEGES THAT PWSA MADE CHANGES TO ITS WATER**
 2 **TREATMENT, LEADING TO INCREASED LEAD IN THE WATER. HOW DO**
 3 **YOU RESPOND?**

4 A. It appears that the water treatment change Mr. Towne refers to was a modification of
 5 corrosion control treatment facilities in 2014 that was made without appropriate permit
 6 approvals. To my knowledge, there was no study performed or determination made that
 7 the modification resulted in elevated lead levels. More recently in 2019, PWSA
 8 introduced orthophosphate to its water treatment system. The introduction of
 9 orthophosphate in PWSA’s water treatment system has effectively reduced lead levels in
 10 tap water. In July 2020, PWSA had its lowest lead testing result in over 20 years; this
 11 was the second consecutive round of testing found to be below the U.S. Environmental
 12 Protection Agency and Pennsylvania Department of Environmental Protection lead action
 13 level of 15 parts per billion. As the Commission is well-aware, PWSA has a
 14 comprehensive lead service line replacement program and has replaced thousands of lead
 15 service lines since implementation of the program in 2018.

16 **Q. PLEASE ADDRESS THE CONCERNS RAISED BY MR. TOWNE REGARDING**
 17 **PWSA’S BILLING VENDOR.**

18 A. According to Mr. Towne, “the PWSA will likely try to hold this new billing system up as
 19 an example of the good things the public can get from their investment, but it’s bad
 20 interface design all around.” T.R. at 95. In support of this, Mr. Towne makes
 21 unsupported claims about “secretly hiding patch-in requirements,” not using a more user
 22 friendly domain for customers to enter their credentials, hiding links on the website, and
 23 the naming of the data file downloaded by a customer to retrieve his or her bill. Mr.
 24 Towne is correct that PWSA has and continues to invest significant resources in its
 25 customer service infrastructure to include its recently redesigned website and eBilling

1 interface. (PWSA St. No. 1 at 35-40; PWSA St. No. 6 at 13-16). PWSA has worked
 2 with the Commission staff and other interested stakeholders during the implementation of
 3 many of these projects (including the new bill design) and has also invited customers to
 4 provide their feedback via our After Call Surveys, which demonstrate a high level of
 5 satisfaction from customers. (PWSA St. No. 6 at 14; PWSA Exh. JAQ-1). Since the
 6 filing of our rate case, customers continue to express satisfaction regarding PWSA’s
 7 customer service performance as shown in PWSA Exh. JAQ-9. These results do not
 8 align with the unsupported statements of Mr. Towne.

9 **Q. PLEASE ADDRESS MR. TOWNE’S TESTIMONY THAT PWSA HAS SHUT**
 10 **OFF WATER SERVICE TO HIS HOUSE WITHOUT ADVANCE NOTICE, SENT**
 11 **CUSTOMERS IMPROPER SHUT-OFF NOTICES, AND FAILED TO RESPOND**
 12 **TO CUSTOMER CALLS.**

13 A. These allegations are currently the subject of a Formal Complaint pending before the
 14 Commission at Docket No. C-2019-3008437. Consistent with PWSA’s position in that
 15 case, PWSA inadvertently sent a mistaken shut-off notice to Mr. Towne via an automated
 16 phone call. Within less than 90 minutes, PWSA promptly recognized the error and
 17 rectified the issue by leaving another message with Mr. Towne explaining that the
 18 previous call was in error and advising him to disregard the call. PWSA did not actually
 19 shut-off service to Mr. Towne’s property, nor did it ever intend to terminate service for
 20 non-payment, and PWSA maintains that it never shut-off service to Mr. Towne’s
 21 property without providing proper notice. PWSA also had an increase in calls on the date
 22 of this shut-off notice error, and PWSA extended its customer service hours on that day.
 23 Since then, PWSA has implemented a number of preventative steps regarding outbound
 24 collection calls. Of note, in his Initial Decision in this matter, Administrative Law Judge
 25 Mark A. Hoyer dismissed Mr. Towne’s Formal Complaint, finding that Mr. Towne failed

1 to meet his burden of proof in this case. All of these allegations associated with the
 2 erroneous termination warning call and the water shut-offs were presented before Judge
 3 Hoyer, and rejected. Through his testimony, Mr. Towne has attempted to raise many of
 4 the same unfounded allegations that are being addressed in his Formal Complaint case.
 5 As these issues are currently pending before the Commission in the Formal Complaint
 6 proceeding, they should not be considered here.

7 **Q. DO YOU AGREE WITH MR. TOWNE’S ASSERTIONS THAT PWSA HAS**
 8 **ATTEMPTED TO COVER-UP ISSUES, HAS LIED TO THE PUBLIC, THE**
 9 **COMMISSION, THE OFFICE OF OPEN RECORDS, THE COURT OF**
 10 **COMMON PLEAS, AND HAS DEFIED AN ORDER OF THE OFFICE OF OPEN**
 11 **RECORDS?**

12 A. Absolutely not. There is no truth to these statements whatsoever. Mr. Towne’s
 13 (unsupported) accusations stem directly from his underlying Formal Complaint
 14 proceeding discussed above, as well as an appeal of an Office of Open Records
 15 Determination regarding RTK issues pending before the Court of Common Pleas. More
 16 specifically, the conclusions are based, in part, on PWSA merely following proper rules
 17 of procedure, including adhering to the Commission’s regulations pertaining to discovery
 18 disputes and appealing an Office of Open Records Final Determination.³¹ Such actions
 19 do not support the conclusions that PWSA has attempted to cover up issues, lied, or
 20 otherwise defied any agency or court order. The claims also appear to be based on
 21 alleged inconsistencies in statements made by PWSA in these two proceedings. While I
 22 specifically disagree with Mr. Towne’s characterizations of PWSA and his allegations

³¹ For example, Mr. Towne claims that “the PWSA vigorously and successful (sic) opposed discovery of certain relevant records on the grounds that they could not be relevant to the case” to support his position that the PWSA is covering up issues. Tr. at 98. Mr. Towne also points to PWSA’s appeal to the Court of Common Pleas to support his position that PWSA is attempting to cover up issues and failed to comply with the Determination of the Office of Open Records. *Id.*

1 that PWSA (and I) have lied in any proceeding, any concerns that Mr. Towne has about
 2 these underlying proceedings or statements made therein belongs in those proceedings -
 3 not here. As Judge Vero informed Mr. Towne during the Public Input Hearing, the
 4 Commission does not have jurisdiction over issues regarding the RTK Law or
 5 transparency of information and, as such, Mr. Towne’s statements and conclusions
 6 related to same should be disregarded in this proceeding. Tr. at 102.

7 **Q. HOW DO YOU RESPOND TO MR. TOWNE’S ASSERTION THAT YOU HAVE**
 8 **LIED TO THE COMMISSION, DISMISSED QUESTIONS FROM**
 9 **AUTHORITIES, AND VERIFIED STATEMENTS TO WHICH YOU HAVE NO**
 10 **PERSONAL KNOWLEDGE?**

11 A. Again, such statements are entirely untrue and unfounded. I will not further get into
 12 matters that involve the RTK proceeding pending before the Court of Common Pleas,
 13 because, as discussed, this is not the proper forum to address these issues.

14 Since Mr. Towne personally attacked my character, however, I find it necessary
 15 to further address these claims and his recommendation for the Commission to
 16 “significantly discount” the evidentiary weight of the statements that I have verified in
 17 this proceeding. It was very disheartening to hear that someone has called into question
 18 my character and intentions in this proceeding or in my role with PWSA. I take very
 19 seriously my role as the Director of Customer Service of PWSA and my role as a witness
 20 in this rate case. I appreciate the time and energy that the Commission and the parties to
 21 this rate proceeding have dedicated (and will dedicate) to reviewing and investigating
 22 PWSA’s proposals in this case, as well its current practices and procedures, including its
 23 performance in areas pertaining to customer service. While it is my position that
 24 PWSA’s customer service performance is strong, and while I may not agree with every
 25 recommendation, I certainly welcome recommendations that are aimed at improving

1 PWSA’s customer service operations. It is truly my belief that the ultimate goals of
 2 PWSA are the same as those of the Commission and the advocates in this proceeding,
 3 which include ensuring that PWSA continues to furnish and maintain adequate, efficient,
 4 safe, and reasonable services and facilities as required by Section 1501 of the Public
 5 Utility Code.

6 I have not (and would not) intentionally lie to the Commission, dismiss questions
 7 from the Commission or other authorities, or otherwise provide false or misleading
 8 information. All verified statements that I have made in this proceeding have, in fact,
 9 been true and correct to the best of my knowledge, information and belief. If it should
 10 come to my attention that any prior statements that I have made in this proceeding are
 11 inaccurate, I fully intend to amend my statement or response and explain, to the best of
 12 my ability, the reason for any inaccurate information. It should also be noted that, just
 13 because I may lack *personal* knowledge of an issue or event, does not mean that I lack
 14 the knowledge necessary to verify the information. I am not trying to hide the basis on
 15 which my information has been obtained. To the extent there is any question about
 16 where certain information comes from, the parties are able to seek further clarification
 17 through discovery or cross-examination in this proceeding.

18 **2. PWSA’s Typical Bill Calculation v. Actual Customer Bill**

19 **Q. PLEASE EXPLAIN WHY A CUSTOMER’S BILL MAY DIFFER FROM PWSA’S**
 20 **TYPICAL BILL CALCULATION.**

21 A. There are several reasons why a customer’s bill may be different from PWSA’s typical
 22 bill calculation. First, PWSA does not include ALCOSAN’s charges in its typical bill
 23 calculation. Second, PWSA’s typical bill calculation is based on 3,000 gallons, which is

1 the median usage, so depending on their actual usage, a customer’s typical bill would
 2 look different.

3 **Q. DID OCA WITNESS ALEXANDER ALSO ADDRESS THIS ISSUE?**

4 A. Yes. Ms. Alexander noted that PWSA’s public notices for this rate case did not include
 5 ALCOSAN charges. Therefore, Ms. Alexander recommends that PWSA “make clear
 6 that the bill impacts associated with its rate increase proposal do not include the
 7 ALCOSAN charges, which change once annually, and provide information on
 8 ALCOSAN’s current charges.” (OCA St. No. 5 at 3-4).

9 **Q. DO YOU SUPPORT THIS RECOMMENDATION?**

10 A. No, while I recognize it is intended to provide clearer information to the customer, I
 11 would note that our current notice of proposed rate changes (which includes all of the
 12 information required by 52 Pa. Code § 53.45) is three pages.³² Because of PWSA’s rate
 13 structure (which includes a minimum charge and a volumetric charge), the fact that we
 14 provide two different services (water and wastewater conveyance) and, for this year are
 15 proposing a third service (stormwater), there is much information that needs to be
 16 conveyed to customers about PWSA’s rates. I am concerned that requirements to include
 17 information about ALCOSAN’s wastewater treatment rates over which we have no
 18 authority, will simply create more customer confusion. PWSA’s customers are informed
 19 of how ALCOSAN charges are established via the ALCOSAN website provided on each
 20 monthly PWSA bill. When ALCOSAN institutes a rate change, they provide written
 21 notice to PWSA. PWSA then adds a bill message to advise customers of the rate change

³² See Initial Rate Filing Package, Volume 1, Tab 2 for a copy of the public notice of rate changes that was developed for this proceeding.

1 for one full monthly billing cycle. I do not believe adding additional text to the public
 2 notice of rate change that is required as part of our rate case filing is necessary.

3 **3. Response to Drs. Holland and Sudol**

4 **Q. PLEASE SUMMARIZE THE WRITTEN COMMENTS FILED WITH THE**
 5 **COMMISSION BY DRS. HOLLAND AND SUDOL THAT YOU WILL ADDRESS**
 6 **HERE.**

7 A. In their May 25, 2021 letter filed with the Commission about our rate proposal, Drs.
 8 Holland and Sudol stated that PWSA's rate charges are "frequently based on estimates."

9 **Q. HAS PWSA RELIED ON ESTIMATED BILLINGS FOR DRS. HOLLAND AND**
 10 **SUDOL?**

11 A. No; PWSA has relied on monthly actual water meter readings since 2012, and their
 12 historical water usage has remained within the average for similarly situated customers.
 13 According to our account notes, the customer provided a reasonable explanation for a
 14 small increase in usage for one month in the summer of 2019 and one month in the winter
 15 of 2018, which increases are again consistent with similarly situated customers. The
 16 usage that was billed during these periods was based on actual meter readings for their
 17 service address.

18 **4. Individual Customer Service Issues**

19 **Q. DO YOU HAVE ANYTHING FURTHER THAT YOU WOULD LIKE TO**
 20 **ADDRESS RELATED TO THE TESTIMONY PROVIDED DURING THE**
 21 **PUBLIC INPUT HEARINGS?**

22 A. I would just like to note that, consistent with PWSA's commitment at the Public Input
 23 Hearings, PWSA has attempted to follow-up and address any specific concerns raised by
 24 consumers regarding service or billing issues, or other issues specific to that consumer.
 25 As an example, Ms. Scanlon expressed concerns about PWSA's customer service
 26 response related to lead service line replacements in her neighborhood and, based on that,

1 was hesitant about reaching out for other issues. T.R. at 238. Despite her reservations
 2 and following her comments at the public input hearing, Ms. Scanlon has worked with
 3 customer service to upgrade her water meter, facilitating meter readings down to the tenth
 4 of a gallon to diagnose leaks and promote conservation and lower monthly bills.

5 **C. Stormwater Specific Customer Service Issues**

6 **Q. WHAT CONCERNS DOES MS. ALEXANDER RAISE REGARDING FUTURE**
 7 **CUSTOMER SERVICE PERFORMANCE DUE TO THE INTRODUCTION OF**
 8 **STORMWATER SERVICE?**

9 A. To be blunt, Ms. Alexander opines that PWSA’s customer service is not ready to
 10 implement the stormwater fee and maintain good customer service based on continued
 11 development of customer education and system processes to support the new fee. (OCA
 12 Statement No. 5 at 32). Ms. Alexander goes on to identify the below five issues that she
 13 recommends be resolved in this rate case:

- 14 ✓ The new customer bill format for assessing a stormwater charge;
- 15 ✓ The PWSA communications to affected customers;
- 16 ✓ The revised web portal to present the stormwater charge showing customers
- 17 how to understand the basis for the charge, the credit program and the future
- 18 plan to increase the stormwater charge;
- 19 ✓ The internal plan for training the call center for responding to customer
- 20 inquiries and disputes about the stormwater charges; and,
- 21 ✓ The internal plan to collect unpaid stormwater charges.

22 **Q. IS THE NEW CUSTOMER BILL FORMAT FOR ASSESSING A**
 23 **STORMWATER CHARGE AVAILABLE?**

24 A. PWSA is actively working with internal stakeholders on a redesign of its existing bill to
 25 include stormwater charges and a design of a stormwater-only bill. Both are on track to
 26 be available for review in September 2021.

1 **Q. HAS PWSA ALREADY DETAILED ITS PROPOSED PLAN FOR**
2 **COMMUNICATIONS ABOUT THE STORMWATER FEE TO AFFECTED**
3 **CUSTOMERS?**

4 A. Yes. I addressed this in my direct testimony. (PWSA St. No. 6 at 21-22). Mr. Igwe also
5 addressed PWSAs plan to educate customers about stormwater in his direct testimony.
6 (PWSA St. No. 7 at 36-37). Mr. Igwe provides additional information regarding outreach
7 in his rebuttal testimony.

8 **Q. HAS PWSA FINALIZED THE STORMWATER WEB PORTAL?**

9 A. The web portal is still under development and its release is dependent on the decisions
10 that are made as part of this rate case, as Mr. Igwe discusses in his rebuttal. I am not
11 aware of any Commission requirement that PWSA’s public outreach and customer
12 education materials need to be pre-approved before a new public utility service may be
13 offered.

14 **Q. WILL PWSA BE TRAINING THE CALL CENTER FOR RESPONDING TO**
15 **CUSTOMER INQUIRIES AND DISPUTES ABOUT THE STORMWATER**
16 **CHARGES?**

17 A. Yes. The PWSA Customer Service Training Coordinator is actively working with
18 Raftelis, the creators of the Stormwater Billing information System (“SBIS”), to learn the
19 system and to develop appropriate training materials for various audiences of PWSA
20 staff, including Contact Center employees. PWSA personnel also have access to a test
21 instance of SBIS, which they are utilizing to familiarize themselves with the data therein.
22 The Training Coordinator plans to provide initial staff training on SBIS throughout the
23 month of October 2021, refresher and more intensive training in early December 2021,
24 and pre-go-live training in early January 2022

1 **Q. HAS PWSA ALREADY PROVIDED INFORMATION ABOUT THE PLAN TO**
2 **COLLECT UNPAID STORMWATER CHARGES?**

3 A. Yes. I addressed our plan for collection of unpaid stormwater charges in my direct
4 testimony. (PWSA St. No. 6 at 29-33).

5 **Q. DOES MS. ALEXANDER RECOMMEND PWSA INCLUDE ADDITIONAL**
6 **INFORMATION ABOUT STORMWATER IN ITS CURRENT QUARTERLY**
7 **COMPLIANCE PLAN REPORTS?**

8 A. Yes, Ms. Alexander identifies five items related to customer calls, disputes, arrears, and
9 collection actions that she recommends be included in PWSA's current Quarterly
10 Compliance Plan Reports. (OCA Statement No. 7 at 34).

11 **Q. DO YOU SUPPORT INCLUSION OF THESE ADDITIONAL ELEMENTS IN**
12 **THE QUARTERLY COMPLIANCE PLAN REPORTS?**

13 A. No, I do not. The elements in the current reports were developed as part of the
14 Compliance Plan Stage 1 proceeding and include information that PWSA specifically
15 agreed to report on as part of the settlement of that proceeding. I do not support using
16 this quarterly reporting requirement to expand into other areas that arise as part of other
17 cases. I would also note that while I did not discuss it at length here, there is a Stage 2
18 Compliance Plan proceeding that will be focused solely on stormwater and that is to start
19 upon conclusion of this rate case.³³ To the extent the parties and the Commission
20 conclude, as part of that proceeding, that additional items should be reported upon by
21 PWSA as part of the continuing transition to Commission jurisdiction, those decisions are
22 best left for that proceeding. I would also note that PWSA's quarterly reports are of

³³ As directed by the Commission, PWSA filed its Stage 2 Compliance Plan: Stormwater on April 9, 2021 at Docket No. M-2018-2640802 and M-2018-2640803. The Commission granted PWSA's Motion to Hold in Abeyance the Stage 2 Stormwater Compliance Plan on May 20, 2021. *Implementation of Chapter 32 of the Public Utility Code Regarding Pittsburgh Water and Sewer Authority*, M-2018-2640802 and M-2018-2640803, Opinion and Order entered May 20, 2021 at 21-22.

1 significant volume and require staff to devote a reasonable amount of time to gather the
2 information and prepare the report. I am concerned about adding any additional burdens
3 resulting from implementation of Ms. Alexander’s proposal.

4 **V. COVID-19 Impacts and Extension of Customer Protections**

5 **A. Continued Need for Rate Increase**

6 **Q. FROM A CUSTOMER IMPACT PERSPECTIVE, WHY DOES PWSA**
7 **CONTINUE TO BELIEVE THAT ITS REQUESTED RATE INCREASE**
8 **SHOULD BE APPROVED?**

9 A. PWSA recognizes that we have been living in challenging times due to the pandemic, and
10 we have taken efforts within our ability to assist consumers with the financial impacts of
11 the situation in terms of their PWSA water/wastewater charges. One example is our
12 proposal to phase in the rate increase over two years. The pandemic has also had an
13 impact on PWSA’s operations. All of these impacts need to be fairly considered to strike
14 the appropriate balance of ensuring that PWSA continues to operate with the needed
15 financial resources while also offering reasonable assistance to consumers. As a cash
16 flow entity, payments that are not received from consumers need to be paid by other
17 consumers to continue to keep PWSA as a viable utility. If, over the long term, PWSA
18 does not receive payment for the services rendered (either from the ratepayers using those
19 services or as socialized by PWSA’s other ratepayers), then PWSA will lack the revenues
20 needed to continue to provide adequate, efficient, safe, and reasonable service. In
21 PWSA’s judgment, the balance of these realities supports the need for our requested rate
22 increase.

1 **B. Extension of Pandemic Relief Measures**

2 **Q. PLEASE SUMMARIZE THE TESTIMONY OF MR. COLTON REGARDING**
 3 **THE PROPOSED EXTENSION OF PANDEMIC RELIEF MEASURES BY**
 4 **PWSA.**

5 A. Mr. Colton’s testimony discusses what he refers to as the “ongoing economic emergency
 6 facing residential customers as caused by the past and ongoing impacts of the COVID-19
 7 pandemic.” (OCA Statement 4 at 20). He recommends that the COVID-19 relief agreed
 8 to by PWSA in the last rate case be continued on a year-to-year basis. If approved, the
 9 measures would continue until January 1, 2023 unless extended by the Commission upon
 10 application of any party to this proceeding. (OCA Statement 4 at 20). Mr. Colton bases
 11 his discussion largely on the Census Bureau’s Phase 3 PULSE Survey. (OCA Statement
 12 4 at 21-28, 33-35). He also refers to an analysis by the Center on Poverty and Social
 13 Policy at Columbia University, projecting the longer-term effects of the COVID-19
 14 economic crisis. (OCA Statement 4 at 28-29). In addition, Mr. Colton cites a Pew
 15 Research Center report that discusses unemployment throughout the United States.
 16 (OCA Statement 4 at 30-33). Similarly, Mr. Geller addresses the continuation of
 17 pandemic relief measures and proposes a number of additional steps PWSA should take
 18 to help address the level of residential arrears accrued through the pandemic, particularly
 19 focusing on low-income customers. (Pittsburgh United Statement No. 1 at 26).

20 **Q. DO YOU AGREE WITH EXTENDING THE PANDEMIC RELIEF THAT PWSA**
 21 **AGREED TO IN THE SETTLEMENT IN THE LAST RATE CASE?**

22 A. No; I do not agree that PWSA should be required to extend the pandemic relief measures
 23 that it voluntarily agreed to implement during the settlement of its 2020 rate case. As the
 24 parties are aware, significant costs to PWSA – and its ratepayers – accompany all of the
 25 relief measures that the Authority implemented to address the effects of COVID-19

1 pandemic on customers. None of the sources referenced by Mr. Colton are specific to
 2 PWSA’s service territory, but rather describe national or statewide effects of the
 3 pandemic. Similarly, none of these sources acknowledge the many measures that PWSA
 4 has had in place to address the financial difficulties faced by its customers. Low income
 5 customers have been a priority for PWSA since the pandemic began, and they will
 6 continue to be long after a vaccine is widely available. PWSA’s Board of Directors and
 7 the LIAAC are regularly reshaping and retooling our customer assistance programs to
 8 make certain that the most vulnerable and recently unemployed customers receive
 9 financial support with respect to managing their water/wastewater charges. Therefore, I
 10 do not believe that any extension of the special measures agreed to in 2020 is warranted.
 11 Further details are provided below by each proposed extension by the parties.

12 ***1. Waiver of Reconnection Fees***

13 **Q. DO YOU AGREE WITH THE PARTIES’ PROPOSED EXTENSION OF PWSA’S**
 14 **WAIVER OF RECONNECTION FEES? (OCA STATEMENT 4 AT 20;**
 15 **PITTSBURGH UNITED STATEMENT NO. 1 AT 27-28).**

16 A. No; I do not agree with this proposal. PWSA must continue to provide adequate,
 17 efficient, safe, and reasonable services to our customers. PWSA cannot compromise this
 18 duty by subsidizing the cost of collecting from customers who either do not pay in full for
 19 services rendered or enter into payment plans.

20 ***2. Target Outreach to Consumers With Existing Debt***

21 **Q. DO YOU AGREE WITH MR. COLTON’S PROPOSAL FOR PWSA TO**
 22 **PERFORM TARGETED OUTREACH TO CUSTOMERS WITH EXISTING**
 23 **DEBT TO NEGOTIATE APPROPRIATE PAYMENT ARRANGEMENTS**
 24 **AND/OR ASSIST THEM WITH ENROLLMENT IN PWSA’S CUSTOMER**
 25 **ASSISTANCE PROGRAMS, IF ELIBILE? (OCA STATEMENT 6 AT 20).**

26 A. No. Given the other measures PWSA has taken to perform outreach to customers,
 27 including the creation of the PGH2O Cares Team, whose primary responsibility is to

1 increase enrollment in PWSA’s customer assistance programs, I do not believe that any
 2 additional targeted outreach to customers with existing debt is necessary or appropriate.
 3 Again, such outreach carries with it costs, as well as the diversion of staff from core
 4 functions of providing quality customer services.

5 **3. Additional Payment Arrangements**

6 **Q. DO YOU AGREE WITH MR. COLTON’S PROPOSAL FOR THE**
 7 **IMPLEMENTATION OF A PAYMENT ARRANGEMENT PROCESS DUE TO**
 8 **THE COVID-19 PANDEMIC? (OCA STATEMENT 6 AT 20).**

9 A. Respectfully, once again, I do not. Similar to other pandemic relief measures that PWSA
 10 voluntarily agreed to implement during the last base rate case, the implementation of a
 11 payment arrangement process that requires PWSA to offer more flexibility than required
 12 by Chapter 14 is both costly and time-consuming, thereby burdening already limited
 13 funds (including paying ratepayers who may be facing their own financial difficulties)
 14 and strained PWSA staffing resources.

15 **Q. DO YOU HAVE OTHER CONCERNS ABOUT EXTENDING ADDITIONAL**
 16 **PAYMENT ARRANGEMENTS BEYOND THOSE PERMITTED IN CHAPTER**
 17 **14?**

18 A. Yes. The Commission issued an order on July 15, 2021 which specifically states that
 19 “[a]fter September 30, 2021, payment arrangements must adhere to the provisions of the
 20 Public Utility Code and Commission regulations.”³⁴ I am advised by counsel that this
 21 order may prevent us from continuing to offer payment arrangements not specifically
 22 allowed by Chapter 14. Nevertheless, it certainly makes clear the Commission’s view
 23 that additional payment arrangements beyond those permitted in Chapter 14 are no longer
 24 necessary.

³⁴ *Public Utility Service Termination Moratorium; COVID-19 Cost Tracking and Creation of Regulatory Asset*, Docket Nos. M-2020-3019244; M-2020-3019775, Order entered July 15, 2021 at 3.

1 **4. Expansion of Community Outreach**

2 **Q. WHAT IS YOUR POSITION ON MR. COLTON’S PROPOSAL TO CONTINUE**
 3 **TO EXPAND OUTREACH EFFORTS WITH COMMUNITY PARTNERS AND**
 4 **TO SOLICIT THE INPUT AND SUGGESTIONS OF THE LIAAC MEMBERS AS**
 5 **TO HOW TO MOST EFFECTIVELY PURSUE THIS RESEARCH?**

6 A. As with Mr. Colton’s other proposals to extend the pandemic relief measures, an
 7 expansion of outreach efforts with community partners would consume resources,
 8 including funds and staffing, which are better used to continue improving PWSA’s
 9 overall customer services. In my view, sufficient outreach efforts are already in place
 10 with community partners, and little, if anything, would be gained by expanding those
 11 efforts. Certainly, I do not believe that any expansion of PWSA’s current outreach would
 12 produce benefits that exceed the costs that would be incurred or justify the functions that
 13 would take a back burner due to having staff diverted from daily operations.

14 **5. Hardship Grant**

15 **Q. DO YOU AGREE WITH THE PARTIES’ PROPOSAL FOR PWSA TO**
 16 **CONTINUE TO WAIVE ITS HARDSHIP GRANT PROGRAM’S SINCERE**
 17 **EFFORT OF PAYMENT REQUIREMENTS? (OCA STATEMENT 6 AT 21;**
 18 **PITTSBURGH UNITED STATEMENT NO. 1 AT 28).**

19 A. No. For the same reasons I have recited for rejecting Mr. Colton’s proposals to extend
 20 the pandemic relief measures, I must respectfully disagree with this proposal advanced by
 21 OCA and UNITED. To protect PWSA’s paying customers from unfairly shouldering the
 22 burden of other ratepayers, it is important for the Authority to reinstitute its requirement
 23 for customers participating in the Hardship Grant program to comply with the sincere
 24 effort of payment obligations.

1 **Q. DO YOU AGREE WITH MR. GELLER’S RECOMMENDATION FOR A**
 2 **CONTINUATION OF SIMPLIFYING THE INCOME DOCUMENTATION**
 3 **REQUIREMENTS FOR THE HARDSHIP PROGRAM? (PITTSBURGH UNITED**
 4 **STATEMENT NO. 2 AT 28).**

5 A. No. It is critical that PWSA resume the process of ensuring that customers are eligible
 6 for the hardship program. This measure is necessary so that other paying customers are
 7 not subsidizing ratepayers who are benefitting from the Hardship program who do not
 8 actually qualify for this assistance based upon their income.

9 **VI. LOW-INCOME CUSTOMER ASSISTANCE PROGRAMS**

10 **Q. DO PARTIES OFFER FEEDBACK AND RECOMMENDATIONS REGARDING**
 11 **PWSA’S LOW-INCOME CUSTOMER ASSISTANCE PROGRAMS?**

12 A. Yes. Both Mr. Colton, on behalf of OCA, and Mr. Geller, on behalf of UNITED, focus
 13 nearly exclusively on issues related to low-income customers and PWSA’s low-income
 14 customer assistance programs.

15 **Q. BEFORE RESPONDING TO THEIR SPECIFIC PROPOSALS AND**
 16 **RECOMMENDATIONS, DO YOU HAVE ANY OVERALL OBSERVATIONS**
 17 **YOU WISH TO SHARE?**

18 A. Yes. Although the water and wastewater conveyance services provided today by PWSA
 19 dates back to the 1850s, it is important to remember that the current low-income
 20 customer assistance programs were first introduced less than four years ago in October of
 21 2017 (Winter Moratorium), November 2017 (Bill Discount Program) and January 2018
 22 (Hardship Grant). Also notable is that their introduction occurred prior to the
 23 Commission’s assumption of jurisdiction over PWSA in April 2018. While PWSA has
 24 sought to continually improve the programs, they are still relatively new and significant
 25 changes and/or overhauls of the programs should be cautiously approached and only
 26 when such changes can be supported by a careful cost-benefit analysis.

1 Second, as a water and wastewater conveyance Commission-regulated utility
2 there is no long, well-established history of low-income customer assistance program
3 designs or guiding policy principles to inform PWSA’s programs. Although significant
4 time has been spent analyzing low-income customer assistance programs for electric and
5 natural gas distribution companies to include what are reasonable levels of affordability
6 for those services for low-income customers, no such Commission lead effort exists for
7 water or wastewater conveyance utilities. In the settlement of PWSA’s last rate case,
8 PWSA supported the initiation by the Commission of a proceeding to consider whether to
9 extend the “CAP Policy Statement” to Commission regulated water and wastewater
10 utilities.³⁵ Ultimately, I believe wholesale revisions to our existing programs or policy
11 decisions about what is or is not affordable and what is the optimal program design for
12 water and wastewater utilities are better evaluated by the Commission on a statewide
13 basis. Such evaluation would better inform program design and ensure that PWSA is
14 designing programs consistent with Commission determined policy directions. Until
15 such time, I believe the course we have set for our low-income customer assistance
16 programs, which is to evaluate and enhance when deemed appropriate based on our
17 experiences, is the most reasonable one for PWSA and its ratepayers.

18 Third, while other investor owned utilities have customer assistance programs
19 (many design features that informed PWSA’s own programs), these investor owned
20 utilities have access to financial resources that are not available to PWSA. For example,
21 Pennsylvania American Water (“PAWC”) funds its H2O Help to Other Program mostly

³⁵ *Pennsylvania Public Utility Commission v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 (water) and R-2020-3017970 (wastewater) Final Order entered December 3, 2020 (See Joint Petition for Settlement, Section III.F.5 at 13.)

1 through a corporate donation (\$600,000 per year) in addition to customer and employee
 2 donations.³⁶ The ability of investor owned utilities³⁶ to seek a return on equity permits
 3 them access to an additional funding source (i.e., shareholders in the company) that is not
 4 available to PWSA. This is a significant difference to bear in mind when considering
 5 programmatic changes to PWSA’s existing programs that may be costly to implement
 6 and will place further cost pressures on other ratepayers who will shoulder the burden.

7 **Q. HAVE ANY OF THESE CONSIDERATIONS PREVENTED PWSA FROM**
 8 **SEEKING TO CONTINUE TO EVOLVE ITS PROGRAMS IN AN**
 9 **APPROPRIATE AND REASONABLE MANNER?**

10 A. No. In this, our third base rate case, we have proposed further enhancements to our low-
 11 income customer programs as I set forth in more detail in my direct testimony. (PWSA
 12 St. No. 6 at 23-27). Importantly, these recommendations are not made in a vacuum and
 13 have been offered only after careful evaluation of the existing programs, the needs of our
 14 customers, the likely benefits and overall impact on our ability to continue to receive
 15 revenue for services rendered. More specifically, PWSA’s changes have been informed
 16 by a Household Affordability Analysis that was performed in December 2019, on-going
 17 discussion and feedback from members of our Low Income Assistance Advisory
 18 Committee (“LIACC”) which meets on a regular basis, on-going evaluation of the costs
 19 and benefits of our various programs, and, of course, the feedback we receive from our
 20 customers. I do sincerely appreciate the time and effort of both Mr. Geller and Mr.
 21 Colton to evaluate our programs and offer suggestions for further enhancements.
 22 However, I must point out that many of the recommendations are similar to ones made in
 23 the last rate case and include recommendations that PWSA cannot implement. As I will

³⁶ See <https://www.amwater.com/paaw/customer-service-billing/customer-assistance-programs/>

1 discuss further below, the reasons we cannot implement many of these recommendations
 2 can be summarized as either technically not possible, too costly, concerns about customer
 3 confusion, and/or not proven to lead to any significant improvement over existing
 4 program designs.

5 **A. General Considerations**

6 **1. Affordability Considerations**

7 **a. Readiness-to-Service Component of Rate Structure**

8 **Q. IS PWSA PROPOSING TO INCREASE ITS RESIDENTIAL CUSTOMER**
 9 **CHARGE BY 5% OVER AND ABOVE THE FULLY-ALLOCATED CUSTOMER**
 10 **COSTS? (OCA STATEMENT NO. 4 AT 12-19 AND OCA STATEMENT NO. 3**
 11 **AT 10-14)**

12 A. No, this is a mischaracterization of a rate design disagreement between OCA and PWSA
 13 which has evolved over the last two rate cases and involves the inclusion of a readiness-
 14 to-serve component in the water minimum charge consistent with generally accepted
 15 ratemaking principles. While Mr. Smith, on behalf of PWSA discusses this issue in more
 16 detail, I feel it is important for me to directly address the mischaracterizations of OCA
 17 Witnesses Mr. Rubin and Mr. Colton. Importantly, the readiness-to-serve component is
 18 not an “after the fact adder” to residential rates as both witnesses appear to want the
 19 Commission to believe. PWSA did not, despite characterizations to the contrary, develop
 20 rates based on its cost of service study and then decide to add an additional 5% on
 21 residential rates and any such implication to the contrary should be disregarded.

22 **Q. NOTWITHSTANDING THE MISCHARACTERIZATION OF THE READINESS-**
 23 **TO-SERVE COMPONENT OF PWSA’S PROPOSED RATES, DOES**
 24 **PARTICIPATION IN THE BILL DISCOUNT PROGRAM SHIELD LOW-**
 25 **INCOME CUSTOMERS FROM THIS SPECIFIC COST?**

26 A. Yes. The Readiness-to-Serve component is added to the minimum charge which is
 27 waived 100% for participants in PWSA’s Bill Discount program.

1 **b. Purpose of Low-Income Customer Assistance Programs**

2 **Q. IS MR. COLTON CORRECT THAT PWSA’S LOW-INCOME CUSTOMER**
 3 **ASSISTANCE PROGRAMS ARE INTENDED TO ENSURE THAT PWSA’S**
 4 **“WATER RATES REMAIN AFFORDABLE NOTWITHSTANDING THE RATE**
 5 **INCREASE PROPOSED IN THIS PROCEEDING” (OCA STATEMENT NO. 4**
 6 **AT 6).**

7 A. No. My direct testimony did not state that because of our low-income customer
 8 assistance programs, PWSA’s low-income customers would be able to “afford” the
 9 proposed rate changes. I did testify that the proposed enhancements to our low-income
 10 customer assistance programs was just one of the rate mitigation measures we included in
 11 our proposals in consideration of our customer’s circumstances. (PWSA St. No. 6 at 16-
 12 21). The other measures, which were not acknowledged by the low-income customer
 13 advocates, include:

- 14 • our proposal to phase-in the needed rate request over a two year period;
- 15 • our decision not to change the current minimum rate structure design at this time;
- 16 • our proposed gradualism adjustment to the new stormwater fee;
- 17 • our \$5 incentive credit to encourage customer enrollment in paperless billing; and,
- 18 • our proposed gradualism adjustment to the new stormwater fee.

19 **Q. BASED ON YOUR REVIEW OF THE TESTIMONY DO THE**
 20 **RECOMMENDATIONS OF OCA AND UNITED INTEND TO ADDRESS THEIR**
 21 **VIEWS REGARDING AFFORDABILITY FOR LOW-INCOME CUSTOMERS?**

22 A. Yes, I believe so. Mr. Colton specifically states that “PWSA fails to address affordability
 23 through its Bill Discount Program,” PWSA’s proposed modifications to the Bill Discount
 24 Program “will not adequately address the affordability needs of PWSA’s low-income
 25 customers” and “PWSA bills remain unaffordable to a substantial segment of the
 26 Authority’s low-income population.” (OCA Statement No. 4 at 8, 10-11). Similarly, Mr.
 27 Geller states that “PWSA’s current rates are already unaffordable” and that PWSA needs
 28 to “address *existing* rate unaffordability and. . . fully remediate compounded
 29 unaffordability created by PWSA’s proposal.” (UNITED St. No. 1 at 8-9).

1 **Q. DO YOU AGREE WITH THIS PURPOSE OF PWSA’S LOW-INCOME**
 2 **CUSTOMER ASSISTANCE PROGRAM?**

3 A. No. The purpose of the low-income customer assistance program is to provide
 4 appropriate and reasonable financial assistance to those who are in need while
 5 considering the cost impacts on remaining ratepayers who will be required to pay for the
 6 costs of the financial assistance and the pressures placed on our ability to collect the
 7 revenues needed to fund our operations. I believe we are achieving these goals with the
 8 discounts, grants and payment arrangements that are offered to customers. While both
 9 Mr. Geller and Mr. Colton acknowledge that determining what is an “affordable” cost for
 10 low-income customers is difficult,³⁷ they still spend significant time attempting to make
 11 the case that our rates are “unaffordable” and then using their analysis to recommend
 12 either rejection of our rate proposals and/or significantly costly revisions to our existing
 13 programs. Without clear regulatory direction (as the Commission has provided to electric
 14 and gas distribution companies) on what is affordable in this context, I submit the focus
 15 on our programs should be whether they are reasonably designed to provide financial
 16 assistance to those in need without placing significant negative pressure on our ability to
 17 continue to receive the revenues needed to finance our operations.

18 **Q. DO YOU MEAN TO SAY THAT PWSA IS UNWILLING TO CONSIDER**
 19 **FUTURE ENHANCEMENTS FOR ITS EXISTING PROGRAMS?**

20 A. No, as I hope is clear from past experience, PWSA remains committed to making these
 21 offerings to assist our customers and to working with the advocates and members of the

³⁷ As Mr. Geller states “there is no statutory or regulatory standard for water and wastewater affordability in Pennsylvania.” (UNITED St. No. 1 at 16). Similarly, in discovery, Mr. Colton stated that “any recommendation on what an affordable water burden might be would depend on a consideration of factors, the factual basis of which was not developed in Mr. Colton’s Direct Testimony.” PWSA Exh. JAQ-8: OCA Response to PWSA-I-7.

1 LIAAC to continue to evolve our programs. With that said, the recommendations offered
 2 by both Mr. Colton and Mr. Geller in this proceeding at this time would require
 3 significant administrative cost and a significant overhaul of our existing program design.
 4 Not only would this be confusing for our customers, but it also unfairly implies that
 5 PWSA’s program has been a failure. This is simply not true; PWSA has made significant
 6 progress toward assisting its low income consumers, particularly when taking into
 7 consideration the fact that its programs have only been in existence since the fall of 2017.
 8 While I do not disagree that PWSA can and should do more to improve participation in
 9 its existing programs, I believe that the more prudent focus at this point in time is
 10 continued evaluation of our existing programs, implementing enhancements where cost-
 11 effective and productive (like those we are recommending in this proceeding), and
 12 continuing to work with LIAAC members, other community groups and customers about
 13 what more we can do to improve our existing structure.

14 **2. Enrollment Levels**

15 **Q. WHY DO MR. COLTON AND MR. GELLER FOCUS ON PWSA’S CURRENT**
 16 **BILL DISCOUNT PROGRAM ENROLLMENT LEVELS?**

17 A. Mr. Colton and Mr. Geller both first attempt to identify the number of PWSA’s
 18 customers who are low-income though both acknowledge that determining the level of
 19 low-income customers in PWSA’s service territory is difficult.³⁸ (OCA Statement No. 4
 20 at 7-9; UNITED St. No. 1 at 14.) From there, both consider the enrollment in PWSA’s

³⁸ Mr. Colton identifies several different methodologies for estimating the number of low-income customers including the method used by BCS for gas and electric customers and an analysis of Census Bureau household income data. (OCA Statement No. 4 at 7-9). Mr. Geller notes that “there are a number of metrics to assess poverty level” and, after discussing them, notes that he believes “the number of low income households in PWSA’s service territory is likely much higher than ever before.” (UNITED St. No. 1 at 9-14).

1 Bill Discount Program, subtract that from their starting point number of low income
 2 customers, and then reach the conclusion that PWSA’s customer assistance programs are
 3 not serving their purpose.

4 **Q. DO YOU AGREE WITH THIS APPROACH?**

5 A. No, while I do not dispute that there are likely more low-income customers in PWSA’s
 6 service territory than are enrolling in our low-income customer assistance programs, I do
 7 not agree that the appropriate conclusion to reach from this is that PWSA’s programs are
 8 not serving their purpose. I understand that the amount of eligible customers enrolling in
 9 utility customer assistance programs is a common issue faced by other utilities under the
 10 Commission’s jurisdiction. For example, in the recent rate case initiated by Pennsylvania
 11 American Water Company (“PAWC”), the OCA made a very similar argument related to
 12 PAWC’s outreach efforts, asserting that only 16.7% of PAWC’s income-eligible
 13 customers had enrolled in PAWC’s bill discount program. Nevertheless, the ALJ found,
 14 among other things, that PAWC already had extensive community and customer outreach
 15 and denied the OCA’s recommendation for PAWC to hire an independent expert to
 16 develop an outreach plan. The Commission adopted the ALJ’s recommendation.³⁹
 17 While PWSA is willing to consider all reasonable suggestions as to how to improve our
 18 enrollment levels, ultimately, the customer needs to take action to enroll in the programs
 19 and this is not something over which PWSA has control.

³⁹ *PA PUC, et. al. v. PAWC*, Docket Nos. R-2020-3019369, et. al., Opinion and Order (Feb. 25, 2021). Similarly, in a recent Columbia Gas rate case, CAUSE-PA and the OCA alleged a shortfall in enrollment in Columbia’s existing universal service programs, particularly Columbia’s CAP program, and sought for the Company to implement additional outreach efforts. Despite these claims of low enrollment, the Commission held that there was no need for Columbia to change its outreach initiatives at this time. *PA PUC, et. al. v. Columbia Gas of Pennsylvania, Inc.*, Docket Nos. R-2020-3018835, et. al., Opinion and Order (Feb. 19, 2021).

1 **Q. ARE THE CRITICISMS OF PWSA’S ENROLLMENT RATES PERSUASIVE?**

2 A. No; the enrollment levels in PWSA’s Bill Discount Program have continually trended
 3 upward. Mr. Geller compares the number of enrolled participants in April 2019 (1,809)
 4 with the number enrolled in April 2021 (4,270) and states that these numbers remain “far
 5 behind estimated need” and is far less that the low income customers confirmed by
 6 PWSA as of April 2021 (5,554).⁴⁰ (UNITED St. No. 1 at 37). While I recognize that Mr.
 7 Geller comes to his conclusions based on his view of the actual number of low-income
 8 customers in our service territory, I respectfully submit that Mr. Geller is unreasonably
 9 failing to recognize that these numbers show that PWSA more than doubled the number
 10 of participants in the BDP. I believe this is good evidence that PWSA’s currently
 11 structured programs, and commitment to them, are yielding positive results.

12 **Q. HOW DO YOU RECONCILE THIS INFORMATION WITH MR. COLTON’S**
 13 **ANAYLSIS PURPORITNG TO SHOW A “SIGNIFICANT” DECLINE IN BDP**
 14 **ENROLLMENT FROM JANUARY 2019 THROUGH MARCH 2020 (OCA**
 15 **STATEMENT NO. 4 AT 38-39)?**

16 A. Mr. Colton is relying on data provided in response to a request for the information about
 17 BDP participants by Federal Poverty Level. As I explain further below, PWSA’s data
 18 tracking is limited by its current Cogsdale system and information about BDP
 19 participants is located both internally and with the Dollar Energy Fund. As such, the
 20 information in response to this data request focused on providing information about
 21 Federal Poverty Level (where it was available) and not on overall enrollment levels. Our

⁴⁰ In his testimony, Mr. Geller’s list of categories used by PWSA to confirm the low-income status of its customers excludes “any other circumstances which make it reasonably likely that the customer is low income.” (UNITED St. No. 1 at 10). PWSA’s categories are not to be an inclusive list, some examples outside of the identified categories would include self-disclosure of income information, self-disclosure of LIHEAP status, or self-disclosure of inability to afford bills.

1 actual enrollment levels are consistent with the numbers provided by Mr. Geller as I
 2 discussed previously.

3 **Q. WHAT RECOMMENDATIONS HAVE PARTIES MADE INTENDED TO**
 4 **ENROLL MORE ELIGIBLE CUSTOMERS IN PWSA’S CUSTOMER**
 5 **ASSISTANCE PROGRAMS?**

6 A. As I will discuss further below, OCA and UNITED offered recommendations related to
 7 customer outreach and data tracking which I understand are intended to increase PWSA’s
 8 enrollment levels.

9 **c. Customer Outreach**

10 **Q. PLEASE SUMMARIZE MR. COLTON’S RECOMMENDATIONS REGARDING**
 11 **OUTREACH.**

12 A. Mr. Colton recommends that the Commission direct PWSA to submit to the parties and
 13 the Commission’s Bureau of Consumer Services (“BCS”) a detailed three-year BDP
 14 outreach plan within six months of a final order in this proceeding. Mr. Colton
 15 recommends that the outreach plan specifically identify activities directed toward
 16 reaching customers with income at or below 50% of Poverty and include a detailed
 17 description of community-based organizations with whom PWSA will work. According
 18 to Mr. Colton, PWSA should be required to report the Company’s performance to BCS
 19 and should be required to establish a responsible action plan in the event that PWSA does
 20 not fulfill its enrollment goals. OCA St. No. 4 at 5, 40-41, 48-49.

21 **Q. HOW DO YOU RESPOND TO MR. COLTON’S CONCERNS ABOUT**
 22 **OUTREACH AND HIS PROPOSAL TO DEVELOP AN OUTREACH PLAN?**

23 A. I agree regarding the importance of outreach and PWSA is always willing to consider
 24 suggestions about how to improve our efforts. However, I believe Mr. Colton’s
 25 recommendations fail to recognize current realities. More specifically, PWSA
 26 significantly ramped up its outreach efforts with the creation of the PGH2O Cares team

1 approved as part of the last rate case. Even though the PGH2O Cares team is still in its
2 infancy, I believe our early achievements are impressive.

3 **Q. WHAT IS THE GOAL OF THE PGH2O CARES TEAM?**

4 A. The goal of the PGH2O Cares team is to increase enrollment in the customer assistance
5 programs by establishing relationships with community-based organizations and
6 educating customers on available programs and protections.

7 **Q. PLEASE PROVIDE MORE INFORMATION ABOUT HOW PGH2O CARES**
8 **TEAM IS PROACTIVELY WORKING TO BUILD RELATIONSHIPS WITH**
9 **COMMUNITY-BASED ORGANIZATIONS.**

10 A. Since February 2021, the PGH2O Cares team has been proactively working to build
11 relationships with community-based organizations and has taken advantage of every
12 opportunity to speak to the public regarding PWSA’s customer assistance programs. The
13 PGH2O Cares team is still developing tools and strategies to focus outreach efforts. This
14 includes creating a GIS layer that will serve as a tool to map confirmed low income
15 accounts by neighborhood which will assist the Cares team in directing their outreach
16 efforts. Until the PGH2O Cares team determines the most efficient and effective means
17 of reaching the public, the development of a three-year plan is not the most effective use
18 of PWSA’s limited resources. Rather, the continued intention of the PGH2O Cares team
19 to pursue all community opportunities with the continued support of the LIAAC and to
20 provide regular updates to the LIAAC and interested parties, while continuing to track the
21 success of outreach efforts is the best course at this time. As the Cares team continues to
22 gain more experience, it can determine the most useful outreach tools and continue to
23 evolve consistent with the needs of our customers.

1 **Q. PLEASE PROVIDE MORE INFORMATION ABOUT THE ACTIVITIES**
 2 **UNDERTAKEN BY THE PGH2O CARES TEAM REGARDING SPECIFIC**
 3 **CUSTOMER OUTREACH.**

4 A. On June 29, 2021, the PGH2O Cares team began actively reaching out to customers
 5 (mainly by telephone) whose properties are located within an area of high poverty
 6 concentration, as determined by the Census Tract data presented in the Household
 7 Affordability Analysis. Of these unsolicited communications, PWSA has successfully
 8 enrolled approximately 17% of the contacted customers (19 out of 110 as of July 22,
 9 2021) in the Bill Discount Program. The actual number may be higher because
 10 customers may enroll sometime after the initial Cares team telephone call. Successful
 11 enrollment relies on customer responsiveness to PWSA’s outreach attempts. While
 12 PWSA is still working to find the most effective means of increasing enrollment, it is not
 13 feasible to set quantitative enrollment goals at this time.

14 **Q. TO BE CLEAR, DO YOU AGREE WITH MR. COLTON’S**
 15 **RECOMMENDATIONS REGARDING GOAL ESTABLISHMENT AND ACTION**
 16 **PLAN DEVELOPMENT?**

17 A. No, Mr. Colton’s recommendations that PWSA be directed to: (1) set quantitative goals
 18 for enrollment; (2) develop metrics to measure enrollment, (3) report the data to BCS, (4)
 19 develop a responsive action plan, (5) report to the parties and BCS affirmative steps to
 20 increase enrollments, (6) create a detailed three-year outreach plan with specific
 21 quantitative outcome goal; and, (7) develop a detailed description of community-based
 22 organizations are all too prescriptive at this time. As I explained, PGH2O Cares is in its
 23 very early stages and has shown very early promising success. The Cares team should be
 24 given the flexibility to continue to pursue their mission and make determinations, based
 25 on actual experiences, about how best to accomplish their specified goals. Moreover, as
 26 this is a *voluntary program* for which the Commission has not established any standards

1 or requirements for outreach (or anything else), seeking to impose arbitrary requirements
 2 is inappropriate and unreasonable.

3 **d. Data Tracking**

4 **Q. WHAT RECOMMENDATIONS DOES MR. GELLER OFFER REGARDING**
 5 **DATA TRACKING?**

6 A. Mr. Geller states that he is “concerned about PWSA’s tracking of its low income
 7 customers by income level” and testifies that accurate counts by income tier are “critical
 8 metrics” allowing a more full evaluation of the programs. (UNITED St. No. 1 at 33-25).
 9 To address his concerns, Mr. Geller recommends that “PWSA implement critical changes
 10 to its tracking of low income customers” to ensure that it can “accurately track and report
 11 on the income levels of its customers” and level of enrollment. (UNITED St. No. 1 at
 12 35). Mr. Geller also recommends that PWSA “begin reporting on low income program
 13 participation levels at each LIAAC meeting” to both “improve engagement with social
 14 service providers and community members” and to “help PWSA improve the accuracy
 15 and consistency of its low income program data.” (UNITED St. No. 1 at 35.)

16 **Q. WHAT CONCERNS DOES MR. COLTON ALSO EXPRESS ABOUT PWSA’S**
 17 **DATA TRACKING?**

18 A. Mr. Colton testified that PWSA has reported different numbers with respect to BDP
 19 participation rates. (OCA St. No. 4 at 37.)

20 **Q. PLEASE EXPLAIN HOW INFORMATION ABOUT PWSA’S ENROLLMENTS**
 21 **(FOR BOTH NEW PARTICIPANTS AND CONTINUING PARTICIPANTS) IS**
 22 **CURRENTLY MAINTAINED.**

23 A. Since March 2021, the PGH2O Cares team has audited the Bill Discount Program
 24 enrollment data as provided by Dollar Energy Fund, making certain that they are cross-
 25 enrolled in all of PWSA’s programs for which they are eligible. The Cares team is also

1 maintaining spreadsheets of enrollment data for each program, summaries of which were
 2 shared with the LIAAC on May 14, 2021.

3 **Q. PLEASE EXPLAIN THE CURRENT SYSTEM LIMITATIONS REGARDING**
 4 **PWSA’S ABILITY TO RETRIEVE DATA RELATED TO THE TRACKING OF**
 5 **LOW-INCOME LEVELS BY POVERTY TIER.**

6 A. As I mentioned in my direct testimony, PWSA continues to be limited by its existing
 7 Cogsdale customer information system which is heavily dependent on manual, time
 8 consuming processes. (PWSA St. No. 6 at 12-13). The current system also makes data
 9 retrieval difficult and, unfortunately, oftentimes unreliable. For each data request a query
 10 needs to be written which oftentimes consists of thousands of characters. Once the
 11 information is pulled, it then needs to be manually checked because errors are very
 12 common. If queries are written slightly different, then the resulting data will vary.
 13 PWSA has used the Cogsdale system for many years and pulling raw data from the
 14 system in response to specific data requests can be difficult and time consuming.
 15 Moreover, income data for the customer assistance program participants may be
 16 maintained within PWSA’s system (through direct contact with a customer and the
 17 establishment of a payment arrangement) or Dollar Energy Fund’s system (via
 18 enrollment through that path). To accurately associate the income level of all screened
 19 BDP customers, the data would need to be populated in one place. This would be a very
 20 time consuming process now with the current Cogsdale system.

21 **Q. WILL THIS DATA TRACKING ISSUE IMPROVE?**

22 A. Yes. As Mr. Pickering testified in his direct testimony, PWSA has just begun its
 23 Enterprise Resource Planning (“ERP”) system upgrade. (PWSA St. No. 1 at 38-39). As
 24 part of this system-wide upgrade, we will be converting our Cogsdale utility billing
 25 system to SAP. As we transition to SAP, our ability to pull and track data will be more

1 automated and reliable. We continue to remain on track for an August 2022 go-live date
 2 with the new system.

3 **Q. DO YOU SUPPORT IMPOSING ADDITIONAL DATA REPORTING**
 4 **REQUIREMENTS ON PWSA AT THIS TIME?**

5 A. No. PWSA already has significant reporting data requirements above and beyond the
 6 “normal” data reporting requirements mandated by the Commission regulations. This
 7 includes the filing of a Quarterly Compliance Plan Progress report which contains
 8 significant data about PWSA’s customer service and low-income customer assistance
 9 programs. I do not support imposing further data reporting requirements given the
 10 difficulties of pulling the information in our existing Cogsdale system, the other
 11 significant reporting requirements that PWSA has to maintain, and the diversion of staff
 12 resources during a period of time when PWSA is undergoing a significant technology
 13 upgrade to our existing information system infrastructure. Further, I would note that as a
 14 water and wastewater conveyance utility, PWSA is not required by any Commission
 15 regulation to provide the proposed data points. Moreover, additional reporting
 16 requirements would impose additional costs on PWSA that are not reasonable at this
 17 point in time and in consideration of all the other issues facing PWSA at this moment.

18 **Q. PLEASE PROVIDE INFORMATION ABOUT THE LIAAC AND YOUR VIEW**
 19 **ABOUT PROVIDING LOW INCOME PARTICIPATION LEVELS AT EACH**
 20 **LIAAC MEETING. (UNITED ST. NO. 1 AT 35).**

21 A. Regarding Mr. Geller’s recommendation that PWSA include enrollment data at each
 22 LIAAC meeting, PWSA has reported this information at prior meetings consistent with
 23 previously agreed-to commitments (i.e., May 14, 2021). While I do not oppose providing
 24 this information in the future and I agree with Mr. Geller’s testimony about the value of
 25 our LIAAC, I would also like to note that I personally spend a significant amount of time

1 preparing for and conducting these meetings. It is my intent to provide useful
 2 information to the group⁴¹ and, just as importantly, to solicit their feedback and
 3 constructive suggestions as well as requests for information that PWSA can reasonably
 4 provide which may be useful for their purposes in upcoming meetings. Given my
 5 experience with this group and the working relationships that have been developed, I do
 6 not support mandating specific reporting requirements for future LIAAC meetings that
 7 members may or may not find of interest and which would require additional staff time
 8 and resources to prepare as part of this rate case.

9 **3. Program Administration**

10 **Q. PLEASE SUMMARIZE THE CONCERNS AND RECOMMENDATIONS OF MR.**
 11 **GELLER REGARDING THE ADMINISTRATION OF PWSA’S LOW-INCOME**
 12 **CUSTOMER ASSISTANCE PROGRAMS.**

13 A. In his testimony, Mr. Geller expressed concern about the Dollar Energy Fund’s
 14 administration of PWSA’s low income programs. Mr. Geller asserts that, as a result of
 15 the administration of these programs, PWSA’s low income programs are undersubscribed
 16 and have failed to meet the needs of low income customers in PWSA’s service territory.
 17 (UNITED St. No. 1 at 30-32.)

18 Mr. Geller also expressed concern with PWSA’s plan for handling Dollar Energy
 19 Fund (“DEF”) enrollment issues through ongoing audits by the CARES Team. Mr.
 20 Geller asserts that the level of ongoing review required for the CARES Team to audit
 21 DEF enrollment is not sustainable and is undermining the ability of the CARES Team to
 22 fully engage in vital community engagement and outreach. (UNITED St. No. 1 at 32.)

⁴¹ For example, JAQ Exh. 10 includes the Meeting Minutes from the February 12, 2021 LIAAC Meeting. As evidence from these meetings, PWSA’s low-income customer assistance programs are comprehensively explored.

1 Mr. Geller also testified that he is concerned with PWSA’s compensation to DEF,
 2 asserting that DEF’s fee is significant, and there is room for substantial improvements.
 3 (UNITED St. No. 1 at 32).

4 **Q. WHAT RECOMMENDATIONS DOES MR. GELLER OFFER TO ADDRESS**
 5 **THESE CONCERNS?**

6 A. Mr. Geller recommends that PWSA should consider renegotiating its contract with DEF
 7 for administration of the BDP and should explore alternative compensation structures that
 8 would more appropriately incentivize DEF to improve BDP enrollment. Further, Mr.
 9 Geller testified that PWSA should release a Request for Proposals (“RFP”) to generate
 10 competing bids for program administration. Mr. Geller also recommends that PWSA
 11 provide additional training to DEF and establish clear metrics for auditing DEF-handled
 12 accounts. Additionally, Mr. Geller recommends that PWSA should ensure that its
 13 systems – and any associated DEF system – are able to accurately track and report on the
 14 income levels of its low income customers and the number of customers enrolled in
 15 PWSA’s low income programs by poverty tier. (UNITED St. No. 1 at 34-35).

16 **Q. HOW DO YOU RESPOND TO THE CONCERNS RAISED BY MR. GELLER**
 17 **REGARDING DEF’S ADMINISTRATION OF PWSA’S PROGRAMS?**

18 A. PWSA’s development and administration of its low-income customer assistance program
 19 is an on-going process that we continue to evaluate. The audit referenced by Mr. Geller
 20 is a good example of just that. However, analysis of the errors that were found is not as
 21 simple as blaming our administrator as some of the results of the audit were the result of
 22 errors made by PWSA. It is unfortunate that Mr. Geller elected to focus on his
 23 mischaracterization of the results of this audit effort to support his view that DEF is
 24 mismanaging our programs. However, the reality is that errors occur and PWSA was
 25 proactive in looking at the system, identifying those errors, correcting them and

1 implementing processes going forward to ameliorate them in the future. In March and
 2 April 2021, the PGO2O Cares teams instituted reports and a monthly audit as a result of
 3 the findings of this initial investigation. DEF's experience in administering low-income
 4 customer assistance programs for other utilities as well as its connection to several other
 5 Pittsburgh utilities fully support our selection of DEF as our program administrator.
 6 Unfortunately, due to technological difficulties (such as the outdated Cogsdale system
 7 used currently by PWSA) and other issues, errors do occur. I do not believe anything that
 8 PWSA has uncovered or any of the reasons set forth in Mr. Geller's testimony justify
 9 terminating our contract with DEF at this time. Moreover, I do not understand that this is
 10 something that the Commission could even direct. There are no requirements for water
 11 or wastewater utilities to offer low-income customer assistance programs and I am not
 12 aware of the Commission stepping in between a utility with an obligation to offer these
 13 programs dictating what third party entity is required to administer the program. In sum,
 14 Mr. Geller's recommendation is overreaching, would unnecessarily disrupt current
 15 operations, has no support and would require PWSA to incur costs and expense that
 16 would be unfairly passed on to other ratepayers.

17 **B. Program Design Issues**

18 ***1. Bill Discount Program (Including Arrearage Forgiveness)***

19 **Q. PLEASE SUMMARIZE MR. GELLER'S TESTIMONY RELATED TO PWSA'S**
 20 **BDP.**

21 **A.** Mr. Geller strongly supports PWSA's proposal to expand the volumetric discount from
 22 20% to 50% for BDP participants with household income at or below 50% of the Federal
 23 Poverty Line. (UNITED St. No. 1 at 36.) Mr. Geller asserts, however, that the structure
 24 of PWSA's BDP, even with the enhancements proposed by PWSA, does not provide a

1 consistent level of affordability, especially for higher users who are more likely to have
2 larger families and/or live in homes with leaky pipes and fixtures. (UNITED St. No. 1 at
3 36-37.) Mr. Geller also expressed concern that only a small percentage of PWSA's low
4 income customers have been able to enroll in the BDP. (UNITED St. No. 1 at 37.) Mr.
5 Geller recommends that PWSA should transition the BDP to a percentage of income
6 program ("PIP"), which targets affordability based on an individual's income level, on or
7 before December 2023. (UNITED St. No. 1 at 37-38.)

8 **Q. DO YOU SUPPORT MR. GELLER'S RECOMMENDATIONS?**

9 A. No. As I have previously testified, I do not agree that level of enrollment should be the
10 driver of program changes. Regarding his proposed PIP, this is not something within
11 PWSA's current system capabilities. However, even if it were, I do not support the
12 proposal for a number of reasons. First, completely disconnecting the requested payment
13 for usage will have significant consequences. High consumption bills will be
14 meaningless because the consumer will not be required to pay for the charges. Without
15 attention paid to high consumption bills, leaks will go undetected and conservation will
16 suffer. I do not believe sacrificing these very important goals to shift to a PIP is
17 advisable, and I do not support it.

18 Second, as I have previously testified, there is no specific Commission guidance
19 for low-income customer assistance programs for water/wastewater utilities generally and
20 none regarding the structure of a PIP and no water/wastewater utilities regulated by the
21 Commission offer such structure.

22 Third, as I have also discussed previously, determining the appropriate amount for
23 consumers to pay based on income levels (rather than service used) is a complex policy
24 decision and one about which there is much debate. While I appreciate that Mr. Geller

1 identified the levels he deemed appropriate, I understand that there is much debate about
 2 this question and others that advocate different levels are more appropriate.

3 Fourth, I am aware that the Philadelphia Water Department (not regulated by the
 4 Commission) has a similar structure in place. However, I understand that the enrollment
 5 levels have not been that significant and that other problems with the program design
 6 exist. Based on my understanding of the Philadelphia Water Department program, I do
 7 not believe undertaking such structure for PWSA is advisable.

8 **Q. IS PWSA PROPOSING TO ADDRESS THE STORMWATER FEE AS PART OF**
 9 **THE BILL DISCOUNT PROGRAM?**

10 A. Yes. As explained in my direct testimony, eligible Bill Discount Program participants
 11 would receive a 75% discount off the new stormwater fee. The impact of the discount is
 12 reflected below:

Tier	ERUs	Proposed SW Fee 2022	Proposed SW Fee 2023
<i>Residential Customers</i>			
Tier 1	0.5 ERU	\$2.99	\$ 3.98
Tier 2	1.0 ERU	5.96	7.95
Tier 3	2.0 ERU	11.93	15.90
<i>Residential – Bill Discount Program</i>			
Tier 1	0.5 ERU	\$0.74	\$0.99
Tier 2	1.0 ERU	1.49	1.99
Tier 3	2.0 ERU	2.99	3.98

13
 14 **Q. WHAT DO UNITED WITNESSES GELLER AND ADAMS RECOMMEND**
 15 **REGARDING DISCOUNTING THE STORMWATER FEE FOR BILL**
 16 **DISCOUNT PARTICIPANTS?**

17 A. Both Mr. Geller and Ms. Adams reject PWSA’s proposal to offer a 75% discount off the
 18 stormwater fee for participants in the Bill Discount Program and, instead, recommend
 19 that the participating BDP customers receive a 100% discount. According to their
 20 reasoning, “any increase in rates is burdensome for low income customers,” not assessing
 21 a stormwater fee would “save PWSA the expense of pursuing collections,” the amount of

1 forgone revenue would be “minimal,” “assessing another fee – over and above the
 2 proposed rate increase – will further exacerbate affordability issues.” (UNITED St. No. 1
 3 at 48; UNITED St. No. 2 at 26-27).

4 **Q. DO YOU AGREE THAT BDP PARTICIPANTS SHOULD NOT BE ASSESSED**
 5 **ANY STORMWATER FEE?**

6 A. No. I believe our proposed 75% discount is reasonably structured to recognize the
 7 financial situation of eligible participants and to offer reasonable assistance. Consistent
 8 with the rebuttal testimonies of Mr. Igwe and Mr. Reading, it is important to remember
 9 that: (1) all properties with a minimum amount of impervious area contribute to the need
 10 for stormwater service; (2) the stormwater rates proposed only reflect the current level of
 11 stormwater service and are, therefore, relatively low; and, (3) as this will be a new
 12 separate charge for all of PWSA’s customers, it is important to require some level of
 13 payment from customers.

14 Moreover, the stormwater fee is one fee that is assessed to the customer. Thus,
 15 while our BDP participants receive a 100% discount off the minimum charges for water
 16 and wastewater conveyance charges, they are still required to pay the consumption
 17 charge (though there is a volumetric discount for those at or below 50% of the Federal
 18 Poverty Level). In other words, our BDP participants are charged for the other two utility
 19 services. If we were to discount 100% of the stormwater fee, they would not be charged
 20 anything for this service. I do not view this as an equitable result, nor do I agree that
 21 other ratepayers should bear the full costs of stormwater service for these customers. On
 22 balance, the 75% discount reasonable recognizes the financial need of these customers
 23 while also permitting them to make a contribution to the service that they are using.

1 **Q. WHAT RECOMMENDATIONS DID PARTIES OFFER REGARDING PWSA'S**
2 **PILOT ARREARAGE FORGIVENESS PROGRAM THAT IS OFFERED TO**
3 **BDP PARTICIPANTS?**

4 A. Both Mr. Colton and Mr. Geller offered similar recommendations for restructuring our
5 Pilot Arrearage Forgiveness program. (OCA St. No. 4 at 13-24) and UNITED St. No. 1
6 at 40-41). These recommendations include:

- 7 • Low-income customers newly enrolled in PWSA's BDP should be automatically
8 enrolled in the Pilot AFP.
- 9
- 10 • A community-based organization should contact existing BDP participants by
11 both mail and telephone call to offer enrollment in the Pilot AFP.
- 12
- 13 • PWSA's current program should be replaced with one that offers full arrearage
14 forgiveness in three years.
- 15
- 16 • PWSA should grant Arrearage Forgiveness Credits on a monthly basis for each
17 complete payment that has been successfully made by an AFP participant,
18 regardless of the "timeliness" of the payment.
- 19
- 20 • Arrearage Forgiveness Credits should be portable between service addresses, so
21 long as a service address change for a program participant is within the PWSA
22 service territory. Customers who are making payments should not be penalized
23 simply because they move, nor should they be removed from the AFP for a failure
24 to reapply when they move within PWSA's service territory.
- 25
- 26 • The AFP, along with enrollment and outreach, should be adopted without being
27 deemed a pilot, since PWSA has overcome the prior technology problem related
28 to supporting an AFP.

29 **Q. DO YOU SUPPORT MR. COLTON AND MR. GELLER'S**
30 **RECOMMENDATIONS REGARDING AUTOMATICALLY ENROLLING BDP**
31 **PARTICIPANTS IN THE PILOT AFP?**

32 A. No. At the time of enrollment in BDP, customers are provided information about the
33 Pilot AFP and can be enrolled upon their consent. I do not support automatic enrollment
34 without the consent of the customer, particularly since there are program rules (including
35 the requirement to make payments) that customers need to be sure they understand are a
36 condition of receiving the credit.

1 **Q. DO YOU SUPPORT RESTRUCTURING THE CURRENT PILOT AFP TO ONE**
 2 **THAT PROVIDES FULL ARREARAGE FORGIVENESS IN THREE YEARS?**

3 A. No. PWSA’s current Cogsdale system cannot accommodate the changes from a technical
 4 perspective. Implementation would be a very manual process that would require
 5 significant staff time and resources that I do not believe are cost justified.

6 Moreover, PWSA’s current Pilot AFP is an incentive for customers to keep
 7 paying on their interest free payment arrangement to receive the benefit of a credit off of
 8 their existing arrearages. As such, I see this as a valuable tool to incentivize payment.
 9 Whether a restructured arrearage forgiveness program requires the customer to pay
 10 \$5/month as Mr. Colton suggestions, or no payment, as Mr. Geller suggests, I do not see
 11 their proposals as creating a significant incentive for consumers to contribute to the cost
 12 of PWSA’s service that they utilized.

13 Further, restructuring PWSA’s current arrearage forgiveness program will come
 14 with increased costs both in terms of program design and development as well as
 15 increased costs related to the forgiveness credit. These costs would need to be evaluated
 16 and evaluation undertaken regarding their recovery from other ratepayers.⁴² While I
 17 recognize that Mr. Colton attempted to identify the costs of the credits under his proposal,
 18 he confirmed in discovery that he did not include any programming or other staffing costs
 19 in his evaluation.⁴³ In addition, his projections regarding costs of the credits appear to be
 20 significantly underestimated. Notably, Mr. Colton applies a 75% reduction to his
 21 calculated \$142,646 annual arrearage forgiveness cost based on various assumptions he

⁴² It is my understanding that the Philadelphia Gas Works has an arrearage forgiveness program structured in the same manner as suggested by Mr. Colton; however, the costs of the arrearage forgiveness credits are fully recovered from other ratepayers. PWSA does not currently have a mechanism in place for a similar cost recovery of arrearage forgiveness credits.

⁴³ Exh. JAQ-8: OCA Response to PWSA-I-11.

1 makes about how the program would be structured and about PWSA’s ability to collect.
2 While we recognize that a number of assumptions have to be factored into attempting to
3 project these costs, Mr. Colton’s cost analysis still appears to be a significant
4 underestimation of realistic costs of the proposal.

5 Finally, the proposal that untimely customer payments result in the benefit of this
6 program is unreasonable. Our existing program permits two missed payments before the
7 customer is removed from the program and enables customers removed from the program
8 to be reenrolled upon full payment. In my judgment this offers the appropriate balance
9 between providing a reasonable level of financial assistance to those in need while also
10 requiring them to make fair payments recognizing their use of our systems. Any other
11 approach whereby PWSA is required to cover the full costs of services rendered without
12 any incentives to customers to pay is unreasonable and will cause our other ratepayers to
13 unfairly subsidize these costs.

14 **Q. IS MR. COLTON’S RECOMMENDATION THAT THE FORGIVENESS**
15 **CREDIT BE PORTABLE BETWEEN SERVICE ADDRESSES CONSISTENT**
16 **WITH PWSA’S OPERATIONS?**

17 A. No. Because of its ability to pursue a lien, PWSA always keeps the debt at the property.
18 As such, we could not offer the forgiveness credit for consumers moving to another
19 address.

20 **Q. IS PWSA WILLING TO COMMIT TO AN ARRERAGE FORGIVENESS**
21 **PROGRAM FOR THE LONG TERM SUCH THAT THE “PILOT”**
22 **DESIGNATOR WILL NO LONGER BE USED?**

23 A. Yes. Overall, PWSA is pleased to be able to offer this program to customers in need and
24 given our commitment to assisting low-income customers, we are committed to
25 continuing to offer an arrearage forgiveness program for the foreseeable future.
26 Therefore, we will no longer refer to this as a “pilot” program.

1 **2. Hardship Grant**

2 **Q. PLEASE SUMMARIZE MR. GELLER’S CONCERNS RELATED TO PWSA’S**
3 **HARDSHIP FUND PROGRAM.**

4 A. Mr. Geller testified that he supports PWSA’s proposal to expand eligibility to its
5 Hardship Fund Program and to provide additional funding. (UNITED St. No. 1 at 42.)
6 Mr. Geller, however, further testified that there appears to be a substantial gap between
7 the arrearages carried by low income customers who receive a Hardship Fund grant and
8 the amount of the Hardship Fund grant awarded, indicating a need for increased grant
9 amounts. With the lifting of the COVID-19 moratorium on utility terminations, Mr.
10 Geller asserts that it is all the more important that PWSA develop and maintain a robust
11 Hardship Fund. (UNITED St. No. 1 at 43.) Mr. Geller also expressed concerned about
12 the historically low numbers of customers who have been awarded Hardship Grants.
13 Based on the economic toll felt by vulnerable and low income populations throughout the
14 last year, Mr. Geller believes there will be a significant increase in the need for grant
15 assistance in the coming months. (UNITED St. No. 1 at 44.)

16 **Q. WHAT RECOMMENDATIONS DOES MR. GELLER OFFER REGARDING**
17 **THE HARDSHIP GRANT PROGRAM?**

18 A. Mr. Geller recommends that PWSA eliminate its sincere effort payment requirement and
19 work with stakeholders and through its LIAAC to develop a plan for fundraising for the
20 Hardship Fund Program which should include, but not be limited to, an option for
21 customers who make online payments to “add a buck” to their bills or “round up” their
22 bills in order to contribute to the Hardship Fund Program. (UNITED St. No. 1 at 44-45.)

1 **Q. IS PWSA COMMITTED TO ADDRESSING CONTINUED FUNDING FOR THE**
 2 **HARDSHIP GRANT PROGRAM?**

3 A. Yes. As I detailed in my direct testimony, PWSA engaged with customers and
 4 employees in campaigns to fund our Hardship Grant Program in late 2020 through the
 5 first quarter of 2021. While we were able to raise additional funds through our employee
 6 campaign, our customer campaign resulted in the donations we received not exceeding
 7 the costs to undertake the mailing. (PWSA St. No. t at 25). However, we are
 8 commitment to continuing to explore future fundraising ideas through engagement with
 9 LIAAC and other stakeholders. We are also proposing to include \$100,000 of ratepayer
 10 funding to provide additional financial resources for the Hardship Grant Program. I am
 11 not aware of any Commission requirement either that we offer this type of fund or how
 12 we are to solicit funding for such program. Moreover, I am hesitant to commit to any
 13 specific campaign or ideas that are dependent on our existing Cogsdale system.
 14 However, I wish to be clear that I expect this discussion to continue and PWSA will
 15 remain open to implementing ideas as appropriate.

16 **3. Winter Shut Off Moratorium**

17 **Q. PLEASE SUMMARIZE THE TESTIMONY OF MR. GELLER RELATED TO**
 18 **PWSA’S WINTER SHUT-OFF MORATORIUM PROGRAM.**

19 A. Mr. Geller stated that he is encouraged to see that PWSA is taking steps to extend its
 20 Winter Shut Off Moratorium to customers aged 65 or older, regardless of income.
 21 (UNITED St. No. 1 at 46.) Mr. Geller, however, expressed concern that the number of
 22 customers receiving protection from the Winter Shut-Off Moratorium Program remains
 23 very low – despite PWSA extending the protection to customers at or below 300% FPL
 24 in the last rate proceeding and in comparison to the number of low income customers in

1 PWSA’s service territory.⁴⁴ (UNITED St. No. 1 at 46.) Mr. Geller recommends that
 2 PWSA develop a process by which all confirmed low income customers will
 3 automatically be protected from service terminations during the winter. (UNITED St.
 4 No. 1 at 47.)

5 **Q. DO YOU SUPPORT THE RECOMMENDATION TO AUTOMATICALLY**
 6 **EXTEND WINTER SHUT-OFF MORATORIUM PROTECTIONS TO ALL**
 7 **CONFIRMED LOW INCOME CUSTOMERS?**

8 A. No. Currently, a customer must reapply each year for the Winter Shut Off Moratorium
 9 Program. This is important to maintain the integrity of the program, and to ensure that it
 10 is being provided only to those who are eligible. PWSA does not view the requirement to
 11 apply each year to be an overly burdensome process. Moreover, our existing process is
 12 designed to be relatively easy for the customer. The customer may contact DEF directly
 13 or they may be warm transferred to DEF by a PWSA Customer Service Representative.
 14 They then certify their eligibility verbally over the telephone, a file of eligible customers
 15 is sent by DEF to PWSA daily for upload into our CIS, and the customer is protected
 16 from termination for up to four months, from December 1st through March 31st. PWSA
 17 does not support unfairly burdening other ratepayers by potentially providing benefits to
 18 customers who may not be income eligible as equitable.

19 **Q. DID I&E WITNESS PATEL OPPOSE PWSA’S PROPOSAL TO EXTENT THE**
 20 **WINTER SHUT OFF MORATORIUM TO ALL SENIOR CITIZENS (65+ AGE)?**

21 A. Yes. Mr. Patel opposes PWSA’s proposal based on concerns about the equity of the
 22 proposal, his view that there is no support for the proposal and his reference to the
 23 Commission’s policy guidance for electric and gas utilities that focuses on targeting

⁴⁴ Mr. Geller also noted that in 2019, 6 BDP participants were terminated during the winter months despite their eligibility for the Winter Shut-Off Moratorium. (UNITED St. No. 1 at 46). Upon further review of this information, PWSA determined that the shut-offs occurred prior to entry into the BDP program.

1 programs to low-income customers rather than age. (I&E St. No. 2 at 53-55). He also
 2 notes that counsel advised him that such proposal could result in an unreasonable
 3 preference or advantage in violation of the Public Utility Code and that there may be
 4 different types of PWSA customers not meeting the age criteria with bill payment issues
 5 who would not be able to avail themselves of the Winter Shut Off Moratorium. (I&E. St.
 6 No. 2 at 56-57).

7 **Q. HOW DO YOU RESPOND TO MR. PATEL’S CONCERNS ABOUT THE**
 8 **PROPOSAL TO INCLUDE SENIORS IN THE WINTER SHUT OFF**
 9 **MORATORIUM?**

10 A. While I understand Mr. Patel’s viewpoint, I continue to believe that our initial proposal is
 11 valid and should be approved. First, a number of consumers testifying at our public input
 12 hearing and submitting written comments to the Commission noted that they are older, on
 13 fixed incomes, and would benefit from assistance. Second, the Winter Shut Off
 14 Moratorium does not have a significant cost impact beyond delayed collections because it
 15 does not provide any financial benefit. Customers are still expected to pay their bills in
 16 full, the program only protects them from shut off in the winter if they miss payments
 17 during that time. Third, I recognize the point that the low-income customer assistance
 18 programs are available regardless of age but there are seniors living on fixed social
 19 security income who would not qualify for the Winter Shut Off Moratorium but also do
 20 not have financial resources significantly beyond the 300% of Federal Poverty Level.
 21 For example, the maximum amount of available Social Security benefits for someone
 22 filing at age of 70 today is \$3,895/month while the current 300% of FPL Winter
 23 Moratorium threshold would not cover an individual receiving this maximum social
 24 security benefit (300% FPL for one person household is \$3,220/month and for two person
 25 household is \$4,355). For these reasons, PWSA continues to believe its proposed

1 enhancement to the Winter Shut Off Moratorium is an appropriate expansion of the
 2 program that is in the interest of our customers.

3 **Q. IF THE COMMISSION IS CONCERNED ABOUT RELYING ONLY ON AGE AS**
 4 **A DETERMINING FACTOR, ARE THERE OTHER WAYS THIS ISSUE COULD**
 5 **BE ADDRESSED?**

6 A. Yes. If the Commission determines age alone is not appropriate, it could direct that the
 7 new eligibility be coupled with a specific amount of social security payments received by
 8 the household. This would ensure that those seniors who could most benefit from the
 9 Winter Shut Off protections are included without over-including other seniors who have
 10 the means to pay.

11 **VII. MISCELLANEOUS WATER/WASTEWATER TARIFF ISSUES**

12 **A. LARGER METER SIZES DUE TO CITY REQUIREMENTS**

13 **Q. PLEASE EXPLAIN MR. RUBIN’S CONCERN ABOUT CUSTOMERS**
 14 **REQUIRED TO INSTALL LARGER METER SIZES DUE TO CITY FIRE**
 15 **SUPPRESSION REQUIREMENTS?**

16 A. PWSA’s minimum charges are based on the size of a customer’s meter.⁴⁵ According to
 17 Mr. Rubin, there are situations in which residential customers are required to install a
 18 meter larger than the typical 5/8” meter and, because of this, Mr. Rubin recommends that
 19 PWSA assess all residential customers with meters 1” or smaller the same minimum
 20 charge. Mr. Rubin also noted that Pennsylvania American Water Company proposed the
 21 same approach because it “heard exactly the same concern from Residential customers
 22 with larger-sized meters.” (OCA Statement No. 3 at 12-14).

⁴⁵ PWSA Exh. JAQ-4, Second Revised Page No. 8.

1 **Q. DOES PWSA SUPPORT MAKING THIS CHANGE?**

2 A. No. In addition to the information provided by Mr. Smith in rebuttal about considering
 3 such a change in the context of PWSA’s rate structure, I have the following concerns.
 4 First, Mr. Rubin’s comparison to PAWC is not useful because PAWC’s customer charge
 5 does not include a usage allowance. To determine the cost and other impacts of the
 6 proposed change, the usage and billed amounts of PWSA customers whose minimum
 7 charge would be reduced under his proposal would have to be identified. Mr. Rubin’s
 8 proposal appears to be focused on a particular circumstance, i.e., those customers
 9 required to have a 1-inch meter solely because they have City-required fire-suppression
 10 systems. Mr. Rubin does not present any information about the number of customers that
 11 are impacted by this situation. Revising PWSA’s rate structure (and reducing the amount
 12 of minimum charges it would receive) to address a single instance that does not appear to
 13 be a widespread situation is inadvisable. For these reasons, PWSA does not support
 14 adoption of Mr. Rubin’s proposal.

15 **B. PARTY LINES**

16 **Q. PLEASE SUMMARIZE OCA WITNESS FOUGHT’S CONCERNS ABOUT**
 17 **PARTY LINE SERVICE.**

18 A. Mr. Fought appears concerned about the costs to residential customers for separating an
 19 existing party line. According to his read of PWSA’s tariffs, he believes residential water
 20 customers are responsible for the costs all the way to the Authority’s main when party
 21 line service is replaced which he notes is not required of other PWSA customers. (OCA
 22 Statement No. 6 at 36-37). He also expresses concern about PWSA’s proposal to charge
 23 a new Residential Permit Fee of \$40 for new water and/or sewer taps or for reconnecting
 24 to existing water and/or service for party line separations. (OCA Statement No. 6 at 37).

1 **Q. HAS MR. FOUGHT ACCURATELY UNDERSTOOD PWSA’S TARIFF?**

2 A. No. PWSA’s existing tariff specifically states that the installation and cost of installation
3 of the Meter and the Water Service Line from the Water Main to and including the Curb
4 Stop is the responsibility of the Authority.⁴⁶ Mr. Fought does not reference this tariff
5 section but only the definition of Party Water Service Line.

6 **Q. GIVEN THIS ALREADY APPROVED COST RESPONSIBILITY OF THE**
7 **AUTHORITY REGARDING THE COST OF THE METER AND THE WATER**
8 **SERVICE LINE FROM THE WATER MAIN TO THE CURB STOP, IS PWSA**
9 **WILLING TO REVISE ITS PROPOSED RESIDENTIAL PERMIT FEE?**

10 A. Yes. Our final tariff submitted for approval of the Commission will make clear that the
11 residential permit fee does not apply to conversions of party lines.

12 **C. MISCELLANEOUS FEES**

13 **Q. PLEASE EXPLAIN PWSA’S REVISED FEES PROPOSED IN THIS CASE.**

14 A. As I explained more fully in direct testimony, PWSA undertook a comprehensive
15 examination of all fees charged to water and wastewater conveyance customers regarding
16 services that they requested of PWSA, developed an updated cost evaluation for each fee,
17 and proposed adjustments to the fees consistent with the results of the evaluation.
18 (PWSA St. No. 6 at 35-37).

19 **Q. WHAT ISSUES DID PARTIES RAISE REGARDING THESE PROPOSALS?**

20 A. OCA Witness Alexander identified three concerns: (1) whether the new fees are based on
21 costs and are appropriately included in the stormwater tariff; (2) adjustments based on the
22 Consumer Price Index should be rejected; and (3) fees assessed to customers needing
23 access to data to respond to a customer dispute or complaint are not appropriate. (OCA
24 Statement No. 5 at 29, 37). OCA Witness Rubin recommends reducing PWSA’s charge

⁴⁶ Part III, Section A.13, Third Revised Page No. 36 of the Water Tariff.

1 for dishonored payment from the proposed \$40 to no more than \$14.00 and directing
 2 PWSA to provide detailed cost support for the fee in the next rate case. (OCA Statement
 3 No. 3 at 30-32). Finally, OSBA Witness Kalcic recommends that PWSA’s current tariffs
 4 be revised to remove the ability of PWSA to adjust fees based on the Consumer Price
 5 Index. (OSBA St. No. 1 at 47-48).

6 **1. Dishonored Payment Fee**

7 **Q. STARTING WITH THE FEE FOR DISHONORED PAYMENT, DO YOU**
 8 **SUPPORT MR. RUBIN’S RECOMMENDATION TO REDUCE IT?**

9 A. No. Mr. Rubin starts from the assumption that the dishonored payment fee should be
 10 based on costs and then presents his analysis of those specific costs. However, PWSA
 11 does not view this as a cost-based fee but rather a measure intended to discourage
 12 dishonored payments. As such, the specific amount of the fee is not tied to costs but
 13 rather intended to be set at a level to discourage the practice. I would note that the
 14 proposed fee is consistent with similar fees charged by other utilities. For example, PPL
 15 Electric Utilities Corporation, Aqua Pennsylvania, Inc., and Pennsylvania American
 16 Water Company all impose a \$20.00 dishonored payment fee/returned check charge, plus
 17 any and all charges assessed by the bank.⁴⁷ Other utilities also impose a set fee that does
 18 not appear to be based on specific costs and which far exceed Mr. Rubin’s proposed \$14
 19 fee.⁴⁸ As such, PWSA continues to support its initial proposed new fee of \$40, which is
 20 generally consistent with the Commission approved fee for other utilities and the view of
 21 this fee as a customer disincentive.

⁴⁷ See PPL Tariff at 13B, Aqua PA Tariff at 39, and PAWC Tariff at 58.

⁴⁸ See e.g. UGI Gas Division Tariff at 43 (establishing a Return Check Services Charge “of the greater of thirty-five dollars (\$35.00) or the maximum allowed by the Commonwealth of Pennsylvania”) and Peoples Gas Company Tariff at 27 (establishing a dishonored check fee in the amount of \$35.00).

1 **2. Cost Basis**

2 **Q. HOW DO YOU RESPOND TO MS. ALEXANDER’S CLAIM THAT THE REST**
 3 **OF THE FEES ARE NOT “BASED ON COST”? (OCA STATEMENT NO. 5 AT**
 4 **29).**

5 A. This characterization is completely inconsistent with the entire exercise undertaken by
 6 PWSA to develop these fees based on costs. As I explained in my direct testimony,
 7 PWSA representatives worked with consultants to identify the labor, equipment, and
 8 vehicles used to perform or provide each of the activities. PWSA identified the labor
 9 position titles and hourly rates, vehicle and equipment types and hourly rates, and the
 10 current costs of meters and other appurtenances from multiple contracts to assist in
 11 identifying the costs to PWSA of the various activities. The amount of time and various
 12 needs for each activity associated with the calculated fees was based on PWSA’s
 13 experience. All of this data formed the basis upon which the fees were calculated.⁴⁹
 14 (PWSA St. No. 6 a6 35-37). I simply do not understand how Ms. Alexander can take the
 15 position that these fees were not cost based and I do not know how else PWSA could
 16 develop cost based fees. Importantly, Ms. Alexander did not address any specific fees
 17 and/or provide any analysis about why the proposed fee failed to satisfy her concerns
 18 about having an appropriate underlying cost basis. While I recognize that, to arrive at
 19 whole dollar numbers some fees were rounded up, I do not believe that this practice
 20 undermines the cost based justification for each of the fees.

21 **Q. ARE ALL OF PWSA’S REVISED FEES INCREASING?**

22 A. No, and I believe this is an important point that may have not been considered by the
 23 other parties. Because the purpose of the evaluation was to develop cost-based fees,

⁴⁹ PWSA Exh. JAQ-11: PWSA Cost of Service/Rate Study Costing Calculator.

1 where current charges exceeding the calculated costs we are proposing to reduce the
 2 existing fee. Some of the fee reductions include:⁵⁰

- 3 • Service Termination from \$75.12 to \$50.00;
- 4 • History Retrieval from \$15.23 to \$10.00;
- 5 • Administrative Charges Processing of Backflow Device Tests from \$25.38 to
 6 \$10.00;
- 7 • Metered Usage of a Hydrant from \$500.00 to between \$250.00 and \$310.00
 8 (depending on the meter);
- 9 • Connection Fees for Larger Meters from over \$1,000.00 to \$400.00; and,
- 10 • Service Fees for Valve Operations from \$1,233.23 - \$6,567.06 to \$260.00 to
 11 \$560.00.

12 **Q. WHAT ARE MS. ALEXANDER’S CONCERNS ABOUT INCLUDING THESE**
 13 **FEES IN THE STORMWATER TARIFF?**

14 A. According to Ms. Alexander these are “expensive new charges,” not otherwise reflected
 15 in PWSA’s tariffs and lacking justification. (OCA Statement No. 5 at 30.)

16 **Q. IS MS. ALEXANDER’S ASSESSMENT ABOUT THE INCLUSION OF THESE**
 17 **FEES IN THE STORMWATER TARIFF ACCURATE?**

18 A. No. Fees for stormwater services have been included in PWSA’s wastewater tariff.
 19 Those fees which also (or only) apply to stormwater service have now been included in
 20 the stormwater tariff. Therefore, these are not fees for new services, they are fees for
 21 services related to stormwater services which have been previously assessed by PWSA
 22 pursuant to its wastewater tariff (and previously approved by the Commission). Since we
 23 have not had a separate tariff for stormwater services before, all of these fees are “new”
 24 to the stormwater tariff but, again, they are based on the fees previously housed in our
 25 wastewater tariff. The fees we have included in the stormwater tariff underwent the same
 26 rigorous cost based evaluation that I already described and were determined to be fees
 27 addressing customer requests related to our stormwater service. Therefore, I do not agree

⁵⁰ See PWSA Exh. JAQ-6 at First Revised Page No. 14, 15, 15C.

1 with Ms. Alexander that these fees are “likely to prove controversial” and “have no
 2 justification.” To the contrary, there is a solid foundation for each of these fees, and they
 3 should not be dismissed based on a general observation without any supporting detail or
 4 explanation.

5 **3. Consumer Price Index**

6 **Q. HOW DO YOU RESPOND TO THE CRITICISM OF ADJUSTING FEES ON AN
 7 ANNUAL BASIS BASED ON THE CONSUMER PRICE INDEX? (OCA
 8 STATEMENT NO. 5 AT 29; OSBA STATEMENT NO. 1 AT 47).**

9 A. This was not a new proposal in this rate case. Rather it was approved as part of the
 10 Commission’s approval of PWSA’s initial tariffs. The reliance on Consumer Price Index
 11 is important for these specific fees because the underlying cost basis include elements –
 12 such as labor costs – that are directly tied to Consumer Price Index. By adjusting fees
 13 consistent with the Consumer Price Index, PWSA is ensuring that the fees remain cost
 14 based.

15 **Q. ARE YOU AWARE OF ANY OF THESE FEES BEING ASSESSED TO
 16 CONSUMERS SEEKING ACCESS TO DATA FOR PURPOSES OF LODGING A
 17 COMPLAINT AGAINST PWSA? (OCA STATEMENT NO. 5 AT 29).**

18 A. No. To my knowledge, none of the activities covered by the fees relate to customer
 19 information that would be needed as part of a consumer complaint. However, if that
 20 situation were to arise, PWSA would not assess the fee.

2VIII. CONCLUSION

22 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

23 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

VERIFICATION

I, Julie Quigley, hereby state that: (1) I am the Director of Customer Service for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 07/27/2021 | 1:55 PM PDT

DocuSigned by:
Julie Quigley
EFB81226A6C34E0...

Julie Quigley
Director of Customer Service
The Pittsburgh Water and Sewer Authority

PWSA Exhibit JAQ-7

**RESPONSES OF PITTSBURGH UNITED TO THE PITTSBURGH WATER AND
SEWER AUTHORITY'S INTERROGATORIES, SET I**

PA. PUC V. PWSA, R-2021-3024773; R-2021-3024774; R-2021-3024779

PWSA to Pgh. United I-2

2. Reference UNITED St. No. 1 at Page 20 (Geller), discussing the importance of having “affordable access” to water and wastewater services as having “numerous benefits to communities as a whole.” Would Mr. Geller agree that in addition to affordable access, the water and wastewater services provided need to be safe and reliable? If not, please explain why not.

RESPONSE:

Yes.

Response Provided By:

Harry Geller, Esq.

Witness for Pittsburgh United

Dated: July 22, 2021

PWSA Exhibit JAQ-8

Pennsylvania Public Utility Commission
v.
Pittsburgh Water and Sewer Authority (PWSA)
Docket Nos. R-2021-3024773 (Water)
R-2021-3024774 (Sewer)
R-2021-3024779 (Stormwater)
2021 Base Rate Case Proceeding

RESPONSE TO
PWSA INTERROGATORIES TO OCA, SET III

8. Please refer to Page 36 of OCA St. No. 5 (Alexander) in which you recommend that PWSA issue 98% of its customer bills based on actual meter readings and seek to reach a 99% standard within a reasonable time. Please identify all PUC regulations or standards that establish this metric/requirement, or otherwise support this recommendation. Has the Commission ordered any other Pennsylvania water utilities to adhere to this standard? If so, please identify and provide a citation to the PUC Order.

Response:

Ms. Alexander's proposed metrics reflect PWSA's stated internal performance objective, as discussed on pages 18-19 of her direct testimony in this proceeding and page 14 of her direct testimony in PWSA's 2020 base rate case. She is not aware of any Commission regulation or standards for this metric or whether the Commission has imposed this standard or any similar standard for other Pennsylvania water utilities.

Sponsoring witness: Barbara Alexander

Pennsylvania Public Utility Commission
v.
Pittsburgh Water and Sewer Authority (PWSA)
Docket Nos. R-2021-3024773 (Water)
R-2021-3024774 (Sewer)
R-2021-3024779 (Stormwater)
2021 Base Rate Case Proceeding

RESPONSE TO
PWSA INTERROGATORIES TO OCA, SET III

15. Please refer to Page 37 of OCA St. No. 5 (Alexander) in which you recommend that PWSA be required to provide more detailed customer education materials. Please identify all PUC regulations or standards that support this recommendation.

Response:

This recommendation reflects Ms. Alexander's testimony with respect to PWSA's use of its lien authority, a relatively unique feature for any public utility in Pennsylvania. Ms. Alexander is not aware of any regulations or standards for educating customers about lien authority.

Sponsoring witness: Barbara Alexander

Pennsylvania Public Utility Commission
v.
Pittsburgh Water and Sewer Authority (PWSA)
Docket Nos. R-2021-3024773 (Water)
R-2021-3024774 (Sewer)
R-2021-3024779 (Stormwater)
2021 Base Rate Case Proceeding

RESPONSE TO
PWSA INTERROGATORIES TO OCA, SET III

5. Please refer to Page 36 of OCA St. No. 5 (Alexander), in which you recommend that PWSA's call center be required to meet the following annual performance standards: average speed of answer of no more than one minute and an abandonment rate of no more than 3%. If these standards are not met during any one quarter (three-month period), you recommend that PWSA should be required to submit a compliance plan to achieve the required minimum standards by the end of the next quarter. Please identify all PUC regulations or standards that establish this metric/requirement, or otherwise support this recommendation. Has the Commission ordered any other Pennsylvania water utilities to adhere to this standard? If so, please identify and provide a citation to the PUC Order.

Response:

Ms. Alexander's proposed metrics reflect PWSA's stated internal performance objective, as discussed on page 13 of OCA Statement 5 (citing PWSA Response to OCA-III-14). Ms. Alexander does not believe that the Commission has imposed this standard or any similar standard for Pennsylvania water utilities.

Sponsoring witness: Barbara Alexander

Pennsylvania Public Utility Commission
v.
Pittsburgh Water and Sewer Authority (PWSA)
Docket Nos. R-2021-3024773 (Water)
R-2021-3024774 (Sewer)
R-2021-3024779 (Stormwater)
2021 Base Rate Case Proceeding

RESPONSE TO
PWSA INTERROGATORIES TO OCA, SET I

7. Reference OCA St. No. 4 at Page 8, n. 3 (Colton). You indicate that the “affordable” percentage of income is set at 2.5% for purposes of the graph on page 9 of your Direct Testimony and that the 2.5% burden is used for illustration purposes and not as a recommended definition of an affordable water burden. What do you consider to be an affordable water burden based on a percentage of income?

Response:

Mr. Colton does not address in his Direct Testimony what an “affordable water burden based on a percentage of income” would be. Any recommendation on what an affordable water burden might be would depend on a consideration of a variety of factors, the factual basis of which was not developed in Mr. Colton’s Direct Testimony.

Sponsoring witness: Roger Colton

Pennsylvania Public Utility Commission
v.
Pittsburgh Water and Sewer Authority (PWSA)
Docket Nos. R-2021-3024773 (Water)
R-2021-3024774 (Sewer)
R-2021-3024779 (Stormwater)
2021 Base Rate Case Proceeding

RESPONSE TO
PWSA INTERROGATORIES TO OCA, SET I

11. Reference OCA St. No. 4 at Page 16 (Colton). Please confirm that the cost estimate developed for Mr. Colton's proposed changes to the existing pilot arrearage forgiveness program do not include any programming or other staffing costs. If this cannot be confirmed, please state the amount of costs estimated by Mr. Colton for these tasks.

Response:

Confirmed.

Sponsoring witness: Roger Colton

PWSA Exhibit JAQ-9

TOTAL SURVEYS
Last Quarter (Apr 1 - Jun 30) ▾

5,213

0% Compare: 5,195

Q1: CSR SATISFACTION
Last Quarter (Apr 1 - Jun 30) ▾

4.73



Q2: ISSUE RESOLUTION SATISFACTION
Last Quarter (Apr 1 - Jun 30) ▾

4.65



Q3: RESPONSIVENESS TO QUESTIONS
Last Quarter (Apr 1 - Jun 30) ▾

4.72



Q4: QUALITY OF PWSA SERVICES
Last Quarter (Apr 1 - Jun 30) ▾

4.4



Q5: PWSA OVERALL PERFORMANCE
Last Quarter (Apr 1 - Jun 30) ▾

4.27



PWSA Exhibit JAQ-10



Low Income Assistance Advisory Committee
February 12, 2021
Meeting Minutes

MS Teams Attendance: Julie A. Quigley, PWSA
Brittany Schacht, PWSA
Reginald Brown, PWSA
Rebecca Zito, PWSA
Zachary Larimer, PWSA
Melissa Schrepfer-Nelson, PWSA
Sarah Viszneki, PWSA
Jeffrey L. Braun, Neighborhood Legal Services
Juanita Gale, PA PUC
Christine Hoover, Office of Consumer Advocate
Ria Pereira, Pennsylvania Utility Law Project representing Pittsburgh UNITED
Madeline Weiss, Pittsburgh UNITED
Grant Geszvain, Bureau of Consumer Services
Gina Miller, Bureau of Investigation and Enforcement
Glenn Grayson Jr., Neighborhood Allies
Deanne O'Dell, Eckert Seamans
Michele Tate, Bureau of Consumer Services
Monica Malik, Allegheny Health Network and Pittsburgh Hispanic Chamber of Commerce
Jennifer Johnson, Bureau of Consumer Services
Billie Vaughn, Common-Unity PGH
Lee Davis, Braddock Carnegie Library Board of Trustees
Joseph Magee, Bureau of Consumer Services
Mary Sally, Dollar Energy Fund
Matthew Bolton, Director of the Jewish Family Community Services Squirrel Hill Food Pantry and SOS Pittsburgh Program
Erica Givner, Lead Clinician and Owner of Vision Towards Peace

GISPIA:

Dr. Marcela González Rivas, Assistant Professor, Graduate School of Public and International Affairs University of Pittsburgh
Kenneth James Reilly
Anisha Mallik
Collin Farone
Luciana Lemos
Nora Lopez Cruz

Program Enhancements – Bill Discount

- **Monthly minimum water and wastewater charges discount increased from 75% to 100% for 4,306 eligible customers**
 - With the beginning of the PGH2O Cares Team and the move to collect some of the charges that have accumulated during the pandemic, we are looking to increase the number of customers who are protected by this program
 - Customers who are enrolled in the BDP will actually save money on their monthly bill this year – their first thousand gallons usage will be free in 2021
 - Providing an additional 20% reduction of per thousand gallons charges over the minimum for 449 customers at Federal Poverty Level of $\leq 50\%$
 - Continuing to waive the recertification requirement throughout 2021; thereafter, qualified customers will have to recertify every other year

Program Enhancements – Arrearage Forgiveness

- **Writing off \$15 for each on-time payment by a customer in the BDP and on an active payment plan**
 - Effective January 14, 2021
- **Developed an automated process tied to the payment plan income calculator that identifies when credits are warranted and applies them**
- **There are 67 customers in the Pilot Arrearage Forgiveness Program, and the PGH2O Cares Team will solicit the 784 Bill Discount Customers with outstanding balances to enroll by entering an income-based payment plan**
 - Of the 4,300 Bill Discount Program customers we have, there are 784 who owe \$100 or more; these customers will be sent the arrearage forgiveness letters (beginning at the end of February 2021)

Program Enhancements – Hardship Grant

- **Granting without a termination notice since mid-November 2020**
- **Continuing to waive the sincere effort to payment throughout 2021; thereafter, reducing the sincere effort of payment by 50% (\$75 and \$37.50 for seniors)**
 - Customers do not have to show that they are making any effort to pay in order to be eligible, nor do they have to have a termination notice. They only must be a water customer.

Hardship Grant Funding Campaigns

- **12 Days of Giveaways PWSA Employee Donation Campaign; joint effort of Customer Service, Public Affairs, and Human Resources; \$4,311 raised**
- **Fundraising letter mailed to customers in late January 2021 (excluding sewage-only and BDP); DEF reported receiving \$3,005 in donations thus far**
 - Only after about 2 weeks

Program Enhancements – Winter Moratorium (beginning December 1, 2021)

- **Increasing eligibility from 250% to 300% of the Federal Poverty Level**

COVID-19 Response Continues

- **Waiving Reconnection Fees**
 - Since December 2020, PWSA has terminated under 50 non-residential customers and is continuing to waive reconnection fees
- **Targeting Outreach to Customers With Existing Debt**
 - Collections group have reached out to 9,000 customers via personal telephone calls who are at risk of termination
- **Offering payment plans of 12+ months for customers >300% and 24+ months for customers <300%**
- **Payment Plan lengths exceeding regulation for customers with PFA's**
- **Additional requirements to offer more than one medical**
- **Continue to Pursue Outreach and the LIAAC's Suggestions**

Collections Plan

- Winter Moratorium Ends March 31, 2021
- Customers <300% of Federal Poverty Level cannot be terminated
- Collections are subject to further guidance from the Commission
- 37-day notices to Owners of Rental Properties are planned for the week of March 1st
- 30-day postings to Tenants are planned for the week of March 8th
- Potential termination of rental properties are planned for the week of April 12th
- 10-day postings to Owners/Listed Tenants are planned for the week of March 15th
- Potential termination of Owners/Listed Tenants are planned for the week of April 5th

PGH2O Cares Team

- **Working to continue to expand the customer assistance programs while preparing to resume collection efforts**
- **Goal of increasing enrollment in the customer assistance programs by establishing relationships with community-based organizations and educating customers on available programs and protections**
 - Sarah Veszneki: Coordinator
 - Rebecca Copney: Analyst
 - Michael Anania: Analyst
- **Structured Data Reporting to LIAAC and PUC**
- **Required Data Tracking**
- **Intake Ability**
- **Leak Investigation, Conservation Tools for customers who are \leq 50% FPL**
- **Build Relationships in the Community**

Customer Outreach (November 2020 - January 2021)

- **Bill Inserts and Newsletters (monthly):**
 - 111,000 bill inserts – Rate brochure in February bills
 - Currents newsletter
 - Mayor's Office Community Affairs newsletter
- **Press Releases:**
 - Neighbors Helping Neighbors 12/1/2020

- **Social Media:**
 - 25 Facebook posts/512 engagements
 - 23 Tweets/20K impressions
- **Community Outreach:**
 - Civic Leadership Academy on 11/9/20
 - Uptown Partners Community Meeting on 11/18/20
 - Upcoming State Representative Gainey Utility Forum on 2/25/21
- **Updated Outreach Materials:**
 - CAP Flyer
 - Rate Brochure
 - Website pages (rates and CAP)

Planned Outreach Activities

- Analyzing statistics/data for local advertisement and publication placement
- Researching translation of outreach materials into most requested languages
- Preparing an e-mail blast to community groups and elected officials with updated information on customer assistance program changes, rates, new outreach materials, and an offer for PWSA to speak at events and meetings
- Updating CAP flyers and distributing to social services and food donation organizations

LIAAC Progress to Date

- Improved outreach and messaging for programs
- Launched a social media campaign
- Assessed applicable data
- CS and PA developed efforts to fund the Hardship Grant Program
- Explored issues related to the structure of the Hardship Grant Program
- Reviewed changes to PWSA customer service policies and procedures
- Funded BDP with separate budgets for water and wastewater
- Outstanding: Assessing the feasibility and associated costs and benefits to transition the BDP to a percentage of income program or a tiered discount program based on income levels with arrearage forgiveness program

Questions and Comments

- **Joseph Magee:** Do delays in the mail impact arrearage forgiveness? The customer may not pay on time due to a delay in receiving the bill or when the payment is received by PWSA. Do they still receive arrearage forgiveness?
- **Julie A. Quigley:** Yes, they would still receive it. But it would fall outside of the automated parameters. Considering this is a pilot and there are known issues with mail delivery, we will take those into consideration and allow those customers to get that discount regardless. We haven't received many complaints about customers not receiving their bills at all; more so receiving their bills later than normal. Late fees will be waived. We transitioned our payment platform to a new vendor over the holidays as of January 1, 2021. Any residential customers who are making payments over the phone or online do not incur fees. The only payment fee will be from retailers when paying in person. Family Dollar, 7-11, Dollar General, CVS, and Walgreens are all retail cash payment locations for PWSA now.
- **Joseph Magee:** How is the customer going to know that they did not receive the arrearage forgiveness, especially the elderly customers. Are they able to call you if they do not see that on there?
- **Julie A. Quigley:** We will make a note to communicate to the existing customers on the program to make certain of what to do if they do not see that credit.

- **Ria Pereira:** Do customers have to affirmatively mention that they are <300% FPL, or is PWSA prompting for this information when they speak to customers?
- **Julie A. Quigley:** We ask them questions about the household income and the number of people in the household, and the calculator determines the FPL. By gathering those two pieces of verbal information, we then determine the FPL.
- **Jeff Braun:** It could be also that low income people in general are calling, and it may be a good idea to alert those customers to those types of programs. Not all clients are aware of these programs. They may not be in arrearage yet or aware that they qualify for the programs. It makes sense to promote that even if someone is not necessarily in arrearage.
- **Julie A. Quigley:** Do you think its efficient to put that information right on the bill, since we now have the ability to design our own bill messaging? It could be placed closer to the amount due.
- **Monica Malik:** Suggested putting it on the front of the bill. If a customer calls into PWSA, before they hang up, ask the customer if they have a moment. "Do you want me to see if you're eligible for our programs?"
- **Madeline Weiss:** Can you explain a bit about the specific planned activities by PGH2O Cares for outreach? Will the team be doing canvassing, phone calls, etc. or focusing on events or what?
- **Julie A. Quigley:** Yes, that is all being shaped up now. If you want to talk with Sarah offline, I think that would be most productive, and then we can share what activities have occurred at the next meeting.
- **Grant Geszvain:** Can we see a copy of a customer's bill who is receiving the \$15.00 forgiveness?
- **Julie A. Quigley:** Absolutely, we will get that out to you, Grant.
- **Monica Malik:** Can you go over the assistance provided to customers in arrears once the moratorium is lifted? Is there anything additional that may be taken into consideration? Lots of protections that were given to consumers all end at the same time, so how do we make sure that consumers still have some sort of additional forgiveness period if needed, or help?
- **Julie A. Quigley:** From our perspective, our assistance programs do not end. The only program designed with an ending point is the Winter Moratorium from December 31st - March 31st. The Bill Discount, the Hardship Grant, removing interest on a case by case basis during COVID-19, the pilot arrearage forgiveness program, and our reduction in customers' bills from last year to this year all continue.
- **Monica Malik:** My concern is, when the moratorium is lifted some people may still be unemployed. Is there something additional that may be done for cases like that?
- **Julie A. Quigley:** Hopefully, they avail themselves of our programs. We will take every situation on a case by case basis. If customers are at 300% of the FPL, if they are unemployed and not able to pay their bills, they will not be shut off. There is still that huge protection in place. We are still looking for further direction from the Commission prior to the Moratorium.
- **Juanita Gale:** I wanted to point out that the group knows that I am also working with Erica Givner and Lee Davis to get the information out to the libraries. Lee Davis is a board member for the Carnegie Library. I was able to get all the information out to the income qualifying neighborhoods, such as the North Side. We need to make sure that we have further discussion into the Hazelwood area. Julie, can you make sure you reach back out to Wanda Carlow. I would also like to make sure that Matt is included in the paperwork drop and that this information is getting dropped off at the libraries.
- **Rebecca Zito:** We can get started on making those copies available.
- **Juanita Gale:** If you could send PWSA the amount of copies you need, make sure you cc me so I could follow through.
- **Rebecca Zito:** For anyone who needs to send quantities, or would like copies of the customer assistance materials or the rate brochure, please send those quantities to my email address and we will work with our printer to make those available. It would also be helpful if you could send an address for where you would like them to be sent.
- **Madeline Weiss:** After March 31st, if people are at 300% or below the FPL, their water still will not be shut off?
- **Julie A. Quigley:** That is correct.
- **Madeline Weiss:** How long will that go on for?

- **Michele Tate:** As far as I understand, those protections would be available during the pendency of the Governor's emergency proclamation, unless otherwise acted upon by the Commission.
- **Jeff Braun:** If you're going to be sending out termination notices in March, how is that going to affect the people that get those if they fall under that 300%? The landlords will get them and by extension the tenants will be affected by those.
- **Julie A. Quigley:** If we don't already have them marked in our system in those FPL levels, then we will be sending those notices out to them. As soon as they contact us and identify their household income and the number of people in their household, we put that into the calculator. Once we have their qualifications, then we will not be able to move forward with termination. It also gives us an opportunity to counsel them on making payment, starting a payment arrangement, getting into the BDP and arrearage forgiveness pilot, etc. We've been sending and calling all of our at risk customers for almost a year. These notices are going to be a driver for the customers to actually contact us and have that interaction to find out about the programs. This is the next stage in the notice program, but it will not be a surprise to them given the number of notices we have sent to them in the past year.
- **Julie A. Quigley:** Has anybody had any feedback from customers from the other utilities that have been actively terminating residential customers since November? Please email me at jquigley@pgh2o.com.

Additional Comments in the LIAAC Chat

- **Lee Davis:** I will definitely help connect the PGH2O Cares team to community organizations and key community stakeholders.
- **Rebecca Zito:** Monica and Juanita, we are translating some of our customer assistance materials. Please let us know when the meeting is so we can have handouts available for non-English speakers.
- **Monica Malik:** I definitely will. I can also assist with other CBL connections as well.
- **Madeline Weiss:** I can follow up with Sarah. Sarah, can you share your email with me, so I have it? I can be reached at madeline@pittsburghunited.org as well.
- Sarah Viszneki: sviszneki@pgh2o.com
- Rebecca Zito: Please send those quantities to me rzito@pgh2o.com
- **Melissa Schrepfer-Nelson:** Just a suggestion; but being assertive with the customers to read their bills each month may eliminate some questions in conjunction with estimate/actual meter reads.
- **Monica Malik:** Is there something that can be done for education around lowering consumption, like turning off your water while you brush your teeth, the difference in your bill if you take a 15 minute shower versus a 30 minute shower? Things like this can make consumers aware of what they can do to help lower their bill and be proactive.
- **Matthew Bolton:** Hi Rebecca; JFCS would like 800 flyers to Squirrel Hill Food Pantry, 828 Hazelwood Avenue, Pittsburgh, PA 15217.
- **Melissa Schrepfer-Nelson:** In addition to this suggestion (being assertive with the customers to read their bills each month may eliminate some questions in conjunction with estimate/actual meter reads), I suggest assisting customers on how to read their bills if they are confused or don't know where to look for specific information. Can a list be constructed on ways for customers to conserve water consumption? Maybe even construct a flyer to include with bills?
- **Matthew Bolton:** Can a digital copy of the flyer be sent out to this group?

Takeaway from Presentation of Water Affordability Research by Graduate School of Public and International Affairs - University of Pittsburgh (GISPIA)

- **Matthew Bolton:** One thing we are seeing is community cognitive decline; in regard to understanding what all the different forms are, how to fill them out, and what customers are eligible for. I like the program with the \$15 deduction for each on-time payment. The client may not have to sign up for something like that; if they're eligible, it's automatic. From a cognitive and psychological standpoint, looking at low income clientele and what their capacity is for understanding these forms to be able to continue making payments or to reach out to utility companies when they are having trouble making payments. This conversation brings up a good point that a lot of people have not had the experience of having to every year navigate through all of these different social service programs, and now they're in these challenging times. It's now more than ever that we really need to ensure that these systems are in place and are working, from a marketing piece that they are as easily understood as possible. I would say there are many more people who have never opened their bill before. Now they cannot even pay their bill.
- **Monica Malik:** One thing that bothers me about these programs; why do I have to be behind on my bill to receive the assistance? If I want to be proactive, why can't I be considered for some type of assistance programs?
- **Billie Vaughn:** There is no correlation between poverty and being illiterate. When he speaks on community cognitive design, I would say more of them need education on understanding the bill. I can guarantee all of you do not know your daily water usage. These people are not illiterate, and what they need to understand is how to read the bill. Their entire life has been navigating assistance programs so this is what they know and what they are used to. Now you are tackling people who are new to the game. People whose incomes have dropped just from the pandemic.
- **Mary Sally:** For the committee, it would be helpful if we had an idea of how many PWSA rate payers might fall into each tier. What would be the cost to the PWSA rate payers who would need to cover that cost as a part of their bill? If there was an arrearage forgiveness component built in from the beginning, how many customers would be able to take advantage of that and the additional costs back to the rate payers. You always have to weigh both to see what is feasible. I think numbers will help to paint the picture to see what will work for PWSA customers.
- **Julie A. Quigley:** This conversation has been extremely eye-opening. Thank you again to the GISPIA students and Marcela for their time. I hope that everyone on the committee has formed new connections today. In the interest of everyone's time, I am going to wrap this meeting up now and I look forward to sharing information with you all in between the LIAAC quarterly meetings.

PWSA Exhibit JAQ-11

PWSA Cost of Service/Rate Study

Contents			
TAB 1	How to Calculate	How to use this Costing Calculator	
TAB 2	Water	Water Related Fees	
TAB 3	Wastewater	Wastewater Related Fees	
TAB 4	Misc Fees	Other Miscellaneous Fees	
TAB 5	Summary Table	Summary of calculated fees and current fees	This is where you will get the final suggested fee, NOT on the calculator tabs
TAB 6	Cost Reference - Labor, Vehicl	Contains Labor and vehicle rates, % adjustments for "Expedited Review" and "After Hours"	<i>You do not need to do anything in this tab to perform calculations</i>
TAB 7	Cost Reference - Meters-Parts	Contains the cost of various meters and parts	<i>You do not need to do anything in this tab to perform calculations</i>

Instructions for Use	
	<p>CALCULATING: Only those cells that require input are able to be accessed. All other cells are locked.</p> <p>For ease of use, the headings are all color coated. Only those cells that are <i>not</i> grey require manual action (drop-down menu selection or hand input).</p> <p>It is best NOT to type into the cells that contain a drop-down menu. This will likely give an error message. If this happens, press the ESCAPE KEY.</p> <p>For fees involving water meters (on the water tab), the activity will show all cost EXCEPT for the meter, itself. The meter costs are automatically inserted into the Summary Table.</p> <p>CHANGING FORMULAS OR COST REFERENCES: All Sheets are protected. To make changes, sheets must be unprotected. After changes are made, protect the sheet again.</p> <p><u>Protect/Unprotect Sheets Password:</u> Currently, NO PASSWORD (If a password is used, you can enter it above, or keep it somewhere safe. If it is forgotten, no future changes will be able to be made to this calculator). After making changes, be sure to protect the sheet, to prevent accidental changes to the calculator.</p> <p><u>Labor Rates:</u> This Fee Calculator uses "Burdened Rates" of labor costs. To update labor rates, in the "Labor, Vehicl" tab, enter the new rates, in the "Unburdened Rate" column (D). This column heading is LIGHT BLUE and the rest of the column is WHITE.. Doing this will automatically adjust the numbers in the "Burdened Rate" Column (C), based on the "Overhead Rate". The Overhead Rate percentage is found above the Labor Rates Chart. That percentage may be changed, which will effect the Burdened Rate.</p> <p><u>Meters:</u> Update the costs of meters and parts on the "Cost Reference - Meters" tab. if ANY METER'S NAME IS CHANGED, then that name change will also have to be made on the Summary table so that the names are identical, otherwise, the cost lookup link will be broken. Likewise, If a new meter is introduced, that meter will have to be added to the Summary Table.</p>
DROP DOWN LIST In Sky Blue	<p>These cells provide a dropdown menu. Select the appropriate item from the list provided. The selection will automatically fill the adjoining RATE or COST associated with that selection.</p> <p><u>View the sheet at a minimum of 80% to view the menu list.</u></p>
AUTO-ENTRY TABS In Grey	<p>An automatic entry is made from reference table when a drop down category selected. The default is set to "-----" which yields \$0.00.</p> <p><u>Hours per Task per Vehicle</u> Will auto fill with the number inserted into <i>Hours for Task per Person</i>.</p> <p>These cells are easily identified by heading color.</p>

<p>HAND ENTER TABS IN Light Blue</p>	<p>These cells are pre-filled, based on the activity</p> <p>These cells are easily identified by heading color.</p>	<p>Description/Purpose of Fee/Activity is used for informational purposes.</p>	<p>Number of Hours, Number of Items Needed, Number of Persons/Vehicles are used to calculate costs.</p> <p>NOTE: Under Labor, Hours for Task is <u>per Person</u> Under Vehicle, Hours per Task is <u>per Vehicle</u>.</p>
<p>FORMULA TABS In Grey</p>	<p>This cell will automatically calculate, based on information entered in other cells and selected from drop-down menus.</p> <p>These cells are easily identified by heading color.</p>		
<p>PUNITIVE CHARGES / OTHER CHARGES HAND ENTER TAB In Orange</p>	<p>Hand enter cost amount in these cells. Leave blank, if none are needed.</p> <p>Some will already have numbers entered and will always be included. Some of these cells will be a percentage and others will ne a numeric dollar amount.</p>		

FEE CALCULATOR - WATER																			
PWSA Cost of Service/Rate Study																			
		Fee Components																	
Service/Activity	Description/Purpose of Fee/Activity	Labor					Vehicle					Equipment/Parts				Punitive Charges	Other Charges	Total Cost for Fee	NOTES
		Category	Rate (\$/hr.)	Number of Persons	Hours for Task per Person	Labor Subtotal	Category	Rate (\$/hr.)	Number of Vehicles	Hours per Task per Vehicle	Vehicle Subtotal	Item	Cost per Item (\$/ea.)	Number of Items Needed	Equipment/Parts Subtotal				
	HAND ENTER	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	HAND ENTER	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	AUTO-ENTRY From hours per task per person	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	FORMULA	HAND ENTER CHARGES	HAND ENTER CHARGES	FORMULA Subtotals Punitive & Other	
Returned Check Charge	Customer Service charge for any check any check that is returned due to insufficient funds	-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -	\$ 20.00			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -	\$ 10.45	\$	30.45	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
Service Termination/Resumption																			
Waterline Shut Permit Review	Review of documents for the permit for a construction project which requires water to be temporarily shut off at the main	Engineering Technician II	\$ 33.33	1	1	\$ 33.33	-----	\$ -		1	\$ -	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -		\$	33.33	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
Service Termination (Shut-Off at the Curb Stop)	Waterline shutoff due to non-payment	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -		\$	48.85	
		-----	\$ -			\$ -	-----	\$ -	1	0	\$ -	-----	\$ -		\$ -				
Service Resumption (Turn-on at the Curb Stop)	Resumption of service by turning on the curb stop	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -		\$	48.85	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
Turn-On at the Curb Stop STANDARD TIME	For Customer turn-on requests that will take place at a time and day assigned by PWSA..	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -		\$	48.85	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
AFTER NORMAL BUSINESS HRS															AFTER NORMAL BUSINESS HRS	150%	\$	73.28	
Turn-On at the Curb Stop SAME DAY	For Customer requests that the line be turned on the same day	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -		\$	97.70	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
AFTER NORMAL BUSINESS HRS															AJUSTMENT FOR SAME DAY TURN-ON	200%			
															AFTER NORMAL BUSINESS HRS	150%	\$	146.55	
Termination Only Permit		Project Manager	\$ 52.87	1	4	\$ 211.46	-----	\$ -		4	\$ -	-----	\$ -		\$ -				
		Engineering Technician II	\$ 33.33	1	1	\$ 33.33	-----	\$ -		1	\$ -	-----	\$ -		\$ -		\$	244.79	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
Misc. Charges and Fees																			
Meter Test Rates 1" or Less NON-VAULT	Water meter test for a customer who believes that their meter is faulty. The fee is set by the PUC	Plumber	\$ 37.93	1	2	\$ 75.87	Plumber van	\$ 22.68	1	2	\$ 45.36	-----	\$ -		\$ -				
		Meter Repair Specialist	\$ 31.57	1	2	\$ 63.15	-----	\$ -		2	\$ -	-----	\$ -		\$ -		\$	184.37	
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -				
IN A VAULT															METER IN A VAULT (Add 1 additional Plumber)	\$ 75.87	\$	260.24	
Meter Test Rates 1 1/2" to 2" NON-VAULT	Water meter test for a customer who believes that their meter is faulty. The fee is set by the PUC	Plumber	\$ 37.93	2	2	\$ 151.73	Plumber van	\$ 22.68	2	2	\$ 90.72	-----	\$ -		\$ -				
		Meter Repair Specialist	\$ 31.57	1	3	\$ 94.72	-----	\$ -		3	\$ -	-----	\$ -		\$ -		\$	352.96	
		Meter Repair Specialist	\$ 31.57	1	0.5	\$ 15.79	-----	\$ -		0.5	\$ -	-----	\$ -		\$ -				
															Add1 Plumber				

IN A VAULT		METER IN A VAULT (Add 1 additional Plumber)															\$ 75.87	\$ 428.83	IF METER IS IN A VAULT
Meter Test Rates 3" NON-VAULT	Water meter test for a customer who believes that their meter is faulty. The fee is set by the PUC	Plumber	\$ 37.93	2	3	\$ 227.60	Plumber van	\$ 22.68	2	3	\$ 136.08		\$ -		\$ -				
		Meter Repair Specialist	\$ 31.57	1	3	\$ 94.72		\$ -		3	\$ -		\$ -		\$ -			\$ 474.19	
		Meter Repair Specialist	\$ 31.57	1	0.5	\$ 15.79		\$ -		0.5	\$ -		\$ -		\$ -				
																	Add'l Plumber		
IN A VAULT		METER IN A VAULT (Add 1 additional Plumber)															\$ 113.80	\$ 587.99	IF METER IS IN A VAULT
Meter Test Rates 4" NON-VAULT	Water meter test for a customer who believes that their meter is faulty. The fee is set by the PUC	Plumber	\$ 37.93	2	4	\$ 303.47	Plumber van	\$ 22.68	2	4	\$ 181.44		\$ -		\$ -				
		Meter Repair Specialist	\$ 31.57	1	3	\$ 94.72		\$ -		3	\$ -		\$ -		\$ -		\$ 595.41		
		Meter Repair Specialist	\$ 31.57	1	0.5	\$ 15.79		\$ -		0.5	\$ -		\$ -		\$ -				
																	Add'l Plumber		
IN A VAULT		METER IN A VAULT (Add 1 additional Plumber)															\$ 151.73	\$ 747.15	IF METER IS IN A VAULT
Meter Test Rates Larger than 4" NON-VAULT	Water meter test for a customer who believes that their meter is faulty. The fee is set by the PUC	Plumber	\$ 37.93	2	6	\$ 455.20	Plumber van	\$ 22.68	2	6	\$ 272.16		\$ -		\$ -				
		Meter Repair Specialist	\$ 31.57	1	3	\$ 94.72		\$ -		3	\$ -		\$ -		\$ -		\$ 853.65		
		Meter Repair Specialist	\$ 31.57	1	1	\$ 31.57		\$ -		1	\$ -		\$ -		\$ -				
																	Add'l Plumber		
IN A VAULT		METER IN A VAULT (Add 1 additional Plumber)															\$ 227.60	\$ 1,081.25	IF METER IS IN A VAULT
Misc. Charges and Fees																			
Certified Mailing	37-day termination letter sent via Certified Mail	CSR II	\$ 26.15	1	0.25	\$ 6.54		\$ -		0.25	\$ -		\$ -		\$ -		\$ 7.16	\$7.16 for Priority Mailing Cost	
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 13.70		
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -		a couple hours - half a day for a batch. Also include postage	
History Retrieval	Historical retrieval for billing history	CSR II	\$ 26.15	1	0.25	\$ 6.54		\$ -		0.25	\$ -		\$ -		\$ -		\$ 0.55	\$0.55 for mailing cost	
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 7.09		
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -			
Final Bill	Final bill for a customer account	Billing Specialist	\$ 28.39	1	0.5	\$ 14.19		\$ -		0.5	\$ -		\$ -		\$ -		\$ 0.55	\$0.55 for mailing cost	
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 14.74		
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -			
Miscellaneous Charges and fees Non-residential properties only																			
Administrative Charge Processing of Backflow Device Tests	Administrative Charge for Processing of Backflow Device Tests	Clerical Specialist II	\$ 27.87	1	0.25	\$ 6.97		\$ -		0.25	\$ -		\$ -		\$ -				
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 6.97	This is a penalty. It is charged as the "Administrative Charge Processing of Backflow Device Tests" Plus this penalty.	
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -			
Late Fee, Back Flow Device Tests	If over 90 days overdue	Late Fee is a penalty plus the cost of "Administrative Charge Processing for Backflow Device"																N/A	
Hydrant Permit																			
Hydrant Permit Review	Review of documents submitted for temporary use of a hydrant	Engineering Technician II	\$ 33.33	1	0.5	\$ 16.67		\$ -		0.5	\$ -		\$ -		\$ -				
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 16.67		
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -			
DO NOT USE	For Unmetered Usage of a Hydrant (Flat Fee per day per hydrant)	Do not use	\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ -	DO NOT USE THIS SERVICE/ACTIVITY	
For Metered Usage of a Hydrant (Meter fee for each hydrant)	Fee for short-term hydrant use: installing meter/adaptor to hydrant, turn-on, shut-off and disconnection. Customer is to supply backflow preventer.	Plumber	\$ 37.93	1	3	\$ 113.80	Plumber van	\$ 22.68	1	3	\$ 68.04		\$ -	1	\$ -				
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -	\$ 181.84	No Permit costs are included in this fee calculation.	
			\$ -		\$ -		\$ -		0	\$ -		\$ -		\$ -		\$ -		PLUS metered consumption at prevailing Commercial volumetric rates	
		GIS Analyst	\$ 39.50	1	1	\$ 39.50		\$ -		1	\$ -		\$ -		\$ -				

Flow Test Permit Review	Review of documents submitted to schedule a flow test	Engineering Technician II	\$ 33.33	1	0.5	\$ 16.67	-----	\$ -	0.5	\$ -	-----	\$ -	\$ -	\$ -	\$ 56.16	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -		
Hydrant Flow Test	Fee for the test used to obtain flow data for a specific location. The customer does the metering.	Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97	-----	\$ -	\$ -	\$ 340.33	this fee does not include the gallons of water that were discharged from the hydrant. There are many variables to this. That could be added as a different activity
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -		
Unauthorized Use of the Curb Stop to Restore Service	Penalty for a customer who restores (or attempts to restore) water at the curb stop after being shut off for nonpayment	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -	\$ -	\$ 500.00	Punitive Charges: Per tariff. Fee in the amount of \$500.00.
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	\$ 548.85	
Customer Facilities Fee																
Connection Fee 1" Tap	Fee charged per tap for a PWSA plumber to add a tap to the main.	Plumber	\$ 37.93	2	2	\$ 151.73	Plumber van	\$ 22.68	1	2	\$ 45.36	1" Corporation Stop	\$ 73.13	1	\$ 73.13	Are these applicable to all diameter service lines or do we need to do separate calculations, based on diameter.
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	\$ 339.22	
After Normal Business Hours		After Normal Business Hours:											150.00%	\$ 508.83		
Connection Fee TAP 4" or Greater	Fee charged per tap for a PWSA plumber to add a tap to the main.	Plumber	\$ 37.93	2	4	\$ 303.47	Plumber van	\$ 22.68	1	4	\$ 90.72	1" Corporation Stop	\$ 73.13		\$ -	Are these applicable to all diameter service lines or do we need to do separate calculations, based on diameter.
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	\$ 394.19	
After Normal Business Hours		After Normal Business Hours:											150.00%	\$ 591.28		
Valve Operations Service Fees 4" - 12" (For FIRST Valve)	Fee for PWSA to shut valve(s) per a contractor request to shut the main down for 4-12"	Valve & Hydrant Specialist	\$ 35.23	2	2	\$ 140.91	Valve truck	\$ 42.99	1	2	\$ 85.98	-----	\$ -	\$ -	Engineer tech for processing and refunding deposit	
		Engineering Technician I	\$ 27.74	1	1	\$ 27.74	-----	\$ -	1	\$ -	-----	\$ -	\$ -	\$ -		\$ 254.63
After Normal Business Hours		After Normal Business Hours:											150.00%	\$ 381.94		
Cost of time for additional Valves	Assuming 1 Valve	Enter Job title for people on addtl valves	Rate (\$/hr.)	Number of Persons	Hrs for Task per Person	Labor Subtotal	Enter Vehicle for addtl valves	Rate (\$/hr.)	Number of Vehicles	Hrs for Task per Vehicle	Vehicle Subtotal	Enter # of Additional Valves	Additional Cost	Additional Cost (After Hrs)		
		Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97		Cost of time for additional Valves;	\$ -	\$ -	Valve operation 2 Valve Specialist @ 1 hour per valve up to 12", 16" > 3 hours
Valve Operations Service Fees 16" - 24" (For FIRST Valve)	Fee for PWSA to shut valve(s) per a contractor request to shut the main down for 16"-24"	Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97	-----	\$ -	\$ -	Engineer tech for processing and refunding deposit	
		Engineering Technician I	\$ 27.74	1	1	\$ 27.74	-----	\$ -	1	\$ -	-----	\$ -	\$ -	\$ -		\$ 368.07
After Normal Business Hours		After Normal Business Hours:											150.00%	\$ 552.10		
Cost of time for additional Valves	Assuming 1 Valve	Enter Job title for people on addtl valves	Rate (\$/hr.)	Number of Persons	Hrs for Task per Person	Labor Subtotal	Enter Vehicle for addtl valves	Rate (\$/hr.)	Number of Vehicles	Hrs for Task per Vehicle	Vehicle Subtotal	Enter # of Additional Valves	Additional Cost	Additional Cost (After Hrs)		
		Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97		Cost of time for additional Valves;	\$ -	\$ -	Valve operation 2 Valve Specialist @ 1 hour per valve up to 12", 16" > 3 hours
Valve Operations Service Fees 30" - 48" (For FIRST Valve)	Fee for PWSA to shut valve(s) per a contractor request to shut the main down for 30"-48"	Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97	-----	\$ -	\$ -	Engineer tech for processing and refunding deposit	
		Engineering Technician I	\$ 27.74	1	1	\$ 27.74	-----	\$ -	1	\$ -	-----	\$ -	\$ -	\$ -		\$ 368.07
After Normal Business Hours		After Normal Business Hours:											150.00%	\$ 552.10		
Cost of time for additional Valves	Assuming 1 Valve	Enter Job title for people on addtl valves	Rate (\$/hr.)	Number of Persons	Hrs for Task per Person	Labor Subtotal	Enter Vehicle for addtl valves	Rate (\$/hr.)	Number of Vehicles	Hrs for Task per Vehicle	Vehicle Subtotal	Enter # of Additional Valves	Additional Cost	Additional Cost (After Hrs)		
		Valve & Hydrant Specialist	\$ 35.23	2	3	\$ 211.36	Valve truck	\$ 42.99	1	3	\$ 128.97		Cost of time for additional Valves;	\$ -	\$ -	Valve operation 2 Valve Specialist @ 1 hour per valve up to 12", 16" > 3 hours
Water Meters, Domestic	Installation of a Water Meter	Plumber	\$ 37.93	1	2	\$ 75.87	Plumber van	\$ 22.68	1	2	\$ 45.36	-----	\$ -	\$ -	\$ 121.23	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -		
Water Meters, Turbine Domestic 2, 3, 4, to 6" VAULT	Installation of a Water Meter in a vault	Plumber	\$ 37.93	3	4	\$ 455.20	Plumber van	\$ 22.68	1	4	\$ 90.72	-----	\$ -	\$ -	\$ 545.92	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -		

Water Meters, Turbine Domestic 2, 3, 4, to 6" NON-VAULT	Installation of a Water Meter - Not in a vault	Plumber	\$ 37.93	2	5	\$ 379.33	Plumber van	\$ 22.68	1	5	\$ 113.40	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 492.73
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			
Water Meters, Turbine Domestic 8, 10, 12, 16" VAULT	Installation of a Water Meter - In a vault	Plumber	\$ 37.93	3	5	\$ 569.00	Plumber van	\$ 22.68	1	5	\$ 113.40	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 682.40
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			
Water Meters, Turbine Domestic 8, 10, 12, 16" NON-VAULT	Installation of a Water Meter - Not in a vault	Plumber	\$ 37.93	3	6	\$ 682.80	Plumber van	\$ 22.68	1	6	\$ 136.08	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 818.88
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			
Water Meters, Compound Domestic	Installation of a Water Meter	Plumber	\$ 37.93	2	4	\$ 303.47	Plumber van	\$ 22.68		4	\$ -	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 303.47
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			
Fire Systems Meters, Turbine	Installation of a Water Meter	Plumber	\$ 37.93	2	4	\$ 303.47	Plumber van	\$ 22.68		4	\$ -	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 303.47
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			
Fire System Meters, Compound	Installation of a Water Meter	Plumber	\$ 37.93	2	4	\$ 303.47	Plumber van	\$ 22.68		4	\$ -	-----	\$ -		\$ -			
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			\$ 303.47
		-----	\$ -			\$ -	-----	\$ -		0	\$ -	-----	\$ -		\$ -			

FEE CALCULATOR - WASTEWATER

PWSA Cost of Service/Rate Study

		Fee Components																	
Service/Activity	Description/Purpose of Fee/Activity	Labor					Vehicle					Equipment/Parts				Punitive Charges	Other Charges	Total Cost For Fee	NOTES
		Category	Rate (\$/hr.)	Number of Persons	Hours for Task per Person	Labor Subtotal	Category	Rate (\$/hr.)	Number of Vehicles	Hours per Task per Vehicle	Vehicle Subtotal	Item	Cost per Item (\$/ea.)	Number of Items Needed	Equipment/Parts Subtotal				
		DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	HAND ENTER	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	AUTO-ENTRY - From hours per task per person	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	FORMULA				
Returned Check Charge	Customer Service charge for any check any check that bounces	-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -	\$ 20.00				
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -	\$ 10.45		\$ 30.45	\$20.00 Fee that the bank charges for a returned check. 10.45 - Fee PWSA charges for holding the returned check.	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Service Termination	Waterline shutoff from customer request or due to non-payment	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -		\$ 48.85			
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Resumption Rates	Resumption of Service	Field Service Technician II	\$ 26.21	1	1	\$ 26.21	Pickup w/compressor	\$ 22.64	1	1	\$ 22.64	-----	\$ -		\$ -				
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -		\$ 48.85			
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Misc. Charges and Fees																			
Certified Mailing Assessed per Account	Documents sent via Certified Mail	CSR II	\$ 26.15	1	0.25	\$ 6.54	-----	\$ -	0.25	\$ -	-----	\$ -		\$ -		\$ 7.16		\$ 7.16	\$7.16 for Priority Mailing Cost
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 13.70		
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
History Retrieval Assess per Account	Historical retrieval for billing history	CSR II	\$ 26.15	1	0.25	\$ 6.54	-----	\$ -	0.25	\$ -	-----	\$ -		\$ -		\$ 0.55		\$ 0.55	\$0.55 for mailing cost
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 7.09		
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Final Bill Assessed per Account	Final Customer Bill	Billing Specialist	\$ 28.39	1	0.5	\$ 14.19	-----	\$ -	0.5	\$ -	-----	\$ -		\$ -		\$ 0.55		\$ 0.55	\$0.55 for mailing cost
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 14.74		
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Dye Test Application Processing Fees																			
Evidence of Compliance Statement	PWSA review of the form to determine if a dye test is needed. If in a combined area, no test is needed; stamped, signed and send back to realtor	Engineering Technician I	\$ 27.74	1	0.5	\$ 13.87	-----	\$ -	0.5	\$ -	-----	\$ -		\$ -					
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 13.87		approx 60 per 40 hr week; add postage
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Temporary Evidence of Compliance Statement	PWSA review of the form to determine if a dye test is needed. If in a combined area, no test is needed; stamped, signed and send back to realtor	Engineering Technician I	\$ 27.74	1	1	\$ 27.74	-----	\$ -	1	\$ -	-----	\$ -		\$ -					
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 27.74		
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Duplicate Evidence of Compliance Statement	Fee for an additional request for Evidence of Compliance Statement. The data is already in hand but needs to be pulled up and sent.	Engineering Technician I	\$ 27.74	1	0.5	\$ 13.87	-----	\$ -	0.5	\$ -	-----	\$ -		\$ -					
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ 13.87		
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
Damage to Authority's Collection Mains or Storm Water Sewers	MAINTAINING CURRENT TARIFF LANGUAGE	-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -			\$ -		DO NOT USE
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -		\$ -					MAINTAINING CURRENT TARIFF LANGUAGE

FEE CALCULATOR - MISCELLANEOUS																				
PWSA Cost of Service/Rate Study																				
Service/Activity	Description/Purpose of Fee/Activity	Fee Components															Punitive Charges	Other Charges	Total Cost For Fee	Notes
		Labor					Vehicle					Equipment/Parts								
		Category	Rate (\$/hr.)	Number of Persons	Hours for Task per Person	Labor Subtotal	Category	Rate (\$/hr.)	Number of Vehicles	Hours per Task per Vehicle	Vehicle Subtotal	Item	Cost per Item (\$/ea.)	Number of Items Needed	Equipment/Parts Subtotal					
HAND ENTER	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	HAND ENTER	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	AUTO-ENTRY - From hours per task per person	FORMULA	DROP DOWN LIST	AUTO-ENTRY	HAND ENTER	FORMULA	HAND ENTER CHARGES	HAND ENTER CHARGES	FORMULA Subtotals Punitive & Other			
Termination Permits	Fee termination of a water or sewer lateral. Drawing review and site visit.	Project Manager	\$ 52.87	1	4	\$ 211.46		\$ -		4	\$ -		\$ -	\$ -				\$ 244.79		
		Engineering Technician II	\$ 33.33	1	1	\$ 33.33		\$ -		1	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Review of City Permits																				
Land Operations Permits	PWSA permit review.	Inspector III	\$ 37.26	1	2	\$ 74.51		\$ -		2	\$ -		\$ -	\$ -				\$ 74.51		
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Street Vacation Permits	PWSA permit review	Inspector III	\$ 37.26	1	2	\$ 74.51		\$ -		2	\$ -		\$ -	\$ -				\$ 90.48		
		Development Coordinator	\$ 31.93	1	0.5	\$ 15.97		\$ -		0.5	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Encroachment Permits	PWSA permit review. Permit starts with the City. There are not inspections involved.	Inspector III	\$ 37.26	1	2	\$ 74.51		\$ -		2	\$ -		\$ -	\$ -				\$ 90.48		
		Development Coordinator	\$ 31.93	1	0.5	\$ 15.97		\$ -		0.5	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Developer Fees																				
Water and Sewer Availability Letter	Fee charged when not part of a submitted tap plan.	Engineering Technician II	\$ 33.33	1	1	\$ 33.33		\$ -		1	\$ -		\$ -	\$ -				\$ 33.33		
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Water and Sewer Use Review Letter	Fee charged when not part of a submitted tap plan.	Project Manager	\$ 52.87	1	4	\$ 211.46		\$ -		4	\$ -		\$ -	\$ -				\$ 311.46		
		Engineering Technician II	\$ 33.33	1	3	\$ 100.00		\$ -		3	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 545.06		
DO NOT USE	Not used at this time. Included for possible future use.	Project Manager	\$ 52.87	1	3	\$ 158.60		\$ -		3	\$ -		\$ -	\$ -				\$ 222.46		
Pre-Application Meeting		Development Coordinator	\$ 31.93	1	2	\$ 63.86		\$ -		2	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 406.28		
DEP Sewage Facilities Planning Review	Review	Project Manager	\$ 52.87	1	2.5	\$ 132.16		\$ -		2.5	\$ -		\$ -	\$ -				\$ 232.16		
		Engineering Technician II	\$ 33.33	1	3	\$ 100.00		\$ -		3	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 730.08		
Tap-in Plan Review	Review	Project Manager	\$ 52.87	1	6	\$ 317.19		\$ -		6	\$ -		\$ -	\$ -				\$ 417.19		
		Engineering Technician II	\$ 33.33	1	3	\$ 100.00		\$ -		3	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 730.08		
Development Permit Revisions Review	Review	Project Manager	\$ 52.87	1	2	\$ 105.73		\$ -		2	\$ -		\$ -	\$ -				\$ 139.06		
		Engineering Technician II	\$ 33.33	1	1	\$ 33.33		\$ -		1	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 243.36		
DO NOT USE	Not used at this time. Included for possible future use.	Project Manager	\$ 52.87	1	10	\$ 528.65		\$ -		10	\$ -		\$ -	\$ -				\$ 677.66		
Developer Extension Review (Private Sewer Contract) For Complex Projects		Industrial Relations Manager	\$ 49.67	1	3	\$ 149.00		\$ -		3	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 1,185.90		
DO NOT USE	Not used at this time. Included for possible future use.	Project Manager	\$ 52.87	1	5	\$ 264.33		\$ -		5	\$ -		\$ -	\$ -				\$ 363.66		
Developer Extension Review (Private Sewer Contract) For Non-Complex Projects		Industrial Relations Manager	\$ 49.67	1	2	\$ 99.33		\$ -		2	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
																EXPEDITED REVIEW:	175%	\$ 636.41		
Residential Permits Water/Wastewater	Permit for Residential Home	Engineering Technician II	\$ 33.33	1	1	\$ 33.33		\$ -		1	\$ -		\$ -	\$ -				\$ 33.33		
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
			\$ -			\$ -		\$ -		0	\$ -		\$ -	\$ -						
Private Contracts for Public Facilities																				
		Project Manager	\$ 52.87	1	10	\$ 528.65		\$ -		10	\$ -		\$ -	\$ -						

Private Construction of Public Facilities Plan Review	Review	Industrial Relations Manager	\$ 49.67	1	3	\$ 149.00	-----	\$ -	3	\$ -	-----	\$ -	\$ -	\$ -	\$ 677.66																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -																																																																	
Expedited Review		EXPEDITED REVIEW: 175% \$ 1,185.90																																																																													
DO NOT USE Private Construction of Public Facilities Project Management	Not used at this time. Included for possible future use.	Project Manager	\$ 52.87	1	40	\$ 2,114.62	-----	\$ -	40	\$ -	-----	\$ -	\$ -	\$ -																																																																	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	\$ 2,114.62																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -																																																																	
DO NOT USE THIS SERVICE/ACTIVITY																																																																															
Technology Fees																																																																															
DO NOT USE Technology Usage	Not used at this time. Included for possible future use.	-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	NOT USED AT THIS TIME.																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	This is considered "the cost of doing business"																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -																																																																	
DO NOT USE Document Storage	Not used at this time. Included for possible future use.	-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	NOT USED AT THIS TIME.																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	This is considered "the cost of doing business"																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -																																																																	
DO NOT USE GIS Updates	Not used at this time. Included for possible future use.	GIS Specialist	\$ 29.64	1	2	\$ 59.29	-----	\$ -	2	\$ -	-----	\$ -	\$ -	\$ -	NOT USED AT THIS TIME.																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	This is considered "the cost of doing business"																																																																
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -																																																																	
Document Search and Recording																																																																															
Map and Record Requests	For retrieving historic documentation and existing sewer and water mapping	Engineering Technician II	\$ 33.33	1	1	\$ 33.33	-----	\$ -	1	\$ -	-----	\$ -	\$ -	\$ -																																																																	
		-----	\$ -			\$ -	-----	\$ -	0	\$ -	-----	\$ -	\$ -	\$ -	\$ 33.33																																																																
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Easement Recording	Fee for PWSA to record the easement (instead of the developer).	Paralegal	\$ 33.51	1	6	\$ 201.03	-----	\$ -	6	\$ -	-----	\$ -	\$ -	\$ -	\$ 3,000.00																																																																
		Corporate Counsel	\$ 70.49	2	2	\$ 281.97	-----	\$ -	2	\$ -	-----	\$ -	\$ -	\$ -	\$ 3,698.08																																																																
		Engineering Technician II	\$ 33.33	1	1	\$ 33.33	-----	\$ -	1	\$ -	-----	\$ -	\$ -	\$ -	\$ 181.75																																																																
\$3,000: Engineering doc. prep - Sub surveyor prepares a metes and bounds description and a map of easement. \$181.75: The county fee for filing - Updated yearly.																																																																															
Illegal Connection Penalties																																																																															
Water (unmetered lines) and Wastewater (Illegal sewer taps)	Penalty assessed when an illegal connection is made to the main																																																																														
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Inspection Fees (Hourly Rate)	HOURLY RATE Water and Wastewater Always 1 person, 1 vehicle, 1 hour Those cells are locked	Inspector III	\$ 37.26	1	1	\$ 37.26	Pickup	\$ 12.78	1	1	\$ 12.78	-----	\$ -	\$ -	\$ -																																																																
		-----	\$ -	1	1	\$ -	-----	\$ -	1	1	\$ -	-----	\$ -	\$ -	\$ -																																																																
		-----	\$ -	1	1	\$ -	-----	\$ -	1	1	\$ -	-----	\$ -	\$ -	\$ -																																																																
Hourly Rate (Hours per Task cells are all locked at 1 hour). Minimum of 2 hours																																																																															

FEE CALCULATOR - SUMMARY TABLE
PWSA Cost of Service/Rate Study

Activity	Current Fee	Calculated Fee	Recommended Fee Rounded to the Nearest \$10	
Returned Check Charge	\$30.45	\$30.45		\$40.00
Service Termination/Resumption				
Waterline Shut Permit Review	N/A	\$33.33		\$40.00
Service Termination (Turn-Off at the Curb Stop)	\$75.13	\$48.85		\$50.00
Service Resumption (Turn-On at the Curb Stop)	N/A	\$48.85		\$50.00
Turn-On at the Curb Stop - Standard Time	\$25.38	\$48.85		\$50.00
Turn-On at the Curb Stop - Standard Time (After Normal Business Hours)	N/A	\$73.28		\$80.00
Turn-On at the Curb Stop - Same Day (Normal Business Hours)	\$45.68	\$97.70		\$100.00
Turn-On at the Curb Stop - Same Day (After Normal Business Hours)	N/A	\$146.55		\$150.00
Termination Only Permit	N/A	\$244.79		\$250.00
Misc. Charges and Fees				
Meter Test Rates - Prices Are Set by the PUC				
	Current Fee	Calculated Fee		Recommended Fee
1" or less: NON-VAULT	\$10.00	\$184.37	Meter Test Rates are set by the PUC. They are currently set at: SIZE Hand Enter Fee as it Changes: 1" or Less \$10.00 As approved by commission 1-1/4" - 2" \$20.00 As approved by commission Larger than 2" As approved by commission * As approved by commission, pursuant to 52 Pa. Code § 65.8 (h)	\$10.00
1" or less: IN A VAULT	\$10.00	\$260.24		\$10.00
1 1/4" to 2": NON-VAULT	\$20.00	\$352.96		\$20.00
1 1/4" to 2": IN A VAULT	\$20.00	\$428.83		\$20.00
3": NON-VAULT	*	\$474.19		
3": IN A VAULT	*	\$587.99		
4": NON-VAULT	*	\$595.41		
4": IN A VAULT	*	\$747.15		
Larger than 4": NON-VAULT	*	\$853.65		
Larger than 4": IN A VAULT	*	\$1,081.25		
Misc. Charges and Fees				
Certified Mailing	\$11.28	\$13.70		\$20.00
History Retrieval	\$15.23	\$7.09		\$10.00
Final Bill	\$20.30	\$14.74		\$20.00
Miscellaneous Charges and fees - Non-residential properties only				
Administrative Charge Processing of Backflow Device Tests	\$25.36	\$6.97		\$10.00
Late Fee, Back Flow Device Tests	\$60.90	N/A		\$60.90
Hydrant Permit				
Hydrant Permit Review	N/A	\$16.67		\$20.00
	\$500.00	\$0.00	N/A	N/A
For Metered Usage of a Hydrant (Meter fee for each hydrant)	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee
5/8" Pitt - Positive Displacement Meter	\$680.00	\$181.84	\$64.00	\$245.84
5/8" Non-pitt - Positive Displacement Meter	N/A	\$181.84	\$64.00	\$245.84
5/8" x 3/4" Pitt - Positive Displacement Meter	N/A	\$181.84	\$64.00	\$245.84
5/8" x 3/4" Non-pitt - Positive Displacement Meter	N/A	\$181.84	\$64.00	\$245.84
3/4" Pitt - Positive Displacement Meter	\$780.00	\$181.84	\$85.00	\$266.84
3/4" Non-pitt - Positive Displacement Meter	\$780.00	\$181.84	\$85.00	\$266.84
3/4" Pitt - Electromagnetic or Ultrasonic Meter	\$780.00	\$181.84	\$96.00	\$277.84
3/4" Non-pitt - Electromagnetic or Ultrasonic Meter	\$780.00	\$181.84	\$96.00	\$277.84
1" Pitt - Positive Displacement Meter	\$960.00	\$181.84	\$112.00	\$293.84
1" Non-pitt - Positive Displacement Meter	\$960.00	\$181.84	\$112.00	\$293.84
1" Pitt - Electromagnetic or Ultrasonic Meter	\$960.00	\$181.84	\$125.00	\$306.84
1" Non-pitt - Electromagnetic or Ultrasonic Meter	\$960.00	\$181.84	\$125.00	\$306.84
Fire Hydrant Meter	\$1,039.50	\$181.84	\$785.59	\$967.43
Flow Test Permit Review	N/A	\$56.16	N/A	\$60.00
Hydrant Flow Test	\$500.00	\$340.33	N/A	\$350.00
Unauthorized Use of the Curb Stop to Restore Service	\$500.00	\$548.85	N/A	\$550.00
Customer Facilities Fee				
Connection Fee	Current Fee	Calculated Fee		Recommended Fee
1":	\$177.63	\$339.22		\$340.00
NOT USED 1 1/2":	\$329.88		NOT USED	\$0.00
4":	\$1,106.35	\$394.19		\$400.00
6":	\$1,314.43	\$394.19		\$400.00
8":	\$1,349.95	\$394.19		\$400.00
10":	\$1,415.93	\$394.19		\$400.00
12":	\$1,481.90	\$394.19		\$400.00
Connection Fee - After Normal Business Hours	Current Fee	Calculated Fee		Recommended Fee
1":	\$355.26	\$508.83		\$510.00
NOT USED 1 1/2":	\$659.76		NOT USED	\$0.00
4":	\$2,212.70	\$591.28		\$600.00

RECOMMENDED FEE linked to CURRENT FEE Cell C37

Recommended Fees for Metered Usage of a Hydrant DOES NOT INCLUDE the additional charge of metered consumption at prevailing Commercial volumetric rates.

COST OF METER cells are VLOOKUP. The COST OF METER (column E) Gets the current meter cost by Looking at the meter's name (Column B on this tab) Based on that name, it finds the cost in the ALL_METERS list on the COST REFERENCE METERS-PARTS tab.

All sizes include 1" Corp Stop and 1" coupling

6":	\$2,628.86	\$591.28		\$600.00	All sizes include 1" Corp Stop and 1" coupling
8":	\$2,699.90	\$591.28		\$600.00	
10":	\$2,831.86	\$591.28		\$600.00	
12":	\$2,963.80	\$591.28		\$600.00	
Valve Operations Service Fees, Normal Business Hours	Current Fee	Calculated Fee	Additional Valves	Total Calculated Fee	Recommended Fee
4" – 12":	\$1,233.23	\$254.63	\$0.00	\$254.63	\$260.00
16" – 24":	\$2,009.70	\$368.07	\$0.00	\$368.07	\$370.00
30" – 48":	\$3,283.53	\$368.07	\$0.00	\$368.07	\$370.00
Valve Operations Service Fees, After Normal Business Hours	Current Fee	Calculated Fee	Additional Valves	Total Calculated Fee	Recommended Fee
4" – 12":	\$2,466.46	\$381.94	\$0.00	\$381.94	\$390.00
16" – 24":	\$4,019.40	\$552.10	\$0.00	\$552.10	\$560.00
30" – 48":	\$6,567.06	\$552.10	\$0.00	\$552.10	\$560.00
Water Meters, Domestic	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
5/8" Pitt - Positive Displacement Meter	\$235.00	\$121.23	\$64.00	\$185.23	\$190.00
5/8" Non-pitt - Positive Displacement Meter	\$235.00	\$121.23	\$64.00	\$185.23	\$190.00
5/8" x 3/4" Pitt - Positive Displacement Meter	\$235.00	\$121.23	\$64.00	\$185.23	\$190.00
5/8" x 3/4" Non-pitt - Positive Displacement Meter	\$235.00	\$121.23	\$64.00	\$185.23	\$190.00
3/4" Pitt - Positive Displacement Meter	\$235.00	\$121.23	\$85.00	\$206.23	\$210.00
3/4" Non-pitt - Positive Displacement Meter	\$235.00	\$121.23	\$85.00	\$206.23	\$210.00
3/4" Pitt - Electromagnetic or Ultrasonic Meter	\$252.00	\$121.23	\$96.00	\$217.23	\$220.00
3/4" Non-pitt - Electromagnetic or Ultrasonic Meter	\$252.00	\$121.23	\$96.00	\$217.23	\$220.00
1" Pitt - Positive Displacement Meter	\$289.00	\$121.23	\$112.00	\$233.23	\$240.00
1" Non-pitt - Positive Displacement Meter	\$289.00	\$121.23	\$112.00	\$233.23	\$240.00
1" Pitt - Electromagnetic or Ultrasonic Meter	\$289.00	\$121.23	\$125.00	\$246.23	\$250.00
1" Non-pitt - Electromagnetic or Ultrasonic Meter	\$289.00	\$121.23	\$125.00	\$246.23	\$250.00
Badger Meter E-Series Ultrasonic Meter-1-1/2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts	\$492.00	\$121.23	\$528.95	\$650.18	\$660.00
Badger Meter E-Series Ultrasonic Meter-1-1/2", HEX, including all meter couplings, bushings, & leather gaskets	\$492.00	\$121.23	\$590.14	\$711.37	\$720.00
Badger Meter Record all Disc Meters-1-1/2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts	\$492.00	\$121.23	\$374.69	\$495.92	\$500.00
Badger Meter E-Series Ultrasonic Meter-2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts	\$592.00	\$121.23	\$718.16	\$839.39	\$840.00
Badger Meter E-Series Ultrasonic Meter-2", HEX, including all meter couplings, bushings, & leather gaskets	\$592.00	\$121.23	\$721.28	\$842.51	\$850.00
Badger Meter Recordall Disc Meters-2", HEX, including all meter couplings, bushings, & leather gaskets	\$592.00	\$121.23	\$577.65	\$698.88	\$700.00
Water Meters, Turbine Domestic (VAULT)	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
3":	\$1,045.50	\$545.92	\$929.50	\$1,475.42	\$1,480.00
4":	\$1,334.00	\$545.92	\$1,052.24	\$1,598.16	\$1,600.00
6":	\$2,189.50	\$545.92	\$1,997.92	\$2,543.84	\$2,550.00
8":	\$3,144.50	\$682.40	\$3,167.10	\$3,849.50	\$3,850.00
10":	\$5,068.00	\$682.40	\$4,876.20	\$5,558.60	\$5,560.00
12":	\$9,286.50	\$682.40	\$5,805.00	\$6,487.40	\$6,490.00
16":	\$10,468.00	\$682.40	\$8,400.00	\$9,082.40	\$9,090.00
Water Meters, Turbine Domestic (NON-VAULT)	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
3":	\$1,045.50	\$492.73	\$929.50	\$1,422.23	\$1,430.00
4":	\$1,334.00	\$492.73	\$1,052.24	\$1,544.97	\$1,550.00
6":	\$2,189.50	\$492.73	\$1,997.92	\$2,490.65	\$2,500.00
8":	\$3,144.50	\$818.88	\$3,167.10	\$3,985.98	\$3,990.00
10":	\$5,068.00	\$818.88	\$4,876.20	\$5,695.08	\$5,700.00
12":	\$9,286.50	\$818.88	\$5,805.00	\$6,623.88	\$6,630.00
16":	\$10,468.00	\$818.88	\$8,400.00	\$9,218.88	\$9,220.00
Water Meters, Compound Domestic	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
3":	\$1,688.00	\$303.47	\$1,236.00	\$1,539.47	\$1,540.00
4":	\$1,970.50	\$303.47	\$1,422.00	\$1,725.47	\$1,730.00
6":	\$2,961.00	\$303.47	\$2,596.00	\$2,899.47	\$2,900.00
8":	\$4,881.00	\$303.47	\$9,270.00	\$9,573.47	\$9,580.00
Fire Systems Meters, Turbine	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
3":	\$1,997.50	\$303.47	\$2,016.34	\$2,319.81	\$2,320.00
4":	\$2,268.00	\$303.47	\$2,356.76	\$2,660.23	\$2,670.00
6":	\$3,041.00	\$303.47	\$3,116.15	\$3,419.62	\$3,420.00
8":	\$3,593.50	\$303.47	\$5,810.19	\$6,113.66	\$6,120.00
10":	\$11,219.00	\$303.47	\$10,736.34	\$11,039.81	\$11,040.00
Fire System Meters, Compound	Current Fee	Fee w/o Meter	Cost of Meter	Total Calculated Fee	Recommended Fee
4":	\$2,362.00	\$303.47	\$4,153.13	\$4,456.60	\$4,460.00
6":	\$4,433.50	\$303.47	\$5,677.17	\$5,980.64	\$5,990.00
8":	\$7,173.50	\$303.47	\$9,060.42	\$9,363.89	\$9,370.00
10":	\$11,219.00	\$303.47	\$10,264.99	\$10,568.46	\$10,570.00
WASTEWATER-RELATED FEES					
Activity	Current Fee	Calculated Fee			Recommended Fee
Returned Check Charge	\$30.45	\$30.45			\$40.00
Service Termination	\$75.13	\$48.85			\$50.00
Resumption Rates	\$45.68	\$48.85			\$50.00
Misc. Charges and Fees					
Certified Mailing (Assessed per Account)	\$11.28	\$13.70			\$20.00
History Retrieval (Assessed per Account)	\$15.23	\$7.09			\$10.00
Final Bill (Assessed per Account)	\$20.30	\$14.74			\$20.00

COST OF METER cells are VLOOKUP.

The COST OF METER (column E)
Gets the current meter cost by
Looking at the meter's name (Column B on this tab)
Based on that name, it finds the cost in the
ALL_METERS list on the
COST REFERENCE METERS-PARTS tab.

COST OF METER cells are linked to specific cells
on the Cost Reference Meters Tab
because they are named on this sheet by size only

Dye Test Application Processing Fees				
Activity	Current Fee	Calculated Fee		Recommended Fee
Evidence of Compliance Statement	\$25.38	\$13.87		\$20.00
Temporary Evidence of Compliance Statement	\$25.38	\$27.74		\$30.00
Duplicate Evidence of Compliance Statement	\$25.38	\$13.87		\$20.00
Damage to Authority's Collection Mains or Authority's Storm Water Sewers *				
	\$300.00	\$0.00	* MAINTAINING CURRENT TARIFF LANGUAGE	\$0.00
OTHER MISCELLANEOUS FEES				
Activity	Current Fee	Calculated Fee		Recommended Fee
Termination Permits	N/A	\$244.79		\$250.00
Review of City Permits				
Land Operations Permits	N/A	\$74.51		\$80.00
Street Vacation Permits	N/A	\$90.48		\$100.00
Encroachment Permits	N/A	\$90.48		\$100.00
Developer Fees				
Water and Sewer Availability Letter	N/A	\$33.33		\$40.00
Water and Sewer Use Review Letter	N/A	\$311.46		\$320.00
Water and Sewer Use Review Letter - EXPEDITED	N/A	\$545.06		\$550.00
Pre-Application Meeting DO NOT USE	N/A	\$222.46	NOT USED AT THIS TIME	\$230.00
DEP Sewage Facilities Planning Review	N/A	\$232.16		\$240.00
DEP Sewage Facilities Planning Review - EXPEDITED	N/A	\$406.28		\$410.00
Tap-in Plan Review	N/A	\$417.19		\$420.00
Tap-in Plan Review - EXPEDITED	N/A	\$730.08		\$740.00
Developer Permit Revisions Review	N/A	\$139.06		\$140.00
Developer Permit Revisions Review - EXPEDITED	N/A	\$243.36		\$250.00
Developer Extension Review (Priv Sewer Contract) Complex Projects DO NOT USE	N/A	\$677.66	NOT USED AT THIS TIME	\$680.00
Developer Extension Review (Priv Sewer Contract) Complex Projects - EXPEDITED DO NOT USE	N/A	\$1,185.90	NOT USED AT THIS TIME	\$1,190.00
Developer Extension Review (Priv Sewer Contract) Non-Complex Projects DO NOT USE	N/A	\$363.66	NOT USED AT THIS TIME	\$370.00
Developer Extension Review (Priv Sewer Contract) Non-Complex Projects - EXPEDITED DO NOT USE	N/A	\$636.41	NOT USED AT THIS TIME	\$640.00
Residential Permits	N/A	\$33.33		\$40.00
Private Contracts for Public Facilities				
Private Construction of Public Facilities Plan Review	N/A	\$677.66		\$680.00
Private Construction of Public Facilities Plan Review - EXPEDITED	N/A	\$1,185.90		\$1,190.00
Private Construction of Public Facilities Project Management DO NOT USE	N/A	\$2,114.62	NOT USED AT THIS TIME	\$2,120.00
Technology Fees				
Technology Usage DO NOT USE	N/A	\$0.00	NOT USED AT THIS TIME	\$0.00
Document Storage DO NOT USE	N/A	\$0.00	NOT USED AT THIS TIME	\$0.00
GIS Updates DO NOT USE	N/A	\$59.29	NOT USED AT THIS TIME	\$60.00
Document Search and Recording				
Map and Record Requests	N/A	\$33.33		\$40.00
Easement Recording	N/A	\$3,698.08		\$3,700.00
Illegal Connection Penalties - Water, Residential				
Illegal Connection Penalties - Water, Residential	N/A	\$128.04	Repayment of the past 2 yrs @ double the flat rate	\$130.00
Illegal Connection Penalties - Water, Commercial	N/A	\$150.14	Repayment of the past 2 yrs @ double the flat rate	\$160.00
Illegal Connection Penalties - Wastewater, Residential	N/A	\$51.98	Repayment of the past 2 yrs @ double the flat rate	\$60.00
Illegal Connection Penalties - Wastewater, Commercial	N/A	\$104.94	Repayment of the past 2 yrs @ double the flat rate	\$110.00
Inspection Fees (Hourly Rate. Minimum 2 Hours)				
Inspection Fees (Hourly Rate. Minimum 2 Hours)	N/A	\$50.04		\$60.00

Not used at this time. Included for possible future use.

Not used at this time. Included for possible future use.

Repayment of past 2 yrs based on flat rate, w/ multiplier of 200%

Repayment of past 2 yrs based on flat rate, w/ multiplier of 200%

Repayment of past 2 yrs based on flat rate, w/ multiplier of 200%

Repayment of past 2 yrs based on flat rate, w/ multiplier of 200%

PER HOUR - Minimum of 2 hours (\$120.00)

Overhead Rate 23%

PWSA LABOR RATES		
Rev. 12/14/20		
Hourly rate (Average Rate per Job Position)	Auto Calculated	Hand Enter
Title	Burdened Rate	Unburdened Rate
-----	\$0.00	\$0.00
Account Clerk	\$27.29	\$22.19
Accounting Specialist	\$33.25	\$27.03
Acting Senior Group Manager	\$79.06	\$64.28
Administrative Assistant	\$28.63	\$23.28
AMI and Billing Manager	\$42.58	\$34.62
Associate Project Manager	\$45.36	\$36.88
Billing Analyst, Corporate Accounts	\$28.55	\$23.21
Billing Specialist	\$28.39	\$23.08
Business Intelligence Analyst & Database Administer	\$58.25	\$47.36
Capital Projects Project Manager	\$62.09	\$50.48
Chemist I	\$28.70	\$23.33
Chemist I, Yr 5	\$33.78	\$27.46
Chemist II, Yr 7	\$42.07	\$34.20
Clerical Specialist II	\$27.87	\$22.66
Compliance Analyst	\$29.20	\$23.74
Construction Communications Project Manager	\$32.82	\$26.68
Construction Project Manager, Capital Projects	\$59.14	\$48.08
Contract Specialist	\$34.44	\$28.00
Cooperative Education	\$20.87	\$16.97
Corporate Counsel	\$70.49	\$57.31
CS Administrative Assistant	\$25.47	\$20.71
CS Senior Manager	\$45.24	\$36.78
CSR I	\$23.52	\$19.12
CSR I, PT (1000 Hours)	\$23.75	\$19.31
CSR I, PT (1500 Hours)	\$23.75	\$19.31
CSR II	\$26.15	\$21.26
Development Coordinator	\$31.93	\$25.96
Dispatcher	\$26.16	\$21.27
Document Management Associate	\$22.39	\$18.20
Document Management Specialist	\$38.44	\$31.25
E&C Administrative Assistant	\$28.43	\$23.11
E&C Associate Project Manager	\$47.45	\$38.58
E&C Project Manager	\$57.86	\$47.04
Education & Outreach Associate	\$25.58	\$20.80
Electrician, Licensed	\$39.19	\$31.86
Engineer II	\$0.00	
Engineer III	\$40.43	\$32.87
Engineering Deputy Director	\$88.31	\$71.80
Engineering Technician I	\$27.74	\$22.55
Engineering Technician II	\$33.33	\$27.10
Engineering Technician III	\$35.89	\$29.18
Environmental Compliance Administration Assistant	\$27.11	\$22.04
Environmental Compliance Coordinator	\$39.59	\$32.19
Equipment Repair Specialist	\$35.06	\$28.50
Executive Administrative Supervisor	\$41.19	\$33.49
Field Service Technician II	\$26.21	\$21.31
Fleet & Contract Administrator	\$31.99	\$26.01
GIS Analyst	\$39.50	\$32.11
GIS Project Coordinator	\$45.01	\$36.59
GIS Specialist	\$29.64	\$24.10
Heavy Equipment Operator	\$37.18	\$30.23
Help Desk Technician II	\$30.07	\$24.45
Human Resources Assistant	\$30.32	\$24.65
Human Resources Assistant Manager	\$49.84	\$40.52

PWSA Vehicle Rates	
Rev. 12/15/20	
Hourly rate	Hand Enter
Type	Rate
-----	\$0.00
Arrow Board	\$4.53
Backhoe	\$43.46
CCTV van	\$97.68
Dump truck	\$57.70
Hazmat Tank truck	\$34.56
LD van	\$30.18
Lg Crane truck	\$51.10
Pickup	\$12.78
Pickup w/compressor	\$22.64
Plow Truck	\$54.17
Plumber van	\$22.68
Skid loader	\$38.72
Sm. Crane truck	\$43.79
SUV/Auto	\$12.43
Tandem dump	\$91.65
Utility truck w/compressor&G	\$49.33
Vactor	\$165.50
Valve truck	\$42.99
Water Buffalo	\$4.35
Welder truck	\$32.67

"After Hours" Adjustment %
150%

"Expedited Review" Adjustment %
150%

Human Resources Specialist	\$36.84	\$29.95
Industrial Relations Manager	\$49.67	\$40.38
Inspector II	\$35.50	\$28.86
Inspector III	\$37.26	\$30.29
Inventory Control Specialist	\$24.86	\$20.21
Inventory Control Specialist II	\$30.32	\$24.65
IT Administrative Assistant	\$26.80	\$21.79
IT Manager	\$57.81	\$47.00
IT Project Manager	\$54.21	\$44.07
Laboratory Project Manager	\$44.34	\$36.05
Laborer	\$32.04	\$26.05
Lead Help Field Liaison, Senior Inspector	\$36.80	\$29.92
Lead Program Customer Assistance	\$30.69	\$24.95
Leak Detection Specialist	\$36.01	\$29.28
Machinist	\$36.83	\$29.94
Meter Repair Specialist	\$31.57	\$25.67
Network Systems Administrator	\$50.13	\$40.76
Painter	\$35.94	\$29.22
Paralegal	\$33.51	\$27.24
Plant Maintenance Foreman	\$39.96	\$32.49
Plant Operator	\$35.99	\$29.26
Plant Operator, Class A	\$37.01	\$30.09
Plumber	\$37.93	\$30.84
Procurement Assistant	\$29.75	\$24.19
Production Project Manager	\$65.04	\$52.88
Project Manager	\$52.87	\$42.98
Project Systems Coordinator	\$41.39	\$33.65
Project Systems Specialist	\$32.94	\$26.78
Public Affairs Associate	\$25.58	\$20.80
Risk Coordinator	\$44.46	\$36.15
RNI Data Analyst	\$39.50	\$32.11
Scada Technician	\$59.38	\$48.28
Scientist I	\$30.45	\$24.76
Scientist II	\$36.54	\$29.71
Senior Accounting Specialist	\$38.73	\$31.49
Senior AMI & Billing Manager	\$45.24	\$36.78
Senior Billing Coordinator	\$38.44	\$31.25
Senior Billing Specialist	\$30.75	\$25.00
Senior Collections Coordinator	\$38.44	\$31.25
Senior Contract Specialist	\$53.75	\$43.70
Senior Customer Service Coordinator	\$38.44	\$31.25
Senior Engineering Technician	\$42.66	\$34.68
Senior GIS Analyst	\$42.26	\$34.36
Senior Group Manager, Wastewater	\$73.92	\$60.10
Senior Group Manager, Water Programs	\$88.31	\$71.80
Senior Health and Safety Manager	\$65.67	\$53.39
Senior Lead Help Coordinator	\$38.44	\$31.25
Senior Manager, Construction	\$68.83	\$55.96
Senior Manager, Field Operations	\$51.54	\$41.90
Senior Manager, Performance	\$41.39	\$33.65
Senior Manager, Procurement	\$69.11	\$56.19
Senior Manager, Production	\$72.41	\$58.87
Senior Manager, Project Controls	\$76.14	\$61.90
Senior Manager, PUC Compliance	\$45.24	\$36.78
Senior Manager, Water Quality/Environmental Compliance	\$63.57	\$51.68
Senior Project Manager, Water Group	\$70.05	\$56.95
Senior Public Affairs Coordinator	\$43.85	\$35.65
Senior Training Coordinator	\$38.44	\$31.25
Sewer Administrative Assistant	\$28.76	\$23.38
Sewer Plumbing Foreman	\$39.66	\$32.24
Sewer Service Foreman	\$39.66	\$32.24
SQL BI Developer	\$49.59	\$40.32
Stationary Engineer	\$36.43	\$29.62
Stormwater GIS Analyst	\$39.50	\$32.11
Stormwater Senior Project Manager	\$65.78	\$53.48
Superintendent	\$45.57	\$37.05

Superintendent of Sewers	\$45.57	\$37.05
Sustainability Manager	\$52.21	\$42.45
T.V. Truck Specialist	\$36.01	\$29.28
Truck Driver	\$34.19	\$27.80
Truck Driver - Special/Winch	\$34.58	\$28.11
Truck Driver- Hazmat	\$35.06	\$28.50
Utility Worker	\$35.51	\$28.87
Vactor Operator	\$35.39	\$28.77
Valve & Hydrant Operator	\$34.62	\$28.15
Valve & Hydrant Specialist	\$35.23	\$28.64
Water Production Administrator	\$38.24	\$31.09
Water Quality Data Manager	\$39.85	\$32.40
Water Repair Foreman	\$39.86	\$32.41
Welder	\$37.00	\$30.08

EQUIPMENT				
As of 12/14/20				
	Item No.	Description	2021 Unit Price	
	NO SELECTION	N/A	\$0.00	
Project No: 2020-008-CA Project Title: Small Meters - Neptune Bid Opening: 8/13/2020	Group 1 - Positive Displacement	1-1	5/8" Pitt - Positive Displacement Meter	\$64.00
		1-2	5/8" x 3/4" Pitt - Positive Displacement Meter	\$64.00
		1-3	3/4" Pitt - Positive Displacement Meter	\$85.00
		1-4	1" Pitt - Positive Displacement Meter	\$112.00
		1-5	5/8" Non-pitt - Positive Displacement Meter	\$64.00
		1-6	5/8" x 3/4" Non-pitt - Positive Displacement Meter	\$64.00
		1-7	3/4" Non-pitt - Positive Displacement Meter	\$85.00
		1-8	1" Non-pitt - Positive Displacement Meter	\$112.00
Project No: 2020-008-CA Project Title: Small Meters - L/B Water Bid Opening: 8/13/2020	Group 2 - Electromagnetic or Ultrasonic	2-1	3/4" Pitt - Electromagnetic or Ultrasonic Meter	\$96.00
		2-2	1" Pitt - Electromagnetic or Ultrasonic Meter	\$125.00
		2-3	3/4" Non-pitt - Electromagnetic or Ultrasonic Meter	\$96.00
		2-4	1" Non-pitt - Electromagnetic or Ultrasonic Meter	\$125.00
	NO SELECTION	N/A	\$0.00	
Project No: 2020-008-CA Project Title: Small Meters - L/B Water Bid Opening: 8/13/2020	Group 3	3-1	MXU510M-W-1, Flexnet Migrateable MXU - Non-Pit Version, Wired Single Port	\$106.25
		3-2	MXU520M-W-1, Flexnet Migrateable MXU - Pit Version, Wired Single Port	\$112.50
		3-3	Tailpiece 5/8", C38-11-2.375-NL 5/8", (5/8 METER) x 1/2" MPT	\$8.17
		3-4	Tailpiece 3/4", C38-23-2.5-NL 3/4" (5/8x3/4 METER) x 3/4" MPT	\$9.30
		3-5	Tailpiece 1", C38-44-2.625-NL 1", (1" meter) X 1" MPT	\$14.35
		3-6	Gasket 5/8"GT- 108 MTR CPLG, Leather	\$0.15
		3-7	Gasket 3/4", GT-114 MTR CPLG, Leather GASKET 3/4"	\$0.15
		3-8	Gasket 1", MTR CPLG, GASKET 1" Leather	\$0.20
		3-9	Nomads complete w/ Command Links & charging accessories	\$5,000.00
		3-10	Nomads including chargers	\$4,500.00
		3-11	Command Links including chargers	\$500.00
	For Tapping	1" Corporation Stop	\$73.13	
		1' Coupling	\$69.00	
Project No: PWSA106 Project Title: Large Water Meters - L/B Water Option 2 Pricing Option 2: 12/13/20-12/12/21	Group A-Compound	1	3" Compound Type Cold Water Meter with Strainer	\$1,236.00
		2	4" Compound Type Cold Water Meter with Strainer	\$1,422.00
		3	6" Compound Type Cold Water Meter with Strainer	\$2,596.00
		4	10" Compound Type Cold Water Meter with Strainer	\$9,270.00
Project No: PWSA106 Project Title: Large Water Meters - Neptune Option 2 Pricing Option 2: 2/13/20-12/12/21	Group B Turbine	1	3" Turbine Cold Water Meter with Strainer	\$929.50
		2	4" Turbine Cold Water Meter with Strainer	\$1,052.24
		3	6" Turbine Cold Water Meter with Strainer	\$1,997.92
		4	8" Turbine Cold Water Meter with Strainer	\$3,167.10
		5	10" Turbine Cold Water Meter with Strainer	\$4,876.20
		6	12" Turbine Cold Water Meter with Strainer	\$5,805.00
		7	16" Turbine Cold Water meter with Strainer	\$8,400.00
	Group C Fire	1	3" Fire Meter with Strainer	\$2,016.34
		2	4" Fire Meter with Strainer	\$2,356.76

Project No: PWSA106 Project Title: Large Water Meters - Badger Meter Option 2 Pricing Option 2: 12/13/20-12/12/21		3	6" Fire Meter with Strainer	\$3,116.15
		4	8" Fire Meter with Strainer	\$5,810.19
		5	10" Fire Meter with Strainer	\$10,736.34
	Group D Compound Fire	1	4" Compound Fire Meter with Strainer	\$4,153.13
		2	6" Compound Fire Meter with Strainer	\$5,677.17
		3	8" Compound Fire Meter with Strainer	\$9,060.42
		4	10" Compound Fire Meter with Strainer	\$10,264.99
	Group E Fire Hydrant	1	Fire Hydrant Meter	\$785.59
	PWSA81 1-1 1/2" & 2" Water Meters - Badger Meter Option 3 Pricing June 2, 2020 - June 1, 2021		1	Badger Meter E-Series Ultrasonic Meter-1-1/2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts
		2	Badger Meter E-Series Ultrasonic Meter-1-1/2", HEX, including all meter couplings, bushings, & leather gaskets	\$590.14
		3	Badger Meter E-Series Ultrasonic Meter-2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts	\$718.16
		4	Badger Meter E-Series Ultrasonic Meter-2", HEX, including all meter couplings, bushings, & leather gaskets	\$721.28
		5	Badger Meter Record all Disc Meters-1-1/2", Elliptical, including all oval companion flanges, gaskets, bolts, and nuts	\$374.69
		6	Badger Meter Recordall Disc Meters-2", HEX, including all meter couplings, bushings, & leather gaskets	\$577.65

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

TONY IGWE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3924779 (Stormwater)

TOPICS:

Stormwater

July 28, 2021

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Exhibit TI-7	PWSA Proposed Stormwater Tariff – Revised Page 10

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PWSA.**

3 A. My name is Tony Igwe. I am the Senior Group Manager, Stormwater for The Pittsburgh
4 Water and Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021 which accompanied the filing
7 package supporting the PWSA’s requested base rate increase and the implementation of a
8 stormwater fee. I also submitted Supplemental Direct Testimony on June 14, 2021.

9 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

10 A. The purpose of this testimony is to respond to the direct testimony of OCA witnesses
11 Scott D. Rubin and Barbara Alexander, Pittsburgh UNITED witness Michele C.W.
12 Adams, I&E witness Ethan Cline, and OSBA witness Brian Kalcic regarding stormwater
13 issues.¹

14 **Q. ARE OTHER WITNESSES PROVIDING REBUTTAL TESTIMONY**
15 **REGARDING THE STORMWATER PROGRAM AND PROPOSED FEE?**

16 A. Yes. Mr. Readling’s rebuttal also responds to testimony on the stormwater fee.
17 Additionally, Ms. Quigley responds to customer service-related topics.

18 **II. JURISDICTIONAL ISSUES**

¹ PWSA notes that the parties did not respond to the Commission’s Technical Staff Report and Directed Questions Stage 2, which were issued on May 20, 2021, and likewise did not respond to PWSA’s Supplemental Direct Testimony regarding the Directed Questions. *See* I&E St. No. 1 at 6.

1 **Q. PLEASE SUMMARIZE OCA WITNESS RUBIN’S TESTIMONY CONCERNING**
 2 **THE COMMISSION’S JURISDICTION TO REGULATE STORMWATER**
 3 **SERVICE.**

4 A. Mr. Rubin raises OCA’s concern as to whether the Commission’s jurisdiction to set rates
 5 for stormwater service extends to areas served by a municipal separate storm sewer
 6 system (“MS4”). He states that this is a legal issue that will be addressed in briefs, but
 7 concludes based on policy considerations that PWSA should be permitted to charge for
 8 stormwater service throughout its service territory, regardless of whether a property is
 9 served by the combined sewer system or an MS4. OCA St. 3 at 16-20.

10 **Q. PLEASE RESPOND.**

11 A. I am advised by counsel that the extent of the Commission’s jurisdiction over stormwater
 12 service is a legal issue that, if necessary, will be addressed in PWSA’s briefs in this
 13 matter. However, I would note that Commission has already addressed its jurisdiction
 14 over stormwater service as part of its Final Implementation Order (“FIO”) implementing
 15 Chapter 32 of the Public Utility Code.² The Commission concluded that it has
 16 jurisdiction over both PWSA’s combined sewer system and MS4.³

17 Further, given the nature of PWSA’s system, it is necessary to assess a
 18 stormwater fee across the service area regardless of whether a property is located in an
 19 area served by the combined sewer system or in an MS4 area. As explained in my direct
 20 testimony, approximately 75% of PWSA’s system is a combined sewer system, while the

² Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Authority, Final Implementation Order (entered Mar. 15, 2018), Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), at 5.

³ *Id.* (“As to the stand-alone stormwater service offered by PWSA, commentators opine that Act 65 effectively repealed the exclusion of stormwater collected in a separate storm sewer system from Commission jurisdiction per 66 Pa. C.S. §102....Based on the analysis of the TIO and the comments, the Commission concludes that it has jurisdiction over the stand-alone stormwater service provided by PWSA...”)

1 remaining 25% is a municipal separate storm sewer system (“MS4”). However, parts of
2 the MS4 still ultimately connect and flow into the combined system. Given the
3 complexities of PWSA’s system, it would not be reasonable or equitable to only charge a
4 stormwater fee to properties served by the combined system. Therefore, a stormwater fee
5 should be assessed on all properties in PWSA’s service area that have at least 400 square
6 feet of impervious area.

7 **III. STORMWATER PLANNING**

8 **Q. PLEASE SUMMARIZE UNITED WITNESS ADAMS’ TESTIMONY**
9 **REGARDING PWSA’S STORMWATER MASTER PLAN.**

10 A. Overall, Ms. Adams strongly supports PWSA’s development of a stormwater master plan
11 to guide its stormwater management activities, prioritize stormwater projects, and ensure
12 regulatory compliance. However, she is concerned with the timing of the stormwater
13 master plan, public involvement in the planning process, and the degree to which the
14 stormwater master plan will provide benefits to low-income communities. UNITED St. 2
15 at 7.

16 **Q. WHAT IS MS. ADAMS’ CONCERN WITH THE TIMING OF THE**
17 **STORMWATER MASTER PLAN?**

18 A. Ms. Adams states that it is “out of sequence” for PWSA to propose stormwater rates
19 before the Stormwater Master Plan is completed. She testified that, given then
20 connection between the stormwater master plan, stormwater revenue requirements, and
21 the level of stormwater rates, it would be preferable for the master plan to be available to
22 inform the investigation into whether the proposed stormwater rates are just and
23 reasonable. UNITED St. 2 at 7-8.

1 **Q. WHY IS PWSA PROPOSING TO IMPLEMENT THE STORMWATER FEE**
 2 **WHILE THE STORMWATER MASTER PLAN IS STILL IN DEVELOPMENT?**

3 A. As explained in my direct testimony,⁴ the Commission’s FIO directed PWSA to file a
 4 stormwater tariff and a compliance plan no later than its next wastewater base rate filing
 5 after its July 2018 base rate filing.⁵ In order to satisfy the FIO’s requirement, PWSA
 6 submitted a stormwater tariff as part of its 2020 base rate proceeding but did not propose
 7 a stormwater fee at that time. The settlement of the 2020 rate case (to which UNITED
 8 was a party) provided that the development of the stormwater tariff would be deferred to
 9 PWSA’s next combined water, wastewater and stormwater base rate case.⁶ In order to
 10 comply with the FIO and the 2020 rate case settlement, PWSA has proposed a
 11 stormwater tariff and stormwater fee as part of this rate case.

12 **Q. DO YOU AGREE WITH MS. ADAMS’ SUGGESTION THAT THE**
 13 **STORMWATER MASTER PLAN SHOULD BE COMPLETED BEFORE THE**
 14 **STORMWATER FEE GOES INTO EFFECT?**

15 A. No. While PWSA understands that it may have been ideal for the Stormwater Master
 16 Plan to be completed before the stormwater fee was proposed, PWSA was obligated to
 17 propose and implement the stormwater tariff and fee as part of this rate case in order to
 18 comply with the FIO and the 2020 rate case settlement. Additionally, it is important to
 19 understand that the level of stormwater fee proposed in this rate case only reflects current
 20 stormwater projects and level of service, and does not reflect any future projects that
 21 would be developed through the Stormwater Master Plan. While the plan will have

⁴ PWSA St. No. 7 at 3-4.

⁵ Implementation of Chapter 32 of the Public Utility Code Re Pittsburgh Water and Sewer Authority, Final Implementation Order (entered Mar. 15, 2018), Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), at 31.

⁶ *See Pa. P.U.C. v. Pittsburgh Water and Sewer Authority*, Docket Nos. R-2020-3017951 and R-2020-3017970, Recommended Decision (dated Oct. 29, 2020) at 24-26 (approved without modification in the Order entered Dec. 3, 2020).

1 revenue requirement impacts in the future, that impact will be taken into consideration in
 2 future stormwater rate cases and does not affect the level of stormwater fee in this initial
 3 stormwater rate case. Therefore, it is not necessary for the Stormwater Master Plan to be
 4 in place before the initial stormwater fee is implemented.

5 **Q. PLEASE RESPOND TO MS. ADAMS’ POSITION THAT, AT A MINIMUM, THE**
 6 **STORMWATER MASTER PLAN SHOULD BE REVIEWED AS PART OF ANY**
 7 **FUTURE STORMWATER RATE CASES AND COMPLIANCE PLAN**
 8 **PROCEEDINGS.**

9 A. Once the Stormwater Master Plan is completed (which is currently expected in summer
 10 2022), the plan will be made publicly available via PWSA’s website. The plan will
 11 inform future decisions about capital projects and other stormwater activities, which will
 12 have rate impacts. Those rate impacts will be addressed and approved by the
 13 Commission in future stormwater rate proceedings.

14 **Q. WHAT IS MS. ADAMS’ CONCERN REGARDING PUBLIC INVOLVEMENT IN**
 15 **THE STORMWATER PLANNING PROCESS?**

16 A. Ms. Adams states that PWSA should gather input from a wide variety of stakeholders in
 17 developing the Stormwater Master Plan. This public input should be collected iteratively
 18 throughout the planning process and through a variety of formats. Ms. Adams
 19 recommends that a Stakeholder Engagement Plan be developed and publicized as soon as
 20 possible. UNITED St. 2 at 8.

21 **Q. HOW DO YOU RESPOND?**

22 A. As Ms. Adams recognized, a Stakeholder Engagement Plan is currently being developed
 23 as part of the master planning process. Once completed, PWSA does intend to make this
 24 plan publicly available and begin conducting outreach to inform the development of the
 25 master plan. PWSA believes that public input is an essential part of a developing a
 26 master plan that meets the needs of its customers, and looks forward to working with a

1 variety of stakeholders to shape the future of stormwater management efforts in
2 Pittsburgh.

3 **Q. PLEASE SUMMARIZE MS. ADAMS' TESTIMONY ON THE STORMWATER**
4 **MASTER PLAN AND BENEFITS TO LOW INCOME COMMUNITIES.**

5 A. Regarding how the Stormwater Master Plan will guide PWSA's selection and
6 prioritization of stormwater projects, Ms. Adams recommends that the plan should create
7 processes and metrics to ensure that low income communities share equitably in the
8 benefits provided by PWSA's stormwater projects. UNITED St. 2 at 9. She also states
9 that projects should not only be prioritized based on their capacity to meet regulatory
10 requirements, but also include projects that will provide triple bottom line benefits to low
11 income and environmental justice communities. UNITED St. 2 at 12.

12 **Q. HOW DO YOU RESPOND?**

13 A. PWSA intends to consider a variety of factors in selecting and prioritizing stormwater
14 projects, including consideration of benefits to low income and environmental justice
15 communities. In fact, PWSA anticipates that compliance with regulatory requirements
16 will likely include consideration of impacts on environmental justice areas. The
17 Authority is currently negotiating consent decrees with the U.S. Environmental
18 Protection Agency (EPA) and the Department of Justice (DOJ), both of which have
19 raised consideration of environmental justice issues as an approach to prioritizing
20 projects. Following environmental justice principles will allow PWSA to consider
21 benefits to historically underserved communities as a factor in selecting and prioritizing
22 stormwater projects.

23 I would also point to a report released earlier this year entitled "An Equitable
24 Water Future: Pittsburgh" that outlines strategies for equitable water management in

1 Pittsburgh.⁷ This report was collaboratively developed by the Water Equity Task Force,
2 which was convened by the US Water Alliance and included representatives from PWSA
3 as well as from community-based organizations (such as Pittsburgh UNITED's Our
4 Water Campaign) and academia. The report outlines strategies to address five high
5 priority areas to create a sustainable, inclusive and just water future in the City, one of
6 which is sustainable stormwater management. The stormwater recommendations include
7 prioritizing equity in infrastructure investments; coordinating stormwater investments to
8 maximize community benefit; and advancing equity through City Code updates.
9 PWSA's participation in this project shows that the Authority is committed to selecting
10 and prioritizing stormwater projects in an equitable manner.

11 **Q. DOES MS. ADAMS MAKE OTHER RECOMMENDATIONS FOR HOW PWSA**
12 **SHOULD PRIORITIZE STORMWATER PROJECTS?**

13 A. Yes. Ms. Adams recommends that PWSA consolidate its various stormwater-related
14 goals and criteria and provide a clear vision for how it will select and prioritize
15 stormwater projects. UNITED St. 2 at 10-11. She also recommends that PWSA continue
16 to emphasize green infrastructure projects while also implementing gray infrastructure
17 projects where necessary to ensure safe and effective stormwater service. UNITED St. 2
18 at 13.

19 **Q. DO YOU AGREE WITH THESE RECOMMENDATIONS?**

20 A. Yes, and PWSA is already doing this. The Stormwater Master Plan is intended to
21 provide a clear articulation of how PWSA will select and prioritize stormwater

⁷ Available at:
<http://www.uswateralliance.org/sites/uswateralliance.org/files/publications/Pittsburgh%20Equity%20Road%20map.pdf>.

1 infrastructure projects going forward. Additionally, the Authority will continue to utilize
2 both green and gray infrastructure as necessary to provide adequate stormwater service to
3 its customers.

4 **IV. STORMWATER CUSTOMER EDUCATION AND OUTREACH**

5 **Q. PLEASE SUMMARIZE THE TESTIMONY SUBMITTED BY THE PARTIES**
6 **REGARDING PWSA'S CUSTOMER EDUCATION AND OUTREACH ON THE**
7 **STORMWATER FEE.**

8 A. UNITED witness Adams makes a variety of recommendations for customer education
9 and outreach on the stormwater fee. She states that, before the stormwater fee goes into
10 effect, PWSA should display on customer bills the portion of the wastewater charge
11 attributable to stormwater; that future educational materials should include graphics
12 explaining why the stormwater fee is a more equitable rate structure; that PWSA should
13 continue to conduct outreach, specifically to churches and low income communities, and
14 track and publicly report its outreach efforts using objective metrics; and should include
15 representatives of low income communities in the Stormwater Advisory Group. UNITED
16 St. 2 at 27-29. OCA witness Alexander also testified that significant outreach and
17 education to customers will be necessary to implement the stormwater fee. *See* OCA St.
18 5 at 31.

19 **Q. SINCE THIS RATE CASE WAS FILED IN APRIL 2021, HAS PWSA BEEN**
20 **CONDUCTING OUTREACH AND EDUCATION ON THE PROPOSED**
21 **STORMWATER FEE?**

22 A. Yes, PWSA has conducted significant outreach to-date and continues educating
23 customers about the stormwater fee. PWSA has reached out to a variety of community
24 groups and other stakeholders, requesting to attend meetings and provide a presentation
25 on the proposed stormwater fee and efforts to develop a comprehensive plan to manage

1 stormwater, as well as discuss projects taking place in and around specific neighborhoods
 2 and answer any questions about local stormwater challenges. PWSA has attended these
 3 meetings to speak with customers both virtually and in-person. This outreach builds on
 4 the ongoing engagement that PWSA has had with customers and community groups
 5 about stormwater issues and a potential fee in recent years, which also included numerous
 6 community presentations and convening the Stormwater Advisory Group.

7 Table 1 below provides a list of community meetings and events that PWSA has
 8 attended since the rate case was filed on April 13, 2021 in order to educate customers on
 9 the stormwater program and fee:

10 **Table 1: PWSA Education and Outreach Meetings As Of July 29, 2021**

Organization	Meeting Date
Mount Washington Community Development Corporation	April 15, 2021
Building Owners & Managers Association of Pittsburgh	April 22, 2021
NAIOP Commercial Real Estate Development Association – Pittsburgh Chapter	May 11, 2021
Brighton Heights Citizen Federation	May 13, 2021
Bellefield Area Citizens Association	June 8, 2021
Allegheny City Central Association	June 14, 2021
Parking Operators	June 16, 2021
Pittsburgh Council on Higher Education	June 23, 2021
Bloomfield-Garfield Corporation	June 29, 2021
All Pittsburgh Watersheds Task Force	June 30, 2021
North Point Breeze Development Corporation	July 12, 2021
31 st Ward Community Action Group	July 13, 2021

1 In addition, PWSA has the following meetings scheduled in the near future, with
 2 additional meetings continuing to be scheduled on an ongoing basis:

3 **Table 2: Upcoming PWSA Education and Outreach Meetings**

Organization	Meeting Date
Hazelwood Initiative	August 10, 2021
Highland Park Community Council	August 19, 2021
Oakland Planning and Development Corporation	August 31, 2021
Spring Hill Civic League	September 13, 2021

4
 5 **Q. DO YOU HAVE ANY OBSERVATIONS ABOUT THE OUTREACH MEETINGS**
 6 **CONDUCTED TO-DATE?**

7 A. Yes. I would note that the meetings conducted so far have reached a wide-ranging group
 8 of customers. PWSA has met with community groups representing a variety of different
 9 neighborhoods in geographic areas throughout the service territory, and a number of
 10 these community groups represent neighborhoods with significant low income
 11 populations. PWSA has also met with stakeholders representing small businesses,
 12 developers, parking operators, and universities. PWSA continues scheduling these
 13 community and stakeholder meetings and looks forward to discussing the stormwater
 14 program and stormwater fees with many more groups in the coming months.

15 **Q. HAS PWSA RECONVENED THE STORMWATER ADVISORY GROUP?**

16 A. Yes, PWSA has reconvened the Stormwater Advisory Group (“SWAG”). Two
 17 additional SWAG meetings were held on April 22, 2021 and May 20, 2021, with at least
 18 one additional meeting anticipated to be scheduled in late summer 2021.

19 As explained in my direct testimony, the SWAG is comprised of 20 high level
 20 stakeholders from the public and private sectors. This group previously developed a

1 series of recommendations⁸ that served as the basis for developing the stormwater fee.

2 At the recent meetings, PWSA has presented the proposed stormwater fee to the advisory
3 group for discussion, and has sought input on ways to effectively educate customers on
4 the importance and design of the stormwater fee.

5 SWAG members include representatives from foundations, environmental groups,
6 the faith community, and community development organizations, among others, who
7 have been mindful of the impact the stormwater fee may have on low income
8 communities.⁹ This advisory group is open to additional membership going forward if
9 other stakeholders express an interest. We expect that the advisory group will continue to
10 meet periodically as the stormwater fee evolves. After the stormwater fee is
11 implemented, the SWAG's insight and participation will continue to serve as a valuable
12 sounding board as PWSA educates customers about the fee, identifies projects, and
13 determines how to utilize revenue generated by the fee.

14 **Q. WHAT OTHER OUTREACH AND EDUCATION EFFORTS DOES PWSA PLAN**
15 **TO UNDERTAKE?**

16 A. In addition to information posted on its general website, PWSA has created a website
17 specifically dedicated to stormwater.¹⁰ The website currently includes information about
18 PWSA's stormwater plan and current and future projects, as well as an explanation of the
19 proposed stormwater fee for residential and non-residential customers. It also includes a
20 Frequently Asked Questions section. This website continues to be developed and more

⁸ The SWAG's Findings were previously provided as PWSA Exhibit TI-3.

⁹ PWSA Exhibit TI-3 includes a list of SWAG members on page 1.

¹⁰ <https://pgh2ostormwater.com/>

1 information will be added as PWSA continues its outreach efforts and once the
 2 stormwater fee is approved by the Commission.

3 PWSA has created a video explaining Pittsburgh’s stormwater challenges,
 4 introducing the stormwater fee and describing the steps being taken to better manage
 5 stormwater. Upon approval of the stormwater fee, PWSA also intends to develop an
 6 explainer video focusing on how customers are charged for stormwater service and how
 7 the fee will appear on a customer’s bill.

8 As discussed in my direct testimony, PWSA will also use social media, ongoing
 9 media relations, and presentations to community groups as part of its ongoing
 10 communications campaign. With COVID-19 restrictions being relaxed, we are starting
 11 to participate in live community events including the annual ALCOSAN Open House,
 12 South Side Park Goat Fest, and Riverview Park Days. These local community events
 13 will provide an opportunity to share information about our stormwater program and
 14 projects, as well as the stormwater fee. Being able to meet people where they are is an
 15 effective way to educate and inform the community about these important initiatives.
 16 Also, as Ms. Quigley’s direct testimony explained, PWSA is sending a series of letters to
 17 future stormwater-only customers informing them about the stormwater fee.

18 **Q. DO THE PARTIES MAKE SPECIFIC RECOMMENDATIONS ON HOW PWSA**
 19 **SHOULD EDUCATE CUSTOMERS ABOUT EQUIVALENT RESIDENTIAL**
 20 **UNIT DETERMINATIONS, CREDITS, AND APPEALS?**

21 **A.** Yes. UNITED witness Adams states that, before the tariff goes into effect, PWSA should
 22 provide customers an explanation of how each Equivalent Residential Unit (“ERU”)
 23 determination was made, and provide a way for customer to see an aerial image of their
 24 property, the area determined to be impervious, and total calculated impervious area. She

1 also testified that PWSA should establish a process for challenging ERU determinations,
2 and should provide a credit, refund or adjustment if the customer has overpaid. UNITED
3 St. 2 at 16-18.

4 Specifically regarding the stormwater credit program, Ms. Adams also provided a
5 number of recommendations for how PWSA should educate customers about the
6 program, including providing written materials like bill inserts and door hangers
7 explaining the program; an interactive website with photos and videos as well as
8 information on how to apply for credit; attending community meetings and engaging with
9 churches and nonprofits; educating local contractors about the program; and placing
10 signage on completed projects. Ms. Adams requests that this outreach program be
11 implemented before the fee goes into effect. UNITED St. 2 at 33-34.

12 **Q. HOW DO YOU RESPOND TO THESE RECOMMENDATIONS?**

13 A. The Authority is already doing many of the items that UNITED has recommended, and
14 we believe our ongoing and planned education and outreach activities are sufficient to
15 inform customers about the stormwater program.

16 PWSA is developing a searchable website where customers can view an aerial
17 image of their property and the impervious area calculation and ERU determination.
18 PWSA is also developing a manual that will assist customers with the credits and appeal
19 process. This information will be made available on the Authority's website. However,
20 given that this rate case is ongoing and that PWSA's stormwater proposals are the first of
21 their kind for a regulated utility in Pennsylvania, the Authority believes it is necessary to
22 wait until it has Commission approval for the stormwater fee before making these
23 resources publicly available. This will avoid unnecessary confusion that could be caused

1 by publishing this information prematurely if there are any changes to the program or
 2 fees as a result of this proceeding.

3 As discussed above, PWSA is conducting significant education and outreach
 4 regarding the proposed stormwater fee, including the credit program, and will continue to
 5 do so going forward.

6 **V. RESPONSES TO CUSTOMER COMMENTS AND PUBLIC INPUT TESTIMONY**

7 **Q. HAVE CUSTOMERS SUBMITTED COMMENTS TO THE COMMISSION ON**
 8 **THE PROPOSED STORMWATER FEE?**

9 A. Yes, at this time PWSA is aware of 16 consumer comments that have been submitted to
 10 the PUC. Some of these raise concerns about the stormwater fee, including that: the
 11 stormwater fee is a new charge that some customers oppose; low income customers or
 12 those on a fixed income will have difficulty paying the stormwater fee; some areas of the
 13 City do not have storm drains; and that the City of Pittsburgh, Allegheny County and the
 14 Pennsylvania Department of Transportation (PennDOT) should be billed for runoff from
 15 streets and highways.

16 **Q. HOW DO YOU RESPOND TO THESE COMMENTS?**

17 A. First, it is not new for PWSA to charge customers for stormwater service. Costs for
 18 stormwater service were previously included in wastewater charges. Wastewater
 19 charges, however, are based on water consumption, which is unrelated to the amount of
 20 stormwater runoff generated by a property. By removing those charges from wastewater
 21 and establishing a separate stormwater fee, PWSA is reallocating costs to more fairly
 22 allocate charges to properties that actually generate runoff, which must be collected and
 23 managed.

1 Second, PWSA appreciates concerns about affordability for low income
2 customers or those on a fixed income. As explained in Ms. Quigley’s direct testimony,
3 PWSA is proposing a 75% discount on the stormwater fee for customers enrolled in the
4 Bill Discount Program to assist these customers with affording their bills.

5 Third, PWSA has not proposed to charge the City, County or PennDOT for runoff
6 from roads. This is primarily because streets are an integral part of the drainage
7 infrastructure. Most stormwater utilities in the United States do not bill for impervious
8 area in public rights of way, and to my knowledge no stormwater utility in Pennsylvania
9 bills for runoff from roadways. I would point out, however, that these government
10 entities will be charged for stormwater service to other properties with impervious area.

11 Finally, regarding comments that some streets do not have storm drains, PWSA’s
12 sewer and storm systems were built decades ago at a time when there was less pavement,
13 less stormwater runoff, and fewer regulatory requirements related to water quality. Until
14 recently, there was no single entity responsible for managing stormwater in Pittsburgh.
15 While it is true that there are some streets that do not have storm drains, that does not
16 mean that properties on those streets do not create a demand for stormwater service.
17 Those properties still create runoff that has to be managed and that create regulatory
18 compliance issues. Everyone has a demand for service even if it is manifested in different
19 ways; therefore, all properties with a minimum amount of impervious area must
20 contribute to paying a stormwater fee. This is especially important as PWSA works to
21 improve our aging infrastructure while also experiencing more frequent and intense
22 rainfall events.

1 **Q. WHAT COMMENTS DID PWSA RECEIVE REGARDING THE STORMWATER**
 2 **FEE AT THE SIX PUBLIC INPUT HEARINGS HELD ON JUNE 28-30, 2021?**

3 A. PWSA received a number of comments about the stormwater fee during the Public Input
 4 Hearings. In general, those comments included the following topics:

- 5 • A number of customers supported the stormwater fee, both as a more equitable
 6 way to charge for stormwater service and to provide funding to address concerns
 7 about flooding, basement backups, etc.¹¹
- 8 • There was concern that rates should be equitable. This included charging
 9 properties such as parking lots or big box stores for their contribution to the
 10 stormwater problem.¹²
- 11 • Others testified that there should be assistance for low and moderate income
 12 residential customers, to help them afford the stormwater fee and to allow them to
 13 install stormwater mitigation measures.¹³
- 14 • Investment in stormwater infrastructure should benefit all communities, including
 15 low income and environmental justice communities.¹⁴
- 16 • PWSA should conduct significant education and outreach regarding the
 17 stormwater fee, including why this rate structure is more equitable and how the
 18 program will work.¹⁵
- 19 • Some customers urged government to provide funding for stormwater
 20 infrastructure, either in addition to or in place of the stormwater fee.¹⁶

21 **Q. WOULD YOU LIKE TO RESPOND TO THIS TESTIMONY?**

22 A. Yes. A number of these topics have been addressed elsewhere in my testimony, but I
 23 would like to highlight a few items. PWSA agrees that a stormwater fee based on a
 24 property’s impervious area is a more equitable way to charge for stormwater service.
 25 Many customers understand and appreciate the benefits of this approach, and PWSA is

¹¹ See Tr. 55-58, 63-64, 176-179, 183-184, 225, 227-229, 231-234, 243-247.

¹² See Tr. 55-58, 63-64, 183-184, 231-243, 243-247.

¹³ See Tr. 55-58, 63-64, 183-184, 225, 231-234.

¹⁴ See Tr. 63-64, 183-184, 231-234, 243-247.

¹⁵ See Tr. 63-64, 183-184, 225, 243-247.

¹⁶ See Tr. 55-58, 220.

1 working to educate all of its ratepayers to help them understand that implementing the
2 stormwater fee is a better approach. One customer opposed the fee because she believed
3 it to be a blanket fee for everyone that provided no credit for mitigation efforts.¹⁷ This is
4 not accurate; the proposed fee is tiered for residential customers based on levels of
5 impervious area, and the credit program provides a discount for certain stormwater
6 mitigation efforts. This shows the importance of PWSA's significant education and
7 outreach efforts discussed above, which will help customers understand how the program
8 will work and how it makes PWSA's rates more equitable and ensures that all properties
9 pay their fair share.

10 PWSA also appreciates the concerns about affordability for low and moderate
11 income customers. In recognition of these concerns, PWSA has proposed a 75%
12 discount for low income customers enrolled in the Bill Discount Program, and has
13 proposed the credit program to help customers reduce their fee by installing certain
14 stormwater mitigation measures. As discussed above, PWSA will consider benefits to
15 low income and environmental justice communities as factors in selecting and
16 prioritizing stormwater projects as part of the Stormwater Master Plan.

17 Finally, PWSA would pursue any funding made available by Pennsylvania or the
18 federal government to assist with stormwater infrastructure projects. However, PWSA
19 has many regulatory requirements and a need to replace aging infrastructure that cannot
20 wait for hypothetical government funding. It is important that the stormwater fee be

¹⁷ Tr. 116-117.

1 approved and implemented as proposed to allow the Authority to provide high quality
 2 stormwater service to its customers.

3 **VI. STORMWATER TARIFF**

4 **Q. DID THE PARTIES SUBMIT TESTIMONY REGARDING PWSA’S PROPOSED**
 5 **THE STORMWATER TARIFF?**

6 A. Yes. OCA witness Alexander raised concerns about a number of provisions in the
 7 proposed stormwater tariff that she either rejects or believes need further review. OCA
 8 St. 5 at 29-31.

9 **Q. PLEASE SUMMARIZE AND RESPOND TO THE SPECIFIC CONCERNS MS.**
 10 **ALEXANDER RAISES CONCERNS ABOUT THE STORMWATER TARIFF.**

11 A. First, I would note that in developing the stormwater tariff, PWSA attempted to maintain
 12 consistency with its current approved wastewater tariff while also incorporating
 13 provisions of the Commission’s staff model stormwater tariff. A number of the tariff
 14 provisions that Ms. Alexander says require additional investigation are already included
 15 in PWSA’s approved wastewater tariff or are based on the Commission staff model tariff.
 16 (Exh. TI-5). The specific issues she raises are discussed below:

- 17 • Proposed Stormwater Tariff, Part I, Section H – Ms. Alexander states that this
 18 provision includes “specific fees and charges ... for a variety of services that
 19 have not yet been documented as reasonable and without any evidence to
 20 support the proposed amounts.” OCA St. 5 at 29. However, many of the
 21 charges in Section H reflect Section H in PWSA’s current approved
 22 wastewater tariff. Many of the charges are also reflected in Section H of
 23 PWSA’s proposed wastewater tariff, which was sponsored by Ms. Quigley.
 24 (PWSA Exh. JAQ-6). Ms. Quigley will address those charges as part of her
 25 rebuttal testimony.
- 26 • Proposed Stormwater Tariff, Part I, Section H.3 – Ms. Alexander claims that
 27 this section “appears to allow PWSA to order the ‘discontinuance’ of use of the
 28 system to prevent waste discharge, an action that calls into question the
 29 Chapter 56 termination of service policies and requirements...” OCA St. 5 at
 30 30. However, this term is from the Staff Model Tariff (see Exh. TI-5 at Part I,
 31 Section C.3).

- 1 • Proposed Stormwater Tariff, Part I, Section H.4 – Ms. Alexander argues that
2 the charges in this section for permits and inspections are expensive and not
3 justified at this time. OCA St. 5 at 30. As stated above, these charges reflect
4 those proposed to be included in the wastewater tariff, and will be addressed
5 in Ms. Quigley’s rebuttal testimony.
- 6 • Proposed Stormwater Tariff, Part III, Section C – Ms. Alexander states that
7 language in this section reflects PWSA’s ability to use liens to collect unpaid
8 charges and may conflict with Chapter 56 of the Commission’s regulations.
9 OCA St. 5 at 30. I am advised by counsel that, as a municipal authority,
10 PWSA is permitted to use liens as a collection tool. This issue will be
11 addressed in briefs and in the Stage 2 Compliance Plan proceeding, as
12 necessary.
- 13 • Proposed Stormwater Tariff, Part III, Section E.5 – Ms. Alexander seeks
14 clarification on this term regarding allocation of partial payments. OCA St. 5
15 at 30-31. Ms. Quigley addresses this topic in her rebuttal testimony.
- 16 • Proposed Stormwater Tariff, Part III, Section L – Ms. Alexander states that
17 the list of prohibited conduct in the section needs further consideration. OCA
18 St. 5 at 31. However, this section reflects terms the corresponding Section L
19 of PWSA’s current approved wastewater tariff.
- 20 • Proposed Stormwater Tariff, Part IV – Ms. Alexander argues that this Part
21 includes compliance requirements for the sale or transfer of property that
22 belong in the City of Pittsburgh’s ordinances rather than in the tariff. OCA St.
23 5 at 31. However, Part IV is currently in PWSA’s approved wastewater tariff
24 and is simply being moved to the stormwater tariff.

25 Ms. Alexander also generically states that the terms of the tariff will require
26 significant customer education prior to their implementation, and that there are
27 unspecified “important compliance related matters that are not yet resolved...” OCA St.
28 5 at 31. I assume Ms. Alexander is referring to items that will be addressed in the Stage 2
29 Compliance Plan. In the meantime, as discussed herein, PWSA is dedicated to providing
30 the necessary outreach and education to inform customers about the stormwater fee and
31 other aspects of the stormwater tariff.

1 **Q. DO YOU HAVE ANY CORRECTIONS TO THE STORMWATER TARIFF**
2 **THAT WAS SUBMITTED AS EXHIBIT TI-4?**

3 A. Yes. As I explained in my direct testimony, one way that single family residential
4 properties may receive a 50% credit is by capturing and slowing releasing runoff from ¾-
5 inch of rain from the impervious surfaces on the property. (PWSA St. No. 7 at 34.)
6 However, language to this effect was inadvertently omitted from the stormwater tariff as
7 filed in Exhibit TI-4. A revised page 10 of the stormwater tariff reflecting that residential
8 properties may earn a credit for capturing ¾-inch of stormwater runoff is attached as
9 Exhibit TI-7.

10

11 **VII. OTHER TOPICS**

12 **A. Contributing Municipality Service**

13 **Q. PLEASE SUMMARIZE MS. ADAMS' TESTIMONY ON CONTRIBUTING**
14 **MUNICIPALITY SERVICE.**

15 A. UNITED witness Adams made three recommendations concerning contributing
16 municipality service. First, she stated that PWSA should analyze what stormwater costs
17 are attributable to stormwater conveyed to PWSA's system from upstream municipalities.
18 Second, she recommends that PWSA should work with upstream municipalities to
19 explore whether projects in upstream areas could provide cost-effective solutions to
20 alleviate downstream problems, and should further address these issues in the Stormwater
21 Master Plan. Finally, she recommends that in the long term, all entities that contribute to
22 stormwater problems in PWSA's service territory should contribute to addressing those
23 problems, such as through equitable cost-sharing for stormwater abatement projects.
24 UNITED St. 2 at 25-26.

1 **Q. PLEASE RESPOND AND EXPLAIN PWSA’S POSITION ON CONTRIBUTING**
2 **MUNICIPALITY SERVICE.**

3 A. As discussed in my direct testimony, PWSA has chosen not to directly charge a
4 stormwater fee to contributing municipalities. There are a number of reasons for this
5 approach, including: (1) that stormwater from municipalities flow into a combined sewer
6 system that the City of Pittsburgh developed decades ago, in some cases by enclosing
7 creeks in which the stormwater originally discharged; and (2) because future control of
8 combined sewer and separate sanitary sewer overflows may involve PWSA and upstream
9 municipalities working together to provide parallel relief sewers to address these wet
10 weather issues. As such, PWSA anticipates exploring opportunities to partner with
11 upstream communities to address common issues through regional-scale projects. It is
12 important that neighboring municipalities contribute their fair share of funding for these
13 projects, rather than the burden being placed on PWSA ratepayers, so PWSA will require
14 equitable cost sharing for such projects when working with contributing municipalities.
15 Additionally, as I discussed above, the level of stormwater fee proposed in this rate case
16 only reflects current stormwater projects and level of service, and does not reflect any
17 future projects that may be developed with neighboring municipalities.

18 **B. Stormwater Credit Program**

19 **Q. DID THE PARTIES SUBMIT TESTIMONY ON THE COSTS OF THE**
20 **STORMWATER CREDIT PROGRAM?**

21 A. Yes. I&E witness Ethan Cline and OSBA witness Brian Kalcic testified that, while
22 PWSA should have a credit program, the projected cost of the credit program should be
23 disallowed in its entirety because they believe PWSA did not adequately substantiate
24 those costs. I&E St. No. 3 at 30-32; OSBA St. No. 1 at 41-42.

1 **Q. DO YOU AGREE WITH THIS POSITION?**

2 A. No, this position is entirely unreasonable. PWSA witness Keith Readling discusses the
3 cost of the proposed stormwater credit program in his rebuttal testimony (PWSA St. 8-R).
4 I would simply note that it is not possible for PWSA to predict exactly which properties:
5 (a) currently comply with the 2016 or 2019 City of Pittsburgh stormwater standards or
6 will install the measures necessary to earn a credit, and (b) which property owners will
7 actually apply for a stormwater credit. Even if a property currently complies with the
8 2016 or 2019 standards, the customer still must take affirmative steps to enroll and
9 receive a credit, and PWSA has no way to accurately predict which customers will take
10 these steps. Given that the stormwater credit program is new and will be a first of its
11 kind program by a regulated utility in Pennsylvania, it is absurd to require PWSA to
12 provide this level of information in order to recover any level of costs associated with the
13 credit program. It is also unreasonable for I&E and OSBA to support the credit program
14 overall but disallow any costs associated with the program. As Mr. Readling explains,
15 the proposed cost of the credit program is reasonable based on experiences in other cities
16 and should be approved.

17 **VIII. CONCLUSION**

18 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

19 A. Yes. However, I reserve the right to supplement this testimony as may be appropriate.

Section B - Storm Water Management Service Charge Credits

B.1 - Residential and Non-Residential Credit

1. Applicability:

The credits under this schedule apply throughout the Authority's service territory for service rendered on and after the effective date shown at the bottom of this page.

2. Availability:

This credit is available to non-residential Customers that meet Pittsburgh 2019 stormwater standards in Title Thirteen of the Pittsburgh Zoning Code, or more recent or restrictive standards, by controlling at least 1" of runoff from impervious surfaces on the property for which a credit is sought, if (i) Best Management Practices (BMPs) located on the property have been constructed in compliance with approved plans, (ii) the Customer is current with payments owed on all billed charges and fees on the Customer's account and are otherwise in compliance with the Rules and Regulations of this Tariff; (iii) the Customer remains responsible for all cost of operation and maintenance of the BMP; (iv) the Authority is granted access to the BMP for purpose of inspecting adherence to design, maintenance and operating standards; and (v) there is no significant change in land use draining to the BMP or alterations made to the approved BMP without prior approval of the Authority. This credit is also available to residential customers who disconnect downspouts and redirect property drainage to street planters, or who control at least ¾" of runoff from impervious surfaces on the property for which a credit is sought. A similar credit is available for properties meeting the 2016 storm water standards that were replaced by the Pittsburgh 2019 storm water standards in Title Thirteen of the Pittsburgh Zoning Code.

VERIFICATION

I, Tony Igwe, hereby state that: (1) I am the Senior Group Manager, Stormwater for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in the foregoing Rebuttal Testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 07/27/2021 | 3:50 PM EDT

DocuSigned by:
Tony Igwe
404A1979E8BC410...

Tony Igwe
Senior Group Manager, Stormwater
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REBUTTAL TESTIMONY OF

KEITH READLING

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Stormwater

July 28, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Keith Readling. I am Executive Vice President of Raftelis Financial
4 Consultants, Inc. (“Raftelis”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021, which accompanied the rate filing.
7 I also submitted Supplemental Direct Testimony on June 14, 2021.

8 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

9 A. The purpose of my Rebuttal Testimony is to respond to the direct testimony of OCA
10 witness Scott Rubin, Pittsburgh UNITED witness Michele C.W. Adams, I&E witness
11 Ethan Cline, and OSBA witness Brian Kalcic regarding certain stormwater topics.

12 **Q. ARE OTHER WITNESSES PROVIDING REBUTTAL TESTIMONY**
13 **REGARDING THE STORMWATER PROGRAM AND PROPOSED FEE?**

14 A. Yes. Mr. Igwe’s rebuttal also responds to testimony on the stormwater fee, and Mr.
15 Smith’s rebuttal discusses topics related to stormwater rate design. Additionally, Ms.
16 Quigley responds to customer service-related topics.

17

18 **II. STORMWATER FEE STRUCTURE**

19 **A. Residential Tiers**

20 **Q. DO THE PARTIES GENERALLY SUPPORT PWSA’S PROPOSED**
21 **STORMWATER FEE STRUCTURE?**

22 A. Yes. The parties generally found the proposal to base stormwater rates on impervious
23 area and Equivalent Residential Units (ERUs) to be reasonable. The parties also found
24 the proposed three tiered fee structure for residential customers to be a reasonable
25 approach.

1 **Q. DID ANY PARTIES RECOMMEND CHANGES TO THE RESIDENTIAL**
2 **TIERS?**

3 A. Yes. OCA witness Rubin agrees with the concept of a three tiered residential rate but
4 does not agree with the specific breakpoints between the tiers that PWSA has proposed.
5 Mr. Rubin recommended that the breakpoint between Tier 1 and Tier 2 should be set at
6 925 square feet of impervious area (IA), which is to equal one-half of the median
7 impervious area (825 sq. ft.) plus a 100 square foot margin of error. He recommends that
8 the breakpoint between Tier 2 and Tier 3 be set at 3,400 square feet IA, which is equal to
9 twice the impervious area of a typical property (3,300 sq. ft.) plus a 100 square foot
10 margin of error. This proposal increases the number of customers billed the Tier 2 rate,
11 and reduces both the number of billed ERUs and the wastewater subsidy. OCA St. 3 at
12 26-29.

13 Additionally, UNITED witness Adams recommended that, in the future, PWSA
14 should consider whether residential customers with unusually large impervious area
15 should be charged for 3.0 ERUs. UNITED St. 2 at 15-16.

16 **Q. DO YOU AGREE WITH MR. RUBIN'S PROPOSALS REGARDING THE**
17 **RESIDENTIAL TIER BREAKPOINTS?**

18 A. No, I do not. First, there are nearly infinite ways to determine the breakpoints between
19 the three residential tiers. PWSA proposed its tier breakpoints for a variety of reasons, as
20 discussed in my direct testimony. The design of the residential tiers should be
21 reasonable, but there are many different breakpoints that could be considered reasonable,
22 and Mr. Rubin's proposal is not any more reasonable than PWSA's proposal.

23 Further, PWSA's proposed tiers already include the majority of ratepayers (70%)
24 in the middle tier, or Tier 2. Mr. Rubin's proposal would make the middle tier even
25 larger. I disagree with this for two reasons: (1) this proposal is less fair, as even more

1 properties would be grouped into the middle, and fewer properties would benefit from the
 2 lower Tier 1 rate; and (2) the ratio of medians from the data set would no longer result in
 3 0.5, 1 and 2. In other words, if Mr. Rubin’s breakpoints were used, the relative rates
 4 between tiers would need to be adjusted to account for the new ratios of median
 5 impervious area that result from the breakpoints.

6 PWSA’s proposal is logical and reasonable as supported by the ERU data. Mr.
 7 Rubin’s proposal, on the other hand, is less equitable and provides no benefit other than
 8 serving his goal of reducing the wastewater subsidy for stormwater customers. This is
 9 not an appropriate way to address his concerns with the gradualism adjustment. PWSA’s
 10 original proposal is reasonable and strikes an appropriate balance and should be
 11 approved.

12 **Q. DO YOU AGREE WITH MS. ADAMS’ PROPOSAL TO CONSIDER CHARGING**
 13 **CERTAIN RESIDENTIAL CUSTOMERS FOR 3.0 ERUS?**

14 A. No, I do not. Of course, PWSA will examine its stormwater program as part of future
 15 rate cases and will propose any necessary adjustments to the program’s structure at the
 16 appropriate time. At this time, however, there is no basis for Ms. Adams’
 17 recommendation, and this change would only potentially affect a very small number of
 18 properties in PWSA’s service territory.

19 **B. Level of Stormwater Fee**

20 **Q. DID ANY PARTY RECOMMEND CHANGING THE LEVEL OF THE**
 21 **STORMWATER FEE?**

22 A. Yes. OCA witness Rubin recommends that the Authority set its stormwater fee at \$10.00
 23 per ERU in January 2023. This would reduce the amount of stormwater costs that will be
 24 recovered through wastewater rates. OCA St. 3 at 25-26.

1 **Q. DO YOU AGREE WITH THE PROPOSAL TO SET STORMWATER RATES AT**
 2 **\$10.00 PER ERU?**

3 A. No. As discussed in my direct testimony, PWSA’s proposed stormwater fee is
 4 reasonable and strikes an appropriate balance between various interests. The Authority’s
 5 proposed rate takes into account the significant impact the stormwater fee will have on
 6 certain customers, and those customers would receive even larger bills if Mr. Rubin’s
 7 proposal were accepted. PWSA’s proposal also is informed by recommendations made
 8 by PWSA’s Stormwater Advisory Group and other input from a variety of local
 9 stakeholders. Additionally, initial stormwater fees implemented around the country are,
 10 on average, below \$8.00 per ERU, and PWSA’s proposal aligns with this national
 11 average. While I appreciate the desire to move stormwater rates toward the cost of
 12 service more quickly, arbitrarily setting initial stormwater rates at \$10.00 per ERU is not
 13 an appropriate way to address this concern.

14 **III. GRADUALISM**

15 **Q. PLEASE SUMMARIZE THE PARTIES’ TESTIMONY ON THE GRADUALISM**
 16 **ADJUSTMENT.**

17 A. I&E witness Cline supports the continued recovery of \$12.4 million of stormwater costs
 18 through wastewater rates at this time, and recommends that any continuation of this
 19 adjustment should be evaluated on a case-by-case basis in future rate cases. I&E St. No.
 20 3 at 24-25.

21 OCA witness Rubin agrees that there should be a short transition period during
 22 which some stormwater costs continue to be recovered through wastewater rates, but he
 23 does not believe that PWSA’s proposed \$12.4 million of stormwater costs being included
 24 in wastewater rates is a reasonable level of subsidy. Mr. Rubin’s proposals to modify the
 25 breakpoints between residential tiers and to set the stormwater fee at \$10.00 per ERU as

1 of January 1, 2023 has the effect of reducing the amount of stormwater costs recovered
2 through wastewater rates to a total of \$7.92 million. OCA St. 3 at 23-26.

3 UNITED witness Adams opposes the gradualism adjustment. She believes that it
4 is not reasonable to shift stormwater costs between customer classes, and recommends
5 that the adjustment either be eliminated or phased out as quickly as possible. UNITED
6 St. 2 at 22-23.

7 **Q. PLEASE RESPOND TO MR. CLINE’S TESTIMONY ON THE GRADUALISM**
8 **ADJUSTMENT.**

9 A. As I explained in my direct testimony, the purpose of the gradualism adjustment is to
10 gradually move stormwater costs out of wastewater rates and into the stormwater fee,
11 rather than attempting to immediately recover all stormwater revenue requirements
12 through the stormwater fee in its first year. As Mr. Cline stated, this will be examined in
13 future rate cases as PWSA’s moves the stormwater fee toward cost of service.

14 **Q. DO YOU AGREE WITH MR. RUBIN’S POSITION ON GRADUALISM?**

15 A. No, I do not. For the reasons discussed above, I do not agree with Mr. Rubin’s proposed
16 changes to the residential tier breakpoints or the proposal to arbitrarily set the stormwater
17 fee at \$10, which are the mechanisms he uses to reduce the gradualism adjustment.

18 Again, PWSA intends to move stormwater costs out of wastewater rates and into a
19 stormwater fee reflecting the full cost of stormwater service, and I believe the level of
20 PWSA’s proposed gradualism adjustment provides appropriate movement for PWSA’s
21 initial stormwater fee.

22 **Q. PLEASE RESPOND TO MS. ADAMS’ TESTIMONY ON THE GRADUALISM**
23 **ADJUSTMENT.**

24 A. Ms. Adams would reject the gradualism adjustment. I do not agree with this extreme
25 position. As discussed in my direct testimony, the proposed stormwater fee will generate

1 approximately 2/3 of the full stormwater revenue requirement. This approach has the
 2 benefit of limiting severe impacts of the stormwater fee for certain customers, and also
 3 accounts for the fact that PWSA is not planning to dramatically expand its stormwater
 4 program in the near term.¹ PWSA also made this proposal in recognition of the
 5 community's economic stress caused by the COVID-19 pandemic. The gradulism
 6 adjustment is reasonable and will help customers acclimate to the new stormwater fee
 7 before making additional movement toward recovering the full cost of stormwater service
 8 through the fee.

9 **IV. NON-PAYMENT RATE FOR STORMWATER ONLY CUSTOMERS**

10 **Q. DID THE PARTIES SUBMIT TESTIMONY ON THE EXPECTED NON-**
 11 **PAYMENT RATE FOR STORMWATER-ONLY CUSTOMERS?**

12 A. Yes. OCA witness Rubin disagrees with PWSA's proposed nonpayment rate. He
 13 recommends that PWSA assume it will collect at least 75% of billed revenues from
 14 stormwater-only customers (in other words, a non-payment rate of no more than 25%).
 15 Mr. Rubin also states that, in future rate cases, PWSA should document its actual level of
 16 collections and explain and justify the measures it takes to maximize the level of
 17 collections for stormwater-only customers. OCA St. 3 at 23.

18 OSBA witness Kalcic also disagreed with the proposed 40% non-payment rate for
 19 stormwater only customers, and instead recommended a 30% non-payment rate. OSBA
 20 St. No. 1 at 40.

¹ See PWSA St. No. 8 at 5-6.

1 **Q. HAS YOUR POSITION CHANGED ABOUT THE EXPECTED NON-PAYMENT**
2 **RATE FOR STORMWATER-ONLY CUSTOMERS?**

3 A. No. PWSA's initial proposal reflecting an expected 40% non-payment rate for
4 stormwater-only customers is reasonable and supported by my experience and the data
5 available from other cities.

6 Mr. Rubin states that his recommendation is based on his review of stormwater
7 collections data from the Philadelphia Water Department (PWD) and the Northeast Ohio
8 Regional Sewer District (NEORS). I reviewed data from these same cities in
9 recommending a 40% non-payment rate. The difference is that my review focused on
10 collections in the first few years of these stormwater programs, while Mr. Rubin
11 considered collection rates in later years after these programs were well established. Mr.
12 Kalcic reviewed similar data and recognized that initial non-payment rates for
13 stormwater-only customers are often very high, although those rates improve in later
14 years.

15 I do not disagree that payment rates typically improve as a stormwater program
16 becomes more established, but this rate case is focused on the first year of implementing
17 stormwater rates, not on a mature program. My recommended 40% non-payment rate for
18 stormwater-only customers is supported by data from other cities and is reasonable given
19 that stormwater-only customer do not have the same incentives as other customers to pay
20 their utility bills. The average payment rate for stormwater-only customers in the first
21 year of the PWD and NEORS stormwater programs was only 50%. For PWD, the
22 collection rate for stormwater-only customers was still only 60% five years after the
23 program was implemented. PWSA will gather data on collection rates and may adjust as
24 necessary in future rate cases, but the 40% initial non-payment rate for stormwater only

1 customers is a reasonable starting point based on the experiences of other stormwater
 2 utilities.

3

4 **V. STORMWATER CREDIT PROGRAM**

5 **Q. DID THE PARTIES SUBMIT TESTIMONY ON PWSA’S PROPOSAL TO**
 6 **INCLUDE \$700,000 IN COSTS ASSOCIATED WITH THE STORMWATER**
 7 **CREDIT PROGRAM?**

8 A. Yes. I&E witness Cline does not oppose the credit program, but states that the assumed
 9 cost of the credit program is not reasonable. He argues that PWSA has not supported the
 10 \$700,000 cost of the program, so these costs should be denied in their entirety. In
 11 support of this position, Mr. Cline pointed to the fact that PWSA does not know how
 12 many non-single family residential customers will qualify and apply for a credit or how
 13 many properties meet the 2016 or 2019 City of Pittsburgh stormwater standards, and that
 14 it is not reasonable to assume full participation during the first year of the credit program.
 15 I&E St. No. 3 at 28-32.

16 Similarly, OSBA witness Kalcic also argued that the credit program costs are
 17 unsupported. For example, he stated that PWSA does not know how many properties
 18 meet the 2016 or 2019 City of Pittsburgh stormwater standards. He requested that PWSA
 19 provide greater empirical evidence supporting the costs, but otherwise the claim should
 20 be denied. OSBA St. 1 at 41-42.

21 **Q. PLEASE EXPLAIN THE BASIS FOR THE \$700,000 IN COSTS ASSOCIATED**
 22 **WITH THE STORMWATER CREDIT PROGRAM.**

23 A. The expected costs of the stormwater credit program are based on an estimate of 5%
 24 revenue lost from the non-residential rate base. As the credits for 2016 and 2019
 25 compliance are planned for 45% and 60% credits respectively, an estimated 5% revenue

1 loss from non-residential ratepayers equates to an assumption that about 10% of the non-
2 residential impervious area in the City would qualify for a credit. This reflects that
3 PWSA has tried to keep barriers low for customers seeking to receive a credit, as well as
4 my experience with other stormwater programs around the country. In other cities with
5 higher barriers to entry, the credit program has resulted in a revenue loss of
6 approximately 2-3%. PWSA's Stormwater Advisory Group wanted a robust credit
7 program with minimal barriers to participation, recognizing the important role that
8 individual properties play in reducing stormwater impacts.² For this reason, PWSA has
9 proposed a credit program that has limited barriers to entry (for example, PWSA has not
10 proposed to require an inspection by a licensed professional engineer as a requirement for
11 obtaining a credit) and therefore will likely have higher enrollment and higher costs due
12 to the associated revenue loss. PWSA's claim for \$700,000 in costs is reasonable, as
13 otherwise the Authority would have to make the credit program more restrictive.

14 **Q. DO YOU AGREE THAT PWSA HAS NOT SUPPORTED THE CLAIM FOR**
15 **\$700,000 IN STORMWATER CREDIT COSTS?**

16 A. No, I believe PWSA has adequately supported this claim, particularly given that this is a
17 new program and the first of its kind by a regulated utility in Pennsylvania. The credit
18 program is a refinement of the units of service to reflect that stormwater is a non-metered
19 service, and there will clearly be costs associated with reducing billed ERUs as well as
20 administration of the program. Additionally, it is unreasonable to require PWSA to have
21 the type of data that the parties have requested. PWSA has no way of knowing which
22 properties meet the 2016 or 2019 City of Pittsburgh stormwater standards, and whether

² The Stormwater Advisory Group's findings were provided as PWSA Exhibit TI-3.

1 each of those properties will take the necessary steps to apply for and receive a
2 stormwater credit, nor do we know what proportion of the impervious area found on a
3 parcel might be associated with the stormwater controls for which credit can be granted
4 given that much of the newer development that would qualify for a credit is not
5 greenfield development but is redevelopment instead, with potentially much less than all
6 of the impervious area runoff being treated by the required controls. PWSA's claim for
7 credit program costs should be approved as proposed. PWSA's \$700,000 estimate was
8 developed by reasonably estimating that portion of the impervious area that would
9 qualify for a credit given the design of the credit program. This is a reasonable approach.
10 If the parties are going to support PWSA offering a credit program then they must also
11 permit PWSA to recognize the costs that will produced by the credit program. Otherwise
12 it would be patently unfair to the Authority.

13 **Q. PLEASE SUMMARIZE UNITED WITNESS ADAMS' TESTIMONY ON THE**
14 **INCENTIVES OFFERED IN THE STORMWATER CREDIT PROGRAM.**

15 A. UNITED witness Adams believes that the incentives offered by the credit program are
16 too low to encourage participation. She recommends that PWSA collect data over the
17 next two years and then use that information to consider revisions to the credit program if
18 necessary. She also stated that PWSA should consider modifying its credits to better
19 incentivize participation by landlords, particularly those in low income areas or with low
20 income tenants, such as by offering full or partial reimbursements for certain
21 improvements, or by installing street planters or other green infrastructure in low income
22 neighborhoods to make downspout disconnection easier. UNITED St. 2 at 30-33.

1 **Q. HOW DO YOU RESPOND TO THE CONTENTION THAT STORMWATER**
 2 **CREDITS ARE TOO LOW TO INCENTIVIZE PARTICIPATION?**

3 A. Ms. Adams’ concern is a function of the fact that the initial stormwater rates that PWSA
 4 has proposed at this time are themselves relatively low. The stormwater rates proposed
 5 here only reflect the current level of stormwater service and do not reflect the ramp up of
 6 stormwater projects that PWSA anticipates will be necessary in future years. In future
 7 rate cases, the Authority expects to propose higher stormwater fees reflecting additional
 8 projects, and also to account for stormwater rates moving toward the full cost of service.
 9 As stormwater rates increase, the incentives offered by the credit program will also
 10 become more effective at encouraging participation. PWSA views the credit program
 11 proposed here as an initial version of a program that will develop over time and will
 12 expand as the stormwater program ramps up. While I appreciate Ms. Adams’ concern, I
 13 do not agree that any change to the credit program is appropriate at this time.

14 **Q. WILL PWSA COLLECT DATA ON THE CREDIT PROGRAM?**

15 A. Yes, PWSA is already planning to track data on the credit program and participation in
 16 the program, and use that data in future rate cases to determine whether any
 17 modifications to the credit program are necessary.

18 **Q. HOW DO YOU RESPOND TO MS. ADAMS’ RECOMMENDATIONS TO**
 19 **INCREASE LANDLORD PARTICIPATION?**

20 A. Ms. Adams appears to misunderstand how rental properties are billed by PWSA. As a
 21 municipal authority, PWSA has the ability to lien properties for unpaid utility charges.
 22 For this reason, the responsibility for any PWSA charges stays with the property, and the
 23 property owner is ultimately responsible for those charges. In the case of rental
 24 properties, the landlord is the PWSA customer in the vast majority of cases. There is a
 25 process for tenants to be added to the PWSA bill, but the landlord still remains

1 responsible for any unpaid charges. Because the property owner is always responsible
2 for the bill, the incentives for landlords to take steps to receive a credit are the same as for
3 any other property owner.

4 As for the recommendation that PWSA install green infrastructure in low income
5 neighborhoods, PWSA will consider these projects under the Stormwater Master Plan as
6 discussed in PWSA witness Tony Igwe's rebuttal testimony.

7
8 **VI. ALLOCATION OF STORMWATER COSTS**

9 **Q. ARE THERE ANY ISSUES REGARDING THE ALLOCATION OF**
10 **STORMWATER COSTS THAT YOU WOULD LIKE TO DISCUSS?**

11 A. Yes. PWSA witness Harold Smith is primarily providing rebuttal testimony on cost
12 allocation issues, including allocation of the gradualism adjustment. However, I would
13 like to respond to OSBA witness Kalcic's testimony in which he stated that stormwater
14 costs should be allocated to classes based on actual measured ERUs rather than billed
15 ERUs. OSBA St. 1 at 35-37.

16 **Q. DO YOU AGREE WITH MR. KALCIC ON THIS ERU ALLOCATION ISSUE?**

17 A. No, I do not, and I believe this recommendation illustrates a fundamental
18 misunderstanding that the parties appear to have about how stormwater rates are
19 structured and how stormwater costs are allocated, which differ in important ways from
20 other types of utility service.

21 **Q. PLEASE EXPLAIN YOUR CONCERN.**

22 A. In some instances, the parties appear to believe that different customer classes have
23 different levels of costs for stormwater service. While this may be accurate for other
24 types of utility service, this is not true for stormwater service. Although PWSA's

1 stormwater cost of service study provided a breakdown of costs for customer classes, this
2 was only done to maintain some level of consistency with the water and wastewater cost
3 of service studies. In actuality, there is one stormwater rate per ERU that applies across
4 all customer classes. The stormwater fee per ERU was calculated based on one overall
5 cost for all PWSA stormwater service divided by the overall number of billed ERUs in
6 PWSA's service territory. The stormwater fee is not linked to a specific customer class
7 in the way water or wastewater service would be. Therefore, an argument such as Mr.
8 Kalcic's that costs should be allocated to various classes based on actual rather than
9 billed ERUs is not relevant and has no impact on either the rate per ERU or the amount
10 that customers of a particular class may be charged.

11
12 **VII. CONCLUSION**

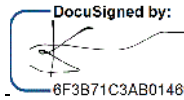
13 **Q. DOES THAT COMPLETE YOUR REBUTTAL TESTIMONY?**

14 **A.** Yes. However, I reserve the right to supplement this testimony as may be appropriate.

VERIFICATION

I, Keith Reading, hereby state that: (1) I am the Executive Vice President, Raftelis Financial Consultants, Consultant to The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rebuttal testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

07/27/2021 | 3:56 PM EDT
Date: _____



Keith Reading
Executive Vice President
Raftelis Financial Consultants

Consultant to:
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SURREBUTTAL TESTIMONY OF

EDWARD BARCA

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

P-2021-3024779 (Stormwater)

TOPIC:
Service Line Cost Data

August 6, 2021

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Edward Barca, and I am the Director of Finance for The Pittsburgh Water
4 and Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony (PWSA St. 2), together with accompanying exhibits
7 EB-1 to EB-10, on April 13, 2021 and Rebuttal Testimony (PWSA St. 2R), together with
8 accompanying Exhibits EB-11 to EB-16, on July 29, 2021.

9 **Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?**

10 A. I wish to provide clarification concerning a recommendation that was made by OCA
11 witness Rubin regarding the identification and allocation of the Authority’s investment in
12 service lines.

13 **Q. OCA WITNESS MR. RUBIN AGREES WITH PWSA'S PROPOSED COST OF**
14 **SERVICE STUDY BUT HAS RECOMMENDED THAT PWSA SHOULD BE**
15 **ORDERED TO PERFORM THE NECESSARY INVESTIGATION TO IDENTIFY**
16 **AND PROPERLY ALLOCATE WATER SERVICE LINE COSTS IN ITS NEXT**
17 **BASE RATE CASE (OCA ST. 3R AT 4). WHAT IS YOUR RESPONSE TO THIS?**

18 A. I do not object to Mr. Rubin's recommendation in theory. However, this is not possible to
19 be completed in the next base rate case for the following reasons: 1) there is a high
20 probability that the data does not exist given the age of PWSA's water mains and
21 associated water service lines; and 2) the data that does exist does not provide an
22 adequate breakdown of the service line costs since there was no need to keep track of the
23 data in this manner historically. Rather, water mains and service line costs were grouped
24 together on PWSA’s asset records without any verifiable way to properly separate the
25 costs.

26

1 **Q. WHAT IS PWSA CAPABLE OF DOING IN RELATION TO SERVICE LINE**
2 **COSTS?**

3 A. PWSA can identify and properly allocate water service lines costs on a going forward
4 basis. This is relevant since PWSA plans to replace the majority of its water main
5 infrastructure over the next 10 years.

6 **II. CONCLUSION**

7 **Q. DOES THAT COMPLETE YOUR SURREBUTTAL TESTIMONY?**

8 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REJOINDER TESTIMONY OF

EDWARD BARCA

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

P-2021-3024779 (Stormwater)

TOPIC:

Revenue Requirement Recommendations of Other Parties

PWSA's Financial Metrics

Treatment of Future Grants/Loans

August 10, 2021

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TABLE OF EXHIBITS

EB-17	FPFTY 2022 Key Ratios
EB-18	2021 Operating Budget Projection
EB-19	Updated Schedules from Cost of Service Model Showing Impact of PennVest Award
EB-20	PWSA Discovery Response Attachment I&E-RE-42-D O&M Expense Prof Services, Operating Contracts, Water Treatment Plan Repairs
EB-21	Updated Information to PWSA Discovery Attachment OCA-II-22

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Edward Barca, and I am the Director of Finance for The Pittsburgh Water
4 and Sewer Authority (“PWSA” or “Authority”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony (PWSA St. 2), together with accompanying exhibits
7 EB-1 to EB-10, on April 13, 2021; Supplemental Direct Testimony (PWSA St. 2-SD) on
8 June 14, 2021; Rebuttal Testimony (PWSA St. 2R), together with accompanying Exhibits
9 EB-11 to EB-16, on July 29, 2021; and Surrebuttal Testimony (PWSA St. 2-SR) on
10 August 6, 2021.

11 **Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?**

12 A. The purpose of my rejoinder testimony is to respond to surrebuttal testimony submitted
13 by the following witnesses on behalf of the Bureau of Investigation and Enforcement
14 (“I&E”): D.C. Patel and Ethan H. Cline. I will also respond to surrebuttal testimony
15 submitted by the following witnesses on behalf of the Office of Consumer Advocate
16 (“OCA”): Dante Mugrace.

17 The topics I will address are PWSA’s projected level of revenues and expenses,
18 PWSA’s financial metrics and the treatment of future grants/loans. To the extent that I do
19 not respond to or address a particular issue or argument, I defer to my direct testimony,
20 supplemental direct testimony, rebuttal testimony and surrebuttal testimony on those
21 issues.

22 **II. OVERALL EFFECT OF OPPOSING PARTY RECOMMENDATIONS**

23 **Q. I&E HAS REVISED THEIR RECOMMENDED RATE INCREASE FOR PWSA**
24 **TO \$13 MILLION (ROUNDED) AND MR. SPADDICCO CLAIMS THAT, IF**
25 **PWSA IS GRANTED THAT LEVEL OF RATE INCREASE ITS KEY**

1 **FINANCIAL METRICS WILL BE ABOVE THE MINIMUM LEVELS**
2 **REQUIRED BY PWSA’S BOND INDENTURE AND AT REASONABLE LEVELS**
3 **COMPARED TO COMPARABLE WATER AND SEWER COMPANIES. IS HE**
4 **CORRECT?**

5 A. No. This claim is identical to the claim that I&E made in its direct testimony. It is based
6 completely on the assumption that the expense adjustments that I&E witness Patel has
7 recommended would translate into actual reductions in PWSA’s 2022 spending levels.
8 For example, I&E witness Patel insists that PWSA’s FPFTY projected for Repairs and
9 Maintenance was overstated by some \$1.3 million because PWSA, in Mr. Patel’s view,
10 PWSA had not provided “sufficient support” to show that the Authority would actually
11 incur this amount. However, if PWSA’s rates are set based on this testimony, and PWSA
12 goes onto actually spending the amounts that it has projected in its FPFTY (which it fully
13 projects and intends to do), the Authority will incur a deficit, key financial metrics will
14 collapse and PWSA will realize debt service coverage levels that are below the minimum
15 requirements of its bond indenture “Annual Rate Covenant” (1.25x on senior securities
16 and 1.1x overall). In addition, the Authority will not satisfy the bond indenture
17 “Additional Bonds Test”.

18 **Q. HAVE YOU PREPARED A SCHEDULE THAT SHOWS THIS?**

19 A. Yes. Please see Exhibit EB-17. Column C demonstrates that I&E’s recommended rate
20 increase will result in a total debt service coverage of 0.99x, which is below the legal
21 total debt service coverage of 1.10x and far below the level that Mr. Huestis testified
22 would be reasonable for PWSA to realize as an “A” rated credit. Column D demonstrates
23 that OCA’s recommended rate increase will result in a total debt service coverage of
24 0.95x, which fail to meet the minimum legal coverage. In addition, the rate
25 recommendations from both I&E and OCA would cause PWSA to violate the annual rate

1 covenant and fail the additional bonds test since sufficient revenue would not be available
2 to maintain the legal debt service coverage ratios while incorporating the additional debt
3 service costs prior to issuing the debt. This would cause PWSA to have to stop its capital
4 program since there would be no mechanism to fund it.

5 **Q. WHAT ARE THE CONSEQUENCES OF FALLING BELOW THE LEVELS**
6 **REQUIRED IN PWSA'S BOND INDENTURE?**

7 A. This is explained in Mr. Huestis' direct testimony in detail which describes the necessary
8 remedy in revising rates, fees and charges or to petition the Commission to establish
9 necessary rates if the Authority fails to comply with its (i) debt service coverage rate
10 covenant(s) and/or (ii) additional bonds test – a process that is timely and costly.
11 Furthermore, PWSA could potentially experience lawsuits served from bondholders
12 related to the failure to raise sufficient rates to meet the legal rate covenant(s). However,
13 and most importantly, a violation of rate covenant(s) would very likely result in a bond
14 downgrade. As Mr. Huestis explains, a bond downgrade would result in significantly
15 higher borrowing costs, resulting in over \$140 million of additional costs over the life of
16 the bonds PWSA intends to issue. That said, failure to conform with the additional bond
17 test would strictly prohibit the Authority to issue revenue bonds in the future to help
18 finance capital improvements and projects for the system that would benefit the
19 ratepayers.

20 **Q. WHAT OTHER ALTERNATIVE WOULD PWSA HAVE TO AVOID A RATE**
21 **COVENANT VIOLATION AND BOND DOWNGRADE?**

22 A. PWSA would have to drastically cut its spending to match the inadequate level of rate
23 relief – if possible. Many of its expense claims are associated with programs and
24 initiatives that the PUC has directed or that the Authority has agreed to do in earlier
25 settlements. Others are mandated by the Department of Environmental Protection

1 (“DEP”); a failure to comply with those mandated deadlines would cause PWSA to be
 2 subject to additional administrative orders and sanctions, all of which would have to be
 3 paid by ratepayers.

4 **Q. MR. PATEL AND MUGRACE CONTINUE TO INSIST THAT YOU HAVE NOT**
 5 **SUFFICIENTLY “PROVEN” THAT MULTIPLE ITEMS MAKING UP PWSA’S**
 6 **2022 BUDGET (WHICH IS THE BASIS FOR ITS FPFTY) WILL BE**
 7 **EXPENDED, AND CLAIM THAT PWSA MUST SHOW THAT THESE CLAIMS**
 8 **ARE “KNOWN AND MEASUREABLE”. THEY HAVE CONTINUED TO INSIST**
 9 **THAT WHERE THERE ARE SIGNIFICANT INCREASES IN EXPENSE ITEMS,**
 10 **THOSE LEVELS SHOULD BE REJECTED BECAUSE THEY EXCEED**
 11 **“NORMALIZED” LEVELS, REFLECTED BY THE AVERAGE OF 2018-2020**
 12 **OR 2020 LEVELS ADJUSTED BY A COST OF LIVING FACTOR. CAN YOUR**
 13 **PROVIDE AN OVERALL RESPONSE?**

14 A. I have explained the “ramp-up” in operations that resulted in a dramatic increase in
 15 PWSA’s operating budget starting in 2018. This “ramp-up” had to occur or PWSA would
 16 risk the failure to meet its many regulatory obligations. Furthermore, I have continually
 17 demonstrated that PWSA is on track to meet its 2021 Operating Budget, which should
 18 bring further comfort to the parties that PWSA’s 2022 Operating Budget request is
 19 justified and reasonable. This is in addition to the detailed information that I provided for
 20 the projected staffing levels, the specific projects that will be funded, and the specific
 21 costs that are included in the 2022 Operating Budget.

22 **III. EXPENSES IN THE FTY**

23 **Q. HOW HAS THE 2021 OPERATING BUDGET PERFORMED THROUGH JULY**
 24 **31, 2021?**

25 A. PWSA has incurred \$61,500,264 of O&M expenses between January 1, 2021 and July
 26 31, 2021, which means approximately 55% of the 2021 Operating Budget has been spent.
 27 This equates to O&M budget expenditures increasing by \$6,777,299 or 6% in one month
 28 compared to the O&M expenses between January 1, 2021 and June 30, 2021 that was
 29 provided in my rebuttal testimony (Exhibit EB-12).

1 In addition, PWSA is projecting 2021 Operating Expenditures of \$105,799,464
2 compared to the 2021 Operating Budget of \$110,843,321 (See exhibit EB-18). That
3 results in PWSA spending approximately 95% of the 2021 Operating Budget amount.
4 Again, PWSA continues to demonstrate that 1) the organization has the ability to meet its
5 budget projections; and 2) the operating budget amount requested in FPPTY is justified
6 and reasonable.

7 **IV. PENNVEST Funding**

8 **Q. HAS PWSA BEEN AWARDED FUNDING FROM PENNVEST SINCE THE**
9 **FILING OF THIS RATE CASE?**

10 A. Yes, PWSA has received two PENNVEST funding awards since the filing of this rate
11 case.

12 The first award occurred in April 2021. The award included a \$35.5 million low-
13 interest loan and a \$3.0 million grant for the purpose of funding lead and non-lead service
14 line replacements. This was originally projected to be funded with revenue bonds in this
15 rate case. However, PWSA filed an updated COSS model that shows the impact of this
16 award. This award increases PWSA's 2022 revenue requirement by \$80,798 but it saves
17 ratepayers approximately \$34.7 million over the life of the loan due to a shorter maturity
18 and a lower interest rate compared to revenue bonds. PWSA has yet to close on this
19 funding. The effect of this award on debt service coverage was reflected in PWSA's
20 revised revenue requirement schedules in its rebuttal.

21 The second award occurred in July 2021. The award included a \$24.0 million
22 low-interest loan for the purpose of funding PWSA's small diameter sewer rehabilitation
23 program. This was originally projected to be funded with revenue bonds in this rate case.
24 Exhibit EB-19 includes the updated schedules from the COSS model that shows the

1 impact of this award. This award increases PWSA's 2022 revenue requirement by
2 \$286,419 but it saves ratepayers approximately \$16 million over the life of the loan due
3 to a shorter maturity and a lower interest rate compared to revenue bonds. This additional
4 award has the effect of slightly increasing FPPTY senior debt service coverage from 1.5
5 to 1.53x and has a slightly reductive effect on total debt service coverage, which is lost in
6 the rounding. (See Exhibit EB- 17). This award was not mentioned in my rebuttal
7 testimony because the specifics of the award were not finalized at that time, since PWSA
8 has yet to close on the award. It was PWSA's intent to notify the parties of this funding
9 once the award was finalized (PWSA is required to register a securities certificate
10 pursuant to 66 Pa. C.S. Chapter 19 for any new security, including PENNVEST). I would
11 note that the fact that PWSA had applied for these loans was disclosed in my Direct
12 Testimony. (PWSA St. 2 at 25-26).

13 **Q. DOES PWSA HAVE ANY PENDING FUNDING APPLICATIONS WITH**
14 **PENNVEST?**

15 A. Yes, PWSA submitted three funding applications to PENNVEST in August 2021. The
16 first is a \$172.1 million request to fund 51% of the Clearwell Replacement projects that is
17 mandated by the PA DEP. The second is a \$32.3 million request to fund PWSA's large
18 diameter sewer rehabilitation program. The third is a \$4.7 million request to fund lead
19 service line replacements. It is anticipated that PWSA will know the results of these
20 applications in late 2021 or early 2022.

1 **V. PAYGO FUNDING AND DSIC FILING**

2 **Q. I&E WITNESS MR. SPADACCIO CLAIMS THAT BASED ON PWSA’S JULY 1,**
3 **2021 QUARTERLY DSIC FILING THAT PWSA HAS NOT UTILIZED DSIC**
4 **FUNIDNG NEARLY TO THE EXTENT AVAILABLE. PLEASE RESPOND.**

5 A. As of August 9, 2021, PWSA has incurred over \$3.0 million in DSIC eligible water and
6 wastewater project expenses. The July 1, 2021 Quarterly DSIC filing is showing total
7 expenses that are much lower than this due to delays in receiving invoices from
8 contractors, which further delayed PWSA’s invoicing QA/QC process prior to payment.
9 PWSA has paid a large number of these backlog invoices after the July 1, 2021 filing and
10 plans to include those expenses on the next quarterly filing. Furthermore, PWSA
11 anticipates this level of DSIC spending will continue considering that we are in the
12 middle of construction season. PWSA has and will continue to take advantage of DSIC
13 funding in order to fund critical projects with incurring additional debt. The level of
14 DSIC eligible expenses, which will be fully demonstrated on PWSA’s next quarterly
15 DSIC filing, further justifies PWSA’s request for \$1 million of additional internally
16 generated funds in the form of PAYGO in FPPTY. This nominal request will benefit
17 ratepayers by providing the similar debt cost savings as the current DSIC revenues.

18 **VI. EQUIPMENT EXPENSES**

19 **Q. I&E WITNESS MR. PATEL MAINTAINS HIS FPPTY EQUIPMENT REVENUE**
20 **REQUIREMENT RECOMMENDATION OF \$1,290,460 IN HIS SURREBUTTAL**
21 **TESTIMONY. PLEASE RESPOND.**

22 A. Mr. Patel maintains his position that PWSA should spread the cost of equipment over the
23 normal useful life of the equipment that is planned to be purchased in FPPTY, which
24 results in his recommended equipment expense reduction of \$6,287,957 (\$7,578,417 -
25 \$1,290,460). As I have previously stated, PWSA is unable to normalize these costs over
26 the useful life of the asset. PWSA is a cash-based utility and must have the full amount of

1 the funds available at the time of purchase. In addition, Mr. Patel’s revenue requirement
 2 recommendation of \$1,290,460 is unreasonable considering PWSA has spent \$6,345,984
 3 in equipment expenses through July 31, 2021, as displayed in the chart below. This
 4 shows that PWSA’s claim is consistent with our new normal annual for this category and
 5 verifies that the requested FPPTY equipment revenue requirement of \$7,578,417 is
 6 justified and reasonable. Furthermore, Mr. Patel’s revenue requirement recommendation
 7 will severely limit PWSA’s ability to “ramp up” operations to a level that is sufficient to
 8 operate and maintain the system.

	2021 Budget Amount	2021 Expenses through July 31, 2021	<i>Difference</i>
Equipment	\$8,009,081	6,345,984	1,663,097

11 **VII. OPERATING CONTRACTS EXPENSES**

12 **Q. I&E WITNESS MR. PATEL MAINTAINS HIS FPPTY OPERATING**
 13 **CONTRACTS REVENUE REQUIREMENT RECOMMENDATION OF**
 14 **\$22,652,907 IN HIS SURREBUTTAL TESTIMONY. PLEASE RESPOND.**

15 A. Mr. Patel maintains his operating contracts revenue requirement of \$22,652,907, which is
 16 a \$4,453,678 reduction (\$27,106,585 - \$22,652,907) from PWSA’s request. The
 17 justification for this position is that no detailed breakdown of these projected costs was
 18 provided and in addition to PWSA historically overestimating O&M expenses.

19 I disagree with this position because PWSA provided specific projects and costs
 20 that justify the FPPTY operating contracts revenue requirement request. See, e.g., Exh.
 21 EB-20. Just as importantly, Mr. Patel’s revenue requirement recommendation is well
 22 below PWSA’s 2021 operating contracts budget, as displayed in the chart below. The

1 chart displays that PWSA has spent \$12,909,161 or approximately 50% of the 2021
 2 budget amounts, with the remaining amount projected to be spent through the remainder
 3 of 2021. This supports the 2021 budget amount and that the 2022 budget request for
 4 operating contracts is justified and legitimate. This increase demonstrates that PWSA has
 5 and will continue to “ramp-up” operations. In contrast, Mr. Patel’s recommendation will
 6 severely limit the “ramp-up” in operations which will make it difficult to satisfy all of the
 7 PUC and regulatory mandates that PWSA must abide by.

	2021 Budget Amount	2021 Expenses through July 31, 2021	<i>Difference</i>
Operating Contracts	\$26,282,850	12,909,161	13,373,689

8

9 **VIII. PAYROLL AND EMPLOYEE BENEFIT EXPENSES**

10 **Q. MR. MUGRACE STATES THAT IF PWSA’S UPDATES PWSA’S RESPONSE**
 11 **TO OCA-II-22, HE WOULD ADJUST HIS RECOMMENDATION**
 12 **ACCORDINGLY. OCA ST. 1-SR (MUGRACE) AT 9-10. PLEASE RESPOND.**

13 A. First, we read the interrogatory that Mr. Mugrace references as requesting that PWSA
 14 provide the basis on which it had made its FPFTY recommendation, not to provide a
 15 running count of employees. Second, Mr. Mugrace missed the fundamental point of my
 16 rebuttal testimony. I testified that the adoption of Mr. Mugrace’s recommendation would
 17 unreasonably reduce the level of employees (and the recovery of payroll and employee
 18 benefit expenses) for the FPFTY below the current level of employees and expenses.

19 PWSA St. 2-R at 25-29.

1 I explained that Mr. Mugrace’s recommendation has the effect of limiting
 2 PWSA’s employee count and employee-related expenses to 304 employees.¹ That
 3 employee number was not contested or rebutted by Mr. Mugrace. Rather than contest that
 4 number, Mr. Mugrace implies that using averages will not “skew the results” and
 5 emphasizes that PWSA did not fill all of its budgeted positions in the past. *See* OCA St.
 6 1-SR at 1-5. In doing so, Mr. Mugrace ignored that his recommended number of
 7 employees (304) is actually below the employee counts in PWSA’s *original* response to
 8 OCA-II-22, which shows that PWSA had 343 filled positions *as of January 1, 2021*
 9 (which is the FTY) and 327 filled positions as of January 1, 2020 (which is the HTY). It
 10 is also below the number of filled positions as of March 15, 2021 (345), as cited in
 11 PWSA St. 1 at 27, and as of June 2021 (366), as cited in PWSA St. 2-R at 27, 29. So, on
 12 its face, Mr. Mugrace’s recommendation would unreasonably remove 62 (366-304)
 13 employees and about \$4,719,629² from the FTY.

14 That being said, attached is Exhibit EB-21 which is an update to PWSA
 15 previously served Attachment OCA-II-22 showing the filled positions for 2021, as of
 16 June 2021. An updated discovery response with this information will be served upon the
 17 parties.

¹ I used the budgeted number of employees for the FPFTY (434) less (129) the number of employees “removed” by Mr. Mugrace’s vacancy rate of 29.76% ($434 * 29.76\% = 129.1584$), which results in a difference of 304 employees. PWSA St. 1-R at 28-30.

² Mr. Mugrace recommends removing 129 employees and \$9,819,875 from the FPFTY. *See* OCA St. 1 (Mugrace) at 15, 17-22, 24-31, 33, 35, 37, 39; OCA Schedule DM-3 to DM-16. This means that each position, roughly, equates to \$76,123.06 ($\$9,819,875$ divided by 129) in the FPFTY. Using that dividend for FTY, the removal of 62 employees in the FTY also removes \$4,719,629 ($62 * \$76,123.06$) from the FTY.

1 **IX. COVID-19 RELATED COSTS**

2 **Q. MR. MUGRACE STATES THAT NOTHING IN THE SECRETARIAL LETTER**
 3 **PERMITS A UTILITY TO DEFER COSTS INDEFINITELY. OCA ST. 1-SR AT**
 4 **20-21. PLEASE RESPOND.**

5 A. That is not PWSA’s intention. Presently, PWSA intends to file for recovery of COVID-
 6 19 related costs in PWSA’s next general rate proceeding commenced **after** July
 7 15, 2021 or in different future proceeding as directed by the Commission.

8 On July 15, 2021, consistent with the Commission’s May 13, 2020, Secretarial
 9 letter at Docket No. M-2020-3019775,³ the Commission confirmed “that utilities shall
 10 continue tracking extraordinary, nonrecurring incremental COVID-19 related expenses
 11 and shall maintain detailed accounting records of such expenses.”⁴ That statement
 12 implicitly recognizes that no utility, including PWSA, was required to seek recovery of
 13 COVID-19 related costs prior to July 15, 2021.

14 I disagree with Mr. Mugrace’s reliance on the recommended decision dated June
 15 30, 2021.⁵ That recommended decision explicitly recommends “that the Commission set
 16 a hard cut-off date for accumulations of deferred uncollectibles expense after which no

³ The Secretarial Letter states that the Commission “will consider in future proceedings whether each utility’s request for recovery of any regulatory asset or exogenous event recovery ... is just and reasonable ...”. Secretarial Letter of May 13, 2020 regarding COVID-19 Cost Tracking and Creation of Regulatory Asset, M-2020-301977, which is available at: http://www.puc.pa.gov/about_puc/consolidated_case_view.aspx?Docket=M-2020-3019775.

⁴ Page 4 of the Order of July 15, 2021 regarding COVID-19 Cost Tracking and Creation of Regulatory Asset, M-2020-301977, et al., which is available at: <https://www.puc.pa.gov/pdocs/1711655.docx>.

⁵ Mr. Mugrace refers to the ‘COVID-19 decisions thus far.’ OCA St. 1-SR at 20. Based on OCA’s Response to OCA-I-1(b), he is referencing the following recommended decision: *Petition of Pennsylvania-American Water Company for Authorization to Defer, and Record as Regulatory Assets for Future Recovery: (1) Incremental Expenses Incurred Because of the Effects of the COVID-19 Emergency; (2) Revenue Reductions Attributable to the Effects of the COVID-19 Emergency; and (3) Carrying Charges on the Amounts Deferred*, P-2020-3022426, Recommended Decision entered June 30, 2021. That recommended decision is not final, since exceptions were filed by PAWC, I&E and OCA and Reply Exceptions were filed by PAWC, I&E, OCA and OSBA. <https://www.puc.pa.gov/docket/P-2020-3022426>.

1 further uncollectibles expense deferrals would be permitted for PAWC and all utilities
 2 subject to the May 13, 2020 Secretarial Letter so that all utilities are treated the same in
 3 this regard.”⁶ That statement implicitly recognizes that utilities could (as of June 30,
 4 2021) continue incurring and deferring COVID-19 related expenses. I do not see how the
 5 recommended decision supports Mr. Mugrace’s position that PWSA was required to seek
 6 recovery of COVID-19 related costs in this general rate proceeding, which was filed on
 7 April 13, 2021.

8
 9 **X. COVID RELATED GOVERNMENT GRANTS**

10 **Q. MR. CLINE FOR I&E TESTIFIES THAT PWSA RECENTLY RECIVED A \$17.5**
 11 **MILLION GRANT FROM THE CITY OF PITTSBURGH AND THAT THE**
 12 **AUTHORITY VIOLATED A PREVIOUS SETTLEMENT TERM BY NOT**
 13 **“REPORTING” ON THAT GRANT. COULD YOU RESPOND?**

14 A. I do not believe the Authority violated a previous settlement term by not “reporting” on
 15 this grant. The City of Pittsburgh awarding these funds does not mean the Authority has
 16 access to these funds. As I previously stated, the Authority and City of Pittsburgh are still
 17 negotiating the legal agreement that will define how and when these funds can be spent.
 18 Failure to complete this agreement denies the Authority access to these grant funds. The
 19 Authority had the intent to “report” on this grant once the agreement was finalized and
 20 the funding was fully secured.

21 **Q. WHAT WOULD BE THE RATEMAKING EFFECT OF THIS GRANT?**

22 A. These grant funds will not have an impact on this rate case since the funds would be used
 23 to increase the amount of lead service line replacements that were originally planned in
 24 future years.

⁶ *Id.* at 1-2, 41-42.

1 **Q. MR. CLINE STATES THAT A PENDING PROCEEDING⁷ ILLUSTRATES**
 2 **THAT JURISDICTIONAL UTILITIES MAY PROPOSE TO ISSUE CREDITS TO**
 3 **CUSTOMERS WHEN CIRCUMSTANCES RESULT IN CUSTOMERS PAYING**
 4 **MORE THAN WARRANTED. I&E ST. 3-SR AT 5-6. PLEASE RESPOND.**

5 A. I continue to disagree. PWSA rates should not be adjusted between rate general cases,
 6 even if PWSA expenses related to debt and debt service are lower due to grants or loans
 7 for construction projects. It is true that PWSA’s expenses for debt and debt service in the
 8 FPFTY may differ from the actual expenses for debt and debt service in the FPFTY. But
 9 that reality, in any of itself, does not mean that customers are entitled to a refund or credit
 10 between rate general rate cases without looking at PWSA’s overall financial metrics.

11 Receiving a grant or low-interest loans for construction projects is different than
 12 the situation presented by recent filing of National Fuel Gas Distribution Corporation
 13 (“NFG”). Given NFG’s Other-Post Employment Benefit (OPEB) funding status, NFG
 14 states that NFG “is able to stop collecting OPEB expenses from customers at this time
 15 and to refund certain amounts that are no longer needed for future OPEB costs and have
 16 been deferred for the benefit of ratepayers.”⁸ To stop collecting the expenses, NFG has
 17 proposed a negative surcharge. “The remaining liability due to ratepayers would be
 18 addressed in a future general base rate case initiated by [NFG].”⁹ PWSA would not be in
 19 a similar situation if PWSA received grants or loans for construction projects. PWSA has
 20 an ongoing need for funding construction projects. Nothing indicates that PWSA’s

⁷ NFG submitted a filing at Docket No. R-2021-3027406 requesting permission to reduce its base rates and provide a refund to customers due to over-funded Other Post-Employment Benefits trusts. *See* I&E Ex. No. 3-SR, Sch. 1.

⁸ NFG Statement of Reasons, R-2021-3027406, which is available at: <https://www.puc.pa.gov/pcdocs/1712439.pdf>.

⁹ *See* NFG St. 2 at 12-14.

1 construction plans would negate the need for new debt in the FPFTY or that there would
2 be no need for ratepayer funding of debt and debt service in the FPFTY.

3 I would note that Mr. Cline does not explain how his recommendation or the
4 proposal in NFG (upon which he relies) avoids the prohibition against single-issue
5 ratemaking. In the past, I&E has explained that “[s]ingle-issue ratemaking occurs when a
6 utility attempts to recover a line item that is traditionally requested in a general base rate
7 proceeding.”¹⁰ Mr. Cline is recommending that isolated expenses (debt and debt service)
8 be, without more, the subject of a refund or credit between general rates cases. Notably,
9 he recommends that rates can go down to reflect changes in the debt and debt service
10 costs between general rate cases; but, he does not recommend that rates can go up to
11 reflect changes in the debt and debt service costs (caused by higher than projected interest
12 rates) between general rate cases. So, on its face, Mr. Cline’s recommendation appears to
13 fall squarely within the prohibition against single-issue ratemaking. This concern will be
14 addressed in briefing, if necessary.

15 Mr. Cline also relies on the Tax Cut and Jobs Act of 2017 (“TCJA”) to justify
16 adjusting PWSA’s rate between general rate cases. See I&E St. 3 at 5. The situation
17 created by the TCJA is also different than funding construction projects. The
18 Commission concluded that the existing rates of certain public utilities were no longer
19 just and reasonable given the decrease in federal corporate income tax rates (created by
20 the TCJA) and its effect on utility revenue requirements. The Commission responded to

¹⁰ *PUC v. Equitable Gas Company, LLC*, Docket Nos. R-2012-2304727, R-2012-2304731, R-2012-2304735, I&E Reply Exceptions dated November 26, 2012 at 6, citing, *Pennsylvania Industrial Energy Coalition v. Pa. PUC*, 653 A.2d 1336 (Pa.Cmwlth. 1995) (*PIEC*). Those Reply Exceptions are available at: <https://www.puc.pa.gov/pcdocs/1201063.pdf>. See also *PUC v. Equitable Gas Company, LLC*, Docket Nos. R-2012-2304727, R-2012-2304731, R-2012-2304735, Opinion and Order entered December 20, 2012, at 14 (describing I&E’s Reply Exceptions).

1 allegations of single-issue ratemaking by noting that the TCJA represented an
 2 extraordinary and substantial, non-recurring reduction in utility expenses caused by a
 3 change in law. Similar treatment is not warranted here, since (a) PWSA has an ongoing
 4 need for funding construction projects and (b) nothing indicates that PWSA will receive
 5 extraordinary or substantial grants or loans before PWSA issues long-term debt in the
 6 FPFTY to fund the construction projects so as to render the rates resulting from this
 7 proceeding unjust and unreasonable.

8 I would also add that I see no need to address the issue of reduced debt and debt
 9 service expenses, if any, between general rate cases – since PWSA’s intends to file its
 10 next rate case in 2022 and any issue would be addressed in that future general base rate
 11 case.

12 **Q. HAS PWSA SUBMITTED ADDITIONAL COVID-19 RELIEF APPLICATIONS**
 13 **TO THE CITY OF PITTSBURGH**

14 A. No. However, PWSA has approached the City of Pittsburgh to discuss the potential of
 15 setting up a program that would use COVID-19 relief funds to reimburse low-income
 16 customers for the replacement of private lead line and/or sewer laterals. Both PWSA and
 17 the City of Pittsburgh are working with legal counsel to see if the COVID-19 relief funds
 18 can be used in this manner. These discussions are in the preliminary stages and would
 19 ultimately require the approval of City Council if legal counsel determines that COVID-
 20 19 relief funds can fund this program. PWSA has no more detail to offer at this time but
 21 will report to the Commission if any grant program is finalized.

22 **Q. CAN YOU REITERATE PWSA’S POSITION ON THE TREATMENT OF ANY**
 23 **FUTURE GOVERNMENT GRANTS OR LOANS.**

24 A. PWSA fully recognizes that if it receives a grant or loan that will pay for construction or
 25 other projects that are reflected in its rates and will of course incorporate those in any

1 future rate cases. Between cases, PWSA will continue to report to the parties on any such
2 grants or loans, when they are actually awarded. PWSA will consider the ratemaking
3 consequences of such government assistance and will propose appropriate action
4 consistent with well-established principles, such as the restriction on “single issue
5 ratemaking” and the need to base rates on reasonable going levels of expenses and not on
6 one-time events.

7 **XI. CONCLUSION**

8 **Q. DOES THAT COMPLETE YOUR REJOINDER TESTIMONY?**

9 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

Exhibit EB-17

TABLE I(A)
Pittsburgh Water and Sewer Authority
FPPTY 2022 KEY RATIOS

Docket Nos. R-2021-3024773 (Water), R-2021-3024774 (Wastewater), & R-2021-3024779 (Stormwater)

<u>Key Ratio Breakdown</u>	(A)	(B)	(C)	(D)
	PWSA	PWSA	I&E (Adj)	OCA (Adj)
	FPPTY 2022 Present Rates	FPPTY 2022 Proposed Rates	I&E's Surrebuttal (1-SR)	OCA's Direct Testimony Position
	\$	\$		
Debt Service Coverage				
Operating Revenues	200,161,992	232,748,857	214,344,342	211,345,766
Less:				
Bad Debt	(3,949,570)	(5,720,049)	(5,166,128)	(4,708,848)
Stormwater Credits	0	(696,930)		(696,685)
Net Collected Revenues	196,212,422	226,331,878	209,178,214	205,940,233
Less:				
Current Expenses	(125,268,731)	(125,268,731)	(125,268,731)	(125,268,731)
Adjustments:				
City Payments	4,780,000	4,780,000	4,780,000	4,780,000
Placeholder				
Placeholder				
Revenues Available for Debt Service	75,723,691	105,843,147	88,689,483	85,451,502
Senior Lien Debt Service	69,368,479	69,368,479	69,368,479	69,368,479
All Other Debt Service	20,401,584	20,401,584	20,401,584	20,401,584
Total Debt Service	89,770,063	89,770,063	89,770,063	89,770,063
Senior Lien Debt Service Coverage	1.09	1.53	1.28	1.23
Total Debt Service Coverage	0.84	1.18	0.99	0.95
Days Cash on Hand				
Ending Cash Balance	28,783,008	58,904,018	41,750,354	38,512,373
Operating Expenses	125,268,731	125,268,731	125,268,731	125,268,731
Adjustments:				
(Loss) / Gain on ALCOSAN Billings	(1,571,968)	(1,571,968)	(1,571,968)	(1,571,968)
Add: Adjustments to ALCOSAN	0	0		
Placeholder				
Net Operating Expenses	123,696,763	123,696,763	123,696,763	123,696,763
Days Cash on Hand (x 365)	84.9	173.81	123.20	113.64

Exhibit EB-18

2021													
The Pittsburgh Water and Sewer Authority 2021 Operating Budget Projection (Cash Basis) As of June 30, 2021	January	February	March	April	May	June	July	August	September	October	November	December	
	Actual							Projection					
	Operating Expenses												
Executive Director	\$ 137,098	134,678	148,602	142,621	139,643	185,594	190,545	113,632	116,154	1,368,209	110,479	172,940	\$ 2,960,195
Customer Service	526,142	611,636	798,966	772,397	632,565	799,270	573,613	660,286	702,514	679,884	661,666	634,438	8,053,376
Management Information Systems	181,946	3,735,257	393,710	268,814	232,029	1,983,500	236,906	292,778	345,848	321,082	319,902	346,203	8,657,975
Finance	1,288,048	631,237	669,213	392,720	507,027	1,269,999	448,027	855,709	660,754	652,031	733,141	1,454,998	9,562,903
Human Resources	59,115	55,179	54,349	71,094	83,483	89,636	62,552	60,270	94,053	60,743	61,249	95,905	847,628
Legal	549,720	385,420	493,315	625,467	429,123	514,571	973,080	780,261	502,092	499,927	499,879	537,577	6,790,432
Warehouse	36,495	39,452	28,062	40,890	28,567	56,060	45,123	32,087	36,052	32,203	32,222	46,091	453,304
Public Affairs	51,562	125,845	49,918	86,156	87,863	81,373	64,505	96,608	72,204	69,379	69,337	156,297	1,011,045
Engineering & Construction	1,321,111	3,228,795	3,944,589	868,123	1,977,830	3,686,826	1,185,077	5,725,997	3,158,867	3,200,548	3,195,835	(3,527,598)	27,966,000
Environmental Compliance	75,268	118,403	324,375	330,907	166,565	351,968	156,607	250,177	256,052	244,853	250,652	279,085	2,804,911
General Administration	1,012	1,075	1,261	582	573	1,040	1,190	986	873	650	763	965	10,969
Water Quality	61,474	91,572	209,741	320,592	88,962	104,967	83,970	131,965	126,040	118,811	126,381	143,233	1,607,708
Plant Operations	1,510,156	1,077,025	2,486,605	1,037,812	1,602,301	1,225,985	1,392,759	1,558,225	1,512,057	1,829,678	1,863,649	1,155,972	18,252,225
Distribution	947,527	1,171,025	1,022,899	934,206	1,001,623	1,333,787	1,016,021	1,053,683	1,146,331	1,119,538	1,108,450	1,626,652	13,481,742
Sewer Operations	207,902	174,732	211,044	224,623	259,691	310,989	347,324	291,041	306,757	301,862	298,353	404,733	3,339,052
Total	\$ 6,954,575	11,581,328	10,836,649	6,117,004	7,237,844	11,995,566	6,777,299	11,903,705	9,036,648	10,499,398	9,331,958	3,527,491	\$ 105,799,464

Exhibit EB-19

Comparison of Rebuttal and Updated Rate Case Tables with New \$24 million PENNVEST Loan
Pittsburgh Water and Sewer Authority
Docket Nos. R-2021-3024773 (Water), R-2021-3024774 (Wastewater), & R-2021-3024779 (Stormwater)

	Rebuttal Rate Case Tables	UPDATED WITH NEW PENNVEST
	(B) PWSA	(B) PWSA
	FPPTY 2022 Proposed Rates	FPPTY 2022 Proposed Rates
<u>Key Ratio Breakdown</u>	\$	\$
Debt Service Coverage		
Operating Revenues	232,748,857	232,748,857
Less:		
Bad Debt	(5,720,049)	(5,720,049)
Stormwater Credits	(696,930)	(696,930)
Net Collected Revenues	226,331,878	226,331,878
Less:		
Current Expenses	(125,268,731)	(125,268,731)
Adjustments:		
City Payments	4,780,000	4,780,000
Placeholder		
Placeholder		
Revenues Available for Debt Service	105,843,147	105,843,147
Senior Lien Debt Service	70,546,738	69,368,479
All Other Debt Service	18,936,906	20,401,584
Total Debt Service	89,483,644	89,770,063
Senior Lien Debt Service Coverage	1.50	1.53
Total Debt Service Coverage	1.18	1.18
Days Cash on Hand		
Ending Cash Balance	59,190,436	58,904,018
Operating Expenses	125,268,731	125,268,731
Adjustments:		
(Loss) /Gain on ALCOSAN Billings	(1,571,968)	(1,571,968)
Add: Adjustments to ALCOSAN	0	0
Placeholder		
Net Operating Expenses	123,696,763	123,696,763
Days Cash on Hand (x 365)	174.66	173.81

Exhibit EB-20

Summary

<u>Department</u>	<u>General Ledger Number</u>	<u>Amount</u>
Water Treatment Plant*	322-5405	\$1,650,000
Water Treatment Plant*	322-5417	25,004
Water Treatment Plant*	322-5462	381,700
Water Treatment Plant*	322-5150	279,800
Water Treatment Plant*	322-5140	181,450
Sewer Operations	424-5370	67,000
Public Affairs	921-7383	11,480
Human Resources	915-5402	7,070
Chief Executive Officer	910-7383	71,000
Engineering and Construction	930-7335	115,011
Total		\$2,789,515
*Repairs (Deferred because of COVID-19)		

		<u>Inflationary Costs</u>		
Department	Expenses	Account Code		Dollar Amount of Inflation
Sewer Operations	Flagging	424-5370		25,000
Sewer Operations	CCTV/Heavy Cleaning	424-5370		25,000
Sewer Operations	Allegheny Utility	424-5370		11,000
Sewer Operations	Traffic Setup	424-5370		6,000
Public Affairs	Graphic Design	921-7383		300
Public Affairs	Photography	921-7383		500
Public Affairs	Videography	921-7383		10,000
Public Affairs	Media Oncall Services	921-7383		680
Human Resources	Identicard	915-5402		70
Human Resources	Dayforce Annual Fee	915-5402		7,000
Chief Executive Officer	Health and Safety Program	910-7383		71,000
Engineering and Construction	Construction Management	930-7335		115,011
				\$ 271,561

		<u>Water Treatment Plant Repairs</u>		
Department	Expenses	Account Code		Dollar Amount of Repairs
Water Treatment Plant	Restrooms Renovations/Repairs	322-5405		45,000
Water Treatment Plant	Office Renovations/Repairs	322-5405		105,334
Water Treatment Plant	Ross Fascia Repairs	322-5405		150,000
Water Treatment Plant	Ross Floor Repairs	322-5405		100,000
Water Treatment Plant	Outlet Building Switchgear Repairs	322-5405		84,000

Water Treatment Plant	Lighting Repairs	322-5405	60,000
Water Treatment Plant	Squirrel Hill Building Repairs	322-5405	110,000
Water Treatment Plant	Aspinwall Garage Repairs	322-5405	180,000
Water Treatment Plant	Flouride Building Repairs	322-5405	199,332
Water Treatment Plant	Sodium Hypo Building Tank Repairs	322-5405	60,000
Water Treatment Plant	Bruecken Repairs	322-5405	81,000
Water Treatment Plant	Additional Parking Spaces	322-5405	117,334
Water Treatment Plant	Lift Station Repairs	322-5405	54,000
Water Treatment Plant	MFP Loading Dock Repairs	322-5405	182,000
Water Treatment Plant	Sliding Gate Repairs	322-5405	80,000
Water Treatment Plant	Water Fountain Repairs	322-5405	10,000
Water Treatment Plant	Fire System Repairs	322-5405	32,000
Water Treatment Plant	Electrical Repairs	322-5417	25,004
Water Treatment Plant	Clarifier Repairs	322-5462	73,600
Water Treatment Plant	Remote Pump Stations Repairs	322-5462	31,800
Water Treatment Plant	Leak Injection Repairs	322-5462	600
Water Treatment Plant	PAX Repairs	322-5462	190,000
Water Treatment Plant	Kinney Strainer Service for Repairs	322-5462	11,800
Water Treatment Plant	UV System Component Repairs	322-5462	300
Water Treatment Plant	Valve/Actuator Repairs	322-5462	73,600
Water Treatment Plant	Chemical Feed Pump Repairs	322-5150	139,900
Water Treatment Plant	Watson Marlow Pumps	322-5150	139,900
Water Treatment Plant	Control Room (WTP)	322-5140	90,725
Water Treatment Plant	Control Room (MFP)	322-5140	90,725
			\$
			2,517,954

Exhibit EB-21

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Non-Union	Chief Executive Officer	Chief Executive Officer	249,312	73%	15%	11%
Non-Union	Legal	Chief Corporate Counsel/Administration	241,984	73%	15%	11%
Non-Union	Chief Executive Officer	Chief Operating Officer	205,995	73%	15%	11%
Non-Union	Engineering & Construction	Director of Engineering and Construction	204,886	65%	24%	11%
Non-Union	Legal	Corporate Counsel - Environmental	180,000	73%	15%	11%
Non-Union	Chief Executive Officer	Chief, Technology and Performance Improvement	174,836	73%	15%	11%
Non-Union	Water Operations	Chief of Operations	171,420	100%	0%	0%
Non-Union	Engineering & Construction	Senior Group Manager, Stormwater	169,950	65%	24%	11%
Non-Union	Customer Service	Director of Customer Services	167,331	27%	35%	38%
Non-Union	Water Operations	Director of Operations	167,331	100%	0%	0%
Non-Union	Finance	Director of Finance	167,330	73%	15%	11%
Non-Union	Environmental Compliance	Director of Water Quality	164,800	35%	33%	33%
Non-Union	Engineering & Construction	Deputy Director of Engineering	158,445	65%	24%	11%
Non-Union	Engineering & Construction	Senior Group Manager, Water Programs	158,445	65%	24%	11%
Non-Union	Management Information System	Director of Information Technology	153,831	73%	15%	11%
Non-Union	Human Resources	Director of Human Resources	153,824	73%	15%	11%
Non-Union	Water Treatment Plant	Senior Manager, Projects	145,754	100%	0%	0%
Non-Union	Water Treatment Plant	Acting Senior Group Manager, Production	141,836	100%	0%	0%
Non-Union	Engineering & Construction	Senior Manager, Wastewater	139,050	65%	24%	11%
Non-Union	Finance	Senior Manager, Program Controls	136,591	73%	15%	11%
Non-Union	Legal	Corporate Counsel	126,464	73%	15%	11%
Non-Union	Engineering & Construction	Senior Project Manager	125,664	65%	24%	11%
Non-Union	Water Treatment Plant	Senior Manager, Production	124,337	100%	0%	0%
Non-Union	Human Resources	Senior Manager, HR	124,002	73%	15%	11%
Non-Union	Finance	Senior Manager, Procurement	123,993	73%	15%	11%
Non-Union	Finance	Senior Finance Manager/Controller	123,993	73%	15%	11%
Non-Union	Engineering & Construction	Senior Manager, Construction	123,478	65%	24%	11%
Non-Union	Engineering & Construction	Senior Project Manager	118,450	65%	24%	11%
Non-Union	Engineering & Construction	Senior Project Manager	118,450	65%	24%	11%
Non-Union	Engineering & Construction	Senior Project Manager	118,015	65%	24%	11%
Non-Union	Chief Executive Officer	Safety and Security Manager	117,813	73%	15%	11%
Non-Union	Water Treatment Plant	Project Manager, Production	116,699	100%	0%	0%
Non-Union	Environmental Compliance	Senior Manager, Water Quality	114,047	35%	33%	33%
Non-Union	Public Affairs	Senior Manager Public Affairs	113,300	73%	15%	11%
Non-Union	Finance	Program Manager - Capital Projects	111,395	73%	15%	11%
Non-Union	Water Operations	Senior Manager, Field Operations	109,062	100%	0%	0%
Non-Union	Water Treatment Plant	SCADA Technician	106,541	100%	0%	0%
Non-Union	Engineering & Construction	Project Manager - Construction	106,090	65%	24%	11%
Non-Union	Management Information System	BI Analyst and Database Administrator	104,507	73%	15%	11%
Non-Union	Engineering & Construction	Project Manager	103,809	65%	24%	11%
Non-Union	Management Information System	Manager, Information Technology	103,714	73%	15%	11%
Non-Union	Water Operations	Senior Manager, Field Operations	103,182	100%	0%	0%
Non-Union	Finance	Manager, Operating Budget	100,000	73%	15%	11%
Non-Union	Legal	Corporate Counsel	100,000	73%	15%	11%
Non-Union	Management Information System	IT Security Manager	100,000	73%	15%	11%
Non-Union	Engineering & Construction	Project Manager	99,720	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	99,517	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	99,517	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	99,517	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	99,516	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	99,516	65%	24%	11%
Non-Union	Finance	Procurement Manager	99,202	73%	15%	11%
Non-Union	Laboratory	Lab Manager	98,880	100%	0%	0%
Non-Union	Management Information System	IT Project Manager	97,253	73%	15%	11%
Non-Union	Finance	Senior Contract Specialist	96,434	73%	15%	11%
Non-Union	Water Operations	Senior Manager, Field Operations	95,669	100%	0%	0%
Union	Water Treatment Plant	Electrician	94,589	100%	0%	0%
Non-Union	Engineering & Construction	Sustainability Manager	93,680	65%	24%	11%
Non-Union	Water Treatment Plant	Operations Superintendent	92,700	100%	0%	0%
Non-Union	Management Information System	Network Systems Administrator	91,842	73%	15%	11%
Non-Union	Water Operations	Senior Manager, Field Operations	91,166	100%	0%	0%
Non-Union	Water Operations	Senior Manager, Field Operations	91,166	100%	0%	0%
Non-Union	Warehouse	Senior Manager, Field Operations	90,940	73%	15%	11%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Non-Union	Engineering & Construction	Project Manager	90,177	65%	24%	11%
Non-Union	Engineering & Construction	Project Manager	90,177	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	90,130	65%	24%	11%
Non-Union	Human Resources	Human Resources Assistant Manager	89,424	73%	15%	11%
Non-Union	Public Affairs	Industry Relations Manager	89,116	73%	15%	11%
Non-Union	Management Information System	SQL BI Developer	88,971	73%	15%	11%
Non-Union	Water Operations	Senior Manager, Field Operations	88,511	100%	0%	0%
Non-Union	Water Operations	Senior Manager, Field Operations	88,511	100%	0%	0%
Non-Union	Management Information System	Network Systems Administrator	88,055	73%	15%	11%
Non-Union	Engineering & Construction	Associate Project Manager	86,520	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	86,520	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	86,507	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	86,506	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	84,872	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	84,872	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	82,814	65%	24%	11%
Non-Union	Finance	Manager, Facilities	82,400	73%	15%	11%
Non-Union	Finance	Asset Management Application Administrator	82,400	73%	15%	11%
Non-Union	Water Treatment Plant	Operations Startup/Commissions Technician	82,400	100%	0%	0%
Non-Union	Customer Service	Quality Congtrol Manager	82,400	27%	35%	38%
Non-Union	Sewer Operations	Superintendent of Sewers	81,765	0%	50%	50%
Non-Union	Water Operations	Superintendent	81,765	100%	0%	0%
Non-Union	Water Operations	Superintendent	81,765	100%	0%	0%
Non-Union	Customer Service	Senior AMI & Billing Manager	81,161	27%	35%	38%
Non-Union	Customer Service	Senior Customer Service Manager	81,161	27%	35%	38%
Non-Union	Customer Service	Senior PUC Compliance Manager	81,161	27%	35%	38%
Non-Union	Management Information System	GIS Project Coordinator	80,733	73%	15%	11%
Non-Union	Legal	Risk Coordinator	79,771	73%	15%	11%
Non-Union	Laboratory	Water Quality Supervisor	79,551	100%	0%	0%
Non-Union	Engineering & Construction	Associate Project Manager	79,437	65%	24%	11%
Non-Union	Management Information System	Senior GIS Analyst	79,310	73%	15%	11%
Non-Union	Public Affairs	Senior Public Affairs Coordinator	78,676	73%	15%	11%
Non-Union	Engineering & Construction	Associate Project Manager	78,514	65%	24%	11%
Non-Union	Engineering & Construction	Senior Engineering Technician	76,521	65%	24%	11%
Non-Union	Customer Service	AMI & Billing Manager	76,395	27%	35%	38%
Non-Union	Human Resources	Senior Payroll Administrator	76,162	73%	15%	11%
Non-Union	Management Information System	Senior GIS Analyst	75,815	73%	15%	11%
Non-Union	Management Information System	Senior GIS Analyst	75,815	73%	15%	11%
Union	Laboratory	Chemist II - Year 7	75,460	100%	0%	0%
Non-Union	Engineering & Construction	Associate Project Manager	75,435	65%	24%	11%
Non-Union	Engineering & Construction	Associate Project Manager	75,359	65%	24%	11%
Non-Union	Finance	Project Systems Coordinator	74,263	73%	15%	11%
Non-Union	Chief Executive Officer	Senior Manager of Performance	74,263	73%	15%	11%
Non-Union	Chief Executive Officer	Executive Administration Supervisor	73,901	73%	15%	11%
Union	Laboratory	Chemist II - Year 1	73,181	100%	0%	0%
Union	Laboratory	Chemist II - Year 2	73,181	100%	0%	0%
Non-Union	Engineering & Construction	Engineer III	72,920	65%	24%	11%
Union	Water Operations	Water Repair Foreman - Licensed	72,250	100%	0%	0%
Union	Water Operations	Water Repair Foreman - Licensed	72,249	100%	0%	0%
Union	Water Operations	Water Repair Foreman - Licensed	72,249	100%	0%	0%
Non-Union	Environmental Compliance	Water Quality Data Manager	71,498	35%	33%	33%
Union	Water Treatment Plant	Foreman	71,146	100%	0%	0%
Union	Sewer Operations	Sewer Plumbing Foreman	71,146	0%	50%	50%
Union	Sewer Operations	Sewer Foreman	71,146	0%	50%	50%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Operations	Water Repair Foreman	71,146	100%	0%	0%
Union	Water Treatment Plant	Plant Maintenance Foreman	71,146	100%	0%	0%
Non-Union	Water Treatment Plant	Plant Maintenance Foreman	71,146	100%	0%	0%
Non-Union	Engineering & Construction	Engineer III	71,070	65%	24%	11%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Non-Union	Environmental Compliance	Environmental Compliance Coordinator	71,028	35%	33%	33%
Union	Customer Service	RNI Data Analyst	70,856	27%	35%	38%
Non-Union	Management Information System	GIS Analyst	70,856	73%	15%	11%
Non-Union	Management Information System	GIS Analyst	70,846	73%	15%	11%
Union	Water Treatment Plant	Electrician	70,420	100%	0%	0%
Union	Water Treatment Plant	Electrician	70,420	100%	0%	0%
Union	Water Treatment Plant	Electrician	70,420	100%	0%	0%
Non-Union	Water Treatment Plant	Water Production Administrator	70,040	100%	0%	0%
Non-Union	Finance	Senior Accounting Specialist	69,488	73%	15%	11%
Non-Union	Customer Service	Dispatch Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior Training Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior PUC Compliance Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior Customer Service Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior Collections Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior Billing Coordinator	68,959	27%	35%	38%
Non-Union	Customer Service	Senior Lead Help Coordinator	68,959	27%	35%	38%
Non-Union	Finance	Document Management Specialist	68,959	73%	15%	11%
Union	Water Operations	Plumber	68,527	100%	0%	0%
Union	Water Operations	Plumber	68,527	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
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Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Operations	Plumber	68,526	100%	0%	0%
Union	Water Treatment Plant	Plumber	68,526	100%	0%	0%
Union	Water Treatment Plant	Plumber	68,526	100%	0%	0%
Union	Water Treatment Plant	Plumber	68,526	100%	0%	0%
Non-Union	Customer Service	Senior Collections Manager	67,954	27%	35%	38%
Union	Water Treatment Plant	Steamfitter	67,760	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator - Licensed	67,756	100%	0%	0%
Non-Union	Public Affairs	Internal Communications Associate	67,588	73%	15%	11%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Operations	Heavy Equipment Operator	67,181	100%	0%	0%
Union	Water Treatment Plant	Plant Operator - Class A	67,044	100%	0%	0%
Union	Water Treatment Plant	Plant Operator - Class A	67,044	100%	0%	0%
Union	Water Treatment Plant	Plant Operator - Class A	67,044	100%	0%	0%
Union	Water Treatment Plant	Plant Operator - Class A	67,044	100%	0%	0%
Union	Water Treatment Plant	Welder	67,023	100%	0%	0%
Non-Union	Engineering & Construction	Inspector III	66,837	65%	24%	11%
Union	Water Treatment Plant	Machinist	66,703	100%	0%	0%
Non-Union	Human Resources	HR Specialist	66,093	73%	15%	11%
Union	Water Treatment Plant	Stationary Engineer	66,000	100%	0%	0%
Union	Water Treatment Plant	Stationary Engineer	66,000	100%	0%	0%
Union	Water Treatment Plant	Stationary Engineer	66,000	100%	0%	0%
Union	Water Treatment Plant	Stationary Engineer	66,000	100%	0%	0%
Union	Water Treatment Plant	Stationary Engineer	66,000	100%	0%	0%
Non-Union	Environmental Compliance	Scientist 2	65,549	35%	33%	33%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Non-Union	Environmental Compliance	Scientist 2	65,549	35%	33%	33%
Union	Water Operations	Leak Detection Specialist	65,227	100%	0%	0%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Sewer Operations	T.V. Truck Specialist	65,226	0%	50%	50%
Union	Water Operations	Leak Detection Specialist	65,226	100%	0%	0%
Union	Water Operations	Leak Detection Specialist	65,226	100%	0%	0%
Union	Water Operations	Leak Detection Specialist	65,226	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Plant Operator	65,200	100%	0%	0%
Union	Water Treatment Plant	Painter	65,103	100%	0%	0%
Union	Water Treatment Plant	Stationary Engineer	65,038	100%	0%	0%
Union	Water Operations	Utility Worker - Licensed	64,593	100%	0%	0%
Union	Water Operations	Utility Worker - Licensed	64,593	100%	0%	0%
Non-Union	Engineering & Construction	Engineering Technician III	64,390	65%	24%	11%
Union	Sewer Operations	Vactor Operator	64,100	0%	50%	50%
Union	Sewer Operations	Vactor Operator	64,100	0%	50%	50%
Union	Sewer Operations	Vactor Operator	64,100	0%	50%	50%
Union	Sewer Operations	Vactor Operator	64,100	0%	50%	50%
Union	Water Operations	Valve & Hydrant Specialist - Licensed	64,080	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Union	Water Operations	Utility Worker	64,029	100%	0%	0%
Non-Union	Engineering & Construction	Inspector III	63,686	65%	24%	11%
Union	Sewer Operations	Inspector II	63,686	0%	50%	50%
Union	Sewer Operations	Inspector II	63,686	0%	50%	50%
Union	Sewer Operations	Inspector II	63,686	0%	50%	50%
Union	Engineering & Construction	Engineer II	63,685	65%	24%	11%
Union	Engineering & Construction	Inspector II	63,685	65%	24%	11%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Operations	Valve & Hydrant Specialist	63,524	100%	0%	0%
Union	Water Treatment Plant	Equipment Repair Specialist	63,502	100%	0%	0%
Union	Water Treatment Plant	Equipment Repair Specialist	63,502	100%	0%	0%
Union	Water Treatment Plant	Equipment Repair Specialist	63,502	100%	0%	0%
Union	Water Operations	Equipment Repair Specialist	63,501	100%	0%	0%
Union	Water Treatment Plant	Equipment Repair Specialist	63,501	100%	0%	0%
Union	Water Treatment Plant	Truck Driver - Hazmat	63,499	100%	0%	0%
Union	Water Treatment Plant	Utility Worker	63,097	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Valve & Hydrant Operator	62,723	100%	0%	0%
Union	Water Operations	Truck Driver - Special/Winch	62,639	100%	0%	0%
Union	Water Operations	Truck Driver - Special/Winch	62,635	100%	0%	0%
Union	Water Operations	Truck Driver - Special/Winch	62,635	100%	0%	0%
Union	Engineering & Construction	Field Liaison	62,515	65%	24%	11%
Union	Engineering & Construction	Field Liaison	62,515	65%	24%	11%
Union	Water Operations	General Laborer	62,082	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,943	100%	0%	0%
Union	Water Operations	Truck Driver	61,942	0%	50%	50%
Union	Sewer Operations	Truck Driver	61,942	0%	50%	50%
Union	Sewer Operations	Truck Driver	61,942	0%	50%	50%
Non-Union	Finance	Contract Specialist	61,787	73%	15%	11%
Union	Customer Service	Engineering Technician II	61,322	27%	35%	38%
Union	Engineering & Construction	Engineering Technician II	61,322	65%	24%	11%
Non-Union	Finance	Senior Project Controls Specialist	61,217	73%	15%	11%
Union	Laboratory	Chemist I	60,595	100%	0%	0%
Union	Laboratory	Chemist I	60,595	100%	0%	0%
Union	Laboratory	Chemist I	60,595	100%	0%	0%
Non-Union	Customer Service	PGH2o Cares Coordinator	60,255	27%	35%	38%
Non-Union	Finance	Accounting Specialist	59,652	73%	15%	11%
Non-Union	Finance	Accounting Specialist	59,652	73%	15%	11%
Non-Union	Human Resources	Payroll Specialist	59,409	73%	15%	11%
Non-Union	Customer Service	Collections Analyst	59,225	27%	35%	38%
Non-Union	Public Affairs	Construction Communications Project Manager	58,880	73%	15%	11%
Non-Union	Legal	Paralegal	58,350	73%	15%	11%
Non-Union	Legal	Paralegal	58,350	73%	15%	11%
Non-Union	Customer Service	Customer Service Coordinator	57,975	27%	35%	38%
Non-Union	Finance	Fleet & Contract Administrator	57,401	73%	15%	11%
Non-Union	Public Affairs	Development Coordinator	57,289	73%	15%	11%
Union	Warehouse	Meter Repair Specialist	57,199	73%	15%	11%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Sewer Operations	Laborer	56,708	0%	50%	50%
Union	Water Operations	Laborer	56,708	100%	0%	0%
Union	Water Treatment Plant	Laborer	56,708	100%	0%	0%
Union	Customer Service	Lead Program Customer Assistance	56,186	27%	35%	38%
Union	Customer Service	Lead Program Customer Assistance	56,186	27%	35%	38%
Union	Customer Service	Lead Program Customer Assistance	56,186	27%	35%	38%
Union	Customer Service	Lead Program Customer Assistance	56,186	27%	35%	38%
Non-Union	Water Operations	Administrative Assistant	56,185	100%	0%	0%
Union	Management Information System	IT Helpdesk Technician II	55,573	73%	15%	11%
Union	Management Information System	IT Helpdesk Technician II	55,573	73%	15%	11%
Non-Union	Customer Service	Senior Billing Specialist	55,167	27%	35%	38%
Union	Water Operations	Field Service Technician III	55,053	100%	0%	0%
Union	Water Operations	Field Service Technician III	55,053	100%	0%	0%
Union	Water Operations	Field Service Technician III	55,053	100%	0%	0%
Non-Union	Finance	Fleet & Contract Administrator	55,000	73%	15%	11%
Non-Union	Legal	Law Clerk	55,000	73%	15%	11%
Non-Union	Environmental Compliance	Scientist 1	54,637	35%	33%	33%
Non-Union	Environmental Compliance	Scientist 1	54,637	35%	33%	33%
Non-Union	Human Resources	HR Assistant	54,396	73%	15%	11%
Union	Warehouse	Inventory Control Specialist 2	54,390	73%	15%	11%
Union	Warehouse	Inventory Control Specialist 2	54,390	73%	15%	11%
Non-Union	Customer Service	Compliance Analyst	53,891	27%	35%	38%
Non-Union	Customer Service	Compliance Analyst	53,891	27%	35%	38%
Union	Laboratory	Chemist I	53,549	100%	0%	0%
Non-Union	Finance	Procurement Assistant	53,379	73%	15%	11%
Union	Management Information System	GIS Specialist	53,185	73%	15%	11%
Non-Union	Water Operations	Administrative Assistant	52,694	100%	0%	0%
Non-Union	Customer Service	Compliance Analyst	52,320	27%	35%	38%
Non-Union	Sewer Operations	Administrative Assistant Sewer	51,599	0%	50%	50%
Non-Union	Finance	Project Systems Specialist	51,500	73%	15%	11%
Non-Union	Finance	Project Systems Specialist	51,500	73%	15%	11%
Non-Union	Environmental Compliance	Administrative Assistant	51,500	35%	33%	33%
Non-Union	Customer Service	Billing Analyst/Corporate Accounts	51,212	27%	35%	38%
Non-Union	Engineering & Construction	Administrative Assistant	51,003	65%	24%	11%
Union	Customer Service	Clerical Specialist II - AMI	50,357	27%	35%	38%
Union	Customer Service	Clerical Specialist II	50,344	27%	35%	38%
Union	Customer Service	Account Clerk	50,006	27%	35%	38%
Union	Customer Service	Account Clerk	50,006	27%	35%	38%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>
Union	Customer Service	Account Clerk	50,006	27%	35%	38%
Union	Customer Service	Account Clerk	50,006	27%	35%	38%
Union	Customer Service	CSR 3	49,980	27%	35%	38%
Union	Customer Service	CSR 1	49,980	27%	35%	38%
Union	Customer Service	Clerical Specialist II - AMI	49,662	27%	35%	38%
Union	Customer Service	Engineering Technician I	49,662	27%	35%	38%
Union	Customer Service	Clerical Specialist II	49,661	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	49,299	27%	35%	38%
Union	Water Operations	Field Service Technician II	48,699	100%	0%	0%
Union	Warehouse	Inventory Control Specialist	48,207	73%	15%	11%
Union	Warehouse	Inventory Control Specialist	48,207	73%	15%	11%
Non-Union	Management Information System	IT Administrative Assistant	48,080	73%	15%	11%
Union	Customer Service	Engineering Tech I	47,664	27%	35%	38%
Union	Customer Service	Dispatcher	47,594	27%	35%	38%
Union	Customer Service	Dispatcher	47,594	27%	35%	38%
Union	Customer Service	Dispatcher	47,594	27%	35%	38%
Union	Customer Service	Dispatcher	47,594	27%	35%	38%
Union	Customer Service	Dispatcher	47,594	27%	35%	38%
Union	Customer Service	Customer Service Representative 2	46,912	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	46,912	27%	35%	38%
Union	Customer Service	Customer Service Representative 2	46,912	27%	35%	38%
Union	Customer Service	Dispatcher	46,912	27%	35%	38%
Union	Customer Service	Dispatcher	46,912	27%	35%	38%
Non-Union	Customer Service	Data Analyst	46,350	27%	35%	38%
Non-Union	Public Affairs	Public Affairs Associate	45,896	73%	15%	11%
Non-Union	Public Affairs	Public Affairs Associate	45,896	73%	15%	11%
Non-Union	Public Affairs	Education and Outreach	45,896	73%	15%	11%
Non-Union	Customer Service	Administrative Assistant	45,690	27%	35%	38%
Non-Union	Customer Service	Administrative Assistant	45,347	27%	35%	38%
Non-Union	Water Treatment Plant	Administrative Assistant	44,805	100%	0%	0%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Customer Service Representative 1	42,616	27%	35%	38%
Union	Customer Service	Billing Specialist	42,616	27%	35%	38%
Non-Union	Finance	Document Management Associate	40,161	73%	15%	11%
Union	Customer Service	PGH2o Cares Analyst	38,625	27%	35%	38%
Union	Customer Service	PGH2o Cares Analyst	38,625	27%	35%	38%
Union	Customer Service	PGH2o Cares Analyst	38,625	27%	35%	38%
Non-Union	Chief Executive Officer	Saftey Intern	37,456	73%	15%	11%
Non-Union	Engineering & Construction	Cooperative Education	37,448	65%	24%	11%
Non-Union	Engineering & Construction	Cooperative Education	37,448	65%	24%	11%
Union	Customer Service	Customer Service Representative 1 -PT (1500 Hours)	30,733	27%	35%	38%
Union	Customer Service	Customer Service Representative 1 -PT (1500 Hours)	30,733	27%	35%	38%
Union	Customer Service	Customer Service Representative 1 -PT (1500 Hours)	30,733	27%	35%	38%
Union	Customer Service	Customer Service Representative 1 -PT (1500 Hours)	30,733	27%	35%	38%
Union	Customer Service	Customer Service Representative 1 -PT (1500 Hours)	30,733	27%	35%	38%

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>	<u>Filled Position Count</u>	<u>Vacancy Position Count</u>
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	Filled	1	0
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	Filled	1	0
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	Filled	1	0
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	Filled	1	0
Non-Union	Finance	Accounting Specialist	57,915	73%	15%	11%	Filled	1	0
Non-Union	Water Treatment Plant	Acting Senior Group Manager, Production	137,705	100%	0%	0%	Filled	1	0
Non-Union	Engineering & Construction	Administrative Assistant	49,517	65%	24%	11%	Filled	1	0
Non-Union	Water Operations	Administrative Assistant	54,549	100%	0%	0%	Filled	1	0
Non-Union	Water Operations	Administrative Assistant	51,159	100%	0%	0%	Filled	1	0
Non-Union	Water Treatment Plant	Administrative Assistant	43,500	100%	0%	0%	Filled	1	0
Non-Union	Sewer Operations	Administrative Assistant	50,096	0%	50%	50%	Filled	1	0
Non-Union	Customer Service	Administrative Assistant-Customer Service	44,359	27%	35%	38%	Filled	1	0
Non-Union	Customer Service	AMI & Billing Manager	74,170	27%	35%	38%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	87,505	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	94,000	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	93,987	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	93,986	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	82,400	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	82,400	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	80,000	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	77,124	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	76,220	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	73,238	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Associate Project Manager	73,164	65%	24%	11%	Vacant	0	1
Non-Union	Management Information System	BI Analyst and Database Administrator	101,463	73%	15%	11%	Filled	1	0
Non-Union	Customer Service	Billing Analyst/Corporate Accounts	49,720	27%	35%	38%	Filled	1	0
Union	Customer Service	Billing Specialist	41,375	27%	35%	38%	Filled	1	0
Union	Laboratory	Chemist I	58,830	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist I	58,829	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist I	51,989	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist II - Year 1	71,050	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist II - Year 1	71,050	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist II - Year 1	71,050	100%	0%	0%	Filled	1	0
Union	Laboratory	Chemist II - Year 7	73,262	100%	0%	0%	Filled	1	0
Non-Union	Legal	Chief Corporate Counsel/Administration	234,937	73%	15%	11%	Vacant	0	1
Non-Union	Chief Executive Officer	Chief Executive Officer	242,050	73%	15%	11%	Filled	1	0
Non-Union	Water Operations	Water of Operations	166,427	100%	0%	0%	Filled	1	0
Non-Union	Chief Executive Officer	Chief Operating Officer	180,250	73%	15%	11%	Filled	1	0
Non-Union	Chief Executive Officer	Chief, Technology and Performance Improvement	169,744	73%	15%	11%	Filled	1	0
Union	Customer Service	Clerical Specialist II	48,878	27%	35%	38%	Filled	1	0
Union	Customer Service	Clerical Specialist II	48,215	27%	35%	38%	Filled	1	0
Union	Customer Service	Clerical Specialist II - AMI	48,890	27%	35%	38%	Filled	1	0
Non-Union	Customer Service	Collections Analyst	57,500	27%	35%	38%	Vacant	0	1
Non-Union	Customer Service	Compliance Analyst	52,321	27%	35%	38%	Filled	1	0
Non-Union	Customer Service	Compliance Analyst	52,321	27%	35%	38%	Vacant	0	1
Non-Union	Customer Service	Compliance Analyst	50,796	27%	35%	38%	Filled	1	0
Non-Union	Public Affairs	Construction Communications Project Manager	57,165	73%	15%	11%	Filled	1	0
Non-Union	Finance	Contract Specialist	59,987	73%	15%	11%	Filled	1	0
Non-Union	Finance	Contract Specialist	55,016	73%	15%	11%	Filled	1	0
Non-Union	Engineering & Construction	Cooperative Education	36,357	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Cooperative Education	36,357	65%	24%	11%	Filled	1	0
Non-Union	Legal	Corporate Counsel	122,782	73%	15%	11%	Filled	1	0
Non-Union	Legal	Corporate Counsel - Environmental	180,000	73%	15%	11%	Vacant	0	1
Non-Union	Customer Service	Customer Service Administrative Assistant	44,026	27%	35%	38%	Filled	1	0
Non-Union	Customer Service	Customer Service Manager	74,173	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	48,524	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	47,863	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	47,863	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	45,546	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%	38%	Vacant	0	1
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%	38%	Vacant	0	1
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%	38%	Vacant	0	1
Union	Customer Service	Customer Service Representative 2	45,546	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 2	45,546	27%	35%	38%	Filled	1	0
Union	Customer Service	Customer Service Representative 2	48,524	27%	35%	38%	Vacant	0	1
Non-Union	Customer Service	Customer Service Training Coordinator	66,950	27%	35%	38%	Filled	1	0

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>	<u>Filled Position Count</u>	<u>Vacancy Position Count</u>
Non-Union	Customer Service	Data Analyst	45,000	27%	35%	38%	Vacant	0	1
Non-Union	Engineering & Construction	Deputy Director of Engineering	153,831	65%	24%	11%	Filled	1	0
Non-Union	Public Affairs	Development Coordinator	55,620	73%	15%	11%	Filled	1	0
Non-Union	Customer Service	Director of Customer Services	162,457	27%	35%	38%	Filled	1	0
Non-Union	Engineering & Construction	Director of Engineering and Construction	198,919	65%	24%	11%	Filled	1	0
Non-Union	Finance	Director of Finance	162,457	73%	15%	11%	Filled	1	0
Non-Union	Human Resources	Director of Human Resources	149,350	73%	15%	11%	Filled	1	0
Non-Union	Management Information System	Director of Information Technology	149,350	73%	15%	11%	Filled	1	0
Non-Union	Water Operations	Director of Operations	162,457	100%	0%	0%	Filled	1	0
Non-Union	Customer Service	Dispatch Coordinator	66,950	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	45,546	27%	35%	38%	Filled	1	0
Union	Customer Service	Dispatcher	45,546	27%	35%	38%	Filled	1	0
Non-Union	Finance	Document Management Associate	38,992	73%	15%	11%	Filled	1	0
Non-Union	Finance	Document Management Specialist	66,950	73%	15%	11%	Filled	1	0
Non-Union	Public Affairs	Education and Outreach Associate	44,559	73%	15%	11%	Filled	1	0
Union	Water Treatment Plant	Electrician	90,951	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Electrician	67,711	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Electrician	67,711	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Electrician	67,711	100%	0%	0%	Filled	1	0
Non-Union	Engineering & Construction	Engineer III	70,796	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Engineer III	69,000	65%	24%	11%	Filled	1	0
Union	Customer Service	Engineering Tech I	46,276	27%	35%	38%	Filled	1	0
Union	Customer Service	Engineering Technician I	48,215	27%	35%	38%	Filled	1	0
Union	Customer Service	Engineering Technician II	59,536	27%	35%	38%	Filled	1	0
Non-Union	Engineering & Construction	Engineering Technician III	62,515	65%	24%	11%	Filled	1	0
Non-Union	Chief Executive Officer	Environmental Compliance Director, Water Treatment & Supply	160,014	73%	15%	11%	Filled	1	0
Union	Water Operations	Equipment Repair Specialist	61,058	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled	1	0
Non-Union	Chief Executive Officer	Executive Administration Supervisor	71,749	73%	15%	11%	Filled	1	0
Union	Engineering & Construction	Field Liaison	60,694	65%	24%	11%	Filled	1	0
Union	Engineering & Construction	Field Liaison	60,694	65%	24%	11%	Filled	1	0
Union	Water Operations	Field Service Technician II	52,936	100%	0%	0%	Filled	1	0
Union	Water Operations	Field Service Technician II	28,816	100%	0%	0%	Filled	1	0
Union	Water Operations	Field Service Technician II	52,936	100%	0%	0%	Filled	1	0
Union	Water Operations	Field Service Technician III	52,936	100%	0%	0%	Filled	1	0
Union	Water Operations	Field Service Technician III	52,936	100%	0%	0%	Filled	1	0
Non-Union	Finance	Fleet & Contract Administrator	55,729	73%	15%	11%	Filled	1	0
Union	Water Treatment Plant	Foreman	69,074	100%	0%	0%	Vacant	0	1
Union	Water Operations	General Laborer	59,695	100%	0%	0%	Filled	1	0
Union	Management Information System	GIS Analyst	68,792	73%	15%	11%	Filled	1	0
Union	Management Information System	GIS Analyst	68,782	73%	15%	11%	Filled	1	0
Non-Union	Management Information System	GIS Project Coordinator	78,382	73%	15%	11%	Filled	1	0
Non-Union	Management Information System	GIS Special Projects Intern	36,365	73%	15%	11%	Filled	1	0
Union	Management Information System	GIS Specialist	51,636	73%	15%	11%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%	0%	Filled	1	0
Union	Water Operations	Heavy Equipment Operator - Licensed	65,150	100%	0%	0%	Filled	1	0
Non-Union	Human Resources	HR Compliance Manager	86,819	73%	15%	11%	Filled	1	0
Non-Union	Human Resources	Human Resources Assistant	52,808	73%	15%	11%	Filled	1	0
Non-Union	Human Resources	Human Resources Specialist	64,169	73%	15%	11%	Filled	1	0
Non-Union	Public Affairs	Industry Relations Manager	86,520	73%	15%	11%	Filled	1	0
Union	Engineering & Construction	Inspector II	61,830	65%	24%	11%	Filled	1	0
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Filled	1	0
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Vacant	0	1
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Filled	1	0
Non-Union	Engineering & Construction	Inspector III	64,890	65%	24%	11%	Filled	1	0
Non-Union	Engineering & Construction	Inspector III	61,830	65%	24%	11%	Vacant	0	1
Non-Union	Chief Executive Officer	Intern	36,365	73%	15%	11%	Filled	1	0
Non-Union	Public Affairs	Internal Communications Coordinator	65,620	73%	15%	11%	Filled	1	0
Union	Warehouse	Inventory Control Specialist	46,803	73%	15%	11%	Filled	1	0
Union	Warehouse	Inventory Control Specialist	46,803	73%	15%	11%	Filled	1	0
Union	Warehouse	Inventory Control Specialist 2	52,806	73%	15%	11%	Filled	1	0
Union	Warehouse	Inventory Control Specialist 3	53,268	73%	15%	11%	Filled	1	0
Non-Union	Management Information System	IT Administrative Assistant	46,679	73%	15%	11%	Vacant	0	1
Union	Management Information System	IT Helpdesk Technician II	53,954	73%	15%	11%	Filled	1	0
Union	Management Information System	IT Helpdesk Technician II	53,954	73%	15%	11%	Filled	1	0
Non-Union	Management Information System	IT Project Manager	94,420	73%	15%	11%	Filled	1	0

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>	<u>Filled Position Count</u>	<u>Vacancy Position Count</u>
Non-Union	Laboratory	Lab Manager	96,000	100%	0%	0%	0% Vacant	0	1
Union	Customer Service	Lead Program Customer Assistance	54,550	27%	35%	38%	38% Filled	1	0
Union	Customer Service	Lead Program Customer Assistance	54,550	27%	35%	38%	38% Filled	1	0
Union	Customer Service	Lead Program Customer Assistance	54,550	27%	35%	38%	38% Filled	1	0
Union	Customer Service	Lead Program Customer Assistance	54,550	27%	35%	38%	38% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%	0%	0% Vacant	0	1
Union	Water Treatment Plant	Machinist	64,137	100%	0%	0%	0% Filled	1	0
Non-Union	Finance	Manager, Facilities	80,000	73%	15%	11%	11% Vacant	0	1
Non-Union	Management Information System	Manager, Information Technology	100,693	73%	15%	11%	11% Filled	1	0
Union	Warehouse	Meter Repair Specialist	54,999	73%	15%	11%	11% Filled	1	0
Non-Union	Management Information System	Network Systems Administrator	89,167	73%	15%	11%	11% Filled	1	0
Non-Union	Management Information System	Network Systems Administrator	85,490	73%	15%	11%	11% Filled	1	0
Non-Union	Environmental Compliance	Office Manager	50,000	35%	33%	33%	33% Filled	1	0
Non-Union	Water Treatment Plant	Operations Startup/Commissions Technician	80,000	100%	0%	0%	0% Vacant	0	1
Non-Union	Water Treatment Plant	Operations Superintendent	85,000	100%	0%	0%	0% Vacant	0	1
Union	Water Treatment Plant	Painter	62,599	100%	0%	0%	0% Filled	1	0
Non-Union	Legal	Paralegal	58,350	73%	15%	11%	11% Filled	1	0
Non-Union	Customer Service	Paralegal Supervisor	66,997	27%	35%	38%	38% Filled	1	0
Non-Union	Customer Service	PGH2o Cares Analyst	37,500	27%	35%	38%	38% Filled	1	0
Non-Union	Customer Service	PGH2o Cares Analyst	37,500	27%	35%	38%	38% Filled	1	0
Non-Union	Customer Service	PGH2o Cares Coordinator	58,500	27%	35%	38%	38% Filled	1	0
Union	Water Treatment Plant	Plant Maintenance Foreman	69,074	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Maintenance Foreman	69,074	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	0% Vacant	0	1
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,892	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,892	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plumber	65,890	100%	0%	0%	0% Vacant	0	1
Union	Water Treatment Plant	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Treatment Plant	Plumber	65,890	100%	0%	0%	0% Filled	1	0
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Vacant	0	1
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Vacant	0	1
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Vacant	0	1
Union	Water Operations	Plumber	65,890	100%	0%	0%	0% Vacant	0	1
Union	Water Operations	Plumber - Licensed	65,890	100%	0%	0%	0% Filled	1	0
Non-Union	Finance	Procurement Assistant	51,825	73%	15%	11%	11% Filled	1	0
Non-Union	Finance	Procurement Manager	96,313	73%	15%	11%	11% Filled	1	0
Non-Union	Finance	Program Manager - Capital Projects	108,150	73%	15%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	100,786	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	96,815	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	96,619	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	96,619	65%	24%	11%	11% Vacant	0	1
Non-Union	Engineering & Construction	Project Manager	96,618	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	87,550	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager	87,550	65%	24%	11%	11% Filled	1	0
Non-Union	Engineering & Construction	Project Manager - Construction	103,000	65%	24%	11%	11% Filled	1	0
Non-Union	Water Treatment Plant	Project Manager, Production	113,300	100%	0%	0%	0% Filled	1	0
Non-Union	Finance	Project Systems Coordinator	72,100	73%	15%	11%	11% Filled	1	0
Non-Union	Finance	Project Systems Specialist	50,000	73%	15%	11%	11% Vacant	0	1
Non-Union	Public Affairs	Public Affairs Associate	44,559	73%	15%	11%	11% Filled	1	0
Non-Union	Public Affairs	Public Affairs Associate	44,559	73%	15%	11%	11% Filled	1	0
Non-Union	Customer Service	Quality Control Manager	80,000	27%	35%	38%	38% Filled	1	0
Non-Union	Legal	Risk Coordinator	77,448	73%	15%	11%	11% Filled	1	0

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>	<u>Filled Position Count</u>	<u>Vacancy Position Count</u>
Non-Union	Environmental Compliance	Water Quality Data Manager	69,417	35%	33%	33%	Filled	1	0
Non-Union	Laboratory	Water Quality Supervisor	77,234	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	69,074	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	69,074	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	69,074	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	69,074	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	69,074	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman	68,068	100%	0%	0%	Vacant	0	1
Union	Water Operations	Water Repair Foreman	70,145	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman - Licensed	70,145	100%	0%	0%	Filled	1	0
Union	Water Operations	Water Repair Foreman - Licensed	70,145	100%	0%	0%	Filled	1	0
Union	Water Treatment Plant	Welder	64,445	100%	0%	0%	Vacant	0	1
								366	51

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>
Non-Union	Chief Executive Officer	Chief Executive Officer	242,050	73%	15%	11%	Filled
Non-Union	Legal	Chief Corporate Counsel/Administration	234,937	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Director of Engineering and Construction	198,919	65%	24%	11%	Filled
Non-Union	Chief Executive Officer	Chief Operating Officer	180,250	73%	15%	11%	Filled
Non-Union	Legal	Corporate Counsel - Environmental	180,000	73%	15%	11%	Vacant
Non-Union	Chief Executive Officer	Chief, Technology and Performance Improvement	169,744	73%	15%	11%	Filled
Non-Union	Water Operations	Chief of Operations	166,427	100%	0%	0%	Filled
Non-Union	Engineering & Construction	Senior Group Manager, Stormwater	165,000	65%	24%	11%	Vacant
Non-Union	Customer Service	Director of Customer Services	162,457	27%	35%	38%	Filled
Non-Union	Water Operations	Director of Operations	162,457	100%	0%	0%	Filled
Non-Union	Finance	Director of Finance	162,457	73%	15%	11%	Filled
Non-Union	Environmental Compliance	Director of Water Quality	160,000	35%	33%	33%	Vacant
Non-Union	Engineering & Construction	Deputy Director of Engineering	153,831	65%	24%	11%	Filled
Non-Union	Engineering & Construction	Senior Group Manager, Water Programs	153,831	65%	24%	11%	Filled
Non-Union	Management Information System	Director of Information Technology	149,350	73%	15%	11%	Filled
Non-Union	Human Resources	Director of Human Resources	149,350	73%	15%	11%	Vacant
Non-Union	Water Treatment Plant	Senior Manager, Projects	141,509	100%	0%	0%	Filled
Non-Union	Water Treatment Plant	Acting Senior Group Manager, Production	137,705	100%	0%	0%	Filled
Non-Union	Finance	Senior Manager, Program Controls	132,613	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Senior Manager, Wastewater	128,750	65%	24%	11%	Filled
Non-Union	Legal	Corporate Counsel	122,782	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Senior Project Manager	122,004	65%	24%	11%	Filled
Non-Union	Water Treatment Plant	Senior Manager, Production	120,716	100%	0%	0%	Filled
Non-Union	Finance	Senior Manager, Procurement	120,381	73%	15%	11%	Filled
Non-Union	Human Resources	Senior Manager, Human Resources	120,381	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Senior Manager, Construction	119,882	65%	24%	11%	Filled
Non-Union	Finance	Senior Finance Manager/Controller	116,261	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Senior Project Manager	115,000	65%	24%	11%	Filled
Non-Union	Engineering & Construction	Senior Project Manager	114,577	65%	24%	11%	Vacant
Non-Union	Chief Executive Officer	Senior Health & Safety Manager	114,382	73%	15%	11%	Filled
Non-Union	Water Treatment Plant	Project Manager, Production	113,300	100%	0%	0%	Filled
Non-Union	Environmental Compliance	Senior Manager, Water Quality	110,725	35%	33%	33%	Filled
Non-Union	Public Affairs	Senior Manager, Public Affairs	110,000	73%	15%	11%	Filled
Non-Union	Finance	Program Manager - Capital Projects	108,150	73%	15%	11%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	105,885	100%	0%	0%	Filled
Non-Union	Water Treatment Plant	SCADA Technician	103,438	100%	0%	0%	Filled
Non-Union	Engineering & Construction	Project Manager - Construction	103,000	65%	24%	11%	Filled
Non-Union	Management Information System	BI Analyst and Database Administrator	101,463	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Project Manager	100,786	65%	24%	11%	Filled
Non-Union	Management Information System	Manager, Information Technology	100,693	73%	15%	11%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	100,177	100%	0%	0%	Filled
Non-Union	Engineering & Construction	Project Manager	96,815	65%	24%	11%	Filled
Non-Union	Engineering & Construction	Project Manager	96,619	65%	24%	11%	Vacant
Non-Union	Engineering & Construction	Project Manager	96,619	65%	24%	11%	Vacant
Non-Union	Engineering & Construction	Project Manager	96,618	65%	24%	11%	Filled
Non-Union	Finance	Procurement Manager	96,313	73%	15%	11%	Filled
Non-Union	Laboratory	Lab Manager	96,000	100%	0%	0%	Vacant
Non-Union	Management Information System	IT Project Manager	94,420	73%	15%	11%	Filled
Non-Union	Finance	Senior Contract Specialist	93,624	73%	15%	11%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	92,882	100%	0%	0%	Filled
Non-Union	Engineering & Construction	Sustainability Manager	90,951	65%	24%	11%	Filled
Union	Water Treatment Plant	Electrician	90,951	100%	0%	0%	Vacant
Non-Union	Management Information System	Network Systems Administrator	89,167	73%	15%	11%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	88,511	100%	0%	0%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	88,511	100%	0%	0%	Filled
Non-Union	Warehouse	Senior Manager, Field Operations	88,292	73%	15%	11%	Filled
Non-Union	Engineering & Construction	Project Manager	87,550	65%	24%	11%	Filled
Non-Union	Engineering & Construction	Project Manager	87,550	65%	24%	11%	Filled
Non-Union	Engineering & Construction	Associate Project Manager	87,505	65%	24%	11%	Filled
Non-Union	Human Resources	Human Resources Assistant Manager	86,819	73%	15%	11%	Filled
Non-Union	Public Affairs	Industry Relations Manager	86,520	73%	15%	11%	Filled
Non-Union	Management Information System	SQL BI Developer	86,380	73%	15%	11%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	85,933	100%	0%	0%	Filled
Non-Union	Water Operations	Senior Manager, Field Operations	85,933	100%	0%	0%	Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>
Non-Union	Management Information System	Network Systems Administrator	85,490	73%	15%		11% Filled
Non-Union	Water Treatment Plant	Operations Superintendent	85,000	100%	0%		0% Vacant
Non-Union	Engineering & Construction	Associate Project Manager	84,000	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	83,987	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	83,986	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	82,400	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	82,400	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	80,000	65%	24%		11% Filled
Non-Union	Water Treatment Plant	Operations Startup/Commissions Technician	80,000	100%	0%		0% Vacant
Non-Union	Customer Service	Quality Control Manager	80,000	27%	35%		38% Vacant
Non-Union	Finance	Manager, Facilities	80,000	73%	15%		11% Vacant
Non-Union	Sewer Operations	Superintendent of Sewers	79,383	0%	50%		50% Filled
Non-Union	Water Operations	Superintendent	79,383	100%	0%		0% Filled
Non-Union	Water Operations	Superintendent	79,383	100%	0%		0% Filled
Non-Union	Customer Service	Senior AMI & Billing Manager	78,797	27%	35%		38% Filled
Non-Union	Customer Service	Senior Customer Service Manager	78,797	27%	35%		38% Filled
Non-Union	Customer Service	Senior PUC Compliance Manager	78,797	27%	35%		38% Filled
Non-Union	Management Information System	GIS Project Coordinator	78,382	73%	15%		11% Filled
Non-Union	Legal	Risk Coordinator	77,448	73%	15%		11% Filled
Non-Union	Laboratory	Water Quality Supervisor	77,234	100%	0%		0% Filled
Non-Union	Engineering & Construction	Associate Project Manager	77,124	65%	24%		11% Filled
Non-Union	Management Information System	Senior GIS Analyst	77,000	73%	15%		11% Filled
Non-Union	Public Affairs	Senior Public Affairs Coordinator	76,385	73%	15%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	76,220	65%	24%		11% Filled
Non-Union	Engineering & Construction	Senior Engineering Technician	74,292	65%	24%		11% Filled
Non-Union	Customer Service	AMI & Billing Manager	74,170	27%	35%		38% Filled
Non-Union	Human Resources	Senior Payroll Administrator	73,948	73%	15%		11% Filled
Non-Union	Management Information System	Senior GIS Analyst	73,607	73%	15%		11% Filled
Non-Union	Management Information System	Senior GIS Analyst	73,607	73%	15%		11% Vacant
Union	Laboratory	Chemist II - Year 7	73,262	100%	0%		0% Filled
Non-Union	Engineering & Construction	Associate Project Manager	73,238	65%	24%		11% Filled
Non-Union	Engineering & Construction	Associate Project Manager	73,164	65%	24%		11% Vacant
Non-Union	Chief Executive Officer	Senior Manager of Performance	72,100	73%	15%		11% Filled
Non-Union	Finance	Project Systems Coordinator	72,100	73%	15%		11% Filled
Non-Union	Chief Executive Officer	Executive Administration Supervisor	71,749	73%	15%		11% Filled
Union	Laboratory	Chemist II - Year 1	71,050	100%	0%		0% Filled
Union	Laboratory	Chemist II - Year 1	71,050	100%	0%		0% Vacant
Non-Union	Engineering & Construction	Engineer III	70,796	65%	24%		11% Filled
Union	Water Operations	Water Repair Foreman - Licensed	70,145	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman - Licensed	70,145	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman - Licensed	70,145	100%	0%		0% Filled
Non-Union	Environmental Compliance	Water Quality Data Manager	69,417	35%	33%		33% Filled
Union	Water Treatment Plant	Foreman	69,074	100%	0%		0% Vacant
Union	Sewer Operations	Sewer Plumbing Foreman	69,074	0%	50%		50% Filled
Union	Sewer Operations	Sewer Foreman	69,074	0%	50%		50% Filled
Union	Water Operations	Water Repair Foreman	69,074	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman	69,074	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman	69,074	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman	69,074	100%	0%		0% Filled
Union	Water Operations	Water Repair Foreman	69,074	100%	0%		0% Filled
Union	Water Treatment Plant	Plant Maintenance Foreman	69,074	100%	0%		0% Filled
Union	Water Treatment Plant	Plant Maintenance Foreman	69,074	100%	0%		0% Filled
Non-Union	Engineering & Construction	Engineer III	69,000	65%	24%		11% Filled
Non-Union	Environmental Compliance	Environmental Compliance Coordinator	68,959	35%	33%		33% Filled
Union	Customer Service	RNI Data Analyst	68,792	27%	35%		38% Filled
Union	Management Information System	GIS Analyst	68,792	73%	15%		11% Filled
Union	Management Information System	GIS Analyst	68,782	73%	15%		11% Filled
Union	Water Operations	Water Repair Foreman	68,068	100%	0%		0% Vacant
Non-Union	Water Treatment Plant	Water Production Administrator	68,000	100%	0%		0% Filled
Union	Water Treatment Plant	Electrician	67,711	100%	0%		0% Filled
Union	Water Treatment Plant	Electrician	67,711	100%	0%		0% Filled
Union	Water Treatment Plant	Electrician	67,711	100%	0%		0% Vacant
Non-Union	Finance	Senior Accounting Specialist	67,465	73%	15%		11% Filled
Non-Union	Customer Service	Dispatch Coordinator	66,950	27%	35%		38% Vacant

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>
Non-Union	Customer Service	Senior Training Coordinator	66,950	27%	35%		38% Filled
Non-Union	Customer Service	Senior PUC Compliance Coordinator	66,950	27%	35%		38% Filled
Non-Union	Customer Service	Senior Customer Service Coordinator	66,950	27%	35%		38% Filled
Non-Union	Customer Service	Senior Collections Coordinator	66,950	27%	35%		38% Filled
Non-Union	Customer Service	Senior Billing Coordinator	66,950	27%	35%		38% Filled
Union	Customer Service	Senior Lead Help Coordinator	66,950	27%	35%		38% Filled
Non-Union	Finance	Document Management Specialist	66,950	73%	15%		11% Filled
Non-Union	Customer Service	Senior Collections Manager	65,975	27%	35%		38% Vacant
Union	Water Operations	Plumber	65,892	100%	0%		0% Filled
Union	Water Operations	Plumber	65,892	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Treatment Plant	Plumber	65,890	100%	0%		0% Filled
Union	Water Treatment Plant	Plumber	65,890	100%	0%		0% Filled
Union	Water Operations	Plumber	65,890	100%	0%		0% Filled
Union	Water Treatment Plant	Plumber	65,890	100%	0%		0% Vacant
Non-Union	Public Affairs	Internal Communications Coordinator	65,620	73%	15%		11% Vacant
Union	Water Treatment Plant	Steamfitter	65,154	100%	0%		0% Vacant
Union	Water Operations	Heavy Equipment Operator - Licensed	65,150	100%	0%		0% Filled
Non-Union	Engineering & Construction	Inspector III	64,890	65%	24%		11% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Filled
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Vacant
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Vacant
Union	Water Operations	Heavy Equipment Operator	64,597	100%	0%		0% Vacant
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%		0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%		0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%		0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	64,466	100%	0%		0% Filled
Union	Water Treatment Plant	Welder	64,445	100%	0%		0% Filled
Non-Union	Human Resources	Human Resources Specialist	64,169	73%	15%		11% Filled
Union	Water Treatment Plant	Machinist	64,137	100%	0%		0% Filled
Non-Union	Environmental Compliance	Scientist 2	63,641	35%	33%		33% Filled
Non-Union	Environmental Compliance	Scientist 2	63,641	35%	33%		33% Filled
Union	Water Treatment Plant	Stationary Engineer	63,461	100%	0%		0% Filled
Union	Water Treatment Plant	Stationary Engineer	63,461	100%	0%		0% Filled
Union	Water Treatment Plant	Stationary Engineer	63,461	100%	0%		0% Filled
Union	Water Treatment Plant	Stationary Engineer	63,461	100%	0%		0% Filled
Union	Water Treatment Plant	Stationary Engineer	63,461	100%	0%		0% Filled
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%		50% Filled
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%		0% Vacant
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%		0% Filled
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%		0% Filled
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%		0% Filled
Union	Water Operations	Leak Detection Specialist	62,718	100%	0%		0% Vacant
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%		50% Filled
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%		50% Filled
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%		50% Filled
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%		50% Filled

Union Status	Department	Job Title	Budgeted Annual Salary	Water Allocation	Wastewater Allocation	Stormwater Allocation	Filled or Vacant as of 1/1/2021
Union	Sewer Operations	T.V. Truck Specialist	62,718	0%	50%	50%	Vacant
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	62,692	100%	0%	0%	Vacant
Union	Water Treatment Plant	Painter	62,599	100%	0%	0%	Filled
Union	Water Treatment Plant	Stationary Engineer	62,537	100%	0%	0%	Vacant
Non-Union	Engineering & Construction	Engineering Technician III	62,515	65%	24%	11%	Filled
Union	Water Operations	Utility Worker - Licensed	62,108	100%	0%	0%	Filled
Union	Water Operations	Utility Worker - Licensed	62,108	100%	0%	0%	Filled
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Vacant
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Filled
Union	Sewer Operations	Inspector II	61,831	0%	50%	50%	Filled
Union	Engineering & Construction	Engineer II	61,830	65%	24%	11%	Vacant
Non-Union	Engineering & Construction	Inspector III	61,830	65%	24%	11%	Vacant
Union	Engineering & Construction	Inspector II	61,830	65%	24%	11%	Filled
Union	Sewer Operations	Vactor Operator	61,634	0%	50%	50%	Filled
Union	Sewer Operations	Vactor Operator	61,634	0%	50%	50%	Filled
Union	Sewer Operations	Vactor Operator	61,634	0%	50%	50%	Filled
Union	Sewer Operations	Vactor Operator	61,634	0%	50%	50%	Filled
Union	Water Operations	Valve & Hydrant Specialist - Licensed	61,615	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Operations	Utility Worker	61,566	100%	0%	0%	Filled
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled
Union	Water Treatment Plant	Equipment Repair Specialist	61,059	100%	0%	0%	Filled
Union	Water Operations	Equipment Repair Specialist	61,058	100%	0%	0%	Filled
Union	Water Treatment Plant	Truck Driver - Hazmat	61,056	100%	0%	0%	Filled
Union	Engineering & Construction	Field Liaison	60,694	65%	24%	11%	Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>
Union	Water Operations	Laborer	54,527	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Vacant
Union	Sewer Operations	Laborer	54,527	0%	50%	50%	50% Vacant
Union	Sewer Operations	Laborer	54,527	0%	50%	50%	50% Vacant
Union	Water Operations	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	54,527	100%	0%	0%	0% Vacant
Union	Management Information System	IT Helpdesk Technician II	53,954	73%	15%	11%	11% Filled
Union	Management Information System	IT Helpdesk Technician II	53,954	73%	15%	11%	11% Vacant
Non-Union	Customer Service	Senior Billing Specialist	53,560	27%	35%	38%	38% Filled
Union	Warehouse	Inventory Control Specialist 3	53,268	73%	15%	11%	11% Filled
Non-Union	Environmental Compliance	Scientist 1	53,045	35%	33%	33%	33% Vacant
Union	Water Operations	Field Service Technician II	52,936	100%	0%	0%	0% Filled
Union	Water Operations	Field Service Technician III	52,936	100%	0%	0%	0% Filled
Union	Water Operations	Field Service Technician III	52,936	100%	0%	0%	0% Filled
Union	Water Operations	Field Service Technician III	52,936	100%	0%	0%	0% Vacant
Non-Union	Human Resources	Human Resources Assistant	52,808	73%	15%	11%	11% Filled
Union	Warehouse	Inventory Control Specialist 2	52,806	73%	15%	11%	11% Filled
Non-Union	Customer Service	Compliance Analyst	52,321	27%	35%	38%	38% Filled
Non-Union	Customer Service	Compliance Analyst	52,321	27%	35%	38%	38% Filled
Union	Laboratory	Chemist I	51,989	100%	0%	0%	0% Filled
Non-Union	Finance	Procurement Assistant	51,825	73%	15%	11%	11% Filled
Union	Management Information System	GIS Specialist	51,636	73%	15%	11%	11% Filled
Non-Union	Water Operations	Administrative Assistant	51,159	100%	0%	0%	0% Filled
Non-Union	Customer Service	Compliance Analyst	50,796	27%	35%	38%	38% Filled
Non-Union	Sewer Ops	Administrative Assistant	50,096	0%	50%	50%	50% Filled
Non-Union	Environmental Compliance	Office Manager	50,000	35%	33%	33%	33% Filled
Non-Union	Finance	Project Systems Specialist	50,000	73%	15%	11%	11% Filled
Non-Union	Customer Service	Billing Analyst/Corporate Accounts	49,720	27%	35%	38%	38% Filled
Non-Union	Engineering & Construction	Administrative Assistant	49,517	65%	24%	11%	11% Filled
Union	Customer Service	Clerical Specialist II - AMI	48,890	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II	48,878	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	48,549	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 3	48,524	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	48,524	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II - AMI	48,215	27%	35%	38%	38% Filled
Union	Customer Service	Engineering Technician I	48,215	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II	48,215	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	47,863	27%	35%	38%	38% Filled
Union	Warehouse	Inventory Control Specialist	46,803	73%	15%	11%	11% Filled
Union	Warehouse	Inventory Control Specialist	46,803	73%	15%	11%	11% Vacant
Non-Union	Management Information System	IT Administrative Assistant	46,679	73%	15%	11%	11% Filled
Union	Customer Service	Engineering Tech I	46,276	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	46,208	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	45,546	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	45,546	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 2	45,546	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	45,546	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 2	45,546	27%	35%	38%	38% Filled
Non-Union	Customer Service	Data Analyst	45,000	27%	35%	38%	38% Vacant
Non-Union	Public Affairs	Public Affairs Associate	44,559	73%	15%	11%	11% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 1/1/2021</u>
Non-Union	Public Affairs	Public Affairs Associate	44,559	73%	15%		11% Filled
Non-Union	Public Affairs	Education and Outreach Associate	44,559	73%	15%		11% Filled
Non-Union	Customer Service	Administrative Assistant-Customer Service	44,359	27%	35%		38% Filled
Non-Union	Customer Service	Customer Service Administrative Assistant	44,026	27%	35%		38% Filled
Non-Union	Water Treatment Plant	Administrative Assistant	43,500	100%	0%		0% Vacant
Union	Customer Service	Billing Specialist	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Vacant
Union	Customer Service	Customer Service Representative 1	41,375	27%	35%		38% Vacant
Non-Union	Finance	Document Management Associate	38,992	73%	15%		11% Filled
Non-Union	Customer Service	PGH2o Cares Analyst	37,500	27%	35%		38% Filled
Non-Union	Customer Service	PGH2o Cares Analyst	37,500	27%	35%		38% Filled
Non-Union	Customer Service	PGH2o Cares Analyst	37,500	27%	35%		38% Vacant
Non-Union	Chief Executive Officer	Intern	36,365	73%	15%		11% Vacant
Non-Union	Engineering & Construction	Cooperative Education	36,357	65%	24%		11% Filled
Non-Union	Engineering & Construction	Cooperative Education	36,357	65%	24%		11% Filled
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%		38% Filled
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%		38% Vacant
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%		38% Vacant
Union	Customer Service	Customer Service Representative 1-PT (1500 Hours)	29,838	27%	35%		38% Vacant
Union	Water Operations	Field Service Technician II	28,816	100%	0%		0% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2020</u>
Non-Union	Executive Director	Executive Director	281,139	74%	13%	13%	13% Filled
Non-Union	Legal	Chief Counsel	228,094	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Director of Engineering	193,125	65%	18%	18%	18% Filled
Non-Union	Executive Director	Deputy Executive Director	180,000	74%	13%	13%	13% Vacant
Non-Union	Executive Director	Deputy Chief, Program Management	164,793	74%	13%	13%	13% Vacant
Non-Union	Water Operations	Chief of Operations	161,580	100%	0%	0%	0% Filled
Non-Union	Finance	Director of Finance	155,945	74%	13%	13%	13% Filled
Non-Union	Finance	Treasurer/Deputy Director	151,103	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Deputy Director of Engineering	150,010	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Senior Group Manager, Lead	149,968	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Senior Group Manager, Water Programs	149,350	65%	18%	18%	18% Filled
Non-Union	Customer Service	Director of Administration	148,511	27%	35%	38%	38% Filled
Non-Union	Water Operations	Director of Operations	144,205	100%	0%	0%	0% Filled
Non-Union	Engineering & Construction	Senior Manager, GIS and Technical	139,050	65%	18%	18%	18% Filled
Non-Union	Management Information System	Director of Information Technology	137,987	74%	13%	13%	13% Filled
Non-Union	Water Treatment Plant	Senior Manager, Projects	137,387	100%	0%	0%	0% Filled
Non-Union	Water Treatment Plant	Acting Group Manager/Production	133,686	100%	0%	0%	0% Filled
Non-Union	Finance	Senior Manager, Program Controls	128,750	74%	13%	13%	13% Filled
Non-Union	Water Treatment Plant	SCADA Manager	127,301	100%	0%	0%	0% Vacant
Non-Union	Legal	Corporate Counsel	119,206	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Senior Manager, Construction	118,453	65%	18%	18%	18% Filled
Non-Union	Finance	Controller	116,875	74%	13%	13%	13% Filled
Non-Union	Finance	Senior Manager, Procurement	116,875	74%	13%	13%	13% Filled
Non-Union	Human Resources	Senior Manager, Human Resources	116,875	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Construction Manager	116,868	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Senior Manager, Wastewater	116,865	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Senior Manager, Stormwater	116,865	65%	18%	18%	18% Filled
Non-Union	Environmental Compliance	Senior Manager, Water Quality/Environmental Compliance	116,000	35%	33%	33%	33% Filled
Non-Union	External Affairs	Director of Public Affairs	115,283	74%	13%	13%	13% Filled
Non-Union	Water Treatment Plant	SCADA Technician	108,160	100%	0%	0%	0% Vacant
Non-Union	Water Treatment Plant	Senior Manager, Production	107,484	100%	0%	0%	0% Filled
Non-Union	Laboratory	Senior Manager, Lab	105,602	100%	0%	0%	0% Vacant
Non-Union	Water Treatment Plant	SCADA Security/Network Specialist	104,000	100%	0%	0%	0% Vacant
Non-Union	Water Operations	Senior Manager- Field Operations	102,801	100%	0%	0%	0% Filled
Non-Union	Management Information System	IT Security Analyst	100,950	74%	13%	13%	13% Vacant
Non-Union	Management Information System	BI Analyst and Database Administrator	98,508	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Project Manager	97,850	65%	18%	18%	18% Vacant
Non-Union	Management Information System	Sr. Network Systems Administrator	97,760	74%	13%	13%	13% Vacant
Non-Union	Executive Director	Safety and Security, Senior Manager	94,994	74%	13%	13%	13% Vacant
Non-Union	Finance	Senior Manager, Performance Improvement	94,994	74%	13%	13%	13% Vacant
Non-Union	Engineering & Construction	GIS Modeler	94,732	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Senior Project Manager	93,809	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Senior Project Manager	93,808	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Project Manager	93,807	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Project Manager	93,807	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Project Manager	93,806	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Project Manager	93,806	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Project Manager	93,806	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Project Manager	93,805	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Project Manager	93,805	65%	18%	18%	18% Filled
Non-Union	Management Information System	IT Project Manager	91,673	74%	13%	13%	13% Filled
Non-Union	Finance	Senior Contract Specialist	90,902	74%	13%	13%	13% Filled
Non-Union	Human Resources	Assistant Human Resources Manager	90,574	74%	13%	13%	13% Vacant
Non-Union	Water Operations	Senior Manager- Field Operations	90,177	100%	0%	0%	0% Filled
Non-Union	Sewer Operations	Field Services Superintendent	88,715	0%	50%	50%	50% Filled
Non-Union	External Affairs	Government Affairs Manager	88,460	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Sustainability Manager	88,302	65%	18%	18%	18% Filled
Non-Union	Water Operations	Senior Manager- Field Operations	87,550	100%	0%	0%	0% Filled
Non-Union	Management Information System	Network Systems Administrator	86,570	74%	13%	13%	13% Filled
Non-Union	Management Information System	Network Systems Administrator	86,570	74%	13%	13%	13% Filled
Non-Union	Finance	Senior Contract Specialist	86,008	74%	13%	13%	13% Filled
Non-Union	Water Operations	Senior Manager- Field Operations	85,932	100%	0%	0%	0% Filled
Non-Union	Water Operations	Senior Manager- Field Operations	85,932	100%	0%	0%	0% Filled
Non-Union	Warehouse	Senior Manager, Field Operations	85,720	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Associate Project Manager	84,957	65%	18%	18%	18% Filled
Non-Union	Management Information System	SQL BI Developer	83,864	74%	13%	13%	13% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2020</u>
Non-Union	Water Operations	Senior Manager- Field Operations	83,425	100%	0%	0%	0% Filled
Non-Union	Water Operations	Senior Manager- Field Operations	83,425	100%	0%	0%	0% Filled
Non-Union	Engineering & Construction	Associate Project Manager	82,400	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Associate Project Manager	81,540	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	Associate Project Manager	81,540	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Project Manager	81,223	65%	18%	18%	18% Vacant
Non-Union	External Affairs	Communications Project Manager	80,077	74%	13%	13%	13% Filled
Union	Laboratory	QA/QC Manager	79,997	100%	0%	0%	0% Vacant
Non-Union	Engineering & Construction	Associate Project Manager	79,568	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Associate Project Manager	79,269	65%	18%	18%	18% Filled
Non-Union	External Affairs	Business and Development Relations Manager	78,498	74%	13%	13%	13% Filled
Non-Union	Sewer Operations	Stormwater Superintendant	78,058	0%	50%	50%	50% Filled
Non-Union	Water Operations	Plumbing Superintendant	77,817	100%	0%	0%	0% Vacant
Non-Union	Water Operations	Superintendant	77,071	100%	0%	0%	0% Filled
Non-Union	Water Operations	Superintendant	77,071	100%	0%	0%	0% Filled
Non-Union	Water Treatment Plant	Operations Superintendent	76,741	100%	0%	0%	0% Filled
Non-Union	Customer Service	AMI and Billing Manager	76,502	27%	35%	38%	38% Filled
Non-Union	Customer Service	Customer Service Manager	76,502	27%	35%	38%	38% Filled
Non-Union	Customer Service	PUC Compliance Manager	76,502	27%	35%	38%	38% Filled
Non-Union	Engineering & Construction	GIS Project Coordinator	76,100	65%	18%	18%	18% Filled
Non-Union	Legal	Compliance Manager	75,188	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Associate Project Manager	72,800	65%	18%	18%	18% Filled
Non-Union	Laboratory	Water Quality Supervisor	72,800	100%	0%	0%	0% Vacant
Non-Union	Engineering & Construction	Senior Engineering Technician	72,127	65%	18%	18%	18% Filled
Non-Union	Customer Service	Senior Customer Service Coordinator	72,010	27%	35%	38%	38% Filled
Non-Union	Engineering & Construction	Senior GIS Analyst	71,463	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Senior GIS Analyst	71,463	65%	18%	18%	18% Vacant
Non-Union	Human Resources	Human Resources Specialist	71,433	74%	13%	13%	13% Filled
Non-Union	Human Resources	Human Resources Specialist	71,428	74%	13%	13%	13% Vacant
Union	Laboratory	Chemist II - Year 7	71,121	100%	0%	0%	0% Filled
Non-Union	Engineering & Construction	Associate Project Manager	71,033	65%	18%	18%	18% Filled
Non-Union	External Affairs	Senior Public Affairs Coordinator	70,506	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Associate Project Manager	70,113	65%	18%	18%	18% Filled
Non-Union	Executive Director	Executive Administrative Supervisor	69,659	74%	13%	13%	13% Filled
Non-Union	Human Resources	Senior Payroll Administrator	69,285	74%	13%	13%	13% Filled
Non-Union	Engineering & Construction	Inspector III	68,959	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Senior Inspector	68,557	65%	18%	18%	18% Vacant
Union	Water Operations	Water Repair Fore - Licensed	68,165	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Fore - Licensed	68,165	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Fore - Licensed	68,165	100%	0%	0%	0% Filled
Non-Union	Finance	Senior Accounting Specialist	68,037	74%	13%	13%	13% Filled
Non-Union	Environmental Compliance	Water Quality Data Manager	67,395	35%	33%	33%	33% Filled
Union	Sewer Operations	Sewer Foreman	67,062	0%	50%	50%	50% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Water Repair Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Operations	Plumbing Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Maintenance Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Maintenance Foreman	67,062	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Foreman	67,062	100%	0%	0%	0% Vacant
Non-Union	Legal	Document Management Specialist	66,950	74%	13%	13%	13% Vacant
Union	Customer Service	RNI Data Analyst	66,774	27%	35%	38%	38% Filled
Union	Engineering & Construction	Engineer II	66,774	65%	18%	18%	18% Vacant
Union	Engineering & Construction	Engineer II	66,774	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	GIS Analyst	66,774	65%	18%	18%	18% Vacant
Non-Union	Engineering & Construction	GIS Analyst	66,774	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Associate Project Manager	66,575	65%	18%	18%	18% Filled
Union	Water Treatment Plant	Electrician	65,739	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Electrician	65,739	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Electrician	65,739	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Electrician	65,739	100%	0%	0%	0% Filled
Non-Union	Customer Service	Contact Center Coordinator	65,000	27%	35%	38%	38% Filled
Non-Union	Customer Service	Billing Coordinator	65,000	27%	35%	38%	38% Filled
Non-Union	Customer Service	Collections Coordinator	65,000	27%	35%	38%	38% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2020</u>
Non-Union	Engineering & Construction	Inspector III	64,744	65%	18%	18%	Vacant
Non-Union	Engineering & Construction	Inspector III	64,744	65%	18%	18%	Filled
Non-Union	Water Treatment Plant	Water Production Administrator	64,662	100%	0%	0%	Filled
Non-Union	Finance	Budget Analyst	64,397	74%	13%	13%	Vacant
Non-Union	Finance	Project Systems Coordinator	64,396	74%	13%	13%	Vacant
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Operations	Plumber	63,971	100%	0%	0%	Filled
Union	Water Treatment Plant	Plumber	63,971	100%	0%	0%	Vacant
Union	Water Treatment Plant	Plumber	63,971	100%	0%	0%	Filled
Union	Water Treatment Plant	Plumber	63,971	100%	0%	0%	Filled
Union	Water Treatment Plant	Steamfitter	63,256	100%	0%	0%	Vacant
Union	Water Treatment Plant	Steamfitter	63,256	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator-Licensed	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Filled
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Vacant
Union	Water Operations	Heavy Equipment Operator	62,716	100%	0%	0%	Vacant
Union	Water Treatment Plant	Plant Operator - Class A	62,588	100%	0%	0%	Vacant
Union	Water Treatment Plant	Plant Operator - Class A	62,588	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator - Class A	62,588	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator - Class A	62,580	100%	0%	0%	Filled
Union	Water Treatment Plant	Welder	62,568	100%	0%	0%	Filled
Union	Engineering & Construction	Field Liaison	62,400	65%	18%	18%	Filled
Union	Engineering & Construction	Field Liaison	62,400	65%	18%	18%	Filled
Union	Water Treatment Plant	Machinist	62,270	100%	0%	0%	Filled
Union	Engineering & Construction	Inspector II	61,830	65%	18%	18%	Vacant
Union	Engineering & Construction	Inspector I	61,830	65%	18%	18%	Vacant
Non-Union	Environmental Compliance	Scientist 2	61,787	35%	33%	33%	Filled
Union	Water Treatment Plant	Stationary Engineer	61,612	100%	0%	0%	Filled
Union	Water Treatment Plant	Stationary Engineer	61,612	100%	0%	0%	Filled
Union	Water Treatment Plant	Stationary Engineer	61,612	100%	0%	0%	Filled
Union	Water Treatment Plant	Stationary Engineer	61,612	100%	0%	0%	Filled
Union	Water Treatment Plant	Stationary Engineer	61,612	100%	0%	0%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Sewer Operations	T.V. Truck Specialist	60,891	0%	50%	50%	Filled
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Vacant
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Vacant
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Filled
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Filled
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Filled
Union	Water Operations	Leak Detection Specialist	60,891	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	60,867	100%	0%	0%	Vacant
Union	Water Treatment Plant	Plant Operator	60,867	100%	0%	0%	Vacant
Union	Water Treatment Plant	Plant Operator	60,867	100%	0%	0%	Filled
Union	Water Treatment Plant	Plant Operator	60,867	100%	0%	0%	Filled

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Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Operations	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	52,938	100%	0%	0%	0% Filled
Union	Management Information System	IT Helpdesk Technician	52,382	74%	13%	13%	13% Vacant
Union	Management Information System	IT Helpdesk Technician	52,382	74%	13%	13%	13% Vacant
Union	Management Information System	IT Helpdesk Technician	52,382	74%	13%	13%	13% Filled
Non-Union	External Affairs	Development and Utility Services Associate	52,000	74%	13%	13%	13% Vacant
Non-Union	Environmental Compliance	Scientist 1	51,500	35%	33%	33%	33% Filled
Non-Union	Customer Service	Compliance Analyst	50,796	27%	35%	38%	38% Filled
Non-Union	Customer Service	Compliance Analyst	50,796	27%	35%	38%	38% Filled
Non-Union	Customer Service	Compliance Analyst	50,796	27%	35%	38%	38% Vacant
Union	Laboratory	Chemist I	50,475	100%	0%	0%	0% Filled
Non-Union	Finance	Procurement Assistant	50,325	74%	13%	13%	13% Filled
Union	Engineering & Construction	GIS Specialist	50,132	65%	18%	18%	18% Filled
Non-Union	Executive Director	Administrative Assistant	49,669	74%	13%	13%	13% Filled
Union	Warehouse	Inventory Control Specialist 2	49,297	74%	13%	13%	13% Filled
Union	Warehouse	Inventory Control Specialist 2	49,297	74%	13%	13%	13% Filled
Non-Union	Sewer Operations	Administrative Assistant	49,115	0%	50%	50%	50% Filled
Non-Union	External Affairs	Construction Communications Officer	49,082	74%	13%	13%	13% Filled
Non-Union	Water Operations	Administrative Assistant	48,637	100%	0%	0%	0% Vacant
Non-Union	Sewer Operations	Administrative Assistant	48,632	0%	50%	50%	50% Filled
Non-Union	Human Resources	Human Resources Assistant	48,630	74%	13%	13%	13% Filled
Union	Customer Service	Corporate Accounts Analyst	48,272	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II	47,466	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	47,135	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	47,135	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	47,135	27%	35%	38%	38% Filled
Union	Customer Service	Account Clerk	47,135	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 3	47,111	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 3	47,111	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 3	47,111	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 3	47,111	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II - AMI	46,811	27%	35%	38%	38% Filled
Union	Customer Service	Clerical Specialist II - AMI	46,804	27%	35%	38%	38% Filled
Union	Customer Service	Engineering Technician I	46,804	27%	35%	38%	38% Filled
Non-Union	Management Information System	IT Administrative Assistant	45,312	74%	13%	13%	13% Filled
Union	Customer Service	Dispatcher	44,862	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,862	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,862	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,862	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,862	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 2	44,219	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 2	44,219	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 2	44,219	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,219	27%	35%	38%	38% Filled
Union	Customer Service	Dispatcher	44,219	27%	35%	38%	38% Filled
Non-Union	Environmental Compliance	Administrative Assistant	44,133	35%	33%	33%	33% Vacant
Non-Union	External Affairs	Public Affairs Associate	43,255	74%	13%	13%	13% Filled
Non-Union	External Affairs	Education and Outreach Associate	43,255	74%	13%	13%	13% Filled
Non-Union	External Affairs	Public Affairs Associate	43,255	74%	13%	13%	13% Filled
Non-Union	Customer Service	Administrative Assistant	42,743	27%	35%	38%	38% Filled
Non-Union	Customer Service	Administrative Assistant	42,657	27%	35%	38%	38% Filled
Union	Sewer Operations	Field Service Technician II	42,037	0%	50%	50%	50% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2020</u>
Union	Sewer Operations	Field Service Technician II	42,037	0%	50%	50%	50% Filled
Union	Sewer Operations	Field Service Technician II	42,037	0%	50%	50%	50% Vacant
Union	Warehouse	Inventory Control Specialist	42,037	74%	13%	13%	13% Filled
Union	Warehouse	Inventory Control Specialist	42,037	74%	13%	13%	13% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1 - AMI	40,170	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1	40,170	27%	35%	38%	38% Vacant
Non-Union	Environmental Compliance	Intern	35,308	35%	33%	33%	33% Vacant
Non-Union	Environmental Compliance	Intern	35,307	35%	33%	33%	33% Vacant
Non-Union	Human Resources	Intern	35,307	74%	13%	13%	13% Vacant
Non-Union	Management Information System	Intern	35,307	74%	13%	13%	13% Vacant
Non-Union	Water Operations	Intern	35,307	100%	0%	0%	0% Filled
Non-Union	Water Treatment Plant	Intern	35,307	100%	0%	0%	0% Vacant
Non-Union	External Affairs	Intern	35,306	74%	13%	13%	13% Vacant
Non-Union	Finance	Intern	35,306	74%	13%	13%	13% Vacant
Non-Union	Finance	Intern	35,306	74%	13%	13%	13% Vacant
Non-Union	Engineering & Construction	Engineering Intern/Co-Op	34,889	65%	18%	18%	18% Filled
Non-Union	Engineering & Construction	Engineering Intern/Co-Op	34,887	65%	18%	18%	18% Vacant
Union	Customer Service	Customer Service Representative 1 - PT (1500 Hours)	28,963	27%	35%	38%	38% Vacant
Union	Customer Service	Customer Service Representative 1 - PT (1500 Hours)	28,963	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1 - PT (1500 Hours)	28,963	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1 - PT (1500 Hours)	28,963	27%	35%	38%	38% Filled
Union	Customer Service	Customer Service Representative 1 - PT (1500 Hours)	28,963	27%	35%	38%	38% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2019</u>
Non-union	Executive Director	Executive Director	272,950	72%	9%	20%	Filled
Non-union	Legal	Chief Counsel	221,460	72%	9%	20%	Filled
Non-union	Finance	Director of Finance	183,946	72%	9%	20%	Vacant
Non-union	Management Information System	MIS Manager	170,000	72%	9%	20%	Vacant
Non-union	Engineering & Construction	Deputy Director of Engineering	150,000	70%	12%	19%	Vacant
Non-union	Water Operations	Director of Operations	146,878	100%	0%	0%	Filled
Non-union	Finance	Budget Director	144,200	72%	9%	20%	Filled
Non-union	Finance	Treasurer	144,200	72%	9%	20%	Filled
Non-union	Legal	Corporate Counsel- PUC	140,000	72%	9%	20%	Filled
Non-union	Water Treatment Plant	Senior Manager, Projects	133,385	100%	0%	0%	Filled
Non-union	Water Operations	Deputy Director of Operations	128,750	100%	0%	0%	Filled
Non-union	Customer Service	Director of Administration	126,071	43%	57%	0%	Filled
Non-union	Water Treatment Plant	SCADA Manager	123,600	100%	0%	0%	Filled
Non-union	Legal	Corporate Counsel	115,732	72%	9%	20%	Filled
Non-union	Engineering & Construction	Senior Water Manager	113,462	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Senior Wastewater Manager	113,462	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Senior Stormwater Manager	113,462	70%	12%	19%	Vacant
Non-union	Water Operations	Senior Water Manager	113,462	100%	0%	0%	Vacant
Non-union	Water Operations	Senior Wastewater Manager	113,462	100%	0%	0%	Vacant
Non-union	Water Operations	Senior Stormwater Manager	113,462	100%	0%	0%	Vacant
Non-union	Water Treatment Plant	Senior Manager, Production	110,107	100%	0%	0%	Vacant
Non-union	Human Resources	Human Resources Manager	103,444	72%	9%	20%	Filled
Non-union	External Affairs	Senior Manager, Public Affairs	101,928	72%	9%	20%	Filled
Non-union	Executive Director	Safety and Security Manager	101,088	72%	9%	20%	Vacant
Non-union	Engineering & Construction	GIS Modeler	100,000	70%	12%	19%	Vacant
Non-union	Water Operations	Underground Asset Manager	99,807	100%	0%	0%	Filled
Non-union	Procurement	Procurement Manager	99,704	72%	9%	20%	Filled
Non-union	Water Operations	Aboveground Asset Manager	94,554	100%	0%	0%	Filled
Non-union	Engineering & Construction	Senior Project Manager	93,216	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Senior Project Manager	93,216	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,081	70%	12%	19%	Filled
Non-union	Engineering & Construction	Project Manager	91,081	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,081	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,081	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Project Manager	91,073	70%	12%	19%	Vacant
Non-union	Customer Service	Business Intelligence Analyst	90,640	43%	57%	0%	Filled
Non-union	Environmental Compliance	Water Quality Manager	89,981	35%	20%	46%	Filled
Non-union	Water Treatment Plant	Operations Manager	89,091	100%	0%	0%	Filled
Non-union	Finance	Manager of Finance	88,790	72%	9%	20%	Filled
Non-union	Engineering & Construction	Project Manager	88,421	70%	12%	19%	Vacant
Non-union	Engineering & Construction	Associate Project Manager	88,331	70%	12%	19%	Filled
Non-union	Human Resources	Assistant Human Resources Manager	87,936	72%	9%	20%	Vacant
Non-union	Water Operations	Senior Manager Capital - Projects	87,550	100%	0%	0%	Filled
Non-union	Sewer Operations	Field Services Superintendent	86,965	0%	100%	0%	Filled
Non-union	External Affairs	Government Affairs Manager	85,881	72%	9%	20%	Filled
Non-union	Engineering & Construction	Sustainability Manager	85,730	70%	12%	19%	Filled
Non-union	Management Information System	Network Administrator	84,049	72%	9%	20%	Filled
Non-union	Water Operations	Senior Manager Capital - Lead	83,554	100%	0%	0%	Vacant
Non-union	Warehouse	Stores Manager	83,223	72%	9%	20%	Filled
Non-union	Water Treatment Plant	SCADA Security/Network Specialist	83,200	100%	0%	0%	Vacant
Non-union	Engineering & Construction	Associate Project Manager	82,482	70%	12%	19%	Filled
Non-union	Water Treatment Plant	SCADA Technician	82,400	100%	0%	0%	Filled
Non-union	Management Information System	SQL BI Developer	81,422	72%	9%	20%	Filled
Non-union	Procurement	Senior Contract Specialist	80,340	72%	9%	20%	Filled
Non-union	Procurement	Senior Contract Specialist	80,340	72%	9%	20%	Vacant
Non-union	Environmental Compliance	Environmental Compliance Manager	79,934	35%	20%	46%	Vacant
Non-union	External Affairs	Communications Project Manager	79,573	72%	9%	20%	Filled
Non-union	Engineering & Construction	Associate Project Manager	79,165	70%	12%	19%	Filled
Non-union	Engineering & Construction	Associate Project Manager	79,150	70%	12%	19%	Filled
Non-union	Engineering & Construction	Project Manager	78,857	70%	12%	19%	Filled
Non-union	Engineering & Construction	Associate Project Manager	77,250	70%	12%	19%	Filled
Non-union	Management Information System	IT Security Analyst	77,234	72%	9%	20%	Vacant

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2019</u>
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Operations	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plumber	62,108	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Plumber	62,108	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plumber	62,108	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Steamfitter	61,414	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Steamfitter	61,414	100%	0%	0%	0% Filled
Non-union	Engineering & Construction	Inspector III	61,027	70%	12%	19%	19% Vacant
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator-Licensed	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Operations	Heavy Equipment Operator	60,882	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	60,765	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Plant Operator - Class A	60,765	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	60,765	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	60,765	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Welder	60,746	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Machinist	60,454	100%	0%	0%	0% Filled
Non-union	Environmental Compliance	Scientist II	59,987	35%	20%	46%	46% Filled
Non-union	Environmental Compliance	Scientist II	59,987	35%	20%	46%	46% Filled
Union	Water Treatment Plant	Stationary Engineer	59,818	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Stationary Engineer	59,818	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Stationary Engineer	59,818	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Stationary Engineer	59,818	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Stationary Engineer	59,818	100%	0%	0%	0% Filled
Non-union	Customer Service	Customer Service Training Coordinator	59,691	43%	57%	0%	0% Vacant
Non-union	Customer Service	Customer Service Analyst	59,195	43%	57%	0%	0% Filled
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Filled
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Filled
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Filled
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Filled
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Vacant
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Vacant
Union	Water Operations	Leak Detection Specialist	59,117	100%	0%	0%	0% Vacant
Union	Water Operations	Leak Detection Data Foreman	59,117	100%	0%	0%	0% Vacant
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Sewer Operations	T.V. Truck Specialist	59,114	0%	100%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Plant Operator - Class A	59,094	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Painter	59,006	100%	0%	0%	0% Filled
Non-union	Human Resources	Payroll Administrator	58,312	72%	9%	20%	20% Filled
Non-union	Customer Service	Billing Coordinator	58,285	43%	57%	0%	0% Filled
Union	Sewer Operations	Inspector II	58,282	0%	100%	0%	0% Vacant
Union	Sewer Operations	Inspector II	58,282	0%	100%	0%	0% Vacant
Union	Sewer Operations	Inspector II	58,282	0%	100%	0%	0% Filled
Union	Sewer Operations	Inspector II	58,282	0%	100%	0%	0% Filled
Union	Sewer Operations	Inspector II	58,282	0%	100%	0%	0% Filled
Non-union	Engineering & Construction	GIS Analyst	58,273	70%	12%	19%	19% Filled
Union	Sewer Operations	Vactor Operator	58,094	0%	100%	0%	0% Filled
Union	Sewer Operations	Vactor Operator	58,094	0%	100%	0%	0% Filled

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Union	Sewer Operations	Vactor Operator	58,094	0%	100%		0% Filled
Union	Sewer Operations	Vactor Operator	58,094	0%	100%		0% Filled
Union	Sewer Operations	Field Service Technician II	58,094	0%	100%		0% Filled
Union	Sewer Operations	Field Service Technician II	58,094	0%	100%		0% Filled
Union	Sewer Operations	Field Service Technician II	58,094	0%	100%		0% Filled
Union	Sewer Operations	Field Service Technician III	58,094	0%	100%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist-Licensed	58,094	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Filled
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Utility Worker	58,031	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	57,574	100%	0%		0% Filled
Union	Water Operations	Equipment Repair Specialist	57,553	100%	0%		0% Filled
Union	Water Treatment Plant	Equipment Repair Specialist	57,553	100%	0%		0% Filled
Union	Water Treatment Plant	Equipment Repair Specialist	57,553	100%	0%		0% Filled
Union	Water Treatment Plant	Equipment Repair Specialist	57,553	100%	0%		0% Filled
Union	Water Treatment Plant	Equipment Repair Specialist	57,553	100%	0%		0% Filled
Union	Water Treatment Plant	Truck Driver - Hazmat	57,551	100%	0%		0% Vacant
Non-union	Engineering & Construction	Engineering Technician III	57,484	70%	12%		19% Filled
Non-union	Engineering & Construction	Engineering Technician III	57,481	70%	12%		19% Vacant
Non-union	Engineering & Construction	Engineering Technician III	57,472	70%	12%		19% Vacant
Union	Engineering & Construction	Inspector II	57,138	70%	12%		19% Vacant
Union	Water Operations	Vactor Truck Driver	56,945	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Filled
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Vacant
Union	Water Operations	Valve & Hydrant Specialist	56,846	100%	0%		0% Vacant
Union	Water Operations	Truck Driver - Special/Winch	56,784	100%	0%		0% Filled
Union	Water Operations	Truck Driver - Special/Winch	56,784	100%	0%		0% Vacant
Union	Water Operations	Truck Driver - Special/Winch	56,784	100%	0%		0% Vacant
Union	Water Operations	General Laborer	56,264	100%	0%		0% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2019</u>
Union	Water Treatment Plant	Laborer	51,396	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	51,396	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	51,396	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	51,396	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Laborer	51,396	100%	0%	0%	0% Filled
Union	Management Information System	IT Helpdesk Technician	49,379	72%	9%	20%	20% Filled
Union	Management Information System	IT Helpdesk Technician	49,379	72%	9%	20%	20% Filled
Union	Management Information System	IT Helpdesk Technician	49,379	72%	9%	20%	20% Vacant
Non-union	Customer Service	Compliance Analyst	49,297	43%	57%	0%	0% Filled
Non-union	Customer Service	Compliance Analyst	49,297	43%	57%	0%	0% Filled
Non-union	Engineering & Construction	GIS Specialist	48,672	70%	12%	19%	19% Vacant
Non-union	Engineering & Construction	Appeals and Credits Specialist	48,422	70%	12%	19%	19% Vacant
Union	Customer Service	Lead Program Customer Assistance	48,311	43%	57%	0%	0% Filled
Non-union	Executive Director	Administrative Assistant	48,222	72%	9%	20%	20% Filled
Union	Warehouse	Inventory Control Specialist 2	47,861	72%	9%	20%	20% Filled
Union	Warehouse	Inventory Control Specialist 2	47,861	72%	9%	20%	20% Filled
Union	Engineering & Construction	GIS Specialist	47,704	70%	12%	19%	19% Vacant
Non-union	Sewer Operations	Administrative Assistant	47,684	0%	100%	0%	0% Filled
Non-union	Water Operations	Administrative Assistant	47,664	100%	0%	0%	0% Filled
Union	Water Treatment Plant	Foreman	47,572	100%	0%	0%	0% Vacant
Union	Water Treatment Plant	Foreman	47,572	100%	0%	0%	0% Vacant
Non-union	Human Resources	Human Resources Assistant	47,277	72%	9%	20%	20% Filled
Non-union	Customer Service	Corporate Accounts Analyst	46,854	43%	57%	0%	0% Filled
Non-union	External Affairs	Digital Media Specialist	46,800	72%	9%	20%	20% Vacant
Non-union	Procurement	Procurement Assistant	46,350	72%	9%	20%	20% Filled
Union	Customer Service	Clerical Specialist II	46,083	43%	57%	0%	0% Filled
Union	Customer Service	Account Clerk	46,083	43%	57%	0%	0% Vacant
Non-union	Engineering & Construction	Communications Assistant	45,899	70%	12%	19%	19% Vacant
Union	Customer Service	Account Clerk	45,762	43%	57%	0%	0% Filled
Union	Customer Service	Account Clerk	45,762	43%	57%	0%	0% Filled
Union	Customer Service	Account Clerk	45,762	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 3	45,762	43%	57%	0%	0% Vacant
Union	Customer Service	Clerical Specialist II - AMI	45,431	43%	57%	0%	0% Filled
Union	Customer Service	Clerical Specialist II - AMI	45,431	43%	57%	0%	0% Filled
Union	Customer Service	Engineering Technician I	45,431	43%	57%	0%	0% Vacant
Union	Laboratory	Chemist I	45,226	100%	0%	0%	0% Filled
Non-union	Finance	Project Systems Specialist	45,121	72%	9%	20%	20% Vacant
Non-union	External Affairs	Communications Associate	44,127	72%	9%	20%	20% Vacant
Union	Customer Service	Customer Service Representative 3	43,598	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Vacant
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Vacant
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Customer Service Representative 2	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	43,576	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	43,576	43%	57%	0%	0% Filled
Non-union	Engineering & Construction	Administrative Assistant	43,264	70%	12%	19%	19% Vacant
Union	Customer Service	Customer Service Representative 3	42,934	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	42,934	43%	57%	0%	0% Filled
Non-union	Human Resources	Human Resources Assistant	42,852	72%	9%	20%	20% Filled
Non-union	Environmental Compliance	Administrative Assistant	42,848	35%	20%	46%	46% Vacant
Non-union	Engineering & Construction	Document Management Specialist	42,312	70%	12%	19%	19% Vacant
Non-union	Customer Service	Administrative Assistant	41,498	43%	57%	0%	0% Filled
Non-union	Customer Service	Administrative Assistant-II	41,410	43%	57%	0%	0% Filled
Union	Customer Service	Dispatcher	41,391	43%	57%	0%	0% Filled
Union	Warehouse	Inventory Control Specialist	40,813	72%	9%	20%	20% Filled
Non-union	Engineering & Construction	Administrative Assistant	40,598	70%	12%	19%	19% Vacant
Union	Customer Service	Dispatcher	39,827	43%	57%	0%	0% Filled
Union	Sewer Operations	Administrative Assistant	39,000	0%	100%	0%	0% Filled
Union	Customer Service	Customer Service Representative 1	38,992	43%	57%	0%	0% Vacant
Union	Customer Service	Customer Service Representative 1	38,992	43%	57%	0%	0% Filled

<u>Union Status</u>	<u>Department</u>	<u>Job Title</u>	<u>Budgeted Annual Salary</u>	<u>Water Allocation</u>	<u>Wastewater Allocation</u>	<u>Stormwater Allocation</u>	<u>Filled or Vacant as of 01/01/2019</u>
Union	Customer Service	Customer Service Representative - PT (1500 Hours)	38,992	43%	57%		0% Vacant
Union	Customer Service	Customer Service Representative - PT (1500 Hours)	38,992	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative - PT (1500 Hours)	38,992	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative - PT (1500 Hours)	38,992	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative - PT (1500 Hours)	38,992	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative - AMI	37,899	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	37,892	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 3	36,764	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	36,764	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	36,764	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	36,764	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	36,764	43%	57%		0% Filled
Union	Customer Service	Customer Service Representative 1	36,756	43%	57%		0% Filled
Non-union	Environmental Compliance	Intern	34,278	35%	20%		46% Vacant
Non-union	Environmental Compliance	Intern	34,278	35%	20%		46% Vacant
Non-union	External Affairs	Intern	34,278	72%	9%		20% Filled
Non-union	Finance	Intern	34,278	72%	9%		20% Vacant
Non-union	Finance	Intern	34,278	72%	9%		20% Vacant
Non-union	Human Resources	Intern	34,278	72%	9%		20% Vacant
Non-union	Management Information System	Intern	34,278	72%	9%		20% Vacant
Non-union	Management Information System	Intern	34,278	72%	9%		20% Vacant
Non-union	Water Operations	Safety Intern	34,278	100%	0%		0% Vacant
Non-union	Water Treatment Plant	Safety Intern	34,278	100%	0%		0% Vacant
Non-union	Engineering & Construction	Engineering Intern/Co-Op	33,871	70%	12%		19% Vacant
Non-union	Engineering & Construction	Engineering Intern/Co-Op	33,871	70%	12%		19% Vacant

VERIFICATION

I, Edward Barca, hereby state that: (1) I am the Director of Finance for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 08/09/2021 | 7:36 AM PDT

DocuSigned by:
Edward Barca
415E545AD9514E4...

Edward Barca
Director of Finance
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REJOINDER TESTIMONY OF

THOMAS F. HUESTIS

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

P-2021-3024779 (Stormwater)

TOPIC:

Support for Proposed Rate Increase

Capital Markets Consideration

August 10, 2021

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. Thomas F. Huestis. I am a Senior Managing Director and Partner with Public Resources
4 Advisory Group, Inc. (“PRAG”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony (PWSA St. No. 3) together with accompanying
7 Exhibits TH-1 to TH-5, on April 13, 2021, and Rebuttal Testimony (PWSA St. 3R),
8 together with accompanying Exhibits TH-6 to TH-7, on July 29, 2021 (which was revised
9 on August 4, 2021).

10 **Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?**

11 A. The purpose of my rejoinder testimony is to respond to certain portions of surrebuttal
12 testimony submitted by Anthony Spadaccio on behalf of the Bureau of Investigation and
13 Enforcement (“I&E”). To the extent that I do not respond to or address a particular issue
14 or argument, I defer to my direct testimony and rebuttal testimony on those issues.

15 **II. DEBT SERVICE COVERAGE**

16 **Q. MR. SPADACCIO STATES THAT HE ACCEPTS THAT PWSA MUST STRIVE**
17 **TO ACHIEVE DEBT SERVICE COVERAGE RATIOS (“DSCRs”) MORE IN**
18 **LINE WITH ITS PEERS. BUT THAT IT WOULD BE “UNREASONABLE AND**
19 **UNJUST” TO THINK THAT THE AUTHORITY’S RATEPAYERS SHOULD BE**
20 **REQUIRED TO BEAR SUCH A LARGE RATE INCREASE TO CORRECT THE**
21 **MANY YEARS OF FINANCIAL MISMANAGEMENT BY THE AUTHORITY.**
22 **I&E ST. 1-SR AT 11-12. PLEASE RESPOND.**

23 A. I appreciate that Mr. Spadaccio agrees that the Authority should strive for higher
24 coverages closer to its peers and he did not object to my testimony that showed the rating
25 agencies metrics and the comparable municipal utilities consistently had total DSCRs at
26 or above 1.5x level. In my prior testimony, I argued that PWSA could have asked for a
27 rate increase that would achieve that 1.50x level, but I stated that the “PWSA is seeking

1 to balance the competing priorities of limiting the rate increase for ratepayers during the
2 COVID-19 pandemic” and having a rate increase sufficient to make needed investments
3 in the system and achieve adequate DSRC to maintain the Authority’s existing rating.
4 Given the already conservative nature of the rate request, the Authority asked the Parties
5 to recommend PWSA’s full request (which would only achieve a 1.18x total DSCR). As I
6 testified previously, the major factors that faced PWSA when it came under PUC
7 supervision was that the Authority’s rates remained artificially low and PWSA was
8 unable to make the investments necessary to modernize its system and make its service
9 safe and reliable. Thus, the “many years” of prior “financial mismanagement” of the
10 Authority that Mr. Spadaccio references was manifested by PWSA not raising rates
11 sufficiently to meet the needs of the system. During that time, PWSA’s ratepayers were
12 charged less than they should have been and received an unfortunate windfall; today’s
13 rate payers, therefore, now benefit from a lower base-level rate that would not otherwise
14 exist if past rates were increased during the period of “mismanagement.” Mr. Spadaccio
15 may not be taking in account that PWSA is a municipal utility and all of the revenue that
16 it raises stays in the utility to be invested into the system and that all the revenue that is
17 not raised when it should have been, needs to be replaced by ratepayers – there is no
18 other revenue source (other than relatively small levels of government grants).
19 Unfortunately, if the Authority is going to be able to provide safe, adequate and reliable
20 service going forward ratepayer revenues must be increased to offset past rate-
21 mismanagement. Other peer municipal utilities have had to take a similar road to
22 financial recovery. The table below - PWSA’s historical and recommend total DSCRs -
23 shows PWSA’s lower historical coverage ratios related to the insufficient rates charged.

1

	2015	2016	2017	2018	2019	2020	2021	2022*	2023*
Total Debt Service Coverage	1.10x	0.90x	0.80x	1.40x	1.70x	1.25x	1.19x	1.18x	1.13x

2

Source: Moody’s Investors Service, PWSA rating reports

3

*2022 and 2023 projected total debt service coverage based on PWSA’s requested revenue requirement.

4

5

Unfortunately, PWSA’s total DSCRs have decreased in every year since PUC’s first rate

6

setting process. Thus, Mr. Spadaccio’s view that PWSA should strive for higher

7

coverages closer to its peers (1.5x) is inconsistent with his position that PWSA should

8

receive a lower rate increase in FY 2022 and FY 2023 compared to PWSA’s

9

recommended increase that would achieve a 1.18x and 1.13x Total DSCR. I urge the

10

parties to approve the Authority’s full requested rate increase.

11

III. CONCLUSION

12

Q. DOES THAT COMPLETE YOUR REJOINDER TESTIMONY?

13

A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

VERIFICATION

I, Tom Huestis hereby state that: (1) I am Senior Managing Director of Public Resources Advisory Group; (2) I have been retained by The Pittsburgh Water and Sewer Authority and am authorized to present rejoinder testimony on its behalf; (3) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and (4) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C .S. § 4904 (relating to unsworn falsification to authorities).

08/09/2021 | 12:45 PM PDT

Dated

DocuSigned by:

Thomas Huestis

A6766238CBB7400...

Tom Huestis, Senior Managing Director
Public Resources Advisory Group

Consultant to:
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REJOINDER TESTIMONY OF

BARRY KING, PE

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Valve Maintenance, Pressures, Meter Testing and
Replacement, Ownership and Maintenance of Customer
Laterals and Surface Restoration

August 10, 2021

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TABLE OF EXHIBITS

BK-4	Funding and Staffing Resources for Increased Isolation Valve Exercising
BK-5	Valve Manufacturers’ Responses Regarding Serial Numbers
BK-6	Explanation of 6,000 Valves Being Privately Owned

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Barry King and I am the Director of Engineering and Construction for The
4 Pittsburgh Water and Sewer Authority (“PWSA”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony on April 13, 2021 that accompanied the rate filing,
7 Supplemental Direct Testimony on June 14, 2021 and Rebuttal Testimony on July 28,
8 2021.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. The purpose of my testimony is to respond to the Surrebuttal Testimony of Israel E. Gray
11 on behalf of the Bureau of Investigation and Enforcement (“I&E”)¹ and Terry L. Fought
12 for the Office of Consumer Advocate (“OCA”).²

13 **Q. ARE YOU SPONSORING ANY EXHIBITS?**

14 A. Yes. I am sponsoring PWSA Exhibits BK-4, BK-5 and BK-6, which I will describe in
15 this testimony.

16 **II. VALVE MAINTENANCE PROGRAM**

17 **A. Exercising Isolation Valves**

18 **Q. PLEASE DESCRIBE THE SURREBUTTAL TESTIMONY OF MR. FOUGHT**
19 **CONCERNING THE EXERCISING OF ISOLATION VALVES.**

20 A. Mr. Fought continues to recommend that the rate of exercising valves should be increased
21 if PWSA finds that too many of them cannot be exercised. The basis for his
22 recommendation is that while increased exercising of valves may add costs, it should help

¹ I&E Statement No. 4-SR.

² OCA Statement 6SR.

1 avoid greater costs to repair or replace valves because they were not exercised frequently
2 enough. (OCA Statement 6SR at 3-4).

3 **Q. PLEASE RESPOND.**

4 A. PWSA is opposed to accelerating the schedule if it find that “too many” of the valves
5 could not be exercised. In addition to the vagueness of this recommendation, I note that
6 even if PWSA might be able to reduce later costs to repair or replace valves, that is
7 purely speculation. The more pressing issue concerns the lack of funding and adequate
8 resources to accelerate the schedule now or in the foreseeable future. By way of further
9 response, I am attaching as PWSA Exhibit BK-4 PWSA’s response to I&E-PS-15, which
10 details the additional funding and staff resources that would be required to increase the
11 frequency of exercising valves. This information clearly shows that the contemplation of
12 any acceleration in the schedule is not feasible or warranted at this time.

13 **Q. DOES MR. FOUGHT ALSO REITERATE HIS RECOMMENDATION FOR**
14 **PWSA TO SUBMIT A SCHEDULE TO THE OCA AND THE COMMISSION**
15 **FOR REPAIRING OR REPLACING VALVES THAT COULD NOT BE**
16 **EXERCISED?**

17 A. Yes. Mr. Fought believes that the submission of a schedule for repairing or replacing
18 valves that could not be exercised would provide reasonable oversight of PWSA’s valve
19 maintenance program. He also states that other water utilities under the Commission’s
20 jurisdiction have submitted such schedules. (OCA Statement No. 6SR at 4).

21 **Q. HOW DO YOU RESPOND?**

22 A. Given that PWSA normally repairs or replaces valves that are found to be inoperable, I
23 continue to see no need to devote valuable staff resources to reporting about valves that
24 could not be properly exercised. I further note that Mr. Fought does not identify which
25 other water utilities have submitted such schedules or indicate whether they have done so

1 upon a commitment through a settlement agreement or because of a Commission
2 directive. The latter I am advised by counsel may raise questions about the establishment
3 of industry standards outside the regulatory review process. PWSA will address this
4 issue in briefing.

5 **Q. WHAT DO THE PARTIES SAY ABOUT THE PRIORITIZATION OF VALVE**
6 **MAINTENANCE?**

7 A. Mr. Gray claims that PWSA's position that its current inability to prioritize valve
8 maintenance is inconsistent with what PWSA has said in recently filed Compliance Plan
9 Progress Reports. Specifically, he points to the Reports filed on April 30, 2021 and July
10 30, 2021 where PWSA indicated that it is updating its Geographic Information System
11 ("GIS") and will provide additional valve prioritization information when its
12 Computerized Maintenance Management System ("CMMS") is implemented. (I&E
13 Statement No. 4 at 4-5). Further, Mr. Fought suggests that the Authority not knowing
14 where the valves are to isolate hospitals, schools and other critical areas is problematic.
15 (OCA Statement 6 at 5).

16 **Q. DO YOU VIEW YOUR REBUTTAL TESTIMONY AS BEING INCONSISTENT**
17 **WITH PWSA'S ASSERTIONS IN IT COMPLIANCE PLAN PROGRESS**
18 **REPORTS?**

19 A. No. What I said in my rebuttal testimony is that it is not currently feasible for the
20 Authority to prioritize its valve maintenance program in the manner proposed by Mr.
21 Gray. I would also like to clarify my rebuttal testimony regarding the information that
22 PWSA has available. While hospitals, schools and critical locations are identified in GIS,
23 such that PWSA knows where they are, the Authority does not have immediate access to
24 a list of those locations that contains all of the information we would need to identify
25 which valves would be needed to isolate those facilities and/or areas. Pittsburgh is quite

1 literally a city of schools and hospitals, most of which are situated on very large
2 campuses and supplied from multi-pressure districts. Therefore, we are not talking about
3 a singular valve or service line. Each of these facilities most likely has a primary service
4 line, a back-up line and a fire line often connected to different mains. It would involve a
5 very resource-intensive process to do the research necessary to determine the
6 connection(s) that should be prioritized for the respective facilities. Compiling that
7 information into a usable format and then developing a plan to inspect/exercise the valves
8 more frequently would be both time-consuming and costly. As I previously explained,
9 this process would require PWSA to contract this work to either an on-call consultant
10 and/or an in-house team of engineer(s) and GIS staff (which would take longer than a
11 consultant, given current workloads in both departments). (PWSA Statement No. 5-R at
12 7). Consistent with the information provided in the Reports, PWSA has identified a path
13 forward for prioritizing valve replacements once the pertinent data is captured and
14 updated. It is just not feasible to do so immediately.

15 **Q. MR. GRAY FURTHER STATES THAT PWSA IS NOT “ON TARGET” WITH**
16 **ENSURING THE INSPECTION OF AMPLE VALVES WHEN IT HAS NOT**
17 **MADE A COMMITMENT TO USING AGE, LOCATION AND OPERATIONAL**
18 **HISTORY TO PRIORITIZE ITS VALVE MAINTENANCE PROGRAM. (I&E**
19 **STATEMENT NO. 4 AT 5-8). PLEASE RESPOND.**

20 A. I disagree. PWSA remains on target with prioritizing its valve maintenance program
21 through its efforts to update GIS data and provide additional information to the parties
22 about this program when its CMMS project is implemented. Without access to the
23 detailed information that Mr. Gray has identified as being necessary for a long-term valve
24 maintenance program, PWSA is simply unable to immediately implement his
25 recommendations. However, that does not mean that PWSA is not on target with doing
26 so. Once the necessary data is available, which PWSA is working diligently to make

1 available, it will prioritize the program as recommended. In addition, while PWSA
2 contemplates having additional staffing for its valve program, that does not mean that
3 these resources will be available immediately or necessarily able to work on prioritizing
4 the valve maintenance program when the main focus is on exercising and repairing the
5 isolation valves, which entails a different skill set than would be required to develop a
6 prioritization plan. Finally, on this issue, I note that the American Water Works
7 Association Manual M44 largely leaves the operation and maintenance of isolation
8 valves to the utility.

9 **B. Recordkeeping**

10 **Q. PLEASE DESCRIBE MR. GRAY'S SURREBUTTAL TESTIMONY**
11 **REGARDING HIS RECOMMENDATION FOR PWSA TO DEVELOP A**
12 **RECORDKEEPING PLAN.**

13 A. Mr. Gray acknowledges that PWSA may not have the serial numbers or manufacturer
14 name for existing valves and therefore withdraws his recommendation to recording this
15 information. In fact, as shown by PWSA Exhibit BK-5 attached to this testimony, PWSA
16 has confirmed that Kennedy Valve and American Flow Control do not and will not
17 provide serial numbers for individual valves. However, he continues to assert that
18 PWSA should be able to recording the following information for existing valves: valve
19 location (GPS coordinates), age, size of the valve, the number of rotations to fully open
20 and fully close the valve, and the overall condition of the valve. (I&E Statement No. 4-
21 SR at 8-10).

22 **Q. HOW DO YOU RESPOND?**

23 A. As I note in my rebuttal testimony, I agree that record-keeping procedures should be
24 implemented. However, PWSA can feasibly only do this on a going forward-basis.
25 While I gave examples of the serial number and a manufacturer name as information that

1 PWSA would not typically have for existing valves, the other information is similarly not
2 readily (or at all) available. For instance, obtaining information about the overall
3 condition of the valve, or the number of rotations to fully open and fully close the valve,
4 would require the Authority to inspect it. In addition, while PWSA maintains the
5 location, size, age and whether the valve is open in SpryMobile, the research and
6 documentation to record this information would require the dedication of significant
7 resources by PWSA to initially compile it for existing valves. This is not a reasonable
8 expectation, especially when we view the priority as exercising these valves and repairing
9 or replacing them as necessary. As PWSA has no concerns with implementing these
10 record-keeping procedures on a going forward basis, I urge the Commission to focus on
11 this effort in a way that ensures that the records Mr. Gray has identified are available in
12 the future.

13 **Q. WHAT DOES MR. FOUGHT SAY ABOUT RECORDKEEPING**
14 **REQUIREMENTS?**

15 A. Mr. Fought testifies that I did not mention the records that PWSA is currently
16 maintaining regarding exercising isolation valves. On this basis, Mr. Fought recommends
17 that PWSA submit for the year 2021 a record of its isolation valve exercising program
18 identifying each valve that it attempted to exercise and whether it passed or failed. (OCA
19 Statement 6 at 5-6).

20 **Q. PLEASE RESPOND.**

21 A. As noted above, PWSA has ability to record attributes for the location, size, age and
22 whether the valve is open in SpryMobile. However, this system does not record whether
23 a valve “passed” or “failed” an inspection since PWSA generally repairs or replaces the
24 valves upon a failed inspection (where the valve has been found to be broken) or makes a

1 definitive plan for doing so in the near future, such as part of a planned project. please
2 describe other recordkeeping practices identified by the parties.

3 **Q. PLEASE DESCRIBE OTHER RECORDKEEPING PRACTICES DISCUSSED BY**
4 **THE PARTIES.**

5 A. Both Mr. Gray and Mr. Fought discuss the issue identified in my rebuttal testimony,
6 which noted that 6,000 of the isolation valves previously identified are privately owned
7 and therefore not the responsibility of PWSA to exercise. Mr. Gray questions how
8 PWSA made this determination during the late stage of this case and both witnesses
9 testify that this issue highlights the importance of recordkeeping by PWSA. (I&E
10 Statement No. 4-SR at 10-11; OCA Statement 6SR at 5).

11 **Q. HOW DO YOU RESPOND?**

12 A. Both the I&E and OCA witnesses completely disregard a discovery response PWSA
13 provided regarding this topic. As PWSA explained to the parties, prior to the submission
14 of their surrebuttal testimony, the information about the private valves was always known
15 to PWSA and properly recorded in its system. The misunderstanding occurred during
16 communications between two PWSA departments. When PWSA operations staff
17 initially requested information about the number of valves in the GIS system, the PWSA
18 GIS staff accurately responded to the request, without realizing that the number of private
19 isolation valves should have been excluded from this total count. It was nothing more
20 than a statistical error in gathering and reporting the data. Contrary to the parties'
21 suggestion that this miscommunication demonstrates a need for greater oversight of
22 PWSA, it merely shows what can happen in a large organization where staff in different
23 departments are focused on operating the business. The private owners are aware of their
24 ownership of these valves. Attached is PWSA Exhibit BK-6, which contains additional

1 details about the circumstances leading to PWSA initially reporting 26,000 valves and
2 later reducing the number of which it is responsible to 19,000.

3 **Q. DO YOU HAVE ANY OTHER COMMENTS ABOUT THIS ISSUE?**

4 A. Yes, on behalf of I&E, Mr. Gray questions whether the safety of PWSA's operations is
5 compromised by the private ownership of 6,000 valves. Respectfully, and upon the
6 advice of counsel, I submit that those privately-owned valves are not the responsibility of
7 PWSA and any concerns about whether they are being properly maintained is beyond the
8 Commission's jurisdiction to consider. PWSA will further address this issue in briefing.

9 **III. PRESSURES**

10 **Q. PLEASE SUMMARIZE MR. FOUGHT'S SURREBUTTAL TESTIMONY**
11 **CONCERNING PRESSURES.**

12 A. Mr. Fought revises his direct testimony to recommend that the PWSA "should either: (1)
13 provide pressure reducing valves approved for water supply with the applicable pressure
14 to all customers having a normal pressure exceeding 125 psi, or (2) reduce the applicable
15 mains' pressures to less than 125 psi." (OCA Statement 6SR at 7). He further addresses
16 my reasons, as outlined in my rebuttal testimony, for PWSA not implementing his
17 recommendations. In this portion of his testimony, addressing PWSA tariff language, he
18 states that "the Authority has not provided data to show that for every customer subject to
19 normal operating pressure greater than 125 psi, the higher pressure is necessary to
20 provide adequate service to other customers or is good engineering practice." (OCA
21 Statement 6SR at 8). He also testifies that the Department of Environmental Protection
22 ("DEP") is requiring the Authority to modify its historic pressures at the main. (OCA
23 Statement 6SR at 8). In addition, Mr. Fought suggests that where normal operating
24 pressures exceed 125 psi, the Authority could install a vault on its portion of the service

1 line containing the meter and a pressure reducing valve that would protect the customer's
2 service line. While he agrees that the Commission lacks statutory authority to require
3 PWSA to pay a customer damages, Mr. Fought further testifies that given that only a
4 small percentage of PWSA's customers are subject to pressures higher than the range
5 allowed by the Commission's regulations, "it seems more reasonable for PWSA to install
6 pressure reducing valves so that it can avoid causing damages." (OCA Statement 6SR at
7 8-9).

8 **Q. PLEASE RESPOND.**

9 A. As an initial matter, the water pressure issue Mr. Fought is addressing does not impact
10 quality and quantity of water, and should not be considered a priority at this time when
11 the Authority has a number of other projects requiring significant near-term attention.
12 Further, when PWSA is switching a property from a lower to a higher pressure zone, we
13 install pressure reducing valves. Similarly, when the Authority replaces a lead service
14 line, we either do the same or provide notice to the customer.

15 Additionally, as I note in my rebuttal testimony, and Mr. Fought does not dispute,
16 the Commission's regulations do not support Mr. Fought's proposed remedy. To the
17 contrary, the regulation he cites in his testimony provides that if a utility is not
18 undertaking to furnish service that complies with the specifications, it may be found to be
19 furnishing inadequate service and be subject to directives from the Commission to
20 implement improvements.³ However, no evidence has been presented in this proceeding,
21 or elsewhere for that matter, to show that PWSA is not providing adequate service due to
22 normal operating pressures. Further, Mr. Fought has not explained that how his

³ 52 Pa. Code §65.6(a).

1 recommendation is supported by PWSA’s tariff, which requires PWSA to maintain
 2 service at historic pressures at the main and permits PWSA to furnish service at other
 3 pressures where necessary to supply adequate service, which is clearly supported and
 4 permitted by 52 Pa. Code § 65.6(a).⁴

5 As to Mr. Fought’s observation about a DEP directive concerning pressures, that
 6 issue involved the reporting and recordkeeping changes of low pressures, not changes in
 7 historic pressures. (OCA Statement 6 at 9). Moreover, PWSA’s tariff provision is very
 8 clear in stating that: “If a customer needs the system pressure reduced, the customer must
 9 install and maintain, at the customer’s expense, a pressure regulator or valve. The
 10 pressure regulator will be installed on the outlet side of the meter.”⁵ If PWSA were to
 11 devote funds to pay for pressure reducing valves, despite the clear language in its tariff
 12 placing this responsibility on customers, it is PWSA’s other ratepayers who would have
 13 to shoulder this burden, which is unfair to them. Finally, while PWSA installing pressure
 14 reducing valves may avoid future damages, this is speculative and clearly not a regulatory
 15 obligation of PWSA. Spending any funds to address issues that are not tied to regulatory
 16 requirements diverts money away from initiatives that must be implemented.

17 **IV. METER TESTING AND REPLACEMENT**

18 **Q. WHAT IS MR. FOUGHT’S SURREBUTTAL TESTIMONY CONCERNING**
 19 **METER TESTING AND REPLACEMENT?**

20 A. In discussing PWSA’s reduction of its goal to replace 10,000 meters to 8,000 meters in
 21 2021 and in subsequent years, Mr. Fought recommends that the Authority maintain its

⁴ This regulation provides that “[a] utility may undertake to furnish a service which does not comply with the foregoing specifications where compliance with such specifications would prevent it from furnishing adequate service to any customer or where called for by good engineering practices.”

⁵ [Tariff Water](#) – Pa. P.U.C. No. 1, Original Page Nos. 32-33, Section B, Paragraph 8.

1 goal of annually replacing 10,000 meters. Although he understands that the Authority
2 may not meet that goal due to problems related to the pandemic, which he said would be
3 reasonable, he contends that the goal itself should not be changed. (OCA Statement 6SR
4 at 9-10).

5 **Q. HOW DO YOU RESPOND?**

6 A. PWSA is trying to be as realistic as possible. We do not wish to set internal goals that we
7 are not fairly certain we can fulfill. Given the fact that this particular target is dependent
8 upon whether our customers allow us to access their homes, PWSA is simply not
9 comfortable maintaining its goal of annually replacing 10,000 meters. As I note in my
10 rebuttal testimony, the Authority will make every effort to do so but at this time is not
11 willing to make a commitment – or establish a goal – of replacing 10,000 meters annually
12 since access to customers’ homes is not a factor we can control.

13 **V. OWNERSHIP/MAINTENANCE OF CUSTOMER SEWER LATERALS**

14 **Q. PLEASE SUMMARIZE MR. FOUGHT’S SURREBUTTAL TESTIMONY**
15 **CONCERNING THE OWNERSHIP AND MAINTENANCE OF CUSTOMERS’**
16 **SEWER LATERALS.**

17 A. Mr. Fought agrees, in part, with the proposal in my rebuttal testimony that upon final
18 direction from the Commission at Docket No. L-2020-3019521, PWSA will establish a
19 plan for repair and replacement of privately owned damaged sewer laterals within the
20 public right-of-way (“ROW”) at PWSA’s expense pursuant to Act 120. However, his
21 agreement is contingent upon the assumption that these types of laterals are eligible for
22 inclusion in PWSA’s Act 120 Plan. Because, as he notes, it is not known what the
23 Commission will require in the Act 120 rulemaking, Mr. Fought suggests that PWSA
24 should also repair and replace privately owned damaged sewer laterals within the public

1 ROWs at the Authority's expense as part of its scheduled main replacement projects.
2 (OCA Statement 6SR at 10-11).

3 **Q. PLEASE RESPOND.**

4 A. It is not an efficient use of PWSA resources to try and get ahead of the Commission's
5 direction on these issues. Paying for the repairs or replacement of privately owned
6 damaged sewer laterals within public ROWs is not PWSA's responsibility under its
7 current tariff and is not one that it should not voluntarily assume given the fact that our
8 other ratepayers would have to foot the bill. PWSA continues to believe that the most
9 prudent course is to await issuance of the Commission's final rulemaking and to proceed
10 in accordance with those directives.

11 **VI. SURFACE RESTORATION**

12 **Q. WHAT DOES MR. FOUGHT SAY IN HIS SURREBUTTAL TESTIMONY**
13 **ABOUT SURFACE RESTORATION?**

14 A. Despite my rebuttal testimony outlining extensive and comprehensive efforts that PWSA
15 already takes to coordinate surface restoration with other affected entities, Mr. Fought
16 suggests that the coordination procedure between the Authority and the City of Pittsburgh
17 is backwards because the Authority advises the City not to pave in areas where PWSA
18 has planned projects for the next three years. (OCA Statement 6SR at 12). Instead, he
19 suggests that the City should first advise the Authority when and where it has planned
20 resurfacing projects so that PWSA can then determine if any of the water and sewer lines
21 could reasonably be replaced in those areas. He further testifies that the Authority could
22 then decide if it should participate in the City's resurfacing project depending upon the
23 City's proposed cost sharing. (OCA Statement 6SR at 12-13).

1 **Q. HOW DO YOU RESPOND?**

2 A. The fact that coordination of surface restoration is occurring on an ongoing basis among
3 all affected entities seems to be the priority. I do not believe that it matters whether
4 PWSA is telling the City its plans or vice versa. The point is that we are coordinating
5 with not only the City but other government agencies and other utilities, as I explain in
6 detail in my rebuttal testimony. These coordination efforts are lowering costs for
7 customers of PWSA and other utilities, as well as City taxpayers. Therefore, I believe
8 that what the Authority is doing is sufficient and need not be adjusted.

9 **VII. CONCLUSION**

10 **Q. DOES THAT COMPLETE YOUR REJOINDER TESTIMONY?**

11 A. Yes; however, I do reserve the right to supplement this testimony as may be appropriate.

Exhibit BK-4

**Response of the Pittsburgh Water and Sewer Authority (“PWSA”)
to the Interrogatories of the Bureau of Investigation and Enforcement PS-15 to PS-18 in
Docket Nos. R-2021-3024773 (water); R-2021-3024774 (wastewater)
and R-2021-3024779 (stormwater)**

Request: I&E-PS-15 Reference PWSA St. No. 5-R, p. 3, lines 16-18, where witness King testifies that “increasing the frequency of exercising valves above current levels would require additional funding and staffing resources that are not included in PWSA’s current budget and forecasted expenses.” Is Mr. King able to quantify the additional funding and staffing resources PWSA would require to increase the frequency of exercising valves to a bi-annual basis? If so, provide this information and explain how it was determined. If not, indicate why it cannot be provided.

Response: Yes, in summary, the additional funding that PWSA would require to increase the frequency of exercising valves to a bi-annual basis is approximately \$1,134,000 for 2022, and \$573,000 for subsequent years (not adjusted for inflation and cost of living). This estimate was based on employing three valve exercising crews comprised of two Valve and Hydrant Specialists each and acquiring three vehicles (one for each valve exercising crew), as well as one dedicated vactor truck crew comprised of one Utility Worker and one Truck Driver to operate a new dedicated Vactor Truck who will support the valve exercising crews. The costs were developed as follows:

Item:	2022 Cost	No. of Crews	Cost for 2022 (Year 1)	Annual Cost Per Year 2023 and beyond (not adjusted for inflation)
Valve Exercising Crew:				
Valve and Hydrant Specialist Salary (2 per crew)	\$ 125,823.00	3	\$ 377,469.00	\$ 377,469.00
Valve and Hydrant Specialist Benefits (15%, 2 per crew)	\$ 18,873.45	3	\$ 56,620.35	\$ 56,620.35
One Vehicle (per Valve and Hydrant Specialist Crew)	\$40,000	3	\$ 120,000.00	\$ -
Subtotal Cost - Valve and Hydrant Specialist Crews:			\$ 554,089.35	\$ 434,089.35
Vactor Truck Crew:				
Utility Worker Salary (1 per crew)	\$ 59,359.00	1	\$ 59,359.00	\$ 59,359.00
Utility Worker Benefits (15%, 1 per crew)	\$ 8,903.85	1	\$ 8,903.85	\$ 8,903.85
Truck Driver Salary (1 per crew)	\$ 61,348.00	1	\$ 61,348.00	\$ 61,348.00
Truck Driver Benefits (15%, 1 per crew)	\$ 9,202.20	1	\$ 9,202.20	\$ 9,202.20
Vactor Truck (Small, 1 per Vactor Crew)	\$440,000	1	\$ 440,000.00	\$ -
Subtotal Cost - Vactor Truck Crew:			\$ 578,813.05	\$ 138,813.05
Total Cost (Valve and Hydrant and Vactor Truck Crews:			\$ 1,132,902.40	\$ 572,902.40

**Response of the Pittsburgh Water and Sewer Authority (“PWSA”)
to the Interrogatories of the Bureau of Investigation and Enforcement PS-15 to PS-18 in
Docket Nos. R-2021-3024773 (water); R-2021-3024774 (wastewater)
and R-2021-3024779 (stormwater)**

Response Provided by: Barry King, PE, Director of Engineering
Sarah Bolenbaugh, PE, Senior Group Manager, Water Programs
William McFaddin,
The Pittsburgh Water and Sewer Authority

Dated: August 3, 2021

Exhibit BK-5

KENNEDY VALVE

Division of McWane, Inc.

1021 East Water Street

P.O. Box 931

Elmira, New York 14902-0931

Telephone (607) 734-2211

Fax (607) 734-1003



August 3, 2021

Pittsburgh Water & Sewer Authority

To whom it may concern,

This letter is to certify that Kennedy Valve does not provide serial numbers for individual products. Each product that is produced at Kennedy Valve is scanned into the inventory system via a bar code system. This is simply to identify the product and allow it to be produced, shipped and invoiced. Part of the reason for Kennedy Valve not to produce serial numbers is because a lot of our material is sold through stocking distributors. These distributors (under normal circumstances) keep inventory on the ground and could create an issue for the municipality if a product were to go missing. This would then create a gap in the serial number system that would be difficult to track.

As always, we greatly appreciate the support from Pittsburgh Water & Sewer.

Regards,

Ryan Caron

District Sales Manager

607-731-0752

Ryan.Caron@KVMHSales.Com



ISO 9001:2008 Certified

ISO 14001:2004 Certified



AMERICAN

FLOW CONTROL

THE RIGHT WAY

Bill Bennett
Senior Manager - Warehouse
Pittsburgh Water & Sewer Authority

August 4, 2021

Subject: Valve Markings
Products: AMERICAN Flow Control Series 2500 and 2500-1 Resilient Wedge Gate Valves

Dear Mr. Bennett:

The purpose of this letter is to address the use of cast serial numbers on the above product. Please consider the following information regarding the marking of the products shown above.

The valves shown above are constructed to meet the requirements of ANSI/AWWA C515 *Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service*. The relevant section of that standard where marking requirements are stated is duplicated below.

Markings shall be cast on the bonnet or body, or stamped on a permanently affixed corrosion-resistant tag of each valve. Markings shall show the manufacturer's name or mark, the year the valve casting was made, the size of the valve, letters "C515," and the designation of working water pressure, for example, "200W." Special markings in addition to these can be supplied when specified by the purchaser's requirements on agreement between purchaser and manufacturer.

AMERICAN does not serialize its valves, as this is not required by ANSI/AWWA C515 or other applicable industry standards. Most cast parts received by AMERICAN will have foundry markings, including a heat date code. These markings are used by each foundry to identify when and where each casting was produced, but they would not be considered serial numbers and are generally not recorded by AMERICAN. Upon special request, AMERICAN can provide additional markings tagged to the valve. This information would be provided by the customer.

Sincerely,

John R. Helf

Product Engineer

AMERICAN Flow Control

jhelf@american-usa.com

P: 205-325-8025

P.O. Box 2727

Birmingham, AL 35202-2727

Exhibit BK-6

**Response of the Pittsburgh Water and Sewer Authority (“PWSA”)
to the Interrogatories of the Bureau of Investigation and Enforcement PS-15 to PS-18 in
Docket Nos. R-2021-3024773 (water); R-2021-3024774 (wastewater)
and R-2021-3024779 (stormwater)**

Request: I&E-PS-16 Reference PWSA St. No. 5-R, p. 3, where witness King testifies that he recently learned that over 6,000 of PWSA’s 26,000 valves are privately owned. Provide the following information:

- A. Explain how Mr. King made the determination that over 6,000 valves were privately owned.
- B. Identify the date that Mr. King learned that over 6,000 valves are privately owned.
- C. Provide any documents that Mr. King relied upon for his determination.
- D. Has Mr. King, or, to his knowledge, any other PWSA employee, notified the private owners of the recent determination that PWSA is not obligated to inspect the valves these private owners have been determined to own? If so, explain how notification was made. If not, explain why no notification was made.

Response:

This misunderstanding happened between the PWSA operations staff that requested the initial information regarding the number of valves in the GIS system and the PWSA GIS staff that responded to the request. When operations previously requested the total number of isolation valves in the PWSA system, the GIS staff did not realize that private isolation valves should have been excluded from this total count. The 2021 total recently provided included only PWSA-owned isolation valves once this was clarified. These Private Valves are primarily identified in the valve GIS layer based on associated record documents or the organization’s legacy CAD files. Valves that are located on and function to isolate water mains identified as private in the PWSA GIS database are also identified as Private Valves.

- A. This information was presented to Mr. King when the GIS department was reviewing their metrics for valve inspection. The GIS department mentioned that at the time that the 26,000 valves were identified, included in their initial total were the privately owned valves, and inquired if PWSA was responsible for their O&M.
- B. This information was always known to PWSA and is properly recorded in the GIS valve layer; it was simply a misunderstanding on behalf of staff when the data was extracted and provided.
- C. This determination is based on the further review and clarification of the existing information contained in the GIS valve layer.
- D. This was solely a statistical error in gathering and reporting the metric data, and as such, no notification of the private owners is warranted. The private owners were previously

**Response of the Pittsburgh Water and Sewer Authority (“PWSA”)
to the Interrogatories of the Bureau of Investigation and Enforcement PS-15 to PS-18 in
Docket Nos. R-2021-3024773 (water); R-2021-3024774 (wastewater)
and R-2021-3024779 (stormwater)**

and are currently aware of their ownership of these valves. Specifically, these are valves that were already privately owned and were accidentally erroneously included in the total number of valves reported to be inspected by PWSA.

Response Provided by: Barry King, PE, Director of Engineering
Sarah Bolenbaugh, PE, Senior Group Manager, Water Programs
Jackson Stoss, GIS
The Pittsburgh Water and Sewer Authority

Dated: August 3, 2021

VERIFICATION

I, Barry King, hereby state that: (1) I am the Director of Engineering for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Dated: 08/09/2021 | 7:31 AM PDT

DocuSigned by:
Barry King
F87AE2CF33E04F0...
Barry King
Director of Engineering
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REJOINDER TESTIMONY OF

JULIE A. QUIGLEY

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3924779 (Stormwater)

TOPICS:

Compliance Plan Stage 2 Issues Raised by OCA;
Resumption of Service Terminations for Residential
Customers;
Customer Service Regarding Stormwater Specific Issues;
Arrearage Forgiveness Program; and,
Dishonored Payment Fee.

August 10, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND CURRENT POSITION WITH PWSA.**

3 A. My name is Julie A. Quigley. My position with The Pittsburgh Water and Sewer
4 Authority (“PWSA” or “Authority”) is Director of Customer Service.

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?**

6 A. Yes. I submitted Direct Testimony on April 13, 2021, which accompanied the rate filing
7 package. I also submitted Rebuttal Testimony on July 29, 2021.

8 **Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?**

9 A. The purpose of my testimony is to respond to the testimony of Office of Consumer
10 Advocate (“OCA”) Witnesses Barbara Alexander, Roger Colton, and Scott Rubin. I will
11 also respond to the testimony of Pittsburgh UNITED (“UNITED”) Witness Harry Geller.
12 The topics I will be addressing include these witnesses’ recommendations related to:

- 13 • Compliance Plan Stage 2 Issues Raised by OCA;
- 14 • Resumption of Service Terminations for Residential Customers;
- 15 • Customer Service Regarding Stormwater Specific Issues;
- 16 • Arrearage Forgiveness Program; and,
- 17 • Dishonored Payment Fee.

18 **II. Compliance Plan Stage 2 Issues Raised by OCA**

19 **Q. HAS THE COMMISSION RECENTLY TAKEN ACTION REGARDING THE**
20 **COMPLIANCE PLAN STAGE 2 PROCEEDING RELATED TO CUSTOMER**
21 **SERVICE ISSUES?**

22 A. Yes. On August 5, 2021, the Commission issued a Secretarial Letter formally moving
23 Compliance Plan Stage 2 “from initial staff review to an on-the-record contested
24 proceeding whereby PWSA and interested parties may litigate and develop issues for
25 Commission consideration in a final compliance plan.”¹ As explained in the August 5,

¹ See Docket Nos. M-2018-2640802, M-2018-2640803. A copy of the Secretarial Letter is available at <https://www.puc.pa.gov/pcdocs/1714761.docx>

1 2021 Secretarial Letter, the issues to be addressed include “PWSA’s compliance with
2 Chapter 14 of the Code and Chapter 56 of the Commission’s regulations and issues
3 deferred from the final Stage 1 Compliance Plan Order, but excluding stormwater
4 issues.” The Office of Administrative Law Judge is directed to issue a recommended
5 decision no later than May 25, 2022 and included with the Secretarial Letter is a Report
6 and Directed Questions Stage 2 dated August 5, 2021. The Report and Directed
7 Questions Stage 2 sets forth twenty topics, questions, and considerations that are to be
8 addressed in the litigated proceeding as they relate to the specifically identified sections
9 of Chapter 56 and the Public Utility Code.²

10 **Q. HOW DOES THIS IMPACT ISSUES RAISED IN THIS PROCEEDING?**

11 A. As I explained in my rebuttal testimony, I do not support further changes to PWSA’s
12 processes on any issue that is a part of the Compliance Plan Stage 2 proceeding. (PWSA
13 St. No. 6-R at 11-12). Further, I am advised by counsel that since an on-the-record
14 proceeding has been formally initiated to address such issues, it is inappropriate to
15 include them in this proceeding. As a practical matter, making changes now in this
16 proceeding only to get other direction from the Commission in the subsequent Stage 2
17 proceeding is confusing, costly, and a waste of time and resources. As I explained in my
18 rebuttal testimony, PWSA is looking forward to “official Commission direction which
19 would provide much needed formal finality regarding the status of our compliance on the
20 issues.” (PWSA St. No. 6-R at 11-12). That will not occur by delving into Ms.
21 Alexander’s issues now.

² See Docket Nos. M-2018-2640802, M-2018-2640803. A copy of the Report and Directed Questions Stage 2 is available at <https://www.puc.pa.gov/pdocs/1714759.docx>.

1 **Q. IN YOUR OPINION, IS MS. ALEXANDER, ON BEHALF OF OCA,**
2 **CONTINUING TO RECOMMEND THAT ISSUES FROM THE COMPLIANCE**
3 **PLAN STAGE 2 PROCEEDING BE ADDRESSED IN THIS RATE CASE?**

4 A. Yes. Ms. Alexander mistakenly claims that I attached “a list of provisions in Chapter 56
5 that [I] claim PWSA complies with” as an exhibit to my direct testimony in this case and,
6 therefore, “PWSA has put most of these compliance issues into this rate case.” (OCA
7 Statement 5SR at 4.)

8 **Q. IS MS. ALEXANDER CORRECT THAT PWSA HAS PLACED COMPLIANCE**
9 **PLAN STAGE 2 ISSUES IN THIS PROCEEDING?**

10 A. No. There is no such exhibit attached to my direct testimony. Moreover, I specifically
11 stated in my direct testimony the following:

12 While I will provide updates regarding the current status of various customer
13 service issues and PWSA’s collections, particularly in light of the current
14 pandemic, I am advised by counsel that issues related to PWSA’s compliance
15 with the above listed customer service issues reserved for the Stage 2 process will
16 be addressed in that proceeding.

17 (PWSA St. No. 6 at 7)

18 **Q. ARE MS. ALEXANDER’S STATED CONCERNS ABOUT THE “ONGOING**
19 **DELAYS IN RESOLVING MANY OF THESE IMPORTANT COMPLIANCE**
20 **ISSUES” REASONABLE SUPPORT FOR ADDRESSING THEM IN THIS**
21 **PROCEEDING?**

22 A. No. With all due respect, Ms. Alexander is frustrated with the lack of final Commission
23 direction regarding these issues. This, however, is not within PWSA’s control or
24 responsibility. As I explained in my rebuttal testimony, “a significant amount of work
25 has been undertaken on the part of PWSA to provide information and to work with
26 Commission staff and the parties as part of the Stage 2 process.” (PWSA St. No. 6-R at
27 11). The Report and Directed Questions Stage 2 dated August 5, 2021 acknowledges this
28 in several places, detailing all of the cooperation and information provided by PWSA
29 before, during, and after the six informal workshops. PWSA has submitted several

1 motions and petitions aimed at moving toward a quicker resolution of the Stage 2 issues
 2 noting, for example, in its April 9, 2021 Petition for Amendment of the Commission’s
 3 February 4, 2021 Final Order that “the sooner PWSA gets this direction from Staff, the
 4 sooner PWSA can achieve compliance.”³ Ms. Alexander’s frustration with the
 5 procedural process established by the Commission is an unreasonable basis upon which
 6 to try to use this case as an end-run to driving her preferred results. Her insistence in this
 7 regard has already caused PWSA to expend significant effort to prepare responses to
 8 these issues (both in discovery and in written testimony). Even if Ms. Alexander were to
 9 successfully drive her views into the anticipated December 2021 final order in this
 10 proceeding, it is very likely that the final order of the Stage 2 Compliance Plan
 11 proceeding (in the summer of 2022) will provide different direction. The end result is a
 12 waste of the Commission’s, parties’ and PWSA’s time and resources. Thus, Ms.
 13 Alexander’s continuing efforts to inject issues into this proceeding that are the subject of
 14 another on-the-record proceeding must be rejected.

15 **Q. APART FROM HER DESIRE TO USE THIS PROCEEDING TO “REFORM”**
 16 **PWSA’S “CUSTOMER PROTECTIONS POLICIES” “SOONER RATHER**
 17 **THAN LATER”, DOES MS. ALEXANDER OFFER FURTHER REASONS TO**
 18 **SUPPORT ADDRESSING HER COMPLIANCE PLAN STAGE 2 ISSUES IN**
 19 **THIS RATE CASE? (OCA STATEMENT 5SR AT 4).**

20 A. Yes, Ms. Alexander identifies: “PWSA’s ongoing refusal to comply with the plain
 21 language of the obligation to seek personal contact with the customer immediately prior
 22 to termination of service, the lack of an understandable presentation of the Bill Discount
 23 program on its customer bills, and the lack of customer education on its unique authority

³ See Docket Nos. M-2018-2640802, M-2018-2640803, Petition of the Pittsburgh Water and sewer Authority for Amendment of the Commission’s February 4, 2021 Final Order Regarding Procedural Process for Customer Service and Collections Issues, dated April 9, 2021, ¶33, at 14.

1 to seek collection via a lien on property” and claims that PWSA’s “declining” to
2 implement her specific recommendations in this proceeding must be addressed by the
3 Commission. (OCA Statement 5SR at 4).

4 **Q. DO YOU AGREE THAT PWSA’S DISAGREEMENT WITH MS. ALEXANDER’S**
5 **RECOMMENDATIONS ON THESE ISSUES SUPPORTS ADDRESSING THEM**
6 **IN THIS PROCEEDING?**

7 A. No. As I have consistently stated, the on-the-record Compliance Plan Stage 2 proceeding
8 is where these issues are to be addressed. I recognize Ms. Alexander believes her
9 recommendations are the optimal ones that should be adopted to remedy her concerns;
10 however, respectfully, OCA is just one party reviewing these issues. As I have explained
11 many times, I fundamentally disagree with many of Ms. Alexander’s proposed
12 recommendations.

13 She also continues to disingenuously mischaracterize the issue related to personal
14 contact as “the longstanding refusal of PWSA to implement the plain language directive
15 of Chapter 56.” (OCA Statement No. 5SR at 5). As I detailed at great length in my
16 rebuttal testimony, PWSA does not agree with other parties’ view of the requirements of
17 the regulations; however, PWSA is moving forward to issue a Request for Proposal
18 (“RFP”) that will implement the provision consistent with the other parties’ view of the
19 requirements. The RFP was publicized on August 5, 2021 and August 8, 2021 with a
20 current close date of August 27, 2021. The concept of the RFP materialized directly as a
21 result of numerous informal discussions with the parties, and all parties were given the
22 full opportunity to review and comment on the text of the RFP. (PWSA St. No. 6-R at
23 25-28). Ms. Alexander’s effort to paint the picture of a utility who refuses to comply
24 with Chapter 56 when there is an on-the-record proceeding for the specific purpose of
25 reviewing Chapter 56 compliance is illogical and serves no useful purpose. The reality

1 here is that PWSA has proceeded with extreme good faith to address issues along the
 2 way, to work collaboratively with the parties, and to take reasonable efforts to drive
 3 toward quicker final closure of the Commission’s formal review of these processes. As
 4 such, PWSA continues to oppose the interjection of the Stage 2 Compliance Plan issues
 5 that Ms. Alexander seeks to place in the proceeding and specifically rejects her proposed
 6 recommendations on how to address them.⁴

7III. Resumption of Service Terminations to Residential Customers

8 **Q. PLEASE EXPLAIN MS. ALEXANDER’S REVISED RECOMMENDATION**
 9 **REGARDING THE RESUMPTION OF TERMINATION OF SERVICE BY**
 10 **PWSA?**

11 A. In her surrebuttal, Ms. Alexander revises her earlier recommendation to require PWSA to
 12 “implement the obligation to attempt personal contact immediately prior to the
 13 termination for a residential customer prior to resuming termination programs for
 14 residential customers.” (OCA Statement 5SR at 6). She also states that she would not
 15 “oppose an exemption....where the customer has a large overdue balance.” (OCA
 16 Statement 5SR at 6).

17 **Q. IS MS. ALEXANDER’S REVISED RECOMMENDATION REGARDING**
 18 **RESUMPTION OF TERMINATION TO RESIDENTIAL CUSTOMERS**
 19 **ACCEPTABLE TO PWSA?**

20 A. No. Ms. Alexander would still prohibit PWSA from terminating service to residential
 21 customers unless it fully complies with her interpretation of Chapter 56 (i.e., “knock on
 22 the door”). The only change she is offering in surrebuttal is for customers with “a large
 23 overdue balance.” (OCA Statement 5SR at 6). This continues to be unacceptable for a

⁴ These specific issues include billing issues, estimated bills, identifying disputes/measuring customer satisfaction, personal contact, municipal liens and third party debt collector and are addressed more fully in my rebuttal testimony. (PWSA St. No. 6-R at 15-35).

1 number of reasons.

2 First, as explained more fully in my rebuttal testimony, termination of service is a
3 very effective tool that PWSA needs to be able to collect monies that are owed for utility
4 services rendered. (PWSA St. No. 6-R at 8). It is extremely important for PWSA to
5 move toward regular collections processes in recognition of the impacts of the
6 Commission imposed moratorium, both on PWSA's cash flow as well as the costs to
7 other ratepayers.

8 Second, the interim contact provisions approved by the Commission in May 2019
9 were put in place to permit PWSA to continue terminations of service pending final
10 resolution of the different interpretations of Chapter 56.⁵ As explained previously,
11 PWSA has acted diligently with the parties to resolve this issue even, ultimately, agreeing
12 to establish a process that aligns with the parties' interpretation of the regulation. There
13 is no justification to support uprooting the prior agreement given the current status of this
14 issue, and, doing so unreasonably interferes with PWSA's ability to collect for utility
15 services rendered.

16 Third, it is not really clear how PWSA is expected to satisfy Ms. Alexander's
17 interpretation of Chapter 56. In her testimony, she has carefully omitted any opinion and
18 comment about whether PWSA's proposed RFP process would resolve this issue to her
19 satisfaction. Respectfully, PWSA's termination processes cannot be held hostage to
20 awaiting Ms. Alexander's approval.

21 Finally, as explained in my rebuttal testimony, PWSA has resumed its termination

⁵ See PWSA's Expedited Motion for Extension of Commission-Created Deadlines (May 13, 2019), Docket Nos. M-2018-2640802 (water) and M-2018-2640803 (wastewater), at 8 (as approved by May 15, 2019 Secretarial Letter re: Grant of Expedited Motion for Extension of Deadlines).

1 process. Effective June 7, 2021, PWSA began to issue 10-day shut off notices to
 2 owner/occupants and 37-day shut off notices to landlords where PWSA has proof in the
 3 form of account notes that PWSA has attempted, successfully or unsuccessfully, personal
 4 telephone contact with the customer for the purposes of payment counseling, the offering
 5 of payment plans, and PWSA’s customer assistance programs. (PWSA St. No. 6-R at 5-
 6 6). Though authorized to do so sooner, PWSA has been thoughtful and measured in its
 7 return to termination of service for residential customers. I believe this demonstrates our
 8 unwavering commitment to both considering our customers’ circumstances while also
 9 balancing our need to be paid for services rendered to ensure that we receive the revenue
 10 necessary to provide safe and reliable service.

11 **IV. Customer Service Regarding Stormwater Specific Issues**

12 **Q. ON WHAT BASIS DOES MS. ALEXANDER CRITICIZE YOUR REJECTION**
 13 **OF HER PROPOSALS RELATED TO CUSTOMER SERVICE METRICS**
 14 **SPECIFIC TO STORMWATER?**

15 A. Ms. Alexander dismisses my testimony about the additional burdens to staff resulting
 16 from her proposal on the basis that I do “not apparently recognize that the entire program
 17 is one being proposed by PWSA and is likely to result. . . in increased customer
 18 confusion, more calls to the call center, and additional disputes and complaints, and
 19 complications to the collection of the unpaid bills by relying on the lien authority.”
 20 (OCA Statement 5SR at 13).

21 **Q. IS MS. ALEXANDER CORRECT THAT PWSA NEEDS TO IMPLEMENT HER**
 22 **SPECIFIC REPORTING REQUIREMENTS TO ADDRESS THESE**
 23 **CONCERNS?**

24 A. No. Respectfully, Ms. Alexander’s criticism of my understanding of what a new fee
 25 involves from a customer service perspective is entirely misplaced. I have experience

1 with billing stormwater charges for three municipalities, two of which I onboarded as
2 new stormwater billing customers. Based on my actual work experience as well as the
3 assistance of PWSA's experts, we have taken into account these issues and are doing
4 what is reasonable within our judgment and ability to address them. I do not agree that
5 imposing additional reporting requirements created by Ms. Alexander is either productive
6 or a reasonable use of PWSA's time. Information about PWSA's implementation of its
7 stormwater program will be fully accessible to the parties in future rate cases and any
8 reporting requirements that the Commission deems may be useful in the interim can be
9 addressed in the Stormwater Compliance Plan Stage 2 proceeding.

10 **V. Arrearage Forgiveness Program**

11 **A. Portability of Credits**

12 **Q. PLEASE EXPLAIN THE ISSUE RELATED TO THE PORTABILITY OF**
13 **ARREARAGE FORGIVENESS CREDITS.**

14 A. In direct testimony, Mr. Colton recommended that arrearage forgiveness credits should
15 be portable between service addresses within PWSA's service territory. (OCA Statement
16 No. 4 at 4-5). In rebuttal, I explained that PWSA always keeps the debt at the property
17 because of its ability to pursue a lien and, therefore, we could not offer the forgiveness
18 credit for consumers moving to another address. (PWSA St. No. 6-R at 88).

19 **Q. HOW DID MR. COLTON, ON BEHALF OF OCA, AND MR. GELLER, ON**
20 **BEHALF OF UNITED, RESPOND TO YOUR REBUTTAL REGARDING**
21 **PORTABILITY OF BENEFITS?**

22 A. Mr. Colton stated that PWSA "cannot have it both ways" by allowing a debt to follow a
23 residential customer to a new service address for collection purposes while denying
24 arrearage forgiveness. (OCA Statement 4SR at 16). Similarly, Mr. Geller states that

1 PWSA’s customers “who have worked toward arrearage forgiveness...should not be
2 punished for moving.” (UNITED St. No. 1-SR at 16.)

3 **Q. CAN YOU CLARIFY YOUR REBUTTAL TESTIMONY IN LIGHT OF THE**
4 **RESPONSE OF THESE TWO WITNESSES’ SURREBUTTAL?**

5 A. Yes. By always keeping debt at the property, PWSA does not assess a customer the prior
6 debt when he or she moves to another location. In other words, a customer who moves to
7 a new location is not required to pay outstanding debt associated with their former
8 location as a condition of service. Rather, the debt remains at the property and is the
9 responsibility of the property owner. PWSA relies on its lien process to seek recovery of
10 the incurred debt; however, this is an issue between PWSA and the property owner and
11 not a customer who previously resided at the property but moved to a different location.
12 Thus, while any arrearage forgiveness applied at the property while the customer
13 remained there would reduce a future lien, we do not seek to recover the incurred debt
14 from the customer as a condition of the customer establishing service at a new property.

15 **B. Reducing Debt Through Arrearage Forgiveness Program (“AFP”)**

16 **Q. WHAT IS ONE OF THE GOALS OFFERED BY MR. COLTON, ON BEHALF OF**
17 **OCA, FOR HIS PROPOSED RESTRUCTURING OF PWSA’S ARREARAGE**
18 **FORGIVENESS PROGRAM (“AFP”)?**

19 A. Mr. Colton recommends that the combination of payments and credits should eliminate
20 the arrearage within three years. (OCA Statement 4SR at 11). Mr. Colton claims that
21 pursuant to PWSA’s current structure, a BDP participant with an average arrearage of
22 \$1,150.54 and receiving a credit of \$15/month would take between six and seven years to
23 earn sufficient credits to bring the amount down to a \$0 balance. (OCA St. 4SR at 10).

1 **Q. DO YOU AGREE WITH MR. COLTON’S ASSESSMENT OF THE BENEFITS**
 2 **OF THE EXISTING PROGRAM STRUCTURE?**

3 A. No. Mr. Colton’s analysis is assuming that the \$15/month arrearage forgiveness credit
 4 offered by PWSA is the only contributing payment to the past arrears. However,
 5 PWSA’s AFP requires customers to enter into one of the payment arrangements
 6 permitted by Chapter 14.⁶ For customers with a gross monthly household income level
 7 not exceeding 150% of the Federal Poverty Level, PWSA is to enter into a five year
 8 payment arrangement. PWSA’s AFP requires the customer to make these payments plus
 9 pay on current charges as a condition of receiving the \$15 credit. Therefore, for the
 10 customer making payments on the arrearage and receiving the \$15 credit, PWSA’s
 11 current AFP is reducing the time period for payment in full on the arrears. Below
 12 illustrates how PWSA’s credits + customer payments reduces the arrears to \$0.00 in 34
 13 months on a five year payment plan.

PWSA Example Arrearage Payment Scenario				
Average Arrearages Entering BDP				
Arrears	\$ 1,150.54			
Payment Plan Term	60	months		
Payment Plan per Month	\$ 19.18	\$/ mo		
Credit	\$ 15.00	\$/ mo		
Month	Plan Mo Payment	Monthly Credit	Amt Applied to Arrears	Remaining Balance
1	\$ 19.18	\$ 15.00	\$ 34.18	\$ 1,116.36
2	\$ 19.18	\$ 15.00	\$ 34.18	\$ 1,082.19
3	\$ 19.18	\$ 15.00	\$ 34.18	\$ 1,048.01
4	\$ 19.18	\$ 15.00	\$ 34.18	\$ 1,013.84
5	\$ 19.18	\$ 15.00	\$ 34.18	\$ 979.66
6	\$ 19.18	\$ 15.00	\$ 34.18	\$ 945.49
7	\$ 19.18	\$ 15.00	\$ 34.18	\$ 911.31
8	\$ 19.18	\$ 15.00	\$ 34.18	\$ 877.13
9	\$ 19.18	\$ 15.00	\$ 34.18	\$ 842.96
10	\$ 19.18	\$ 15.00	\$ 34.18	\$ 808.78
11	\$ 19.18	\$ 15.00	\$ 34.18	\$ 774.61
12	\$ 19.18	\$ 15.00	\$ 34.18	\$ 740.43
13	\$ 19.18	\$ 15.00	\$ 34.18	\$ 706.26
14	\$ 19.18	\$ 15.00	\$ 34.18	\$ 672.08
15	\$ 19.18	\$ 15.00	\$ 34.18	\$ 637.91
16	\$ 19.18	\$ 15.00	\$ 34.18	\$ 603.73
17	\$ 19.18	\$ 15.00	\$ 34.18	\$ 569.55
18	\$ 19.18	\$ 15.00	\$ 34.18	\$ 535.38
19	\$ 19.18	\$ 15.00	\$ 34.18	\$ 501.20
20	\$ 19.18	\$ 15.00	\$ 34.18	\$ 467.03
21	\$ 19.18	\$ 15.00	\$ 34.18	\$ 432.85
22	\$ 19.18	\$ 15.00	\$ 34.18	\$ 398.68
23	\$ 19.18	\$ 15.00	\$ 34.18	\$ 364.50
24	\$ 19.18	\$ 15.00	\$ 34.18	\$ 330.32
25	\$ 19.18	\$ 15.00	\$ 34.18	\$ 296.15
26	\$ 19.18	\$ 15.00	\$ 34.18	\$ 261.97
27	\$ 19.18	\$ 15.00	\$ 34.18	\$ 227.80
28	\$ 19.18	\$ 15.00	\$ 34.18	\$ 193.62
29	\$ 19.18	\$ 15.00	\$ 34.18	\$ 159.45
30	\$ 19.18	\$ 15.00	\$ 34.18	\$ 125.27
31	\$ 19.18	\$ 15.00	\$ 34.18	\$ 91.09
32	\$ 19.18	\$ 15.00	\$ 34.18	\$ 56.92
33	\$ 19.18	\$ 15.00	\$ 34.18	\$ 22.74
34	\$ 19.18	\$ 3.57	\$ 22.74	\$ -

⁶ 66 Pa.C.S. 1405(b).

1 VI. Cost Recovery for Arrearage Forgiveness Credits

2 Q. **DID MR. COLTON PROVIDE MORE DETAIL IN SURREBUTTAL IN**
3 **SUPPORT FOR HIS CALCULATION OF THE COSTS OF HIS PROPOSED**
4 **RESTRUCTURED ARREARAGE FORGIVENS PROGRAM CREDITS?**

5 A. Yes. Mr. Colton explains that his calculation of the costs of the arrearage forgiveness
6 credits includes a “25% Lost Revenue Adjustment Factor” which is based on his view
7 that PWSA would fail to collect 75% of the arrears subject to forgiveness. (OCA
8 Statement No. 4SR at 13-16). According to Mr. Colton, a certain amount of arrearages
9 subject to the forgiveness program would not be collected by PWSA and, therefore, this
10 amount needs to be removed from the billings in the calculation of the total collection
11 factor used to set rates to prevent PWSA from double-collecting a portion of the
12 arrearage forgiveness credits. (OCA Statement No. 4SR at 13-14).

13 Q. **IS MR. COLTON’S ANALYSIS CONSISTENT WITH PWSA’S COST**
14 **RECOVERY MECHANISMS FOR THE ARREARAGE FORGIVENESS**
15 **CREDITS?**

16 A. No. PWSA does not recover the costs of the credits from customers via a separate
17 surcharge. PWSA also does not recover the costs of the arrearage forgiveness credits via
18 any other factor, charge or calculation embedded in its rates. Moreover, PWSA does not
19 have any mechanism as part of its calculation of projected uncollectible expense which
20 recovers the costs of past credits that have been issued as part of its AFP. As such, there
21 is no potential for “double recovery” with the amount of uncollectible accounts expense
22 factored into the rates. PWSA’s current program, which includes the requirement that
23 customers enter into a payment arrangement as a condition of receiving credits, has
24 limited the amount of the credits that have been issued such that no specific cost recovery
25 mechanism has been proposed by PWSA. However, expansion in the manner advocated
26 by Mr. Colton will lead to more substantial credits being issued (because customers will

1 no longer be required to make monthly partial payments of their arrearages). Even if
 2 PWSA’s current Cogsdale system could implement Mr. Colton’s suggested changes
 3 (which it cannot), PWSA needs to consider the cost impacts of this proposal before it
 4 could propose such changes. Also, a point from my rebuttal that bears repeating here is
 5 that there are no Commission directed guidelines or directives regarding low-income
 6 customer assistance programs for water or wastewater conveyance utilities. (PWSA St.
 7 No. 6-R at 66). While I realize that parties often cite to the program structure of
 8 Pennsylvania’s regulated natural gas and electric distribution companies, water and
 9 wastewater utilities have never been mandated by the Commission to follow the same
 10 policies and guidance. Therefore, PWSA’s programs and policies need to be evaluated
 11 within the facts that are specific to PWSA, which include the fact that we just came under
 12 the jurisdiction of the Commission in 2018 and we are not an investor owned utility with
 13 access to the same financial resources as other Commission regulated water and
 14 wastewater utilities.

15VII. **Returned Check Fee**

16 **Q. PLEASE EXPLAIN THE BASIS UPON WHICH MR. RUBIN, ON BEHALF OF**
 17 **OCA, CONTINUES TO OPPOSE PWSA’S PROPOSAL TO INCREASE ITS**
 18 **RETURNED CHECK FEE.**

19 A. According to Mr. Rubin, “a utility should not be in the business of discouraging lawful
 20 conduct” and customers who issue dishonored payments are already likely to be
 21 “subjected to substantial fees from their banks.” (OCA Statement 3SR at 2).

22 **Q. DO YOU AGREE WITH MR. RUBIN’S VIEW REGARDING IMPOSITION OF**
 23 **PENALTIES?**

24 A. No, I do not. First, I am advised by counsel that writing a bad check is illegal and a
 25 person doing so intentionally can be charged with anything from a misdemeanor to a

1 felony. Second, Mr. Rubin’s reliance on another entity’s “discouragement” of the
2 behavior (i.e., fees imposed by a bank) is not required to be factored into PWSA’s
3 ratemaking considerations. Third, by focusing only on the costs to PWSA of processing
4 the dishonored payment, Mr. Rubin fails to consider other costs to PWSA of relying on a
5 check that may ultimately be rejected in the context of service terminations and/or
6 reconnections, which it will not be able to recoup from the consumer. In sum, processing
7 returned checks creates additional costs and burdens for PWSA that we were seeking to
8 address with our proposed modest fee increase.

9 **Q. NOTWITHSTANDING THIS, IS PWSA WITHDRAWING ITS PROPOSAL TO**
10 **INCREASE THE FEE?**

11 A. Yes, while I do not agree with the basis for Mr. Rubin’s objection to our initial proposal
12 to increase this fee from the current Commission approved tariff rate of \$30.45 to \$40.00,
13 upon reconsideration of PWSA’s desire to recognize the impact of the pandemic on our
14 customers’ current economic situations, balanced with our critical need to impose
15 additional rate increases, PWSA is withdrawing its proposal.

16 **Q. WHY IS PWSA NOT WILLING TO FURTHER REDUCE THE RETURNED**
17 **CHECK FEE AT THIS TIME?**

18 A. PWSA is unwilling to further reduce the returned check fee at this time because our
19 current fee of \$30.45 has already been approved by the Commission, is appropriate in
20 consideration of the additional burdens placed on PWSA when it relies on a check that is
21 ultimately dishonored, and is in line with our review of the Commission approved fees
22 assessed by other utilities as outlined in my rebuttal. (PWSA St. No. 6-R at 96).

VIII. CONCLUSION

2 Q. DOES THAT COMPLETE YOUR REJOINDER TESTIMONY?

3 A. Yes.

VERIFICATION

I, Julie Quigley, hereby state that: (1) I am the Director of Customer Service for The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 08/09/2021 | 7:39 AM PDT

DocuSigned by:

Julie Quigley

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Julie Quigley
Director of Customer Service
The Pittsburgh Water and Sewer Authority

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

REJOINDER TESTIMONY OF

KEITH READLING

ON BEHALF OF
THE PITTSBURGH WATER
AND SEWER AUTHORITY

Docket Nos.

R-2021-3024773 (Water)

R-2021-3024774 (Wastewater)

R-2021-3024779 (Stormwater)

TOPICS:

Stormwater

August 10, 2021

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1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND POSITION FOR THE RECORD.**

3 A. My name is Keith Readling. I am Executive Vice President of Raftelis Financial
4 Consultants, Inc. (“Raftelis”).

5 **Q. HAVE YOU PREVIOUSLY PROVIDED TESTMONY IN THIS PROCEEDING?**

6 A. Yes, I submitted Direct Testimony on April 13, 2021, which accompanied the rate filing.
7 I also submitted Supplemental Direct Testimony on June 14, 2021 and Rebuttal
8 Testimony on July 28, 2021.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. The purpose of my testimony is to respond to the Surrebuttal Testimony Ethan Cline on
11 behalf of the Bureau of Investigation and Enforcement (“I&E”), Scott Rubin on behalf of
12 the Office of Consumer Advocate (“OCA”), and Brian Kalcic for the Office of Small
13 Business Advocate (“OSBA”) regarding certain stormwater topics.

14

15 **II. COSTS OF THE STORMWATER CREDIT PROGRAM**

16 **Q. PLEASE DESCRIBE THE SURREBUTTAL TESTIMONY OF I&E WITNESS**
17 **CLINE AND OSBA WITNESS KALCIC CONCERNING THE COSTS OF THE**
18 **STORMWATER CREDIT PROGRAM.**

19 A. Mr. Cline believes that PWSA has not provided any support for the \$700,000 in costs
20 claimed for the stormwater credit program. He summarizes PWSA’s position as being
21 that it does not have to provide support for these costs because the stormwater credit
22 program is the first of its kind by a regulated utility in Pennsylvania. He states that the
23 experience in other cities and recommendations by the Stormwater Advisory Group to
24 keep barriers to entry low are not sufficient to support the claimed cost, and that PWSA
25 has not provided enough information about revenue lost in other cities to determine

1 whether PWSA's claim is reasonable. He claims that my estimate of revenue loss, which
2 I stated to be 5% of non-residential revenues or about \$700,000 per year, would be
3 approximately 230% of the revenue loss experienced by other cities as those other cities
4 typically have experienced revenue losses from a credits program of 2-3%. While Mr.
5 Cline supports the policy goals of a credit program, he continues to recommend that the
6 costs be denied. I&E St. No. 3-SR at 11-15.

7 Mr. Kalcic also states that PWSA has not provided an estimate of the number of
8 properties that meet the 2016 or 2019 City of Pittsburgh stormwater standards or
9 provided other support for the \$700,000 in costs associated with the stormwater credit
10 program. OSBA St. No. 1-S at 7-8.

11 **Q. HOW DO YOU RESPOND?**

12 A. I strongly disagree that PWSA has not provided adequate support for the stormwater
13 credit program costs, or that PWSA's position is that it is not necessary to justify these
14 costs. Rather, the purpose of my Rebuttal Testimony was to explain that the data Mr.
15 Cline and Mr. Kalcic want PWSA to provide either does not exist or would not be
16 indicative of the level of stormwater credit program costs that PWSA can expect in the
17 first year of the credit program. Even if a property currently complies with the 2016 or
18 2019 City of Pittsburgh stormwater standards, customers must still take affirmative steps
19 to enroll and receive a credit. PWSA has no way to firmly predict which customers will
20 take these steps, or what proportion of impervious area on a parcel may be associated
21 with stormwater controls. Instead, we have made an educated, data-driven projection.

22 Other stormwater utilities and cities that are similar to Pittsburgh, including the
23 Northeast Ohio Regional Sewer District (NEORS), which serves Cleveland and the

1 surrounding area) have experienced revenue loss of 2-3% from their stormwater credit
2 programs, but those programs have significantly higher barriers to entry than the program
3 PWSA has proposed. PWSA expects that more customers may apply for and receive a
4 credit than did so in other cities, given PWSA's lower barriers to entry. As an example,
5 the typical credit given to a non-residential ratepayer in NEORSD's program is a 25%
6 credit as compared to the 60% or 45% as planned for PWSA's credits. An extract of the
7 NEORSD billing data from June, 2017, when that program was less than two years into
8 stormwater billing, showed 2.1% of the non-residential ERUs lost to credits. If one
9 doubled this to account for an average credit there of 25% as opposed to that planned for
10 PWSA of 50%, the loss approaches the 5% of non-residential revenues I estimated, and
11 that still does not account for the lower barriers to entry planned by PWSA.

12 The claimed \$700,000 in expenses is based on an estimated 5% revenue loss from
13 non-residential ratepayers, which equates to an assumption that about 10% of the non-
14 residential impervious area in the City would qualify for a credit and the average credit
15 would be about 50% (based on a mix of 45% credits and 60% credits). Mr. Cline used
16 this 10% incorrectly in his math to assert that the revenue loss I estimated for PWSA
17 would be 230% of the average in the industry. My estimated loss of \$700,000 was based
18 on 5% loss of revenue from the non-residential rate base, which would come from about
19 10% of the non-residential impervious area being credited at an average credit percentage
20 of about 50%. Since the non-residential ERUs are about 152,000 and the total ERUs are
21 about 251,000, my estimated revenue loss is actually $5\% * (152/251)$ which is only a 3%
22 loss, not the 10% loss he claims I estimated.

1 Based on my 35 years of experience in this field, this is a reasonable estimate of
2 costs PWSA will incur in the first year of the stormwater credit program. As stated in my
3 prior testimony and as well as Mr. Igwe's testimony, PWSA will gather data on the costs
4 of the credit program once it is implemented and will consider this information and
5 propose changes as appropriate going forward as the program continues to evolve. In the
6 meantime, since the parties support the development of a credit program, they must also
7 recognize some level of associated costs, and PWSA's \$700,000 estimate is reasonable
8 based on the available information. If the Commission does not agree with the \$700,000
9 in estimated costs, an alternative approach would be to instead allow \$525,000 in
10 stormwater credit costs. This amount is 75% of PWSA's claim and would align with the
11 first phase of the proposed phase-in of stormwater rates. This would be much more
12 reasonable than the all-or-nothing position that I&E and OSBA have taken.

13 PWSA's approach here is entirely consistent with well accepted ratemaking
14 policies; it is not rational or reasonable to provide a zero allowance for a revenue loss
15 when all parties appear to agree that there will be *some* level of revenue loss but are not
16 certain of the actual level. This is really no different than the process used to project a
17 level of revenues for any new rate, including the stormwater rate itself.

18 **III. RESIDENTIAL TIER BREAKPOINTS**

19 **Q. PLEASE DESCRIBE OCA WITNESS RUBIN'S SURREBUTTAL TESTIMONY** 20 **ABOUT THE APPROPRIATE BREAKPOINTS BETWEEN RESIDENTIAL** 21 **TIERS.**

22 A. Mr. Rubin continues to support the residential tier breakpoints proposed in his Direct
23 Testimony. He states that I have not presented a reason why the ratio of median
24 impervious area should be used as a guide to designing residential stormwater rates. He
25 also states that in setting initial stormwater rates, the goals are to minimize the number of

1 properties that differ from the typical property, provide a logical basis for rates that differ
 2 from the typical property, and account for the margin of error inherent in measuring
 3 impervious surface. He also claims that there is little difference between the median
 4 property size between the PWSA and OCA proposals. OCA St. 3SR at 4-7.

5 **Q. HOW DO YOU RESPOND?**

6 A. I do not agree with Mr. Rubin’s position and I maintain that his proposal is less fair to
 7 customers with varying property sizes and impervious area. PWSA’s residential tier
 8 breakpoints are reasonable and should be adopted as originally proposed.

9 **Q. WHY IS IT IMPORTANT TO CONSIDER THE RATIO OF MEDIAN**
 10 **IMPERVIOUS AREA WHEN DESIGNING STORMWATER RATES?**

11 A. As explained in my Rebuttal Testimony, if Mr. Rubin’s proposal on the residential tier
 12 breakpoints were adopted, the ratio of medians from the data set would no longer result in
 13 0.5, 1 and 2. In other words, if Mr. Rubin’s breakpoints were used, the relative rates
 14 between tiers would need to be adjusted to account for the new ratios of median
 15 impervious area that result from the breakpoints. This is important to preserve rate
 16 equivalence across the tiers. Specifically, if a typical property in the low tier has half the
 17 impervious are of a typical property in the mid tier, it should pay half as much. Similarly,
 18 if a typical high tier property has twice the impervious area of a typical property in the
 19 mid tier, it should pay twice as much.

20 **Q. DO YOU AGREE THAT THERE IS LITTLE DIFFERENCE BETWEEN THE**
 21 **MEDIAN PROPERTY SIZE FOR THE PWSA AND OCA PROPOSALS?**

22 A. No I don’t. Under OCA’s proposal about 3,800 fewer residential properties would
 23 qualify for the lowest Tier 1 rate and would be charged twice that at the Tier 2 rate. I
 24 consider that a significant difference.

1 Further, as explained in my Rebuttal Testimony, PWSA's proposed tiers already
2 include the majority of ratepayers (70%) in the middle tier. Mr. Rubin's proposal would
3 make the middle tier even larger, which is less fair as fewer properties would benefit
4 from the lower Tier 1 rate. PWSA's proposal is logical and reasonable as supported by
5 the ERU data and should be adopted as proposed.

6 **Q. DO YOU AGREE WITH MR. RUBIN'S STATED GOALS FOR AN INITIAL**
7 **RESIDENTIAL STORMWATER FEE?**

8 A. I agree in part with these goals. While I agree that tiers should be structured so that the
9 majority of properties will be charged the rate for a typical property (Tier 2 or the middle
10 tier), I do not agree that the goal should be to "minimize" the number of properties that
11 are included in a lower or higher tier. If one wished to minimize the properties included
12 in lower or higher tiers one could achieve that by setting the breakpoints at, for example,
13 1% and 99% of the records. Those tier breakpoints would then be 561 square feet of
14 impervious area and 5,727 square feet of impervious area. This is not logical or
15 desirable.

16 PWSA's proposed residential tiers are logical and provide a reasonable basis for
17 the 15% of properties with the smallest impervious areas to be charged the low tier (or
18 Tier 1) rate, and the 15% of properties with the largest impervious area to be charged the
19 high tier (or Tier 3) rate.

20 Additionally, to be clear, PWSA's proposed residential tiers already factor in a
21 margin of error that can be expected when calculating impervious area. For this reason,
22 properties with less than 400 square feet of impervious area will not be assessed a
23 stormwater fee. This exemption is intended to correct for small amounts of impervious
24 area that may have been incorrectly assigned to a property based on the aerial imagery

1 and parcel lines. Beyond this accommodation I do not understand the margin of error
2 Mr. Rubin describes. Clearly each measured impervious area will have to “map to” one
3 and only one residential tier and corresponding stormwater charge. If a tier breakpoint is
4 set at value “X” all measured amounts less than X will map to the lower tier and all those
5 above X will map to the higher tier. Changing X will change which properties map to
6 which tier, but will never reduce the need for precision in computing impervious area for
7 properties where that impervious area falls near a tier breakpoint.

8 Further, as Mr. Igwe explained in his Rebuttal Testimony, PWSA will provide a
9 searchable website where customers can review an aerial image of their property and the
10 impervious area calculation and ERU determination, as well as an appeal process through
11 which customers may correct their calculated impervious area. PWSA St. No. 7-R at 13.
12 Although PWSA is continuing to conduct detailed quality control on impervious area
13 designations before the stormwater fee goes into effect, the searchable website and appeal
14 process will allow customers to submit any other necessary corrections to ensure their
15 property is assigned to the appropriate tier.

16
17 **IV. ALLOCATION OF STORMWATER COSTS**

18 **Q. PLEASE DESCRIBE OSBA WITNESS KALCIC’S SURREBUTTAL**
19 **TESTIMONY REGARDING THE ALLOCATION OF STORMWATER COSTS.**

20 A. Mr. Kalcic maintains his position that costs should be allocated to customer classes based
21 on actual measured ERUs rather than billed ERUs, and believes that I am confusing rate
22 design with cost allocation. He states that billed ERUs deviate from actual ERUs across
23 customer classes due to the proposed billing structure, and that PWSA’s proposed rate
24 design does not track stormwater cost incurrance across customer classes.

1 **Q. PLEASE RESPOND.**

2 A. I maintain that Mr. Kalcic's argument is not relevant to stormwater rates in this
3 proceeding. As explained in my Rebuttal Testimony, the stormwater fee is not linked to
4 a specific customer class in the way water or wastewater service would be. For this
5 reason, the idea that costs should be allocated to various classes based on actual rather
6 than billed ERUs is not relevant and has no impact on either the rate per ERU or the
7 amount that customers of a particular class may be charged.

8 The rounding of non-residential ERUs up to integer values, the use of a unit of
9 service at 1,650 square feet of impervious area (one ERU), the exclusion of parcels with
10 less than 400 square feet of impervious area and the choice of three residential tiers with
11 breakpoints causing about 70% of residential ratepayers to fall into the middle tier are all
12 thoughtful choices made to balance data quality, fairness, and the expected cost to
13 maintain billing data. These choices result in a uniform rate for impervious area that does
14 not depend on customer class. For most stormwater utilities across the U.S., customer
15 class is not considered in cost allocation or rate design.

16

17 **VII. CONCLUSION**

18 **Q. DOES THAT COMPLETE YOUR REJOINDER TESTIMONY?**

19 A. Yes. However, I reserve the right to supplement this testimony as may be appropriate.

VERIFICATION

I, Keith Readling, hereby state that: (1) I am the Executive Vice President, Raftelis Financial Consultants, Consultant to The Pittsburgh Water and Sewer Authority (“PWSA”); (2) the facts set forth in my rejoinder testimony are true and correct (or are true and correct to the best of my knowledge, information and belief); and, (3) I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

Date: 08/09/2021 | 3:20 PM EDT

DocuSigned by:
Keith Readling
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Keith Readling
Executive Vice President
Raftelis Financial Consultants

Consultant to:
The Pittsburgh Water and Sewer Authority