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

Dated: February 2021
PA-VII-1.

A. IS ALL LAND IN THE CITY INCLUDED IN THE PWD’S GROSS AND IMPERVIOUS AREA CALCULATIONS (E.G., STREETS, CITY PARKS)? IF NO, IDENTIFY THE LAND THAT IS EXCLUDED; AND

B. IF THE RESPONSE TO SUBPART (A) IS NO, PLEASE PROVIDE AN ESTIMATE OF THE EXCLUDED GROSS AND IMPERVIOUS AREA, AND EXPLAIN HOW THE COSTS ASSOCIATED STORMWATER SERVICE PROVIDED TO THE EXCLUDED AREA IS RECOVERED.

RESPONSE:

A. Not all land in the City is included in the Water Department’s Gross Area (GA) and Impervious Area (IA) calculations. Specifically, areas outside of parcels, such as: Streets, Medians and Public Rights-of-way, portions of City Parks, land without OPA accounts, as well as streams and rivers are not included. In addition, the following GA and IA is included in PWD’s data sets and excluded from the stormwater units of service analysis: Parcels owned by the Water Department, Cemeteries, Residential Sideyards, City-Owned Vacant Properties, Community Gardens, Streets, Medians and Public Rights-of-way and parcels without OPA accounts.

The above areas are treated in a manner consistent with the underlying determinations and policy decisions associated with the establishment of the stormwater parcel area-based fee structure, subsequent rate determinations and applicable City Code requirements. These areas are not considered billable as they are either exempt or receive a full discount.

B. The estimated amounts of GA and IA for the land noted in response to Part A of this interrogatory are 1,521 million square feet and 739 million square feet, respectively.
Stormwater costs are allocated as described in the Cost of Service Study (see PWD Statement 7A, Schedule BV-5: Water & Wastewater Cost of Service Report, Section 7.10). Stormwater costs are recovered from billable parcels as defined in prior Rate Determinations and the Water Department’s existing Rates and Charges and not recovered from the areas noted in response to Part A of this interrogatory.

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

Handbilled customers include surcharge and customers with sewer return factor adjustments and are tracked separately for billing purposes only. The Cost of Service Study proposes a rate schedule for all customers, which provides reasonable cost recovery by customer type. The proposed FY 2022 and FY 2023 rate schedules were developed based on balancing the overall cost recovery for Residential and Non-Residential customers. Note – Handbilled customers are billed based upon a combination of the overall rates established via costs of service as well as their surcharge amounts, which are determined using the specific pollutant loadings associated with their wastewater effluent.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-3. REFERENCE THE RESPONSE TO PA-IV-20. PLEASE PROVIDE AN
ESTIMATE OF THE COSTS ASSOCIATED WITH ADDRESSING THE
BILLING SYSTEM LIMITATIONS CONCERNING CUSTOMER TYPES AND
VERIFYING ALL CUSTOMER TYPES.

RESPONSE:

A full estimate of the cost associated with addressing the billing system limitations is not
available at this time. An initial scoping and pricing effort is expected to commence in FY
2021.

RESPONSE PROVIDED BY: Water Revenue Bureau
PA-VII-4. PLEASE PROVIDE AN ESTIMATE OF THE ANNUAL COSTS INCURRED BY THE PWD TO MANAGE AND IMPLEMENT THE STORMWATER MANAGEMENT CREDIT PROGRAM BY TYPE, INCLUDING COSTS FOR CONSTRUCTION OF FACILITIES FOR FY 2017 – FY 2020. SEPARATELY IDENTIFY AMOUNTS FOR WHICH THE PWD WAS DIRECTLY RESPONSIBLE AND AMOUNTS OFFSET OR FUNDED BY OTHER SOURCES.

RESPONSE:

Stormwater credits are not a capital or an operating expense. Stormwater credits result in a reduction in certain customer bills and therefore reduce revenue for the Water Department. The bill reduction related to stormwater credits is detailed in PWD Exhibit 5, table 12 and also provided below.

<table>
<thead>
<tr>
<th>Program</th>
<th>Program Type</th>
<th>FY2020</th>
<th>FY 2019</th>
<th>FY 2018</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater Credits</td>
<td>Bill Reduction</td>
<td>$18,740,626</td>
<td>$17,988,320</td>
<td>$16,038,856</td>
<td>$13,819,758</td>
</tr>
</tbody>
</table>

The above amounts are inclusive of SMIP/GARP credits.

RESPONSE PROVIDED BY: Philadelphia Water Department
Please identify the amounts included in the stormwater revenue requirement for test year 2022 for the stormwater management credit program by type, and indicate where those costs are included in the stormwater cost of service study. Separately identify amounts for which the PWD will be directly responsible and amounts offset or funded by other sources.

Response:

Administrative costs associated with the Stormwater Management Credit Program included in the Department’s overall budget and included in the GSI Implementation Unit of the Planning and Environmental Services Division. The overall GSI Implementation Unit costs are allocated to 100% to wastewater and allocated under conveyance maintenance costs with 40% allocated to sanitary and 60% to stormwater. This process described in the Cost of Service study (see PWD Statement 7A, Schedule BV-5: Water & Wastewater Cost of Service Report) following the projection of overall revenue requirements. These costs are not isolated by “Type.”

Other than the overall miscellaneous and wholesale customer revenues, which reduce the overall net wastewater revenue requirements, there are no amounts offset or funded by other sources included in the Test Year 2022 revenue requirements. Stormwater credits provided to customers are treated as a reduction in the billable units of service, as described in the Cost of Service study noted above and further elaborated upon in the Stormwater Units of Service white paper (see PWD Statement 7A, Schedule BV-6: WP-2 Stormwater Units of Service).

Response provided by: Black & Veatch Management Consulting, LLC
PA-VII-6. PLEASE PROVIDE AN ESTIMATE OF THE ANNUAL COSTS ASSOCIATED WITH THE GREEN ACRES RETROFIT PROGRAM BY TYPE FOR FY 2017 – FY 2020. SEPARATELY IDENTIFY AMOUNTS FOR WHICH THE PWD WAS DIRECTLY RESPONSIBLE AND AMOUNTS OFFSET OR FUNDED BY OTHER SOURCES.

RESPONSE:

See table below for an estimate of associated costs:

<table>
<thead>
<tr>
<th>FISCAL YEAR</th>
<th>PWD OPERATING COST (PIDC ADMIN FEE)</th>
<th>PWD OPERATING COST (GARP GRANTS)</th>
<th>ACT 13 GRANT</th>
<th>ASSOCIATED CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>$406,830.00</td>
<td>$17,332,512.00</td>
<td>$614,727</td>
<td>$1,161,500</td>
</tr>
<tr>
<td>2018</td>
<td>$630,813.00</td>
<td>$20,290,963.00</td>
<td>$562,653</td>
<td>$1,354,700</td>
</tr>
<tr>
<td>2019</td>
<td>$583,473.52</td>
<td>$29,152,327.48</td>
<td>$698,175</td>
<td>$2,163,100</td>
</tr>
<tr>
<td>2020</td>
<td>$581,076.85</td>
<td>$16,775,708.15</td>
<td>$859,675</td>
<td>$2,391,300</td>
</tr>
</tbody>
</table>

RESPONSE PROVIDED BY: Philadelphia Water Department
PA-VII-7. PLEASE IDENTIFY THE AMOUNTS INCLUDED IN THE STORMWATER
REVENUE REQUIREMENT FOR TEST YEAR 2022 FOR THE GREEN
ACRES RETROFIT PROGRAM BY TYPE, AND INDICATE WHEN THOSE
COSTS ARE INCLUDED IN THE STORMWATER COST OF SERVICE
STUDY. SEPARATELY IDENTIFY AMOUNTS FOR WHICH THE PWD
WILL BE DIRECTLY RESPONSIBLE AND AMOUNTS OFFSET OR
FUNDED BY OTHER SOURCES.

RESPONSE:

The combined SMIP/GARP cost for Test Year 2022 is $25.0 million. SMIP/GARP costs,
which include both grant amounts and Philadelphia Industrial Development Corporation
administration costs, are allocated between the sewer and stormwater revenue requirements.
Approximately 60% of these costs is recovered from all stormwater customers. This process
described in the Cost of Service study (see PWD Statement 7A, Schedule BV-5: Water &
Wastewater Cost of Service Report) following the projection of overall revenue
requirements. These costs are not isolated by “Type.”

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-8. PLEASE PROVIDE AN ESTIMATE OF THE ANNUAL COSTS ASSOCIATED WITH GREEN CITY CLEAN WATERS BY TYPE FOR FY 2017 – FY 2020. SEPARATELY IDENTIFY AMOUNTS FOR WHICH THE PWD WAS DIRECTLY RESPONSIBLE AND AMOUNTS OFFSET OR FUNDED BY OTHER SOURCES.

RESPONSE:

From July 1, 2011 through and including June 30, 2020, the Water Department’s capital spending for COA projects was approximately $235 million. During the same period, the Water Department spent $329 million from its operating budget and $5.5 million was funded through Act 13 Marcellus Shale Grant.

RESPONSE PROVIDED BY: Philadelphia Water Department
PA-VII-9. PLEASE IDENTIFY THE AMOUNTS INCLUDED IN THE STORMWATER REVENUE REQUIREMENT FOR TEST YEAR 2022 FOR GREEN CITY CLEAN WATERS BY TYPE, AND INDICATE WHERE THOSE COSTS ARE INCLUDED IN THE STORMWATER COST OF SERVICE STUDY. SEPARATELY IDENTIFY AMOUNTS FOR WHICH THE PWD WILL BE DIRECTLY RESPONSIBLE AND AMOUNTS OFFSET OR FUNDED BY OTHER SOURCES.

RESPONSE:

Consistent with prior rate proceedings, Green City Clean Waters costs are not isolated within the Cost of Service Study. Operating and capital revenue requirements are allocated as described in the Cost of Service study (see PWD Statement 7A, Schedule BV-5: Water & Wastewater Cost of Service Report) following the projection of overall revenue requirements. Further, these costs are not isolated by “Type.”

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-10. PLEASE UPDATE THE RESPONSE TO PA-IV-17 TO PRESENT.

RESPONSE:

The requested data was provided in response to PA-V-3. Please see response attachment PA-V-3.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC

RESPONSE:

The capacity Factor Analysis(es) is not discussed in the response to PA-I-23.

As stated in the response to PA-IV-18, Black & Veatch continued to utilize the results of the capacity factor analysis performed for the prior rate proceeding:

- The FY 2018 system peak maximum day to average day ratio of 1.39 is consistent with the historical peak maximum day to average day ratio of 1.40 reflected in the capacity factor analysis from the prior rate proceedings.

- The FY 2016 system peak maximum hour to average day ratio of 1.92 remains the historical peak; this data point is reflected in the capacity factor analysis from the prior rate proceedings.

- A high-level review of the FY 2018 monthly billing data by customer type revealed that the maximum month for some customer types was impacted by a change in the number of bills issued during the monthly billing period, which resulted in overstating the maximum month to average day ratio of the corresponding customer types. Therefore, we do not feel it is appropriate to use FY 2018 in the context of this analysis. This data is under further review.

- Feedback provided by participants during the Alternative Rate Structure suggested that PWD should further evaluate the customer impacts of potential rate structure changes related to further adjustments with respect to the current declining block rate structure for water usage. Therefore, additional adjustments were not included as part of this rate proposal.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-12. REFERENCE THE RESPONSE TO PA-I-33. IN PWD STATEMENT 7A, SCHEDULE BV-5 DOES NOT INCLUDE PAGES 140 AND 145, BUT RATHER CHAPTER SPECIFIC NUMBERED PAGES. PLEASE PROVIDE THE CHAPTER SPECIFIC NUMBERED PAGES REFERENCED IN THE RESPONSE.

RESPONSE:

The response to PA-I-33 does not reference PWD Statement 7A, Schedule BV-5.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-13.  REFERENCE THE RESPONSE TO PA-IV-14 AND WCOS21_22.XLS.
PLEASE EXPLAIN WHY THE VOLUMES REFLECTED IN RESPONSE TO
PA-IV-4 DIFFER FROM THOSE REFLECTED IN TAB WPLTALLO
WCOS21_22.XLS, ALLOCFAC1-ALLOCATION FACTORS-PAGE 1 AND
PAGE 2.  ALSO EXPLAIN THE DIFFERENCES IN THE FACTORS
REFLECTED IN PAGES 1 AND 2, AND EXPLAIN HOW THE FACTORS IN
PAGES 1 AND 2 ARE USED IN THE COST OF SERVICE STUDY.

RESPONSE:

The volumes reflected in the response to PA-IV-14 do not differ from those reflected in tab
WPLTALLO WCOS21_22.xls, ALLOCFAC1-Allocation Factors-Page 1 and Page 2. As
noted in the response to PA-IV-4:

- Items A and B (System Average Day and System Maximum Day Water Production,
  respectively) are presented as “Plant Output – Total” in “Allocation Factors – Page 1.”
  These flows represent the water production from the water treatment plants.

- Item C (System Maximum Hour Water Production) is presented as “Total Districts Incl.
  Bucks Co” in “Allocation Factors – Page 2.” These flows represent the water delivered
to the system from the water treatment plants and storage facilities.

The water system cost of service allocation factors are presented in Sections 4.6.1 (Retail
Allocation of O&M Expense) and 4.7.1 (Retail Allocation of Net Plant Investment) of PWD
Statement 7A, Schedule BV-5 and are consistent with prior rate proceedings. The following
allocations are based on the factors in tab WPLTALLO WCOS21_22.xls, ALLOCFAC1-
Allocation Factors-Page 1 and Page 2:

- Raw Water Pumping (other than purchased power) and Water Treatment (exclusive of
  exclusive of power, chemical costs, and sludge treatment and disposal costs) maximum
day based allocation factors are based on the “Raw Water Pumping” Maximum Day and
Average Day flows presented on “Allocation Factors – Page 1.”
- Treated water pumping (exclusive of power costs) and Transmission and Distribution maximum hour based allocation factors are based on the “Total Districts Incl. Bucks Co” Maximum Hour, Maximum Day and Average Day flows presented on “Allocation Factors – Page 2.”

Please note that the information referenced in this interrogatory request can be found in the following pages of PWD Exhibit-6: Black & Veatch Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5:

- “Allocation Factors – Page 1” - WCOS21_22, Wpltallo-3 (page 820)

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-14. PLEASE UPDATE THE RESPONSE TO PA-IV-22 AS APPLICABLE.

RESPONSE:

Refer to provided response to PA-IV-22.

RESPONSE PROVIDED BY: Philadelphia Water Department
PA-VII-15. REFERENCE THE RESPONSE TO PA-IV-25:

A. PLEASE EXPLAIN WHETHER THESE WATER QUALITY TESTING COSTS WOULD INCREASE ON A MAXIMUM DAY OR DURING MAXIMUM HOUR ABOVE THOSE EXPERIENCED DURING AN AVERAGE DAY OR HOUR. IF THEY WOULD CHANGE, PLEASE IDENTIFY THE SPECIFIC MAXIMUM DAY- AND MAXIMUM HOUR-RELATED TESTING CONDUCTED BY THE COMPANY; AND

B. PLEASE PROVIDE A DETAILED DESCRIPTION OF THE COST INCLUDED IN LINES 11 AND 15 THAT ARE QUALITY TESTING RELATED.

RESPONSE:

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

B. As noted in the response to PA-VIII-15, the quality testing related costs included in Lines 11 and 15 include an allocation of the Bureau of Lab Services (BLS). BLS provides a variety of analytical services to support the Water Department’s water quality requirement and environmental initiatives.

RESPONSE PROVIDED BY: Philadelphia Water Department, and Black & Veatch Management Consulting, LLC
PA-VII-16. REFERENCE PA-IV-26. PLEASE IDENTIFY ALL WATER QUALITY TESTS WHICH THE FREQUENCY OF PERFORMANCE DEPENDS ON WHETHER A MAXIMUM DAY OR MAXIMUM HOUR HAS OCCURRED OR IS BEING INCURRED. IS THE FREQUENCY OF WATER QUALITY TESTING GENERALLY BASED ON QUANTITIES PRODUCED OR MAXIMUM DAY/HOUR DEMANDS?

RESPONSE:

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

RESPONSE PROVIDED BY: Philadelphia Water Department
PA-VII-17.REFERENCE THE RESPONSE TO PA-IV-29. PLEASE IDENTIFY THE
NUMBER OF FIRES, FIRE FLOWS, AND FIRE DURATIONS USED IN THE
NEW ORLEANS AND CHARLESTON COST STUDIES.

RESPONSE:

New Orleans:

- Fire 1 – 12,000 gallons per minute (gpm) max fire flow, 10 hours/day duration
- Fire 2 – 6,000 gpm max fire flow, 6 hours/day duration

Charleston:

- Fire 1 – 5,900 gpm max fire flow, 4 hours/day duration
- Fire 2 – 5,500 gpm max fire flow, 4 hours/day duration

New Orleans is currently conducting a cost of service study and the above figures are
subject to change.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-18. PLEASE EXPLAIN HOW THE GROUNDWATER CHARGE IS ASSESSED (SCHEDULE BV-5, ES-10).

RESPONSE:

Groundwater charges are assessed in accordance with PWD Rates and Charges, Section 7.1.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-19. PLEASE IDENTIFY THE AMOUNT INCLUDED IN THE WATER, WASTEWATER AND STORMWATER COST OF SERVICE STUDIES FOR UNCOLLECTIBLE EXPENSES. IDENTIFY THE LOCATION OF THOSE AMOUNTS IN EACH STUDY.

RESPONSE:

Consistent with prior rate proceedings, the cost of service analyses develops projected annual revenues based on receipts which reflect payments of billings from the test year and prior years. Since the projected test year revenues include the payment of billings from prior years, the cost of service analyses provides comparisons of the cost of service rates prior to adjusting for receipts. In addition, as noted in PWD Statement 7A on page 41 (lines 8 to 14), the cost of service utilized for rate design is adjusted based on annualizing the 10-month period for which the proposed rates are effective. The annualized cost of service utilized for rate design should not be compared to revenues proposed to be collected from each customer class during the test years, since the revenues to be collected reflect the September 1st implementation of proposed rates (i.e. not a full 12 months of revenues at the proposed rates).

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
REFERENCE THE RESPONSE TO PA-IV-17. ARE THE FIRE SERVICE QUANTITIES REFLECTED IN THE ATTACHMENT PRIVATE FIRE VOLUMES? IF NO, EXPLAIN WHAT THESE VOLUMES REPRESENT.

RESPONSE:

Yes, the billed volume quantities reflected as “Fire Service” in the response attachment PA-IV-17 are flows from metered private service meters.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC
PA-VII-21. REFERENCE THE RESPONSE TO PA-I-33. PLEASE IDENTIFY WHERE THIS ALLOCATION CAN BE FOUND IN THE WASTEWATER COST OF SERVICE STUDY SCHEDULES.

RESPONSE:

PA-I-33 does not discuss allocations used in the Cost of Service Study.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.
PA-VII-22. PLEASE PROVIDE A COMPARISON OF REVENUES AT PRESENT RATES AND AT PROPOSED RATES FOR EACH RATE CLASS INCLUDED IN THE COST OF SERVICE STUDIES FOR WATER, WASTEWATER AND STORM WATER SERVICE. INCLUDE THE SUPPORTING CALCULATIONS FOR PROPOSED REVENUES IN EXCEL FORMAT WITH ALL FORMULAS INTACT.

RESPONSE:

See response attachment PA-VII-22 which provides the FY 2022 and FY 2023 projected revenue under existing and proposed rates. These results are developed with the model file (Finplan21_22.xlsx) provided in response to PA-IV-11 utilizing the projected revenue under existing rates sections and revising the rates to reflect the proposed rate schedules.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC