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August 7, 2020

***Hand Delivered***

Ms. Luly Massaro, Clerk  
Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

***Re: Providence Water Supply Board – Docket 4994***

Dear Ms. Massaro:

Enclosed herewith please find an original and nine copies of The Bristol County Water Authority's Post-Hearing Memorandum. Please be advised that an electronic copy of this document has been sent to the service list.

Thank you for your attention to this matter.

Sincerely,



Joseph A. Keough, Jr.

JAK/kf  
Enclosures  
cc: Docket 4994 Service List (via email)

**STATE OF RHODE ISLAND  
PUBLIC UTILITIES COMMISSION**

**IN RE:  
PROVIDENCE WATER SUPPLY BOARD  
DOCKET 4994**

**THE BRISTOL COUNTY WATER AUTHORITY'S  
POST-HEARING MEMORANDUM**

**AUGUST 7, 2020**

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## **I. INTRODUCTION**

As in any contested litigation, the decision in this Docket must be based on the applicable burden of proof and the evidence in the record. In this Docket, the primary disputed issue is whether to implement individual wholesale rates. The settling parties in this Docket expended so much effort arguing *against* individual wholesale rates that they neglected to produce evidence that shows why a single wholesale rate is fair, reasonable, non-discriminatory and legal.<sup>1</sup> And although the Bristol County Water Authority (“BCWA”) has no burden in this Docket, it demonstrated that individual wholesale rates are fair, reasonable, non-discriminatory and legal. The BCWA made this showing through the unchallenged and unimpeached testimony of its witnesses, Michael R. Maker and Pamela M. Marchand, who were not even cross-examined by any of the Settling Parties. The BCWA also showed that the Settling Parties’ arguments against individual wholesale rates have no factual or legal support and no foundation in generally accepted ratemaking principles.

## **II. FACTS AND PROCEDURAL HISTORY**

Throughout this Docket, the Providence Water Supply Board (“Providence”) claimed that individual wholesale rates did not become an issue until the BCWA filed its direct testimony. This is simply untrue and unsupported by Providence’s long-time rate consultant, Harold Smith, and Providence’s lengthy history of rate filings before the Rhode Island Public

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<sup>1</sup> The settling parties (hereinafter referred to as the “Settling Parties”) are the Providence Water Supply Board, the Division of Public Utilities and Carriers (“Division”), the Kent County Water Authority (“KCWA”), and the City of Warwick (“Warwick”). The BCWA and the City of East Providence did not join in the Settlement Agreement.

Utilities Commission (“Commission”). In fact, Providence’s allocation of costs to wholesale customers has been questioned for many years, especially by the BCWA.

Beginning in 2007, Harold Smith acknowledged in his Docket 3832 testimony that:

“The disparity between the increases to wholesale rates and retail rates is most likely due to the fact that the wholesale rate increases that were agreed to by the parties to Providence Water’s recent abbreviated filings **were not based on a complete cost-of-service study and did not reflect the true cost associated with providing wholesale service.**”<sup>2</sup>

In fact, before this current Docket, Providence did not allocate costs to wholesale customers using peaking factors at all. In Docket 4406, Harold Smith responded to a data request from the BCWA on this issue:

**"BCWA 1-27 a.:** What is the basis for your assumption that the demand characteristics for all wholesale customers are equal and that their demands for service are essentially the same as the demands placed on the system by the entire retail class?

**Response:** The section of my testimony referenced by this question does give the impression that the longstanding practice of developing one uniform rate for all of Providence Water’s customers is based on the assumption that all of the wholesale customers have the same demand characteristics. In fact, the practice of developing one uniform commodity rate applicable to all wholesale customers has been approved by the Commission in Providence Water’s last several rate filings and is consistent with the practice of having one uniform commodity rate for all members of each retail customer class. As such, we did not assume that the demand characteristics for all wholesale customers are equal, but instead continued using an approach that has been repeatedly approved by the Commission in previous Providence Water dockets.”<sup>3</sup>

In Providence’s next Docket (4618), the calculation of wholesale rates was addressed again. In fact, Harold Smith himself raised the issue in his direct testimony:

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<sup>2</sup> Transcript of July 15, 2020 hearing (hereinafter referred to as Transcript V.II), p. 113, ll. 10-20

<sup>3</sup> Transcript V.II, p. 118, l. 22 – p. 120, l. 10

**"Q. Why do you characterize the allocation approach as a modified base/extra capacity approach?"**

A. I make this distinction because the approach used in this and previous filings utilizes a wholesale cost of service category to which costs associated with providing service to wholesale customers are allocated. This approach is different from a standard base/extra capacity approach in that it does not take into account the way in which the wholesale class demands service, but instead bases the allocation of costs to the wholesale customers on their proportionate share of total consumption." <sup>4</sup>

In follow up to this testimony, Harold Smith answered the following data requests from the Division:

**"DIV. 4-5 a.** Please explain what is meant by the phrase in which the wholesale class demands service.

**Response:** This phrase in the context of the sentence from which it was taken speaks to the fact that **the maximum day and maximum hour demands of the wholesale class are not taken into consideration in the allocation of costs to the wholesale class.**"

**DIV. 4-5 c.** Please explain how the results of the PWSB's cost of service study would differ if the standard extra/base capacity approach was utilized."

**Response:** Without performing the cost of service analysis using the "standard base/extra capacity approach" it is not possible to determine with any degree of specificity how the analysis would differ. However, the major difference would be that the analysis using the standard approach would allocate costs to the wholesale customers based on their peaking characteristics. **It is important to note that use of the standard approach would dictate the need for separate and different rates for each wholesale customer since it is likely the peaking characteristics of each individual wholesale customer are different than the peaking characteristics of the class as a whole.**" <sup>5</sup>

It should be noted that Providence has had individual peaking data for its wholesale customers since at least 2013. In Docket 4406, Harold Smith acknowledged that Providence had

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<sup>4</sup> Transcript V.II, p. 114, l. 22 – p. 115, l. 20

<sup>5</sup> Transcript V.II, p. 115, l. 21 – p. 117, l. 8, emphasis added

the “data needed to allocate extra capacity costs to wholesale customers based on their relative contributions to peak demand.”<sup>6</sup>

At the conclusion of Docket 4618, the Commission ordered Providence to submit “a new cost-of-service study, created anew, and without reference to previously used Commission allocators.”<sup>7</sup>

On December 2, 2019, Providence filed a general rate filing in this Docket that contained a cost-of-service study prepared by Harold Smith. Yet, this cost-of-service study, which uses the base-extra cost capacity method, did *not* charge “separate and different rates” based on individual peaking factors for wholesale customers. Providence claims it set a single rate “to be consistent with prior rate filings and Commission approvals.”<sup>8</sup> This reasoning makes no sense given the history above and Harold Smith’s own hearing testimony.

As Harold Smith acknowledged, the single wholesale rate was a “holdover” from previous dockets and not based on “a complete cost of service study and did not reflect the true cost associated with providing wholesale service.”<sup>9</sup> Furthermore, the single wholesale rate was not based on the wholesale customers’ peaking factors.<sup>10</sup> Thus, as Harold Smith had to acknowledge, the single wholesale rate in this Docket is *not* consistent with prior rate filings and Commission approvals.<sup>11</sup>

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<sup>6</sup> Transcript V.II, p. 117, l. 20 – p. 118, l. 4

<sup>7</sup> Docket 4618 Order, p. 36

<sup>8</sup> Transcript V.II, p. 156, l. 13-24 and Providence Response to DIV. 4-5

<sup>9</sup> Transcript V.II, p. 121, l. 22 – p. 122, l. 4 and p. 113, ll. 10-20

<sup>10</sup> Transcript V.II, p. 122, ll. 5-9

<sup>11</sup> Transcript V.II, p. 141, ll. 11-19

Nevertheless, Providence plunged ahead with a single wholesale rate, which it calculated by averaging the max day and max hour peaking factors for the entire wholesale group.<sup>12</sup> Providence did this even though it had readily available peaking factors (average day, maximum day and maximum hour) for each of its wholesale customers.<sup>13</sup> As Providence acknowledged, this peaking data is vastly different for each wholesale customer, and the average is skewed by Warwick's high peak demand.<sup>14</sup> Yet, Providence submitted this single wholesale rate even after examining the impact of the averaged peaking factors and knowing the disparate effect it had on certain customers such as the BCWA.<sup>15</sup>

On May 11, 2020, the BCWA submitted the direct testimonies of Michael R. Maker and Pamela M. Marchand. In these testimonies, the BCWA asserted that the Commission should implement individual wholesale rates. In fact, Mr. Maker argued that individual wholesale rates could be easily calculated without making *any* changes to Harold Smith's model by simply inputting the readily available peaking factors for each wholesale customer. In David Bebyn's direct testimony, filed on behalf of the KCWA, he expressed concern over how individual wholesale customers contribute to max day and max hour demand costs.<sup>16</sup> As Mr. Bebyn acknowledged, the City of Warwick controlled the overall rate for the wholesale customers because of its high peaking factors. The Division filed its direct testimony on the same day as the BCWA. Thus, it was unable to comment on the BCWA's proposal for individual wholesale

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<sup>12</sup> Transcript V.II, p. 141, l. 20 – p. 142, l. 6

<sup>13</sup> Providence Response to DIV. 2-2 and 2-7

<sup>14</sup> H. Smith Rebuttal Testimony, p. 8, ll. 11-14.

<sup>15</sup> Transcript V.II., p. 207 and 234

<sup>16</sup> Bebyn Direct, p. 6, ll. 25-29

rates. However, Jerome Mierzwa testified that “Rates for Wholesale customers should be based on the indicated cost of providing Wholesale service.”<sup>17</sup>

On June 5, 2020, Providence filed its rebuttal testimony, and Harold Smith acknowledged that Warwick’s peaking factors have a “significant impact on the peaking factors of the Wholesale class.”<sup>18</sup> However, Providence did not support individual wholesale rates primarily because they would result in a “significant disparity in the impact on the bills of the individual wholesale customers.”<sup>19</sup> Rather, Providence sought more time to “study” the issue and address it in its next general rate filing.<sup>20</sup>

On June 2, 2020, Providence circulated a settlement proposal, which did not include individual wholesale rates, and invited the parties to participate in a Zoom meeting on June 3, 2020 to discuss the settlement. During the meeting, the BCWA made clear that it would not participate in any settlement that did not address individual wholesale rates.

On June 26, 2020, the BCWA filed surrebuttal testimony from Mr. Maker and Ms. Marchand. Once again, the BCWA requested the implementation of cost-of-service based individual wholesale rates. As the BCWA argued, the application of readily available peaking factors in Harold Smith’s model produces fair, reasonable, non-discriminatory rates using the base-extra capacity methodology. Furthermore, individual wholesale rates avoid unfair subsidies among the wholesale customers. The KCWA and the Division did not submit any

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<sup>17</sup> Mierzwa Direct, p. 4, ll. 18-19

<sup>18</sup> Harold Smith Rebuttal, p. 9

<sup>19</sup> Harold Smith Rebuttal, p. 8

<sup>20</sup> Id.

surrebuttal testimony to address the BCWA's request for cost-of-service based individual wholesale rates.

Thereafter, hearings were held on July 14 and 15, 2020. During opening arguments, Providence's counsel seemingly indicated there was a notice issue because the BCWA's Motion to Intervene did not mention its proposal for individual wholesale rates. When questioned about this by the Commission Chairman, Providence's counsel indicated he was *not* alleging it to be a legal flaw.<sup>21</sup> Nevertheless, counsel for the BCWA examined Ricky Caruolo, Providence's General Manager, on his response to BCWA 8-1, in which he acknowledged that Providence had absolutely no challenge to any notice provisions in this case.<sup>22</sup> Providence raises this issue again in its post-hearing brief.<sup>23</sup> As such, the BCWA refers the Commission to Providence's response to BCWA 8-1 and Mr. Caruolo's hearing testimony.

Furthermore, the Commission's rule on intervention does not require an intervening party to lay out its entire case in its motion to intervene. Such a requirement would be impossible to meet because motions to intervene must be filed within forty-five days of the publication of notice of filing. In this Docket, Providence filed its rate application on December 2, 2019, and the BCWA filed its motion to intervene two weeks later on December 14, 2020. This is hardly enough time for an intervener to evaluate a voluminous rate filing and set out its position in detail.

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<sup>21</sup> Transcript July 14, 2020 Hearing (hereinafter referred to as "Transcript V.I"), p. 25-28

<sup>22</sup> Transcript V.I, p. 206-213

<sup>23</sup> Providence Post-Hearing Brief, p. 9-10

### **III. APPLICABLE LAW AND RATEMAKING PRINCIPLES**

#### **A. Applicable Law**

Pursuant to R.I.G.L. § 39-1-11. – Proceedings Before Commission – “The commission shall sit as an impartial, independent body, and is charged with the duty of rendering independent decisions affecting the public interest and private rights based upon the law and upon the evidence presented before it by the division and by the parties in interest.” The task of the Commission is to base future rates upon known and measurable past and present conditions through the use of data generated during a specific test period. Michaelson v. New England Telephone and Telegraph Company, 404 A.2d 799 (R.I. 1979)

The Rhode Island Supreme Court has recognized that, “in a filing for an increase on rates, the burden on the utility company is twofold. First, the company must establish that it requires the overall increase in rates. Second, the company must establish that the proposed rate schedule is nondiscriminatory.” Town of Narragansett v. Malachowski, 621 A.2d 190 (1993) “Once a utility company proposes a rate increase, it is the function of the commission to determine whether the result to be achieved is a fair and reasonable rate “without unjust discrimination, undue preferences or advantages.” See G.L.1956 (1990 Reenactment) § 39-1-1.” Id. at 196 In fact, the Rhode Island Supreme Court has stated “It has been recognized by this court that the commission’s power extends to devising a rate scheme that may vary from that proposed by the utility company. It is self-evident then that the substitution of rates before the commission issues a final order is an essential and regular aspect of the rate-making process.” Id. at 197. The Commission is “free to accept or reject either party’s proposal and allocate the

costs so as to achieve a nondiscriminatory result,” and has the right to reallocate costs differently than proposed by the utility. *Id.* at 196. “Therefore, because the commission is charged with the authority to reallocate costs among classes, no party has the right to assume that a rate-increase filing will not be subject to changes prior to implementation.” *Id.*

To guard against unfair, unreasonable and discriminatory rates, utility companies are prohibited from offering preferred rates to certain customers except in limited circumstances, none of which apply here. (See R.I.G.L. §§ 39-2-2, 39-2-3, 39-2-4, and 39-2-5) This prohibition is so serious that it is actually a misdemeanor offense. R.I.G.L. §§ 39-2-3 states:

“Unreasonable Preferences Or Prejudices - If any public utility shall make or give any undue or unreasonable preference or advantage to any particular person, firm, or corporation, or shall subject any particular person, firm, or corporation to any undue or unreasonable prejudice or disadvantage in any respect whatsoever, the public utility shall be guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than two hundred dollars (\$200) nor more than five hundred dollars (\$500) for each offense.”

The primary tool the Commission uses to determine whether rates are fair, reasonable and non-discriminatory is a cost-of-service study. As the Rhode Island Supreme Court has acknowledged:

“Cost-of-service studies are the most widely utilized tool in developing reasonable public utility rates. Citing James C. Bonbright, *Principles of Public Utility Rates*, ch. 15 at 375 (2d ed.1988). In fact, the golden rule of socially optimal ratemaking is that, whenever possible, prices should track all the identifiable costs occasioned by a service’s provision. *Id.*, ch. 5 at 109–10. We have followed that golden rule of rate making and held that “it is generally recognized that a cost-of-service study is of paramount importance and may indeed be a precondition to consideration of a proposed rate design.” *United States v. Public Utilities Commission*, 120 R.I. 959, 967, 393 A.2d 1092, 1096 (1978). The commission has also acknowledged the importance of such cost studies in the rate-making process since 1957. *Id.* (citing *Re Narragansett Electric Company*, 21 P.U.R.3d 113, 144–45 (R.I.D.B.R.1957)).” *U.S. v. Public Utilities Commission*, 635 A.2d 1135 (1993)

The Commission may deviate from cost-of-service where the situation warrants, and is

supported by evidence, provided such deviation results in fair, reasonable, non-discriminatory and legal rates. *Id.*

## **B. Ratemaking Principles**

The AWWA's Manual M-1, *Principles of Water Rates, Fees, and Charges* (7<sup>th</sup> Edition) ("AWWA M-1 Manual") sets the industry standard for generally accepted ratemaking principles. As set forth in the AWWA M-1 Manual, the predominant role of a cost-of-service study is to allocate the utility's costs to the customers who cause those costs to be incurred.

As Harold Smith testified, a cost of service study should adhere to the following principles:

- The cost of providing service to a utility's customers must be recovered from those customers.
- A cost of service study should recognize that different types of customers generate different costs because their patterns of use or demand characteristics are different.
- A Cost of service study allows the matching of rates charged to each group to the cost of serving them.
- Each group of customers pays its own way - no subsidies.
- A cost of service study should recover costs from users in proportion to their use of the system and by recognizing the impact of each class on system facilities and operations.<sup>24</sup>

The base-extra capacity methodology employed by Harold Smith in his cost-of-service study is set forth in the AWWA M-1 Manual. As Mr. Mierzwa stated in his testimony, "Under the base-extra capacity method, investment and costs are first classified into four primary functional categories: base or average capacity, extra capacity, customer and fire protection." (Mierzwa Direct, p. 6) Extra capacity costs are "operating and capital costs for additional plant

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<sup>24</sup> Transcript V.II, p. 125, l. 11 – p. 128, l. 2

and system capacity beyond that required for average usage.” (*Id.*) Peaking factors equitably allocate the costs of additional capacity to those customers with peak demand.

As Harold Smith testified:

**“Q. Mr. Smith, please briefly describe the conceptual approach you employed to develop the cost of service analysis.**

A. I developed the cost of service analysis using the "Base-Extra Capacity Method" as outlined in the American Water Works Association’s Manual M1 : "Principles of Rates, Fees and Charges". This approach allocates costs to customer classes in proportion to their use of the Providence Water system. Under this approach, costs are primarily allocated based on peak demand, both on a maximum day and maximum hour basis. The rationale for this approach lies in the manner in which a water system is designed.

Water systems are designed to deliver water to customers to meet both average and peak usage demands. Accordingly, treatment, storage and pumping facilities must be designed with additional capacity to meet the peak demands, in addition to average demands. In addition, transmission and distribution mains must also be oversized to allow for additional flow during peak demand periods. The capacity built into Providence Water’s infrastructure represents an additional cost which is incurred above and beyond what would be the case if customers used water at the same rate every day and throughout the day.

Given that additional costs are incurred to provide this additional capacity, the question then becomes how those costs should be recovered from the users of the water system. The Base-Extra-Capacity Method assigns costs to users in proportion to both their average day demands and their extra capacity demands. For example, costs which are incurred to provide maximum day service are allocated to users in proportion to their maximum day usage above and beyond their average day usage. This approach recovers extra capacity costs from customers whose extra capacity demands drive the need for a large water system.”<sup>25</sup>

As the AWWA M-1 Manual points out, not every utility has this peaking data:

“Customer class demand data are extremely beneficial to the rate practitioner in cost-of-service allocations and in designing rates. Very few water utilities have this type of information. To develop maximum-day and maximum-hour demand data on a customer or customer class basis can require significant financial resources.” (p. 365)

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<sup>25</sup> Harold Smith Direct, p. 14 -15

Providence *does* have this peaking data for each individual wholesale customer, and the Settling Parties have not provided *any* valid reason to ignore it. As further referenced in the AWWA M-1 Manual: “policy objectives or differences in service characteristics...may necessitate further disaggregation...across multiple wholesale customers (e.g., wholesale customer A, wholesale customer B)”. (p. 286) Harold Smith has employed this methodology for the City of Newport, Utilities Department, Water Division (“Newport Water”) when he developed individual rates for its wholesale customers. The Commission can take judicial notice of this fact as it approved these individual wholesale rates.

While the general objective of a cost-of-service study is to recover a water utility’s revenue requirement in a fair and equitable manner, there are additional specific objectives as well. Two of these specific objectives are: (1) “Fairness in the apportionment of total costs of service among the different ratepayers” and (2) the “Avoidance of undue discrimination (subsidies) within the rates.” (AWWA M-1 Manual, p. 4, citing Bonbright, Daniels and Kamerschen 1988)

#### **IV. ARGUMENT**

##### **A. COST-OF-SERVICE – INDIVIDUAL WHOLESALER RATES**

There are three questions before the Commission related to Providence’s proposed single wholesale rate:

1. Is Providence’s proposed single wholesale rate fair, reasonable and non-discriminatory?
2. Is Providence’s proposed single wholesale rate legal?
3. Are there valid reasons supported by substantial evidence to deviate from individual cost-of-service based wholesale rates?

Based on the undisputed evidence in the record, the answer to each of these questions is “No.”

**1. IS PROVIDENCE’S PROPOSED SINGLE WHOLESALE RATE FAIR, REASONABLE AND NON-DISCRIMINATORY?**

As set forth above, Providence has the burden to prove that its single wholesale rate is fair, reasonable and non-discriminatory. Providence has not met this burden.

Providence’s main argument for a single wholesale rate is essentially – ‘that’s how we’ve always done it.’ In fact, when the Division asked Providence why it maintained a single wholesale rate, Harold Smith candidly stated that Providence “proposed a single wholesale rate schedule to be consistent with prior rate filings and Commission approvals.”<sup>26</sup> This answer was given on February 10, 2020, before the BCWA filed its direct testimony advocating for individual wholesale rates and no other reason was given. It was not until the BCWA filed its testimony that Providence came up with other reasons for keeping a single wholesale rate, which are examined herein below.

However, the record is clear that Providence’s single wholesale rate in this Docket is *not* consistent with prior rate filings and Commission approvals. The single wholesale rate in prior rate filings was not the result of a cost of service study and did not consider the peak demands of the wholesale customers. In this Docket, Providence fundamentally changed the way it calculated wholesale rates. Harold Smith himself acknowledged this in his direct testimony:

**“Q. Are there are (sic) fundamental differences between the Base-Extra Capacity Approach you have developed for this filing, and that which has historically been**

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<sup>26</sup> Providence response to Div. 4-5

## employed?

A. There are two key differences.

First, the approach which has been used historically for Providence Water did not take into account peak demand (i.e., maximum day and hour) for wholesale customers. Costs which were incurred to serve both wholesale and retail customers under the old approach were allocated solely based on annual water volumes. In other words, the allocation of cost between retail and wholesale customers did not account for differences in peak demand, essentially assuming that the peak demand of retail and wholesale customers was the same.”<sup>27</sup>

Given the fact that Providence made this fundamental change, it had an obligation to calculate fair, reasonable and non-discriminatory wholesale rates according to generally accepted ratemaking principles and the applicable law, which it did not. To create a single wholesale rate, Providence *averaged* the peaking factors of all the wholesale customers. This averaging fails to account for each wholesale customer’s peak demands, which is a central component of the base-extra capacity approach. As Harold Smith testified, “Under this approach, costs are *primarily* allocated based on peak demand, both on a maximum day and maximum hour basis.”<sup>28</sup>

By averaging the wholesale customers’ peaking factors, the single wholesale rate violates the generally accepted ratemaking principles espoused by Harold Smith:

- The cost of providing service to each wholesale customer is not recovered from those customers.
- There is no recognition that different wholesale customers generate different costs because their patterns of use or demand characteristics are different.

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<sup>27</sup> Harold Smith Direct, p. 17, ll. 9-18

<sup>28</sup> Harold Smith Direct, p. 14, ll. 20-22

- The single wholesale rate does not allow the matching of rates charged to each wholesale customer to the cost of serving them.
- Each wholesale customer does not pay its own way – and subsidies are created.
- Costs are not recovered from each wholesale customer in proportion to their use of the system and by recognizing the impact each has on system facilities and operations.

It should be stressed that each individual wholesale customer is not just a single customer, but an entire water system. As Mr. Maker testified:

“...each of Providence’s wholesale customers should be treated individually because each has different usage and peaking characteristics, like that of a retail customer class (e.g., residential, commercial, industrial). In fact, each wholesale customer is a group of customer classes; that is, each wholesale customer is composed of a mixture of its own residential, commercial and industrial customers.”<sup>29</sup>

It must also be stressed that the concept of individual wholesale rates is not unusual or exotic. As Mr. Maker also noted in his testimony, individual wholesale rates are consistent with the AWWA M-1 Manual.<sup>30</sup> More important, however, this Commission has approved individual rates for Newport Water’s two wholesale customers – the Portsmouth Water and Fire District and the United States Navy.<sup>31</sup> In fact, the rate consultant who calculated those rates for Newport Water is Harold Smith, Providence’s rate consultant in this Docket.<sup>32</sup>

While Providence has not met its burden, and while the BCWA is not required to meet any burden, the BCWA *has* demonstrated that a single wholesale rate is unfair, unreasonable, discriminatory, unlawful and contrary to generally accepted ratemaking principles. The BCWA

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<sup>29</sup> Maker Direct, p. 6, ll. 1-7

<sup>30</sup> Maker Direct, p. 8, ll.19-27

<sup>31</sup> Make Direct, p. 9, ll. 11-20

<sup>32</sup> *Id.*

has also demonstrated that individual wholesale rates are fair, reasonable, non-discriminatory, lawful and consistent with generally accepted ratemaking principles. The BCWA made these showings through its unimpeached testimony and undisputed facts, including, but not limited to, the following:

- Prior to this Docket, Providence’s wholesale rates were not based on cost-of-service.
- Prior to this Docket, Providence did not allocate rates based on the way wholesale customers demanded service.
- Prior to this Docket, Providence did not allocate rates based on peak usage. Rather, it simply allocated costs to wholesale customers based on their proportion of total consumption.
- In Docket 4618, Harold Smith stated that in order to implement cost-of-service based rates using the standard base-extra-capacity approach, separate and different rates would have to be developed for each wholesale customer “since the peaking characteristics of each individual wholesale customer are different than the peaking characteristics of the class as a whole.”
- In Docket 4618, the Commission ordered Providence to create a cost-of-service study “anew” that resulted in cost-of-service based rates.
- In this Docket, Providence submitted a cost-of-service study using the base-extra capacity methodology.
- The peaking factors of the individual wholesale customers are different than the peaking characteristics of the entire class.
- In fact, as Harold Smith acknowledged, Warwick’s peaking behavior has a “significant impact on the peaking factors of the Wholesale class.”<sup>33</sup>
- As an example, for maximum day usage, the BCWA required from Providence 157% of its average daily usage while Warwick required 260% of its average daily usage. For maximum hour usage, the BCWA required from Providence 188% of its average daily usage while Warwick required 311% of its average daily usage.<sup>34</sup>

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<sup>33</sup> Harold Smith Rebuttal, p. 9

<sup>34</sup> Maker Surrebuttal, p. 10

- Providence did not incorporate the individual peaking factors into its cost-of-service model.
- Mr. Maker updated Harold Smith’s cost-of-service model by making one change – inputting the peaking factors.
- These peaking factors are undisputed and come directly from Providence.
- This one change uses Harold Smith’s model and the wholesale customers’ peaking data provided by Providence.
- This one change clearly shows that wholesale customers should be paying individual rates according to the base-extra capacity method and generally accepted ratemaking principles as addressed in Michael R. Maker’s direct and surrebuttal testimonies.
- This one change clearly shows that if wholesale customers are not charged individual rates then one group of wholesale customers receives a substantial discount from the indicated cost-of-service based rates in violation of generally accepted ratemaking principles as addressed in Michael R. Maker’s direct and surrebuttal testimonies.
- This one change clearly shows that if wholesale customers are not charged individual rates then one group of wholesale customers will subsidize a substantial discount for other wholesale customers in violation of generally accepted ratemaking principles as addressed in Michael R. Maker’s direct and surrebuttal testimonies.

This is the evidence in the record. Yet, Providence argues that using Harold Smith’s own model and incorporating the undisputed wholesale peaking factors does not result in “fair and reasonable” individual wholesale rates because it doesn’t capture the “nuances” of serving individual wholesale customers. This is absurd. As the Commission knows, it does not have to set rates that capture each and every “nuance.” The Commission must simply approve fair, reasonable, non-discriminatory and legal rates, and the primary tool to do so is a cost-of-service study.

In this case, using the base-extra capacity methodology in Harold Smith’s model, along with Providence’s own peaking data, to calculate individual wholesale rates results in fair, reasonable, non-discriminatory and legal rates. In his hearing testimony, Harold Smith described the cost-of-service study he prepared as a “really good model” and a “great cost of service study.”<sup>35</sup> In fact, his cost-of-service study was good enough to calculate separate rates for Providence’s three categories of retail customers – residential, industrial and commercial – using their peaking data.<sup>36</sup> Providence cannot have it both ways. Its cost-of-service study cannot be “great” for every other purpose except calculating individual wholesale rates. This is especially true when these individual rates can be calculated without changing Harold Smith’s model *at all*, and simply inputting Providence’s own peaking data for the individual wholesale customers.

Providence does not even claim that individual wholesale rates are not warranted. Rather, it asks the Commission to temporarily ignore these individual peaking factors and the rates they produce based on speculation that additional factors “may” capture certain “nuances” of serving wholesale customers. To do so, Providence asks that it be allowed to “study” these “nuances” and address them in its next full rate filing. As examined herein below, any further delay is completely unwarranted, unreasonable and unsupported by the evidence in this Docket.

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<sup>35</sup> Transcript V.II, p. 124, l. 5, p. 234, l. 24 – p. 235, l. 1

<sup>36</sup> Transcript V.II, p. 134, l. 23 – p. 135, l. 15 and p. 235, ll. 5-8

## 2. IS PROVIDENCE'S PROPOSED SINGLE WHOLESALE RATE LEGAL?

As set forth above, regulated utilities in Rhode Island are expressly prohibited by statute from giving any undue or unreasonable preference or advantage to one set of customers and from unduly or unreasonably prejudicing or disadvantaging another set of customers. Furthermore, undue discrimination in the form of subsidies violates generally accepted ratemaking principles. Yet, based on the clear evidence, Providence's single wholesale rate violates both the Rhode Island General Laws and ratemaking principles.

A single wholesale rate in this case does unreasonably provide an undue preference and advantage in the form of a discount to certain wholesale customers such as Warwick. And this discount is subsidized by other wholesale customers, such as the BCWA. As Mr. Maker pointed out, if a single wholesale rate is adopted, Warwick could potentially receive a \$3,724,323 discount over the course of the multi-year rate plan, and the BCWA's customers would contribute \$812,596 to subsidize this discount.<sup>37</sup> This testimony is unimpeached in this Docket, and stands as unchallenged evidence.

In 2013, Harold Smith recognized a subsidy would occur under the conditions that exist in this Docket when he gave the following response to a prescient BCWA data request in Docket 4406:

**“BCWA 1-27c:** If one or more wholesale customers had demand characteristics that put significantly more costly demands (on a unit basis) on the system than other wholesale customers, wouldn't your proposed allocations result in lower charges to those wholesale customers that put more costly demands on the system and lead to lower cost wholesale customers subsidizing higher wholesale customers?”

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<sup>37</sup> Maker Surrebuttal, p. 14, ll. 2-7

**Response:** The allocation of costs to wholesale customers used in this filing is consistent with the longstanding practice of having one uniform commodity rate that is applicable to all wholesale customers. To the extent that the demand characteristics of each individual wholesale customer are not similar, the cost allocation approach used in this filing could result in some wholesale customers subsidizing other wholesale customers. However, this approach is consistent with the practice of having one commodity rate that is applicable to all customers in each of the retail customer classes." <sup>38</sup>

In this Docket, it has been clearly established that the demand characteristics of each individual wholesale customer are not similar. Thus, the subsidy, which Harold Smith all but predicted, should not be condoned.

This subsidy is especially unfair to a utility like the BCWA that makes investments and management decisions to curb its peak demands. As set forth in Pamela Marchand's surrebuttal testimony, the BCWA has made investments and manages its system to reduce its reliance on Providence for peak demands.<sup>39</sup> The use of an average peaking factor for all wholesale customers does not reward the BCWA for making these investments and management decisions. Instead, the customers of other wholesalers reap the benefit of investments made by the BCWA's customers and decisions made by the BCWA's management.

When a wholesale customer such as the BCWA makes investments and manages its systems to lower its peak demand, the cost to serve such a customer is lowered. These efforts should be acknowledged through a cost-of-service study that accounts for this lower peak demand and the lower cost to the wholesale provider (Providence) to serve the wholesale customer (BCWA). Providence's proposed rates do the opposite.

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<sup>38</sup> Transcript V.II, p. 120, l. 11 – p. 121, l. 21

<sup>39</sup> Marchand Surrebuttal, pp. 3-4

The reason for a single wholesale rate was made clear by Providence. It is meant to incentivize Warwick to buy more water from Providence. During the course of this Docket, Providence believed Warwick could purchase less expensive water from KCWA under the terms of wheeling contracts (“Contracts”) between the parties if individual wholesale rates were implemented. This belief was wrong.

Throughout this Docket, KCWA represented that, under these Contracts, each party pays the other the wholesale rate each pays to Providence (i.e. for water KCWA buys, it pays Warwick the same rate Warwick pays to Providence; and, for water Warwick buys, it pays KCWA the same rate KCWA pays to Providence). Thus, Providence claimed that if individual rates are implemented and KCWA pays a lower rate than Warwick, then Warwick would be “incentivized” to buy more water from KCWA.<sup>40</sup> However, this is not true. The actual terms of the Contracts are contrary to what has been represented.

KCWA provided two contracts in this matter.<sup>41</sup> The first contract, dated June 21, 2006, governs water KCWA buys from Warwick. Paragraph 8 states that “KCWA agrees to pay to Warwick the same rate for water it uses as **WARWICK pays** to the Providence Water Supply Board for said water.” (emphasis added). The second contract, dated October 30, 2006, governs water Warwick buys from KCWA. Paragraph 8 states “City agrees to pay KCWA the same rate for water it uses as **City pays** to the Providence Water Supply Board for said water.” (emphasis added) So under the terms of the Contracts, KCWA buys water from Warwick at the same rate

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<sup>40</sup> Providence response to Comm. 2-1

<sup>41</sup> KCWA response to BCWA 1-3a, and KCWA response to BCWA 2-2b

Warwick pays to Providence, and KCWA sells water to Warwick at the same rate Warwick pays to Providence.

The BCWA raised this issue in its memorandum filed on July 24, 2020 addressing the Commission's jurisdiction over KCWA. Yet, in Providence's Post-Hearing Brief filed on July 31, 2020, it persists with this argument in an effort to provide an obvious discount and remove the so-called "incentive" for Warwick to buy more water from KCWA.<sup>42</sup> Not only is this discount subsidized by other wholesale customers such as the BCWA in violation of generally accepted ratemaking principles, it is illegal under the Rhode Island General Laws.

**3. ARE THERE VALID REASONS SUPPORTED BY SUBSTANTIAL EVIDENCE TO DEVIATE FROM INDIVIDUAL COST-OF-SERVICE BASED WHOLESALE RATES?**

There is no dispute the base-extra capacity methodology used by Harold Smith is a standard way to calculate costs under generally accepted ratemaking principals. There is also no dispute over the validity of the individual peaking factors for the wholesale customers. Furthermore, there is no dispute that a single wholesale rate produced by Harold Smith's model provides a discount to certain wholesale customers that is subsidized by other wholesale customers. Therefore, the Commission must determine whether there are valid reasons supported by substantial evidence to justify a single wholesale rate that so clearly violates generally accepted ratemaking principles and the Rhode Island General Laws.

This is especially true because the reasons given by the Settling Parties will not change the fact that individual wholesale rates are warranted. This fact was acknowledged by Harold Smith

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<sup>42</sup> Providence Post-Hearing Brief, pp. 11-12

at the hearing. Under questioning by the Chairman about whether a reasonable scenario existed where the BCWA would pay lower rates than Warwick once a study was completed, Harold Smith testified:

“So I mean, I can't think of any reasons why that would be the case, why Bristol County's rate would not come in lower given that they are in the low service area and that their peaking factors are relatively low, so most likely we would end up with them having a significantly lower rate than they would now.”<sup>43</sup>

Furthermore, and as examined in detail below, the issues Providence claims should be studied are not likely to make a material difference in the calculation of individual wholesale rates. Thus, these “issues for study” do not provide a basis to block the implementation of individual wholesale rates.

#### **A. Assets Used By Wholesale Customers**

The Division claims that two things need to be known to calculate individual wholesale rates – (1) the demands of each wholesale customer; and, (2) how each wholesale customer uses Providence's facilities.<sup>44</sup> As the Division concedes, the first is known.<sup>45</sup> We know the demands of each individual wholesale customer.<sup>46</sup> Similar to the Division, Providence claims it needs to evaluate how individual wholesale customers use its assets to capture the “nuances” of individual wholesale rates.<sup>47</sup> Thus, the questions before the Commission is whether the second factor is unknown, and if so, whether this unknown provides a sufficient basis to avoid

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<sup>43</sup> Transcript V.II, p. 184, l. 22 – p. 185, l. 5

<sup>44</sup> Division Response to PUC Data Request 1-1

<sup>45</sup> Id.

<sup>46</sup> Id.

<sup>47</sup> Providence Response to Commission 2-1

implementing individual wholesale rates. Addressing these questions in reverse order, the answer to both is “No.”

As referenced previously herein, the only reason Providence initially gave for maintaining a single wholesale rate was “to be consistent with prior filings and Commission approvals.”<sup>48</sup>

Providence never claimed any of the reasons it would subsequently offer. When asked about this at the hearing, Harold Smith testified as follows:

**Q. And again, if we look at Subsection B of this response, Providence claimed that the proposed single wholesale rate schedule was maintained to be consistent with prior filings and Commission approvals, correct?**

A. Yes.

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**Q. And Providence did not say that it was maintaining a single wholesale rate because different assets are used to service individual wholesale customers differently, did it?**

A. No, that would hardly be justification for a single wholesale rate.<sup>49</sup>

Yet, Providence wants to keep a single wholesale rate so it can study this issue. To use Harold Smith’s own words, this is “hardly...justification for a single wholesale rate.” And the reason is because the only assets used differently by individual wholesale customers are those related to pumping, and eliminating pumping costs does not make a material difference in individual wholesale rates.

During the litigation of this Docket, the Division asked Providence about this specific issue:

**“Div. 4-5:** Does the PWSB agree that, given the location of these [wholesale] customers, significantly more infrastructure is required to serve certain wholesale customers

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<sup>48</sup> Providence Response to Division 4-5

<sup>49</sup> Transcript V.II, p. 156, ll. 13-18, p. 157, ll. 1-7

(Greenville Water District, Lincoln Water Commission, Bristol County Water Authority, Smithfield Water District) than the other wholesale customers? If no, why not?”

The *only* infrastructure used differently by wholesale customers that Providence referenced was pumping equipment:

“The Greenville Water District, Lincoln Water Commission, and Smithfield Water District are all served by the High Service Area which requires the use of pumps and an increase in operation and maintenance costs. The high service system is comprised of the Neutaconkanut Pumping Station, Bath Street Pumping Station, and Longview Storage Reservoir.

The Bristol County Water Authority, East Providence Water Department, Warwick Water Department, and Kent County Water Authority are all served by the Low Service system that is fed by gravity. The low service system is comprised of the Aqueduct Storage Reservoir, and Neutaconkanut Storage Reservoir.”

Providence did not mention any other assets or infrastructure used differently by individual wholesale customers.

Ironically, the BCWA agrees that wholesale customers use Providence’s pumping infrastructure differently. In fact, the BCWA, East Providence, Warwick and Kent County do not require pumping at all. As such, none of them should share in these costs.

Even if that were to happen, distinguishing between customers that do, and do not, require pumping is truly a “nuance.” In the BCWA’s response to PUC 1-1, Mr. Maker calculated individual wholesale rates by just incorporating individual peaking factors for wholesale customers and making no other changes to Harold Smith’s rate model. This resulted in a rate of \$1.46 for the BCWA.<sup>50</sup> Then, he calculated individual wholesale rates by incorporating individual peaking factors for wholesale customers, eliminating pumping *and* unidirectional

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<sup>50</sup> BCWA Response to Commission 2-1

flushing costs to the BCWA and making no other changes to Harold Smith's rate model. By eliminating *both* pumping costs and unidirectional flushing costs, the BCWA's rate only drops a penny to \$1.45. This is not material enough to justify blocking individual wholesale rates altogether. In addition, as Harold Smith acknowledged, addressing the potential disparate asset usage by individual wholesale customers would necessitate a modification from the traditional base-extra capacity methodology, and Providence has not justified such a departure.<sup>51</sup>

Furthermore, individual wholesale rates can be calculated without immediately addressing asset usage. In fact, the BCWA calculated individual wholesale rates by only making the single change of incorporating individual peaking factors, without incorporating any other change suggested by the BCWA, including the elimination of pumping costs. (See Exhibit 1)<sup>52</sup> The Commission could implement these rates in year one of the multi-year increase, and Providence can study the "nuances" to determine their effect on rates in years two and three.<sup>53</sup>

#### **B. Impact of Peaking Factors**

Another "nuance" cited by Harold Smith is the impact of peak demand on Providence's costs. Remarkably, Mr. Smith now claims that "In some cases peak demand *may* have little to no impact on Providence's Water's costs."<sup>54</sup> This completely repudiates the base-extra capacity methodology. As Harold Smith originally testified, the base-extra capacity approach "allocates

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<sup>51</sup> Providence Response to PUC DR 2-1

<sup>52</sup> This exhibit updates Mr. Maker's previous calculations using the Settlement Agreement revenue requirement.

<sup>53</sup> The BCWA also argues that unidirectional flushing costs should not be allocated to the BCWA. This issue could also be evaluated as individual wholesale rates are phased in over the multi-year rate plan.

<sup>54</sup> Providence Response to PUC DR 2-1, emphasis added

costs to customer classes in proportion to their use of the Providence Water System. Under this approach, costs are **primarily** allocated based on peak demand, both on a maximum day and maximum hour basis.”<sup>55</sup>

Harold Smith used peak demand to allocate costs to *all* of Providence’s customers including the three categories of retail customers – residential, commercial and industrial. If Providence needs more time to study whether peak demand impacts its costs, then its entire cost-of-service study must be thrown out because peak demand is a pillar of its cost allocation to *all* its customers.

Harold Smith also states that peak demand “**may** represent a beneficial impact on Providence’s operations to the extent that it improves water quality in certain portions of Providence Water’s system. This nuance would not be captured by merely including peaking factors into the cost of service study because the impact may not be the same for each customer.”<sup>56</sup> However, peaking factors do not allocate just operational costs. As both Harold Smith and Mr. Mierzwa acknowledge, peaking factors also allocate capital costs for design and construction of the system to meet peak demands.<sup>57</sup> Furthermore, this concept would not apply to just wholesale customers. Peak demand by Providence’s residential, industrial and commercial customers may also benefit Providence’s water quality and operational costs. Yet, Providence does not claim the need to study this nuance when it comes to these customers.

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<sup>55</sup> Harold Smith Direct, p. 14, emphasis added

<sup>56</sup> Providence Response to PUC DR2-1, emphasis added

<sup>57</sup> Mierzwa Direct, pp. 6-7, Harold Smith Direct, pp. 14-15

### C. Uncertain Revenue Impact Related to KCWA and Warwick

At the outset, it is important to note that individual wholesale rates do not reduce the amount of revenue Providence collects from the wholesale customers, it merely changes the percentages contributed to the overall revenue. As set forth on Schedule HJS Settlement-22, the total revenue to be collected from the wholesale class by charging a single wholesale rate is \$18,341,721 in FY2021. On Schedule HJS Settlement-22 Amended by Michael R. Maker,<sup>58</sup> the total revenue to be collected from the wholesale class by charging individual rates actually *increases* to \$18,723,612 in FY2021.<sup>59</sup> (Exhibit 1) As Mr. Maker explained in his direct testimony, changing the peaking factors for wholesale customers affects the demand factors (ccf/day) and therefore also changes the allocation between All and Retail, which increase the overall revenue paid by the wholesale class, and reduces the amount paid by the retail customers.<sup>60</sup>

As addressed above, Providence continues to wrongly speculate that Warwick will be incentivized to buy more water from KCWA if the Commission implements individual wholesale rates. This is unsupported by actual language of the Contracts and the hearing testimony regarding Warwick's current ability to purchase more water from KCWA. Mr. Bebyn and David Simmons, KCWA's Executive Director, testified that KCWA only has one connection it can use to supply Warwick, and KCWA is already at the limit of what it can supply through that

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<sup>58</sup> This Schedule only incorporates Providence's peaking factors. It does not incorporate any of the other changes requested by the BCWA.

<sup>59</sup> Maker Direct, pp. 11-12

<sup>60</sup> Id.

connection.<sup>61</sup> The only other connection KCWA has is an emergency connection, which is governed by the Rhode Island Department of Health.<sup>62</sup> Providence hypothesizes that Warwick could invest in other connections if it can buy water a lower rate from KCWA, but this is rank conjecture unsupported by the Contracts and does not justify a single wholesale rate.

Providence also speculates about the possibility that increased purchases by Warwick from KCWA “could drive” KCWA’s “peak demand higher, and Warwick’s demand lower.”<sup>63</sup> This is pure supposition and unsupported by the language of the Contracts. Any number of things “could” happen. For instance, Providence’s consumption may be less than forecasted and it may not sell as much water to all of its customers. These types of unknowns are part of any rate case. Despite these possible eventualities, the Commission must set rates on what is known, measurable and verifiable. A single wholesale rate should not be kept in place based on speculation about what might happen in the future regarding KCWA’s and Warwick’s demands. This is especially true for a multi-year rate increase when issues like consumption and demands can be monitored and addressed in the statutorily mandated compliance filings.

In fact, the Commission has done just that in the past. In Pawtucket Water Supply Board Docket 4550, the Commission approved a multi-year rate increase settlement agreement that allowed the parties to advocate for different consumption numbers and different max-day and

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<sup>61</sup> Transcript V.II, p. 76, l. 9 – p. 77, l. 5

<sup>62</sup> Transcript V.II, p. 81, ll. 7-19

<sup>63</sup> Providence response to Commission 2-1

max-hour demand factors in the compliance filings. (Exhibit 3, excerpt from Docket 4550 Settlement Agreement, ¶¶ 42 and 43)<sup>64</sup>

Furthermore, delaying the implementation of individual wholesale rates will not answer the question of how individual wholesale rates will affect (if at all) Warwick's and KCWA's purchases and demands. The only way to know if either of these things will happen is to implement individual wholesale rates as part of the multi-year rate plan. As Harold Smith acknowledged during the hearing, if individual wholesale rates are implemented in year one of the plan, Providence will be able to determine how much water Warwick buys from KCWA; whether Warwick and KCWA's demands change; and whether Providence collects less revenue.<sup>65</sup> If this is done in the first year of the rate plan (FY 2021), then the effects can be monitored and addressed in Providence's compliance filings for FY 2022 and FY 2023.

#### **D. Contractual Issues Between KCWA and Warwick**

Providence argues that individual wholesale rates "may present contractual issues that will need to be evaluated by" KCWA and Warwick."<sup>66</sup> However, Harold Smith could not identify these contractual issues or how they would be affected by individual wholesale rates.<sup>67</sup> Rather, he stated "Mr. Bebyn identified them as being an issue and I just took him at his word."<sup>68</sup>

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<sup>64</sup> The Commission can take Judicial Notice of the Settlement Agreement and its Order in that Docket.

<sup>65</sup> Transcript V.II, p. 163, l.4 – p. 164, l. 12

<sup>66</sup> Providence Response to Commission 2-1

<sup>67</sup> Transcript V.II, p. 166, l. 23 – p.167, l. 24

<sup>68</sup> Transcript V.II, p. 167, ll. 12-13

None of the Settling Parties cited any ratemaking principle or legal authority that allows a contract between two wholesale customers to dictate the setting of rates. This would allow the tail to wag the dog. Simply put, the Contracts between KCWA and Warwick are not controlling in this matter. The objective of this Docket is to establish fair, reasonable, non-discriminatory and legal rates. The BCWA should not have to subsidize a discount because KCWA and Warwick have contractual agreements. KCWA and Warwick are free to renegotiate the terms of their contract in conformance with the Commission's order, not the other way around. In fact, KCWA and Warwick should have been preparing for individual wholesale rates based on the Commission's Order in Docket 4618 that Providence submit a cost-of-service study "created anew," and Providence's pronouncement that it would have to implement individual wholesale rates to utilize the standard base-extra capacity methodology.

#### **E. Disparate Impact/Rate Shock**

According to Harold Smith, Providence Water does not support individual wholesale rates "because doing so would result in a significant disparity in the impact on the bills of the individual wholesale customers."<sup>69</sup> This "significant disparity" is precisely why individual rates *should* be implemented for Providence's wholesale customers. If each wholesale customer had similar peaking factors and similarly impacted Providence, then the need for individual wholesale rates would be moot. However, that is not the case. These peaking factors clearly demonstrate that the cost to serve certain wholesale customers is higher because of their peak

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<sup>69</sup> Harold Smith Rebuttal, p. 8

demand. Thus, under the base-extra capacity methodology, these customers should pay higher rates.

Furthermore, although certain wholesale customers, such as Warwick, will pay higher rates, the increases do not constitute rate shock for two reasons. First, all the parties that participated in Docket 4618 should have expected the implementation of individual wholesale rates in this Docket based on Harold Smith's pronouncement that individual rates were required under the base-extra capacity approach. Second, Providence departed from true cost-of-service on two charges in this Docket – the monthly service charge and the public fire surcharge.<sup>70</sup> Providence proposed lower charges because the indicated cost-of-service rates would result in rate shock.<sup>71</sup> Each of these charges was limited to a 40% increase.<sup>72</sup> Thus, Providence clearly does not consider a 40% increase to be rate shock because these increases are included in the Settlement Agreement as fair and reasonable increases.<sup>73</sup>

If the Commission adopts individual wholesale rates using just the peaking factors and none of the BCWA's other proposed changes, the percentage increase to Warwick would be 36.25%. (See Exhibit 1) If the Commission adopts all of the BCWA's recommendations in this Docket (Incorporation of peaking factors for all wholesale customers; Elimination of pumping/unidirectional flushing costs to the BCWA; Elimination of the allocation of the Central Operations Facility's Commercial Services to all wholesale customers; Eliminating 102,8243 HCF

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<sup>70</sup> Harold Smith Direct, p. 29, ll. 1-20

<sup>71</sup> Id.

<sup>72</sup> Id.

<sup>73</sup> Transcript V.II, p. 174, ll. 1-10

of water from the allocation of Non-Revenue Water for Water Quality and Other Testing to all wholesale customers; and, Revising the allocation of T&D Labor Costs to 5% for all wholesale customers) Warwick's increase would only be 29.85%. (Exhibit 2)<sup>74</sup> These are both below the 40% increase Providence deemed fair and reasonable for the monthly service charge and the public fire surcharge.

#### **F. Additional Time To Study Individual Wholesale Rates**

Harold Smith maintains that "Providence is unable to calculate individual wholesale rates which are reasonable because it does not have sufficient information at this time to reflect all the nuances involved in serving each wholesale customer."<sup>75</sup> This is simply unsupported by the record, and a finding in Providence's favor on this issue would be completely unjust. It was Harold Smith who stated in Docket 4618 that individual wholesale rates would have to be calculated to use the standard base-extra capacity methodology he employed in this case. The Commission ordered Providence to submit a cost of service study on February 10, 2017, and Providence submitted its rate filing in this Docket on December 2, 2019. Thus, Providence had two years and ten months to gather the information needed to address these nuances.

Providence proposes a three-year rate plan in this Docket which extends through FY 2023. Using the period of time between Providence's filings in Dockets 4406, 4618 and 4994 as a guide, Providence may not file its next rate case until 2026.<sup>76</sup> Then after filing, it will be nine

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<sup>74</sup> This exhibit updates Mr. Maker's previous calculations using the Settlement Agreement revenue requirement.

<sup>75</sup> Providence Response to PUC 2-1

<sup>76</sup> Even Harold Smith conceded that the BCWA should not have to wait six years to gather the necessary information needed for individual wholesale rates. (Transcript V.II, p. 238, ll. 7-11)

months before new rates go into effect. Thus, the BCWA could be stuck paying rates that are not based on cost-of-service for the next seven years. This would result in seven years of discounts for some wholesale customers subsidized by others. In addition, if individual wholesale rates are not implemented until 2027, this would be a ten-year delay from the Commission's February 10, 2017 order that Providence submit a cost of service study "created anew." The BCWA should not be penalized and have to subsidize other wholesale customers for a decade because Providence did not gather information it knew was necessary in this Docket.

In fact, the Commission can implement individual wholesale rates now and order the nuances studied without waiting for Providence's next general rate filing. As set forth above, Harold Smith's model yields individual cost-of-service based wholesale rates by inputting just the peaking factors. (Exhibit 1) These individual rates should be implemented now, and Providence can study the "nuances" before phase two of the increase. If the "nuances" truly affect rates, then adjustments can be made in years two and three of the increase.

Furthermore, if the Commission makes a finding that the "nuances" will substantially affect rates, it can implement individual wholesale rates in the first year that are less than cost-of-service. Attached to this memorandum as Exhibit 4 is an example of gradualism. The first table shows the wholesale rates proposed in the Settlement agreement; the second table shows the BCWA's proposed rates by just inputting the individual peaking factors using the Settlement

Agreement Revenue Requirement<sup>77</sup>; and, the third table sets forth an example of gradualism.<sup>78</sup> This would still allow Providence to study the nuances it identified to see if they impact the individual wholesale rates. Then, the year two increase (and potentially year three) can move to true cost-of-service rates through Providence's compliance filings as required by R.I.G.L. § 39-15.1-4.

In fact, Harold Smith himself acknowledged that gradualism could be employed to mitigate the disparate impacts of moving immediately to individual wholesale rates that result from his model.<sup>79</sup> His justification for not doing so was his mistaken belief that Warwick had not intervened in this Docket.<sup>80</sup>

Finally, Providence requests funding for its study be included in the revenue requirement for FY2022 and FY2023. This is a bold and unwarranted request considering that under the terms of the proposed Settlement Agreement, Providence will have a \$5.5 million balance in its IFR Fund in FY2023, which assumes Providence actually spends the amount of money it forecasts on capital projects in FY2021 and FY2022. Surely, Providence can use some of this balance for its study.

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<sup>77</sup> In essence, these rates which just incorporate peaking factors are already a form of gradualism because they do not account for the elimination of pumping and unidirectional flushing costs.

<sup>78</sup> It should be noted that if the Commission adopts any of the BCWA's recommendations regarding allocations that apply to all of the wholesale customers (T&D Labor Costs, Central Operations Facility and Non-Revenue Water), then all of the wholesale customers rates in this proposal will decrease, not just the BCWA's.

<sup>79</sup> Harold Smith Rebuttal, p. 9, ll. 2-5

<sup>80</sup> Id.

### **G. Warwick's Lack of Participation**

Providence and KCWA also argued that the Commission should not implement individual wholesale rates due to Warwick's lack of participation in this Docket. This position is a total red herring without any factual or legal support and would set an extremely dangerous precedent.

First, this is a red herring because the Commission can require a utility to implement cost-of-service based rates, or the Commission can implement such rates *sua sponte*, no matter which parties participate in a Docket. As set forth above, a utility's rates should *always* be based on cost-of-service.

Second, Providence incorrectly assumed that Warwick had not participated in this Docket. In his rebuttal testimony, Harold Smith testified that while it would be possible to mitigate some of the impact of individual wholesale rates to the City of Warwick by applying gradualism, "to do so at this juncture would mean that the parties that would be most severely impacted would not be able to fully participate in the rate setting process since they are not interveners in this Docket."<sup>81</sup>

As Providence would later acknowledge, this was incorrect. Warwick did intervene in this Docket and is a signatory to the Settlement Agreement. Furthermore, all of Providence's wholesale customers had the opportunity to participate in this Docket. In fact, RIGL §39-3-12.1 requires Providence to provide a copy of its filing to each wholesale customer, and Section 4 of Providence's original filing contains copies of these notices.

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<sup>81</sup> Harold Smith Rebuttal, p. 9

The Rhode Island Supreme Court has made it clear that a wholesale customer should intervene and participate in a Commission Docket to protect its interests. Town of Narragansett v. Malachowski, 621 A.2d 190 (1993) In Malachowski, the Wakefield Water Company submitted a filing in which it proposed a wholesale rate of \$0.54/thousand gallons. The Town of Narragansett did not participate in the PUC Docket. Prior to hearing, the Division and Wakefield Water Company reached a settlement that included a wholesale rate of \$0.66/thousand gallons. The Town of Narragansett objected because the rate agreed to was higher than the rate initially proposed. The Supreme Court found that Narragansett should have intervened to protect its interests in the wholesale rate proposed in the original filing. Id. at 195

The Supreme Court declared that intervention and participation were especially important because the Commission has the right to reallocate costs differently than proposed by a utility to achieve a nondiscriminatory result. Id. at 196. And because the Commission is free to accept or reject a utility's proposed rate allocation, "no party has the right to assume that a rate-increase filing will not be subject to changes prior to implementation." Id. Therefore, the only way for a wholesale customer to protect its interest is through intervention and active participation in a Docket. To find any other way would set a dangerous precedent.

The Commission should not allow a wholesale customer like Warwick to intervene, not participate, and then object that rates are being allocated differently than originally proposed. This is especially true in this case. Warwick has intervened in Providence's last three Dockets (3832, 4406 and 4618), and in Docket 4618 the Commission ordered Providence to prepare a

cost-of-service study, and Harold Smith clearly raised the prospect of individual wholesale rates.<sup>82</sup>

#### **H. Kent County's Status As Settling Party**

KCWA participated in the Settlement Agreement even though its rates will go down if the Commission implements individual wholesale rates. Providence cites this factor in support of its proposal for a single wholesale rate.<sup>83</sup> While KCWA's position is certainly mystifying, because it is not supported by any factual evidence, it does not serve as a reason to keep a single wholesale rate. In fact, KCWA only raised two objections to individual wholesale rates: (1) notice to the City Warwick; and, (2) a so-called funding issue.

During the course of litigation, KCWA agreed that the BCWA's witness, Michael Maker, had correctly calculated individual wholesale rates using Harold Smith's model and Providence's peaking factors.<sup>84</sup> The Commission itself asked KCWA why it would not take advantage of individual wholesale rates if its rates would decrease. KCWA responded as follows:

"KCWA agrees with BCWA's assessments and approach by Mr. Maker and strongly feels there is merit to what they have presented. KCWA would actively engage in discussions and analysis to this end. The Division did not include individual wholesale rates in settlement discussions, so KCWA determined that this was going to be handled in a future rate case. The issue only became highlighted when BCWA started sending KCWA data requests to root out why KCWA would oppose a measure that would effectively reduce rates to its ratepayers. Again, KCWA does not oppose what BCWA has presented, KCWA just wanted to ensure that Warwick fully understood what was potentially happening financially and the ramifications of agreements we had in place."<sup>85</sup>

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<sup>82</sup> The Commission can take Judicial Notice of Warwick's intervention in these Dockets.

<sup>83</sup> Providence Post-Hearing Brief, p. 14

<sup>84</sup> KCWA response to BCWA 1-5

<sup>85</sup> KCWA response to Commission 2-1

This reasoning was debunked at the hearing:

- Mr. Bebyn acknowledged learning on April 24, 2020 that BCWA was going to request individual rates through a conversation with BCWA’s counsel. Thus, KCWA had ample opportunity to alert Warwick about the BCWA’s request.<sup>86</sup>
- Mr. Bebyn acknowledged that BCWA sent its first set of data requests on May 12, 2020, one day after filing its direct testimony.<sup>87</sup> Thus, once again KCWA had ample opportunity to alert Warwick if it was so concerned.
- Mr. Bebyn acknowledged that Warwick intervened in this Docket and was not prevented from participating.<sup>88</sup>
- Mr. Bebyn also acknowledged that whether or not individual wholesale rates were implemented did not depend on whether the Division included the issue in settlement discussions. KCWA was free to bring up the issue as well. In fact, Mr. Bebyn acknowledged that the BCWA brought up the issue in settlement discussions.<sup>89</sup>

The only other issue KCWA raised, apart from Warwick’s participation, was a so-called funding issue. In his direct testimony, Mr. Bebyn indicated that different wholesale rates “would cause funding issues” if KCWA and Warwick had different rates.<sup>90</sup> In follow up, the BCWA asked KCWA to identify “in detail all funding issues referenced by Mr. Bebyn.”<sup>91</sup> Mr. Bebyn responded that the funding issues referred “to costs KCWA has regarding the operation, maintenance and repairs regarding the interconnection with Warwick. Please see item 7 of the agreement which is attached to the response to BCWA 1-3a.”<sup>92</sup> Then, BCWA followed up again by asking KCWA to set forth how much it paid to Warwick in the last five years for “its share of

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<sup>86</sup> Transcript V.I, p. 23, ll. 9-18

<sup>87</sup> Transcript V.I, p. 55, ll. 7-10

<sup>88</sup> Transcript V.I, p. 49, l.22 – p. 50, l. 11

<sup>89</sup> Transcript V.I, p. 56, ll. 3-18

<sup>90</sup> Bebyn Direct, p.7, ll. 5-6

<sup>91</sup> BCWA 1-3 d.

<sup>92</sup> KCWA Response to BCWA 1-3 d.

all costs of operation, maintenance and repair with respect to said 42" Main, the Bald Hill Tanks, and all meters, valves and all other apparatus and associated therewith" as referenced in paragraph 7 of the agreement."<sup>93</sup> Mr. Bebyn responded that no payments had been made in the past five years.<sup>94</sup> And at the hearing, KCWA's Executive Director, David Simmons, could not identify the funding issues.<sup>95</sup>

## **B. COST OF SERVICE – SPECIFIC ALLOCATIONS**

### **1. Allocations to All Wholesale Customers**

In addition to issues specific to the BCWA, it identified three costs that should not be allocated to *any* of the wholesale customers.

#### **A. Transmission and Distribution Labor Costs**

In Ms. Marchand's direct testimony, she stated:

"T&D Labor costs (HJS-13d) have been allocated based on inch miles of Transmission pipe vs. Distribution pipe (HJS13-c). However, with most water utilities, the proportion of in-house maintenance performed on transmission pipes (classified by Providence as pipes larger than 12 inches) is considerably less than maintenance performed on distribution pipes (classified by Providence at 12 inches and smaller). In my experience, most water systems hire outside contractors for maintenance and repair of pipes larger than 12" because such work requires a substantial investment in equipment, spare parts and training for work that is performed infrequently. Therefore, only a small portion, if any portion at all, of Transmission and Distribution Labor Costs should be assigned to wholesale customers. The BCWA has issued a data request regarding this issue, and I may address this further it in my surrebuttal testimony." <sup>96</sup>

In BCWA 5-3, Providence was asked for the percentage of time its employees spent working on transmission mains in the test year, FY2019. Providence responded that its employees only

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<sup>93</sup> BCWA 2-1 b. and c.

<sup>94</sup> KCWA Response to BCWA 2-1 b. and c.

<sup>95</sup> Transcript V.I, p. 91, ll. 13-15

<sup>96</sup> Marchand Direct, p. 4, ll. 4-15

spend 5% of their time working on transmission mains in the test year. Yet, Providence objects to the BCWA's request that only 5% of T&D Labor Costs be allocated to wholesale customers. Providence claims this percentage could change in other years.<sup>97</sup>

As referenced hereinabove, the Commission bases future rates upon known and measurable past and present conditions through the use of data generated during a specific test period. *Michaelson v. New England Telephone and Telegraph Company*, 404 A.2d 799 (R.I. 1979) Providence cannot rely on mere speculation that this percentage could change in the future to oppose the BCWA's request. The allocation of this cost should be based on the known and measurable test year percentage of 5%.

#### **B. Central Operations Facility ("COF") Allocation**

The BCWA disagrees that 10% of commercial services costs at the COF should be assigned to wholesale customers as there is no basis for this allocation. In his direct testimony, Mr. Mierzwa stated that, based on Providence's response to Division 4-10, "Commercial Services consist of all large and small meter related service, all billing related activity, and all collection related activity."<sup>98</sup> He then pointed out that Providence allocated all these costs to retail customers, which he found unreasonable. As such, he stated that "Unless Providence Water can demonstrate that an alternative allocation is more reasonable, I recommend that 10 percent of Commercial Services costs be assigned to Wholesale customers."<sup>99</sup> Yet, Mr. Mierzwa provided no support for his 10% allocation in his direct testimony, and failed to do so again at

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<sup>97</sup> Transcript V.II, p. 212, l. 10 – p.213, l. 1

<sup>98</sup> Mierzwa Direct, p. 12, ll. 10-12

<sup>99</sup> Id., p. 12, ll. 16-18

the hearing. As Mr. Mierzwa acknowledged, there was no basis for the ten percent allocation, “It was just an assumption of what might be reasonable.”<sup>100</sup>

Providence only has seven wholesale customers as opposed to approximately 77,000 retail customers. Furthermore, Providence has 57,812 5/8” meters, which are typically used to service residential customers as opposed to the large venturi meters that are owned and tested by its wholesale customers. Thus, an allocation of 10% overstates the wholesale customers’ share of meter, billing and collection activities and should be rejected.

### **C. Allocation of Non-Revenue Water to Wholesale Customers**

The BCWA disagrees with Providence allocating 47.4% of total non-revenue water used for Water Quality and Other Testing (1,178,162 HCF) being allocated to the wholesale customers. According to Providence’s response to BCWA 10-1, only 1,075,338 HCF of this total amount benefits wholesale customers because that is the amount used to flush the Aqueduct Reservoir.<sup>101</sup> Providence indicates this reservoir benefits both wholesale and retail customers. The remainder is used to flush the retail system, including the old East Smithfield distribution system and the Ridge Road Tank, which does not benefit the wholesale customers. As such, this allocation should be revised for all wholesale customers.

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<sup>100</sup> Transcript V.I, p. 222, ll. 15-24

<sup>101</sup> Providence Water Response to BCWA 10-1

## **2. Allocations to BCWA and Certain Wholesale Customers**

As set forth above, these particular issues do not necessarily have to be addressed in the first year of the multi-year plan until after Providence completes its study, but the BCWA sets forth its position here.

### **A. Pumping Costs**

In Providence's system, four wholesale customers are fed by gravity and three require pumping. The BCWA's connection is gravity fed, while other wholesale customers require the use of pumps. As set forth in Providence's response to Div. 4-5:

"The Greenville Water District, Lincoln Water Commission, and Smithfield Water District are all served by the High Service Area which requires the use of pumps and an increase in operation and maintenance costs. The high service system is comprised of the Neutaconkanut Pumping Station, Bath Street Pumping Station, and Longview Storage Reservoir.

The Bristol County Water Authority, East Providence Water Department, Warwick Water Department, and Kent County Water Authority are all served by the Low Service system that is fed by gravity. The low service system is comprised of the Aqueduct Storage Reservoir, and Neutaconkanut Storage Reservoir."

As such, pumping costs should not be allocated to the BCWA, KCWA, East Providence and Warwick.

### **B. Unidirectional Flushing Costs**

According to Providence's response to Div. 5-1, it allocated unidirectional flushing costs to wholesale customers because it flushes all mains in the system that are 12 inches and below and some wholesale customers are fed by 8 inch and 12 inch mains. BCWA is not one of these customers and should not be allocated any of these costs. The BCWA maintains that Providence should not allocate unidirectional flushing costs to the BCWA.

## **C. REVENUE REQUIREMENT**

### **1. IFR Funding**

The Division originally recommended that funding for this account be reduced by \$2 million in FY 2023 to mitigate the rate increase rather than allowing Providence to accumulate funds in this account.<sup>102</sup> Reducing funding by this amount will still leave Providence with a \$4,527,654 balance in FY 2023.<sup>103</sup> The settlement agreement sets forth a compromised reduction of \$1 million. The BCWA believes the Division's original position was correct. In addition, the BCWA believes funding for this account should be reexamined when Providence submits its compliance filing for FY 2023. This will allow the parties to determine how much Providence actually spends from this account in FY 2021 and FY 2022. Furthermore, the funds in this account should be used for Providence's study on wholesale rates.

### **2. Insurance Funding**

The Division originally argued that annual funding should be reduced by \$502,113 (from \$2,302,113 to \$1,800,000) because the projected ending balances in this account were accumulating significantly.<sup>104</sup> The settlement provides for a downward reduction of \$251,057, which is half of what the Division recommended.<sup>105</sup> This will leave Providence with a balance of \$2,247,429 at the end of FY 2023, and that assumes Providence pays out \$224,654 in injuries and damages claims in FY 2021.<sup>106</sup> Based on past experience, Providence will not pay this total

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<sup>102</sup> Settlement Agreement, ¶ 4.K.

<sup>103</sup> Schedule HJS Settlement-10 C

<sup>104</sup> Ralph Smith Direct Testimony, pp. 22-23

<sup>105</sup> Settlement Agreement, ¶ 4.J.

<sup>106</sup> Schedule HJS Settlement-10 F

in FY 2021. In FY 2019, which is the test year, Providence paid out \$57,676.26 of a total requested amount of \$345,447.19, which is 16.7% of total claims made.<sup>107</sup> As such, Providence's annual funding should be reduced by \$502,113, which will still leave an approximate \$1.5 million balance at the end of FY 2023, even if Providence paid the full amount of \$224,654 for Injuries and Damages expense in FY 2021.

### **3. RECs**

In Mr. Caruolo's direct testimony, he indicates that Providence's goal is to become 100% reliant on renewable power. He further testified that "It's my understanding that to claim you're 100% renewable power, then you must produce and utilize all of your energy needs and retire Renewable Energy Certificates (REC) that are earned. Therefore, Providence Water will be retiring our REC's."<sup>108</sup>

In response to BCWA 1-40, Providence estimated the annual value of its RECs to be \$101,750 to \$370,000. Further, in response to BCWA 2-24, Providence acknowledges that it could produce enough renewable energy to offset electricity use at all of its facilities and sell its RECs. Thus, while the BCWA supports Providence's use of renewable energy and its desire to lead by example, the annual income it would receive from RECs can be used to reduce rates for its customers, and Providence can still utilize renewable energy for its electricity needs.

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<sup>107</sup> Transcript V.I, p.202, l. 24 – p. 205, l. 1

<sup>108</sup> Caruolo Direct, p. 7

**V. CONCLUSION**

For the reasons set forth hereinabove, the Bristol County Water Authority prays that the Rhode Island Public Utilities Commission reject the Settlement Agreement as presented and order the modifications requested by the Bristol County Water Authority as set forth above and all other relief the Commission deems meet and just.

BRISTOL COUNTY WATER AUTHORITY

By its attorney,



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**CERTIFICATION**

I hereby certify that on August 7, 2020, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and hand delivery.

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***EXHIBIT 1***

**Schedule HJS Settlement-16a: Customer Class Units of Service**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Customer Class	Base Demand			Maximum Day Extra Capacity				Maximum Hour Extra Capacity				Billing		Direct Fire
	Rate Year Sales	Plus NRW	Base	Average Day	Peaking Factor	Maximum Day	Maximum Day Extra	Average Day	Peaking Factor	Maximum Hour	Maximum Hour Extra	Meters & Services	Monthly Bills	
	HCF	HCF	HCF	HCF/d		HCF/d	HCF/d	HCF/d		HCF/d	HCF/d	5/8" Eq.		6" Eq.
<b>Retail</b>														
Residential	8,396,176	2,260,036	10,656,212	23,003	1.56	35,958	12,954	23,003	3.13	71,915	35,958			
Commercial	4,041,665	1,087,913	5,129,578	11,073	1.68	18,644	7,571	11,073	3.37	37,289	18,644			
Industrial	187,186	50,386	237,572	513	1.44	741	228	513	2.89	1,481	741			
Sub-total Retail	12,625,027	3,398,335	16,023,362	34,589	1.60	55,343	20,753	34,589	3.20	110,685	55,343	88,313	931,056	
<b>Fire Protection</b>														
Private						690	690			2,759	2,070	40,187	23,940	
Public (Providence)			69,188			1,085	1,085			4,338	3,254			3,232
Public (All Other)			71,029			1,113	1,113			4,453	3,340			3,318
Subtotal Fire Protection			140,217			2,888	2,888			11,551	8,663	40,187	23,940	6,550
Bristol County	1,494,845	86,344	1,581,189	4,095	1.51	6,191	2,096	4,095	1.81	7,429	1,238			
East Providence	1,822,773	105,286	1,928,059	4,994	1.67	8,317	3,323	4,994	2.76	13,797	5,480			
East Smithfield	-	-	-	-	0.00	-	-	-	0.00	-	-			
Greenville	421,521	24,348	445,869	1,155	2.01	2,323	1,168	1,155	3.05	3,525	1,202			
Johnston	-	-	-	-	0.00	-	-	-	0.00	-	-			
Kent County	2,727,147	157,524	2,884,671	7,472	1.42	10,638	3,166	7,472	2.18	16,260	5,622			
Lincoln	1,038,229	59,970	1,098,198	2,844	1.90	5,402	2,557	2,844	2.23	6,354	952			
Smithfield	391,600	22,619	414,220	1,073	2.17	2,328	1,255	1,073	2.56	2,747	419			
Warwick	3,466,644	200,238	3,666,883	9,498	2.40	22,752	13,254	9,498	2.81	26,693	3,941			
<b>Wholesale</b>	11,362,760	656,329	12,019,088	31,131	1.86	57,951	26,821	31,131	2.47	76,806	18,855			
<b>Grand Total</b>	<b>23,987,787</b>	<b>4,054,664</b>	<b>28,182,668</b>	<b>65,720</b>	<b>1.77</b>	<b>116,182</b>	<b>50,462</b>	<b>65,720</b>	<b>3.03</b>	<b>199,042</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>

Intraclass Distribution of Retail Max Day Based on Monthly Analysis

	Max Day	%
Residential	36,616	64.97%
Commercial	18,986	33.69%
Industrial	754	1.34%
	56,357	100.00%

## Schedule HJS Settlement-16c: Customer Class Units of Service

Providence Water Supply Board

AMENDED BY MICHAEL R. MAKER

Docket # 4994

Request for General Rate Relief

Confidential Settlement Proposal

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Customer Class	Base HCF	Extra Capacity		Billing		Direct Fire 6" Eq.
		Maximum Day Extra HCF/d	Maximum Hour Extra HCF/d	Meters & Services 5/8" Eq.	Monthly Bills Bills	
<b>Retail</b>						
Residential	10,656,212	12,954	35,958			
Commercial	5,129,578	7,571	18,644			
Industrial	237,572	228	741			
Sub-total Retail	16,023,362	20,753	55,343	88,313	931,056	
<b>Fire Protection</b>						
Private		690	2,070	40,187	23,940	
Public (Providence)	69,188	1,085	3,254			3,232
Public (All Other)	71,029	1,113	3,340			3,318
Subtotal Fire Protection	140,217	2,888	8,663	40,187	23,940	6,550
Bristol County	1,581,189	2,096	1,238			
East Providence	1,928,059	3,323	5,480			
East Smithfield	-	-	-			
Greenville	445,869	1,168	1,202			
Johnston	-	-	-			
Kent County	2,884,671	3,166	5,622			
Lincoln	1,098,198	2,557	952			
Smithfield	414,220	1,255	419			
Warwick	3,666,883	13,254	3,941			
<b>Wholesale</b>	12,019,088	26,821	18,855			
<b>Grand Total</b>	<b>28,182,668</b>	<b>50,462</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>
	16,163,579	23,641	64,006	128,499	954,996	6,550

**Schedule HJS Settlement-17: Unit Cost of Service**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Total	Common To All			Retail Only					
	Base HCF	Max Day HCF/d	Max Hour HCF/d	Base HCF	Max Day HCF/d	Max Hour HCF/d	Meters & Services Eq. 5/8" Mtrs.	Billing & Collection Bills	Direct Fire Eq. 6" Conn.
<b>Total Units of Service</b>									
Retail	16,023,362	20,753	55,343	16,023,362	20,753	55,343	88,313	931,056	-
Fire Protection	140,217	2,888	8,663	140,217	2,888	8,663	40,187	23,940	6,550
Bristol County	1,581,189	2,096	1,238						
East Providence	1,928,059	3,323	5,480						
East Smithfield	-	-	-						
Greenville	445,869	1,168	1,202						
Johnston	-	-	-						
Kent County	2,884,671	3,166	5,622						
Lincoln	1,098,198	2,557	952						
Smithfield	414,220	1,255	419						
Warwick	3,666,883	13,254	3,941						
Wholesale	12,019,088	26,821	18,855						
<b>Total</b>	<b>28,182,668</b>	<b>50,462</b>	<b>82,860</b>	<b>16,163,579</b>	<b>23,641</b>	<b>64,006</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>

**Unit Cost of Service**

O&M Expense	\$ 38,289,309	\$ 16,412,109	\$ 2,472,041	\$ 1,438,577	\$ 1,037,792	\$ 796,857	\$ 1,308,473	\$ 5,158,924	\$ 7,602,211	\$ 2,062,325
Unit Cost (\$/Unit)	\$ 0.58	\$ 48.99	\$ 17.36	\$ 0.06	\$ 33.71	\$ 20.44	\$ 40.15	\$ 7.96	\$ 314.86	
Capital Expense	\$ 35,017,000	\$ 9,151,877	\$ 4,398,283	\$ 317,618	\$ 3,851,896	\$ 2,953,343	\$ 4,849,512	\$ 7,708,157	\$ 1,013,064	\$ 773,250
Unit Cost (\$/Unit)	\$ 0.32	\$ 87.16	\$ 3.83	\$ 0.24	\$ 124.92	\$ 75.77	\$ 59.99	\$ 1.06	\$ 118.05	
City Services Expense	\$ 839,167	\$ 327,092	\$ 36,977	\$ 28,447	\$ 27,059	\$ 20,776	\$ 34,115	\$ 137,862	\$ 177,538	\$ 49,301
Unit Cost (\$/Unit)	\$ 0.01	\$ 0.73	\$ 0.34	\$ 0.00	\$ 0.88	\$ 0.53	\$ 1.07	\$ 0.19	\$ 7.53	
Property Tax Expense	\$ 7,629,145	\$ 7,591,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,146
Unit Cost (\$/Unit)	\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.82	
Net Operating Revenue Allowance	\$ 1,635,492	\$ 669,642	\$ 138,146	\$ 35,693	\$ 98,335	\$ 75,420	\$ 123,842	\$ 260,099	\$ 175,856	\$ 58,460
Unit Cost (\$/Unit)	\$ 0.02	\$ 2.74	\$ 0.43	\$ 0.01	\$ 3.19	\$ 1.93	\$ 2.02	\$ 0.18	\$ 8.93	
<b>Total Cost of Service</b>	<b>\$ 83,410,114</b>	<b>\$ 34,151,720</b>	<b>\$ 7,045,446</b>	<b>\$ 1,820,335</b>	<b>\$ 5,015,082</b>	<b>\$ 3,846,395</b>	<b>\$ 6,315,942</b>	<b>\$ 13,265,042</b>	<b>\$ 8,968,668</b>	<b>\$ 2,981,483</b>
Unit Cost (\$/Unit)	\$ 1.21	\$ 139.62	\$ 21.97	\$ 0.31	\$ 162.70	\$ 98.68	\$ 103.23	\$ 9.39	\$ 455.19	

**Schedule HJS Settlement-18: Customer Class Cost of Service**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
Unit Cost of Service (\$/Unit)		\$1.21	\$139.62	\$21.97	\$0.31	\$162.70	\$98.68	\$103.23	\$9.39	\$455.19
<b>Retail Service:</b>										
Residential Volume										
Units of Service		10,656,212	12,954	35,958	10,656,212	12,954	35,958	-	-	-
Cost of Service	\$ 24,473,985	\$ 12,913,184	\$ 1,808,678	\$ 789,941	\$ 3,306,309	\$ 2,107,659	\$ 3,548,214	\$ -	\$ -	\$ -
Commercial Volume										
Units of Service		5,129,578	7,571	18,644	5,129,578	7,571	18,644	-	-	-
Cost of Service	\$ 12,345,900	\$ 6,216,016	\$ 1,057,103	\$ 409,593	\$ 1,591,557	\$ 1,231,845	\$ 1,839,786	\$ -	\$ -	\$ -
Industrial Volume Charge										
Units of Service		237,572	228	741	237,572	228	741	-	-	-
Cost of Service	\$ 519,830	\$ 287,889	\$ 31,807	\$ 16,271	\$ 73,711	\$ 37,065	\$ 73,086	\$ -	\$ -	\$ -
Meter Service Charge										
Units of Service		-	-	-	-	-	-	88,313	931,056	-
Cost of Service	\$ 17,860,394	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,116,554	\$ 8,743,840	\$ -
<b>Fire Protection:</b>										
Private Fire Lines										
Units of Service		-	690	2,070	-	690	2,070	40,187	23,940	-
Cost of Service	\$ 4,831,545	\$ -	\$ 96,314	\$ 45,464	\$ -	\$ 112,236	\$ 204,214	\$ 4,148,488	\$ 224,828	\$ -
Public Fire (Providence)										
Units of Service		69,188	1,085	3,254	69,188	1,085	3,254	-	-	3,232
Cost of Service	\$ 2,296,868	\$ 83,842	\$ 151,418	\$ 71,475	\$ 21,467	\$ 176,448	\$ 321,049	\$ -	\$ -	\$ 1,471,168
Public Fire (All Other)										
Units of Service		71,029	1,113	3,340	71,029	1,113	3,340	-	-	3,318
Cost of Service	\$ 2,357,985	\$ 86,073	\$ 155,447	\$ 73,377	\$ 22,038	\$ 181,143	\$ 329,592	\$ -	\$ -	\$ 1,510,314
East Smithfield Surcharge										
Units of Service		-	-	-	-	-	-	-	-	-
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Wholesale Service:</b>										
Bristol County		1,581,189	2,096	1,238						
East Providence		1,928,059	3,323	5,480						
East Smithfield		-	-	-						
Greenville		445,869	1,168	1,202						
Johnston		-	-	-						
Kent County		2,884,671	3,166	5,622						
Lincoln		1,098,198	2,557	952						
Smithfield		414,220	1,255	419						
Warwick		3,666,883	13,254	3,941						
Units of Service		12,019,088	26,821	18,855						
Bristol County	\$ 2,235,899	\$ 1,916,083	\$ 292,625	\$ 27,191						
East Providence	\$ 2,920,804	\$ 2,336,419	\$ 464,006	\$ 120,379						
East Smithfield	\$ -	\$ -	\$ -	\$ -						
Greenville	\$ 729,813	\$ 540,303	\$ 163,098	\$ 26,412						
Johnston	\$ -	\$ -	\$ -	\$ -						
Kent County	\$ 4,061,234	\$ 3,495,641	\$ 442,076	\$ 123,516						
Lincoln	\$ 1,708,779	\$ 1,330,795	\$ 357,064	\$ 20,920						
Smithfield	\$ 686,402	\$ 501,951	\$ 175,245	\$ 9,206						
Warwick	\$ 6,380,677	\$ 4,443,523	\$ 1,850,566	\$ 86,588						
Cost of Service	\$ 18,723,607	\$ 14,564,716	\$ 3,744,679	\$ 414,213						
Total Allocated Cost of Service	\$ 120,857,329	\$ 34,151,720	\$ 7,045,446	\$ 1,820,335	\$ 5,015,082	\$ 3,846,395	\$ 6,315,942	\$ 13,265,042	\$ 8,968,668	\$ 2,981,483

**Schedule HJS Settlement-19: Development of Volumetric Rates**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Units	Residential	Commercial	Industrial	Bristol County	East Providence	East Smithfield	Greenville	Johnston	Kent County	Lincoln	Smithfield	Warwick	Wholesale
<b>Unit Cost</b>														
CTA Base	\$/HCF	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
CTA Maximum Day	\$/HCF/d	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62	139.62
CTA Maximum Hour	\$/HCF/d	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97	21.97
Retail Only Base	\$/HCF	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Retail Only Maximum Day	\$/HCF/d	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70	162.70
Retail Only Maximum Hour	\$/HCF/d	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68	98.68
<b>Units</b>														
Base	HCF	10,656,212	5,129,578	237,572	1,581,189	1,928,059	0	445,869	0	2,884,671	1,098,198	414,220	3,666,883	12,019,088
Maximum Day	HCF/d	12,954	7,571	228	2,096	3,323	0	1,168	0	3,166	2,557	1,255	13,254	26,821
Maximum Hour	HCF/d	35,958	18,644	741	1,238	5,480	0	1,202	0	5,622	952	419	3,941	18,855
<b>Total Cost</b>														
CTA Base		\$ 12,913,184	\$ 6,216,016	\$ 287,889	\$ 1,916,083	\$ 2,336,419	\$ -	\$ 540,303	\$ -	\$ 3,495,641	\$ 1,330,795	\$ 501,951	\$ 4,443,523	\$ 14,564,716
CTA Maximum Day		\$ 1,808,678	\$ 1,057,103	\$ 31,807	\$ 292,625	\$ 464,006	\$ -	\$ 163,098	\$ -	\$ 442,076	\$ 357,064	\$ 175,245	\$ 1,850,566	\$ 3,744,679
CTA Maximum Hour		\$ 789,941	\$ 409,593	\$ 16,271	\$ 27,191	\$ 120,379	\$ -	\$ 26,412	\$ -	\$ 123,516	\$ 20,920	\$ 9,206	\$ 86,588	\$ 414,213
Retail Only Base		\$ 3,306,309	\$ 1,591,557	\$ 73,711	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Day		\$ 2,107,659	\$ 1,231,845	\$ 37,065	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Hour		\$ 3,548,214	\$ 1,839,786	\$ 73,086	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PLUS:														
Retail Service Charge Costs		\$ 5,116,731	\$ 2,581,134	\$ 108,680	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire Protection Costs		\$ 271,520	\$ 136,968	\$ 5,767	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire Line Costs		\$ 562,748	\$ 283,878	\$ 11,953	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire Costs		\$ 250,063	\$ 126,144	\$ 5,311	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Rate Year Revenue Requirement</b>		<b>\$ 30,675,046</b>	<b>\$ 15,474,025</b>	<b>\$ 651,541</b>	<b>\$ 2,235,899</b>	<b>\$ 2,920,804</b>	<b>\$ -</b>	<b>\$ 729,813</b>	<b>\$ -</b>	<b>\$ 4,061,234</b>	<b>\$ 1,708,779</b>	<b>\$ 686,402</b>	<b>\$ 6,380,677</b>	<b>\$ 18,723,607</b>
<b>Rate Year Sales</b>	HCF	8,396,176	4,041,665	187,186	1,494,845	1,822,773	0	421,521	0	2,727,147	1,038,229	391,600	3,466,644	11,362,760
<b>Volumetric Rate Build-Up</b>														
Base	\$/HCF	\$ 1.931771	\$ 1.931771	\$ 1.931771	\$ 1.281794	\$ 1.281794	\$ -	\$ 1.281794	\$ -	\$ 1.281794	\$ 1.281794	\$ 1.281794	\$ 1.281794	\$ 1.281794
Maximum Day	\$/HCF	\$ 0.466443	\$ 0.566338	\$ 0.367936	\$ 0.195756	\$ 0.254560	\$ -	\$ 0.386926	\$ -	\$ 0.162102	\$ 0.343916	\$ 0.447509	\$ 0.533821	\$ 0.329557
Maximum Hour	\$/HCF	\$ 0.516682	\$ 0.556547	\$ 0.477371	\$ 0.018190	\$ 0.066042	\$ -	\$ 0.062658	\$ -	\$ 0.045291	\$ 0.020150	\$ 0.023509	\$ 0.024978	\$ 0.036454
Service Charge	\$/HCF	\$ 0.609412	\$ 0.638631	\$ 0.580599	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire	\$/HCF	\$ 0.032338	\$ 0.033889	\$ 0.030810	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire	\$/HCF	\$ 0.067024	\$ 0.070238	\$ 0.063855	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire	\$/HCF	\$ 0.029783	\$ 0.031211	\$ 0.028375	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$/HCF	\$ 3.653454	\$ 3.828626	\$ 3.480717	\$ 1.495740	\$ 1.602396	\$ -	\$ 1.731378	\$ -	\$ 1.489187	\$ 1.645860	\$ 1.752812	\$ 1.840592	\$ 1.647805
Rounded	\$/HCF	\$ 3.654000	\$ 3.829000	\$ 3.481000	\$ 1.495740	\$ 1.602397	\$ -	\$ 1.731379	\$ -	\$ 1.489188	\$ 1.645860	\$ 1.752812	\$ 1.840592	\$ 1.647805
Revenues		\$ 30,679,627	\$ 15,475,535	\$ 651,594	\$ 2,235,899	\$ 2,920,806	\$ -	\$ 729,813	\$ -	\$ 4,061,235	\$ 1,708,779	\$ 686,402	\$ 6,380,678	\$ 18,723,612
COS		\$ 30,675,046	\$ 15,474,025	\$ 651,541	\$ 2,235,899	\$ 2,920,804	\$ -	\$ 729,813	\$ -	\$ 4,061,234	\$ 1,708,779	\$ 686,402	\$ 6,380,677	\$ 18,723,607
Variance due to Rounding		\$ 4,581	\$ 1,511	\$ 53	\$ 0	\$ 1	\$ -	\$ 0	\$ -	\$ 2	\$ 0	\$ 0	\$ 0	\$ 5

**Schedule HJS Settlement-22: Proposed Rates**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Service Charges</b>													
5/8"	57,812	\$ 7.56	\$ 5,244,705	31.22%	\$ 9.92	\$ 6,881,940	5.55%	\$ 10.47	\$ 7,263,765	4.22%	\$ 10.91	\$ 7,570,515	
3/4"	11,326	\$ 8.05	\$ 1,094,092	31.30%	\$ 10.57	\$ 1,436,590	5.55%	\$ 11.16	\$ 1,516,295	4.22%	\$ 11.63	\$ 1,580,328	
1"	5,335	\$ 9.50	\$ 608,190	31.26%	\$ 12.47	\$ 798,329	5.55%	\$ 13.16	\$ 842,622	4.22%	\$ 13.72	\$ 878,206	
1.5"	1,547	\$ 11.43	\$ 212,187	31.23%	\$ 15.00	\$ 278,460	5.55%	\$ 15.83	\$ 293,910	4.22%	\$ 16.50	\$ 306,321	
2"	1,357	\$ 16.76	\$ 272,920	31.21%	\$ 21.99	\$ 358,085	5.55%	\$ 23.21	\$ 377,952	4.22%	\$ 24.19	\$ 393,913	
3"	73	\$ 56.01	\$ 49,065	31.21%	\$ 73.49	\$ 64,377	5.55%	\$ 77.57	\$ 67,949	4.22%	\$ 80.84	\$ 70,819	
4"	35	\$ 70.55	\$ 29,631	31.21%	\$ 92.57	\$ 38,879	5.55%	\$ 97.71	\$ 41,037	4.22%	\$ 101.83	\$ 42,769	
6"	57	\$ 104.47	\$ 71,457	31.21%	\$ 137.07	\$ 93,756	5.55%	\$ 144.67	\$ 98,958	4.22%	\$ 150.78	\$ 103,137	
8"	42	\$ 143.23	\$ 72,188	31.20%	\$ 187.92	\$ 94,712	5.55%	\$ 198.35	\$ 99,966	4.22%	\$ 206.72	\$ 104,188	
10"	4	\$ 178.36	\$ 8,561	31.20%	\$ 234.01	\$ 11,232	5.55%	\$ 246.99	\$ 11,856	4.22%	\$ 257.42	\$ 12,356	
12"	-	\$ 213.49	\$ -	31.20%	\$ 280.10	\$ -	5.55%	\$ 295.64	\$ -	4.22%	\$ 308.13	\$ -	
Total Service Charge	77,588		\$ 7,662,995	31.23%		\$ 10,056,362	5.55%		\$ 10,614,310	4.22%		\$ 11,062,553	
<b>Retail Fire Protection Service Charges (Providence Only)</b>													
5/8"	25,954	\$ 1.38	\$ 429,798	31.88%	\$ 1.82	\$ 566,835	5.55%	\$ 1.92	\$ 598,285	4.22%	\$ 2.00	\$ 623,550	
3/4"	4,580	\$ 2.07	\$ 113,767	31.40%	\$ 2.72	\$ 149,491	5.55%	\$ 2.87	\$ 157,785	4.22%	\$ 2.99	\$ 164,449	
1"	2,091	\$ 5.15	\$ 129,224	31.26%	\$ 6.76	\$ 169,622	5.55%	\$ 7.14	\$ 179,033	4.22%	\$ 7.44	\$ 186,593	
1.5"	902	\$ 13.74	\$ 148,722	31.22%	\$ 18.03	\$ 195,157	5.55%	\$ 19.03	\$ 205,984	4.22%	\$ 19.83	\$ 214,683	
2"	792	\$ 32.96	\$ 313,252	31.22%	\$ 43.25	\$ 411,048	5.55%	\$ 45.65	\$ 433,854	4.22%	\$ 47.58	\$ 452,176	
3"	55	\$ 89.26	\$ 58,912	31.20%	\$ 117.11	\$ 77,293	5.55%	\$ 123.61	\$ 81,581	4.22%	\$ 128.83	\$ 85,026	
4"	20	\$ 151.05	\$ 36,252	31.20%	\$ 198.18	\$ 47,563	5.55%	\$ 209.18	\$ 50,202	4.22%	\$ 218.01	\$ 52,322	
6"	28	\$ 308.97	\$ 103,814	31.20%	\$ 405.37	\$ 136,204	5.55%	\$ 427.86	\$ 143,761	4.22%	\$ 445.93	\$ 149,832	
8"	15	\$ 466.89	\$ 84,040	31.20%	\$ 612.56	\$ 110,261	5.55%	\$ 646.55	\$ 116,378	4.22%	\$ 673.85	\$ 121,293	
10"	2	\$ 714.07	\$ 17,138	31.20%	\$ 936.86	\$ 22,485	5.55%	\$ 988.84	\$ 23,732	4.22%	\$ 1,030.60	\$ 24,734	
12"	-	\$ 1,180.95	\$ -	31.20%	\$ 1,549.41	\$ -	5.55%	\$ 1,635.37	\$ -	4.22%	\$ 1,704.44	\$ -	
Total Retail FPSC (Providence Only)	34,439		\$ 1,434,918	31.43%		\$ 1,885,959	5.55%		\$ 1,990,596	4.22%		\$ 2,074,659	
Total Retail Service Charge Revenue			\$ 9,097,913	31.26%		\$ 11,942,320	5.55%		\$ 12,604,906	4.22%		\$ 13,137,212	
<b>Retail Consumption Charges</b>													
Residential	8,396,176	\$ 3.403	\$ 28,572,187	7.38%	\$ 3.654	\$ 30,679,627	5.55%	\$ 3.857	\$ 32,381,799	4.22%	\$ 4.020	\$ 33,749,285	
Commercial	4,041,665	\$ 3.223	\$ 13,026,286	18.80%	\$ 3.829	\$ 15,475,535	5.55%	\$ 4.041	\$ 16,334,151	4.22%	\$ 4.212	\$ 17,023,944	
Industrial	187,186	\$ 3.169	\$ 593,192	9.85%	\$ 3.481	\$ 651,594	5.55%	\$ 3.674	\$ 687,746	4.22%	\$ 3.829	\$ 716,790	
Total Retail Consumption Charge	12,625,027		\$ 42,191,666	10.94%		\$ 46,806,757	5.55%		\$ 49,403,697	4.22%		\$ 51,490,019	
East Smithfield Debt Surcharge	235,576	\$ 0.35	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	
Total Retail Volume Charge Revenue			\$ 42,274,117	10.92%		\$ 46,889,208	5.54%		\$ 49,486,149	4.22%		\$ 51,572,471	
<b>Total Retail Revenue</b>			<b>\$ 51,372,030</b>	<b>14.52%</b>		<b>\$ 58,831,529</b>	<b>5.54%</b>		<b>\$ 62,091,055</b>	<b>4.22%</b>		<b>\$ 64,709,683</b>	

**Schedule HJS Settlement-22: Proposed Rates**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Wholesale Charges</b>												
Bristol County	1,494,845	\$ 1.350858	\$ 2,019,323	10.73%	\$ 1.495740	\$ 2,235,899	4.07%	\$ 1.556544	\$ 2,326,792	2.84%	\$ 1.600775	\$ 2,392,910
East Providence	1,822,773	\$ 1.350858	\$ 2,462,307	18.62%	\$ 1.602397	\$ 2,920,806	4.07%	\$ 1.667537	\$ 3,039,540	2.84%	\$ 1.714921	\$ 3,125,912
Greenville	421,521	\$ 1.350858	\$ 569,415	28.17%	\$ 1.731379	\$ 729,813	4.07%	\$ 1.801762	\$ 759,481	2.84%	\$ 1.852961	\$ 781,062
Kent County	2,727,147	\$ 1.350858	\$ 3,683,989	10.24%	\$ 1.489188	\$ 4,061,235	4.07%	\$ 1.549726	\$ 4,226,330	2.84%	\$ 1.593763	\$ 4,346,425
Lincoln	1,038,229	\$ 1.350858	\$ 1,402,499	21.84%	\$ 1.645860	\$ 1,708,779	4.07%	\$ 1.712767	\$ 1,778,243	2.84%	\$ 1.761436	\$ 1,828,774
Smithfield	391,600	\$ 1.350858	\$ 528,996	29.76%	\$ 1.752812	\$ 686,402	4.07%	\$ 1.824066	\$ 714,305	2.84%	\$ 1.875899	\$ 734,602
Warwick	3,466,644	\$ 1.350858	\$ 4,682,944	36.25%	\$ 1.840592	\$ 6,380,678	4.07%	\$ 1.915415	\$ 6,640,061	2.84%	\$ 1.969843	\$ 6,828,745
<b>Total Wholesale Revenue</b>	<b>11,362,760</b>		<b>15,349,475</b>	<b>21.98%</b>	<b>\$ 1.647805</b>	<b>18,723,612</b>	<b>4.07%</b>	<b>\$ 1.714791</b>	<b>19,484,753</b>	<b>2.84%</b>	<b>\$ 1.763518</b>	<b>20,038,430</b>

Wholesale (per million gallons) 8,499 \$ 1,805.96 \$ 15,349,475 21.98% \$ 2,202.95 \$ 18,723,612 \$ 2,292.50 \$ 19,484,753 \$ 2,357.64 \$ 20,038,430

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Private Fire Service Charges</b>												
3/4"	2	\$ 8.64	\$ 207	31.25%	\$ 11.34	\$ 272	5.55%	\$ 11.97	\$ 287	4.22%	\$ 12.47	\$ 299
1"	9	\$ 10.21	\$ 1,103	31.24%	\$ 13.40	\$ 1,447	5.55%	\$ 14.14	\$ 1,527	4.22%	\$ 14.74	\$ 1,592
1-1/2"	2	\$ 12.57	\$ 302	31.26%	\$ 16.50	\$ 396	5.55%	\$ 17.42	\$ 418	4.22%	\$ 18.15	\$ 436
2"	68	\$ 18.64	\$ 15,210	31.22%	\$ 24.46	\$ 19,959	5.55%	\$ 25.82	\$ 21,067	4.22%	\$ 26.91	\$ 21,956
4"	391	\$ 79.67	\$ 373,812	31.20%	\$ 104.53	\$ 490,455	5.55%	\$ 110.33	\$ 517,666	4.22%	\$ 114.99	\$ 539,527
6"	1,245	\$ 129.89	\$ 1,940,557	31.20%	\$ 170.42	\$ 2,546,075	5.55%	\$ 179.88	\$ 2,687,337	4.22%	\$ 187.47	\$ 2,800,823
8"	256	\$ 196.73	\$ 604,355	31.20%	\$ 258.11	\$ 792,914	5.55%	\$ 272.43	\$ 836,907	4.22%	\$ 283.94	\$ 872,249
10"	4	\$ 274.06	\$ 13,155	31.20%	\$ 359.57	\$ 17,259	5.55%	\$ 379.52	\$ 18,217	4.22%	\$ 395.55	\$ 18,986
12"	18	\$ 367.64	\$ 79,410	31.20%	\$ 482.35	\$ 104,188	5.55%	\$ 509.11	\$ 109,968	4.22%	\$ 530.61	\$ 114,612
16"	-	\$ 611.43	\$ -	23.21%	\$ 753.37	\$ -	5.55%	\$ 795.17	\$ -	4.22%	\$ 828.75	\$ -
Total		\$ 3,028,110	\$ 3,028,110	31.20%		\$ 3,972,965	5.55%		\$ 4,193,394	4.22%		\$ 4,370,481

Hydrants (Excluding Providence) 3,318 \$ 454.02 \$ 1,506,438 31.20% \$ 595.68 \$ 1,976,466 5.55% \$ 628.73 \$ 2,086,125 4.22% \$ 655.28 \$ 2,174,222

<b>Total Fire Protection Charge Revenue</b>		<b>\$4,534,548.24</b>				<b>\$5,949,431.40</b>			<b>\$6,279,518.73</b>			<b>\$6,544,703.35</b>
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<b>Total Rate Revenues</b>		<b>\$ 71,256,053</b>				<b>\$ 83,504,572</b>			<b>\$ 87,855,326</b>			<b>\$ 91,292,817</b>
Miscellaneous Revenues		\$ 1,493,163				\$ 1,543,163			\$ 1,543,163			\$ 1,543,163
<b>Total Revenues</b>		<b>\$ 72,749,216</b>	16.91%			<b>\$ 85,047,735</b>	5.12%		<b>\$ 89,398,489</b>	3.85%		<b>\$ 92,835,980</b>
						12,006			12,673			13,208

***EXHIBIT 2***

**Schedule HJS Settlement-13d: T&D Labor Allocation (Factor 13)**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

Description	Year	Total	CTA	Retail		Total Retail	CTA Factor	Retail Only		Common To All			Retail Only					Check		
				Only	Total CTA			Only	Factor	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection		Direct Fire	
Hydrant - Install	2017	\$ 189,318	0.00%	100.00%	\$ -	\$ 189,318	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 189,318	\$ -
Hydrant - Install Custodian	2017	\$ 2,573	0.00%	100.00%	\$ -	\$ 2,573	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,573	\$ -
Hydrant - Maintenance	2017	\$ 2,525	0.00%	100.00%	\$ -	\$ 2,525	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,525	\$ -
Hydrant - Relocate Existing	2017	\$ 2,852	0.00%	100.00%	\$ -	\$ 2,852	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,852	\$ -
Hydrant - Remove	2017	\$ 92,751	0.00%	100.00%	\$ -	\$ 92,751	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 92,751	\$ -
Hydrant - Repair	2017	\$ 135,902	0.00%	100.00%	\$ -	\$ 135,902	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 135,902	\$ -
Service - Curb Box - Adjust to Grade	2017	\$ 18,097	0.00%	100.00%	\$ -	\$ 18,097	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,097	\$ -	\$ -	\$ -
Service - Curb Box - Check	2017	\$ 45,865	0.00%	100.00%	\$ -	\$ 45,865	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 45,865	\$ -	\$ -	\$ -
Service - Curb Box - Dig Up	2017	\$ 180,976	0.00%	100.00%	\$ -	\$ 180,976	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 180,976	\$ -	\$ -	\$ -
Service - Curb Stop - Close	2017	\$ -	0.00%	100.00%	\$ -	\$ -	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Locate	2017	\$ 1,168	0.00%	100.00%	\$ -	\$ 1,168	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,168	\$ -	\$ -	\$ -
Service - Curb Stop - Repair	2017	\$ 12,022	0.00%	100.00%	\$ -	\$ 12,022	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,022	\$ -	\$ -	\$ -
Service - Dig Up For Meter	2017	\$ 3,995	0.00%	100.00%	\$ -	\$ 3,995	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,995	\$ -	\$ -	\$ -
Service - Install - IFR	2017	\$ 134,678	0.00%	100.00%	\$ -	\$ 134,678	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 134,678	\$ -	\$ -	\$ -
Service - Install - T&D	2017	\$ 281,647	0.00%	100.00%	\$ -	\$ 281,647	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 281,647	\$ -	\$ -	\$ -
Service - Remove	2017	\$ 153,262	0.00%	100.00%	\$ -	\$ 153,262	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 153,262	\$ -	\$ -	\$ -
Service - Repair Leak	2017	\$ 178,649	0.00%	100.00%	\$ -	\$ 178,649	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 178,649	\$ -	\$ -	\$ -
TD Misc - Miscellaneous Maint	2017	\$ 3,090	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	16	\$ 13	\$ 21	\$ 315	\$ 241	\$ 397	\$ 1,536	\$ 0	\$ 552	\$ -	\$ -	
Valve - Adjust Gate Box	2017	\$ 30,476	5.00%	95.00%	\$ 1,524	\$ 28,952	3	6	\$ 503	\$ 386	\$ 634	\$ 9,559	\$ 7,340	\$ 12,053	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Check / Inspect	2017	\$ 13,317	5.00%	95.00%	\$ 666	\$ 12,651	3	6	\$ 220	\$ 169	\$ 277	\$ 4,177	\$ 3,207	\$ 5,267	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Install	2017	\$ 89,979	5.00%	95.00%	\$ 4,499	\$ 85,480	3	6	\$ 1,485	\$ 1,141	\$ 1,873	\$ 28,224	\$ 21,671	\$ 35,585	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Locate	2017	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Remove	2017	\$ 53,742	5.00%	95.00%	\$ 2,687	\$ 51,055	3	6	\$ 887	\$ 681	\$ 1,119	\$ 16,857	\$ 12,944	\$ 21,254	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Repair / Repack	2017	\$ 69,879	5.00%	95.00%	\$ 3,494	\$ 66,385	3	6	\$ 1,154	\$ 886	\$ 1,455	\$ 21,919	\$ 16,830	\$ 27,636	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Replace Box Cover	2017	\$ 3,204	5.00%	95.00%	\$ 160	\$ 3,044	3	6	\$ 53	\$ 41	\$ 67	\$ 1,005	\$ 772	\$ 1,267	\$ -	\$ -	\$ -	\$ -	\$ -	
Water Main - Install	2017	\$ 4,846	5.00%	95.00%	\$ 242	\$ 4,604	3	6	\$ 80	\$ 61	\$ 101	\$ 1,520	\$ 1,167	\$ 1,917	\$ -	\$ -	\$ -	\$ -	\$ -	
Water Main - Remove	2017	\$ 1,129	5.00%	95.00%	\$ 56	\$ 1,072	3	6	\$ 19	\$ 14	\$ 23	\$ 354	\$ 272	\$ 446	\$ -	\$ -	\$ -	\$ -	\$ -	
Water Main - Repair Leak	2017	\$ 91,906	5.00%	95.00%	\$ 4,595	\$ 87,310	3	6	\$ 1,517	\$ 1,165	\$ 1,913	\$ 28,828	\$ 22,135	\$ 36,347	\$ -	\$ -	\$ -	\$ -	\$ -	
Blowoff - Inspect	2018	\$ 487	5.00%	95.00%	\$ 24	\$ 463	3	6	\$ 8	\$ 6	\$ 10	\$ 153	\$ 117	\$ 193	\$ -	\$ -	\$ -	\$ -	\$ -	
Blowoff - Install	2018	\$ 7,488	5.00%	95.00%	\$ 374	\$ 7,114	3	6	\$ 124	\$ 95	\$ 156	\$ 2,349	\$ 1,804	\$ 2,961	\$ -	\$ -	\$ -	\$ -	\$ -	
Blowoff - Locate	2018	\$ 487	5.00%	95.00%	\$ 24	\$ 463	3	6	\$ 8	\$ 6	\$ 10	\$ 153	\$ 117	\$ 193	\$ -	\$ -	\$ -	\$ -	\$ -	
Blowoff - Remove	2018	\$ 2,048	5.00%	95.00%	\$ 102	\$ 1,946	3	6	\$ 34	\$ 26	\$ 43	\$ 642	\$ 493	\$ 810	\$ -	\$ -	\$ -	\$ -	\$ -	
Blowoff - Repair	2018	\$ 9,260	5.00%	95.00%	\$ 463	\$ 8,797	3	6	\$ 153	\$ 117	\$ 193	\$ 2,904	\$ 2,230	\$ 3,662	\$ -	\$ -	\$ -	\$ -	\$ -	
Hydrant - Check / Inspect	2018	\$ 15,350	0.00%	100.00%	\$ -	\$ 15,350	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 15,350	\$ -	
Hydrant - Close	2018	\$ 902	0.00%	100.00%	\$ -	\$ 902	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 902	\$ -	
Hydrant - Flush	2018	\$ 406	0.00%	100.00%	\$ -	\$ 406	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 406	\$ -	
Hydrant - Install	2018	\$ 162,309	0.00%	100.00%	\$ -	\$ 162,309	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 162,309	\$ -	
Hydrant - Install Custodian	2018	\$ 2,301	0.00%	100.00%	\$ -	\$ 2,301	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,301	\$ -	
Hydrant - Maintenance	2018	\$ 1,980	0.00%	100.00%	\$ -	\$ 1,980	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,980	\$ -	
Hydrant - Open	2018	\$ 51	0.00%	100.00%	\$ -	\$ 51	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 51	\$ -	
Hydrant - Relocate Existing	2018	\$ -	0.00%	100.00%	\$ -	\$ -	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Hydrant - Remove	2018	\$ 63,775	0.00%	100.00%	\$ -	\$ 63,775	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 63,775	\$ -	
Hydrant - Repair	2018	\$ 130,599	0.00%	100.00%	\$ -	\$ 130,599	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 130,599	\$ -	
Hydrant - Repair/Repack Valve	2018	\$ 11,909	0.00%	100.00%	\$ -	\$ 11,909	N/A	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 11,909	\$ -	
Service - Curb Box - Adjust to Grade	2018	\$ 23,247	0.00%	100.00%	\$ -	\$ 23,247	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,247	\$ -	\$ -	\$ -	
Service - Curb Box - Check	2018	\$ 46,892	0.00%	100.00%	\$ -	\$ 46,892	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 46,892	\$ -	\$ -	\$ -	
Service - Curb Box - Dig Up	2018	\$ 179,792	0.00%	100.00%	\$ -	\$ 179,792	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 179,792	\$ -	\$ -	\$ -	
Service - Curb Stop - Close	2018	\$ 19,119	0.00%	100.00%	\$ -	\$ 19,119	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 19,119	\$ -	\$ -	\$ -	
Service - Curb Stop - Locate	2018	\$ 4,695	0.00%	100.00%	\$ -	\$ 4,695	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,695	\$ -	\$ -	\$ -	\$ -	
Service - Curb Stop - Open	2018	\$ 23,311	0.00%	100.00%	\$ -	\$ 23,311	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 23,311	\$ -	\$ -	\$ -	\$ -	
Service - Curb Stop - Repair	2018	\$ 10,965	0.00%	100.00%	\$ -	\$ 10,965	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,965	\$ -	\$ -	\$ -	\$ -	
Service - Curb Stop - Replace	2018	\$ 6,194	0.00%	100.00%	\$ -	\$ 6,194	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,194	\$ -	\$ -	\$ -	\$ -	
Service - Dig Up For Meter	2018	\$ -	0.00%	100.00%	\$ -	\$ -	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Service - Install - IFR	2018	\$ 64,995	0.00%	100.00%	\$ -	\$ 64,995	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,995	\$ -	\$ -	\$ -	\$ -	
Service - Install - T&D	2018	\$ 294,119	0.00%	100.00%	\$ -	\$ 294,119	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 294,119	\$ -	\$ -	\$ -	\$ -	
Service - Meter - Bypass Meter	2018	\$ 205	0.00%	100.00%	\$ -	\$ 205	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 205	\$ -	\$ -	\$ -	\$ -	
Service - Remove	2018	\$ 100,614	0.00%	100.00%	\$ -	\$ 100,614	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,614	\$ -	\$ -	\$ -	\$ -	
Service - Remove Lead - CS Apps	2018	\$ 6,492	0.00%	100.00%	\$ -	\$ 6,492	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,492	\$ -	\$ -	\$ -	\$ -	
Service - Remove Lead - TD	2018	\$ 25,454	0.00%	100.00%	\$ -	\$ 25,454	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,454	\$ -	\$ -	\$ -	\$ -	
Service - Repair Leak	2018	\$ 169,990	0.00%	100.00%	\$ -	\$ 169,990	N/A	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 169,990	\$ -	\$ -	\$ -	\$ -	
TD Misc - Miscellaneous Maint	2018	\$ 6,000	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	32	\$ 25	\$ 40	\$ 611	\$ 469	\$ 770	\$ 2,981	\$ 0	\$ 1,072	\$ -	\$ -	
TD Misc - Pre-Mark for Digup	2018	\$ 335	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	2	\$ 1	\$ 2	\$ 34	\$ 26	\$ 43	\$ 167	\$ 0	\$ 60	\$ -	\$ -	
TD Misc - Pre-Mark for Saw Cut	2018	\$ 1,024	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	5	\$ 4	\$ 7	\$ 104	\$ 80	\$ 131	\$ 509	\$ 0	\$ 183	\$ -	\$ -	
TD Misc - Trench Repair	2018	\$ 393	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	2	\$ 2	\$ 3	\$ 40	\$ 31	\$ 50	\$ 195	\$ 0	\$ 70	\$ -	\$ -	

**Schedule HJS Settlement-13d: T&D Labor Allocation (Factor 13)**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

Description	Year	Total	CTA	Retail Only	Total CTA	Total Retail Only	CTA Factor	Retail Only Factor	Common To All			Retail Only					Check		
									Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection		Direct Fire	
Trench Restoration	2018	\$ 257,373	5.00%	95.00%	\$ 12,869	\$ 244,504	3	6	\$ 4,249	\$ 3,262	\$ 5,357	\$ 80,731	\$ 61,987	\$ 101,786	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Adjust Gate Box	2018	\$ 30,505	5.00%	95.00%	\$ 1,525	\$ 28,980	3	6	\$ 504	\$ 387	\$ 635	\$ 9,569	\$ 7,347	\$ 12,064	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Check / Inspect	2018	\$ 8,958	5.00%	95.00%	\$ 448	\$ 8,510	3	6	\$ 148	\$ 114	\$ 186	\$ 2,810	\$ 2,157	\$ 3,543	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Install	2018	\$ 75,028	5.00%	95.00%	\$ 3,751	\$ 71,277	3	6	\$ 1,239	\$ 951	\$ 1,562	\$ 23,534	\$ 18,070	\$ 29,672	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Locate	2018	\$ 2,206	5.00%	95.00%	\$ 110	\$ 2,096	3	6	\$ 36	\$ 28	\$ 46	\$ 692	\$ 531	\$ 873	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Raise Gate Box To Grade	2018	\$ 489	5.00%	95.00%	\$ 24	\$ 464	3	6	\$ 8	\$ 6	\$ 10	\$ 153	\$ 118	\$ 193	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Remove	2018	\$ 41,701	5.00%	95.00%	\$ 2,085	\$ 39,616	3	6	\$ 688	\$ 529	\$ 868	\$ 13,080	\$ 10,043	\$ 16,492	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Repair / Repack	2018	\$ 51,060	5.00%	95.00%	\$ 2,553	\$ 48,507	3	6	\$ 843	\$ 647	\$ 1,063	\$ 16,016	\$ 12,298	\$ 20,193	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Replace Box Cover	2018	\$ 1,122	5.00%	95.00%	\$ 56	\$ 1,066	3	6	\$ 19	\$ 14	\$ 23	\$ 352	\$ 270	\$ 444	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Install	2018	\$ 9,226	5.00%	95.00%	\$ 461	\$ 8,765	3	6	\$ 152	\$ 117	\$ 192	\$ 2,894	\$ 2,222	\$ 3,649	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Remove	2018	\$ 6,846	5.00%	95.00%	\$ 342	\$ 6,504	3	6	\$ 113	\$ 87	\$ 142	\$ 2,147	\$ 1,649	\$ 2,707	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Repair Leak	2018	\$ 137,742	5.00%	95.00%	\$ 6,887	\$ 130,855	3	6	\$ 2,274	\$ 1,746	\$ 2,867	\$ 43,206	\$ 33,175	\$ 54,474	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Pre-Mark	2018	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Leak Detection	2018	\$ 642	5.00%	95.00%	\$ 32	\$ 609	3	6	\$ 11	\$ 8	\$ 13	\$ 201	\$ 155	\$ 254	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous Work	2018	\$ -	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Report Leak	2018	\$ 3,424	5.00%	95.00%	\$ 171	\$ 3,253	3	6	\$ 57	\$ 43	\$ 71	\$ 1,074	\$ 825	\$ 1,354	\$ -	\$ -	\$ -	\$ -	\$ -
Shut Down Not	2018	\$ 299	0.00%	100.00%	\$ -	\$ 299	n/a	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 299	\$ -	\$ -
TD Collect Sample	2018	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trench - Check	2018	\$ 4,632	5.00%	95.00%	\$ 232	\$ 4,400	3	6	\$ 76	\$ 59	\$ 96	\$ 1,453	\$ 1,116	\$ 1,832	\$ -	\$ -	\$ -	\$ -	\$ -
Water Pressure	2018	\$ 25	5.00%	95.00%	\$ 1	\$ 24	3	6	\$ 0	\$ 0	\$ 1	\$ 8	\$ 6	\$ 10	\$ -	\$ -	\$ -	\$ -	\$ -
Water Quality Issue	2018	\$ 95	5.00%	95.00%	\$ 5	\$ 90	3	6	\$ 2	\$ 1	\$ 2	\$ 30	\$ 23	\$ 37	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Blasting	2018	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Emergency	2018	\$ 1,162	5.00%	95.00%	\$ 58	\$ 1,104	3	6	\$ 19	\$ 15	\$ 24	\$ 365	\$ 280	\$ 460	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Freeform	2018	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Regular	2018	\$ 2,849	5.00%	95.00%	\$ 142	\$ 2,707	3	6	\$ 47	\$ 36	\$ 59	\$ 894	\$ 686	\$ 1,127	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Violation	2018	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Blowoff - Inspect	2019	\$ 79	5.00%	95.00%	\$ 4	\$ 75	3	6	\$ 1	\$ 1	\$ 2	\$ 25	\$ 19	\$ 31	\$ -	\$ -	\$ -	\$ -	\$ -
Blowoff - Install	2019	\$ 15,186	5.00%	95.00%	\$ 759	\$ 14,426	3	6	\$ 251	\$ 192	\$ 316	\$ 4,763	\$ 3,657	\$ 6,006	\$ -	\$ -	\$ -	\$ -	\$ -
Blowoff - Locate	2019	\$ 79	5.00%	95.00%	\$ 4	\$ 75	3	6	\$ 1	\$ 1	\$ 2	\$ 25	\$ 19	\$ 31	\$ -	\$ -	\$ -	\$ -	\$ -
Blowoff - Remove	2019	\$ 6,165	5.00%	95.00%	\$ 308	\$ 5,857	3	6	\$ 102	\$ 78	\$ 128	\$ 1,934	\$ 1,485	\$ 2,438	\$ -	\$ -	\$ -	\$ -	\$ -
Blowoff - Repair	2019	\$ 7,612	5.00%	95.00%	\$ 381	\$ 7,231	3	6	\$ 126	\$ 96	\$ 158	\$ 2,388	\$ 1,833	\$ 3,010	\$ -	\$ -	\$ -	\$ -	\$ -
Hydrant - Check / Inspect	2019	\$ 18,086	0.00%	100.00%	\$ -	\$ 18,086	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,086	\$ -
Hydrant - Close	2019	\$ 3,592	0.00%	100.00%	\$ -	\$ 3,592	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,592	\$ -
Hydrant - Flush	2019	\$ 75	0.00%	100.00%	\$ -	\$ 75	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 75	\$ -
Hydrant - Gate Box Adjust / Replace	2019	\$ 1,943	0.00%	100.00%	\$ -	\$ 1,943	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,943	\$ -
Hydrant - Install	2019	\$ 104,475	0.00%	100.00%	\$ -	\$ 104,475	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 104,475	\$ -
Hydrant - Install - TD	2019	\$ 18,592	0.00%	100.00%	\$ -	\$ 18,592	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,592	\$ -
Hydrant - Install Custodian	2019	\$ 1,748	0.00%	100.00%	\$ -	\$ 1,748	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,748	\$ -
Hydrant - Maintenance	2019	\$ 3,485	0.00%	100.00%	\$ -	\$ 3,485	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,485	\$ -
Hydrant - Open	2019	\$ 113	0.00%	100.00%	\$ -	\$ 113	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 113	\$ -
Hydrant - Relocate Existing	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hydrant - Remove	2019	\$ 34,757	0.00%	100.00%	\$ -	\$ 34,757	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 34,757	\$ -
Hydrant - Remove - TD	2019	\$ 4,678	0.00%	100.00%	\$ -	\$ 4,678	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,678	\$ -
Hydrant - Repair	2019	\$ 94,220	0.00%	100.00%	\$ -	\$ 94,220	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 94,220	\$ -
Hydrant - Repair/Repack Valve	2019	\$ 10,469	0.00%	100.00%	\$ -	\$ 10,469	n/a	10	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,469	\$ -
Sampling Station - Install	2019	\$ 6,817	0.00%	100.00%	\$ -	\$ 6,817	n/a	6	\$ -	\$ -	\$ -	\$ 2,251	\$ 1,728	\$ 2,838	\$ -	\$ -	\$ -	\$ -	\$ -
Sampling Station - Remove	2019	\$ 1,330	0.00%	100.00%	\$ -	\$ 1,330	n/a	6	\$ -	\$ -	\$ -	\$ 439	\$ 337	\$ 554	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Box - Adjust to Grade	2019	\$ 18,893	0.00%	100.00%	\$ -	\$ 18,893	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 18,893	\$ -	\$ -	\$ -	\$ -
Service - Curb Box - Check	2019	\$ 37,952	0.00%	100.00%	\$ -	\$ 37,952	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 37,952	\$ -	\$ -	\$ -	\$ -
Service - Curb Box - Dig Up	2019	\$ 122,415	0.00%	100.00%	\$ -	\$ 122,415	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 122,415	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Close	2019	\$ 47,417	0.00%	100.00%	\$ -	\$ 47,417	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47,417	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Locate	2019	\$ 13,968	0.00%	100.00%	\$ -	\$ 13,968	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 13,968	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Open	2019	\$ 56,932	0.00%	100.00%	\$ -	\$ 56,932	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 56,932	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Repair	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Replace	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Replace / Repair	2019	\$ 25,813	0.00%	100.00%	\$ -	\$ 25,813	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 25,813	\$ -	\$ -	\$ -	\$ -
Service - Dig Up For Meter	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Field Asset Measurement	2019	\$ 10,028	0.00%	100.00%	\$ -	\$ 10,028	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,028	\$ -	\$ -	\$ -	\$ -
Service - Install - IFR	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Install - T&D	2019	\$ 473,668	0.00%	100.00%	\$ -	\$ 473,668	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 473,668	\$ -	\$ -	\$ -	\$ -
Service - Meter - Bypass Meter	2019	\$ 1,554	0.00%	100.00%	\$ -	\$ 1,554	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,554	\$ -	\$ -	\$ -	\$ -
Service - MLOG Leak Investigation	2019	\$ 276	0.00%	100.00%	\$ -	\$ 276	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 276	\$ -	\$ -	\$ -	\$ -
Service - Reconnect	2019	\$ 2,096	0.00%	100.00%	\$ -	\$ 2,096	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,096	\$ -	\$ -	\$ -	\$ -
Service - Remove	2019	\$ 42,450	0.00%	100.00%	\$ -	\$ 42,450	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 42,450	\$ -	\$ -	\$ -	\$ -
Service - Remove Lead - CS Apps	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Remove Lead - TD	2019	\$ 116,483	0.00%	100.00%	\$ -	\$ 116,483	n/a	7											

**Schedule HJS Settlement-13d: T&D Labor Allocation (Factor 13)**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

Description	Year	Total	CTA	Retail Only	Total CTA	Total Retail Only	CTA Factor	Retail Only Factor	Common To All			Retail Only					Check		
									Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection		Direct Fire	
Service - Repair Leak	2019	\$ 136,350	0.00%	100.00%	\$ -	\$ 136,350	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 136,350	\$ -	\$ -	\$ -
TD Misc - Miscellaneous Maint	2019	\$ 226	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 1	\$ 1	\$ 2	\$ 23	\$ 18	\$ 29	\$ 113	\$ 0	\$ 40	\$ -	
TD Misc - Pre-Mark for Digup	2019	\$ -	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TD Misc - Pre-Mark for Saw Cut	2019	\$ -	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
TD Misc - Trench Repair	2019	\$ 17,844	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 95	\$ 73	\$ 120	\$ 1,816	\$ 1,394	\$ 2,290	\$ 8,867	\$ 1	\$ 3,187	\$ -	
Trench - Check For Failure	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Trench Restoration	2019	\$ 747,233	5.00%	95.00%	\$ 37,362	\$ 709,871	3	6	\$ 12,336	\$ 9,472	\$ 15,553	\$ 234,386	\$ 179,969	\$ 295,516	\$ -	\$ -	\$ -	\$ -	
Valve - Adjust Gate Box	2019	\$ 5,989	5.00%	95.00%	\$ 299	\$ 5,690	3	6	\$ 99	\$ 76	\$ 125	\$ 1,879	\$ 1,442	\$ 2,369	\$ -	\$ -	\$ -	\$ -	
Valve - Check / Inspect	2019	\$ 5,836	5.00%	95.00%	\$ 292	\$ 5,544	3	6	\$ 96	\$ 74	\$ 121	\$ 1,830	\$ 1,405	\$ 2,308	\$ -	\$ -	\$ -	\$ -	
Valve - Install	2019	\$ 17,734	5.00%	95.00%	\$ 887	\$ 16,847	3	6	\$ 293	\$ 225	\$ 369	\$ 5,563	\$ 4,271	\$ 7,013	\$ -	\$ -	\$ -	\$ -	
Valve - Install - TD	2019	\$ 13,701	5.00%	95.00%	\$ 685	\$ 13,016	3	6	\$ 226	\$ 174	\$ 285	\$ 4,297	\$ 3,300	\$ 5,418	\$ -	\$ -	\$ -	\$ -	
Valve - Locate	2019	\$ 741	5.00%	95.00%	\$ 37	\$ 704	3	6	\$ 12	\$ 9	\$ 15	\$ 233	\$ 179	\$ 293	\$ -	\$ -	\$ -	\$ -	
Valve - Raise Gate Box To Grade	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Valve - Remove	2019	\$ 6,774	5.00%	95.00%	\$ 339	\$ 6,435	3	6	\$ 112	\$ 86	\$ 141	\$ 2,125	\$ 1,631	\$ 2,679	\$ -	\$ -	\$ -	\$ -	
Valve - Remove - TD	2019	\$ 755	5.00%	95.00%	\$ 38	\$ 718	3	6	\$ 12	\$ 10	\$ 16	\$ 237	\$ 182	\$ 299	\$ -	\$ -	\$ -	\$ -	
Valve - Repair / Repack	2019	\$ 28,008	5.00%	95.00%	\$ 1,400	\$ 26,608	3	6	\$ 462	\$ 355	\$ 583	\$ 8,785	\$ 6,746	\$ 11,077	\$ -	\$ -	\$ -	\$ -	
Valve - Replace Box Cover	2019	\$ 2,329	5.00%	95.00%	\$ 116	\$ 2,212	3	6	\$ 38	\$ 30	\$ 48	\$ 730	\$ 561	\$ 921	\$ -	\$ -	\$ -	\$ -	
Water Main - Install	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Water Main - Remove	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Water Main - Repair Leak	2019	\$ 115,527	5.00%	95.00%	\$ 5,776	\$ 109,750	3	6	\$ 1,907	\$ 1,464	\$ 2,405	\$ 36,238	\$ 27,824	\$ 45,689	\$ -	\$ -	\$ -	\$ -	
DigSafe - Pre-Mark	2019	\$ 398	5.00%	95.00%	\$ 20	\$ 378	3	6	\$ 7	\$ 5	\$ 8	\$ 125	\$ 96	\$ 157	\$ -	\$ -	\$ -	\$ -	
Leak Detection	2019	\$ 477	5.00%	95.00%	\$ 24	\$ 453	3	6	\$ 8	\$ 6	\$ 10	\$ 150	\$ 115	\$ 189	\$ -	\$ -	\$ -	\$ -	
Miscellaneous Work	2019	\$ 2,630	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 14	\$ 11	\$ 18	\$ 268	\$ 206	\$ 337	\$ 1,307	\$ 0	\$ 470	\$ -	
Report Leak	2019	\$ 9,774	5.00%	95.00%	\$ 489	\$ 9,286	3	6	\$ 161	\$ 124	\$ 203	\$ 3,066	\$ 2,354	\$ 3,866	\$ -	\$ -	\$ -	\$ -	
Shut Down Not	2019	\$ 22	0.00%	100.00%	\$ -	\$ 22	n/a	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22	\$ -	\$ -	
TD Collect Sample	2019	\$ 142	5.00%	95.00%	\$ 7	\$ 135	3	6	\$ 2	\$ 2	\$ 3	\$ 45	\$ 34	\$ 56	\$ -	\$ -	\$ -	\$ -	
Trench - Check	2019	\$ 5,914	5.00%	95.00%	\$ 296	\$ 5,618	3	6	\$ 98	\$ 75	\$ 123	\$ 1,855	\$ 1,424	\$ 2,339	\$ -	\$ -	\$ -	\$ -	
Water Pressure	2019	\$ 279	5.00%	95.00%	\$ 14	\$ 265	3	6	\$ 5	\$ 4	\$ 6	\$ 87	\$ 67	\$ 110	\$ -	\$ -	\$ -	\$ -	
Water Quality Issue	2019	\$ 47	5.00%	95.00%	\$ 2	\$ 45	3	6	\$ 1	\$ 1	\$ 1	\$ 15	\$ 11	\$ 19	\$ -	\$ -	\$ -	\$ -	
DigSafe - Blasting	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
DigSafe - Emergency	2019	\$ 5,209	5.00%	95.00%	\$ 260	\$ 4,949	3	6	\$ 86	\$ 66	\$ 108	\$ 1,634	\$ 1,255	\$ 2,060	\$ -	\$ -	\$ -	\$ -	
DigSafe - Freeform	2019	\$ 107	5.00%	95.00%	\$ 5	\$ 102	3	6	\$ 2	\$ 1	\$ 2	\$ 34	\$ 26	\$ 42	\$ -	\$ -	\$ -	\$ -	
DigSafe - Regular	2019	\$ 1,128	5.00%	95.00%	\$ 56	\$ 1,071	3	6	\$ 19	\$ 14	\$ 23	\$ 354	\$ 272	\$ 446	\$ -	\$ -	\$ -	\$ -	
DigSafe - Violation	2019	\$ -	5.00%	95.00%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
3-Year Total (Direct Allocations)								\$6,223,596	\$33,194	\$25,487	\$41,851	\$633,376	\$486,326	\$798,567	\$3,092,737	\$321	\$1,111,735		
Indirect Allocation %								100.00%	0.53%	0.41%	0.67%	10.18%	7.81%	12.83%	49.69%	0.01%	17.86%		
3-Year Total (All Allocations)								\$6,255,138	\$ 33,362	\$ 25,617	\$ 42,063	\$ 636,586	\$ 488,790	\$ 802,614	\$ 3,108,412	\$ 323	\$ 1,117,370		
<b>Factor 13 - As T&amp;D Work/Service Orders</b>								<b>100.00%</b>	<b>0.53%</b>	<b>0.41%</b>	<b>0.67%</b>	<b>10.18%</b>	<b>7.81%</b>	<b>12.83%</b>	<b>49.69%</b>	<b>0.01%</b>	<b>17.86%</b>		

**Schedule HJS Settlement-13e: T&D Contract Services Allocation (Factor 14)**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

Description	Year	Total	Common to All Share		Common to All Cost	Retail Only Cost	Common to All Factor	Retail Only Factor	Common To All			Retail Only					Check		
			Base	Max Day					Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire				
Uniforms	2017	\$ 25,500	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 386	\$ 297	\$ 487	\$ 7,343	\$ 5,638	\$ 9,258	\$ 2,091	\$ -	\$ -	\$ -	\$ -
Markouts/Dig Safe	2017	\$ 31,727	5.00%	95.00%	\$ 1,586	\$ 30,141	3	6	\$ 524	\$ 402	\$ 660	\$ 9,952	\$ 7,641	\$ 12,547	\$ -	\$ -	\$ -	\$ -	\$ -
Switchboard Monitoring	2017	\$ 2,929	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 44	\$ 34	\$ 56	\$ 843	\$ 648	\$ 1,063	\$ 240	\$ -	\$ -	\$ -	\$ -
Service Repair	2017	\$ 93,580	0.00%	100.00%	\$ -	\$ 93,580	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 93,580	\$ -	\$ -	\$ -	\$ -
Police Details	2017	\$ 174,132	5.00%	95.00%	\$ 8,707	\$ 165,426	3	6	\$ 2,875	\$ 2,207	\$ 3,625	\$ 54,620	\$ 41,939	\$ 68,866	\$ -	\$ -	\$ -	\$ -	\$ -
T&D Contractor	2017	\$ 47,871	5.00%	95.00%	\$ 2,394	\$ 45,477	3	6	\$ 790	\$ 607	\$ 996	\$ 15,016	\$ 11,530	\$ 18,932	\$ -	\$ -	\$ -	\$ -	\$ -
Repair Leak on Service	2017	\$ 47,130	0.00%	100.00%	\$ -	\$ 47,130	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47,130	\$ -	\$ -	\$ -	\$ -
Road Restoration - Contractor	2017	\$ 590,536	5.00%	95.00%	\$ 29,527	\$ 561,010	3	6	\$ 9,749	\$ 7,486	\$ 12,292	\$ 185,235	\$ 142,229	\$ 233,546	\$ -	\$ -	\$ -	\$ -	\$ -
Telephone	2017	\$ 8,719	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 132	\$ 101	\$ 167	\$ 2,511	\$ 1,928	\$ 3,165	\$ 715	\$ -	\$ -	\$ -	\$ -
Uniforms	2018	\$ 7,100	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 108	\$ 83	\$ 136	\$ 2,044	\$ 1,570	\$ 2,578	\$ 582	\$ -	\$ -	\$ -	\$ -
Markouts/Dig Safe	2018	\$ 32,903	5.00%	95.00%	\$ 1,645	\$ 31,258	3	6	\$ 543	\$ 417	\$ 685	\$ 10,321	\$ 7,925	\$ 13,013	\$ -	\$ -	\$ -	\$ -	\$ -
Switchboard Monitoring	2018	\$ 3,373	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 51	\$ 39	\$ 64	\$ 971	\$ 746	\$ 1,225	\$ 277	\$ -	\$ -	\$ -	\$ -
Police Details	2018	\$ 124,242	5.00%	95.00%	\$ 6,212	\$ 118,030	3	6	\$ 2,051	\$ 1,575	\$ 2,586	\$ 38,971	\$ 29,923	\$ 49,135	\$ -	\$ -	\$ -	\$ -	\$ -
T&D Contractor	2018	\$ 143,850	5.00%	95.00%	\$ 7,193	\$ 136,658	3	6	\$ 2,375	\$ 1,823	\$ 2,994	\$ 45,122	\$ 34,646	\$ 56,890	\$ -	\$ -	\$ -	\$ -	\$ -
Repair Leak on Service	2018	\$ 44,813	0.00%	100.00%	\$ -	\$ 44,813	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,813	\$ -	\$ -	\$ -	\$ -
Road Restoration - Contractor	2018	\$ 538,228	5.00%	95.00%	\$ 26,911	\$ 511,317	3	6	\$ 8,886	\$ 6,823	\$ 11,203	\$ 168,827	\$ 129,631	\$ 212,859	\$ -	\$ -	\$ -	\$ -	\$ -
Telephone	2018	\$ 10,860	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 165	\$ 126	\$ 208	\$ 3,127	\$ 2,401	\$ 3,943	\$ 890	\$ -	\$ -	\$ -	\$ -
Markouts/Dig Safe	2019	\$ 31,113	5.00%	95.00%	\$ 1,556	\$ 29,557	3	6	\$ 514	\$ 394	\$ 648	\$ 9,759	\$ 7,493	\$ 12,304	\$ -	\$ -	\$ -	\$ -	\$ -
Switchboard Monitoring	2019	\$ 3,000	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 45	\$ 35	\$ 57	\$ 864	\$ 663	\$ 1,089	\$ 246	\$ -	\$ -	\$ -	\$ -
Police Details	2019	\$ 150,299	5.00%	95.00%	\$ 7,515	\$ 142,784	3	6	\$ 2,481	\$ 1,905	\$ 3,128	\$ 47,145	\$ 36,199	\$ 59,440	\$ -	\$ -	\$ -	\$ -	\$ -
T&D Contractor	2019	\$ 120,574	5.00%	95.00%	\$ 6,029	\$ 114,545	3	6	\$ 1,991	\$ 1,528	\$ 2,510	\$ 37,821	\$ 29,040	\$ 47,685	\$ -	\$ -	\$ -	\$ -	\$ -
Repair Leak on Service	2019	\$ 47,278	0.00%	100.00%	\$ -	\$ 47,278	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 47,278	\$ -	\$ -	\$ -	\$ -
Road Restoration - Contractor	2019	\$ 620,956	5.00%	95.00%	\$ 31,048	\$ 589,908	3	6	\$ 10,251	\$ 7,871	\$ 12,925	\$ 194,777	\$ 149,555	\$ 245,576	\$ -	\$ -	\$ -	\$ -	\$ -
Misc. Expenses	2019	\$ 9,767	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	\$ 148	\$ 114	\$ 187	\$ 2,812	\$ 2,159	\$ 3,546	\$ 801	\$ -	\$ -	\$ -	\$ -
3-Year Total (Direct Allocations)									\$2,839,230	\$43,030	\$33,040	\$54,252	\$817,565	\$627,751	\$1,030,793	\$232,800	\$0	\$0	
Indirect Allocation %									100.00%	1.52%	1.16%	1.91%	28.80%	22.11%	36.31%	8.20%	0.00%	0.00%	
3-Year Total									\$2,910,479	\$ 44,110	\$ 33,869	\$ 55,614	\$ 838,081	\$ 643,504	\$ 1,056,660	\$ 238,642	\$ -	\$ -	
<b>Factor 14 - As T&amp;D Contract Services</b>									<b>100.00%</b>	<b>1.52%</b>	<b>1.16%</b>	<b>1.91%</b>	<b>28.80%</b>	<b>22.11%</b>	<b>36.31%</b>	<b>8.20%</b>	<b>0.00%</b>	<b>0.00%</b>	

**Schedule HJS Settlement-13g: Central Operations Facility Square Footage for Allocation of COF Net Plant In Service (Factor 22)**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

**AMENDED BY MICHAEL R. MAKER**

Description	Total Square Feet	Common to All Share	Retail Only Share	Common to All Sq. Feet	Retail Only Sq. Feet	Common to All Factor	Retail Only Factor	Common To All			Retail Only					Direct Fire	Check		
								Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection				
1ST FLOOR / COMMON SPACE / Area 516 SF	516	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	66	32	18	67	40	65	152	48	29	\$	-	
1ST FLOOR / COMMON SPACE / Area 731 SF	731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	93	45	25	95	56	92	215	68	41	\$	-	
1ST FLOOR / COMMON SPACE / Area 1637 SF	1,637	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	209	100	56	213	126	206	481	153	93	\$	-	
1ST FLOOR / COMMON SPACE / Area 10280 SF	10,280	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	1,314	628	353	1,339	788	1,294	3,020	961	582	\$	-	
1ST FLOOR / MUSEUM / Area 1632 SF	1,632	0.00%	100.00%	0	1,632	N/A	4	-	-	-	1,624	-	-	-	-	8	\$	-	
1ST FLOOR / AUTOMOTIVE / Area 7680 SF	7,680	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	982	469	263	1,000	589	967	2,256	718	435	\$	-	
1ST FLOOR / BOARD ROOM / Area 1041 SF	1,041	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	133	64	36	136	80	131	306	97	59	\$	-	
1ST FLOOR / COMMERCIAL SERVICES / Area 9989 SF	9,989	0.00%	100.00%	0	9,989	N/A	9	-	-	-	-	-	-	4,995	4,995	-	\$	-	
1ST FLOOR / ENGINEERING / Area 16804 SF	16,804	100.00%	100.00%	16,804	16,804	21	21	4,672	2,247	158	1,956	1,502	2,466	3,412	-	391	\$	-	
1ST FLOOR / FINANCE / Area 7232 SF	7,232	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	925	442	248	942	555	911	2,125	676	409	\$	-	
1ST FLOOR / IT/ Area 6771 SF	6,771	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	866	414	232	882	519	853	1,989	633	383	\$	-	
1ST FLOOR / SECURITY / Area 5731 SF	5,731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	733	350	197	746	439	722	1,684	536	324	\$	-	
1ST FLOOR / T&D / Area 14683 SF	14,683	100.00%	100.00%	14,683	14,683	13	13	78	60	99	1,494	1,147	1,884	7,297	1	2,623	\$	-	
1ST FLOOR / CENTRAL RECORDS / Area 5731 SF	5,731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	733	350	197	746	439	722	1,684	536	324	\$	-	
1ST FLOOR / PARKING GARAGE / Area 43924 SF	43,924	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	5,616	2,685	1,507	5,721	3,368	5,531	12,905	4,105	2,487	\$	-	
1ST FLOOR / WAREHOUSE & STORAGE/ Area 1177 SF	1,177	39.84%	60.16%	469	708	3	6	155	119	195	234	180	295	-	-	-	\$	-	
1ST FLOOR / WAREHOUSE & STORAGE / Area 2777 SF	2,777	39.84%	60.16%	1,106	1,671	3	6	365	281	461	552	424	695	-	-	-	\$	-	
1ST FLOOR / WAREHOUSE & STORAGE / Area 5550 SF	5,550	39.84%	60.16%	2,211	3,339	3	6	730	561	921	1,102	846	1,390	-	-	-	\$	-	
2ND FLOOR - AREA 'H' COMMON SPACE / Area 772 SF	772	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	99	47	26	101	59	97	227	72	44	\$	-	
2ND FLOOR - AREA 'H' COMMON SPACE / Area 3019 SF	3,019	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	386	185	104	393	231	380	887	282	171	\$	-	
2ND FLOOR - AREA 'H' COMMON SPACE / Area 3946 SF	3,946	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	505	241	135	514	303	497	1,159	369	223	\$	-	
2ND FLOOR - AREA 'H' DINING/CAFETERIA / Area 4575 SF	4,575	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	585	280	157	596	351	576	1,344	428	259	\$	-	
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 237 SF	237	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	30	14	8	31	18	30	70	22	13	\$	-	
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 540 SF	540	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	69	33	19	70	41	68	159	50	31	\$	-	
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 981 SF	981	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	125	60	34	128	75	124	288	92	56	\$	-	
2ND FLOOR - GM/EXUCTIVE MANAGEMENT / Area 2491 S	2,491	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	318	152	85	324	191	314	732	233	141	\$	-	
2ND FLOOR - HUMAN RESOURCES (1)/ Area 1169 SF	1,169	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	149	71	40	152	90	147	343	109	66	\$	-	
2ND FLOOR - HUMAN RESOURCES (2) / Area 2632 SF	2,632	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	337	161	90	343	202	331	773	246	149	\$	-	
2ND FLOOR - LABORATORY /Area 837 SF	837	100.00%	100.00%	837	837	1	1	833	-	-	-	-	-	-	-	4	\$	-	
Total (Direct Allocations)								53,449	6,834	3,267	1,833	6,962	4,098	6,730	15,703	4,995	3,026	\$	-
Indirect Allocation %								100.00%	12.79%	6.11%	3.43%	13.02%	7.67%	12.59%	29.38%	9.35%	5.66%	\$	-
Total (Direct Allocations)								165,085	21,107	10,092	5,663	21,502	12,659	20,786	48,501	15,429	9,347	\$	-
<b>Factor 22 - As Central Operations Facility Square Footage</b>								<b>100.00%</b>	<b>12.79%</b>	<b>6.11%</b>	<b>3.43%</b>	<b>13.02%</b>	<b>7.67%</b>	<b>12.59%</b>	<b>29.38%</b>	<b>9.35%</b>	<b>5.66%</b>	\$	0.00%

## Schedule HJS Settlement-15b: Assignment of Non-Revenue Water (NRW)

Providence Water Supply Board

Docket # 4994

AMENDED BY MICHAEL R. MAKER

Request for General Rate Relief

Confidential Settlement Proposal

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Line	Description	Allocation (HCF)
1	<b>Start: Annual Water Production</b>	<b>28,042,451</b>
2	Less: Annual Sales	23,987,787
3	<b>Equals: Non-Revenue Water</b>	<b>4,054,664</b>
4	Less: Non-Billed Water Use	
5	Unauthorized Consumption <sup>(1)</sup>	70,106
6	Customer Metering Inaccuracy <sup>(2)</sup>	741,890
7	Firefighting Allowance <sup>(3)</sup>	133,690
8	Water Quality and Other Testing <sup>(3)</sup>	1,178,162
9	Main Flushing/System Maintenance <sup>(3)</sup>	66,845
10	Other Authorized Unbilled <sup>(3)</sup>	13,501
	Total Non-Billed Use	2,204,194
11	<b>Equals: Real Losses (Leakage)</b>	<b>1,850,470</b>
12	Leakage on Distribution Mains and Services <sup>(4)</sup>	1,650,295
13	Leakage on Transmission Mains <sup>(4)</sup>	200,175
14	Retail Transmission Leakage <sup>(5)</sup>	105,354
15	Wholesale Transmission Leakage <sup>(5)</sup>	94,821
16	Flushing on Distribution Mains and Services <sup>(4)</sup>	59,614
17	Flushing on Transmission Mains <sup>(4)</sup>	7,231
18	Retail Transmission Flushing	3,806
19	Wholesale Transmission Flushing	3,425
20	<b>Retail Non-Revenue Water</b>	
21	100% of Unauthorized Consumption	70,106
22	100% of Customer Metering Inaccuracy	741,890
23	100% of Firefighting Allowance	133,690
24	52.6% of Water Quality and Testing	668,785
25	100% of Flushing on Distribution Mains	59,614
26	52.6% of Flushing on Transmission Mains	3,806
27	100% of Leakage on Distribution Mains	1,650,295
28	52.6% of Leakage on Transmission Mains	105,354
29	100% of Other Authorized Unbilled	13,501
30	<b>Total Retail NRW</b>	<b>3,447,041</b>
31	<b>%</b>	<b>85.01%</b>
32	<b>Wholesale Non-Revenue Water</b>	
33	0% of Unauthorized Consumption	-
34	0% of Customer Metering Inaccuracy	-
35	0% of Firefighting Allowance	-
36	47.4% of Water Quality and Testing	509,377
37	0% of Flushing on Distribution Mains	-
38	47.4% of Flushing on Transmission Mains	3,425
39	0% of Leakage on Distribution Mains	-
40	47.4% of Leakage on Transmission Mains	94,821
41	0% of Other Authorized Unbilled	-
42	<b>Total Wholesale NRW</b>	<b>607,623</b>
43	<b>%</b>	<b>14.99%</b>

(1) Estimated at 0.25% of Production

(2) Estimated at 3%. Calculated as: (Sales / 0.97) - Sales

(3) Per Providence Water FY 2019

(4) Based on Length of Pipe

(5) Based on Pro-Forma Sales

**Schedule HJS Settlement-16a: Customer Class Units of Service**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Customer Class	Base Demand			Maximum Day Extra Capacity				Maximum Hour Extra Capacity				Billing		Direct Fire
	Rate Year Sales	Plus NRW	Base	Average Day	Peaking Factor	Maximum Day	Maximum Day Extra	Average Day	Peaking Factor	Maximum Hour	Maximum Hour Extra	Meters & Services	Monthly Bills	
	HCF	HCF	HCF	HCF/d		HCF/d	HCF/d	HCF/d		HCF/d	HCF/d	5/8" Eq.		6" Eq.
<b>Retail</b>														
Residential	8,396,176	2,292,428	10,688,604	23,003	1.56	35,958	12,954	23,003	3.13	71,915	35,958			
Commercial	4,041,665	1,103,505	5,145,170	11,073	1.68	18,644	7,571	11,073	3.37	37,289	18,644			
Industrial	187,186	51,108	238,294	513	1.44	741	228	513	2.89	1,481	741			
Sub-total Retail	12,625,027	3,447,041	16,072,068	34,589	1.60	55,343	20,753	34,589	3.20	110,685	55,343	88,313	931,056	
<b>Fire Protection</b>														
Private						690	690			2,759	2,070	40,187	23,940	
Public (Providence)			69,188			1,085	1,085			4,338	3,254			3,232
Public (All Other)			71,029			1,113	1,113			4,453	3,340			3,318
Subtotal Fire Protection			140,217			2,888	2,888			11,551	8,663	40,187	23,940	6,550
Bristol County	1,494,845	79,937	1,574,782	4,095	1.51	6,191	2,096	4,095	1.81	7,429	1,238			
East Providence	1,822,773	97,473	1,920,245	4,994	1.67	8,317	3,323	4,994	2.76	13,797	5,480			
East Smithfield	-	-	-	-	0.00	-	-	-	0.00	-	-			
Greenville	421,521	22,541	444,062	1,155	2.01	2,323	1,168	1,155	3.05	3,525	1,202			
Johnston	-	-	-	-	0.00	-	-	-	0.00	-	-			
Kent County	2,727,147	145,834	2,872,981	7,472	1.42	10,638	3,166	7,472	2.18	16,260	5,622			
Lincoln	1,038,229	55,519	1,093,748	2,844	1.90	5,402	2,557	2,844	2.23	6,354	952			
Smithfield	391,600	20,941	412,541	1,073	2.17	2,328	1,255	1,073	2.56	2,747	419			
Warwick	3,466,644	185,379	3,652,023	9,498	2.40	22,752	13,254	9,498	2.81	26,693	3,941			
<b>Wholesale</b>	11,362,760	607,623	11,970,382	31,131	1.86	57,951	26,821	31,131	2.47	76,806	18,855			
<b>Grand Total</b>	<b>23,987,787</b>	<b>4,054,664</b>	<b>28,182,668</b>	<b>65,720</b>	<b>1.77</b>	<b>116,182</b>	<b>50,462</b>	<b>65,720</b>	<b>3.03</b>	<b>199,042</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>

Intraclass Distribution of Retail Max Day Based on Monthly Analysis

	Max Day	%
Residential	36,616	64.97%
Commercial	18,986	33.69%
Industrial	754	1.34%
	56,357	100.00%

## Schedule HJS Settlement-16c: Customer Class Units of Service

Providence Water Supply Board

AMENDED BY MICHAEL R. MAKER

Docket # 4994

Request for General Rate Relief

Confidential Settlement Proposal

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Customer Class	Base	Extra Capacity		Billing		Direct Fire
		Maximum Day Extra	Maximum Hour Extra	Meters & Services	Monthly Bills	
	HCF	HCF/d	HCF/d	5/8" Eq.	Bills	6" Eq.
<b>Retail</b>						
Residential	10,688,604	12,954	35,958			
Commercial	5,145,170	7,571	18,644			
Industrial	238,294	228	741			
Sub-total Retail	16,072,068	20,753	55,343	88,313	931,056	
<b>Fire Protection</b>						
Private		690	2,070	40,187	23,940	
Public (Providence)	69,188	1,085	3,254			3,232
Public (All Other)	71,029	1,113	3,340			3,318
Subtotal Fire Protection	140,217	2,888	8,663	40,187	23,940	6,550
Bristol County	1,574,782	2,096	1,238			
East Providence	1,920,245	3,323	5,480			
East Smithfield	-	-	-			
Greenville	444,062	1,168	1,202			
Johnston	-	-	-			
Kent County	2,872,981	3,166	5,622			
Lincoln	1,093,748	2,557	952			
Smithfield	412,541	1,255	419			
Warwick	3,652,023	13,254	3,941			
<b>Wholesale</b>	11,970,382	26,821	18,855			
<b>Grand Total</b>	<b>28,182,668</b>	<b>50,462</b>	<b>82,860</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>
	16,212,285	23,641	64,006	128,499	954,996	6,550

**Schedule HJS Settlement-17: Unit Cost of Service**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Common To All			Retail Only						
	Total	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
		HCF	HCF/d	HCF/d	HCF	HCF/d	HCF/d	Eq. 5/8" Mtrs.	Bills	Eq. 6" Conn.
<b>Total Units of Service</b>										
Retail		16,072,068	20,753	55,343	16,072,068	20,753	55,343	88,313	931,056	-
Fire Protection		140,217	2,888	8,663	140,217	2,888	8,663	40,187	23,940	6,550
Bristol County		1,574,782	2,096	1,238						
East Providence		1,920,245	3,323	5,480						
East Smithfield		-	-	-						
Greenville		444,062	1,168	1,202						
Johnston		-	-	-						
Kent County		2,872,981	3,166	5,622						
Lincoln		1,093,748	2,557	952						
Smithfield		412,541	1,255	419						
Warwick		3,652,023	13,254	3,941						
Wholesale		11,970,382	26,821	18,855						
Total		28,182,668	50,462	82,860	16,212,285	23,641	64,006	128,499	954,996	6,550
All but Bristol County		26,607,886	48,366	81,623	16,212,285	23,641	64,006	128,499	954,996	6,550

**Unit Cost of Service**

O&M Expense	\$ 36,482,024	\$ 15,558,700	\$ 1,816,768	\$ 362,592	\$ 1,560,430	\$ 1,198,154	\$ 1,967,419	\$ 4,564,172	\$ 7,603,075	\$ 1,850,714
All but Bristol County	\$ 1,807,285	\$ 159,126	\$ 122,182	\$ 200,628	\$ 170,785	\$ 131,134	\$ 215,328	\$ 596,126	\$ 61	\$ 211,914
Unit Cost (\$/Unit)		\$ 0.55	\$ 36.00	\$ 4.38	\$ 0.10	\$ 50.68	\$ 30.74	\$ 35.52	\$ 7.96	\$ 282.55
All but Bristol County		\$ 0.01	\$ 2.53	\$ 2.46	\$ 0.01	\$ 5.55	\$ 3.36	\$ 4.64	\$ 0.00	\$ 32.35
Capital Expense	\$ 35,017,000	\$ 9,142,012	\$ 4,396,851	\$ 315,267	\$ 3,853,760	\$ 2,954,774	\$ 4,851,863	\$ 7,712,158	\$ 1,017,065	\$ 773,250
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.32	\$ 87.13	\$ 3.80	\$ 0.24	\$ 124.98	\$ 75.80	\$ 60.02	\$ 1.06	\$ 118.05
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
City Services Expense	\$ 839,167	\$ 312,705	\$ 25,930	\$ 10,307	\$ 41,534	\$ 31,891	\$ 52,366	\$ 137,721	\$ 177,443	\$ 49,270
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.01	\$ 0.51	\$ 0.12	\$ 0.00	\$ 1.35	\$ 0.82	\$ 1.07	\$ 0.19	\$ 7.52
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Property Tax Expense	\$ 7,629,145	\$ 7,591,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 38,146
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5.82
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Operating Revenue Allowance	\$ 1,635,492	\$ 655,271	\$ 127,235	\$ 17,776	\$ 112,530	\$ 86,319	\$ 141,739	\$ 260,204	\$ 175,953	\$ 58,466
All but Bristol County	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)		\$ 0.02	\$ 2.52	\$ 0.21	\$ 0.01	\$ 3.65	\$ 2.21	\$ 2.02	\$ 0.18	\$ 8.93
All but Bristol County		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Cost of Service	\$ 81,602,829	\$ 33,259,688	\$ 6,366,784	\$ 705,942	\$ 5,568,255	\$ 4,271,138	\$ 7,013,387	\$ 12,674,255	\$ 8,973,535	\$ 2,769,846
All but Bristol County	\$ 1,807,285	\$ 159,126	\$ 122,182	\$ 200,628	\$ 170,785	\$ 131,134	\$ 215,328	\$ 596,126	\$ 61	\$ 211,914
Unit Cost (\$/Unit)		\$ 1.18	\$ 126.17	\$ 8.52	\$ 0.34	\$ 180.67	\$ 109.57	\$ 98.63	\$ 9.40	\$ 422.88
All but Bristol County		\$ 0.01	\$ 2.53	\$ 2.46	\$ 0.01	\$ 5.55	\$ 3.36	\$ 4.64	\$ 0.00	\$ 32.35

Total Pumping Expenses	\$ 151,579	\$ 116,387	\$ 191,112	\$ 26,870	\$ 20,632	\$ 33,878	\$ -	\$ -	\$ -	\$ -
13 UDF Allocated on Factor 13 - Salaries, Bene	\$ 1,186,315	\$ 6,327	\$ 4,858	\$ 7,978	\$ 120,731	\$ 92,701	\$ 152,219	\$ 589,524	\$ 61	\$ 211,914
14 UDF Allocated on Factor 14 - Police Details	\$ 80,512	\$ 1,220	\$ 937	\$ 1,538	\$ 23,184	\$ 17,801	\$ 29,230	\$ 6,602	\$ -	\$ -
Total O&M Expense (All but Bristol County)	\$ 159,126	\$ 122,182	\$ 200,628	\$ 170,785	\$ 131,134	\$ 215,328	\$ 596,126	\$ 61	\$ 211,914	\$ -

**Schedule HJS Settlement-18: Customer Class Cost of Service**

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

AMENDED BY MICHAEL R. MAKER

Total	Common To All			Retail Only					
	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
Unit Cost of Service (\$/Unit)	\$ 1.18	\$126.17	\$8.52	\$ 0.34	\$180.67	\$109.57	\$98.63	\$9.40	\$422.88
All but Bristol County	\$ 0.01	\$ 2.53	\$ 2.46	\$ 0.01	\$ 5.55	\$ 3.36	\$ 4.64	\$ 0.00	\$ 32.35

**Retail Service:**

Residential Volume										
Units of Service	10,688,604	12,954	35,958	10,688,604	12,954	35,958	-	-	-	-
Cost of Service	\$ 24,996,902	\$ 12,678,045	\$ 1,667,180	\$ 394,730	\$ 3,783,694	\$ 2,412,255	\$ 4,060,998	\$ -	\$ -	\$ -
Commercial Volume										
Units of Service	5,145,170	7,571	18,644	5,145,170	7,571	18,644	-	-	-	-
Cost of Service	\$ 12,618,797	\$ 6,102,827	\$ 974,403	\$ 204,672	\$ 1,821,356	\$ 1,409,870	\$ 2,105,669	\$ -	\$ -	\$ -
Industrial Volume Charge										
Units of Service	238,294	228	741	238,294	228	741	-	-	-	-
Cost of Service	\$ 530,521	\$ 282,647	\$ 29,319	\$ 8,131	\$ 84,354	\$ 42,422	\$ 83,648	\$ -	\$ -	\$ -
Meter Service Charge										
Units of Service	-	-	-	-	-	-	88,313	931,056	-	-
Cost of Service	\$ 17,868,868	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,120,223	\$ 8,748,644	\$ -	\$ -

**Fire Protection:**

Private Fire Lines										
Units of Service	-	690	2,070	-	690	2,070	40,187	23,940	-	-
Cost of Service	\$ 4,848,790	\$ 88,779	\$ 22,718	\$ -	\$ 128,456	\$ 233,727	\$ 4,150,157	\$ 224,952	\$ -	\$ -
Public Fire (Providence)										
Units of Service	69,188	1,085	3,254	69,188	1,085	3,254	-	-	3,232	-
Cost of Service	\$ 2,322,546	\$ 82,066	\$ 139,572	\$ 35,716	\$ 24,492	\$ 201,948	\$ 367,447	\$ -	\$ -	\$ 1,471,305
Public Fire (All Other)										
Units of Service	71,029	1,113	3,340	71,029	1,113	3,340	-	-	3,318	-
Cost of Service	\$ 2,384,346	\$ 84,249	\$ 143,286	\$ 36,666	\$ 25,144	\$ 207,321	\$ 377,224	\$ -	\$ -	\$ 1,510,455
East Smithfield Surcharge										
Units of Service	-	-	-	-	-	-	-	-	-	-
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Wholesale Service:**

Bristol County	1,574,782	2,096	1,238							
East Providence	1,920,245	3,323	5,480							
East Smithfield	-	-	-							
Greenville	444,062	1,168	1,202							
Johnston	-	-	-							
Kent County	2,872,981	3,166	5,622							
Lincoln	1,093,748	2,557	952							
Smithfield	412,541	1,255	419							
Warwick	3,652,023	13,254	3,941							
Units of Service	11,970,382	26,821	18,855							
Bristol County	\$ 2,133,456	\$ 1,858,474	\$ 264,438	\$ 10,545						
East Providence	\$ 2,765,514	\$ 2,277,655	\$ 427,705	\$ 60,153						
East Smithfield	\$ -	\$ -	\$ -	\$ -						
Greenville	\$ 690,250	\$ 526,714	\$ 150,338	\$ 13,198						
Johnston	\$ -	\$ -	\$ -	\$ -						
Kent County	\$ 3,876,934	\$ 3,407,722	\$ 407,491	\$ 61,721						
Lincoln	\$ 1,636,907	\$ 1,297,324	\$ 329,130	\$ 10,454						
Smithfield	\$ 655,461	\$ 489,326	\$ 161,535	\$ 4,600						
Warwick	\$ 6,080,822	\$ 4,331,764	\$ 1,705,791	\$ 43,268						
Cost of Service	\$ 17,839,344	\$ 14,188,979	\$ 3,446,427	\$ 203,938						

Total Allocated Cost of Service \$ 83,410,114 \$ 33,418,814 \$ 6,488,966 \$ 906,570 \$ 5,739,040 \$ 4,402,272 \$ 7,228,714 \$ 13,270,381 \$ 8,973,596 \$ 2,981,760

**Schedule HJS Settlement-19: Development of Volumetric Rates**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Units	Residential	Commercial	Industrial	Bristol County	East Providence	East Smithfield	Greenville	Johnston	Kent County	Lincoln	Smithfield	Warwick	Wholesale
<b>Unit Cost</b>														
CTA Base	\$/HCF	1.19	1.19	1.19	1.18	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.18
CTA Maximum Day	\$/HCF/d	128.70	128.70	128.70	126.17	128.70	128.70	128.70	128.70	128.70	128.70	128.70	128.70	126.17
CTA Maximum Hour	\$/HCF/d	10.98	10.98	10.98	8.52	10.98	10.98	10.98	10.98	10.98	10.98	10.98	10.98	8.52
Retail Only Base	\$/HCF	0.35	0.35	0.35	0.34	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.34
Retail Only Maximum Day	\$/HCF/d	186.21	186.21	186.21	180.67	186.21	186.21	186.21	186.21	186.21	186.21	186.21	186.21	180.67
Retail Only Maximum Hour	\$/HCF/d	112.94	112.94	112.94	109.57	112.94	112.94	112.94	112.94	112.94	112.94	112.94	112.94	109.57
<b>Units</b>														
Base	HCF	10,688,604	5,145,170	238,294	1,574,782	1,920,245	0	444,062	0	2,872,981	1,093,748	412,541	3,652,023	11,970,382
Maximum Day	HCF/d	12,954	7,571	228	2,096	3,323	0	1,168	0	3,166	2,557	1,255	13,254	26,821
Maximum Hour	HCF/d	35,958	18,644	741	1,238	5,480	0	1,202	0	5,622	952	419	3,941	18,855
<b>Total Cost</b>														
CTA Base		\$ 12,678,045	\$ 6,102,827	\$ 282,647	\$ 1,858,474	\$ 2,277,655	\$ -	\$ 526,714	\$ -	\$ 3,407,722	\$ 1,297,324	\$ 489,326	\$ 4,331,764	\$ 14,126,809
CTA Maximum Day		\$ 1,667,180	\$ 974,403	\$ 29,319	\$ 264,438	\$ 427,705	\$ -	\$ 150,338	\$ -	\$ 407,491	\$ 329,130	\$ 161,535	\$ 1,705,791	\$ 3,383,967
CTA Maximum Hour		\$ 394,730	\$ 204,672	\$ 8,131	\$ 10,545	\$ 60,153	\$ -	\$ 13,198	\$ -	\$ 61,721	\$ 10,454	\$ 4,600	\$ 43,268	\$ 160,635
Retail Only Base		\$ 3,783,694	\$ 1,821,356	\$ 84,354	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Day		\$ 2,412,255	\$ 1,409,870	\$ 42,422	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Only Maximum Hour		\$ 4,060,998	\$ 2,105,669	\$ 83,648	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
PLUS:														
Retail Service Charge Costs		\$ 5,121,117	\$ 2,585,214	\$ 108,688	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire Protection Costs		\$ 288,285	\$ 145,530	\$ 6,118	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire Line Costs		\$ 573,921	\$ 289,723	\$ 12,181	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire Costs		\$ 267,280	\$ 134,927	\$ 5,673	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Rate Year Revenue Requirement</b>		<b>\$ 31,247,504</b>	<b>\$ 15,774,191</b>	<b>\$ 663,180</b>	<b>\$ 2,133,456</b>	<b>\$ 2,765,514</b>	<b>\$ -</b>	<b>\$ 690,250</b>	<b>\$ -</b>	<b>\$ 3,876,934</b>	<b>\$ 1,636,907</b>	<b>\$ 655,461</b>	<b>\$ 6,080,822</b>	<b>\$ 17,671,412</b>
<b>Rate Year Sales</b>	HCF	8,396,176	4,041,665	187,186	1,494,845	1,822,773	0	421,521	0	2,727,147	1,038,229	391,600	3,466,644	11,362,760
<b>Volumetric Rate Build-Up</b>														
Base	\$/HCF	\$ 1.960623	\$ 1.960623	\$ 1.960623	\$ 1.243255	\$ 1.249555	\$ -	\$ 1.249555	\$ -	\$ 1.249555	\$ 1.249555	\$ 1.249555	\$ 1.249555	\$ 1.243255
Maximum Day	\$/HCF	\$ 0.485868	\$ 0.589923	\$ 0.383259	\$ 0.176900	\$ 0.234645	\$ -	\$ 0.356656	\$ -	\$ 0.149420	\$ 0.317011	\$ 0.412499	\$ 0.492058	\$ 0.297812
Maximum Hour	\$/HCF	\$ 0.530685	\$ 0.571631	\$ 0.490309	\$ 0.007054	\$ 0.033001	\$ -	\$ 0.031310	\$ -	\$ 0.022632	\$ 0.010069	\$ 0.011747	\$ 0.012481	\$ 0.014137
Service Charge	\$/HCF	\$ 0.609934	\$ 0.639641	\$ 0.580641	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Retail Fire	\$/HCF	\$ 0.034335	\$ 0.036007	\$ 0.032686	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Private Fire	\$/HCF	\$ 0.068355	\$ 0.071684	\$ 0.065072	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Public Fire	\$/HCF	\$ 0.031834	\$ 0.033384	\$ 0.030305	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total	\$/HCF	\$ 3.721635	\$ 3.902894	\$ 3.542895	\$ 1.427209	\$ 1.517202	\$ -	\$ 1.637521	\$ -	\$ 1.421608	\$ 1.576635	\$ 1.673802	\$ 1.754095	\$ 1.555204
Rounded	\$/HCF	\$ 3.722000	\$ 3.903000	\$ 3.543000	\$ 1.427210	\$ 1.517202	\$ -	\$ 1.637522	\$ -	\$ 1.421608	\$ 1.576635	\$ 1.673802	\$ 1.754095	\$ 1.555205
Revenues		\$ 31,250,567	\$ 15,774,618	\$ 663,200	\$ 2,133,458	\$ 2,765,514	\$ -	\$ 690,250	\$ -	\$ 3,876,935	\$ 1,636,908	\$ 655,461	\$ 6,080,823	\$ 17,671,420
COS		\$ 31,247,504	\$ 15,774,191	\$ 663,180	\$ 2,133,456	\$ 2,765,514	\$ -	\$ 690,250	\$ -	\$ 3,876,934	\$ 1,636,907	\$ 655,461	\$ 6,080,822	\$ 17,671,412
Variance due to Rounding		\$ 3,063	\$ 427	\$ 20	\$ 1	\$ 1	\$ -	\$ 0	\$ -	\$ 1	\$ 0	\$ 0	\$ 1	\$ 8

## Schedule HJS Settlement-22: Proposed Rates

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
Docket # 4994  
Request for General Rate Relief  
Confidential Settlement Proposal  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022				Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue		
<b>Service Charges</b>														
5/8"	57,812	\$ 7.56	\$ 5,244,705	31.22%	\$ 9.92	\$ 6,881,940	5.53%	\$ 10.47	\$ 7,262,389	4.20%	\$ 10.91	\$ 7,567,746		
3/4"	11,326	\$ 8.05	\$ 1,094,092	31.30%	\$ 10.57	\$ 1,436,590	5.53%	\$ 11.15	\$ 1,516,008	4.20%	\$ 11.62	\$ 1,579,750		
1"	5,335	\$ 9.50	\$ 608,190	31.26%	\$ 12.47	\$ 798,329	5.53%	\$ 13.16	\$ 842,463	4.20%	\$ 13.71	\$ 877,885		
1.5"	1,547	\$ 11.43	\$ 212,187	31.23%	\$ 15.00	\$ 278,460	5.53%	\$ 15.83	\$ 293,854	4.20%	\$ 16.49	\$ 306,209		
2"	1,357	\$ 16.76	\$ 272,920	31.21%	\$ 21.99	\$ 358,085	5.53%	\$ 23.21	\$ 377,881	4.20%	\$ 24.18	\$ 393,769		
3"	73	\$ 56.01	\$ 49,065	31.21%	\$ 73.49	\$ 64,377	5.53%	\$ 77.55	\$ 67,936	4.20%	\$ 80.81	\$ 70,793		
4"	35	\$ 70.55	\$ 29,631	31.21%	\$ 92.57	\$ 38,879	5.53%	\$ 97.69	\$ 41,029	4.20%	\$ 101.79	\$ 42,754		
6"	57	\$ 104.47	\$ 71,457	31.21%	\$ 137.07	\$ 93,756	5.53%	\$ 144.65	\$ 98,939	4.20%	\$ 150.73	\$ 103,099		
8"	42	\$ 143.23	\$ 72,188	31.20%	\$ 187.92	\$ 94,712	5.53%	\$ 198.31	\$ 99,948	4.20%	\$ 206.65	\$ 104,150		
10"	4	\$ 178.36	\$ 8,561	31.20%	\$ 234.01	\$ 11,232	5.53%	\$ 246.95	\$ 11,853	4.20%	\$ 257.33	\$ 12,352		
12"	-	\$ 213.49	\$ -	31.20%	\$ 280.10	\$ -	5.53%	\$ 295.58	\$ -	4.20%	\$ 308.01	\$ -		
Total Service Charge	77,588		\$ 7,662,995	31.23%		\$ 10,056,362	5.53%		\$ 10,612,299	4.20%		\$ 11,058,508		
<b>Retail Fire Protection Service Charges (Providence Only)</b>														
5/8"	25,954	\$ 1.38	\$ 429,798	31.88%	\$ 1.82	\$ 566,835	5.53%	\$ 1.92	\$ 598,171	4.20%	\$ 2.00	\$ 623,322		
3/4"	4,580	\$ 2.07	\$ 113,767	31.40%	\$ 2.72	\$ 149,491	5.53%	\$ 2.87	\$ 157,755	4.20%	\$ 2.99	\$ 164,388		
1"	2,091	\$ 5.15	\$ 129,224	31.26%	\$ 6.76	\$ 169,622	5.53%	\$ 7.13	\$ 178,999	4.20%	\$ 7.43	\$ 186,525		
1.5"	902	\$ 13.74	\$ 148,722	31.22%	\$ 18.03	\$ 195,157	5.53%	\$ 19.03	\$ 205,945	4.20%	\$ 19.83	\$ 214,605		
2"	792	\$ 32.96	\$ 313,252	31.22%	\$ 43.25	\$ 411,048	5.53%	\$ 45.64	\$ 433,772	4.20%	\$ 47.56	\$ 452,010		
3"	55	\$ 89.26	\$ 58,912	31.20%	\$ 117.11	\$ 77,293	5.53%	\$ 123.58	\$ 81,566	4.20%	\$ 128.78	\$ 84,995		
4"	20	\$ 151.05	\$ 36,252	31.20%	\$ 198.18	\$ 47,563	5.53%	\$ 209.14	\$ 50,193	4.20%	\$ 217.93	\$ 52,303		
6"	28	\$ 308.97	\$ 103,814	31.20%	\$ 405.37	\$ 136,204	5.53%	\$ 427.78	\$ 143,734	4.20%	\$ 445.77	\$ 149,777		
8"	15	\$ 466.89	\$ 84,040	31.20%	\$ 612.56	\$ 110,261	5.53%	\$ 646.42	\$ 116,356	4.20%	\$ 673.60	\$ 121,249		
10"	2	\$ 714.07	\$ 17,138	31.20%	\$ 936.86	\$ 22,485	5.53%	\$ 988.65	\$ 23,728	4.20%	\$ 1,030.22	\$ 24,725		
12"	-	\$ 1,180.95	\$ -	31.20%	\$ 1,549.41	\$ -	5.53%	\$ 1,635.06	\$ -	4.20%	\$ 1,703.81	\$ -		
Total Retail FPSC (Providence Only)	34,439		\$ 1,434,918	31.43%		\$ 1,885,959	5.53%		\$ 1,990,219	4.20%		\$ 2,073,900		
Total Retail Service Charge Revenue			\$ 9,097,913	31.26%		\$ 11,942,320	5.53%		\$ 12,602,518	4.20%		\$ 13,132,408		
<b>Retail Consumption Charges</b>														
Residential	8,396,176	\$ 3.403	\$ 28,572,187	9.37%	\$ 3.722	\$ 31,250,567	5.53%	\$ 3.928	\$ 32,978,166	4.20%	\$ 4.093	\$ 34,364,778		
Commercial	4,041,665	\$ 3.223	\$ 13,026,286	21.10%	\$ 3.903	\$ 15,774,618	5.53%	\$ 4.119	\$ 16,646,673	4.20%	\$ 4.292	\$ 17,346,606		
Industrial	187,186	\$ 3.169	\$ 593,192	11.80%	\$ 3.543	\$ 663,200	5.53%	\$ 3.739	\$ 699,863	4.20%	\$ 3.896	\$ 729,290		
Total Retail Consumption Charge	12,625,027		\$ 42,191,666	13.03%		\$ 47,688,386	5.53%		\$ 50,324,703	4.20%		\$ 52,440,674		
East Smithfield Debt Surcharge	235,576	\$ 0.35	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451		
Total Retail Volume Charge Revenue			\$ 42,274,117	13.00%		\$ 47,770,837	5.52%		\$ 50,407,154	4.20%		\$ 52,523,126		
<b>Total Retail Revenue</b>			<b>\$ 51,372,030</b>	<b>16.24%</b>		<b>\$ 59,713,157</b>	<b>5.52%</b>		<b>\$ 63,009,672</b>	<b>4.20%</b>		<b>\$ 65,655,533</b>		

**Schedule HJS Settlement-22: Proposed Rates**

AMENDED BY MICHAEL R. MAKER

Providence Water Supply Board  
 Docket # 4994  
 Request for General Rate Relief  
 Confidential Settlement Proposal  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021				Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	
<b>Wholesale Charges</b>													
Bristol County	1,494,845	\$ 1.350858	\$ 2,019,323	5.65%	\$ 1.427210	\$ 2,133,458	4.07%	\$ 1.485228	\$ 2,220,186	2.84%	\$ 1.527432	\$ 2,283,274	
East Providence	1,822,773	\$ 1.350858	\$ 2,462,307	12.31%	\$ 1.517202	\$ 2,765,514	4.07%	\$ 1.578878	\$ 2,877,937	2.84%	\$ 1.623744	\$ 2,959,716	
Greenville	421,521	\$ 1.350858	\$ 569,415	21.22%	\$ 1.637522	\$ 690,250	4.07%	\$ 1.704090	\$ 718,310	2.84%	\$ 1.752513	\$ 738,721	
Johnston	-	\$ 1.350858	\$ -	-100.00%	\$ -	\$ -	4.07%	\$ -	\$ -	2.84%	\$ -	\$ -	
Kent County	2,727,147	\$ 1.350858	\$ 3,683,989	5.24%	\$ 1.421608	\$ 3,876,935	4.07%	\$ 1.479398	\$ 4,034,538	2.84%	\$ 1.521437	\$ 4,149,183	
Lincoln	1,038,229	\$ 1.350858	\$ 1,402,499	16.71%	\$ 1.576635	\$ 1,636,908	4.07%	\$ 1.640727	\$ 1,703,450	2.84%	\$ 1.687350	\$ 1,751,855	
Smithfield	391,600	\$ 1.350858	\$ 528,996	23.91%	\$ 1.673802	\$ 655,461	4.07%	\$ 1.741844	\$ 682,107	2.84%	\$ 1.791341	\$ 701,489	
Warwick	3,466,644	\$ 1.350858	\$ 4,682,944	29.85%	\$ 1.754095	\$ 6,080,823	4.07%	\$ 1.825401	\$ 6,328,018	2.84%	\$ 1.877272	\$ 6,507,834	
<b>Total Wholesale Revenue</b>	<b>11,362,760</b>		<b>15,349,475</b>	<b>16.22%</b>	<b>\$ 1.569984</b>	<b>17,839,349</b>	<b>4.07%</b>	<b>\$ 1.633806</b>	<b>18,564,544</b>	<b>2.84%</b>	<b>\$ 1.680232</b>	<b>19,092,073</b>	
Wholesale (per million gallons)	8,499	\$ 1,805.96	\$ 15,349,475	16.22%	\$ 2,098.91	\$ 17,839,349		\$ 2,184.23	\$ 18,564,544		\$ 2,246.30	\$ 19,092,073	
<b>Private Fire Service Charges</b>													
3/4"	2	\$ 8.64	\$ 207	31.25%	\$ 11.34	\$ 272	5.53%	\$ 11.97	\$ 287	4.20%	\$ 12.47	\$ 299	
1"	9	\$ 10.21	\$ 1,103	31.24%	\$ 13.40	\$ 1,447	5.53%	\$ 14.14	\$ 1,527	4.20%	\$ 14.74	\$ 1,591	
1-1/2"	2	\$ 12.57	\$ 302	31.26%	\$ 16.50	\$ 396	5.53%	\$ 17.41	\$ 418	4.20%	\$ 18.14	\$ 435	
2"	68	\$ 18.64	\$ 15,210	31.22%	\$ 24.46	\$ 19,959	5.53%	\$ 25.81	\$ 21,063	4.20%	\$ 26.90	\$ 21,948	
4"	391	\$ 79.67	\$ 373,812	31.20%	\$ 104.53	\$ 490,455	5.53%	\$ 110.31	\$ 517,568	4.20%	\$ 114.95	\$ 539,330	
6"	1,245	\$ 129.89	\$ 1,940,557	31.20%	\$ 170.42	\$ 2,546,075	5.53%	\$ 179.84	\$ 2,686,827	4.20%	\$ 187.40	\$ 2,799,799	
8"	256	\$ 196.73	\$ 604,355	31.20%	\$ 258.11	\$ 792,914	5.53%	\$ 272.38	\$ 836,748	4.20%	\$ 283.83	\$ 871,930	
10"	4	\$ 274.06	\$ 13,155	31.20%	\$ 359.57	\$ 17,259	5.53%	\$ 379.45	\$ 18,213	4.20%	\$ 395.40	\$ 18,979	
12"	18	\$ 367.64	\$ 79,410	31.20%	\$ 482.35	\$ 104,188	5.53%	\$ 509.02	\$ 109,947	4.20%	\$ 530.42	\$ 114,570	
16"	-	\$ 611.43	\$ -	20.93%	\$ 739.42	\$ -	5.53%	\$ 780.30	\$ -	4.20%	\$ 813.11	\$ -	
Total		\$ 3,028,110	\$ 3,028,110	31.20%		\$ 3,972,965	5.53%		\$ 4,192,599	4.20%		\$ 4,368,883	
Hydrants (Excluding Providence)	3,318	\$ 454.02	\$ 1,506,438	31.20%	\$ 595.68	\$ 1,976,466	5.53%	\$ 628.61	\$ 2,085,730	4.20%	\$ 655.04	\$ 2,173,427	
<b>Total Fire Protection Charge Revenue</b>			<b>\$4,534,548.24</b>			<b>\$5,949,431.40</b>			<b>\$6,278,328.84</b>			<b>\$6,542,309.81</b>	
<b>Total Rate Revenues</b>			<b>\$ 71,256,053</b>			<b>\$ 83,501,938</b>			<b>\$ 87,852,545</b>			<b>\$ 91,289,916</b>	
Miscellaneous Revenues			\$ 1,493,163			\$ 1,543,163			\$ 1,543,163			\$ 1,543,163	
<b>Total Revenues</b>			<b>\$ 72,749,216</b>	<b>16.90%</b>		<b>\$ 85,045,101</b>	<b>5.12%</b>		<b>\$ 89,395,708</b>	<b>3.85%</b>		<b>\$ 92,833,079</b>	
						9,373			9,891			10,307	

***EXHIBIT 3***

amount of \$826,561 to support total cost of service of \$22,638,140. The impact of this request will result in a 3.8% increase in total revenues. The increase will apply uniformly to each customer class as an “across the board” increase.

42. The PWSB agrees to use the maximum-day and maximum-hour demand extra capacity factor of 3.5 suggested by Mr. Mierzwa to mitigate the increase to Cumberland. However, and as set forth in paragraphs 44-47 infra, the Parties reserve the right to advocate for a different capacity factor in future rate filings and in the compliance filings for Steps 2 and 3 of the proposed rate filing.

43. The Parties also reserve the right to advocate for different consumption numbers based on updated consumption numbers provided by the PWSB in its compliance filings for Steps 2 and 3 of the proposed rate filing.

#### **IV. EFFECT OF SETTLEMENT**

44. This Settlement Agreement is the result of a negotiated settlement. The discussions which have produced this Settlement Agreement have been conducted with the explicit understanding that all offers of settlement and discussion relating thereto are and shall be privileged, shall be without prejudice to the position of any party or participant presenting such offer or participating in any such discussion, and are not to be used in any manner in connection with these or other proceedings.

45. This settlement agreement is the product of negotiation and compromise. The making of this agreement establishes no principle or precedent. This agreement shall not be deemed to foreclose any party from making any contention in any future proceeding or investigation.

***EXHIBIT 4***

**Table 1 – Settlement Agreement Wholesale Rates**

Customer	Existing Rates			% Change	Proposed FY 2021	
	Units	Rates	Revenue		Rates	Revenue
Bristol County	1,494,845	\$1.350858	\$2,019,323	19.49%	\$1.614	\$2,412,973
East Providence	1,822,773	\$1.350858	\$2,462,307	19.49%	\$1.614	\$2,942,312
Greenville	421,521	\$1.350858	\$569,415	19.49%	\$1.614	\$680,418
Kent County	2,727,147	\$1.350858	\$3,683,989	19.49%	\$1.614	\$4,402,151
Lincoln	1,038,229	\$1.350858	\$1,402,499	19.49%	\$1.614	\$1,675,904
Smithfield	391,600	\$1.350858	\$528,996	19.49%	\$1.614	\$632,120
Warwick	3,466,644	\$1.350858	\$4,682,944	19.49%	\$1.614	\$5,595,843
<b>Total</b>			<b>\$15,349,475</b>			<b>\$18,341,721</b>

**Table 2 – BCWA Proposed Wholesale Rates Incorporating Just Peaking Factors**

Customer	Existing Rates			% Change	Proposed FY 2021	
	Units	Rates	Revenue		Rates	Revenue
Bristol County	1,494,845	\$1.350858	\$2,019,323	10.73%	\$1.495	\$2,235,899
East Providence	1,822,773	\$1.350858	\$2,462,307	18.62%	\$1.602	\$2,920,806
Greenville	421,521	\$1.350858	\$569,415	28.17%	\$1.731	\$729,813
Kent County	2,727,147	\$1.350858	\$3,683,989	10.24%	\$1.489	\$4,061,235
Lincoln	1,038,229	\$1.350858	\$1,402,499	21.84%	\$1.645	\$1,708,779
Smithfield	391,600	\$1.350858	\$528,996	29.76%	\$1.752	\$686,402
Warwick	3,466,644	\$1.350858	\$4,682,944	36.25%	\$1.840	\$6,380,678
<b>Total</b>			<b>\$15,349,475</b>			<b>\$18,723,612</b>

**Table 3 – BCWA Gradualism Example**

Customer	Existing Rates			% Change	Proposed FY 2021	
	Units	Rates	Revenue		Rates	Revenue
Bristol County	1,494,845	\$1.350858	\$2,019,323	12.92%	\$1.525	\$2,280,168
East Providence	1,822,773	\$1.350858	\$2,462,307	18.84%	\$1.605	\$2,926,182
Greenville	421,521	\$1.350858	\$569,415	26.00%	\$1.702	\$717,464
Kent County	2,727,147	\$1.350858	\$3,683,989	12.55%	\$1.520	\$4,146,464
Lincoln	1,038,229	\$1.350858	\$1,402,499	21.25%	\$1.637	\$1,700,560
Smithfield	391,600	\$1.350858	\$528,996	27.19%	\$1.718	\$672,831
Warwick	3,466,644	\$1.350858	\$4,682,944	32.06%	\$1.783	\$6,184,469
<b>Total</b>			<b>\$15,349,475</b>			<b>\$18,628,139</b>