

STATE OF RHODE ISLAND
AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

SURREBUTTAL TESTIMONY
of
PAMELA M. MARCHAND, P.E.
EXECUTIVE DIRECTOR & CHIEF ENGINEER
BRISTOL COUNTY WATER AUTHORITY

IN RE:
PROVIDENCE WATER SUPPLY BOARD
Docket 4406

OCTOBER 25, 2013

1 **Introduction**

2 **Q. Please state your full name and by whom you are employed?**

3 A. Pamela M. Marchand, P.E., and since February, 2012 I have been the Executive
4 Director and Chief Engineer of the Bristol County Water Authority ("BCWA").

5

6 **Q. Are you the same Pamela Marchand who submitted pre-filed direct testimony in
7 this docket?**

8 A. Yes, I am.

9

10 **Q. What is the purpose of this testimony?**

11 A. I would like to respond to address the Providence Water Supply Board's rebuttal
12 testimony, and the responses of its witnesses to the issues I raised in my direct
13 testimony.

14

15 **Q. What issues did you raise in your direct testimony regarding Providence's proposed
16 rate increase?**

17 A. As set forth in my direct testimony, I had a number of concerns regarding the
18 calculation of wholesale rates after reviewing Providence's original and supplemental
19 filings. The areas of concern were as follows:

20

1. Providence's allocation of water mains attributed to wholesale use.

21

2. Providence's Unaccounted For Water ("UFW") calculation.

22

3. Providence's T&D allocations.

23

4. Providence's allocation of Unidirectional Flushing costs to wholesale
24 customers.

25

5. Providence's request for costs related to a new Administration and
26 Operations Building.

26

27

6. Providence's conservation rates.

1 **Q. Have you changed your position on any of these issues?**

2 A. No I have not.

3

4 **Water Mains Allocated to Wholesale Use**

5 **Q. What is your continuing concern regarding the water mains used for allocation to**
6 **wholesale rates?**

7 A. In this docket, Providence Water proposed a significant increase in the Transmission
8 and Distribution expenses, including the uni-directional flushing program and the IFR
9 costs of main replacement. This is of serious concern to the wholesale customers, as
10 most of these costs do not involve transmission of wholesale water. Therefore, it has
11 prompted the wholesale customers to investigate why any of these costs that have
12 been charged to wholesale customers in the past as they are becoming a more
13 significant part of the rate increase.

14

15 Providence Water allocated expenses related to the maintenance, flushing and
16 replacement of 12" water mains to wholesale customers. As there are 94 miles of
17 12" water mains (BCWA 1-6), this is considerable expense. It is my contention that
18 the 12" water mains DO NOT provide a benefit to the wholesale customers except in
19 a very limited capacity.

20

21 **Q Can you please explain further?**

22 A. To understand why 12" water mains do not provide a benefit to the wholesale
23 customers except in a very limited capacity, one must look closely at the Providence
24 system. As Mr. Gadoury stated in his testimony, "The real issue, however, is the
25 actual operational function of these mains, not how they are labeled." (Gadoury
26 Rebuttal, p. 2, lines 26-27, p. 3, line 1) Mr. Gadoury described the Providence
27 distribution system as a looped and networked system of water pipes that

1 “synergistically function together” to deliver water to both wholesale and retail
2 customers, but when you look at the system, this simply is not the case.

3
4 In order to explain Providence’s system to the Commission, the BCWA requested “a
5 scalable GIS or CAD map of all mains 12” and larger, including locations of wholesale
6 connections and water storage tanks.” (See BCWA 2-1). Providence did not provide
7 the map requested. Therefore, the BCWA once again requested a “scalable GIS or
8 CAD map” that shows “each and every one of Providence’s mains 12” and larger and
9 “each and every one of Providence’s wholesale connections.” (See BCWA 4-1). In
10 response, Providence provided a map of the entire system, but it does not comply
11 with the BCWA’s request, as it shows fragmented transmission mains. Thus, the
12 BCWA had to submit a public records request to the Rhode Island Water Resources
13 Board (“RIWRB”) to obtain a copy of the system map Providence Water filed with its
14 Water Supply System Management Plan. As of the filing date for my surrebuttal
15 testimony, the BCWA had not received the map from the RIWRB, but I will submit it
16 when it is available.

17
18 In order to support my position at this time, I am attaching the map supplied by
19 Providence Water in response to BCWA 4-1. On this map, I highlighted the mains 16”
20 and larger as best I could. With all of the mains 16” and larger fully depicted, it
21 becomes obvious the 12” mains are not involved in the transport of water to
22 wholesale connections. As a matter of fact, I even highlighted the 16” mains in a
23 separate color (in blue) to show that they have only a minimal function in the supply
24 of wholesale water. All of the 12” mains are connections FROM the transmission
25 mains that deliver water TO the retail system, which is a networked system of pipes
26 as Mr. Gadoury describes. These 12 “ mains act as transmission mains for the *retail*

1 *system*. The 12" mains do not act as transmission mains for wholesale customers
2 located either on larger mains or close to larger mains.

3
4 In viewing the map, it is also obvious that the larger transmissions mains, other than
5 those in the southern loop, provide very little supply to the northern wholesale
6 customers (East Smithfield, Greenville, Smithfield and Lincoln). The total water
7 delivered to these northern customers is 4.5 MGD or 17% of the total wholesale
8 usage, and 0.54 MGD is delivered to Johnston. Of these, only the Smithfield Ridge
9 Rd. connection is served by a main smaller than 16". I also marked each wholesale
10 connection with the average daily usage, in millions of gallons per day (MGD) as listed
11 in Providence's response to BCWA 1-11. Therefore, I contend that the wholesale
12 customers are also paying a much larger share of mains 20" and larger expense than
13 is warranted by actual use or would be required for redundancy. Again, from the
14 map, it can be seen that the large pipes in the transmission system serve
15 predominately the RETAIL customers and the areas of highest population
16 concentrations, with the wholesale customers utilizing only a small portion of the
17 system.

18
19 Considering the low demand of the wholesale customers on a significant portion of
20 mains 16" and larger in Providence's system, the 12" mains are of no consequence to
21 the wholesale customers. When transporting large volumes, water flows by the "least
22 resistance", that is, FROM larger mains TO smaller mains. Water does not flow FROM
23 smaller mains TO larger ones. The 12 " mains are not of any use to the wholesale
24 customers considering the amount of larger mains in service in Providence's system.

25

1 **Q. Mr. Gadoury testified that Providence has always categorized 12 “ mains as**
2 **transmission mains in past rate filings before the Commission. Did this testimony**
3 **change your position on this issue?**

4 A. No. As Mr. Gadoury alluded to in his testimony, some of Providence’s categorization
5 of transmission and distribution pipes may have been related to record-keeping and
6 accounting convenience. This is especially likely when in rate filings before the
7 Commission, as the distinction between transmission and distribution pipes was not a
8 material issue. However, in the past, Providence was not proposing an IFR program
9 of the size and magnitude it is proposing in this Docket that focuses almost entirely
10 on the distribution system.

11
12 Furthermore, Providence did not classify 12” pipe as transmission pipe for *all*
13 purposes. As has been established Providence classified its 12” pipe as distribution
14 pipe in its IFR Reports submitted to the Rhode Island Department of Health.

15

16 **UFW Calculations**

17 **Q. Do you have an issue with the Unaccounted For Water allocation?**

18 A. Yes. In his response to BCWA 2-2, Mr. Gadoury depicted the calculation for the
19 unaccounted water as the “difference between the volume of water leaving the
20 treatment plant and the volume of metered water consumption”. He does not
21 address ANY use of water in the distribution system that is not metered. In the rate
22 case this difference is considered “leakage” and charged to both wholesale and retail.
23 In his response to BCWA 2-2b, Mr. Gadoury states that “such information is not
24 available.”

25

26 When asked in response to BCWA 4-2 if Mr. Gadoury was aware of the AWWA
27 methods of calculating unmetered water use and why such information is not

1 available, Mr. Gadoury's response was that he was aware of the AWWA methodology
2 but that:

3 "the outlined methodology is, however, not feasible in the Providence Water
4 system. The information and data necessary for this, as outlined in the
5 methodology, is simply not available, nor is it reasonably obtainable. As such,
6 Providence Water does not believe in engaging in a spurious exercise just for
7 the sake of being able to purport figures which would in fact, in many cases,
8 be unreliable and substantially fictitious."
9

10 The State of Rhode Island Water Resources Board's "Rules And Procedures Governing
11 The Water Use And Efficiency Act For Major Public Water Suppliers" requires all
12 water utilities to report water loss data beginning in 2011. Article 5.3.5 states the
13 report must include "Non-billed water and the components of non-billed water (to
14 include leakage)". BCWA obtained Providence Water's Annual Report for FY 2013
15 submitted to the RIWRB for "Total Non-Metered Water Use". Providence Water
16 submitted 2,104 million gallons for 2013.

17
18 The leakage calculation utilized in the rate filing, as stated by Mr. Smith in response
19 to BCWA 1-30, is a four year average of 3,473,053 HCf, or 2,597 million gallons.
20 The 2013 report did list 100 MG for fire-fighting allowance and 5.5 MG for main
21 flushing. However, it did not include any amount in "Other Unmetered Uses".
22 Providence Water has, in the past, extensively used predominately 2" blow-offs
23 throughout the retail system to maintain water quality. Most of these were in
24 continuous use. If they were to flow just 20 gallons per minute (very conservative
25 figure) a single blow-off would discharge 10.5 million gallons per year. If Providence
26 were to calculate retail meter error at just 1% (industry standard is 1% to 2%), it
27 would result in a deduction to the "leakage" of 98 million gallons.

28 Therefore, I recommend that the rate filing leakage be reduced by 105.5 MG as
29 reported to the RIWRB, and in the future Providence Water be required to estimate

1 non-metered use as listed in the WRB Report: Fire Fighting, Main Flushing, Street
2 Cleaning, Sewer Cleaning, Other Unmetered Uses (such as blow-offs), and Leakage,
3 Theft, Meter Error.

4
5 In addition, the response to BCWA 1-30 lists a 90" main (4.47 miles) as a transmission
6 main to calculate the leakage ratio. I believe the 90" is actually a tunnel and should
7 be removed.

8
9 **Q. Mr. Woodcock argues that the portion of the service line from the curb stop to the**
10 **meter should also be included in the UFW calculation. Do you agree?**

11 A. Yes. I do. This is part of the retail system and cannot, in any way, be considered a
12 shared expense of the wholesale customer.

13
14 **T&D Allocations**

15 **Q. What issues did you wish to discuss regarding T&D allocations?**

16 A. In Mr. Gadoury's rebuttal, he states "Providence Water's in-house crews typically
17 limit their work to mains and valves that are 6" through 12" in size. Work on mains
18 and appurtenances that are 16" and greater in size are typically performed by outside
19 contractors..." (See page 6, lines 24-26).

20
21 This brings us back to my concern that Providence categorizes 12" mains as
22 transmission mains for wholesale water. It is my contention that they are not. So,
23 eliminating 12" mains from the transmission costs of wholesale customers should
24 also eliminate the wholesale charges for the T&D personnel that do not work on
25 mains larger than 12". Therefore all T&D costs of operations for 12" mains, that
26 serve retail customers, should also be eliminated per Mr. Gadoury's statement and
27 my contention that 12" mains do not serve wholesale customers.

1 In addition, none of the costs related to the construction of a new T&D facility should
2 be charged to wholesale customers. Since outside contractors work on mains 16"
3 and larger, that work would be arranged by the Engineering Department, not T&D.
4

5 **Unidirectional Flushing Program**

6 **Q. Why is unidirectional flushing an issue with the BCWA?**

7 A. As I stated in my direct testimony, the flushing of 16" mains is not practical or
8 necessary. In Mr. Gadoury's surrebuttal testimony he concurs that only 12" mains
9 will be affected by the flushing program. (See p. 8, lines 22-26). As he further stated,
10 Providence will not flush larger mains until it evaluates "its initial UDF effort for
11 effectiveness." (See, p. 8-9, lines 27, 1-2)
12

13 **Administration and Operations Building**

14 **Q. Has your review of Providence's rebuttal testimony changed your position
15 regarding a new Central Operations Facility?**

16 A. No. I remain concerned about the lack of updated information regarding the cost of
17 this proposed Central Operations Facility ("COF"), and the amount of funding
18 allocated to the wholesale customers.
19

20 The documents Providence provided in this Docket do not clarify the location of
21 Providence's proposed COF; they do not identify the actual costs of the COF; they
22 don't identify whether the COF will consist of one or two facilities; and, they don't
23 indicate whether the COF will be owned or leased. Also, the recent costs estimates
24 Providence provided are considerably higher than previous estimates, and
25 construction costs have not increased significantly in the last few years. Further, the
26 construction estimates need to be reviewed and revised before any commitment is
27 made to construction. A lease to own, at least with the numbers Providence did

1 provide, should not even be considered. Thus, I have not changed my initial position.
2 Providence Water should not be allowed to commit any funds to a COF until they
3 produce information to analyze the costs and options.
4

5 **Q. Please explain further.**

6 A. As I stated in my direct testimony, the documents Providence attached to its
7 response to KCWA 2-15 are from 2009 and 2010. These documents show that
8 Providence was considering a number of options for a COF. After receiving
9 Providence's response to KCWA 2-15, the BCWA issued a number of data requests
10 seeking additional information regarding the COF. In response, Providence submitted
11 three documents that appear to have been created after 2010:

- 12 ○ DiMeo Construction Providence Water Supply Board New Campus Budget
13 Summary Totals (7/131/13)
- 14 ○ Letter of Intent for property lease dated 9/3/13
- 15 ○ Letter of Intent for Development/Purchase Agreement dated 9/13/13

16 Yet, these documents do not provide any clarity on Providence's plans.
17

18 In the original DiMeo Report Providence provided in response to BCWA 4-4 (entitled
19 Providence Water Supply Board, New Campus Budget, Summary totals), the cost of a
20 new 60,000 square feet "Admin Bldg." was \$14,221,043. Viewing this report in
21 conjunction with CDM's Facility Assessment Reports, it appears this "Admin.
22 Building" would include the Administration, Engineering, Finance, MIS, Support
23 Services, Forestry and Watershed Security departments. The same document
24 provided a cost estimate for the construction of a 31,600 sq. ft. garage; 20,000 sq ft
25 stock room and offices; 8,000 sq. ft. auto shop and 27,200 feet of storage areas for a
26 cost of \$11,715,954. The total estimated cost of construction of both facilities, with

1 site development, contingencies, insurance, fees, etc, was \$35,918,095. This does
2 not appear to include the purchase of the property.

3
4 However, the September 3, 2013 Letter of Intent Providence provided in response to
5 BCWA 4-4 describes the lease of a 53,000 square foot administration facility (that
6 appears to be a part of a larger complex) for \$1,059,231 per year, rising at an annual
7 escalation rate of 1%. This facility would include the Administration, Engineering,
8 Finance, MIS, Support Services, Forestry and Watershed Security departments, but
9 not the garage or other facilities.

10
11 The Letter of Intent further describes the lease terms as a 20 year lease or a 30 year
12 lease-to-own. The payments under the twenty year lease total \$23,323,212. The
13 payments under the 30 year least-to-own total \$36,845,235. Furthermore, the terms
14 upon which Providence would exercise its option are not clearly stated in the letter.
15 Compared to the DiMeo cost of construction estimate of \$14,221,043, this should be
16 of considerable concern to all ratepayers.

17
18 A second Letter of Intent, also dated September 3, 2013, describes the construction
19 of a 29,000 sq. ft. Admin building; an 8,400 sq. ft. Stock Building; a 7,000 sq. ft.
20 Automotive Repair Facility; a 12,000 sq. ft. storage facility and a 46,000 sq. ft. two
21 story garage. The "development cost" of these facilities is \$21,271,000. Assuming
22 this duplicates the Non-Admin Bldg. facilities in the Dimeo report, this is \$9,555,046
23 more than the estimate provided in the DiMeo report.

24
25 It is unclear whether Providence plans to pursue one or both options outlined in
26 these letters of intent. If they do, the combined costs could reach \$58,116,235.

1 The DiMeo Report and the letters of intent also ignore the existing Cranston facility.
2 It may now be more economical to construct a new garage facility in a suitable
3 location and construct a new Administration building at the existing Cranston site.
4 When I was employed at Providence Water and began this project, it was my
5 preference to locate all of Providence's departments on one site. But after five years
6 of searching for a property to accommodate all of the facilities required, it does not
7 appear to be feasible to locate all of the departments at one location within the City
8 of Providence.

9
10 **Q. What do you recommend the Commission do regarding Providence's request for**
11 **the continued annual funding of \$2,450,000?**

12 A. I recommend that the Commission keep the funding in place. However, the funds
13 should be placed in restricted "COF Account" and Providence should be ordered to
14 seek permission from the Commission before it withdraws any funds from the
15 account.

16
17 In addition, should a facility that is a duplicate of the departments located at the
18 Academy facility be constructed, wholesale customers should not be included in the
19 cost of construction or operation, as this would be strictly for retail services.

20
21 **Conservation Rates**

22 **Q. Have you changed your position on conservation rates?**

23 A. No, I have not, and I note that Providence is not seeking to implement conservation
24 rates in this docket.

25
26

1 **Q. Do you want to address Ms. Bondarevskis comment that you proposed**
2 **conservation rates for wholesale customers?**

3 A. The proposal to submit conservation rates was several dockets ago, at a time when
4 the State of Rhode Island legislature was considering mandating demand
5 management programs for water utilities. At that time I participated on the
6 discussions as the President of the Rhode Island Water Works Association.
7 Legislation was passed to set a goal of 65 gallons per person per day to be
8 administered by the RI Water Resources Board. The setting of conservation rates was
9 included in the legislation as a method to reduce consumption. When Providence
10 Water proposed that wholesale customers be included in the Providence Water
11 conservation rate program, most of the wholesale customers were experiencing
12 some decline in consumptions, but most still had significant peaking in the summer.
13 The idea was to encourage demand management by the wholesale customers, as
14 well as the retail customers, to reduce the demand on the supply system.

15
16 Since that time, all utilities have seen significant drops in customer consumption, to
17 the point that the BCWA is now at 40 gallons per person per day for residential
18 customers. Conservation rates would further restrict sales, resulting in more serious
19 water quality issues from water age in the distribution pipes that require more
20 advanced treatment. The balance between water quality and quantity has to be
21 considered in the application of rates. There has been a significant change in water
22 consumption patterns in the last 5 years, as has been well documented.

23

24 **Miscellaneous Cost Allocations**

25 **Q. Do you have any additional issues you would like to address?**

26 A. Yes. I am confused by Providence's concern for rate shock for retail customers in the
27 proper allocation between wholesale and retail rates, especially for public fire

1 protection charges. Providence Water did not seem to be concerned about
2 proposing at rate increase of 33% for wholesale customers versus 23% retail for retail
3 in its original filing.

4
5 Furthermore, a number of reasons for not changing methods of allocation were
6 excused as “because this is the way we did it before” or because “it was not
7 challenged in the past” is not an acceptable argument. The whole point of a rate case
8 is to challenge the assumptions and to fairly allocate rates among the different
9 classes, based on the actual cost of their use of the water system. If the significant
10 cost increases proposed in this docket are not addressed now, then when would be
11 appropriate?

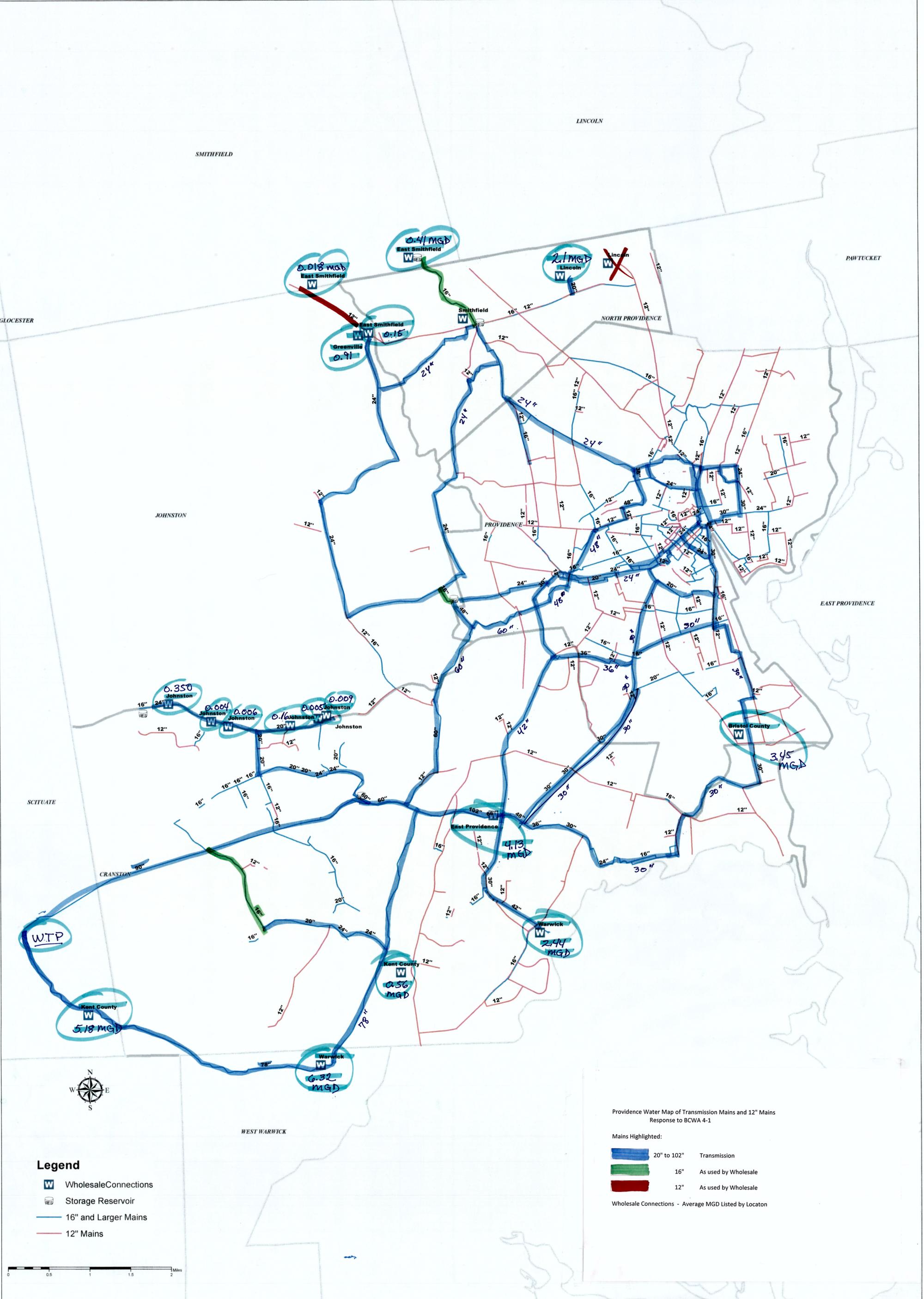
12

13 **Conclusion**

14 **Q. Does this conclude your surrebuttal testimony?**

15 **A. Yes. It does.**

Providence Water Service Area - For BCWA 2-1 (b)



Legend

- W Wholesale Connections
- RES Storage Reservoir
- 16" and Larger Mains
- 12" Mains

Providence Water Map of Transmission Mains and 12" Mains
Response to BCWA 4-1

Mains Highlighted:

- 20" to 102" Transmission
- 16" As used by Wholesale
- 12" As used by Wholesale

Wholesale Connections - Average MGD Listed by Location



CERTIFICATION

I hereby certify that on October 25, 2013, 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, Robert A. Watson, Esquire and Peter D. Ruggiero by electronic mail and regular mail.

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