

Bristol County Water Authority



Managing a Model Water System in the 21st Century
2013 Annual Report

A Message From the Chairman



The past year at BCWA has been exciting and productive as our operation continues to undergo an important transformation. In order to improve the organization, we adopted specific and definable goals and priorities to guide future progress and address current needs.

The BCWA Board, with full participation, developed and adopted a Strategic Plan to redefine the Bristol County Water Authority. Four primary encompassing goals were identified:

- Secure redundant water supply sources
- Improve and enhance customer service
- Upgrade organization computer management systems
- Insure financial stability to provide for the efficient delivery of water to Bristol County customers well into the future.

The implementation plan includes mechanisms for quarterly status reporting by staff, such that the Board will always be aware of progress and problems. Information on the progress we have made toward the attainment of the four goals is provided in the attached annual report that follows.

One of the most difficult decisions of the Board was to increase water rates by 11% for FY2014. As funding for capital projects had dropped near zero, the need for infrastructure improvements was increasing dramatically: replacement or lining of water mains, chemical controls and mixing systems for the distribution system, maintenance of the dams, valve and hydrant replacement and maintenance programs, pump station renovations, all needed immediate attention.

It was also imperative to set up a modern data management system to provide asset management, data analysis, and customer support. In the end, the Board decided that in order to carry out our responsibility to operate and maintain a high quality drinking water supply, the rate increase was absolutely necessary.

With regret we bid farewell to directors Kevin Fitta of Barrington and Joe DeMelo of Bristol, both leaving due to demands of their professional job responsibilities. Their contributions to the reinvigorated Board were most appreciated. And we welcome their replacements, Gina Macdonald of Bristol and Bradford Louison of Barrington.

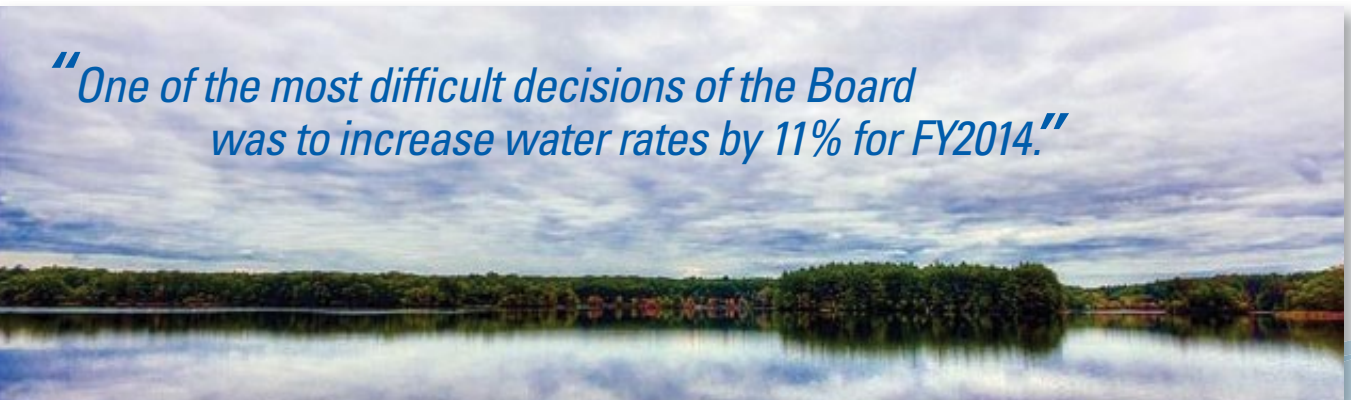
Of note, the Authority's former General Counsel, Attorney Sandra Matrone Mack, served with distinction for over two decades. Her guidance, especially in money matters, bonding and loans, was critically important and always beneficial to the financial stability of the Authority. She, too will be missed.

We look forward to continuing to build a model, more efficient water system designed to address the needs of the future current and future generations.

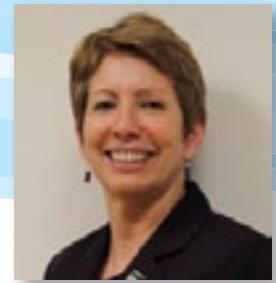
Sincerely,

Allan C. Klepper
Chairman

"One of the most difficult decisions of the Board was to increase water rates by 11% for FY2014."



Report of the Executive Director & Chief Engineer



Changing How We Operate.

FY2013 was a year of change for Bristol County Water Authority. The Board and management team started FY2013 with a number of new members, including myself. It was a good opportunity to take a close look at the organization and determine what steps could be taken to create a "model" utility. To that end, the Board and staff developed a Strategic Plan, as discussed by Chairman Klepper, to focus the goals of the organization.

The four main goals of the Strategic Plan are equally critical to the future success of the Authority. However, none of the goals could be implemented until the financial condition of the Authority was stabilized. With the help of a national consultant, the Board developed a new rate structure and supported an 11% rate increase in order to implement the programs described in the plan.

The most dramatic change to the way we operate was to discontinue use of the Child Street Water Treatment Plant in FY2012, and the purchase of all of our water supply from the Providence Water Supply Board's Scituate Reservoir. The Reservoir is listed as #2 for water quality in the country by the Environmental Working Group, a leading national consumer environmental health research and advocacy organization.

The Massachusetts supplies developed by the previous owners of the BCWA in the 1800's proved not to be of sufficient quality or quantity to meet present day standards in an economical fashion. The water treatment plant, built in 1908, is not capable of the level of treatment required by more stringent regulations, and would need to be replaced at considerable expense.



However, we continue to maintain the treatment plant to provide a redundant supply in case of emergency until another source of supply is available. We are working with the state and the East Providence Water Department to study a new connection to the Pawtucket Water Supply Board for both water systems, as described in this report.

Therefore, our operations group has become more focused on the distribution system maintenance and upgrades, while expanding the water quality programs and asset management and analysis.

Achieving greater operational efficiency has been the foundation of our efforts over the past year, and will continue to be in the future. Along with a renegotiated union contract, reorganization of the operations departments, revised position descriptions and responsibilities, change has reached all levels of the organization over the past year.

It has been a pleasure to work with our highly knowledgeable and dedicated staff. They are providing the foundation for the transition to a highly efficient and productive organization envisioned in the Strategic Plan.

The FY2013 initiatives were designed to prepare the organization to implement the Strategic Plan to insure the development of a model utility that focuses on customer service, ensures a safe, high quality drinking water supply, provides for infrastructure maintenance and upgrades, as well as efficient operations. We look forward to reporting our progress in the coming year.

Sincerely,

Pamela M. Marchand, P.E.
Executive Director

"Achieving greater operational efficiency has been the foundation of our efforts over the past year, and will continue to be in the future."

A Strategy to Modernize the Bristol County Water System

This report is designed to provide you with insight into the strategic direction and operational direction of the Bristol County Water Authority (BCWA). In it we will spell out specific steps the Authority and its Board has taken to improve the efficiency and service it provides to our nearly 17,000 customers.

Strategic Planning Initiatives

The FY2013 Strategic Plan identified four primary goals:

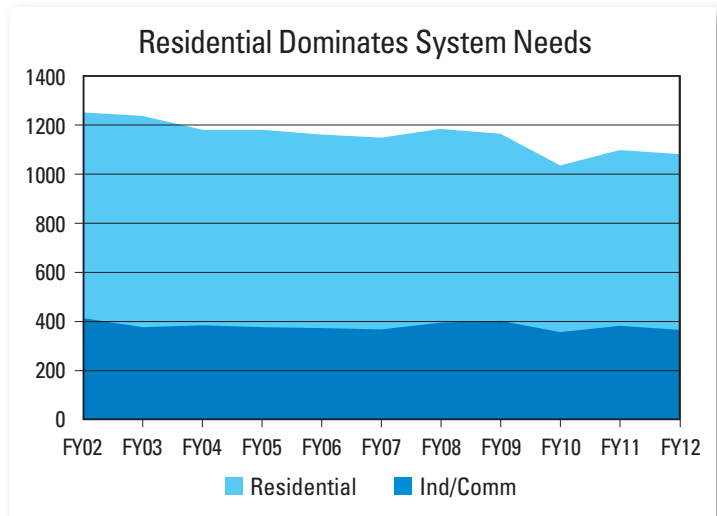
1. Secure a redundant water supply
2. Improve Data Management (computer) Systems
3. Secure Financial Stability
4. Improve Customer Service

The following steps were taken in FY2013 to attain the goals identified in the strategic plan:

1. Securing a Redundant Water Supply

With the discontinued use of the surface reservoirs in Massachusetts, BCWA is currently solely dependent in the Scituate Reservoir. This is not a desirable position, however, as there is risk in depending on a sole source of supply located 30 miles away. It is imperative to be able to assure a safe, high quality water supply well into the future. To that end, the Board has commissioned a study to seek a connection with the Pawtucket Water Supply via East Providence. The Board authorized a ¼ share of the \$225,000 engineering study to determine the best routes, pipe sizes, additional treatment, and estimated total project cost. The Rhode Island Water Resources Board is providing matching funds for the study. The final report is due the end of September, 2013.

“It is imperative to be able to assure a safe, high quality water supply well into the future.”



A Strategy to Modernize the Bristol County Water System

The Pawtucket Water Supply Board manages a high quality supply in northern Rhode Island from the Diamond Hill and the Arnolds Mills reservoirs and operates a modern water treatment plant. They have more than sufficient supply to provide water to both East Providence and the BCWA.

The Study includes water quality analysis for both East Providence and the BCWA and will recommend a treatment program for corrosion control and control of disinfection by-products.



Previously, the State had committed \$6.9 million in funding for the repair of the Shad line and upgrade of our aging water treatment plant. If the BCWA decides to instead build an alternate supply pipeline, we will be working with the State to redirect that funding for the pipeline. We believe the study now underway, which will be complete in September 2013, will find that building a connection to the Pawtucket supply will be lower cost and provide much higher quality and dependable supply than to try to utilize the Massachusetts supplies. We intend to do our best to ensure that the State redirects that \$6.9 million of committed funding for the Pawtucket pipeline to keep the cost to the BCWA customers as low as possible.

Water Quality

Although system improvements to improve water quality were addressed in the Strategic Plan, a change in the regulations this past year for trihalomethanes brought water quality issues to the forefront. BCWA did not exceed the regulation, but the modified regulation provided a wake-up call to look at operational improvements to ensure future compliance with the new standard. Even though we are providing Scituate Reservoir (ranked #2 for water quality in the country) water throughout the system, it is a surface supply that is subject to natural organics from the decay of leaves and other vegetation in the watershed. Trihalomethanes are formed when these natural organics come in contact with chlorine used for disinfection.

As a result, we have replaced our chlorination equipment with a modern control system and initiated an improved water quality monitoring program.

“We intend to do our best to ensure that the State redirects that \$6.9 million of committed funding for the Pawtucket pipeline to keep the cost to the BCWA customers as low as possible.”

A Strategy to Modernize the Bristol County Water System

2. Improve Data Management Computer Systems

Our present computer data management system is more than twenty years old and is very much out of date. As a result, the ability to manage system data in real time is frequently compromised by the inadequacy of the current computer network. This project is designed to seek the best combination of financial management tools (for billing and reporting), asset management programs (to fully integrate customer technical details and field work), and system control instrumentation (to gain finer control and reduce reliance on staffing), together with appropriate hardware.



The data management system will allow staff to retrieve and analyze information to determine the most efficient allocation of limited resources. In addition, we will be able to supply email billing to our customers when this system is installed and fully operational. Our schedule calls for selection of the new vendors by June of this year. In support of this project, the Board has authorized the hiring of an Information Technology (IT) Specialist to manage and maintain the comprehensive system.

Other Actions Taken to Improve Financial Stability

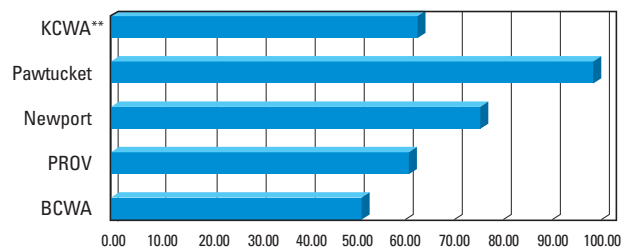
- Secured \$1 million loan at 3.195% from the Rhode Island Clean Water Finance Agency (RICWFA) for system upgrade and water meter replacements.
- Established a \$500,000 line of credit for emergency use from Washington Trust.
- Refinanced \$7.3 million of bonded debt at 1.9%, yielding a \$525,000 in savings over the next five years. This allowed us to finance the renovation of the Franklin Street water main, which had suffered significant interior deterioration.

3. Secure Financial Stability

A critical goal was to stabilize the financial condition of the Authority so that critical infrastructure improvements, such as those described in this document, could be initiated. Like many water utilities in the Northeast, water sales have declined significantly in the last 10 years due to conservation, decline in industry and the economy. Also like many water utilities in the Northeast, where infrastructure is older and in greater need of improvement, the competing needs to maintain a low rate structure and provide necessary system upgrades have resulted in needed system improvements being delayed for too long. To address this need we have developed short and long term capital improvement plans and a 10-year financial plan to fund them. A national rate consultant was hired to study the Authority's budgets, review needed asset improvements, operational requirements and the rate structure. Based on findings from this study, the Board developed a new rate structure and supported an 11% rate increase beginning in FY2014 as a critical first step of a 20-year capital program to maintain and upgrade the system. It is important to note that even with the recent increase, BCWA historical rate increases remain lower than other water systems in the region. See chart for the accumulated rate percentage increase over the past ten years.

The BCWA continues to pay \$153 per year per connection for the debt service for the construction of the East Bay Pipeline and for the purchase of the water system from a private company. These bonds will be paid by 2019. As a means of keeping water rates stable, principal payments for the bonds issued for infrastructure work for the next few years will be deferred until after 2020, as demonstrated on the Bond Debt Service chart on the following page.

% Rate Increases (Cumulative) Last 10 Years



** Additional pass through of ProvWater rate increases

A Strategy to Modernize the Bristol County Water System

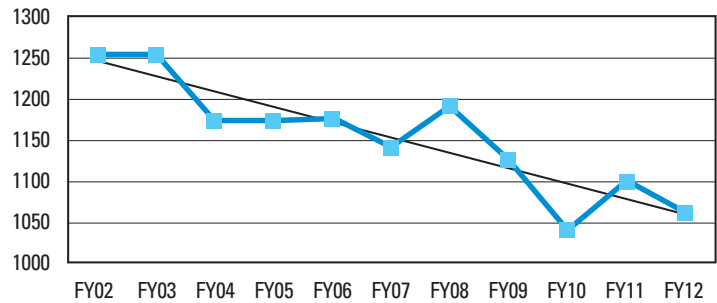
Financing Infrastructure Renovation/Replacement Projects

Our 10 year Finance Plan was developed to keep water expenses relatively stable for the capital improvements designated for the period. A combination of bond debt service, infrastructure fund reserves, and annual cash income is budgeted for the projects. (See graph).

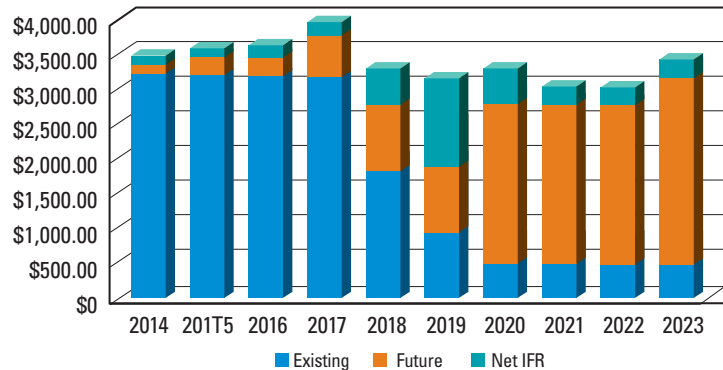
The 10 Year Capital Plan anticipates \$37,000,000 of expenses for computer information systems, remote data collection and instrumentation control systems (for pump stations, control valves and storages); pump station, storage, and facility improvements; dam repairs, a new source of supply pipeline to Pawtucket Water; equipment; and cleaning and lining or replacement of water mains. 62% of the total capital budget is dedicated to water main improvements. (See table.)



BCWA Water Sales / Millions of Gallons/year



Bond Debt Service for Infrastructure Projects



Bristol County Water Authority / 10 Year Capital Plan Summary

Fiscal Year (March 1)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Projects	\$325,000	\$320,000	\$200,000	\$170,000	\$200,000	\$160,000	\$160,000	\$170,000	\$160,000	\$320,000	\$2,185,000
Computer Program/SCADA											
Facilities	\$337,000	\$550,000	\$335,000	\$235,000	\$373,500	\$312,000	\$625,000	\$120,000	\$50,000	\$163,500	\$3,101,000
Pump Station Rehab/ PRVs Dist/WTP/Admin/Dams											
Supply	\$110,000	\$110,000	\$60,000	\$60,000	\$5,050,000	\$0	\$0	\$0	\$0	\$50,000	\$5,440,000
Alt/ Treatment											
Distribution	\$425,000	\$1,562,400	\$1,737,500	\$2,360,400	\$2,246,500	\$2,593,000	\$3,160,000	\$3,110,000	\$3,180,000	\$2,600,000	\$22,974,800
Tanks, Mains, Services, Equip											
Miscellaneous	\$150,000	\$390,000	\$400,000	\$410,000	\$320,000	\$310,000	\$300,000	\$330,000	\$340,000	\$345,000	\$3,295,000
Meters, Insp & Leak Detect											
Total all Projects	\$1,347,000	\$2,932,400	\$2,732,500	\$3,235,400	\$8,190,000	\$3,375,000	\$4,245,000	\$3,730,000	\$3,730,000	\$3,478,500	\$36,995,800

A Strategy to Modernize the Bristol County Water System

4. Improve Customer Services

Our commitment to improving customer service has resulted in several customer-centric enhancements, including:

- The Website has been upgraded and includes extensive postings of most Authority documents and activities. In addition, video recordings of all Board meetings are accessible for viewing.
- Water bill payments may now be made with credit cards with a small fee imposed to cover the BCWA's cost to process credit cards.
- A customer portal will be developed with the new computer programs to provide our customers more access to information and on-line payments. This improvement should be available by mid-2014.



The Customer Service Team is always ready to help.



A Strategy to Modernize the Bristol County Water System

Accomplishments of Note:

BCWA was proud to achieve several significant operational enhancements as a part of the implementation of the Strategic Plan:

Authority Services

New service contract proposals were generated by Board request:

- Following the bid process, retained Cayer and Caccia as Annual Auditors.
- Engaged Attorney Joseph Keogh of Keough and Sweeny as General Counsel.
- A Pension Trust Fund Manager RFP process is nearing completion.

Infrastructure Improvements

Several steps were taken to make improvements to the water distribution system:

- Utilized the funds saved in the refinancing of the bonds to finance the cleaning and lining of the Franklin St., Bristol, water main that was significantly deteriorated.
- Funded a system-wide leak detection program to identify leakages for \$20,000. It is estimated that once repaired, annual savings will approximate \$200,000 in lost water revenue. This had not been done for more than five years. The Authority is purchasing the equipment to continuously monitor the distribution system for leakage.
- Worked with the Bristol Town Council to develop plans to install new water mains connecting Asylum Road and the Poppasquash Road water main to supply fire flow to the area; this will also serve the Town of Bristol's planned new Recreation Center.
- Worked with the Town of Warren sewer replacement program to replace deteriorated water main on Water Street at a considerably reduced cost.

Governance

The Board voted to endorse the legislative changes recommended by the Tri-Town Councils affecting the operation of the Authority's Board of Directors.

Personnel/Labor

The following measures were implemented to reduce labor costs – a key initiative in the strategy to secure financial stability:

- Approved a new union labor contract with significant modifications which allowed us to redefine the roles of our employees to focus more on distribution system water quality and less on water treatment. This significantly accelerated adaptation to the changing operational direction of the Authority.
- Reduced Other Post-Employment Benefits (OPEB) for retirees, for substantial savings to the Authority.
- Adopted a 457b defined contribution pension plan for new employees to stabilize pension expenses. We also incorporated a change in our employee Long Term Insurance Policy in conjunction with the RI TDI system, in which those premiums are now the employee's responsibility.



Bristol County Water Authority Fact Sheet

2013 System Information



Water Purchased – average day 3.5 million gallons

Miles of Pipe 233

Number of Service Connections:



Residential 14,441

Commercial 2,272

Industrial 18

Government 108

Other 22

Total 16,861



Residential Population Served – 49,875 (per 2010 U.S Census)

Average Annual Demand – 70 HCF = 52,360 gallons/year (rounded up)

Gallons/Person/Day – 41

Average Annual Water Bill - \$485



Average Cost per gallon – $\$485 / (7000 \text{ cf} * 7.48) = \$0.0093 / \text{gallon} = 1\text{c/gallon}$

Cost of Providence Water = $\$1.697.21 / \text{TG} \times 1272 \text{ MGY} = \$2.16 \text{ M/yr} = 20\% \text{ of budget}$

2012 Production = 1,272 MG

2012 Billed or Accounted Use = 1,094 MG

2012 Unaccounted 14.8%



Bristol County Water Authority Five Year Financial Comparison

ITEM	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009
# Customers:					
Residential	14,723	14,404	14,386	14,348	14,254
Commercial	1,998	2,255	2,264	2,249	2,265
Industrial	18	18	18	17	17
Municipal	92	107	108	115	106
Total:	16,831	16,784	16,776	16,729	16,642
# Employees:	29	34	34	34	35
Consumption: (Thousands of Gallons)					
Residential	732,578	748,614	778,306	738,689	792,219
Commercial	279,748	290,420	294,951	275,108	304,385
Industrial	5,534	4,981	6,308	8,597	8,307
Municipal	18,993	18,542	20,276	19,986	22,261
Total:	1,036,853	1,062,557	1,099,841	1,042,380	1,127,172
Unaccounted for Water (%):	14.8%	13.4%	15.0%	15.9%	15.9%
Rate Increases (%):	3.00%	3.00%	9.00%	3.00%	3.00%
FINANCIAL	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009
Operating Revenue:	\$10,863,626	\$10,441,946	\$10,684,419	\$9,348,706	\$9,659,352
Operating Expenses:	\$8,770,904	\$8,564,071	\$9,024,830	\$8,615,512	\$8,091,181
Operating Income:	\$2,092,722	\$1,877,875	\$1,659,589	\$733,194	\$1,568,171
Net Assets	\$51,677,245	\$50,149,990	\$48,583,589	\$47,240,583	\$47,306,840
Margin	\$1,450,023	\$1,566,401	\$1,343,006	\$(136,371)	\$718,769
Accounts Receivable (A/R)	\$1,691,357	\$1,613,981	\$1,871,554	\$1,724,309	\$1,750,010
KEY RATIOS	FY 2013	FY 2012	FY 2011	FY 2010	FY 2009
Revenue/Employee	\$374,608	\$307,116	\$314,248	\$274,962	\$275,981
Revenue/Net Assets	0.2102	0.2082	0.2199	0.1979	0.2042
Operating Income/Net Assets	0.0405	0.0374	0.0342	0.0155	0.0331
Margin/Revenue	0.1335	0.1500	0.1257	(0.0146)	0.0744
Admin & Engineering /Revenue	0.2466	0.2447	0.2637	0.2890	0.2077
A/R / Revenue	0.1557	0.1546	0.1752	0.1844	0.1812
Debt Coverage Ratio	1.56	1.41	1.27	1.26	1.48

The History of the Bristol County Water Authority (BCWA)

The BCWA presently provides drinking water to the three Rhode Island communities of Barrington, Bristol and Warren. Each town appoints three members of the Authority's Board of Directors.

The BCWA traces its origins to two private 19th century water companies. The Bristol and Warren Water Works (BWWW) was originally formed in 1882. The system then served a population of about 6,000 with water from the Kickemuit River delivered through 14 miles of cast iron mains. The Barrington Water Company (BWC), formed in 1887, served a population of about 1,400 through a system comprising 3 miles of wrought iron and concrete pipe.



The Warren Water Treatment Plant was constructed in 1908 to treat water from the Kickemuit River. In the late 1800's bacteria was discovered to be the cause of waterborne diseases such as cholera, which led to the construction of water treatment plants to filter out the bacteria. Then the use of chlorine in the early 1900's essentially eliminated waterborne disease in the areas served by the treated water.

In 1933 the BWWW acquired its neighboring system, and in 1934 changed its name to Bristol County Water Company (BCWC).

The current Authority was formed in 1984 by the Rhode Island legislature to address water supply problems that had persisted in Bristol County for many years. In 1986 the Authority acquired the BCWC and assumed responsibility for managing the region's water supply system.

In 1993, the BCWA received state approval and partial funding for the construction of the East Bay Pipeline, which would connect to the Providence water supply, and the start of a comprehensive system improvement program. The program included replacement of the Shad Factory transmission main and rehabilitation of the BCWA water treatment plant in Warren.

The East Bay Pipeline was put into operation in 1998, providing Bristol County with a secure source of high quality Providence (Scituate Reservoir) water. Although the Warren Water Treatment Plant was shut down in 2011, BCWA maintains it as an emergency supply source until alternate sources of water are developed.

The BCWA water rates include the debt service for the purchase of the water system in 1986 and the construction of the Cross Bay Pipeline in 1998, in the amount of \$153 per service connection per year. If this amount is subtracted from the average residential bill of \$485 per year, BCWA rates are among the lowest in Rhode Island.

The Infrastructure of the Bristol County Water Authority System

The transmission and distribution water main system is made up of 233 miles of large diameter polyethylene pipe, cast iron, ductile iron and asbestos concrete pipe. Most of the system was installed as cast iron, until ductile iron became available in the 1950's. The unlined cast iron pipe (cement lined pipe was not available until the late 1940's) is subject to interior deterioration that can cause discolored water and require higher levels of chlorine for disinfection.

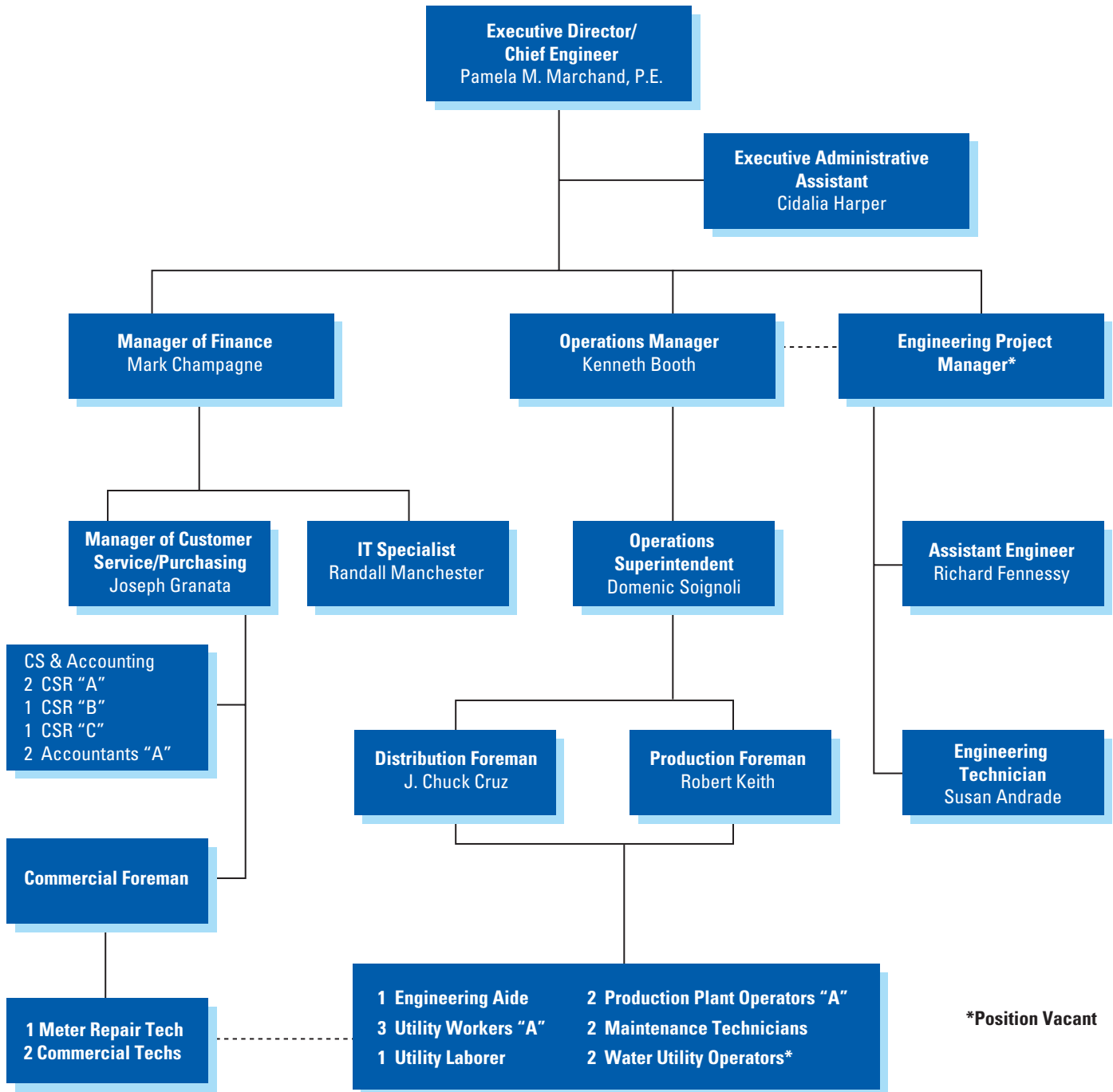
The system has five water storages, used for maintaining system pressures, additional supply during daily peak flow periods and for firefighting. One storage is located in Barrington, with the Hope Street, Bay View and the elevated Metacom and Ferry Road storages in Bristol. The two million gallon Bay View storage sets the pressure (elevation of the water in the storage less the elevation of the point measured in the system) for most of the Warren and Bristol systems.

The Barrington pump station pumps the water from the Providence Water Supply Board to the Hope Street and Bay View storages. The supply to Barrington is controlled by a pressure reducing valve at the pump station. The high elevation area of Bristol is pumped water from the Bay View system to the elevated Metacom tank. The Ferry Road tank is supplied from the Bay View system.

There are approximately 17,000 metered service connections, 5 control valves, 1,820 operating valves and 978 hydrants in the system today.



Bristol County Water Authority Organization



*Position Vacant

Updated 5/16/13

Bristol County Water Authority Board Members FY2013



Mr. Robert Allio
Barrington Representative
Term Ending: 2/28/15



Dr. Paul L. Bishop
Bristol Representative
Term Ending: 2/28/14



Mr. William F. Gosselin
Vice-Chairman of the Board
Warren Representative
Term Ending: 2/28/16



Mr. John M. Jannitto
Warren Representative
Term Ending: 2/28/14



Mr. Allan C. Klepper
Chairman of the Board
Barrington Representative
Term Ending: 2/28/14



Mr. Raymond F. Palmieri, Sr.
Warren Representative
Term Ending: 2/28/14



Mr. Frank Sylvia
Treasurer
Bristol Representative
Term Ending: 2/28/15

Board Members whose terms ended: 2/28/13



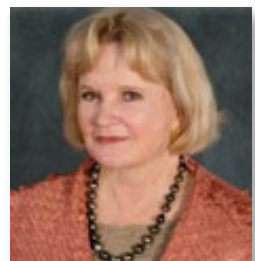
Joseph DeMello
Bristol Representative
Term Ending: 2/28/13



Kevin Fitta
Barrington Representative
Term Ending: 2/28/13



Mr. Bradford N. Louison
Barrington Representative
Term Ending: 2/28/16



Ms. Georgina Macdonald
Bristol Representative
Term Ending: 2/28/16

Board Members beginning in FY 2014

