



Providence Water Supply Board
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2013 ANNUAL REPORT

Providence Water Supply Board



General Manager's Message

*"Creativity is thinking up new things ...
... Innovation is doing new things."*

-- Theodore Levitt, American economist and professor at
Harvard Business School --



General Manager Boyce Spinelli

Some years back, a group of elementary school students visited the Philip J. Holton water treatment plant in Scituate and saw the entire process of how water is made potable. At the conclusion of the tour, I overheard one small third-grader ask, "If it takes so much to make water pure, then why do people waste it?"

As I watched the ultimate innocence of her generation bubble to the surface so easily, I thought that while her classmates might not remember all the details of their treatment plant tour, this first step of sparking the minds of these students had indeed been successful.

In that one moment, she and her classmates understood more about potable water than many of the adults in their lives.

Our drinking water is, frankly, taken for granted, and yet drinking water is undeniably the most precious substance known to mankind -- for without potable drinking water, there is no life. Remind yourself why the vast deserts on earth sit barren and empty. Great civilizations grew around sources of water. Water has not only quenched the thirst of every living man, woman, and child throughout time, but water has grown and sustained sources of food, both vegetable and protein. Water has spawned the development of industry, commerce and international trade. Biologically and economically, it's the one substance on earth that society cannot survive without.

City residents and our Rhode Island metro area neighbors who get their water from Providence Water receive some of the best drinking water available in America -- reliably safe, plentiful, inexpensive, and of truly high quality.



One of many reasons for this is the brilliance displayed by the founders of the system and many of those who have served as system caretakers for nearly 100 years.

In the late 1890's and early 1900's, Providence tapped the Pawtuxet River for fire protection and drinking water. With industrialization and an increasing population, the Pawtuxet was rapidly becoming polluted. Filtration was only staving off the inevitable. Providence needed a safer, larger, more reliable supply of potable water.

Imagine, if you will, the expertise that went into searching for and discovering the perfect area to build a reservoir system 100 years ago. *(Photo - left)* Imagine exploring the topography of Rhode Island to find an area of land with just the right capacity to store enough water to meet the needs of a growing industrial population. Now imagine finding that land area with a high enough elevation to allow the system to naturally generate its own water pressure through gravity. Imagine being able to design a reservoir system that was built to regenerate its supply of water based upon average annual rainfall statistics. Imagine the design work involved in building the dams and other infrastructure needed to safely maintain that water supply. Imagine determining the proper amount of raw materials needed to construct not only the reservoir system, but a new state-of-the-art water treatment plant -- still the largest conventional sand filtration facility in New England. Imagine the work involved with planning and installing the hundreds of miles of multi-sized water pipes to meet the needs of a growing community.

Now imagine doing all that without benefit of computers.

For nearly 100 years, residents of the metro-Rhode Island area have benefited from the plentiful and reliable supply of drinking water that nourishes the economy and the residents of the metro Providence area.

The current Providence Water system went active in September of 1926 when the City of Providence had a population of 237,595 people, nearly 40 percent of the state's 604,397 residents, according to the 1920 US census. Today, the same water system designed and built by



our ingenious predecessors serves 60 percent of the state's 1 million residents in more than a dozen RI communities.

Over the past century, a number of visionary stewards have improved the water system and the systems in place to service our consumers. From building redundancy into the transmission process to overseeing a systematic infrastructure replacement program and ensuring a method to pay for those improvements, these exemplary caretakers have left a legacy of professionalism worthy of high praise.

Today, it is our turn to make our mark in our utility's storied history of dependable service to the Providence community.

As Providence Water prepares for a new century of service, we are in good shape with the Philip J. Holton water treatment plant in Scituate undergoing a major overhaul that when complete, will not only make our superior drinking water product even better, but also increase our safe yield output to meet any potential rising demand in the future.

There remain, however, several challenges for our water utility. Some system infrastructure assets are now close to the end of their useful lives and need to be replaced or refurbished.

Fortunately, we are better positioned to meet our infrastructure challenges than many other water utilities. Back in 1996, under the stewardship of Chief Engineer Richard O. Rafanovic, a detailed Infrastructure Replacement Plan (IFR) was finalized that identified specific areas of the system that would need replacement or refurbishing over a 20-year time span. This plan is flexible and is now updated, revised and reissued every five years to reflect changing conditions, priorities and revenue projections.

Presently, our most pressing infrastructure upgrade involves the replacement or refurbishment of unlined cast iron water mains. *(Photo - left)* Although water leaving our treatment plant is some of the best drinking water in the world, it can lose some of that quality as it passes through our aging system of transmission and distribution mains.



Water main replacement/refurbishment is expensive -- about \$1 million a mile -- and the process takes time. At a rate of 15 to 20 miles of main rehabilitation a year and a total of over 500 miles of remaining cast iron pipe, it will take two to three decades to refurbish or replace it all.

Did you know that the funds required to finance the bulk of the IFR planned work have been built into our water rates since 1996? At that time, Chief Rafanovic successfully proposed and secured Rhode Island Public Utility Commission endorsement of a program of small annual increases in customer water rates with the additional money placed in a restricted Infrastructure Replacement Fund to pay for system improvements. The first year's rate increase seeded \$4 million. The second year, another \$2 million rate increase brought our total to \$6 million set aside that year for IFR work. The third year's \$2 million increase netted a total of \$8 million for the IFR fund. This continued for the next several years.

With the latest PUC-approved rate hike effective this past December 7, 2013, a total of \$24 million will be available for 2014 infrastructure work and in each year to come for the foreseeable future. Even with this increase, Providence Water rates remain among the lowest in RI.

I sometimes wish we could just snap our fingers and get the job done instantly. Until that day comes, we are keeping the remaining unlined cast iron pipes as healthy as we can with a scientific Uni-Directional Flushing program. Flushing is to water pipes as Lipitor or Crestor is to the human circulatory system. In both cases, internal buildup is reduced and corrosion is minimized, keeping the pipe passages more open and conducive to healthy flow. *(Photo - left)*

Like most households facing an uncertain economy, managing our spending is critically important. We continue to explore efficiencies that will allow us to work smarter for less. Over the next few decades, our workforce needs to be at their best -- well trained, and working safely -- in order for us to meet the challenge of improving our system's viability and the service we provide to our customers while keeping costs the lowest they can be. •



Collecting, treating and reliably delivering safe drinking water to nearly 600,000 Rhode Islanders requires a strong organization of smart, dedicated professionals. At Providence Water, our expert teams of people bring hundreds of years of experience together to accomplish our mission.

Our Forestry team ensures the overall health and security of our 93 square-mile watershed that collects our raw water that ranks second in the country for water quality behind Arlington, Texas. *(Photo - left)*

Our Water Supply team continues a spotless record of water treatment that meets and exceeds the toughest drinking water quality standards in the world as well as the monitoring/quality control of our product.

The Engineering team designs and oversees improvements to the water system that will ensure reliability of delivery to our customers.

Our Transmission and Distribution (T&D) team maintains and repairs our system that transports water for both consumption and fire protection.

Our Commercial Services team is responsible for the accuracy of customer metering of water consumption and the delivery of customer bills and customer service.

Our Finance team manages our revenue and borrowing, the payment of our bills, bi-weekly payroll, the training of our workforce and utility communications.

The Support Services team coordinates all utility purchasing, maintains and improves our three facilities, manages and maintains our fleet of vehicles, oversees our telephone system and 2-way communications equipment, and controls receiving and utility inventory functions.

Lastly, our Information Technology team keeps Providence Water on the cutting edge of computer innovation and is entrusted with data management systems, electronic communications, website and Intra-net functionality, and the maintenance and efficiency of our computer devices -- both desktop and mobile. •



Here's what this outstanding Providence Water group accomplished in 2013 to get us closer to our goal of delivering water that's just as high quality at the faucet as it is when it leaves the treatment plant:

First and foremost, in 2013, Providence Water filed for and received a rate adjustment that will provide much-needed funding for our Infrastructure Replacement Fund, Water Quality programs, treatment improvements and other cost increases. While this was primarily overseen by the Finance department, support was provided from Engineering to justify and support the increased funding levels. The implementation of the new rates, including the switch of the majority of our 72,000 customers from quarterly to monthly billing in early 2014, will be the responsibility of our Commercial Services and MIS departments.

In 2013, Providence Water received final approvals on a \$33 million dollar bond for additional water system improvements. The first phase, or \$25 million dollars, was closed during 2013, with the second phase scheduled for close in 2014.

In 2013, after much discussion and negotiation, we secured a Consent Agreement with the Rhode Island Department of Health to modify our Lead Service Replacement program and divert millions more dollars toward the replacement and/or relining of cast iron water mains.

In 2013, Providence Water made progress toward being able to produce 25% more drinking water of even higher quality. Providence Water is in the midst of a multi-year project to replace all 18 conventional sand filters to improve the quality and quantity of drinking water produced at the Philip J. Holton water treatment plant in Scituate and to remain well ahead of current and future water quality regulations. In 2013, we dismantled and replaced 4 of the 18 filters. We expect to complete the entire project in 2017. *(Photo - left)*

In 2013, preventative inspections helped us discover and repair two major potential transmission main problems. Finished water is transported from the water treatment plant to our customer distribution system through two main aqueducts. To prevent catastrophic failure of either of these two mains, Providence Water's Engineering department inspects both aqueducts at least once every five years.



In 2013, the upper length of the 78-inch Aqueduct was scheduled for inspection. Two sections of main were identified to be in need of refurbishing to protect their structural integrity, taken out of service and repaired before they became a major issue. *(Photo - left)*

Also in 2013, the Engineering department, with the assistance of the T&D department, coordinated the installation of approximately 6 miles of replacement water mains to improve the water quality in several areas of the distribution system.

In 2013, Providence Water embarked on a formal, system-wide therapy program to improve the overall health of our water distribution system. Called a Unidirectional Flushing Program (UDF), the program is a highly-scientific and systematic targeting of water mains for flushing in a specific order to preserve water quality in distribution mains and improve performance of the mains. In the past, we would flush mains only in response to local water quality issues.

In 2013, our T&D team did a great deal of preparatory work for the overall UDF program by inspecting, exercising and replacing hundreds of valves, hydrants and blow-offs to ensure optimal flush conditions. Once the prep work was complete and the UDF concept evolved into an ongoing planned program, select staff from our T&D group were retrained and redeployed to a UDF unit managed by Engineering project managers. In the UDF program's first full year, 65 miles of main was flushed in several strategic areas of our system.

In 2013, we worked safer than in any year in recent memory. Remarkably, our T&D department continued their streak of a full 365 days without a single lost-time injury. This is impressive given the heavy construction activities required from these workers on a daily basis. These workers operate and maintain Providence Water's transmission and distribution system. Building on that success and going beyond normal Standard Operating Procedures, in 2013, Providence Water developed and implemented a series of customized Situational Awareness training workshops specifically designed for individual Providence Water departments to improve specific job safety awareness and reduce potential threats and injuries.



In 2013, we continued our quest to work smarter, not harder, especially with the use of cyber technology. The Commercial Services department, with assistance from the Management Information Systems (MIS) department, implemented a new Wireless Work Order system for metering road crews. This system saves time by reducing data entry and keying errors and saves paper. This system also allows us to deploy people to field work in a more productive manner.

In 2013, Providence Water took a big step toward improving meter data gathering and better monitoring of potential meter tampering and unintended usage by installing newer, more powerful state-of-the-art Automated Meter Reading devices in customer's homes.

In 2013, The Finance Department took a giant step toward reducing Providence Water's voluminous paperwork by implementing an electronic document management process to allow for easier lookup of financial information.

In 2013, our Management Information Systems (MIS) team also completed a critical Information Systems Disaster recovery project, ensuring little to no interruption to all utility computer operations should disaster strike. Our people also participated in several local and regional cyber exercises and reviews with other utilities, municipalities and state agencies. In addition, they investigated, researched and implemented improvements to many internal systems and applications.

In 2013, during the first full year of our Customer Alert Notification Network's operation, thousands of e-mail, telephone and text communications were sent to customers throughout our service area, advising them of planned and unplanned repair work in their neighborhoods that might temporarily affect their water service.

Also in 2013, our Forestry division truly embodied the spirit of innovative thinking while protecting Scituate Reservoir water quality. The Westconnaug Stream restoration project employed state-of-the-art environmental restoration techniques to restore ecological function and prevent erosion and storm overflow across a busy public road.

(Photo - left) •



If we have learned anything at all from our system's founders, it is that we should always encourage innovation and creativity when faced with challenges. We must remind ourselves to embrace out-of-the-box concepts so as to avoid momentary lapses like the following:

"Everything that can be invented has been invented."
— Charles H. Duell, Director of US Patent Office, 1899

"Sensible and responsible women do not want to vote."
— Grover Cleveland, 1905

"Who the hell wants to hear actors talk?"
— Harry M. Warner, Warner Bros Pictures, 1927

"There is no likelihood man can ever tap the power of the atom."
— Robert Millham, Nobel Prize in Physics, 1923

"Heavier than air flying machines are impossible."
— Lord Kelvin, President, Royal Society, 1895

"Ruth made a big mistake when he gave up pitching."
— Tris Speaker, 1921

"The horse is here today, but the automobile is only a novelty - a fad."
— President of Michigan Savings Bank advising against investing in the Ford Motor Company

"Video won't be able to hold on to any market it captures after the first months. People will get tired of staring at a plywood box every night."
— Daryl F. Zanuck, 20th Century Fox, commenting on television in 1946

"What use could the company make of an electric toy?"
— Western Union, when it turned down rights to the telephone in 1878

These people, however successful in life, lost their focus and momentarily forgot what made them successful innovators and leaders. We all should give thanks that the founders of the Providence Water Supply Board were able to keep their focus. In that spirit, I leave you one final thought that embodies our forefathers' creative thinking and innovative accomplishments from contemporary American philosopher Dick Nicolosi, who said: "Slaying sacred cows makes great steaks."

Words to live by.

Boyce Spinell

Providence Water Leadership



Angel Taveras,
Mayor



Brett P. Smiley,
Chairman (Jan. - Sept.)



Xaykjam Khamasyvoravong,
Chairman (Oct. - Dec.)



Joseph Cataldi,
Vice Chairman



Michael A. Solomon,
City Council President



Michael J. Correia,
City Councilman



Andy Andujar,
Member



Kerri Lynn Thurber,
Member



Lawrence J. Mancini,
Ex-Officio



William O'Gara, Esq.,
Legal Advisor

Providence Water Management



Boyce Spinelli,
General Manager



Ricky Caruolo,
Deputy GM, Admin.



Joseph S. Spremulli,
Deputy GM, Operations



Jeanne Bondarevskis,
Sr. Director, Admin.



Gregg Giasson,
Sr. Director, Operations



Peter R. LePage,
Sr. Manager, Engineering



Nancy F. Sohigian,
Sr. Manager, Comm. Svs.



Mark Haroian,
Sr. Manager, T&D



Stephen Soito,
Sr. Manager, Water Supply



Stephen M. Colman,
Sr. Manager, Inform. Systs.

Financials at a glance...

BALANCE SHEET SUMMARY FOR THE YEARS ENDING JUNE 30, 2011, 2012, AND 2013

	2011	2012	2013
ASSETS:			
PROPERTY, PLANT AND EQUIPMENT	\$412,697,145	\$436,857,172	\$478,158,790
LESS: ACC. DEPRECIATION AND AMORTIZATION	<u>158,405,608</u>	<u>170,596,750</u>	<u>182,860,733</u>
NET PROPERTY, PLANT AND EQUIPMENT	254,291,537	266,260,422	295,298,057
TOTAL UNRESTRICTED CURRENT ASSETS	19,154,886	15,680,387	18,895,290
TOTAL RESTRICTED CURRENT ASSETS	<u>21,540,250</u>	<u>24,072,392</u>	<u>33,216,350</u>
TOTAL CURRENT ASSETS	\$40,695,136	\$39,752,779	52,111,640
TOTAL ASSETS	\$294,986,673	\$306,013,201	\$347,409,697
 <i>CAPITALIZATION AND LIABILITIES:</i>			
CAPITALIZATION			
TOTAL CAPITALIZATION	230,310,046	241,449,036	252,982,099
TOTAL LONG TERM DEBT	49,488,923	48,886,636	74,268,795
TOTAL OPERATING CURRENT LIABILITIES	6,188,547	6,548,870	9,949,092
TOTAL RESTRICTED CURRENT LIABILITIES	<u>8,999,157</u>	<u>9,128,659</u>	<u>10,209,711</u>
TOTAL CURRENT LIABILITIES	15,187,704	15,677,529	20,158,803
TOTAL LIABILITIES AND CAPITALIZATION	\$294,986,673	\$306,013,201	\$347,409,697

PROVIDENCE WATER SUPPLY BOARD

	2011	2012	2013
TOTAL OPERATING REVENUE	\$64,016,333	\$61,725,852	61,069,674
TOTAL OPERATING EXPENSES	<u>46,053,833</u>	<u>49,595,735</u>	<u>50,303,984</u>
OPERATING INCOME (LOSS)	\$17,962,500	\$12,130,117	\$10,765,690
NET NON-OPERATING REVENUE (EXPENSES)	(1,394,429)	(1,191,543)	(1,332,177)
CAPITAL GRANTS AND CONTRIBUTIONS	<u>510,771</u>	<u>200,416</u>	<u>2,099,550</u>
NET INCOME	\$17,078,841	\$11,138,990	\$11,533,063
INCREASE IN RETAINED EARNINGS	17,078,841	11,138,990	11,533,063
RETAINED EARNINGS - BEGINNING OF YEAR	<u>155,128,449</u>	<u>172,207,290</u>	<u>183,346,281</u>
RETAINED EARNINGS - END OF YEAR	\$172,207,290	\$183,346,280	\$194,879,343

SUMMARY STATEMENT OF CONTRIBUTION CAPITAL AND RETAINED EARNINGS FOR THE YEAR ENDED JUNE 30, 2011, 2012, AND 2013

	Contributed Capital	Reserved Retained Earnings	Unreserved Retained Earnings	Total Capital and Retained Earnings
BALANCE AS OF 6/30/2011	\$58,102,756	\$154,313,217	\$17,894,072	\$230,310,046
BALANCE AS OF 6/30/2012	\$58,102,756	\$164,294,755	\$19,051,526	\$241,449,037
BALANCE AS OF 6/30/2013	\$58,102,756	\$174,629,416	\$20,249,927	\$252,982,099