

# 2008

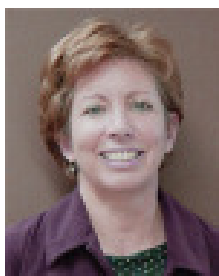
**EXECUTIVE SUMMARY**

PROVIDENCE WATER SUPPLY BOARD

## ANNUAL REPORT



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**REPORT FROM  
CHIEF ENGINEER  
PAMELA M.  
MARCHAND**

The drinking water business cycle is a fairly simple one, despite all the complex work that goes into ensuring delivery of some of the highest quality drinking water in America to our customers.

Simply put, we collect and store raw water, filter and disinfect the water, and deliver the water directly to the homes and businesses in our service area and to a number of wholesale drinking water systems who connect to our transmission aqueduct system.

The high quality of our drinking water is the result of Providence Water's vigilant, highly professional stewardship at every step of the process.

### **Collecting the Water Supply**

This stewardship starts with preserving a watershed area free from threats of potential contamination. We advocate and take strong action to protect the Scituate Reservoir system to preserve the

environment, safeguard the public's raw water supply, and protect the public's investment.

Since the Reservoir system's development in the early 1920's, Providence Water has grown and cared for thousands of acres of pristine forestland that acts as a natural filtration system for the water that collects in the area. We continue to prohibit recreational use of the land and waterways within the Scituate Reservoir system and we've instituted programs that continue to cultivate the healthiest of conditions to



keep the natural forest acting as that filter. A healthy watershed forest yields a raw water supply that is easier and less costly to process into drinking water.

We work closely with the towns of Scituate, Gloucester, Johnston and others to carefully monitor local development that could cause harm to the state's largest water supply. We also assist our watershed neighbors to minimize storm water impacts to the reservoirs. We've also expanded our watershed education programs for landowners and students who live within the limits of the watershed to increase awareness about the importance of caring for this critical resource.

To that end, in FY 2008, Providence Water continued its program of purchasing land within the watershed to protect the reservoir's water quality by acquiring an additional 82 acres of strategically important land. Another four land acquisition packages totaling 217 acres are expected to close in

### **Providence Water Board of Directors**

Chairman -- Andrew K. Moffit  
Vice Chairman -- Joseph D. Cataldi  
Ex-Officio -- Bruce Miller  
Councilman Joseph DeLuca  
Councilman Michael A. Solomon  
John A. Fagnoli  
Everett Bianco

Legal Advisor -- Fernando S. Cunha, Esq.

the next fiscal year. With roughly 18 thousand total acres of watershed land to maintain and protect, it takes a dedicated team of specialists to meet the challenges of caring for this important resource.

One important project completed in FY 08 included the completion of reconstruction work on the water side of the stone wall at Gainer Dam. The project was designed not only to structurally reinforce the structure, but also to preserve the historical integrity of the dam. Gainer Dam has been designated an American Water Works Association historical landmark since 2003.

Another important development in FY 08 was resolution of an acceptable treatment plant pH discharge level with the Rhode Island Department of Environmental Management. After negotiations, a revised permit for discharge to the Pawtuxet River allowed for a minimum pH of 6.0. DEM initially wished to impose a higher minimum pH – one which would have been difficult for Providence Water to be able to meet on a regular basis.

We argued that a lower minimum pH would be more in keeping with the pH that was within the existing wetland area. To prove this, Pare Engineering assisted by conducting a year-long study of existing wetland conditions to determine what might be acceptable pH limits to establish. Based upon the results, DEM agreed with us that a minimum pH of 6.0 would be acceptable.

## Treating the Water

Providence Water has the largest sand filtration water treatment plant in New England. The dual-media plant produced, on average in 2008, 67.12 million gallons of high-quality drinking water a day.

Through a process of aeration, ferric-induced sedimentation, sand-filtration, and exposure to lime and chlorine, our



customers continue to receive some of the highest-quality drinking water in America at a bargain price.

Design work continued through the year and was nearing completion on the project for major upgrades to our treatment plant. The planned improvements to the plant will consist of the reconstruction of the plant's 18 filters, new building enclosures for the filters, and the installation of new piping, control valves, and process instrumentation. Construction of the project, estimated to cost nearly \$40 million, is planned to begin in the fall of 2009.

A vigilant process of sampling, testing and monitoring ensures that the drinking water delivered to our 600,000 consumers meets the most stringent water quality standards in the world. More than 4,000 tests a month are conducted, sampled from our rivers and streams, within our distribution system, and at the treatment plant itself.



Laboratory certification for both chemistry and bacteriological parameters was maintained in FY 08 through continued participation in the R.I. Department of Health inspection and performance testing program. In addition, our laboratory staff continues to incorporate new requirements under the Safe Drinking Water Act including the Enhanced Surface Water Treatment Rule Long Term 2, revisions to the Total Coliform Rule, the Disinfectant/Disinfection By-Products Stage 1 and Stage 2 regulations and the Unregulated Contaminant Monitoring Regulation 2.

## Delivering the Water

Treated water leaves the Philip Holton Water Treatment plant in Scituate through two huge aqueducts – a 90-inch transmission pipe built in the 1920's and a 102-inch transmission main constructed in the early 1970's. These two huge conduits serve as

lifelines to more than 60 percent of Rhode Island's residents, bringing our outstanding drinking water directly to residents of Providence, Cranston, North Providence and Johnston as well as connections to water systems serving Warwick, Kent County, Lincoln, Smithfield, Bristol County, East Providence, Greenville, and East Smithfield.

Providence Water completed the construction of a new pump station to serve as a permanent emergency interconnection to its Kent County Water Authority wholesale customer. The new connection provided a



critically needed backup to Kent County's Clinton Avenue connection. Prior to construction of the new connection, the Clinton connection was Kent County's sole feed from the Providence Water system upon which it depended for the majority of its supply, and loss of this connection would have resulted in the loss of water to a large part of the Kent County system. Providence Water worked with Kent County to obtain partial funding assistance for the connection through the Rhode Island Water Resources Board's emergency interconnection grant program.

A first-ever inspection of our 78" Aqueduct was conducted, utilizing a sophisticated electromagnetic imaging technique performed through the entire interior length of the 3.8 mile long pipeline. The inspection uncovered 7 deteriorating aqueduct pipe sections that could have led to a failure of the line, similar to the catastrophic failure of our 102" aqueduct that occurred several years ago. All 7 sections were

repaired and structurally reinforced, safeguarding this important pipeline.

Development of Providence Water's system-wide GIS system continued, including the implementation of the GIS software and hardware systems and the massive tasks of inputting and integrating existing records into GIS. The new GIS system will provide Providence Water with a greatly expanded information resource and significantly enhance planning and operational capabilities.



In August 2007, Providence Water began its long-term program to replace all of the remaining 25,600 lead service customer connections in the system. In accordance with that prescribed by the EPA, we are required to replace a minimum of 7% (equivalent to 1,800) of its lead services each year until all the lead services in the system have been replaced. Providence Water began its program aggressively, replacing 3,050 or nearly 12% of its lead services in the first year of the



program. In conjunction with the Lead Service Replacement program, a number of consumer-oriented communications were prepared in both English and Spanish, to inform our customers of the program and steps they could take to mitigate any possible lead exposure in homes with lead plumbing.

Providence Water has planned and managed a host of capital improvement and infrastructure replacement

projects to improve Providence Water's water treatment and distribution processes and to systematically replace its aging infrastructure. Improvements have been made in virtually all areas, from the source water reservoirs and dams, through the treatment plant, the major water transmission aqueducts and pipelines, pumping stations and storage reservoirs, down to the distribution mains bringing the water to customers. Since the inception in 1996 of its currently ongoing Capital Improvement program (CIP) and Infrastructure Replacement (IFR) program, Providence Water has invested a total of \$162 million into needed improvements to the system.



Fire protection continues to be a top priority with over 6,000 hydrants in 5 communities and our T&D division established goals to restore or replace defective or outdated hydrants within 5 working days. Similar goals were enacted to improve inventory control and leak response time.

Discussions are under way to fine-tune a valve maintenance program, a distribution system flushing program and to begin working with a wireless computerized field GIS system that will provide our workers with instant and detailed system information during routine and emergency situations.

In the area of utility marking, Providence Water Dig-Safe personnel are now equipped with digital cameras to justify markings and reduce liability to Providence Water. Upon completion of the GIS mapping project mentioned earlier, plans are under way to purchase laptop computers to provide our field workers with accurate asset information to increase efficiency.

In September 2007, the Rhode Island Water and Wastewater Agency Response Network RIWARN was established when Providence Water and Pawtucket Water were the first signatories to the agreement. This was a major step for Rhode Island water and wastewater utilities to become the first

state in New England to implement the WARN system to provide for mutual aid in the event of an emergency or disaster.

The Providence area continues to be designated as an UASI - Urban Area Security Initiative area by the Department of Homeland Security. Providence Water has been successful in obtaining \$60,000 in grant funding in addition to the \$50,000 received last year. This money will fund enhancements in communication and security in Providence Water facilities.

## Revenue

Providence Water's general rate filing was approved by the RI Public Utilities Commission for rates effective November 1, 2007. After many hearings and requests for data, Providence Water received an increase of \$6,935,500 which represented an approximate \$7.95 increase per quarter for a typical Providence Water customer. The new rate revenues included a Revenue Reserve Fund which will set aside funds for future year's when water consumption is less than anticipated.



Data preparation and paperwork necessary for the approval of a \$35 million dollar bond was accomplished in FY 2008, through the RI Clean Water Finance Agency. This twenty year bond was issued at a subsidized interest rate of 2.846% and will be used primarily to fund the Lead Service Replacement Project and Water Main Replacements.

Following a great deal of time and effort planning, testing, and re-configuring our financial systems and account codes to allow the sole use of Lawson Financials, we successfully converted our processing of requisitions/PO's from Oracle to Lawson to be consistent with the rest of the city.

Providence Water also sought and received PUC approval for the implementation of on-line water bill payments and the customer charge associated with this service. Customers may now pay their bills in person, by computer payment, or by telephone.

The implementation of actual monthly meter readings in FY 2008 along with timely billing schedules continues to reduce customer complaints. Providence Water rendered 286,969 water bills in FY 2008 and 99.76% of our quarterly bills were based on actual reads. Besides ensuring accurate bills, actual readings assists our customer service representatives in identifying unusual consumption patterns caused by leaks or theft of water.

Also in FY 2008, Providence Water began monthly billing for some of our large users. The accounts that were placed in a monthly billing cycle were identified through “Monthly User” guidelines stated in the Rhode Island Water Supply Management Plan.

Our 72,000 Providence Water retail service connections are now 99.7% equipped with Automatic Meter Reading (AMR) devices as a result of more than 200 stop connections being dug and reset in the last fiscal year. By the end of FY 2008, we started to plan for the maintenance phase of our AMR program. The older style 40W Encoder Receiver Transmitters (ERT’s) that have a life-cycle of 10 years were identified throughout our system. A replacement date has been projected for calendar year 2009 which will be coordinated with our 15-year meter replacement program. The 40W ERT will be replaced with a new and improved 60W ERT. The 60W has a 20-year life-cycle and is equipped with leak-detection notification capabilities.

The maintenance phase of our large meters continued in FY 2008 and approximately 150 large meters were tested to ensure the calibrations were consistent with American Water Works Association (AWWA) specifications. However, the main focus was on the “right sizing” of vertically-stacked meters. Accounts were data-logged and consumption patterns were analyzed to determine if a single large meter could replace the existing vertically-stacked meters at each location, resulting in more accurate bills and lower meter charges for smaller meters.

The meter section has also taken a lead role in researching fixed network meter reading systems, which would give us instant meter readings from a remote location. A detailed report will be submitted

in calendar year 2009 outlining the feasibility of migrating to a hybrid fixed network. In addition, the meter section is researching the implementation of a wireless work order system.

### Support systems

An important part of our job is to provide information that is accurate, complete, and available to the public, including outside agencies, as well as the entire Providence Water community. To assist us in this mission, we hired a web-based developer and systems analyst, giving us state-of-the-art development capabilities that will lend itself to utilizing some of the latest computer technologies for our applications and web sites.

We also installed a second high speed internet



connection. This not only speeds up day-to-day operations, but is a necessary piece of the disaster recovery/enterprise data backup scheme.

We replaced our main report engine with Jasper - a much more “programming-centric” tool. This affords us a better capacity to customize data reports without conforming to Crystal’s methodology, yet still allows us to produce Crystal-like quality reports.

We are also exploring new technologies that will be long lasting and at the same time minimize the costly “we-need-to-upgrade-again” philosophy that is prevalent with such products as Microsoft.

We stepped up the training and educational course attendance to keep pace with the ever-changing technical environment.

In fact, Providence Water continues to make employee training a priority, from safety programs to higher levels of State certification for our workforce – giving us a more productive workforce and giving employees promotional opportunities. To that end, Providence Water conducted our 2<sup>nd</sup> annual Safety

Day for Providence Water personnel which included participation by the RI State police who re-emphasized the importance of Commercial Driver License (CDL) issues, seatbelts and safe driving.



Liberty Mutual, our workers compensation insurer, used games to create a fun, relaxed environment in order to train and review safe practices and procedures.

### Other FY 2008 Milestones

In FY 2008, Providence Water and other water utilities successfully opposed and negotiated various legislative issues, such as infrastructure relocation cost assessments. Working with other members of the RI Water Works Association, we collectively addressed industry legislative issues, such as Dig Safe and water supply management. We also prepared a legislatively-mandated report, related to the watershed road salt issue, which was subsequently delivered to the General Assembly and RI Department of Environmental Management.

We have dramatically improved the end-of-year inventory process with the implementation of a new inventory bar code system. Digital photographs have been taken of all inventory items and entered into Hansen, our work order management system. New



procedures have been created for issuing and reconciliation of all materials and work orders through inventory control. The actual inventory process now can be completed in just two days, instead of the 6-7 business day process the manual system required.

In FY 2008, we created an energy conservation committee which includes a member from each department to find ways for Providence Water to become more energy efficient and environmentally friendly.

We recognize that improvement is an ongoing process. To that end, we have initiated an employee-driven Strategic Planning project for Providence Water. This project will evaluate the strengths and weaknesses of the organization as a whole and compare Providence Water to similar utilities. The planning process will examine how we can improve our efficiency, make the utility a better place to work for our employees, and improve services we provide to our customers.

### Providence Water Senior Management

Chief Engineer /General Manager --  
**Pamela Marchand, P.E.**

Deputy General Manager / Operations --  
**Michael Russo**

Deputy General Manager / Administration --  
**Boyce Spinelli**

Director/Water Supply -- **Michael Covellone**

Director/Commercial Services -- **Ricky Caruolo**

Director/Engineering -- **Paul Gadoury**

Director/Support Services -- **Joseph Spremulli**

Director/Finance -- **Jeanne Bondarevskis**

Director/Special Projects -- **Paul Titzmann**

Acting Director/Transmission & Distribution.--  
**Ronald DelGallo**

**Providence Water Supply Board  
Balance Sheets Summary  
for the Years Ended June 30, 2007, and 2008**

**ASSETS**

	Audited 2007	Audited 2008
Property, Plant and Equipment	\$295,234,570	\$315,481,254
Less Accumulated Depreciation and Amortization	114,244,820	124,959,307
Net Property, Plant and Equipment	180,989,750	190,521,947
Total Operating Current Assets	17,404,121	15,613,411
Total Restricted Current Assets	24,895,335	59,445,457
Total Current Assets	42,299,456	75,058,867
<b>Total Assets</b>	<b>\$223,289,206</b>	<b>\$265,580,814</b>

**CAPITALIZATION AND LIABILITIES**

Capitalization		
Total Capitalization	\$189,583,838	\$199,553,381
Total Long-term Debt	12,043,165	44,562,194
Total Operating Current Liabilities	19,318,262	17,859,518
Total Restricted Current Liabilities	2,343,941	3,605,721
Total Current Liabilities	21,662,202	21,465,239
<b>Total Liabilities and Capitalization</b>	<b>\$223,289,206</b>	<b>\$265,580,814</b>

**Providence Water Supply Board  
Summary Statement of Revenue and Expenses  
for the Years Ended June 30, 2007, and 2008**

	Audited 2007	Audited 2008
Total Operating Revenues	\$50,811,938	\$54,069,228
Total Operating Expenses	45,180,109	46,857,075
Operating Income (Loss)	5,631,829	7,212,153
Net Non-Operating Revenues (Expenses)	1,897,357	1,859,355
Capital Grant & Contribution	1,612,921	898,034
<b>Net Income</b>	<b>9,142,107</b>	<b>9,969,542</b>
Increase in Retained Earnings	9,142,107	9,969,542
Retained Earnings - beginning of year	122,338,976	131,481,083
<b>Retained Earnings - end of year</b>	<b>\$131,481,083</b>	<b>\$141,450,625</b>

**Summary Statement of Contributed Capital and Retained Earnings  
for the Years Ended June 30, 2007, and 2008**

	Contributed Capital	Reserved Retained Earnings	Unreserved Retained Earnings	Total Retained Earnings
<i>Balance at June 30, 2007</i>	\$58,102,756	\$118,592,419	\$12,888,664	\$189,583,839
<i>Balance at June 30, 2008</i>	\$58,102,756	\$126,702,606	\$14,748,019	\$199,553,381