

Acton Water District

Water Words Notice

Winter 2006

Dear Customer:

The Acton Water District obtains all of its current supply from 21 different wells found on seven separate pieces of property located in various parts of Acton. All but two of those wells are located in shallow aquifers, and in all of those locations the Water District has maximized the amount of water that can be withdrawn from those locations without adversely impacting the surrounding ecosystems.

The other two wells, Assabet 1A and Assabet 2A, located in the southern part of town, draw their water from the Assabet Aquifer. These were the wells that were first found to be contaminated in the late 1970s. The Acton Water District has been successfully treating the water from these wells for over two decades. Both Assabet wells have a much higher yield than any of the others and they draw from a deeper aquifer which is far less likely to be negatively influenced by periods of low rainfall. Combined, they currently withdraw only a portion of the total amount of water that is available at that location. The total volume of water available here would allow the Water District to construct, in a cost effective manner, a variety of sophisticated treatment processes to ensure the provision of finished water that meets or exceeds all existing and future federal water quality standards.

A third well in this aquifer was transferred to the Acton Water District in the 1980s by the W.R. Grace Company, as partial payment for the damages caused by the disposal of contaminants on the property. This well has been inactive since the transfer, its reactivation awaiting the final cleanup decisions on the WR Grace site in order to begin the process of obtaining regulatory approval to add it to Acton's sources of supply.

During this past year the United States Environmental Protection Agency (EPA) released its Record of Decision (ROD), a document that outlines the final cleanup actions that must be taken by W.R. Grace to restore the groundwater in this aquifer. In addition, the intricate groundwater model that was developed specifically to help identify the extent of the contamination and to project the success of a variety of proposed remediation processes was also used by the Acton Water District to project what impacts the reactivation of this well, now referred to as Assabet 3, might have on the existing groundwater conditions as well as to predict what, if any, possibility there is of drawing any of the known remaining contaminants into this well.

Five years ago the Department of Environmental Protection (DEP) asked the Acton Water District to wait until this ROD was released before beginning the process of applying for the reactivation of Assabet 3. They were hopeful that the groundwater model, not fully developed at that time, would eventually be able to provide much of the important information on pumping dynamics and contaminant plume movement.

The model has now shown that an additional 350 gallons per minute could be withdrawn from Assabet 3 without drawing any of the remaining contaminants into the well. When combined with the currently permitted withdrawals from Assabet 1A and Assabet 2A the total amount of supply available here would meet more than 75% of the current demand throughout the entire system and there would still be a surplus of water available in the aquifer to sustain the surrounding ecosystems.

The development of this well is vital to ensure that the Acton Water District can continue to meet the potable water supply and fire protection needs of the community as it presently exists, as well as to be in a position to meet whatever needs the people of the town of Acton deem appropriate in the future. We have begun the process of obtaining the necessary approvals to reactivate Assabet 3 and we will keep you informed of our progress towards that end.

Sincerely,



James L. Deming
District Manager

Nagog Pond: Who Uses It?

Although Nagog Pond is located in Acton, it is not used by the Acton Water District. Nagog Pond is considered a "Great Pond", which in Massachusetts is any pond over ten acres. All Great Ponds are owned by the State of Massachusetts. The State Legislature has the power to commit the resources of Nagog Pond to any entity. In 1884 the Legislature, in Chapter 201 of their Acts, authorized the Town of Concord to use Nagog Pond to supply its customers with water for domestic purposes, and to extinguish fires and generate steam. Within the Act, the legislature authorized Acton and Littleton to purchase water from Nagog Pond for the same purposes as Concord. However, due to water quality and infrastructure considerations, it is very unlikely that this option would ever be realized.

Although most of Acton is supplied by the Acton Water District's 21 groundwater wells, currently, a group of business and residences on Great Road, off the Nagog Pond distribution line, are customers of the Concord Water Supply. Unless the State Legislature acts otherwise, the rights to Nagog Pond will remain unchanged indefinitely for Concord, Acton and Littleton. If you have questions about Nagog Pond, please call Matthew Mostoller, Environmental Analyst with the Concord Water Department at 978-318-3250.



Nagog Pond is one of Massachusetts' Great Ponds owned by the state. It is leased to the town of Concord for public water supply.

WR Grace-Acton Cleanup Status

After decades of investigation, The United States EPA and Massachusetts DEP determined the final cleanup decisions for the WR Grace-Acton Superfund site, located in southeast Acton. This plan is the third and final phase of the cleanup. EPA estimates that the total cost of the selected cleanup will be approximately \$18 Million. EPA outlined the plans in a Record of Decision (ROD), issued in October, 2005. The ROD is currently available for viewing at the Acton Public Library on 486 Main Street, or online at EPA's website: www.epa.gov/ne/superfund/sites/graceacton.

Irrigation Audits Save Water

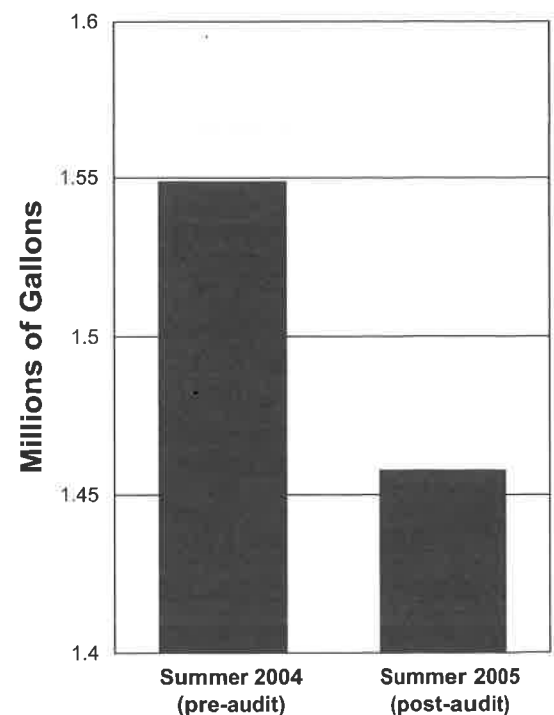
During the summer of 2004 the Acton Water District offered a free irrigation system audit to any customer with an automatic irrigation system. The audit consisted of a home visit from certified auditors at Energy New England. The auditor interviewed each customer on their system use, ran the irrigation system to check for inefficiencies, calculated the usage flow rates, and left the customer with a report recommending ways to save water.

Customers who participated in these audits achieved a 6 percent reduction in usage in the summer of 2005, despite the fact that average 2005 summer temperatures were four degrees *higher* than 2004, and there was an eight percent *increase* in (non-audited) irrigation system water use. A few changes these customers made were:

- taking control of their irrigation controllers to slightly reduce their watering times, or shut off zones where irrigation was unnecessary
- making changes to their landscapes such as reducing irrigated turf area
- enriching their soil and using drought-tolerant plantings
- fixing worn sprinkler heads and leaks

Letters will be going out in the spring of 2006 to all customers with automatic irrigation systems who were unable to participate in this program the first time around. We hope you will take advantage of this great opportunity!

Water Usage by Customers with Irrigation Audits



Kennedy/Marshall Treatment Pilot Study

The Kennedy Wellfield and the Marshall Well are the main sources of public supply in North Acton. Although they have consistently met all Safe Drinking Water Act standards, these wells have been historically beset by aesthetic water quality problems, primarily organic color, manganese, and iron. This is why some North Acton Residents have seen “yellow” water. In order to eliminate these problems, during the summer of 2005 the Acton Water District conducted a pilot study to determine the best treatment technology for these wells.

Five separate treatment technologies were tested on the water of the Kennedy and Marshall Wells. These technologies included several natural and a few “engineered” filtration media, ozonation, and membrane ultrafiltration. An early conclusion that can be drawn from the pilots is that removal of the organic color at these wells will not be simple. Several treatment technologies will likely be needed, as would a major upgrade to the Kennedy treatment facility. Further information will be provided in upcoming Water Words Notices regarding the developing plans for a treatment plant in North Acton.



Filtration columns at the Kennedy Pilot Treatment Plant in North Acton.

Water and Land Management Committee Update

Submitted by Water and Land Management Committee

The Water-Land Management Advisory Committee (WLMAC) has been meeting for over a year and is beginning to prepare its final report for the Commissioners. The report will address possible expansion of water service beyond current district boundaries. After months of discussing a wide range of related topics, the committee concluded that any plan for expansion would need to respond to three primary goals. Assuring rate-payers of an adequate quantity of water is clearly a primary concern. Closely linked with it is the goal of safeguarding water quality. A third goal involves management of the cost of water. These goals were the subjects of three articles submitted by WLMAC for publication in the *Beacon*. A fourth article described some of the strategies the committee is considering to address those goals. All four articles are now posted on the Acton Water District's web-site www.actonh2o.com.

WLMAC is aware that customers of the Acton Water District have concerns about how the water supply is used, and the committee would like to be sure that such concerns are addressed in their report. To this end, a public input meeting was held on 7 December. Topics that were brought up by attendees included the relationship between development and the availability of water, the logic behind possible expansion of water service when residents are already being asked to conserve water, and how does this all fit into the context of State regulations and resources. The committee is grateful for the input it received at the meeting.



Jen Pederson of NEWWA (left) presents Jane Ceraso with her award

Acton Water District's Environmental Manager Honored

Jane Ceraso, the Environmental Manager for the Acton Water District was recognized for her contribution in the public water supply field at the New England Water Works Association's annual conference in September in Rockport, Maine. Jane received the Association's *Distinguished Public Involvement Award* for her “outstanding achievements, leadership, commitment, and support of professional, proactive public relations.” Jane was selected for this award from a pool of water supply professionals across New England.

“We are very pleased to have Jane's achievements recognized by the New England Water Works Association,” said Acton Water District Manager Jim Deming. “The success of Jane's efforts has been greatly facilitated by the willingness of Acton Water District customers to work closely and enthusiastically with us to make important gains in water conservation and water supply protection.”

What was it?



Only two people correctly identified the mystery photo in the last Water Words notice, Allen Oi and David Spann. The mystery photo (a tough one this time!) was the plastic “packing spheres” that fill the Acton Water District's air stripping towers. The air stripping towers treat water for any volatile contaminants by tricking it downward through the air stripping tower, which is filled with these plastic spheres, while a fan blows upward, allowing any volatile compounds in the water to be “stripped” out. The spheres also collect particles of iron and manganese, giving them the brownish tinge that was shown in the photo.

Acton Water District



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What is it?

*Please email your answers to webgeek@actonh2o.com.
Winners (and the correct answer) will be posted in the next
Water Words Notice*