

# Dennis Water District

Board of Water Commissioners

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Edward A. Crowell, *Chairman*  
Paul F. Prue  
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## Main-Line News

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Appointed by Water Commissioners

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David Larkowski, *Superintendent*  
Sheryl A. McMahon, *Clerk & Treasurer*  
James Ritchie, *Asst. Superintendent*

### Designs for Iron and Manganese Water Treatment Plants are Completed

Progress on this project continues to move along steadily. Design of the new water treatment plants has been completed. At the beginning of the design process, the Board of Water Commissioners reviewed various options and set goals for the project. There were any number of options to be considered which would have significant impact on construction and future operation and maintenance costs. The number one priority of the Board was to incorporate the highest level of efficiency while delivering the highest water quality possible. One of the major features of the plan is the pump-through design. Some designs would have required holding tanks or clear wells. Our pump-through design utilizes the existing well pumps to pump the water directly from the wells into the raw water mains, into the filters at the treatment plants and then on into the distribution system as finished water. This pump-through design will save the project from having to have a second set of pumps to push the water through the treatment plants, thus saving thousands of dollars for the purchase, operations and maintenance of additional pumps.

Another design aspect was to assign the same number of wells needing treatment evenly to each of the two facilities. This means changing the direction water is pumped from some of the wells so that one building and system could be designed but built in two separate locations. Having the same design for both facilities will save construction costs and in future operating and maintenance costs once the plants are on line.

The cost and affordability of these plants has been of great concern to the Water Commissioners. As part of the consultant's contract, the development and filing of applications for grant and low-interest loans was included in the scope of work. Several months ago, the District received notice that the project has received initial funding approval through the Massachusetts State Revolving Loan Fund (SRF). SRF loans is a 2% loan program whereby communities can obtain funds for drinking water and wastewater projects. Projects considered for funding are rated with others from across the state on a needs basis. The District's project was ranked second in the state at \$6 million for the first year of the project. With the exception of design costs, nearly the entire project will be funded through the SRF loan program. The difference between 2% and market rate bonds of approximately 3.75% would save the rate-payers more than \$2 million over the 20 year life of the loan.

With design completed, the District is currently securing the necessary state and local approvals for the construction of the project. Also completed is the prequalification process for potential bidders on the project. It is anticipated that the final bid prices will be available for project funding consideration at the April 29, 2008 Annual District Meeting. Early estimates were approximately \$15 million but after having thoroughly vetted the design plans, the estimated cost prior to the bidding phase is approximately \$12 million. The Board expressed their desire to know the final project costs when they present the project for funding to the District voters in April.



*This is a picture of the type of metal building designed for the Dennis Water District's two treatment facilities.*

### Description of the Project

The project sites are entirely within Dennis Water District owned land. The two sites are mostly undeveloped, only containing small pumping stations and corrosion control facilities and associated access roads.

The project consists of the construction of two 4 million gallon per day iron and manganese removal water treatment facilities (WTFs). Each WTF will treat water from five groundwater supply wells from each of the District's two water system zones. One WTF will be dedicated to treat water from wells within the north side zone and the other WTF will be dedicated to treat water from wells within the south side zone. The project includes the installation of approximately 18,000 linear feet of raw water and finished water transmission mains to connect the WTFs to the existing wells and to the distribution system. The WTFs will be set back from any nearby roadway and/or abutters so that they are not visible from the roadway or abutting properties. Each WTF will be 50 feet by 100 feet metal building with slab-on-grade foundations. Each WTF will have two lined lagoons for settling of treatment residuals (backwash water) and one infiltration lagoon for supernatant from the lined lagoons.

The proposed WTFs plan provides the least amount of impact on the environment, surroundings and to abutters while maximizing water system hydraulics, safety and redundancy. Construction of individual WTFs at each of the 10 wells to receive treatment would be more expensive and cause more environmental impacts since each well would require a dedicated building and lagoons. Construction of one WTF would limit flexibility and redundancy of the water system, require significant modifications to water system hydraulics, and increase electrical costs.

The design of the WTFs utilizes the existing corrosion control facilities for the pre-filter chemical addition which provides the benefits of a smaller footprint at the WTF sites and a cost savings to the District. The WTFs will be operated as "unmanned" facilities and will not have a restroom nor an office control center, as the primary control interface will be through the existing computerized radio controls located at the District's existing main office.

# Conservation Corner

We have all read the many brochures and flyers water suppliers distribute in an effort to get customers to conserve water. While anyone can create a list of things to do, water conservation is really just a state of mind. Rarely do we go through a day and think about how many times we turned on a tap, flushed a toilet or took a shower.

How many people do you know absent-mindedly take a piece of tissue to kill a spider and then flush a toilet to dispose of it? Or use gallons of water to wash spoiled leftovers down the drain instead of scraping it into the trash? Everyone has different habits on how they use water. Just a little awareness on everyone's part to conserve where they can each day is where we also need to focus.

*Do you run water to clean vegetables? Just rinse them in a stopped sink or a pan of clean water.*

Yes, setting irrigation system to water every third day is a great way of conserving but, not

letting the water run in the sink while you brush your teeth or letting the shower run to get the bathroom steamy are other ways we can make a conscious decision to conserve water by changing our habits. There are other benefits to saving water such as using less energy to heat water and less wastewater entering your septic system which can help extend its useful life.

The Massachusetts Department of Environmental Protection has established a personal limit of 65 gallons of water per day averaged over a year. What do you use? This includes not only the everyday personal uses such as showering, laundry, cooking and dish washing but, watering the lawn, washing the car, boat, house, dog, sidewalk and filling the kid's wading pools and super soakers.

A quick check? Add the water usage shown on your February and August water bills together and then divide the total by the number of occupants in your house. How did you do? Where can you save?

## FUTURE RATES AND FEES

The financial management of the District's operation and capital improvements has always been of primary importance to the Board of Water Commissioners. Beginning in Fiscal 1989, the Board established a budget that was no longer dependent on the assessment of real estate taxes. This meant that the water rates and fees would have to provide the majority of income for the operations, maintenance and capital expenses of the District. In order to prevent spikes in the rates, the Board anticipated future capital needs by establishing appropriation accounts several years in advance of the project, maintained adequate reserves and established and funded a Stabilization Fund. The leasing of space on the water tanks has also helped maintain reasonable water rates by generating more than \$200,000 in annual income over the past ten years.

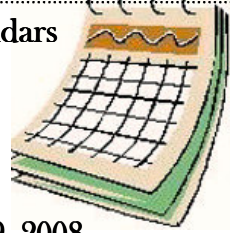
In order to provide the most efficient and cost effective services to customers, over the years the District has hired and trained staff to do nearly all of the construction and maintenance work necessary for the development, operations and long-term maintenance of a water system.

Even with this type of conservative fiscal approach, the District has seen fixed costs escalate. The proposed Fiscal Year 2009 budget is based on an increase in the Account Charge from \$50 to \$72 annually.

The increase can also be expressed as a monthly increase of \$1.83 per month. The water usage rates will remain the same.

**Mark Your Calendars**

**ANNUAL DISTRICT MEETING**



**April 29, 2008**  
**7:00 PM**  
**Dennis Senior Center**

In anticipation of the construction of the Iron and Manganese Treatment Facilities, the Board anticipates that the Account Charge and the water rates will rise over the next five to seven years in order to pay for the construction loans and fund additional operational costs and maintenance resulting from the project. The Board anticipates that these rates will double over this time period.

Voters are encouraged to attend the Annual District Meeting on April 29, 2008, to see and hear what will be accomplished by constructing these treatment facilities and how it will impact water rates and fees.

## HOUSEHOLD HAZARDOUS WASTE COLLECTION DAY

**Saturday, June 7th**  
**Tony Kent Arena**  
**9 am to 1 pm**

Americans generate 1.6 million tons of HHW per year. The average home can accumulate as much as 100 pounds of HHW in the basement and garage and in storage closets. The Dennis Water District sponsors a special collection day for HHW in June of each year. The Town of Dennis also sponsors a HHW Collection Day in September.

It is important to remember to use and store products containing hazardous substances carefully to prevent any accidents at home. Never store hazardous products in food containers; keep them in their original containers and never remove labels.

On the morning of the Collection Day, place sealed HHW products in the trunk of your vehicle and drive to the collection site. Workers will remove the products when you drive through. You never have to leave your car!

**PROTECT OUR WATER SUPPLY. NEVER pour HHW products down the sink or toilet or on the ground.**

## RTE 134 TANK PROJECT COMPLETED

This past fall, many of you observed the daily progress of the tank being painted on Route 134. As Superintendent, I would like to express my appreciation to the neighbors for their patience throughout the project. It is not possible to sand blast a structure that stands 135' high with a surface area of 45,000 square feet without making noise.

The project began a little behind schedule with the delayed delivery of the robotic blasting machine. This machine eliminated the need for full containment of the water tank. Despite the delay, the contractor finished the project on schedule with the exception of a minor punch list that will be done this spring. The project stayed within budget with the exception of an additional \$3,500 to fix three hatches at the top of the tank. This spring the perimeter lighting system will be replaced.



Overall, the project was a success and an \$80,000 unexpended balance is estimated to be returned to the general fund. *David Larkowski*