MEETING OF THE ORLEANS
BOARD OF WATER COMMISSIONERS
March 4, 2009

A meeting of the Board of Water Commissioners was held Wednesday, March 4, 2009 in the Nauset Room, Town Hall:

Those present were Victor Noerdlinger, Robert Rich, and Ann Hodgkinson of the Board, Lou Briganti, Water Superintendent. Absent were Kenneth McKusick and Hank Schumacher of the Board.

Victor Noerdlinger called the Board of Water Commissioners meeting to order at 1:06 p.m.

MINUTES

Ann Hodgkinson made a motion seconded by Robert Rich to approve the minutes of the meeting of February 4, 2009 as written. The vote by the Board was 3-0-0.

COMMITMENTS/ABATEMENTS/REFUNDS

A motion was made by Ann Hodgkinson seconded by Robert Rich to commit for the month of February 2009 to rate $1,012,591.10, to services $400.00, to usage $0.00, to installations $160.00 and to added billing $205.29. The vote by the Board was 3-0-0.

A motion was made by Ann Hodgkinson seconded by Robert Rich to abate and refund $1,229.27 from account #5142 as a result of a meter reading error back to 7/18/2008. The vote by the Board was 3-0-0.

A motion was made by Robert Rich seconded by Ann Hodgkinson to abate $148.20 from account #3033 as service was discontinued 7/25/2008. The vote by the Board was 3-0-0.

A motion was made by Ann Hodgkinson seconded by Robert Rich to abate $80.00 from account #2161 for a seasonal charge where the meter was not removed. The vote by the Board was 3-0-0.

A motion was made by Robert Rich seconded by Ann Hodgkinson to abate from added billing $556.02 for a service repair that should not have been billed because it was between the shutoff and the water main and the responsibility of the water department per regulations. The Vote by the Board was 3-0-0.

A motion was made by Ann Hodgkinson seconded by Robert Rich to abate $160.00 from added billing for a repair that was billed at double time rather than time and a half. The vote by the Board was 3-0-0.

A motion was made by Robert Rich seconded by Ann Hodgkinson to abate $40.00 from Services 2009-53 for a mark-out that was billed twice in error. The vote by the Board was 3-0-0.

WIND ENERGY

Members of the Wind Energy Committee were present to discuss Weston & Sampson's Wind Turbine Financial Feasibility Study dated February 2009. The report will be presented to the Board of Selectmen at their meeting of March 25, 2009.

OTHER BUSINESS

MASTER PLAN

After reviewing the current Master Plan, it was determined that all recommendations have either been implemented or rejected. Master Plan review will be removed from the Boards issues list.

SUPERINTENDENT'S REPORT

SEE ATTACHED REPORT

ADJOURNMENT

At 2:04 p.m., a motion was made by Ann Hodgkinson and seconded by Robert Rich to adjourn the meeting. The vote by the Board was 3-0-0.

The next regular meeting is scheduled for April 15, 2009 at 1:00 p.m.

Susan R. Brown

Secretary, Board of Water Commissioners

Town of Orleans Lou Briganti
Water Department
2/27/2009

Board of Water Commissioners

04Mar2009

Eastham

Included in the Board's packet is the proposed water article for Eastham's Town Meeting (from their website).

A few questions were directed to our Town Administrator after a meeting attended by the TA and a member of the BOS for each town. The Supt.'s draft-response follows;

From: "MartinMcDonald"<eæmac3@capecod.net>
To: "Sheliatownhall"<svanderhoef@eastham-ma.gov>
Sent: Friday,January30,200911:114M
Subject Water meeting

Shelia

My thoughts on questions for Orleans. I suggest you add your own, modify mine and e-mail a copy to David Dunford and John Kelly.

1- Actual amount of water available to be committed to Eastham, ave annual and max peak. We assume that number takes into account for any future added capacity needs within Orleans. What is Orleans back-up or reserve, i.e. if Orleans draws say 1 million GPD, is there an additional I million GPD available from a second or 3rd well or wells?
I think it would be prudent to stick with the 500,000 GPD that was considered by the CCC. That gets our foot in the door and probably would be more than Eastham needed in the off season. That number is expressed as an annual average and that infers greater use and peak demand in the summer months.

The future capacity needs of Orleans do not present a conflict with the sale of water to Eastham.

The sources of supply for Orleans can be viewed as three entities, being the water treatment facility (WTF), well no. 7 and facility no. 1 (combined well nos. 2 & 3). The normal production capacity for each source is;
WTF 2.23 MGD

well no. 7	1.08
facility no. 1	1.15
total	4.46 MGD

2- Lets say Eastham ultimately needs all the water made available by Orleans, call it X. However, in 2 or 3 years we'd only be prepared to take 1/2X and the second 1/2 or even 1/4 X's in subsequent intervals. How does that sort of timing fit with Orleans?
Reading this question makes me think that a full volume of water might be purchased in the early years of the Eastham system. That need or the volume taken would then decrease as municipal wells were brought on line.

My experience with contract operations and/or water sales is an escalating price where purchases are not guaranteed.

3- Without our being too specific about contractual issues, generally how would we be able to guarantee an uninterrupted water supply into the foreseeable future.
Orleans has 7-municipal wells. Four wells supply the water treatment facility where Iron & Manganese are removed before supply to the distribution system. Three wells are fed directly to the distribution system. One of the wells that supplies the treatment facility can be redirected to the distribution system in the event of an emergency. The wells and treatment facility have stand by generators that allow for operation during power outages.

Purchasing water from Orleans would bring this supply system, back up power generation and capacity to the avail of Eastham. The Orleans system would provide a significant guarantee of an uninterrupted supply versus 1, or 2 municipal wells.

4- Other than providing a connecting pipe at the rotary, what other services, i.e. maintenance, metering, other connections, etc. might Orleans propose to offer?
I think it is feasible to consider the offer to supply all services necessary to the operation and maintenance of a water system. This includes supply, distribution, regulatory compliance, supply of a licensed operator, metering, billing, repairs, emergency repairs, etc.

This could be done in the form of an intermunicipal agreement, contract operations, or hybrid of the two.

5- In today dollars, what does Orleans currently charge their customers for water and what sort of discount might Eastham expect to see? Are there commercial rates, time of day rates, other?

Board of Water Commissioners

Current rate schedule;

Basic Service	$ 74.10		
0	to	15,000 gallons	$ 1.57 per thousand gallons
15,001	to	30,000	$ 3.88 per thousand gallons
30,001	to	50,000	$ 4.98 per thousand gallons
Over		50,000	$ 6.03 per thousand gallons

Per six month billing period

There are no other schedules such as commercial, time of day, or seasonal. It would be premature to forward pricing or a discount schedule for Eastham.

6- Are you able to estimate the cost/ft of water mains installed. What size main would you be providing at the Rotary?
I think we used $100 per linear foot of installed water main when Orleans & Eastham first met. I verified that number with an engineer and a contractor. The number could go up, or down depending on where the installation is being done, whether there is asphalt to be replaced, type of soil, etc.

Engineering would be needed to verify, but it's probably safe to assume a 12 to 16 inch connection would be needed at the rotary.

Facility 1

SCADA modifications for wells 1, 2, 3 and Facility no. 1 are nearly complete. The new system has been tested and minor changes will complete the work (scheduled for 03/02).

Through the upgrade process we discovered that our new LMI chemical feed pump used for Hypochlorite was defective. After multiple calibration tests we proved that the pump overfed chemical and that it was not linear over its pumping range. The supplier will replace the pump.

The upgrades to Facility 1 and the replacement of SCADA1 and SCADA2 along with the upgrade of our RSView software (Rockwell International) will be treated as 1-project.

SCADA

Town of Orleans Lou Briganti

Water Department

2/27/2009

Board of Water Commissioners

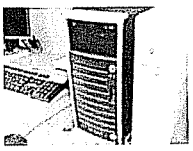
During February we completed an upgrade to our SCADA system.

With the construction of the wtp SCADA was converted from Intellution's iFix to Rockwell Automation's RSView. RSView was a requirement of Pall Corp. (and a better product).

The system has operated with 2-Dell PC's and the original RSView software since the plant went online. We were able to ghost (bit copy of the hard disk) one of the SCADA PC's as a backup. With the age of the PC's it was desirable and necessary to upgrade to new equipment and software.

With the assistance of the Town's Integrator (ITS) we were able to establish a contract to upgrade our RSView software with Eagle Electric of Canton, MA. Rockwell Automation only sells through very territorial distributors - ours being Eagle Electric. We agreed to a 3-year agreement which provides software upgrades at 6 month intervals and web & phone based support from Rockwell Automation and Eagle Electric. Surprisingly the total cost was $6,000 billed annually at $2,000 intervals. Most importantly, obtaining this contract provided us with CD versions of the latest RSView software to replace our original installations from 2004. In addition, we were allowed to create 2-new SCADA PC's with the new software while the old SCADA machines remained in operation.

Peter Van Dyck assisted with the purchase of two robust, server grade PC's made by Hewlett Packard. ITS installed RSView and other necessary software on each PC and created the links to allow communication with the wtp and the rest of our facilities. The RSView upgrade required a not insignificant amount of cleanup to insure proper and accurate operation and communication. The work was completed after 2 days of finger nail biting and extra large coffees.



The new PC's have been running in tandem with our old PC's until we clean up minor details such as modem communications and remote access.

Since we designed our own system the new PC's have none of Bill Gates' *bloatware* loaded on the machines - making them fast, robust and much more true to a SCADA machine.

Board of Water Commissioners

We will not let our contract with Rockwell/Eagle Electric lapse which will allow for periodic upgrades rather than the major rehab just completed - in addition to vastly improved support.

Future work will be to create a network within the wtp that facilitates data backup and software backup to our LINUX PC (maintaining the integrity of the SCADA machines – nothing but SCADA).

All considered; big job, short money ... PHEW!

Town Meeting

The Water Dept. will have 5-articles at the up coming Special Town Meeting.

The most important articles relate to the price of Potassium Hydroxide and the painting of the roof of Tank no. 1. These 2-draft articles are presented below (to be finalized by Town Counsel).

The Town Accountant has requested an article to properly account for monies spent from the sale of old, replaced meters. The Dept. used the money earned from the sale to purchase shoring equipment and a trailer for transport and storage. This equipment is being used to more safely manage main breaks and service repairs (in addition to working towards compliance with "trenching & shoring" regulations). It was thought by past precedence that the monies could be deposited directly into the "service connections" account since the surplus equipment had been previously approved for purchase by Town Meeting. The total was less than $5,000.

An article is also being finalized for the update to Chapter 158. lastly, there will be the typical article to transfer funds from the "service connections" to fund service work.

Transfer article - Chemicals

To see if the Town will vote to transfer from available funds and/or authorize transfer from various line items within current appropriations, such sums of money as necessary to supplement the operating budget of the Water Department for Fiscal Year 2009 as follows:

1. Transfer any remaining funds from the salary section to the expense section of the budget.
2. Transfer a sum not to exceed $57,000 from available funds in the Water Reserve Account to the Water Department expense account.

Town of Orleans Lou Briganti
Water Department
2/27/2009

Board of Water Commissioners

Summary
The Department treats our water with Potassium Hydroxide to help minimize corrosion in the distribution system. MA DEP requires that purveyors treat to minimize corrosion and reduce exposure to Lead in household plumbing.

The cost of Potassium Hydroxide increased dramatically and unexpectedly. The bid put forth for FY09 brought a contract price of $7 per gallon, up from $3 per gallon in FY08. Current pricing is near $9 per gallon for Cape users that do not have contracts.

This transfer is necessary to cover the additional costs incurred for the purchase of Potassium Hydroxide that could not be foreseen and budgeted.

Transfer article – Tank no. 1
To see if the Town will authorize the transfer from various line items within the Capital Outlay section of the FY09 Budget, such sums of money as necessary to accommodate the replacement of the coating of the roof of Tank no. 1.

1. Transfer $22,000 from the Replace Equipment account to the Site Improvements account.
2. Transfer the current balance of $3,000 from the Water Main Improvements account to the Site Improvements account.

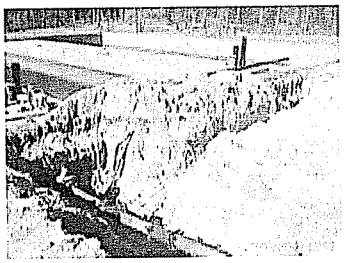
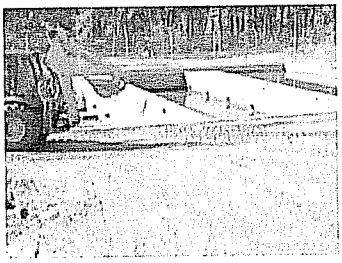
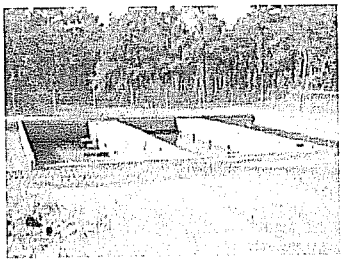
Summary
The most recent professional inspection of Town's Storage Reservoirs revealed that the coating on the roof of Tank no. 1 has begun to peal free. In order to protect the roof's metal surface it was recommended that the roof be recoated. Submittals from 3-vendors resulted in a best price guarantee of $25,000 with the work to be completed by July 2009.

The Water Department intends to reduce its vehicle fleet by one and would use the $22,000 earmarked for a new vehicle purchase in FY09 to offset the cost of recoating the roof of Tank no. 1. The remaining $3,000 would come from monies saved within the FY09 Water Main Improvements budget and that would have been returned to the Water Reserve Account.

WTP
Drying Beds

Board of Water Commissioners

The piping for the drying beds was modified with valves and tee's to allow for one of the three basins to be isolated and taken out of service while the other 2 basins remain in service. This will allow for much easier handling of the discharge from the decant chamber and neutralization chamber while the basins can be cleaned.

Membrane Performance

The most recent citric acid CIP's were done on rack 1 - 12/30/2008, rack 2 – 1/27/2009 and rack 3 – 1/28/2009. Each of these CIP's was after 8 weeks of operation.

The resultant permeability's were greater than 5 gfd/psid. Rack 1 received 2-successive acid CIP's achieving a permeability greater than 6 gfd/psid. The successive acid CIP's will be measured against the use of KOH and NaOCl in the strong recipe.

These cleanings will be used as baseline as we begin the annual, strong CIP's for each rack beginning in February. Pall Corp. and Environmental partners are being kept appraised.

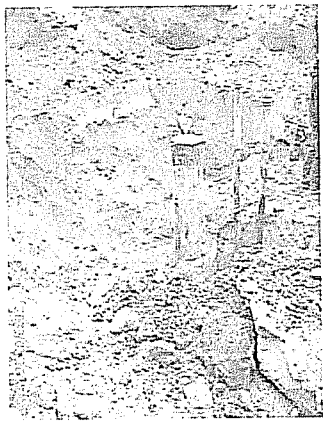
Interestingly and coincidentally rack 1 failed its Integrity Test on February 8th. A single broken fiber was found in one of the 68 modules. The fiber was "pinned" and the rack was returned to service. After almost 4-years of operation we have a total of only 3-broken fibers – excellent!

Well no. 8

Town of Orleans
Water Department
2/27/2009

Lou Briganti

Board of Water Commissioners



With the assumption that MA DEP will soon be approving construction; the sanitary seal surrounding the well casing has been removed.

Met with Rise Engineering and Action Energy to pursue funds that might be available for energy compliant components of well no. 8 (i.e. motor & VFD). This is part of the continuing efforts of the Cape Light Compact.

The application to construct well no. 8 was submitted to MA DEP 12/05/2008. Environmental Partners Group (EPG) forwarded completed copies of the plans along with the application. The plans were done in such a way as to help facilitate bidding of portions of the work. MA DEP acknowledged receipt of the application on 12/16;

Miscellaneous

The bid for the rehabilitation of well no. 5 has been completed (annual cleaning of 1-well). We hope to award by April.

Quotes are being obtained for our annual well maintenance – getting ready for summer, already.

Comprehensive Plan to Provide Municipal Water for the Town of Eastham
Phase 1 – Availability of a Water Supply

We seek the Board of Selectmen's assent to formulate a warrant article for the May 2009 Town Meeting that seeks funding for Phase 1 as outlined below and, subsequently, the Board's endorsement of this article.

This proposal, an amended version of the one presented to the Board of Selectmen on November 5, 2008, presents a new approach to Municipal Water for the Town of Eastham. Its key features are (1) to proceed in phases that are funded individually and (2) to initiate the project with the assessment of the availability of water from sources within Eastham and in neighboring towns.

Phase 1 would entail two elements – (1) production-level pumping tests and associated actions at the three sites identified as potential sources by Environmental Partners in a study completed in 2007, and (2) a feasibility study of obtaining 500,000 or more gallons per day of water from the Town of Orleans.

The advantages of the proposed approach are:

(1) The flexibility (experience gained in one phase will inform subsequent phases) and community involvement (regular public review to ensure voter understanding and control) provided by phased funding of Municipal Water.

(2) The security of timely access to water from reliable, already operating supply sources in Orleans.

BACKGROUND

Although favored by a majority of those voting at two Town Meetings in 2007, the plan for full funding of a town-wide municipal water supply system failed, by a narrow margin, to attain the required two-thirds vote. Since then, the on-going annual water quality monitoring program has confirmed that groundwater nitrate concentrations are at undesirable levels. The volatile organic compounds (VOC) contamination in the area near the landfill still lacks a permanent solution. In response to public concern, the Town has activated efforts to explore wastewater management solutions and develop a comprehensive Wastewater Management Plan. Notwithstanding the considerable public support expressed at the Town Meetings, the ultimate need for town water remains to be addressed

The possibility of purchasing water from the Town of Orleans has been considered for a number of years. A meeting held with Orleans representatives on December 9, 2008 strongly reinforced the viability of this source and persuaded us that a feasibility study is an appropriate component of the water availability assessment.

PHASED FUNDING APPROACH

Phase 1 is designed to establish the quantity and quality water available for a municipal water supply from internal and external sources. Clearly, the outcome of this initial phase will provide crucial information about the further development of the Municipal Water project.

PHASE 1

This phase is contemplated to last two years and, based on information provided by Environmental Partners, is estimated to cost $3,150,000 as shown in the table below. It remains to be determined whether or not the Debt Exclusion already approved by voters in May 2007 is applicable to the proposed funding scheme.

WATER AVAILABILITY ASSESSMENT

ACTIVITY	COST	
Eastham Sites		
Field Studies/Evaluation	$ 500,000	
DEP Site Screening/Examination	150,000	
Pumping Tests	1,350,000	
Source Data Analysis/Final Report	600,000	
DEP/MEPA/CCC Reviews & Permitting	500,000	
	3,100,000	3,100,000
Orleans Supply		
Supply Line Configuration Max. Volume Determination Infrastructure Requirements	50,000	50,000
Total		$3,150,000

In Eastham, production-level pumping tests and water quality analyses will be performed for supply wells in Water Protection Districts G and H, and at the Nauset Regional High School (the wells in District H and at the High School are already permitted for operation at 100,000 gallons per day). The results of the field investigations and planning efforts will be summarized in a report that provides projected yield data and recommendations for subsequent actions.

The Orleans feasibility study will involve the identification in Eastham of potential areas to be supplied with water from Orleans, the design of supply lines, the establishment of the maximum volume of water that can be provided and the determination of needed infrastructure adaptations in Orleans. An important part of the study will be a comparative cost-benefit analysis of Eastham and Orleans supply models for potential demand scenarios.

The outcome of Phase 1 is expected to be a realistic portrayal of water supply possibilities from Eastham and/or Orleans sources for a variety of demand situations.

SUBSEQUENT PHASES

With favorable outcomes of the pumping tests in Eastham, the immediate next phases would involve the design and construction of supply wells as indicated by anticipated needs to provide water to selected areas of the Town. Concurrent planning efforts would define system structure and operating procedures including governance. The costs will depend on the number and sizes of wells required to accommodate the planned connections. For areas where cost-benefit analyses indicate Orleans to be the more effective source, connections to this system and supply lines would be designed and constructed. The implementation of further phases would be governed by infrastructure requirements (e.g., water towers, pumping stations) and needs-based criteria for connections to the system.

There will invariably be multiple choices available in moving from one phase to the next one.

REQUEST FOR ACTION

We request the Board's approval of the phased funding approach and exploration of the feasibility of Orleans as a water supply source, and the Board's assent to draft a warrant article for the May 2009 Town Meeting which (1) envisions the ultimate creation of a partial or town-wide municipal water supply system and (2) requests approval of funds to implement Phase 1 of the project as specified, with the understanding that further funding for subsequent phases will require future Town Meeting approval. We also seek the Board's subsequent endorsement of such an article.

Respectfully submitted by the Water Management Committee:

Sandy Bayne
Marcel Boelitz
Muriel Lightfoot (Alternate)
Donald Nuendel
William Nugent
Meint Olthof (Acting Co-Chair)
Daniel Schwebach
Joan Sullivan
Stephen Wasby
Karl Weiss (Acting Co-Chair)

December 22, 2008