

JOINT POWERS WATER BOARD MINUTES
Regular Meeting of
January 24, 2005
6:00 PM JPWT Plant Board Room

6:00 PM **Call to Order** by Chairperson Don Peterson

Board Members Present: Joyce Paullin, Joe Hagerty, Gerhardt Kottke, John Vetsch, Jerry Zachman

Board Members Absent: None

Staff Present: Chris Catlin, H.R. Green, Shelly Keyes, Veolia Water NA

Staff Absent: Kelly Browning, Veolia Water NA

Chris Catlin added a Recommendation for Test Drilling to the agenda.

MOTION BY KOTTKE, SECOND BY PAULLIN, TO ADOPT THE AMENDED AGENDA. MOTION CARRIED UNANIMOUSLY.

There was no one present under the **Citizen Forum**.

MOTION BY PAULLIN, SECOND BY HAGERTY, TO APPROVE THE MINUTES OF THE DECEMBER 27, 2004 REGULAR MEETING. MOTION CARRIED UNANIMOUSLY.

MOTION BY PAULLIN, SECOND BY KOTTKE, TO APPROVE THE CONSENT AGENDA AS PRESENTED. MOTION CARRIED UNANIMOUSLY.

Under **Unfinished Business** there were no items for discussion.

MOTION BY PETERSON, SECOND BY PAULLIN TO APPOINT JERRY ZACHMAN THE NEW CHAIRPERSON. MOTION CARRIED UNANIMOUSLY.

MOTION BY KOTTKE, SECOND BY HAGERTY TO APPOINT DON PETERSON VICE CHAIRPERSON. MOTION CARRIED UNANIMOUSLY.

MOTION BY PETERSON, SECOND BY KOTTKE TO APPOINT JOYCE PAULLIN TREASURER. MOTION CARRIED UNANIMOUSLY.

MOTION BY PAULLIN, SECOND BY HAGERTY TO APPOINT THE CROW RIVER NEWS OFFICIAL NEWSPAPER, ABDO, EICK & MEYERS THE OFFICIAL AUDITOR AND LASALLE, US BANK, GREAT NORTHERN AND PMA AS OFFICAL DEPOSITORIES. MOTION CARRIED UNANIMOUSLY.

THE CORPORATE AUTHORIZATION RESOLUTION AND SIGNATURE CARDS FROM GREAT NORTHERN BANK WERE SIGNED.

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Under **Engineering**, Catlin recommended payment of Pay Estimate Number Four for \$64,050.69 to Traut Wells as final payment on Well #7. MOTION BY HAGERTY, SECOND BY PAULLIN TO APPROVE PAY ESTIMATE #4 TO TRAUT WELLS IN THE AMOUNT AS PRESENTED. MOTION CARRIED UNANIMOUSLY.

Catlin discussed the upcoming capital improvements of the new well and tower site along with recommendation for bids and award of test drilling. The Water Board currently has four properties with existing or planned water production/storage facilities:

- The existing water plant/pump house (includes four wells)
- The well and West Tower site (includes one well and space for a 2nd well)
- The East Tower site
- The recently purchased South Tower and future well field site

In addition, the Board has an easement at the south end of STMA High School Track. This area contains two wells.

The current area of water production is being utilized near capacity with the seven existing wells and potential for another. There are two aquifers available, a shallow drift aquifer and the deeper Mt. Simon/Hinckley, so if one becomes contaminated, water is still available from the other. The water quality of each aquifer is slightly different and the existing water plant works well for treating each, which saves land costs and minimizes cost of treatment.

Area population growth has created a need to go offsite for additional water sources so the Board purchased six acres of property on 15th Street in St. Michael at the end of 2004. The property, which is adjacent to the property with the old standpipe, will be the location of a future water tower and ideal for additional wells as they become necessary. Space for a future treatment plant has also been reserved at the site, but an alternate plan would utilize the existing treatment plant's capacity.

The alternate plan, called aquifer storage and recovery (ASR), would involve maximizing the current plant capacity during the winter months by treating excess water and storing the treated, rust-free water underground. Huge quantities, 50 to 100 million gallons of water, may safely be stored. Zachman questioned if the treated water is diluted by raw water when it hits the aquifers. Catlin explained that a "bubble" of treated water is formed as it trickles back into the wells and pushes the raw water away. Catlin assured Board Members the treated water does not leach back into the raw, untreated water. Vetsch questioned the feasibility of the plan with regard to pumping water back and forth from the treatment plant. Catlin explained that aquifer storage and recovery has been used for 30 years extensively in California and Florida, and more recently in Wisconsin and Iowa. The process works extremely well in areas with large differences in summer and winter water usage.

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Currently, the water treatment plant has a capacity of 6 million gallons a day, but winter water demands only require 1 million to be treated. By using the aquifer storage and recovery process, the plant could be treating additional water all winter and storing the treated water in the wells ready to be utilized during peak summer usage. Peterson questioned how the process would be accessed for emergencies during the summer. Catlin explained that treating and storing water would probably occur until May 1, after which time the ASR water could be available to pump into the system until around September 15. Peterson also wanted assurance that the ASR would handle the anticipated population growth. Catlin stressed the fact that the process utilizes the existing treatment plant's full potential fall, winter and spring to meet the high summer water demand, which is more cost effective than building an additional treatment plant. The process would allow up to 100 million gallons of treated water to be stored and the current towers would provide adequate pressure to deliver the treated water. Zachman inquired when another tower would need to be built and Catlin stated that in general, wells provide water supply for peak days while towers provide water supply for the difference between the peak day level and the peak hour level. For instance, if on July 4th the system put out 6 million gallons, but at 2 pm on the 4th the actual water usage rate was 12 million gallons, the towers supply the additional 6 million. Stored, treated water could be utilized in the same manner and would provide the necessary water availability for approximately five years or until a new tower is needed.

Peterson wondered how the Lindenfesler landfill issue would be handled in regards to public perception of drinking water being stored close to a pollution source. Catlin explained a series of test wells is necessary to protect the Board and to satisfy the Minnesota Department of Health and Minnesota Pollution Control that the new wells will be free of contamination from the landfill. Catlin added some test holes would be shallow close to the landfill, with deeper test holes into the aquifer near the area of the production wells. The tests will show if the contaminant plume from the landfill has reached the well site and confirm the existence of impermeable shale formations which protect the water source of the deeper aquifer. Peterson questioned how often testing would be required to confirm safety of the water source and Catlin explained the \$50,000 cost would pay for the drilling of the holes and if additional annual testing was necessary the added costs would be in hundreds of dollars, not thousands.

Zachman expressed concern regarding how much water was displaced within the aquifer if treated water was stored and Catlin noted the treated water "bubble" would have an approximate diameter between 500 and 800 feet. Catlin further noted the stored water would also be approximately 400 feet down while most residential wells reach only 100 feet but additional information regarding ownership rights will be acquired from Minnesota Department of Health and DNR. Peterson questioned how the treated water is kept separate and Catlin discussed how the iron and manganese is removed, while chlorine and oxygen is added to the water which in turn slightly changes the chemistry of the rock formation, keeping the iron and manganese out. Catlin added the process is currently used

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in Iowa at the Amana Colonies near Cedar Rapids and Des Moines Water Works, both in Iowa.

Vetsch requested clarification of the treatment and storage process and Catlin explained the raw water would be pumped from the existing well fields, treated and then moved to the aquifer storage area via the EDA finished water piping. Zachman questioned the cost savings of not having to build another treatment plant and Catlin noted an additional treatment plant could easily cost \$3 million while the costs to implement the aquifer storage and recovery process would be only a fraction of that.

Catlin recommended authorization to bid and award preliminary test drilling at the new well field site to begin the process of determining if the site was suitable for traditional production wells and the ASR process. Catlin indicated that the Board should proceed with this work very quickly, as the site will become inaccessible during spring, summer and fall until the access road is completed. Currently, the site is accessible through a nearby field entrance. The adjoining agricultural land would not be damaged by the drilling equipment if the work is completed while the soil is still frozen. MOTION BY PETERSON, SECOND BY PAULLIN TO APPROVE TEST DRILLING UP TO \$50,000 TO BE COMPLETED BY MARCH 11, 2005. MOTION CARRIED UNANIMOUSLY.

Catlin also mentioned the memo generated by George Eilertson of Northland Securities and that current and future capital improvements, along with bond financing opportunities are being addressed at staff level in anticipation of a preliminary report to be presented to Board Members at the February meeting.

Under **Operations/Office**, there were no items to discuss.

MOTION BY PAULLIN, SECOND BY KOTTKE, TO APPROVE THE LIST OF CLAIMS AS PRESENTED. MOTION CARRIED UNANIMOUSLY.

MOTION BY PAULLIN, SECOND BY VETSCH, TO ADJOURN AT 6:29 P.M.
MOTION CARRIED UNANIMOUSLY.

Recording Secretary