



East Dakota Water Development District
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MINUTES
October 16, 2014

The Board of Directors of the East Dakota Water Development District (EDWDD) held a regular meeting on October 16, 2014, at the District Office, 132B Airport Avenue, Brookings. Chairman Jarrett called the meeting to order at 9:05 a.m. The following persons attended:

Directors Present

Mary Ellen Connelly
Martin Jarrett
Kay Kassube
John Moes
Roger Scheibe (left @ 10:10 am)
Jerry Soholt

Others Present

Chad Bachman, Banner Associates
Maria Broksieck, Deuel Conservation District
Guanghai Hua, SDSU Civil & Environmental Engineering
Jesse Johnson, SD Corn
Leroy Stohr, Deuel Conservation District

Directors Absent

Mark Anderson
Lois Brown
Gary Duffy

Staff Present
Jay Gilbertson
Deb Springman
Val Willis

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Administrative Items

Approval of Agenda - The Chairman asked to have a presentation on a proposal to facilitate water delivery to the City of Madison added to the Agenda.

Motion by Scheibe, seconded by Soholt to approve the agenda as so amended. Motion carried unanimously.

Minutes - The Board reviewed the Minutes of the September 19th, 2014 meeting. Director Moes questioned the finishing time of the meeting, and the manager acknowledged that the it should read 12:30 p.m., rather than 3:00 p.m.

Motion by Moes, seconded by Connelly to approve the Minutes as so amended. Motion carried unanimously.

Financial Reports - The Board reviewed the September 2014 Financial Reports.

Motion by Scheibe, seconded by Kassube to accept the September 2014 Financial Reports. Motion carried unanimously. Chairman Jarrett then asked that the reports be placed in the District files.

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Meetings and Conferences - Director Moes participated in and hosted a portion of the South Dakota Board of Water and Natural Resources (BWNR) tour of the Watertown area on September 25th, and attended the October 15th meeting of the Lake Pelican Water Project District in Watertown.

Chairman Jarrett participated in the BWNR tour on September 25th, and attended the September 25th meeting of the Lake County Clean Water Committee in Madison.

The Manager briefly commented on the following meetings he attended in the past month:

1. **September 24** - Pierre. Regional Watershed Advisory Task Force.
2. **September 25** - Madison. Hosted BWNR tour of the Watertown area.
3. **September 26** - Watertown. South Dakota Board of Water and Natural Resources.

Upcoming Meetings -

1. **October 22 & 23** - Watertown. South Dakota Planners Association Annual Conference.
2. **October 22 & 23** - Pierre. South Dakota Water Management Board.
3. **October 29** - South Dakota State University, Brookings. Eastern South Dakota Water Conference.
4. **October 30 & 31** - Pierre. South Dakota Association of Rural Water Systems Managers Group meeting.
5. **November 6** - various DDN sites. SD Board of Water and Natural Resources.
6. **November 18** - Ames, Iowa. 15th Annual Drainage Research Forum.
7. **November 20 - 9:30 a.m.** - Water Reclamation Plant, 4500 North Sycamore, Sioux Falls. November EDWDD Board of Directors meeting.
8. **November 24** - 8:30 a.m. - State Capitol Building, Pierre. Regional Watershed Advisory Task Force meeting

Payment Requests - The Manager presented two payment requests from South Dakota State University (SDSU):

South Dakota State University (I) - In March 2011, the District agreed to provide \$18,750 in cost-share assistance to SDSU (Jeppe Kjaersgaard and others) for a research project entitled, "Demonstration of Nitrogen Removal Effectiveness of Bioreactors for Drainage Water Management." The current billing, for \$5,208.00, covers District support obligations incurred between July 1 and September 30, 2014.

South Dakota State University (II) - At the October 2011 Board meeting, the District pledged up to \$60,438 in cost-share assistance to SDSU for a research project entitled, "Agricultural Subsurface Drainage Impacts on Hydrology in Eastern South Dakota." Dr. Christopher Hay of the Department of Agricultural and Biosystems Engineering is the project lead. The request is for \$1,528.04 for project expense reimbursement for September 2014.

The Manager requested authorization to pay the two requests, for a total of \$6,736.04.

Motion by Kassube, seconded by Connelly to authorize payment of \$6,736.04 to cover the two requests as presented. Motion carried unanimously.

Conservation Commission Representative - The Manager presented the Board with a request from the South Dakota Department of Agriculture seeking recommendations for appointment to the South Dakota

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Conservation Commission. The Commission consists of 9 members, each appointed by the Governor. Under South Dakota Codified Law (SDCL) 38-7-4, one member is to be selected from a list of at least three names submitted by water development districts (WDDs). Tom Glover of Burke, who is a Director for the South-Central WDD, is the current WDD representative on the Commission. Mr. Glover's term expires at the end of this year, and the Department of Agriculture has requested that the WDDs submit a slate of names from which the Governor can make an appointment.

The Manager indicated that he understood that Mr. Glover is willing to continue service on the Commission, and he is unaware of any particular reason he might not be re-appointed. However, as SDCL 38-7-4 specifically requires that the choice be made from a list of at least three candidates, additional names have been solicited.

Motion by Connelly, seconded by Kassube to put forward Directors John Moes and Roger Scheibe for consideration for appointment to the State Conservation Commission. Motion carried unanimously.

Out-of-State Travel Authorization - The Manager requested Board authorization for out-of-state travel to attend the 15th Annual Minnesota/Iowa/South Dakota Drainage Research Forum to be held on November 18th in Ames, Iowa.

Motion by Scheibe, seconded by Connelly to authorize the Manager's attendance at the meeting as requested. Motion carried unanimously.

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Project Updates

Preliminary Engineering Report on the Wheeling Option for the City of Madison via the Minnehaha Community Water Corporation and the Big Sioux Community Water System - Chad Bachman, Banner Associates, reviewed a series of projects under development to facilitate delivery of water to the City of Madison. Madison is the only South Dakota member of the Lewis and Clark Regional Water System (LCRWS) that is not connected to the water distribution system. Completion of the final connection is dependent on significant additional federal funding, which is unlikely to occur in a timely manner. The current efforts are intended to provide an interim mechanism by which the community could receive LCRWS water.

The proposed efforts would involve installation of new water delivery lines and facilities within the Big Sioux Community Water System (BSCWS) and the Minnehaha Community Water Corporation (MCWC). The improvements are expected to facilitate a greater utilization by MCWC of existing excess capacity within LCRWS, which in turn could allow transfer of water to BSCWS and Madison. The effort will not replace the planned LCRWS connection to Madison, but it will allow the community to effectively access its share of the water without substantial delay.

Preliminary engineering plans and cost estimates have been prepared, and project funding is being pursued through the South Dakota Department of Environment and Natural Resources.

(Director Scheibe left the meeting.)

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Nutrient Removal from Agricultural Subsurface Drainage Using Denitrification Bioreactors and Phosphate Adsorbents - Dr. Guanghui Hua, Assistant Professor in the SDSU Civil and Environmental Engineering Department (CEE), presented preliminary results of his investigation entitled, “Nutrient Removal from Agricultural Subsurface Drainage Using Denitrification Bioreactors and Phosphate Adsorbents.” The laboratory research is examining the use of locally available scrap steel/iron shavings to adsorb phosphorus, a process that might be applied to the reduction of nutrients loads found in agricultural tile water effluent. In October 2013, the District awarded \$6,000 of project assistance support for this effort, which is funded primarily through a United States Geological Survey (USGS) 104(b) grant.

Efforts to date have focused on determining which types of steel are the most efficient at removing dissolved phosphorus from solution. Batch test have been run on a variety of forms, and carbon steel appears to provide the best response. Column reactors have been constructed and Dr. Hua will begin testing shortly.

Project Assistance Requests

SDSU CEE (I) - Dr. Guanghui Hua presented a request for District cost-share assistance for a USGS 104(b) proposal he is developing for a second year of funding for the “Nutrient Removal from Agricultural Subsurface Drainage Using Denitrification Bioreactors and Phosphate Adsorbents” project. The project would again be a joint effort of faculty from CEE (Drs. Hua and Schmit) and the Agricultural Engineering Department (Dr. Hay).

The objective of this project would be to continue the assessment of using steel by-products, such as steel wool or metal shavings, as an adsorption media to remove phosphorus in agricultural tile drain water. The proposal is for laboratory work only, with field trial to follow if merited. The project would be conducted in concert with research already underway on agricultural drainage tile water treatment being conducted by others at SDSU.

The total proposed budget for the one-year project is \$72,720. \$24,169 is to be requested from the 104(b) Program, with SDSU providing \$42,551 as in-kind match. Dr. Hua’s request of the District is for \$6,000 in support. District funds would be used to cover supply and materials costs, along with water quality analyses.

Motion by Moes, seconded by Connelly to pledge District cost-share assistance of \$6,000 toward support of the project entitled, “Nutrient Removal from Agricultural Subsurface Drainage Using Denitrification Bioreactors and Phosphate Adsorbents - Year 2,” as requested. The Manager noted that USGS 104(b) funding decision would be announced in early December, so that if this project was not supported, District funds could be rescinded and applied elsewhere with minimal disruption. Motion carried unanimously.

SDSU CEE (II) - Dr. Guanghui Hua presented a request for District cost-share assistance for a USGS 104(b) proposal he is involved in entitled, “Controlling Harmful Algal Blooms in Eutrophic Lakes by Combined Phosphorus Precipitation and Sediment Capping.” Dr. Kyungnan Min, the principle investigator (PI), was unable to attend the meeting. The objective of this project is to develop an effective flocculating and capping technology to control harmful algal blooms in eutrophic lakes in

South Dakota. This technology uses chemical flocculants and clay particles for phosphorus removal and sediment capping. Laboratory experiments will be conducted to evaluate the efficiency of this technology and develop the optimum application conditions for controlling algal blooms in South Dakota lakes.

The total proposed budget for the one-year project is \$69,720. \$23,135 is to be requested from the 104(b) Program, with SDSU providing \$40,585 as in-kind match. Dr. Hua's request of the District is for \$6,000 in support. District funds would be used to cover supply and materials costs, along with water quality analyses.

Motion by Sohlt, seconded by Kassube to pledge District cost-share assistance of \$6,000 toward support of the project entitled, "Controlling Harmful Algal Blooms in Eutrophic Lakes by Combined Phosphorus Precipitation and Sediment Capping," as requested. The Manager again noted that USGS 104(b) funding decision would be announced in early December, so that if this project was not supported, District funds could be rescinded and applied elsewhere with minimal disruption. Motion carried unanimously.

Deuel Conservation District - Leroy Stohr, Supervisor for the Deuel Conservation District (DCD), presented a request for District cost-share assistance. DCD is planning to rehabilitate and repair its current no-till drill, which is used to plant a variety of grass and row crops with minimal disturbance to the soil by landowners within Deuel County. The projected total cost of the restoration of the drill is \$6,000, but Mr. Stohr noted that a final cost has not yet been fixed. The request of the District was for half of the repair and reconditioning costs. Mr. Stohr answered several questions about how the drill has been used in the past, and who would operate the drill.

Motion by Moes, seconded by Kassube to provide DCD with a District cost-share assistance grant to cover fifty percent (50%) of the repair and reconditioning costs for the no-till drill, not to exceed \$5,000. Motion carried unanimously.

Executive Session

Motion by Moes, seconded by Sohlt to go into executive session at 11:45 a.m. to discuss personnel and legal issues with the Manager/Treasurer. Motion carried unanimously.

Motion by Kassube, seconded by Connelly to go come out of executive session at 12:15 p.m. Motion carried unanimously.

Adjournment

There being no further District business, Chairman Jarrett declared the meeting adjourned at 12:16 p.m.

Roger Scheibe, Secretary

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