

AMENDED MINUTES OF THE 189TH MEETING OF THE
WATER MANAGEMENT BOARD
FLOYD MATTHEW TRAINING CENTER
523 EAST CAPITOL AVE
PIERRE, SD

July 10, 2014

CALL TO ORDER: Chairman Chad Comes called the meeting to order at 9:00 a.m.

APPLICATIONS: Scheduling of Water Permit Application No. 1942-1, James Chambliss; Water Permit Application No. 7988-3, Owen and Lamont Peterson; Irrigation Questionnaire Violation for Water Rights No's. 5391A-3 and 6063A-3, Daniel Ulmer; Water Permit Application No. 4092-3, Floyd Peterson; Water Permit Application No. 7347-3, Michael Sentell; Water Permit Application No. 7983-3, Richard Beitelspacher.

The following were present at the Training Center for the meeting:

Board Members: Leo Holzbauer, Chad Comes, Tim Bjork, and Jim Hutmacher. Peggy Dixon, Rodney Freeman, and Ev Hoyt were absent.

Department of Environment and Natural Resources (DENR): Adam Mathiowetz, Karen Schlaak, Jeanne Goodman, Eric Gronlund, Bracken Capen, Ron Duvall, and Mark Rath – Water Rights Program.

Attorney General's Office: Jeff Hallem, counsel to the board, Ann Mines and Matthew Naasz, counsel to the Water Rights Program.

Legislative Oversight Committee: Representative Mary Duvall.

The following were present via teleconference for Hearing Date Consideration of Water Permit Application No. 1942-1, James Chambliss:

Other parties: William Taylor, representing petitioner, Elk Creek Water Trust, Pat and Rose Trask and Tom Trask.
Erika Olson, representing the applicant, James Chambliss.

SET HEARING DATE FOR CONSIDERATION OF WATER PERMIT NO. 1942-1, JAMES CHAMBLISS:

Mr. Hallem advised the Water Management Board has scheduled the next meeting for the first Thursday and Friday in October. One issue that came up for that meeting was a hearing dealing with Application No. 1942-1, James Chambliss. A motion for continuance of the July 9-10, 2014, hearing date was filed on behalf of the interveners, Pat, Rosemary and Tom Trask of the Elk Creek Water Trust. That motion was heard by the pre-hearing chair, Mr. Freeman, and it was ordered that a continuance of the July 9-10, 2014, hearing date was appropriate and was to be scheduled at the next Board meeting. Mr. Freeman's order

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directed DENR to include an agenda item on the Board's July 10, 2014, meeting for the entire Board to schedule the hearing date.

After discussion on Board and parties availability, Holzbauer moved and Hutmacher seconded that the hearing for Application No. 1942-1, James Chambliss be scheduled for October 23-24, 2014. Motion carried.

NEXT MEETING: October 22-24, 2014, in Pierre. Routine Board cases will be considered October 22, 2014. The October 23-24, 2014, dates will be dedicated to the Chambliss and Elk Creek Water Trust applications. Tim Bjork indicated he will not be available these dates.

APPROVE MAY 7, 2014, MINUTES: Motion to approve minutes by Bjork, seconded by Holzbauer. Motion carried.

STATUS AND REVIEW OF WATER RIGHTS LITIGATION: Mr. Hallem stated the only matter currently pending is Lenny Peterson versus DENR; the last time Mr. Hallem reported on the matter it was still in the briefing stage. Briefing has been completed and oral argument on the appeal will be heard on August 4, 2014. In October 2014 there should be a court decision.

ADMINISTER OATH TO DENR STAFF: The court reporter administered the oath to the DENR staff who intended to testify during the meeting.

BOARD DISCUSSION ON CONSIDERING PROPOSING RULES REGARDING CONFLICT OF INTEREST:

Mr. Hallem stated that this is a matter Mr. Hoyt requested be placed on the agenda, and since Mr. Hoyt is not present today, this matter may come back before the Board when Mr. Hoyt is present.

The Board was given the rules adopted by the Board of Minerals and Environment regarding conflict of interest. It is the Water Management Board's decision on whether or not to go forward establishing rules.

Mr. Hutmacher stated in his opinion the adoption of rules may take flexibility away.

Mr. Comes stated it does not appear there is a reason the Board has to proceed at this time. When Mr. Hoyt is present during the next meeting, he can ask for it again to be discussed.

REQUEST TO ADVERTISE A PUBLIC HEARING ON AMENDMENT TO SURFACE WATER QUALITY STANDARDS, ADMINISTRATIVE RULES CHAPTER 74:51:01 THROUGH 74:51:03 – Patrick Snyder:

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Mr. Snyder stated he is requesting permission from the Board to advertise Surface Water Quality (SWQ) Standards for the December 2014 meeting. A handout was given on the history of the SWQ Standards. The Clean Water Act (CWA) of 1972 has requirements that the SWQ Program still follows, such as defining and assigning designated uses to water bodies, assigning criteria to protect beneficial uses, and an anti-degradation policy. Over the years there has been a lot of iterations of the water quality standards, and now the SWQ standards has three chapters. The SWQ Standards are in Chapter 74:51:01, uses assigned to lakes are in Chapter 74:51:02 and uses assigned to streams in Chapter 74:51:03. The process that the SWQ program will follow is a public notice followed by a Water Management Board public hearing. After the Board approves the rules, those rules will be taken to the Legislatures rules review committee, then filed with the Secretary of State and submitted to the Environmental Protection Agency (EPA) for approval. The public notice is a 45 day notice period, which is a federal requirement. If the Board grants permission the SWQ Program will advertise the proposed rules changes in October 2014, scheduling for the Board's December 2014 meeting.

Mr. Snyder advised this is advertised state wide with mailings also sent to all interested parties. The next step will be the Water Management Board public hearing. The department can then introduce the proposed rule changes and will go through comments. The public can come to the meeting and provide their comments and suggestions. The Board can adopt, modify, or reject recommendations to those proposed rules. After that meeting when the Board adopts SWQ Standards, DENR's next step is to take them to the rules review committee. This committee can declare the rule making complete, they can return the rule to an early step to consider an amendment, or they can suspend the proposed rule. After the committee's decision is final, the rules are filed with the Secretary of State. After that the rule becomes state law within 20 days. The rule is then submitted to EPA for approval or disapproval. EPA has 60 days to approve or 90 days to disapprove.

Mr. Hutmacher asked if there will be guidance provided to the Board regarding the standards that are being recommended for amendment or need to be updated.

Mr. Snyder advised the entire chapter is up for review. EPA did send a letter to the SWQ Program strongly recommending various changes and suggestions.

Mr. Holzbauer asked what kind of control the state has to ensure that the surface waters remain clean and pure.

Mr. Snyder stated that as far as SWQ Standards, EPA suggests changes that will improve the water quality. The Board can adopt, modify, or change however they see fit. Every two years federal law requires SWQ Program to provide a report on water quality. Every aspect of the standards are assessed. DENR makes a list of all the water bodies that do not meet the water quality standards. This leads to further monitoring in the development of total maximum daily loads. Goals and objectives are established to help the water body achieve water quality standards. EPA's recommendation is to adopt a hard number for phosphorus and nitrates.

Motion to approve advertisement of public hearings by Holzbauer, seconded by Bjork. Motion carried.

Prior to proceeding to cancellation considerations, Mr. Gronlund stated there is an application listed on the water permit table filed by Todd Block, Application No. 8002-3 that was removed. A petition on this application was filed after the Board packet was mailed. This application will come before the Board in the future and will not be issued as an unopposed water permit.

CANCELLATION CONSIDERATIONS:

Mr. Gronlund referred to the cancellation table in the Board packet, stating there are 13 water rights/water permits listed for cancellation today. A petition was filed opposing cancellation of Water Right No. 1613-3 held by Rex Binger. DENR and the applicant agreed to continue this hearing until the October 2014 meeting. The cancellation hearing for Water Right No. 1613-3 is excluded from consideration today.

On page two of the cancellation table there are two water permits for Todd Cowan, Water Right No's. 6851-3 and 6852-3. DENR decided to take another look at those permits to make sure they have been abandoned. These two permits are also excluded from the cancellation consideration today. That leaves 10 permits scheduled for cancellation. It is recommended by the chief engineer that each permit be cancelled. The present owner or anyone is affiliated with the permits received a notice scheduling their permits for cancellation. None of the owners have submitted letters.

The following water rights/permits were recommended for cancellation for the reasons listed:

Water Permit No's. 1510A-1 and 1510B-1 filed by Boulder Canyon Country Club; non-construction.

Future Use Permit No. 1507-2 filed by South Central Water Development District; abandonment.

Water Permit No. 2510-2 filed by David Enyeart, now owned by Floyd Simunek; abandonment.

Water Right No. 347-3 filed by Bernice Anderson, now owned by Arthur Anderson and rented by Darrell Neilson; abandonment or forfeiture.

Water Right No. 556-3 filed by Hugh Barnett, now owned by Rita M Barnett; abandonment or forfeiture.

Water Right No. 661-3 filed by Gary Fisher; abandonment or forfeiture.

Water Right No. 3878-3 filed by Catherine Fischer; abandonment or forfeiture.

Water Right No. 4134-3 filed by Richard Boomsma, now owned by Richard Boomsma and Reed Bixler with Bixler Farms; abandonment.

Water Permit No. 6739-3 filed by Stencil Construction, now owned by KARBCO LLC; non-construction.

Motion to approve cancellation from the list with the exception of Water Right No. 1613-3, Water Permit No. 6851-3, and Water Permit No. 6852-3 by Hutmacher, seconded by Bjork. Motion carried.

SEVEN YEAR REVIEW:

Mr. Gronlund stated there are two future use permits scheduled for a seven year review. Both are held by Big Sioux Community Water System, Permit Nos. 5689-3 and 6834-3. The Board packet included a letter from the Big Sioux Community Water System, and the chief engineer is recommending both permits remain in place. Currently Permit No. 5689-3 reserves 360 acre feet of water annually with a 1992 priority date. Permit No. 6834-3 reserves 600 acre feet with a 2007 priority date. The water source for both is the Northern Skunk Creek management unit of the Big Sioux aquifer. The future well site is located seven to eight miles southeast of Madison. Big Sioux Community Water System did submit a letter requesting to retain the future use permits. The letter stated they are serving Dakota Ethanol, which has possible expansion plans that illustrate the value of having the future use permits for growth. The reviews of both permits were public noticed, and no petitions to intervene were received.

Motion to approve Future Use Permits by Holzbauer, seconded by Hutmacher. Motion carried.

WATER PERMIT APPLICATION NO. 7988-3, OWEN AND LAMONT PETERSON:

Appearances: Ms. Mines, representing DENR and the chief engineer.

Mr. Hallem stated neither applicant is present.

Mr. Hallem advised what the Board received in the packet prior to the hearing.

DENR Exhibit 1 is the agency file, which was admitted into the record.

Mr. Buhler was called to testify.

DENR Exhibit 2 is Ken Buhler's vitae, which was admitted into the record.

Mr. Buhler stated his education and professional background with DENR.

Mr. Buhler stated this is an application to appropriate ground water at a maximum rate of 1.78 cfs from a well that is expected to be 240 feet deep. The well will be completed into the Prairie Coteau aquifer. The application proposes to irrigate 290 acres. This is located about three miles southeast of Castlewood. The Prairie Coteau aquifer is a series of disconnected

outwash deposits. DENR was unable to determine the size of this particular deposit. Therefore DENR could not determine the estimated annual recharge or whether there is a potential for impairment to any existing rights. As a result it is recommended by the chief engineer to defer this water permit application for up to one year to allow for a 72 hour aquifer pump test and analysis to be conducted. This test and analysis is the responsibility of the applicant.

Mr. Holzbauer asked how many other permits have been issued out of the Prairie Coteau aquifer.

Mr. Buhler stated it is uncertain; the aquifer size has not been determined.

Mr. Comes asked what happens at the end of the year. Also, he asked if prior to the April 11, 2012, the memorandum decision in the matter of Hanson County Dairy whether it was standard procedure to require pump tests on applications like the one before the Board today.

Mr. Buhler stated the one year is included so the permits do not languish in deferred status.

Ms. Mines stated that DENR and Water Rights staff are unable to determine the size of the aquifer and whether or not there is unappropriated water available and request the Board adopt the recommendation of the chief engineer.

Motion to defer water permit Application No. 7988-3, with the recommendations of the chief engineer by Hutmacher, seconded by Bjork. Motion carried.

IRRIGATION QUESTIONNAIRE VIOLATIONS FOR WATER RIGHT NO. 5391A-3 AND WATER PERMIT NO. 6063A-3, DANIEL ULMER:

Mr. Gronlund stated that DENR received a call from Mr. Ulmer stating that the land was sold in the spring of 2013. DENR has tracked down the new owner. Since they did not get notified of today's hearing and have never received the irrigation questionnaire, DENR asks that the Board take no action. The notice of transfer of ownership needs to be filed, and the new owner will start getting irrigation questionnaires in the future.

Motion to dismiss actions against Water Right No. 5391A-3 and Water Permit No. 6063A-3 by Bjork, seconded by Holzbauer. Motion carried.

DEFERRED WATER PERMIT APPLICATION NO 4092-3, FLOYD PETERSON:

Appearances: Mr. Naasz, representing DENR and the chief engineer.
Josh Finer, representing the intervener, Michael Sentell.

Mr. Peterson was not in attendance.

Mr. Hallem advised what the Board received in the packet prior to the hearing.

Mr. Naasz offered the following exhibits:

DENR Exhibit 1, the agency file.

DENR Exhibit 2, Lynn Beck's CV.

DENR Exhibit 3, a letter dated May 23, 2013, from the United States Department of Interior.

DENR Exhibit 4, an aerial photo of the application area.

DENR Exhibit 5 and 6, pictures of the dam in question.

All exhibits were admitted into the record.

Lynn Beck was called to testify.

Ms. Beck stated her education and professional background with DENR.

Ms. Beck stated Floyd Peterson filed an application to construct a small dam to appropriate overflow water from Lake Dudley for irrigation. Application No. 4092-3 has been in deferred status since 1977 pending further investigation. Additional information has been received to process the application. The application proposes to construct a small dam below Lake Dudley before it confluences with the James River. The 5.3 acre-foot storage dam is located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 21 T114N-R62W. The application proposes to appropriate 1.21 cubic feet of water per second from the dam to irrigate 85 acres of land located in the NE $\frac{1}{4}$ Section 21; all in T114N-R62W.

The Water Rights Program became aware that the structure was on federal land. A letter dated May 23, 2013, from the United States Department of the Interior, Bureau of Reclamation to Floyd H. Peterson states that the dam is to be removed. More specifically the dam was constructed on federal fee title lands with adjacent flowage easement. The dam was in violation of federal law, and the Bureau required its removal and the area be restored to its original condition.

A subsequent letter dated March 17, 2014, from the United States Department of the Interior, Bureau of Reclamation to Floyd H. Peterson grants an extension of time to remove the unauthorized structure and restore the land to its original condition. The work was to be completed by May 1, 2014. The dam has been removed in accordance with the Bureau's May 23, 2013, and March 17, 2014, letters.

The dam was an integral component of the irrigation project, and its removal is a significant change to the proposed project. The application is for overflow water from Lake Dudley, and there is no documentation provided that the applicant has secured access to place a pump

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on federal land. In addition, a portion of the land to be irrigated is already covered by Water Right 6183-3, held by the applicant, from the James River.

Mark Rath was called to testify.

Mr. Rath stated he was on site, at Lake Dudley, on July 3, 2014. DENR Exhibit 5 and 6 are photos taken on July 3, 2014, of the breached structure below Lake Dudley.

Mr. Naasz stated given the breach of the dam that would have been used in the application, DENR recommends that this application be denied.

Mr. Finer asked that the Board accept DENR's recommendation for denial of the application.

Motion to deny Application No. 4092-3 by Bjork, seconded by Hutmacher. Motion carried.

Mr. Hallem stated finding of facts and conclusions of law and proposed final decision be filed by October 2, 2014. Ten days after that date the parties will have the opportunity to file any objections or any proposals. At that time a proposal will be prepared for the Board and provide the copies.

Mr. Naasz stated with reconsideration DENR will waive finding of facts and conclusions of law on Mr. Peterson's application, based on the fact that he waived his rights since he did not appear and was not actively involved in the hearing.

WATER PERMIT APPLICATION NO. 7347-3, MICHAEL SENTELL:

Appearances: Mr. Naasz, representing DENR and the chief engineer.
Josh Finer, representing the applicant, Michael Sentell.

Mr. Hallem advised what the Board received in the packet prior to the hearing.

Mr. Naasz offered the following exhibits:

DENR Exhibit 1, the agency file.

DENR Exhibit 2, Lynn Beck's CV.

DENR Exhibit 3, an aerial photo of the application area.

All exhibits were admitted into the record.

Ms. Beck was called to testify.

Ms. Beck stated her education and professional background with DENR.

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Ms. Beck stated Michael Sentell filed Water Permit Application No. 7347-3 to appropriate 1.49 cubic feet of water per second (cfs) from Lake Dudley Dam to irrigate 120 acres of land. Water Application No. 7347-3 is located six miles northeast of the town of Hitchcock, SD, in Spink County. This project proposes to divert 1.49 cubic feet per second (cfs) of water from a point on Lake Dudley located in the SE¼ NW¼ Section 21-T114N-R62W. The annual period of use requested is from May 1 through September 30. The 120 acres of land to be irrigated are located in the NW¼ Section 21-T114N-R62W.

Ms. Beck stated, referring to Exhibit 3, it is an aerial map indicating Mr. Sentell's project, where it is located, and the number of acres to be irrigated.

Ms. Beck stated the water source for the proposed project is Lake Dudley Dam in Spink County. The dam is located on a tributary to the James River. SD School and Public Lands hold the easement for Lake Dudley Dam. The dam was constructed in 1936 and is capable of storing a maximum of 200 acre feet of water at the top of the embankment while normal storage is 140 acre feet at the spillway elevation.

According to local citizens the dam is spring fed and often discharging over the spillway. As a State owned dam it is inspected every three years. In all inspections since 1987, except one, it is noted that water was discharging over the spillway. The inspections have taken place during spring and early summer as well as late summer and indicate one to two inches of flow over the spillway. The overflow of Lake Dudley contributes to the flow of the James River approximately 1500 feet downstream of the spillway.

Water is available for this project when Lake Dudley is spilling. The project proposes to divert 1.49 cfs for irrigation, which equates to approximately 1.5 inches of flow over the spillway. Pumping can take place until Lake Dudley ceases to spill over the primary spillway; at that time all pumping should cease. During extended dry periods the water source may not be reliable.

There is one existing water right for Lake Dudley. The Department of Game, Fish, and Parks holds Vested Water Right Claim No. 1636-3 which appropriates 150 acre feet or sufficient water to fill the lake annually to the outlet elevation for recreational purposes. In order to protect Game, Fish, and Parks vested water right claim for stored water in Lake Dudley, no pumping can take place when the water level is at or below the primary spillway elevation.

There are four water rights on the James River within 1.5 miles downstream of the confluence of the Lake Dudley outlet channel. Oscar Inc. holds Water Right Nos. 616-3, 6183-3, and 7183-3 with a combined diversion of 9.72 cfs. Peterson Farms holds Water Right No. 7234-3 for diversion of 2.28 cfs. To protect water rights on the James River this project should meet the same qualifications found on other existing James River water rights.

There was a small dam of less than 25 acre-feet just downstream of Lake Dudley Dam. The dam has been the subject of deferred Permit Application No. 4092-3. This dam was not an authorized structure and was illegally located on Bureau of Reclamation federal fee title lands. The Bureau ordered this structure removed and the land restored to its original condition. The dam has been removed in accordance with the Bureau's order.

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If approved, with qualifications, the applicant's diversion of water would not be expected to adversely impact existing water rights or domestic use on the James River.

Ms. Beck stated that in 2007, Water Rights staff reviewed all of the shut-off and by-pass qualifications on the existing James River water rights/permits. Based on this review, the chief engineer recommended amending the existing qualifications in order to standardize them. The Water Management Board adopted the standardized qualifications and amended the existing water rights/permits. In addition, it was the intent that future appropriations of water from the James River be administered with the same amended qualifications.

Due to Lake Dudley's close proximity to and contribution to the flow in the James River, if approved, Application No. 7347-3 should contain the following qualifications:

- This permit authorizes diversion of water from Lake Dudley when water is discharging over the primary spillway elevation after pumping.
- This permit does not authorize diversion of water from Lake Dudley after August 10th of each calendar year, or at any time James River flow is obviously low, unless written orders have been issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
- This permit does not authorize diversions from Lake Dudley when there is less than 20-cfs by-passing the James River gage at Huron, SD after pumping.

Answering a question by Mr. Bjork, Ms. Beck stated that DENR relies on the locals reporting on when/if the water were to stop flowing over the spill way.

Mr. Holzbauer asked if this was the only permit on Lake Dudley.

Ms. Beck stated there are no other permits on Lake Dudley other than Game, Fish, and Parks vested right claim for storage.

Mr. Finer called Michael Sentell to testify on beneficial use, use of the water, and public interest.

Mr. Sentell was sworn in.

In response to Mr. Finer's questions Mr. Sentell stated the water will be used to irrigate about 75 acres of farm land, the other 45 acres will be pasture/hay land. The water will continue to flow over the dam; he is able to set a control on this intake to control it.

Mr. Sentell stated he has lived near Lake Dudley for over 50 years and keeping the water flowing over the dam is one of his top priorities.

Mr. Naasz asked if Mr. Sentell will benefit from the use of the water.

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Mr. Sentell stated in the State of South Dakota rain fall is beneficial to crops, whether its hay land or farm land. The water will provide for better quality and quantity of hay production.

Mr. Hutmacher asked if the August 10 cut off day will be an issue.

Mr. Sentell stated in hay production it may be an issue, only because August is hot and dry. Maybe the date could be pushed back to the 20th of August instead of the 10th.

Mr. Holzbauer asked what type of pumping system is to be used.

Mr. Sentell stated it will be an electric floating pump with a rotational screen to keep the debris off the pump. It will also have a generator with propane or diesel motor as the power source.

Mr. Naasz stated that the Water Rights Program believes that the application should be approved due to the reasonable probability of unappropriated water being available and the application meets all the required criteria for issuing a permit.

Motion to approve Water Permit Application No. 7347-3, with qualifications by the chief engineer by Hutmacher, seconded by Holzbauer. Motion carried.

QUALIFICATIONS:

- This permit authorizes diversion of water from Lake Dudley when water is discharging over the primary spillway elevation after pumping.
- This permit does not authorize diversion of water from Lake Dudley after August 10th of each calendar year, or at any time the James River flow is obviously low, unless written orders have been issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
- This permit does not authorize diversions from Lake Dudley when there is less than 20-cfs by-passing the gage at Huron, SD after pumping.

Mr. Finer stated that the applicant would like to request findings of facts and conclusions of law to be waived.

Parties requested a brief recess to discuss findings. Upon reconvening Mr. Finer requested findings of fact, conclusions of law and a final decision.

WATER PERMIT APPLICATION NO 7983-3, RICHARD BEITELSPACHER:

Appearances: Ms. Mines, representing DENR and the chief engineer.
Richard Beitelspacher, applicant.
Charles and Jaime Belcher, interveners.
Joel Hoffman, intervener.

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Mr. Hallem went through the process for conducting the hearing, as none of the parties are represented by an attorney.

Mr. Hallem advised what the Board received in the packet prior to the hearing.

Mr. Beitelspacher stated he is here to have a water permit issued. He believes there is plenty of water for the permit.

Mr. Belcher stated that his wife and he are not opposed to the irrigation itself, only the proximity of the irrigation wells to their domestic well. They want to make sure that their water resource is protected.

Mr. Hoffman stated he is here for the same reason as Mr. and Ms. Belcher, to make sure his domestic well is protected and will not be affected by the irrigation.

Ms. Mines offered DENR Exhibit 1, the agency file, which was admitted into the record.

Bracken Capen was called to testify.

Mr. Capen stated his education and professional background with DENR.

Mr. Capen stated the map (DENR Exhibit 2) depicts the area to be irrigated by Mr. Beitelspacher, as well as the location of his two existing wells and the proposed well.

Ms. Mines offered DENR Exhibit 2, map of the application area showing well sites and acres to be irrigated, which was admitted into the record.

Answering questions from Ms. Mines, Mr. Capen stated that Water Permit Application No. 7983-3 proposes to appropriate water at a rate of 2.78 cubic feet per second (cfs) from two existing wells and one proposed well completed at a depth of approximately 24 feet below ground surface. The water will be used to irrigate 195 acres. The proposed well and one of the existing wells are located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 28, T123N-R73W. The other existing well is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 32, T123N-R73W in Edmunds County. The two existing wells are currently being used under Water Permit No. 7013-3, which are represented by the orange circles on DENR Exhibit 2. Mr. Beitelspacher has requested these existing wells be used for irrigation under Water Permit No. 7013-3 as well as the land specified in this permit application.

The Bowdle: Edmunds aquifer is composed predominately of surficial outwash (sand and gravel). Review of lithological records indicates the aquifer is under unconfined conditions in the area of interest. The Bowdle: Edmunds aquifer underlies 36,000 acres and contains an estimated 108,000 acre-feet of recoverable water in storage in Edmunds County. To the west and south the aquifer extends into Walworth County, and water within the aquifer generally flows from northeast to southwest.

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No test hole records were submitted with this application. However, records are available for the two existing wells. These records indicate gravel is present in the NE ¼ NE ¼ of Section 32, T123N-R73W in the interval of two to 21 feet below ground surface. The static water level was reported to be two feet below ground surface. Test hole records for the Town of Bowdle water system indicate there is a surficial layer of clay in some places below ground surface up to 24 feet thick, and water bearing material extends as far down as 90 feet below ground surface. However, extensive drilling has not been conducted in this area.

In accordance with South Dakota Codified Law (SDCL) 46-2A-9, a permit may be issued to appropriate water only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. Mr. Capen's report reviews the availability of unappropriated water to supply the additional amount needed for Water Permit Application No. 7983-3.

If the application is approved, it is unlikely the amount of water needed to irrigate the land will exceed 195 ac-ft/yr. The probability of unappropriated water available from the aquifer is evaluated using SDCL 46-6-3.1 which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source."

Using observation well measurements, Hedges determined the recharge rate in the Bowdle: Edmunds aquifer to be 2.7 inches per year. Given the aerial extent of the management unit (36,000 acres), it follows that the annual recharge rate is 8,100 acre-feet per year (ac-ft/yr).

There are currently 16 water rights/permits pumping water from the Bowdle: Edmunds aquifer. Thirteen of these are for irrigation purposes, and three are for municipal systems for the towns of Bowdle and Tolstoy. Although Bowdle and Tolstoy maintain their wells and water rights for standby purposes, water for the towns is supplied by local rural water systems. Therefore, actual withdrawals under their respective water rights are limited to emergencies and do not occur regularly. For the purposes of calculating total withdrawals from the Bowdle: Edmunds aquifer, withdrawals by the towns of Bowdle and Tolstoy are assumed to be zero. The average amount of water pumped by irrigators from 1979-2012 from the Bowdle: Edmunds aquifer for irrigation purposes is approximately 337 ac-ft/yr. The maximum annual amount pumped was in 2012 and was approximately 896 ac-ft.

Given the expected annual recharge rate of 8,100 ac-ft/yr, and a maximum diversion of 896 ac-ft/yr, it follows that at least 7,204 ac-ft/yr is available for use. Therefore, unappropriated water is available from the Bowdle: Edmunds aquifer for the proposed application.

Administrative Rule of South Dakota Section 74:02:05:07 requires "The Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer."

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The SD DENR Water Rights program monitors 10 observation wells completed into the Bowdle: Edmunds aquifer. The closest of these wells to the proposed well site (as well as the existing wells) is ED-75B and is located approximately 1,500 feet to the north.

Water levels in observation well ED-75B reflect climatic conditions. Levels rise as the aquifer recharges during wet years and drop during dry years. Although the effects of pumping are visible, they are not significant. Therefore, natural discharge is available for capture, and unappropriated water is available for use.

The SD DENR Water Rights database was reviewed for the nearest existing water rights/permits and domestic wells that could be potentially impacted by the pumping proposed in this application. The nearest water right is located approximately 4,000 feet to the northeast of the proposed well site. Given the aquifer characteristics in the region and the distance between the wells, interference is not expected. The nearest domestic well on file with the DENR Water Rights Program is located approximately one mile to the northeast of the proposed well site. This is sufficient distance to minimize the potential for any negative effects as a result of pumping; therefore interference with domestic wells in the area is not expected to occur.

In response to a question from Ms. Mines, Mr. Capen said that when the staff report was drafted he thought the wells were conventional vertical wells. Since that time he has become aware that the two existing wells are horizontal wells and the new well will also be a horizontal well. Ms. Mines asked if this changes his conclusion regarding impacts to neighboring wells. Mr. Capen testified that his conclusion remains the same that there should not be an impact.

Mr. Mines asked Mr. Capen to state the Chief Engineer's recommendation. Mr. Capen stated the recommendation is for approval with conditions regarding well interference, well construction and submittal of annual irrigation questionnaire.

Answering questions from Mr. Belcher, Mr. Capen stated that the ED-75B observation well has been in that location since 1975. After Mr. Belcher explained he had a domestic well within 500 feet of the proposed well, he asked Mr. Capen if irrigation would affect his well. Mr. Capen stated it does not change his conclusions.

Mr. Belcher inquired whether lower water levels in the aquifer could result in higher concentrations of water quality parameters and stated a situation where he was told that lower water levels caused an increase in sodium chloride concentrations to a point that livestock would not drink the water. Mr. Capen stated he understood the question but that his review did not look at water quality.

Answering questions from Mr. Hoffman, Mr. Capen stated that other observation wells were looked at, that are completed into the same formation with large production wells nearby. Those wells did not show significant drawdown and are from the same aquifer.

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Answering questions from Ms. Mines, Mr. Capen stated that assuming the petitioners' domestic wells are adequate and in the same formation, even at a distance of 500 feet there are no adverse impacts expected.

Answering questions from Mr. Beitelspacher, Mr. Capen stated that on DENR Exhibit 2 the red dot is a city well; this is according to DENR records.

Mr. Holzbauer asked Mr. Capen what the guidelines are for a horizontal well.

Mr. Capen stated that this is the first time he has experienced and seen a horizontal well and is not familiar with the guidelines.

Answering questions from Mr. Hutmacher and Mr. Comes, Mr. Capen stated the depth of the well is 28 feet. The 900 feet refers to the length of the trench which is the horizontal portion of the well. The reference distance between wells is the half mile figure, submitted in Mr. Belcher's letter. Beyond that, an exact distance between the horizontal well and domestic well cannot be given without records for the domestic wells.

Answering a question from Mr. Hallem, Mr. Capen stated the orange lines on DENR Exhibit 2 depict the horizontal trench. The end of the trench would be in close proximity to the state observation well. If the observation well showed a drop in levels that was consistent with interference in the domestic wells, Mr. Beitelspacher would then be contacted by DENR staff and told to limit withdrawals until the water levels are normal. Readings are taken from the observation wells once every two weeks in the summer; they are not read in the winter months. The definition of an adequate domestic well is one that is completed at least 20 feet into the water bearing formation so that the pump may be lowered at least 20 feet, or in the instance where the water bearing formation is not 20 feet thick, the well must be able to be lowered to the bottom of the formation.

Mr. Belcher stated in DENR Exhibit 1 there was a report to the chief engineer on the application stating that the static water level was reported to be two feet below ground surface. Can it be explained how that was determined? Has there been any research to see if the wells are at least at a distance of 900 feet away from the domestic well?

Mr. Capen stated that depth was taken from the drilling logs that were submitted for the two existing horizontal wells. The static water level is the depth of the water table that exists naturally when you drill into the ground. If you dig a 10 foot well and you encounter water at two feet below the surface, then the static water level is two feet. It does fluctuate over time according to climatic conditions. DENR reads the static water levels from the top of the casing. As far as the distance being 900 feet, there has not been a drilling log received for their domestic well, therefore that information has not been obtained.

Mr. Capen stated he is familiar with the principals surrounding a horizontal well. The amount of water withdrawn in either instance will be the same, regardless of whether it is a horizontal well or a vertical well. The drawdown will not be greater with a horizontal well than it would be with a traditional vertical well.

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Answering questions from Ms. Mines, Mr. Capen stated the saturated thickness in the observation well in the last reading that was taken was at about 19-20 feet. If there is a drawdown, worst case would be a maximum draw of two or three feet, which would leave a significant amount of saturated thickness remaining.

Answering questions from Mr. Belcher, Mr. Capen stated the time period between 1975 and 1985 was a dry period; the lowest the water level dropped down to was 15 feet below the top of the casing, which leaves roughly 12 to 13 feet of saturated thickness in an adequately constructed well.

Answering questions from Mr. Bjork, Mr. Capen stated in a horizontal well the cone of depression would be more in a pill shape or elongated than a traditional vertical well.

Mr. Beitelspacher called Mr. Dana Rosendahl to testify.

Mr. Rosendahl was sworn in.

Mr. Rosendahl stated he is a SD licensed Well Driller and acted as the general contractor for the irrigation system to be installed. He has been in the irrigation business for 35 years and owns a company which started in 1967. He is also experienced in dealing with horizontal wells.

Mr. Rosendahl stated there is a 12 inch casing that is installed, and the pipe is eight inches perforated tile with a sock around it. The sock filters out any solids. The cone of depression on this horizontal well would be less than on a vertical well.

Answering questions from Mr. Hutmacher, Mr. Rosendahl stated the pipe being used is PVC, and it does meet the code for well construction. The vertical well will be at 20 feet, there is no sump, and there is a drought blanket that is wrapped around the pipe. When it comes into contact with water it will swell in the hole. This well will have a submersible pump down 20 feet.

Mr. Beitelspacher was sworn in.

Mr. Beitelspacher stated that the water will be used to irrigate crops of rotating corn and soybeans. The extra pivot is needed to have more acres farmed.

Answering questions from Ms. Mines, Mr. Beitelspacher stated that he understands that if the application is granted there are qualifications on the permit that require him to be mindful of the domestic uses, and he will abide by that qualification.

Mr. Beitelspacher stated he has previously met with the Belchers regarding the test holes, which showed there is plenty of water. He stated that if the Belchers have issues with their domestic well to let him know so it can get resolved.

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Answering questions from Mrs. Belcher, Mr. Beitelspacher stated the placement of the well was chosen because that is where the most water was located; the location was decided by the well drillers after the test holes were completed.

Answering questions from Mr. Holzbauer, Mr. Beitelspacher stated his land is on top of the aquifer.

Mr. Belcher was sworn in.

Mr. Belcher stated the concern is the proximity of the horizontal well being so close to his residence. The reports from the State of South Dakota did not state that this would be a horizontal well, so it was assumed it was a vertical well. From their existing well to the end of the trench is roughly 500 feet. The concern is their domestic well will run dry. Hooking to the rural water system is too expensive.

Ms. Mines stated she printed another map, marked DENR Exhibit 3, and asked that Mr. Belcher mark in red pen where his domestic well is located.

Mr. Belcher stated the domestic well is used for household and the main drinking source. In the future, a small livestock herd will be using the well, also. To the best of his knowledge the well has never run dry and has roughly an eight inch casing. The well has never been adversely affected in the past.

Mr. Bjork asked if Mr. Belcher understood or knew what an adequate well is.

Mr. Belcher stated that he did not fully understand.

Mr. Capen stated that an adequate well is completed either 20 feet into the water formation or if the water formation is not 20 feet thick then it is completed into the bottom.

Mr. Belcher stated as far as he can tell and according to the state's submission form, the well depth is at 25 feet.

Mr. Bjork stated in the proposed recommendation from the chief engineer that the well owner who holds the permit should control his withdrawals so it does not affect an adequate domestic wells. If it affects Mr. Belcher's well, Mr. Beitelspacher has to change his pumping rate.

Mr. Belcher asked how that would work if their well goes dry.

Mr. Bjork stated the casing is closed so there is no way to measure the levels in the domestic well.

Mr. Hoffman was sworn into oath.

Mr. Hoffman offered Hoffman Exhibit 1, a map of his domestic well location and Hoffman Exhibit 2 a sketch of the well in his basement, which were both admitted into the record.

Mr. Hoffman stated that he lives across the road from where the irrigation well will be placed. His domestic well is not registered, and he wants to be sure that he is protected. He would also like to know if they have a way to get water if his wells are pumped dry.

Mr. Hoffman stated that on Hoffman Exhibit 1, the area with a circle on the map (furthest north) is the location of the domestic well. There is a regular pump on top with plastic line running down to the water. The pipe runs roughly 10 feet.

Ms. Mines offered DENR Exhibit 3, area map of the application area for the permit showing the domestic well, which was admitted into the record.

Answering questions from the Board, Mr. Hoffman stated the 24 feet depth is from the top of the ground to the well, and the well itself is roughly 10 feet deep. There is only four to five feet of water. The observation well would be completed to a similar depth as similar Mr. Belcher's domestic well.

Mr. Hoffman stated the casing used on his well was a six inch PVC pipe. In 2010, when there was flooding in the area, there was no water in his basement.

In a closing statement Mr. Beitelspacher stated he has learned a lot in the meeting today and asks that the permit will be granted.

Ms. Mines stated the Board may issue a water permit if there is a reasonable probability that there is unappropriated water available, that it will not unlawfully impair existing rights, that the use is of beneficial use, and that it is in the public interest. The record reflects there are 7,200 acre feet per year available of unappropriated water; there is water to be used. Mr. Beitelspacher has stated that the water will be used for irrigation, which is considered beneficial. There are domestic wells in the area. The evidence in the record demonstrates that there will not be an unlawful impairment. Because this is a horizontal well; the expected area affected by the well to be much smaller as far as distance. There is an observation well located in between the proposed well site and the domestic wells. That observation well water level is read approximately every two weeks in the irrigation season. It will show if there are adverse effects on the domestic uses. The calculations show that there will not be an unlawful impairment. The recommendation of the chief engineer is to grant the application, and DENR asks the Board to adopt that recommendation.

Mr. Belcher stated he has learned a lot by coming to the hearing. Knowing there is an observation well makes him feel more comfortable with the permit being granted. Also, he is worried that water quality concentration levels in the water will be elevated, and this is a concern.

Mr. Hoffman stated that he agrees with Mr. Belcher and has the same concerns.

Motion to approve Application No. 7983-3 with the qualifications as listed by the chief engineer by Bjork, seconded by Hutmacher. Motion carried.

QUALIFICATIONS:

- The wells approved under Water Permit No. 7013-3 and this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The new well authorized by Permit No. 7983-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

Mr. Hutmacher stated that he understands if there are problems with domestic wells, DENR will take care of the problem. As far as testing the domestic wells, they should be tested yearly regardless.

Mr. Bjork stated considering the amount of recharge that takes place and based on the discharge, there is an adequate balance. There should not be a problem with the concentration levels.

Mr. Comes stated with the cone of depression with the horizontal well being likely less than with a vertical well, there is protection. The information provided and the legal backing is there to protect adequate domestic wells. However, it may require domestic owners to make some improvements to have an adequate well.

Mr. Holzbauer stated this is something that can be managed with proper management.

Mr. Hallem stated there is a right to appeal the decision of the Board. Unless the parties waive findings of facts and conclusions of law, a proposed order needs to be filed. Findings are done in case someone takes the case to circuit court. As of right now, unless the Board is informed otherwise, DENR will go by the rules. If the parties decided not the appeal it or do not want findings of facts and conclusions of law, then the Board can be advised and a permit can be issued. Ms. Mines was asked to submit proposed findings on behalf of DENR. That will need to be done by October 2, 2014. Any objections or comments by the applicant or interveners need to be done by October 12, 2014. Proposals will be prepared for the Board to take action at the October 22, 2014, meeting.

ADJOURN: Chairman Comes declared the meeting adjourned.

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A court reporter was present for the meeting and transcript of the proceedings from July 10, 2014, may be obtained by contacting Carla Bachand, PO Box 903, Pierre, SD 57501-0903, telephone number (605) 224-7611. The meeting was also digitally recorded, and a copy of the recording is available on the department's website at <http://denr.sd.gov/Boards/schedule.aspx>.

Approved this 22nd day of October.



Chairman, Water Management Board



Secretary, Water Management Board