DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

April 13, 2016

NOTICE OF HEARING

TO: Don Schaefer
31435 149th Street
Hoven SD 57450

Frank Zweber
32043 SD Hwy 20
Hoven SD 57450

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program

SUBJECT: Notice of Hearing on Water Permit Application No. 8200-3, Don Schaefer

A petition of opposition to the Chief Engineer's recommendation of approval of Water Permit Application No. 8200-3 was filed by Frank Zweber. This was in response to the Notice of Application published in the Hoven Review and Capital Journal. This notice schedules a hearing on Application No. 8200-3 before the South Dakota Water Management Board.

Water Permit Application No. 8200-3 proposes to appropriate 2.28 cubic feet of water per second from three wells to be completed into the Hoven South Management Unit of the Bowdle Aquifer (50 feet deep) located in the NE 1/4 Section 21 for irrigation of 160 acres located in the NE 1/4 Section 21; all in T120N-R74W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8200-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest.

The Water Management Board will consider Application No. 8200-3 at 1:00 PM (Central Daylight Time) on Thursday, May 5, 2016, in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre SD. The agenda time is an estimate. Parties will be provided written notice if there is a change to the hearing time or date.

The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based on the facts presented at the public hearing.

The May 5, 2016, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any person who has filed a petition to oppose or support the application. The request for an automatic delay must be filed by April 25, 2016. If an automatic delay is requested, the hearing will be rescheduled for a future Board meeting and personal notice will be provided to all petitioners regarding the time, date and location.

The hearing is an adversary proceeding and any party has the right to be present at the hearing and to be represented by a lawyer. These and other due process rights will be forfeited if they are not

exercised at the hearing. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Contact Eric Gronlund at the above Chief Engineer's address to request the staff report, recommendation, application or any other information. Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing. The telephone number for making arrangements is (605) 773-3352.

Enclosed is a copy of the report, recommendation, affidavits of publication and petition in the matter of Water Permit Application No. 8200-3. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. The information being provided to you is also being sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules." You are encouraged to review these documents prior to the hearing.

Under SDCL 1-26-17(7) notices must state that "if the amount in controversy exceeds $2,500.00 or if a property right may be terminated, any party to the contested case may require the agency to use the Office of Hearing Examiners by giving notice of the request to the agency no later than ten days after service of a notice of hearing issued pursuant to SDCL 1-26-17." This is a Notice of Hearing, service is being provided by direct mail to you, and the applicable date to give notice to the Chief Engineer is April 25, 2016. However, since this particular matter is a water permit application and not a monetary controversy in excess of $2,500.00 or termination of a property right, the Chief Engineer disputes the applicability of this provision and maintains that the hearing must be conducted by the Board.

As applicable, the following provides the legal authority and jurisdiction under which the hearing will be held and the particular statutes and rules pertaining to this application: SDCL 1-26-16 thru 1-26-28; SDCL 46-1-1 thru 46-1-9, 46-1-13 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-17; 46-2A-1 thru 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21, 46-2A-23; 46-5-1.1, 46-5-2 thru 46-5-26, 46-5-30.2 thru 46-5-30.4, 46-5-31 46-5-32 thru 46-5-34.1, 46-5-38 thru 46-5-39, 46-5-46, 46-5-47, 46-5-49; 46-6-1 thru 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-21, 46-6-26; Board Rules ARSD 74:02:01:01 thru 74:02:01:24.02 and ARSD Chapter 74:02:04.

Questions regarding the hearing process may be directed to Eric Gronlund, Water Rights Program at (605) 773-3352 or eric.gronlund@state.sd.us.

enclosures

c: Ann Mines-Bailey, Assistant Attorney General

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8200-3
DON SCHAEFER
MARCH 2, 2016

Water Permit Application No. 8200-3 proposes to appropriate water from the Hoven South management unit of the Bowdle aquifer for the irrigation of 160 acres. The application proposes to divert water from three wells located in the center of the NE¼, the NE¼NE¼, and the SE¼NE¼, respectively, of Sec. 21, T120N-R47W. Water is to be diverted at a maximum diversion rate of 2.28 cubic feet of water per second (cfs). The acreage to be irrigated is located in the NE¼ Sec. 21, T120N-R74W, in Potter County.

BOWDLE: HOVEN SOUTH

AQUIFER CHARACTERISTICS:

The Bowdle aquifer is a glacial outwash deposit consisting of sand and gravel that occurs at or near the land surface. The Hoven South management unit of the Bowdle aquifer extends south from Walworth/Potter County line six to seven miles, underlying an estimated 11,900 acres (Hedges and others, 1982). Hedges and others, (1982) estimated that the Hoven South management unit contains approximately 23,000 acre-feet of recoverable water in transient storage. The Hoven South management unit is hydrologically connected to the Hoven North management unit to the north, and to the Lebanon management unit to the south. The Hoven South management unit is under unconfined conditions with groundwater movement from south to north. The water table is expected to be approximately 30 feet below grade in the area of the well sites proposed by this application. The saturated thickness of the Hoven South management unit is typically less than 30 feet and generally high capacity irrigation wells can only be expected in those areas having 20 feet or more of saturated thickness (Hedges, 1977). Observation well data indicates the saturated thickness of the aquifer in the area of the proposed wells is currently 18 to 19 feet. This data indicates the water table has fluctuated with an amplitude of approximately 10 feet over the period of record, with highest water levels generally occurring in 1997, and lowest generally occurred in 1981-1983(Water Rights, 2016a). Consequently, during dryer periods, the saturated thickness near the well sites proposed by this application can be expected to be reduced to around 10 feet. A pump test was conducted in this area by the South Dakota Geological Survey and the Water Rights' Commission Staff in January of 1977. The test involved six observation wells monitored for 72 hours of drawdown and 72 hours of recovery. The results of the test showed a calculated transmissibility of 50,000 gallons per day per foot of aquifer (Selken, 1977).

History of controversy

The first water permit from the Bowdle: Hoven South aquifer was issued in 1968 to Mr. Willard Zweber. In 1976, Mr. Willard Zweber appeared before the Water Rights Commission to express his concerns about the additional water permits that had been approved from the aquifer between 1968 and 1976, declining water levels in the aquifer and decreased production from his irrigation wells. During the summer and fall of 1976, the South Dakota Geological Survey and Water Rights Commission Staff drilled test holes, installed observation wells, and conducted

aquifer pump tests in the Bowdle: Hoven South aquifer. On March 23-24, 1977, Water Rights Commission issued shut off orders to appropriators junior to Mr. Zweber's permits. The Commission's decision to shut off junior appropriators was appealed to the Sixth Judicial Circuit Court, and the court reversed the decision and remanded the matter back to the Commission for a new hearing. The Water Rights Commission reconsidered the matter on May 10, 1977, and Commission Staff testified that diminishment of Zweber's well yields was due to well construction/maintenance issues and lack of recharge to the aquifer and not interference from junior water permits. The Commission moved that pumping under junior water permits be allowed to continue with conditions that: 1) all permitted wells be metered, 2) the three junior appropriators pumping would be restricted based on certain water levels in two area observation wells, and 3) Water Rights Commission staff continue to study the area and present a report to the commission prior to the 1978 irrigation season. In 1979, the Commission raised the shut off water level established for the two observation wells by two feet. Mr. Zweber complained about water problems again in July 1980. Another complaint was filed in 1980 by Clifford and Robert Simon concerning the lowering of the water levels in their wells. After an investigation and drilling an additional observation well, it was determined that the Simon wells were not adequate. In 1981, the Water Management Board rescinded the Commission's action on using water levels in observation wells as shut-off of irrigation wells. Also in 1981, the Water Management Board denied a number of water permit applications proposing appropriations in the Hoven area. While most of the denied applications were from the Bowdle: Hoven North aquifer, the Board's action included denial of a water permit application (No. 3917-3, Robert L. Simon), proposing an appropriation from the Bowdle: Hoven South aquifer. The diversion points proposed by Application No. 3917-3 were to be located approximately two miles northwest of the well sites proposed by Application No. 8200-3. The application was denied due to past water availability issues in the area. Since 1981, the Water Management Board approved Future Use Permit No. 4860-3 for the City of Hoven in 1982, and Water Permit No. 5763-3, which corrected Water Right No. 1622-3, in 1993. There have not been any applications from the Hoven South management unit since 1993.

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued 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. This report will address the availability of unappropriated water and existing rights from the aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8200-3 proposes to appropriate water for the irrigation of 160 acres. If the permit is approved, the average annual water use that can be expected under this appropriation is estimated to be less than 106 acre-feet annually. The probability of unappropriated water available from an aquifer can be evaluated by considering 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 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." If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider

the recharge/withdrawal issue. Here, a water distribution system is not involved and the Bowdle: Hoven South aquifer is not older or lower than the Greenhorn Formation therefore withdrawal/recharge issue must be considered.

Recharge versus Discharge:

Recharge to the Bowdle aquifer occurs through infiltration of precipitation falling directly on the aquifer and runoff from surrounding areas. The average annual recharge to the Hoven South management unit was estimated in 1985, using observation well data, to be 2.5 inches per year (Hedges and others, 1985). Hedges and others (1985) also estimated recharge to the management unit by flow-net analysis to be 0.53 inches per year, although a disclaimer was included with this estimate that "...recharge rates calculated using flow-net analysis are suspect and conclusions based on this method are questionable" (Hedges and others, 1985). Given an areal extent of the Hoven South management unit of 11,900 acres, recharge to the management unit ranges from 525 of the flow net analysis estimate of recharge is used to 2479 of the more appropriate recharge estimate is used acre feet annually.

Discharge from the Hoven South management unit is from well withdrawals for domestic use and uses that require appropriations, evapotranspiration where the water table is near ground surface, and groundwater outflow to the Hoven North management unit. Although there are a number of domestic use wells completed into the Bowdle: Hoven South, the water use by domestic use wells is not expected to be significant to a hydrologic budget for the aquifer. There are five water rights and one future use reservation currently appropriating water from the Hoven South management unit of the Bowdle aquifer. Note: the source aquifer for Future Use Permit No. 4860-3 has been identified as the Hoven South management unit of the Bowdle aquifer, however given the location and well depth specified in the future use permit, the future use reservation may also involve the Onaka aquifer and/or the Hoven North management unit. Appropriations from the Bowdle: Hoven South aquifer are shown in Table 1.

Table 1. Appropriations from the Bowdle: Hoven South aquifer.

PERMIT NO	NAME	STATUS	USE	CFS	ACRES
1704-3	ALLEN TURNER	LC	IRR	1.11	96
2271A-3	DAVE HAGEMAN	LC	IRR	1.67	246
2598-3	JESSE FROST	LC	IRR	1.78	212
4063-3	FRANK & CAROL ZWEBER	LC	IRR	0.85	60
4860-3	CITY OF HOVEN	FU (410 ac-ft/yr)	MUN	na	na
5763-3	FRANK & CAROL ZWEBER	LC	IRR	1.44	201

Since 2000, when the City of Hoven switched to rural water, the water use from the Bowdle: Hoven South aquifer has been exclusively for irrigation use. Irrigation use reported from the management unit is shown in Table 2.

Table 2. Irrigation use reported from the Bowdle: Hoven South aquifer (Water Rights 1980-2015).

Year	Number of Appropriations	Total Appropriation (ac-ft/yr)	Reported Pumped (ac-ft/yr)	Application Rate * (in/ac/yr)
2014	4	1956	419.39	7.00
2013	4	1956	601.22	10.03
2012	4	1956	656.47	10.96
2011	4	1956	561.9	9.38
2010	4	1956	549.09	9.16
2009	4	1956	711.27	11.87
2008	4	1956	519.26	8.67
2007	4	1956	597.47	9.97
2006	4	1956	793.02	13.24
2005	4	1956	626.65	10.46
2004	4	1956	731.27	12.20
2003	4	1956	686.74	11.46
2002	4	1956	786.06	13.12
2001	4	1956	597.07	9.97
2000	4	1956	470.65	7.86
1999	4	1956	390.88	6.52
1998	4	1956	545.54	9.10
1997	4	1956	476	7.94
1996	4	1956	502.47	8.39
1995	4	1776	426.35	7.12
1994	5	1866	479.84	8.01
1993	7	2865	70	0.88
1992	8	3819	300	2.83
1991	8	3822	441	4.34
1990	8	3822	383	3.77
1989	8	3822	593	5.83
1988	8	3822	993.4	9.77
1987	8	3822	458	4.50
1986	8	3822	100	0.98
1985	6	3822	429	4.22
1984	6	3822	265	2.61
1983	8	3822	355.87	3.50
1982	8	3822	395.65	3.89
1981	6	3822	318	3.13
1980	7	3822	441	4.34
1979	7	3822	206	2.03
Average			*496.60*	*7.20*

* Application rate is in inches per permitted acre

A simple hydrologic budget comparing estimated average annual recharge to the Bowdle: Hoven South aquifer with the average annual well withdrawal from the aquifer indicates that it is probable that unappropriated water is available to satisfy the appropriation proposed by Application No. 8200-3.

Observation well analysis:

The DENR-Water Rights Program monitors 12 observation wells completed into the Bowdle: Hoven South aquifer. Hydrographs for the observation wells are shown in Figures 1-12. The hydrographs all document upward trending water levels throughout the aquifer. A rising water level in an aquifer indicates that recharge to the aquifer exceeds withdrawals from the aquifer.

An analysis of observation well hydrographs was used to quantify the change in volume of water in storage in the aquifer. The analysis involved determining the change of the water level in each observation well for every year (see Table 3). The amount of water represented by a change in water level was determined by multiplying the water level change by an estimated specific yield for the aquifer (0.15) (Hedges and others, 1982), and the aquifer area.

The average annual water level change for the 12 observation wells for the period of 1982-2015 was +0.19 feet. Although a number of the Bowdle: Hoven South aquifer observation wells have records older than 1982, a period beginning in 1982 was used to maximize the number of wells used for the analysis. Therefore, the water level for the aquifer increased an average of 0.19 feet per year from 1982-2015. The areal extent of the Hoven South management unit has been estimated to be 11,900 acres. Assuming a specific yield of 0.15, the annual change in volume in the aquifer has averaged:

(11,900 acres x 0.19 feet x 0.15)= 339.15 acre-feet/year

Therefore the observation well data indicates that recharge to the aquifer exceeded discharge from the aquifer by an average of 339 acre-feet per year for the period of 1982-2015. Since discharge from the aquifer included natural discharge (i.e. evapotranspiration and ground water outflow), and a portion of the natural discharges is available for capture for well withdrawals, 339 acre-feet per year should be considered a minimum amount of water that is available for additional well withdrawals.

The observation well analysis indicates that unappropriated water is available for this appropriation.

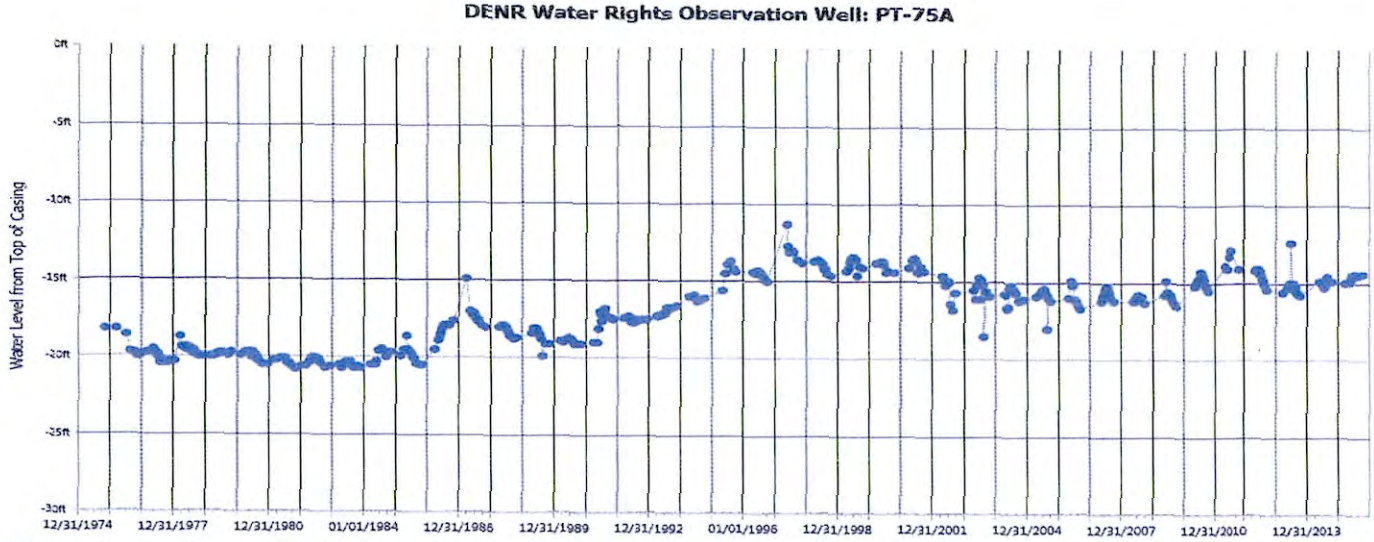

Figure 1. Hydrograph of observation well PT-75A which is completed into the Bowdle: Hoven South aquifer

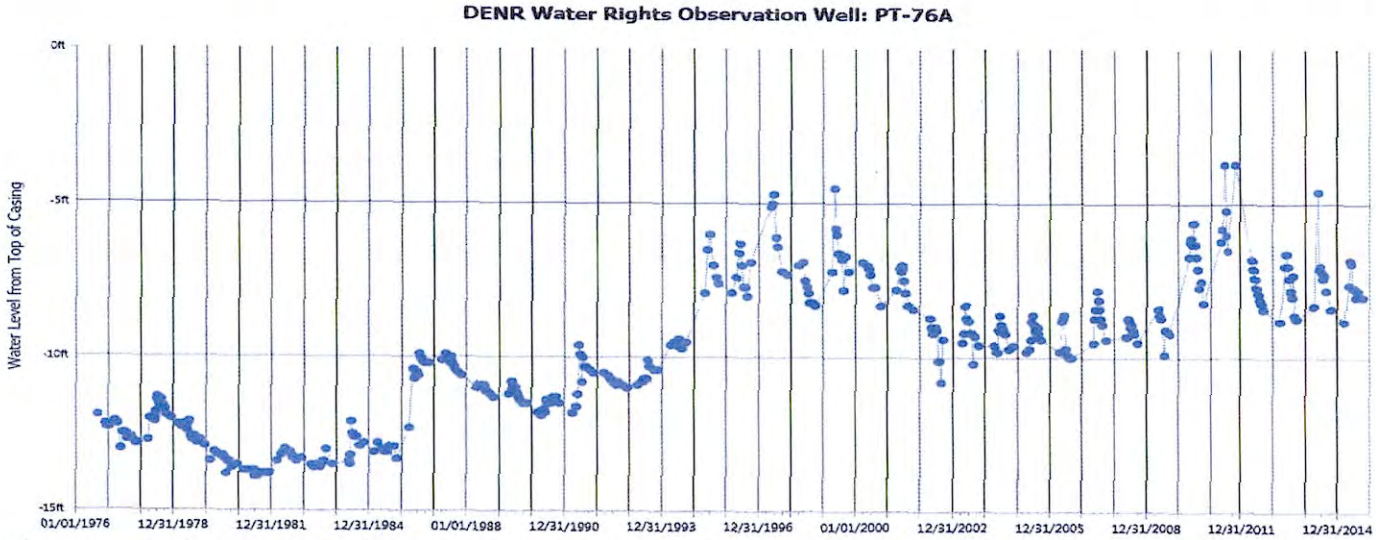

Figure 2. Hydrograph of observation well PT-76A which is completed into the Bowdle: Hoven South aquifer

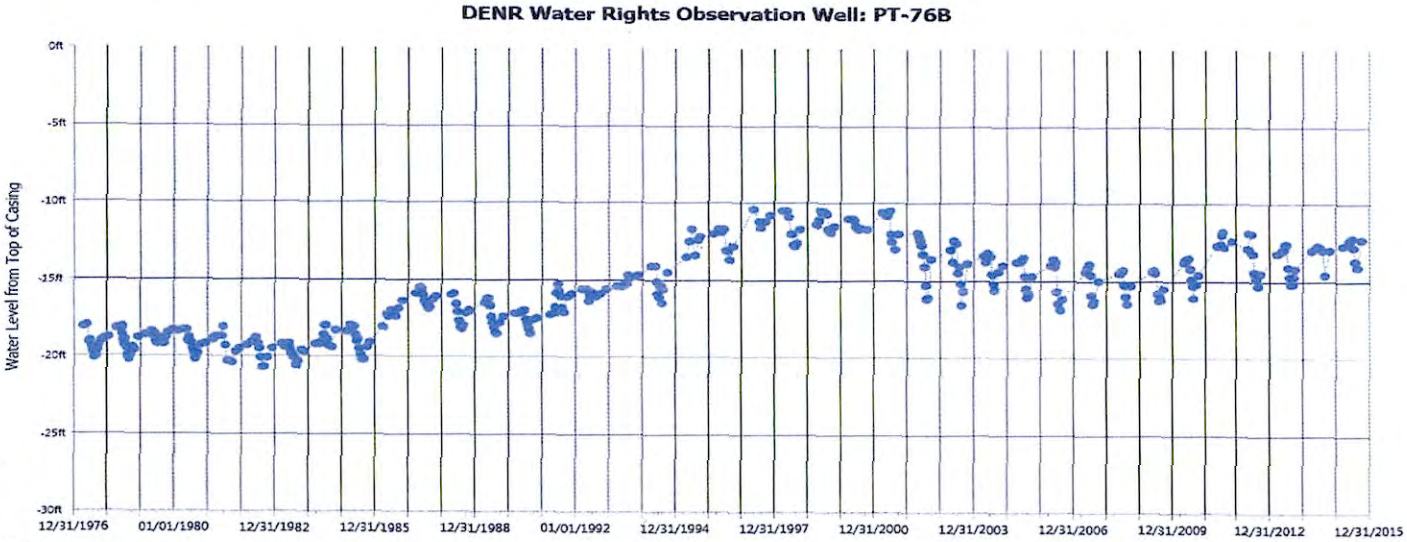

Figure 3. Hydrograph of observation well PT-76B which is completed into the Bowdle: Hoven South aquifer

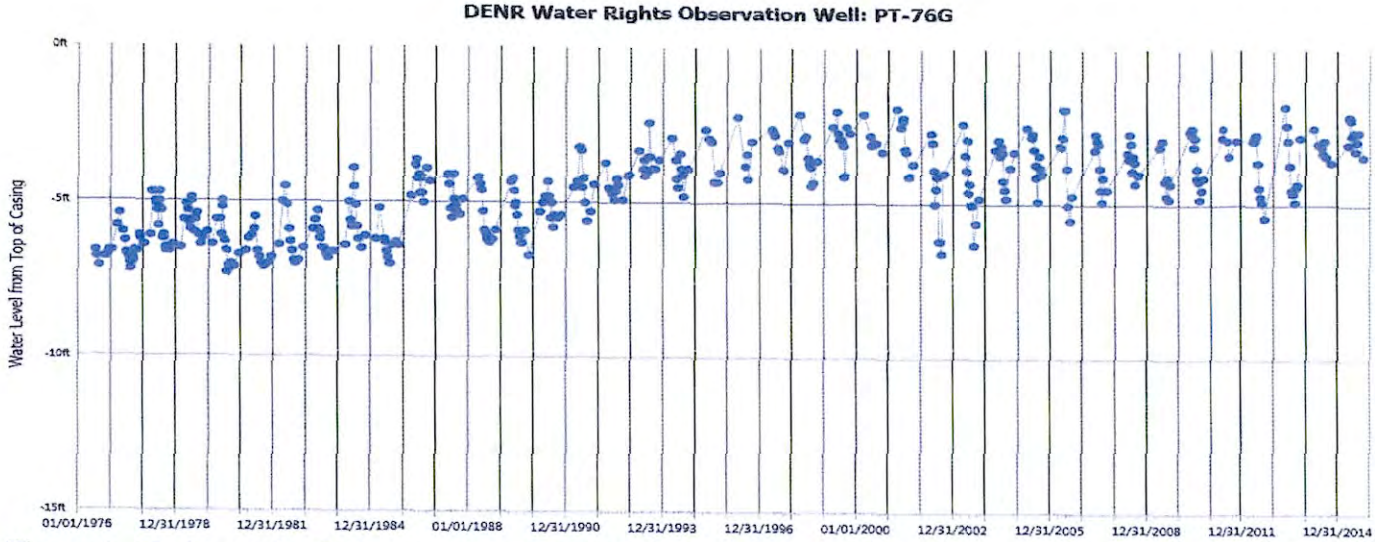

Figure 4. Hydrograph of observation well PT-76G which is completed into the Bowdle: Hoven South aquifer

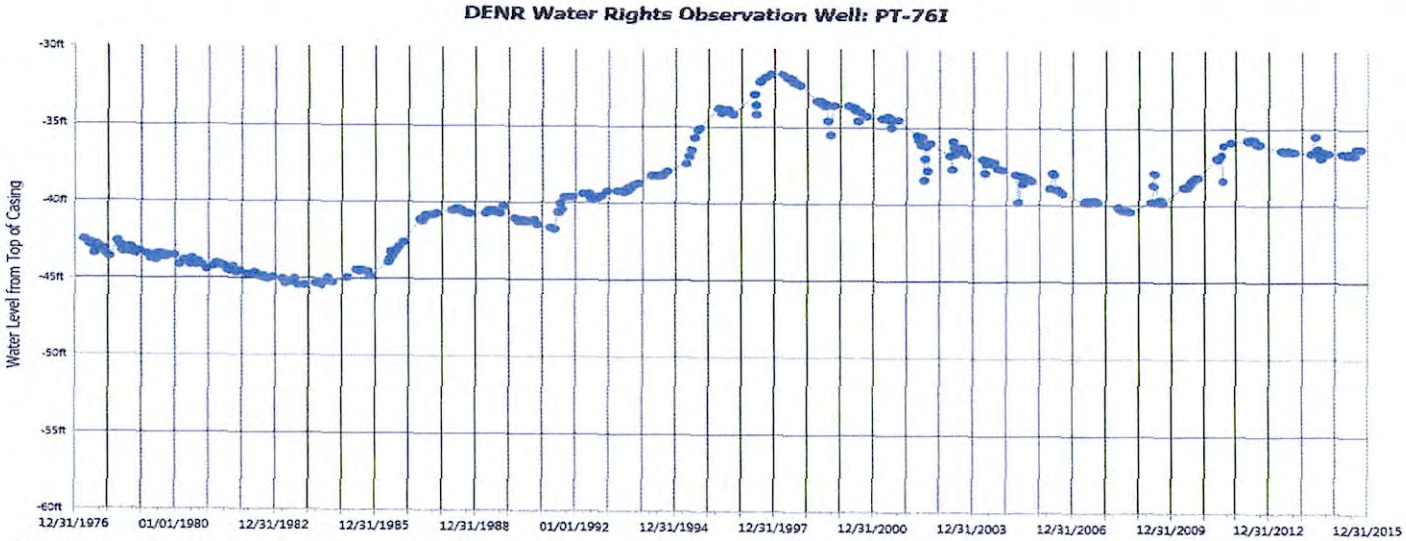

Figure 5. Hydrograph of observation well PT-76I which is completed into the Bowdle: Hoven South aquifer

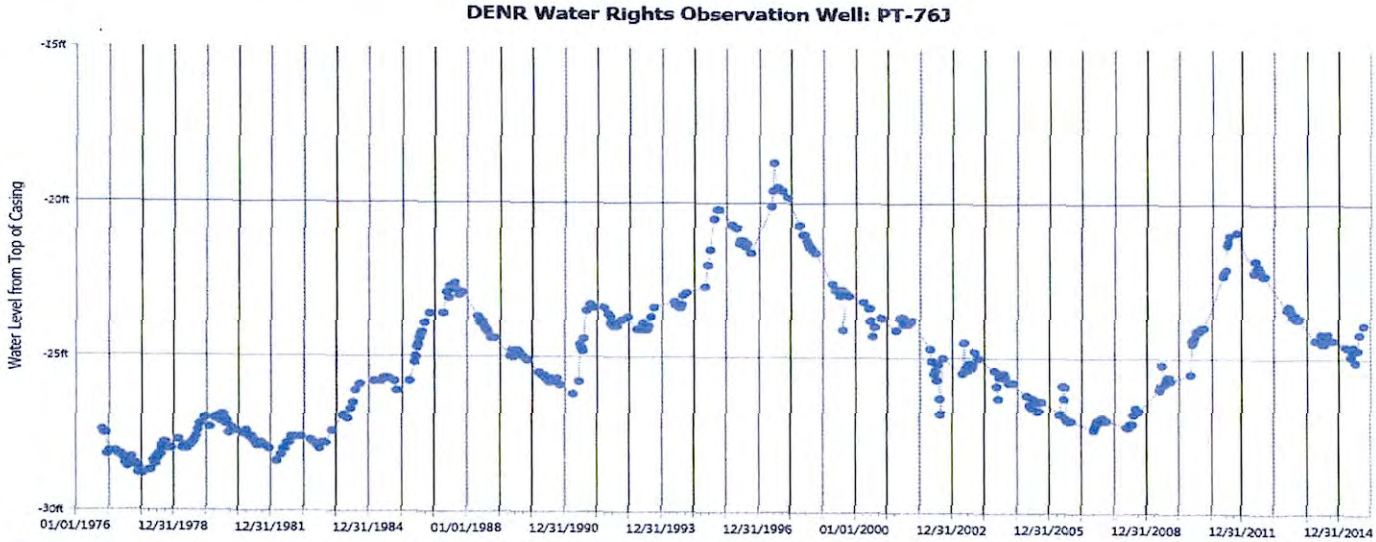

Figure 6. Hydrograph of observation well PT-76J which is completed into the Bowdle: Hoven South aquifer

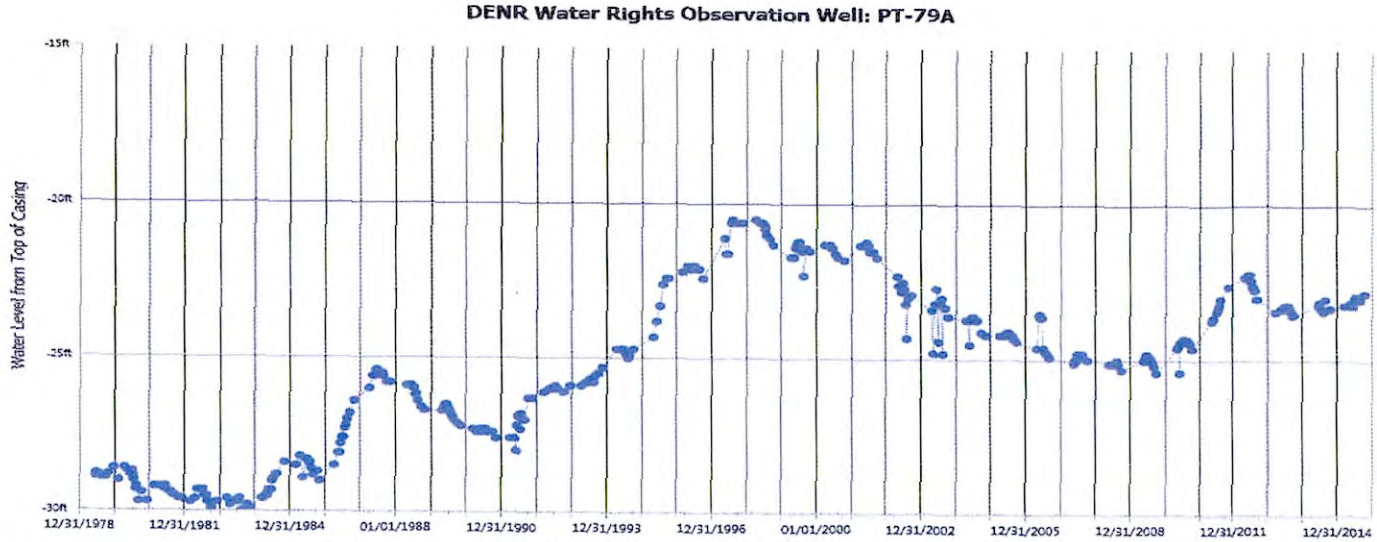

Figure 7. Hydrograph of observation well PT-79A which is completed into the Bowdle: Hoven South aquifer

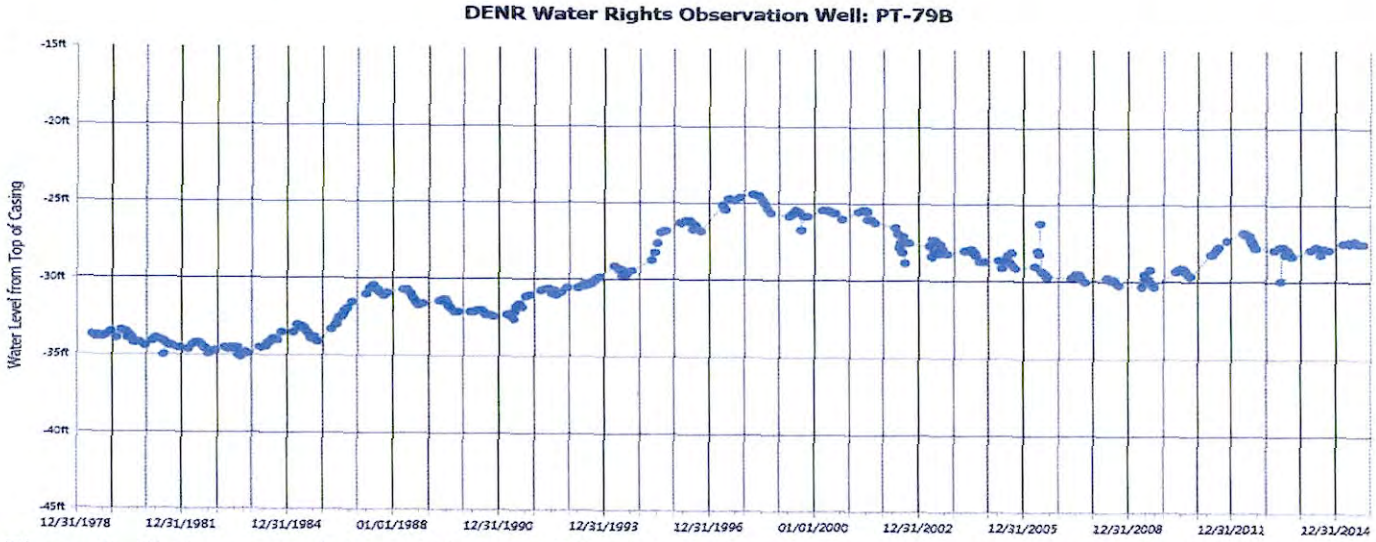

Figure 8. Hydrograph of observation well PT-79B which is completed into the Bowdle: Hoven South aquifer

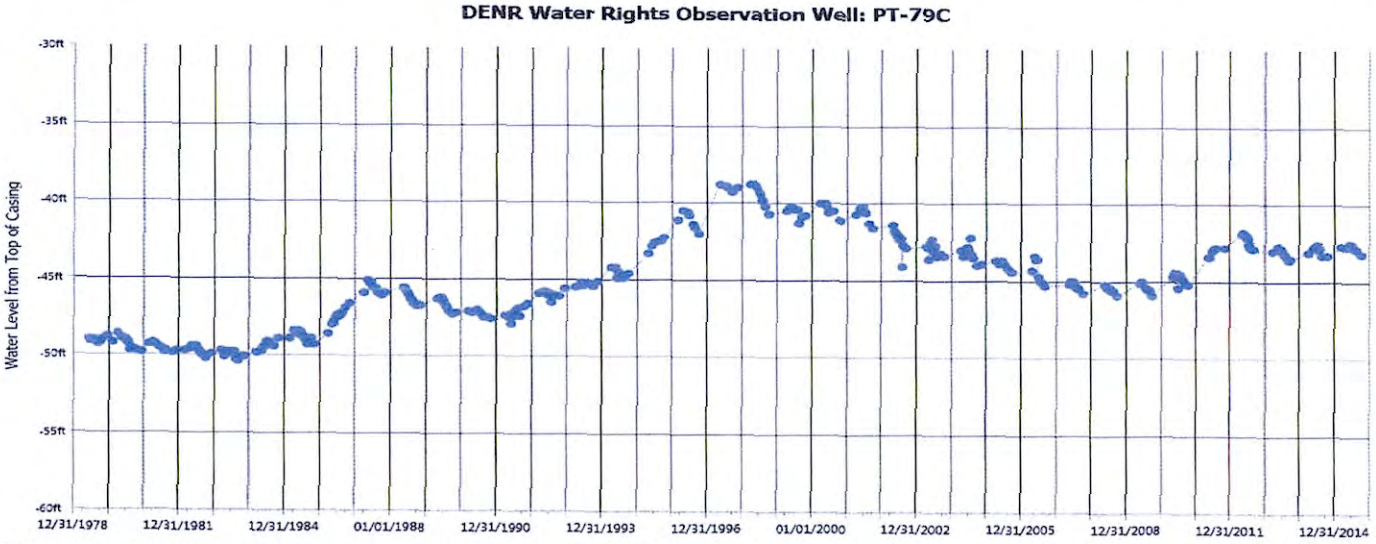

Figure 9. Hydrograph of observation well PT-79C which is completed into the Bowdle: Hoven South aquifer

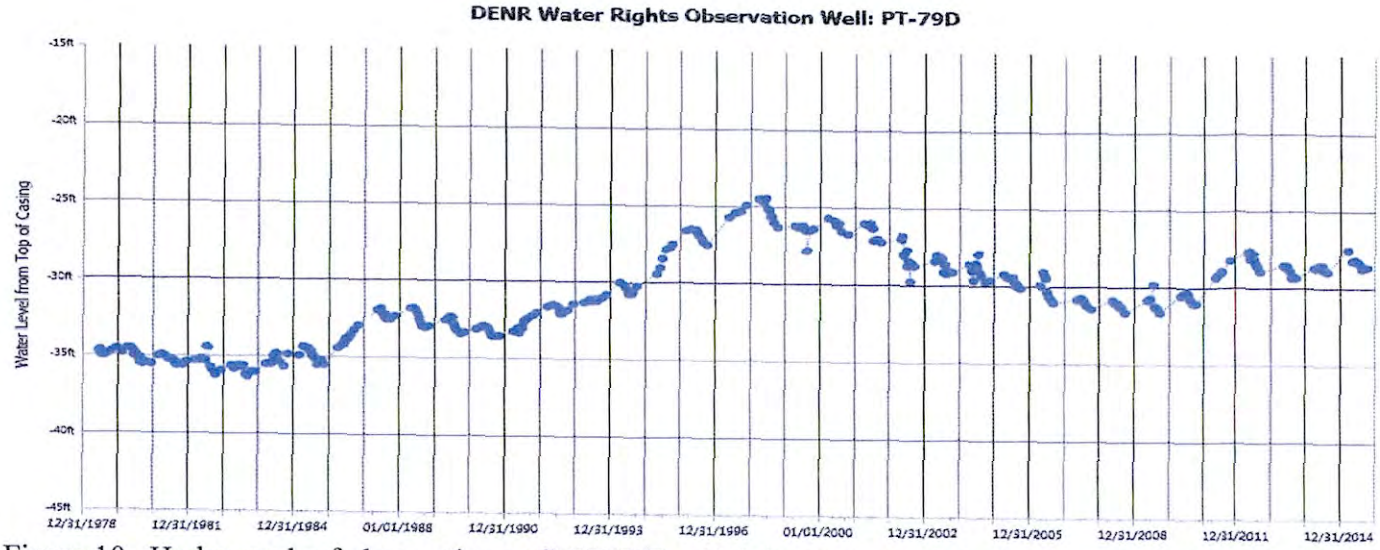

Figure 10. Hydrograph of observation well PT-79D which is completed into the Bowdle: Hoven South aquifer

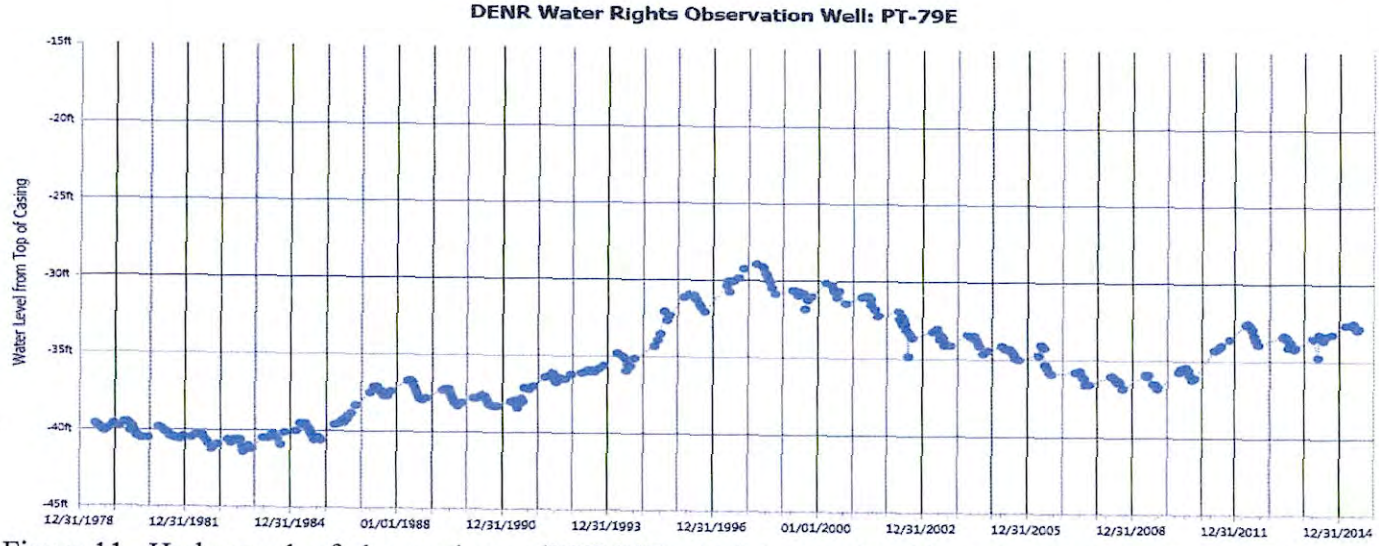

Figure 11. Hydrograph of observation well PT-79E which is completed into the Bowdle: Hoven South aquifer

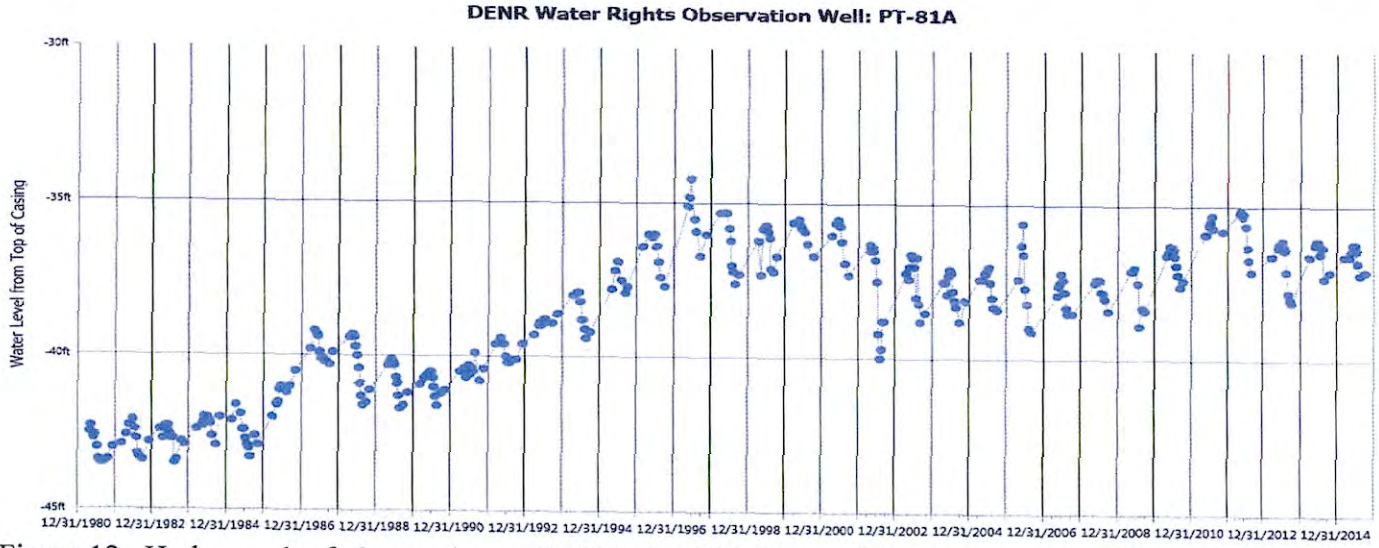

Figure 12. Hydrograph of observation well PT-81A which is completed into the Bowdle: Hoven South aquifer

Water Year	PT-75A	PT-76A	PT-76B	PT-76G	PT-76I	PT-76J	PT-79A	PT-79B	PT-79C	PT-79D	PT-79E	PT-81A	
1975													
1976	-1.6												
1977	-0.5	-0.8		-0.1		-1.1							
1978	0.4	1	-0.1	0.3	-0.1	0.7							
1979	0.1	-1.1	0.6	0.2	-0.4	0.4							
1980	-0.7	-0.8	-0.5	-0.7	-0.6	0.1	-0.5	-0.4	-0.5	-0.6	-0.5		
1981	-0.1	-0.2	-1.1	0	-0.5	-0.6	-0.1	-0.3	-0.1	-0.1	0		
1982	-0.1	0.4	0.3	0.2	-0.4	0.3	-0.4	-0.4	-0.4	-0.7	-0.7	0.1	
1983	0.1	0.4	0.5	0.3	-0.4	-0.2	0.1	0.1	0.1	0.2	0.2	0.6	
1984	0.6	0.1	0.2	0.5	0.2	1.9	1.4	0.8	0.7	0.4	0.1	-0.1	
1985	-0.5	0	0	-0.2	0.7	0.1	-0.3	0.2	0.5	0.4	0.5	0.3	
1986	2.6	2.7	2.5	2.4	1.6	1.9	1.9	1.9	2	2	1.6	1.6	
1987	0	-0.3	0.6	-1.5	2.1	0.9	1	0.8	0.8	0.7	1.1	0.7	
1988	-0.9	-0.7	-0.9	-0.8	0.1	-1.4	-0.8	-0.6	-0.7	-0.5	-0.2	-1.2	
1989	-0.3	-0.3	-0.6	0.3	0	-0.6	-0.5	-0.4	-0.5	-0.4	-0.4	-0.1	
1990	0	0.2	0.2	0.4	-0.4	-0.7	-0.3	-0.2	-0.2	-0.1	0	0.4	
1991	1.7	0.9	1.5	0.2	1.5	2.4	1.1	1.2	0.7	1.3	1.1	0.4	
1992	-0.1	-0.5	0.2	0.4	0.1	-0.5	0.2	0.3	0.7	0.4	0.7	0.7	
1993	0.8	0.5	1.1	1	0.7	0.4	0.6	0.8	0.7	0.8	0.7	1.2	
1994	0.6	0.9	0.3	0	0.9	0.5	0.8	0.6	0.8	0.8	0.7	-0.3	
1995	1.7	1.9	2.3	-0.1	2.8	2.7	2.3	2.6	2.3	2.5	2.8	1.5	
1996	-0.6	0.7	-0.6	1	0.9	-1.4	0	0	0.3	0.2	0.3	0	
1997	1.4	-0.3	1.6	-0.9	2.4	2	1.8	2	2.7	2.2	2.2	1	
1998	-1	-1.1	-0.5	0.3	-0.5	-2	-0.7	-0.8	-1.4	-1	-1	-0.6	
1999	0.5	1.1	0.2	0.9	-1.3	-1.4	-0.2	-0.2	-0.1	-0.1	-0.2	0.6	
2000	-0.3	-1.1	-0.2	-0.6	-0.7	-0.7	-0.3	-0.2	-0.3	-0.3	-0.4	0	
2001	0.1	-0.1	-0.3	-0.4	-0.2	-0.1	0.1	-0.2	-0.5	-0.5	-0.8	-0.6	
2002	-1.4	-1	-1.6	-0.3	-1.5	-1.2	-1.2	-1.3	-1.3	-1.5	-1.4	-1.5	
2003	-0.2	-0.2	-0.3	-0.8	-0.5	0	-0.7	-0.7	-0.5	-0.4	-0.5	0.3	
2004	-0.3	-0.1	-0.5	1	-1.1	-0.8	-0.5	-0.5	-0.6	-0.6	-0.5	-0.3	
2005	0	0.3	-0.3	-0.2	-0.8	-0.6	-0.3	-0.4	-0.4	-0.4	-0.4	0.4	
2006	-0.5	-0.6	-1.5	-0.7	-0.8	-0.6	-0.5	-0.6	-0.9	-0.9	-0.9	-0.7	
2007	0.5	0.6	1.2	0.2	-0.6	0	-0.1	-0.3	-0.5	-0.4	-0.7	0.6	
2008	-0.1	-0.1	-0.3	0.5	-0.6	0.3	-0.3	-0.2	-0.1	-0.2	-0.2	0.1	
2009	-0.2	0.3	-0.2	-0.3	0.6	1	-0.1	-0.1	0	0	0	0	
2010	1	1	0.9	0.2	1.6	1.7	1	0.7	0.7	0.6	0.7	1	
2011	1.4	4.5	2.2	1.2	2.3	3.1	1.8	2.3	2.4	2.8	2.5	1.6	
2012	-1.3	-4.7	-2.1	-2.5	-0.1	-1.4	-0.4	-0.5	-0.1	-0.7	-0.3	-1.3	
2013	-0.4	-0.3	0.3	1.1	-0.5	-1.4	-0.5	-0.5	-0.6	-0.4	-0.2	-1	
2014	0.9	0.3	1.2	0.7	-0.1	-0.7	0.2	0.4	0.2	0.4	0.9	1	
2015	0.5	0.4	0.7	0.2	0.3	0.5	0.5	0.4	0.1	0.3	0.4	0	
Ave	*0.182353*	*0.170588*	*0.238235*	*0.108824*	*0.244118*	*0.117647*	*0.197059*	*0.205882*	*0.194118*	*0.202941*	*0.226471*	*0.188235*	*0.189706*

Table 3. Annual water level fluctuations for observation wells completed in the Bowdle: Hoven South Aquifer. *1975-191 values are not included in the averages so all 12 observation wells can be incorporated into the analysis

EXISTING WATER RIGHTS/PERMITS

Existing water rights/permits in the vicinity of the well sites proposed by this application are shown in Table 4 and Figure 13.

Hydrographs of the observation wells completed into the Bowdle: Hoven South aquifer document that the aquifer responds to recharge and pumping. Since the aquifer is under unconfined conditions, the cone of influence that results from pumping a well is not expected to be significant very far from the well. Examination of the observation well hydrographs confirms this. For example, observation well PT-76B is located within approximately 700 feet of the four wells that supply Water Right 2271A-3, and the hydrograph for the observation well (Figure 3.) only shows 1-2 foot fluctuations during irrigation seasons (Water Rights 2016a). The combination of all irrigation pumping from the aquifer does have a minor effect on the water levels even beyond drawdown cones. Assuming all of the water pumped comes out of storage, (i.e. no recharge occurs during the irrigation season), and none of the natural discharges from the aquifer are captured, the impact of the maximum pumping from the management unit (786.06 acre-feet in 2002) would have been at maximum, 0.44 feet over the entire aquifer. This water level decline is minor in comparison with the natural water level fluctuations of the aquifer. The issuance of this appropriation will not adversely impact existing users.

As stated earlier, there has been a history of controversy in this area. The annual recharge to water in storage ratio of this management unit is fairly high, therefore, the aquifer is susceptible to drought conditions, and the saturated thickness of the aquifer can be reduced significantly. Given a transmissivity of 50,000 gallons per day per foot, each foot of water level decline can be expected to reduce a well's yield by approximately 35 gallons per minute. Considering the limited saturated thickness of the aquifer, during drought conditions, some wells may have production issues.

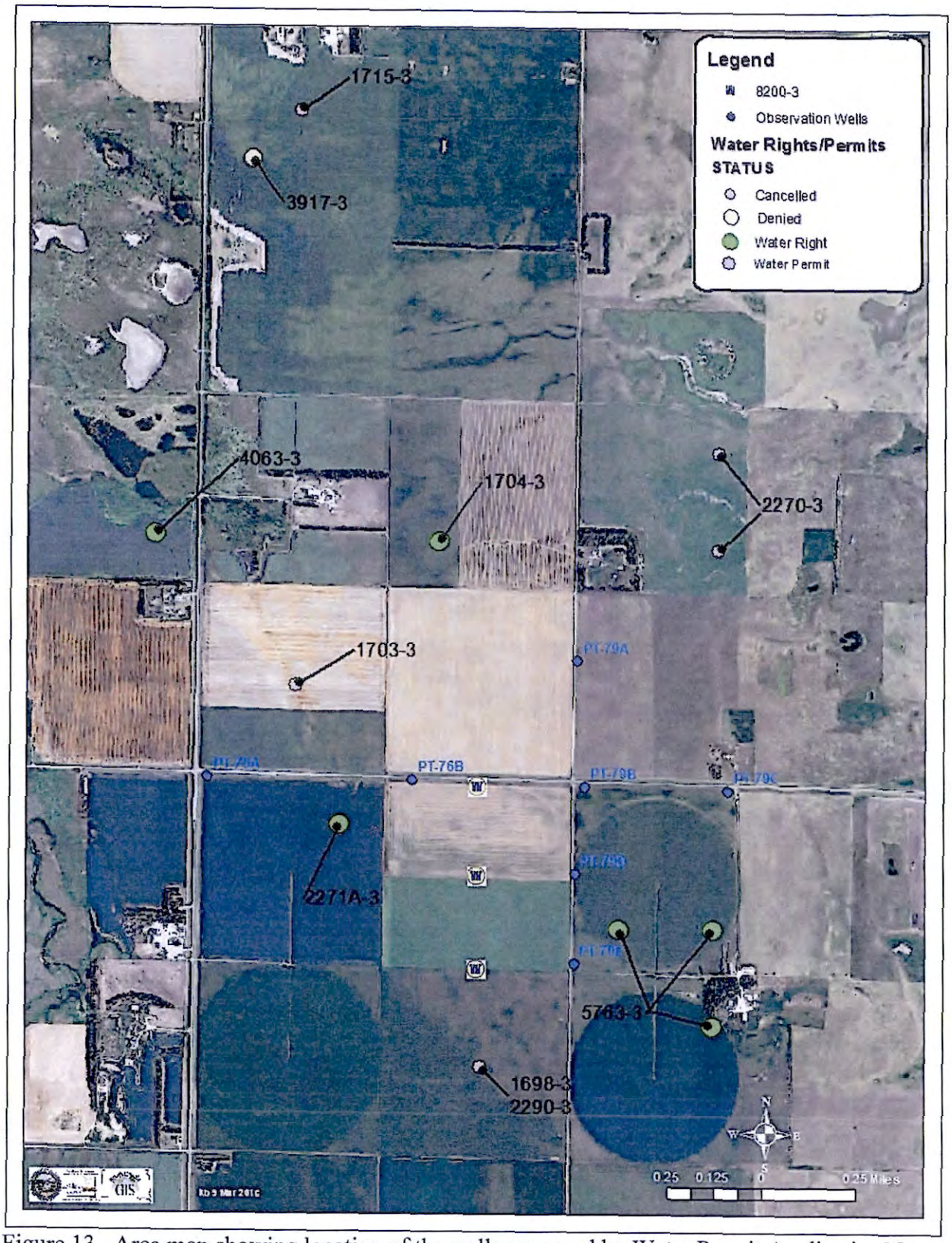

Figure 13. Area map showing location of the wells proposed by Water Permit Application No. 8200-3, DENR-Water Rights observation wells, and approximate location of diversion points proposed by previous applications.

Table 4. Water permit applications shown on Figure 13.

PERMIT NO	NAME	STATUS	CFS	ACRES
2270-3	ALLEN TURNER	CA	4.5	318
1698-3	RAY ZWEBER	CA	2.27	159
1703-3	DEAN GIESE	CA	2.28	160
1715-3	ROBERT L SIMON	CA	2.17	152
2290-3	BILL ZWEBER	CA	2.22	160
3917-3	ROBERT L SIMON	DN	0	0
1704-3	ALLEN TURNER	LC	1.11	96
2271A-3	DAVE HAGEMAN	LC	1.67	246
4063-3	FRANK & CAROL ZWEBER	LC	0.85	60
5763-3	FRANK & CAROL ZWEBER	LC	1.44	201

CONCLUSIONS:

1. The Hoven South management unit of the Bowdle aquifer is a relatively thin, surficial, glacial aquifer under unconfined conditions.
2. There has been a history of controversy involving the Bowdle: Hoven South aquifer with concerns about reduced well production during drought years.
3. There is a reasonable probability that average annual recharge to the Bowdle: Hoven South aquifer will exceed average annual withdrawals from the aquifer if Water Permit No. 8200-3 is approved.
4. Well interference is not expected to be a concern due to the unconfined conditions of the aquifer.
5. The average annual recharge/water in storage ratio is fairly high in the Bowdle: Hoven South aquifer so some wells completed in the aquifer may experience production problems during times of drought even though average annual withdrawal is expected to be less that average annual recharge.

Ken Buhler
SD DENR-Water Rights

REFERENCES:

Hedges, L.S., 1977, Special Ground Water Study for the Hoven South and Lebanon Aquifers, SD Geological Survey report provided at public meeting in Lebanon, SD, 29 March 1977: South Dakota Water Rights Commission Minutes to the 23March 1977 meeting

Hedges, L.S., Burch, S. L., Iles, D. L., Barari, R. A., and Schoon, R. A., 1982, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota, and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report: U.S. Army Corps of Engineers Contract DACW 45-80-C-0185: SD DENR- Geological Survey, Vermillion, SD.

Hedges, L.S., Allen, J., and Holley, D.E., 1985, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota, and Iowa. Task 7: Ground Water Recharge: U.S. Army Corps of Engineers Contract DACW 45-80-C-0185: SD DENR- Geological Survey, Vermillion, SD.

Selken, G.N., 1977, Hoven Area Report, March 3, 1977, Report prepared for the South Dakota Water Rights Commission: South Dakota Water Rights Commission Minutes to the 23March 1977 meeting

Water Rights, 1980-2015, "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights, 2016a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Water Rights, 2016c, Well Completion Report Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

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RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 8200-3, Don Schaefer

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 8200-3, Don Schaefer, 31435 149th Street, Hoven SD 57450.

The Chief Engineer is recommending APPROVAL of Application No. 8200-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The wells approved under 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.

2. The wells authorized by Permit No. 8200-3 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.

3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman

Jeanne Goodman, Chief Engineer
March 21, 2016

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PUBLIC NOTICE

NOTICE OF APPLICATION NO. 8200-3 to Appropriate Water

Notice is given that Don Schaefer, 31435 149th St, Hoven SD 57450 has filed an application for a water permit to appropriate 2.28 cubic feet of water per second from three wells to be completed into the Hoven South Management Unit of the Bowdle Aquifer (50 feet deep) located in the NE 1/4 Section 21 for irrigation of 160 acres located in the NE 1/4 Section 21; all in T120N-R74W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8200-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at http://denr.sd.gov/public or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 11, 2016.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of $27.37 (March 31, 2016).

AFFIDAVIT OF PUBLICATION
STATE OF SOUTH DAKOTA
COUNTY OF POTTER

SARA JOHNSON, OF SAID COUNTY BEING FIRST DULY SWORN, ON OATH SAYS THAT SHE IS A REPRESENTATIVE OF *THE HOVEN REVIEW*, A WEEKLY NEWSPAPER PRINTED AND PUBLISHED IN HOVEN IN SAID COUNTY OF POTTER AND HAS FULL AND PERSONAL KNOWLEDGE OF ALL THE FACTS HEREIN STATE: THAT SAID NEWSPAPER IS A LEGAL NEWSPAPER AND HAS A BONIFIDE CIRCULATION OF AT LEAST TWO HUNDRED COPIES WEEKLY, AND HAS BEEN PUBLISHED WITHIN SAID COUNTY FOR FIFTY-TWO SUCCESSIVE WEEKS PRIOR TO THE PUBLICATION NOTICE HEREIN MENTIONED, AND WAS AND IS PRINTED WHOLLY OR IN PART IN AN OFFICE MAINTAINED AT SAID PLACE OF PUBLICATION: that the Water Rights Program

A printed copy of which, taken from the paper in which same was published, is attached to this sheet, and is made in part of this Affidavit, was published in said newspaper at least once a week, on the day of each week on which the newspaper was regularly published, to wit: 1 week, March 31, 2016

70 lines x 0.391 =

That the full amount of the fee for the publication of the annex notice is: $27.37

Sara Johnson

Subscribed and sworn to for me this 31st day of March, 2016.

Paulette Maurstad
Notary Public
Edmunds County, South Dakota
My commission expires May 27, 2017

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WATER RIGHTS PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Hughes)

I, Marylinn Baker

certify that the attached printed Notice was taken from the Capital Journal

printed and published in Pierre

County of Hughes and

state of South Dakota. The notice was published in the newspaper on the following date:

3/31/16

Cost of Printing $ 31.57

Marylinn Baker
(Signature)

Bookkeeper
(Title)

3-31-16
(Date Signed)

Public Notice

mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 11, 2016.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Steven M. Pirner,
Secretary,
Department of Environment and Natural Resources

Published once at the total approximate cost of $31.57.

SNAXLP 14038
1tdy 0331

NOTICE OF APPLICATION NO. 8200-3 to Appropriate Water

Notice is given that Don Schueler, 31435 140th St, Haven SD 57450 has filed an application for a water permit to appropriate 2.25 cubic feet of water per second from three wells to be completed into the Haven South Management Unit of the Rowdle Aquifer (60 feet deep) located in the NE 1/4 Section 21 for irrigation of 160 acres located in the NE 1/4 Section 21; all in T120N-R74W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8200-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at http://denr.sd.gov/ public or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605-773-3352)" and the applicant's

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April 6, 2016

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To: Chief Engineer Water Rights Program

This letter is notification of my intent to oppose the approval of water right application NO. 8200-3 for Don Schaefer.

It is my opinion that this project would have wells that are to close to my well field and the Hageman well field. If 8200-3 wells were constructed exactly between my wells and Hageman wells the distance would be 1900 ft between. My 45 years of experience with irrigation in this aquifer tells me that available water is very limited evidenced by the extensive test holing that has been done by myself and neighbors and relatives to the west and south of my section 22 project. The projects in this aquifer both north and south of Hoven prove that finding areas of saturation in the 25-27 foot range is extremely limited.

Withdrawls can easily exceed recharge in dry years. We have had back to back snowless winters. My fear is that to much withdrawl in a small area such as three well fields in a 3800 ft distance is dangerous and puts all of us in peril of excessive drawdown in water levels which could curtail well production.

All permit holders have gotten by pretty well over the last 35 years. I think it is not in the best interest of all parties concerned to potentialy put at risk the large investments in irrigation that those of us have made.

Also, it is my contention that test hole data and distance restrictions should be part of the consideration of this permit.

Frank Zwiber
32043 S.D. Hwy 20
Hoven S.D. 57450

CERTIFICATION

I hereby certify that on April 13, 2016, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice of Hearing dated April 13, 2016, regarding notice of hearing for Water Right Permit Application No. 8200-3, as addressed below:

Don Schaefer
31435 149th Street
Hoven SD 57450

Frank Zweber
32043 SD Hwy 20
Hoven SD 57450

Sent Inter-office to:

Ann Mines-Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501

Gail Jacobson

Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 13th day of April, 2016

Karen Schlaak

Karen Schlaak
Notary Public
My Commission expires April 1, 2019

SEAL KAREN SCHLAAK NOTARY PUBLIC State of South Dakota SEAL

Procedure for Hearings before the Water Management Board
January 2008

The Water Management Board's function is to regulate and control the development, conservation, and allocation of the use of water according to the principles of beneficial use and priority of appropriation. In this role, the Water Management Board conducts contested case hearings on water right permit applications. The Board is a citizen board consisting of seven members appointed by the Governor. They are from varying backgrounds and locations around the state. The Board has meetings approximately every two months.

This document is intended to acquaint participants in hearings of general procedures before the Board. South Dakota codified laws (SDCL) and administrative rules (ARSD) govern water rights. The laws and rules may be downloaded at DENR's website at *http://www.state.sd.us/denr/denr.html*. Laws of interest include SDCL Chapters 46-1, 46-2, 46-2A, 46-4, 46-5 and 46-6. Administrative rules to review are ARSD 74:02:01.

Contested case hearings are conducted pursuant to procedures outlined in SDCL ch. 1-26. Only parties of record can participate in the hearing by presenting testimony, calling witnesses or cross-examining witnesses. The rules of civil procedures followed in South Dakota courts are generally followed in evidentiary proceedings before the Board. Parties include the applicant, the Department of Environment and Natural Resources and those individuals that have filed a petition to intervene as set forth in the public notice.

An individual may represent himself in a contested case before the Board or may be represented by legal counsel. Attorneys that intend to participate in the hearing must mail a Notice of Appearance to all other parties. Non-resident attorneys must be able to demonstrate compliance with the requirements set forth SDCL 16-18-2 to practice in South Dakota.

Burden of Proof

The applicant for a permit issued by the Water Management Board has the burden of proving that he is entitled to the permit. The applicant must therefore be prepared to present the permit application and the proposed operation to the Board at a contested case hearing. Petitioning Interveners must be prepared to present testimony and exhibits demonstrating why the permit should not be granted. Do not rely on the Department of Environment and Natural Resources (DENR) to carry the burden of proof. Although DENR makes a recommendation to the Board, this recommendation is in no way binding upon the Board. While a DENR expert will present their report and be subject to questioning by the Board and parties on the application, DENR is not an advocate for your position.

SDCL 46-2A-9 sets forth the four criteria that must be present in order to approve an application. They are:

1) A reasonable probability that unappropriated water is available for the proposed use;
2) The proposed diversion will not unlawfully impair existing rights;
3) The use is a beneficial use; and
4) The use is in the public interest.

Procedure

You or your legal counsel need to be at the hearing to present your position in a contested case hearing.

The Board Chairman runs the hearing. Address all questions and objections to the Chairman for a ruling. In some instances the Board will appoint a hearing officer to preside over prehearing conferences, prehearing motions and conduct the evidentiary hearing. An attorney from the Attorney General's office is seated with the Board to provide them legal advice. In addition, the Water Rights Program is represented by legal counsel. This is a legal proceeding so expect to swear an oath or affirmation to tell the truth when you approach the podium.

The following procedure is commonly followed:

1 Opening statements (parties may waive their opening statement)
   a. Applicant
   b. DENR – DENR will present a brief description of the application
   c. Petitioning Interveners

2. Evidentiary hearing
   a. DENR – staff present their report and the Chief Engineer's recommendation
   b. Applicant (applicant's opportunity to present testimony and call witnesses)
   c. Petitioning Interveners (opportunity to present testimony and call witnesses)

   Be prepared to explain your position on the application. The applicant needs to state what the proposed project is, the location of the project, timelines for the completed project, the beneficial uses for which the water is to be used, its benefits and why the permit is in the public interest. An opponent to the application needs to explain your opposition to the appropriation of water, where you live in proximity to the project, the adverse impact of the project, why the permit is not in the public interest and other relevant matters.

   Parties may call witnesses on their behalf. The Board oftentimes hears testimony from technical experts, neighbors or other witnesses regarding the proposal. Written endorsements are subject to the hearsay rule at the time of the hearing since the author can not be cross-examined. Therefore, written comments will usually be allowed only if there is no objection from any other party.

   Upon the conclusion of any witness's testimony, all parties will be afforded an opportunity in an orderly manner to cross-examine the witness regarding their testimony. Cross-examination is your opportunity to ask questions of the witness related to their direct testimony; it is not the appropriate time for you to provide your testimony. In addition, Board members may ask questions of the witness.

3. Rebuttal – parties are afforded an opportunity to present testimony rebutting a prior witness's testimony. Witnesses are again subject to cross-examination but only related to their rebuttal testimony.

4. Closing arguments (summation of your position)
   a. Applicant
   b. DENR
   c. Petitioning Interveners

5. Board decision.

The Board's decision-making process normally occurs in public in front of all concerned and on the record. Normally, the Board limits discussion to its members but may call on witnesses, lawyers or parties to clarify a point. In some instances the Board may recess for deliberation. Upon making a verbal decision, the Board will direct either the prevailing party or Water Rights Program's staff attorney to prepare proposed findings of fact, conclusions of laws and final decision. The non prevailing parties are given the opportunity to submit objections and their own proposed finding of fact conclusions of law and final decision. These proposals will be considered and ruled upon at the Board's next meeting. The findings are a record of the facts considered by the Board. In the event the Board's decision is appealed to court, the findings reflect the facts considered by the Board to arrive at a decision. The non-prevailing party may waive their rights to findings if they are satisfied the Board addressed their concerns or have no intention of appealing the decision.

Although hearings may sometimes be considered informal, it is evidentiary hearing. Lawyers cannot testify or answer factual questions, cross-examination is allowed, copies of exhibits must be available for opposing counsel or parties.

Ex-parte Communication

It is improper for any party to a pending application or contested case proceeding to contact Board members prior to the hearing. To do so is ex-parte communication with the likely result being the Board member excusing himself from the proceeding. The Board is very careful to avoid even the appearance of discussing a contested case hearing that will come before it. Situations do arise where a party requests to have a Board ruling on a motion prior to the evidentiary hearing. If an applicant or party has an issue he wishes to raise prior to the hearing, please contact the Water Rights Program and they will put you in contact with either the Board's attorney or the Water Rights Program's attorney.

Exhibits

Exhibits are pictures, maps or documents you wish the Board to consider in conjunction with your testimony. Used effectively, exhibits greatly increase the interest and knowledge of the Board. Please have all exhibits you intend to present marked in advance of the hearing [example – Applicant Exhibit 1, 2 and 3 or Intervener (name) Exhibit 1, 2 and 3]. Provide enough copies of each exhibit for the Board, Water Rights Program, opposing counsel and other parties. The exchange of exhibits by parties prior to the hearing is encouraged. Be aware that someone may object to admission of an exhibit. The Board Chairman will rule whether the exhibit is admissible. All exhibits become part of the record and will not be returned.

Transcript

A court reporter is present at all contested case hearings. A party wishing to have a transcript of the hearing should make arrangements with the court reporter. DENR will tape the proceeding and will prepare minutes of the hearing.

Appeal of Board's Decision

South Dakota statutes provide that decisions of the Board may be appealed to the Courts. Notice of appeal of the Board's decision must be filed within thirty days from when the signed findings of fact, conclusions of law and final decision are mailed to parties. The notice of appeal must be in accordance with procedures established in SDCL 1-26-31.

The best advice is to come to the hearing prepared! If you have questions regarding the hearing process, please contact Eric Gronlund, Water Rights Program at (605) 773-3352.

PLEASE NOTE: This document is provided as a service of the Department of Environment and Natural Resources for the purpose of introducing the public to the procedure for hearings before the Water Management Board. It is not intended to reflect all procedures that may apply to the hearing or as legal advice. In the event there is a difference in interpretation between this document and the South Dakota Codified Law and/or Administrative Rule, the law and/or rule controls.

Summary of South Dakota Water Laws and Rules

Prepared by Water Rights Program
Department of Environment and Natural Resources

January 2008

The following is a summary of South Dakota water laws and rules. This summary is provided as a service of the Water Rights Program, Department of Environment and Natural Resources for the purpose of introducing the public to the water rights laws of South Dakota. The laws and rules may be downloaded at DENR's website at *http://www.state.sd.us/denr/des/waterrights/WR_laws.htm.*

PLEASE NOTE: This summary is not a substitute for the South Dakota Codified Laws or Administrative Rules of South Dakota and is not intended to serve as legal advice. In the event there is a difference in interpretation between this document and South Dakota Codified Law and/or Administrative Rule, the law and/or rule controls.

ADMINISTRATIVE OVERVIEW

1) Water in South Dakota is owned by the people of the state and not by private individuals. The right to use water may be obtained under State Law.

   Reference: SDCL 46-1-1, 46-1-3, and 46-5-5.

2) South Dakota water rights are administered by a system commonly called the "Doctrine of Prior Appropriation." This means the first in time (senior priority) is the first in right, except for individual domestic use. Priority is established based on the date of filing the application. Uses of water developed prior to or under development as of March 2, 1955 (surface water) or February 28, 1955 (ground water) may qualify for a vested water right.

   Reference: SDCL 46-1-9, 46-2A-9, 46-2A-12, 46-4-1, 46-4-2, 46-5-4, 46-5-7, 46-5-8, 46-5-34, 46-5-34.1, and 46-6-3.

3) Domestic use of water takes precedence over appropriative rights.

   Reference: SDCL 46-1-5, 46-1-6(7), and 46-1-6(14).

4) The seven member Water Management Board regulates water use, approves and denies permits, validates vested rights, cancels water right permits or rights, establishes ordinary high and low water marks for lakes as well as setting lake outlet elevations.

   Reference: SDCL 1-40-15, 43-17-21, 43-17-23 thru 43-17-25, 43-17-28, 46-2-9, 46-2-11, 46-2A-7, 46-2A-8, 46-2A-16, 46-4-2, and 46-5-8.1.

DOMESTIC WATER USE – no permit needed

1) The following domestic uses do not require a water right permit:

   a. Domestic use of water from other than a common water distribution system that does not exceed 25,920 gallons per day (which is 18 gpm pumped 24 hours per day) or a peak diversion rate of 25 gallons per minute (gpm) for:

      1. Individual farm or ranch use including livestock water;

      2. Individual household use for drinking, washing, sanitary, culinary, and other ordinary household purposes; and

      3. Irrigation of a noncommercial family garden, trees, lawn, shrubbery, or orchard that is no larger in area than one acre. Lawn, tree, and garden watering within a city, town, or from other common water distribution systems is covered by the system water right.

         Note: Drip irrigation systems for noncommercial purposes and not exceeding 18 gpm do not need to be permitted even if the irrigated area exceeds one acre.

   b. Water use from other than a common water distribution system that does not exceed 18 gallons per minute (gpm) for:

      1. Schools, parks and other public recreation areas;

      2. Geothermal heating or cooling of a single household. Most heat pump installations for household heating and cooling should not require more than 5 to 10 gpm; and

      3. Noncommercial on-farm alcohol production.

Reference: SDCL 46-1-6(7), 46-5-50 thru 46-5-52. Water Management Board Rules 74:02:01:01 and 74:02:01:03.

WATER RIGHT PERMITTING

1) Except for the previously described domestic water uses and water distribution systems (e.g. towns, rural water systems, subdivisions, and mobile home parks) that do not pump more than 18 gpm, all uses of water require a water right permit pursuant to procedures in SDCL Chapter 46-2A. Water uses supplied from a water distribution system do not need a separate permit. Examples of uses which require a permit are:

   a. Cities, towns, rural water systems, mobile home parks, subdivisions, and other common water distribution systems that pump more than 18 gpm. Those systems not pumping more than 18 gpm that may expand and increase pumping above 18 gpm, should obtain a water right permit to establish a priority date.

Note: Certain water distribution systems that do not pump more than 18 gpm may still be subject to compliance with Safe Drinking Water Standards. SDCL Chapter 34A-3A. Water Management Board Rules Chapter 74:04:05.

b. Domestic use for farm, ranch, household, and livestock use from other than a common water distribution system in excess of either 25,920 gallons per day (18 gpm continuously for a day) or 25 gpm (peak rate).

c. Any well that is allowed to flow more than 18 gpm.

d. Any dam or dugout on a dry draw or nonnavigable watercourse impounding more than 25 acre feet.

e. Any dam constructed for any purpose on a stream considered navigable.

f. Irrigation of more than one acre.

g. Commercial use, even less than 18 gpm, when supplied from other than a common water distribution system to a truckstop, tourist attraction, eating, drinking, or lodging establishment, commercial campground and any other business. An existing business without a water right has no right to the use of water. The commercial user without a water right is not entitled to receive protection in the event of well interference by a new or future user who has a water right. The new user with a water right will have the senior priority over an existing user without a water right.

h. Industrial, manufacturing, gravel washing and mining uses when supplied by other than a common water distribution system. Temporary water permits may be issued for temporary, short term projects. See Temporary Water Permitting.

i. Geothermal use of any amount of water from other than a common water distribution system, for businesses, churches, schools, or any other building, except for individual homes using 18 gpm or less.

j. Any use by a school, park, rest area or other public recreation area in excess of 18 gpm when supplied by other than a common water distribution system.

k. Any use by a hospital, nursing home or church when supplied by other than a common water distribution system.

Fees for permit applications are set by SDCL 46-2-13(2).

A person who applied water to a beneficial use for works constructed prior to or under construction as of March 2, 1955 (surface water) or February 28, 1955 (ground water), may qualify for a vested right pursuant to SDCL 46-1-9 or 46-6-1, if that vested water right has not been forfeited or abandoned. Vested water right claims may be filed or the chief engineer may require vested water right claims to be filed pursuant to SDCL 46-5-49 or 46-6-2.

Reference: SDCL 46-1-3, 46-1-6(3), 46-1-9, 46-1-15, 46-5-1.1, 46-5-6.2 thru 46-5-6.8, 46-5-8.2, 46-5-9, 46-5-10, 46-5-49 and 46-6-2. Water Management Board Rules ARSD 74:02:01:03.

2) Criteria for granting a water right permit as set forth in SDCL 46-2A-9:

a. Water must be available for the proposed use.

The water source, whether surface or ground water, needs to be capable of supporting the proposed water use. For ground water, the annual use from the water source may not exceed the average estimated annual recharge with some limited exceptions – please refer to "WELLS, Ground Water Management" for additional details.

b. The proposed diversion can be developed without unlawful impairment of existing rights.

Existing rights, including domestic uses of water, may not be unlawfully impaired regardless of whether the proposed source is surface or ground water. In order for a well to be protected it must meet the definition of an "adequate" well – please refer to "WELLS, Well Construction" for additional details.

c. The use of water must be a beneficial use.

Beneficial use is the use of water that is reasonable and useful and beneficial to the owner and consistent with the best utilization of water supplies. Beneficial uses of water include, but are not limited to: 1) domestic, 2) municipal, 3) rural water system, 4) irrigation, 5) suburban housing, 6) commercial, 7) industrial, 8) recreation, 9) fish and wildlife, and 10) institutional.

d. The use of water must be in the public interest.

Public interest is not specifically defined in water rights law and is a determination made by the Board based on testimony at the time of hearing. In making a public interest determination, the Board may recognize that some issues are within the jurisdiction of local, state and federal entities.

WATER RIGHT PERMIT ADMINISTRATION

1) After approval of a water right permit, the permit owner has five years to complete any construction. The owner then has an additional four years to put the water to beneficial use.

A water right permit may be amended to extend the time for completion of construction or the time to put the water to beneficial use. The extension may be granted on account of delays due to physical or engineering difficulties, due to operation of law, or due to exigent circumstances identified by the Water Management Board. An application to amend a permit to extend the time for construction or the time to put the water to use needs to be made prior to expiration of the time period to be extended.

Reference: SDCL 46-2A-1(2), 46-2A-8, and 46-5-26.

2) An existing water right permit or right may be amended. Amendment examples are: to change the use of water, to change place of use, to extend time for construction beyond five years, to change diversion points or to add diversion points. An amendment can not be granted to increase the rate of diversion or volume of water appropriated under the original permit or if an existing water right will be impaired. An application to increase the rate of diversion or volume of water will be treated as a new application and will be assigned a new priority date.

The location of an existing diversion point may be moved or additional diversion points may be added without application or publication, if:

a. The water source remains unchanged;

b. No additional water is appropriated;

c. If for irrigation purposes, no new land is irrigated; and

d. The Chief Engineer makes a finding that the potential for interference with existing diversions is not increased.

Reference: SDCL 46-2A-1(2), 46-2A-12, 46-5-13.1, 46-5-30.4, and 46-5-31.

3) Notice of any sale, grant, lease, conveyance or other transfer of a water right permit or right must be filed with the Chief Engineer of the Water Rights Program within 90 days. No assignment of a permit or right is binding, except upon the parties thereto, unless filed for record in the Water Rights Program.

Reference: SDCL 46-5-30.3 and 46-5-32.

4) Water right permits can be cancelled for nonconstruction. However, the Board may reinstate any water right permit with a priority date after March 31, 1977, within three years after expiration of the original construction period if unappropriated water is available. A new priority date is assigned to a reinstated permit. A water right permit or right can be lost for any of the following three reasons:

a. Abandonment - The water right permit or right owner has no intent to use water and abandons its use. Once a water right permit or right is abandoned, it can not be reclaimed under the original permit or right.

b. Forfeiture - Occurs by operation of law if water is not used for a three year period without legal excuse. A "legal excuse" would include, generally, the lack of water, but may include other reasons. Once a water right permit or right is forfeited, it can not be reclaimed under the original permit or right.

c. A third violation of a condition of a water right permit or right.

Reference: SDCL 46-1-12, 46-2A-8.1, 46-5-36, 46-5-37, and 46-5-37.1. Water Management Board rules ARSD 74:02:01:36 thru 74:02:01:41.

FUTURE USE PERMITTING

1) The following entities may reserve water for expected future needs pursuant to procedures in SDCL 46-2A:

a. State institution;

b. Municipality as defined in SDCL 9-1-1;

c. The South Dakota conservancy district or water development districts as defined in SDCL 46A-2-4;

d. Water user district as defined in SDCL 46A-9-2;

e. Nonprofit rural water supply company as defined in SDCL 10-36A-1;

f. Sanitary district as defined in SDCL Chapter 34A-5;

g. Irrigation district as defined in SDCL 46A-4; or

h. Water project district as defined in SDCL Chapter 46A-18.

Approval of an application to appropriate water for future use is a reservation of a definite amount of water with a specific priority date. A future use permit does not grant authority to construct works or put the water to beneficial use. An additional application is required to construct works and put reserved water to beneficial use. The fee for a future use application is 10% of the usual fee for an application to construct works and put water to beneficial use.

Future use permits are subject to review by the Water Management Board every seven years. If the future use permit is allowed to remain in effect after the seven year review, an additional 10% fee is required.

Reference: SDCL 46-2-13(2), 46-5-38, and 46-5-38.1.

FLOOD CONTROL PERMITTING

1) Flood control permits are required pursuant to SDCL 46-2A for facilities constructed on a watercourse to control flooding. Emergency facilities may be constructed without a permit. However, the Chief Engineer of the Water Rights Program must be promptly notified. Flood control permits are not required for flood control facilities constructed on dry draws.

   Reference: SDCL 46-2A-11, 46-5-47, and 46-5-48.

TEMPORARY WATER PERMITTING

1) Temporary water permits may be issued by the Chief Engineer when limited amounts of public water are needed on a temporary basis. For example, permission may be granted to use water for highway and other construction projects and exploration drilling. A temporary permit is not valid after December 31 of the year in which the permit was issued and, under certain circumstances, a temporary permit may be rescinded. In addition, a temporary permit is temporary permission to use public water and does not grant any right of priority for the temporary use.

   Temporary permits may be granted to use water from either public or privately owned sources of water. Approval of a temporary permit does not grant trespass rights to access the water. Water may be obtained from municipalities and other permitted water distribution systems without a temporary permit.

   Reference: SDCL 46-5-40.1. Water Management Board Rules ARSD 74:02:01:32 thru 74:02:01:34.02.

WELLS

1) Ground Water Management

   a. An adversely impacted domestic well is a well in which the pump intake is at least 20 feet below the top of the aquifer or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water from the well owner's needs.

Reference: Water Management Board Rules ARSD 74:02:04:20(7)

b. South Dakota water laws do not allow the "mining" of ground water. "Mining" occurs when the quantity of water pumped annually from a ground water aquifer exceeds the estimated annual recharge to the aquifer. There are a few areas in South Dakota where additional water right permits are not being approved for this reason. A limited exception to "no mining" is made by SDCL 46-6-3.1 for water distribution systems. The Water Rights Program maintains more than 1,600 observation wells to monitor ground water levels.

Reference: SDCL 46-2-14 and 46-6-3.1.

c. South Dakota water law does not protect artesian head pressure as a means of diversion. In other words, a well owner is not necessarily guaranteed that water from a flowing well or from a pump placement that relies on head pressure will always be available. A pump must be capable of being placed 20 feet into the aquifer.

2) Well Construction

a. All wells must be completed in accordance with South Dakota Well Construction Standards. A well driller must be licensed to drill water wells in South Dakota. The driller is required by law to file a copy of a well completion report with the Water Rights Program within 30 days of completion of each well.

Reference: 46-2A-13, 46-6-9, and 46-6-11. Water Management Board Rules ARSD Chapter 74:02:04

b. Any person who performs work for compensation in the repair of wells or as a well pump installer must obtain either a well driller's license or a well pump installer's license.

Reference: 46-2A-13 and 46-6-9.2.

c. An adequate well is defined as a well constructed to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.

Reference: Water Management Board Rules ARSD 74:02:04:20(6)

3) Well Owner Responsibilities

a. The owner or equitable property holder is responsible for the well from the time the licensed well driller successfully completes the well in compliance with the Well Construction Standards ARSD Chapter 74:02:04. The owner shall keep the well capped or covered, in good repair, and in a sanitary condition.

Reference: Water Management Board Rules ARSD 74:02:04:74

b. All flowing wells must be controlled by the owner to produce only the amount of water needed and to prevent waste of water.

Reference: SDCL 46-2-18, 46-6-10, 46-6-14, 46-6-20, 46-6-21, 46-6-29, and 46-6-30. Water Management Board Rules ARSD 74:02:02:11.

c. When the owner of an existing well constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Other abandoned wells must also be plugged. If an old well is not to be abandoned or will be used, the well must still be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

Reference: SDCL 46-6-18 and 46-6-27.

DAMS OR DUGOUTS

1) Dams or dugouts of any size on a navigable watercourse or storing greater than 25 acre feet of water located on a dry draw or on a nonnavigable watercourse require a water right permit.

Reference: SDCL 46-4-1 and Water Management Board Rules ARSD 74:02:01:03.

2) Dams or dugouts storing 25 acre feet or less of water located on a dry draw or on a nonnavigable watercourse can be constructed without a water right permit provided a location notice is filed. However, the dam may not be constructed if it changes the course of the water, interferes with water rights, or wrongfully floods land owned by others.

Reference: SDCL 46-4-1.1, 46-4-3 and 46-5-2.

3) The owner of a dam or dugout storing 25 acre feet or less on a dry draw must file a location notice with the county Register of Deeds and the Water Management Board. Filing a location notice avails the owner of the rights provided in SDCL Chapter 46-4 including establishment of a priority date. The $10.00 filing fee is set by SDCL 46-2-13(1).

Reference: SDCL 46-4-3 thru 46-4-6.

4) The Board may not enforce limitations on domestic use of water from dry draw dams except in response to a written complaint from a person claiming interference with water permits or rights on the same watercourse.

Reference: SDCL 46-2-22

5) Water Management Board Safety of Dams Rules Chapter 74:02:08 apply to dams that are 25 feet or more in height (top of dam) or that store 50 acre-feet or more of water (maximum storage to top of dam.)

Reference: Water Management Board Safety of Dams Rule ARSD 74:02:08:01(7).

6) Beaver dams - No person owning land through which a watercourse passes may prohibit the removal of obstructions built by beavers in a watercourse, if the beavers have obstructed or interfered with the flow of water through the watercourse in a manner that floods land belonging to others or impairs existing water rights.

Reference: SDCL 46-5-1.2.

ORDINARY HIGH/LOW WATER MARKS AND LAKE OUTLET ELEVATIONS

1) The Water Management Board establishes ordinary high water marks (OHWM), ordinary low water marks (OLWM) and lake outlet elevations for public lakes.

State law provides that all navigable rivers and lakes are public highways within 50 feet landward from the water's nearest edge, provided that the outer boundary of such public highway may not expand beyond the OHWM and may not contract within the OLWM. Thus, the public has the right to use a strip of land up to 50 feet wide below the OHWM beginning at the water's edge or the OLWM. Further, while the public may use the 50 foot strip of land for only "public" purposes, the private adjoining landowner may use the land for any purpose not inconsistent with the rights of the public.

The meander line is a survey line and is usually not a property line nor is the title of an adjacent landowner limited to the meander line, except when the land title conveyance clearly states that the meander line is the property line. Subject to the preceding exception, the meander line defines neither the boundary of a lake or stream nor the extent of land area owned by the adjacent landowner. The meander line was established during early government surveys and used to determine the acres of land subject to sale.

Reference: SDCL 43-17-1 thru 43-17-4, and 43-17-20 thru 43-17-30.