

WATER PERMIT NO. 8065-3

Name of Applicant: City of Hecla

Address: PO Box 188, Hecla SD 57446 Phone: 605 994-2333

Amount of Water Claimed: 0.033 cfs Total Acres: NA

Source of Water Supply: groundwater (1 existing well)

Water to be used for: wetland mitigation project County: Brown

Type of Waste Disposal System:

Location: 4 miles west of Hecla

PRIORITY Date Received: 11-26-14 Application/License Fee: \$ 300

Corrected Application Received: Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: NE 1/4 NE 1/4 Sec 25-T128N-
R62W

Land to be Irrigated: NA

Depth of Well: 912 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 12-1-14

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

				⊗	
			25		

Mail to:
PMB 2020
DENR - Water Rights
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

No. 8065-3 (office use only)
Hydrologic Unit 10160003
Basin James River
Newspaper American News, Box 4430
Aberdeen 57402. 605-225-4100

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Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☒ Municipal ☐ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic (over 18 gpm) ☐ Industrial ☐ Other _____

Type of Application: (check one)

☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

1. Name to Appear on Water Permit City of Hecla

(check one) ☐ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent _____

(name and complete address if different than above name)

Mailing Address PO Box 188 Hecla SD 57446
(Address) (City) (State) (Zip Code)

Home Phone 605-994-2333 Cell _____ Email heclasd@heartlandpower.org

2. Amount of water claimed 0.033 *CFS or 15 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Aquifer

4. Location of point of diversion 1 well in NE 1/4, NE 1/4, Section 25-T128N-R62W County Brown

(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No

If "Yes," where will water be used? _____

(example - NW1/4 section 12-T104N-R53W)

5. County or counties where water will be used Brown

6. Annual period during which water is to be used Year-Round Jan 1 - Dec 31

7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Existing artesian well completed in 1914. Water from this well is diverted to provide supplemental water to wetlands created for mitigation of impacts resulting from waste-water pond project.

See attached sheets for additional information.

I, Jay D. St. Mayor, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☐ Drilling new well(s) ☒ Using existing well(s)

a) If new wells, how many ____ Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(if yes, please provide copies of logs)

b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by Anton Johnson

c) Well Depth 912 Depth to Top of Water Bearing Material N/A Depth to Water from Surface N/A

d) Distance to nearest existing domestic well:

On applicant's property _____ On property owned by others 2,000 Feet

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) _____

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

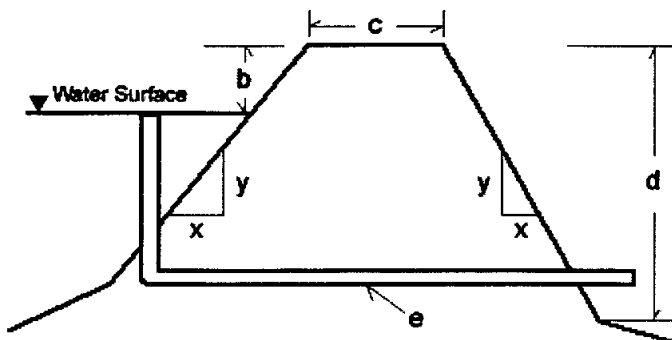
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



**SOUTH DAKOTA
WATER PERMIT NO. 8065-3**

Date of first receipt of application November 26, 2014.

The Water Management Board approved Water Permit No. 8065-3 on May 7, 2015 for City of Hecla, c/o Jay Osterloh, Mayor, PO Box 188, Hecla SD 57446 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 8065-3 appropriates 0.033 cubic feet of water per second (15 gallons per minute) from one well completed into the Dakota Aquifer (912 feet deep) located in the NE 1/4 NE 1/4 Section 25-T128N-R62W.
2. The water appropriated shall be used for an existing wetland mitigation project and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date from which applicant may claim right is November 26, 2014.
5. One-fifth of the construction is to be completed on or before November 7, 2017.
6. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

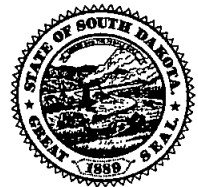
WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAY 27 2015

date



The artesian well identified in this application is located on parcel of property purchased by the City of Hecla, South Dakota for the construction of a new wastewater treatment facility.

The wastewater treatment facility was constructed in 2006.

In the design and environmental review process for planning of the treatment facility, wetland impacts were identified and wetland mitigation was required to comply with funding sources utilized by the City of Hecla for the project.

It was observed at the time, the in-place well flowed to a small area of ponded water west of the well location. As part of the mitigation plan for the project this area was expanded to create additional wetland acres and mitigate for the areas of wetland impacted by the treatment facility project.

The existing well provided a minimum volume of water to the existing and expanded wetland area but provided the beneficial use of maintaining a supply of water to the expanded wetland areas created to mitigate impacted wetlands associated with the project.

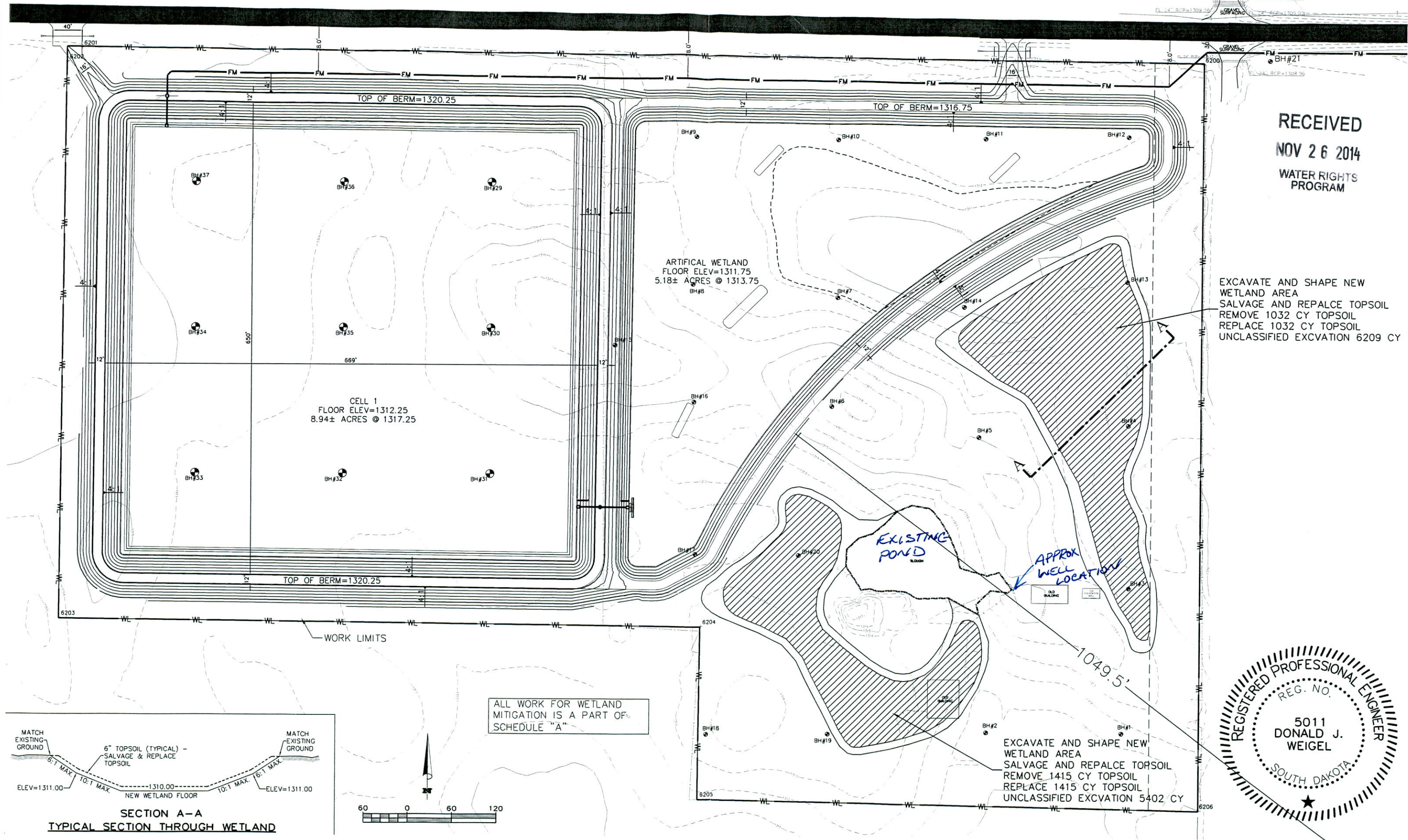
The approximate location of the well, the location of the prior existing ponded water area and the expanded wetland mitigation area are shown on an attached plan sheet from the project.

In May 2014, City of Hecla utility staff conducted an on-site measurement of flow from the well. Those efforts indicate the well flowing at 0.769 gallons per minute.

This flow rate was observed to be minimal at maintaining water levels in the prior existing ponded water area and not sufficient to add water to the mitigation area created adjacent to the original ponded water area.

While area neighbors fear the water from the well leaves the site and creates damage to adjoining roads, the minimal rate of flow from the well and the prior existing and created wetland basins are likely capturing the water contributed by the well.

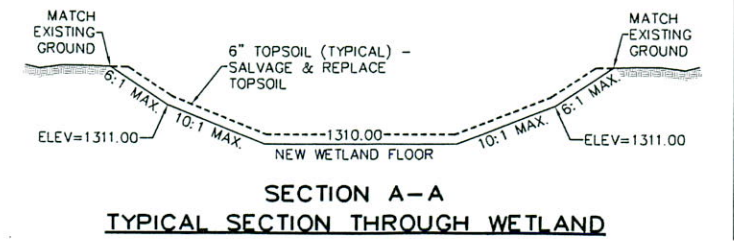
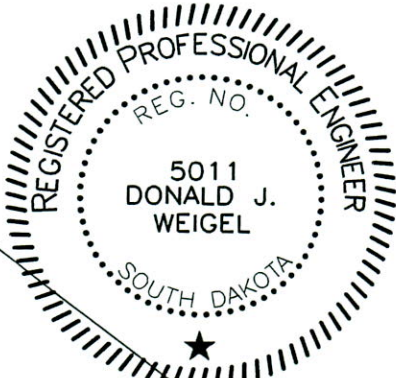
PLOTTED BY: JAMES PLOTTED ON: 6/10/2014 12:18 PM



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EXCAVATE AND SHAPE NEW
 WETLAND AREA
 SALVAGE AND REPLACE TOPSOIL
 REMOVE 1032 CY TOPSOIL
 REPLACE 1032 CY TOPSOIL
 UNCLASSIFIED EXCAVATION 6209 CY

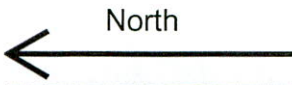
EXCAVATE AND SHAPE NEW
 WETLAND AREA
 SALVAGE AND REPLACE TOPSOIL
 REMOVE 1415 CY TOPSOIL
 REPLACE 1415 CY TOPSOIL
 UNCLASSIFIED EXCAVATION 5402 CY



2301 8th Ave. NE, Suite 125
 P.O. Box 20
 Aberdeen, SD 57402

REVISIONS: #2-07/18/06	DRAWN BY: KGH	CHECKED BY: DJW	PROJECT: 2006 WASTEWATER TREATMENT FACILITY HECLA, SOUTH DAKOTA	SHEET DESCRIPTION: WETLAND MITIGATION LAYOUT	DATE: 6-1-06	SHEET WM1
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Z:\HECLA\A02062\MASTER.DWG



Section 24, T128N
R62W

Section 25, T128N
R62W

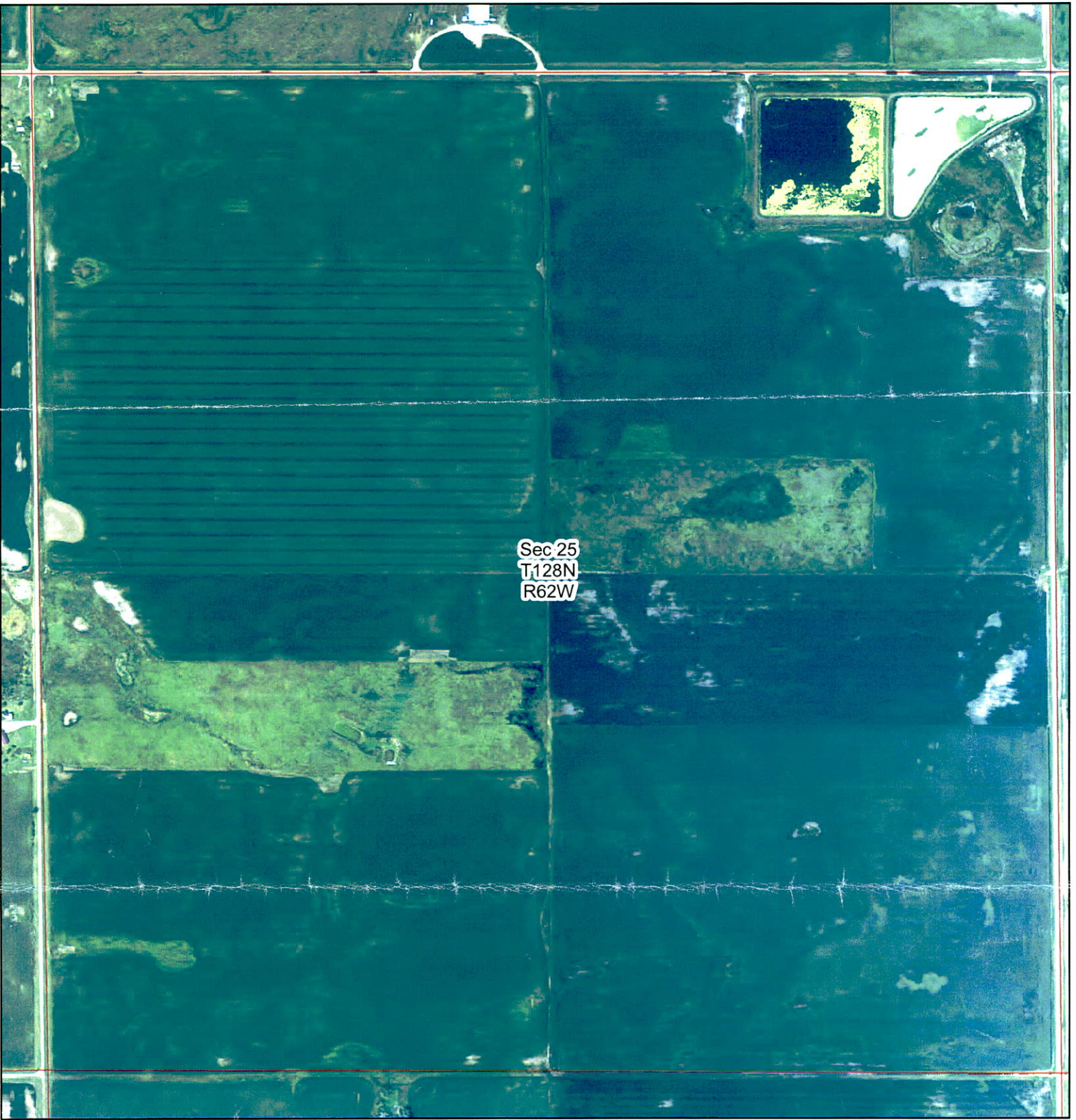
Section 36, T128N
R62W

Section 23, T128N
R62W

Section 26, T128N
R62W

Section 35, T128N
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Sec. 25
T128N
R62W

0 0.1 0.2 0.4 Miles

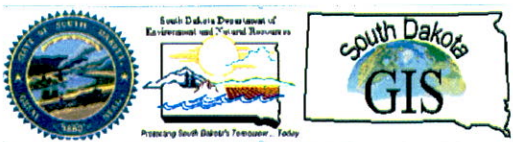


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Adam Mathiowetz



Map Prepared By:
Adam Mathiowetz
May 1, 2014

1400 S. D., Oct 6 1901

COMPLETED WELL FOR

6. to. Nutley

Postoffice address Neola S. Dak

Depth 912 ft. Flows 15 gallons per minute.

Well located on qt., Sec T R

Started work on well Oct 1 1901

Well completed Oct 6 1901

O.S. 723
912 feet 1" Black pipe
160 feet 2" " pipe
feet pipe
feet pipe
6 feet perforated pipe

Location of perforations on Bottom

What was the last well completed by this machine

Harmon

What was the date of its completion Sep 29

Explain loss of time, if any, between completion of last well and commencement of this one

O.S. 723
What extra charges are there against this well for pipe, fittings and

supplies (please itemize) 2 3/4 Nipples .14

1 Elbow 1 1/4 Elbow .00

22 feet 1" Black Pipe .51

2 1" Black Elbows .24

Please state what casing and gasoline you have on hand after completion of this well

Anton Johnson
Manager of Rig No. 21

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3014

(1914)

Mr. *C. E. Nutter*
P. O. *Necla, S.D.*
Renter
P. O.
County
Location *NE - 25 - 128 - 62 -*
Drilled by *Anton Johnson*
Foreman
Completed *Oct. 6 - 1914*
Size of well *1 1/4"*
Remarks *S. L. 723.*

*C. R. #97.**Rig #21.**328⁰¹*

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 12/1, 20 14

RECEIVED OF City of Hecla PO Box 188 Hecla SD 57446

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>8065-3</u> to Appropriate Water, to construct and to put water to beneficial use	100	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8065-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	300 00

No. **06994**

By J. James Goodman
Chief Engineer



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



May 2, 2014

Mitchell-Broadview, LLP
c/o Bill and Sandy Mitchell
10095 Mitchell Road
Hecla, SD 57446

Dear Bill and Sandy Mitchell:

A complaint was filed with the SD DENR-Water Rights Program regarding an uncontrolled flowing well on your property. The legal location was given to us as the W ½ of Section 12; T128N-R62W. The complaint stated the well was flowing uncontrolled, and water from the well had filled a low lying area and damaged a township road. It is our understanding the well is on your property. Pursuant to South Dakota Codified Law (SDCL) 46-6-18 the owner of the land on which the well is located is the owner of the well.

SDCL 46-6-10 requires the well to be constructed so as not to waste water. Administrative Rule of South Dakota (ARSD) 74:02:04:74 requires the well owner or equitable property holder, if the well is flowing, to control the flow to the amount necessary for reasonable domestic use or to the amount authorized by a water permit or right, and the well owner or equitable property holder shall shut in the well or reduce the flow to no more than five gallons a minute to prevent freezing when the flowing well is not in use. If damages to property of adjacent landowners or township roads occur as a result of discharge from your well, you should be aware it may lead to a civil action in circuit court between you and the property owners.

Pursuant to SDCL 46-6-12 an engineer from the DENR-Water Rights Program may conduct an inspection to ensure compliance with SDCL 46-6-10. If you desire to apply for a water permit, please contact Eric Gronlund at (605) 773-3352. If you have any further questions regarding your well, feel free to contact Adam Mathiowetz at (605) 773-3352.

Sincerely,

Joanne Goodman, Chief Engineer
Water Rights Program

cc: Merlyn Elsen,
Ann Mines, Asst. Attorney General

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Merlyn Elsen

ADDRESS: 502 3rd Street Hecla, SD 57446

DATE: 5/2/14 TELEPHONE: (605) 994-7101

RE: Flowing Well Complaint

COMMENTS:

On January 28, 2014 Merlyn Elsen called to complain that there were two uncontrolled flowing wells. One well is in the W ½ Sec. 12-T1128N-R62W on property owned by Mitchell-Broadview, LLP. Mr. Elsen said the well was responsible for damaging a lowspot on a township road and flooding it out. The second well is in the NE ¼ NE ¼ Sec 25-T128N-R62W on the same property as the wastewater treatment ponds for the City of Hecla and flows water on to the road and adjacent farmland.

The Mitchell-Broadview, LLP is apparently owned by Bill and Sandy Mitchell. I attempted to call them but they were out of the country. I ended up speaking to their hired man, Lynn Ruenz (sp?). He stated the well was on that property but it probably wasn't flowing greater than 5 gpm.

A letter was sent to them informing them of the rules and their responsibilities as well owners (a copy is attached). The township road is in a low spot (verified by 2012 Lidar data in ArcMap) and Brown County is notorious for drainage issues. The road appears to have started flooding between spring 2006 and spring 2008, likely during spring 2008, and appears to have been partially or completely flooded since then.

The City of Hecla well is an old domestic/stock well that is at the site of the city's new wastewater treatment ponds. Mr. Elsen stated that water from the well was flowing onto the road and the farm land adjacent to the city's property. The adjacent property is the low spot so well is may be contributing to an existing drainage issue. There is no evidence of damage to the road from FSA satellite imagery. At the time of construction (early 2000's) the city removed several small wetlands to construct the ponds. They were required (I did not find any actual permits or copies thereof with the DENR funding or Surface Water Quality people, the Army Corps of Engineers, or with the city) to mitigate the wetlands they removed by constructing new ones. Don Weigel of Clark Engineering was the primary design engineer on the treatment ponds. At the time of construction the well was flowing less than 5 gpm into a stock tank, according to Mr.

Weigel. The overflow from the tank had created a wetland. As part of the city's mitigation plan the city constructed a new wetland to capture overflow from the well.

A site visit is planned for May or early June, 2014.

A handwritten signature in black ink, appearing to read "Adam Mathiowetz". The signature is stylized with a large, sweeping "M" and a long, horizontal stroke at the end.

Adam Mathiowetz
Natural Resources Engineer
DENR-Water Rights Program



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



May 2, 2014

Merlyn Elsen
502 3rd Street
Hecla, SD 57446

Dear Mr. Elsen:

This letter is a follow up to the phone calls you had with Water Rights staff engineer Adam Mathiowetz on January 28 and March 4, 2014. You had concerns about two uncontrolled flowing wells. Specifically, you stated that one well, in the W ½ Section 12-T128N-R62W on property owned by Mitchell-Broadview, LLP, was responsible for damaging a township road. The other well, in the NE ¼ NE ¼ Section 25-T128N-R62W on property owned by the City of Hecla, was discharging onto adjacent property and impacting the township road.

Enclosed are copies of letters sent to Mitchell-Broadview, LLP and the City of Hecla informing them of South Dakota water law.

Adam will be conducting an onsite inspection this spring when field conditions will allow him to access the wells. He will contact you when he is in the area. If you have any further questions, feel free to contact Adam Mathiowetz at (605) 773-3352.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program

Enclosure (2)

cc: Ann Mines, Asst. Attorney General



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8065-3, City of Hecla**

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. 8065-3, City of Hecla, c/o Mayor Jay Osterloh, PO Box 188, Hecla SD 57446.

The Chief Engineer is recommending APPROVAL of Application No. 8065-3 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.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
January 26, 2015

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8065-3
CITY OF HECLA
C/O JAY OSTERLOH, MAYOR
JANUARY 15, 2015

Water Permit Application No. 8065-3 proposes to appropriate water at a maximum diversion rate of 0.033 cubic feet of water per second (cfs) (15 gallons per minute) from an existing well (912 feet deep) completed into the Dakota aquifer in the NE ¼ NE ¼ Section 25; all in T128N-R62W in Brown County. The water will be used by the city for an existing wetland mitigation project.

AQUIFER: Dakota aquifer (DKOT)

AQUIFER CHARACTERISTICS:

The Dakota aquifer is comprised of interbedded layers of permeable sand and sandstone within the Cretaceous aged Dakota Formation. The lithology of the Dakota Formation is quite variable laterally and vertically. It has been postulated that the explanation for this is the Dakota Formation was deposited in a fluvial environment near the edge of a Cretaceous aged sea (Schoon, 1971). The Dakota Formation is expected to be approximately 240 feet thick at the well site (Schoon, 1971). Schoon (1971) estimated the Dakota aquifer underlies approximately 66,500 square miles of the 77,047 total square miles of South Dakota. The Dakota Formation in eastern South Dakota is estimated to contain 381,104,000 acre-feet (ac-ft) of recoverable water (Hedges et. al, 1982). Allen and others (1985) estimated the Dakota-Newcastle Formation contains approximately 308,442,000 ac-ft of recoverable water in storage in western South Dakota.

In the northeastern portion of South Dakota, including Brown County, the water in the Dakota aquifer is predominantly soft with a majority of wells exhibiting water with a slight to strong saline taste (Erickson, 1955). The water from the Dakota aquifer in northeastern South Dakota is potable but has high sodium as well as sulphates and chlorides (Erickson, 1955). The gradient of the Dakota aquifer in the area of this application is generally west to east (Erickson, 1955).

The well log supplied with the application shows the well was completed October 6, 1914, for Mr. C.E. Nutten. The well was drilled to a depth of 912 feet and had a flow of 15 gallons per minute (gpm) at the time of completion. No closed in pressure is mentioned on the well log. A note included with this application states the well had a flow rate of 0.769 gpm in May 2014.

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 a reasonable probability that there is unappropriated water available for this 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 effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Dakota aquifer. The probability of unappropriated water available from the 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 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.” If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. The Dakota aquifer is stratigraphically lower than the Greenhorn Formation, but the use is not for a public water system.

In applying SDCL 46-6-3.1, the Sixth Judicial Circuit Court ruled in 2005 that if the Water Management Board uses average annual recharge, then it should also use average annual withdrawals to determine if unappropriated water is available from the aquifer (*Hines v. South Dakota Dept. of Environ. and Nat'l Resources, Hughes County 04-37*) (Memorandum Decision, April 29, 2005).

A 2012 First Judicial Circuit Court’s rulings ultimately stated that data must be present to show it is probable the average annual recharge exceeds the average annual discharge by at least the amount requested by the water permit application being considered (*Hanson County Dairy v. Robert Bender and Stace Nelson*) (Memorandum Decision, April 11, 2012).

Later in 2012, the First Judicial Circuit Court stated that in deciding whether or not it is probable that the quantity of water withdrawn will exceed the quantity of the average estimated annual recharge is to be based according to the best information reasonably available, and that nothing in South Dakota law requires a recharge study (*Longview Farms, LLP v. South Dakota Dept. of Environ. and Nat'l Resources*) (Memorandum Decision, May 17, 2012).

There have been concerns since the early 1900’s regarding the declining head in the Dakota aquifer. Rothrock and Robinson (1938) stated, “There has been a pronounced decline in the artesian head since the first wells were drilled in the area. The decline has not proceeded uniformly but has varied from place to place, depending on local draft...” This decline in artesian head pressure has been well documented. One interpretation of the decline in artesian head pressure is that the Dakota aquifer is being “mined”. Schoon (1971) stated “The fact that withdrawal from the artesian system exceeds recharge is clearly demonstrated by declining pressures.”

The Water Management Board has considered the issue of declining head pressure in the Dakota aquifer several times. The Board has found that past declines of the potentiometric surface do not automatically mean that withdrawals have exceeded recharge (Water Rights, 2010). The Board has concluded that whether withdrawals exceeded the average annual recharge cannot be determined based solely upon a decline in head pressure, and in theory the Dakota aquifer head pressure is stabilizing relative to withdrawals and discharges (Water Rights, 1987). The Board stated in the Findings of Facts and Conclusions of Law for Application No. 5136-3, “The primary reason for declines in the Dakota Formation head pressure is due to water being

discharged without beneficial use through uncontrolled flowing wells” (Water Rights, 1987). The Water Management Board further stated:

“When defining withdrawal for the purpose of interpreting the meaning of withdrawal pursuant to SDCL 46-6-3.1, there is a difference between withdrawal of water for beneficial use and water discharged without beneficial use through uncontrolled flowing wells. Water discharged from uncontrollable flowing wells does not constitute withdrawal (appropriation) pursuant to SDCL 46-6-3.1.”

Ultimately, the Water Management Board’s position has been to optimize development for beneficial use from the Dakota aquifer.

Observation Well Data:

Administrative Rule of South Dakota (ARSD) Section 74:02:05:07 requires that 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.

The DENR-Water Rights Program monitors 44 observation wells completed into the Dakota aquifer (Water Rights, 2015a). Most of the observation wells, 33, are in Lincoln County and another four wells are also in southeastern South Dakota. There are several rural water systems in and around Lincoln County that withdraw water from the Dakota aquifer. The remaining seven observation wells are spread across south-central and the eastern half of South Dakota.

The nearest observation well completed into the Dakota aquifer to the well site, ED-85A, is approximately 40 miles southwest (Water Rights, 2015a). The rest of the observation wells are all more than 110 miles from the well site (see Figure 1). The hydrographs for the nearest DENR-Water Rights Program observation wells as shown in Figure 1, ED-85A and HD-87A, are shown in Figures 2 and 3, respectively. The U.S. Geological Survey monitored three wells completed into the Dakota aquifer within approximately 20 miles of the well site from the early 1960’s to the late 1980’s (see Figure 1) (Winter, 1994). The hydrographs for the wells are shown in Figures 4, 5, and 6. The wells are labeled by figure number in Figure 1.

A majority of the DENR-Water Rights Program observation wells, 33 out of 43, completed into the Dakota aquifer show a declining water level over the period of record (Water Rights, 2015a). The three wells monitored by the U.S. Geological Survey, shown in Figures 4, 5, and 6, also showed stabilizing water levels over the period of record. It has been accepted by the Water Management Board that the water level of the Dakota aquifer has yet to equilibrate to the withdrawals from the aquifer (Water Rights, 2010). The Findings of Fact and Conclusions of Law regarding Water Permit No. 7165-3 were leveled more specifically at southeastern South Dakota. However, the hydrographs shown in Figures 4, 5, and 6 demonstrate the decline was leveling off, and the hydrographs for the other observation wells generally concur with those three hydrographs. Therefore, the hydrographs for observation wells completed into the Dakota aquifer show there is unappropriated water available for this proposed appropriation.

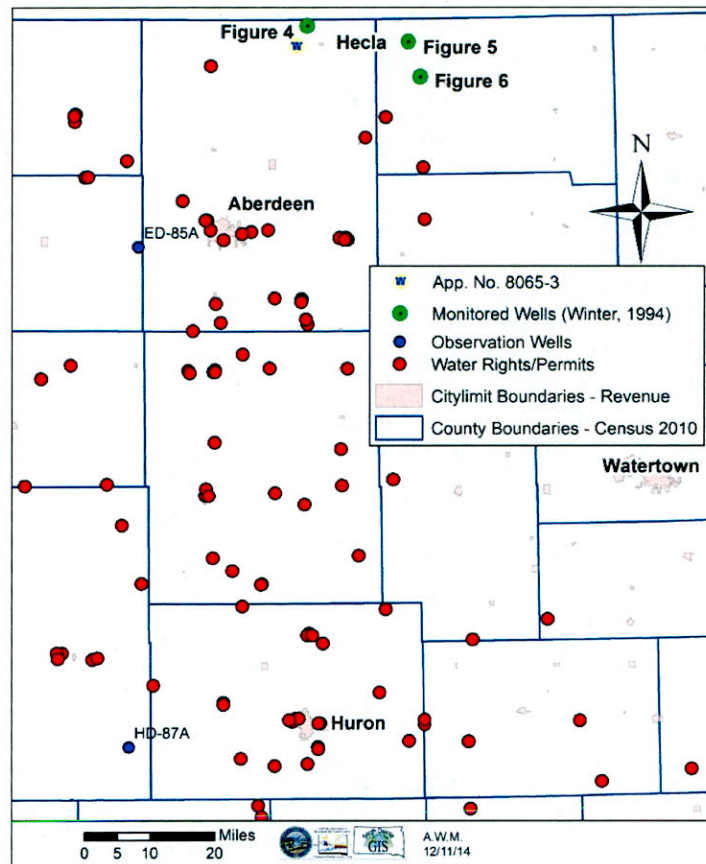


Figure 1- Map of Dakota aquifer water rights/permits, Dakota aquifer observation wells in the region of the well site, and U.S. Geological Survey monitored Dakota aquifer wells (Water Rights, 2015a and 2015b)

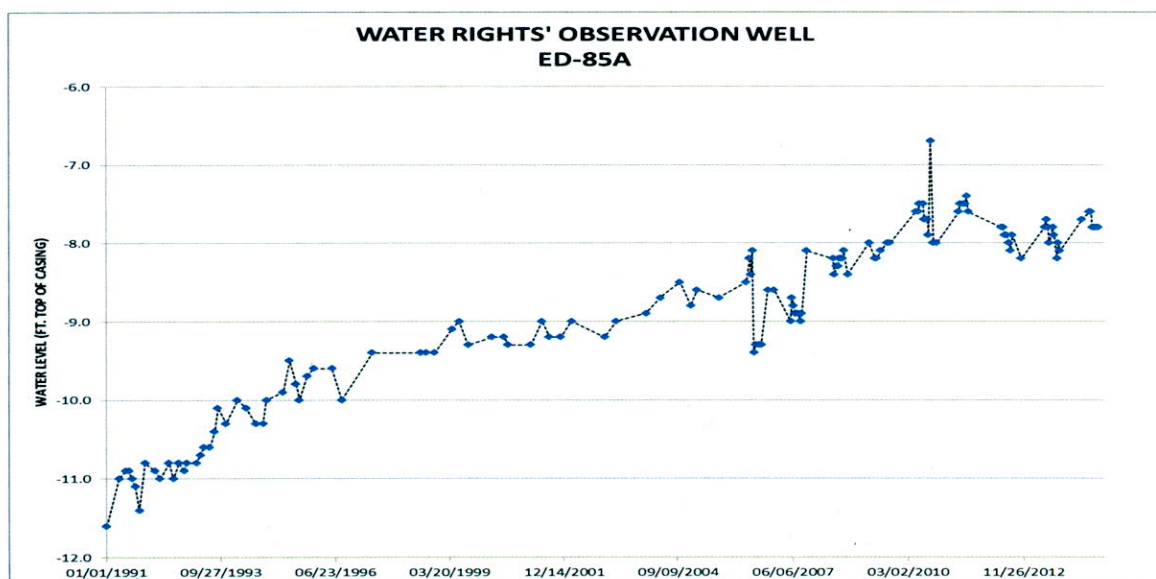


Figure 2- Hydrograph for observation well ED-85A (Water Rights, 2015a)

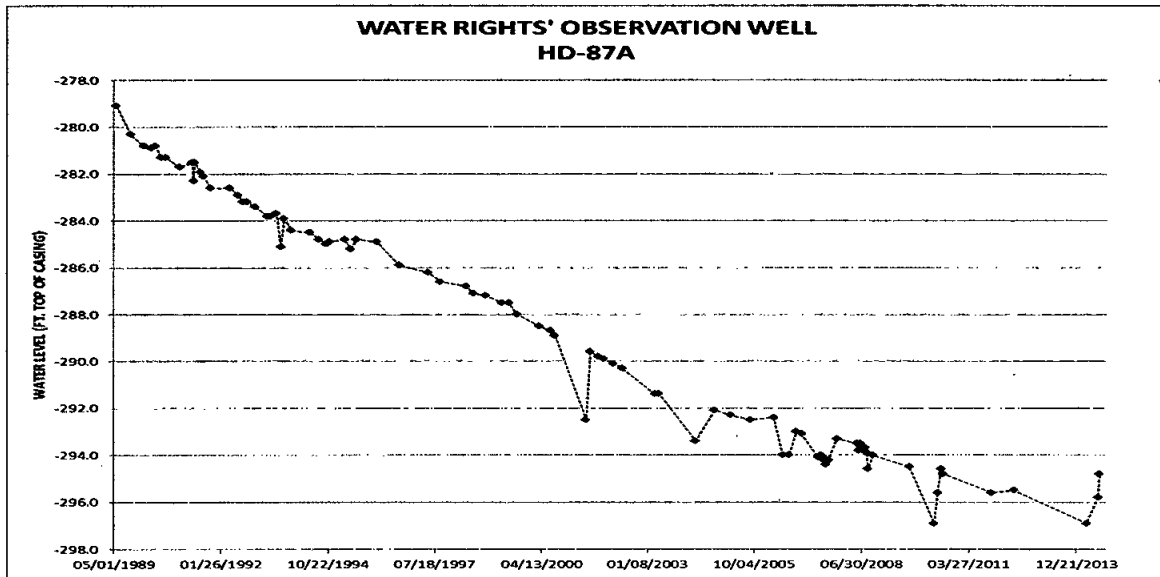


Figure 3- Hydrograph for observation well HD-87A (Water Rights, 2015a)

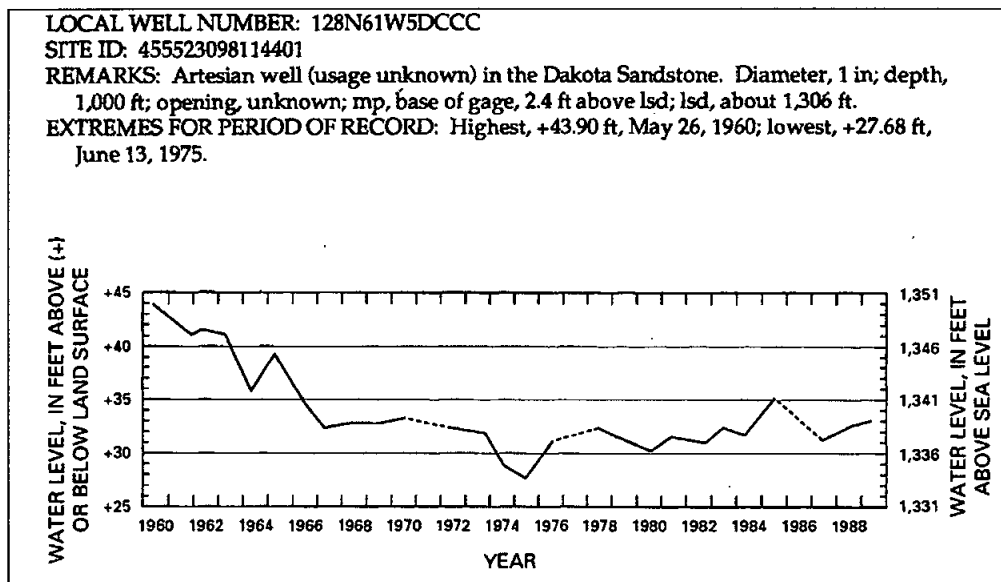


Figure 4- Hydrograph for a U.S. Geological Survey monitored well (Winter, 1994)

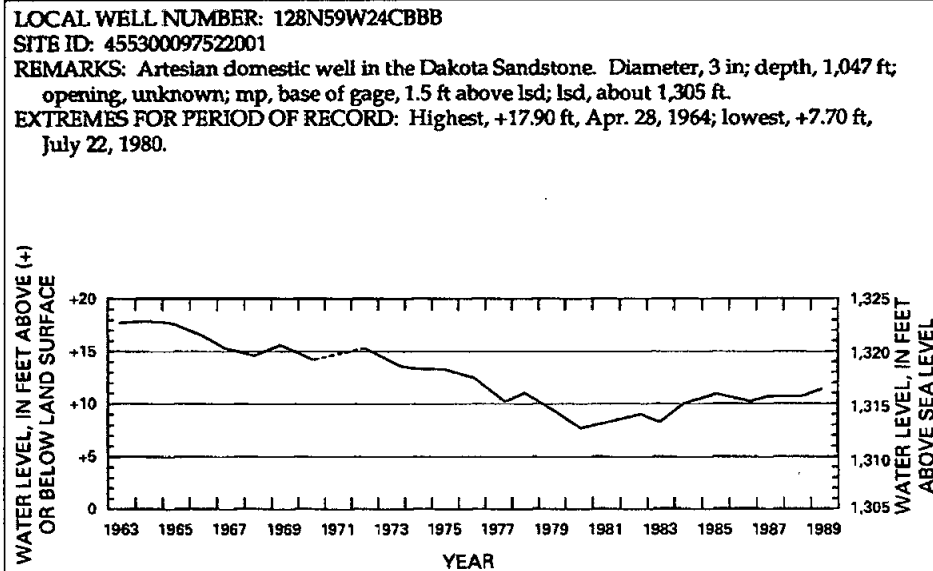


Figure 5- Hydrograph for a U.S. Geological Survey monitored well (Winter, 1994)

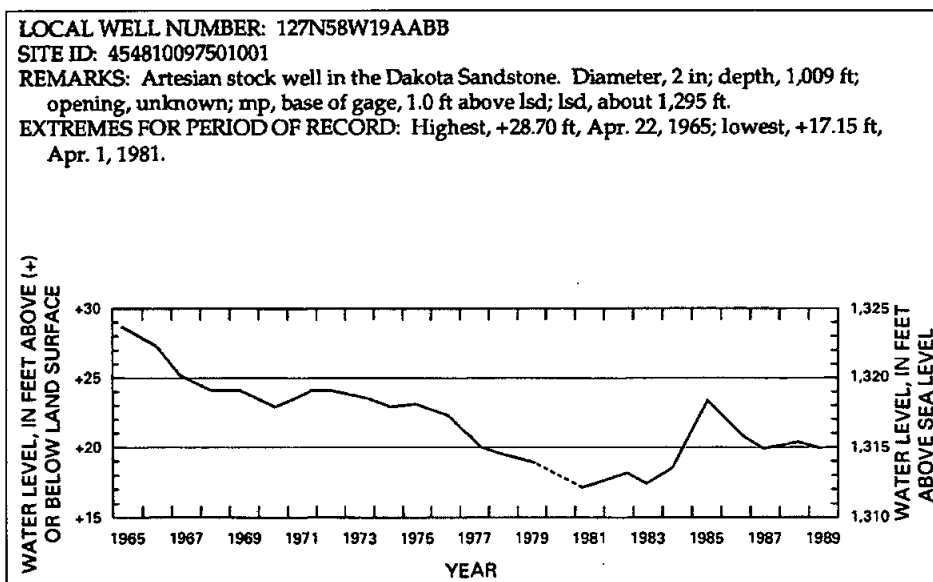


Figure 6- Hydrograph for a U.S. Geological Survey monitored well (Winter, 1994)

Recharge and Discharge:

There is insufficient data available to determine recharge to the Dakota aquifer, and thus, compare average annual recharge to the Dakota aquifer with the average annual withdrawal. Furthermore, there is no way to accurately estimate the amount of water flowing to waste from uncontrolled flowing wells. As stated previously, the Water Management Board considers water being discharged without beneficial use from uncontrolled flowing wells does not constitute withdrawal (appropriation) pursuant to SDCL 46-6-3.1.

Currently, there are 229 water rights/permits appropriating and six future use permits reserving water from the Dakota aquifer in South Dakota (Water Rights, 2015b). There are 21 water rights/permits authorized for irrigation purposes. The irrigation water rights/permits authorize the

irrigation of up to 1,569.44 acres. The total diversion authorized by the 208 non-irrigation water rights/permits is 70.779 cfs. However, most of the municipalities are connected to rural water (Friedeman, 2015) and do not pump much or any water from their wells. Therefore, the diversion rate that is actually used is 45.407 cfs. Most of the 45.407 cfs is from the southeastern corner of South Dakota. The City of North Sioux City, the City of Elk Point, and South Lincoln Rural Water System account for approximately 32 percent of the 45.407 cfs. The estimated annual use by the non-irrigation appropriations limited only by diversion rate from the non-irrigation appropriations not served by rural water systems is 15,671 ac-ft/yr. This estimation is based on pumping at the maximum allowable diversion rate for 60 percent of the time. The water rights/permits authorized by an annual volume are estimated to pump the full volume. The estimated annual use by the non-irrigation appropriations limited by annual volume from the non-irrigation appropriations not served by rural water systems is 3,857 ac-ft/yr. That is a total of 19,528.13 ac-ft/yr. Future use permits reserve 3,737 ac-ft/yr and are shown in Table 1.

Permit No.	Name	County	Type	Volume Reserved (ac-ft)
1262C-3	CITY OF CANTON	LN	MUN	674
4817-3	SOUTH LINCOLN RWS	LN	RWS	1448
5101-3	CITY OF LENNOX	LN	MUN	0
5101A-3	CITY OF LENNOX	LN	MUN	0
5155-3	LINCOLN COUNTY RWS	LN	RWS	440
5219-3	CITY OF CANTON	LN	MUN	1175
Sum				3737
LN= Lincoln, MUN= Municipal, RWS= Rural Water System				

Table 1- Future use permits reserving water from the Dakota aquifer (Water Rights, 2015b)

Estimated average annual withdrawal from the aquifer by irrigation appropriations is 139.4 ac-ft/yr and is shown in Table 2. Therefore, estimated expected average annual appropriative use plus reserved volume by appropriative water rights/permits is 23,404 ac-ft/yr.

Davis and others (1968) stated that in 1958 the flow from 46 uncontrolled wells in Bon Homme, Brule, Buffalo, Charles Mix, Gregory, Lyman, and Yankton counties was more than 16 million gallons per day (mgd) (17,920 ac-ft/yr), and the flow from 3,054 Dakota aquifer wells, that were controlled, in the James River valley was also estimated to be approximately 16 mgd. Therefore, 46 uncontrolled flowing wells had as much flow as 3,054 controlled wells. The number of wells completed into the Dakota aquifer has increased significantly since the 1950's. A 1921 map of flowing artesian wells for South Dakota indicated there were hundreds of Dakota aquifer wells in Brown County alone (Works Progress Administration, 1937).

There are many well logs on file with the SD DENR-Water Rights Program for domestic wells completed into the Dakota aquifer (Water Rights, 2015c). Some of the domestic wells are controlled and currently in use. Others are flowing uncontrolled with some of the water being put to beneficial use. There are also a number of uncontrolled flowing wells that are just flowing to waste. Furthermore, water is also flowing to waste from poorly constructed or deteriorating wells. It is likely poorly constructed or deteriorating wells are the primary source of wasted Dakota aquifer water. It is not possible to quantify the volume of any of these categories. While there is no estimate of how much water from the Dakota aquifer is flowing to waste, it is likely that the amount is just as much or more than the amount put to beneficial use by appropriative

users. However, water flowing from uncontrolled flowing wells should be available for capture and use by appropriative rights.

Year	No. of Permits Reporting	Appropriation (ac-ft)	Pumpage (ac-ft)
2013	18	2158.52	262.89
2012	18	2158.52	304.7
2011	18	2158.52	175.77
2010	17	1950.52	178.03
2009	15	1166.52	137.13
2008	14	1106.52	202.05
2007	14	1106.52	205.64
2006	14	1106.52	237.91
2005	12	867.52	150.75
2004	10	726.52	159.63
2003	10	726.52	205.02
2002	10	726.52	184.53
2001	11	740.52	160.85
2000	10	666.52	172.81
1999	10	666.52	101.57
1998	9	633.52	64.76
1997	9	533.12	48
1996	8	527.12	34.38
1995	8	527.12	30.83
1994	7	931.12	51.29
1993	7	1521.52	112.4
1992	5	1501.52	40.4
1991	5	1481.52	165.42
1990	4	1471.52	234
1989	4	1471.52	265.4
1988	4	1471.52	452.8
1987	5	1900.52	1.3
1986	5	1834.76	238.85
1985	5	1554.26	8.1
1984	4	1405.76	0
1983	5	1834.76	64.39
1982	5	1420.52	33.23
1981	4	1469	45
1980	2	729	110
1979	2	729	38
Min	2	527.12	0
Max	18	2158.52	452.8
Avg	8.8	1228.0	139.4

Table 2- Historic irrigation water use from the Dakota aquifer (Water Rights, 1979-2014)

EXISTING WATER RIGHTS:

The nearest well authorized by a water right/permit is authorized by Water Right No. 5322-3 for the Town of Frederick and is located approximately 13.5 miles from the well site (see Figure 1) (Water Rights, 2015b). The well site is approximately four miles from North Dakota, and there are no appropriative rights from the “Dakota Group” in North Dakota within approximately eight miles of the well site (ND SWC, 2015).

There are a number of well logs on file for wells completed into the Dakota aquifer with the SD DENR-Water Rights Program (Water Rights, 2015c). It is also likely that there are a number of wells completed into the Dakota aquifer that are not on file with the SD DENR-Water Rights Program in the area of this project.

Since the Dakota aquifer is under confined conditions, measurable drawdown from a flowing well could extend several miles from that well. However, the diversion rate requested by this application, 15 gallons per minute (gpm), is small, but the measured flow from the well is even smaller, 0.769 gallons per minute, there are no other appropriative users within approximately 13.5 miles, and the well was drilled in 1914 and has likely been continually flowing since then. When considering these facts, it is probable that this well will not cause an adverse impact on adequate domestic or appropriative right wells in the area. Furthermore, there has not been a history of contention in Brown County over water use from the Dakota aquifer.

SDCL 46-6-6.1 does not protect artesian head pressure as a means of delivery, and the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. To balance interests between appropriative use, particularly irrigation, and delivery of water by artesian pressure, the Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

“a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction 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 for the well owner’s needs”

Depending on the specific characteristics of the Dakota aquifer at the well site proposed by this application, some existing well owners may need to lower their pumps. However, when considering the statute (SDCL 46-6-6.1) and rule (ARSD 74:02:04:20(7)), well interference from this proposed appropriation is not likely to cause a significant impact. Therefore, there is a reasonable probability that any interference will not be adverse.

LOCAL CONCERNS:

A complaint was filed with the DENR-Water Rights Program in January 2014 regarding the well this application proposes to use. The complaint was filed on behalf of the township board. The complaint stated that flow from the well was encroaching upon the adjacent road and farmland. The road that was mentioned in the complaint runs north and south just east of the well (see Figure 7). The complaint led to a letter stating the responsibilities of a well owner and an application for a water permit being sent to the City of Hecla. The following is an excerpt from a note included with this permit application explaining the need for and use of the well:

“In the design and environmental review process for planning of the treatment facility, wetlands impacts were identified and wetland mitigation was required to comply with funding sources utilized by the City of Hecla for the project.

It was observed at the time, the in-place well flowed to a small area of ponded water west of the well location. As part of the mitigation plan for the project this area was expanded to create additional wetland acres and mitigate for the areas of wetland impacted by the treatment facility project.

The existing well provided a minimum volume of water to the existing and expanded wetland area but provided the beneficial use of maintaining a supply of water to the expanded wetland areas created to mitigate impacted wetlands associated with the project.”

Based on U.S. Department of Agriculture-Farm Service Agency (FSA) satellite imagery there is no evidence that water was encroaching on the road at the time the images were taken in 2004, 2008, 2010, 2012, or 2014. Using IfSAR elevation data (interferometric synthetic aperture radar), it was determined that the farmland in the same section as the well lowers in elevation from west to east by approximately 25 feet and from north to south by approximately six feet (see Figure 7). The elevation contours show that everything slopes towards the James River. If the well was the primary source of water that was encroaching on the road, there would be evidence of that in the aerial imagery. In a note included with the application, the city stated “This flow rate was observed to be minimal at maintaining water levels in the prior existing ponded water area and not sufficient to add water to the mitigation area created adjacent to the original ponded water area.” Therefore, if there was a significant encroachment of water on the road just to the east of the well it is most likely from snow melt or precipitation runoff from the farmland to the west and not from the well.

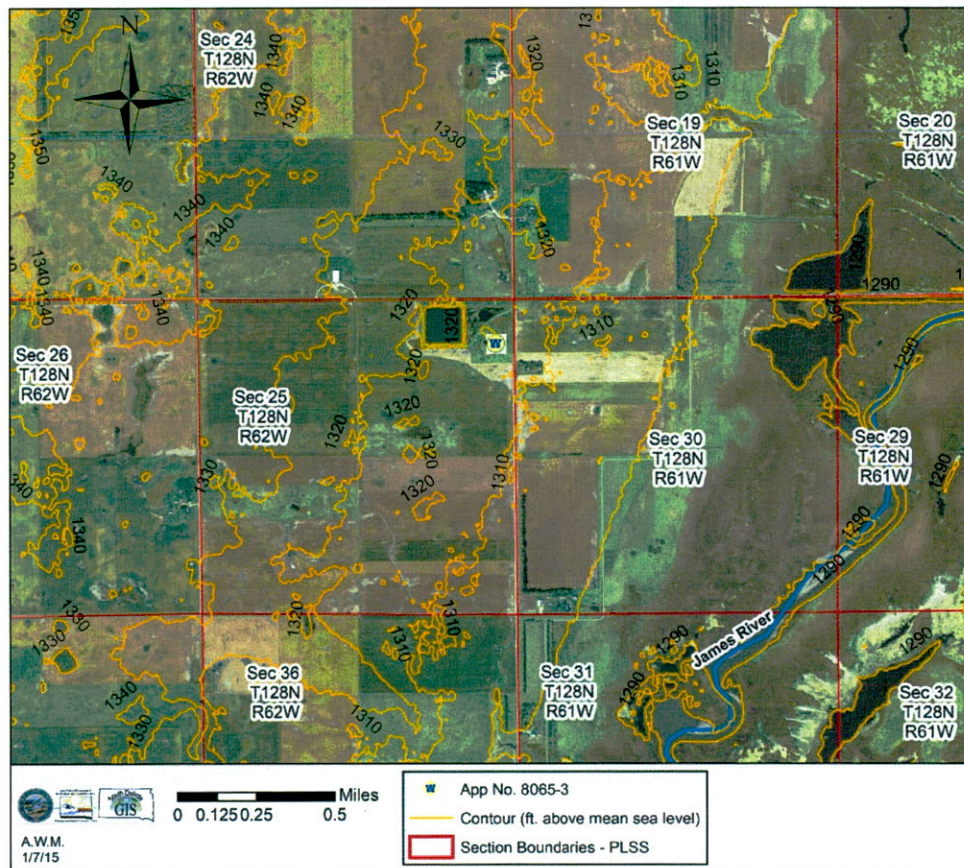


Figure 7- IfSAR 10 foot elevation contours in project section

The construction method of the well this application proposes to use is commonly called a “slim-hole” well and is described in ARSD 74:02:04:35. If the well needs to be replaced, the

replacement well cannot be a “slim-hole” well, because this well requires a permit and ARSD 74:02:04:35 does not allow the new construction of a “slim-hole” well for permitted appropriations.

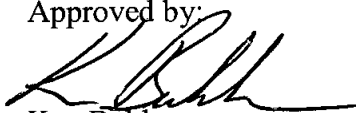
CONCLUSIONS:

1. This application proposes to appropriate water from the Dakota aquifer at a maximum diversion rate of 0.033 cfs (15 gpm) from an existing well for use by the City of Hecla in an existing wetland mitigation project in Brown County.
2. Water levels in the Dakota aquifer have declined across much of the State since the first wells were completed into the aquifer.
3. The Water Management Board has concluded that whether withdrawals exceed recharge to the Dakota aquifer cannot be determined solely based on a decline in artesian head.
4. The Water Management Board also concluded that the decline in the potentiometric surface of the aquifer is primarily a result of the waste of water from uncontrolled flowing wells.
5. In reference to SDCL 46-6-3.1, the Water Management Board has concluded that “withdrawals” apply only to water placed to beneficial use via appropriation or domestic use.
6. Flow from uncontrolled flowing wells should be available for capture. Therefore, there is a reasonable probability that unappropriated water is available for this application.
7. There is a reasonable probability that the diversion rate requested by this application can be made without adversely impacting existing water rights/permits and domestic users.
8. A complaint was filed with the DENR-Water Rights Program regarding flow from the well this application proposes to use was encroaching on an adjacent road and farmland. Water encroachment on the road was most likely caused by runoff and snow melt from adjacent farmland to the west of the well site.



Adam Mathiowetz
SD DENR-Water Rights Program

Approved by:



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

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Form 8

RECEIVED

FEB 23 2015

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Brown) SS

I, May Besh

certify that the attached printed Notice was
taken

from the Aberdeen News

printed and published in Aberdeen

County of Brown and

state of South Dakota. The notice was
published

in the newspaper on the following date:

Feb - 4 - 2015

Cost of Printing \$ 43.75

May Besh
(Signature)

Adv. Betty Speer
(Title)

Feb 18, 2015
(Date Signed)

(No. 1909958)

(February 4, 2015 - 17)

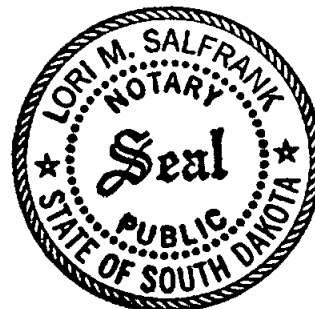
NOTICE OF APPLICATION NO. 8065-3 to Appropriate Water

Notice is given that the City of Hecla, c/o Jay Osterloh, Mayor, PO Box 188, Hecla, SD 57446 has filed an application for a water permit to appropriate 0.033 cubic feet of water per second (15 gallons per minute) from one well completed into the Dakota Aquifer (912 feet deep) located in the NE 1/4 NE 1/4 Section 25-T128N-R62W. The water will be used by the city for an existing wetland mitigation project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8065-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 February 17, 2015.

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. Information concerning this application is available at <http://denr.sd.gov/public>. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of \$43.75.





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 28, 2015

American News
PO Box 4430
Aberdeen SD 57402

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 8065-3 to Appropriate Water. Please publish the notice once on February 4, 2015. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is City of Hecla, c/o Jay Osterloh, Mayor, PO Box 188, Hecla SD 57446 (Ph # 605-994-2333).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.**

January 28, 2015

City of Hecla
Jay Osterloh- Mayor
PO Box 188
Hecla SD 57446

Dear Mr. Osterloh:

Water Permit Application No. 8065-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the American News printed at Aberdeen SD (Ph # 605-225-4100). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish the Notice on February 4, 2015. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 8065-3 to Appropriate Water

Notice is given that the City of Hecla, c/o Jay Osterloh, Mayor, PO Box 188, Hecla SD 57446 has filed an application for a water permit to appropriate 0.033 cubic feet of water per second (15 gallons per minute) from one well completed into the Dakota Aquifer (912 feet deep) located in the NE 1/4 NE 1/4 Section 25-T128N-R62W. The water will be used by the city for an existing wetland mitigation project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8065-3 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 February 17, 2015.

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. Information concerning this application is available at <http://denr.sd.gov/public>. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

January 28, 2015

Meryln Elsen
502 3rd Street
Hecla SD 57446

Dear Mr. Elsen:

Enclosed is the report, recommendation and public notice for Water Permit Application No. 8065-3 filed by the city of Hecla. The public notice is scheduled to be published in the Aberdeen American News on February 4, 2015. The date to intervene is February 17, 2015.

If you have any questions regarding DENR's review of the application, please contact Adam Mathiowetz at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures

LIBERTY TOWNSHIP
39604 104TH ST
HECLA, SD 57446
OWEN ELSÉN-CHAIRPERSON
605-994-7269
MICHAEL ELSÉN-VICE-CHAIRPERSON
605-380-8619
MERLYN ELSÉN-SUPERVISOR
605-994-7101

RECEIVED
FEB 12 2015
WATER RIGHTS
PROGRAM

Jay Osterloh, Mayor, City of Hecla
PO Box 188
Hecla, SD 57446

February 9, 2015

Dear Jay Osterloh, Mayor

RE: Opposition of Application No. 8065-3

We are expressing strong concern and opposition with the recommended approval of application number 8065-3. We feel that currently the well is an abandoned well as it is not serving for human consumption or livestock production. As required by South Dakota Codified Law (SDCL) 46-6-18 and 46-6-27, the well should be considered as an abandoned well and should be plugged. The well is a potential pollution source to everyone using the aquifer in the township and the potential liability to the well owner as well. Whoever owns the property on which the abandoned well is located is deemed to be the well owner.

We have a strong concern for the potential of contamination of the aquifers that serve Liberty Township. Currently Liberty Township is not served by any rural water system, these precious aquifers serve as our ONLY human drinking water source. This concern is further elevated by the age of the well, 1914, and the close proximity of the well to the City of Hecla's lagoon. The potential for a subsurface leak of a well this old is quite high. If this were to happen it could also put at risk the containment structure of the lagoon cells. If you put these risks all together, this would put the population of Liberty Township at undue and unreasonable risk. For these reasons, we strongly argue against that this would serve as a beneficial use of water and is in the public interest.

As Liberty Township Board Members, our public interest would be the safety of our aquifers, as these are our only source of drinking water. As well as concerns of the discharge has to the productivity of surrounding land, discharge potentially creating salty, non-productive soil, and the impact on public road infrastructure.

The following are some of the concerns of abandoned wells South Dakota Department of Environment & Natural Resources as listed on their website: <http://denr.sd.gov/des/wr/abandonedwell.aspx>

Environmental and Safety Hazards

Contamination of Aquifers

Unsealed or abandoned wells directly connect the land surface with ground water. Due to this, polluted surface water can easily enter the ground water and cause a contamination problem. Examples of pollutants that can enter the ground water are human or animal wastes, petroleum products, fertilizers, pesticides, etc. Once an aquifer has become contaminated it can be very expensive and difficult to undo the damage. Some of the health hazards associated with

contaminated ground water are "blue baby syndrome" caused by high nitrate levels and waterborne diseases such as hepatitis, cholera, and diarrhea caused by bacteria entering the ground water.

Cross Contamination of Aquifers

A well which penetrates more than one aquifer may allow water from one aquifer to contaminate another aquifer if the well is not properly constructed. Water may leak along the outside of the well casing if the well is not properly sealed or the casing may deteriorate and develop holes which allows water movement inside the casing. In either event, the water from one aquifer mixes with one or more other aquifers which may cause problems. Water of poorer quality may enter another aquifer and reduce the water quality as well as pollutants moving from a contaminated aquifer to an aquifer which, unfortunately, is about to become contaminated.

Clearly there is justified concern in regards to the preceding two subjects: age of well (1914), proximity of well to lagoon. There is great, undue risk here to the residents of Liberty Township and its landowners. It is our understanding this was a part of a mitigation process. We would encourage the state to investigate if the wetlands were created by artificial waters (by the well) prior to the mitigation that these would not have had to be mitigated by the project (the lagoon) and that the determination was in error. We would hope that mitigation does not come before public safety, surely if it has been done in error. Clearly this type of resolution makes sense and would benefit both parties and should be pursued.

Sincerely,



Owen Elsen, Chairperson



Michael Elsen, Vice-Chairperson



Merlyn Elsen, Supervisor

Cc (4): Jeanne Goodman, Chief Engineer, SD DENR-Water Rights Program
Adam Mathiowetz, SD DENR-Water Rights Program
Ken Buhler, SD DENR-Water Rights Program
Eric Gronlund, SD DENR-Water Rights Program

Attachments (1): Abandoned Wells in South Dakota, (4) pages

Abandoned Wells in South Dakota



Property Owner Responsibilities

The owner of property on which an abandoned well is located is deemed to be the owner of the abandoned well. Consequently, the owner is also responsible for plugging the abandoned well or wells as required by South Dakota Codified Law (SDCL) 46-6-18 * [Link /des/wr/46-6.aspx#46-6-18*](#) and 46-6-27 * [Link /des/wr/46-6.aspx#46-6-27*](#) . There are many reasons for the owner to properly plug an abandoned well, aside from the legal requirement to complete the plugging. These wells also pose environmental and safety hazards resulting in potential legal liabilities. A list of abandoned well hazards is as follows:

- Contamination of aquifers * [Link #Contamination of Aquifers*](#) by allowing surface runoff carrying pollutants to enter the ground water;
- Cross contamination of aquifers * [Link #Cross Contamination of Aquifers*](#) by the well passing through more than one aquifer;
- Reducing artesian head pressure * [Link #Reducing Artesian Head Pressure*](#) which may affect other wells in the same aquifer;
- Safety hazards * [Link #Safety Hazards*](#) to people and animals.

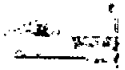
The plugging of an abandoned well needs to meet requirements outlined in the SD Well Construction Standards sections 74:02:04:67 * [Link http://legis.sd.gov/rules/DisplayRule.aspx?Rule=74:02:04:67*](#) and 74:02:04:69 * [Link http://legis.sd.gov/rules/DisplayRule.aspx?Rule=74:02:04:69*](#) . These rules specify how to plug a well depending on the type of well construction, the type of aquifer or aquifers which the well penetrates, and the materials to be used to plug the well. Even though the owner of an abandoned well may plug the well, it is strongly suggested that a SD licensed well driller perform the work due to the varying conditions encountered in plugging an abandoned well. If a well is not plugged properly, ground water contamination may still occur and it is very difficult and expensive to correct the improper plugging of an abandoned well.



Historical Background

Abandoned wells exist throughout South Dakota and tap into every principle aquifer in the state. These are the same aquifers that are relied on today for much of the drinking water used in the state. While the actual number of abandoned wells is not known, it is possible to make some reasonable estimates of the number of abandoned wells. In 1910, South Dakota had approximately 78,000 farms which reached a maximum of 84,300 farms in 1932. Since

that time, farm numbers have declined steadily to about 31,700 today. Therefore, South Dakota has lost approximately 52,600 farms that likely had at least one well which may now be abandoned. Aside from the reduction in the number of farmsteads, other factors have also contributed to the creation of abandoned wells such as the development of rural water systems and rural electrification. Abandoned wells are not only a problem on farmsteads. Municipalities have also hooked up to rural water systems or constructed replacement wells and have not properly plugged their old wells which gradually fall into disrepair. Many people have good intentions to maintain an old well as a backup or standby well, but typically these wells never get used again and are forgotten over time. When this occurs, the well becomes a potential pollution source to everyone using the aquifer and a potential liability to the well owner. Whoever owns the property on which the abandoned well is located is deemed to be the well owner.



Locating Abandoned Wells

Abandoned wells may be located anywhere but there are some obvious indicators of the presence of abandoned wells such as windmills, hand pumps, abandoned farmsteads, or a simple pipe sticking out of the ground. Wells were often drilled near outbuilding and were housed in small sheds or sometimes wells were located in the basement of a home. Perhaps not so obvious are the inhabited farmsteads that are now served by rural water or farms that have had newer wells drilled to replace the original well which has since been abandoned. The same can be said of cities and towns in South Dakota that have hooked to rural water or drilled replacement wells. Other indicators of the presence of an abandoned well are depressions supporting aquatic vegetation, such as cattails, in an otherwise dry area. Often, wells were hand dug and are large diameter wells constructed of concrete, wood, bricks, rock, or other materials around the perimeter of the well. In some instances, the abandoned well is housed within a large diameter pit which may be several feet deep.



Other information sources for locating abandoned wells include:

- Previous landowners or long-time neighborhood residents;
- Well drillers and well completion reports filed with Water Rights Program (605 773-3352);
- In the case of irrigation wells or other large water use wells, a water right permit on file with the Water Rights Program;
- Old photos of the property showing building locations;
- County or city building permits;

- Old fire insurance plan drawings may show the location of wells

Environmental and Safety Hazards

Contamination of Aquifers * Link *

Unsealed or abandoned wells directly connect the land surface with ground water. Due to this, polluted surface water can easily enter the ground water and cause a contamination problem. Examples of pollutants that can enter the ground water are human or animal wastes, petroleum products, fertilizers, pesticides, etc. Once an aquifer has become contaminated it can be very expensive and difficult to undo the damage. Some of the health hazards associated with contaminated ground water are "blue baby syndrome" caused by high nitrate levels and waterborne diseases such as hepatitis, cholera, and diarrhea caused by bacteria entering the ground water.

Cross Contamination of Aquifers * Link *

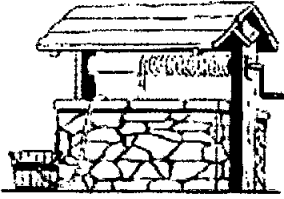
A well which penetrates more than one aquifer may allow water from one aquifer to contaminate another aquifer if the well is not properly constructed. Water may leak along the outside of the well casing if the well is not properly sealed or the casing may deteriorate and develop holes which allows water movement inside the casing. In either event, the water from one aquifer mixes with one or more other aquifers which may cause problems. Water of poorer quality may enter another aquifer and reduce the water quality as well as pollutants moving from a contaminated aquifer to an aquifer which, unfortunately, is about to become contaminated.

Reducing Artesian Head Pressure * Link *

Abandoned wells from which water flows over the land surface or that leak water underground from one aquifer to another aquifer will reduce the head pressure in an aquifer. As a result, water levels in nearby wells will be lowered and wells that once flowed may need to be pumped to get water from the well. It may not even be possible to place a pump in a well that no longer flows due to the size of the well casing. In addition, water flowing from an abandoned well may result in a waste of water which is prohibited by state law in SDCL 46-1-4.

Safety Hazards * Link *

Many abandoned wells are not marked or covered. In some instances the well casing or a pit in which the well is located is large enough for a person or animal to fall into and become seriously injured or killed. While such occurrences are rare, they do happen. Fortunately, these types of accidents are entirely preventable with proper plugging of the well.



If you have questions or need more information, please contact the Water Rights Program at 605 773-3352 or email * [Link mailto:DENRINTERNET@state.sd.us?subject=Atten: Ken Buhler](mailto:DENRINTERNET@state.sd.us?subject=Atten: Ken Buhler)* us or view a report (Adobe Acrobat PDF file) entitled "Abandoned Well Sealing Demonstration Project. * [Link /des/wr/abandonedwells.pdf](/des/wr/abandonedwells.pdf)* "

Thank you for helping to protect South Dakota's water resources.

Acknowledgement: Most of this abandoned well information consists of excerpts from a publication (FS 891 - October 1993) entitled, "Plugging Abandoned Water Wells" prepared in cooperation with the South Dakota State University Cooperative Extension Service, East Dakota Water Development District, and the Water Rights Program of the Department of Environment and Natural Resources.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

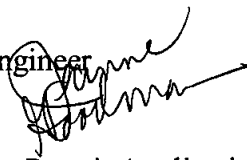
February 24, 2015

denr.sd.gov

NOTICE OF HEARING

TO: Mayor Jay Osterloh
City of Hecla
PO Box 188
Hecla SD 57446

Owen Elsen, Chairperson
Liberty Township
39604 104th Street
Hecla SD 57446

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program 

SUBJECT: Notice of Hearing on Water Permit Application No. 8065-3, City of Hecla

A petition opposing approval of Water Permit Application No. 8065-3 has been filed in response to the Notice of Application published in the Aberdeen American News. This notice schedules a hearing on the application before the South Dakota Water Management Board.

Water Permit Application No. 8065-3 proposes to appropriate 0.033 cubic feet of water per second (15 gallons per minute) from one well completed into the Dakota Aquifer (912 feet deep) located in the NE 1/4 NE 1/4 Section 25-T128N-R62W. The water will be used by the city for an existing wetland mitigation project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8065-3 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. 8065-3 at 10:30 AM on Wednesday, May 6, 2015, in the Matthew Training Center, Joe Foss Building, 523 E. Capitol Ave. 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 this application after it reaches a conclusion based on the facts presented at the public hearing.

The May 6, 2015, 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 27, 2015. 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 and 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 copies of 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, affidavit of publication and petition in the matter of Water Permit Application No. 8065-3. 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 March 6, 2015. 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

CERTIFICATION

I hereby certify that on February 24, 2015, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice of Hearing dated February 24, 2015, regarding scheduling the hearing for Water Right Permit Application No. 8065-3, as addressed below:

Mayor Jay Osterloh
City of Hecla
PO Box 188
Hecla SD 57446

Owen Elsen, Chairperson
Liberty Township
39604 104th Street
Hecla SD 57446

Sent Inter-office to:

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



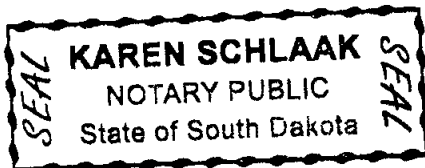
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 24th day of February, 2015



Karen Schlaak
Notary Public
My Commission expires April 1, 2019





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

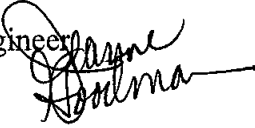
denr.sd.gov

April 24, 2015

NOTICE

TO: Mayor Jay Osterloh
City of Hecla
PO Box 188
Hecla SD 57446

Michael Elsen, Chairperson
Liberty Township
39604 104th Street
Hecla SD 57446

FROM: Jeanne Goodman, Chief Engineer
Water Rights Program 

SUBJECT: Change of Hearing Date on Water Permit Application No. 8065-3

Water Permit Application No. 8065-3 filed by the city of Hecla proposes to appropriate 0.033 cubic feet of water per second (15 gallons per minute) from one well completed into the Dakota Aquifer (912 feet deep) located in the NE 1/4 NE 1/4 Section 25-T128N-R62W. The water will be used by the city for an existing wetland mitigation project.

The public notice scheduled the hearing before the Water Management Board at 10:30 AM on Wednesday, May 6, 2015. Due to an unforeseen circumstance the date has been changed to Thursday, May 7, 2015.

The Water Management Board will now conduct the hearing on Application No. 8065-3 at 10:00 AM (Central Time) on Thursday, May 7, 2015, at the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. The agenda time is an estimate.

Applicable provision of the notice of application published February 4, 2015, in the Aberdeen News and the Notice of Hearing sent to parties on February 24, 2015, will still apply.

Please contact Eric Gronlund at (605) 773-3352 if you have questions regarding the hearing.

c: Ann Mines-Bailey, Assistant Attorney General
Dana Frohling, PO Box 919, Britton SD 57430

CERTIFICATION

I hereby certify that on April 24, 2015, 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 24, 2015, regarding change of hearing date for Water Right Permit Application No. 8065-3, as addressed below:

Mayor Jay Osterloh
City of Hecla
PO Box 188
Hecla SD 57446

Michael Elsen, Chairperson
Liberty Township
39604 104th Street
Hecla SD 57446

Dana Frohling
PO Box 919
Britton SD 57430

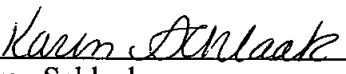
Sent Inter-office to:

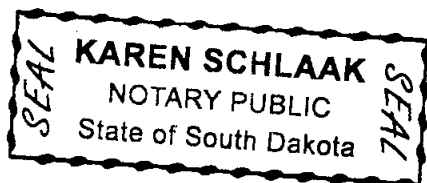
Ann Mines-Bailey, Assistant Attorney General
1302 East Highway 14, Suite 1
Pierre SD 57501-8501


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 24th day of April, 2015


Karen Schlaak
Notary Public
My Commission expires April 1, 2019





OFFICE OF ATTORNEY GENERAL

1302 East Highway 14, Suite 1
Pierre, South Dakota 57501-8501
Phone (605) 773-3215
Fax (605) 773-4106
TTY (605) 773-6585
www.state.sd.us/atg

MARTY J. JACKLEY
ATTORNEY GENERAL

RECEIVED

APR - 7 2015

**WATER RIGHTS
PROGRAM**

CHARLES D. McGUIGAN
CHIEF DEPUTY ATTORNEY GENERAL

April 6, 2015

Owen Elsen, Chairperson
Liberty Township
39604 104th Street
Hecla, SD 57466

Re: *Water Permit Application No. 8065-3, City of Hecla*

Dear Mr. Elsen:

By way of introduction, I am the Assistant Attorney General assigned to represent the Water Rights Program of the Department of Environment and Natural Resources. In preparation for the hearing on the City of Hecla's water application, I reviewed Liberty Township's petition to intervene. As a courtesy, I wanted to inform you that you will need to be represented by legal counsel at the hearing before the Water Management Board if you wish to actively participate in the hearing. See *Smith v. Rustic Home Builders, LLC*, 2013 S.D. 9, 826 N.W.2d 357; *Sunflour R.R., Inc. v. Paulson*, 2003 S.D. 122, 670 N.W.2d 518; and Opinion dated August 8, 1989 from the South Dakota Unauthorized Practice of Law Committee. See also SDCL § 16-16-1. If, however, you merely wish to observe the proceeding, counsel is not required. The hearing in this matter is currently scheduled for May 6, 2015. Please feel free to contact me if you have questions or concerns.

Respectfully,

A handwritten signature in cursive script, reading "Ann F. Mines-Bailey".

Ann F. Mines-Bailey
Assistant Attorney General

AFM/mn

cc: ✓ Jeanne Goodman
Hecla Mayor Jay Osterloh



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

MAY 27 2015

City of Hecla
Jay Osterloh, Mayor
PO Box 188
Hecla SD 57446

Dear Mayor Osterloh:

Enclosed is Water Permit No. 8065-3 authorizing the city's existing wetland mitigation project and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

We will schedule an inspection so that the Water License may be issued to the city, thus completing your acquisition of a Water Right.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures