

WATER PERMIT NO. 7579-3

Name of Applicant: Francis Heine

Address: 412 Sterling, Vermillion SD 57069 Phone: 605 624-2405

Amount of Water Claimed: 2.0 cfs Total Acres: 152

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Clay

Type of Waste Disposal System:

Location: 2 miles northwest of Vermillion

PRIORITY Date Received: 12-19-12

Application/License Fee: \$ 1050

Corrected Application Received: 12-26-12

Period of Annual Use: May 1 – September 30

Remarks:

Diversion Point: S
NW 1/4 NE 1/4 Sec 9-T92N-
R52W

Land to be Irrigated: E 1/2 SW 1/4, W 1/2 SE 1/4
Sec 9-T92N-R52W

Depth of Well: 100 feet deep

Well Driller:

Remarks:

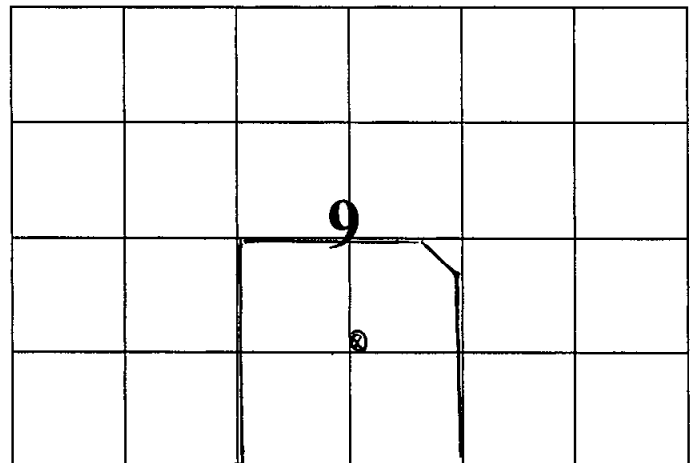
Type of Map: aerial

Prepared by: Eric Gronlund

Reviewed and the Number Assigned on: 12-28-12

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



FORM 2: Application for irrigation in South Dakota
(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7579-3</u> (office use only) Hydrologic Unit <u>10170101</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Plain Talk</u>
	<u>Press & Dakotan</u>

RECEIVED
DEC 19 2012
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____
(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Francis Heine

(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent _____
(name and complete address if different than above name)

Mailing Address 412 Sterling Vermillion SD 57069
(Address) (City) (State) (Zip Code)

Home Phone 605 624-2405 Cell _____ Email _____

2. Amount of water claimed 2.0 *CFS or 900 **GPM _____ ***AF Total Acreage 152
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Missouri:Elk Point Aquifer

4. Location of point of diversion new well - NW 1/4 SE1/4 Section 9, T92N, R52W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Clay

5. County or counties where water will be used Clay

6. Annual period during which water is to be used May 1 - September 30

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
NE 1/4 SW 1/4 Section 9, T92N, R52W	40		
SE 1/4 SW 1/4 Section 9, T92N, R52W	40		
NW 1/4 SE 1/4 Section 9, T92N, R52W	40		
SW 1/4 SE 1/4 Section 9, T92N, R52W	32		

8. Give a description of the project. (Attach sheet if more space is needed)

Develop new center pivot irrigation.

I, Francis Heine, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

SOUTH DAKOTA
WATER PERMIT NO. 7579-3

Date of first receipt of application December 19, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7579-3 to Francis Heine, 412 Sterling, Vermillion SD 57069 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. 7579-3 appropriates 2.0 cfs from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the NW 1/4 SE 1/4 Section 9 for irrigation of 152 acres located in the E 1/2 SW 1/4, W 1/2 SE 1/4 Section 9; all in T92N-R52W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.
3. The date from which applicant may claim right is December 19, 2012.
4. The date of approval of Permit No. 7579-3 is March 11, 2013.
5. One-fifth of the construction is to be completed on or before September 11, 2015.
6. All construction is to be completed on or before March 11, 2018.
7. Water is to be put to beneficial use on or before March 11, 2022.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Permit No. 7579-3 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 well authorized by Permit No. 7579-3 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.

WATER MANAGEMENT BOARD

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

APR 26 2013

date



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 1 Have test holes been drilled ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by Quality will drill - not constructed
- c) Well Depth 100 Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest existing domestic well:
- On applicant's property _____ On property owned by others _____

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

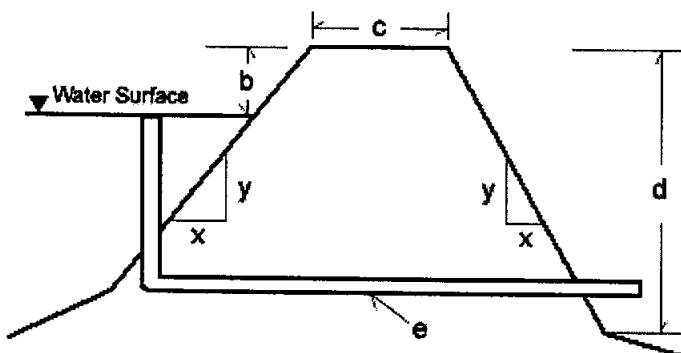
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

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



WATER PERMIT APPLICATION FOR FRANCIS "BUD" HEINE

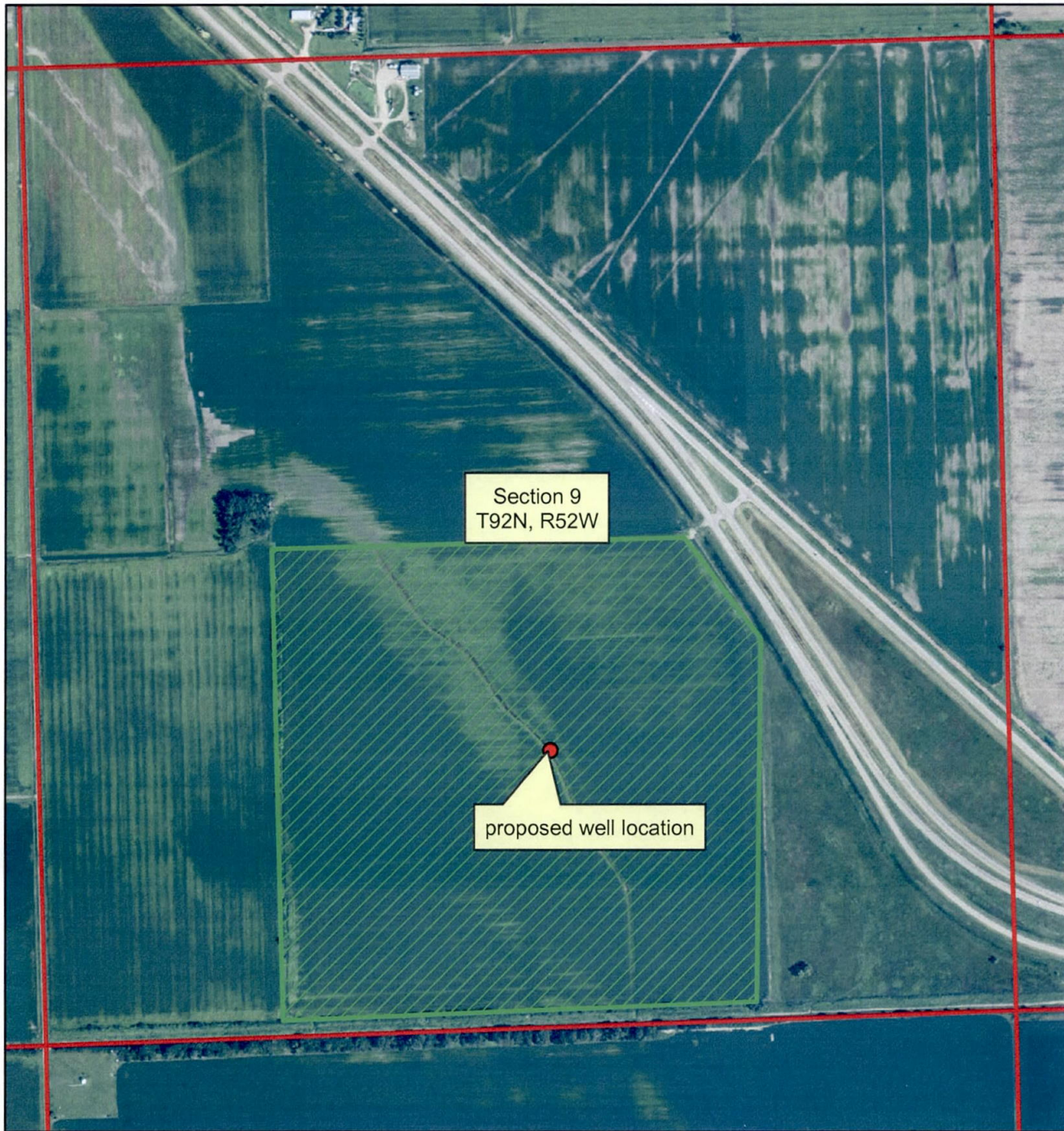


1,600 800 0 1,600 Feet



Eric Gronlund
Eric Gronlund
Water Rights Program, DENR
based on representation by
Mr. Heine on December 19, 2012

WATER PERMIT APPLICATION FOR FRANCIS "BUD" HEINE



1,600 800 0 1,600 Feet



Eric Gronlund

Eric Gronlund
Water Rights Program, DENR
based on representation by
Mr. Heine on December 19, 2012

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 12-28, 20 12

RECEIVED OF Francis Heine, 412 Sterling St, Vermillion SD 57069

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

Fee for Application for Permit No. <u>75,797-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	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>797529-3</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	1050.00

No. **05805**

By Harland Erbeley
Chief Engineer 1/15



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7579-3, Francis Heine**

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. 7579-3, Francis Heine, 412 Sterling, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7579-3 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 well approved under Water Permit No. 7579-3 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 well authorized by Permit No. 7579-3 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.

A handwritten signature in black ink, appearing to read 'Garland Erbele'.

Garland Erbele, Chief Engineer
February 19, 2013

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NOS. 7579-3 & 7580-3
FRANCIS HEINE
February 8, 2013

Water Permit Application No. 7579-3 proposes to appropriate up to 304 acre-feet annually (ac-ft/yr) at a maximum diversion rate of 2.0 cubic feet of water per second (cfs) from one well to be completed into the Missouri: Elk Point aquifer. The well will be located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 9, T92N-R52W and is expected to be approximately 100 feet deep. This application proposes to irrigate 152 acres located in the E $\frac{1}{2}$ SW $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 9, T92N-R52W in Clay County.

Water Permit Application No. 7580-3 proposes to appropriate up to 120 acre-feet annually (ac-ft/yr) at a maximum diversion rate of 2.0 cubic feet of water per second (cfs) from one well to be completed into the Missouri: Elk Point aquifer. The well will be located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 17, T92N-R52W and is expected to be approximately 100 feet deep. This application proposes to irrigate 60 acres located in the E $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 17 and the E $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 20, all in T92N-R52W in Clay County. If approved, this well and the acres will be in conjunction with Water Right No. 5435-3, which authorizes 2.0 cfs from one well located in the NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 20 to irrigate 140 acres located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 17 and the W $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$ of Section 20, all in T92N-R52W. The applicant is requesting a diversion rate greater than the statutory limit.

AQUIFER: Elk Point management unit of the Missouri Aquifer (M: EP)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Elk Point management unit of the Missouri aquifer is an alluvium mantled outwash composed of sand and gravel material (Stephens, 1967). The aquifer is under both water-table and artesian conditions. At the well site proposed by Application No. 7579-3, the aquifer is under artesian conditions and at the well site proposed by Application No. 7580-3, the aquifer is under water-table conditions. The Elk Point management unit of the Missouri aquifer encompasses regions of Clay, Union, and Yankton Counties. The Missouri: Elk Point aquifer underlies approximately 74,500 acres of Clay County alone and contains an estimated 1,117,500 acre-feet of recoverable water in storage in the county (Hedges and others, 1982). The aquifer is hydraulically connected to the Dakota, the Lower James Missouri and the Lower Vermillion Missouri aquifers as well as the Missouri and Vermillion Rivers. The ground water in this aquifer generally moves from northwest to southeast in the area of this application (Stephens, 1967). The saturated thickness of the aquifer in the region ranges from approximately 45-65 feet thick (Water Rights, 2013a).

SDCL 46-2A-9

In accordance with SDCL 46-2A-9, a permit may be issued to appropriate water only if there is reasonable probability that there is inappropriate 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 review the availability of inappropriate water and existing rights within the Missouri: Elk Point aquifer.

WATER AVAILABILITY:

These applications propose to appropriate 424 ac-ft/yr from the Missouri: Elk Point aquifer. If these applications are approved, it is likely that the actual water use will be less than the appropriated amount. The probability of unappropriated water available from the aquifer can be evaluated using SDCL 46-6-3.1 which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source."

Recharge versus Discharge:

Recharge:

Recharge to the Missouri: Elk Point aquifer occurs through infiltration and percolation of precipitation falling in areas where the aquifer is near land surface. Recharge is also provided to the aquifer from the Big Sioux, Lower Vermillion-Missouri, and Dakota aquifers, as well as during times of high flow and stage from the Missouri River. The average annual recharge rate to the Missouri: Elk Point aquifer is an estimated 3.8 in/yr based on observation well analysis (Hedges and others, 1985). Given the area of the management unit in Clay County of 74,500 acres, average annual recharge to the aquifer in Clay County alone is estimated to be 23,592 ac-ft/yr.

Discharge:

Discharge from the Missouri: Elk Point aquifer is by evapotranspiration, discharge to the Big Sioux and Missouri Rivers during low flow and to the underlying Dakota aquifer, and withdrawal from wells. There are a number of completion reports on file with the SD DENR-Water Rights Program for domestic use wells completed into the Missouri: Elk Point aquifer (Water Rights, 2013b) and there are currently 507 water rights/permits appropriating water from the Missouri: Elk Point aquifer (Water Rights, 2013c). In addition, there are five future use permits reserving water from the aquifer. There are 120 water rights/permits appropriating water from this aquifer in Clay County alone (Water Rights, 2013c). All five of the future use permits reserving water from the aquifer are from Clay County. The distribution of these appropriations and their types are shown in Table 1.

Water Rights/Permits	Number
Domestic	1
Irrigation	113
Municipal	4
Rural Water System	2
Future Use Permits	Number
Lewis & Clark Rural Water System	4
City of Vermillion	1

Table 1. Water rights/permits from the Missouri: Elk Point aquifer in Clay County (Water Rights, 2013c).

The amount of water that can be expected to be withdrawn through water rights/permits authorizing water use for non-irrigation purposes at the current appropriation level can be estimated by assuming:

1. Water rights/permits limited by an annual volume will pump the entire volume appropriated.
2. Water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time.
3. Future use permits can be fully developed.

The expected water use for non-irrigation purposes, including that reserved for future use, from the Missouri: Elk Point aquifer in Clay County is less than 50,600 ac-ft/yr based on current water appropriations.

The annual reported water use from the Missouri: Elk Point aquifer for irrigation purposes in Clay County is displayed in Table 2. The average annual use due to irrigation over the period of record is 2,706 ac-ft/yr.

YEAR	NO. OF PERMITS	APPROPRIATION (AC-FT/YR)	PUMPAGE REPORTED (AC-FT/YR)
1979	31	17660	1896
1980	30	17660	1788
1981	38	19644	2699
1982	32	18221.2	2279.53
1983	33	18546.2	2871.9
1984	39	20120.2	2448.1
1985	39	20120.2	2552.4
1986	42	21178.2	1732.8
1987	36	19604.2	2211
1988	35	19120.2	3780.2
1989	37	20089.2	2839
1990	39	20499.2	3242
1991	42	19805.2	3439.3
1992	29	19721.2	196.1
1993	40	20135.2	114.9
1994	42	20863.2	1322.31
1995	41	20116.4	2119.3
1996	41	20746.4	1790.32
1997	41	20698.4	2756
1998	42	20856.4	1939.36
1999	41	20238.4	2045.96
2000	42	20478.4	3436.29
2001	42	20478.4	3422.53
2002	43	20702.4	3795.69
2003	43	20702.4	3837.68
2004	43	20702.4	3849.75
2005	48	21731.6	3054.05
2006	56	25393.6	5860.14
2007	65	27554.6	7084.7
2008	77	32059.6	4907.57
2009	84	33832.6	1582.91
2010	86	33128.6	592.3
2011	89	34722	1802.64
MIN	29	17660.0	114.9
MAX	89	34722.0	7084.7
AVE	45.70	22034.25	2705.75

Table 2. Irrigation from the Missouri: Elk Point aquifer in Clay County (Water Rights, 1979-2011)

Lewis and Clark Rural Water System currently reserves 13,000 ac-ft/yr for future use and has permits appropriating 32,165 ac-ft/yr (Water Rights, 2013b). This accounts for a significant portion of the annual water usage in Clay County, and most of the water from these wells will also be induced from the Missouri River. Recognizing that Lewis and Clark RWS withdraw water from the Missouri: Elk Point aquifer that is induced from the Missouri River and considering the remaining hydrologic budget, there is reasonable probability that unappropriated water is available for the 424 acre-feet appropriation proposed by these applications.

Observation Well Data:

Administrative Rule of South Dakota 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 to the aquifer”.

The SD DENR-Water Rights Program monitors 37 observation wells completed into the Missouri: Elk Point aquifer with two of these observation wells located within five and one half miles of both well sites proposed by these applications (Water Rights, 2013b). Hydrographs for these wells are shown in Figures 1 and 2.

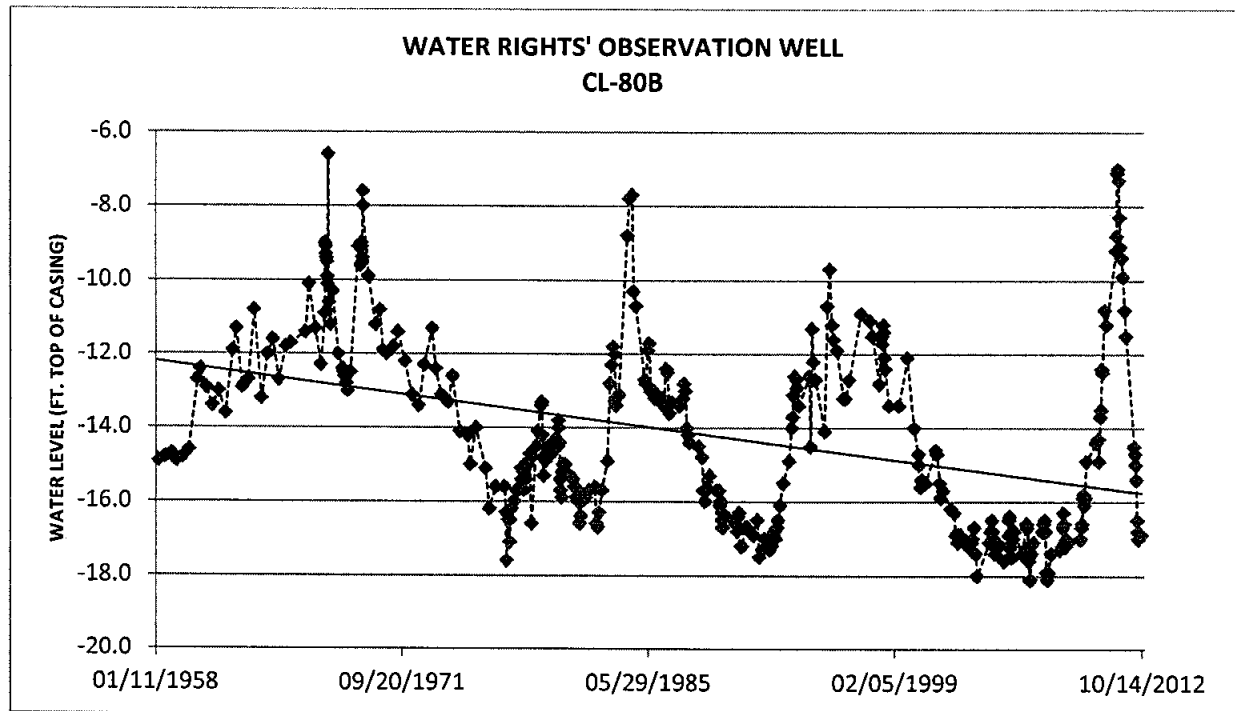


Figure 1. Hydrograph for SD DENR-Water Rights Observation Well CL-80B completed into the Missouri: Elk Point aquifer less than five miles northwest of the well site proposed by Application No. 7580-3 (Water Rights, 2013a).

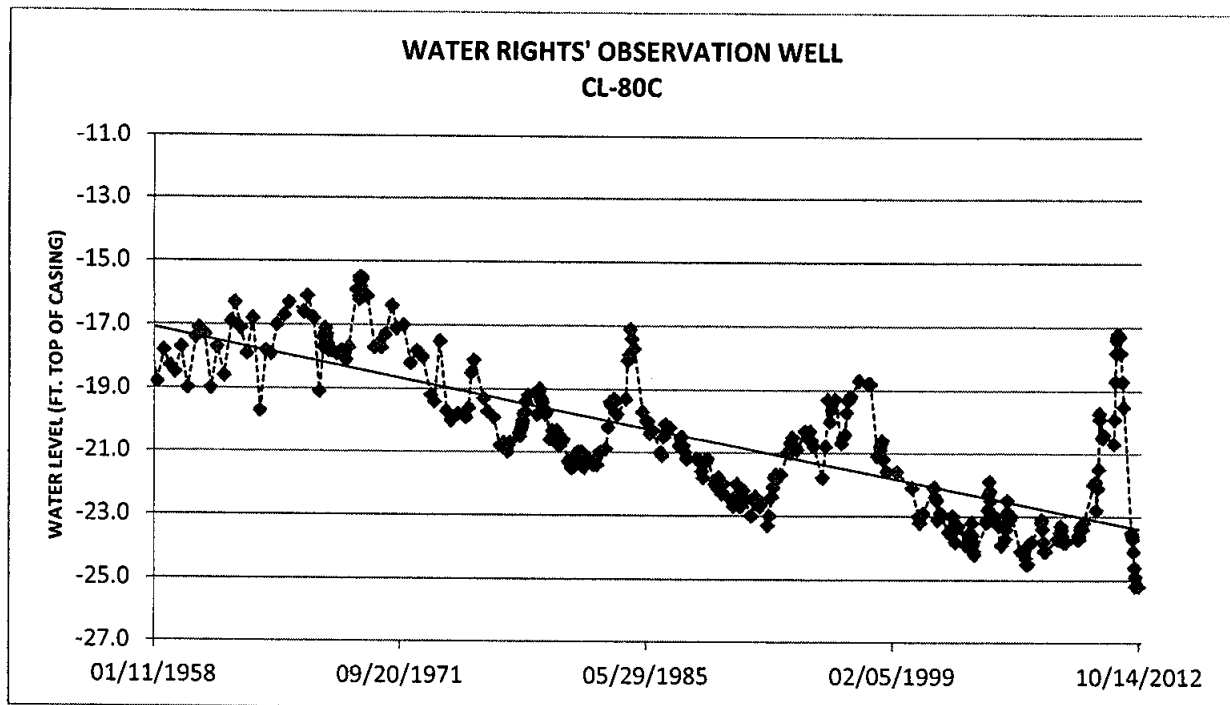


Figure 2. Hydrograph for SD DENR- Water Rights Observation Well CL-80C completed into the Missouri: Elk Point aquifer less than five miles southeast of the well site proposed by Application No. 7579-3 (Water Rights, 2013a).

The observation well data shows the aquifer responds well to climatic conditions with rising water levels during wet years and gradually declining water levels during dry years. The observation well data shows that at the current level of development, climatic conditions mask the temporal effects of well withdrawals. The observation well data documents the hydraulic connection between the Missouri: Elk Point aquifer and the Missouri River (e.g. in particular, record high groundwater levels associated with flooding in 2011). Linear trend lines for the hydrographs do show a general gradual decline. This gradual decline may be attributed to either entrenching of the Missouri River (Goodman, 2007) or controlling the flow of the Missouri River by the Gavins Point Dam, which no longer allows inundating of the floodplain (Stephens, 1967).

Because of this obvious hydraulic connection between Missouri: Elk Point aquifer and the Missouri River and the availability of water in the Missouri River, there is a reasonable probability that additional recharge to the Missouri: Elk Point will be induced with additional pumping. Additional pumping from the Missouri: Elk Point aquifer can also induce recharge from the underlying Dakota aquifer. Recognizing that natural discharge from the aquifer can be captured for pumping, there is reasonable probability that unappropriated water is available from the aquifer to support this appropriation.

EXISTING WATER RIGHTS:

The well sites proposed by these applications are located approximately two miles west of the Vermillion River in a portion of the Missouri: Elk Point aquifer that extends north of the Missouri River for approximately eight miles to the edge of the aquifer. There are ten water

rights/permits that have diversion points within approximately one mile of the proposed well sites. The well site for Water Right number 2158-3, for D A Olson & Sons, has an appropriated diversion rate of 2.67 cfs and is located less than 800 feet from the observation well, CL-80B, whose hydrograph is shown in Figure 1 (Water Rights, 2013c). The hydrograph shows that drawdown due to nearby withdrawals is not significant. Based on the observation well data and the distance between wells, drawdown is not expected to cause adverse impacts to existing water rights. The precise drawdown cannot be quantified without aquifer testing. With that in mind, a standard permit qualification to most groundwater permits/rights states that:

“The well 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”.

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 irrigation use and delivery of water by artesian pressure, the Water Management Board has 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”

In reality, the assurance of reasonable domestic use provided by SDCL 46-6-6.1 and ARSD 74:02:04:20(7) generally ensures not only that interference will not be adverse to domestic well users but also in existing appropriative rights (i.e. in most cases, the protection afforded to adequate domestic wells by water law, would lead to enforcement of the “standard permit qualification” before there is a reduction of needed water supplies to appropriative rights). Although drawdown is expected to be minimal, as shown by the observation well hydrographs, some drawdown will occur. Depending on the extent of drawdown, some existing well owners may need to lower their pumps to accommodate for deeper water levels. However, when considering the statute and rule, there is a reasonable probability that any well interference from these proposed applications will not be adverse to adequate domestic wells.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cubic foot of water per second for every seventy acres, or “the equivalent thereof”. The statute provides that the Water Management Board may allow a greater diversion if the method of irrigation so requires. Water Permit Application No. 7580-3 proposes to divert at a rate of 2.33 cfs per 70 acres. The diversion rate is required to properly operate the new center pivot irrigation system for this application and is reasonable for the proposed use.

CONCLUSIONS:

1. These applications propose to appropriate up to 424 acre-feet annually for irrigation from the Missouri: Elk Point aquifer.
2. There is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to supply these proposed appropriations.
3. The Missouri: Elk Point aquifer is under both unconfined (water-table) and confined (artesian) conditions in the proposed areas, and drawdown from pumping is not expected to be significant very far from a production well.
4. There is a reasonable probability that the wells proposed by these applications will not adversely impact existing water rights.



Nicole Van Dyk
SD DENR-Water Rights Program

Approved by



for Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., 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
- Hedges, L.S., Allen, J., Holly 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
- Stephens, J.C., 1967, Geology and Hydrology of Clay County, South Dakota, Part II: Water Resources, SD DENR- Geological Survey Bulletin 19, 62 p.
- Water Rights, 1979-2011, Irrigation Questionnaire Summaries 1979-2011, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013b, Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2013c, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

RECEIVED

MAR 11 2013

AIR QUALITY
PROGRAM

AFFIDAVIT OF PUBLICATION

PLAIN TALK

DENR
Division of Environmental Services
Air Quality Program
Joe Foss Building, 523 East Capitol
Pierre, SD 57501

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

TERA SCHMIDT BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT SHE IS THE CLASSIFIED MANAGER OF YANKTON
MEDIA INC., A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF THE
OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN THIS
AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION FOR AIR QUALITY CONSTRUCTION PERMIT

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 1 DAY OF MARCH 2013
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$46.17 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 3/1/13

FILED ON: 3/1/13

Tera A. Schmidt

SUBSCRIBED AND SWORN TO BEFORE ME THIS

4th

DAY OF

March

[Signature]

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

**NOTICE OF APPLICATION
NOS. 7577-3 7578-3, 7579-3 and
7580-3 to Appropriate Water**

Notice is given that Francis Heine, 412 Sterling, Vermillion SD 57069 has filed the following applications for a water permit.

Application No. 7577-3 proposes to appropriate 2.0 cubic feet of water per second (cfs) from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the SE 1/4 SW 1/4 Section 33 for irrigation of 70 acres located in the E 1/2 SW 1/4, SW 1/4 SW 1/4 Section 33; all in T92N-R51W. The applicant is requesting a diversion rate greater than the statutory limit.

Application No. 7578-3 proposes to appropriate 2.0 cfs from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the NE 1/4 SW 1/4 Section 21 for irrigation of 80 acres located in the S 1/2 NW 1/4, N 1/2 SW 1/4 Section 21; all in T92N-R51W. The applicant is requesting a diversion rate greater than the statutory limit.

Application No. 7579-3 proposes to appropriate 2.0 cfs from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the NW 1/4 SE 1/4 Section 9 for irrigation of 152 acres located in the E 1/2 SW 1/4, W 1/2 SE 1/4 Section 9; all in T92N-R52W.

Application No. 7580-3 proposes to appropriate 2.0 cfs from one additional well and to irrigate 60 new acres in conjunction with the acres authorized by Water Right No. 5435-3. Water Right No. 5435-3 authorizes 2.0 cfs from one well located in the NE 1/4 NW 1/4 Section 20 to irrigate 140 acres located in the SE 1/4 SW 1/4, SW 1/4 SE 1/4 Section 17 and the W 1/2 NE 1/4, E 1/2 NW 1/4 Section 20; all in T92N-R52W. This application proposes to construct an additional well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 17 for irrigation of 60 new acres located in the E 1/2 SW 1/4, W 1/2 SE 1/4 Section 17 and E 1/2 NW 1/4, W 1/2 NE 1/4 Section 20; all in T92N-R52W. The applicant is requesting a diversion rate greater than the statutory limit.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 7577-3, 7578-3, 7579-3 and 7580-3 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 these applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. If a petition opposing the applications or contesting the recommendations is filed, then a hearing will be scheduled and the Water Management Board will consider these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendations. 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 March 11, 2013.

The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to these applications. Steven M. Pirner, Secretary, Department of Environment

and Natural Resources.

Published once at the total approximate cost of \$46.17.

Published: March 1, 2013

RECEIVED

MAR - 7 2013

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Notice is given that Francis Heine, 412 Sterling, Vermillion SD 57069 has filed the following applications for a water permit.

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Application No. 7580-3 proposes to appropriate 2.0 cfs from one additional well and to irrigate 60 new acres in conjunction with the acres authorized by Water Right No. 5435-3. Water Right No. 5435-3 authorizes 2.0 cfs from one well located in the NE 1/4 NW 1/4 Section 20 to irrigate 140 acres located in the SE 1/4 SW 1/4, SW 1/4 SE 1/4 Section 17 and the W 1/2 NE 1/4, E 1/2 NW 1/4 Section 20; all in T92N-R52W. This application proposes to construct an additional well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the SW 1/4 SE 1/4 Section 17 for irrigation of 60 new acres located in the E 1/2 SW 1/4, W 1/2 SE 1/4 Section 17 and E 1/2 NW 1/4, W 1/2 NE 1/4 Section 20; all in T92N-R52W. The applicant is requesting a diversion rate greater than the statutory limit.

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Department of Environment and Natural Resources
PMB 2020
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED Application Nos. 7577-3, 7578-3, 7578-3 & 7580-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE NEWSPAPER ON THE 1st DAY OF March 2013 THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION OF SAID NOTICE TO WIT \$44.19 ENSURES TO THE BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 3/1/2013

FILED ON: 3/4/2013

SUBSCRIBED AND SWORN TO BEFORE ME THIS 4th DAY OF March 2013

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

2013

ommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. If a petition opposing the applications or contesting the recommendations is filed, then a hearing will be scheduled and the Water Management Board will consider these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

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The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to these applications. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of \$44.19.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 20, 2013

Plain Talk
201 W Cherry St
Vermillion SD 57069

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application Nos. 7577-3, 7578-3, 7579-3 and 7580-3 to Appropriate Water. Please publish the notice once on March 1, 2013. 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 Francis Heine, 412 Sterling, Vermillion SD 57069 (Ph # 605-624-2405).

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**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 20, 2013

Press & Dakotan
319 Walnut
Yankton SD 57078

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Sincerely,

Eric Grönlund
Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

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

February 20, 2013

Francis Heine
412 Sterling
Vermillion SD 57069

Dear Mr. Heine:

Water Permit Application Nos. 7577-3, 7578-3, 7579-3 and 7580-3 for irrigation use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Plain Talk printed at Vermillion SD (Ph # 605-624-2695) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications 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(s) has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the applications.

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 applications.

Instruction to Newspaper - Publish the Notice on March 1, 2013. 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 NOS. 7577-3 7578-3, 7579-3 and 7580-3 to Appropriate Water

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

Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

APR 26 2013

Frances Heine
412 Sterling
Vermillion SD 57069

Dear Mr. Heine:

Enclosed are Water Permit Nos. 7577-3, 7578-3, 7579-3 and 7580-3 authorizing construction of your water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Form 10's, *Notice of Completion of Works and Application of Water to Beneficial Use*, are enclosed. Please return the completed forms after you have finished the systems and have put the water to beneficial use. An investigation can then be scheduled so the water licenses may be issued, thus completing the acquisition of a water right.

An informational sheet ? *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures



7579-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

January 16, 2015

NOTICE

TO: FRANCIS HEINE, 412 STERLING, VERMILLION, SD 57069

FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2014 Irrigation Questionnaires

Our records indicate your 2014 Irrigation Questionnaires have not been submitted. The request for the Questionnaires was dated October 17, 2014. The Water Management Board has directed that owners of water permits who have not submitted the 2014 Irrigation Questionnaires be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine if Permit No(s) 671-3, 977A-3, 977B-3, 1624-3 2053-3 & 2947-3 should be amended to require the Questionnaire to be submitted each year and to determine action to be taken for violation of Water Permit No(s) 5435-3, 5471-3, 5639-3, 6057-3, 6059-3, 6679-3, 6993-3, 6994-3, 7297-3, 7298-3, 7299-3, 7300-3, 7301-3, 7302-3, 7577-3, 7578-3, 7579-3, 7580-3 & 7980-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at **10:00 am, March 4, 2015** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD, and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 5435-3, 5471-3, 5639-3, 6057-3, 6059-3, 6679-3, 6993-3, 6994-3, 7297-3, 7298-3, 7299-3, 7300-3, 7301-3, 7302-3, 7577-3, 7578-3, 7579-3, 7580-3 & 7980-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Amend Permit No(s) 671-3, 977A-3, 977B-3, 1624-3 2053-3 & 2947-3 to require the Irrigation Water Use Questionnaire to be submitted each year;
3. Postpone any action or take no action.

The hearing is an adversary proceeding. The permit owner has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

If the questionnaire(s) is (are) received in this office before the **March 4, 2015** hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Genny McMath at (605) 773-3352 or email at genny.mcmath@state.sd.us. If you prefer, you can complete the questionnaire online at the following link: <http://denr.sd.gov/iq.aspx>

Note: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182

February 24, 2015

Francis Heine
412 Sterling
Vermillion SD 57069

RE: Water Permit and Water Right Nos. 671-3, 977A-3, 977B-3, 1624-3 2053-3, 2947-3, 5435-3, 5471-3, 5639-3, 6057-3, 6059-3, 6679-3, 6993-3, 6994-3, 7297-3, 7298-3, 7299-3, 7300-3, 7301-3, 7302-3, 7577-3, 7578-3, 7579-3, 7580-3 & 7980-3

Dear Mr. Heine:

I am writing to acknowledge receipt of your 2014 irrigation questionnaires for the above listed water permits and water rights.

You may disregard the January 16, 2015, "Notice" concerning reporting requirements for your water permits and water rights. The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

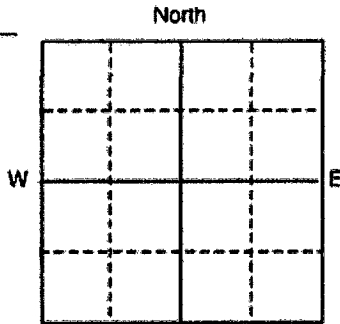
Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW 1/4 SE 1/4 Sec 9 Twp 92N Rg 52WCounty Clay

Please mark well location with an "X"



Well Completion Date

4-27-2021

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
2800 ft. from Septic (identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test holes
☒ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

Reverse Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>12</u> IN	<u>0</u> FT	<u>60</u> FT	<u>22</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite Grout</u>	<u>10</u>	Lb/gal	<u>0</u> Ft	<u>24</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Tranche Pipe

SCREEN:

☒ Perforated pipe ☐ Manufactured
 Diameter 12 Inches Length 20 Feet
Material PVCSlot Size 50 Set From 60 Feet to 80 Feet

Other information

85 slot
80-100 Johnson Stainless SteelWAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorine Tablets
☐ No, Why Not?
 Lab to which water quality sample sent for analysis
Well Owner: Francis Heine

Business Name:

Address: 412 SterlingCity, State, Zip: Vermillion, SD 57069

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top Soil</u>	<u>0</u>	<u>3</u>
<u>Brown Clay</u>	<u>3</u>	<u>24</u>
<u>Grey Clay</u>	<u>24</u>	<u>49</u>
<u>Mtd Sand & gravel</u>	<u>49</u>	<u>100</u>

STATIC WATER LEVEL 20 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: Turbine & Diesel Engine
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 805 and this report is true and accurate.Drilling firm: Sam Heine Well Co

Signature of License Representative:

Sam Heine

Signature of Well Owner or Equitable Property Holder:

RECEIVED

JUL 08 2021

WATER RIGHTS PROGRAM

Date: 5-15-2021

PAID

MAR 27 2023

Ck# 44663

Rec't#

NOTICE OF TRANSFER OF OWNERSHIP

To: Chief Engineer
Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181

No. 7579-3

Date:

I/We request that Water Permit No. 7579-3

formerly owned by: Francis Heine

be transferred to: (name & address) See below

Telephone No.

Title to the following described land(s)/property has been transferred as described above:

152 acres – E ½ SW ¼, W ½ SE ¼ Section 9, T92N, R52W

I/We understand that the validity of Water Permit No. 7579-3 has not been determined by this transfer action. If I/We have any questions on validity, I/We understand that only the Water Management Board has the authority to determine if a water permit/right is valid (see note).

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars (\$50.00) is required to cover the filing fees as required under SDCL 46-2-13. This form must be signed by the new owner.

I/We Todd Heine
1020 E. 320th St.
Vermillion, SD 5706, the new owner, certify that the above information is true and correct.



(Signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

RECEIVED

MAR 27 2023

OFFICE OF
WATER

7579-3

RECEIPT**WATER RIGHTS PROGRAM**

South Dakota Department of Agriculture and Natural Resources

Date March 27, 2023RECEIVED OF Francis J Doris/Tim, Todd & Nick Heine 412 Sterling St., Vermillion SD 57069

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	\$ _____
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. _____	\$ _____
Fee for Filing Transfer Form <u>7579-3</u>	<u>\$50.00</u>
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law) TOTAL	<u>\$50.00</u>

By Eric Gronlund
Chief Engineer
vm



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

April 14, 2023

Todd Heine
1020 E 320th St
Vermillion SD 57069

Dear Mr. Heine:

I am writing to acknowledge receipt of the transfer forms and filing fees for all water permits and water rights listed under Francis Heine.

The ownership changes have been completed. Water Permit/Right Nos. 671-3, 977A-3, 977B-3, 1006-3, 1034-3, 1624-3, 2053-3, 2947-3, 5435-3, 5471-3, 5639-3, 6057-3, 6059-3, 6679-3, 6993-3, 6994-3, 7297-3, 7298-3, 7299-3, 7300-3, 7301-3, 7302-3, 7577-3, 7578-3, 7579-3, 7580-3 & 7980-3 are now listed in your name.

Enclosed are receipts for the filing fees you paid. If you have any questions, please let me know.

Sincerely,

Genny McMath
Water Rights Program
605 773-3352
Genny.mcmath@state.sd.us

enclosures

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 7579-3**

I have this day, January 10, 2025, made a thorough examination of the water use system owned by Todd Heine, 1020 E. 320th St., Vermillion, SD, 57069, holder of Permit No. 7579-3, bearing the priority date of December 19, 2012. This permit authorizes the diversion of 2.0 cu. ft. per second (cfs) of the waters of groundwater (Missouri Elk Point Aquifer) authorizing the irrigation of 152 acres located in Clay County.

Inspection contacts: Todd Heine

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: Sam Heine Well Company
- 2) No. of Wells: 1
- 3) Depth(s): 100 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 12 inches
- 2) Length: 60 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 12 inches
- 2) Length: 20 feet of PVC
- 3) Length 20 feet of Stainless Steel
- 4) Static water level: 20 feet

Pump:

- 1) Make: Grundfos
- 2) Model: 800S400
- 3) Capacity: 800 gpm

Motor:

- 1) Make: Franklin
- 2) Model No.: Unknown
- 3) Horsepower rating: 40 hp

Generator:

- 1) Make: Onan
- 2) Model No.: 175.0DYG-15R/18939F
- 3) KW rating: 100 kw
- 4) Engine Make: Alice Chalmers
- 5) Engine Model No.: Unknown

B. Works used to transport water to place of use:

- 1) Type: Aluminum Size: 8 inches Length: 15 feet

C. Works used to apply water to beneficial use:**Center Pivot:**

- 1) Make: Zimmatic
- 2) Overall length: 1,260 feet
- 3) Number of towers: 7
- 4) End gun: Yes Range: 109 feet
- 5) Capacity: 812 gpm

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
- 3) Exceptions to compliance are: None

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 2,680 feet west and 1,350 feet north of the southeast corner of Section 9-T92N-R52W (Latitude 42.79751, Longitude -96.99322 – SW1/4 of the SE1/4).
- 2) The works are capable of diverting and conveying to the places of use 1.78 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

Section 9-T92N-R52W

<u>NE1/4SW1/4</u>	<u>34 acres</u>
<u>SE1/4SW1/4</u>	<u>34 acres</u>
<u>NW1/4SE1/4</u>	<u>34 acres</u>
<u>SW1/4SE1/4</u>	<u>34 acres</u>

comprising a total of 136 acres of land and the license should be issued for 1.78 cfs.

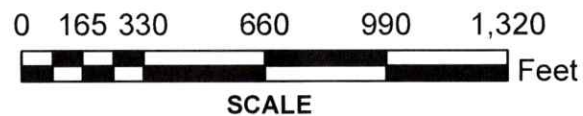
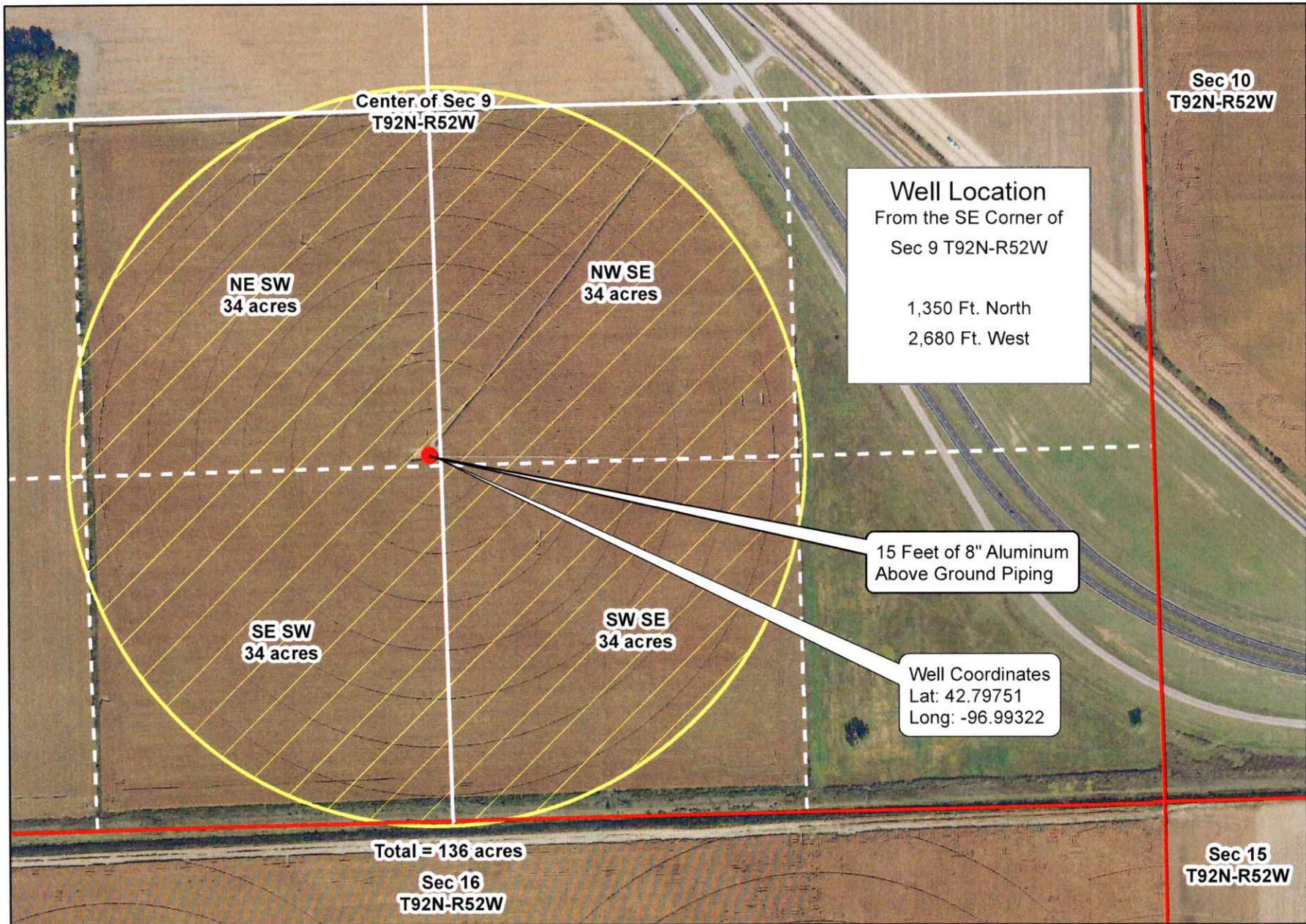
- 3) All structures, wells and lands on map: Yes

F. Comments or other permit(s) associated with the project: The pump and motor data was obtained from Sam Heine Well Company.

Keith DeJong, PE Ret.
Water Rights Inspector
DANR, Water Rights Program

Date report completed: January 29, 2025

Water Permit No. 7579-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
January 30, 2025

Approval of Location Change and/or Additional Diversion Point(s)

NAME: Todd Heine COUNTY: Clay
ADDRESS: 1020 E 320th St DATE: May 21, 2025

GENERAL DESCRIPTION OF AUTHORIZED PROJECT:

Water Permit No. 7579-3 authorizes diversion of 2.0 cfs from one well (M:EP) located in the NW ¼ SE ¼ Section 9, T92N, R52W for irrigation of 152 acres.

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed, or additional diversion points may be added, provided the following conditions are met and the potential for interference with other existing diversions is not increased:

Developed water source same as permitted source and no additional water appropriated.

The well authorized under Permit No. 7579-3 was completed into the Missouri: Elk Point Aquifer, in the NE ¼ SW ¼ Section 9, T92N, R52W. The developed rate of diversion was 1.78 cfs, which is less than the originally permitted amount.

If irrigation, no new land is irrigated.

The well was drilled and the diversion authority used to provide water to acres authorized by Water Permit No. 7579-3. Only 136 of the originally 152 authorized acres were developed.

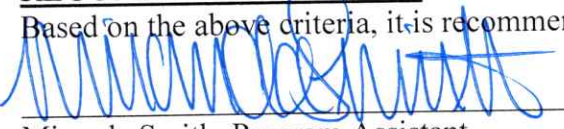
Review of Existing Diversions

There are twenty-two other existing water permits/rights within over a 2 mile radius of where the diversion point was developed, also authorizing diversion from the Missouri: Elk Point Aquifer. The nearest permit authorized for diversion from the M:EP is approximately 0.79 miles northeast of the well in question (8304-3 held by Don Schell Family LLP). The next nearest permit/right would be 7297-3, held by the Todd Heine, located approximately 0.88 miles southeast. It was determined in the review of the application of Water Permit 8304-3 that there was reasonable probability any interference due to pumping from the original well would not adversely or unlawfully impair existing rights. The same would be expected for the well constructed in the new location.

The closest domestic well (completed into the M:EP) is approximately 1.04 miles to the northwest, located in the SW ¼ SW ¼ Section 4, T92N, R52W, on property owned by Nelsen Betty, according to Regrid. The location of the domestic wells in the well completion report database maintained by the Water Rights Program is based on the location listed by the driller on the well completion report.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the change in diversion point location be approved.


Miranda Smith, Program Assistant
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This change in location and/or additional diversion point(s) does not increase the potential for adverse effects to existing diversions.


Mark Mayer, PE
Director of Office of Water



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

JUL 02 2025

Todd Heine
1020 E 320th St
Vermillion, SD 57069

No. 7579-3

Dear Mr. Heine:

Enclosed is Water License No. 7579-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, 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. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

So long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions regarding the enclosed license, please contact Water Rights Permitting Administrator, Amanda Dewell at (605) 773-3352 or Amanda.Dewell@state.sd.us.

Sincerely,

Mark Mayer, PE
Director of Office of Water
(605) 773-3352

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7579-3**

(1) Francis Heine, made Application No. 7579-3, December 19, 2012, for a water permit to divert 2.0 cubic feet of water per second from groundwater, one well (Missouri: Elk Point Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 7579-3, with a priority date of December 19, 2012, was approved March 11, 2013, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 11, 2018, and for the application to beneficial use of water on or before March 11, 2022.

Ownership of Permit No. 7579-3 was transferred to Todd Heine, 1020 E 320th St, Vermillion, SD 57069 on March 27, 2023.

An investigation conducted for licensing purposes found the diversion point developed outside of the permitted area. Pursuant to SDCL 46-5-13.1 and ARSD 74:02:01:14.01, the Chief Engineer made a finding that the change in the diversion point location did not increase the potential for adverse effects to existing diversions.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.78 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 2,680 feet W and 1,350 feet N from the SE corner of Section 9, T92N, R52W (SW $\frac{1}{4}$ SE $\frac{1}{4}$)
(Latitude 42.79751 and Longitude -96.99322)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.

(4) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate to following land:

Section 9, T92N, R52W
NE $\frac{1}{4}$ SW $\frac{1}{4}$ - 34 acres
SE $\frac{1}{4}$ SW $\frac{1}{4}$ - 34 acres
NW $\frac{1}{4}$ SE $\frac{1}{4}$ - 34 acres
SW $\frac{1}{4}$ SE $\frac{1}{4}$ - 34 acres
Total – 136 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Todd Heine, the holder and/or owner of Water Right No. 7579-3 is issued a license to appropriate water, the right to use 1.78 cubic feet of water per second from groundwater, one well (Missouri: Elk Point Aquifer), with a priority date of December 19, 2012, from the location specified in (2) of this license for irrigation purposes.

continued

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7579-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 7579-3 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 having prior water rights.
2. The well authorized by Permit No. 7579-3 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. *(The well was drilled in 2021 by Sam Heine Well Co. A copy of the well completion report is on file with the Water Rights Program.)*
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

Mark Mayer

Mark Mayer, PE
Director of Office of Water

7/2/25
date

