

**WATER PERMIT NO. 7577-3**

Name of Applicant: Francis Heine

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

Amount of Water Claimed: 2.0 cfs Total Acres: 70

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Clay

Type of Waste Disposal System:

Location: 3 miles southeast of Vermillion

PRIORITY Date Received: 12-19-12

Application/License Fee: \$ 950

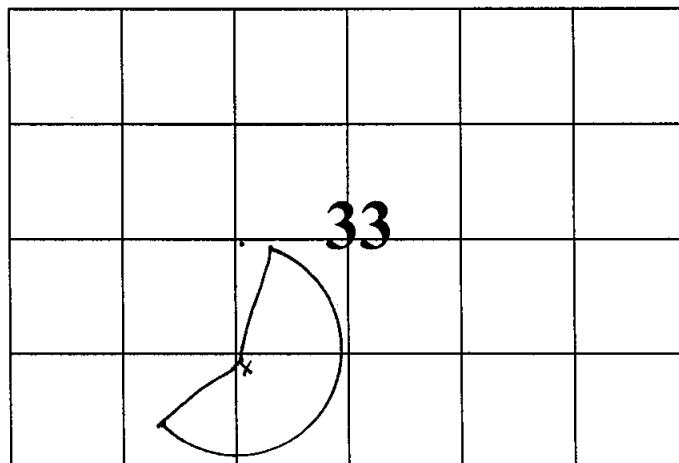
Corrected Application Received: 12-26-12

Period of Annual Use: May 1 – September 30

Remarks:

Diversion Point: <sup>SW</sup>SE 1/4 SE 1/4 Sec 33-T92N-  
R51W

Land to be Irrigated: <sup>SW</sup>E 1/2 SE 1/4, SW 1/4 SE 1/4  
Sec 33-T92N-R51W



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. 7577-3 (office use only)  
Hydrologic Unit 10170101  
Basin Missouri River 605-624-2695  
Newspaper Plain Talk 201 W Cherry St. Vermillion  
605-665-7811 57069  
Press & Democrat 319 Walnut Yankton 57078

**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 70  
(\*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 - SE 1/4 SW 1/4 Section 33, T92N, R51W  
(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 33, T92N, R51W | 30    |                  |       |
| SE 1/4 SW 1/4 Section 33, T92N, R51W | 30    |                  |       |
| SW 1/4 SW 1/4 Section 33, T92N, R51W | 10    |                  |       |
|                                      |       |                  |       |

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

Develop new center pivot irrigation. Pivot will make a windshield wipe rotation and need approximately 900 gpm to operate the pivot.

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. 7577-3**

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Date of first receipt of application December 19, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7577-3 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. 7577-3 appropriates 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.
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. 7577-3 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. 7577-3 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. 7577-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Permit No. 7577-3 authorize a maximum diversion rate of 2.0 cfs for the irrigation of 70 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

**WATER MANAGEMENT BOARD**

By:   
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 (completion report to be filed)

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)

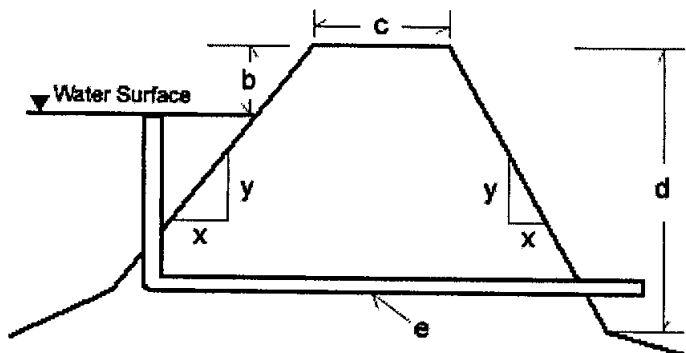
Upstream \_\_\_\_\_

Downstream \_\_\_\_\_

h) Surface Area of Impoundment \_\_\_\_\_

i) Storage \_\_\_\_\_ Acre Feet

j) Drainage Area Above Dam \_\_\_\_\_ Acres



WATER PERMIT APPLICATION FOR FRANCIS "BUD" HEINE



2,000 1,000 0 2,000 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 Reine, 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>7577-3</u> to Appropriate Water, to construct and to put water to beneficial use | 75000  |
| 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>7577233</u>           | 20000  |
| 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                                                                                                                  | 950.00 |

No. **05803**

By Garland Espeler  
Chief Engineer

KS



**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. 7577-3, 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. 7577-3, Francis Heine, 412 Sterling, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7577-3 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. 7577-3 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. 7577-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Permit No. 7577-3 authorize a maximum diversion rate of 2.0 cfs for the irrigation of 70 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer  
February 19, 2013

REPORT TO THE CHIEF ENGINEER  
ON  
WATER PERMIT APPLICATION NOS. 7577-3 & 7578-3  
FRANCIS HEINE  
February 8, 2013

Water Permit Application No. 7577-3 proposes to appropriate up to 140 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 SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  of Section 33, T92N-R51W and is expected to be approximately 100 feet deep. This application proposes to irrigate 70 acres located in the E  $\frac{1}{2}$  SW  $\frac{1}{4}$ , SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  of Section 33, T92N-R51W in Clay County. The applicant is requesting a diversion rate greater than the statutory limit.

Water Permit Application No. 7578-3 proposes to appropriate up to 160 ac-ft/yr at a maximum diversion rate of 2.0 cfs from one well to be completed into the Missouri: Elk Point aquifer. The well will be located in the NE  $\frac{1}{4}$  SW  $\frac{1}{4}$  of Section 21, T92N-R51W and is expected to be approximately 100 feet deep. This application proposes to irrigate 80 acres located in the S  $\frac{1}{2}$  NW  $\frac{1}{4}$ , N  $\frac{1}{2}$  SW  $\frac{1}{4}$  of Section 21, T92N-R51W in Clay County. 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. 7577-3, the aquifer is under water-table conditions and at the well site proposed by Application No. 7578-3, the aquifer is under artesian 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 (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 unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will review the availability of unappropriated water and existing rights within the Missouri: Elk Point aquifer.

## **WATER AVAILABILITY:**

These applications propose to appropriate a combined 300 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.

| <b>Water Rights/Permits</b>      | <b>Number</b> |
|----------------------------------|---------------|
| Domestic                         | 1             |
| Irrigation                       | 113           |
| Municipal                        | 4             |
| Rural Water System               | 2             |
| <b>Future Use Permits</b>        | <b>Number</b> |
| 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.

| <b>YEAR</b> | <b>NO. OF PERMITS</b> | <b>APPROPRIATION (AC-FT/YR)</b> | <b>PUMPAGE REPORTED (AC-FT/YR)</b> |
|-------------|-----------------------|---------------------------------|------------------------------------|
| 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                            |
| <b>MIN</b>  | <b>29</b>             | <b>17660.0</b>                  | <b>114.9</b>                       |
| <b>MAX</b>  | <b>89</b>             | <b>34722.0</b>                  | <b>7084.7</b>                      |
| <b>AVE</b>  | <b>45.70</b>          | <b>22034.25</b>                 | <b>2705.75</b>                     |

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

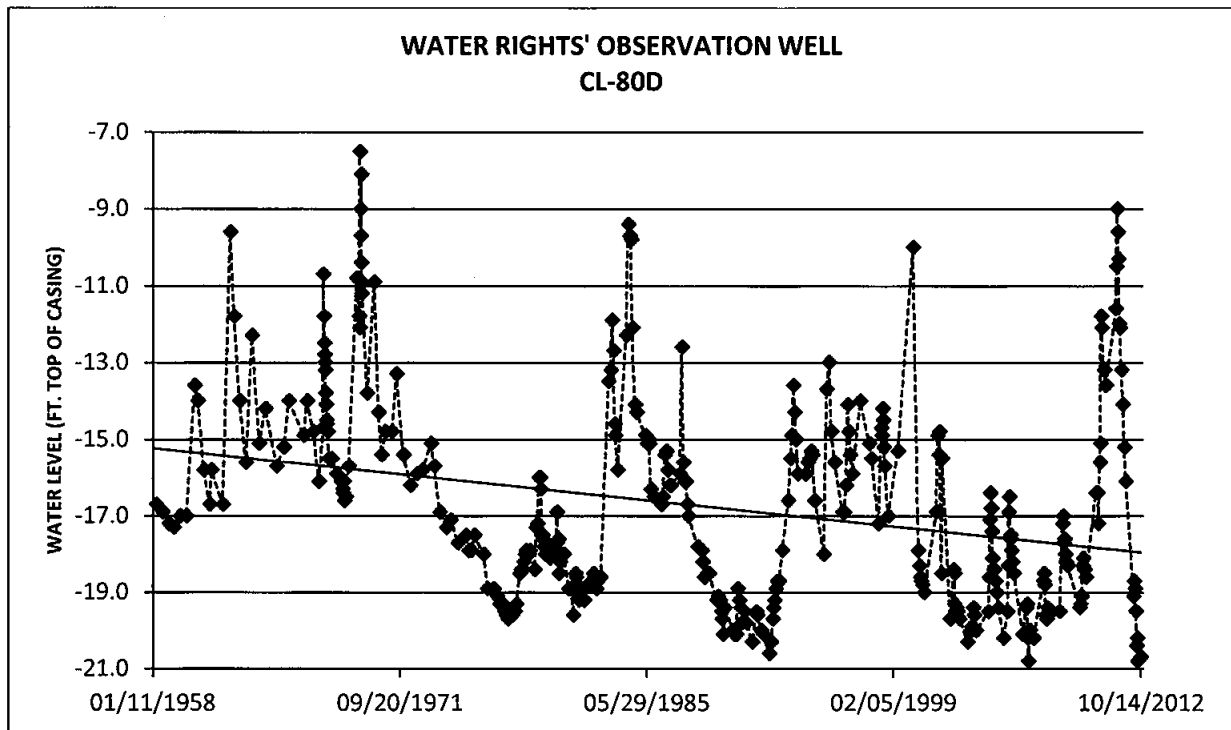


Figure 1. Hydrograph for SD DENR-Water Rights Observation Well CL-80D completed into the Missouri: Elk Point aquifer approximately one and one half miles northeast of the well site proposed by Application No. 7577-3 (Water Rights, 2013a).

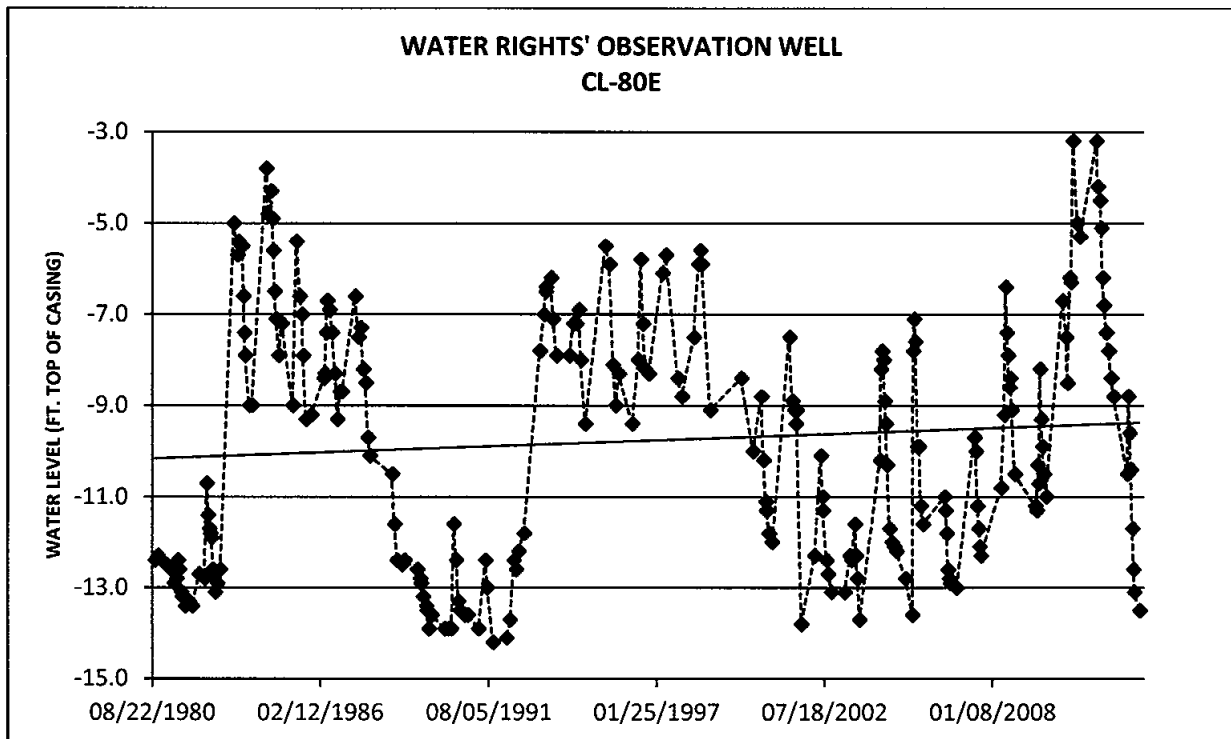


Figure 2. Hydrograph for SD DENR- Water Rights Observation Well CL-80E completed into the Missouri: Elk Point aquifer approximately three and one half miles east of the well site proposed by Application No. 7578-3 (Water Rights, 2013a).

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 less than two and one half miles east of the Vermillion River in a portion of the Missouri: Elk Point aquifer that extends north of the

Missouri River for approximately two and one half miles to the edge of the aquifer. There are several water rights/permits that have diversion points within approximately one mile of the proposed well sites. Figures 3 and 4 show the water rights/permits located within a one mile radius of the well sites proposed by Application Nos. 7577-3 and 7578-3, respectively. The locations of the existing water rights/permits were determined using the best data reasonably available.

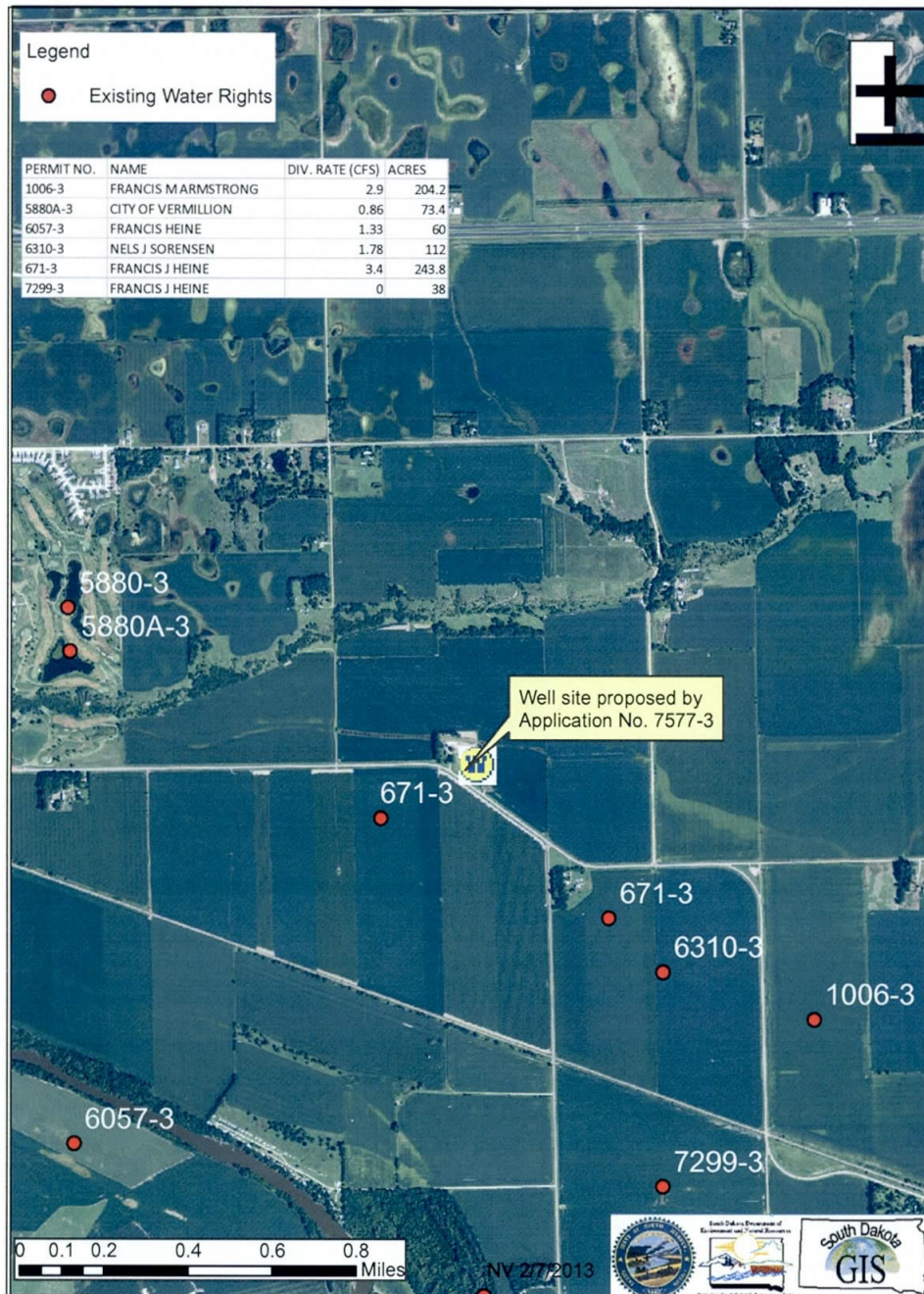


Figure 3. Water rights/permits located within approximately one mile of the well site proposed by Application No. 7577-3 (Water Rights, 2013c).

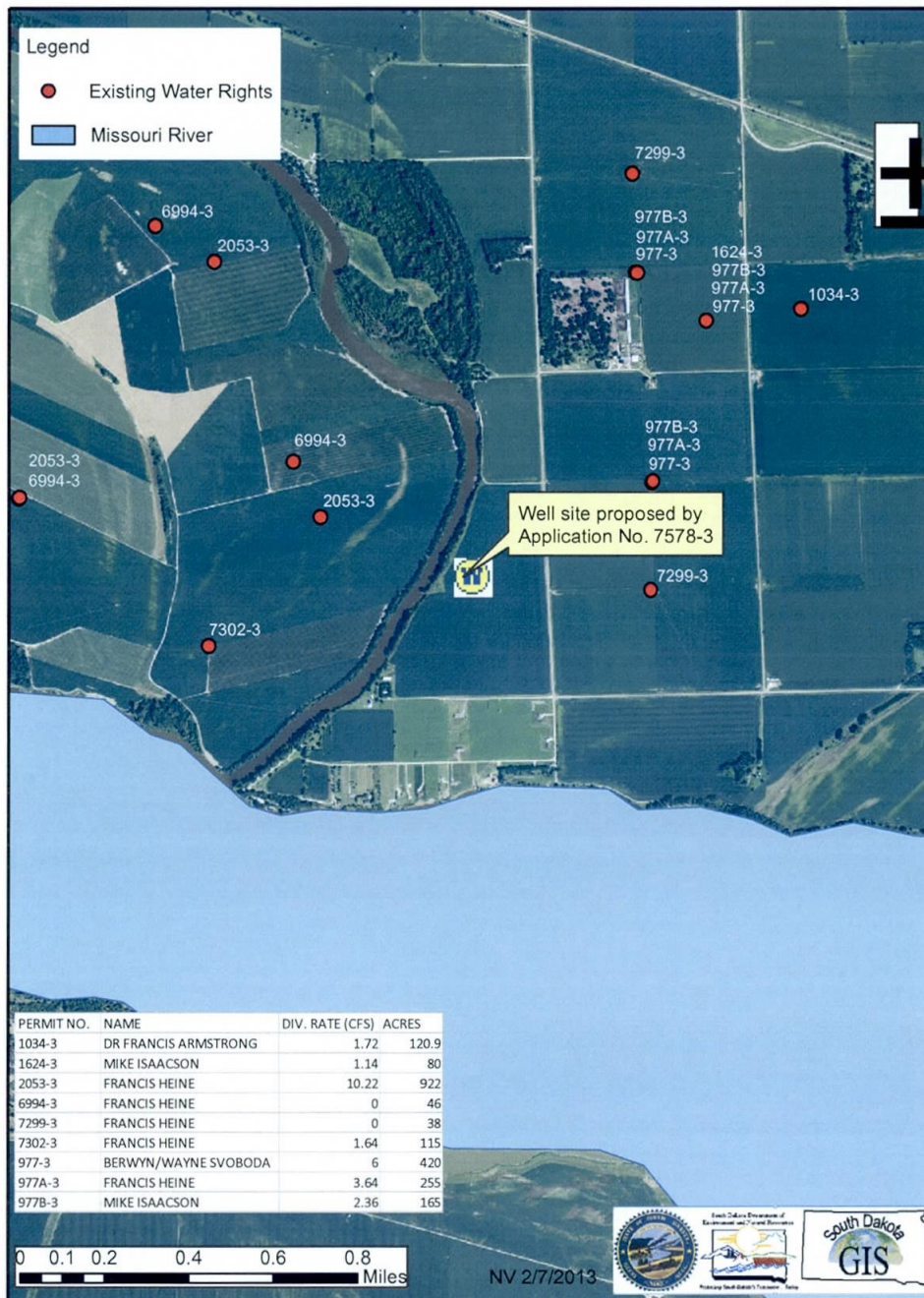


Figure 4. Water rights/permits located within approximately one mile of the well site proposed by Application No. 7578-3 (Water Rights, 2013c).

The well site for Water Permit number 7299-3, for the same applicant, Francis Heine, is located approximately 1,500 feet from the observation well, CL-80D, 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 Nos. 7577-3 & 7578-3 propose to divert at a rate of 2.0 cfs and 1.75 cfs per 70 acres respectively. The diversion rate is required to properly operate the new center pivot irrigation system for each application and is reasonable for the proposed use.

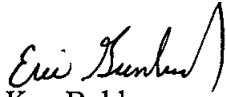
#### **CONCLUSIONS:**

1. These applications propose to appropriate up to 300 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



Ken Buhler  
SD DENR-Water Rights Program

#### **REFERENCES:**

- Goodman, J.A. 2007. Report on Water Permit Application No. 6869-3 for Lewis and Clark RWS: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- 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

4

DAY OF

March

James A. Schild

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 pro-  
poses to appropriate 2.0 cubic feet  
of water per second (cfs) from one  
well to be completed into the Mis-  
souri-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 re-  
questing a diversion rate greater  
than the statutory limit.

Application No. 7578-3 pro-  
poses 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 ap-  
plicant is requesting a diversion  
rate greater than the statutory  
limit.

Application No. 7579-3 pro-  
poses 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 pro-  
poses 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 addi-  
tional 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 irriga-  
tion of 60 new acres located in the  
E 1/2 SW 1/4, W 1/2 SE 1/4 Sec-  
tion 17 and E 1/2 NW 1/4, W 1/2  
NE 1/4 Section 20; all in  
T92N-R52W. The applicant is re-  
questing 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. Pinner, 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**

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

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 Mis-  
souri: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 re-  
questing 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 Mis-  
souri: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 re-  
questing 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 Mis-  
souri: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 addi-  
tional 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 irriga-  
tion of 60 new acres located in the  
E 1/2 SW 1/4, W 1/2 SE 1/4 Sec-  
tion 17 and E 1/2 NW 1/4, W 1/2  
NE 1/4 Section 20; all in  
T92N-R52W. The applicant is re-  
questing a diversion rate greater  
than the statutory limit.

Pursuant to SDCL 46-2A-2, the  
Chief Engineer recommends AP-  
PROVAL 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 im-  
paired, 3) it is a beneficial use of  
water, and 4) it is in the public in-  
terest. In accordance with SDCL  
46-2A-23, the Chief Engineer will  
act on these applications as rec-

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.

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 \$44.19.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://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](http://denr.sd.gov)

February 20, 2013

Press & Dakotan  
319 Walnut  
Yankton SD 57078

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).

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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

**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

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 \_\_\_\_\_.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://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



7577-3  
DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

JOE FOSS BUILDING  
PMB 2020  
523 EAST CAPITOL  
PIERRE SOUTH DAKOTA 57501-3182  
[www.state.sd.us/denr](http://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](mailto: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



**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

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

July 23, 2021

Todd Heine  
1020 E 320<sup>th</sup> St  
Vermillion SD 57069

Dear Mr. Heine:

The irrigation season is in full swing. This has led to the Department of Agriculture and Natural Resources (DANR) fielding inquiries regarding end gun overspray on to roads.

DANR received information alleging several irrigation systems had irrigation water from the end gun hitting the road. The attached sheet shows the locations. All of these locations involve irrigation permits held in your name.

It is common for center pivots to have stops which can be engaged to shut off the operation of the end gun when the pivot nears a road. Please take steps to ensure end gun stops are functioning properly so there is not direct overspray on to the road.

A water right holder is not allowed to operate an irrigation system in violation of state water law, which includes end gun overspray upon land not authorized by the water right. Continued overspray can result in DANR taking enforcement action.

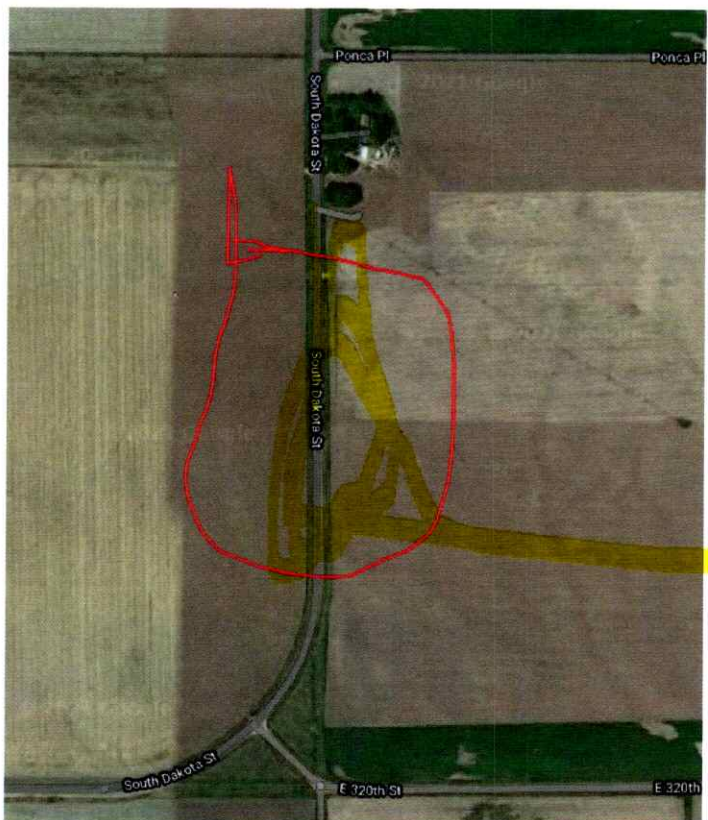
If you don't believe your irrigation system is causing the overspray, or if you have any questions, please contact me at (605) 773-3352 or by email at [ron.duvall@state.sd.us](mailto:ron.duvall@state.sd.us)

Thank you for your cooperation,

Ron Duvall  
Water Rights Program, DANR

enclosures

c: Francis Heine



The general areas of overspray are circled in red. The small area to the left is just south of the Ponca Pl and South Dakota St intersection.

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. 7577-3

Date: \_\_\_\_\_

I/We request that Water Permit No. 7577-3

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:

70 acres – E ½ SW ¼ and SW ¼ SW ¼ Section 33, T92N, R51W

I/We understand that the validity of Water Permit No. 7577-3 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 S  
Vermillion, SD 5, 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

7577-3

**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>7577-3</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  
me



**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 320<sup>th</sup> 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. 7577-3**

I have this day, January 9, 2025, made a thorough examination of the water use system owned by Todd Heine, 1020 E. 320<sup>th</sup> St., Vermillion, SD, 57069, holder of Permit No. 7577-3, 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 70 acres located in Clay County.

Inspection contacts: Todd Heine

**A. Works used to divert the water:**

**Well Information**

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

**Casing:**

- 1) Diameter: Unknown inches
- 2) Length: Unknown feet
- 3) Type: Unknown

**Screen:**

- 1) Diameter: Unknown inches
- 2) Length: Unknown feet
- 3) Type: Unknown
- 4) Static water level: Unknown feet

**Pump:**

- 1) Make: Unknown
- 2) Model: Unknown
- 3) Capacity: Unknown gpm

**Motor:**

- 1) Make: Wilo
- 2) Model No.: SM 07 30/40
- 3) Horsepower rating: 40 hp

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

- 1) Type: Aluminum      Size: 8 inches      Length: 20 feet

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

**Center Pivot:**

- 1) Make: Zimmatic
- 2) Overall length: 1,257 feet
- 3) Number of towers: 7
- 4) End gun: Yes Range: 99 feet
- 5) Capacity: 800 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 1,360 feet east and 1,290 feet north of the southwest corner of Section 33-T92N-R51W (Latitude 42.73914, Longitude -96.88020 – SE1/4 of the SW1/4).  
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 33-T92N-R51W

|                    |                 |
|--------------------|-----------------|
| <u>NE1/4 SW1/4</u> | <u>25 acres</u> |
| <u>SW1/4 SW1/4</u> | <u>10 acres</u> |
| <u>SE1/4 SW1/4</u> | <u>33 acres</u> |

comprising a total of 68 acres of land and the license should be issued for 1.78 cfs.

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

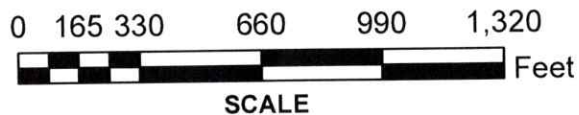
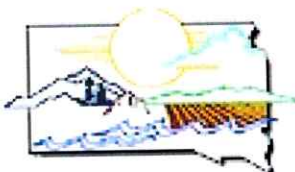
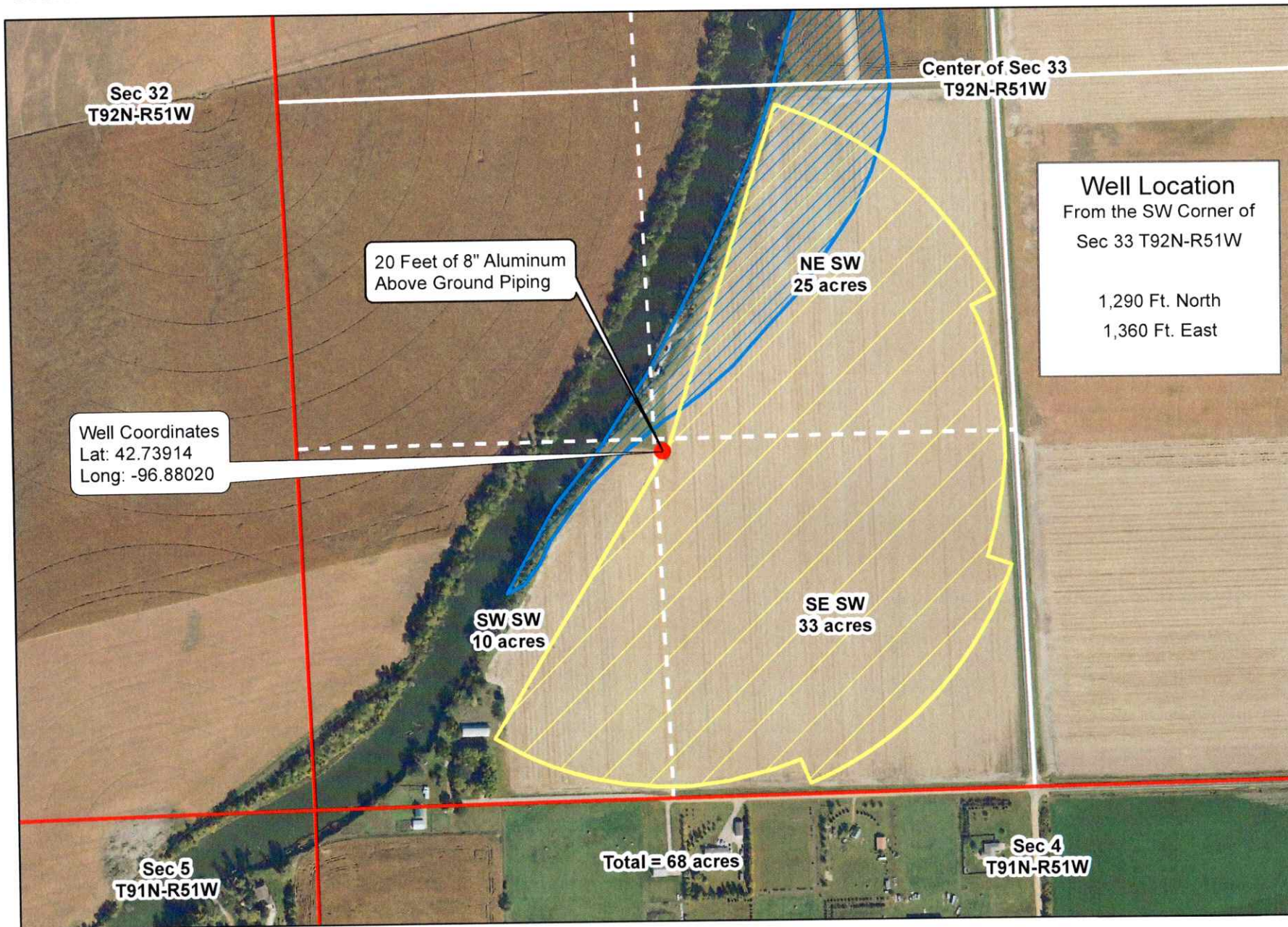
**F. Comments or other permit(s) associated with the project:** The well was likely drilled by Quality Well Service LLC, but they did not respond back to me about a well log. During the flooding in 2024, a portion of the irrigated field was washed away approximately as shown in blue on the attached map. The pump and motor were removed from the well and the pivot was temporarily relocated during the flood. The well remained in place and Mr. Heine intends to reinstall the pump and motor and reset the pivot in 2025. I obtained the information about the motor for the pump from the motor plate, but the pump did not have a plate on it. The flow rate noted above is based on the pivot data sheet.



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

Date report completed: February 7, 2025

# Water Permit No. 7577-3



*Keith DeJong*  
Keith DeJong, PE Ret.  
Staff Engineer  
January 9, 2025



**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 320<sup>th</sup> St  
Vermillion, SD 57069

No. 7577-3

Dear Mr. Heine:

Enclosed is Water License No. 7577-3. 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, please contact our office.

Sincerely,

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

enclosures

**STATE OF SOUTH DAKOTA  
WATER LICENSE NO. 7577-3**

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(1) Francis Heine, made Application No. 7577-3, 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. 7577-3, 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. 7577-3 was transferred to Todd Heine, 1020 E 320<sup>th</sup> St, Vermillion, SD 57069 on March 27, 2023.

(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:

- 1,360 feet E and 1,290 feet N from the SW corner of Section 33, T92N, R51W (SE  $\frac{1}{4}$  SW  $\frac{1}{4}$ )  
(Latitude 42.73914 and Longitude -96.88020)

(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 33, T92N, R51W  
NE  $\frac{1}{4}$  SW  $\frac{1}{4}$  - 25 acres  
SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  - 10 acres  
SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  - 33 acres  
Total – 68 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Todd Heine, the holder and/or owner of Water Right No. 7577-3 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.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 7577-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 7577-3 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.

continued

2. The well authorized by Permit No. 7577-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Permit No. 7577-3 authorize a maximum diversion rate of 2.0 cfs for the irrigation of 70 acres with an annual volume not to exceed 2 acre-feet of water per acre per year. *(The diversion rate was reduced to 1.78 cfs for the irrigation of 68 acres, based on the system as constructed.)*

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



Mark Mayer, PE  
Director of Office of Water

7/2/25  
date

