

WATER PERMIT NO. 8581-3

Name of Applicant: Andrew Russo

Address: 16835 462nd Ave, Watertown SD 57201

Phone: 605 759-6872

Amount of Water Claimed: 0.10 cfs

Total Acres: 10

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Codington

Type of Waste Disposal System:

Location: 5 miles northeast of Watertown

PRIORITY

Date Received: 1-14-22

Application/License Fee: \$ 300

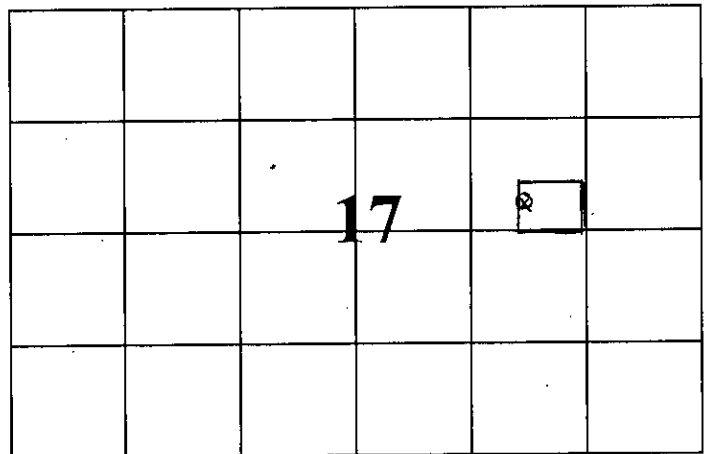
Corrected Application Received:

Period of Annual Use:

Remarks:

Diversion Point: SE 1/4 NE 1/4 Sec 17-T117N-
R51W

Land to be Irrigated: SE 1/4 NE 1/4 Sec 17-
T117N-R51W



Depth of Well: 150 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 1-18-22

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8581-3**

Date of first receipt of application January 14, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8581-3 to Andrew Russo, 16835 462nd Ave, Watertown SD 57201 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. 8581-3 appropriates 0.10 cubic feet of water per second from one well to be completed into the Prairie Coteau Aquifer (approximately 150 feet deep) located in the SE 1/4 NE 1/4 Section 17 to supply a drip irrigation system of 10 acres located in the SE 1/4 NE 1/4 Section 17; all in T117N-R51W. This site is located approximately 5 miles northeast of Watertown SD.
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: April 1 – October 31.
3. The date from which applicant may claim right is January 14, 2022.
4. The date of approval of Permit No. 8581-3 is April 4, 2022.
5. One-fifth of the construction is to be completed on or before October 4, 2024.
6. All construction is to be completed on or before April 4, 2027.
7. Water is to be put to beneficial use on or before April 4, 2031.
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. 8581-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8581-3 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: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

APR 28 2022

date



RECEIVED

JAN 14 2022

PAID

JAN 14 2022

Ck# 1001

Rec't#

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8581-3</u> (office use only) Hydrologic Unit <u>10170202</u>	WATER RIGHTS PROGRAM
	Basin <u>Sioux River</u>	
	Newspaper <u>Public Opinion</u>	

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 Andrew Russo

Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address 16835 462nd Ave Watertown SD 57201
(Address) (City) (State) (Zip Code)

Phone 406-570-5583 Mobile 605-739-6872 Email andy_russo@hotmail.com

2. Amount of water claimed 0.1 *CFS or 45 **GPM ***AF Total Acreage 10
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Well

4. Location of point of diversion 1 well in SE 1/4 NE 1/4 section 17-T117N-R51W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Codington

5. County or counties where water will be used Codington

6. Annual period during which water is to be used April 1 - October 31

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
<u>SE 1/4 NE 1/4 section 17-T117N-R51W</u>	<u>10</u>		

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

Irrigation for container and field-grown landscape trees and shrubs.
Drip/micro irrigation to be used when natural precipitation is not sufficient.

I, Andrew Russo, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

Supplemental Information

(type or print)

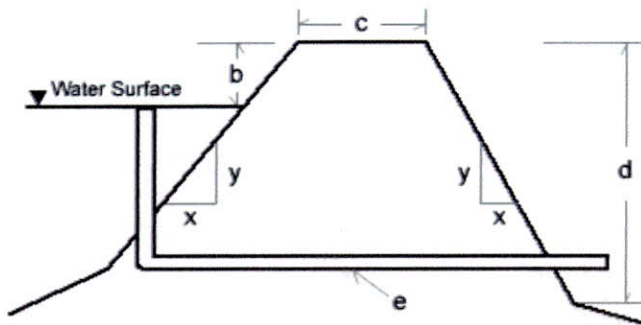
1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by existing domestic well log enclosed
(if yes, please provide copies of logs)b) If existing wells, how many Provide copy of log(s), if available. Drilled by

For either Existing or Proposed Wells:

c) Well Depth (required) 150' Depth to Top of Water Bearing Material Depth to Water from Surface d) Distance to nearest domestic well on applicant's property 450' Property owned by others 1/4 mile**2. Wastewater Disposal System Information**a) Type of System (i.e. septic tank, drain field) Drain field, (330' From proposed new well)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 Feetj) Drainage Area Above Dam Acres



Common Land Unit  Tract Boundary
 PLSS

 Non-Cropland
 Cropland

Wetland Determination Identifiers

-  Restricted Use
-  Limited Restrictions
-  Exempt from Conservation Compliance Provisions

→ 9.96 Acres to be irrigated
(cropland) NHEL

2022 Program Year

Map Created January 12, 2022

Farm 4053

17-117N-51W-Codington

Schlaak, Karen

From: andrew russo <andy_russo@hotmail.com>
Sent: Tuesday, January 18, 2022 10:27 AM
To: Schlaak, Karen
Subject: Re: [EXT] Water Permit Application

Karen,

Sorry about that! Actually, yes, April 1 - October 31 is the window I would be using water from this proposed well.
Thank you for contacting me,
Andrew Russo

Sent from my iPhone

On Jan 18, 2022, at 9:36 AM, Schlaak, Karen <Karen.Schlaak@state.sd.us> wrote:

Mr. Russo,
We received your water permit application. Item No. 6 on the application was not completed. Annual period during which water is to be used.
What months do you foresee using the water? Such as April 1 through October 31.

Please let me know your response. Thanks

Karen Schlaak

DANR - Water Rights Program

(605) 773-3352

Website:

<https://danr.sd.gov>

<image001.png>

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date January 14, 2022

RECEIVED OF Russo Tree Farm 16835 462nd Ave., Watertown SD 57201

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

Fee for Application for Permit No. <u>8581-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>100.00</u>
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>8581-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
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>300.00</u>

By Eric Gronlund
Chief Engineer
Em



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8581-3, Andrew Russo**

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. 8581-3, Andrew Russo, 16835 462nd Ave, Watertown SD 57201.

The Chief Engineer is recommending APPROVAL of Application No. 8581-3 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 domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8581-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8581-3 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.

Eric Gronlund, Chief Engineer
March 14, 2022

Report to the Chief Engineer
On Water Permit Application No. 8581-3

Andrew Russo

February 11, 2022

Water Permit Application No. 8581-3 proposes to appropriate water at a maximum instantaneous diversion rate of 0.10 cubic feet per second (cfs) from one well to be completed into the Prairie Coteau aquifer (approximately 150 feet deep) located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17 to supply a drip irrigation system of 10 acres located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 17; all in T117N-R51W. The site is located in Codington County approximately five miles northeast of Watertown, SD.

AQUIFER: Prairie Coteau (PCO)

HYDROGEOLOGY:

The DANR-Water Rights Program recognizes buried glacial outwash deposits that are not in contact with bedrock or surficial materials between the approximate altitudes of 1,550 to 1,800 feet above mean seal level (fmssl) on the Prairie des Coteau as the Prairie Coteau aquifer (Thompson, 2001; Water Rights, 2022b, 2022c, and 2022d). The Prairie Coteau aquifer is not a continuous aquifer but instead consists of many disconnected glacial outwash deposits, of which the depth and thickness can vary widely (SDGS, 2022; Thompson, 2001; Water Rights, 2022d). These outwash deposits have been collectively known as an aquifer due to their similarities (Thompson, 2001; Water Rights, 2020b, 2022c and 2022d).

The Prairie Coteau aquifer is composed of buried outwash deposits of brown to gray, coarse sand to fine gravel (Hansen, 1994; Thompson, 2001). The portion of the Prairie Coteau aquifer that the proposed diversion point is to be completed into is overlain by the Big Sioux: North aquifer and underlain by the Altamont aquifer. The Big Sioux: North aquifer and the Prairie Coteau aquifer can be separated by as little as 15 feet of silty, sandy till (Hansen, 1990). The Prairie Coteau aquifer is likely in hydrogeological connection with the Big Sioux: North aquifer and Coteau Lakes aquifer (Hansen, 1994). In Codington County, the depth to the top of the Prairie Coteau aquifer can range from approximately 21 feet to 380 feet below land surface (Hansen, 1994). The thickness of the outwash deposit of the Prairie Coteau aquifer can range from approximately 3 to 45 feet (Thompson, 2001).

The well for Water Permit Application No. 8581-3 would be completed into an outwash deposit of the Prairie Coteau aquifer that was previously delineated by Stonesifer (2013) that has been utilized by the DANR-Water Rights Program in the past for water availability analyses (Water Rights, 2022c). Additional information for this outwash deposit has become available since the Prairie Coteau aquifer boundary was last modified in 2013. An investigation into the delineation for this outwash deposit was conducted utilizing test holes and water well completion reports on file (Water Rights, 2022d), observation well logs (Water Rights, 2022b), historical lithologic logs from the South Dakota Geological Survey (SDGS) (SDGS, 2022), and elevation data (USGS, EROS, 1999), were used to modify the delineation completed by Stonesifer (2013) for

this outwash deposit of the Prairie Coteau aquifer. The modified aquifer boundary of the Prairie Coteau outwash deposit was delineated by Steen (2022). The outwash deposit delineated by Stonesifer (2013) estimated the areal extent of the aquifer to be approximately 184,500 acres. The modified outwash deposit delineation has an estimated areal extent of approximately 167,500 acres (Steen, 2022). The actual areal extent of this outwash deposit of the Prairie Coteau aquifer is likely to range between Stonesifer's (2013) and Steen's (2022) approximations. The updated aquifer boundary that was mapped by Steen (2022) underlies portions of Codington, Deuel, Grant, Hamlin, and Roberts Counties.

The Prairie Coteau aquifer is generally under confined conditions in Codington County (SDGS, 2022). The direction of groundwater movement of the Prairie Coteau aquifer is commonly from the northeast to the southwest toward Clark and Hamlin Counties (Hansen, 1990). The approximate areal extent of the modified Prairie Coteau aquifer boundary as well as the previous boundary mapped by Stonesifer (2013) is displayed in Figure 1 along with the location of the proposed diversion point.

A well completion report was submitted with Water Permit Application No. 8581-3. The well completion report that was submitted with Water Permit Application No. 8581-3 was for a domestic well that is approximately 450 feet north of the proposed diversion point. The report lists "topsoil dark soft" from 0 to 3 feet below land surface, "clay yellow soft" from 3 to 5 feet, "sand (coarse) yellow soft" from 5 to 10 feet, "clay gray medium" from 10 to 107 feet, and "sand (coarse) gray soft" from 107 to 122 feet. The static water level in the well was 37 feet below land surface at the time of well completion (August 2003). This indicates that there was approximately 70 feet of artesian head pressure in the well at the time of well completion. The elevation at the location of the proposed diversion point is approximately 1,830 fmsl and the top of this outwash deposit is approximately 1,723 fmsl (USGS, EROS, 1999). The Prairie Coteau aquifer is confined at the diversion point based on the submitted well completion report, water levels, and lithologic logs on file for nearby observation wells (SDGS, 2022; Water Rights, 2022b and 2022d).

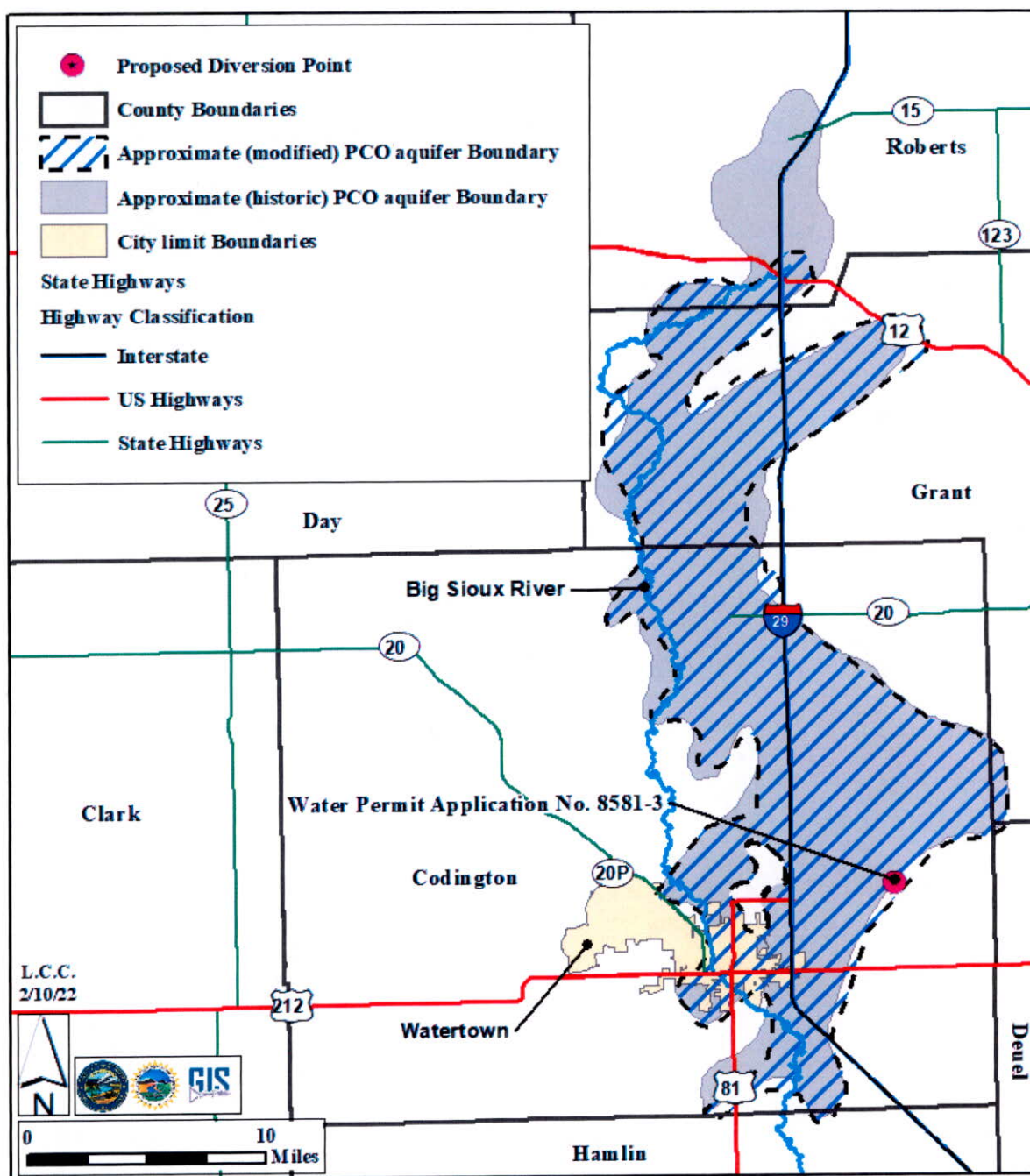


Figure 1: The approximate areal extent of the historic Prairie Coteau aquifer boundary, modified Prairie Coteau aquifer boundary, and the proposed diversion point location of Water Permit Application No. 8581-3 (Hedges et al., 1982; Steen, 2022; Stonesifer, 2013; Water Rights, 2022b and 2022c).

South Dakota Codified Law (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, “A permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant’s proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public

interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11.” This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within the Prairie Coteau aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8581-3 proposes to appropriate water from the Prairie Coteau aquifer for irrigation. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. However, an application may be approved for a water distribution system for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge.” The Prairie Coteau aquifer is not older than or stratigraphically lower than the Greenhorn Formation (Fahrenbach et al, 2010), and the applicant’s proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Prairie Coteau aquifer must be considered.

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

The DANR-Water Rights Program monitors 60 observation wells completed into the Prairie Coteau aquifer (Water Rights, 2022b). Of these 60 observation wells, 13 are within the outwash deposit of the Prairie Coteau aquifer that the proposed diversion point is to be completed into. These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. There are three observation wells (shown in Figure 2) within approximately ten miles of the proposed diversion point. The closest observation well to the proposed diversion point is observation well CD-77G (approximately five miles northwest). The hydrographs for these three observation wells are displayed in Figures 3 through 5 (Water Rights, 2022b).

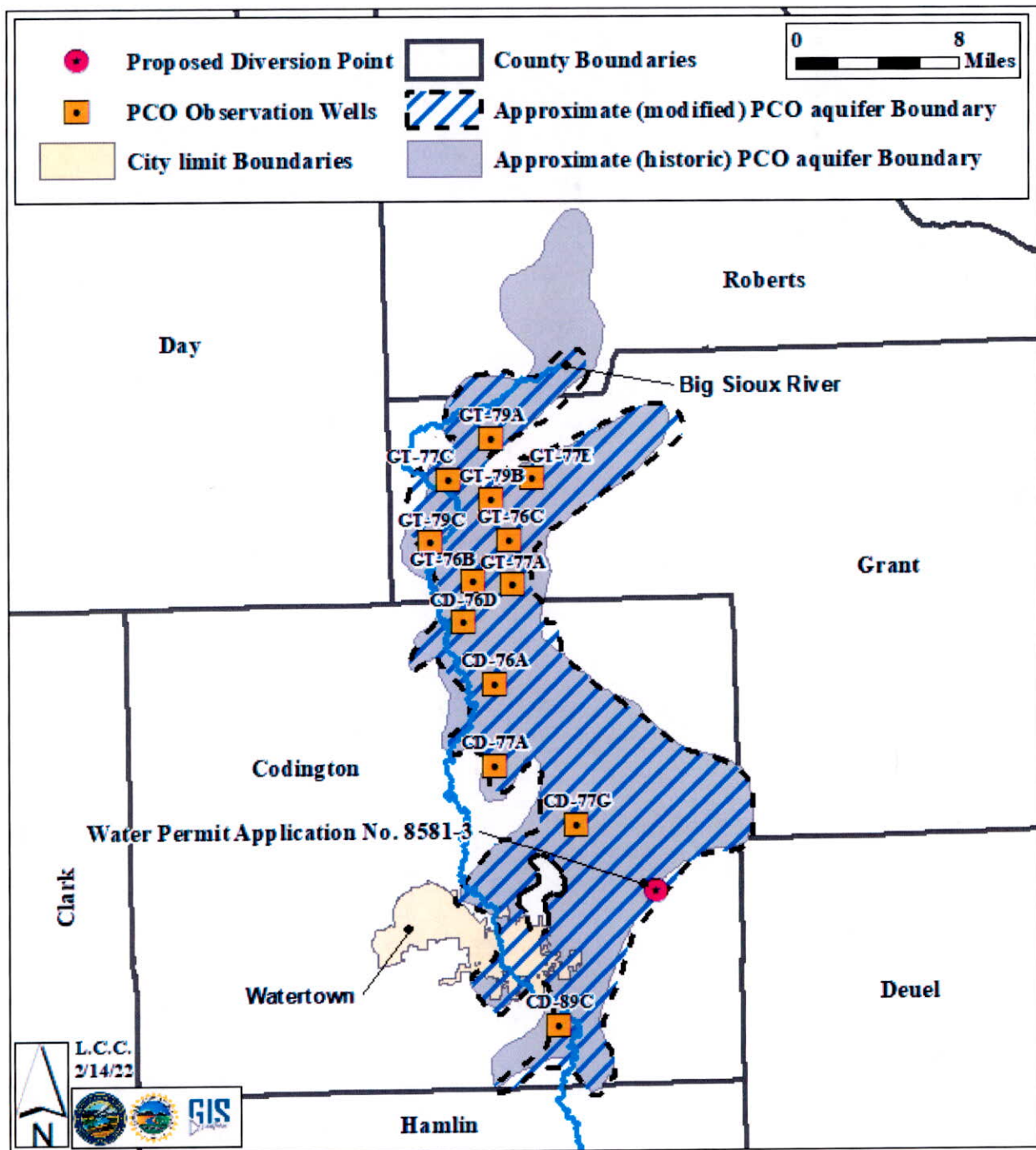


Figure 2: The location of the proposed diversion point of Water Permit Application No. 8581-3 with observation wells completed into this portion Prairie Coteau aquifer (Steen, 2022; Stonesifer, 2013; Water Rights, 2022b and 2022c).

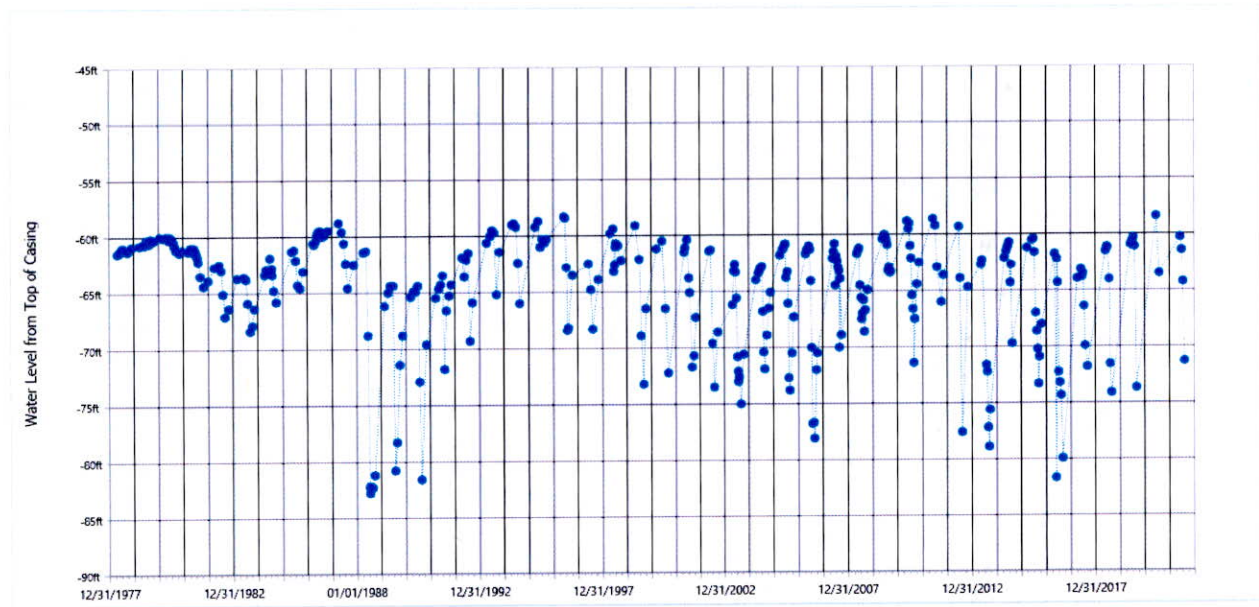


Figure 3: Hydrograph of the Prairie Coteau aquifer observation well CD-77G, located approximately five miles northwest of the diversion point (Water Rights, 2022b).

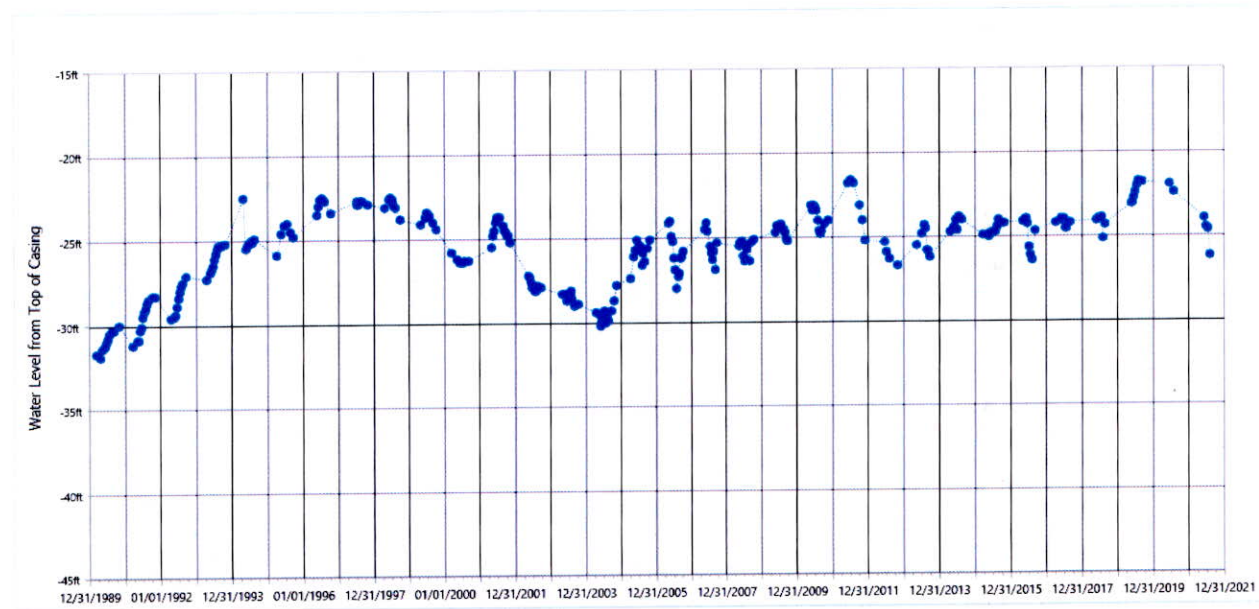


Figure 4: Hydrograph of the Prairie Coteau aquifer observation well CD-89C, located approximately eight miles southwest of the diversion point (Water Rights, 2022b).

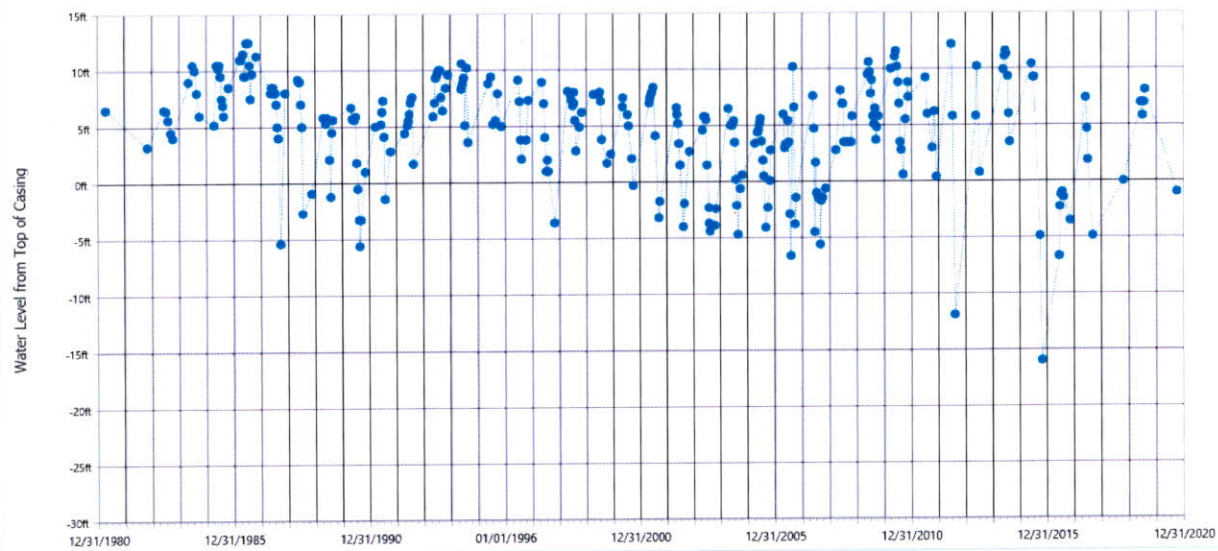


Figure 5: Hydrograph of the Prairie Coteau aquifer observation well CD-77A, located approximately ten miles northwest of the diversion point (Water Rights, 2022b).

The hydrographs for the observation wells display stable to slightly increasing water levels over their respective periods of record. The hydrographs for these three observation wells are representative of other observation wells completed into this outwash deposit of the Prairie Coteau aquifer (Water Rights, 2022b). The hydrographs for the Prairie Coteau aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods (early spring snowmelt and precipitation) and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping conditions between irrigation seasons. This recovery of the aquifer indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer, govern the long-term fluctuations of waters levels in the aquifer rather than the impacts of pumping from the Prairie Coteau aquifer. By recognizing that both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate unappropriated water is available for the proposed appropriation.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Prairie Coteau aquifer is primarily through infiltration of precipitation where the aquifer is near land surface (Hedges and others, 1985). Another source of recharge to the Prairie Coteau aquifer is from leakage from till, Coteau Lakes aquifer, the Big Sioux: North aquifer, and other overlying smaller glacial aquifers (Hansen, 1990). The recharge rate to the Prairie Coteau aquifer was estimated by Hedges and others (1985); however, the recharge rate that was estimated was only applicable to the unconfined portions of the Prairie Coteau aquifer. While unconfined conditions do occur in areas of this portion of the Prairie Coteau aquifer, the aquifer is primarily under confined conditions (SDGS, 2022; Water Rights, 2022b and 2022d).

Hedges and others (1985) estimated a general range of recharge rates to confined aquifers in South Dakota. The estimated recharge rate to confined aquifers range from 0.15 to 0.60 in/yr (Hedges and others, 1985). When these two recharge rates are applied to the approximate historic and modified areal extents of this outwash deposit of the Prairie Coteau aquifer, the annual recharge ranges from approximately 2,056 to 9,225 ac-ft/yr. It should also be noted that the areal extent of this outwash deposit of the Prairie Coteau aquifer was approximated using many variables (SDGS, 2022; USGS, EROS, 1999; Water Rights, 2022b and 2022d), but it is still an approximation that may vary to an unknown degree based on the best information available. In general, it is prudent to assume the mid-range of the average annual recharge rate to an outwash deposit (5,660 acre-feet per year) when estimating recharge from a non-aquifer specific recharge rate range. Furthermore, there is not sufficient evidence available at this time to support using the lower or higher end of the recharge rate range.

Discharge

Discharge from the Prairie Coteau aquifer is primarily through well withdrawals in Codington County and possibly to hydrologically connected aquifers (Water Rights, 2022c and 2022d). Currently, there are 39 water rights/permits authorized to appropriate water from the portion of the Prairie Coteau aquifer that the proposed well would be completed into, plus one pending application (Water Rights, 2022c). Water Permit Application No. 8582-3 is estimated to use 153 ac-ft/yr on average (assuming an application rate of 1 foot per acre [ft/ac]) (Water Rights, 2022c). The 39 water rights/permits are displayed in Figure 6 along with the proposed diversion point. There are no future use permits reserving water from this outwash deposit of the Prairie Coteau aquifer presently.

Table 1 summarizes the six non-irrigation water rights/permits authorized to appropriate water from this portion of the Prairie Coteau aquifer with the estimated annual use for each water right/permit as determined by their maximum permitted diversion rate or annual volume. The amount of water that can be withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw their entire appropriated volume every year. It is estimated that the non-irrigation water rights/permits limited only by a diversion rate will pump at their maximum permitted diversion rate for 60 percent of the time. Overall, the average annual withdrawal rate for this portion of the Prairie Coteau aquifer for non-irrigation water rights/permits is approximately 526.5 ac-ft/yr (Table 1) (Water Rights, 2022c).

Table 1: Estimated annual water use for non-irrigation water rights/permits authorized to appropriate water within this portion of the Prairie Coteau aquifer (Water Rights, 2022c).

Permit No.	Name	County	Status	Use	Div. Rate (cfs)	Authorized Annual Volume (ac-ft/yr)	Estimated Volume (ac-ft/yr)
6100-3	Blooming Valley Dairy LLC	GT	LC	COM, LCO	0.267	N/A	116
6533-3	Bitter Sweet Lodge	GT	LC	COM	0.033	N/A	14.3
8194-3	Lakeside Dairy	GT	PE	COM, LCO	0.446	275	275
8438-3	Blooming Valley Dairy LLC	GT	PE	COM, LCO	0.289	120	120
8478-3	Xcel Energy	GT	PE	COM	0.022	0.22	0.2
8505-3	Dakota Range III O&M	GT	PE	COM	0.044	1	1
COM: Commercial; LCO: Livestock Confinement Operation						TOTAL:	526.5
LC: Licenced Water Right; PE: Permitted Water Right; GT: Grant County							

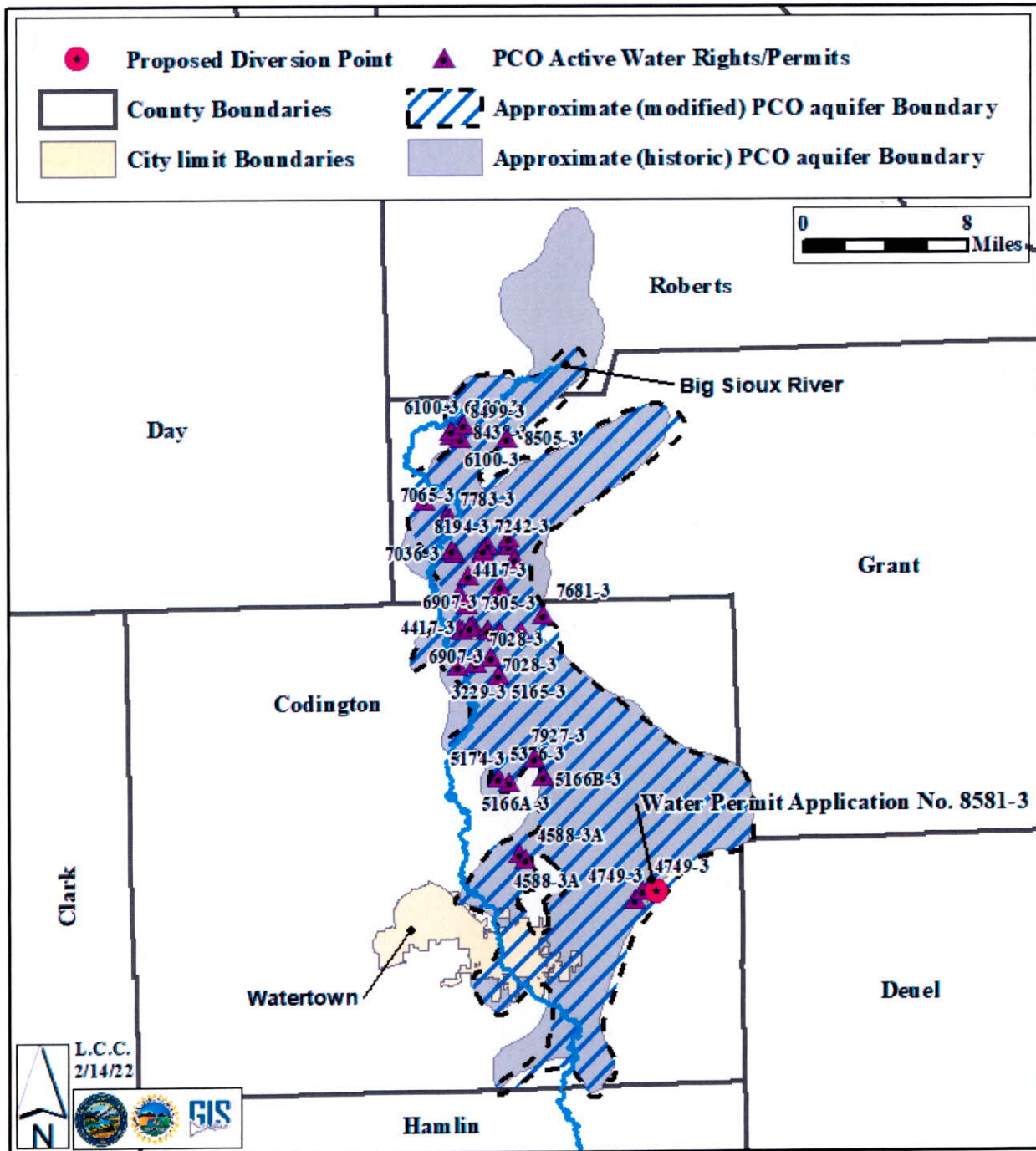


Figure 6: The site location of Water Right Permit Application No. 8581-3 and water rights/permits completed into this portion of the Prairie Coteau aquifer (Steen, 2022; Stonesifer, 2013; Water Rights, 2022b and 2022c).

Currently, there are 33 irrigation water rights/permits appropriating water from this portion of the Prairie Coteau aquifer (Water Rights, 2022c). The reported annual irrigation withdrawals from this portion of the Prairie Coteau aquifer are shown in Table 2. Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since

1979. Table 2 lists only 32 irrigation water rights/permits as reporting in 2020. Water Permit No. 8499-3 was approved in 2021 and has yet to withdraw water from the aquifer. Water Permit No. 8499-3 is estimated to appropriate 160 ac-ft/yr assuming an application rate of 1 ft/ac. The average annual withdrawal rate for the Prairie Coteau aquifer irrigation water rights/permits that have reported over the period of record is approximately 1,326 ac-ft/yr (Table 2) (Water Rights, 2022a).

Since the number of irrigation water rights/permits has continued to increase over the period of record, the estimated average annual withdrawal rate for irrigation appropriations for the entire period of record may not accurately reflect the current level of development. The average annual withdrawal rate for irrigation appropriations from 2011 to 2020 better represents the current level of irrigation developments in this portion of the Prairie Coteau aquifer. The average annual withdrawal rate for the Prairie Coteau aquifer from 2011 to 2020 is approximately 2,095 ac-ft/yr (Table 2) (Water Rights, 2022a).

Table 2: Reported historic irrigation use from this portion of the Prairie Coteau aquifer (Water Rights, 2022a).

Year	No. of Permits Reporting	Reported Pumpage (ac-ft)
1979	7	317.2
1980	7	1,009.6
1981	9	1,355.3
1982	10	484.0
1983	12	1,182.7
1984	11	1,533
1985	12	641
1986	12	305
1987	12	1,162
1988	15	3,380
1989	17	1,761
1990	18	2,280
1991	15	507.6
1992	14	557
1993	15	199
1994	16	341.8
1995	16	314.3
1996	16	963.1
1997	17	1,041
1998	17	747
1999	17	1,000.5
2000	17	1,324.5
2001	16	1,196.7
2002	16	1,340.9
2003	16	1,875.2
2004	16	1,280.8
2005	16	1,076.5
2006	16	1,617.5
2007	17	1,170.1
2008	20	1,003.3
2009	22	888
2010	22	886
2011	22	961.4
2012	25	2,458.6
2013	29	1,809.7
2014	31	1,716.3
2015	33	2,492.9
2016	33	3,213
2017	33	2,793
2018	32	2,447.7
2019	32	557.3
2020	32	2,497.6
MIN	7	199
MAX	33	3,380
AVG	19	1,326
AVG (2011-2020)	30	2,095

There are domestic wells completed into the Prairie Coteau aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2022d). Withdrawals from domestic wells on an average annual basis are not considered to be a significant portion of the hydrologic budget due to their relatively low diversion rates. Additionally, with the development of rural water systems in areas where the Prairie Coteau aquifer is the uppermost aquifer available; it is likely some domestic users may have transitioned to rural water. Therefore, the quantity of water withdrawn by domestic wells is estimated to be negligible to the hydrologic budget for the Prairie Coteau aquifer.

Hydrologic Budget Summary

The average annual withdrawal rate from this portion of the Prairie Coteau aquifer totals approximately 2,944.5 ac-ft/yr (irrigation: 2,095 ac-ft/yr; non-irrigation: 526.5 ac-ft/yr; pending applications: 153 ac-ft/yr; Water Permit No. 8499-3: 160 ac-ft/yr; Water Permit Application No. 8581-3 (if approved) (assuming an application rate of 1 ft/ac): 10 ac-ft/yr) (Water Rights 2022a and 2022c). The estimated average annual recharge rate to this portion of the Prairie Coteau aquifer ranges from approximately 2,056 to 9,225 ac-ft/yr. The mid-range of the average annual recharge rate to this outwash deposit is approximately 5,660 ac-ft/yr. The areal extent of this outwash deposit of the Prairie Coteau aquifer was approximated using many variables (SDGS, 2022; USGS, EROS, 1999; Water Rights, 2022b and 2022d), but it is still an approximation that may vary to an unknown degree. Overall, it is likely the estimated average annual recharge to this portion of the Prairie Coteau aquifer is greater than the estimated average annual withdrawal rate from the aquifer. Therefore, there is a reasonable probability that unappropriated water is available for the appropriation proposed by this permit application.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 39 water rights/permits authorized to appropriate water from this portion of the Prairie Coteau aquifer, including one pending application – Water Permit Application No. 8582-3 (Water Rights, 2022c). There are six water rights/permits authorized to appropriate water from this portion of the Prairie Coteau aquifer within 10 miles of the proposed diversion point (Water Rights, 2022c). The six water rights/permits are shown in Figure 7 and identified in Table 3. The nearest water right/permit (not held by the applicant) to the diversion point completed into the Prairie Coteau aquifer is Water Right No. 4749-3 located approximately 0.6 miles west of the diversion point.

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Prairie Coteau aquifer, with the closest domestic well on file (not held by the applicant) approximately 450 feet north of the proposed diversion point (Water Rights, 2022d). There could potentially be other domestic wells completed into the Prairie Coteau aquifer near the proposed diversion point that are not on file with the DANR-Water Rights Program.

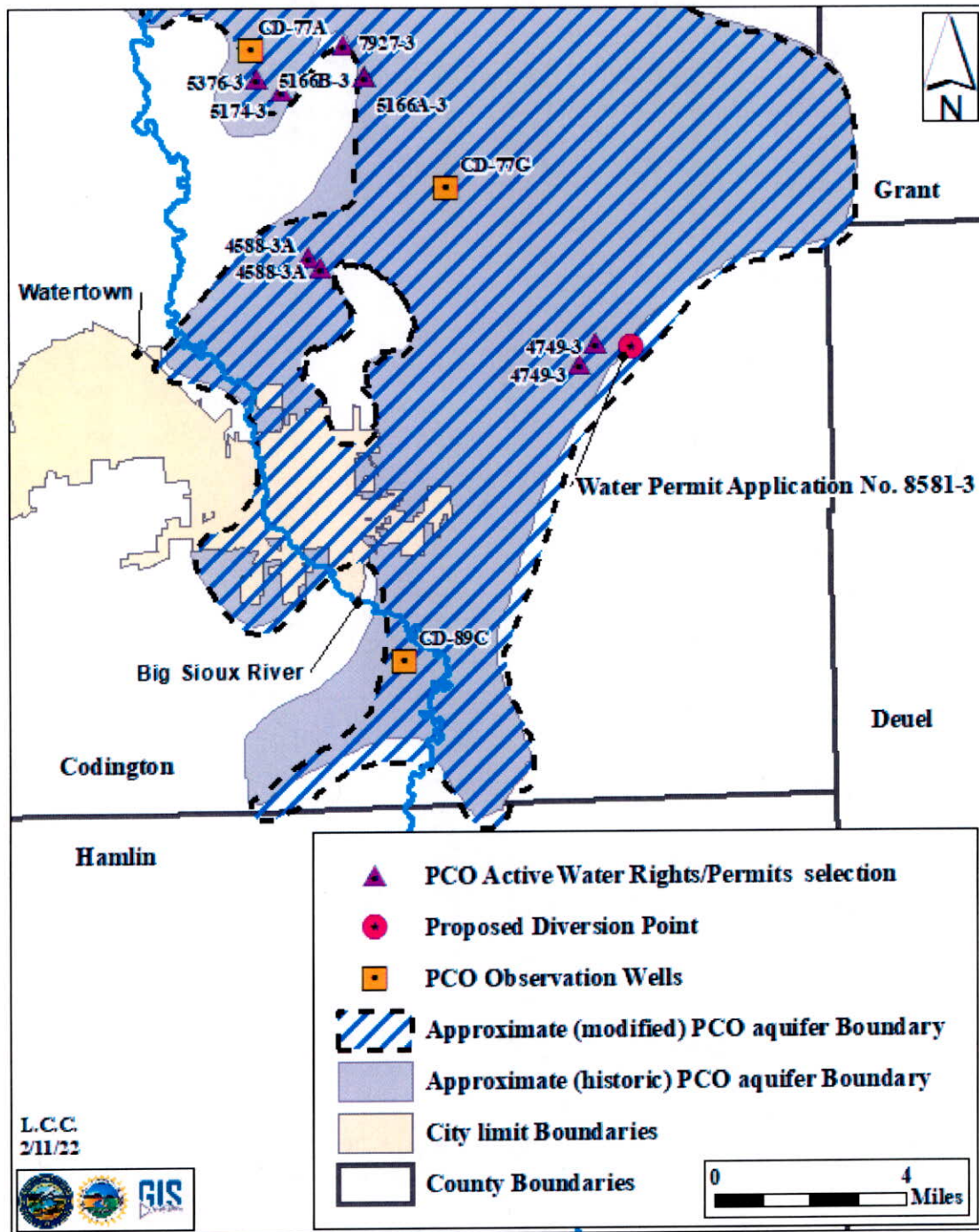


Figure 7: The site location of Water Right Permit Application No. 8581-3, nearby observation wells, and nearby water rights/permits completed into this portion of the Prairie Coteau aquifer (Water Rights, 2022b and 2022c).

Table 3: Water rights/permits from this portion of the Prairie Coteau aquifer within approximately 11 miles of the diversion point (Water Rights, 2022c).

Permit No.	Name	Use	Status	Rate (cfs)	Acres
4588-3A	Donald L Endres	IRR	LC	1.77	170
4749-3	A M Farms Inc	IRR	LC	3.77	264
5174-3	Donald L Endres	IRR	LC	1.77	130
5376-3	Donald L Endres	IRR	LC	1.11	83
5166A-3	John T Nordgaard	IRR	LC	1.87	131
5166B-3	Northern Con-Agg Inc	IRR	LC	0.84	59
LC: Licenced Water Right; IRR: Irrigation					

Observation well CD-76D (approximately 16.3 miles northwest of the proposed diversion point) has five high yield wells (assumed to be a well with an authorized diversion rate greater than 0.2 cfs) within approximately one-half mile of the observation well (Water Rights 2022b and 2022c). The lithologic log on file for CD-76D showed that the observation well was drilled 128.5 feet deep below land surface with the top of the Prairie Coteau aquifer was approximately 114 feet below land surface (Water Rights, 2022b). The lowest static water level recorded on the hydrograph (displayed in Figure 8) for observation well CD-76D was 80.5 feet (Water Rights, 2022b). This indicates there was still approximately 33.5 feet of artesian head pressure in the well at the time of this historic low reading (Water Rights, 2022b). This historic low static water level was recorded on the hydrograph in August of 2016. This reading was recorded during the peak of irrigation season when the five surrounding high yield wells were likely in use at the time the reading was recorded.

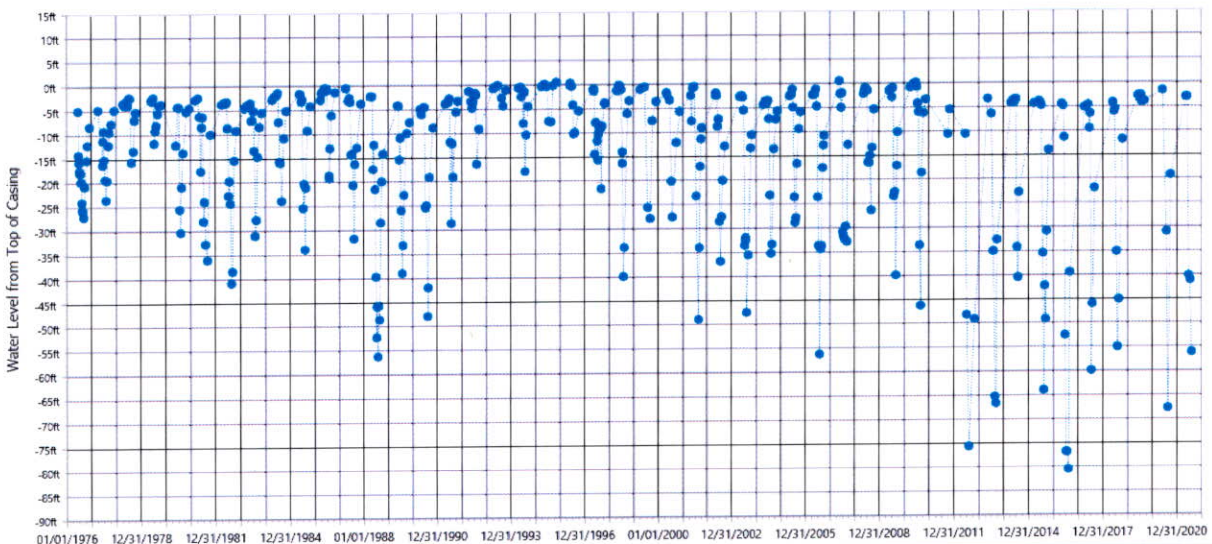


Figure 8: Hydrograph of the Prairie Coteau aquifer observation well CD-76D, located approximately 16.3 miles northwest of the diversion point (Water Rights, 2022b).

The Prairie Coteau aquifer is generally under confined conditions in Codington County (SDGS, 2022; Water Rights, 2022c and 2022d). The diversion point is expected to be under confined conditions based on the submitted well completion report, water levels, and lithologic logs on file for the nearby observation wells (Water Rights, 2022d). Pumping from the diversion point is not expected to significantly lower water levels within the aquifer especially given that the proposed diversion is not considered to be a high capacity diversion of 0.2 cfs or more. Drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer, however, in a confined aquifer, drawdown from pumping could extend a distance from the diversion point. The exact drawdown behavior cannot be known without an aquifer performance test.

There have been several complaints of potential well interference in Codington County, one in Day County, and one in Roberts County (Water Rights, 2022e). These complaints were primarily due to several large-capacity wells pumping in a small area resulting in a cone of depression around the diversion points, creating localized drawdown during times of pumping. However, investigations of these complaints by Water Rights staff engineers concluded that there was no unlawful impairment of adequate wells (Water Rights, 2022e).

Within approximately three miles of the diversion point for this application, the Prairie Coteau aquifer has a saturated aquifer thickness ranging from approximately 15 to 35 feet, with the depth to the top of aquifer materials ranging from approximately 110 to 170 feet below land surface, and static water levels at well completion varying from approximately 30 to 105 feet below land surface (SDGS, 2022; Water Rights 2022b and 2022d). The Water Management Board recognizes that the saturated thickness of an aquifer may be less than optimal for the placement of the pump intake. The Water Management Board defined an “adequate well” in ARSD 74:02:04:20(6) as:

“A well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet”

The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

“A well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner’s needs.”

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted the Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, "general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable..." (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Prairie Coteau aquifer at their location. However, when considering the statutes (SDCL 46-1-4 and 46-6-6.1), rules (ARSD 74:02:04:20(6) and (7)), the saturated thickness of the aquifer, the amount of artesian head pressure in observation wells, and appropriative user's wells completed into the Prairie Coteau aquifer, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water right/permit holders with adequate wells or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8581-3 proposes to appropriate water at a maximum instantaneous diversion rate of 0.10 cubic feet per second (cfs) from one well to be completed into the Prairie Coteau aquifer to supply a drip irrigation system of 10 acres. The site is located in Codington County approximately five miles northeast of Watertown, SD.
2. There is a reasonable probability that unappropriated water is available from the Prairie Coteau aquifer for this proposed appropriation based on the hydrological budget and observation well data.
3. There is a reasonable probability this diversion will not unlawfully impair adequate wells authorized by existing water rights or domestic use wells.


Lindsey Cederberg
Natural Resources Engineer I
SD DANR - Water Rights Program

Reviewed by:


Adam Mathiowetz, PE
Natural Resources Engineer IV
SD DANR - Water Rights Program

References

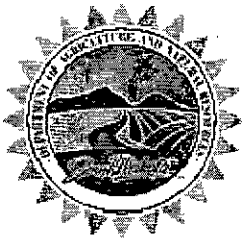
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- Water Rights, 2022c. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2022d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2022e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, March 14, 2022 11:00 AM
To: andrew russo
Subject: Water Permit Application No. 8581-3
Attachments: 3037.pdf

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for your water permit application. As stated in the letter, please contact the paper as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



RECEIVED

MAR 28 2022

WATER RIGHTS
PROGRAM

LOCALiQ

Aberdeen News
Watertown Public Opinion

PO Box 630567 Cincinnati, OH 45263-0567

PROOF OF PUBLICATION

Sd Dept Of Environment
Sd Dept Of Environment
WATER RIGHTS PROGRAM
523 E. CAPITOL
Pierre SD 57501

STATE OF SOUTH DAKOTA, COUNTY OF CODINGTON

The Watertown Public Opinion is, and during all the times hereafter mentioned was, a daily legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4, as amended, published at Watertown, Codington County, South Dakota, by Watertown Public Opinion; that the notice, order or advertisement, a printed copy of which is attached, was published in said newspaper in the issue dated:

03/23/2022

and that the fees charged are legal.
Sworn to and subscribed before on 03/23/2022

Legal Clerk

Notary, State of WI, County of Brown

My commission expires

Publication Cost: \$45.32

Order No: 7046102

Customer No: 561450

PO #:

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THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.

SARAH BERTELSEN
Notary Public
State of Wisconsin

NOTICE OF APPLICATION NO. 8581-3 to Appropriate Water

Notice is given that Andrew Russo, 16835 462nd Ave, Watertown SD 57201 has filed an application for a water permit to appropriate 0.10 cubic feet of water per second from one well to be completed into the Prairie Coteau Aquifer (approximately 150 feet deep) located in the SE 1/4 NE 1/4 Section 17 to supply a drip irrigation system of 10 acres located in the SE 1/4 NE 1/4 Section 17; all in T117N-R51W. This site is located approximately 5 miles northeast of Watertown SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8581-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by April 4, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by April 4, 2022.

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

Published once at the total approximate cost of 45.32
March 23, 2022 #7046102

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, March 14, 2022 10:00 AM
To: Watertown Public Opinon (legals@thepublicopinion.com)
Subject: 8581-3, Andrew Russo
Attachments: 8581-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on March 23, 2022.

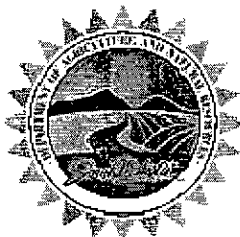
Andrew Russo, 16835 462nd Ave, Watertown SD 57201 (605 759-6872) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

Let me know if you have questions. Please acknowledge receipt of this email.

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

March 14, 2022

Andrew Russo
16835 462nd Ave
Watertown SD 57201

Dear Mr. Russo:

Water Permit Application No. 8581-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Public Opinion printed at Watertown SD (Ph # 605 886-6901). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
(605) 773-3352

enclosures

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

NOTICE OF APPLICATION NO. 8581-3 to Appropriate Water

Notice is given that Andrew Russo, 16835 462nd Ave, Watertown SD 57201 has filed an application for a water permit to appropriate 0.10 cubic feet of water per second from one well to be completed into the Prairie Coteau Aquifer (approximately 150 feet deep) located in the SE 1/4 NE 1/4 Section 17 to supply a drip irrigation system of 10 acres located in the SE 1/4 NE 1/4 Section 17; all in T117N-R51W. This site is located approximately 5 miles northeast of Watertown SD.

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The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by April 4, 2022.

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

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**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

APR 28 2022

Andrew Russo
16835 462nd Ave
Watertown SD 57201

Dear Mr. Russo:

Enclosed is Water Permit No. 8581-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license 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,

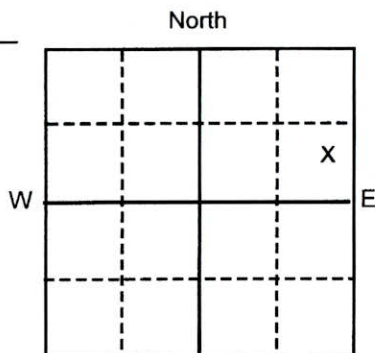
Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

8581-3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 17 Twp 117 Rg 51County CodingtonPlease mark well
location with an "X"

Well Completion Date

5/24/22

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?

150.0 ft. from Sewer (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>5.00</u> IN	<u>0.0</u> FT	<u>126.0</u> FT	<u>8.50</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>HS Bent</u>	<u>16</u>	<u>Lb/gal</u>	<u>0.0</u> Ft	<u>126</u> Ft
		<u>Lb/gal</u>	<u>Ft</u>	<u>Ft</u>

Describe grouting procedure

Tremmy

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 3.00 Inches Length 20.0 FeetMaterial Stainless SteelSlot Size 18 Set From 126.0 Feet to 146.0 Feet

Other information

2' Leader

WAS A PACKER OR SEAL USED?

☒ Yes ☐ NoIf so, what material? Rubber/Steel

Describe packer(s) and location

2' above screen

DISINFECTION: Was well disinfected upon completion?

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

Business Name:

Address: 16835 462nd AveCity, State, Zip: Watertown SD 57201

WELL LOG:

			DEPTH	
FORMATION			FROM	TO
Top Soil	Black	M	0	1
Clay	Tan	M	1	4
Gravel/Rocks			4	12
Clay/Rocks	Blue	H Gummy	12	64
Clay	Blue	H Gummy	64	108
Gravel/Rocks	Blue	100slt	108	146
Clay			146	

STATIC WATER LEVEL 25.0 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: Air☐ Bailed☐ Other

Pumping Level Below Land Surface

30.0 Ft. After 3.0 Hrs. pumped 100.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS:

44 56 31.50N96 58 00.50WThis well was drilled under license # 463 and this report is true and accurate.Drilling firm: Steffl Drilling & Pump Inc

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder

RECEIVED
DEC 19 2022Date: 7-1-22OFFICE OF
WATER

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8581-3

I have this day, August 9, 2024, made a thorough examination of the water use system constructed by Andrew Russo, 16835th Ave, Watertown, SD 57201 of Permit No. 8581-3, bearing the priority of January 14, 2022 authorizing the diversion of 0.10 cu. ft. per second of the waters of the Prairie Coteau Aquifer for irrigation purposes, in Codington County.

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Steffl Drilling & Pump
- 2) No. of Wells 1
- 3) Depth(s) 146 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 5 inches
- 2) Length 126 feet
- 3) Type Plastic

Screen:

- 1) Type Stainless steel
- 2) Length 20 feet
- 3) Static water level 25 feet

Pump:

- 1) Make Submersible
- 2) Model Unknown
- 3) Size Unknown
- 4) Capacity 45 GPM

Motor:

- 1) Make Unknown
- 2) Model No. Unknown
- 3) Horsepower rating 5 - variable frequency hp

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

- 1) Type Buried PE
- 2) Size 3 inches
- 3) Length 100 feet

C. Works used to apply water to beneficial use: Drip Irrigation System

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 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: WELL LOCATION
From the SE corner Sec 17 T117N R51W, 3000 ft N & 775 ft W, Lat 44.94212 Long -96.96689 (SE 1/4 NE 1/4).
2. The works are capable of diverting and conveying to the place of use 0.10 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:
legal description/acreage
SE 1/4 NE 1/4 - 10 acres
comprising a total of 10 acres of land and the license should be issued for 0.10 cfs
3. All structures, wells and lands on map Y

F. Comments or other permit(s) associated with the project:

FSA maps and the ArcGIS program were used to construct the attached well location and estimated irrigated area map.

System flow rate was reported in Irrigation Questionnaire. The motor hp was provided by the Russo's.

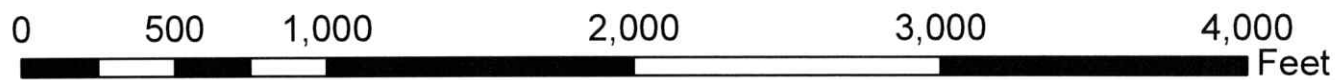
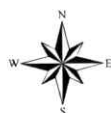
I talked with Mr. Andrew Russo during the field visit.

The address and phone number in the permit application materials are current.



Darrell DeBoer
Water Rights Inspector
DENR, Water Rights Program

Date report completed: August 13, 2024





DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES
JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

SEP 04 2024

8581-3

Andrew Russo
16835 462nd Ave
Watertown SD 57201

Dear Mr. Russo:

Enclosed is Water License No. 8581-3. 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,

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

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8581-3**

(1) Andrew Russo, 16835 462nd Ave, Watertown SD 57201, made Application No. 8581-3, January 14, 2022, for a water permit to divert 0.10 cubic feet of water per second from groundwater, one well (Prairie Coteau Aquifer), Codington County, South Dakota for irrigation purposes. Permit No. 8581-3, with a priority date of January 14, 2022, was approved April 4, 2022, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 4, 2027, and for the application to beneficial use of water on or before April 4, 2031.

(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 0.10 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 3,000 ft N & 775 ft W of the SE corner Section 17, T117N, R51W (SE $\frac{1}{4}$ NE $\frac{1}{4}$)
(Latitude 44.94212 & Longitude -96.96689)

(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: April 1 – October 31.

(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 17, T117N, R51W
SE $\frac{1}{4}$ NE $\frac{1}{4}$ - 10 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Andrew Russo, the holder and/or owner of Water Right No. 8581-3 is issued a license to appropriate water, the right to use 0.10 cubic feet of water per second from groundwater, one well (Prairie Coteau Aquifer), with a priority date of January 14, 2022, 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. 8581-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8581-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8581-3 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 grouter (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled in 2022 by Steffl Drilling & Pump Inc. 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.



Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

SEP 04 2024

date

