

WATER PERMIT NO. 8509-3

Name of Applicant: Riverview Farm LLC

Address: 28243 478th Ave, Canton SD 57013

Phone: 605 595-5777

Amount of Water Claimed: 0.55 cfs

Total Acres: 40 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Lincoln

Type of Waste Disposal System:

Location: 4 miles northwest of Canton

PRIORITY

Date Received: 4-23-21

Application/License Fee: \$ 700

Corrected Application Received:

Period of Annual Use: May 1 – September 30

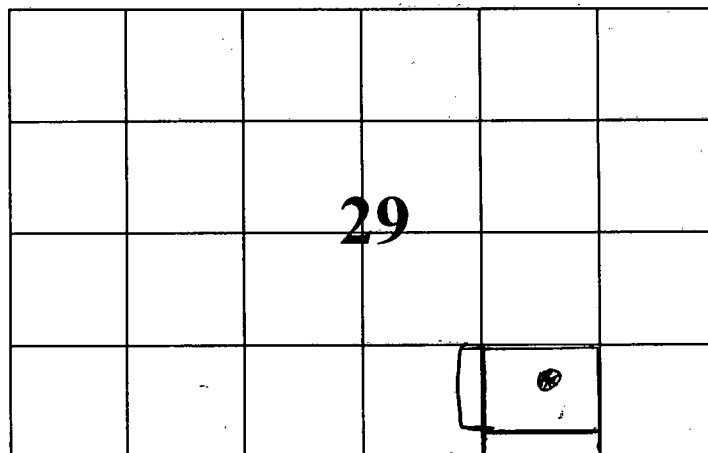
Remarks:

Diversion Point: SE 1/4 SE 1/4 Sec 29-T99N-

R48W

Land to be Irrigated: ^{S 1/2} SE 1/4 SE 1/4 Sec 29-T99N-

R48W



Depth of Well: 120 feet deep

Well Driller: Dave Putzke Well Drilling

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 4-26-21

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8509-3

Date of first receipt of application April 23, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8509-3 to Riverview Farm LLC, c/o Todd Gannon, 28243 478th Ave, Canton SD 57013 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. 8509-3 appropriates 0.33 cubic feet of water per second from one well completed into the Big Sioux:South Aquifer (120 feet deep) located in the SE 1/4 SE 1/4 Section 29 for irrigation of 40 acres located in the S 1/2 SE 1/4 Section 29; all in T99N-R48W. This site is located approximately 4 miles northeast of Canton 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: May 1 – September 30.
3. The date from which applicant may claim right is April 23, 2021.
4. The date of approval of Permit No. 8509-3 is June 28, 2021.
5. One-fifth of the construction is to be completed on or before December 28, 2023.
6. All construction is to be completed on or before June 28, 2026.
7. Water is to be put to beneficial use on or before June 28, 2030.
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. 8509-3 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. 8509-3 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

JUL 13 2021
date



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

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8509-3</u> (office use only) Hydrologic Unit <u>10170203</u>
	Basin <u>Sioux River</u>
	Newspaper <u>Sioux Valley News</u>
	<u>Argus Leader</u>

PAID

APR 23 2021

Ck# 1580
RECEIVED

APR 23 2021

**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 Riverview Farm LLC**Note:** The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.Mailing Address 28243 478th ave Canton SD 57013
(Address) (City) (State) (Zip Code)Phone 605-595-5777 Mobile 605-595-5777 Email info@riverviewtreefarm.com2. Amount of water claimed 0.33 *CFS or 150 **GPM 40 ***AF Total Acreage 40
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply well4. Location of point of diversion 1 well SE 1/4 SE 1/4 section 29-T99N-R48W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)County Lincoln5. County or counties where water will be used Lincoln6. Annual period during which water is to be used May, June, July, August, and September7. 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
SE 1/4 SE 1/4 section 29-T99N-R48W	40		
S 1/2			

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

Drilling a well to provide irrigation for Christmas Trees. Will irrigate using a traveling gun.

I, Todd Gannon, 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 Putzke Well Drilling
(if yes, please provide copies of logs)

b) If existing wells, how many 0 Provide copy of log(s), if available. Drilled by _____

For either Existing or Proposed Wells:

c) Well Depth (required) 120 ¹²⁰ Depth to Top of Water Bearing Material 64 Depth to Water from Surface 60

d) Distance to nearest domestic well on applicant's property _____ Property owned by others none

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) none

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions none 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)

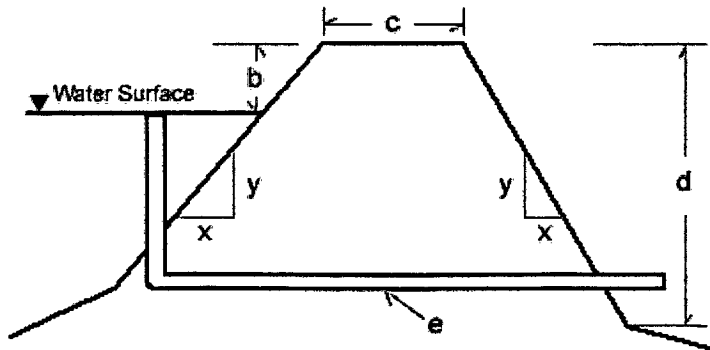
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Water Rights Program - File Documentation

NAME: Todd Gannon with Riverview Farm LLC

ADDRESS: Canton SD

DATE: 5-3-21

RE: Pending Application

COMMENTS:

I called Todd Gannon to verify the location of the lands to be irrigated. The area outlined on the map indicates some of the 40 acres to be irrigated are in the SW 1/4 SE 1/4 Section 29-T99N-R48W.

Mr. Gannon stated that was correct and wanted that change made on the application. The area to be irrigated is located in portions of the S 1/2 SE 1/4 Section 29-T99N-R48W.



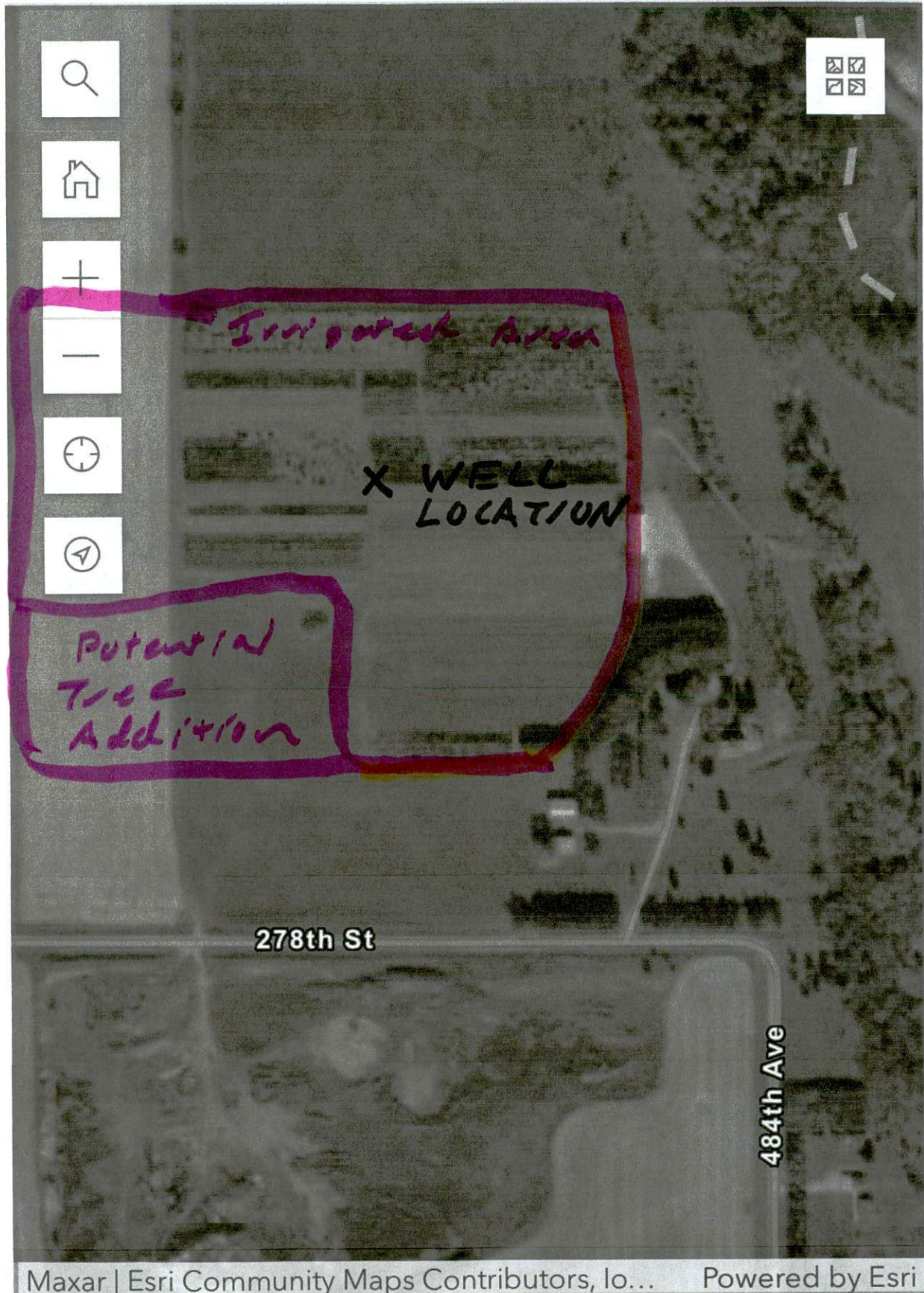
Karen Schlaak
Water Rights Program



ArcGIS



Map View



99N 48W
Section: 19

99N 48W
Section: 20

99N 48W
Section: 21

99N 48W
Section: 28

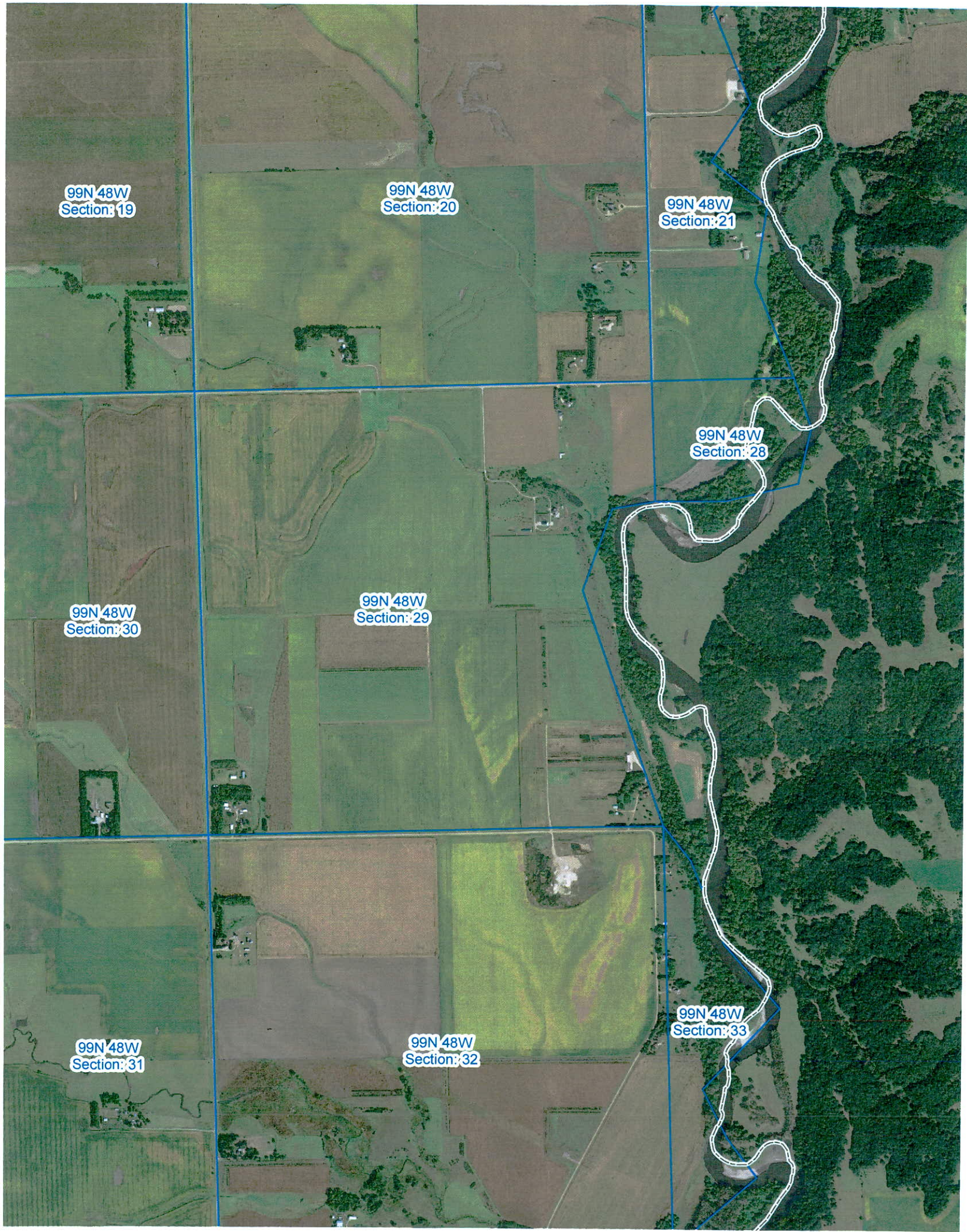
99N 48W
Section: 30

99N 48W
Section: 29

99N 48W
Section: 31

99N 48W
Section: 32

99N 48W
Section: 33



Secretary of State Office
500 E Capitol Ave
Pierre, SD 57501
(605)773-4845

ARTICLES OF ORGANIZATION DOMESTIC LIMITED LIABILITY COMPANY

Please Type or Print Clearly in Ink

Please submit one Original and one Photocopy

FILING FEE: \$150 payable to SECRETARY OF STATE

Filed this 15th day of Oct 2015

Shantel Krebs
SECRETARY OF STATE

RECEIVED

OCT 15 2015

S.D. SEC. OF STATE

Telephone # (605) 763-5024
FAX # (605) 763-8034

Article I

The name of the company is Riverview Farm, LLC

The name must contain limited liability company, limited company or the abbreviation L.L.C., LLC, L.C. or L.C. Limited may be abbreviated as Ltd. and company may be abbreviated as Co.

Article II

The duration of the company if other than perpetual is N/A

Article III

The address of the initial designated office in or out of the State of South Dakota where the company conducts its business.

28243 478th Ave.

Street Address

Canton

City



SD

State



57013

ZIP+4

Mailing Address (Optional)

City

State

ZIP+4

Article IV

The South Dakota Registered Agent name David Stuart

124 N. 3rd Street

Street Address or Rural Route Number in This State and

Beresford

City



SD

State



57004

ZIP+4

Mailing Address in This State, if Different from Street Address

City

State

ZIP+4

When listing a Commercial Registered Agent, please state their CRA #.
This number can be obtained from the Commercial Registered Agent.

Article V

The name and address of each organizer

Todd Gannon	28243 478th Ave.	Canton	 SD  57013
Name	Street Address	City	State ZIP+4
Shari Gannon	28243 478th Ave.	Canton	 SD  57013
Name	Street Address	City	State ZIP+4
Name	Street Address	City	State ZIP+4
Name	Street Address	City	State ZIP+4

Article VI

Check one:

- ☒ The company will be member managed.
☐ The company will be manager managed.

If this company is to be manager managed, please state the name and address of each initial manager.

Manager	Street Address	City	State	ZIP+4
Manager	Street Address	City	State	ZIP+4
Manager	Street Address	City	State	ZIP+4

Article VII

Whether one or more of the members of the company are to be liable for its debts and obligations as set forth under SDCL 47-34A-303 (c).

N/A

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date April 26, 2021

RECEIVED OF Riverview Farm LLC 28243 478th Ave Canton SD 57013

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

Fee for Application for Permit No. <u>8509-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$500.00
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$
Fee to retain Future Use Permit No. _____ after period of seven years.	\$
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8509-3</u>	\$200.00
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	\$700.00

By *Eric Gronlund*
Chief Engineer
vm



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

April 20, 2021

Todd Gannon
Riverview Christmas Tree Farm
28243 478th Ave
Canton, SD 57013

Dear Mr. Gannon:

As requested by email on April 20, 2021, pursuant to South Dakota Well Construction Standard 74:02:04:21, you are authorized to have Dave Putzke Well Drilling, Inc. or another SD licensed well driller construct a test well prior to approval of a water permit. The test well will be located in the SE ¼ Section 29-T99N-R48W in Lincoln County. All test wells must be constructed in accordance with the SD Well Construction Standards. Any test holes or test wells that are abandoned must be plugged pursuant to the SD Well Construction Standards.

Authorization must be obtained before water from the well can be used in excess of domestic use as defined by South Dakota Codified Law 46-1-6(7) or for uses other than domestic use. Approval of this test well does not assure issuance of a water permit. Following review of a Water Permit Application and assessing the availability of water, the potential impacts to existing users, the beneficial use, and the public interest of a permit, the Chief Engineer will make a recommendation to the Water Management Board regarding the application. The recommendation to approve, deny, or defer the application will be publicly noticed and an opportunity afforded for the public to intervene. A public hearing may be required to consider the water permit. If you have questions regarding permitting, please call Ron Duvall at (605) 773-3352.

Sincerely,

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

CC: Dave Putzke Well Drilling, Inc.

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, June 9, 2021 10:30 AM
To: info@riverviewtreefarm.com
Subject: Water Permit Application No. 8509-3
Attachments: 1294.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(s) 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>





**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. 8509-3, Riverview Farm LLC**

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. 8509-3, Riverview Farm LLC, 28243 478th Ave, Canton SD 57013.

The Chief Engineer is recommending APPROVAL of Application No. 8509-3 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. 8509-3 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. 8509-3 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
June 7, 2021

Report to the Chief Engineer
On Water Permit Application No. 8509-3
Riverview Farm LLC c/o Todd Gannon

June 3, 2021

Water Permit Application No. 8509-3 proposes to irrigate 40 acres in the S ½ SE ¼ of Section 29 at a maximum instantaneous diversion rate of 0.33 cubic feet per second (cfs) annually from one well to be completed into the Big Sioux: South aquifer (approximately 120 feet deep) in the SE ¼ SE ¼ of Section 29; all in T99N-R48W. The site of interest is in Lincoln County approximately four miles northeast of Canton, South Dakota.

AQUIFER: Big Sioux: South (BS: S)

HYDROGEOLOGY:

The Big Sioux aquifer is an alluvium mantled, glacial outwash deposit that ranges from fine sand to coarse gravel (Niehus, 1997). Most of the aquifer underlies the flood plain of the Big Sioux River (Niehus, 1997). In Lincoln and Union Counties, the Big Sioux aquifer has a documented maximum thickness of 72 feet and an average thickness of 28 feet (Niehus, 1997). The top of Big Sioux aquifer material ranges from 1 to 118 feet below the ground surface, but on average, are approximately 12 feet below the ground surface (Niehus, 1997). The static water level of Big Sioux aquifer ranges from flowing to 48 feet below the ground surface, but on average, is approximately 13 feet below the ground surface (Niehus, 1997). The Big Sioux: South aquifer is generally under unconfined conditions, and the direction of groundwater movement in the aquifer is south towards the Big Sioux River, which the aquifer is in hydraulic connection with (Niehus, 1997).

Hedges and others (1982) estimated the areal extent and amount of recoverable water stored in the Big Sioux: South aquifer (Table 1). Those approximations were based on the best available information at that time. Figure 1 displays the delineation of the Big Sioux: South aquifer based on the study completed by Hedges and others (1982).

Table 1. Areal extent and amount of recoverable water stored in the Grand aquifer based on the delineation estimated by Hedges and others (1982)

	Lincoln	Minnehaha	Union	TOTAL:
Areal Extent (acres)	15,600	17,200	16,200	49,000
Recoverable Water in Storage (acre-feet)	70,200	20,640	72,900	163,740

No water well completion report or test hole log was submitted with Water Permit Application No. 8469-3. Well completion reports on file with the DANR-Water Rights Program for wells completed into the Big Sioux: South aquifer within approximately two miles of the proposed diversion point for this application have saturated aquifer thicknesses ranging from approximately 30 to 60 feet, with the depth to the top of aquifer materials ranging from

approximately 3 to 15 feet below the ground surface, and static water levels at well completion varying from approximately 3 to 10 feet below the ground surface (SDGS, 2021; Water Rights, 2021b and 2021d). The Big Sioux: South aquifer is expected to be unconfined at the proposed diversion point based on the well completion reports for nearby wells and lithologic logs on file for nearby observation wells (SDGS, 2021; Water Rights, 2021b and 2021d).

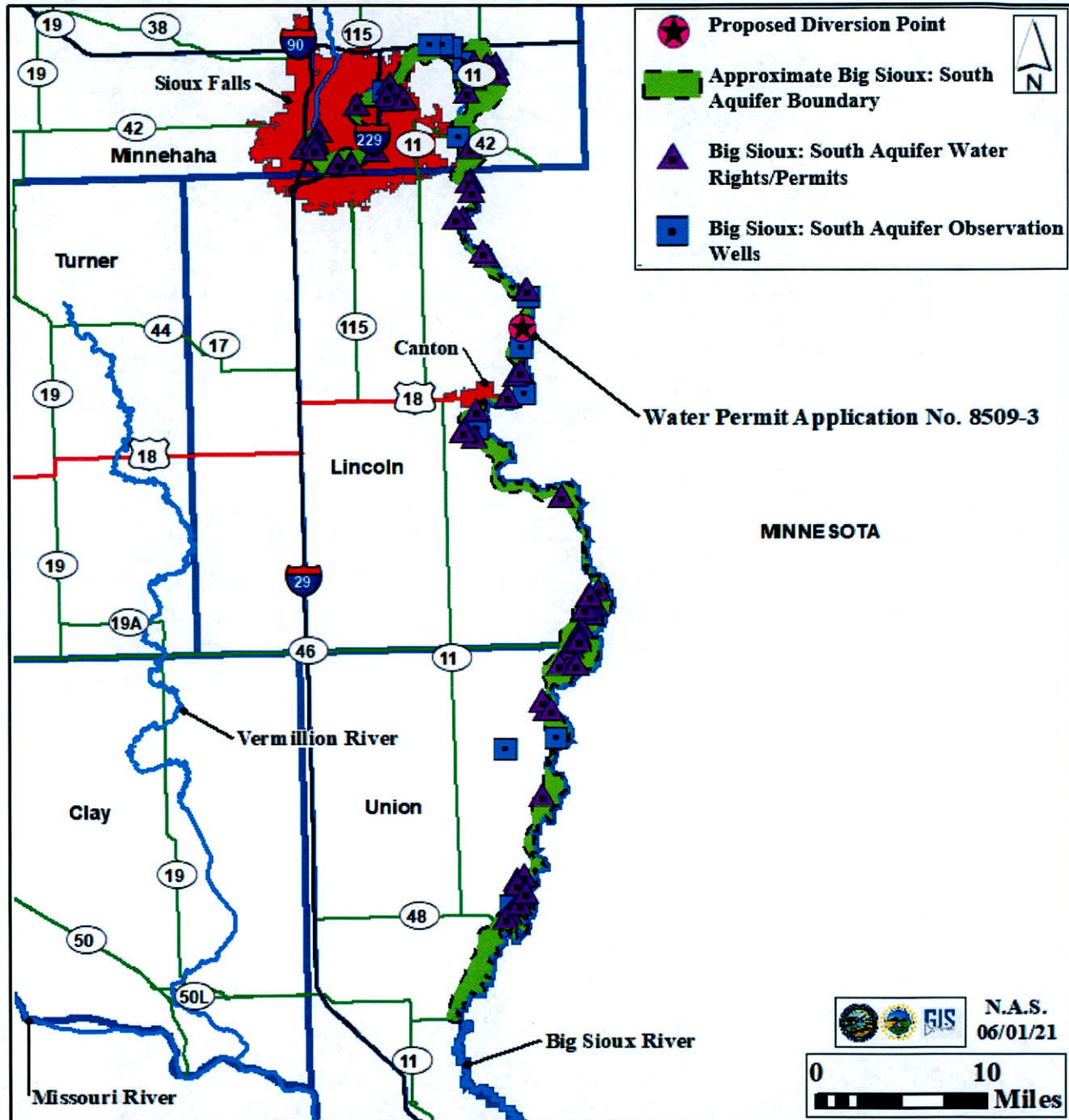


Figure 1. Map of the approximate Big Sioux: South aquifer delineated from Hedges and others (1982), the proposed diversion point for Water Permit Application No. 8509-3, and the Big Sioux: South aquifer water rights/permits and observation wells (Water Rights, 2021b and 2021c)

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 rights, and that the proposed use is a beneficial use and in the public interest." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing water rights within the Big Sioux: South aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8509-3 proposes to appropriate water from the Big Sioux: South aquifer. 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. An application may be approved, however, 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 for use by water distribution systems." The Big Sioux: South aquifer is not older than or stratigraphically lower than the Greenhorn Formation, 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 Big Sioux: South aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Big Sioux: South aquifer is primarily through the infiltration of precipitation and subsequent percolation of snowmelt and rainfall in areas where the aquifer is at or near land surface as well as the Big Sioux river when the potentiometric surface of the river is higher than the surface of the aquifer. (Niehus, 1997). Recharge to the aquifer also occurs from the Shindler aquifer in northeastern Lincoln County and from the Newton Hills aquifer in southeastern Lincoln County (Niehus, 1997). The aquifer may also receive some recharge from the Brule Creek aquifer through till in Township 93 North (approximately 35 miles south from the proposed diversion point) (Niehus, 1997).

Using observation well analysis, Hedges and others (1985) estimated a recharge rate to the Big Sioux: South aquifer of 4.1 inches per year. Applying the 4.1 inches per year recharge rate over the areal extent (49,000 acres) of the Big Sioux: South aquifer leads to an estimated recharge rate of 16,742 acre-feet per year for the Big Sioux: South aquifer.

Discharge

Discharge from the Big Sioux: South aquifer is primarily through well withdrawals, by evapotranspiration where the aquifer is at or near the ground surface, and by interaction with the

Big Sioux River and the Missouri aquifer (Niehus, 1997). Currently, there are 61 water rights/permits authorized to appropriate water from the Big Sioux: South aquifer, plus two future use permits reserving water from the Big Sioux: South aquifer (Water Rights, 2021c). The two future use permits reserving water from the Big Sioux: South aquifer are Permit Nos. 4002-3 and 6696-3 (held by the City of Brandon) (Water Rights, 2021c). For the purpose of estimating average annual withdrawals from the Big Sioux: South aquifer, the two future use permits are assumed to be fully developable for a total of 1,912.7 acre-feet per year (Water Rights, 2021c).

Table 1 summarizes the 23 non-irrigation water rights/permits authorized to appropriate water from the Big Sioux: South aquifer with the estimated annual use for each water right/permit as determined by their limiting 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. Two municipal water rights (Nos. 1139-3 and 4883-3) were identified as being connected to a rural water system and likely maintain their wells for standby purposes (Friedeman, 2020; Water Rights, 2021c); as such, the average annual water use for these water rights has been estimated to be zero acre-feet per year on Table 1. Overall, the average annual withdrawal rate for the Big Sioux: South aquifer non-irrigation water rights/permits is approximately 5,432 acre-feet per year (Table 1) (Water Rights, 2021c).

Table 1. Summary of the non-irrigation water rights/permits authorized to appropriate from the Altamont aquifer with estimated annual use determined by their respective diversion rate or annual volume (Friedeman, 2020; Water Rights, 2021c)

Use Type	No. of Water Rights/Permits	Permitted Diversion Rate (cfs)	Permitted Volume (acre-feet)	Estimated Annual Use (acre-feet/year)
COM	7	2.257		980.4
GWR	2	0.4		173.8
IND	6	1.11	1,270.2	1,752.4
MUN	4	1		434.4
RWS	4	0.5	1,874	2,091.2
TOTAL:	23	5.267	3,144	5,432

COM: Commercial; GWR: Groundwater Remediation; IND: Industrial; MUN: Municipal; RWS: Rural Water System

Currently, there are 38 irrigation water rights/permits appropriating water from the Big Sioux: South aquifer (Water Rights, 2021c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. Water Permit No. 8491-3 was approved in 2021 and has not reported a respective annual withdrawal rate yet (Water Rights, 2021c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, to account for the fluctuation in wet and dry cycles from year to year, a one foot of water per acre per year application rate will be used to liberally estimate the annual withdrawal rate for Water Permit No. 8491-3. Water Permit No. 8491-3 is authorized to irrigate 232 acres and by using an application rate of one foot per authorized acre per year, the estimated annual withdrawal rate for Water Permit No. 8491-3 is approximately 232 acre-feet per year. The average annual withdrawal rate for the Big Sioux: South aquifer irrigation water

rights/permits that have reported over the period of record, plus the estimated use for Water Permit No. 8491-3, is approximately 1,330 acre-feet per year (Table 2) (Water Rights, 2021a).

Table 2. Reported historic irrigation use from the Big Sioux: South aquifer (Water Rights, 2021a)

Year	No. of Water Rights/Permits	Annual Appropriation (acre-feet/year)	Reported Pumpage (acre-feet/year)
1979	29	12,596	603
1980	29	12,596	575
1981	30	12,626	885
1982	22	7,430.06	467.84
1983	26	8,816.03	648.45
1984	25	8,756.03	805.5
1985	25	8,756.03	987.7
1986	26	9,103.03	873.7
1987	26	9,346.06	1,007.2
1988	27	9,426.06	2,112.15
1989	23	8,037.06	1,308.05
1990	26	9,301.06	1,188.30
1991	27	8,722.06	728.79
1992	28	9,080.06	206.15
1993	30	9,502.06	165.5
1994	29	8,899.03	898.3
1995	30	9,103.03	894.9
1996	30	9,066	957.31
1997	29	8,804	1,311
1998	29	9,218	817.9
1999	30	9,398	1,024.77
2000	31	9,436	1,351.59
2001	31	9,436	1,001.67
2002	32	9,694	1,193.39
2003	29	8,892	1,727.72
2004	29	8,853	1,279.94
2005	30	8,603	1,541.11
2006	30	8,603	1,709.1
2007	29	8,408	1,918.11
2008	30	8,688	1,157.44
2009	31	8,716	419.48
2010	32	8,949	139.15
2011	31	8,716	1,721.93
2012	32	9,036	2,403.22
2013	36	10,388	2,190.83
2014	36	10,440	1,011.89
2015	36	10,440	1,332.83
2016	37	10,800	1,494.16
2017	37	10,590	2,140
2018	37	10,590	478.7
2019	37	10,590	335.7
Min	22	7,430	139
Max	37	12,626	2,403
Avg	30	9,474	1,098

There are domestic wells completed into the Big Sioux: South aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2021d). Due to their relatively low diversion rates, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the Big Sioux: South 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 Big Sioux: South aquifer.

Hydrologic Budget Summary

The average annual recharge rate to the Big Sioux: South aquifer is approximately 16,742 acre-feet per year. The average annual withdrawal rate from the Big Sioux: South aquifer totals approximately 8,715 acre-feet per year: non-irrigation: 5,432.2 acre-feet/year; irrigation: 1,330 acre-feet/year; future use permits; 1,912.7 Water Permit Application No. 8509-3 (if approved, assuming 12-inch application rate), 40 acre-feet/year. Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Big Sioux: South aquifer for the proposed appropriation.

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 15 observation wells completed into the Big Sioux: South aquifer (Water Rights, 2021b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The four closest observation wells to the proposed diversion point are LN-80Q (approximately 1.2 miles south), LN-57A (approximately 2 miles north), LN-80N (approximately 4 miles south), and LN-57B (approximately 6.5 miles southwest) (as shown in Figure 6). The hydrographs for these observation wells are displayed in Figures 2 to 5 (Water Rights, 2021b). The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing.

The hydrographs for the observation wells display stable to increasing water levels over their respective periods of record. The hydrographs for the Big Sioux: South 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. Aquifer recovery indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer, govern the long-term fluctuations of water levels in the aquifer rather than the impacts of pumping from the Big Sioux: South 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.

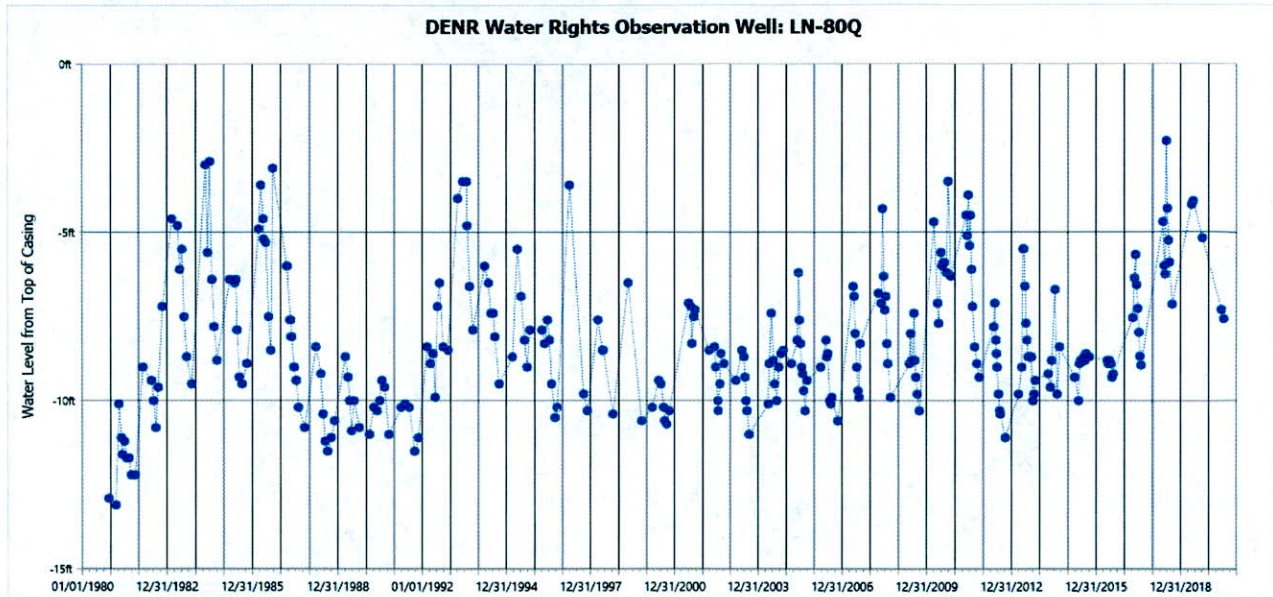


Figure 2. Hydrograph for observation well LN-80Q (Water Rights, 2021b)

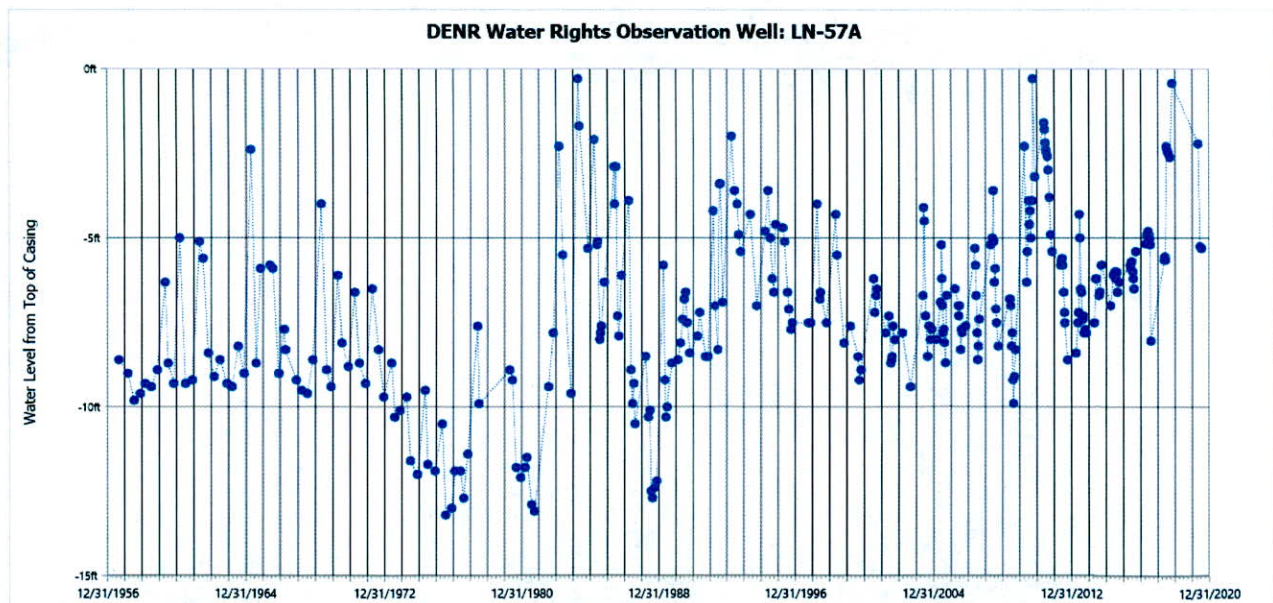


Figure 3. Hydrograph for observation well LN-57A (Water Rights, 2021b)

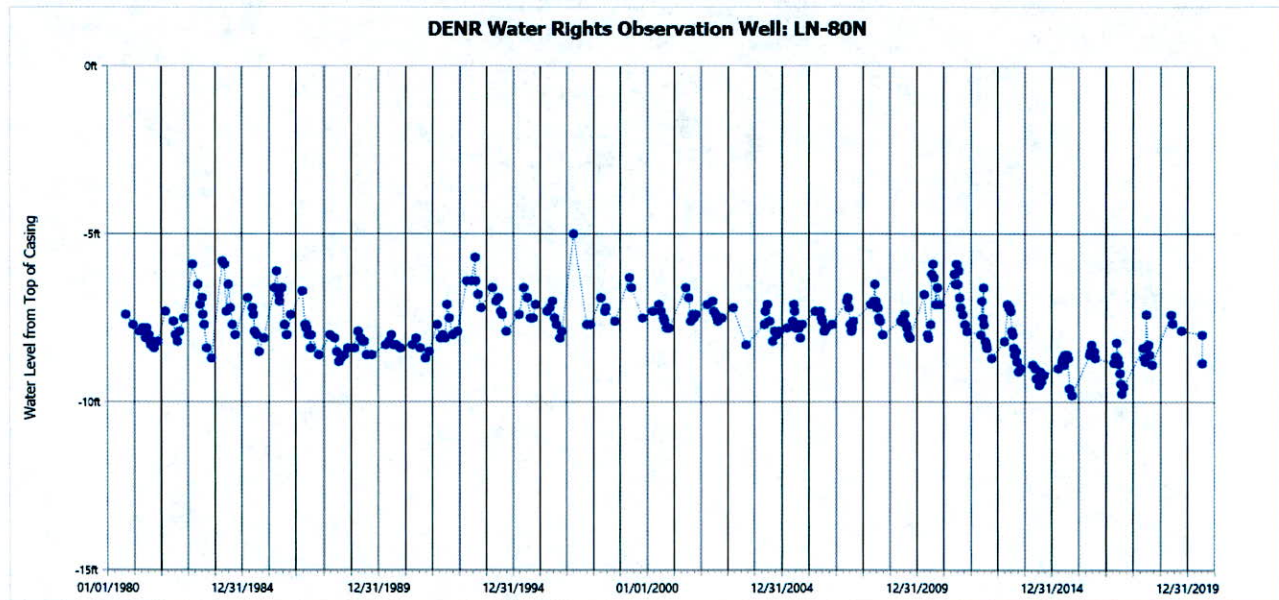


Figure 4. Hydrograph for observation well LN-80N (Water Rights, 2021b)

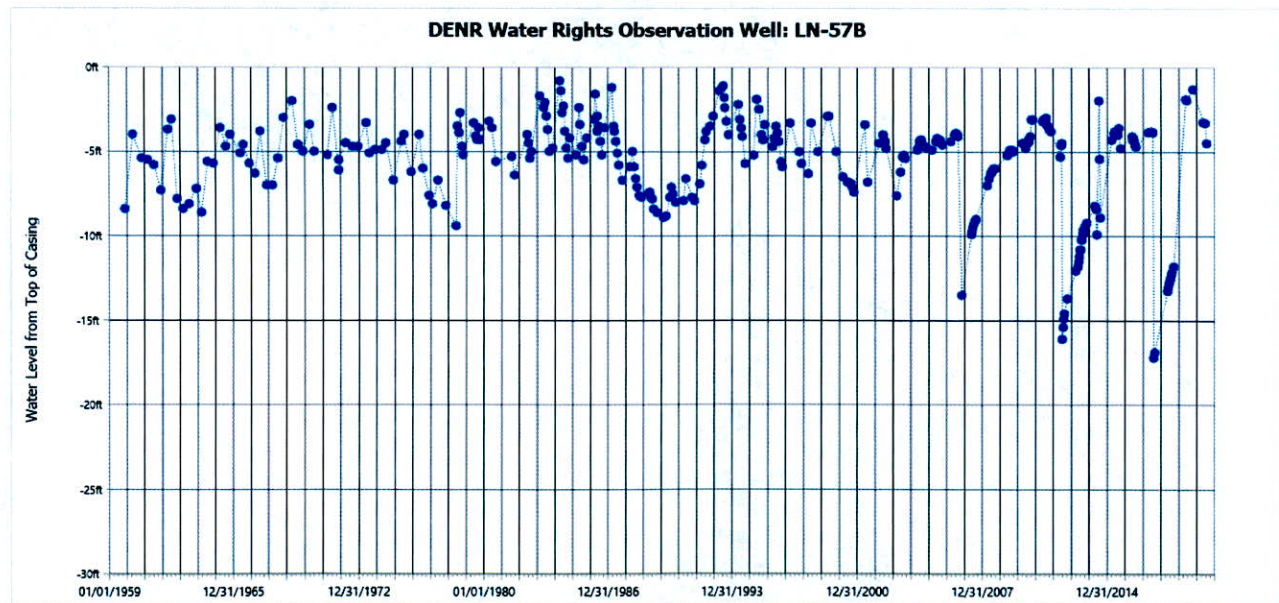


Figure 5. Hydrograph for observation well LN-57B (Water Rights, 2021b)

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 61 water rights/permits authorized to appropriate water from the Big Sioux: South aquifer, plus two future use permits reserving water from the Big Sioux: South aquifer (Water Rights, 2021c). The closest water right/permit to proposed diversion point is Water Right No. 6093-3, which is held by Lyon & Sioux Rural Water System. The diversion point for Water Right No. 6093-3 is located approximately 2.3 miles north of the proposed diversion point for this application (Figure 6) (Table 3) (Water Rights, 2021c).

There are domestic wells on file with the DNR-Water Rights Program that are completed into the Big Sioux: South aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.6 miles north of the proposed diversion point (Water Rights, 2021d). There could potentially be other domestic wells completed into the Big Sioux: South aquifer near the proposed diversion point that are not on file with the DNR-Water Rights Program.

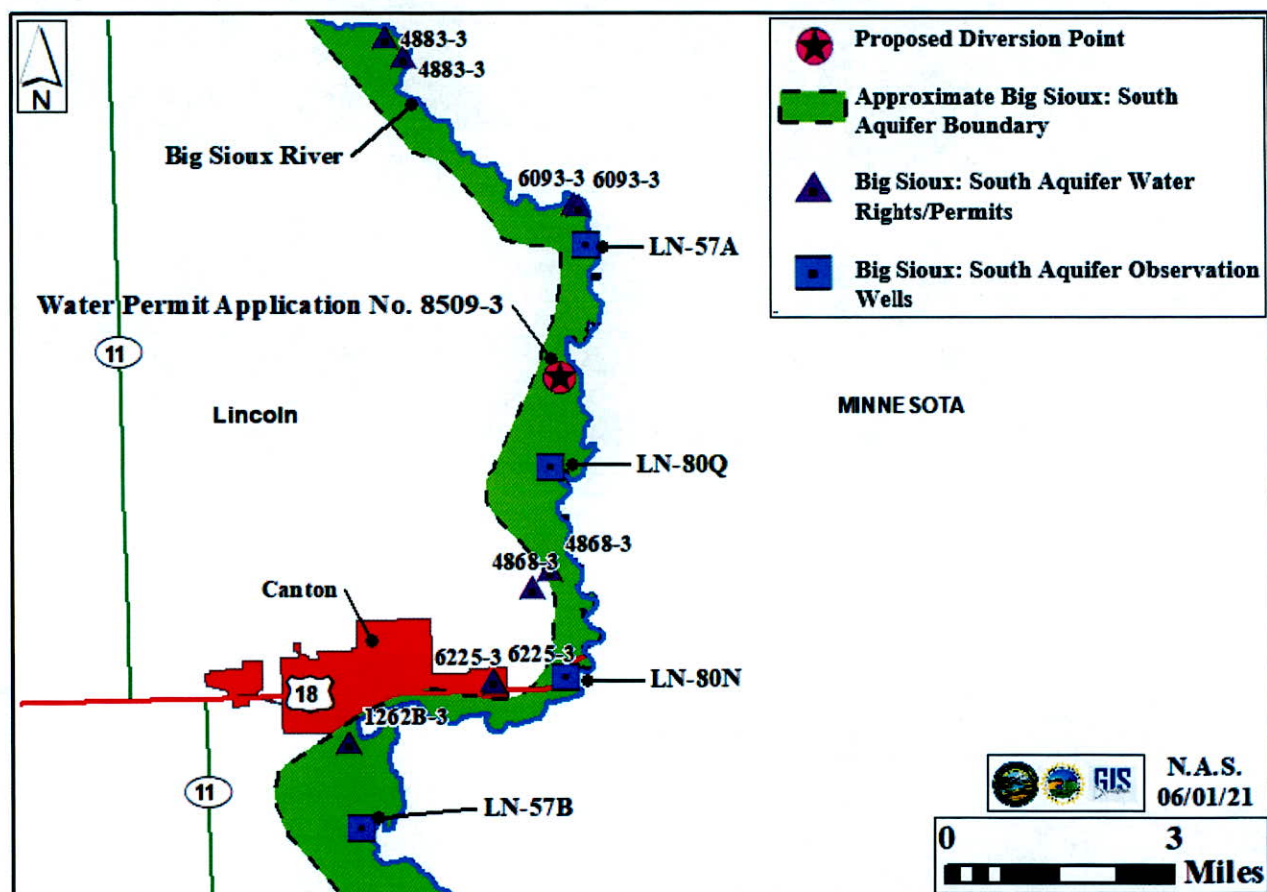


Figure 6. Location of the proposed diversion point for Water Permit Application No. 8509-3 with the Big Sioux: South aquifer water rights/permits and the observation wells within approximately five miles (Water Rights, 2021b and 2021c)

Table 3. Water rights/permits authorized to withdraw water from the Big Sioux: South aquifer within approximately five miles of the proposed diversion point, as shown in Figure 6 (Water Rights, 2021c)

Permit No.	Name	Status	Use	Permitted Diversion Rate (cfs)	Permitted Volume (acre-feet)	Permitted Acres
4868-3	Frank Van De Kieft	LC	IRR	1.333		192
4883-3	City of Harrisburg	LC	MUN	0.5		
6093-3	Lyon & Sioux RWS Inc	LC	RWS	1.33	530	
1262B-3	City of Canton	LC	MUN	0.22		
6225-3	Hiawatha Golf Club	LC	IRR	1.45		43
IRR: Irrigation; MUN: Municipal; RWS: Rural Water System						

In Lincoln County, the Big Sioux: South aquifer is generally under unconfined conditions with some variation in depth to the top of the aquifer and saturated aquifer thickness (Niehus, 1997; SDGS, 2021; Water Rights, 2021b, 2021c and 2021d). The Big Sioux: South aquifer is expected to be unconfined near the well location the applicant proposes to use based on the well completion reports for nearby wells and lithologic logs on file for nearby observation wells (SDGS, 2021; Water Rights, 2021b and 2021d). 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 of a well cannot be known without an aquifer performance test.

Within approximately two miles of the proposed diversion point, the Big Sioux: South aquifer has a saturated aquifer thicknesses ranging from approximately 30 to 60 feet, with the depth to the top of aquifer materials ranging from approximately 3 to 15 feet below the ground surface, (SDGS, 2021; Water Rights, 2021b and 2021d). This would allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20(6). Any drawdown as a result of the proposed diversion is not expected to unlawfully impair nearby adequate wells. In Lincoln County, there are no complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Big Sioux: South aquifer (Water Rights, 2021e).

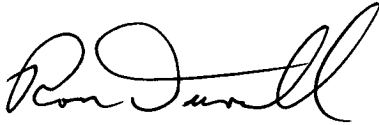
The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

“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.”

When considering the saturated aquifer thickness near the well location the applicant proposes to use, and the lack of well interference complaints for adequate wells completed into the Big Sioux: South aquifer in Lincoln County, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water right/permit holders or domestic users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8509-3 proposes to irrigate 40 acres from one well at a maximum instantaneous diversion rate of 0.33 cfs to be completed into the Big Sioux: South aquifer (approximately 120 feet deep). The site of interest is in Lincoln County approximately four miles northeast of Canton, South Dakota.
2. Based on the observation well data and hydrologic budget, there is a reasonable probability that unappropriated water is available from the Big Sioux: South aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8509-3 will not unlawfully impair adequate wells for existing water right/permit holders and domestic users.



for Nakaila Steen
Natural Resources Engineer I
SD DANR - Water Rights Program

Reviewed by:



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

References

- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A., 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- 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; United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Friedeman, B., 2020. "Public Water Systems on Full-Time Basis List." Environmental Scientist DANR-Drinking Water Program, Joe Foss Bldg, Pierre, SD.
- Niehus, C.A., 1997. Major Aquifers in Lincoln and Union Counties, South Dakota. U.S. Geological Survey Water-Resources Investigations Report 93-4195. U.S. Geological Survey. Vermillion, SD.
- SDGS, 2021. South Dakota Geological Survey Lithologic Logs Database. Accessed June 2, 2021. <http://cf.sddanr.net/lithdb/>.
- Water Rights, 1995. Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills. DANR-Water Rights Program file for Water Right No. 2313-2. Pierre, SD.
- Water Rights, 2021a. "1979-2019 Irrigation Summaries by Aquifer", SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.
- Water Rights, 2021b. Observation Well Data, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021c. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2021e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Argus Leader

P.O. Box 677349, Dallas, TX 75267-7349

RECEIVED

JUN 29 2021

WATER RIGHTS
PROGRAM

Account No.: 6055955777

Ad No.: 0004774610

PO #:

Lines : 97

Ad Total: \$35.15

This is not an invoice

of Affidavits 1

RIVERVIEW FARM LLC
28243 478TH AVE
CANTON, SD 57013

Account No.: 6055955777

Ad No.: 0004774610

Argus Leader AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY OF MINNEHAHA

I being duly sworn, says: That The Argus Leader is, and during all the times hereinafter mentioned was, a daily legal newspaper as defined by SDCL 17-2-21, as amended published at Sioux Falls, Minnehaha County, South Dakota; that affiant is and during all of said times, was an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is hereto attached, was published in said newspaper upon

Thursday, June 17, 2021

Sworn to and subscribed before me this 17 day of June, 2021.

Legal Clerk

Notary Public, State of Wisconsin, County of Brown

My Commission expires

VICKY FELTY
Notary Public
State of Wisconsin

NOTICE OF APPLICATION NO. 8509-3 TO APPROPRIATE WATER

Notice is given that River View Farm LLC, c/o Todd Gannoh, 2623 47th Ave, Canon SD 57013, has filed an application for a water permit to appropriate 0.33 cubic feet of water per second from one well completed into the Big Sioux South Aquifer (120 feet deep) located in the SE 1/4 SE 1/4 Section 29 of T17N R40W, of 40 acres located in the S 1/2 SE 1/4 Section 29 of T17N R40W. This site is located approximately 4 miles northeast of Canon SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8509-3 with qualifications because 1) unappropriated water is available; 2) existing rights will not be unlawfully impaired; 3) it is a beneficial use of water; and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://dnr.sd.gov/public>, or contact Ren Duval for this information, or other information, of the Water Rights Program, address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 501 E. Capitol Pierre SD 58501-605, 23-3332," and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 28, 2021. The petition may be inter-

med but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the petitioner's mailing address at the time of filing the petition. The petitioner's legal counsel is advised that the applicant does not contest the recommendation of the Chief Engineer and the petition expresses the applicant's request that the Chief Engineer shall accept the application pursuant to the recommendation, valid to 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. Notices of the hearing will be given to the applicant and any person filing a petition. Published once at the total approximate cost of \$33.15.

6/7/21 June 17, 2021

Affidavit of Publication

STATE OF SOUTH DAKOTA
COUNTY OF LINCOLN

TERESA ZOMER

being first duly sworn on his oath says; that the Sioux Valley News is a legal weekly newspaper of general circulation as required by South Dakota Code of Nineteen Hundred Thirty-Nine, and any acts amendatory thereto, printed and published by the Sioux Valley News, Inc., in Canton, in said county and State, and has been such legal newspaper during the time hereinafter mentioned; that he is and during all of said time was publisher of said newspaper and has personal knowledge of the facts stated in this affidavit; that the advertisement headed:

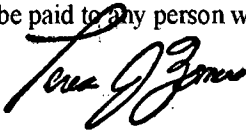
DANR

Notice of Application - Riverview Tree Farm LLC

a printed copy of which is hereto attached, was printed and published in said newspaper for ONE successive week(s) upon the following dates, to-wit:

June 17, 2021

that the full amount of the fees charged for publishing the same to-wit: the sum of \$25.62 inures solely to the benefit of the publishers of said newspaper; that no agreement or understanding for any division of this sum has been made with any other person; and that no part of said sum has been agreed to be paid to any person whomsoever.

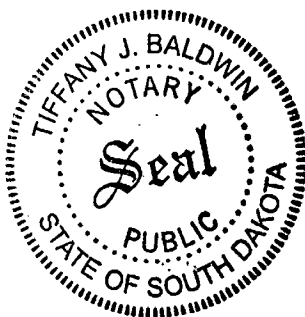


Ascribed and sworn to before me this 17th day of June, 2021



Notary Public, South Dakota

(Seal)



**My Commission Expires
January 12, 2024**

RECEIVED

JUN 21 2021

WATER RIGHTS
PROGRAM

NOTICE OF APPLICATION NO.

8509-3 to Appropriate Water
Notice is given that Riverview Farm LLC, c/o Todd Gannon, 28243 478th Ave, Canton SD 57013 has filed an application for a water permit to appropriate 0.33 cubic feet of water per second from one well completed into the Big Sioux/South Aquifer (120 feet deep) located in the SE 1/4 SE 1/4 Section 29 for irrigation of 40 acres located in the S 1/2 SE 1/4 Section 29; all in T99N-R48W. This site is located approximately 4 miles northeast of Canton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8509-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation

with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Ron Duval for this information, or other information, at the Water Rights Program address provided below.
Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 28, 2021. The petition may be informal but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for

opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application 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 in the Sioux Valley News on June 17, 2021 at the total approximate cost of \$25.62.

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, June 9, 2021 8:37 AM
To: legals@argusleader.com
Subject: 8509-3, Riverview Farm LLC
Attachments: 8509-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on June 17, 2021.

Riverview Farm LLC, c/o Todd Gannon, 28243 478th Ave, Canton SD 57013 (605 595-5777) 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>



Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, June 9, 2021 8:35 AM
To: svn@siouxvalleynewsonline.com
Subject: 8509-3, Riverview Farm LLC
Attachments: 8509-3public.short.docx; FORM8.FRM.doc

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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 NEWSPAPERS RIGHT AWAY.**

June 9, 2021

Riverview Farm LLC
c/o Todd Gannon
28243 478th Ave
Canton SD 57013

Dear Mr. Gannon:

Water Permit Application No. 8509-3 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 Sioux Valley News printed at Canton SD (Ph # 605 764-2000) and the Argus Leader printed at Sioux Falls SD (Ph # 605 331-2200). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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. 8509-3 to Appropriate Water

Notice is given that Riverview Farm LLC, c/o Todd Gannon, 28243 478th Ave, Canton SD 57013 has filed an application for a water permit to appropriate 0.33 cubic feet of water per second from one well completed into the Big Sioux:South Aquifer (120 feet deep) located in the SE 1/4 SE 1/4 Section 29 for irrigation of 40 acres located in the S 1/2 SE 1/4 Section 29; all in T99N-R48W. This site is located approximately 4 miles northeast of Canton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8509-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 28, 2021.

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

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

Published once at the total approximate cost of__



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUL 13 2021

Riverview Farm LLC
c/o Todd Gannon
28243 478th Ave
Canton SD 57013

Dear Mr. Gannon:

Enclosed is Water Permit No. 8509-3 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