

WATER PERMIT NO. 8649-3

Name of Applicant: Marquardt Family Limited Partnership

Address: PO Box 1040, Yankton SD 57078

Phone:

Amount of Water Claimed: 1.90 add'l cfs

Total Acres: 147 add'l acres

Source of Water Supply: groundwater (2 existing wells)

Water to be used for: irrigation

County: Yankton

Type of Waste Disposal System:

Location: 6 miles north of Yankton

PRIORITY

Date Received: 8-3-22

Application/License Fee: \$850

Corrected Application Received:

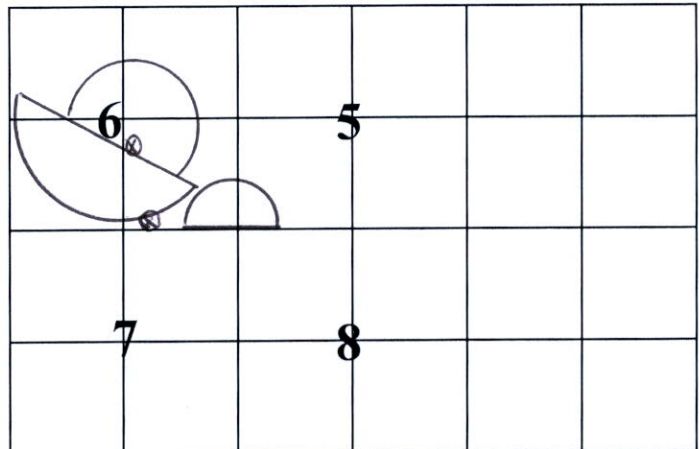
Period of Annual Use: April 1 – October 31

Remarks: Add'l acres and cfs on Water No. 8649-3

Diversion Point: NW 1/4 SE 1/4, SW 1/4 SE 1/4

Sec 6-T94N-R55W

Land to be Irrigated: SE 1/4 NW 1/4, W 1/2 NE 1/4, SE 1/4 NE 1/4, SE 1/4, Sec 6 and SW 1/4 SW 1/4 Sec 5; all in T94N-R55W



Depth of Well: 255 and 215 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Keith DeJong

Reviewed and the Number Assigned on: 8-10-22

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8649-3**

Date of first receipt of application August 8, 2022.

Date of return to applicant for corrections, amendments or changes August 10, 2022.

Date of receipt of corrected application August 10, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8649-3 to Marquardt Family Limited Partnership, c/o Ralph Marquardt, PO Box 1040, Yankton SD 57501 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. 8649-3 appropriates 1.90 cubic feet per second (cfs), increases the irrigated acres, and adds a well to what is currently authorized by Water Permit No. 7213-3. Water Permit No. 7213-3 authorizes 2.44 cfs from one well to irrigate 360 acres of which 241 acres were developed prior to the end of the construction period. An investigation of the permit found the system capable of diverting an additional 1.90 cfs from two existing wells (240 and 215 feet deep) completed into the Lower James Missouri Aquifer located in the NW 1/4 SE 1/4 and SW 1/4 SE 1/4 Section 6 and irrigating 388 acres located in the S 1/2, S 1/2 NW 1/4, S 1/2 NE 1/4, NW 1/4 NE 1/4 Section 6 and the SW 1/4 SW 1/4 Section 5; all in T94N-R55W. This permit and Water Permit No. 7213-3 will authorize a, combined, total of 4.34 cfs from two wells for irrigation of 388 acres to reflect the system as developed. This site is located approximately 6 miles north of Yankton.
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 August 8, 2022 (1.90 cfs and 147 acres).
4. The date of approval of Permit No. 8649-3 is October 31, 2022.
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

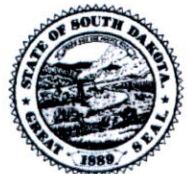
1. The wells approved under Water Permit Nos. 7213-3 and 8649-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. 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

FEB 17 2023

date



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

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8649-3</u> Hydrologic Unit <u>10160011</u> Basin <u>James River</u> Newspaper <u>Press & Dakotan</u> (office use only)
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RECEIVED

AUG 08 2022

OFFICE OF
WATER

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.)

Additional acreage and acreage developed after the construction period for Water Permit No. 7213-3

1. Name to Appear on Irrigation Permit Marquardt Farms General Partnership Limited
Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.
Mailing Address PO Box 1040 Yankton SD 57501
(Address) (City) (State) (Zip Code)
Phone 605 664 4900 Mobile 605 660-6970 Email daveh@marquardt.com

2. Amount of water claimed 1.90 add'l *CFS or ***GPM ***AF Total Acreage 147
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply ground water - two wells, (Lower James Missouri Aquifer)

4. Location of point of diversion NW 1/4 SE 1/4 and SW 1/4 SE 1/4 Section 6, T94N, R55W

(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)

County Yankton

5. County or counties where water will be used Yankton

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
SE 1/4 NW 1/4 Sec 6, T94N, R55W	23	NW 1/4 SE 1/4 Sec 6, T94N, R55W	12
NW 1/4 NE 1/4 Sec 6, T94N, R55W	3	NE 1/4 SE 1/4 Sec 6, T94N, R55W	10
SW 1/4 NE 1/4 Sec 6, T94N, R55W	40	SW 1/4 SE 1/4 Sec 6, T94N, R55W	1
SE 1/4 NE 1/4 Sec 6, T94N, R55W	9	SE 1/4 SE 1/4 Sec 6, T94N, R55W	32

8. Give a description of the project. SW 1/4 SW 1/4 Sec 5, T94N, R55W 17 ac

The project covers one large half circle pivot and two small half circle pivots. A total of 388 acres are irrigated at a rate of 4.34 cfs from two wells. Upon licensing, the applicable portions of Water Permit No. 7213-3 will be incorporated into the new permit.

I, Ralph M. Marquardt, General Partner, 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.

2021-08

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable)

☐ Drilling new well(s)

☒ Using existing well(s)

a) If new wells, how many _____ Have test holes been drilled? ☐ Yes ☐ No Drilled by _____

(if yes, please provide copies of logs)

b) If existing wells, how many 2 Provide copy of log(s), if available. Drilled by Hammond Wetmore Drilling

For either existing or proposed wells: North well 255 ft and south well 215 ft

c) Well Depth (required) _____ Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____

d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

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

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

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

4. Water Storage Dams

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

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

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

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

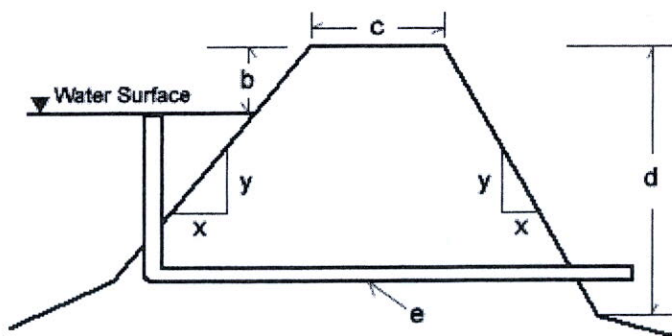
Upstream _____

Downstream _____

h) Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



North well

8649-3

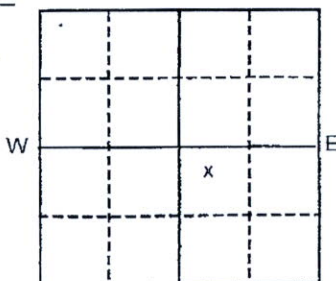
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location nw 1/4 se 1/4 Sec 6 Twp 94n Rg 55wCounty Yankton

North

Please mark well
location with an "X"

Well Completion Date

June 5, 2010

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
3,000.0 ft. from septic tank (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
<u>DR 26</u> LB/FT	<u>16.00</u> IN	<u>0.0</u> FT	<u>200.0</u> FT	<u>22.00</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>bent grt</u>	<u>30</u>	<u>9.5</u> Lb/gal	<u>0.0</u> Ft	<u>190.0</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 16.00 inches Length 40.0 Feet
Material PVCSlot Size .080 Set From 200.0 Feet to 240.0 Feet

Other information

WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?
☒ No, Why Not? NA
 Lab to which water quality sample sent for analysis
Well Owner: Ralph Marquardt

Business Name:

Address: 1317 Golf View Lane, PO Box 1040City, State, Zip: Yankton sd 57078

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Clay, brown, pebbly (till)	0	62
Clay, gray, pebbly (till)	62	75
Sand, coarse	75	152
Silt, gray,	152	195
gravel, fine to coarse	195	240
Silt, gray,	240	255

STATIC WATER LEVEL 162.0 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:☐ Bailed☐ Other

Pumping Level Below Land Surface

180.0 Ft. After 5.0 Hrs. pumped 800.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

RECEIVED

MAY - 8 2014

WATER RIGHTS
PROGRAMThis well was drilled under license # 666 and this report is true and accurate.Drilling firm: Hammond wetmore drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 9/15/2010

South Well

8649-3
7213-3

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW ¼ SE ¼ Sec 6 Twp 94N Rg 55W

Well Owner: Ralph Marquardt

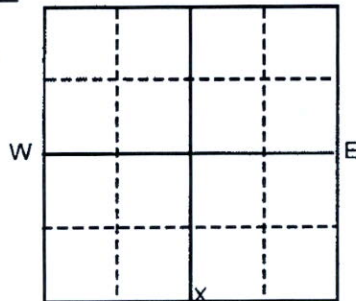
Business Name:

Address: POB 1040

City, State, Zip: Yankton SD 57078

County Yankton

North

Please mark well
location with an "X"

Well Completion Date

April 13, 2016

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
3,090.0 ft. from Septic Tank (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16.00 IN	0.0 FT	160.0 FT	22.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	26	9.5 Lb/gal	0.0 Ft	140.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremie Method

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 16.00 Inches Length 55.0 Feet

Material PVC

Slot Size .085 Set From 160.0 Feet to 215.0 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? HTH Tablets

☐ No, Why Not?
Lab to which water
quality sample sent for analysis

WELL LOG:

DEPTH

FORMATION	FROM	TO
Top Soil	0	3
Brown Silty Clay	3	14
Sand Gravel	14	28
Sandy Blue Clay	28	80
Fine - Medium Gravel	80	120
Medium Gravel	120	140
Gravel w/ Clay Layers	140	160
Medium Gravel	160	215

STATIC WATER LEVEL 150.0 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:

☐ Bailed

☐ Other

Pumping Level Below Land Surface

157.0 Ft. After 0.5 Hrs. pumped 1,100.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

Elev: 1207'

42.98147

-97.38463

RECEIVED

JAN 17 2017

Lower James Missouri KB

WATER RIGHTS
PROGRAMThis well was drilled under license # 810 and this
report is true and accurate.

Drilling firm: Heine Electric & Irrigation, Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 1-5-17

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date August 10, 2022

RECEIVED OF Marquardt Farms General Partnership PO Box 1040 Yankton SD 57078

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

Fee for Application for Permit No. <u>8649-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>850.00</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. _____	\$ _____
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>850.00</u>

By Eric Gronlund
Chief Engineer
vm

*License fee paid under
Permit No. 7213-3 applied
to this permit.*



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

August 3, 2022

Dave Husby
Marquardt Farms
PO Box 1040
Yankton SD 57078

Dear Mr. Husby:

I am writing in follow-up to our phone conversation concerning the field investigations conducted for Water Permit Nos. 6980-3, 7213-3 and 7801-3 for Marquardt Farms. The inspections found acreage and diversion rate not covered or out of the permitted area.

Enclosed are three partially completed water permit applications for your review and completion.

1. A new permit is needed for the entire project because the well was drilled deeper and into a different aquifer than what was authorized under Permit No. 6980-3. Application fee is \$1,050
2. A new permit is needed for the additional diversion rate, additional acreage, including acreage developed outside of the permitted area under No. 7213-3. Application fee is \$850
3. A new permit is needed for additional diversion rate and acreage developed under Water Permit No. 7801-3. Application fee is \$500

The completed applications and the fees are all that is needed to begin processing the new permits. The total application fee for the three new permits would be \$2,400.

If I can answer any questions for you, please let me know.

Sincerely,

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

enclosures

Schlaak, Karen

From: Dave Husby <Daveh@marqcompanies.com>
Sent: Wednesday, August 10, 2022 2:46 PM
To: Schlaak, Karen
Subject: RE: [EXT] the 3 applications

I am relooking at the applications and appreciate your observation. Here is how I think they should be permitted:

SE1/4 of Section 21-93-53 in Clay County (Permit 7801-3)

Marquardt Farms General Partnership

W1/2 of Section 28-95-57 in Yankton County (Permit 6980-3)

Marquardt Family Limited Partnership

(MFLP)

Section 6-94-55 in Yankton County (Permit 7213-3)

Marquardt Family Limited Partnership

(MFLP)

Ralph Marquardt is the General Partner of all entities. The permit under the General Partnership is not on land owned by Ralph, but the well and irrigation are his under a lease held by Marquardt Farms General Partnership. The other two (MFLP) are based on the ownership of the land. Any confusion created was by me and no one else. I visited with our accountant and he asked that it be done in this fashion for tax and other reasons. Do you need a new application from us as the signature will be Ralph irrespective of these entities?

From: Schlaak, Karen <Karen.Schlaak@state.sd.us>
Sent: Wednesday, August 10, 2022 2:16 PM
To: Dave Husby <Daveh@marqcompanies.com>
Subject: the 3 applications

Dave,
Each application has a different name. Just checking to make sure the name is correct or if need be - changed so they are all the same. Genny said she didn't know that is why she left them blank on the application forms.

Marquardt Family Limited Partnership - this is listed on the Secretary of State's website
Marquardt Farms General Partnership
Marquardt Farms Partnership

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. 8649-3, Marquardt Family Limited Partnership**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8649-3, Marquardt Family Limited Partnership, PO Box 1040, Yankton SD 57078.

The Chief Engineer is recommending APPROVAL of Application No. 8649-3 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 wells approved under Water Permit Nos. 7213-3 and 8649-3 are 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. 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
October 7, 2022

Report to the Chief Engineer
On Water Permit Application No. 8649-3

Marquardt Family
C/O Ralph Marquardt

October 7th, 2022

Water Permit Application No. 8649-3 proposes to appropriate an additional 1.90 cubic feet per second (cfs), increase the irrigated acres by 147 acres, and add a well to what is currently authorized by Water Permit No. 7213-3. Water Permit No. 7213-3 originally authorized 2.44 cfs from one well to irrigate 360 acres, of which 241 acres were developed prior to the end of the construction period. An investigation of the permit found the system to be capable of diverting an additional 1.90 cubic feet of water per second (cfs) from two wells (240 and 215 feet deep) completed into the Lower James Missouri aquifer located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ and SW $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 6 and irrigating 388 acres located in the S $\frac{1}{2}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 6 and the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 5; all in T94N-R55W. This application, if approved, and Water Permit No. 7213-3 will authorize a combined total of 4.34 cfs from two wells for irrigation of 388 acres to reflect the system as developed. The site of interest is located approximately fifteen miles northwest of Yankton, SD.

AQUIFER: Lower James Missouri (LJM)

HYDROGEOLOGY:

The Lower James Missouri aquifer is a glacial outwash that consists of fine sand to cobble gravel that is intermixed in some expanses with discontinuous layers of till up to 25 feet thick (Lindgren and Hansen, 1990 and 1993). The depth of the top of the Lower James Missouri aquifer ranges from the land surface in the James River floodplain to 245 feet below land surface (Lindgren and Hansen, 1990 and 1993). In Clay, Hutchinson, and Yankton counties, the Lower James Missouri aquifer is estimated to underly approximately 191,700 acres and contain approximately 2,795,400 acre-feet of recoverable water in storage (Hedges et al, 1982; see Table 1). The Lower James Missouri aquifer is hydrologically connected to Lower Vermillion Missouri aquifer, Choteau: Tyndall aquifer, Niobrara aquifer, and Lower James Missouri: Scotland aquifer, adjacent bedrock aquifers, and surface water features (Hedges et al, 1982; Bugliosi, 1986; Lindgren and Hansen, 1990 and 1993; Water Rights, 2022b).

Table 1. Estimated areal extent and amount of recoverable water stored in the Lower James Missouri aquifer (Hedges et al, 1982)

Counties	Clay	Hutchinson	Yankton	Total:
Area Extent (acres)	5,400	93,800	92,500	191,700
Recoverable Water in Storage (acre-feet)	81,000	633,150	2,081,250	2,795,400

Two water well completion reports and one test hole report are in the file with Water Permit Application No. 8649-3. One of the water well completion reports was completed on June 5th,

2010 and is located in the NW1/4 SE1/4, Section 6, T94N, R55W. The test hole was completed on May 1st, 2014, and the other water well completion reports was completed on April 13th, 2016; the test hole and water well completion report are both located in the SW1/4 SE1/4, Section 6, T94N, R55W, but are not at the same exact location. The test hole was likely used to determine material thickness and probable water level, which had similar results to the water well completion report that was performed in the same general area. The water well completion reports indicate the aquifer has saturated aquifer thicknesses ranging between 65 to 93 feet, with the depth to the top of aquifer material ranging between 80 to 195 feet below the ground surface, and static water level ranging between 150 to 162 feet below the ground surface at the time of well completion (SDGS, 2022; Water Rights, 2022b and 2022d). Based on the water well completion reports at the proposed diversion points, the Lower James Missouri aquifer is expected to be unconfined at the proposed diversion points (SDGS, 2022; Water Rights, 2022b and 2022d). However, the Lower James Missouri aquifer is predominantly under confined conditions.

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 unappropriated water is available for the applicant’s proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by §§ 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 uses and water rights within the Lower James Missouri aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8649-3 proposes to appropriate water from the Lower James Missouri 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 Lower James Missouri 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 Lower James Missouri aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Lower James Missouri aquifer in Yankton County is mostly received by seepage from streams/surface water features, infiltration of precipitation, and inflow from nearby glacial aquifers when they have a higher hydraulic head than the Lower James Missouri aquifer (Bugliosi, 1986). Most of the recharge occurs in the spring and early summer months, and the short-term infiltration rates in the floodplain soil combined with rapid evapotranspiration rates causes most of the rainfall in the southern area of the aquifer to either be evaporated or transpired; because of this reason most of the recharge enters in the northern area of the Lower James Missouri aquifer (Bugliosi, 1986).

Using flow-net analysis Hedges et al (1985), estimated a recharge rate of 1.5 inches per year for the Lower James Missouri aquifer. The Lower James Missouri aquifer has an estimated areal extent of approximately 191,700 acres (Hedges et al, 1982). Therefore, the average annual recharge rate (based on Hedges et al, 1982 and 1985) is approximately 23,963 acre-feet/year.

Using observation well analysis, Hedges et al (1985) estimated a recharge rate of 3.9 inches per year for the unconfined portions of the Lower James Missouri aquifer. Stonesifer's report (2014) estimated the unconfined portion of the aquifer to be 82,200 acres. The average annual recharge rate for unconfined portions of the Lower James Missouri aquifer based on Hedges et al (1985) estimated recharge rate of 3.9 inches per year and Stonesifer's (2014) unconfined portion, is estimated to be 26,715 acre-feet/year, which should also be considered a likely maximum recharge rate for the Lower James Missouri aquifer. From this data, the average annual recharge rate to the Lower James Missouri aquifer has a range between 23,963 to 26,715 acre-feet/year (Hedges et al, 1982 and 1985; Stonesifer, 2014).

Discharge

Discharge from the Lower James Missouri aquifer in South Dakota primarily occurs through well withdrawals, leakage to the James River, and evapotranspiration in areas where the aquifer is at or near land surface (Bugliosi, 1986; Lindgren and Hansen, 1990).

Currently, there are 130 water rights/permits authorized to appropriate water from the Lower James Missouri aquifer (Water Rights, 2022c). There are no future use permits reserving water from the Lower James Missouri aquifer (Water Rights, 2022c).

Table 2 summarizes the 8 non-irrigation water rights/permits authorized to appropriate water from the Lower James Missouri 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. This is a standard method used by the DANR-Water Rights Program for estimating average annual withdrawals by non-irrigation appropriations. Overall, the average annual withdrawal rate for the Lower James Missouri

aquifer non-irrigation water rights/permits is approximately 1,595 acre-feet/year (Table 2) (Water Rights, 2022c).

Table 2. Estimated annual use for non-irrigation water rights/permits authorized to divert water from the Lower James Missouri aquifer (Water Rights, 2022c)

Permit No.	Name	Status	Uses	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimated Use (acre-feet/year)
4556-3	KNIFE RIVER	LC	COM	0.440	N/A	191.14
840-3	STUELPNAGELS INC	LC	COM	1.110	N/A	482.18
6264-3	YANKTON LAND & CATTLE CO	LC	COM, LCO	0.560	N/A	243.26
6320-3	WOLF CREEK HTTRN BRTH	LC	COM, DOM	0.080	N/A	34.75
6925-3	TSCHETTER COLONY	LC	COM, LCO	0.070	N/A	30.41
7827-3	MAXWELL COLONY	PE	COM, LCO	0.330	N/A	143.35
1288-3	NATIONAL FOOD STORES INC	LC	IND	0.160	N/A	69.5
8412-3	KNIFE RIVER	LC	IND	7.800	400	400
COM Commercial, IND Industrial, LC Licensed Water Right, PE Water Permit, LCO Livestock Confinement Operation , DOM Domestic					TOTAL:	1,595

Currently, there are 122 irrigation water rights/permits appropriating water from the Lower James Missouri aquifer (Water Rights, 2022c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The average annual withdrawal rate for the Lower James Missouri aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2022) is approximately 2,951 acre-feet per year (Table 3) (Water Rights, 2022a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations from 2012 to 2021 is approximately 5,398 acre-feet per year (Table 3) (Water Rights, 2022a).

There are two water permits approved in 2022, that are not accounted for in Table 3, Water Permit Nos. 8606-3 and 8634-3 (Water Right, 2022c). Water Permit Nos. 8606-3 and 8634-3 are authorized to irrigate 240 acres (Water Rights, 2022c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, to account for fluctuation in wet and dry cycles from year to year, the one foot of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate for these irrigation water rights/permits. Therefore, the estimated average annual withdrawal rate for Water Permit Nos. 8606-3 and 8634-3 is approximately 240 acre-feet per year. Collectively, the average annual withdrawal rate for the irrigation appropriations from 2012 to 2021 (5,398 acre-feet/year), plus the estimated average annual withdrawal rate for the irrigation water rights/permits approved in 2022 (240 acre-feet/year), is approximately 5,638 acre-feet per year.

Table 3. Reported historic irrigation use from the Lower James Missouri aquifer (Water Rights, 2022a)

Year	No. of Permits Reporting	Reported Pumpage (acre-feet)
1979	22	588
1980	23	1,299
1981	27	1,835
1982	23	1,301.25
1983	27	1,306.54
1984	28	1,360
1985	27	1,483
1986	30	989.6
1987	30	1,041.60
1988	31	2,744.90
1989	31	2,144.80
1990	35	2,928.10
1991	42	2,599
1992	45	1,159
1993	45	230.44
1994	45	1,918.17
1995	41	1,483.32
1996	49	2,102.99
1997	50	2,320
1998	53	2,787.30
1999	50	2,102.15
2000	51	3,751.08
2001	53	2,940.09
2002	53	4,061.52
2003	53	2,843.15
2004	47	2,886.65
2005	48	2,866.63
2006	50	3,630.92
2007	56	3,425.91
2008	79	4,494.03
2009	84	1,463.27
2010	85	665.37
2011	89	4,147.47
2012	93	13,058.45
2013	118	7,855.75
2014	125	3,347.27
2015	127	4,822.86
2016	126	5,747.01
2017	126	5,727.12
2018	126	1,035.87
2019	127	328.01
2020	121	3,864.53
2021	120	8,195.56
Max	127	13,058.5
Min	22	230.4
Avg (1979-2021)	63	2,951
Avg (2012-2021)	121	5,398

There are domestic wells completed into the Lower James Missouri aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2022d). 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 Lower James Missouri 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 Lower James Missouri aquifer.

Hydrologic Budget Summary

The average annual recharge rate to the Lower James Missouri aquifer has a range between 23,963 to 26,715 acre-feet/year (Hedges et al, 1982 and 1985; Stonesifer, 2014). The average withdrawal rate from the Lower James Missouri aquifer totals to approximately 7,233 acre-feet/year; (non-irrigation: 1,595 acre-feet/year; irrigation (2012 to 2021 plus the water rights/permits approved between 2021 and 2022): 5,638 acre-feet/year). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Lower James Missouri 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 33 observation wells completed into the Lower James Missouri aquifer (Water Rights, 2022b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The 5 closest observation wells to the proposed diversion point are YA-80N (approximately 1.3 miles northeast), YA-80K (approximately 1.4 miles northwest), YA-80M (approximately 1.1 miles northwest), YA-80DA (approximately 1.5 miles northwest), and YA-80W (approximately 1.6 miles northwest) (Water Rights, 2022b). The hydrographs for these observation wells are displayed in figures 1 to 5 (Water Rights, 2022b). 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. It is worth noting the hydrograph titles display DENR Water Rights Observation Well on the hydrographs when the titles should display DANR Water Rights Observation Well on hydrographs. The data shown on figures 1 to 5 share a similar trend with most of the other observation wells in the Lower James Missouri aquifer. However, there are a few observation wells that have their hydraulic head strongly impacted by other sources, such as the James River (Water Rights, 2022b). This is best demonstrated in Figures 3 and 4, with water levels very close to the ground surface compared to the other hydrographs; this is most likely because those observation wells, YA-80M and YA-80DA, are along the James River and have a higher water level as a result.

Figure 1. Hydrograph for observation well YA-80N (Water Rights, 2022b)

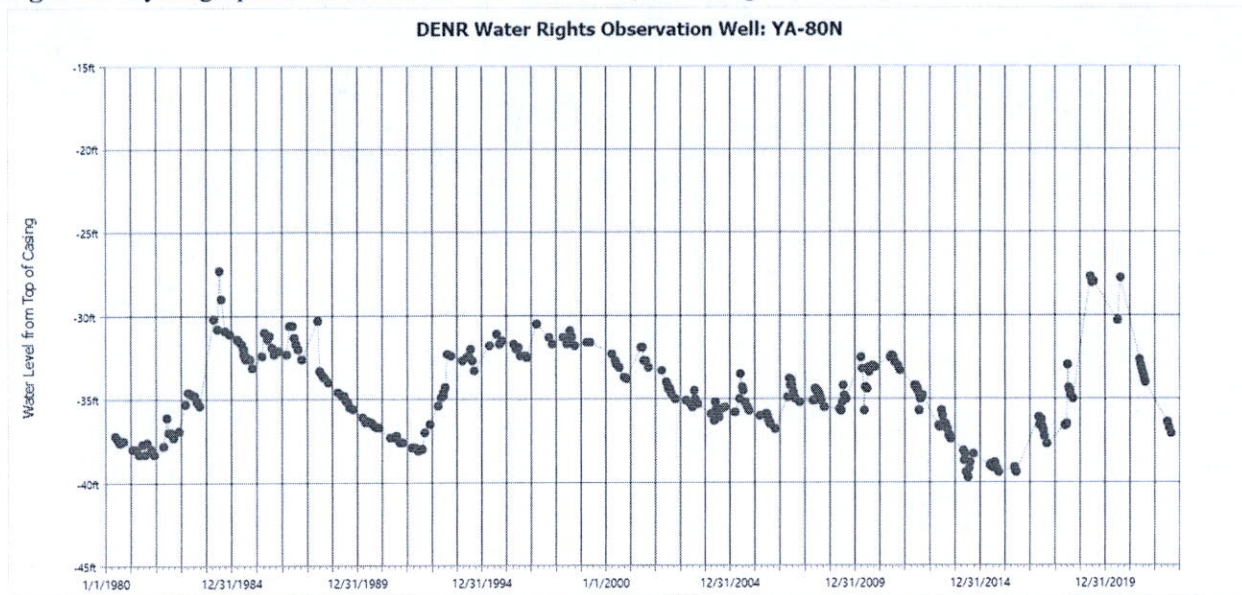


Figure 2. Hydrograph for observation well YA-80K (Water Rights, 2022b)

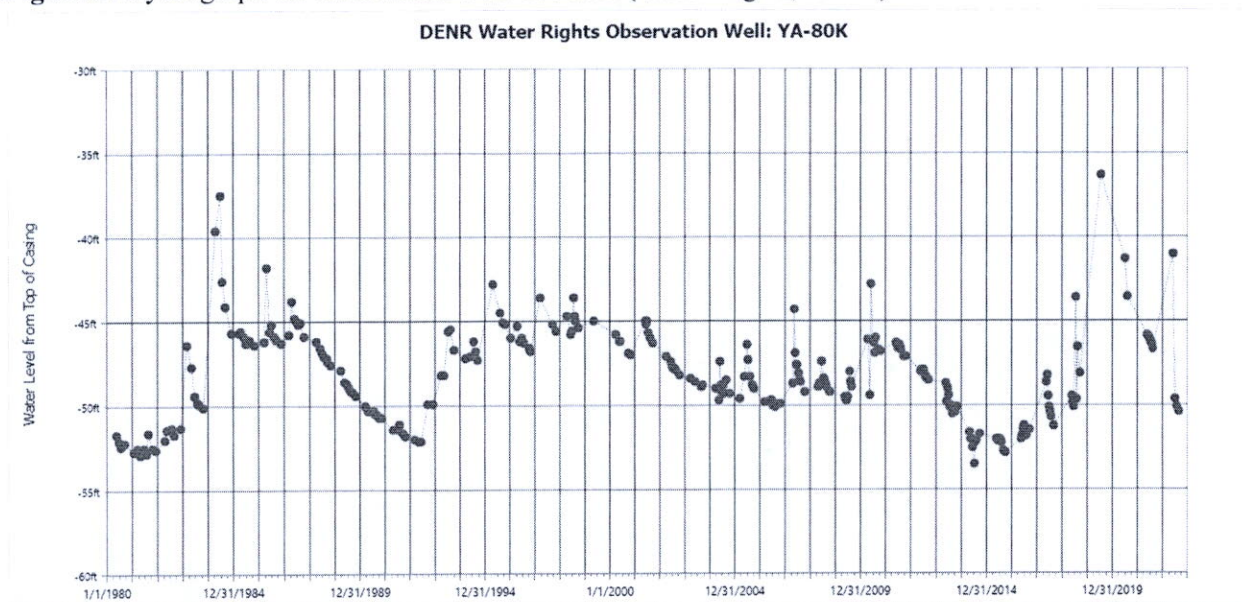


Figure 3. Hydrograph for observation well YA-80M (Water Rights, 2022b)

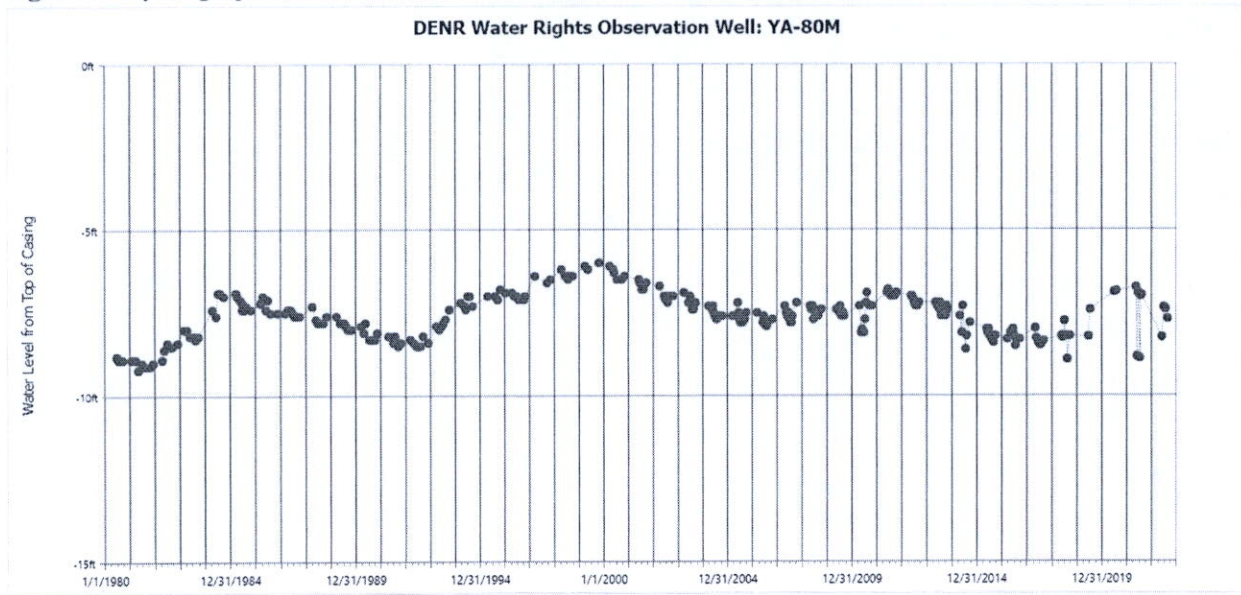


Figure 4. Hydrograph for observation well YA-80DA (Water Rights, 2022b)

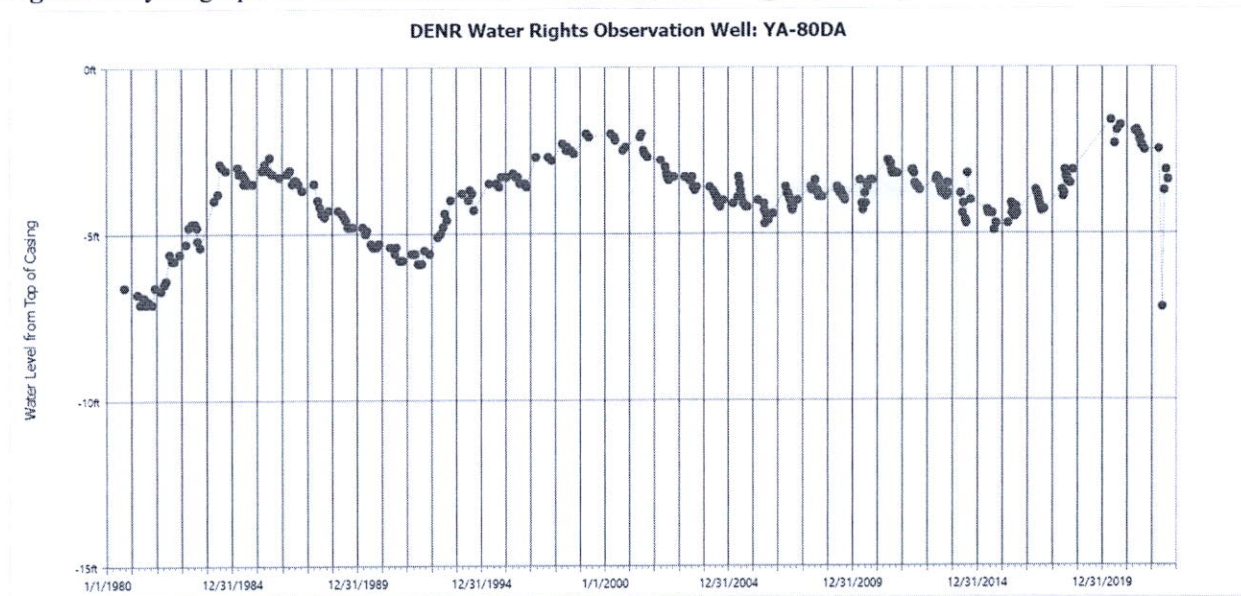
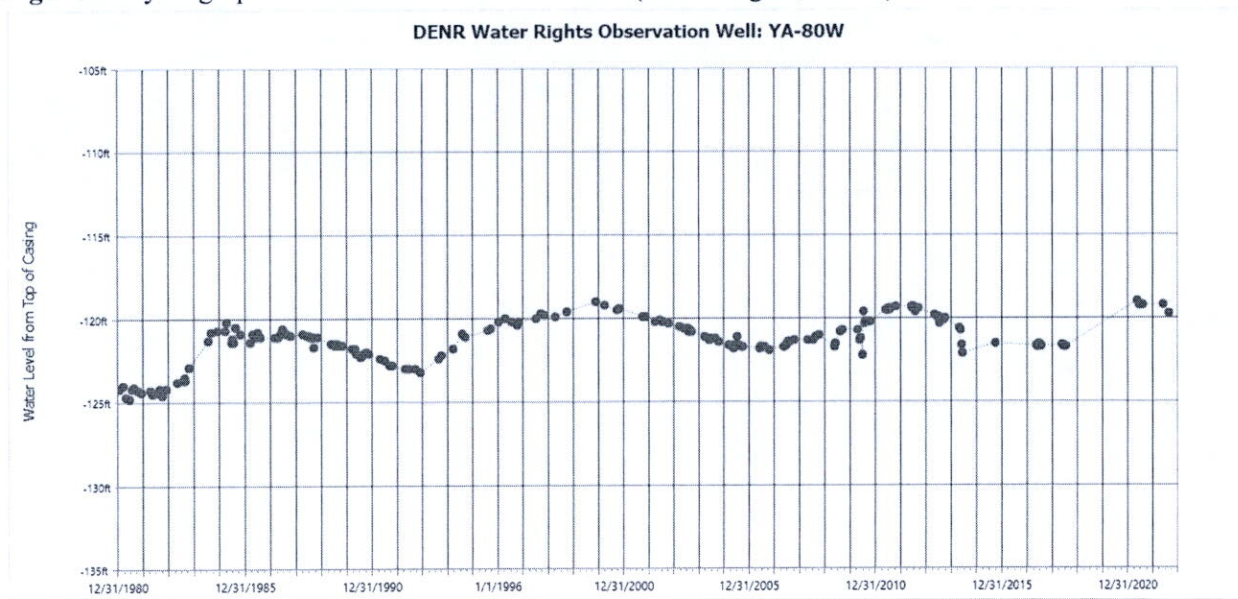


Figure 5. Hydrograph for observation well YA-80W (Water Rights, 2022b)

The hydrographs for the observation wells display stable water levels over their respective periods of record. The hydrographs for the Lower James Missouri 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 Lower James Missouri 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.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 130 water rights/permits authorized to appropriate water from the Lower James Missouri aquifer (Water Rights, 2022c). The closest water right/permit to proposed diversion point is Water Permit No. 8348-3 which is held by LCM Partnership. The diversion point for Water Permit No. 8348-3 is located approximately 0.9 miles northwest of the proposed diversion point for this application (Water Rights, 2022c).

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Lower James Missouri aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.5 miles west of the proposed diversion point (Water Rights, 2022d). There could potentially be other domestic wells completed into the Lower James Missouri aquifer near the proposed diversion point that are not on file with the DANR-Water Rights Program.

While the Lower James Missouri aquifer is primarily under confined conditions, locally and primarily along the James River, the aquifer can be found under unconfined conditions. In an unconfined aquifer, drawdown created by pumping does not extend far from the pumped well. However in a confined aquifer, drawdown from a pumping well can extend some distance from the well. 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 Lower James Missouri 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 aquifer thickness near the proposed diversion point, the locally unconfined conditions of the aquifer in the area of this application, the artesian head pressure in the observation wells completed into the confined portions of the aquifer in the vicinity of the proposed diversion point, and the lack of well interference complaints for adequate wells completed into the Lower James Missouri aquifer in Yankton 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 (Water Rights, 2022e). 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. 8649-3, if approved, will authorize an additional diversion rate of 1.90 cfs from two wells completed into the Lower James Missouri aquifer (approximately 240 and 215 feet deep) for the irrigation of 147 additional acres. When combined with the current authorized Water Permit No. 7213-3, a collective total of 4.34

cfs for irrigation of 388 acres will be authorized.. The site of interest is located approximately fifteen miles northwest of Yankton, SD.

2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Lower James Missouri aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8649-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic uses.



Tyler Jensen
Natural Resources Engineer I
SD DANR - Water Rights Program



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

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AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

OCT 26 2022

OFFICE OF
WATER

MARQUARDT FAMILY LIMITED PARTNERSHIP
C/O DAVE HUSBY
PO BOX 1040
YANKTON SD 57078

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
NOTICE OF APPLICATION NO.

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 20th DAY OF October, 2022
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$45.44 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 10/20/2022

FILED ON: 10/20/2022



SUBSCRIBED AND SWORN TO BEFORE ME THIS 20th DAY OF October, 2022

NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 06/15/2028

Notice is given that Marquardt Family Limited Partnership, c/o Ralph Marquardt, PO Box 1040, Yankton SD 57078 has filed an application for a water permit to appropriate 1.90 cubic feet per second (cfs), increase the irrigated acres, and add a well to what is currently authorized by Water Permit No. 7213-3. Water Permit No. 7213-3 authorizes 2.44 cfs from one well to irrigate 360 acres of which 241 acres were developed prior to the end of the construction period. An investigation of the permit found the system capable of diverting an additional 1.90 cfs from two existing wells (240 and 215 feet deep) completed into the Lower James Missouri Aquifer located in the NW 1/4 SE 1/4 and SW 1/4 SE 1/4 Section 6 and irrigating 388 acres located in the S 1/2, S 1/2 NW 1/4, S 1/2 NE 1/4, NW 1/4 NE 1/4 Section 6 and the SW 1/4 SW 1/4 Section 5; all in T94N-R55W. This application, if approved, and Water Permit No. 7213-3 will authorize a, combined, total of 4.34 cfs from two wells for irrigation of 388 acres to reflect the system as developed. This site is located approximately 6 miles north of Yankton.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8649-3 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 Engineers 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 October 31, 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 October 31, 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 \$45.44 and can be viewed free of charge at www.sdpublicnotices.com.

Published October 20, 2022.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, October 11, 2022 9:57 AM
To: Cassandra Brockmoller (cassandra@yankton.net)
Subject: 8649-3, Marquardt Family Limited Partnership
Attachments: 8649-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on October 20, 2022.

Marquardt Family Limited Partnership, c/o Dave Husby, PO Box 1040, Yankton SD 57078 (605 660-6970) 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>



NOTICE OF APPLICATION NO. 8649-3 to Appropriate Water

Notice is given that Marquardt Family Limited Partnership, c/o Ralph Marquardt, PO Box 1040, Yankton SD 57078 has filed an application for a water permit to appropriate 1.90 cubic feet per second (cfs), increase the irrigated acres, and add a well to what is currently authorized by Water Permit No. 7213-3. Water Permit No. 7213-3 authorizes 2.44 cfs from one well to irrigate 360 acres of which 241 acres were developed prior to the end of the construction period. An investigation of the permit found the system capable of diverting an additional 1.90 cfs from two existing wells (240 and 215 feet deep) completed into the Lower James Missouri Aquifer located in the NW 1/4 SE 1/4 and SW 1/4 SE 1/4 Section 6 and irrigating 388 acres located in the S 1/2, S 1/2 NW 1/4, S 1/2 NE 1/4, NW 1/4 NE 1/4 Section 6 and the SW 1/4 SW 1/4 Section 5; all in T94N-R55W. This application, if approved, and Water Permit No. 7213-3 will authorize a, combined, total of 4.34 cfs from two wells for irrigation of 388 acres to reflect the system as developed. This site is located approximately 6 miles north of Yankton.

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

October 11, 2022

Marquardt Family Limited Partnership
Ralph Marquardt
PO Box 1040
Yankton SD 57078

Dear Mr. Marquardt:

Water Permit Application No. 8649-3 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 Press & Dakotan printed at Yankton SD (Ph # 605 665-7811). 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
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.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, October 11, 2022 9:59 AM
To: Dave Husby
Subject: Water Permit Application No. 8649-3
Attachments: 4179.pdf

Dave,

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>



Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7213-3 (8649-3)

I have this day, March 17, 2022, made a thorough examination of the water use system constructed by Marquardt Farms, PO Box 1040, Yankton, SD 57078, holder of Permit No. 7213-3, bearing the priority of September 30, 2010, authorizing the diversion of 2.44 cu. ft. per second of the waters of groundwater (Lower James: Missouri Aquifer) for the irrigation of 360 acres located in Yankton County.

Inspection contacts: Dave Husby, Breyton Nelson and Ryan Guthmiller

A. Works used to divert the water:

Well Information: North Well

1) Well Drilling Firm: Hammond Wetmore

Drilling

- 2) No. of Wells: 1
- 3) Depth(s): 255 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 16 inches
- 2) Length: 200 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 16 inches
- 2) Length: 40 feet
- 3) Type: PVC
- 4) Static water level: 162 feet

Pump:

- 1) Make: Unknown
- 2) Model: Unknown
- 3) Capacity: 600 GPM

Motor:

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

Well Information: South Well

1) Well Drilling Firm: Hammond Wetmore

Drilling

- 2) No. of Wells: 1
- 3) Depth(s): 215 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 16 inches
- 2) Length: 160 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 16 inches
- 2) Length: 55 feet
- 3) Type: PVC
- 4) Static water level: 150 feet

Pump:

- 1) Make: Jensen Wholesale Pump & Repair
- 2) Model: 12JKM0
- 3) Capacity: 1,350 GPM

Motor:

- 1) Make: BMR Electric Motor Corporation
- 2) Model No.: 61504HSWP1-PED
- 3) Horsepower rating: 150 hp

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

- 1) Type: PVC 2) Size: 12 inches 3) Length: 280 ft from north well to SW pivot disconnected.
- 1) Type: PVC 2) Size: 8 inches 3) Length: 180 feet from north well to the north pivot.
- 1) Type: PVC 2) Size: 12 inches 3) Length: 2,620 feet from south well to the southwest pivot.
- 1) Type: PVC 2) Size: 8 inches 3) Length: 1,640 feet from south well to the southeast pivot.

C. Works used to apply water to beneficial use:

Southwest Pivot:

- 1) Make: Valley
- 2) Overall length: 2,460 feet
- 3) Number of towers: 14
- 4) End gun: Yes
- 5) Capacity: 1,350 GPM

Southeast Pivot:

- 1) Make: Valley
- 2) Overall length: 1,113 feet
- 3) Number of towers: 6
- 4) End gun: Yes
- 5) Capacity: 1,000 GPM

Chemigation Equipment:

- 1) Does chemigate: Not Currently

North Pivot:

- 1) Make: Valley
- 2) Overall length: 1,561 feet
- 3) Number of towers: 9
- 4) End gun: Yes
- 5) Capacity: 600 GPM

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: No
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: North and southeast pivots appear to have been constructed after 2015.
- 3) Exceptions to compliance are: Number of acres, flow rate and legal description of irrigated land.

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
The north well is 3,010 feet east and 2,430 feet north of the southwest corner of Section 6-T94N-R55W (Latitude 42.98790, Longitude -97.38738 – NW1/4 of the SE1/4).
The south well is 3,700 feet east and 90 feet north of the southwest corner of Section 6-T94N-R55W (Latitude 42.98147, Longitude -97.38462 – SW1/4 of the SE1/4).
2. The works are capable of diverting and conveying to the place of use 4.34 cu. ft. per second of water which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

Irrigated Area Completed by the Permit Completion Date (Southwest Pivot)

Section 6-T94N-R55W

<u>SW1/4NW1/4</u>	<u>23 acres</u>	<u>NW1/4SE1/4</u>	<u>27 acres</u>
<u>SE1/4NW1/4</u>	<u>7 acres</u>	<u>NE1/4SE1/4</u>	<u>7 acres</u>
<u>NW1/4SW1/4</u>	<u>37 acres</u>	<u>SW1/4SE1/4</u>	<u>38 acres</u>
<u>NE1/4SW1/4</u>	<u>40 acres</u>	<u>SE1/4SE1/4</u>	<u>8 acres</u>
<u>SW1/4SW1/4</u>	<u>14 acres</u>		
<u>SE1/4SW1/4</u>	<u>40 acres</u>		

Total of 241 acres

Irrigated Areas Not Completed by the Permit Completion Date (North and Southeast Pivots)

<u>Section 6-T94N-R55W</u>		<u>Section 5-T94N-R55W</u>	
<u>SE1/4NW1/4</u>	<u>23 acres</u>	<u>NW1/4SE1/4</u>	<u>12 acres</u>
<u>NW1/4NE1/4</u>	<u>3 acres</u>	<u>NE1/4SE1/4</u>	<u>10 acres</u>
<u>SW1/4NE1/4</u>	<u>40 acres</u>	<u>SW1/4SE1/4</u>	<u>1 acre</u>
<u>SE1/4NE1/4</u>	<u>9 acres</u>	<u>SE1/4SE1/4</u>	<u>32 acres</u>

Total of 147 acres

comprising a total of **388** acres of land and a **new** license should be issued for **4.34** cfs.

3. All structures, wells and lands on map: **Yes**

F. Comments or other permit(s) associated with the project: **The total irrigated acres are more than what was authorized by the permit. The flow rate is higher than what was authorized by the permit, and there are acres irrigated that are not described by the permit. It also appears that the north pivot and the southeast pivot were constructed after the November 22, 2015 construction completion date. Based on this, I have submitted two drawings, one for what was completed by the original completion date (southwest pivot) and another for the pivots that were added later (north and southeast pivots).**

The north well supplies water only to the north pivot. The piping between the north well and the southwest pivot has been disconnected. Initially, the north well fed the southwest pivot. However, it did not supply enough water to efficiently operate the pivot. The south well was then constructed, and it supplies water to the southeast and southwest pivots. At times, both wells and two of the pivots are on at the same time since the wells do not feed the same pivots.

The pivot flow rate information for the north pivot and the southeast pivot was obtained from Automatic Irrigation. The flow rate assumed for the southwest pivot is the capacity of the south well. Since the north pivot flow is rated for 600 gpm, this flow rate was used for the north well rating since pump and motor information was not available for the north well. The south well pump and motor data was available at the well site.

There were chemical storage tanks at both well sites. However, there was not any chemical pumping equipment at either site. There were not hoses at either site to get any discharge liquid at least twenty feet away from the wells. The renter stated that he has not used the storage containers nor any chemigation equipment since he has rented the land. The storage tanks were there prior to him renting the land.

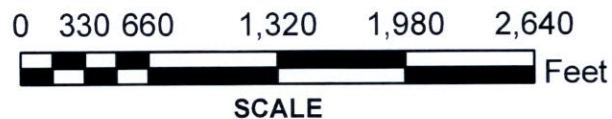
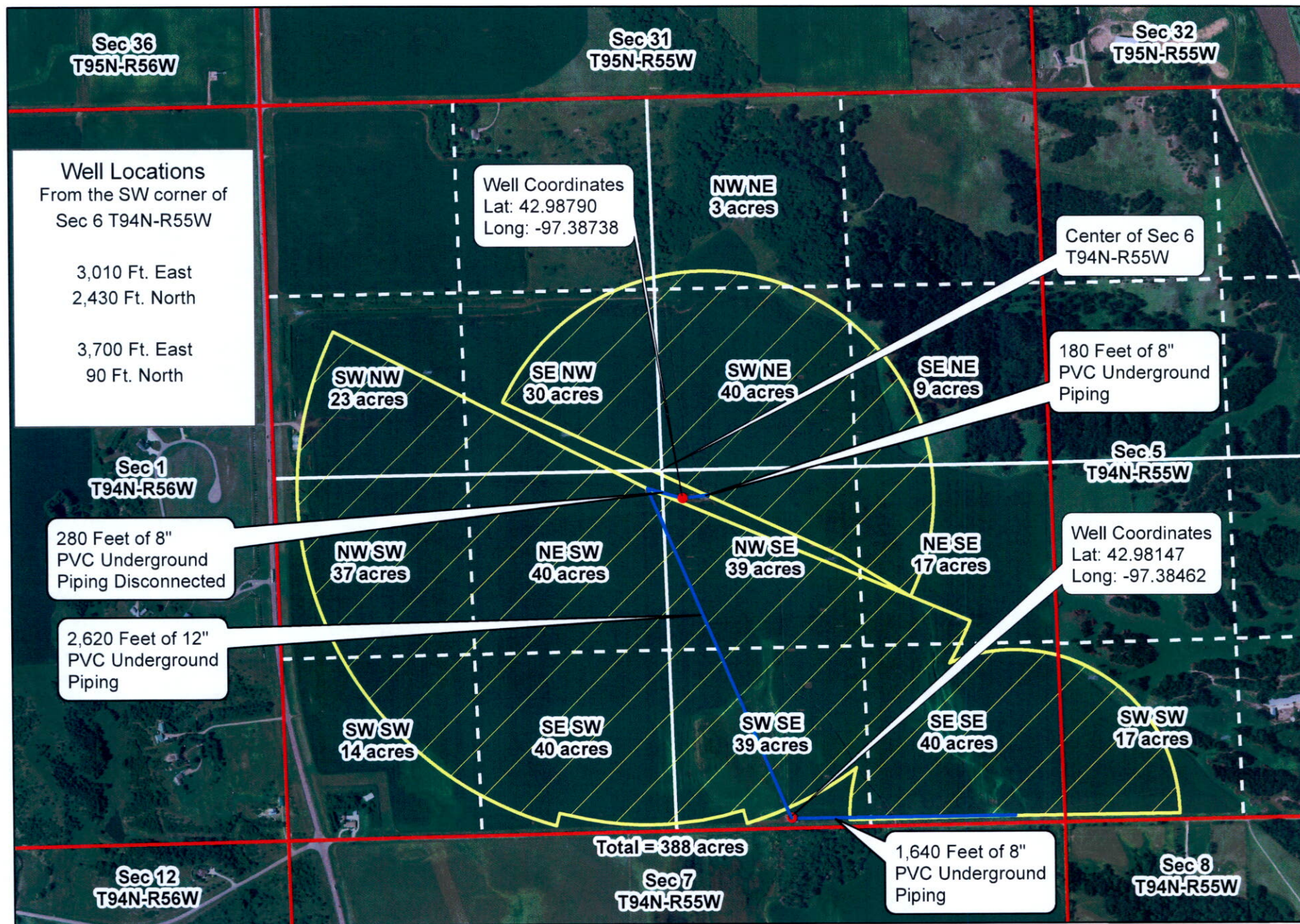
Keith DeJong

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

Date report completed: **August 2, 2022**

Water Permit No. 8649-3 was obtained to cover the additional diversion rate, acres and the addition of one well. License will be issued under No. 8649-3.

Water Right No. 7213-3 & 8649-3



Keith DeJong

Keith DeJong, PE Ret.
Staff Engineer
April 19, 2022

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8649-3

(1) Marquardt Family Limited Partnership, c/o Ralph Marquardt, PO Box 1040, Yankton SD 57078 made Application No. 8649-3, August 8, 2022 for a water permit to divert an additional 1.90 cubic feet of water per second (cfs), increase irrigated acres and add an additional well to what is currently authorized by Water Permit No. 7213-3 from groundwater (Lower James Missouri Aquifer), Yankton County, South Dakota. Permit No. 8649-3, with a priority date of August 8, 2022 was approved November 7, 2022 and issued to the applicant for diversion of water with construction of the described water supply system and application to beneficial use completed.

Water Permit No. 7213-3, with a priority date of September 30, 2010 authorized 2.44 cfs from one well for irrigation of 360 acres. The applicable portions of No. 7213-3 are incorporated into this water license with only the portion developed prior to the expiration of the construction period retaining the September 30, 2010 priority date.

(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 4.34 cubic feet of water per second for beneficial use. The location of the diversion points are:

- North Well – 3,010'E and 2,430'N Latitude 42.98790 Longitude -97.38738 (NW 1/4 SE 1/4)
 - South Well – 3,700'E and 90'N Latitude 42.98147 Longitude -97.38462 (SW 1/4 SE 1/4)
- both from the SW corner of Section 6-T94N-R55W

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

Section 6-T94N-R55W	SW 1/4	131 acres	NW 1/4 NE 1/4	3 acres
	SE 1/4	135 acres	SW 1/4 NE 1/4	40 acres
	SW 1/4 NW 1/4	23 acres	SE 1/4 NE 1/4	9 acres
	SE 1/4 NW 1/4	30 acres		

Section 5-T94N-R55W SW 1/4 SW 1/4 17 acres

Total 388 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 Marquardt Family Limited Partnership, c/o Ralph Marquardt, PO Box 1040, Yankton SD 57078 the holder and/or owner of Incorporated Water Right No. 8649-3 is issued a license to appropriate water, the right to use 4.34 cfs from groundwater, two wells (Lower James Missouri Aquifer) with priority dates of September 30, 2010 (2.44 cfs & 241 acres) and August 8, 2022 (1.90 cfs & 147 acres) from the locations specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Incorporated Water Right No. 8649-3 and subject to the following qualifications:

- The wells approved under Water Permit Nos. 7213-3 and 8649-3 are 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.
- This permit is approved subject to the irrigation water use questionnaire being submitted each year.

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

FEB 17 2023

date





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

FEB 17 2023

Marquardt Family Limited Partnership
c/o Ralph Marquardt
PO Box 1040
Yankton SD 57078

Dear Mr. Marquardt:

Enclosed are Water Permit and Water License No. 8649-3. The water license is the final document completing your process of obtaining a Water Right. Also, included is a map prepared by the staff engineer who conducted the investigation.

For your information SDCL 46-6-27 requires that if in the future the owner drills a replacement well and has no plan to use the old existing 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.

As long as you use the water beneficially, as stated in the Water License, the 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

email: Dave Husby



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
on DANR Website**

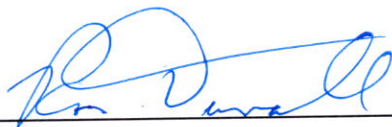
Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 8649-3

Name of Applicant: Marquardt Family Limited Partnership, Dave Husby

Date of Posting: 10/17/2022

Date of Removal: 2/17/2023

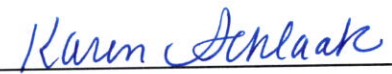


Ron Duvall, Water Rights Permitting Administrator

2/17/23

Date

Subscribed and sworn to before me, a notary public, this 17th day of February, 2023.



Notary Public - South Dakota
My commission expires: 4/1/2025

