

WATER PERMIT NO. 8765-3

Name of Applicant: **Barr Van Osdel**

Address: **44732 SD Highway 50, Mission Hill SD 57046** Phone: **605-661-4584**

Amount of Water Claimed: **1.78 cfs** Total Acres: **84**

Source of Water Supply: **Groundwater**

Water to be used for: **Irrigation** County: **Yankton**

Type of Waste Disposal System:

Location: **Approx. 7 miles northeast of Yankton SD**

PRIORITY Date Received: **5-24-2023** Application/License Fee: **\$950.00**

Corrected Application Received: Period of Annual Use: **May 1 – Oct 31**

Remarks:

Diversion Point: **SE 1/4 NE 1/4 Section 2 -T94N-R55W**

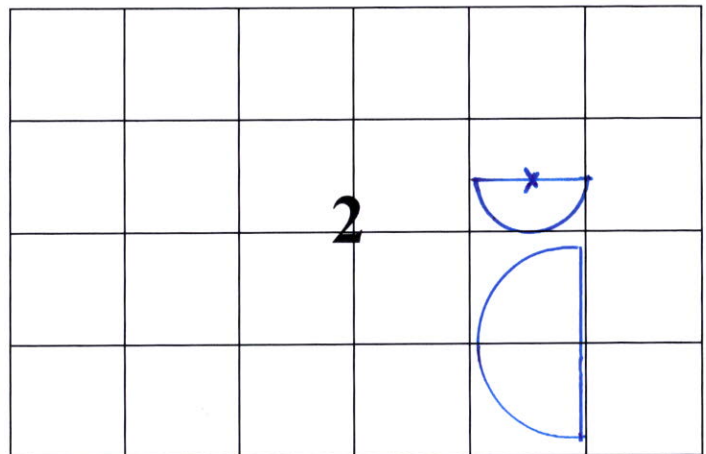
Land to be Irrigated: **S 1/2 SE 1/4 NE 1/4, SE 1/4 NE 1/4 Section 2 -T93N-R55W**

Depth of Well: **200**

Well Driller: **Quality Well Service**

Remarks:

Type of Map: **aerial**



Reviewed and the Number Assigned on: **5-30-2023**

By: **Rachel Rodriguez**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8765-3**

Date of first receipt of application May 24, 2023.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8765-3 to Barry Van Osdel, 44732 SD Highway 50, Mission Hill SD 57046 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. 8765-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the SE 1/4 NE 1/4 Section 2 for irrigation of 84 acres located in the E 1/2 SE 1/4, SE 1/4 NE 1/4 Section 2; all in T94N-R55W. This site is located approximately 7 miles northeast of Yankton 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 – October 31.
3. The date from which applicant may claim right is May 24, 2023.
4. The date of approval of Permit No. 8765-3 is July 31, 2023.
5. One-fifth of the construction is to be completed on or before January 31, 2026.
6. All construction is to be completed on or before July 31, 2028.
7. Water is to be put to beneficial use on or before July 31, 2032.
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. 8765-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8765-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8765-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 84 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

AUG 31 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>8765-3</u> Hydrologic Unit <u>10170102</u> Basin <u>Vermillion</u> Newspaper <u>Daily Press & Dakotan</u> (office use only)
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PAID
MAY 24 2023
Ck# 1180
Rec't# 5124123

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 Barry Van Osdel

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

Mailing Address 44732 SD Highway 50 Mission Hill SD 57046
(Address) (City) (State) (Zip Code)

Phone _____ Mobile 605-661-4584 Email vanosdelbarry@gmail.com

2. Amount of water claimed 1.78*CFS or 800**GPM _____***AF Total Acreage 84
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply groundwater

4. Location of point of diversion 7 well in SE 1/4 NE 1/4 sec 2 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 May through October³¹

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 SE 1/4 sec 2	33	Requesting a diversion greater than statutory limit	
NE 1/4 SE 1/4 sec. 2	33		
SE 1/4 NE 1/4 sec. 2, 94N-55W	18		

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

The project will include two center pivot systems, both only utilizing half a circle to water approximately 84 acres in sec. 2 of 94N-55W. Both systems will draw groundwater from a well to be located in SE 1/4 of NE 1/4 of sec. 2 94N-55W at a rate of 800 gpm.

I, Barry Van Osdel, 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)

RECEIVED

MAY 24 2023

OFFICE OF
WATER

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 Quality Well Service
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

- c) Well Depth (required) 200 ft Depth to Top of Water Bearing Material 87 ft Depth to Water from Surface 110 ft
- d) Distance to nearest domestic well on applicant's property 200 ft Property owned by others 2000 ft

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

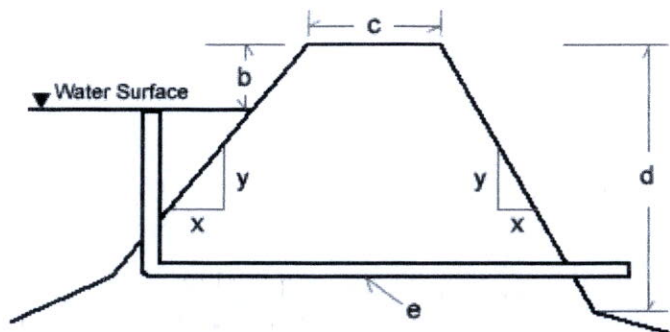
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

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

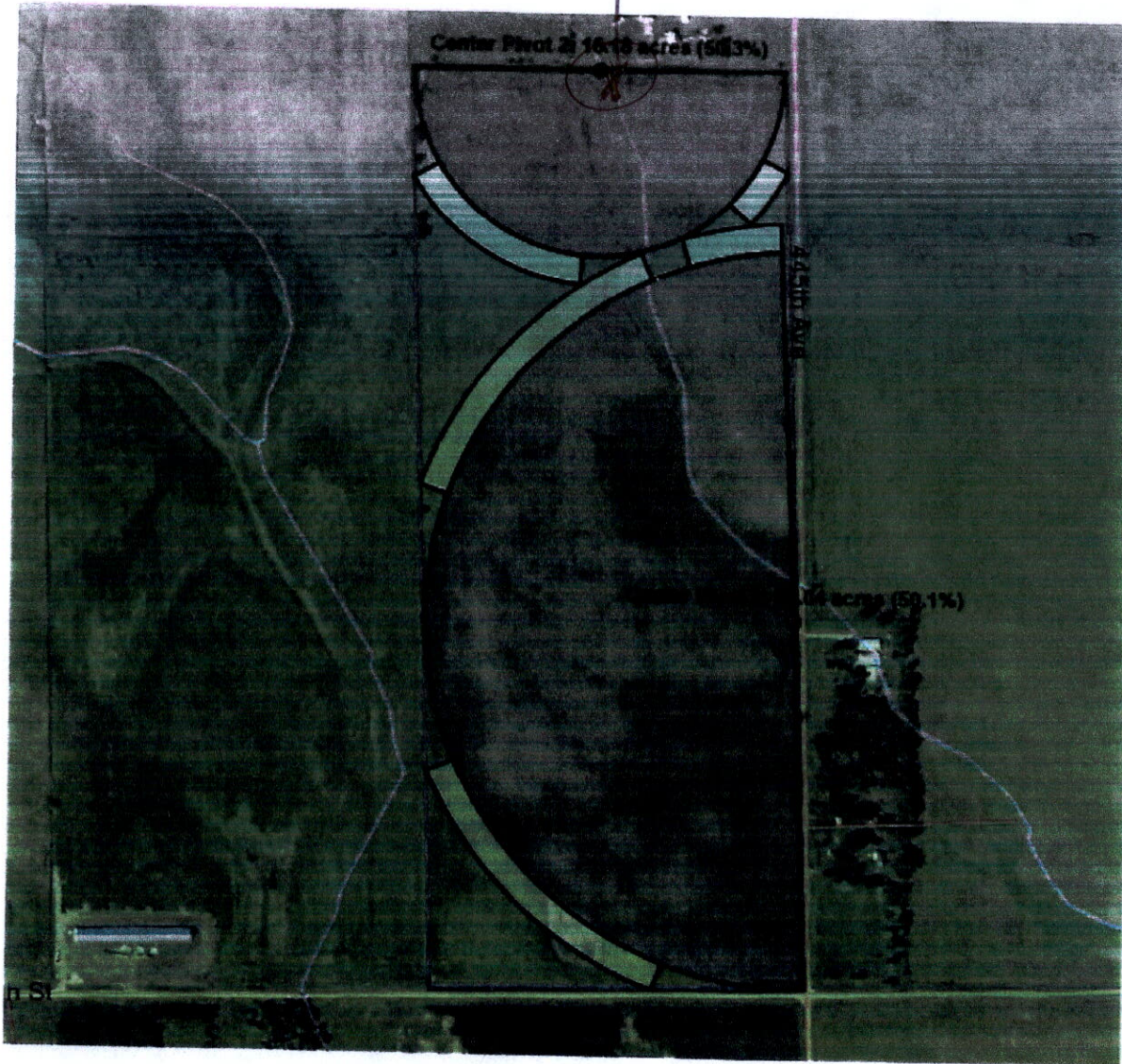


M&S Irrigation



Grower: Berry Van Osdel

Diversion point



Big Pivot Covers 66 Acres

Small Pivot Covers 18 Acres

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date May 24, 2023

RECEIVED OF Barry/Janine Van Osdel 44732 SD Highway 50, Mission Hill SD 57046

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

Fee for Application for Permit No. <u>8765-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$750.00
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>8765-3</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	\$950.00

By Eric Gronlund
Chief Engineer
EM



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8765-3, Barry Van Osdel**

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. 8765-3, Barry Van Osdel, 44732 SD Highway 50, Mission Hill SD 57046.

The Chief Engineer is recommending APPROVAL of Application No. 8765-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8765-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8765-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8765-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 84 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
July 10, 2023

Report to the Chief Engineer

On Water Permit Application No. 8765-3

Barry Van Osdel

June 23, 2023

Water Permit Application No. 8765-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet per second (cfs) from one well to be completed into the Lower James-Missouri aquifer (approximately 200 feet deep) in the northern region of SE ¼ NE ¼ of Section 2 for the irrigation of 84 acres located in the E ½ SE ¼, SE ¼ NE ¼ of Section 2, all in T94N-R55W. The site of interest is in Yankton County, approximately 7 miles northeast of Yankton, SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

AQUIFER: Lower James-Missouri (LJM)

HYDROGEOLOGY:

The Lower James Missouri aquifer is a glacial outwash primarily consisting of interbedded medium sand and coarse gravel (Bugliosi, 1986), that underlies portions of Clay, Hutchinson and Yankton Counties (Table 1). Layers of silty alluvium up to 25 feet thick generally overlay the glacial outwash material (Bugliosi, 1986). The Lower James-Missouri aquifer is hydraulically connected to many surface water features as well as the Lower Vermillion-Missouri aquifer, the Missouri: Elk Point aquifer, the Lower James-Missouri: Scotland aquifer, the Choteau: East aquifer, the Dakota aquifer, the Niobrara aquifer, and in the northeast by the underlying Sioux Quartzite (Bugliosi, 1986; Lindgren and Hansen, 1990). The Lower James-Missouri aquifer is generally under confined conditions east of the James River, near its western boundary, and unconfined elsewhere (Lindgren and Hansen, 1990). Depth to the top of the aquifer can vary from 245 feet to less than 1 foot within the James River flood plain (Lindgren and Hansen, 1990), but generally is within 100 feet of the land surface (Bugliosi, 1983). A portion of the Lower James-Missouri aquifer is designated as the Scotland management unit, but it is not included in the area of interest for Water Permit Application No. 8765-3 and will be excluded from this report. Figure 1 shows the approximate delineation of the Lower James-Missouri aquifer and location of the proposed diversion point.

Table 1: Estimated areal extent of Lower James-Missouri aquifer in Clay, Hutchinson, and Yankton Counties, and recoverable water in storage (Hedges et al., 1982).

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

No water well or test hole completion report was submitted with Water Permit Application No. 8765-3. Within approximately two miles of the proposed diversion point, water well completion reports and lithologic logs on file for wells completed into the Lower James-Missouri aquifer for appropriate water uses vary between confined and unconfined conditions. Saturated aquifer thicknesses range from approximately 40 to 90 feet. This would allow for sufficient saturated 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). Depth to the top of aquifer materials ranges from approximately 100 to 160 feet, and static water levels vary between approximately 115 to 140 feet below the ground surface at the time of well completion (SDGS, 2023; Water Rights, 2023b and 2023d). Wells with a shallower top of aquifer depth are generally in the buried, unconfined portion of the Lower James-Missouri, and are often in the floodplain of the James River (Bugliosi, 1983). Based on the well-completion reports, and lithologic logs on file for observation wells near the proposed diversion point, the Lower James-Missouri aquifer could be unconfined or confined near the proposed diversion point (SDGS, 2023; Water Rights 2023b and 2023d), but will most likely have confined aquifer conditions based on the estimated well depth (200 feet) requested by Water Permit Application No. 8765-3.

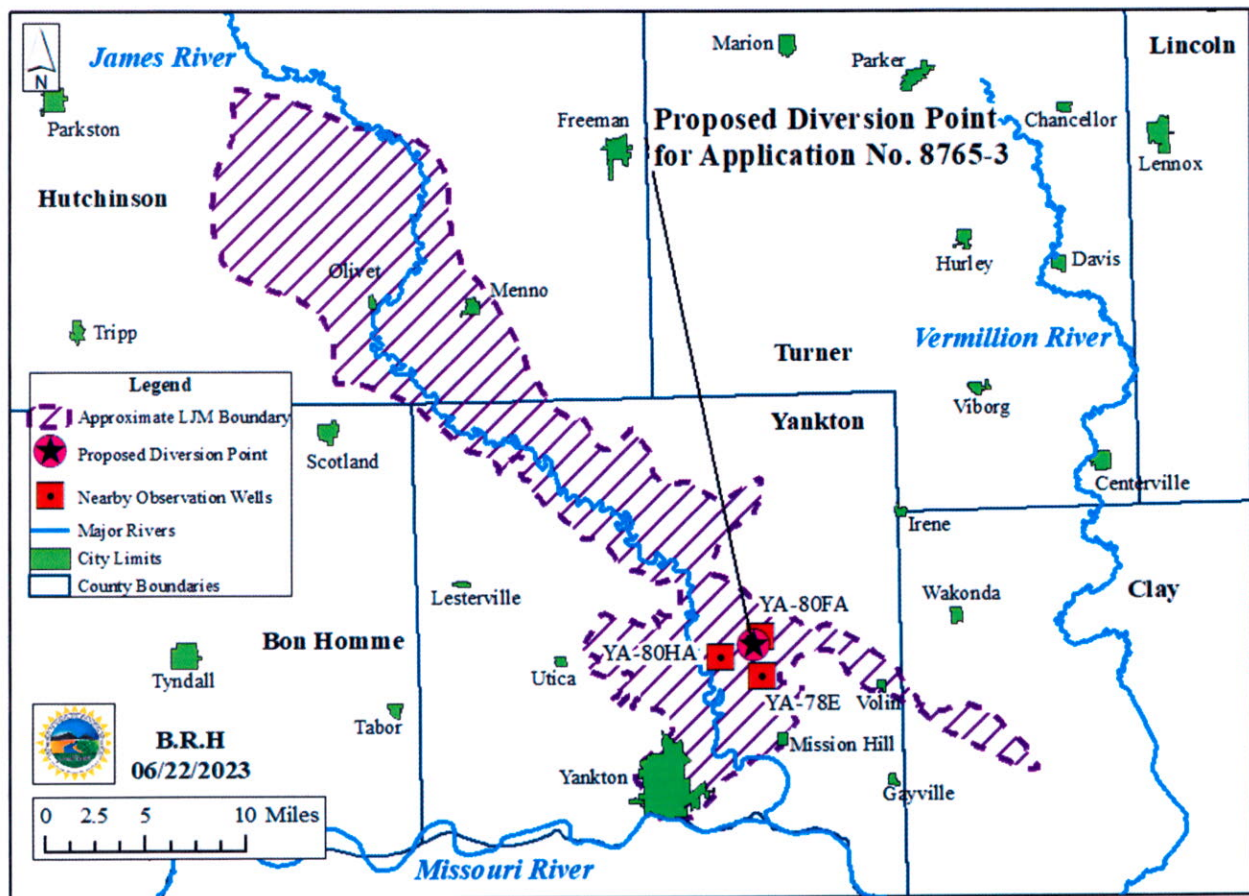


Figure 1: Map of the Approximate Lower James-Missouri aquifer boundary (modified from Hedges et al., 1982) and the location of the proposed diversion point for Water Permit No. 8765-3 and three closest observation wells.

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

Pursuant to SDCL 46-2A-9, “A permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant’s proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11.” This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within the Lower James-Missouri aquifer.

SDCL 46-5-6:

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of 1.0 cfs per 70 acres, or “the equivalent thereof.” The statute provides that: “The Water Management Board may allow a greater diversion, in volume or rate or both, if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires...”

If approved, Water Permit Application No. 8765-3 would authorize a maximum instantaneous diversion rate of 1.78 cfs from one well for the irrigation of 84 acres, from May 1st through October 31st, or at a rate of 1.48 cfs per 70 acres. The applicant did not provide a reason for the exceedance, but it appears to be due to a center pivot size and both pivots only making a partial rotation. The one pivot is smaller than a normal, quarter-sized pivot; however, smaller pivots often use a proportionally greater diversion rate to operate properly than their size would indicate is needed. Furthermore, both pivots are only making a partial rotation. A center pivot making a partial rotation uses water at the same rate as a center pivot making a full rotation while irrigating less acres. These reasons fall within SDCL 46-5-6 which allows the Water Management Board to allow a greater diversion rate and have been accepted by the Board and the Water Rights Program in the past.

WATER AVAILABILITY:

Water Permit Application No. 8765-3 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.”

Water Permit Application No. 8765-3 does not involve a water distribution system as defined by SDCL 46-1-6(17) and the aquifer is both younger and above the Greenhorn formation (Fahrenbach et al., 2010). Therefore, recharge and withdrawal must be considered. The methods

of assessment are a hydrologic budget with quantified values of recharge and withdrawal, and observation well analysis.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Lower James Missouri aquifer is primarily through the infiltration of precipitation, on the basis of the significant permeability of the overlying soils which recharges the underlying alluvium and adjacent glacial aquifers. These alluvial deposits and adjacent aquifers act as either a recharge or discharge area depending on the relative potentiometric-surface altitudes (Bugliosi, 1986). The Choteau and Dakota aquifers, and fractures in the Sioux Quartzite are sources of recharge in the northwest areal extent of Lower James-Missouri aquifer (Lindgren and Hansen, 1990). Most recharge to glacial aquifers occurs during the spring and early summer months, and the amount of recharge varies due to fluctuating climatic conditions (Bugliosi, 1986).

Recharge rates have been calculated using regional flow-net analysis for the Lower James-Missouri aquifer and is estimated to be 1.5 inches/year (Hedges et al., 1985). The aquifer has an estimated total areal extent of 191,700 acres (Table 1). Therefore, the estimated average annual recharge rate is approximately 23,963 acre-feet/year.

Observation well data was analyzed to estimate a recharge rate of 3.9 inches/year for the unconfined portions of the Lower James-Missouri aquifer (Hedges et al., 1985). The areal extent of the unconfined portion of Lower James-Missouri aquifer was delineated to be approximately 82,200 acres (Stonesifer, 2014); however, this larger areal extent included portions of the aquifer that were delineated in McCook and Clay Counties based on SDGS lithologic logs (Stonesifer, 2014). The recharge rate of 3.9 inches/year was applied to this area to get a recharge for unconfined portions of the Lower James-Missouri aquifer of 26,700 acre-feet/year, which could be considered a maximum recharge rate. Overall, the estimated average annual recharge to the aquifer ranges between approximately 23,963 to 26,700 acre-feet/year (Hedges et al., 1982 and 1985; Stonesifer, 2014).

Discharge

Discharge from the Lower James-Missouri aquifer is primarily through well withdrawals, seepage to the James River via flood-plain alluvium, and evapotranspiration in areas where the aquifer is at or near land surface (Bugliosi, 1986; Lindgren and Hansen, 1990; Water Rights, 2023c). It is likely that areas of the Lower James-Missouri aquifer discharge into adjacent glacial aquifers depending on the relative potentiometric altitudes, however, the direction of water movement in the aquifer is toward the James River (Bugliosi, 1986; Lindgren and Hansen, 1990).

There are currently 132 established water rights/permits (irrigation and non-irrigation use) and one pending application that are authorized to appropriate water from the Lower James-Missouri aquifer (Water Rights, 2023c). Table 2 summarizes the eight non-irrigation water rights/permits authorized to appropriate water from the Lower James-Missouri aquifer with the estimated

annual use in acre-feet per year for each water right/permit as determined by their permitted maximum diversion rate or annual volume. Non-irrigation water use that is only limited by an instantaneous diversion rate is assumed to be pumping 60% of full time at the respective permitted diversion rates. Non-irrigation water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. These are standard assumptions used by the DANR-Water Rights Program for estimating annual withdrawals from non-irrigation appropriations from an aquifer (Water Rights, 2023c). Overall, the estimated average annual withdrawal rate from the Lower James-Missouri aquifer by the non-irrigation water rights/permits is approximately 1,594.6 acre-feet per year (Table 2) (Water Rights, 2023c).

Table 2: Estimated annual use for the non-irrigation water rights/permits authorized to divert water from the Lower James-Missouri aquifer (Water Rights, 2023c).

Permit No.	Name	Use	Status	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimated Use (acre-feet/year)
4556-3	Knife River	COM	LC	0.44	N/A	191.1
840-3	Stuelpnagels Inc.	COM	LC	1.11	N/A	482.2
6264-3	Yankton Land & Cattle Co.	COM	LC	0.56	N/A	243.3
6320-3	Wolf Creek Htrn. Brth.	COM	LC	0.08	N/A	34.8
6925-3	Tschetter Colony	COM	LC	0.07	N/A	30.4
7827-3	Maxwell Colony	COM	PE	0.33	N/A	143.4
1288-3	National Food Stores Inc.	IND	LC	0.16	N/A	69.5
8412-3	Knife River	IND	LC	7.8	400	400
COM (Commercial), IND (Industrial), LC (Licensed Water Right), PE (Water Permit)					TOTAL	1,594.6

Irrigation water rights/permits have been required to report their annual usage on an irrigation questionnaire since 1979. The estimated average annual withdrawal rate for the aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2021) is approximately 2,951 acre-feet per year (Table 3) (Water Rights, 2023a). 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, 2023a).

There are currently 124 irrigation water rights/permits authorized to appropriate water from the Lower James-Missouri aquifer (Water Rights, 2023c). Table 3 lists 120 water rights/permits as per the 2021 irrigation questionnaire (IQ) survey, and permit applications approved for irrigation use since then include Permit Nos. 8655-3, 8659-3, 8736-3, and 8740-3 and the pending Water Permit Application No. 8762-3, authorizing the irrigation of 810. Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. To account for the fluctuation in wet and dry cycles from year to year, this value is used to overestimate the annual withdrawal rate for these irrigation water rights/permits. Therefore, the estimated average annual withdrawal rate for the four irrigation water rights/permits (and one pending) not listed on Table 3 is approximately 810 (Water Rights, 2023a and 2023c). The collective average annual withdrawal rate for the irrigation water rights/permits from 2012 to 2021 (5,398 acre-feet/year), plus the

estimated average annual withdrawal rate for the irrigation water rights/permits approved after the 2021 IQ survey (810 acre-feet/year) is approximately 6,208 acre-feet/year (Water Rights, 2023a and 2023c).

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, 2023d). Due to their relatively low diversion rates, withdrawals from domestic wells are generally not considered to be a significant portion of the hydrologic budget. Additionally, rural water systems have been developed in areas where the Lower James-Missouri aquifer is the uppermost aquifer available, and it is likely that 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.

Table 3: Reported historic irrigation use from the Lower James-Missouri aquifer and summary statistics from 1979 to 2021 (Water Rights, 2023a).

Year	No. of Permits Reporting	Reported Volume Pumped (acre-feet)
1979	22	588.00
1980	23	1,299.00
1981	33	1,835.00
1982	23	1,301.25
1983	27	1,306.54
1984	28	1,360.00
1985	27	1,483.00
1986	30	989.60
1987	30	1,041.60
1988	31	2,744.90
1989	31	2,144.80
1990	35	2,928.10
1991	42	2,599.00
1992	45	1,159.00
1993	45	230.44
1994	45	1,918.17
1995	41	1,483.32
1996	49	2,101.99
1997	50	2,320.00
1998	53	2,787.03
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	3,347.24
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	13,058.45
Min	22	230.44
Avg (1979-2021)	63	2,950.73
Avg (2012-2021)	121	5,398.24

Hydrologic Budget Summary

The estimated average annual recharge rate to the Lower James-Missouri aquifer is approximately 23,963 to 26,700 acre-feet/year (Hedges et al., 1982 and 1985; Stonesifer, 2014). The estimated average annual withdrawal rate from the aquifer is approximately 7,887 acre-feet per year (non-irrigation: 1,594.6 acre-feet/year; irrigation (2012 to 2021 IQ survey average plus the water rights/permits approved or pending since then): 6,208 acre-feet/year; Water Permit Application No. 8765-3 (if approved, assuming one foot application rate per authorized acre): 84 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.

Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The DANR-Water Rights Program monitors 34 observation wells completed into the Lower James-Missouri aquifer (Water Rights, 2023b). The three closest observation wells to the proposed diversion point (as shown in Figure 1) are YA-80FA (approximately 0.3 miles northeast), YA-78E (approximately 1.75 miles southeast), and YA-80HA (approximately 2 miles southwest) (Water Rights, 2023b). Hydrographs of observation wells are constructed by measuring the static water level from the top of the well casing over a period of record. The hydrographs of these nearest observation wells are displayed in Figures 2 to 4 (Water Rights, 2023b). It is worth noting that the hydrograph titles display DENR Water Rights Observation Well when the titles should display DANR Water Rights Observation Well.

The overall trend for the hydrographs of the nearest observation wells to the proposed diversion point display stable to slightly lower recent water levels over the respective periods of record. These three hydrographs were compared to the hydrographs for the other observation wells completed in the aquifer, and each display a similar trend, apart from observation well HT-2023B which doesn't have enough data to be conclusive (Water Rights, 2023b). The recent decline shown in a few observation wells is likely due to the connection between the Lower James-Missouri and Missouri: Elk Point aquifers. The Missouri: Elk point aquifer has significant connection to the Missouri and the changes of the water level of the Missouri River affect the aquifer as documented in the report on Future Use Permit Application No. 8754-3 (Water Rights, 2023c). This, in turn, affects the water levels of the observation wells in close proximity to the Missouri: Elk Point aquifer.

The hydrographs for the aquifer indicate that it responds well to climatic conditions because water levels are rising during wetter periods and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the aquifer returns to pre-pumped conditions between irrigation seasons. Aquifer recovery indicates that climatic conditions and therefore, 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. Therefore, observation well hydrographs demonstrate that unappropriated water is available for the proposed appropriation.

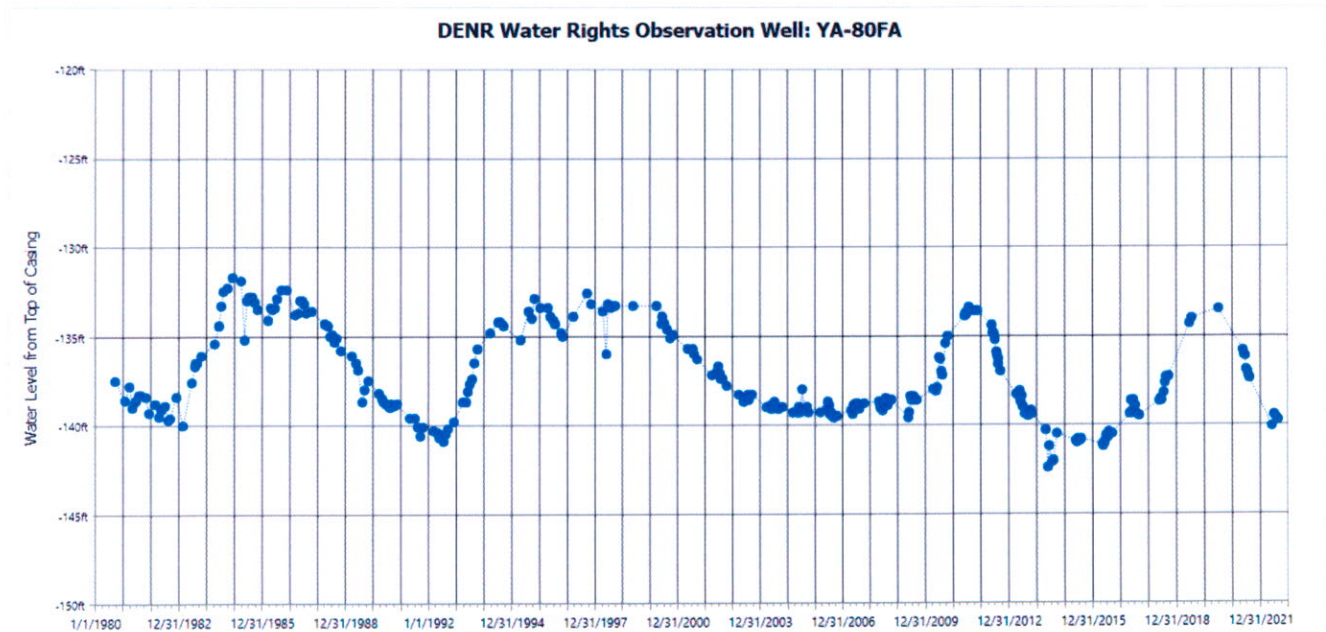


Figure 2: Hydrograph for observation well YA-80FA (Water Rights, 2023b).

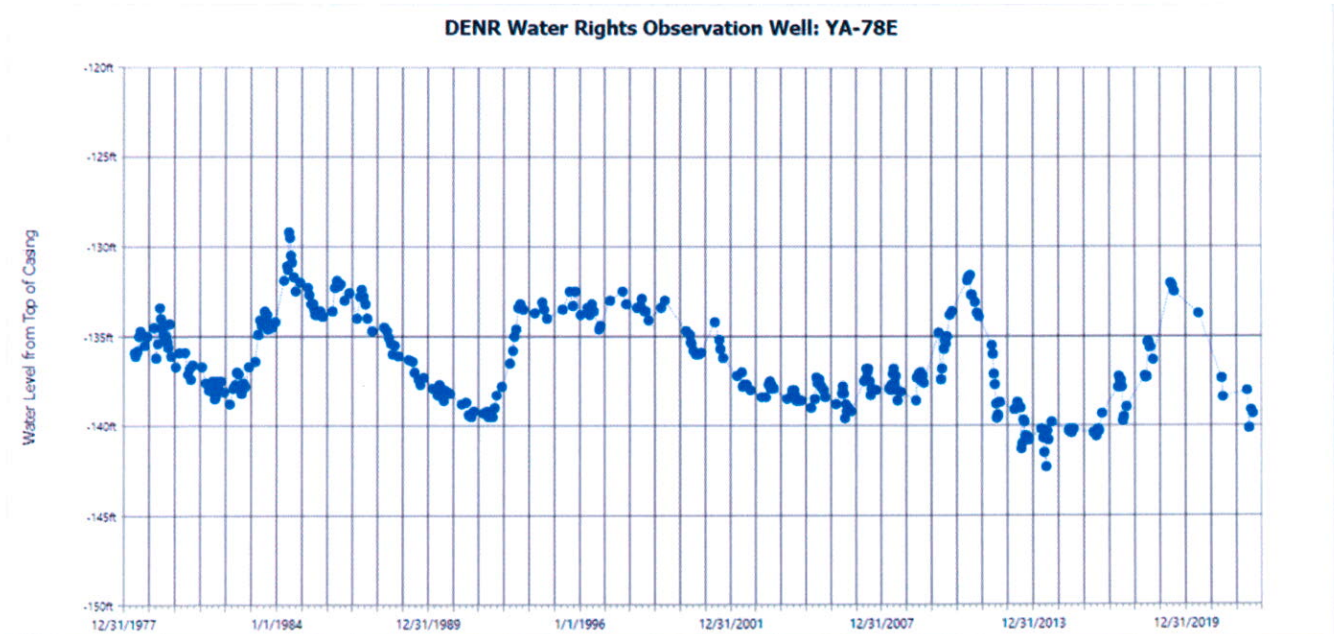


Figure 3: Hydrograph for observation well YA-78E (Water Rights, 2023b).

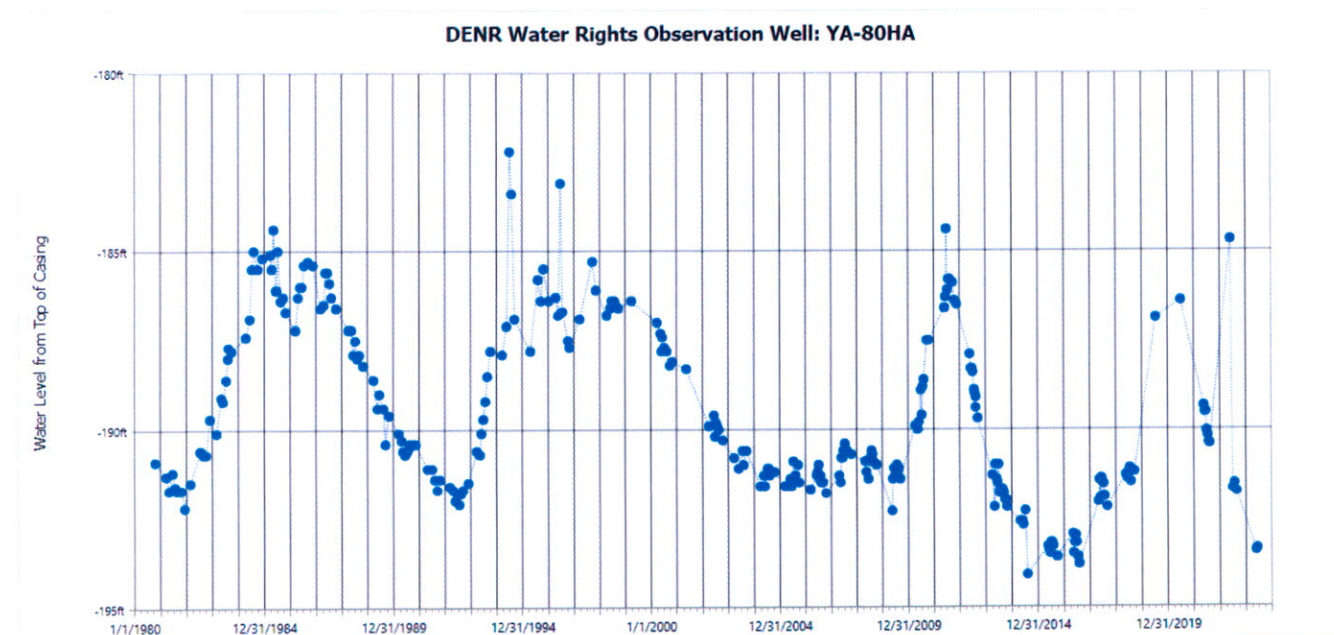


Figure 4: Hydrograph for observation well YA-80HA (Water Rights, 2023b).

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

There are currently 132 water rights/permits authorized (plus pending Water Permit Application No. 8762-3) to appropriate water from the Lower James-Missouri aquifer (Water Rights, 2023c). The closest water right/permit to the proposed diversion point is Water Right No. 8233-3, which is held by Randy Svendsen and Sons. The diversion point for Water Right No. 8233-3 is located approximately 0.5 miles north of the proposed diversion point for this application (Table 4) (Figure 5) (Water Rights, 2023c).

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 0.6 miles southwest of the proposed diversion point (Water Rights, 2023d). There could potentially be other domestic wells completed into the aquifer near the proposed diversion point that are not on file with the DANR-Water Rights Program. The location of the domestic wells is based on the location provided at the time of completion by the well driller.

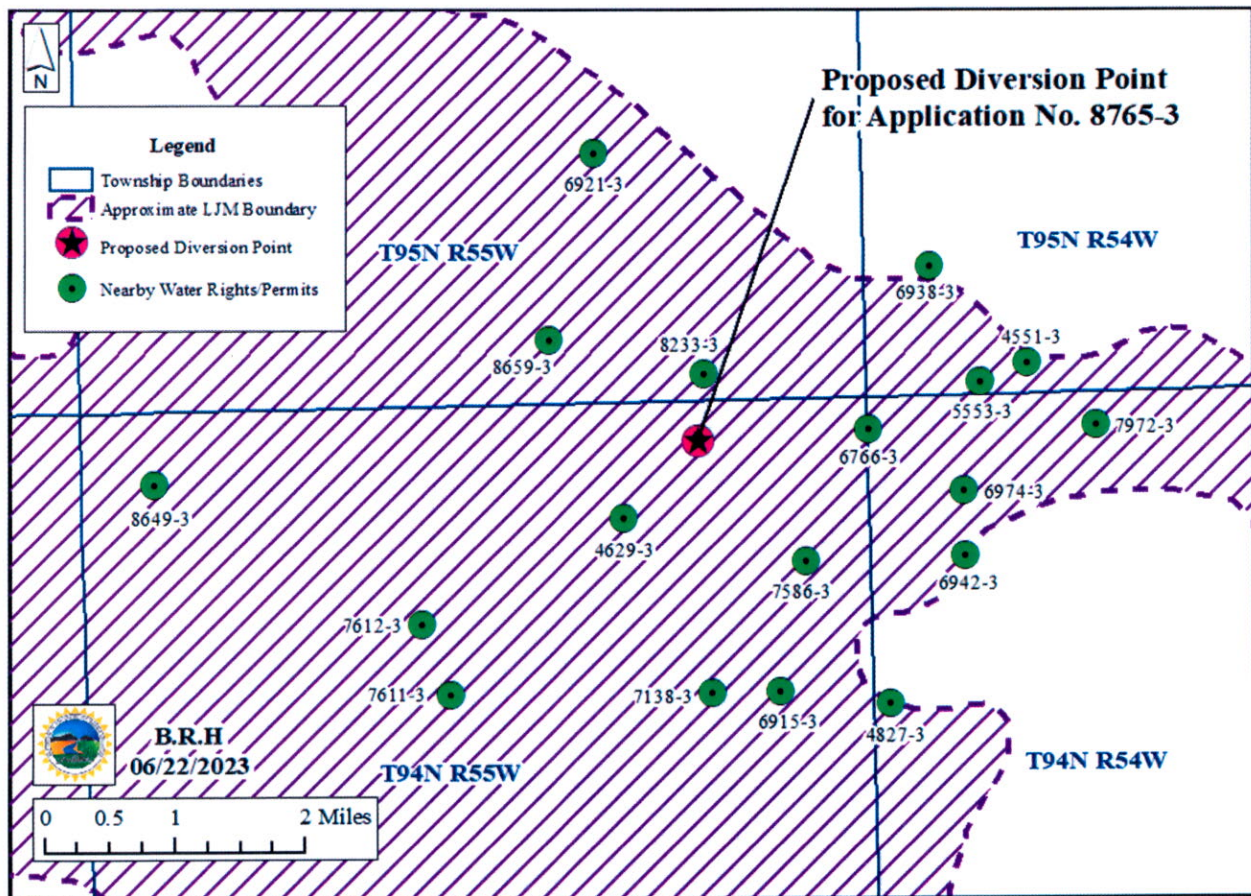


Figure 5: Map of the approximate Lower James-Missouri aquifer boundary (modified from Hedges et al., 1982) showing nearby existing water rights/permits within five miles around the proposed diversion point for Water Permit Application No. 8765-3.

Table 4: List of existing Lower James-Missouri aquifer water rights/permits near the proposed diversion point as shown on Figure 5 (Water Rights, 2023c).

Permit No.	Name	Priority	Status	Use Type	CFS	Acres	Distance to Proposed Diversion Point (miles)
8233-3	Randy Svendsen & Sons	03/08/1982	LC	IRR	1.78	268	0.53
4629-3	Mary Anne Boyd	01/19/1981	LC	IRR	1.78	154	0.81
7586-3	Three Sisters Farms	12/20/2012	LC	IRR	1.78	143	1.24
6766-3	Valerie West-Svendsen	11/09/2006	LC	IRR	1.94	136	1.32
8659-3	Dahlerup Family Trust	02/12/2014	LC	IRR	3.12	368	1.4
7138-3	Morris Nelson Farms Inc.	05/21/2009	LC	IRR	1.89	134	1.94
6974-3	Paul Gustad	01/18/2008	LC	IRR	1.56	127	2.08
6915-3	Gary Smith	12/07/2007	LC	IRR	1.65	64	2.02
5553-3	Lyle Stratman	03/27/1991	LC	IRR	2	211	2.22
6942-3	Craig L. Johnson	01/22/2008	LC	IRR	2.11	292	2.24
6938-3	Dean R. Morman	01/16/2008	LC	IRR	1.56	132	2.24
6921-3	Randy Svendsen & Sons	12/10/2007	LC	IRR	1	128	2.37
4827-3	Gary Smith	10/26/1981	LC	IRR	1.83	128	2.5
7612-3	Dan Hacecky	01/04/2013	LC	IRR	1.65	153	2.55
4551-3	Dennis/Darrell Nelson	08/25/1980	LC	IRR	1.78	140	2.6
7611-3	Dan Hacecky	01/04/2013	LC	IRR	1.83	77	2.72
7972-3	Nelson AG Holdings LLC	02/13/2014	LC	IRR	1.67	116	3.05
8649-3	Marquardt Family LP	09/30/2010	LC	IRR	4.34	388	4.19

The Lower James-Missouri aquifer varies between confined and unconfined conditions. For an unconfined aquifer, drawdown created by pumping does not extend far from the pumped well. In confined conditions, drawdown from a pumping well can extend some distance from the well. Considering the location of the proposed diversion point compared to nearby water well completion reports and lithologic logs on file, the Lower James-Missouri aquifer is expected to be confined near the proposed diversion point (SDGS, 2023; Water Rights, 2023b and 2023d). Nearby observation wells YA-80IA and YA-78E are confined and can provide insight to how the aquifer responds to pumping. Lithologic logs for well YA-78E state that the top of aquifer is at a depth of 157 feet with static water levels at a depth of approximately 140 feet. Observation well YA-80IA is also confined with a top of aquifer at a depth of 135 feet and static water level at a depth of approximately 115 feet (SDGS, 2023; Water Rights, 2023b). This indicates that there is artesian head pressure in the well. Both wells are within approximately two miles of high-yield irrigation water rights/permits (Water Rights, 2023b and 2023c). A high yield well is one that is assumed to have a diversion rate greater than 0.2 cfs.

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.

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, and the lack of well interference complaints for adequate wells completed into the Lower James-Missouri aquifer in Yankton County (Water Rights, 2023e), 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. 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. 8765-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cfs from one well to be completed into the Lower James-Missouri aquifer (approximately 200 feet deep) for the irrigation of 84 acres. The site of interest is in Yankton County, approximately 7 miles northeast 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. 8765-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic users.
4. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres due to the sprinkler nozzle size, and the size and partial rotation of the center pivots. These types of reasons fall within SDCL 46-5-6 which allows the Water Management Board to allow a greater diversion rate.



Brittan Hullinger
Natural Resources Engineer I
SD DANR - Water Rights Program



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

References

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- Fahrenbach, M.D., Steece, F.V., Sawyer, J.F., et al. 2010. South Dakota Stratigraphic Correlation Chart. Oil and Gas Investigations 3. SD DANR-Geological Survey. Vermillion, SD.
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- Water Rights, 2023e. County Files. SD DANR-Water Rights Program. Joe Foss Bldg. Pierre, SD.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

July 11, 2023

Barry Van Osdel
44732 SD Highway 50
Mission Hill SD 57046

Dear Mr. Van Osdel:

Water Permit Application No. 8765-3 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 Daily 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,

Rachel Rodriguez

Rachel Rodriguez
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. 8765-3 to Appropriate Water

Notice is given that Barry Van Osdel, 44732 SD Highway 50, Mission Hill SD 57046 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the SE 1/4 NE 1/4 Section 2 for irrigation of 84 acres located in the E 1/2 SE 1/4, SE 1/4 NE 1/4 Section 2; all in T94N-R55W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 7 miles northeast of Yankton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8765-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by July 31, 2023.

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 July 31, 2023.

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_

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, July 11, 2023 10:03 AM
To: Michael Pietz
Subject: 8765-3 Barry Van Osdel - Public Notice
Attachments: 8765-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 20, 2023.

Barry Van Osdel, 44732 SD Highway 50, Mission Hill SD 57046, (605 661-4584) 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 Ave, Pierre SD 57501.

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

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

BARRY VAN OSDEL
44723 HWY 50
MISSION HILL SD 57046

RECEIVED

JUL 24 2023

OFFICE OF
WATER

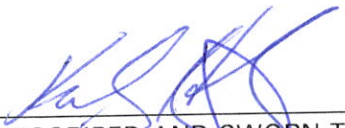
STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

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.

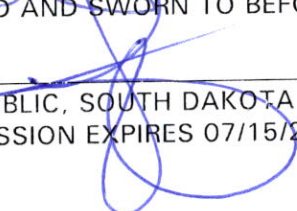
TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE NEWSPAPER ON THE 20th DAY OF July, 2023
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION OF SAID NOTICE TO WIT \$40.64 ENSURES TO THE BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO AGREEMENT AND UNDERSTANDING FOR THE DIVISION 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: 07/20/2023

FILED ON: 07/20/2023



SUBSCRIBED AND SWORN TO BEFORE ME THIS 20th DAY OF July, 2023



NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/15/2028

Ad text : NOTICE OF APPLICATION NO. 8765-3 to Appropriate Water

Notice is given that Barry Van Osdel, 44732 SD Highway 50, Mission Hill SD 57046 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Lower James Missouri Aquifer (approximately 200 feet deep) located in the SE 1/4 NE 1/4 Section 2 for irrigation of 84 acres located in the E 1/2 SE 1/4, SE 1/4 NE 1/4 Section 2; all in T94N-R55W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 7 miles northeast of Yankton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8765-3 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 July 31, 2023.

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 July 31, 2023.

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 \$40.64 and can be viewed free of charge at www.sdpublicnotices.com.

Published on July 20, 2023.

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, July 11, 2023 10:07 AM
To: vanosdelbarry@gmail.com
Subject: 8765-3 Barry Van Osdel - Public Notice
Attachments: 8765-3_rec.pdf; 8765-3_Ltr.pdf; 8765-3_Pub.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.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 31 2023

Barry Van Osdel
44732 SD Highway 50
Mission Hill SD 57046

Dear Mr. Van Osdel:

Enclosed is Water Permit No. 8765-3 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



**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
Posting 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.: 8765-3

Name of Applicant: Barry Van Osdel

Date of Posting: 7/18/2023

Date of Removal: 8/31/2023



Ron Duvall, Engineer III

8/31/2023

Date

Subscribed and sworn to before me, a notary public, this 31 day of August, 2023.



Notary Public - South Dakota
My commission expires: Rachel Rodriguez
My Commission Expires
May 16, 2029

(SEAL)



8765-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

December 7, 2023

8765-3

Barry Van Osdel
44732 SD HWY 50
Mission Hill SD 57046

Dear Mr. Van Osdel:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your water use system.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

Amanda Dewell
Water Rights Program
(605) 773-3352
email: Amanda.Dewell@state.sd.us

RECEIVED

DEC 06 2023

NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEOFFICE OF
WATERDate 12/1/23TO: Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181FROM: Barry Van Osdel
(name)44732 SD Highway 50
(address)Missouri Hill SD 57046
(city, state, zip)605-661-4584
(phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

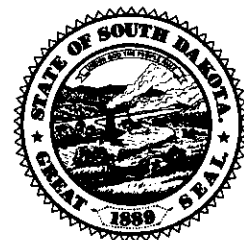
Water Permit No. 8765-3 states that the water use system is to be constructed by July 31, 2028, and water is to be put to beneficial use by July 31, 2032.
(date) (date)

The water use system was completed on 7/20/23.
(date)

Applying the water to beneficial use was completed on 8/1/23.
(date)

You may schedule an investigation so that the water license may be issued.

Barry Van Osdel
(signature)



**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8765-3**

I have this day, April 22, 2025, made a thorough examination of the water use system owned by Barry Van Osdel, 44732 SD Hwy. 50, Mission Hill, SD 57046, holder of Permit No. 8765-3, bearing the priority date of May 24, 2023, authorizing the diversion of 1.78 cu. ft. per second of the waters of groundwater (Lower James Missouri Aquifer) for the irrigation of 84 acres, located in Yankton County.

Inspection contact: Barry Van Osdel

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Quality Well Service
- 2) No. of Wells: 1
- 3) Depth(s): 196 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 12 inches
- 2) Length: 156 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 12 inches
- 2) Length: 40 feet
- 3) Type: PVC
- 4) Static water level: 89 feet

Pump:

- 1) Make: Custom Pipe & Fabrication Inc.
- 2) Model: 10RKM0
- 3) Capacity: 800 gpm

Motor:

- 1) Make: BMR
- 2) Model No.: 6754HWP1-PE
- 3) Horsepower rating: 75 hp

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

- | | | |
|--------------------------|-----------------------|---|
| 1) Type: <u>Aluminum</u> | Size: <u>8</u> inches | Length: <u>10</u> feet (well to the north pivot) |
| 2) Type: <u>PVC</u> | Size: <u>8</u> inches | Length: <u>2,010</u> feet (well to the south pivot) |

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

- 1) Make: Reinke
- 2) Overall length: 637 feet
- 3) Number of towers: 4
- 4) End gun: Yes Range: 107 feet
- 5) Capacity: 700 gpm

South Center Pivot:

- 1) Make: Reinke
- 2) Overall length: 1,302 feet
- 3) Number of towers: 8
- 4) End gun: Yes Range: 103 feet
- 5) Capacity: 800 gpm

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: New in 2023
- 3) Exceptions to compliance are: None

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
The well is 690 feet west and 3,230 feet north of the southeast corner of Section 2-T94N-R55W (Latitude 42.99034, Longitude -97.30138 – SE1/4 of the NE1/4).
- 2) The works are capable of diverting and conveying to the place of use 1.78 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: All in:

Section 2-T94N-R55WSE1/4NE1/4 16 acresNE1/4SE1/4 36 acresSE1/4SE1/4 32 acres

comprising a total of 84 acres of land and the license should be issued for 1.78 cfs.

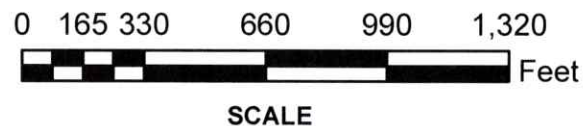
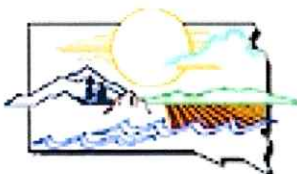
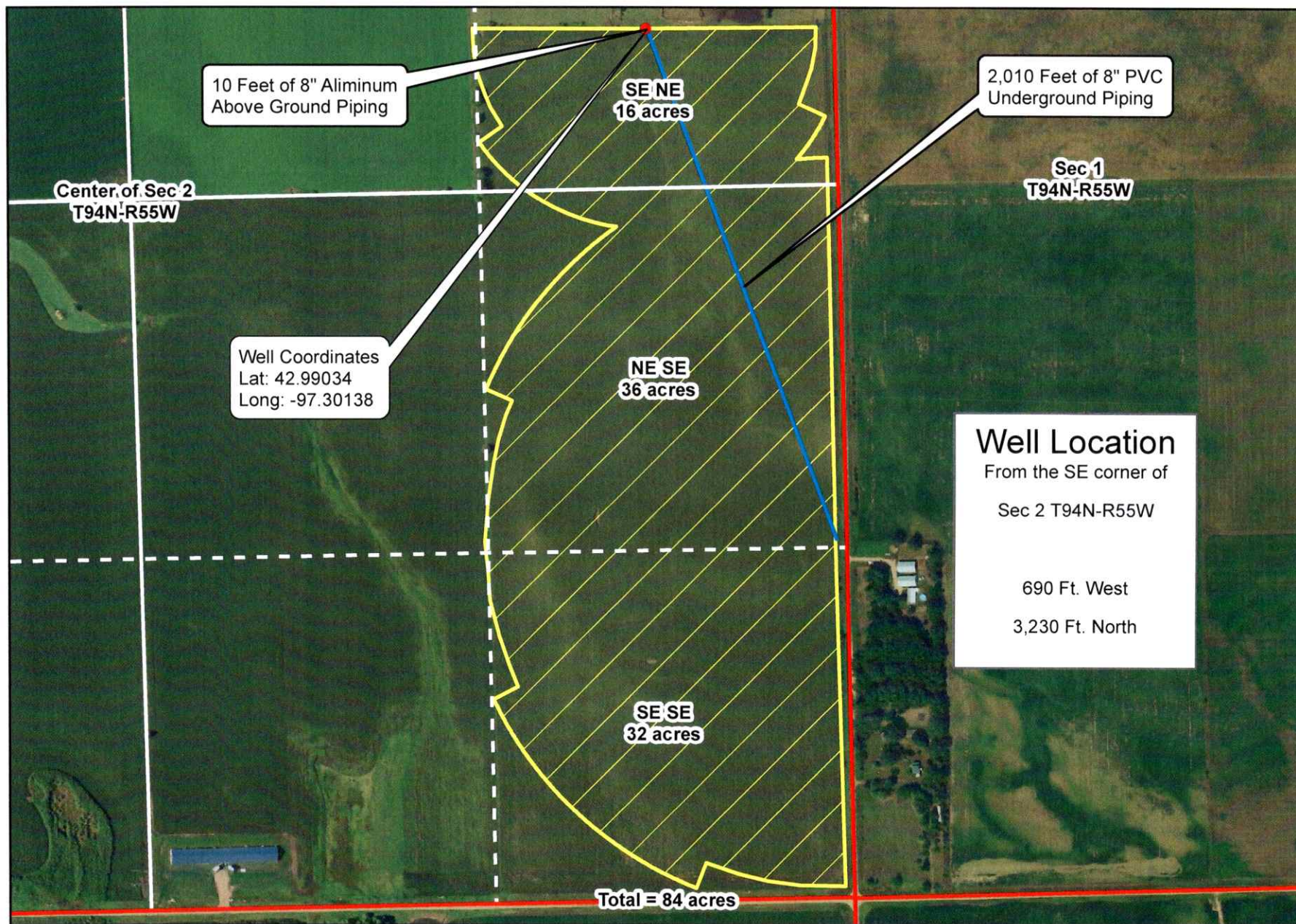
- 3) All structures, wells and lands on map Yes

F. Comments or other permit(s) associated with the project: The well completion report shows the well in the NE1/4 of the SE1/4, but it is in the SE1/4 of the NE1/4 of Section 2.

Keith DeJong
Water Rights Inspector
DENR, Water Rights Program

Date report completed: April 23, 2025

Water Permit No. 8765-3



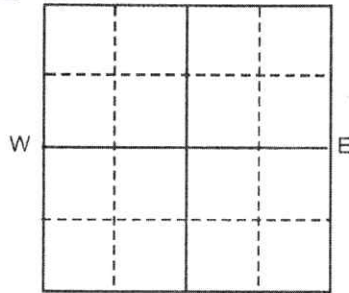
Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
April 22, 2025

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE 1/4 SE 1/4 Sec 02 Twp 94N Rg 55WCounty Yankton ☒

North

Please mark well
location with an "X"

Well Completion Date

5-19-23

1 Mile

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

500 ft. from Feed Lot (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Straight Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>12</u> IN	<u>0</u> FT	<u>156</u> FT	<u>17.5</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite</u>	<u>71</u>	Lb/gal	<u>0</u> Ft	<u>156</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☒ Perforated pipe ☐ Manufactured
 Diameter 12 Inches Length 40 Feet

Material

Slot Size .080 Set From 156 Feet to 196 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? Chlorene☐ No, Why Not?Lab to which water
quality sample sent for analysisWell Owner: Barry Van Osdel

Business Name:

Address: 44732 Hwy 50City, State, Zip: Mission Hill ☒ SD ☒ 57046

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	6
Brown Clay & Dirty sand	6	39
Blue Clay	39	68
Dirty Sand & Blue Clay layers	68	87
Med Sand	87	100
Sandy Blue Clay	100	110
Med To coarse sand	110	120
Fine to med sand	120	149
Fine Gravel	149	200

STATIC WATER LEVEL 89 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: Line Shaft☐ Bailed☐ Other

Pumping Level Below Land Surface

170 Ft. After 6 Hrs. pumped 1200 GPM143 Ft. After 4 Hrs. pumped 800 GPM

If pump installed, pump rate: _____ GPM

REMARKS

Started sucking Air at 1500 Gpm

This well was drilled under license # 773 and this report is true and accurate.Drilling firm: Quality Well Service LLC

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 5-19-23



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 04 2025

Barry Van Osdel
44732 SD Hwy 50
Mission Hill, SD 57046

No. 8765-3

Dear Mr. Van Osdel:

Enclosed is Water License No. 8765-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

So long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

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

enclosures

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8765-3

(1) Barry Van Osdel, 44732 SD Hwy 50, Mission Hill, SD 57046, made Application No. 8765-3, May 24, 2023, for a water permit to divert 1.78 cubic feet of water per second from groundwater, one well (Lower James Missouri Aquifer), Yankton County, South Dakota for irrigation purposes. Permit No. 8765-3, with a priority date of May 24, 2023, was approved July 31, 2023, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 31, 2028, and for the application to beneficial use of water on or before July 31, 2032.

The permit holder submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on December 6, 2023. The Notice stated the diversion system was completed on July 20, 2023 and the water was placed to beneficial use on August 1, 2023.

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

- 690 feet W and 3,230 feet N from the SE corner of Section 2, T94N, R55W (SE $\frac{1}{4}$ NE $\frac{1}{4}$)
(Latitude 42.99034 and Longitude -97.30138)

(3) The amount of appropriation may not exceed 2 acre-feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – October 31.

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

Section 2, T94N, R55W
SE $\frac{1}{4}$ NE $\frac{1}{4}$ - 16 acres
NE $\frac{1}{4}$ SE $\frac{1}{4}$ - 36 acres
SE $\frac{1}{4}$ SE $\frac{1}{4}$ - 32 acres
Total – 84 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Barry Van Osdel, the holder and/or owner of Water Right No. 8765-3 is issued a license to appropriate water, the right to use 1.78 cubic feet of water per second from groundwater, one well (Lower James Missouri Aquifer), with a priority date of May 24, 2023, from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8765-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8765-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

continued

2. The well authorized by Permit No. 8765-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled in 2023 by Quality Well Service LLC. A copy of the well completion report is on file with the Water Rights Program.)*

3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8765-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 84 acres with an annual volume not to exceed 2 acre-feet of water per acre per year.

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



Mark Mayer, PE
Director of Office of Water



date



7971-3, 8765-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

January 20, 2026

NOTICE

TO: BARRY VAN OSDEL, 44732 SD HWY 50, MISSION HILL, SD 57046
FROM: Ron Duvall, Engineer III
for Adam Mathiowetz, PE, Acting Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2025 Irrigation Questionnaire(s)

Our records indicate your 2025 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 7971-3 & 8765-3. The request for the Questionnaire was dated October 8, 2025. The Water Management Board has directed owners of water permits who have not submitted the 2025 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 7971-3 & 8765-3 qualification:

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

The hearing will be held on **Wednesday, March 4, 2026 at 9:30 am (Central Time)** in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 7971-3 & 8765-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is (are) received in this office before the **March 4, 2026** hearing you will no longer be in violation of your permit and your name will be removed from the Board agenda. Enclosed are additional questionnaire(s) for your use. If you have questions or need assistance, please contact Shannon Konst at (605) 773-3352 or email at shannon.konst@state.sd.us. **If you prefer, you can complete the questionnaire online at the following link: <https://danr.sd.gov/iq> using this password: KUCPWD**

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



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

February 27, 2026

8765-3, 7971-3

Barry Van Osdel
44732 SD HWY 50
Mission Hill, SD 57046

Dear Mr. Van Osdel,

I am writing to acknowledge receipt of your 2025 irrigation questionnaire(s).

You may disregard the January 20, 2026, "Notice" concerning irrigation reporting requirements for your water permit/right(s). The information was received in our office prior to the Water Management Board meeting, and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

Shannon Konst

Shannon Konst
Water Rights Program
605 773-8204
Shannon.konst@state.sd.us