



**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

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PIERRE SD 57501-3182  
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**RECOMMENDATION OF ACTING CHIEF ENGINEER FOR WATER PERMIT  
APPLICATION NO. 9021-3, Craig Arthur**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Acting Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 9021-3, Craig Arthur, 16116 456<sup>th</sup> Avenue, Watertown SD 57201.

The Acting Chief Engineer is recommending APPROVAL of Application No. 9021-3 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 this Permit and Water Permit No. 8814-3 is located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit must control withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Any future additional or replacement wells must be constructed by a licensed well driller and construction of the well and installation of the pump must comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Adam Mathiowetz, PE  
Acting Chief Engineer  
April 10, 2026

## Report to the Chief Engineer

On Water Permit Application No. 9021-3

Craig Arthur

April 10, 2026

Water Permit Application No. 9021-3 proposes to irrigate an additional 80 acres from the existing well authorized by Water Permit No. 8814-3. Water Permit No. 8814-3 appropriates 1.44 cubic feet of water per second (cfs) from one well completed into the Wilmot aquifer (80 feet deep) located in the SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  Section 31-T120N-R49W for the irrigation of 102 acres located in the NE  $\frac{1}{4}$  Section 6-T119N-R49W and the SW  $\frac{1}{4}$  SE  $\frac{1}{4}$  Section 31-T120N-R49W. The application proposes to irrigate an additional 80 acres located in the N  $\frac{1}{2}$  SE  $\frac{1}{4}$ , SE  $\frac{1}{4}$  SE  $\frac{1}{4}$  Section 31; all in T120N-49W, with no increase to the 1.44 cfs diversion rate. This application, if approved, and Water Permit No. 8814-3 will authorize a combined total of 1.44 cfs for irrigation of 182 acres. This site is located in Grant County, approximately six miles southwest of Milbank, SD.

**AQUIFER:** Wilmot (WIL)

### **HYDROGEOLOGY:**

The Wilmot aquifer is composed of Pleistocene-aged glacial and alluvium outwash deposits ranging from fine sand to coarse gravel (Thompson, 2001). The Wilmot aquifer has previously been estimated to underly approximately 152,900 acres in Grant and Roberts Counties in South Dakota, and the aquifer estimated to contain approximately 344,030 acre-feet of recoverable water in storage (Hedges et al., 1982). Hedges and others (1982) estimated areal extent for the Wilmot aquifer is currently the best information available. However, additional drilling is being completed, and a more accurate estimation of the areal extent will become available. The South Dakota Geological Survey (SDGS) "Current Projects - Aquifer Delineation" webpage mentions an ongoing study in the northeast part of the state to more accurately map the boundaries of glacial outwash aquifers that lie east of the Coteau des Prairies, with the Wilmot aquifer being one of the five named aquifers under study (SDGS, 2026). The drilling and studies needed to refine aquifer delineations are multi-year projects. Review of nearby well logs (Water Rights, 2026d), observation well lithologic logs (Water Rights, 2026b), and conversations with SDGS staff aided in the determination that the existing well proposed to be used by this application is withdrawing from the Wilmot aquifer (Steen, N. 2024). The SDGS study mentioned above has been ongoing for several years and SDGS staff indicated that the drilling work to refine the Wilmot aquifer boundaries in Grant and Roberts Counties could be completed soon. The anticipated updates to the delineation of the Wilmot aquifer boundary is not expected to affect the review of this application in a manner that would require deferral of this application until the study is complete (Christensen et al., 2026).

The Wilmot aquifer varies between confined and unconfined conditions (Water Rights, 2026b and 2026d). A water well completion report was submitted with this application for the existing well proposed to be used (Water Rights, 2026d). The report lists, "Top Soil/Gravel" from 0 to 11

feet below the ground surface, “Blue Clay/Fine Sand” from 11 to 29 feet, “Blue Clay” from 29 to 45 feet, “Fine Sand/Blue Clay” from 45 to 53 feet, “Med/Fine Sand” from 53 to 56 feet, and “Clay Blue” from 56 to 56.5 feet, “Med/Fine Sand/Gravel Gray” from 56.5 to 79.5 feet, “Gray Clay” from 79.5 to 80 feet below the ground surface (Water Rights, 2026d). The well was screened from 59 to 79 feet and had a static water level of approximately 2 feet 10 inches below the ground surface at the time of well completion (June 27, 2024) (Water Rights, 2026d). Additionally, based on the well completion report submitted with this application and on well logs from wells completed into the Wilmot aquifer within approximately two miles of the existing well site, saturated aquifer thicknesses range from approximately 11 to 23 feet, with the depth to the top of aquifer materials ranging from approximately 50 to 75 feet below ground surface. The Wilmot aquifer is under confined conditions near the existing well site based on the water well completion submitted with this application, the well completion reports on file for nearby wells, and the lithologic log on file for the nearby observation well (SDGS, 2026; Water Rights, 2026b and 2026d).

### **South Dakota Codified Law (SDCL)**

Water Permit Application No. 9021-3 proposes to appropriate water from the Wilmot aquifer. The probability of unappropriated water being available from the aquifer can be evaluated by considering *SDCL 46-6-3.1* and *SDCL 46-2A-9*.

*Pursuant to SDCL 46-6-3.1,*

*“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 Wilmot aquifer is not older than or stratigraphically lower than the Cretaceous aged Greenhorn Formation (Fahrenbach et al., 2010), and the applicant’s proposed use is not for use in a water distribution system as defined by *SDCL 46-1-6(17)*. Therefore, the average annual recharge and average annual withdrawal rates to and from the Wilmot aquifer must be considered.

*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 Wilmot aquifer.

## **HYDROLOGIC BUDGET:**

### **Recharge**

Recharge to the Wilmot aquifer is primarily through the infiltration of precipitation where the aquifer is at or near the ground surface (Thompson, 2001). An average annual recharge rate has not been estimated for the Wilmot aquifer. For buried confined aquifers, Hedges and others (1985) recommended recharge rates of 0.15 to 0.60 inches per year for use by management and development programs. The areal extent of the Wilmot aquifer is approximately 152,900 acres when adding the estimates for Grant and Roberts Counties (Hedges et al., 1982); therefore, the average annual recharge rate to Wilmot aquifer ranges between approximately 1,911 to 7,645 acre-feet per year. Water Rights Staff have been using the midpoint of estimated average annual recharge rate ranges for aquifers with recharge ranges. As such, the midpoint between the two average annual recharge rates to the Wilmot aquifer is approximately 4,778 acre-feet per year which will be used as the average annual recharge rate to the Wilmot aquifer. Additional drilling and study of the Wilmot aquifer is expected to refine the estimated areal extent of the aquifer by Hedges and others (1982) which will likely affect the mathematics of the average annual recharge range. However, the potential changes from the pending delineation is not expected to significantly change the estimated recharge rate range.

### **Discharge**

Discharge from the Wilmot aquifer is primarily through well withdrawals and evapotranspiration where the aquifer is at or near the ground surface (Thompson, 2001; Water Rights, 2026d).

Currently, there are seven water rights/permits authorized to appropriate water from the Wilmot aquifer (Water Rights, 2026c). Additionally, there is one future use permit (No. 4796-3) reserving 1,607 acre-feet of water annually from the Wilmot aquifer (Water Rights, 2026c). For the purpose of estimating average annual withdrawals, the future use permit is assumed to be fully developable for a total of 1,607 acre-feet per year.

Table 1 summarizes the non-irrigation water right (5006-3) authorized to appropriate water from the Wilmot aquifer with the estimated annual use determined by their permitted maximum diversion rate or annual volume and future use permit (4796-3) reserving water. Historically, average water use by non-irrigation appropriations limited by an instantaneous diversion rate have been assumed to be pumping 60% of full time at the respective permitted diversion rate. Water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. This is a standard method used by the DANR-Water Rights Program for estimating annual withdrawals by non-irrigation appropriations from an aquifer and is likely an overestimation of average annual withdrawals (Water Rights, 2026c).

Future Use Permit No. 4796-3, held by the City of Sisseton, had originally been permitted to claim up to 10 cfs with stipulation that the permit be subject to review by the Water Management Board every seven years. On September 28, 1989, the Water Management Board deferred the

review of Future use Permit No. 4796-3 pending submission of additional information. After annual water usage was submitted by the City of Sisseton, it was determined by the Board and Chief Engineer that Future Use Permit No. 4796-3 would be amended to remove the diversion rate and limit the annual volume reserved to two times the amount of permitted water actually put to beneficial use pursuant to Board Rule 74:02:01:24.01. Currently, Future Use Permit No. 4796-3 is limited to an annual volume of 1,607 ac-ft/yr.

Overall, the estimated average annual withdrawal rate from the Wilmot aquifer by the one non-irrigation water right and one future use permit is approximately 2,189 acre-feet per year (Table 1) (Water Rights, 2026c).

**Table 1.** Estimated annual use for the non-irrigation water right and Future Use Permit authorized to divert water and reserve water, respectively, from the Wilmot aquifer (Water Rights, 2026c)

Permit No.	Name	Status	Use	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet/year)	Estimated Use (acre-feet/year)
4796-3	City of Sisseton	FU	MUN		1,607	1,607
5006-3	City of Sisseton	LC	MUN	1.34		582
LC: Licensed; FU: Future Use Permit; MUN: Municipal					<b>TOTAL:</b>	<b>2,189</b>

Currently, there are six irrigation water rights/permits authorized to appropriate water from the Wilmot aquifer (Water Rights, 2026c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The estimated average annual withdrawal rate for the Wilmot aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2024) is approximately 152 acre-feet per year (Table 2) (Water Rights, 2026a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations from 2015 to 2024 is approximately 180 acre-feet per year (Table 2) (Water Rights, 2026a).

The average annual withdrawal rate for irrigation water rights/permits includes the reported withdrawal rates from now cancelled Water Right No. 2266-3 and Water Permit No. 4719-3, previously labeled as withdrawing from the Pleistocene Series: Unknown aquifer but were likely withdrawing from the Wilmot aquifer based on the information available from the SDGS study currently in progress (Christensen et al., 2026).

Water Permit No. 8846-3 was approved in 2024 and has not reported annual usage; therefore, its withdrawal must be estimated. Generally, crop irrigators in eastern South Dakota apply 10 inches (or less) of water per acre per year (Drennon, K. 2025). As such, 10 inches of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate for Water Permit No. 8846-3. Water Permit No. 8846-3 is permitted to irrigate 266 acres. Therefore, the estimated annual use of Water Permit No. 8846-3 is approximately 222 acre-feet per year. Combining the estimated annual use of Water Permit No. 8846-3 and the reported annual average (2015 to 2024), results in an estimated annual irrigation withdrawal rate of 402 acre-feet per year.

**Table 2** Reported historic irrigation use from the Wilmot aquifer (Water Rights, 2026a)

Year	No. of Permits	Reported (acre-feet)
1979	7	84.8
1980	7	257.7
1981	10	218.3
1982	8	218.9
1983	8	344.4
1984	8	288
1985	10	90
1986	10	0
1987	8	215
1988	9	396.7
1989	9	239.5
1990	9	156
1991	7	0
1992	7	65.5
1993	7	0
1994	7	0
1995	6	0
1996	5	101
1997	5	130
1998	5	170
1999	5	106.2
2000	5	164.9
2001	5	48.9
2002	5	39.6
2003	5	100.4
2004	5	108
2005	3	61.9
2006	4	209.9
2007	4	102.5
2008	4	89.5
2009	4	117.5
2010	4	167
2011	4	136.1
2012	4	397.6
2013	4	229.6
2014	4	132.9
2015	4	78.3
2016	4	155
2017	4	173.5
2018	4	205
2019	4	0
2020	4	238.6
2021	4	201.4
2022	4	228
2023	5	297.4
2024	6	227.6
<b>Min</b>	<b>3</b>	<b>0</b>
<b>Max</b>	<b>10</b>	<b>398</b>
<b>Avg (1979-2024)</b>	<b>6</b>	<b>152</b>
<b>Avg (2015-2024)</b>	<b>4</b>	<b>180</b>

There are domestic wells completed into the Wilmot aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2026d). 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, with the development of rural water systems in areas where the Wilmot 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 Wilmot aquifer.

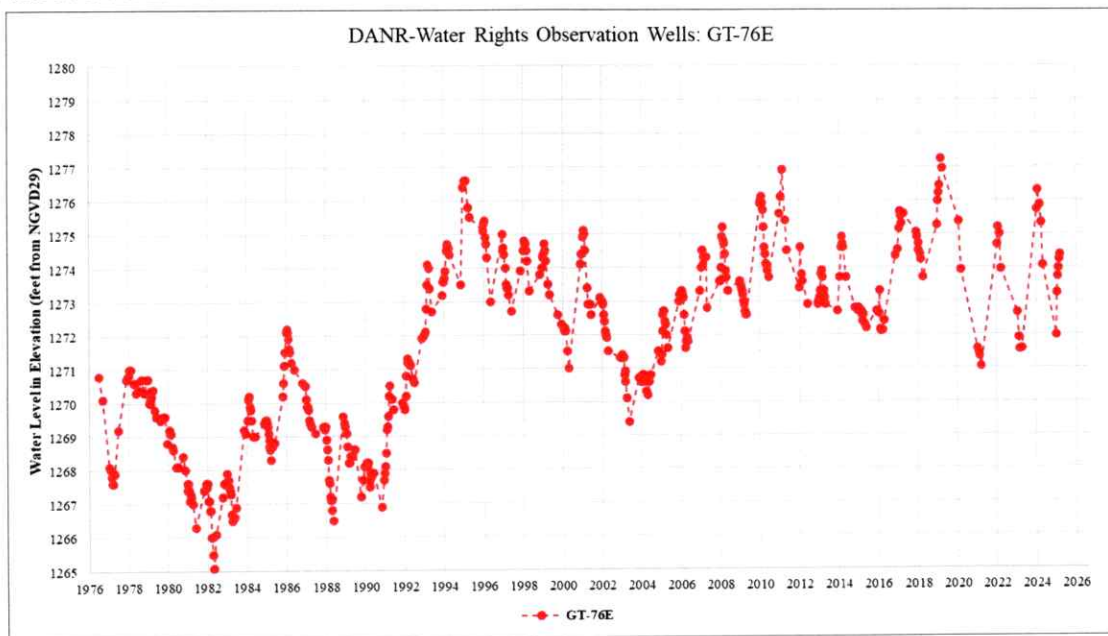
### Hydrologic Budget Summary

The annual recharge rate to the Wilmot is approximately 4,778 acre-feet/year (Hedges et al, 1982 and 1985). The estimated average annual withdrawal rate from the Wilmot aquifer is approximately 2,658 acre-feet per year (non-irrigation (including future use reservation): 2,189 acre-feet/year; irrigation (Water Permit No. 8846-3) (avg 2015 to 2024): 402 acre-feet/year; Water Permit Application No. 9021-3 (if approved, assuming 10 inches of water applied per authorized acre): 67 acre-feet/year). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Wilmot aquifer for the proposed appropriation.

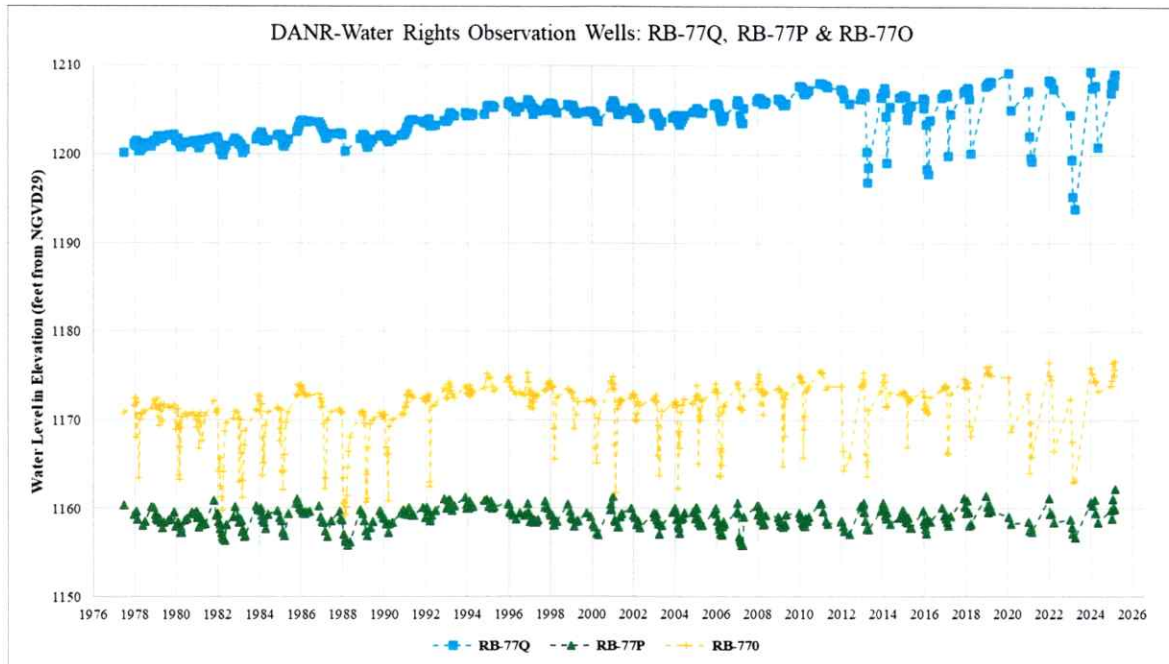
### OBSERVATION WELL DATA:

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 four observation wells completed into the Wilmot aquifer (Water Rights, 2026b). The four observation wells in proximity to the well the applicant proposes to use are GT-76E (approximately 1 mile northwest), RB-77Q (approximately 15.2 miles northwest), RB-77P (approximately 16.6 miles northwest), and RB-77O (approximately 16.8 miles northwest) (Figure 1 & 2) (Water Rights, 2026b). 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 which were then converted to elevation in feet from the NGVD29 vertical datum.



**Figure 1.** A graph showing the elevation of water levels for observation well GT-76E (Water Rights, 2026b)



**Figure 2.** A graph showing the elevation of water levels for observation wells: RB-77Q, RB-77P, and RB-77O (Water Rights, 2026b)

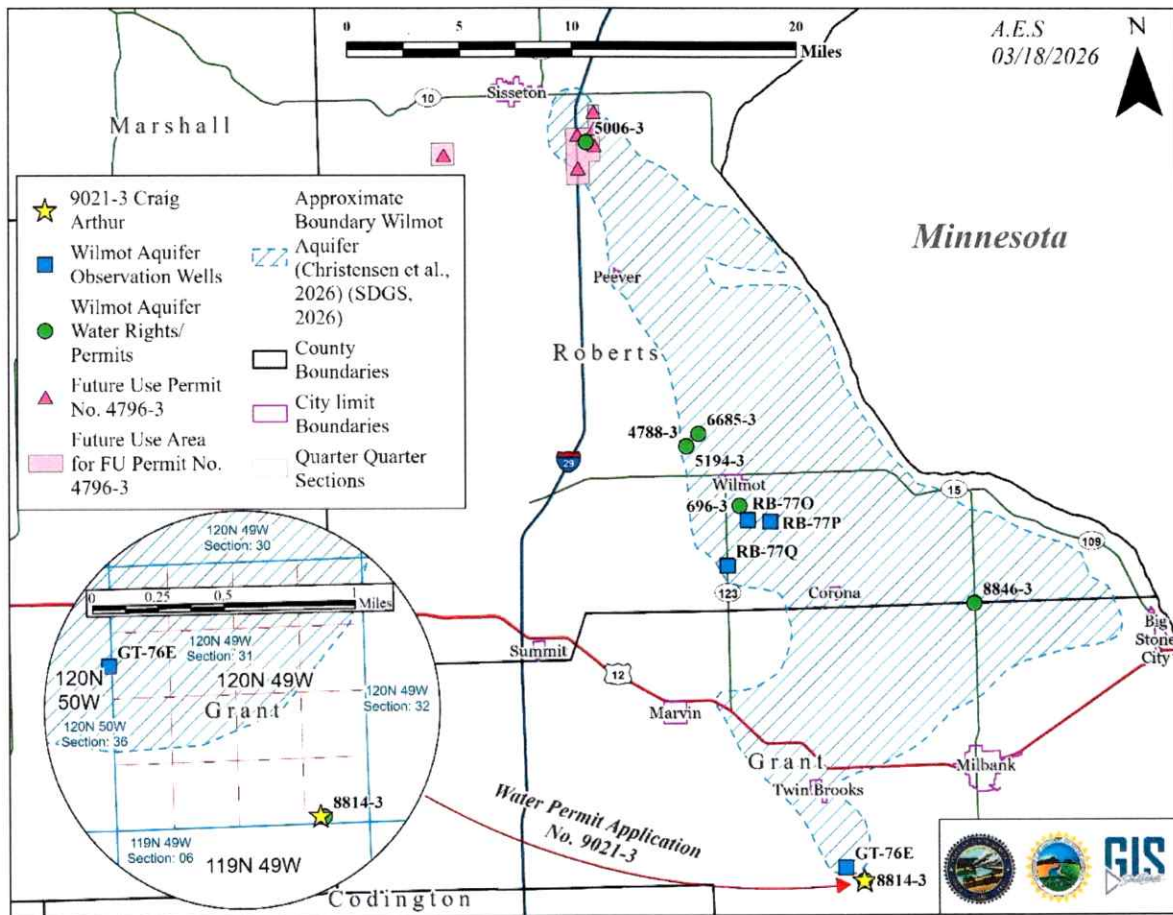
The hydrographs for the observation wells display stable to rising water levels over their respective periods of record. The hydrographs for the Wilmot aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the 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 waters levels in the aquifer rather than the impacts of pumping from the Wilmot 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:**

The closest water right/permit not held by the applicant to the proposed diversion point is Water Permit No. 8846-3, which is held by Anthony/Kimberly Folk. The diversion point for Water Permit No. 8846-3 is located approximately 13.3 miles northeast of the existing well for this application (Figure 3) (Water Rights, 2026c).

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Wilmot aquifer, with the closest domestic well on file (not held by the applicant) located approximately 0.9 miles northwest of the existing well site (Water Rights, 2026d). There could potentially be other domestic wells completed into the Wilmot aquifer near the well the applicant proposes to use that are not on file with the DANR-Water Rights Program. The location of the

domestic wells in the well completion report database maintained by the Water Rights Program is based on the location listed by the driller on the well completion report.



**Figure 3.** Location of the existing well for Water Permit Application No. 9021-3, water rights/permits and Future Use Permit No. 4796-3 authorized to withdraw from the Wilmot aquifer, and observation wells within the Wilmot aquifer (Water Rights, 2026b and 2026c)

**Table 3.** Water rights/permits authorized to withdraw water and future use permit reserving water from the Wilmot aquifer (Figure 3) (Water Rights, 2026c)

Permit No.	Name	Status	Use	Authorized Diversion Rate (cfs)	Authorized Acres	Permitted Volume (ac-ft/yr)
696-3	Brian Renelt	LC	IRR	3	289	
4788-3	Kent E Frerichs	LC	IRR	2.67	498	
4796-3	City Of Sisseton	FU	MUN			1,607
5006-3	City Of Sisseton	LC	MUN	1.34		
5194-3	Kent E Frerichs	LC	IRR	2	234	
6685-3	David Anderson	PE	IRR	0.89	55	
8814-3	Craig Arthur	PE	IRR	1.44	102	
8846-3	Anthony/Kimberly Folk	PE	IRR	2	266	

LC: License; PE: Permit; FU: Future Use Permit; IRR: Irrigation; MUN: Municipal

The Wilmot aquifer varies between confined and unconfined conditions (Water Rights, 2026b and 2026d). The Wilmot aquifer is confined near the existing well site, based on nearby well completion reports, and the lithologic log on file for the nearby observation well (SDGS, 2026; Water Rights, 2026b and 2026d). The drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer; however, in a confined aquifer, drawdown from pumping could extend a distance from the diversion point. The exact drawdown behavior of a well cannot be known without an aquifer performance test. However, observation wells completed into the Wilmot aquifer near permitted/licensed diversion points can provide some insight on how the aquifer responds to pumping.

Observation well RB-77Q (approximately 15 miles northwest of the existing well site) has four high-yield (assumed to be a well with an authorized diversion rate greater than 0.2 cfs) irrigation wells within approximately six miles of it (Water Rights, 2026b and 2026c). The drawdown from pumping can be seen on the hydrograph for RB-77Q, along with the aquifer returning to pre-pumping conditions between irrigation seasons (Figure 2) (Water Rights, 2026b). The lithologic log on file for RB-77Q noted the well was drilled 165 feet deep below the ground surface, had a casing stick up height of approximately 1.5 feet, and the top of aquifer materials approximately 131 feet below the ground surface (SDGS, 2026). The lowest recorded static water level on the hydrograph (displayed in Figure 2) is approximately 56 feet below the top of the well casing, which indicates there was still approximately 75 feet of artesian head pressure in RB-77Q even during drier periods when high-yield wells are expected to be pumping more water and when water levels are generally naturally lower in response to drier conditions (SDGS, 2026; Water Rights, 2026b).

Based off the well completion report submitted with this application, the existing well completed into the Wilmot aquifer has a saturated aquifer thickness of approximately 23 feet (Water Rights, 2026d). This would generally allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20(6). Any drawdown as a result of the proposed diversion for this application is not expected to unlawfully impair nearby adequate wells. Within two miles of the existing well site, there are wells completed into the Wilmot aquifer with saturated thicknesses of 11 to 15 feet (Water Rights, 2026d). A saturated aquifer thickness of 11 to 15 feet would not allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer. Therefore, to be considered an adequate well at this location, the inlet of the pump would need to be placed as near as practical to the bottom of the saturated aquifer to qualify as an adequate well under ARSD 74:02:04:20(6). While the best information available indicates that there is a reasonable probability average annual recharge exceeds average annual withdrawals in the aquifer, conditions can occur where withdrawals in the aquifer exceed recharge for a short period of time. Situations may occur where pumping from a thicker part of an unconfined aquifer could cause drawdown impacting adequate wells in a thinner part of the aquifer. Under such conditions an unlawful impairment of senior water rights/permits or adequate domestic wells may occur. Therefore, the applicant should control their water withdrawals, so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

In Grant and Roberts Counties, there are no substantiated complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Wilmot aquifer (Water Rights, 2026e).

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 Wilmot 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 of the aquifer at the existing well site, the artesian head pressure in observation wells completed into the aquifer, the fact the well this application proposes to use has been in use for a number of years without reported well interference, and the lack of well interference complaints for adequate wells completed into the aquifer in Grant and Roberts Counties, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment to 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 to existing users with adequate wells.

**CONCLUSIONS:**

1. Water Permit Application No. 9021-3 proposes to irrigate an additional 80 acres from the existing well authorized by Water Permit No. 8814-3. Water Permit No. 8814-3 appropriates 1.44 cfs from one well completed into the Wilmot aquifer (80 feet deep) for the irrigation of 102 acres. The application proposes to irrigate an additional 80 acres located in the N ½ SE ¼, SE ¼ SE ¼ Section 31; all in T120N-49W, with no increase to the 1.44 cfs diversion rate.
2. If approved, Water Permit Application No. 9021-3 and Water Permit No. 8814-3 will authorize a combined total of 1.44 cfs for irrigation of 182 acres. This site is located in Grant County, approximately six miles southwest of Milbank, SD.
3. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Wilmot aquifer to supply to the proposed appropriation.
4. There is reasonable probability that the proposed diversion by Water Permit Application No. 9021-3 will not unlawfully impair adequate wells for existing water rights/permits holders or domestic users with adequate wells.
5. If this application is approved, a qualification requiring the applicant to control their water withdrawals, so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights should be included.



Austin Settje  
Natural Resources Engineer I  
SD DANR - Water Rights Program

### References

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