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

RECOMMENDATION OF ACTING CHIEF ENGINEER FOR WATER PERMIT APPLICATION NO. 9024-3, Gerad or Roger Puterbaugh

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. 9024-3, Gerad or Roger Puterbaugh, 21696 409th Avenue, Cavour SD 57324.

The Acting Chief Engineer is recommending APPROVAL of Application No. 9024-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The wells approved under Water Permit No. 9024-3 are 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. The proposed wells authorized by Permit No. 9024-3 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. 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. 9024-3 authorizes a maximum diversion rate of 5.0 cfs for the irrigation of 320 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.

Adam Mathiowetz, PE
Acting Chief Engineer
April 15, 2026

Report to the Chief Engineer

On Water Permit Application No. 9024-3

Gerad or Roger Puterbaugh

April 15nd, 2026

Water Permit Application No. 9024-3 proposes to appropriate 5.0 cubic feet per second (cfs) from up to two wells to be completed into the Floyd: East James aquifer (approximately 70-90 feet deep) located in the approximate centers of the NE ¼ and SE ¼ Section 36 for the irrigation of 320 acres located in the E ½ Section 36; all in T110N-R61W. This application is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located in Beadle County, approximately six miles southeast of Huron, SD.

AQUIFER: East James Management unit of the Floyd (F:EJ)

HYDROGEOLOGY:

The East James management unit of the Floyd aquifer, referred to as Floyd: East James (F:EJ) aquifer for the rest of this report, consists of a complex system of interconnected sand and gravel layers, intermixed and confined by a gray pebbly till, that was deposited by meltwater from receding glaciers (Hansen, 1983). The Floyd: East James aquifer underlies approximately 440,000 acres, in Beadle, Hanson, Miner, Sanborn, and McCook Counties, and contains an estimated 2,395,100 ac-ft of recoverable water storage (Hedges et al, 1982). The Floyd: East James aquifer overlies the Sioux Quartzite, Niobrara Formation, and Codell Sandstone Member of the Carlile Shale and is hydrologically connected to the Niobrara and Codell aquifer in southern portions of the Floyd: East James Aquifer (Hansen, 1983; Koch and McGarvie, 1988). The Floyd: East James aquifer is primarily under confined conditions with an average thickness of 30 feet and water depth ranging from 70 feet below the ground surface to flowing at the ground surface (Water Rights, 2026b; Water Rights, 2026d). However, there are areas where the aquifer is under buried unconfined conditions (Emmons, 1988).

The applicant did not submit a well completion report with this application, so the next closest well will be used for this report to determine likely local aquifer conditions. The closest well completion report is located 0.5 miles northwest of the proposed diversion points and was completed on December 19th, 2007 (Water Rights 2026d). This well is completed into the Floyd: East James aquifer with the depth to the top of aquifer material (medium fine sand) approximately 50 feet below the ground surface, static water level of 42 feet below the ground surface, and has a total saturated aquifer thickness of 50 feet at the time of well completion (SDGS, 2026; Water Rights, 2026b and 2026d). Based on well completion reports near the proposed diversion points, the Floyd: East James aquifer is expected to be confined at the well sites for this application (SDGS, 2026; Water Rights, 2026b and 2026d). This is consistent with the Floyd: East James aquifer being predominantly under confined conditions (Water Rights, 2026b; Water Rights, 2026d).

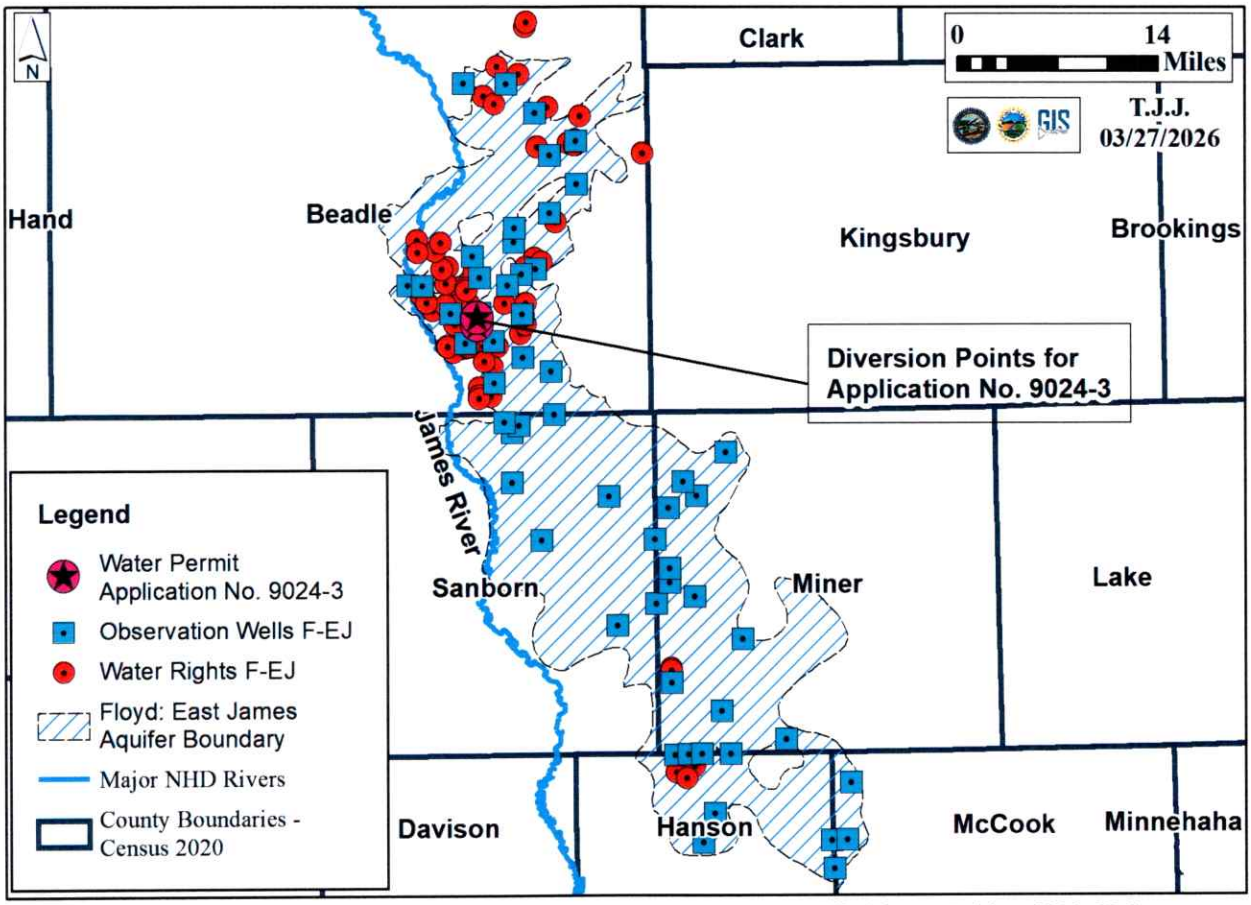

Figure 1. Map of the approximate Floyd: East James aquifer boundary (modified from: Buhler, 2012; Holmes, 2019; Jensen, 2008), and the location of proposed diversion points for Water Permit Application No. 9024-3, Floyd: East James aquifer observation wells, and Floyd: East James aquifer water rights (Water Rights, 2026b and 2026c).

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

Pursuant to SDCL 46-2A-9, "A permit to appropriate water may be issued only if there is a reasonable probability that unappropriated water is available for the applicant's proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by 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 uses and water rights within the Floyd: East James aquifer.

WATER AVAILABILITY:

Water Permit Application No. 9024-3 proposes to appropriate water from the Floyd: East James aquifer for the purpose of irrigation. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires,

> *"No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn*

annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. 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 Floyd: East James aquifer is not older than or stratigraphically lower than the Greenhorn Formation, and the applicant's proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Floyd: East James aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

The Floyd: East James aquifer is recharged from direct infiltration of precipitation and runoff into the permeable surface deposits (Howells and Stephens, 1968). The Floyd: East James aquifer is also recharged by the upwards inflow of water from underlying bedrock aquifer units (Koch and McGarvie, 1988). A flow net analysis by Hedges et al (1985) determined a recharge rate of 0.3 inches per year (in/yr) to the Floyd: East James aquifer (Table 1). Emmons (1988) determined a recharge rate of 0.487 in/yr under steady state conditions, with a range of 0.24 to 0.72 in/yr (Table 1). It should be noted that the Emmons study area encompassed most of the Warren and Floyd aquifers and a small portion of the Tulare and Bad-Cheyenne aquifers. Since the Emmons' study addressed other aquifers along with the Floyd, Emmons' recharge rate will not be considered for the Floyd: East James aquifer. Buhler (2012) conducted a regional flow net analysis to determine a recharge rate of at least 0.42 in/yr in the Floyd: East James and Floyd: Pearl Creek aquifers (Table 1). The annual recharge for the Floyd: East James aquifer will range from 11,350 to 15,890 ac-ft/yr (Hedges et al, 1985; Buhler, 2012) (Table 1).

Table 1. List of average annual recharge to the Floyd: East James aquifer (Water Rights, 2026c)

Source	Rate (in/yr)	Recharge Volume (ac-ft/yr)
Hedges, et al (1985)	0.3	11,350
Emmons (Steady State) (1988)	0.487	18,425
Emmons (Estimated Range) (1988)	0.24 - 0.72	9,080 - 27,240
Buhler (2012)	0.42	15,890

Discharge

Discharge from the Floyd: East James aquifer primarily occurs through well withdrawals and leakage or subsurface flow to underlying bedrock aquifers (Hansen, 1983; Koch and McGarvie, 1988). Currently, there are 64 water rights/permits authorized to appropriate water from the Floyd: East James aquifer (Water Rights, 2026c) of which, nine are non-irrigation water rights/permits. It should be noted that Water Permit No. 8199-3 also appropriates water from the Dakota aquifer from a separate well. However, for purposes of estimating average annual use by No. 8199-3, all of the usage will be treated as coming from the Floyd: East James aquifer. Table 2 lists the non-irrigation water rights/permits with the estimated average annual use for each

water right/permit as determined by their limiting diversion rate or annual volume limit. Withdrawals were estimated by assuming that water rights/permits limited by an annual volume will withdraw their entire appropriated volume every year. Water rights/permits limited only by a diversion rate are assumed to pump at their maximum permitted diversion rate for 60 percent of the time. These are standard methods used by the DANR-Water Rights Program for estimating annual withdrawals. The City of Huron purchases 90% of their water from Mid-Dakota Rural Water (Drinking Water Program, 2026). Overall, the total estimated annual non-irrigation withdrawal rate from the Floyd: East James aquifer is approximately 254 acre-feet/year (Table 2) (Water Rights, 2026c).

Table 2. Estimated annual use for non-irrigation water rights/permits authorized to divert water from the Floyd: East James aquifer (Water Rights, 2026c)

Permit No.	Name	Status	Uses	Authorized Diversion Rate (cfs)	Authorized Annual Volume (ac-ft)	Estimated Withdrawal (ac-ft)
6025-3	Edney Distribution Co.	LC	COM	0.022	N/A	10
6290-3	Lindberg Specialties LLC	LC	COM	0.022	N/A	10
5397-3	Our Home Inc.	LC	INS, DOM	0.056	N/A	24
5488-3	Faith Mennonite Church	LC	INS	0.050	N/A	22
5734-3*	City of Huron	LC	MUN	0.020	N/A	9
8199-3**	Donahue Farms	PE	DOM, COM	0.162	73	73
8214-3**	City of Huron	PE	MUN	0.082	N/A	36
8422-3**	New Fashion Pork	PE	COM	0.110	46	46
8436-3**	New Fashion Pork	PE	COM	0.060	N/A	26
LC License, PE Permit, MUN Municipal, INS Institutional, DOM Domestic, COM Commercial * Sources their water partially from another system **Reports annual use to the chief engineer					**Total:**	**254**

Table 3 summarizes reported average annual water use of non-irrigation water rights from the Floyd: East James aquifer (Water Rights, 2026f). Currently, there are four non-irrigation water rights/permits (Nos. 8199-3, 8214-3, 8422-3, & 8436-3) that are reporting their annual non-irrigation water use. Table 3 shows that the annual reported use is less than the annual estimated withdrawal and the annual reports have been relatively similar over the past five years (Table 1 & 2) (Water Rights, 2026c & 2026f). However, these four non-irrigation water rights/permits have not reported for a sufficiently long enough period to calculate a reasonable average. Therefore, the estimated annual use will be used to determine the non-irrigation withdrawal rate from the Floyd: East James aquifer.

Table 3. Reported average annual use for non-irrigation water rights/permits authorized to appropriate water from the Floyd: East James aquifer (Water Rights, 2026c).

Year	Reported Use (acre-feet/year)
2016	22
2017	6
2018	6
2019	3
2020	11
2021	27
2022	52
2023	40
2024	25
Average (2016-2024)	**21**
Average (2020-2024)	**31**

Currently, there are 55 irrigation water rights/permits appropriating water from the Floyd: East James aquifer (Water Rights, 2026c). Irrigation water rights/permits have been typically required to report their annual usage by submitting an irrigation questionnaire since 1979. The average annual withdrawal rate for the Floyd: East James aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2024) is approximately 2,264 acre-feet per year (Table 4) (Water Rights, 2026e). 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 1,938 acre-feet per year (Table 4) (Water Rights, 2026e).

There is one recently approved irrigation water permit that has not yet reported in the 2024 irrigation questionnaire (IQ) and needs to be accounted for. Water Permit No. 8812-3 is authorized to irrigate 136 acres. Over the entire period of record, crop irrigators in the Tulare: East James aquifer of South Dakota applied, on average, 7.58 inches (0.63 feet) of water per acre per year (Drennon, 2025). The Tulare: East James aquifer is hydrologically connected to the northern portion of the Floyd: East James aquifer. Assuming 0.63 feet of water per acre per year, the estimated average annual withdrawal rate for Water Permit No. 8812-3 is approximately 86 acre-feet per year. This pending application proposes to irrigate approximately 320 acres. Assuming 0.63 feet of water per acre per year, the withdrawal rate for this application, if approved, is approximately 202 acre-feet per year.

Table 4. Reported historic irrigation use from the Floyd: East James aquifer (Water Rights, 2026e)

Year	Number of Permits	Reported Pumpage (ac-ft)	Year	Number of Permits	Reported Pumpage (ac-ft)
1979	78	2,628	2004	55	2,705
1980	83	2,854	2005	54	2,983
1981	93	5,180	2006	54	3,800
1982	57	2,228	2007	54	2,404
1983	56	3,338	2008	53	2,356
1984	68	1,842	2009	53	1,204
1985	65	1,680	2010	50	312
1986	63	1,078	2011	52	703
1987	57	2,470	2012	52	2,912
1988	55	4,782	2013	55	2,234
1989	54	4,158	2014	57	2,365
1990	53	2,147	2015	58	1,537
1991	53	2,994	2016	58	2,735
1992	49	1,775	2017	57	3,027
1993	48	303	2018	56	2,343
1994	47	2,637	2019	56	20
1995	48	1,326	2020	57	684
1996	47	2,412	2021	57	3,211
1997	48	1,580	2022	57	2,094
1998	46	1,719	2023	55	2,529
1999	46	1,259	2024	55	1,204
2000	46	1,535	**Max**	93	5,180
2001	46	1,876	**Min**	46	20
2002	48	3,592	**Average (1979-2024)**	56	2,264
2003	50	3,394	**Average (2015-2024)**	**57**	**1,938**

There are domestic wells completed into the Floyd: East James 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 not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the Floyd: East James aquifer is present; 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 Floyd: East James aquifer.

Hydrologic Budget Summary

Recharge to the aquifer is estimated to range from 11,350 to 15,890 ac-ft/yr (Table 1). The average annual withdrawal rate from the Floyd: East James aquifer, including this application, totals to approximately 2,480 acre-feet/year; (non-irrigation withdrawals: 254 acre-feet/year; irrigation withdrawals: 1,938 acre-feet/year; recently approved permits: 86 acre-feet/year; this application: 202 acre-feet/year). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Floyd: East James aquifer for the proposed appropriation.

Table 4. List of water rights/permits withdrawals, estimated use of recently approved permits, the pending applications and this application (if approved), and unconfined/confined recharge to the Floyd: East James aquifer (Water Rights, 2026a)

	Hydrologic Budget for the Floyd: East James Aquifer (ac-ft/yr)
Non-Irrigation Estimated Use	254
Irrigation Reported Use (2015-2024)	1,938
Recently Approved Irrigation Permit (8812-3)	86
Current Estimated Withdrawal	**2,278**
Pending Application (9024-3)	202
Estimated Total Withdrawal	**2,480**
Estimated Recharge	**11,350 – 15,890**

OBSERVATION WELL DATA:

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

The DANR-Water Rights Program monitors 55 observation wells completed into the Floyd: East James aquifer (Water Rights, 2026b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The four closest observation wells to the proposed diversion points are BD-79M (approximately 0.6 miles northeast), BD-76N (approximately 1.7 miles southwest), BD-79L (approximately 1.8 miles northwest), and BD-80H (approximately 1.9 miles southeast) (Water Rights, 2026b). The hydrographs for these observation wells are displayed in Figure 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. The data from the hydrographs in Figure 2 shows a stable to rising trend. Overall, these hydrographs (Figures 2) show the same stable to rising trend as other observation wells in Floyd: East James aquifer (Water Rights, 2026b).

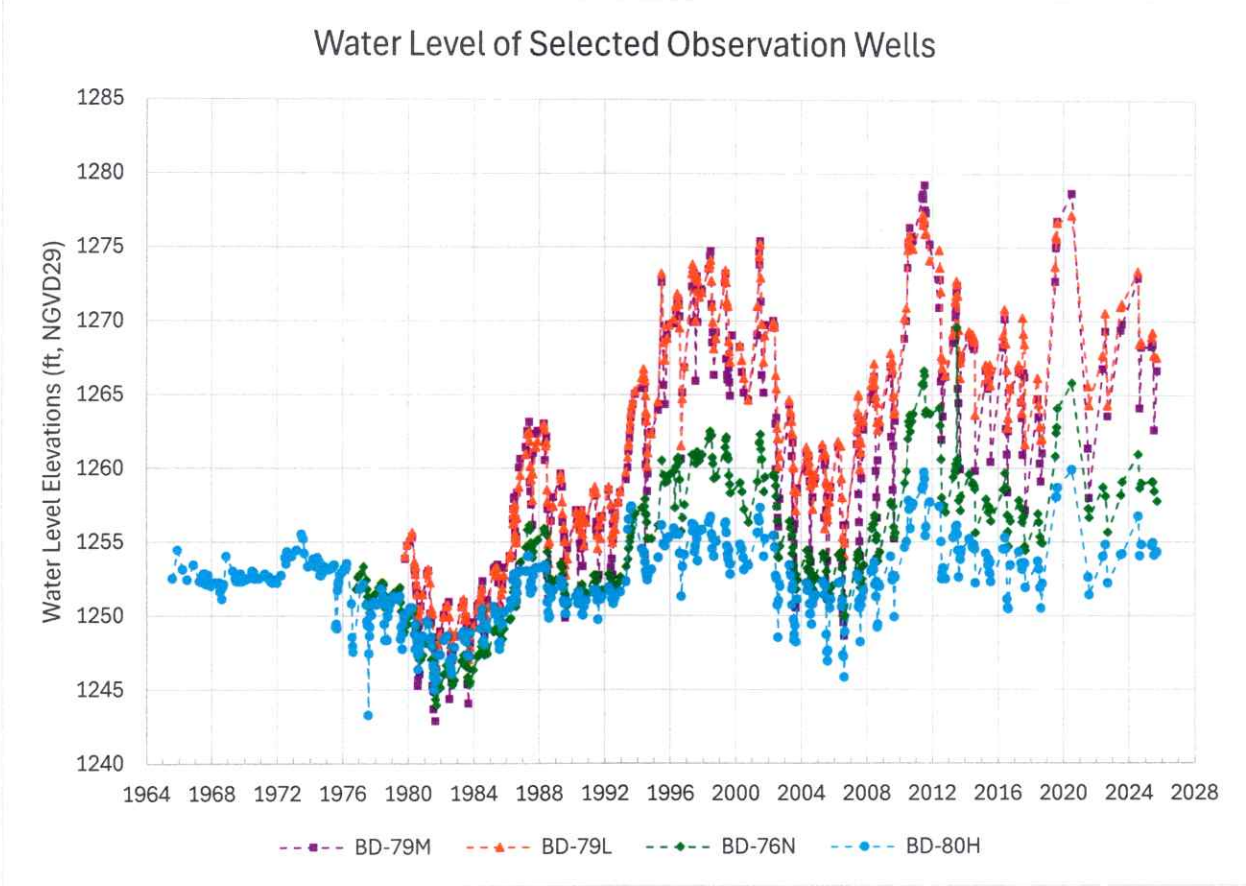

Figure 2. Hydrograph for observation well BD-79M, BD-79L, BD-76N, & BD-80H (Water Rights, 2026b)

The hydrographs for the Floyd: East James aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods (early spring snowmelt and precipitation) and declining to a stable water level during drier periods (NOAA, 2026). 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 Floyd: East James 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:

Water rights/permits in the general vicinity of the proposed diversion points for this application are shown in Figure 3 and summarized in Table 5 (Water Rights, 2026c). The closest water right/permit to the proposed diversion points, not held by the applicant, is Water Right No. 3085-3 held by Jeff DeVries as shown on Figure 3. The diversion point for Water Right No. 3085-3 is located approximately 0.5 miles west of the proposed diversion points for this application (Water Rights, 2026c). There are domestic wells on file with the DANR-Water Rights Program that are completed into the Floyd: East James aquifer, with the closest domestic well on file (not held by the applicant) located approximately 0.5 miles northwest of the proposed diversion points based on the well completion report submitted by the driller (Water Rights, 2026d). There could potentially be other domestic wells completed into the Floyd: East James aquifer near the proposed diversion points 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.

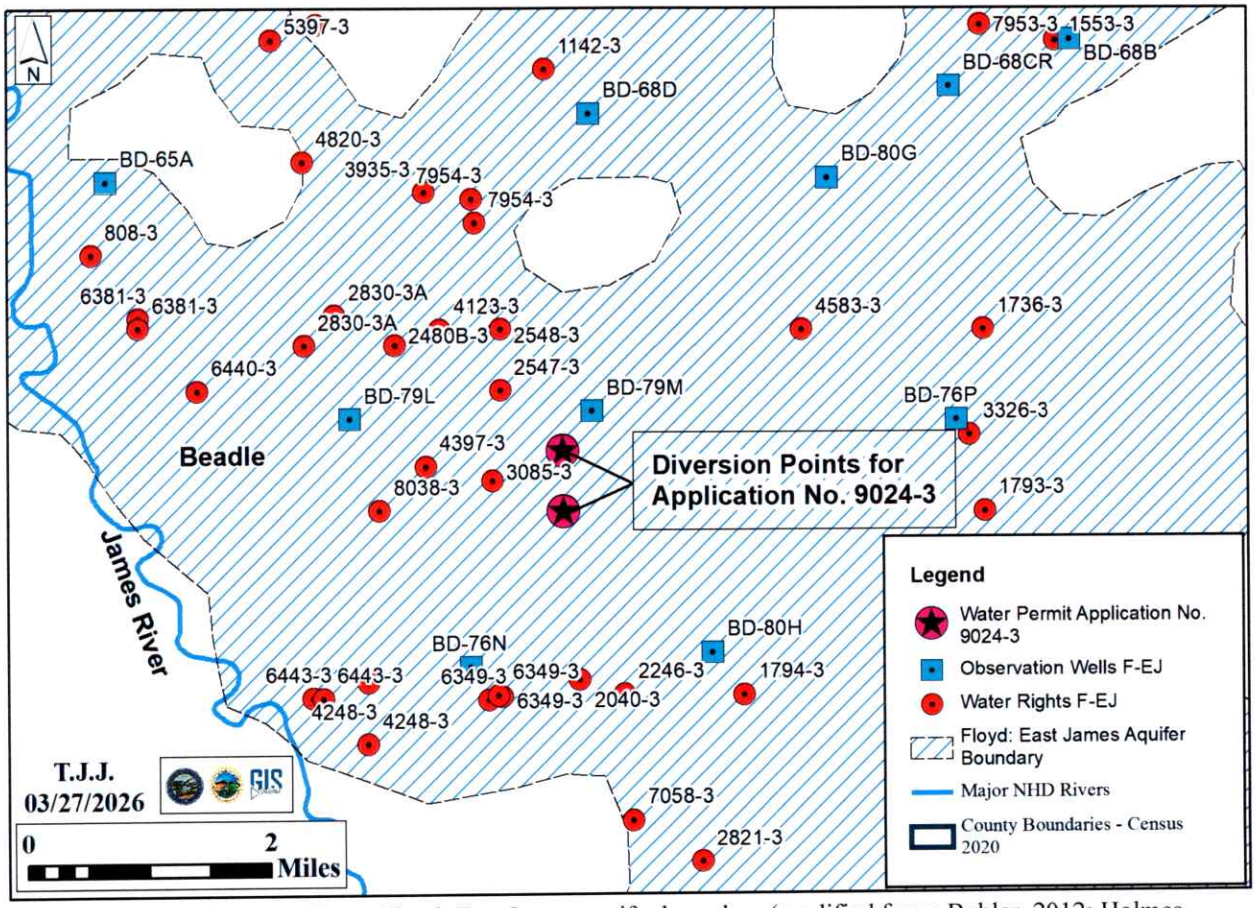

Figure 3. Map of the approximate Floyd: East James aquifer boundary (modified from: Buhler, 2012; Holmes, 2019; Jensen, 2008), the Floyd: East James aquifer water rights/permits and observation wells (Water Rights, 2026b and 2026c) within 5 miles of the proposed diversion points for Water Permit Application No. 9024-3.

Table 5. List of water rights/permits within 5 miles of the proposed diversion points shown in Figure 3.

Permit	Name/Business	Priority	Status	Use Type	CFS	Acres
808-3	Brad Schnabel	07/31/1961	License	Irrigation	1.25	88
1142-3	Robert Duane Moody	12/01/1964	License	Irrigation	2.66	230
1553-3	David or Elizabeth Eckmann	04/17/1968	License	Irrigation	1.30	100
1736-3	Western Icon Land Development Co. Inc	02/18/1970	License	Irrigation	1.00	150
1793-3	Scot Eckmann	12/09/1970	License	Irrigation	1.90	132
1794-3	Donna Dickson	12/09/1970	License	Irrigation	1.9	132
2040-3	Ronald Marone	12/21/1973	License	Irrigation	1.56	132
2246-3	Ronald W. Marone	03/31/1975	License	Irrigation	1.33	132
2480B-3	Claire & Beverly Thomas	12/16/1975	License	Irrigation	1.67	175
2547-3	Jeff DeVries	02/10/1976	License	Irrigation	2.23	264
2548-3	Jeff DeVries	02/10/1976	License	Irrigation	1.89	132
2821-3	Linn Dickson	07/02/1976	License	Irrigation	1.22	132
2830-3A	Patrick & Janey Cronin	07/06/1976	License	Irrigation	1.67	132
3085-3	Jeff DeVries	08/06/1976	License	Irrigation	1.87	244
3326-3	Western Icon Land Development Co. Inc	11/12/1976	License	Irrigation	1.22	123
3935-3	Ross Halter	04/25/1977	License	Irrigation	1.88	132
4123-3	Glen R. Halter	08/23/1977	License	Irrigation	1.88	132
4248-3	Ronald W. Marone	02/10/1978	License	Irrigation	1.42	168
4397-3	Matthew Glen Halter	12/20/1979	License	Irrigation	1.55	135
4583-3	Stephen Walter	11/03/1980	License	Irrigation	1.88	227
4596-3	Jerry Kleinsasser	12/30/1980	License	Irrigation	1.88	132
4820-3	Nick/Gena Schoenfelder	09/23/1981	License	Irrigation	1.67	118
5397-3	Our Home Inc	12/15/1989	License	Institutional, Domestic	0.056	NA
6349-3	Ronald W. Marone	08/05/2002	License	Irrigation	1.34	110
6381-3	Jeff DeVries	01/09/2003	License	Irrigation	1.14	134
6440-3	Jeff DeVries	09/05/2003	License	Irrigation	1.45	134
6443-3	Ronald W. Marone	09/23/2003	License	Irrigation	1.33	134
7058-3	Ken Dickson	08/22/2008	License	Irrigation	1.00	104
7953-3	Pearl Creek Colony	01/21/2014	License	Irrigation	1.53	107
7954-3	Pearl Creek Colony	01/21/2014	License	Irrigation	1.78	132
8038-3	Ronald W. Marone	07/16/2014	License	Irrigation	1.45	136

The Floyd: East James aquifer at the location of the proposed diversion points is likely under confined conditions. In a confined aquifer, drawdown created by pumping can extend far from the pumped well. The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an "adversely impacted domestic well" in ARSD 74:02:04:20(7) as:

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

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted the Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, "general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable..." (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Floyd: East James aquifer at their location. In Beadle County, there are no complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Floyd: East James aquifer (Water Rights, 2026a).

When considering ARSD 74:02:04:20(7), the saturated aquifer thickness near the proposed diversion points and the lack of well interference complaints for adequate wells completed into the Floyd: East James aquifer in Beadle County, any drawdown created from the diversion is not expected to cause an unlawful impairment on existing water right/permit holders or domestic users with adequate wells (Water Rights, 2026a). Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairment on existing users with adequate wells.

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 does provide 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. 9024-3 would authorize a maximum instantaneous diversion rate of 5.0 cfs from one well for the irrigation of 320 acres, or equivalent to 1.09 cfs per 70 acres. There was no reason provided for this request in the application. However, the proposed diversion rate does not significantly exceed 1 cfs per 70 acres and rates in excess of 1 cfs per 70 acres have been accepted by the Water Rights program and the Water Management Board in the past.

CONCLUSIONS:

1. Water Permit Application No. 9024-3 proposes to appropriate 5.0 cfs from up to two wells to be completed into the Floyd: East James aquifer (approximately 70-90 feet deep) located in the approximate centers of the NE ¼ and SE ¼ Section 36 for the irrigation of 320 acres located in the E ½ Section 36; all in T110N-R61W. This site is located in Beadle County, approximately six miles southeast of Huron, SD.

2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Floyd: East James aquifer to supply the proposed appropriation.

3. There is a reasonable probability that the diversion proposed by Water Permit Application No. 9024-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic uses.

4. The applicant is requesting a diversion rate greater than statutory limit of 1 cfs per 70 acres. Although no reason was provided by the applicant, the proposed diversion rate does not significantly exceed 1 cfs per 70 acres and rates in excess of 1 cfs per 70 acres has been accepted by the Water Management Board and the Water Rights Program in the past.

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

References

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