

WATER PERMIT NO. 8533-3

Name of Applicant: **BDM Rural Water System, Inc**

Address: **PO Box 49, Britton SD 57430** Phone: **605 448-5417**

Amount of Water Claimed: **1.11 cfs (600 AF)** Total Acres: **NA**

Source of Water Supply: **groundwater – 1 well**

Water to be used for: **rural water system use** County: **Marshall**

Type of Waste Disposal System:

Location: **5 miles northeast of Britton**

PRIORITY Date Received: **7-22-21** Application/License Fee: **\$ 1,250**

Corrected Application Received: Period of Annual Use: **January 1 – December 31**

Remarks: **This application will also add Wells # 5 through #8 developed but not authorized by Water Permit No. 6371-3**

Diversion Point: **Well # 9 – NE 1/4 SE 1/4 Sec 3-T127N-R57W**

Wells #5 through #8: **NE 1/4 SE 1/4, SE 1/4 NE 1/4 Sec 3-T127N-R57W**

			3		
				⊗	

Depth of Well: **300 feet deep**

Well Driller:

Remarks:

Type of Map: **topo**

Prepared by:

Reviewed and the Number Assigned on: **7-27-21**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8533-3**

Date of first receipt of application July 22, 2021.

Date of return to applicant for corrections, amendments or changes July 26, 2021.

Date of receipt of corrected application July 27, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8533-3 to BDM Rural Water System Inc., c/o Rodney Kappes, Manager, PO Box 49, Britton SD 57430 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. 8533-3 appropriates an additional 600 acre-feet of water annually and increases the existing permitted pump rate by 1.11 cubic feet of water per second (cfs). Currently, Water Right No. 4908-3 and Water Permit No. 6371-3, combined, authorize a maximum pump rate of 3.89 cfs from Wells #1 through Well #4. Since eight wells are currently in use, this permit also adds existing Wells #5 through #8 completed into the Middle James:Columbia Aquifer located in the NE 1/4 SE 1/4 and the SE 1/4 NE 1/4 Section 3 plus authorizes construction of an additional well (Well #9) to be completed into the Middle James:Columbia Aquifer (approximately 300 feet deep) in the NE 1/4 SE 1/4 Section 3; all in T127N-R57W. This permit and No. 6371-3 (excluding the volume of water authorized by Water Right No. 4908-3) will authorize a combined total of 1,900 acre-feet annually from a total of nine wells.
2. The water appropriated shall be used for the purpose of rural water system use serving users in Brown, Day, Marshall and Roberts Counties and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date from which applicant may claim right is July 22, 2021.
5. The date of approval of Permit No. 8533-3 is October 12, 2021.
6. One-fifth of the construction is to be completed on or before April 12, 2024.
7. All construction is to be completed on or before October 12, 2026.
8. Water is to be put to beneficial use on or before October 12, 2030.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under Water Permit No. 8533-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals under this Permit 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 new well authorized by Permit No. 8533-3 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. Water Permit No. 6371-3 and this Permit authorize a combined, total annual diversion of 1,900 acre-feet of water from the Middle James Columbia aquifer. This does not include the volume of water authorized by Water Right No. 4908-3.
4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Middle James Columbia aquifer.

WATER MANAGEMENT BOARD

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

OCT 25 2021
date



JUL 22 2021

WATER RIGHTS
PROGRAM

PAID

JUL 22 2021

Ck# 23436

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8533-3</u> (office use only) Hydrologic Unit <u>09020105</u>
	Basin <u>Red Rainy</u>
	Newspaper _____

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☒ Rural Water System	☐ Commercial	☐ Fish & Wildlife	☐ Geothermal
☐ Domestic (over 18 gpm)	☐ Industrial	☐ Other _____	

Type of Application: (check one)

☒ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____		
☐ Amendment/Correction to Permit No. _____		

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

- Name to Appear on Water Permit BDM Rural Water System, Inc.
Mailing Address PO Box 49 Britton SD 57430
(Address) (City) (State) (Zip Code)
Phone 605-448-5417 Mobile _____ Email rodneyk@bdmruralwater.com
- Amount of water claimed 1.1 *CFS or 500 **GPM and 600 ***AF or _____ Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use
- Source of water supply Middle James:Columbia aquifer
- Location of point of diversion SE 1/4, Section 3, T127N, R57W (NE 1/4 SE 1/4) County Marshall
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☐ No
If "Yes," where will water be used? _____
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Brown, Day, Marshall and Roberts
- Annual period during which water is to be used January 1 through December 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Add a well to BDM's existing well field to provide additional water with which to meet peak demand.
Please refer to transmittal letter accompanying this application for additional information.

*Also adds four existing wells not covered by WR Nos. 4908-3 and 6371-3
Wells # 5 through #8*

I, Rodney Kappes General Manager, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(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) ~300 ft Depth to Top of Water Bearing Material ~265 ft Depth to Water from Surface ~185

d) Distance to nearest domestic well on applicant's property NA Property owned by others ~0.6 miles

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) septic tank (it is pumped out periodically)

b) System Capacity (gallons) 1,000 gallons Year Constructed 1998

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)

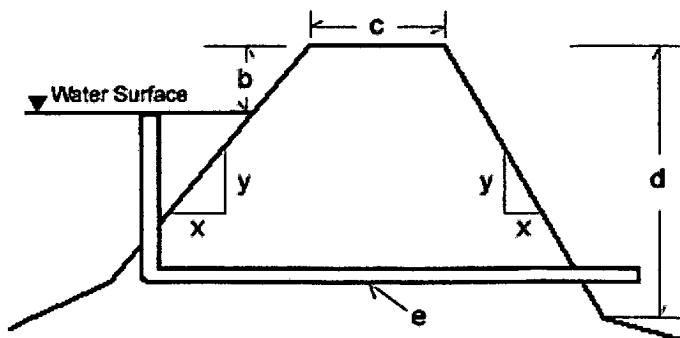
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

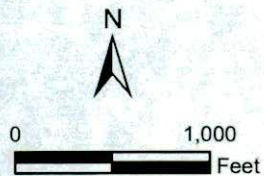
i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



C:\GIS\GIS\AE2S_BDM_Marshall Co SD\maps\5502AEN03_01c.mxd, 7/19/2021, 11:26:27 AM, NAD 1983 UTM Zone 14N

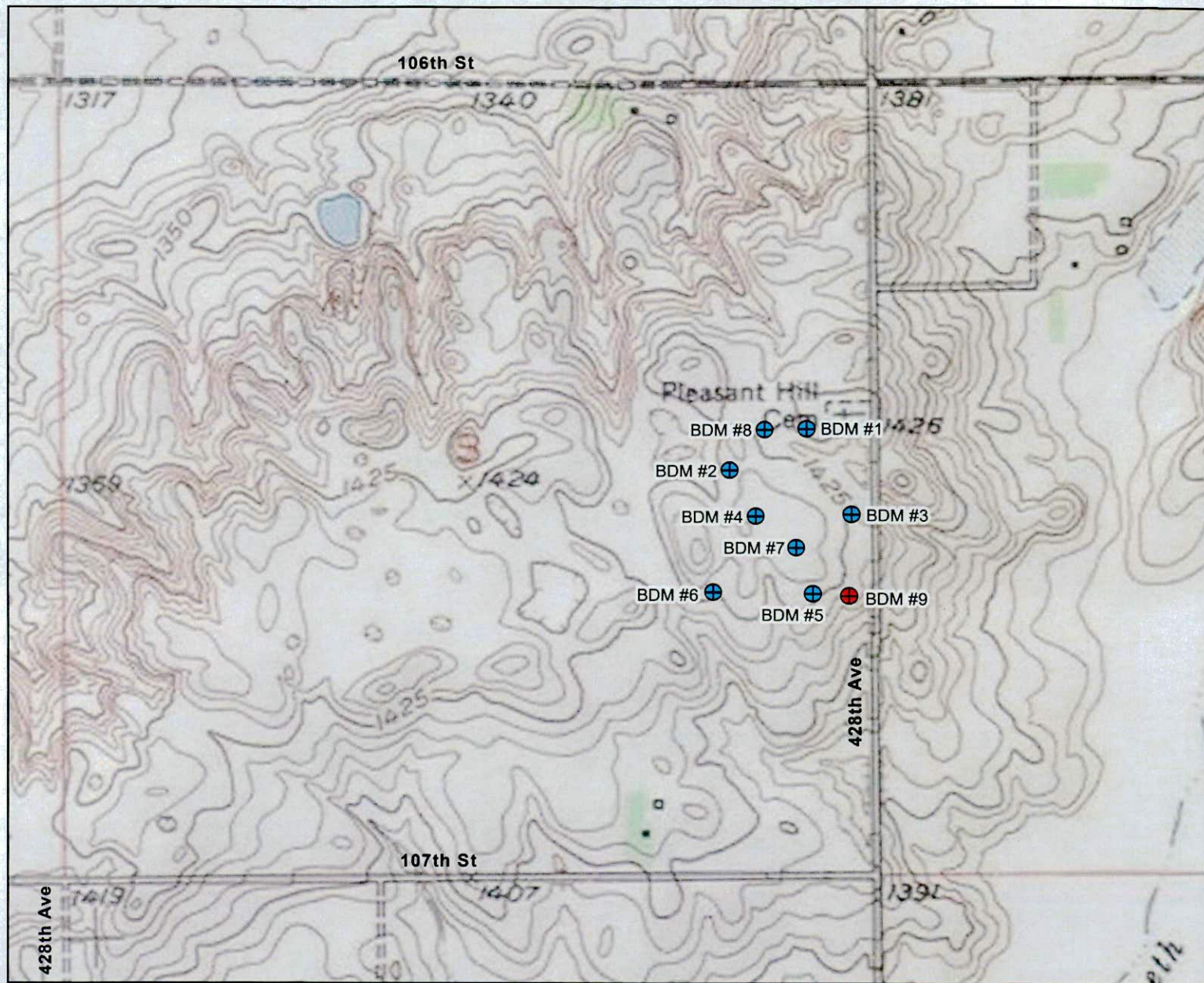
- Existing BDM Well
- Proposed New BDM Well



Notes:

Sources:

Service Layer Credits: Copyright© 2013 National Geographic Society, i-cubed



Prepared By:
LRE Water
Innovative Water Resource Solutions
South Dakota Office
Sioux Falls, South Dakota
(605) 310-1721

BDM RURAL WATER SYSTEM, INC.
PO BOX 49
BRITTON, SD 57430

BDM RWS, INC. WATER PERMIT APPLICATION,
SE ¼ SECTION 3, T127N, R57W, MARSHALL COUNTY, SOUTH DAKOTA

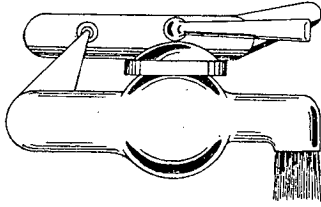
FILE: 5502AEN03_01c.MXD

DATE: 7/19/2021 | FIGURE: 1

Well Data Summary
BDM Rural Water System, Inc.
Britton, SD

Well	Drill Date	Static (ft bgs)	Estimated Ground Surface Elevation (feet)	Depth to Top of Aquifer (feet)	Depth to Bottom of Aquifer (feet)	Aquifer Top Elevation (feet)	Aquifer Bottom Elevation (feet)	Top of Screen (feet)	Bottom of Screen (feet)	Top of Screen Elevation (feet)	Bottom of Screen Elevation (feet)	Static Elevation (feet)	Yield when Built (gpm)	Drawdown when Built (feet)	Original Specific Capacity (gpm/ft)	MJ:C Thickness (feet)	Available Drawdown 2020 (feet)
BDM #1	7/6/1982	172.8	1,427	275	299	1,152	1,128	275	299	1,152	1,128	1,254	458	70.65	6.5	24	81
BDM #2	8/28/2014	196.3	1,435	260	302	1,175	1,133	271	301	1,164	1,134	1,239	250	26.20	9.5	42	54
BDM #3	2/19/2002	164.0	1,421	252	284	1,169	1,137	256	284	1,165	1,137	1,257	680	68.86	9.9	32	67
BDM #4	2/14/2002	180.3	1,440	279	302	1,161	1,138	283	302	1,157	1,138	1,260	680	50.00	13.6	23	74
BDM #5	2/23/2005	189.3	1,424									1,235	525	28.58	18.4		
BDM #6	12/4/2019	197.0	1,429	268	307	1,161	1,122	280	307	1,149	1,122	1,232	436	21.00	20.8	39	65
BDM #7	8/16/2012	195.6	1,434	258	302	1,176	1,132	277	302	1,157	1,132	1,238	450	48.30	9.3	44	57
BDM #8	9/24/2012	197.6	1,423	254	294	1,169	1,129	262	292	1,161	1,131	1,225	450	35.40	12.7	40	60
Averages		187	1,429	264	299	1,166	1,131	272	298	1,158	1,132	1,243	491	43.6	12.6	35	65

Notes: ft bgs feet below ground surface
 gpm gallons per minute
 gpm/ft gpm of yield per 1 foot of drawdown
 MJ:C Middle James:Columbia aquifer
 BDM #5 No well log available - yield/drawdown data are from 2020 specific capacity test



**BROWN
DAY
MARSHALL**

P.O. Box 49
705 7th Street
Britton, South Dakota 57430
Phone 605-448-5417

Rural Water System, Inc.



July 20, 2021

Ron Duvall
Water Rights Permitting Administrator
South Dakota Dept. of Agriculture & Natural Resources
Water Rights Program
523 E. Capitol Avenue
Pierre, SD 57501-3182

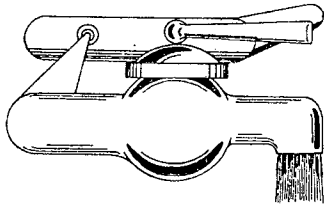
RE: Application for a Water Use Permit (SD Eform – 1585LD V5)
BDM Rural Water System, Inc.
PO Box 49
705 7th Street
Britton, SD 57430
Tel: (605) 448-5417

Dear Mr. Duvall

Enclosed is a water permit application to appropriate groundwater from the Middle James:Columbia aquifer at the BDM Rural Water System, Inc. (BDM) well field. The BDM well field is located approximately 5 miles northeast of Britton, in Section 3, Township 127 North (T127N), Range 57 West (R57W), in Marshall County, South Dakota (a map of the well field is included with the application).

BDM is a growing rural water system, and our peak demand is approaching our permitted instantaneous withdrawal limit of 3.89 cubic feet per second (cfs), which is equivalent to approximately 1,746 gallons per minute (gpm). We are requesting an instantaneous diversion limit of 500 gpm and an annual withdrawal volume of 600 acre-feet for this new water permit.

Also enclosed is a summary of our eight wells. We typically operate four wells at a time, with three supplying the new water plant and one supplying the old water plant. The new and old water plants are operated simultaneously, and all eight wells are utilized, pumping four while allowing the water levels in the other four to partially recover. We are aware of the potential for well interference with the relatively close proximity of our eight (and hopefully soon to be nine) wells, and our pumping regimen is generally intended to limit the effects of well interference.



**BROWN
DAY
MARSHALL**

P.O. Box 49
705 7th Street
Britton, South Dakota 57430
Phone 605-448-5417

Rural Water System, Inc.



Mr. Ron Duvall
July 20, 2021
Page 2 of 2

A check, in the amount of \$1,250, is enclosed for payment of the filing and inspection fees. Thank you very much for considering this application. If you have any questions, or require additional information, please email me at rodneyk@bdmruralwater.com, or call me at (605) 448-5417.

Sincerely,

BDM RWS, Inc.

Rodney Kappes
General Manager

Enclosures

Water Permit Application and Well Field Map
Well Data Summary
Check for Filing Fees

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date July 22, 2021

RECEIVED OF BDM Rural Water System Inc. PO Box 49 Britton SD 57430

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

Fee for Application for Permit No. <u>8533-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>1050.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8533-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law)	
TOTAL	\$ <u>1250.00</u>

By Eric Gronlund
Chief Engineer
EGM

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, July 26, 2021 10:35 AM
To: Rod Kappes
Subject: Water Permit Application

We received your water permit application requesting 500 gpm (600 AF) for Well No. 9.

Water Right No. 4908-3 authorizes 1.00 cfs (450 gpm) from two wells. Water Permit No. 6371-3 authorizes 2.89 (1300 gpm) from two wells.

In March of 2020 we became aware that BDM had 4 additional wells that were never permitted. At that time, we indicated the additional wells would be addressed when No. 6371-3 was licensed.

However, with the submittal of this new application for Well No. 9, now would be the time to also address the 4 unpermitted wells. My question is - on the map submitted with this new application, the wells are identified Nos. 1 through 9. Do you know if this chronological is the order that the wells were drilled? If so, can I add well Nos. 5 through 8 to the application?. Also, if well Nos. 5 through 8 are added, will any change be needed to the 500 gpm (600 AF) being requested?

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Water Rights Program - File Documentation

NAME: Rod Kappes, Manager

ADDRESS: BDM Rural Water System Inc.

DATE: 7-27-21

RE: Pending Application

COMMENTS:

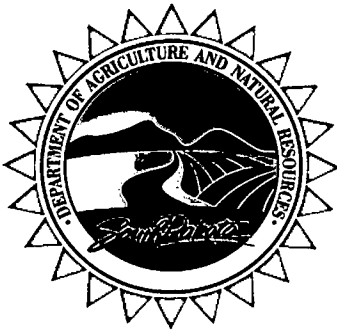
Rod Kappes called regarding my email dated 7-26-21. Rod stated that the Well Data Summary sheet submitted with the application gave the dates when all their wells were drilled. Wells #1 and #2 were the first wells with #2 having been replaced in 2014. Well #6 was replaced in 2019. The number of the well is the chronological order of when they were drilled.

Rod agreed with adding existing Wells #5 through #8 to this application since they are not included on Water Right No. 4908-3 and Permit No. 6371-3.

He also indicated that adding the existing 4 wells would not change the amount of water requested by this application regarding Well #9.



Karen Schlaak
Water Rights Program



**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. 8533-3, BDM Rural Water System Inc.**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 8533-3, BDM Rural Water System Inc., PO Box 49, Britton SD 57430.

The Chief Engineer is recommending APPROVAL of Application No. 8533-3 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. 8533-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals under this Permit 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 new well authorized by Permit No. 8533-3 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. Water Permit No. 6371-3 and this Permit authorize a combined, total annual diversion of 1,900 acre-feet of water from the Middle James Columbia aquifer. This does not include the volume of water authorized by Water Right No. 4908-3.
4. The Permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Middle James Columbia aquifer.

See report on application for additional information.

Eric Gronlund, Chief Engineer
September 24, 2021

**REPORT TO THE CHIEF ENGINEER
WATER PERMIT APPLICATION NO. 8533-3
BDM RURAL WATER SYSTEM, INC
SEPTEMBER 11, 2021**

Water Permit Application No. 8533-3 proposes to appropriate water from the Middle James: Columbia aquifer to add 600 acre-feet per year (ac-ft/yr) and increase the existing permitted diversion rate by 1.11 cubic feet per second (cfs) to what is currently authorized by Water Right No. 4908-3 and Water Permit No. 6371-3. Water Right No. 4908-3 does not specify a limit for its annual volume usage. Water Permit No. 6371-3 is limited to an annual volume of 1,300 acre-feet. A maximum pump rate of 3.89 cfs from BDM Wells #1 through #4 (Figure 1) is authorized by Water Right No. 4908-3 and Water Permit No. 6371-3. This application also adds BDM Wells #5 through #8, completed into the Middle James: Columbia aquifer, located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ and the SE $\frac{1}{4}$ NE $\frac{1}{4}$; all Section 3-T127N-R57W. Additionally, this application authorizes the construction of an additional well (BDM #9) to be completed approximately 300 feet deep, into the Middle James: Columbia aquifer, located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 3; T127N-R57W. This application, Water Right No. 4908-3, and Water Permit No. 6371-3 will authorize a combined total diversion rate of 5.00 cfs from the nine wells. This application and Water Permit No. 6371-3 will authorize a combined volume of 1,900 acre-feet annually from the nine wells (this excludes the volume authorized by No. 4908-3). The site is located approximately six miles northeast of Britton, SD.

AQUIFER: Middle James: Columbia (MJ: C)

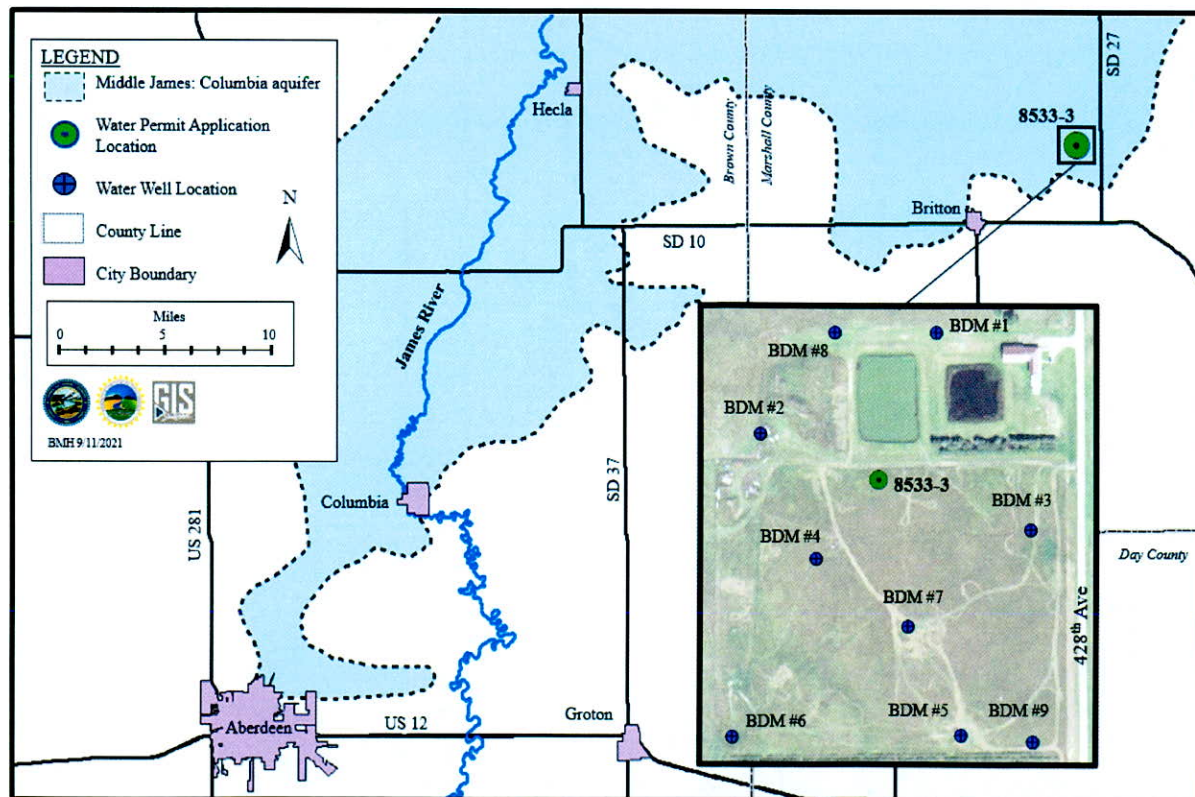


Figure 1. Water Permit Application No. 8533-3 shown within the Middle James: Columbia aquifer boundary (modified from: Hedges et al., 1982). Inset contains approximate locations for the application and BDM Wells.

Aquifer Characteristics

The Middle James: Columbia aquifer is a deposit of glacial outwash composed of sorted gravel, sand, and silt (Koch and Bradford, 1976). In South Dakota, it underlies approximately 315,900 acres of Brown and Marshall counties (Figure 1) with an estimated 1,376,000 million acre-feet of recoverable water in storage (Hedges et al., 1982). The aquifer is primarily under confined or artesian conditions with the movement of groundwater generally from the west to the east (Koch, 1975). It is hydraulically connected to the Deep James and Elm aquifers (Koch and Bradford, 1976) and possibly the Niobrara Formation in Marshall County (Koch, 1975). Existing well completion reports in the vicinity of the proposed application show an average of 262 feet of silty, sandy clay overlying water bearing sand and gravel with an average depth to the groundwater surface of 182 feet (Water Rights, 2021a and 2021b). This indicates an average of 80 feet of artesian head pressure and that the proposed well site is under confined conditions.

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing domestic 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. This report will address water availability and potential for unlawful impairment of existing domestic uses and water rights within the Middle James: Columbia aquifer.

WATER AVAILABILITY

Water Permit Application No. 8533-3 proposes to appropriate water from the Middle James: Columbia aquifer. The probability of unappropriated water being available from an 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..." If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider the balance of recharge to and withdrawal from the aquifer. For this application, a water distribution system is involved but, the aquifer is not older or lower than the Greenhorn Formation. Therefore, the balance of recharge and withdrawal must be considered.

Hydrologic Budget

Recharge:

The Middle James: Columbia aquifer is recharged by infiltration of precipitation through overlying materials and inflow from adjacent glacial aquifers (Koch, 1975). Recharge rates for confined aquifers was estimated by Hedges et al. (1985) to range between 0.15 and 0.60 inches per year for use by management and development programs when it was not reasonable to calculate an aquifer specific recharge rate. With the areal extent of the aquifer estimated at 315,900 acres (Hedges et al., 1982), the annual recharge rate can be estimated between 3,950 and 15,800 acre-feet/year (ac-ft/yr) for the South Dakota portion of the aquifer.

Discharge:

Discharge from the Middle James: Columbia aquifer occurs through well withdrawals and leakage into adjacent aquifers and sediments (Koch and Bradford, 1976). Currently, there are a total of 27 water rights/permits (12 non-irrigation, 13 irrigation, and 2 future use) appropriating water from the Middle James: Columbia aquifer (Water Rights, 2021a). A summary of the non-irrigation water rights/permits are listed in Table 1. The total estimated volume of water to be withdrawn can be determined by assuming that water rights/permits limited by an annual volume will pump the entire volume appropriated annually or that water rights/permits limited by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time. Permit Nos. 6371-3 and 8392-3 are required to report their annual usage from the Middle James: Columbia aquifer. Because there are only a few years of reported use data for each, their full authorized appropriation is shown in Table 1. Permit Nos. 1903-3, 3915-3, and 5047-3 are municipal use permits that purchase their water from a rural water system (Drinking Water, 2021) and maintain their water right for emergency purposes. Therefore, they do not contribute to an annual total volume usage for the aquifer. The total estimated volume of 2,801 ac-ft/yr will be included in the water balance for non-irrigation permits.

Table 1. Non-irrigation water rights/permits from the Middle James: Columbia aquifer with permitted appropriation and estimated volume water use (Water Rights, 2021a, Drinking Water, 2021).

Permit No.	Name	Appropriation limited by Annual Volume (ac-ft/yr)	Appropriation limited by Diversion Rate (cfs)	Annual Estimated Volume (ac-ft/yr)	Use ^b	Status ^b
7130-3	SD WHEAT GROWERS		0.022	10	COM	LC
5220-3	SUNSET HUTTERIAN BRETHREN		0.220	96	DOM	
5881-3	ABE SOUTH DAKOTA LLC		1.000	434	IND	
1903-3	CITY OF HECLA ^a		0.300	0	MUN	
3915-3	CITY OF BRITTON ^a		1.120	0	MUN	
4908-3	BROWN DAY MARSHALL RWS		1.000	434	MUN	
5047-3	CITY OF HECLA ^a		0.030	0	MUN	
5740-3	WHITE TOWNSHIP		0.030	13	COM	PE
6528-3	LARSON LIVESTOCK INC		0.333	145	COM	
6657-3	WESTWOOD HUTTERIAN BRETHREN INC		0.670	291	DOM	
8392-3	SUNSET HUTTERIAN BRETHREN	78		78	DOM	
6371-3	BROWN DAY MARSHALL RWS	1300		1300	RWS	
Total:				2801		
a - these permits purchase water from a rural water system and maintain their water right for a standby use (Drinking Water, 2021)						
b - COM: Commercial; DOM: Domestic; IND: Industrial; MUN: Municipal; RWS: Rural Water Supply; LC: License; PE: Permit						

Well withdrawals from the Middle James: Columbia aquifer are also for irrigation use with actual pumpage from the aquifer reported to the DANR-Water Rights Program through annual irrigation questionnaires. Currently, there are 13 irrigation water rights/permits authorizing the irrigation of 3,185 acres with a total appropriation of 8,450 acre-feet annually for irrigation (Water Rights, 2021a). Figure 2 shows the historical relation between annual permitted usage and actual pumpage reported on annual irrigation summaries. Historically, the average annual reported pumping is approximately 716 ac-ft/yr (Water Rights, 1979-2020).

There are two future use permits, No. 5940-3 and No. 5940A-3 both maintained by the Brown Day Marshall RWS, appropriating water from the Middle James: Columbia aquifer. Currently, no water is reserved under these permits because their authorized appropriation was placed to beneficial use by Water Permit No. 6371-3 (Water Rights, 2021a).

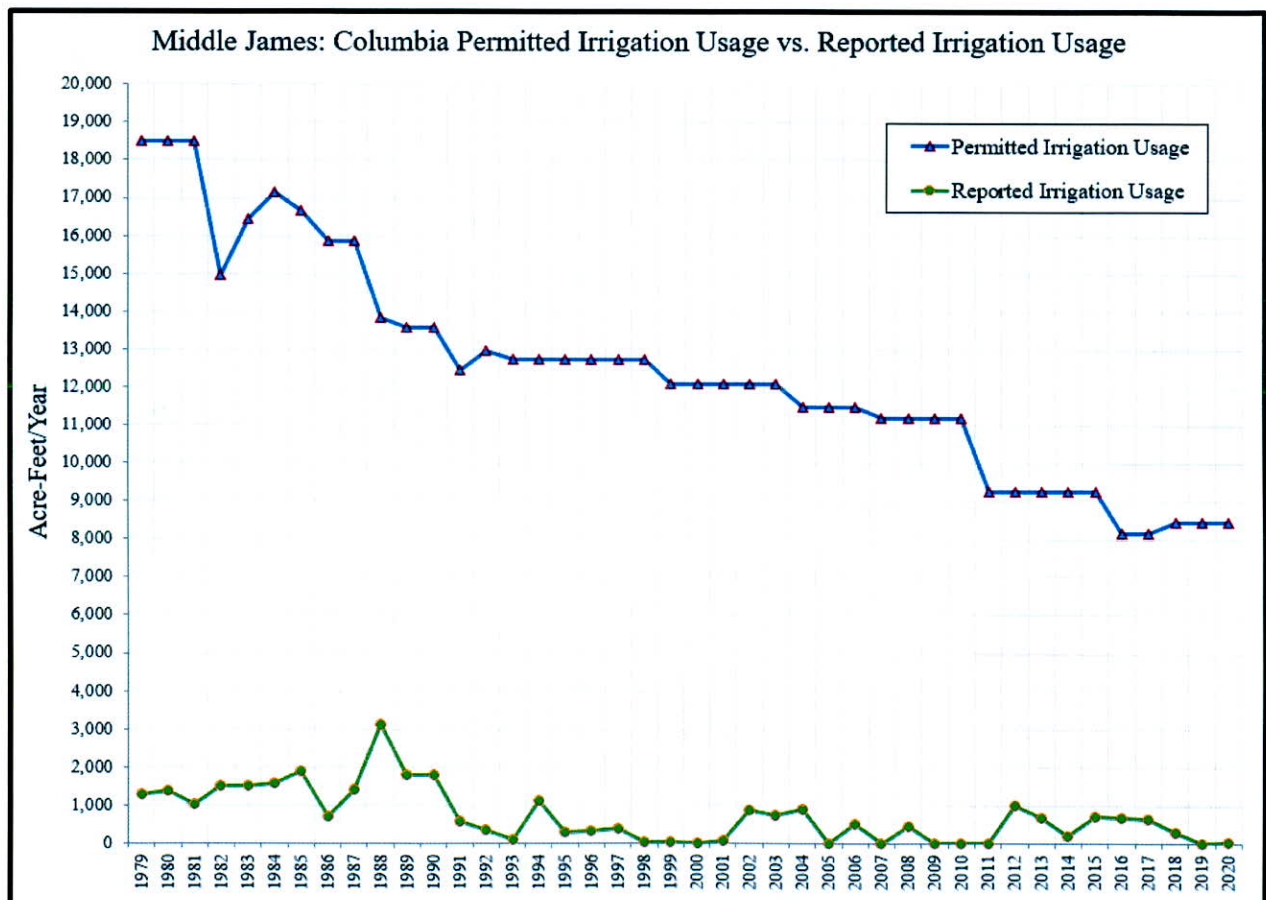


Figure 2. Permitted irrigation usage versus reported irrigation usage for the Middle James: Columbia aquifer (Water Rights, 2021a, Water Rights 1979-2020)

There is one pending application, Water Permit Application No. 8527-3 proposing to irrigate 160 acres of crops. For aquifers east of the Missouri River, an application rate of 1 ac-ft/acre (12 inches/acre) for center pivot crop irrigation is utilized to estimate use. Therefore, 160 ac-ft/yr will be included in the water balance for the pending application.

There are numerous domestic wells on file with the Water Rights Program within the Middle James: Columbia aquifer (Water Rights, 2021b). Domestic users are not required to report their annual water usage and due to their low diversion rates are not considered a significant portion of the hydrologic budget. Additionally, some domestic wells may no longer be in use with the development of rural water systems in the area.

Water Balance:

The Middle James: Columbia aquifer estimated average annual withdrawal rate is 3,677 ac-ft/yr (non-irrigation: 2,801; irrigation: 716; pending: 160). Average annual recharge is estimated between 3,950 and 15,800 ac-ft/yr. The expected use of 600 ac-ft/yr by this application results in a total exceedance of 327 ac-ft/year above the low end of the recharge rate for this aquifer. To satisfy the pending application and this application, an annual recharge rate of 0.156 in/yr would be required for the estimated recharge to exceed the estimated withdrawals. Recharge rates may be higher and more reflective of a non-buried aquifer because portions of the Middle James: Columbia aquifer receive recharge from the percolation of precipitation through overlying material (Koch and Bradford, 1976 and Hedges et al., 1985). Because of this and that the required recharge rate of 0.156 is only slightly higher than the admittedly conservative low value for the recharge range provided by Hedges et al. (1985), there is reasonable probability unappropriated water is available for this application. Assuming the recharge rate is greater than 0.15 in/yr is supported by the observation well data as described later in this report.

Observation Well Data

Administrative Rule of South Dakota (ARSD) Section 74:02:05:07 requires that the Water Management Board 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 25 observation wells completed into the Middle James: Columbia aquifer (Water Rights, 2021c). The hydrographs for the observation wells within approximately one mile of Water Permit Application No. 8533-3 are shown in Figures 3 through 5.

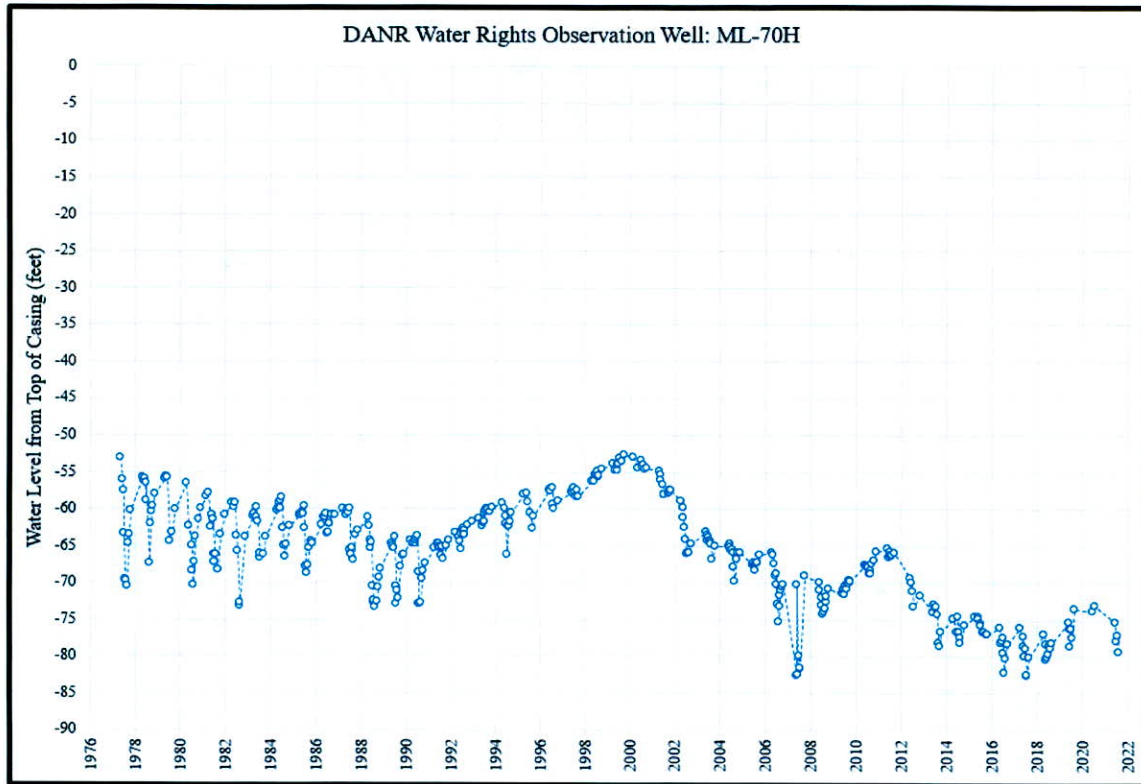


Figure 3. Hydrograph for observation well ML-70H located approximately 1.0 miles northwest of the proposed well location for Water Permit Application No. 8533-3 (Water Rights, 2021c).

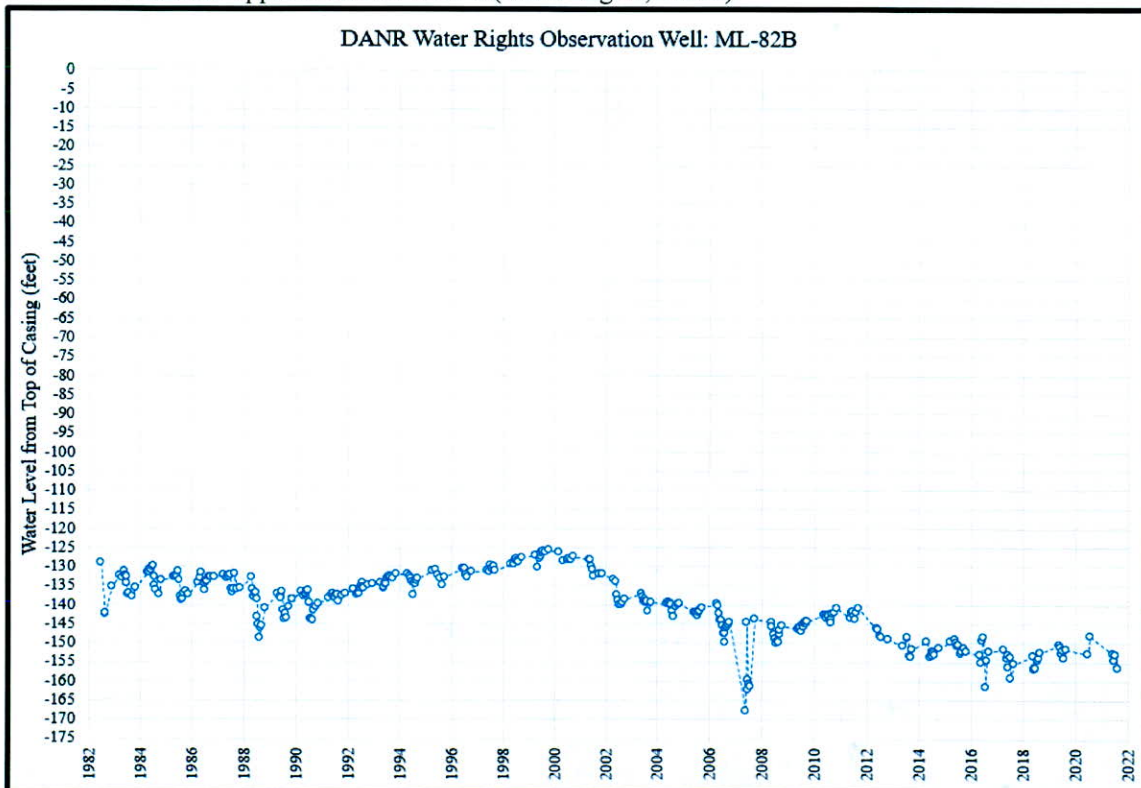


Figure 4. Hydrograph for observation well ML-82B located approximately 0.5 miles north of the proposed well location for Water Permit Application No. 8533-3 (Water Rights, 2021c).

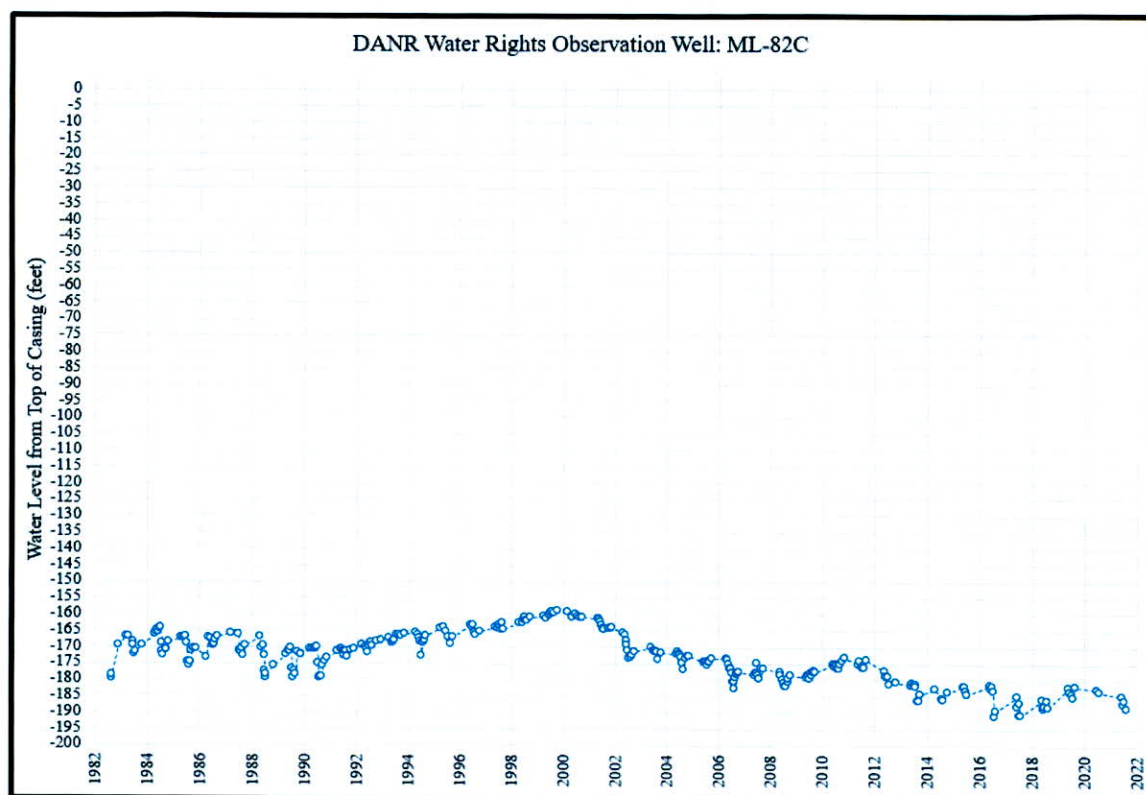


Figure 5. Hydrograph for observation well ML-82C located approximately 1.0 miles southwest of the proposed well location for Water Permit Application No. 8533-3 (Water Rights, 2021c).

The hydrographs shown in Figures 3 through 5 are representative of the hydrographs for other observation wells completed in the Middle James: Columbia aquifer near the application site. The hydrographs show that the artesian head levels of the aquifer are stabilizing after the increased production (Water Right Nos. 5940A-3 and 6371-3) beginning in 2002. They indicate that the aquifer responds well to climatic conditions with rising water levels during wet periods and declining water levels during drier periods. They also demonstrate that any drawdowns from pumping are temporary because the water levels typically recover to pre-pumping levels after the irrigation season. This is especially evident in water level peaks resulting from the high precipitation years of 2011 and 2019. This implies that the aquifer is likely recharging at a rate higher than the minimum value presented in Hedges et al. (1985). Hydrographs for observation wells outside of this very high use area show a generally stable or increasing trend in their respective water levels. Therefore, there is reasonable probability unappropriated water available for this proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS

Currently, there are a total of 27 water rights/permits appropriating or reserving water from the Middle James: Columbia aquifer (Water Rights, 2021a). The closest water rights/permit is maintained by the applicant and is located approximately 0.1 miles south of the proposed application. The closest water right/permit not held by the applicant is located 1.5 miles to the northeast of the proposed application. Table 3 lists the Middle James: Columbia aquifer water rights/permits shown in Figure 6 within approximately five miles of the proposed well location for Application No. 8533-3.

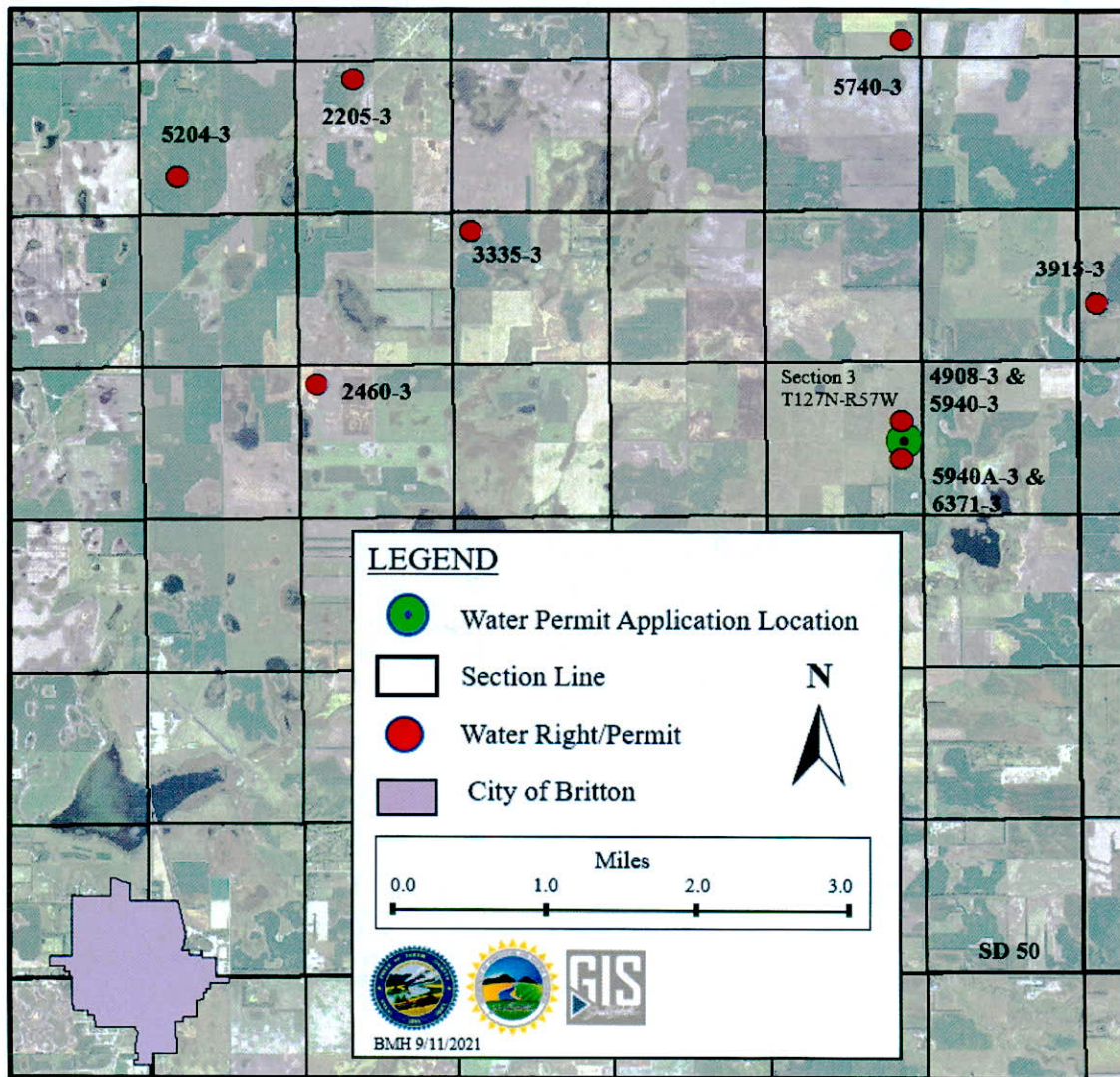


Figure 5. Existing South Dakota Middle James: Columbia aquifer water rights/permits in the vicinity of Water Permit Application No. 8533-3 (Water Rights 2021a).

Table 3. Water rights/permits shown in Figure 5 (Water Rights, 2021a).

Permit Number	Name	Rate (cfs)	Acres	Use ^a	Status ^a
2205-3	BUISKER FAMILY TRUST	1.45	183	IRR	LC
2460-3	RYAN PATTERSON	2.22	225	IRR	
3335-3	WESTWOOD HUTTERIAN BRETHREN INC	1.78	132	IRR	
3915-3	CITY OF BRITTON	1.12	0	MUN	
4908-3	BROWN DAY MARSHALL RWS	1.00	0	MUN	
5204-3	ARLO TANK	1.66	214	IRR	PE
5740-3	WHITE TOWNSHIP	0.03	0	COM	
6371-3	BROWN DAY MARSHALL RWS	2.89	0	RWS	FU
5940-3	BROWN DAY MARSHALL RWS	0.00	0	RWS	
5940A-3	BROWN DAY MARSHALL RWS	0.00	0	RWS	

a - IRR: Irrigation; MUN: Municipal; COM: Commercial; LC: Licensed WR; PE: Permitted WR; FU: Future Use Permit

There are numerous domestic wells on file with the Water Rights Program within the vicinity of the proposed well site (Water Rights 2021b). To protect domestic well users, 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 Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water is 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 because of impacts on artesian head pressure by legitimate users is considered as an unlawful impairment, it conflicts with SDCL 46-1-4 (Water Rights, 1995). Consequently, some existing well owners may need to lower their pumps due to deeper water levels depending on the specific characteristics of the Middle James: Columbia aquifer at their location; particularly since the aquifer is under confined conditions near the proposed diversion point for this application. However, many domestic wells may no longer be used as the primary water source since rural water systems have been introduced to the area and there is no history of well interference complaints in Marshall County involving the Middle James: Columbia aquifer (Water Rights, 2021d). Nearby adequate wells are not expected to be adversely impacted as defined in ARSD 74:02:04:20(7).

When considering the large amount of artesian head pressure (80 feet), the hydrographs of nearby observation wells not showing detrimental impact of pumping, and the lack of well interference complaints due to pumping, there is reasonable probability that the proposed diversion can be developed without unlawfully impairing existing appropriative or domestic water users with adequate wells.

CONCLUSIONS:

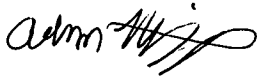
1. Water Permit Application No. 8533-3 proposes to appropriate water from the Middle James: Columbia aquifer to add 600 acre-feet per year (ac-ft/yr) and increase the existing permitted diversion rate by 1.11 cubic feet per second (cfs) to what is currently authorized by Water Right No. 4908-3 and Water Permit No. 6371-3.
2. Four wells were initially authorized by Water Right No. 4908-3 and Water Permit No. 6371-3. This application adds four additional wells, completed into the Middle James: Columbia aquifer, and authorizes the construction of an additional well to be completed approximately 300 feet deep, into the Middle James: Columbia aquifer, located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 3; T127N-R57W.

3. Water Right No. 4908-3 and Water Permit No. 6371-3 initially authorized a combined diversion rate of 3.89 cfs. This application, Water Right No. 4908-3, and Water Permit No. 6371-3 will authorize a combined total diversion rate of 5.00 cfs from the nine wells.
4. Water Right No. 4908-3 does not specify a limit for its annual volume usage. Water Permit No. 6371-3 is limited to an annual volume of 1,300 acre-feet. This application and Water Permit No. 6371-3 will authorize a combined volume of 1,900 acre-feet annually from the nine wells.
5. Based on the hydrologic budget and observation well data, there is a reasonable probability unappropriated water is available for this proposed application.
6. There is a reasonable probability the diversions proposed by this application can be made without unlawfully impairing existing appropriative or domestic users with adequate wells.



Blaise Hansen
SD DANR – Water Rights Program

Reviewed By:



Adam Mathiowetz, PE
SD DANR-Water Rights Program

REFERENCES:

Drinking Water. (2021). *Drinking Water System Information*. SD DANR-Drinking Water Program Online Database. Accessed August 20, 2021.
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Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. (1982). *Evaluation of Ground-water Resources in Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3:*

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Koch, N.C., and Bradford, W. (1976). *Geology and Natural Resources of Brown County, South Dakota - Part II: Water Resources.* USGS Bulletin 25. United States Geological Survey, Vermillion, SD.

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Water Rights. (2021b). *Well Completion Reports.* SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.

Water Rights. (2021c). *Observation Well Files.* SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.

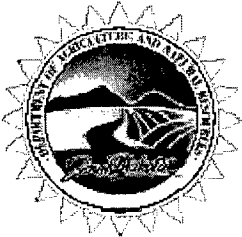
Water Rights. (2021d). *Marshall County Files.* SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, September 20, 2021 10:32 AM
To: Rod Kappes
Subject: Water Permit Application No. 8533-3
Attachments: 1893.pdf

Attached is a copy of the report, chief engineer recommendation and information regarding the public notice for your water permit application. As stated in the letter, please contact the paper(s) as soon as possible to authorize publication and arrange for payment. This information is being mailed to you today.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, September 28, 2021 8:13 AM
To: Rod Kappes
Subject: Corrected Version
Attachments: 1917.pdf

Attached is the revised report and chief engineer recommendation for Water Permit Application No. 8533-3.

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

September 20, 2021

BDM Rural Water System Inc.
Rodney Kappes, Manager
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

Water Permit Application No. 8533-3 for rural water system use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the following papers:

American News, Aberdeen	225-4100
Reporter & Farms, Webster	345-3356
Britton Journal, Britton	448-2281
Sisseton Courier, Sisseton	698-7642

You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, September 20, 2021 9:10 AM
To: News@Sissetoncourier.Com (news@sissetoncourier.com)
Subject: 8533-3, BDM Rural Water System Inc.
Attachments: 8533-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on September 28, 2021.

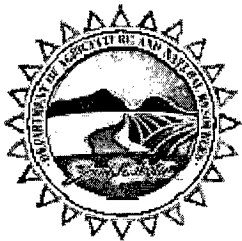
BDM Rural Water System Inc., c/o Rodney Kappes, Manager, PO Box 49, Britton SD 57430 (448-5417) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, September 20, 2021 9:09 AM
To: 'news@reporterandfarmer.com'
Subject: 8533-3, BDM Rural Water System Inc.
Attachments: 8533-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on September 27, 2021.

BDM Rural Water System Inc., c/o Rodney Kappes, Manager, PO Box 49, Britton SD 57430 (448-5417) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, September 20, 2021 9:08 AM
To: 'journal@brittonsd.com'
Subject: 8533-3, BDM Rural Water System Inc.
Attachments: 8533-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on September 29, 2021.

BDM Rural Water System Inc., c/o Rodney Kappes, Manager, PO Box 49, Britton SD 57430 (448-5417) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



Instruction to Newspaper - Publish the Notice once the week of September 27, 2021. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8533-3 to Appropriate Water

Notice is given that BDM Rural Water System, Inc., Rodney Kappes, Manager, PO Box 49, Britton SD 57430 has filed an application for a water permit to appropriate an additional 600 acre-feet of water annually and increase the existing permitted pump rate by 1.11 cubic feet of water per second (cfs). Currently, Water Right No. 4908-3 and Water Permit No. 6371-3, combined, authorize a maximum pump rate of 3.89 cfs from Wells #1 through Well #4.

Since eight wells are currently in use, this application also adds existing Wells #5 through #8 completed into the Middle James:Columbia Aquifer located in the NE 1/4 SE 1/4 and the SE 1/4 NE 1/4 Section 3 plus authorizes construction of an additional well (Well #9) to be completed into the Middle James:Columbia Aquifer (approximately 300 feet deep) in the NE 1/4 SE 1/4 Section 3; all in T127N-R57W. If approved, this application and No. 6371-3 (excluding the volume of water authorized by Water Right No. 4908-3) will authorize a combined total of 1,900 acre-feet annually from a total of nine wells.

The water is for rural water system use serving users in Brown, Day, Marshall and Roberts Counties. This site is located approximately six miles northeast of Britton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8533-3 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 October 12, 2021.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by October 12, 2021.

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_

LOCALiQ

Aberdeen News
Watertown Public Opinion

PO Box 630567 Cincinnati, OH 45263-0567

PROOF OF PUBLICATION

Bdm Rural Water System
Bdm Rural Water System
PO BOX 49
BRITTON SD 57430-0049

RECEIVED

OCT 12 2021

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA, COUNTY OF BROWN

The AMERICAN NEWS is a daily newspaper of general circulation, printed and published in Aberdeen, Brown County, South Dakota, and has been such a newspaper during the times hereinafter mentioned; and personal knowledge of the facts herein state that the notice hereto annexed was Published in said newspapers in the issue dated:

09/29/2021

That said newspaper is a legal newspaper published five days or more each week; with a bona fide circulation of more than two hundred copies daily; published in the English language within the said county of Brown for more than one year prior to the first publication of said notice; and printed in whole in an office maintained at the place of publication of said newspaper.
Sworn to and subscribed before on 09/29/2021

Legal Clerk

Notary, State of WI, County of Brown

My commission expires

Publication Cost: \$55.96

Order No: 6313503

of Copies:

Customer No: 549450

1

PO #: Water app. 8533-3

THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.

SARAH BERTELSEN
Notary Public
State of Wisconsin

NOTICE OF
APPLICATION NO. 8533-3
to Appropriate Water

Notice is given that BDM Rural Water System, Inc., Rodney Kappes, Manager, PO Box 49, Britton SD 57430 has filed an application for a water permit to appropriate an additional 600 acre-feet of water annually and increase the existing permitted pump rate by 1.11 cubic feet of water per second (cfs). Currently, Water Right No. 4908-3 and Water Permit No. 6371-3, combined, authorize a maximum pump rate of 3.89 cfs from Wells #1 through Well #4. Since eight wells are currently in use, this application also adds existing Wells #5 through #8 completed into the Middle James:Columbia Aquifer located in the NE 1/4 SE 1/4 and the SE 1/4 NE 1/4 Section 3 plus authorizes construction of an additional well (Well #9) to be completed into the Middle James:Columbia Aquifer (approximately 300 feet deep) in the NE 1/4 SE 1/4 Section 3; all in T127N-R57W. If approved, this application and No. 6371-3 (excluding the volume of water authorized by Water Right No. 4908-3) will authorize a combined total of 1,900 acre-feet annually from a total of nine wells. The water is for rural water system use serving users in Brown, Day, Marshall and Roberts Counties. This site is located approximately six miles northeast of Britton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8533-3 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 October 12, 2021.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at

<https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by October 12, 2021.

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 \$55.96.
Sept. 29, 2021 #6313503

AFFIDAVIT OF PUBLICATION

RECEIVED

OCT - 4 2021

STATE OF SOUTH DAKOTA, County of Marshall.

WATER RIGHTS
PROGRAM

Douglas M. Card of said county, being first duly sworn on oath says that he is publisher of the MARSHALL COUNTY JOURNAL, a weekly newspaper printed and published in the City of Britton, in the County of Marshall, and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly and has been published within said County for fifty-two successive weeks, next prior to the publication of the notice herein mentioned and is printed wholly or in part in an office at said place of publication;

145 @ .3319 =

48.1255

= 48.13

that the Notice of App - No. 8533-3 to Appropriate Water -
BDM Rural Water System, Inc. - Britton, SD

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet and is made a part of this affidavit, was published in said newspaper at least once each week for one successive weeks, on the day of each week on which said newspaper was regularly published, to wit:

Sept 29, 2021

that the full amount of the fee charged for the publication of said notice inures to the benefit of publisher of said newspaper, that no agreement or understanding for the division thereof has been made with any person, and that no part thereof has been agreed to be paid to any other person whomsoever, and that the fee for the publication thereof

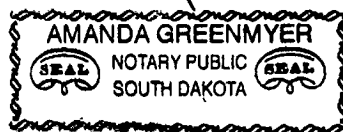
Party-eight and 13/100

DOLLARS

D. M. Card

Subscribed and sworn to before me this 30th day of

September A.D. 2021



Carl L. Lypert exp 4-13-27
Notary Public, Marshall County, S.D.

48.13

1T (Sept 29)
**NOTICE OF APPLICATION
NO. 8533-3 to Appropriate
Water**

Notice is given that BDM Rural Water System, Inc., Rodney Kappes, Manager, PO Box 49, Britton SD 57430 has filed an application for a water permit to appropriate an additional 600 acre-feet of water annually and increase the existing permitted pump rate by 1.11 cubic feet of water per second (cfs). Currently, Water Right No. 4908-3 and Water Permit No. 6371-3, combined, authorize a maximum pump rate of 3.89 cfs from Wells #1 through Well #4.

Since eight wells are currently in use, this application also adds existing Wells #5 through #8 completed into the Middle James: Columbia Aquifer located in the NE 1/4 SE 1/4 and the SE 1/4 NE 1/4 Section 3 plus authorizes construction of an additional well (Well #9) to be completed into the Middle James: Columbia Aquifer (approximately 300 feet deep) in the NE 1/4 SE 1/4 Section 3; all in T127N-R57W. If approved, this application and No. 6371-3 (excluding the volume of water authorized by Water Right No. 4908-3) will authorize a combined total of 1,900 acre-feet annually from a total of nine wells.

The water is for rural water system use serving users in Brown, Day, Marshall and Roberts Counties. This site is located approximately six miles northeast of Britton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8533-3 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 October 12, 2021.

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or the petitioner's legal counsel, if legal counsel is obtained.

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Published once at the total approximate cost of \$48.13.

Affidavit of Publication

STATE OF SOUTH DAKOTA
County of Roberts

ss.

Kevin H. Deutsch of said
first duly sworn, on oath says, that he is Editor of
THE SISSETON COURIER, a weekly newspaper published in Sisseton, in said county of Roberts and personal knowledge of all the facts herein
newspaper is a legal newspaper and has a bona fide circulation of at least two hundred copies weekly, and has been published within said county for 52 successive weeks
publication of the notice herein mentioned, printed wholly or in part in an office maintained for the purpose of publication; that the Notice of Notice No. 8533-3 To Appropriate Water Right No. 4908-3 and Water Permit No. 6371-3, combined, authorize a maximum pump rate of 3.89 cfs from Wells #1 through Well #4. Since eight wells are currently in use, this application also adds existing Wells #5 through #8 completed into the Middle James: Columbia Aquifer located in the NE 1/4 SE 1/4 and the SE 1/4 NE 1/4 Section 3 plus authorizes construction of an additional well (Well #9) to be completed into the Middle James: Columbia Aquifer (approximately 300 feet deep) in the NE 1/4 SE 1/4 Section 3; all in T127N-R57W. If approved, this application and No. 6371-3 (excluding the volume of water authorized by Water Right No. 4908-3) will authorize a combined total of 1,900 acre-feet annually from a total of nine wells. The water is for rural water system use serving users in

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Published once at the total approximate cost of \$41.13.

RECEIVED

OCT - 1 2021

WATER RIGHTS
PROGRAM

that the full amount of the fee is charged for publication of said Notice insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division there has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever and that the fees charged for the publication there of are \$41.13

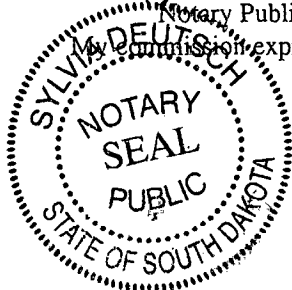
Kevin H. Deutsch

Subscribed and sworn to before me this 28th day of

September, A.D., 2021

Sylvia M. Deutsch

Notary Public, Roberts County, South Dakota
Commission expires February 3, 2022



Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of DAY) SS

I, JOHN SUHR
certify that the attached printed Notice was taken

from the Reporter &
Farmer

printed and published in Webster
County of DAY and
state of South Dakota. The notice was published
in the newspaper on the following date:

SEPT 27, 2021
Cost of Printing \$224

[Signature]
(Signature)
Publisher
(Title)

9/27/21
(Date Signed)

LeAnn M. Suhr
LeAnn M. Suhr
Day County South Dakota
My Commission Expires January 12, 2024

Rural water system files water appropriation permit

NOTICE OF APPLICATION NO. 8533-3 TO APPROPRIATE WATER

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Published once at the total approximate cost of \$52.24

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SEP 29 2021

WATER RIGHTS
PROGRAM



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

OCT 25 2021

BDM Rural Water System Inc
c/o Rodney Kappes, Manager
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

Enclosed is Water Permit No. 8533-3 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

BDM Rural Water

294' 12" Well formation log September 2023

Formation	From	To
Top soil	0	2
Clay brown	2	6
Gravel coarse	6	10
Clay brown	10	12
Gravel	12	17
Clay brown	17	19
Sand dirty	19	21
Clay brown silty	21	29
Sand	29	35
Clay brown	35	38
Sand med	38	71
Sand gray w/ coal	71	107
Clay gray soft	107	111
Clay blue w/ a few sand layers	111	119
Clay gray	119	120
Sand gray w/ a few clay layers and coal	120	137
Clay gray	137	157
Clay gray w/ gravel layers	157	165
Clay blue	165	177
Clay blue pebbly	177	191
Clay blue	191	198
Clay blue pebbly	198	208
Clay gray w/ thin gravel layers	208	256
Clay gray sandy w/ sand layers	256	267
Sand med	267	271
Gravel med and sand	271	295
Clay	295	

Legend

-  BDM
-  Feature 1
-  SD T127N

107th St BDM 12" Well 9/13/2023

107th St

BDM 265' 2" WELL 6/22/2022

428th Ave

BDM 270' 2" WELL 6/17/2022

BDM 265' 6" WELL 6/15/2022

428th Ave



900 ft



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

March 26, 2024

4908-3, 6371-3, 8533-3

BDM Rural Water System
c/o Rodney Kappes, MGR
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

I am writing you today to follow up on last weeks telephone conversation regarding the construction and pump placement of BDM RWS Well #9 and the additional 4 wells to be used at the new treatment facility. Currently, BDM is authorized diversion of water for the rural water system under Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3.

Water Right No. 4908-3 authorizes the diversion of 1.0 cfs (pumping constantly would equate to 723.9 acre-feet annually), from 2 wells (Well #1 & Well #2), located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 3-T127N-R57W.

Water Permit Nos. 6371-3 & 8533-3 authorize a combined diversion rate of 4.0 cfs (1,900 ac-ft annually), from 9 wells (Well #1 through Well #9), located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ & SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 3-T127N-R57W. Per Permit No. 8533-3, all construction is to be completed by October 12, 2026.

If development of the four new wells (Well #10 through Well #13) will not cause the diversion rate to exceed a maximum instantaneous rate of 5.0 cfs or the annual volume to exceed 2,624 ac-ft, then it may be possible for the new wells to be included under your existing right/permits. To do so, please complete the highlighted portions of the enclosed permit application and return it to our office with a map of all well locations. On the map, please label the wells by assigned well number and identify which four wells are the additional wells beyond what your existing right/permits cover. Do not remit a fee with the application and map. Our office will complete a review to determine whether the additional wells may increase the potential for interference with other existing diversions. If the potential for interference is not increased, the wells can be added without the need to process the application pursuant to South Dakota Codified Law 46-5-13.1.

Sincerely,

Amanda Dewell
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us

NOTE: If upon inspection, diversion from the 13 wells exceeds what is authorized under the above-mentioned Water Right and Permits, a new permit will be required.

enclosure

8000-3
RECEIVED

APR 03 2024

OFFICE OF
WATERFORM 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. _____ Hydrologic Unit _____ Basin _____ Newspaper _____ (office use only)
---	--

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 BDM Rural Water System

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

Mailing Address PO Box 49 Britton SD 57430
(Address) (City) (State) (Zip Code)

Phone _____ Mobile _____ Email _____

2. Amount of water claimed N/A *CFS or N/A **GPM _____ ***AF Total Acreage _____
(*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, four new wells4. Location of point of diversion E 1/2 NE 1/4 NE 1/4 9-127-57
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)5 New Wells #9, 10, 11, 12, 13.County Marshall5. County or counties where water will be used Brown, Day, Marshall, Roberts6. Annual period during which water is to be used Jan 1 - Dec 317. 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

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

4 additional diversion points to Permit No. 8533-3

I, Richard Kapper
Name of PersonGeneral Manager, the applicant, certify under
Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

2021-08

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

Supplemental Information

(type or print)

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

☒ Drilling new well(s) ☐ Using existing well(s)

- a) If new wells, how many 4 Have test holes been drilled? ☐ Yes ☐ No Drilled by _____
(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) 285'^{aprox} Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

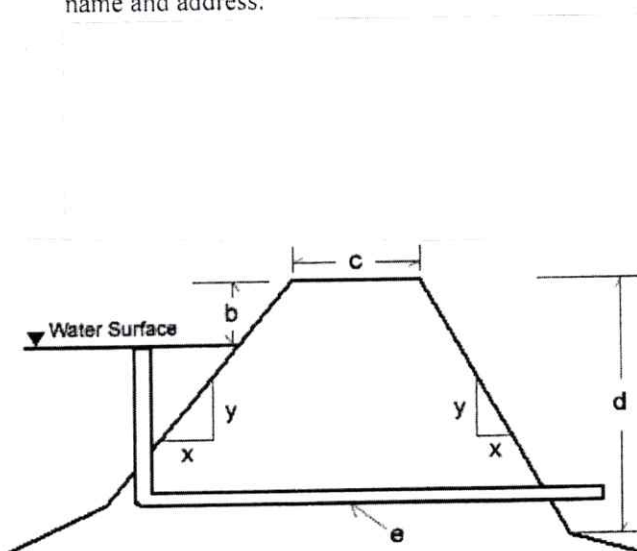
3. Dugout Information

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

4. Water Storage Dams

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

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



- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____
If pipe, diameter _____
- f) Secondary Spillway Capacity _____
Spillway Width _____
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream _____
Downstream _____
- h) Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres



Existing
WTP +
Well Field

Pleasant Hill

WTP

127-57-03

428th Ave

2025 - Hagen, Jim & Kathy

BDM New WTP E1/2NE1/4NE1/4 9-127-57

Aldentaler, Glen

#9 Well

107th St

#12 Well

#10 Well

#13 Well

#11 Well

107th St

428th Ave

428th Ave

Google Earth

Image © 2024 Airbus

2000 ft

N

BDM New WTP E1/2NE1/4NE1/4 9-127-57

107th St
2134 - Aldentaler, Glen

Well No. 9 - BDM

107th St

Well No. 12 - BDM

Well No. 10 - BDM

Well No. 13 - BDM

Well No. 11 - BDM

428th Ave

Google Earth

Image © 2024 Airbus

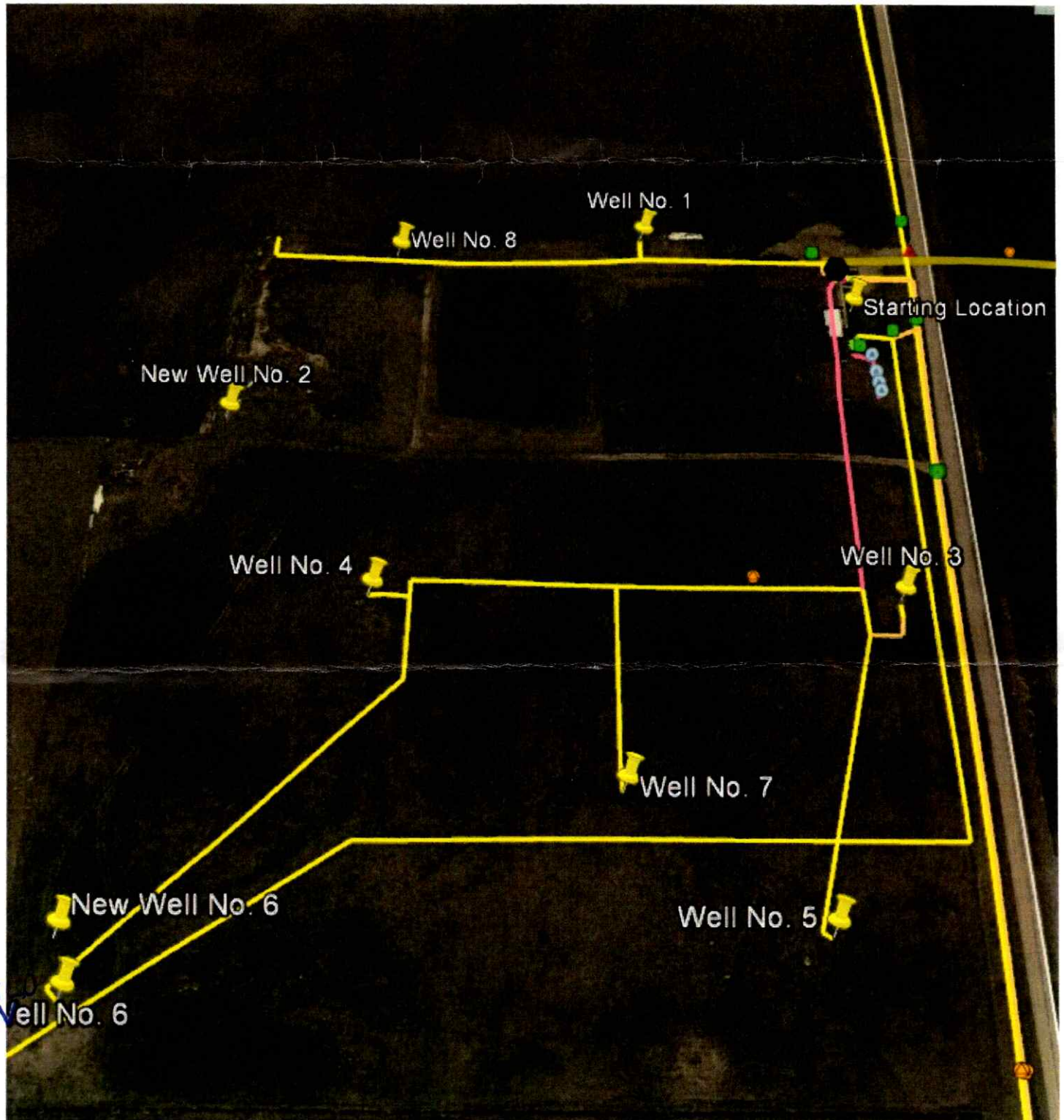
800 ft

N

Rod Kappes

From: Brian R. Bergantine <Brian.Bergantine@AE2S.com>
Sent: Friday, April 24, 2020 9:58 AM
To: Rod Kappes; Darin Roehr
Cc: Gregory Hansen
Subject: BDM Wells

OLD WTP Existing 8 Wells



Approval of Location Change and/or Additional Diversion Point(s)

NAME: Brown Day Marshall Rural Water System, c/o Rodney Kappes

ADDRESS: PO BOX 49, Britton SD 57430

DATE: April 4, 2024

COUNTY: Marshall

GENERAL DESCRIPTION OF AUTHORIZED PROJECT:

BDM RWS holds Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3. The permit holder was authorized to construct a total of nine wells into the Middle James: Columbia Aquifer in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ & SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 3, T127N, R57W for a rural water system that serves users in Brown, Day, Marshall, and Roberts Counties. The authorized combined diversion rate for all of the wells under 4908-3, 6371-3, and 8533-3 is 5.0 cfs and appropriates up to 2,624 acre-feet annually.

BDM RWS has filed a request to correct the location of Well # 9 and add 4 wells (Wells 10, 11, 12 and 13) to the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W. The wells are to be completed into the Middle James: Columbia Aquifer.

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed, or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased.

- **Developed water source same as permitted source and no additional water appropriated**

The permit holder constructed Well #9 and 4 additional wells into the Middle James: Columbia Aquifer in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N-R57W, Marshall County. The combined diversion rate for all 13 wells (9 existing & 4 new) is 5.0 cubic feet of water per second with a volume of 2624 ac-ft annually. Therefore, the wells are in the same water source and no additional water is appropriated by this request.

- **If irrigation, no new land is irrigated**

Not irrigation use.

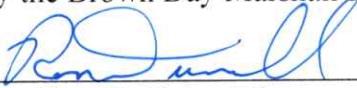
- **Review of Existing Diversions**

There are two existing water permits/rights within 2 miles of where the new wells are to be developed. Both existing permits/rights are held by BDM RWS (4908-3, and 6371-3). It should be noted that BDM RWS also holds Future Use Permit Nos. 5940-3 and 5940A-3 reserving water from the Middle James: Columbia Aquifer in this area. The location of Wells 9 – 13 is just over one mile southwest of BDM RWS's original well field. The review of the water permits for Nos. 4908-3 and 6371-3 concluded there was reasonable probability any well interference due to pumping of the wells would not adversely or unlawfully impair existing rights held by other users. The same would be expected for the wells constructed in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W.

The nearest Water Right held by another user, for withdrawals from the Middle James: Colombia Aquifer, would be Water Right No. 3915-3, held by the City of Britton. The diversion point authorized under Water Right No. 3915-3 is located approximately 2.5 miles northeast of BDM's site for Wells 9, 10, 11, 12, and 13. Interference is not expected.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the diversion point(s) be developed and permitted as requested by the Brown Day Marshall Rural Water System.



Ron Duvall, Natural Resources Engineer
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This change in location and/or additional diversion point(s) does not increase the potential for adverse effects to existing diversions.



Eric Gronlund, Chief Engineer
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

April 4, 2024

BDM Rural Water System
c/o Rodney Kappes, Mgr
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

This letter is in regard to your request for the relocation of Well 9 and addition of four new wells (Wells 10, 11, 12, and 13) under Water Permit No. 8533-3. Your request stated that Wells 9, 10, 11, 12, and 13 would be located in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W, Marshall County, and was made because the first eight wells could not produce the amount of water authorized by Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3.

Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3 authorize a combined diversion rate of 5.0 cfs and appropriate up to 2,624 acre-feet annually, from nine wells completed into the Middle James: Columbia Aquifer, for a rural water system. According to the Permit No. 8533-3, Well 9 was to be located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 3, T127N, R57W.

Upon review of your request and pursuant to SDCL 46-5-13.1, the relocation of Well 9 as well as the addition of four new diversion points (Wells 10, 11, 12, and 13) is authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4.

No increase in the authorized diversion rate or annual volume from the Middle James: Columbia Aquifer is authorized.

If you have any questions, please contact Amanda Dewell at (605) 773-3352.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program