

WATER PERMIT NO. 1972-1

Name of Applicant: Timber Lake School District 20-3

Address: PO Box 1000, Timber Lake SD 57656 Phone: 605 865-3654

Amount of Water Claimed: 0.10 cfs Total Acres: 2 acres

Source of Water Supply: 1 well

Water to be used for: irrigation – football field County: Dewey

Type of Waste Disposal System:

Location: west side of Timber Lake

PRIORITY Date Received: 11-20-17 Application/License Fee: \$ 300

Corrected Application Received: Period of Annual Use: April 1 – October 31

Remarks:

Diversion Point: NE 1/4 NE 1/4 (Lot 1B) Sec 19-T17N-R25E

Land to be Irrigated: NE 1/4 NE 1/4 (Lot 1B and Lot 2) Sec 19-T17N-R25E

Depth of Well: 91 feet deep

Well Driller: Gregg's Drilling & Excavating

Remarks:

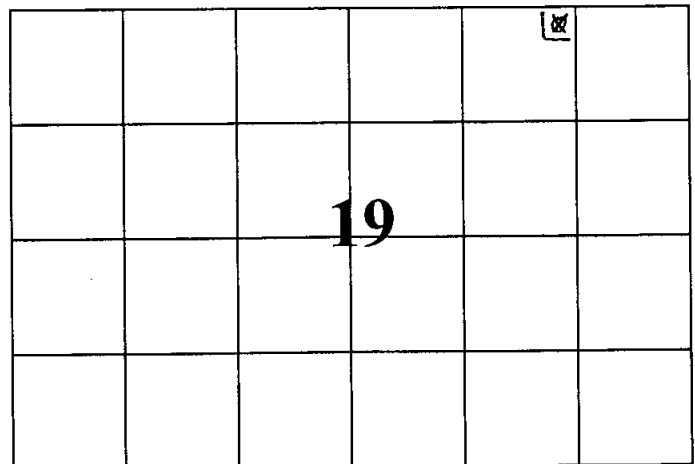
Type of Map: plat

Prepared by:

Reviewed and the Number Assigned on: 11-20-17

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>1972-1</u> (office use only) Hydrologic Unit <u>10130306</u>
	Basin <u>moreau River</u>
	Newspaper <u>Timber Lake Topic</u>
	<u>Capital Journal</u>

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NOV 20 2017

WATER RIGHTS
PROGRAM

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 <u>watering grass only</u> | |

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 Timber Lake School District 20-3
Mailing Address PO Box 1000 Timber Lake SD 57656
(Address) (City) (State) (Zip Code)
Phone (605) 865-3654 Mobile _____ Email dan.martin@k12.sd.us
- Amount of water claimed 0.10 *CFS or 45 **GPM and 2 acres ***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 well (Lot 1B)
- Location of point of diversion 1 well NE 1/4 NE 1/4 Sec. 19 T17N R25E County Dewey
(example - 3 wells in SW 1/4 NE 1/4 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? Acres Irrigated: NE 1/4 NE 1/4 (lots 1B & 2) Sec 19-T17N-R25E
(example - NW 1/4 section 12-T104N-R53W)
- County or counties where water will be used Dewey April 1 - Oct 31
- Annual period during which water is to be used Late spring, summer, early fall
- 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)

We added underground sprinklers to the Football Field. @ Approximately 2 acres

I, Dan Martin, Superintendent, 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.

**SOUTH DAKOTA
WATER PERMIT NO. 1972-1**

Date of first receipt of application November 20, 2017.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1972-1 to Timber Lake School District 20-3, c/o Dan Martin, Superintendent, PO Box 1000, Timber Lake SD 57656 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. 1972-1 appropriates 0.10 cubic feet of water per second (cfs) from one well to be completed into the Fox Hills Aquifer (91 feet deep) located in the NE 1/4 NE 1/4 (Lot 1B) Section 19 for irrigation of 2 acres of the football field located in the NE 1/4 NE 1/4 (Lot 1B and Lot 2) Section 19; all in T17N-R25E located on the west side of Timber Lake SD.
2. The amount of the appropriation may not exceed 3 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is November 20, 2017.
4. The date of approval of Permit No. 1972-1 is February 5, 2018.
5. One-fifth of the construction is to be completed on or before August 5, 2020.
6. All construction is to be completed on or before February 5, 2023.
7. Water is to be put to beneficial use on or before February 5, 2027.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Permit No. 1972-1 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. 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. 1972-1 authorizes a maximum diversion rate of 0.10 cfs for the irrigation of 2 acres with an annual volume not to exceed 3 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: _____

Jeanne Goodman
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

FEB 12 2018

date



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 N/A
(if yes, please provide copies of logs)

b) If existing wells, how many ____ Provide copy of log(s), if available. Drilled by N/A

For either Existing or Proposed Wells:

c) Well Depth (required) 92 ft Depth to Top of Water Bearing Material 42 ft Depth to Water from Surface 20.4

d) Distance to nearest domestic well on applicant's property 200 ft. Property owned by others No

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

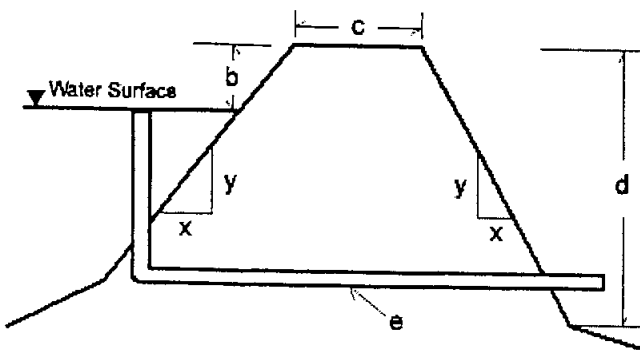
a) Surface Dimensions _____ Depth _____

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) Surface Area of Impoundment

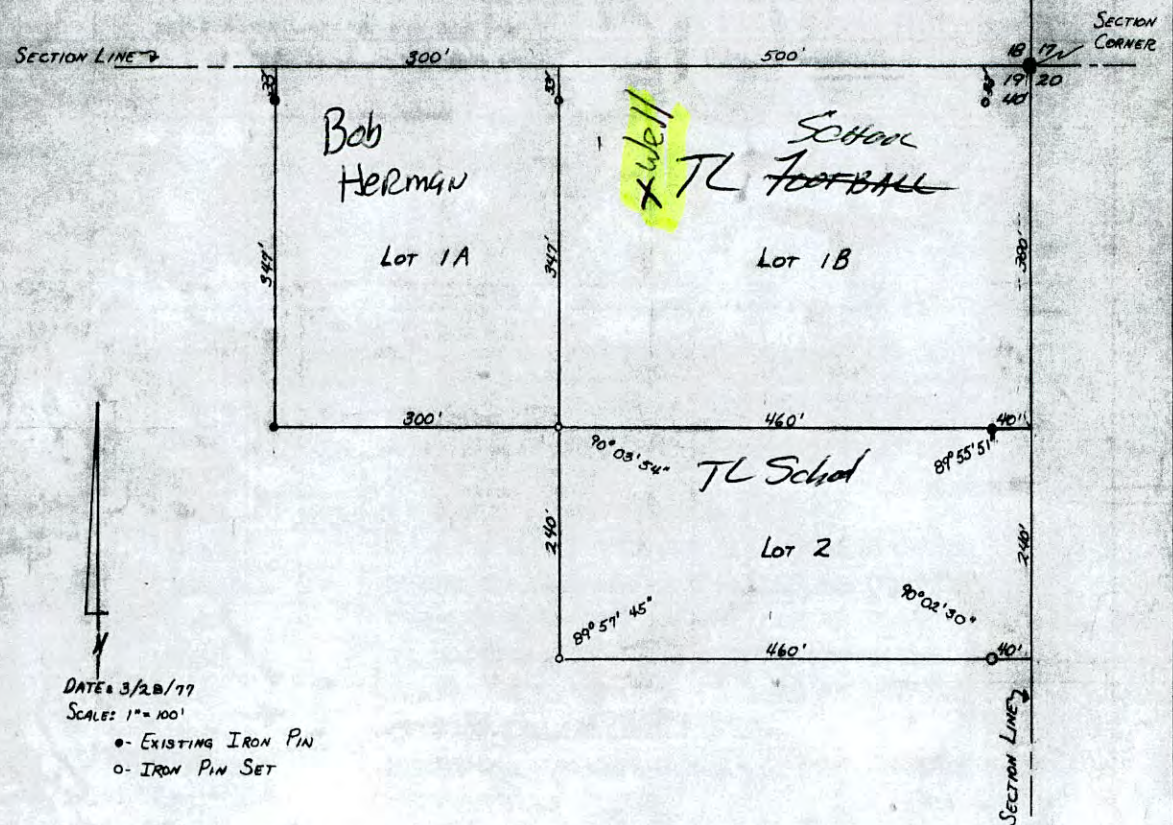
i) Storage	Acre Feet
------------	-----------

j) Drainage Area Above Dam	Acres
1	100
2	200
3	300
4	400
5	500
6	600
7	700
8	800
9	900
10	1000
11	1100
12	1200
13	1300
14	1400
15	1500
16	1600
17	1700
18	1800
19	1900
20	2000
21	2100
22	2200
23	2300
24	2400
25	2500
26	2600
27	2700
28	2800
29	2900
30	3000
31	3100
32	3200
33	3300
34	3400
35	3500
36	3600
37	3700
38	3800
39	3900
40	4000
41	4100
42	4200
43	4300
44	4400
45	4500
46	4600
47	4700
48	4800
49	4900
50	5000
51	5100
52	5200
53	5300
54	5400
55	5500
56	5600
57	5700
58	5800
59	5900
60	6000
61	6100
62	6200
63	6300
64	6400
65	6500
66	6600
67	6700
68	6800
69	6900
70	7000
71	7100
72	7200
73	7300
74	7400
75	7500
76	7600
77	7700
78	7800
79	7900
80	8000
81	8100
82	8200
83	8300
84	8400
85	8500
86	8600
87	8700
88	8800
89	8900
90	9000
91	9100
92	9200
93	9300
94	9400
95	9500
96	9600
97	9700
98	9800
99	9900
100	10000

REPLAT OF LOT 1 & PLAT OF LOT 2

NOW KNOWN AS LOTS 1A & 1B
LOCATED IN THE NE 1/4 NE 1/4
SEC. 19, T17N, R25E, OF THE B.N.M.
DEWEY COUNTY, SOUTH DAKOTA.

NOW KNOWN AS LOT 2
LOCATED IN THE NE 1/4 NE 1/4
SEC. 19, T17N, R25E, OF THE B.N.M.
DEWEY COUNTY, SOUTH DAKOTA.



Sec 7
T017N
R25E

Sec 8
T017N
R25E

Sec 13
T017N
R24E

Sec 18
T017N
R25E

Sec 17
T017N
R25E

Sec 24
T017N
R24E

Sec 19
T017N
R25E

Sec 20
T017N
R25E

Sec 25
T017N
R24E

Sec 30
T017N
R25E

Sec 29
T017N
R25E



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date November 20, 20 17

RECEIVED OF Timber Lake School District Timber Lake 57656

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

Fee for Application for Permit No. <u>1972-1</u> to Appropriate Water, to construct and to put water to beneficial use	100	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works confirming beneficial use and issuing Water License No. <u>1972-1</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	300 00

No. **08378**

By

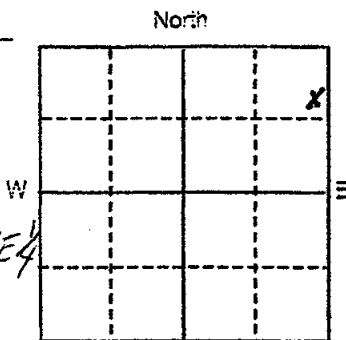
Jeanne Goodman
Chief Engineer
292

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE 1/4 NE 1/4 Sec 19 Twp 17N Rg 25ECounty Dewey

Please mark well location with an "X"



Well Completion Date

5-17-2017

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)
None ft. from (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Mud Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>2.91</u> LB/FT	<u>5" ID</u> IN	<u>16</u> FT	<u>91'</u> FT	<u>8 1/2"</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite</u>	<u>3</u>	<u>9.5</u> Lb/gal	<u>0</u> FT	<u>32'</u> FT
		Lb/gal	FT	FT

Describe grouting procedure Pumped in from bottom up through 1" Tremie pipe

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 5" ID Inches Length 50' FeetMaterial PVC SPR-21 SlottedSlot Size .025 Set From 41' Feet to 91' FeetOther information Gravel packed well w/ #40 Red Flint from 32' to 91', 5" PVC Cap on bottom

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes. How? Chlorine Solution circulated in well.
☐ No. Why Not? Well.

Lab to which water quality sample sent for analysis

Well Owner: Timber Lake Schools

Business Name

Address: P.O. Box 1000City, State, Zip: Timber Lake, S.D. 57656

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Topsoil</u>	<u>0</u>	<u>1</u>
<u>Brown sandy loam</u>	<u>1</u>	<u>15</u>
<u>Brown & gray sandstone</u>	<u>15</u>	<u>16</u>
<u>Brown-yellow sand</u>	<u>16</u>	<u>26</u>
<u>Blue-gray sand</u>	<u>26</u>	<u>47</u>
<u>Gray sandstone</u>	<u>47</u>	<u>48</u>
<u>Blue-gray sand coarse to fine</u>	<u>48</u>	<u>90</u>
<u>Gray sandy clay</u>	<u>90</u>	<u>91</u>

STATIC WATER LEVEL

20.4

FEET

If flowing, closed in pressure

PSI

GPM flow through

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe Developed well by air lift
☐ Bailed Surging till water cleared up
☒ Other 3 hrs. Developing Time

Pumping Level Below Land Surface

42 Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 45 GPM

REMARKS

Well located west side of football field on south west side of equipment shed near tree belt.For HHS AMThis well was drilled under license # 231 and this report is true and accurate.Drilling firm: Gregg's Drilling & Excavating

Signature of License Representative:

Gregg Grawski

Signature of Well Owner or Equitable Property Holder

RECEIVED

AUG 14 2017

Date:

WATER RIGHTS PROGRAM



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

October 11, 2017

Timber Lake Schools
PO Box 1000
Timber Lake SD 57656

Dear Sir:

A well driller's report filed by Gregg's Drilling & Excavating showing they recently completed a new well for the school. The report indicates the well water will be used for domestic use, but it appears that you may be using the well to water the football field. Based on the information in the report, it appears you may need a water permit.

A water permit must be obtained for any water use except for reasonable, private domestic use. Reasonable domestic use is defined as use of less than 25,920 gallons per day with a maximum rate not to exceed 25 gallons per minute. The report indicates a 45 gallon per minute pump was installed. Irrigation of more than one acre requires obtaining a water permit

1. Also, as a new well owner, you need to be aware of some of your responsibilities. Enclosed is a copy of "Well Owner Responsibilities". Please review these responsibilities to ensure you are complying with all of the requirements.
2. Enclosed is an application form and an instruction sheet to apply for a water permit for irrigation. The completed form with the application fee and map can be returned to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

If you believe your water use does not require a water permit or that you have an existing permit, or if help is needed completing the application forms, please contact Eric Gronlund or me at (605) 773-3352. We will be happy to assist you in any way possible.

Sincerely,

Karen Schlaak
Water Rights Program
karen.schlaak@state.sd.us

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1972-1, Timber Lake School District 20-3**

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. 1972-1, Timber Lake School District 20-3, c/o Dan Martin, Superintendent, PO Box 1000, Timber Lake SD 57656.

The Chief Engineer is recommending APPROVAL of Application No. 1972-1 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 rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under Permit No. 1972-1 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. 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. 1972-1 authorizes a maximum diversion rate of 0.10 cfs for the irrigation of 2 acres with an annual volume not to exceed 3 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
January 17, 2018

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 1972-1
TIMBER LAKE SCHOOL DISTRICT
C/O DAN MARTIN, SUPERINTENDENT
JANUARY 17, 2018

Water Permit Application No. 1972-1 proposes to irrigate 2 acres of the football field located in the NE ¼ NE ¼ Section 19 from one well completed into the Fox Hills aquifer located in the NE ¼ NE ¼ Sec 19; all in T17N-R25E at a maximum diversion rate of 0.10 cubic feet of water per second (cfs). The proposed irrigation project is on the west side of Timber Lake in Dewey County. The applicant is requesting a diversion rate greater than the statutory limit of 1.0 cfs per 70 acres.

AQUIFER: Fox Hills (FXHL)

Aquifer Characteristics:

The Fox Hills aquifer is the porous, saturated portion of the Fox Hills Sandstone, which underlies much of northwestern South Dakota (Martin et. al, 2004). The Fox Hills Sandstone consists of very fine to coarse-grained, glauconitic sandstone and siltstone, interbedded with gray and green to brown shale and silty shale (Martin et. al, 2004). The Fox Hills is often found under confined conditions but near outcrop areas may be under unconfined conditions. The Fox Hills aquifer underlies approximately 11,630 square miles and contains an estimated 50,735,000 acre-feet of recoverable water in storage in South Dakota (Allen, Iles, and Petres, 1985).

The geologic information on the well completion report submitted with this application indicates the Fox Hills Sandstone can be found at 15 feet below ground surface and is 75 feet thick at the well site. The static water level of the Fox Hills aquifer was 20.4 feet below ground surface in May 2017. The Fox Hills aquifer is unconfined at the well site.

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

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for this applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will address the availability of unappropriated water and effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Fox Hills aquifer. The probability of unappropriated water 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." 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 recharge/withdrawal issue. In this case, the aquifer is not stratigraphically

lower than the Greenhorn Formation and the applicant is not a water distribution system. Therefore, the recharge/withdrawal issue needs to be considered.

Observation Well Data:

Administrative Rule of South Dakota Section 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 DENR-Water Rights Program monitors nine observation wells completed into the Fox Hills aquifer (Water Rights, 2018a). Figure 1 shows a map of the area within approximately 10 miles of the well this application proposes to use and includes Fox Hills aquifer observation wells and water rights/permits (Water Rights, 2018a and 2018b). There are four Fox Hills aquifer observation wells within approximately eight miles of the well this application proposes to use: DW-57AR, CN-57BR, CN-57AR, and DW-57CR (Water Rights, 2018b). The other five Fox Hills aquifer observation wells are in Harding County and are all 97 miles or further away from the well this application proposes to use (Water Rights, 2018b).

The hydrographs for DW-57AR, CN-57BR, CN-57AR, and DW-57CR are shown in Figures 2 through 5, respectively. The water levels shown in these four hydrographs are representative of the water levels in the other Fox Hills aquifer observation wells. The hydrographs for all of the observation wells show that over the period of record the water level in the Fox Hills aquifer has been stable to rising. The water levels in the observation wells rise during wetter periods when recharge to the aquifer exceeds withdrawals plus discharge and slowly declining during drier periods when withdrawals plus natural discharge exceed recharge. The hydrographs document the dominance of the long term effects of climate on changes in water level compared to temporal impacts caused by pumping. The hydrographs show no or minimal impacts caused by pumping on the water level over the period of record. This means recharge to and natural discharge from the aquifer significantly exceed pumping. Recognizing that recharge to and natural discharge from an aquifer can be captured for pumping, the hydrographs document there is unappropriated water available for this proposed appropriation as required by SDCL 46-2A-9. Table 1 lists the water rights/permits shown in Figure 1.

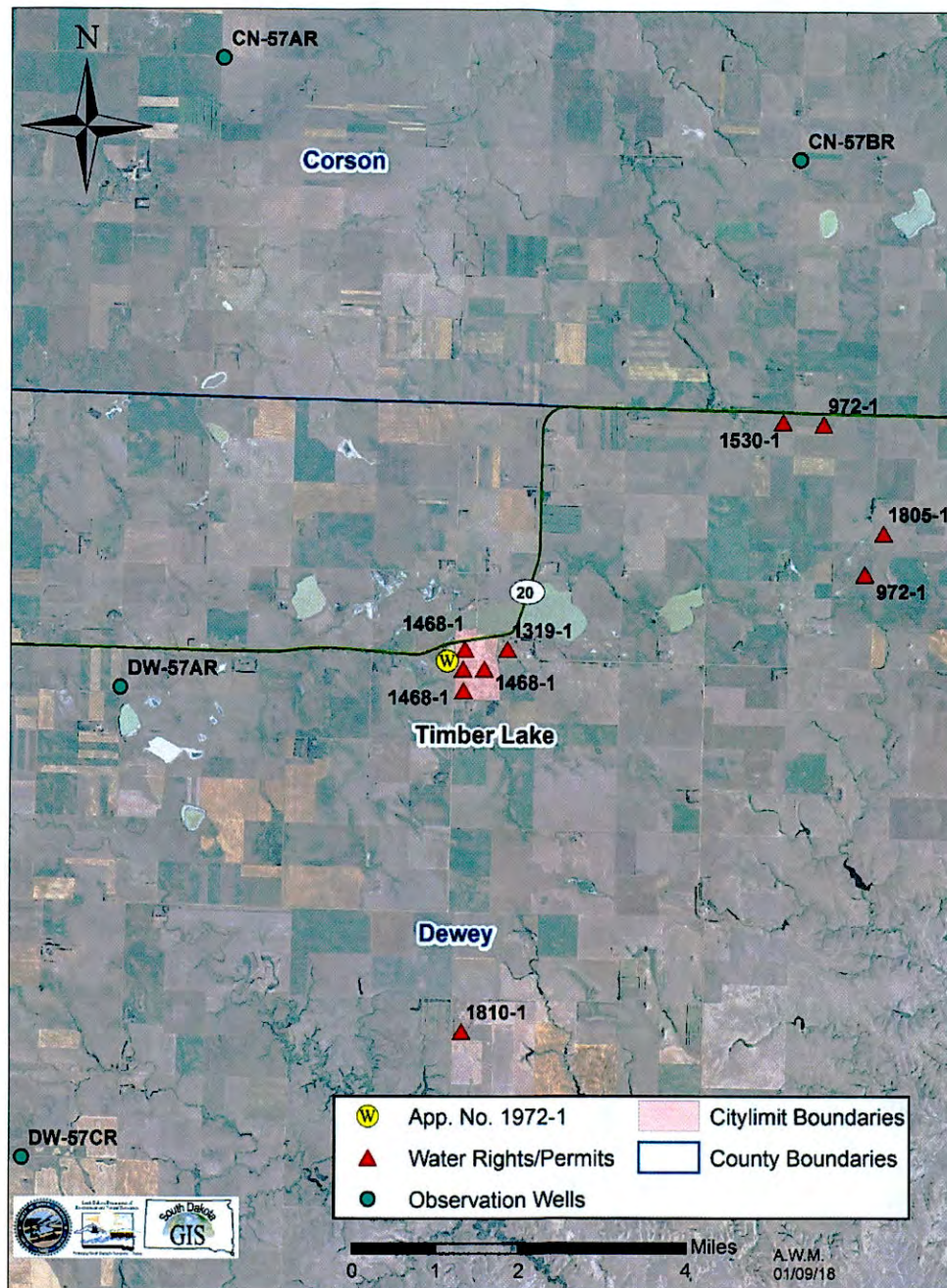


Figure 1- Map of the Fox Hills aquifer water rights/permits and observation wells in the area of the well Application No. 1972-1 proposes to use (Water Rights, 2018a and 2018b)

Table 1- Water rights/permits shown in Figure 1 (Water Rights, 2018b)

Permit No.	Name	Status	Use	CFS
972-1	T C & G Water Assoc.	LC	RWS	0.31
1319-1	Timber Lake Cheese Co Inc.	PE	COM	0.05
1468-1	City of Timber Lake	LC	MUN	0.47
1530-1	T C & G Water Assoc.	LC	RWS	0.09
1805-1	T C & G Water Assoc.	PE	RWS	0.22
1810-1	Little Moreau Elk Ranch LLC	PE	COM/DOM	0.044
LC= Water Right, PE= Water Permit, RWS= Rural Water System, COM= Commercial, MUN= Municipal, DOM= Domestic				

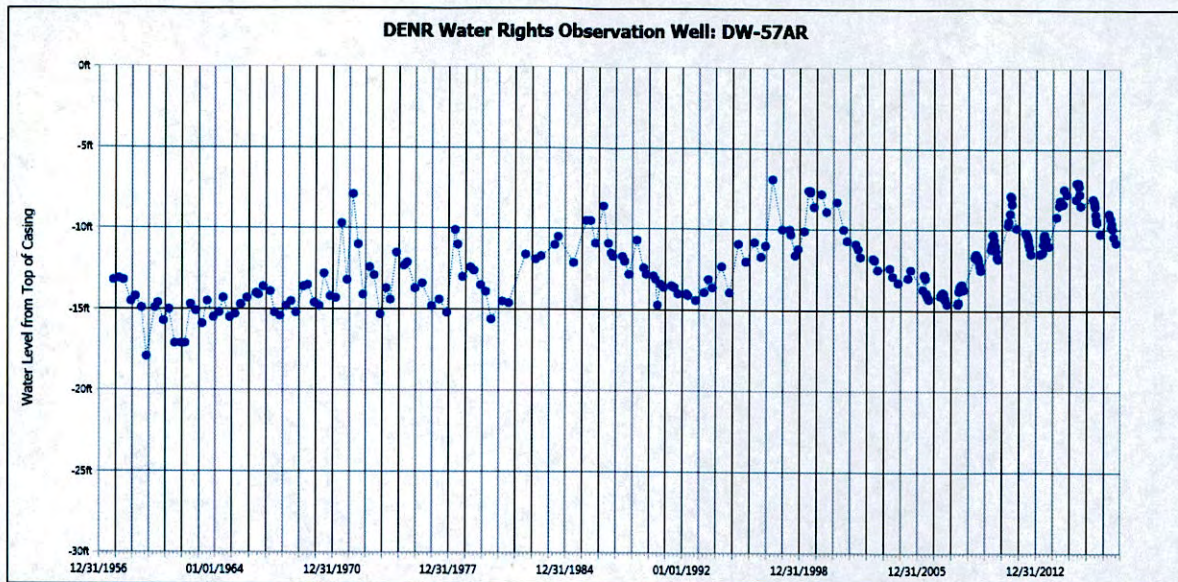


Figure 2- Hydrograph for DW-57AR, approximately 3.9 miles west of the well site (Water Rights, 2018a)

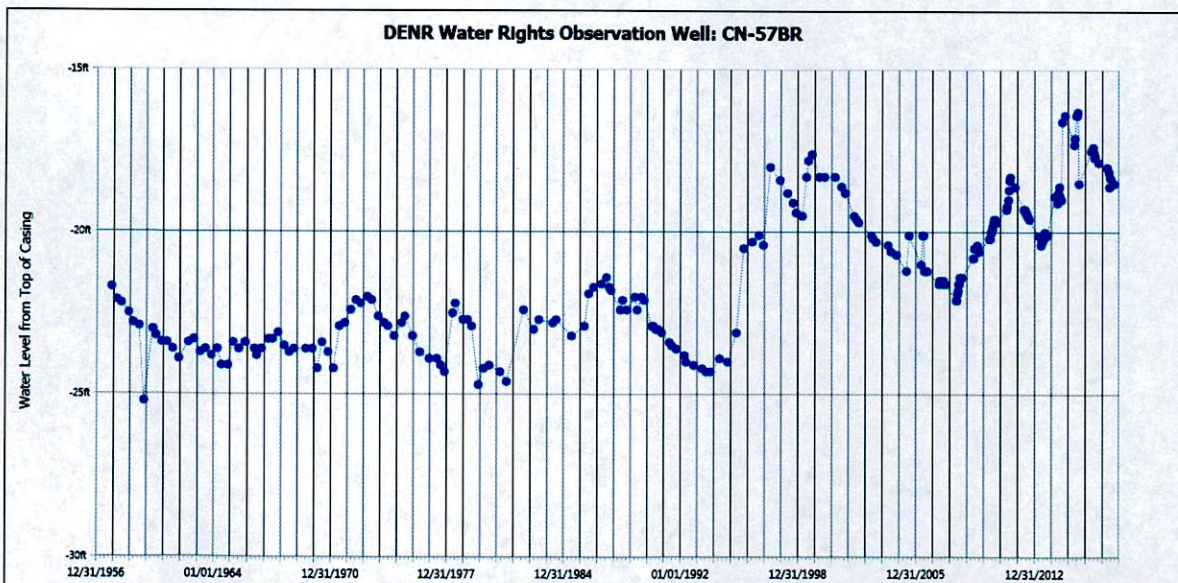


Figure 3- Hydrograph for CN-57BR, approximately 7.3 miles northeast of the well site (Water Rights, 2018a)

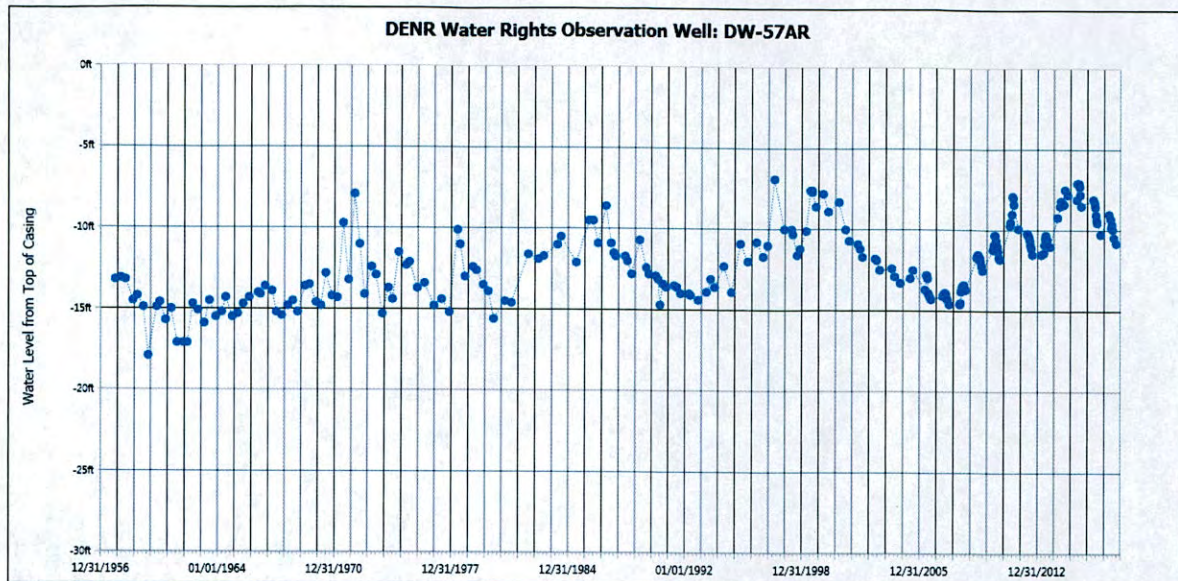


Figure 4- Hydrograph for CN-57AR, approximately 7.6 miles northwest of the well site (Water Rights, 2018a)

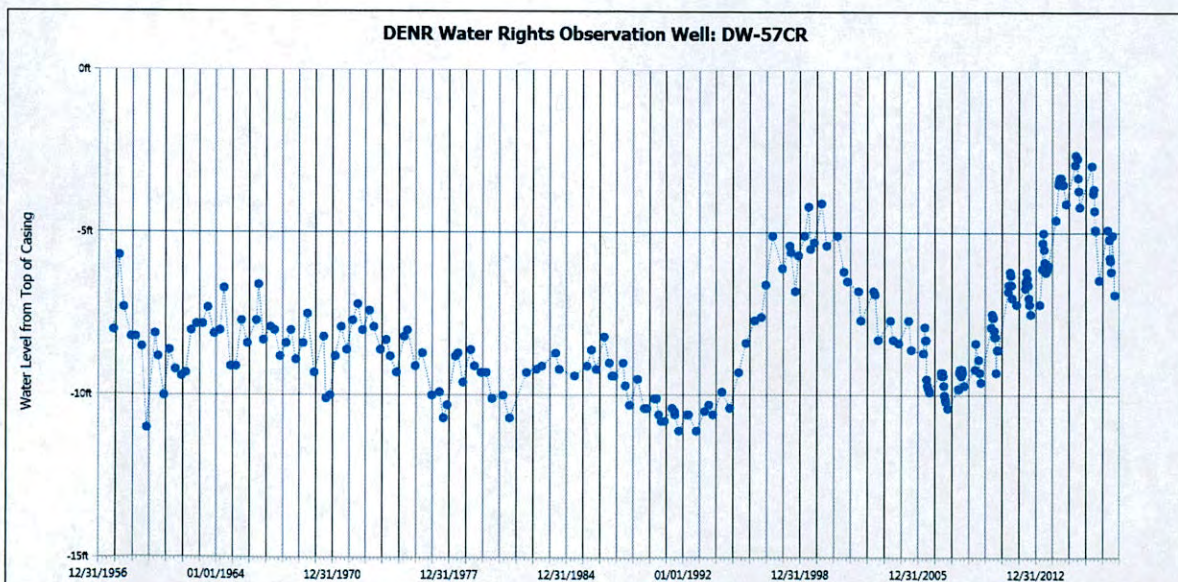


Figure 5- Hydrograph for DW-57CR, approximately 7.8 miles southwest of the well site (Water Rights, 2018a)

Recharge and Discharge:

Recharge

Recharge to the Fox Hills aquifer occurs through infiltration of precipitation at the outcrop, and leakage from overlying formations (Rahn, 1979). Hedges and Burch (1985) attempted to quantify recharge to the Fox Hills and Hell Creek Formations using base flow recession analysis for the Moreau River. They calculated a recharge rate range of 0.25 to 0.29 inches per year (in/yr.). Hedges and Burch (1985) noted that it is possible that a substantial amount of baseflow in the Moreau River may be from alluvium rather than the Fox Hills and Hell Creek Formations, and therefore, the recharge rate to the Fox Hills and Hell Creek Formations may be lower than 0.25 to 0.29 in/yr.

The well this application proposes to use is located within the Williston structural basin. Aurand (2013) quantified recharge across the Williston and Powder River Basins including the Fox Hills aquifer using two methods, chloride mass balance and soil water balance model. The estimated median recharge rate calculated using the chloride mass balance is 0.052 in/yr. for the Fox Hills aquifer (Aurand, 2013). The soil water balance model method in Aurand's (2013) thesis did not distinguish between the different aquifers within the Williston basin. The soil water balance model method showed the recharge rate ranging from 0.05 to 1 in/yr. with a majority of the aquifer area in South Dakota in the 0.5 to 1 in/yr. range.

Using Aurand's (2013) chloride mass balance method median recharge rate of 0.052 in/yr., the estimated recharge rate to the Fox Hills aquifer in South Dakota is likely greater than 32,254 ac-ft/yr. Using Hedges and Burch's (1985) range of recharge rates leads to an estimated range of recharge to the Fox Hills aquifer of 155,067 to 179,877 ac-ft/yr. Note, not all of the recharge or water in storage is available everywhere in the aquifer. These recharge rates and the volume of water in storage demonstrates the Fox Hills aquifer is an immense resource.

Discharge

Discharge from the Fox Hills aquifer primarily occurs through leakage to overlying formations, discharge to streams near the outcrop areas, and through well withdrawals. Currently, there are 30 water rights/permits authorizing the appropriation of water from the Fox Hills aquifer (Water Rights, 2018b). There are two irrigation water rights, Water Right Nos. 1631-1 and 1633-3 (Water Rights, 2018b). A summary of the water rights, the average annual irrigation volume, and the years when irrigation data was submitted are listed in Table 2. Estimated average annual irrigation pumpage from the Fox Hills aquifer is 33 ac-ft/yr.

Table 2- Fox Hills aquifer irrigation water rights including average annual pumpage (Water Rights, 2018b and 1996-2017)

Permit No.	Name	Status	Permitted Area (acres)	Average Pumpage (ac-ft/yr.)	Irrigation Data Years
1631-1	McIntosh School District	LC	2.3	0.5	1996-2016
1633-3	City of Lemmon	LC	27	32.5	2008-2016

Water use by non-irrigation appropriations is estimated by assuming pumping at the maximum permitted diversion rate for 60 percent of the time if the water right/permit is limited only by diversion rate, if the water right/permit is limited by an annual volume, assuming the entire volume will be pumped, or if the water right/permit is required to submit annual pumpage data to the Water Rights Program, an average of those values is used to estimate annual pumpage. The City of Lemmon and the Town of Bison are connected to Perkins County Rural Water System and maintain their wells for standby purposes only (Friedeman, 2018). Therefore, water use under their respective water rights is estimated to be minimal. Table 3 shows the non-irrigation water rights/permits authorized to withdraw water from the Fox Hills aquifer along with their estimated average annual pumpage. The estimated average annual non-irrigation use from the Fox Hills aquifer is 1,484.5 ac-ft/yr.

Table 3-Fox Hills aquifer non-irrigation water rights/permits including estimated annual use (Water Rights, 2018b and 2005-2017)

Permit No.	Name	County	Status	Use	CFS	Pumpage (ac-ft/yr.)
445-1	City of McLaughlin	CN	LC	MUN	0.26	112.9
624-1	Town of Bison	PK	LC	MUN	0.02	*
739A-1	City of Lemmon	PK	LC	MUN	0.2	*
739B-1	City of Lemmon	PK	LC	MUN	0.19	*
898-1	City of Lemmon	PK	LC	MUN	0.2	*
971-1A	City of McIntosh	CN	LC	MUN	0.5	217.2
972-1	T C & G Water Assoc.	DW	LC	RWS	0.31	134.7
1097-1	Town of Bison	PK	LC	MUN	0.67	*
1309-1	Town of Bison	PK	LC	MUN	0.02	*
1310-1	Town of Bison	PK	LC	MUN	0.01	*
1319-1	Timber Lake Cheese Co Inc.	DW	PE	COM	0.05	21.7
1339-1	Siesta Motel	ZB	PE	COM	0.45	195.5
1352-1	City of Lemmon	PK	LC	MUN	0.21	*
1364-1	City of McLaughlin	CN	LC	MUN	0.62	269.3
1367-1	Dew Drop Inn	CN	LC	COM	0.1	43.4
1393-1	SD Dept of Transportation	HR	LC	DOM	0.02	8.7
1418-1	Town of Bison	PK	LC	MUN	0.06	*
1468-1	City of Timber Lake	DW	LC	MUN	0.47	204.2
1505-1	Cattlemens Saloon	CN	PE	COM	0.03	13.0
1530-1	T C & G Water Assoc.	DW	LC	RWS	0.09	39.1
1535-1	Continental Resources Inc.	HR	LC	COM	0.033	14.3
1543-1	Klein Ranch	CN	LC	INS/DOM	0.04	17.4
1611-1	City of Lemmon	PK	LC	MUN	0.16	*
1627-1	Koch Exploration Company	HR	PE	COM	0.056	24.3
1805-1	T C & G Water Assoc.	DW	PE	RWS	0.22	93.2**
1810-1	Little Moreau Elk Ranch LLC	DW	PE	COM/DOM	0.044	19.1
1829-1	Gary L Cammack	MD	LC	COM/DOM	0.09	39.1
1946-1	Nellies Mercantile & Saloon	MD	PE	COM	0.04	17.4
Total						1484.5
* = On Perkins County RWS (Friedeman, 2018), minimal pumpage						
** = Average of reported pumpage (Water Rights, 2005-2017)						

There are a number of domestic well completion reports on file with the Water Rights Program for wells that appear to be completed into the Fox Hills aquifer (Water Rights, 2018c). Carter and Neitzert (2008) estimated water use across South Dakota for the year 2005. Self-serve domestic and livestock use across the entire South Dakota areal extent of the Fox Hills aquifer, assuming equal distribution of domestic and livestock water use and all water use in that area comes from only the Fox Hills aquifer, is approximately 4,200 ac-ft/yr. However, the presence of rural water systems in some of the areas underlain by the Fox Hills aquifer means that some of these wells may no longer be in use. Furthermore, a large portion of the Fox Hills aquifer is overlain by other aquifers that are used instead of the Fox Hills aquifer. Therefore, self-serve domestic use is likely much less than 4,200 ac-ft/yr.

Hydrologic Budget

The estimated average annual use by non-irrigation appropriations is 1,484.5 ac-ft/yr. The average annual irrigation pumpage from the Fox Hills aquifer is 33 ac-ft/yr. Self-serve domestic use from the Fox Hills aquifer is likely much less than 4,200 ac-ft/yr. Thus, the estimated average annual pumpage from the Fox Hills aquifer in South Dakota is expected to be much less than 5,718 ac-ft/yr. This application, if approved, is expected to pump less than 4 ac-ft/yr.

The minimum estimated average annual recharge to the Fox Hills aquifer in South Dakota is 32,254 ac-ft/yr. That is significantly greater than the estimated pumpage. The hydrologic budget is in agreement with the data shown in the observation well hydrographs. Therefore, there is a reasonable probability there is unappropriated water available for this proposed appropriation as required by SDCL 46-2A-9.

EXISTING WATER RIGHTS:

The well this application proposes to use is within approximately 2,400 feet of four wells used by the City of Timber Lake and 3,900 feet of the well authorized by Water Permit No. 1319-1 for Timber Lake Cheese Co. Inc. (Water Rights, 2018b). Figure 6 shows the City of Timber Lake and the wells authorized by Water Right No. 1498-1 for the City of Timber Lake and Water Permit No. 1319-1 along with the location of the well this application proposes to use.

The Fox Hills aquifer is unconfined in this area including the wells authorized by Water Right No. 1498-1 and Water Permit No. 1319-1. Since the aquifer is unconfined, drawdown created by pumping this proposed diversion is not expected to be significant very far from the well. Furthermore, the relatively small diversion rate proposed by this application will also limit the amount of drawdown. There is also, in general, approximately 70 feet of saturated aquifer thickness at these well locations. 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”.

In the past the Water Management Board has recognized to place water to maximum beneficial use, a certain amount of drawdown may occur. Furthermore, there is no history of well interference complaints from the Fox Hills aquifer. When the saturated aquifer thickness, unconfined nature of the aquifer, the relatively small proposed diversion rate, and the lack of a history of well interference is considered, adequate appropriative or domestic wells are not expected to be adversely or unlawfully impaired if this proposed appropriation is approved.



Figure 6- Map of the closest Fox Hills aquifer water rights/permits to Application No. 1972-1 (Water Rights, 2018b)

SDCL 46-5-6:

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 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. However, no annual volume may be greater than three acre-feet per acre delivered to the land.” Water Permit Application No. 1972-1 proposes to divert water at a maximum rate of 0.10 cfs for the irrigation of 2 acres or at a rate of 3.5 cfs per 70 acres. The applicant did not provide a reason for the request. The application states, “We added underground sprinklers to the Football Field.” It is probable that the diversion rate requested is necessary to properly operate the irrigation system that was installed. Small area irrigation, such as turf grass or athletic fields, requesting diversion rates in excess of the statutory limit because the system requires that diversion rate has previously been accepted by the Water Management Board as reasonable.

CONCLUSIONS:

1. Application No. 1972-1 proposes to divert water from the Fox Hills aquifer for the irrigation of 2 acres at a maximum diversion rate of 0.10 cfs.
2. Based on the observation well data and a hydrologic budget, unappropriated water is available from the Fox Hills aquifer for this proposed appropriation.
3. There is a reasonable probability the diversion proposed by this application can be made without adversely impacting existing appropriative or domestic users.
4. Application No. 1972-1 has requested a diversion rate in excess of the statutory limit of one cfs per 70 acres. The irrigation system installed likely requires the diversion rate requested to operate properly. The Water Management Board in the past has accepted requests for a greater diversion rate for similar system configurations as reasonable.



Adam Mathiowetz, PE
SD DENR-Water Rights Program

REFERENCES:

- Allen, J.C., D.L. Iles, and A.K. Petres. 1985. Analysis of Groundwater and Streamflow Data, Western Dakotas Region of South Dakota, Task 3A.B.C. and 4A.B.: Groundwater Resource Inventory: Final Report. U.S. Army Corp of Engineers Contract DAWC 45-82-C-015. SD DENR-Geological Survey. Vermillion, South Dakota.
- Aurand, K. 2013 Groundwater Recharge Estimates for the Lower Tertiary and Upper Cretaceous Aquifers in the Williston and Powder River Structural Basins. MS thesis. Rapid City, South Dakota: South Dakota School of Mines and Technology, Department of Geology and Geological Engineering Department.
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- Martin, J.E., J.F. Sawyer, M.D. Fahrenbach, D.W. Tomhave, and L.D. Schulz. 2004. Geologic Map of South Dakota: General Map 10. SD DENR-Geological Survey. Vermillion, SD.
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- Water Rights. 1996-2017. "2005-2017 Non-Irrigation Questionnaires": SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Water Rights. 1996-2017. "1996-2016 Irrigation Questionnaires": SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.
- Water Rights. 2018a. Observation Well Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2018b. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2018c. Well Completion Reports. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, January 18, 2018 8:14 AM
To: Martin, Dan
Subject: Water Permit Application No. 1972-1
Attachments: 1972-1.pdf

Mr. Martin:

Attached is the report, recommendation, public notice and instructions regarding Water Permit Application No. 1972-1 for irrigation of the football field. The paper copy is in the mail today.

Karen Schlaak

SD DENR, Water Rights Program
(605) 773-3352



AFFIDAVIT OF PUBLICATION

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FEB 07 2018

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA
COUNTY OF DEWEY

NOTICE OF APPLICATION NO. 1972-1 to Appropriate Water

Notice is given that Timber Lake School District 20-3, c/o Dan Martin, Superintendent, PO Box 1000, Timber Lake SD 57656 has filed an application for a water permit to appropriate 0.10 cubic feet of water per second (cfs) from one well to be completed into the Fox Hills Aquifer (91 feet deep) located in the NE 1/4 NE 1/4 (Lot 1B) Section 19 for irrigation of 2 acres of the football field located in the NE 1/4 NE 1/4 (Lot 1B and Lot 2) Section 19; all in T17N-R25E located on the west side of Timber Lake, SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1972-1 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 5, 2018.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

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.

Steven M. Pirner, Secretary,
Department of Environment and
Natural Resources

Published once at the total
approximate cost of \$31.00
January 25, 2018, *Timber Lake Topic*

Robert Slocum

, being duly sworn, says:

That the **Timber Lake Topic** is, and during all the times hereinafter mentioned was a weekly legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4 inclusive, as amended, published at Timber Lake, Dewey County, South Dakota; that affiant is and during all of said times was, the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement entitled _____

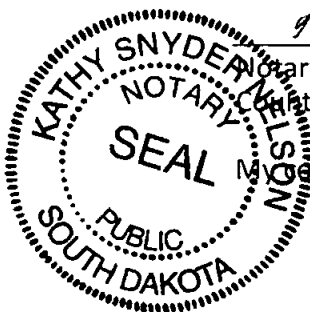
Notice of Application No. 1972-1

a printed copy of which is attached, was published in said newspaper for issues bearing the following dates: _____

January 25, 2018

That the full amount of the fee charged for publishing the same, to-wit, the sum of \$ 23.94 inures solely to the benefit of the publisher of said newspaper, that no agreement or understanding for the division of the fee has been made with any person, and that no part of the fee has been agreed to be paid to any other person.

Subscribed and sworn to before me this 5th day of Feb., 2018



Kathy Snyder Nelson

Notary Public,
County of Dewey, South Dakota

My Commission Expires

KATHY SNYDER NELSON
Notary Public, Dewey Cty., S. Dak.
My Commission Expires March 31, 2023

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JAN 29 2018

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Hughes) SSI, Marylinn Baker
certify that the attached printed Notice was taken
from the Capital Journalprinted and published in Pierre
County of Hughes and
state of South Dakota. The notice was published
in the newspaper on the following date:1-25-18Cost of Printing \$30.80Marylinn Baker
(Signature)Business Office Assistant
(Title)1-25-18
(Date Signed)

SNAXLP 16138
11/01/12/5
NOTICE OF
APPLICATION NO. 1972-1
to Appropriate Water
Notice is given that Timber
Lake School District 20-3,
c/o Dan Martin, Superinten-
dent, PO Box 1000, Timber
Lake SD 57656 has filed an
application for a water per-
mit to appropriate 0.10 cu-
bic feet of water per second
(cfs) from one well to be
completed into the Fox Hill
Aquifer (21 feet deep) lo-
cated in the NE 1/4 NE 1/4
(Lot 1B) Section 18 for irri-
gation of 2 acres of the
football field located in the
NE 1/4 NE 1/4 Lot 1B and
Lot 2) Section 18; all in

capjournal.com | A7

Public Notice

T17N-R25E located on the
west side of Timber Lake
SD. The applicant is re-
questing a diversion rate
greater than the statutory
limit of 1 cfs per 70 acres.

Pursuant to SDCL
46-2A-2, the Chief Engineer
recommends APPROVAL
of Application No. 1972-1
with qualifications because
1) unappropriated water is
available, 2) existing rights
will not be unlawfully im-
paired, 3) it is a beneficial
use of water, and 4) it is in
the public interest. The
Chief Engineer's recom-
mendation with qualifica-
tions, the application, and
staff report are available at
<http://denr.sd.gov/public> or
contact Eric Gronlund for
this information, or other in-
formation, at the Water
Rights Program address
provided below.

Any person interested in
opposing or supporting this
application or recommenda-
tion must file a written peti-
tion with DQTH the appli-
cant and Chief Engineer.
The applicant must file a
petition if contesting the
Chief Engineer's recom-
mendation. The Chief Engi-
neer's address is "Water
Rights Program, Post
Building, 523 E. Capitol, Pi-
erre SD 57501 (805
773-3352)" and the appli-
cant's mailing address is
given above. A petition filed
by either an interested per-
son or the applicant must
be filed by February 5
2018.

The petition may be infor-
mal, but must include a
statement describing the
petitioner's interest in the
application, the petitioner's
reasons for opposing or
supporting the application,
and the signature and mail-
ing address of the petitioner
or the petitioner's legal
counsel, if legal counsel is
obtained.

If the applicant does not
contest the recommenda-
tion 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.

Steven M. Pinner,
Secretary,
Department of Environment
and Natural Resources

Published once at the total
approximate cost of \$30.80

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, January 18, 2018 8:00 AM
To: legals@capjournal.com
Subject: 1972-1, Timber Lake School District 20-3
Attachments: 1972-1public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on January 25, 2018.

Timber Lake School District 20-3, Dan Martin, Supt, PO Box 1000, Timber Lake SD 57656 (605 865-3654) 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
SD DENR, Water Rights Program
(605) 773-3352



Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, January 18, 2018 7:59 AM
To: timtopic@lakotanetwork.com
Subject: 1972-1, Timber Lake School District 20-3
Attachments: 1972-1public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on January 25, 2018.

Timber Lake School District 20-3, Dan Martin, Supt, PO Box 1000, Timber Lake SD 57656 (605 865-3654) has been notified to contact you to authorize publication and arrange for payment.

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

Karen Schlaak
SD DENR, Water Rights Program
(605) 773-3352





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

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

January 18, 2018

Timber Lake School District 20-3
Dan Martin, Superintendent
PO Box 1000
Timber Lake SD 57656

Dear Mr. Martin:

Water Permit Application No. 1972-1 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Timber Lake Topic printed at Timber Lake SD (Ph # 605-865-3546) and the Capital Journal printed at Pierre SD (Ph # 605-224-7301). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

NOTICE OF APPLICATION NO. 1972-1 to Appropriate Water

Notice is given that Timber Lake School District 20-3, c/o Dan Martin, Superintendent, PO Box 1000, Timber Lake SD 57656 has filed an application for a water permit to appropriate 0.10 cubic feet of water per second (cfs) from one well to be completed into the Fox Hills Aquifer (91 feet deep) located in the NE 1/4 NE 1/4 (Lot 1B) Section 19 for irrigation of 2 acres of the football field located in the NE 1/4 NE 1/4 (Lot 1B and Lot 2) Section 19; all in T17N-R25E located on the west side of Timber Lake SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1972-1 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 5, 2018.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or, the petitioner's legal counsel, if legal counsel is obtained.

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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

FEB 12 2018

Timber Lake School District 20-3
c/o Dan Martin, Superintendent
PO Box 1000
Timber Lake SD 57656

Dear Superintendent Martin:

Enclosed is Water Permit No. 1972-1 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,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

1972-1
RECEIVED

FEB 20 2018

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate February 16, 2018TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181FROM: Timber Lake School District 20-3
(name)
PO Box 1000
(address)
Timber Lake SD 57656 605-865-3654
(city, state, zip) (phone)

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

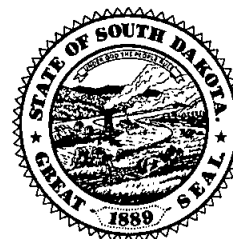
Water Permit No. 1972-1 states that the water use system is to be constructed by Gregg's Drilling & Excavating, and water is to be put to beneficial use by 6-27-2017.
(date) (date)

The water use system was completed on 5-17-2017 - Well Completion.
(date)

Applying the water to beneficial use was completed on 6-27-2017.
(date)

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

San Hunter
(signature)





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

February 26, 2018

1972-1

Dan Martin, Supt
Timber Lake School District 20-3
PO Box 1000
Timber Lake SD 57656

Dear Mr. Marin:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with the water use system authorized under Water Permit No. 1972-1.

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

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

Sincerely,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

June 1, 2026

1972-1

Timber Lake School District 20-3
C/O Dan Martin (supt)
PO Box 1000
Timber Lake, SD 57656

Dear Mr. Martin:

I am writing in regard to your Water Permit No. 1972-1. The water permit authorizes the diversion of 0.10 cfs (approx. 45 gpm), from one well, completed into the Fox Hills Aquifer for the irrigation of 2 acres in the NE ¼ (Lot 1B & Lot 2), Section 19; all in T17N-R25E.

In reviewing your 2025 irrigation questionnaire, we have found discrepancies in the amount of water used and have some concerns. Enclosed is a copy of your questionnaire for reference purposes.

Water Permit No. 1972-1 allows you to use up to 3 acre-feet (ac-ft) (36 inches) of water per acre, per year. On the questionnaire you reported more water use. The following information is what was reported and what is authorized:

- 1.5 acres reported irrigated
- Reported water use – 9.36 acre-feet of water (approximately 74.86 inches per acre)
- Authorized water use – 6 acre-feet of water (2 acres x 3 ac-ft per year = 36 inches per acre)

We realize that water use depends greatly on climactic conditions and may vary year to year. However, it is very rare that irrigators come close to the 36 inches per acre that is authorized. Typical water use is between 8 and 12 inches per acre. Often, irrigators do not keep track of their days or hours actually pumped and estimate numbers for the questionnaires in an effort to get them completed and back in on time. While we appreciate returning the forms in a timely manner each year, we need the forms to reflect accurate information to ensure everyone is limiting their use to the amount of water appropriated to them.

The information we receive each year from irrigators across the state is very valuable. The water use data supplied by irrigators is one of the tools we use to help determine whether an aquifer or stream is nearing full appropriation.

If you do in fact apply as much water as claimed on your questionnaire, you are exceeding the limits of your water right and will have to reduce your discharge to stay within the authorized limit. If you simply estimated your water use, we ask that you please ensure the information reported is as accurate as possible. As stated before, the information you provide to us is very valuable. If you have any questions, please contact me.

Sincerely,

Shannon Konst
Water Rights Program
605 773-3352
Shannon.konst@state.sd.us