

WATER PERMIT NO. 1955-1

Name of Applicant: City of Spearfish

Address: 625 5th St, Spearfish SD 57783

Phone: 605 645-4755

Amount of Water Claimed: 0.3 add'l cfs

Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: municipal

County: Lawrence

Type of Waste Disposal System:

Location: within Spearfish city limits

PRIORITY

Date Received: 5-26-15

Application/License Fee: \$ 950

Corrected Application Received:

Period of Annual Use: Jan 1- Dec 31

Remarks: Increase diversion rate authorized by Water Right No. 1003-1 (Ellingson well)

Diversion Point: E 1/2 NE 1/4 Sec 15-T6N-R2E

Land to be Irrigated: NA

Depth of Well: 1080 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 5-26-15

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

				Ø	
			15		

FORM 2: Application for uses other than irrigation

(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only)	
	No. <u>1955-1</u>	Hydrologic Unit <u>10120203</u>
	Basin <u>Belle Fourche River</u>	
	Newspaper <u>Black Hills Pioneer</u>	
<u>P.O. Box 7, Spearfish 57783</u>		

RECEIVED
 MAY 26 2015
 WATER RIGHTS
 PROGRAM

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

Check use(s) of water:

☒ Municipal	☐ Suburban Housing	☐ Recreational	☐ Institutional
☐ Rural Water System	☐ Commercial	☐ Fish & Wildlife	☐ Geothermal Heat
☐ 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. <u>1872-1</u>		
☐ Amendment/Correction to Permit No. _____		

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

Replacing Ellingson Well pump (650 gpm) with new submersible well pump. New pump will have additional capacity which would be vital serving the City's west pressure zone. - well authorized by W.R. No. 1003-1

1. Name to Appear on Water Permit City of Spearfish

(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 625 5th Street Spearfish SD 57783
 (Address) (City) (State) (Zip Code)

Home Phone 605-642-1333 Cell 605-645-4755 Email tom.callaway@cityofspearfish.com

2. Amount of water claimed 0.3 additional *CFS or 808 Total **GPM 130 ***AF

(*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Madison Aquifer

4. Location of point of diversion N E1/4 NE1/4 Sec 15 T6N R2E County Lawrence

(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)

5. County or counties where water will be used Lawrence

6. Annual period during which water is to be used January-December

7. 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)

Due to pump failure we have replaced the current pump with submersible of similar size to include a variable frequency drive (VFD).

With new pump in place we are requesting a total of 782 acre foot / year. with diversion rate authority of 1.8 cfs

I, Tom Callaway, Environmental Services Manager, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

**SOUTH DAKOTA
WATER PERMIT NO. 1955-1**

Date of first receipt of application May 26, 2015.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1955-1 to the City of Spearfish, c/o Tom Callaway, Environmental Services Manager, 625 5th St, Spearfish SD 57783 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. 1955-1 increases the diversion rate authority from the well authorized by Water Right No. 1003-1 and places to beneficial use water reserved by Future Use Permit No. 1872-1. Water Right No. 1003-1 authorizes 1.5 cubic feet of water per second (cfs) from one well completed into the Madison Aquifer (800 feet deep). The notice served to specify the correct location of the existing well authorized by Water Right No. 1003-1 as being in the NE 1/4 NE 1/4 Section 15-T6N-R2E. The city is authorized an additional diversion rate authority of 0.3 cfs (130 acre-feet annually) from the existing well. The 130 acre feet of water is reserved by Future Use Permit No. 1872-1. This permit and Water Right No. 1003-1 will authorize a total of diversion rate of 1.8 cfs and 782 acre-feet of water annually.
2. The water appropriated shall be used for the purpose of municipal 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 of approval of Permit No. 1955-1 is August 10, 2015.
5. The date from which applicant may claim right is November 13, 2006 (established by Future Use Permit No. 1872-1).
6. One-fifth of the construction is to be completed on or before February 10, 2018.
7. All construction is to be completed on or before August 10, 2020.
8. Water is to be put to beneficial use on or before August 10, 2024.
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 well approved under this Water Right No. 1003-1 and Water Permit No. 1955-1 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. Water Right No. 1003-1 and Water Permit No. 1955-1 is limited to a combined annual diversion of 782 acre feet of water from the Madison aquifer.
3. The City of Spearfish shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer.

WATER MANAGEMENT BOARD

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

AUG 13 2015
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 ____ Have test holes been drilled ☐ Yes ☐ No Drilled by ____
(if yes, please provide copies of logs)

b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by ____

c) Well Depth 1080' Depth to Top of Water Bearing Material 800 Depth to Water from Surface Flowing

d) Distance to nearest existing domestic well:

On applicant's property ____ On property owned by others 1.5 miles

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)

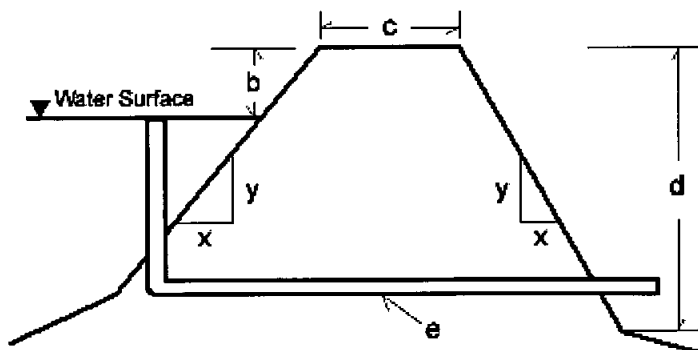
Upstream ____

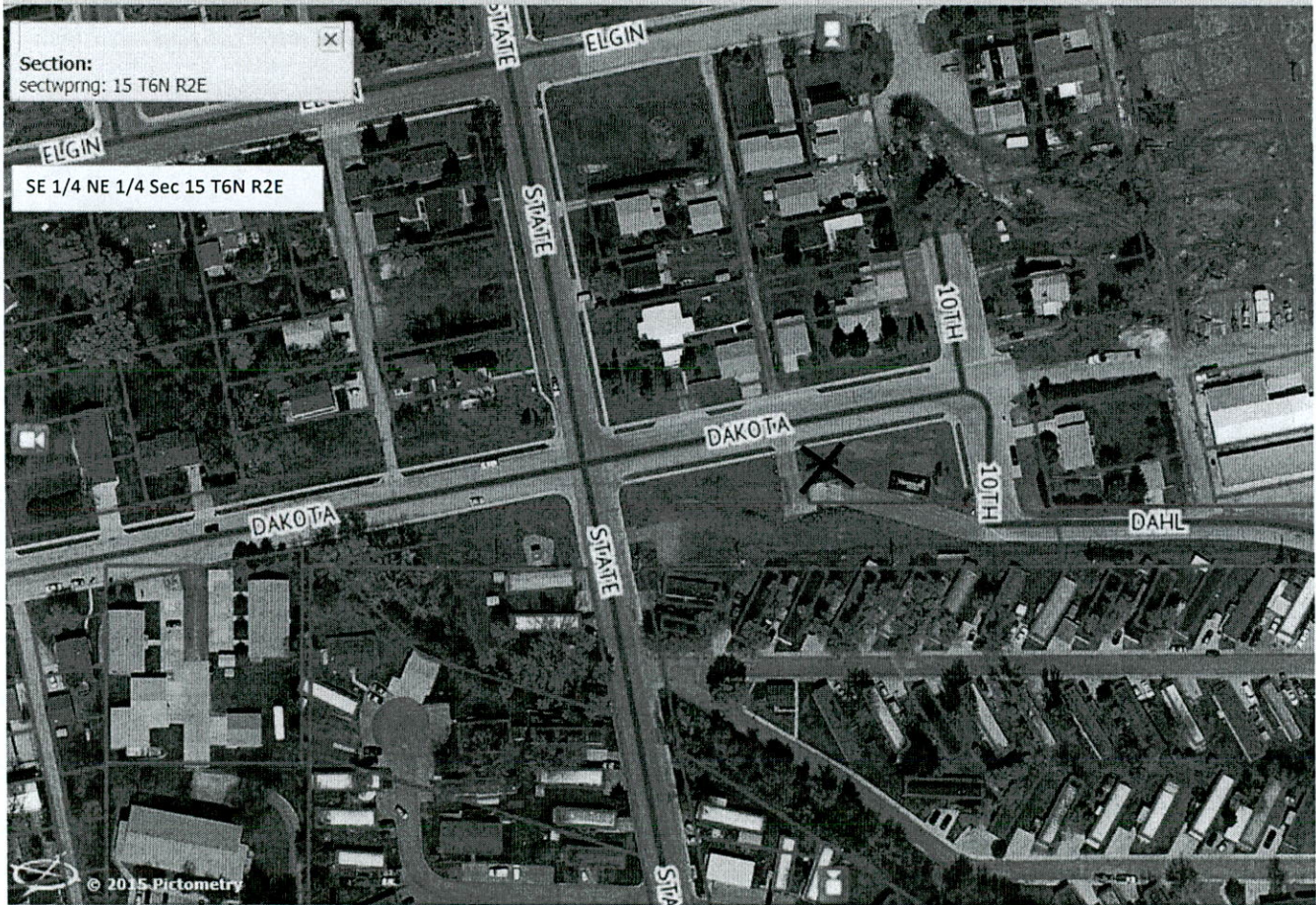
Downstream ____

h) Surface Area of Impoundment ____

i) Storage ____ Acre Feet

j) Drainage Area Above Dam ____ Acres







Sec 9
T006N
R02E

Sec 10
T006N
R02E

Sec 11
T006N
R02E

Sec 16
T006N
R02E

Sec 15
T006N
R02E

Sec 14
T006N
R02E

Sec 21
T006N
R02E

Sec 22
T006N
R02E

Sec 23
T006N
R02E

No. 1955-1

Water Rights Program - DENR Conversation File Documentation

NAME OF PERSON OR FILE: Water Permit Application No. 1955-1, city of Spearfish

ADDRESS: COUNTY: Lawrence County

DATE: July 17, 2015 TELEPHONE:

RE: quantification of the volume of water

The city of Spearfish holds Water Right No. 1003-1 to appropriate 1.5 cubic feet of water per second (cfs) from one well completed into the Madison aquifer. The well is known as the Ellingson well located in the NE ¼ NE ¼ Section 15, T6N, R2E. The water right is not limited on a volume basis.

The city is planning to replace the pump in this well that will increase the diversion rate to 1.8 cfs. They applied for a permit for an additional 0.3 cfs of diversion rate authority. In filing the application, the city has agreed to a total annual use from this well of 782 acre feet annually.

The city holds Future Use Permit No. 1872-1 reserving 2,730 acre feet of water annually from the Madison aquifer.

The question arose whether the increase in the diversion rate authority requires quantification of a volume of water to be taken from the future use permit since the 782 acre feet of water is less than the currently authorized 1.5 cfs which equates to 1,086 acre feet of water annually if pumping occurred continuously. The continuous pumping of the well is not realistic. A determination was made that Water Rights will apply the generally accepted 60% pump rule to determine how to quantify the water right and the amount of water this application intends to place to beneficial use from Future Use Permit No. 1872-1.

	Diversion rate	Acre-feet (continuous)	Acre Feet (60%)
Water Right No. 1003-1	1.5 cfs	1,086	651.6
Application No. 1955-1	0.3 cfs	217.2	130.3
TOTAL		781.9	

Based on the city's desire to increase the diversion rate capacity and have an annual volume of 782 acre feet of water from this well, it is reasonable to associate 652 acre feet annually with the appropriation under Water Right No. 1003-1 and Application No. 1955-1 be to place 130 acre feet of water to beneficial use that is reserved by Future Use Permit No. 1872-1.

NAME: Eric Ironburg

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 5/26, 2015

RECEIVED OF City of Spearfish 625 5th St Spearfish SD 57783

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

Fee for Application for Permit No. <u>1955-1</u> to Appropriate Water, to construct and to put water to beneficial use	750	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1955-1</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	950	00

No. 07415

By Jeanne H. [Signature]
Chief Engineer

Schlaak, Karen

From: Tom Callaway <Tom.Callaway@cityofspearfish.com>
Sent: Wednesday, May 13, 2015 4:51 PM
To: Schlaak, Karen
Subject: RE: Ellingson 1003-1 Ammendment

Thank you Karen.
I should have it to you mid-next week.
Take care,

Tom Callaway
Environmental Services Manager
City of Spearfish
625 5th Street
Spearfish, South Dakota 57783
Direct: 605-717-1112
Office: 605-642-1333
Fax: 605-642-1337



From: Schlaak, Karen [<mailto:Karen.Schlaak@state.sd.us>]
Sent: Wednesday, May 13, 2015 11:40 AM
To: Tom Callaway
Subject: RE: Ellingson 1003-1 Ammendment

Got your message. I didn't check your calculations on the fee...because Eric's No. 1 said it was correct.
Anyways, you are right \$500-first 120 AF, \$250-second 120 AF and \$200-license fee Total \$950

Karen

From: Tom Callaway [<mailto:Tom.Callaway@cityofspearfish.com>]
Sent: Wednesday, May 13, 2015 9:15 AM
To: Schlaak, Karen
Subject: RE: Ellingson 1003-1 Ammendment

Sounds good . Thanks so much!

Tom Callaway
Environmental Services Manager
City of Spearfish
625 5th Street
Spearfish, South Dakota 57783
Direct: 605-717-1112
Office: 605-642-1333
Fax: 605-642-1337



From: Schlaak, Karen [<mailto:Karen.Schlaak@state.sd.us>]
Sent: Wednesday, May 13, 2015 7:07 AM
To: Tom Callaway
Subject: RE: Ellingson 1003-1 Ammendment

Looks good to me. Send it in. If there are further questions....we have your number!

Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

From: Tom Callaway [<mailto:Tom.Callaway@cityofspearfish.com>]
Sent: Tuesday, May 12, 2015 4:52 PM
To: Schlaak, Karen
Cc: Gronlund, Eric
Subject: RE: Ellingson 1003-1 Ammendment

Hi Karen,
Can you look over this application for errors? If everything is correct along with the application fees below I will forward the hard copy with payment.
Thanks so much,

Tom Callaway
Environmental Services Manager
City of Spearfish
625 5th Street
Spearfish, South Dakota 57783
Direct: 605-717-1112
Office: 605-642-1333
Fax: 605-642-1337



From: Gronlund, Eric [<mailto:Eric.Gronlund@state.sd.us>]
Sent: Tuesday, May 12, 2015 12:05 PM
To: Tom Callaway
Cc: Schlaak, Karen
Subject: RE: Ellingson 1003-1 Ammendment

Tom- attached is a marked up copy

1. I think the fee calculation is correct.
2. This is considered a new application because it is asking for additional diversion rate authority.
3. Item No. 2, state the incremental increase of diversion rate and volume.
4. Putting the legal to the quarter-quarter section as set forth on map.
5. Item 7 – propose providing a little further explanation. The 782 acre feet* is the 60% pump rate on 1.8 cfs.
* the city could view this as taking away some volume since the original 1.5 cfs was not quantified on an ac-ft basis and technically the city could have pumped continuously throughout a year a diverted 1,086 ac-ft. That however is unrealistic and that's where we've arrived at a generally accepted 60% pump rule for calculating the volume based on diversion rate authority for municipalities and rural water systems. If the city anticipates in the near future pumping the Ellingson well at an annual volume greater than 782 ac-ft, please provide justification.

I will be out of the office today at 3:00 PM not back until Thursday morning.

Included Karen Schlaak on this email and she's likely to be the first person to get the application when mailed and want her to know what we have discussed.

Eric

From: Tom Callaway [<mailto:Tom.Callaway@cityofspearfish.com>]
Sent: Tuesday, May 12, 2015 11:25 AM
To: Gronlund, Eric
Subject: Ellingson 1003-1 Ammendment

Hi Eric,

I am taking a stab at it. I was thrown off track yesterday, so bear with me .

We are applying for additional water needed to the original appropriation of 1.5 cfs.

We are needing an additional 0.3 cfs to cover the additional pumping capacity of the new well pump.

- $0.3 \times 448.8 = 135\text{gpm}$
- $135\text{gpm} \times 1440 \times 365 / 325829 \times 60\% = 131 \text{ AF}$

Cost for application:

- 1st 120 AF = \$750.00
- Remaining = \$250.00
- Final Inspection and Licensing = \$200.00

Total Application Fee: = \$1200.00

Correct application?

I will try to catch up with you later today,
Take care,

Tom Callaway
Environmental Services Manager
City of Spearfish
625 5th Street
Spearfish, South Dakota 57783
Direct: 605-717-1112
Office: 605-642-1333
Fax: 605-642-1337

Gronlund, Eric

From: Tom Callaway <Tom.Callaway@cityofspearfish.com>
Sent: Wednesday, May 27, 2015 9:52 AM
To: Gronlund, Eric
Subject: Re: legal description for well under city's water permit application

Eric
My mistake , you are correct. Thanks for catching that.
We agree with the change.
Take care,
Tom Callaway
City of Spearfish

Sent from my iPhone

On May 27, 2015, at 7:18 AM, Gronlund, Eric <Eric.Gronlund@state.sd.us<mailto:Eric.Gronlund@state.sd.us>> wrote:

Tom – good morning

DENR received the city's application. The application lists the well located in the SE ¼ NE ¼ Section 15, T6N, R2E. In looking at the originating water right (2nd page attached) it appears the well is actually located in the NE ¼ NE ¼ of this section. It is very near the boundary between quarter-quarter line – see attached map of section with roads and quarter-quarter designations. I verified its location using the 2012 Farm Service Agency aerals. Does the city concur with making this change to the application? If so, an email response will suffice.

Eric
<Pages from 1003-1.pdf>
<Ellingsonwell.pdf>



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1955-1, City of Spearfish**

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. 1955-1, City of Spearfish, c/o Tom Callaway, Environmental Services Manager, 625 5th Street, Spearfish SD 57783

The Chief Engineer is recommending APPROVAL of Application No. 1955-1 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 this Water Right No. 1003-1 and Water Permit No. 1955-1 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. Water Right No. 1003-1 and Water Permit No. 1955-1 is limited to a combined annual diversion of 782 acre feet of water from the Madison aquifer.
3. The City of Spearfish shall report to the Chief Engineer annually the amount of water withdrawn from the Madison aquifer.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
July 23, 2015

**REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 1955-1
CITY OF SPEARFISH
JULY 17, 2015**

Water Permit Application No. 1955-1 proposes to appropriate water from an existing well completed into the Madison aquifer, at a maximum instantaneous diversion rate of 0.3 cubic feet of water per second (cfs) and a maximum annual diversion of 130 acre-feet per year (ac-ft/yr), for municipal use. This application proposes to authorize an increased diversion rate (0.3 cfs and 130 ac-ft/yr) from the well sanctioned by Water Right No. 1003-1. Water Right No. 1003-1 currently authorizes a diversion of 1.5 cfs (approximately 673 gallons per minute (gpm)) from an 800 foot deep well located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 15, T6N-R2E for municipal use. The 130 ac-ft/yr of water this application proposes to place to beneficial use has been reserved by Future Use Permit No. 1872-1. Water Permit No. 1955-1, if approved, and Water Right No. 1003-1 will authorize a total diversion rate of 1.8 cfs (approximately 808 gpm) and 782 acre-feet of water annually.

Future Use Permit No. 1872-1 was originally approved April 30, 2007, reserving 3,890 ac-ft/yr from the Madison aquifer for future municipal water supplies for the City of Spearfish. Water Permit No. 1901-1 was approved April 16, 2009, to construct works and put 1,160 ac-ft/yr of water reserved by the future use permit to beneficial use. The Water Management Board reviewed Future Use Permit No. 1872-1 on March 6, 2014, and allowed the permit, reserving 2,730 ac-ft/yr, to remain in effect. If Water Permit Application No. 1955-1 is approved, the amount of water remaining reserved in the future use permit will be reduced to 2,600 ac-ft/yr. The future use permit contains a qualification, (No. 3) which states:

“At such time as definite plans are made to construct works and put water reserved by the permit to beneficial use, specific application for all or any part of reserved water must be submitted and approved prior to construction of facilities pursuant to SDCL 46-5-38.1 with particular attention given to flows of Higgins Gulch Spring and Old Spearfish Hatchery Spring.”

SDCL 46-5-38.1 requires that: “prior to the time that the holder of a future use permit initiates construction of the works and puts water to beneficial use, he shall file an application for a water permit pursuant to the procedure contained in chapter 46-2A.” 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 rights and that the proposed use is a beneficial use and in the public interest.”

Since the water that is to be placed to beneficial use by this permit has been appropriated through a future use permit, the criteria for approval required by SDCL 46-2A-9 have previously been addressed with approval of the future use permit, except for the consideration of the impact to existing rights, including domestic use wells.

Existing Water Rights and Domestic Users:

The approximate location of wells supplying groundwater appropriations from this area are shown in Figure 1. Wells supplied from aquifers other than the Madison are not expected to be impacted by withdrawals from a well completed into the Madison aquifer because of confining layers above, and at the bottom of the Madison aquifer. Approximate well locations for Madison aquifer appropriations in the area are shown in Figure 2 and identified in Table 1. The nearest existing wells supplying Madison aquifer water rights/permits to the well that is to supply this appropriation that are not part of the City of Spearfish's system are shown in Table 2.

There are a number of completion reports on file for domestic use wells with the DENR-Water Rights Program in this area (Water Rights, 2015c). Most of these wells are completed into shallower aquifers than the Madison.

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The hydraulic properties of the Madison aquifer at this well site were estimated from an aquifer test. The transmissivity of the aquifer was estimated to be 2,900 feet squared per day, and the storativity was estimated to be 0.0001 (Greene, and others, 1999). Based on the Theis Equation, the theoretical impact 1,000 feet from this well, produced by increasing the total pumping rate from 1.5 cfs to 1.8 cfs, is estimated to be 7.2 feet after one year of continuous pumping. Considering the 550-600 feet of artesian head and large saturated thickness of the Madison aquifer in this area, the drawdown that will result if this appropriation is approved will not be adverse. The Theis equation requires a number of simplifying assumptions, some of which may not apply in this case. The assumption of continuous pumping at the maximum diversion rate, for one year, with no recharge, is an unrealistic assumption. However, the solution is still useful to show that drawdown should not be significant.

Wells supplying existing Water Rights/Permits and domestic uses are protected from adverse impacts per Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1. These rules provide for the regulation of large capacity wells to the degree necessary to maintain an adequate depth of water for a prior appropriator in wells that have the ability to produce water **independent of artesian pressure**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

If the water levels in the Madison aquifer were to decline, owners of existing wells bear the responsibility of lowering the pump inlet in the well to the top of the aquifer, if necessary. Increased lift would decrease the pump discharge or require a larger pump or a different type of a pump to maintain the same output.

An increase in operating expenses that may result from interference between wells is not necessarily an adverse impact. The Water Management Board considered this situation in the matter of Water Permit Application 2313-2, Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Board adopted findings of fact and conclusions of law that basically state that if the increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable.

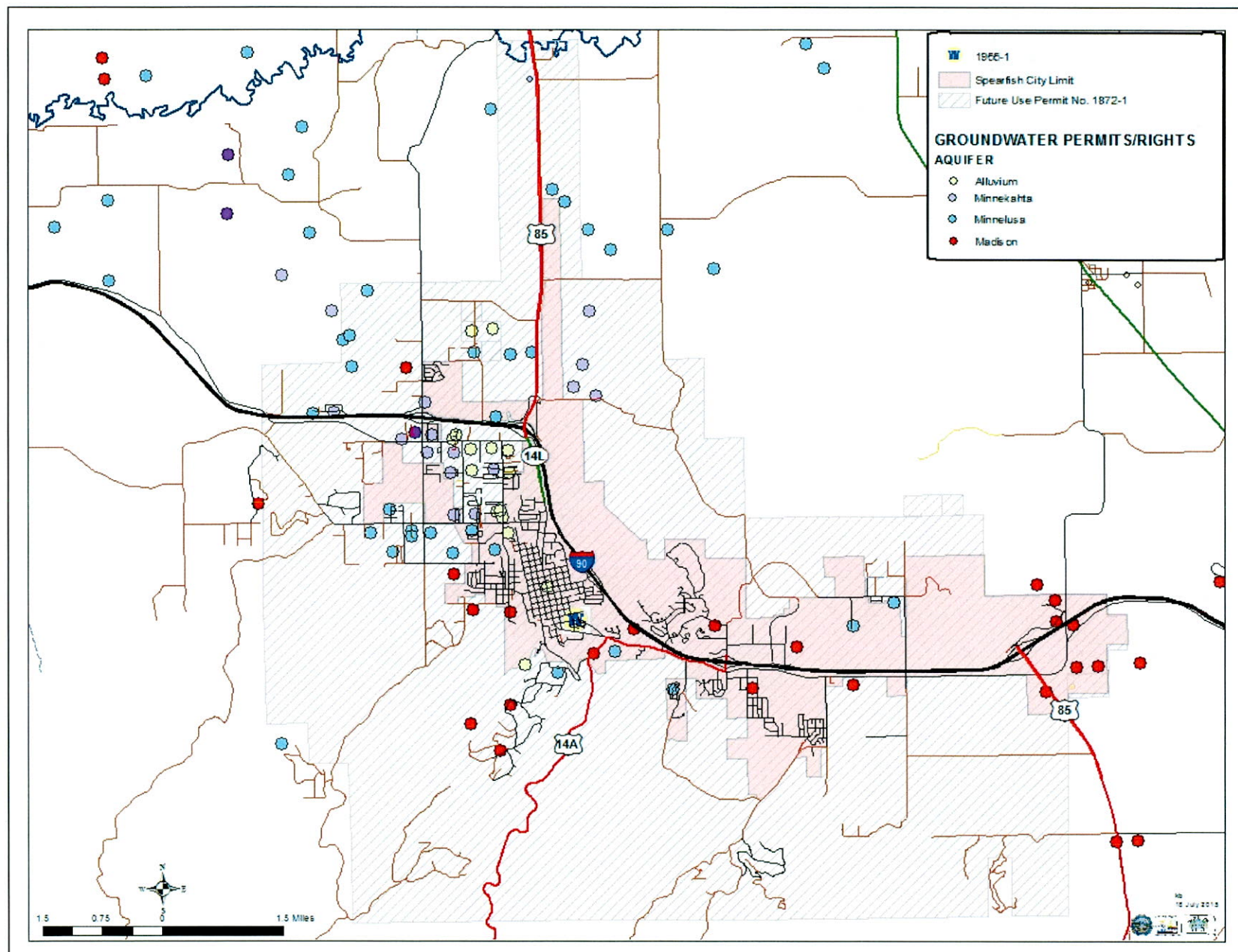


Figure 1. Approximate location of diversion points for groundwater appropriations in the vicinity of 1955-1 (Water Rights, 2015b).

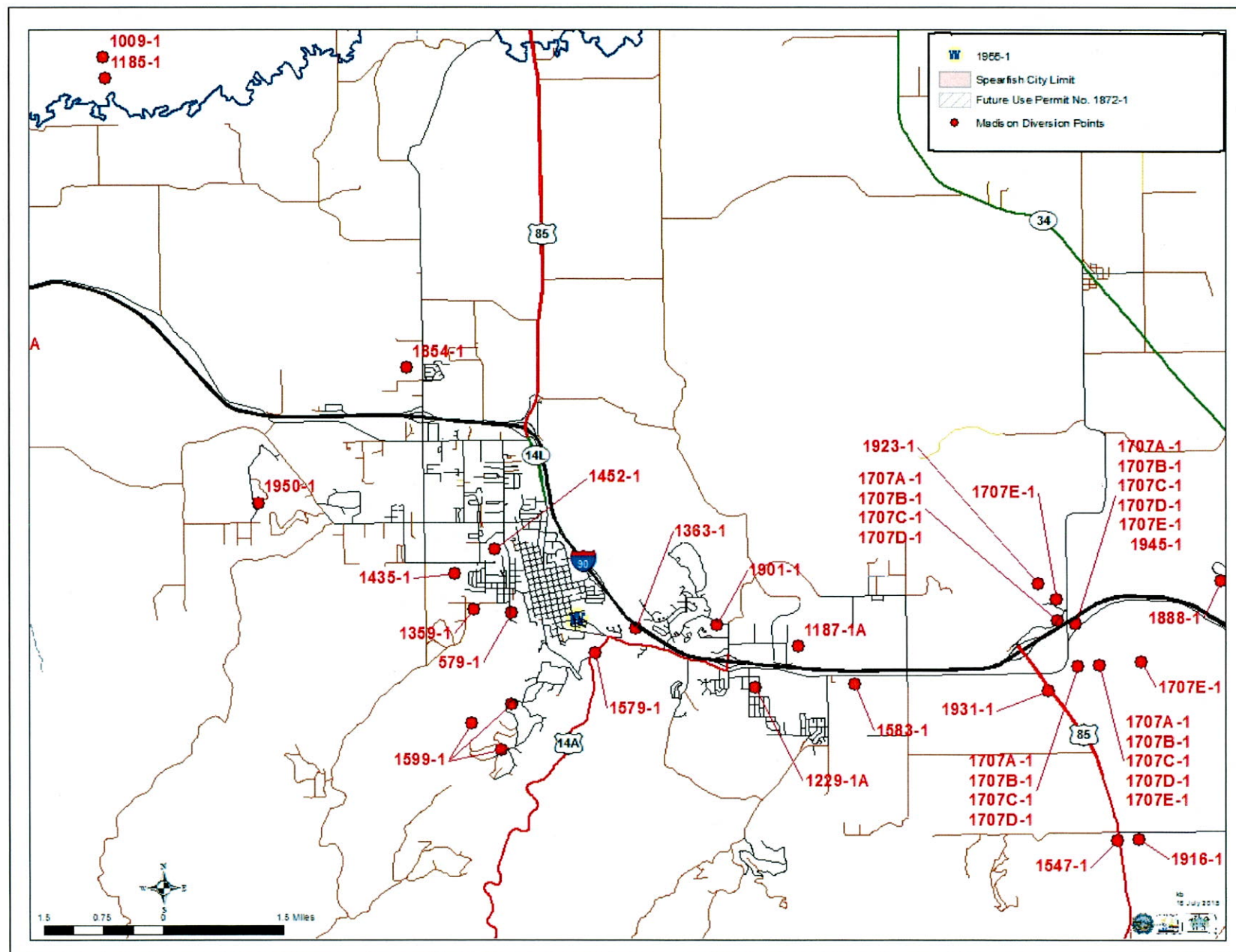


Figure 2. Approximate location of diversion points for Madison appropriations in the vicinity of 1955-1 (Water Rights, 2015b).

Table 1. Madison aquifer appropriations shown on Figure 2 (Water Rights, 2015b).

PERMIT NO	NAME	STATUS	USE	CFS	ACRES
1009-1	DONALD F/ANN J BRADY	LC	IRR	0.78	53.73
1185-1	DONALD F/ANN J BRADY	LC	IRR/REC	0.38	22.52
1187-1A	SIMON CONTRACTORS	LC	IND/COM	0.04	
1229-1A	CITY OF SPEARFISH	LC	MUN	1.45	
1359-1	CITY OF SPEARFISH	LC	MUN	1.17	
1363-1	SPEARFISH CANYON CNTRY CL	LC	IRR	0.9	80.1
1435-1	SPEARFISH PELLET COMPANY LLC	LC	IND/DOM	0.89	
1452-1	BLACK HILLS STATE COLLEGE	LC	IRR/MUN	3.33	25.44
1547-1	SIMON CONTRACTORS	LC	IND	0.09	
1579-1	CITY OF SPEARFISH	LC	MUN	4.45	
1583-1	WILL/MARY ELLEN LANTIS	LC	COM	0.04	
579-1	CITY OF SPEARFISH	LC	MUN	1.2	
1599-1	MOUNTAIN PLAINS 2 HOMEOWNERS ASSOC	LC	SHD	0.21	
1854-1	OLD APOSTOLIC LUTHERAN CHURCH OF	LC	INS	0.17	
1707A-1	ELKHORN RIDGE @ FRAWLEY RANCHES	PE	IRR/SHD/DOM	3.705	100
1707B-1	CITY OF SPEARFISH	PE	SHD/COM	1.035	
1707C-1	CITY OF SPEARFISH	PE	MUN	0	
1707D-1	CITY OF SPEARFISH	PE	MUN	0	
1707E-1	ELKHORN RIDGE @ FRAWLEY RANCHES	PE	IRR/DOM/COM	0	
1888-1	FRAWLEY RANCHES EAST	PE	SHD	0.19	
1901-1	CITY OF SPEARFISH	PE	MUN	2.67	
1916-1	SIMON CONTRACTORS	PE	IND	0.222	
1923-1	JIM MONTIETH	PE	IRR/DOM	0.11	21.25
1931-1	ELKHORN RIDGE @ FRAWLEY RANCHES	PE	IRR/COM	0.44	85.22
1945-1	FRAWLEY RANCHES LLC	PE	IRR	1.11	265
1950-1	WILD TURKEY ESTATES HOMEOWNERS	PE	SHD	0.167	
LC= Water Right, PE= Water Permit, IRR= Irrigation, REC= Recreation, IND= Industrial, COM= Commercial, MUN= Municipal, SHD= Suburban Housing Development, INS= Institutional, DOM= Domestic					

Table 2. Nearest wells supplying Madison aquifer appropriations, not part of the City of Spearfish's system, to the well that is to supply Water Permit No. 1955-1 (Water Rights, 2015).

WATER RIGHT NO	NAME	PRIORITY DATE	USE	CFS	ACRES	APPROXIMATE DISTANCE FROM 1955-1 (feet)
1599-1	MOUNTAIN PLAINS 2 HOMEOWNERS ASSOC	04/12/1994	SHD	0.21		7,050
1363-1	SPEARFISH CANYON CNTRY CL	09/15/1986	IRR	0.9	80.1	3,875
1435-1	SPEARFISH PELLET COMPANY LLC	03/07/1988	IND/DOM	0.89		8,525

Water Rights Observation Wells:

Observation well data can be beneficial in evaluating proposed diversions and potential impacts to existing water rights.

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2015a). The nearest observation well to 1955-1 is LA-88C,

located approximately 1,550 feet southeast of the well site. A hydrograph for the observation well is shown in Figure 3.

The hydrograph shows the potentiometric surface rose during the late 1990's in response to wet climatic conditions to a peak in July 1999. The water levels decreased from 1999 to a low in April 2006 in response to less recharge. The hydrograph documents generally rising water levels since 2006, with the highest water levels for the period of record occurring in 2015. The seasonal water level fluctuations are evident but variations of well withdrawals are not apparent, even though the observation well is within 1,000 feet of Spearfish's Nevin well. A diversion rate of 4.45 cfs from the Nevin well is authorized by Water Right No. 1579-1.

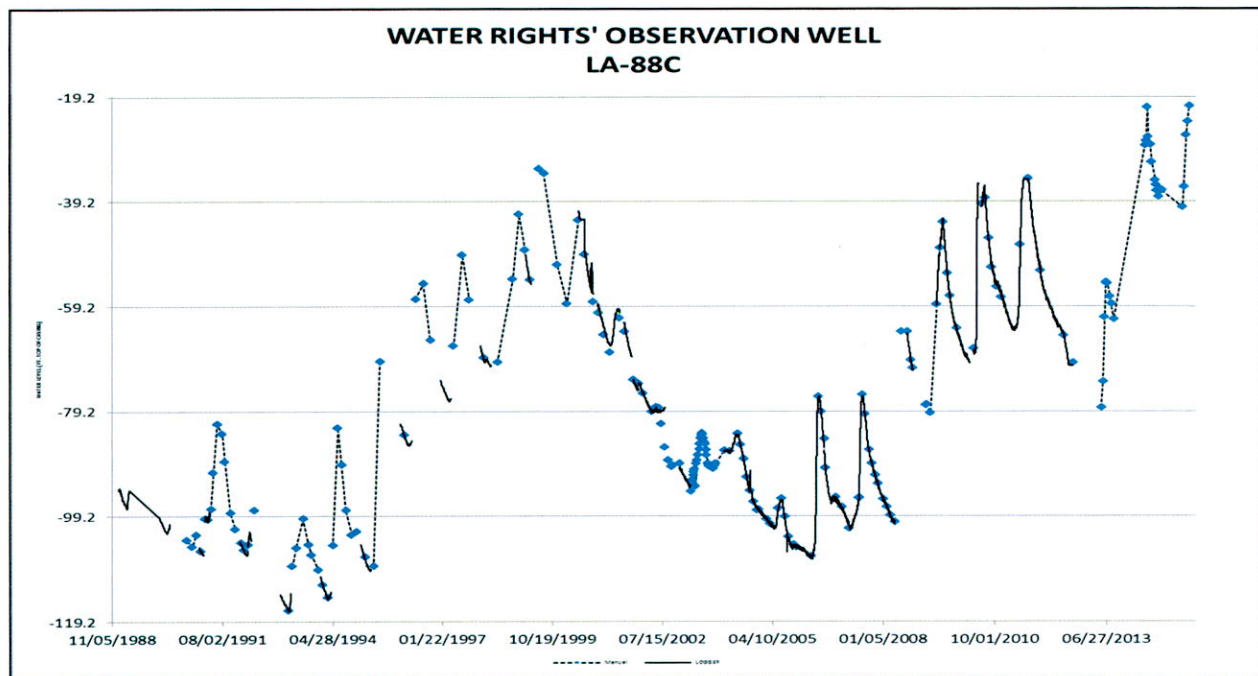


Figure 3. Hydrograph for DENR-Water Rights' Observation Well LA-88C which is completed into the Madison aquifer approximately 1,550 feet southeast of the well site 1955-1

HIGGINS GULCH SPRING AND OLD SPEARFISH HATCHERY SPRING

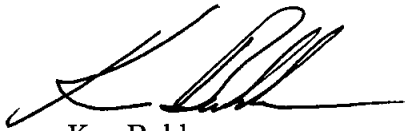
The well that is to be used for this appropriation is located approximately 4.25 miles southeast of Higgins Gulch Spring and approximately 5.1 miles southeast of Old Spearfish Hatchery Spring. The distances involved should be sufficient to ensure the springs will not be impacted from this proposed pumping.

SPECIAL CONSIDERATION

Water Right No. 1003-1 identifies the location its diversion point as "a point 10 feet South and 35 feet East of the NW corner of Lot 1, Block 81 original City of Spearfish (2600' S and 580' W of the NE Corner of Section 15, T-6N,R-2E)." The water permit application and map submitted with the application identify the well location as "10 feet South and 35 feet East of the NW corner of Lot 1, Block 81 original City of Spearfish" which is actually **approximately 1200 feet south and 580 feet west of the NE Corner of Section 15, T6N-R2E**. Water Right No. 1003-1 should be corrected and reissued with the proper clarification of the legal location.

CONCLUSIONS:

1. The Madison aquifer is a major regional aquifer and a viable source of water for this proposed appropriation. The water for this permit was appropriated and reserved by Future Use Permit No. 1782-1 which has a November 13, 2006, priority date.
2. This application proposes to place to beneficial use 130 acre-feet annually at a maximum diversion rate of 0.3 cfs. The maximum amount of water that would be placed to beneficial use is equivalent to a continuous diversion of about 0.179 cfs.
3. There is a reasonable probability the diversion authorized by this permit could be made without adversely impacting existing water rights including domestic users.
4. This appropriation is unlikely to affect the discharge of area springs.
5. Water Right No. 1003-1 should be reissued to correct an error in the legal description of the well.



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

Greene, E.A., Shapiro, A.M., and Carter, J.M, 1999, Hydrogeologic Characterization of the Minnelusa and Madison Aquifers Near Spearfish, South Dakota: U.S. Geological Survey Water-resources Investigations Report 98-4156, 64 p.

"Theis Equation Calculator." i-calcul⁸ 19 July 2014 <<http://www.icalcul8.com/theis.php>>

Water Rights Program, 1995, Findings of Fact, Conclusions of Law and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of The Black Hills, SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2015a, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2015b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2015c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

RECEIVED

AUG - 6 2015

WATER RIGHTS
PROGRAM

Affidavit of Publication

STATE OF SOUTH DAKOTA:

COUNTY OF LAWRENCE:

Letitia Lister of said County and State being first duly sworn, on her oath says: That the BLACK HILLS PIONEER is a legal daily newspaper of general circulation, printed and published in the City of Spearfish, in said County and State by Letitia Lister, and has been such a newspaper during the times hereinafter mentioned; and that said newspaper has a bonafide circulation of at least 200 copies weekly, and has been published within said County in the English language for at least one year prior to the first publication of the notice herein mentioned, and is printed in whole or in part in an office maintained at the place of publication; and that I, Letitia Lister, the undersigned, am the Publisher of said newspaper and have personal knowledge of all the facts stated in this affidavit; and that the advertisement headed:

Notice Of Application
No. 1955-1

a printed copy of which is hereto attached, was printed and published in said newspaper for 1 successive and consecutive weeks, the first publication being made on the 30th day of July, 2015 and the last publication on the _____ day of _____, that the amount of fees charged for publishing same, to-wit: The sum of \$ 26.68, insures solely to the benefit of the publisher of the BLACK HILLS PIONEER, that no agreement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

Letitia Lister
Subscribed and sworn to before me this 31st day of July, 2015

Orlith Richards

Notary Public, Lawrence County, South Dakota

My commission expires: 10-24-2016

NOTICE OF APPLICATION NO. 1955-1 to Appropriate Water

Notice is given that the City of Spearfish, c/o Tom Callaway, Environmental Services Manager, 625 5th St, Spearfish SD 57783 has filed an application for a water permit to increase the diversion rate authority from the well authorized by Water Right No. 1003-1 and place to beneficial use water reserved by Future Use Permit No. 1872-1. Water Right No. 1003-1 authorizes 1.5 cubic feet of water per second (cfs) from one well completed into the Madison Aquifer (800 feet deep) for municipal use. This notice serves to specify the correct location of the existing well authorized by Water Right No. 1003-1 as being in the NE 1/4 NE 1/4 Section 15-T6N-R2E. The city is requesting an additional diversion rate authority of 0.3 cfs (130 acre-feet annually) from the existing well. The 130 acre feet of water is reserved by Future Use Permit No. 1872-1. This application, if approved, and Water Right No. 1003-1 will authorize a total of diversion rate of 1.8 cfs and 782 acre-feet of water annually.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1955-1 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 August 10, 2015.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

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

Published once at the
total approximate cost of
\$27.13.

#600
July 30

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, July 23, 2015 9:30 AM
To: Legals (legals@bhpioneer.com)
Subject: 1955-1, City of Spearfish
Attachments: 1955-1public.short.docx; FORM8 FRM.doc

Attached is a notice to be published on July 20, 2015.

The City of Spearfish, c/o Tom Callaway, Environmental Services Mgr, 625 5th St, Spearfish SD 57783 (605 642-1333 or c 605 645-4755) 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.

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

Karen Schlaak
Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 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.**

July 23, 2015

City of Spearfish
Tom Callaway- Environmental Services Manager
625 5th St
Spearfish SD 57783

Dear Mr. Callaway:

Water Permit Application No. 1955-1 for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Black Hills Pioneer printed at Spearfish SD (Ph # 605-642-2761). 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. 1955-1 to Appropriate Water

Notice is given that the City of Spearfish, c/o Tom Callaway, Environmental Services Manager, 625 5th St, Spearfish SD 57783 has filed an application for a water permit to increase the diversion rate authority from the well authorized by Water Right No. 1003-1 and place to beneficial use water reserved by Future Use Permit No. 1872-1. Water Right No. 1003-1 authorizes 1.5 cubic feet of water per second (cfs) from one well completed into the Madison Aquifer (800 feet deep) for municipal use. This notice serves to specify the correct location of the existing well authorized by Water Right No. 1003-1 as being in the NE 1/4 NE 1/4 Section 15-T6N-R2E. The city is requesting an additional diversion rate authority of 0.3 cfs (130 acre-feet annually) from the existing well. The 130 acre feet of water is reserved by Future Use Permit No. 1872-1. This application, if approved, and Water Right No. 1003-1 will authorize a total of diversion rate of 1.8 cfs and 782 acre-feet of water annually.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1955-1 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 August 10, 2015.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. 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

AUG 13 2015

City of Spearfish
Tom Callaway
625 5th St
Spearfish SD 57783

Dear Mr. Callaway:

Enclosed is Water Permit No. 1955-1 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

SD EForm - 1311LD V1

Form 10

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

MAIL TO: PMB 2020
DENR - Water Rights Program
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

Date August 18, 2015

FROM: City of Spearfish, Tom Callaway, Env. Svs. Mngr
(name)

625 5th Street

(address)

Spearfish

(city)

SD

(state)

57783

(zip)

605-642-1333 option 2

(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. 1955-1 states that the water use system is to be constructed by

August 10, 2020

(date)

, and water is to be put to beneficial use by August, 10, 2024

(date)

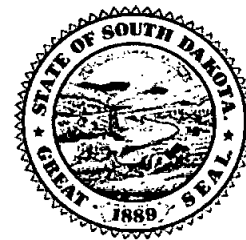
The water use system was completed on May 31, 2015

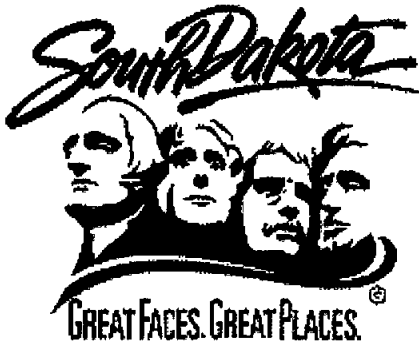
(date)

Applying the water to beneficial use was completed on September 1, 2015

(date)

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





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 24, 2015

1955-1

Tom Callaway
City of Spearfish
625 5th St
Spearfish SD 57783

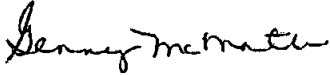
Dear Mr. Callaway:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form you submitted for Water Permit No. 1955-1. The permit authorizes increasing the diversion authority from an existing well.

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 completion of the project and the staff inspection has no bearing on the 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

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 1955-1

I have this day, September 5, 2017 made a thorough examination of the water use system constructed by the **City of Spearfish, 625 5th St., Spearfish, SD 57783** of Permit No. **1955-1**, bearing the priority of **11/13/2006** authorizing the diversion an additional **0.30** cu. ft. per second of the water from an existing well for municipal purposes, in Lawrence County.

Inspection contact & relationship to permit holder, if applicable:

Cheryl Johnson, Public Works Administrator
Robert Glenn, Utilities Superintendent
605-642-1333

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Minnehaha Waters (1976)
- 2) No. of Wells 1
- 3) Depth(s) 800 feet (Madison)
- 4) Well log is available Yes

Casing:

- 1) Diameter 10" to 618'
- 2) Length 618 feet
- 3) Type Steel

Screen:

- 1) Type open hole (no casing indicated below 618' on any documentation)
- 2) Length 180 feet
- 3) Static water level 0+ feet (flowing)

Pump:

- 1) Make Goulds
- 2) Model THC 5 stage (per Taylor Drilling)
- 3) Size 8"
- 4) Capacity 700 gpm (metered rate)
- 5) Horsepower rating 75 (variable speed drive)

B. Works used transport and apply water to beneficial use:

This well which is known as the Ellingson well is one of seven active wells providing water supply for the City of Spearfish. The well pumps directly into the distribution system with the balance of flow over that required to meet demand being pumped to elevated storage.

C. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: Yes
- 2) Exceptions to compliance are: none

D. Condition and Location:

1. The system is in good condition with the point of diversion located as follows:
1,217' S and 585' W of the NE corner Section 15 T6N R2E (44.485258, -103.85202)
2. The works are capable of diverting and conveying to the place of use 1.56 cu. ft. per second (700 gpm) of water which is to be used for **municipal** use and the license should be issued for 1.56 cfs.
3. All structures, wells and lands on map: **No, well only**

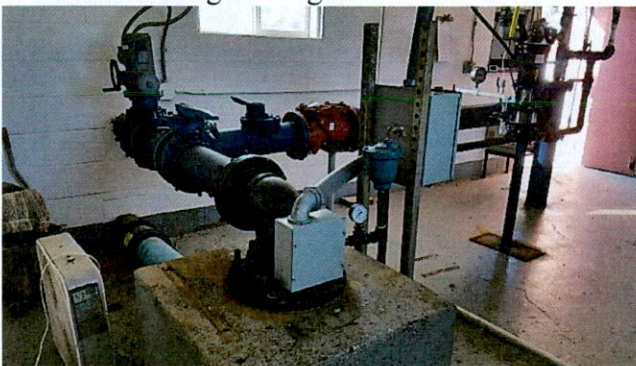
E. Comments or other permit(s) associated with the project:

Water Permit No. 1955-1 increased the diversion rate authority from an existing well authorized by Water Right No. 1003-1, placed to beneficial use water reserved by Future Use Permit No. 1872-1 and corrected the location of the existing well licensed under Water Right No. 1003-1. Water Right No. 1003-1 authorized 1.5 cfs. Water Permit No. 1955-1 authorized an additional 0.3 cfs (130 acre-feet) for a total diversion authority of 1.8 cfs and 782 acre-feet annually. The 130 acre-feet was reserved by Future Use Permit No. 1872-1.



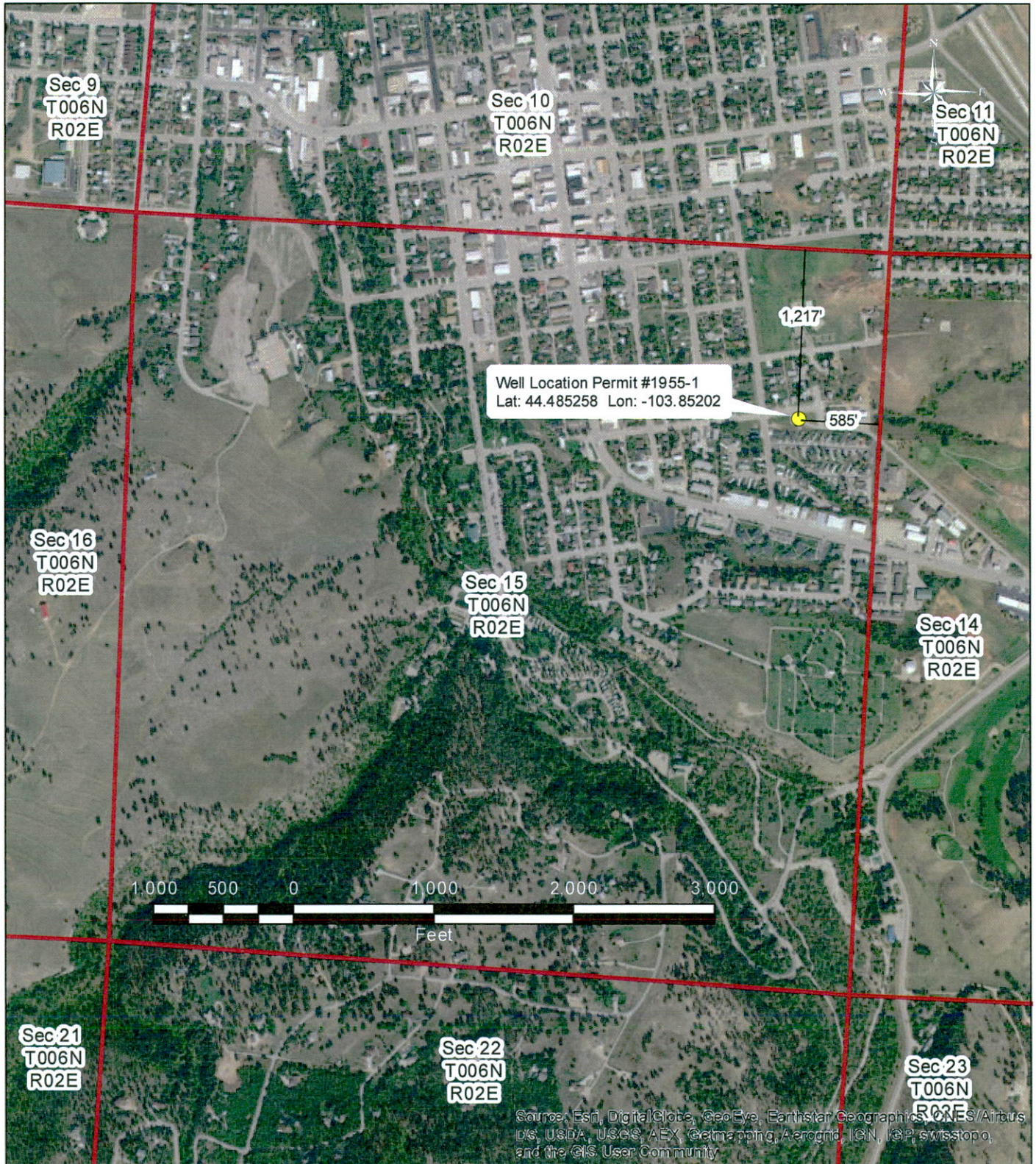
Steven Quissell
Water Rights Inspector
DENR Water Rights Program

Date report completed: 9/26/2017

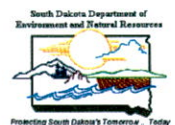


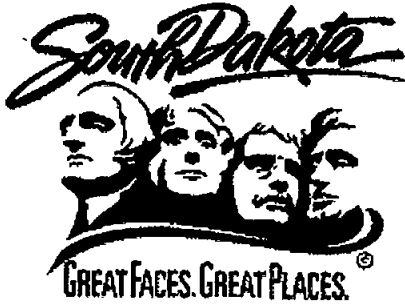
Ellingson well and pump house

Water Right #1955-1
City of Spearfish
9/5/2017



Steven Quissell
Water Rights Inspector
DENR Water Rights Program





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

OCT 10 2017

1003-1
1955-1
1872-1

Cheryl Johnson, PWD
City of Spearfish
625 5th St
Spearfish SD 57783

Dear Ms. Johnson:

Enclosed is Water License No. 1955-1. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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

Upon licensing, the applicable portions of Water Right No. 1003-1 were incorporated into Water License No. 1955-1. Additionally, based on the capability of the well, a total of 104 acre feet in annual volume reverted back to Future Use Permit No. 1872-1.

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

Sincerely,

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

enclosures

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 1955-1

(1) The City of Spearfish, 625 5th St, Spearfish SD 57783 made Application No. 1955-1, May 26, 2015 for a water permit to increase the diversion rate authority from the well authorized by Water Right No. 1003-1 and place to beneficial use water reserved by Future Use Permit No. 1872-1. Water Permit No. 1955-1 authorized diversion of 0.30 cubic feet of water per second (cfs) from ground water, one existing well (Madison Aquifer), Lawrence County, South Dakota for municipal purposes. Permit No. 1955-1, with a priority date of November 13, 2006 (established under Future Use Permit No. 1872-1) was approved August 10, 2015 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before August 10, 2020 and for the application to beneficial use of said water on or before August 10, 2024.

The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on August 18, 2015. The "*Notice*" stated the water use system was completed on May 31, 2015 and the water placed to beneficial use on September 1, 2015.

Water Right No. 1003-1, with a priority date of January 16, 1974, authorizes diversion of 1.50 cfs. Water Permit No. 1955-1 authorized diversion of an additional 0.30 cfs from the existing well. Approval of No. 1955-1, limited the city's use of water from this well to a combined annual diversion of 782 acre feet (based on 60% pumping).

The investigation of the water use system found the well capable of 1.56 cfs, equating to an annual volume of 678 acre feet of water based on pumping 60% of the time. The applicable portions of Water Right No. 1003-1 have been incorporated into this Water License No. 1955-1. The volume not developed and reverting back to Future Use Permit No. 1872-1 is 104 acre feet.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.56 cubic feet of water per second (678 acre feet annually) for beneficial use. The location of the diversion point is in the:

- NE $\frac{1}{4}$ NE $\frac{1}{4}$, approximately 1,217'S and 585'W of the NE corner of Section 15, T6N, R2E (44.485258, -103.85202)

The above described well known as the Ellingson well and is one of seven active wells providing water supply for the City of Spearfish. The well pumps directly into the distribution system with the balance of flow over that required to meet demand being pumped to elevated storage.

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the City of Spearfish, 625 5th St, Spearfish SD 57783 the holder and/or owner of Incorporated Water Right No. 1955-1 is issued a license to appropriate water, the right to use 1.56 cubic feet of water per second (678 acre feet annually) from ground water, one well (Madison Aquifer) with priority dates of January 16, 1974 (1.50 cfs) and November 13, 2006 (0.06 cfs) from the location specified in (2) of this license for municipal purposes.

continued