

WATER PERMIT NO. 2790-2

Name of Applicant: **Blue Wing Recreation Corporation**

Address: **PO Box 9322, Rapid City SD 57709**

Phone: **605 666-4344**

Amount of Water Claimed: **0.017 cfs (8 gpm)**

Total Acres: **NA**

Source of Water Supply: **groundwater (2 wells)**

Water to be used for: **commercial**

County: **Pennington**

Type of Waste Disposal System:

Location: **12 miles southwest of Rapid City near Sheridan Lake**

PRIORITY

Date Received: **6-28-18**

Application/License Fee: **\$ 100**

Corrected Application Received: **7-6-18**

Period of Annual Use: **May 20 – September 30**

Remarks: **Increase diversion rate authorized by Water Right No. 2786-2**

Diversion Point: **NW 1/4 SW 1/4 & SW 1/4 NW**

1/4 Sec 18-T1S-R6E

Land to be Irrigated: **NA**

Depth of Well: **280 and 370 feet deep**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by: **Steven Quissell**

Reviewed and the Number Assigned on: **7-6-18**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

	⊗				
	⊗				

**SOUTH DAKOTA
WATER PERMIT NO. 2790-2**

Date of first receipt of application July 6, 2018.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2790-2 to Blue Wing Recreation Corporation, c/o Ron Rossknecht, President, PO Box 9322, Rapid City SD 57709 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. 2790-2 appropriates 0.017 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Permit No. 2786-2. Water Permit No. 2786-2 authorizes 0.036 cfs from two wells completed into the Crystalline Rock Aquifer (280 and 370 feet deep) located in the NW 1/4 SW 1/4 and the SW 1/4 NW 1/4 Section 18-T1S-R6E for commercial use to supply a water distribution system for seasonal mobile homes and campers. An investigation of the permit found the system capable of diverting an additional 0.017 cfs from the two wells. This permit and Water Permit No. 2786-2 will authorize 1.84 acre-feet of water per year at a maximum diversion rate of 0.053 cfs (24 gallons per minute) with the older well serving as a backup supply. This site is located approximately 12 miles southwest of Rapid City near Sheridan Lake.
2. The water appropriated shall be used for the purpose of commercial 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: May 1 – September 30.
4. The date of approval of Permit No. 2790-2 is September 24, 2018.
5. The date from which applicant may claim right is July 6, 2018.
6. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under Permit Nos. 2786-2 and 2790-2 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. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Crystalline Rock.
3. Water Permit Nos. 2786-2 and 2790-2, combined, authorizes a total annual diversion of 1.84 acre feet of water.

WATER MANAGEMENT BOARD

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

OCT 31 2018

date



STATE OF SOUTH DAKOTA
WATER LICENSE NO. 2790-2

(1) Blue Wing Recreation Corporation, c/o Ron Rossknecht, President, PO Box 9322, Rapid City SD 57709 made Application No. 2790-2, July 6, 2018 to increase the diversion rate authorized under Water Permit No. 2786-2 from 0.036 to 0.053 cubic feet of water per second (cfs) from two wells – Crystalline Rock Aquifer, Pennington County, South Dakota for commercial purposes. Permit No. 2790-2, with a priority date of July 6, 2018 (for additional 0.017 cfs) was approved September 24, 2018 and issued to the applicant for diversion of water with construction of the described water supply system and the application to beneficial use of water completed.

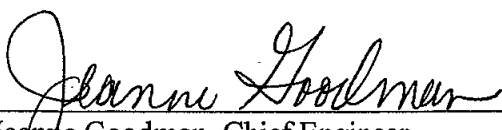
Water Permit No. 2786-2, with a February 26, 2018 priority date, authorizes 0.036 cfs from the two wells. The applicable portions of No. 2786-2 are incorporated into Water License No. 2790-2.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder incorporated Water Right No. 2790-2 is issued a license, bearing priority dates of February 26, 2018, 2018 (0.036 cfs) and July 6, 2018 (0.017 cfs) to appropriate 1.84 acre-feet annually with a maximum diversion rate of 0.053 cubic feet of water per second from two wells – Crystalline Rock Aquifer for commercial use to supply a water distribution system for seasonal mobile homes and campers. The diversion points are located:

- South Well – 2,158'N and 78'E of the SW corner Section 18-T1S-R6E (NW 1/4 SW 1/4)
Latitude 43.961024, Longitude -103.458398 *South Well is used as standby source.*
- North Well - 2,311'S and 91'E of the NW corner Section 18-T1S-R6E (SW 1/4 NW 1/4)
Latitude 43.963246, Longitude -103.45834

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Incorporated Water Permit No. 2790-2 including the following qualifications:

- The wells approved under Permit Nos. 2786-2 and 2790-2 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.
- The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Crystalline Rock.
- Water Permit Nos. 2786-2 and 2790-2, combined, authorizes a total annual diversion of 1.84 acre feet of water.


Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

OCT 31 2018

date



RECEIVED

JUL 06 2018

WATER RIGHTS
PROGRAM

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>2790-2</u> (office use only) Hydrologic Unit <u>10120109</u>
	Basin <u>Upper Cheyenne</u>
	Newspaper <u>Rapid City Journal</u>

Application For Permit To Appropriate Water Within The State Of South Dakota**Check use(s) of water:**

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

Type of Application:
(check one)

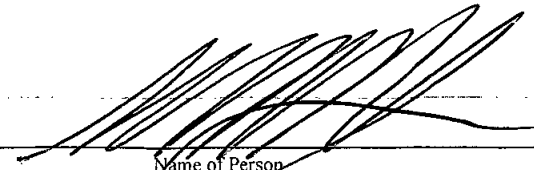
☐ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____		
☒ Amendment/Correction to Permit No. <u>2786-2</u>		

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

Increase the diversion rate authorized by Permit No. 2786-2 from 16 gpm to 24 gpm

- Name to Appear on Water Permit Blue Wing Recreation Corporation
Mailing Address PO Box 9322 Rapid City SD 57709
(Address) (City) (State) (Zip Code)
Phone 666-4344 Mobile 391-1162 Email valve@hills.net
- Amount of water claimed 0.017 *CFS or 8 **GPM and 1.84 ***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 #1 (south) backup well and Well #2 (north) main well
- Location of point of diversion NW 1/4 SW 1/4 & SW 1/4 NW 1/4 Sec 18-T1S-R6E County Pennington
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☐ No
If "Yes," where will water be used? _____
(example - NW1/4 section 12-T104N-R53W)
- County or counties where water will be used Pennington County
- Annual period during which water is to be used May 1 - September 30
- 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)

Seasonal recreation area

X I,  President ⁷⁻²⁻¹⁸, the applicant, certify under
Name of Person Title (if applicable)

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

Supplemental Information

(type or print)

1. Well Information

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

a) If new wells, how many _____ Have test holes been drilled ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)

b) If existing wells, how many 2 Provide copy of log(s), if available. Drilled by Alexander Drilling
ON FILE / DENR

For either Existing or Proposed Wells:

c) Well Depth (required) #1 320' #2 248' Depth to Top of Water Bearing Material #1 164' #2 112' Depth to Water from Surface #1 120' #2 70'

d) Distance to nearest domestic well on applicant's property 820' Property owned by others N/A

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) PRIVATE SEPTIC SYSTEM w/HOLDING TANKS

b) System Capacity (gallons) VARIES Year Constructed 1965-2017

c) Connected to the City of N/A 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)

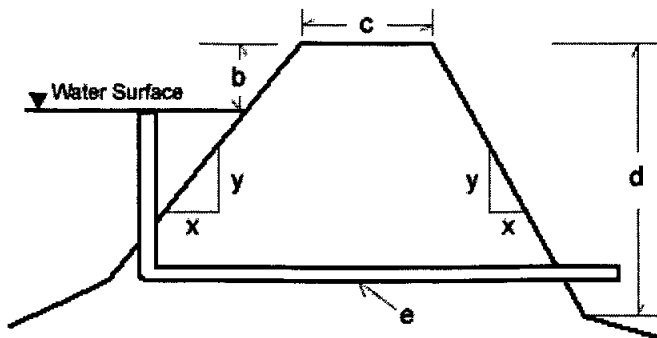
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

June 27, 2018

RECEIVED

JUL 06 2018

WATER RIGHTS
PROGRAM

Blue Wing Recreation Corporation
c/o Ron Rossknecht
PO Box 9322
Rapid City SD 57709

Dear Mr. Rossknecht:

Blue Wing Recreation Corporation was recently issued Water Permit No. 2786-2 authorizing diversion 0.036 cubic feet of water per second (cfs) or 16 gallons per minute (gpm) from two wells located in the NW 1/4 SW 1/4 and the SW 1/4 NW 1/4 Section 18-T1S-R6E for commercial use.

The standard on-site investigation conducted by Steve Quissell, with the Water Rights Program to determine the level of development found Well #2 (north well) capable of diverting 0.053 cfs or 24 gpm. This will require obtaining a water permit for the additional 8 gpm. Well #1 (south well) is used as a standby source and will not be operated simultaneously with Well #2. Attached is a partially completed water permit application.

Please review the partially completed application and if in agreement, sign and return along with the \$100 application filing fee. A self-addressed postage paid envelope is enclosed. Once the application is received, it will be reviewed and public noticed, following the same procedure as followed with your existing water permit.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosures

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 2786-2

I have this day, May 31, 2018 made a thorough examination of the water use system constructed by Blue Wing Recreation Corporation, % Ron Rossknecht, P.O. Box 9322, Rapid City, SD 57709 of Permit No. 2786-2, bearing the priority of 2/26/2018 authorizing 1.84 acre-feet per year at a maximum diversion rate of 0.036 cu. ft. per second of water from two wells for commercial purposes, in Pennington County.

Inspection contact & relationship to permit holder, if applicable: **Ron Rossknecht, President**
Blue Wing Recreation Corporation
605-391-1162 (cell) 605-666-4344 (home)

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Alexander Drilling (2000)
- 2) Well No. 1 (south well)
- 3) Depth 370 feet
- 4) Well log Yes

Well Drilling Firm: Alexander Drilling (2017)

Well No. 2 (north well)

Depth 280 feet

Well log Yes

Casing:

- 1) Diameter 6 inches
- 2) Length 140 feet
- 3) Type PVC

Diameter 6 inches

Length 30 feet

Type PVC

Screen:

- 1) Type open hole
- 2) Length 266 feet
- 3) Static water level 120 feet
- 4) Air test 30 gpm

Type open hole

Length 252 feet

Static water level 70 feet

Air test 60+ gpm

Pump:

- 1) Make Grundfos
- 2) Model 16S30-24
- 3) Size 4"
- 4) Capacity 7 GPM
- 5) Horsepower rating 3 hp

Make Grundfos

Model 16S30-24

Size 4"

Capacity 24 GPM (per timed measurement)

Horsepower rating 3 hp

Note: The #1 well drilled in 2000 is located adjacent to storage tanks of 5,000 gallon and 2,500 gallon, and an underground concrete tank which houses chlorination equipment, a booster pump, pressure tank and miscellaneous plumbing. A portion of the water supply gravity feeds to the residences lower in elevation in the development, and the balance uses a booster pump to deliver to the residences higher in elevation. Also located at this site is a baffled settling tank used to collect iron particles precipitating out of the water at the surface. Both wells have the same **16 gpm rated pump** and the #1 well was estimated to have produced approximately 16 gpm when installed, but flow had been gradually decreasing and was producing approximately 7 gpm at the time the #2 well was completed. **The #1 well is used as a standby source and will not be operated simultaneously with the #2 well.**

The #2 well is located approximately 800' north and is the main supply for the development. The #2 well was connected to the storage/booster location using existing supply piping. Water quality for this well is better with less iron precipitate. Operation of each of the wells is controlled using floats in the storage tanks.

B. Works used to transport water to place of use:

- 1) Type Plastic pipe
- 2) Size 1 1/4", 1", 3/4" inches
- 3) Length --- feet

C. Works used to apply water to beneficial use:

The system supplies a seasonal recreation area serving approximately 85 homes and 200 people. The water system operates from May 20th to September 30th each year.

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by see below
The development will be reporting annual use to DENR. Usage is recorded on a regular basis. Total usage for 2017 was approximately 450,000 gallons (1.38 acre-feet)
- 2) Exceptions to compliance are: **The permit was issued for .036 cfs. The #2 well produces .053 cfs (24 gpm). The permit holder will need to make application for an increased diversion rate of .017 cfs (8 gpm).**

E. Condition and Location:

1. The system is in good condition with the points of diversion located as follows:
#1 (south) Well
2,158' N and 78' E of the SW corner Section 18 T1S R6E (43.961024, -103.458398)

#2 (north) Well
2,311' S and 91' E of the NW corner Section 18 T1S R6E (43.963246, -103.45834)
2. The works are capable of diverting and conveying to the place of use .053 cu. ft. per second (24 gpm) of water which is to be used for **commercial** use and the license should be issued for **.036 cfs**.
3. All structures, wells and lands on map – Yes

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

The diversion rate is based on the pumping rate of the #2 well constructed in 2017. See section D above.



Steven Quissell
Water Rights Inspector
DENR, Water Rights Program

Date report completed: 6/14/2018



Well #1, pump house, manholes for storage tanks and settling basin (upper left)

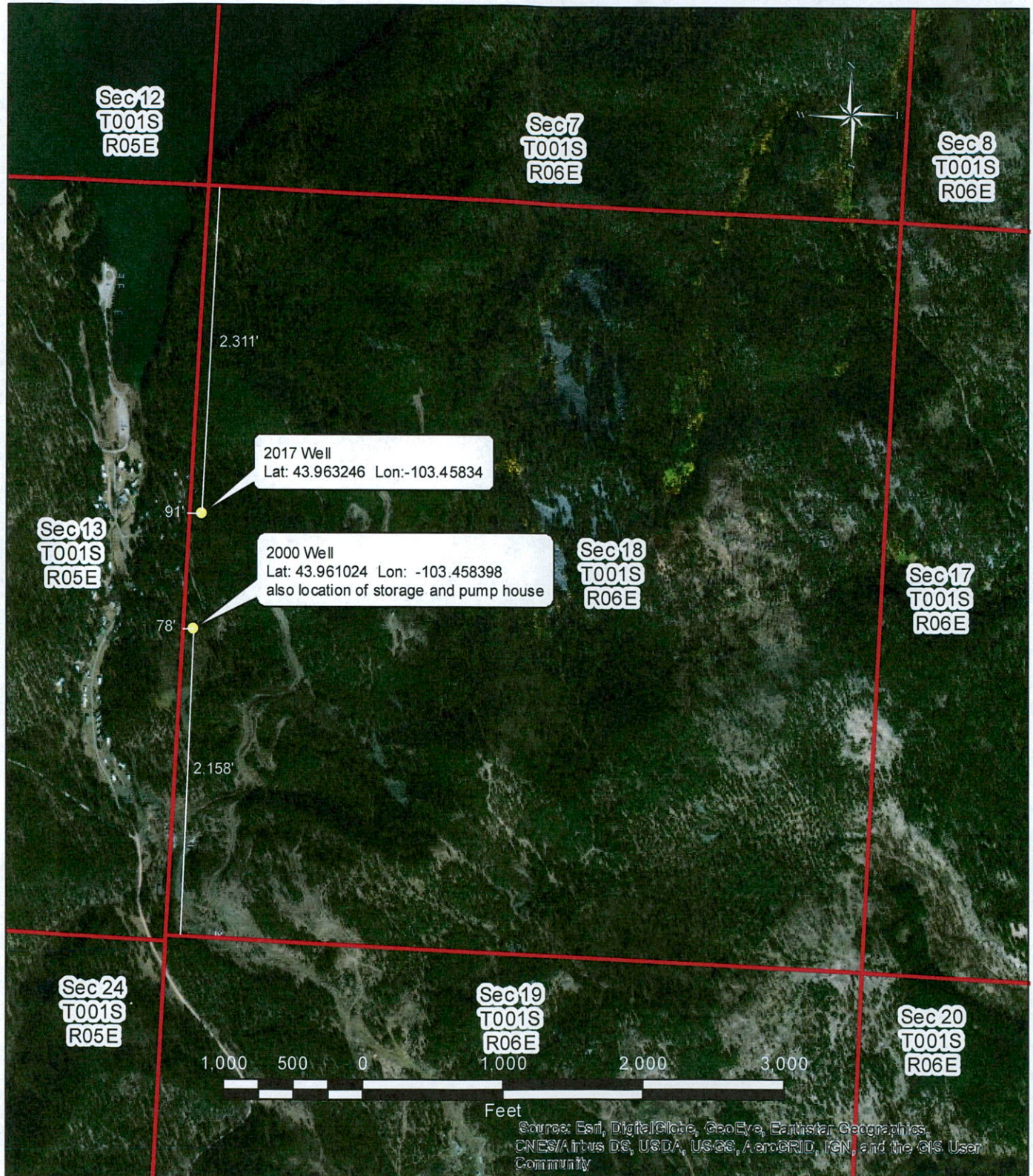


Well #2



Water meters and filters

Water Right #2786-2
Blue Wing Recreation Corporation
5/31/2018



Steven Quissell

Steven Quissell
Water Rights Inspector
DENR Water Rights Program



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date June 28

Blue Wing Recreation Corporation PO Box 9322 Rapid City 57709-9322²⁰ 18
RECEIVED OF _____

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

Fee for Application for Permit No. <u>2790-2</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. _____		
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	100 00

No. 08768

By

Jeanne Goodman
Chief Engineer

7511

SOUTH DAKOTA WATER WELL COMPLETION REPORT

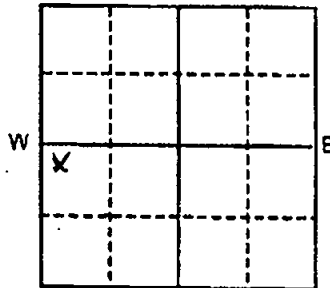
11-02

Location NW ¼ SW ¼ Sec 18 Twp 1S Rg 6E

County Pennington

North

Please mark well location with an "X"



Well Completion Date

10/9/2017

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
300 ft. from Septic (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary downhole hammer

CASING DATA:

☐ Steel ☒ Plastic ☐ Other
 If other describe Set 31' of 6" 160 PVC

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	0 FT	28 FT	8.75 IN
LB/FT	IN	28 FT	280 FT	6 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Portland II	3	Lb/gal	28 Ft	4 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure through trim pipe

SCREEN:

☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches Length _____ Feet
 Material _____
 Slot Size _____ Set From _____ Feet to _____ Feet
 Other information _____
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? w/chlorine solution

Lab to which water quality sample sent for analysis

Well Owner: Blue Wing Recreation Corp

Business Name:

Address:

City, State, Zip: Rapid City SD 57709

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Drift	0	15
Hard grey schist	15	112
Brown schist fracture 20 gpm	112	114
Hard grey schist	114	172
Grey schist fracture 45 gpm	172	175
Hard grey schist	175	238
Brown schist fracture 50 gpm	238	239
Hard grey schist	239	245
Brown schist fractures 60 gpm	245	248

STATIC WATER LEVEL 76 AM 4/12/18 FEET

If flowing: closed in pressure PSI

GPM flow 60+ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: w/air
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ FL After _____ Hrs. pumped _____ GPM

_____ FL After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Formation cont:
Hard grey schist 248-280

Crystalline Rock WR

This well was drilled under license # 324 and this report is true and accurate.

Drilling firm: Alexander Drilling Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder

Date:

10-19-17

RECEIVED

OCT 20 2017

WATER RIGHTS PROGRAM

2790-2

SOUTH DAKOTA WATER WELL COMPLETION REPORT

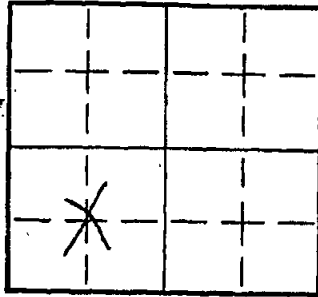
07-92

Location SW $\frac{1}{4}$ Sec 18 Twp 15 Rg 6E
 County Penn. North

Please mark well location with an "X"

Blue Wing Dev
By Sheridan Lake

Well Completion Date

7-4-00

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? 150 ft. from Septic (Identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Downhole HammerCASING DATA: ☐ Steel ☒ Plastic ☐ OtherIf other describe 106' - 6" PVC

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT <u>6</u>	IN <u>6</u>	FT <u>0</u>	FT <u>104</u>	IN <u>8</u>
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Pack</u>	<u>12</u>	<u>1475</u> lb./gal	<u>Surface</u> ft.	<u>104</u> ft.
		lb./gal	ft.	ft.

Describe grouting procedure

SCREEN: ☐ Perforated pipe ☐ Manufactured None

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information open holeWAS A PACKER OR SEAL USED? ☐ YES ☒ NOIf so, what material? Casing Set Hd. Rock

Describe packer(s) and location?

DISINFECTION: Was well disinfected upon completion? Chlorine Solution
☒ YES, How: _____
☐ NO, Why Not? _____

Laboratory sent to for water quality analysis

Well Owner: Blue Wing Dev. CorpBusiness Name: P.O. Box 9322Address: Badger City SD 57709

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Duff</u>	<u>0</u>	<u>5</u>
<u>Schist Soft.</u>	<u>5</u>	<u>90</u>
<u>Schist BLK</u>	<u>90</u>	<u>164</u>
<u>Schist Fracture H₂O - 5gpm</u>	<u>164</u>	<u>166</u>
<u>Schist BLK Hd.</u>	<u>166</u>	<u>220</u>
<u>Schist Fracture H₂O - 20gpm</u>	<u>220</u>	<u>222</u>
<u>Schist BLK Hd.</u>	<u>222</u>	<u>300</u>
<u>Schist Fracture H₂O - 30gpm</u>	<u>300</u>	<u>305</u>
<u>Schist Hd. BLK.</u>	<u>305</u>	<u>320</u>

STATIC WATER LEVEL 120'

If flowing: closed in pressure _____

GPM flow _____ through _____

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced Flowrate _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped by AIR Describe: 30° gpm.☐ Bailed☐ Other

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS Schist softer gray - 320-325Schist gray soft. - 325-370* Set pump at 300 ft.This well was drilled under license # 324

And this report is true and accurate.

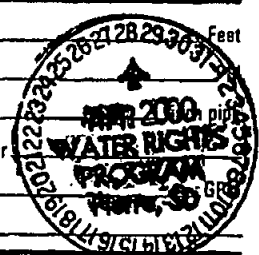
Drilling firm Alexander Drilling Inc

Signature of License Representative:

Ray Alexander

Signature of Well Owner or Equitable Property Holder

[Signature]
 Date: _____





**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. 2790-2, Blue Wing Recreation Corporation**

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. 2790-2, Blue Wing Recreation Corporation, c/o Ron Rossknecht, PO Box 9322, Rapid City SD 57709.

The Chief Engineer is recommending APPROVAL of Application No. 2790-2 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 wells approved under Permit Nos. 2786-2 and 2790-2 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. The permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Crystalline Rock.
3. Water Permit Nos. 2786-2 and 2790-2, combined, authorizes a total annual diversion of 1.84 acre feet of water.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
September 4, 2018

REPORT ON APPLICATION NO. 2790-2
For Blue Wing Recreation Corporation, % Ron Rossknecht
August 27, 2018

Blue Wing Recreation Corporation has filed Water Permit Application No. 2790-2 for a water permit to appropriate water at a maximum diversion rate of 0.017 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Permit No. 2786-2. Water Permit No. 2786-2 is authorized to appropriate 1.84 acre-feet of water annually at a maximum pump rate of 0.036 cfs from two wells completed into the Crystalline Rock aquifer (approximately 280 and 370 feet deep) located in the NW¼ SW¼ and SW¼ NW¼ Section 18, T1S-R6E for commercial use to supply a water distribution system for seasonal mobile homes and campers. A permit investigation found the system capable of diverting an additional 0.017 cfs from the two wells. This application, if approved, combined with Water Permit No. 2786-2 will authorize the appropriation of 1.84 acre-feet of water per year at a maximum diversion rate of 0.053 cfs (24 gallons per minute) with the older well serving as a backup water supply. This site is located approximately 12 miles southwest of Rapid City near Sheridan Lake in Pennington County, South Dakota.

AQUIFER – Crystalline Rock (CRSL)

The Crystalline Rock aquifer is composed of Precambrian aged crystalline rocks that consist primarily of mica schist or phyllite, quartzite, amphibolite, meta-iron formations and graphitic schist. The Crystalline Rock aquifer is not continuous and ground water conditions are controlled mainly by zones of secondary permeability caused by fracturing and weathering (Carter and others, 2003). The distribution, orientation and interconnection of these zones of secondary porosity and permeability are unpredictable, and the aquifer characteristics are site specific and highly variable.

The Crystalline Rock aquifer is considered to be contained in the area where the Precambrian rocks are exposed in the central core of the Black Hills in western South Dakota. Based on an estimated exposed area of 574,000 acres, an average saturated thickness of 500 feet, and an effective porosity of 1%, Rahn (1979) estimated the amount of recoverable water in the Crystalline Rock aquifer to be approximately 2.9 million acre-feet.

According to the well completion report submitted with this application, hard grey schist was identified from 15 feet to 280 feet below ground surface. Fractures were also documented at depths of 112 feet, 172 feet, 238 feet and 245 feet below ground surface. At the time of well completion, the static water level was recorded at 70 feet below ground surface. The aquifer is under unconfined conditions at this location. The water table of the aquifer is expected to be at the same elevation as local streams. The well completion report also indicates that the well is completed in accordance with SD Well Construction Standards (Water Rights, 2018c).



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 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. This report will address the availability of unappropriated water and existing rights within the Crystalline Rock aquifer.

WATER AVAILABILITY

The availability of unappropriated water from an aquifer can be evaluated by considering SDCL 46-6-3.1, which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source." If the source of the water is older than or stratigraphically lower than the Greenhorn Formation and is used for a water distribution system, the Board need not take into consideration the balance of aquifer recharge and withdrawal. The Crystalline Rock aquifer is older in age than the Greenhorn Formation. However, the proposed water is for a commercial use, so water availability in the aquifer will need to be considered.

Discharge from the Crystalline Rock aquifer occurs mainly through well withdrawals, evapotranspiration, and discharge to area streams when the water level of the aquifer is higher than the stage of a stream. Recharge to the Crystalline Rock aquifer occurs through infiltration of precipitation falling on the outcrop, and through streamflow losses when the stages of area streams are higher than the groundwater level. Driscoll and Carter (2001), by assuming net groundwater outflow to be equal to zero, estimated that recharge to the aquifer to be equal to well withdrawals (approximately 3,600 acre-feet per year), however the actual recharge rate must be higher in order to account for streamflow losses. Actual recharge conditions are highly transient and have large spatial variability, thus quantification has not been attempted (Driscoll and Carter, 2001). Therefore, there are no estimates of average annual recharge or average annual withdrawals from the Crystalline Rock aquifer at this time.

OBSERVATION WELL DATA

Administrative Rule of South Dakota (ARSD) 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 Water Rights Program monitors two observation wells completed into the Crystalline Rock aquifer (Water Rights, 2018a). Observation well CU-86A is located approximately 15 miles southwest and observation well PE-95D is located approximately 6 miles northeast of this application. It should be noted that due to the distance from the well that will be used to supply

this appropriation and the site specific nature of the aquifer, these observation wells do not necessarily describe the local characteristics of the aquifer. However, the data can provide general characteristics representative of the Crystalline Rock aquifer. The hydrograph associated with observation well CU-86A is included in this report and illustrated in Figure 1 below.

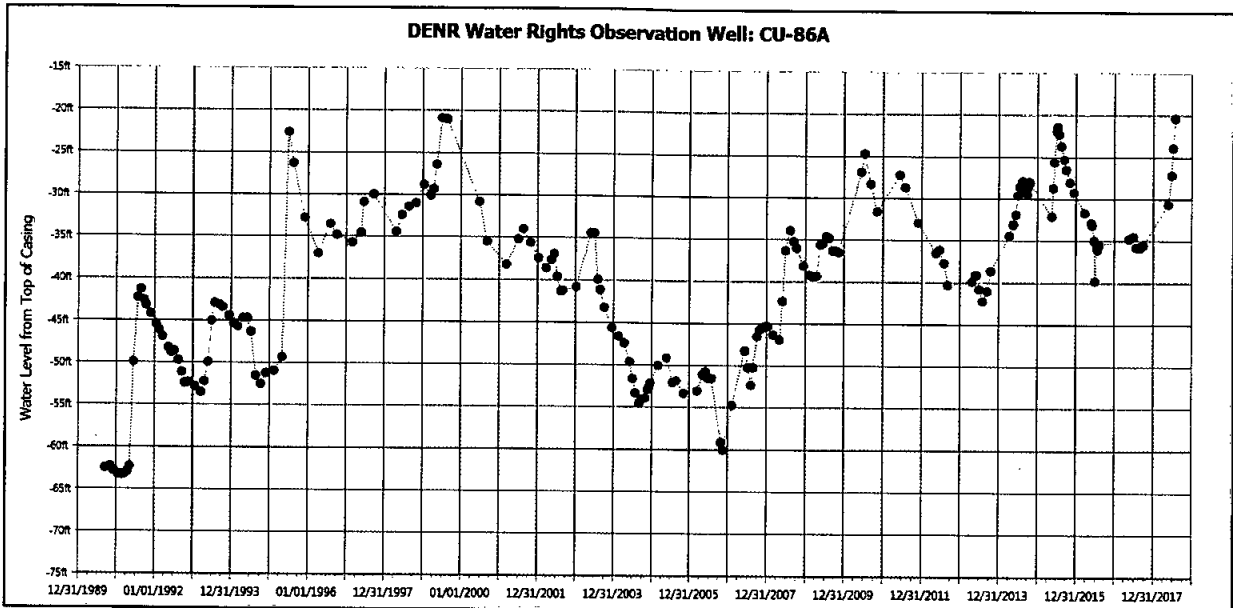


Figure 1. Hydrograph of observation well CU-86A which is completed into the Crystalline Rock aquifer located approximately 15 miles southwest of this application (Water Rights, 2018a).

The data from observation well CU-86A indicates water level fluctuations of over 40 feet in response to varying climatic conditions, with rising water levels during wet years and gradually declining water levels during dry years. In general, the temporal effects of pumping are masked by climatic conditions indicating that additional water is available for well withdrawals to capture. Therefore, this proposed appropriation is not expected to cause withdrawals to exceed recharge in the Crystalline Rock aquifer in the area of this proposed application.

REVIEW OF EXISTING WATER PERMITS/RIGHTS

There are several existing water rights appropriating groundwater from the Crystalline Rock aquifer located within a four mile radius of this application listed in Table 1 and illustrated in Figure 2 (Water Rights, 2018b). The nearest water right appropriating water from the Crystalline Rock aquifer is Water Right No. 523-2 (0.03 cfs for commercial use) located approximately 2½ miles to the northwest of this proposed application.

Table 1. Table identifying existing Water Rights within a four mile radius of this application (Water Rights, 2018b).
(LC = license, COM = commercial, INS = institutional, REC = recreational, DOM = domestic, IND = industrial)

Permit No.	Name	Status	Use	Rate (cfs)
523-2	BEAUDETTE	LC	COM	0.03
2004-2	ORLOSKE	LC	COM	0.02
2012A-2	BAPTIST CAMP JUDSON	LC	INS	0.04
2159-2	DAISEY ENTERPRISE LLC	LC	COM	0.07
2222-2	STORM MOUNTAIN CENTER	LC	REC/INS	0.04
2224-2	HILLSIDE COUNTRY COTTAGES	LC	COM	0.004
2232-2	MOUNTAIN VIEW LODGE	LC	COM	0.034
2238-2	MOORE	LC	COM/DOM	0.022
2246-2	COLLINS	LC	COM	0.022
2341-2	BANKS	LC	COM	0.013
2342-2	BANKS	LC	COM	0.044
2460-2	KNAPP	LC	COM	0.033
2492-2	RUSHMORE FOREST PRODUCTS	LC	IND/DOM	0.52
2506-2	DAISEY ENTERPRISE LLC	LC	COM	0.01
2529-2	PRAIRIE BERRY LLC	LC	COM	0.056
2589-2	OWENS	LC	COM	0.022
2719-2	PRAIRIE BERRY LLC	LC	COM	0.06
2742-2	VOORHEES HOSPITALITY LLC	LC	COM/DOM	0.056
2775-2	LARSEN	LC	COM	0.031

Pumping groundwater from the Crystalline Rock aquifer will result in water level drawdown, which is dependent on aquifer characteristics in the immediate area of the well site. The effects of drawdown are not necessarily related to distance between wells because drawdown is not expected to be uniform in all directions due to the flow of water within joints, faults, and fractures. Precise drawdown effects at the well site can only be quantified with aquifer testing.

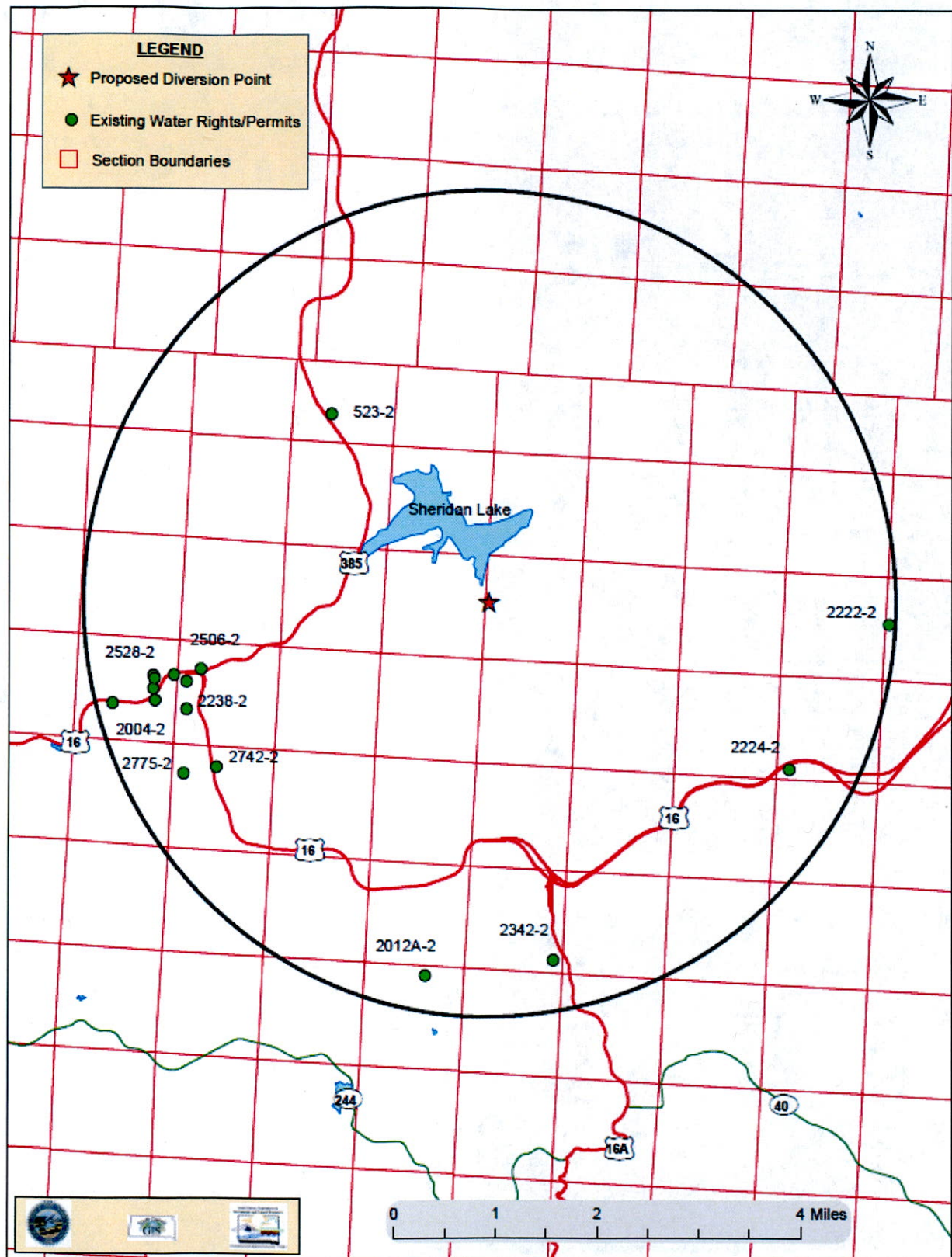
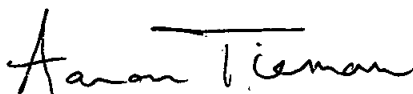


Figure 2. Approximate location of existing water rights appropriating water from the Crystalline Rock aquifer. The circle represents a four mile radius boundary around this application (Water Rights, 2018b).

The Water Management Board has consistently recognized that in order to place water to maximum beneficial use a certain amount of drawdown may occur. SDCL 46-6-6.1 does not require protection of artesian head pressure as a means of groundwater delivery. Additionally, ARSD 74:02:04:20(7) defines an adversely impacted domestic well and implies that 20 feet of saturated thickness of the aquifer is adequate. However, because the porosity of the crystalline rock is often low, 20 feet of saturated thickness could be insufficient for a dependable water source, and so this definition of an adequate well could be inapplicable. The relatively low pump rate this application proposes is not expected to result in significant drawdown. While the effects of drawdown have not been quantified, water level fluctuations due to pumping are not expected to be significant when compared to natural water level fluctuations in the aquifer. It should also be noted that this water system has been in place and operating for a number of years without any report or complaint of adverse effects. Therefore, there is reasonable probability that unappropriated water is available for this proposed appropriation.

CONCLUSIONS

1. Water Permit Application No. 2790-2 proposes to appropriate water at a maximum diversion rate of 0.017 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Permit No. 2786-2.
2. Water Permit Application No. 2786-2 is authorized to appropriate 1.84 acre-feet of water annually at a maximum pump rate of 0.036 cubic feet of water per second (cfs) from two wells completed into the Crystalline Rock aquifer.
3. This application, if approved, combined with Water Permit No. 2786-2 will authorize 1.84 acre-feet per year at a maximum diversion rate of 0.053 cfs (24 gallons per minute) with the older well serving as a backup water supply.
4. The Crystalline Rock aquifer is a viable groundwater source and there is a reasonable probability that unappropriated water is available for this appropriation.
5. The wells authorized for this application are completed in accordance with SD Well Construction Standards.
6. Well interference is not expected to be significant and will not adversely impact existing users (domestic or appropriative).



Aaron R. Tieman

Natural Resources Engineer

DENR, Water Rights Program

REFERENCES

- Carter, J., Driscoll, D., Sawyer, J., 2003, Ground Water Resources in the Black Hills Area, South Dakota, U.S. Geological Survey Water-Resources Investigations Report 03-4049, Rapid City, SD, 57701.
- Driscoll, D.G., and Carter, J.M., 2001, Hydrologic Conditions and Budgets for the Black Hills of South Dakota, U.S. Geological Survey Water-Resources Investigations Report 01-4226, 143 p.
- Rahn, P.H., 1979. Groundwater Resources of Western South Dakota. Department of Geology and Geological Engineering, South Dakota School of Mines and Technology, Project #2533. Rapid City, SD.
- Water Rights, 2018a, Observation Well Database, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.
- Water Rights, 2018b, Water Right/Permit Files, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.
- Water Rights, 2018c, Well Completion Report Files, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.

Affidavit of Publication

RECEIVED

SEP 21 2018

WATER RIGHTS
PROGRAM

STATE OF SOUTH DAKOTA

County of Pennington

SS:

Sheri Sponder being first duly sworn, upon his/her oath says: That he/she is now and was at all time hereinafter mentioned, an employee of the RAPID CITY JOURNAL, a corporation of Rapid City, South Dakota, the owner and publisher of the RAPID CITY JOURNAL, a legal and daily newspaper printed and published in Rapid City, in said County of Pennington, and has full and personal knowledge of all the facts herein stated as follows: that said newspaper is and at all of the times herein mentioned has been a legal and daily newspaper with a bonafide paid circulation of at least Two Hundred copies daily, and has been printed and published in the English language, at and within an office maintained by the owner and publisher thereof, at Rapid City, in said Pennington County, and has been admitted to the United States mail under the second class mailing privilege for at least one year prior to the publication herein mentioned; that the advertisement, a printed copy of which, taken from said Rapid City Journal, the paper in which the same was published, is attached to this sheet and made a part of this affidavit, was published in said paper once each day for one successive day, the first publication there of being on the 12th day of Sept 2018 that the fees charged for the publication there of are 70 dollars and 83 cents.

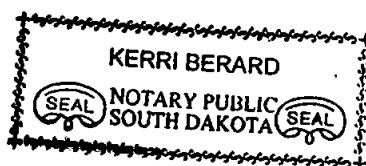
Sheri Sponder

Subscribed and sworn to before me this 19th
day of September, 2018.

Kerri Berard
Notary public

8/21/19

My commission expires



Sept 12 L21094599
NOTICE OF APPLICATION
NO. 2790-2 to Appropriate Water
Notice is given that Blue Wing Recreation Corporation, c/o Ron Rossknecht, President, PO Box 9322, Rapid City SD 57709 has filed an application for a water permit to appropriate 0.017 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Permit No. 2786-2. Water Permit No. 2786-2 authorizes 0.036 cfs from two wells completed into the Crystalline Rock Aquifer (280 and 370 feet deep) located in the NW 1/4 SW 1/4 and the SW 1/4 NW 1/4 Section 18-T15-R6E for commercial use to supply a water distribution system for seasonal mobile homes and campers. An investigation of the permit found the system capable of diverting an additional 0.017 cfs from the two wells. This application, if approved, and Water Permit No. 2786-2 will authorize 1.84 acre-feet of water per year at a maximum diversion rate of 0.53 cfs (24 gallons per minute) with the older well serving as a backup supply. This site is located approximately 12 miles southwest of Rapid City near Sheridan Lake. Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2790-2 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 September 24, 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 \$70.83)

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, September 04, 2018 11:30 AM
To: RCY Legals (legals@rapidcityjournal.com)
Subject: 2790-2, Blue Wing Recreation Corporation
Attachments: 2790-2public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on September 12, 2018

Blue Wing Recreation Corporation, c/o Ron Rossknecht, PO Box 9322, Rapid City SD 57709 (605 391-1162) 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





**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 RIGHT AWAY.**

September 4, 2018

Blue Wing Recreation Corporation
c/o Ron Rossknecht, President
PO Box 9322
Rapid City SD 57709

Dear Mr. Rossknecht:

Water Permit Application No. 2790-2 for commercial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Rapid City Journal (Ph # 605 394-8300). You will need to contact the newspaper 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 to authorize publication of your Notice and to arrange for payment. Early contact with the paper 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
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.

Instruction to Newspaper - Publish the Notice on September 12, 2018. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2790-2 to Appropriate Water

Notice is given that Blue Wing Recreation Corporation, c/o Ron Rossknecht, President, PO Box 9322, Rapid City SD 57709 has filed an application for a water permit to appropriate 0.017 cubic feet of water per second (cfs) by increasing the diversion rate authorized by Water Permit No. 2786-2. Water Permit No. 2786-2 authorizes 0.036 cfs from two wells completed into the Crystalline Rock Aquifer (280 and 370 feet deep) located in the NW 1/4 SW 1/4 and the SW 1/4 NW 1/4 Section 18-T1S-R6E for commercial use to supply a water distribution system for seasonal mobile homes and campers. An investigation of the permit found the system capable of diverting an additional 0.017 cfs from the two wells. This application, if approved, and Water Permit No. 2786-2 will authorize 1.84 acre-feet of water per year at a maximum diversion rate of 0.53 cfs (24 gallons per minute) with the older well serving as a backup supply. This site is located approximately 12 miles southwest of Rapid City near Sheridan Lake.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2790-2 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 September 24, 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
<http://denr.sd.gov>

OCT 31 2018

Blue Wing Recreation Corporation
c/o Ron Rossknecht, President
PO Box 9322
Rapid City SD 57709

Dear Mr. Rossknecht:

Enclosed are Water Permit and Water License No. 2790-2. These are the final water right documents completing your process of obtaining a Water Right.

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

Note: The applicable portions of No. 2786-2 are incorporated into Water License No. 2790-2.

enclosure