

WATER PERMIT NO. 8053-3

Name of Applicant: Blane Nagel

Address: 31164 ERS Rd, Springfield SD 57062 Phone: 605 464-1187

Amount of Water Claimed: 1.58 cfs Total Acres: 140 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Bon Homme

Type of Waste Disposal System:

Location: 2 miles west of Springfield

PRIORITY Date Received: 9-17-14

Application/License Fee: \$ 1050

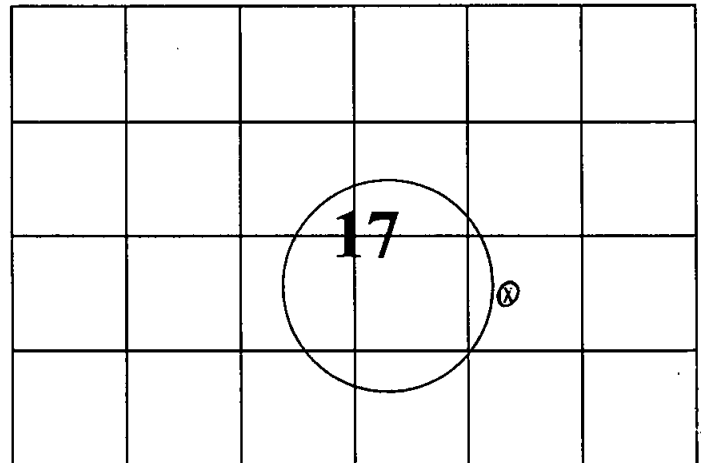
Corrected Application Received: 9-25-14

Period of Annual Use: May 1 – Sept 30

Remarks:

Diversion Point: NE 1/4 SE 1/4 Sec 17-T93N-
R60W

Land to be Irrigated: SW 1/4 NW 1/4, E 1/2 SW
1/4, W 1/2 SE 1/4, NW 1/4 SE 1/4, S 1/2 NE 1/4
Sec 17-T93N-R60W



Depth of Well: 140 feet deep

Well Driller: Thein Well Co

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 9-25-14

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota
(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. 8053-3 Hydrologic Unit 10120101
Basin Missouri River 405-369-2441
Newspaper Springfield Times, Box 465 57062
405-665-7811
Press & Dakotan, 319 Walnut, Yankton 57028

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Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Blane Nagel
(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 31164 E.R.S. Rd Springfield SD 57062
(Address) (City) (State) (Zip Code)

Home Phone 605-369-2628 Cell 605-464-1187 Email nagelcatt@excite.com

2. Amount of water claimed 1.58 *CFS or 710 **GPM ***AF Total Acreage 140
(*Cubic Feet per Second) (**Gallons per Minute) (***) Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply well

4. Location of point of diversion 1 well NE 1/4 SE 1/4 Sec. 17 - T93N - R60W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
County Bon Homme

5. County or counties where water will be used Bon Homme

6. Annual period during which water is to be used MAY 1 thru Sept. 30

7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>See attached sheet</u>			

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

I'm working with Valley and Lindsey on developing irrigation on the existing farmground in sec. 17. A center pivot will cover approx 140 acres by utilizing some exist pasture ground to the west.

I, Blane Nagel, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

Acreage Breakdown

All in Section 17-T93N-R60W

SE 1/4 NW 1/4	14 acres
NE 1/4 SW 1/4	28 acres
SE 1/4 SW 1/4	4 acres
SW 1/4 SE 1/4	13 acres
NW 1/4 SE 1/4	40 acres
NE 1/4 SE 1/4	7 acres
SE 1/4 NE 1/4	32 acres
SW 1/4 NE 1/4	<u>2 acres</u>
Total	140 acres

SOUTH DAKOTA
WATER PERMIT NO. 8053-3

Date of first receipt of application September 17, 2014.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8053-3 to Blane Nagel, 31164 ERS Road, Springfield SD 57062 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. 8053-3 appropriates 1.58 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (140 feet deep) located in the NE 1/4 SE 1/4 Section 17 for irrigation of 140 acres located in the SE 1/4 NW 1/4, E 1/2 SW 1/4, W 1/2 SE 1/4, NE 1/4 SE 1/4, S 1/2 NE 1/4 Section 17; all in T93N-R60W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: May 1 – September 30.
3. The date from which applicant may claim right is September 17, 2014.
4. The date of approval of Permit No. 8053-3 is December 8, 2014.
5. One-fifth of the construction is to be completed on or before June 8, 2017.
6. All construction is to be completed on or before December 8, 2019.
7. Water is to be put to beneficial use on or before December 8, 2023.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit 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 well authorized by Permit No. 8053-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

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

DEC 18 2014

date



Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 1 Have test holes been drilled ☒ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by Thein Well Co. Inc.c) Well Depth 140' Depth to Top of Water Bearing Material 61' Depth to Water from Surface 13'

d) Distance to nearest existing domestic well:

On applicant's property 3/4 mile On property owned by others 3/4 mile

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)

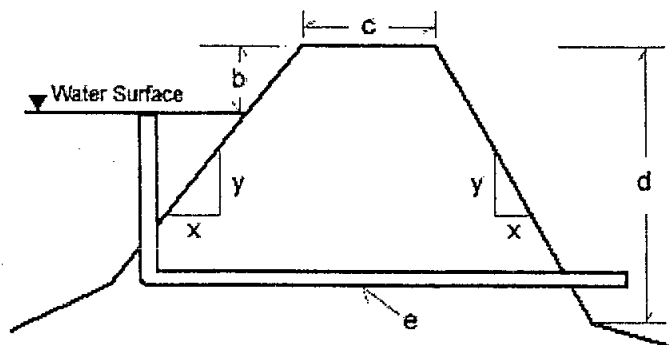
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres





United States Department of Agriculture
Farm Service Agency

PLSS: 17_93N_60W
Farm: 5607

Bon Homme County
1:7,905



January 17, 2012

Wetland Determination Identifiers

- Restricted Use
- ▽ Limited Restrictions
- Exempt from Conservation Compliance Provisions

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

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2010 Ortho-Photography - Not to Scale

Common Land Units

Non Cropland



n 42 52.245, w 97 57.207



Road Bird's eye Traffic

Fullscreen Print Share

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My places editor

My places Actions

You must Sign in to save your list of places

Unsaved places

- 1 Blane Nagel
test hole
- 2 Blane Nagel
6" x 140' well
- 3 Blane Nagel
12" x 139' well



3

37

37

37

37

500 feet 100 m

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Sec 7
T093N
R60W

Sec 8
T093N
R60W

Sec 9
T093N
R60W

Sec 18
T093N
R60W

Sec 17
T093N
R60W

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Sec 20
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Sec 21
T093N
R60W

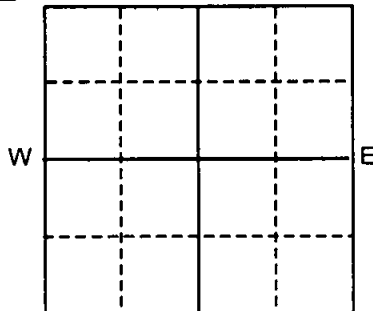


SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE ¼ SE ¼ Sec 17 Twp 93N Rg 60WCounty Bon Homme

North

Please mark well
location with an "X"

Well Completion Date

March 5, 2014

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>12.00</u> IN	<u>0.0</u> FT	<u>61.0</u> FT	<u>17.50</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Neat cement</u>	<u>69</u>	<u>Lb/gal</u>	<u>0.0</u> Ft	<u>61.0</u> Ft
		<u>Lb/gal</u>	<u>Ft</u>	<u>Ft</u>

Describe grouting procedure
tremie piped

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information open hole from 61-139'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? chlorinated☐ No, Why Not?Lab to which water
quality sample sent for analysis
owner to obtainWell Owner: Blane Nagel

Business Name:

Address: 31164 Equal Rights School RdCity, State, Zip: Springfield MN 57062

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top soil & clay	0	4
Gravel	4	8
Light brown chalk	8	22
Soft gray chalk	22	48
Hard gray chalf	48	130
Chalk & shale	130	139
Shale	139	140

STATIC WATER LEVEL 13.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: _____☐ Bailed☐ Other

Pumping Level Below Land Surface

41.0 Ft. After 3.5 Hrs. pumped 710.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS: N 42 52.245

W 97 57.207

This well was drilled under license # 475 and this
report is true and accurate.Drilling firm: Thein Well Co., Inc.

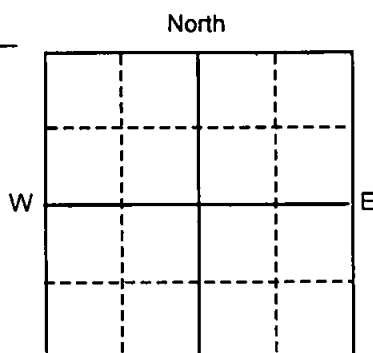
Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE 1/4 SE 1/4 Sec 17 Twp 93N Rg 60WCounty Bon HommePlease mark well
location with an "X"

Well Completion Date

September 17, 2013

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	6.00 IN	0.0 FT	61.0 FT	9.88 IN
LB/FT	IN	61.0 FT	140.0 FT	5.25 IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	13	Lb/gal	0.0 Ft	61.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie piped

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information open hole from 61-140'

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? chlorinated☐ No, Why Not?Lab to which water
quality sample sent for analysis
owner to obtainWell Owner: Blane Nagel

Business Name:

Address: 31164 Equal Rights School RdCity, State, Zip: Springfield MN 57062

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top soil	0	2
Yellow clay	2	8
Sand & gravel	8	17
Bright yellow clay	17	41
Blue shale	41	55
Gray chalk	55	136
Blue shale	136	140

STATIC WATER LEVEL 19.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: ☐ Bailed
☐ Other

Pumping Level Below Land Surface

22.0 Ft. After 8.0 Hrs. pumped 100.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS: N 42 52.238

W 97 57.206

This well was drilled under license # 475 and this
report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

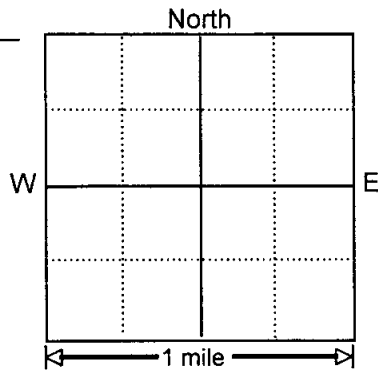
Date: _____

6-23-14

SOUTH DAKOTA WELL AND TEST HOLE PLUGGING REPORT 11-02

Location NE 1/4 SE 1/4 Sec 17 Twp 93N Rg 60W

Well Owner:

County Bon HommePlease mark well
location with an "X"

Name:

Blane Nagel

Address:

31164 Equal Rights School RdCity, State, Zip: SpringfieldSD57062

Comments:

GPS: N 42 52.24
W 97 57.207Plugging Completion Date June 20, 2013

CHECK APPROPRIATE BOX

EXISTING WELL ☐TEST HOLE ☒

Well depth _____

Hole depth 75'

Casing material _____

Hole size 5.25"

Casing size(s) _____

Casing condition _____

Describe plugging procedure:

tremie piped

Describe grout or plugging material:

volclay grout

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Type of non-slip plug: _____

This well or test hole was plugged under license # 475 and this report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of Licensed Representative: _____

Signature of Well Owner: _____

Date: 5-21-14

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 9/17, 2014

RECEIVED OF Blane T Nagel 31164 Equal Rights School Rd Springfield SD 57062

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

Fee for Application for Permit No. <u>8053-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	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>8053-3</u>	100	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. **06953**

By J. Anne Goodman
Chief Engineer

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 9/25, 20 14

RECEIVED OF Blane Nagel 31164 Equal Rights School Rd Springfield SD 57062

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	100	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8053-3</u>		
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. **06957**

By


Chief Engineer



**DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



August 6, 2014

Blane Nagel
31164 Equal Rights School Rd
Springfield SD 57062

Dear Mr. Nagel:

A well completion report filed by Thein Well Company Inc. shows they drilled a new well for you this spring. The report indicates the well water will be used for irrigation. I have reviewed our files and cannot find a water permit for a well located in NE 1/4 SE 1/4 Section 17-T93N-R60W. Based on the information in the report, it appears you need a water permit.

Enclosed is an application form and an instruction sheet to apply for a water permit for irrigation. The completed form with the application fee and map can be returned to: Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Sincerely,

Karen Schlaak

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

enclosures



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



September 17, 2014

Blane Nagel
31164 ERS Rd
Springfield SD 57062

Dear Mr. Nagel:

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation in Bon Homme County. In order to complete the application, the following is required.

- Your application indicated the center pivot will cover approximately 120 to 140 acres. You submitted a check for \$950.00. This is the application/license fee for irrigation of 120 acres. The fee to irrigate between 121 and 180 acres is \$1,050.00. I understand you do not know the number of acres the pivot will cover at this time. It would be to your advantage to apply for 140 acres now and avoid having to go thru the permitting process for additional acres in the future.
- We will hold your application until we receive the additional \$100.00 or you contact us regarding the total number of acres you want to apply for at this time.

If you have any questions, please contact me.

Sincerely,

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



**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. 8053-3, Blane Nagel**

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. 8053-3, Blane Nagel, 31164 Equal Rights School Road, Springfield SD 57062.

The Chief Engineer is recommending APPROVAL of Application No. 8053-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing 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 Permit 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 well authorized by Permit No. 8053-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
November 20, 2014

**REPORT TO THE CHIEF ENGINEER
WATER PERMIT APPLICATION NO. 8053-3**

Blane Nagel

November 14, 2014

Water Permit Application No. 8053-3 proposes to appropriate water at a rate of 1.58 cubic feet per second (cfs) from one well completed at a depth of approximately 140 feet below ground surface. The water will be used to irrigate between 140 acres in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ (14 acres), NE $\frac{1}{4}$ SW $\frac{1}{4}$ (28 acres), SE $\frac{1}{4}$ SW $\frac{1}{4}$ (4 acres), SW $\frac{1}{4}$ SE $\frac{1}{4}$ (13 acres), NW $\frac{1}{4}$ SE $\frac{1}{4}$ (40 acres), NE $\frac{1}{4}$ SE $\frac{1}{4}$ (7 acres), SE $\frac{1}{4}$ NE $\frac{1}{4}$ (32 acres), SW $\frac{1}{4}$ NE $\frac{1}{4}$ (2 acres) of Section 17, T93N-R60W. The well is located in the center of the NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 17, T93N-R60W in Bon Homme County.

AQUIFER: Niobrara aquifer (NBRR).

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Niobrara Formation is made up of nearly horizontal layers of calcareous shale, chalk, and chalky limestone (Jorgensen, 1971). In the upper portion of the aquifer where it underlies glacial drift, the Niobrara may have been eroded by sub-areal erosion and glacial activity (Hedges et al., 1982). The Niobrara aquifer directly underlies the glacial drift in the central, south-central, and southeastern part of South Dakota (Hedges et al., 1982). Fractures and solution cavities could control the water production from the Niobrara, which in turn could be controlled by flexures and faults (Hedges et al., 1982). The Niobrara aquifer directly underlies and is hydraulically connected to the Choteau: Tyndall (Described as the Tyndall-Scotland aquifer by Jorgensen (1971)) aquifer in this area. In addition, the Niobrara is potentially hydraulically connected to the Codell Sandstone aquifer. The Niobrara aquifer underlies approximately 29,079 square miles in South Dakota and approximately 470 square miles of Bon Homme County. However, there is currently no estimate for the amount of recoverable water in storage (Hedges et al., 1982).

The well logs submitted with this application show static water levels of 13 to 19 feet below ground surface in layers of chalk that start at eight feet below ground surface and extend for approximately 130 feet to layers of shale. The Niobrara aquifer extends over a major portion of South Dakota and is unconfined in the area of this application (Water Rights, 2014c). According to Tomhave et al. (2004) the bedrock in the area of interest has completely incised to the Codell aquifer, separating this portion of the Niobrara aquifer from the rest of the formation. This disconnected portion of the Niobrara aquifer (shown in green in Figure 1) extends along the southern border of Bon Homme and Yankton Counties and is thought to be hydraulically disconnected from the rest of the Niobrara aquifer.

In the case of hydraulic connection between the Niobrara and the Codell in this area, water potentially passes between the aquifers through gaps in the Carlile Shale which have been eroded away. At the time that Jorgensen (1971) completed the county study for Bon Homme County, the potentiometric surfaces of the waters within the two aquifers were approximately the same in this area. Although historic and current water levels can be observed for this portion of the Niobrara aquifer through the three observation wells that the Water Rights Program maintains,

no observation wells in the area are completed into the Codell aquifer in order to compare current and historic water levels in the two formations at this location.

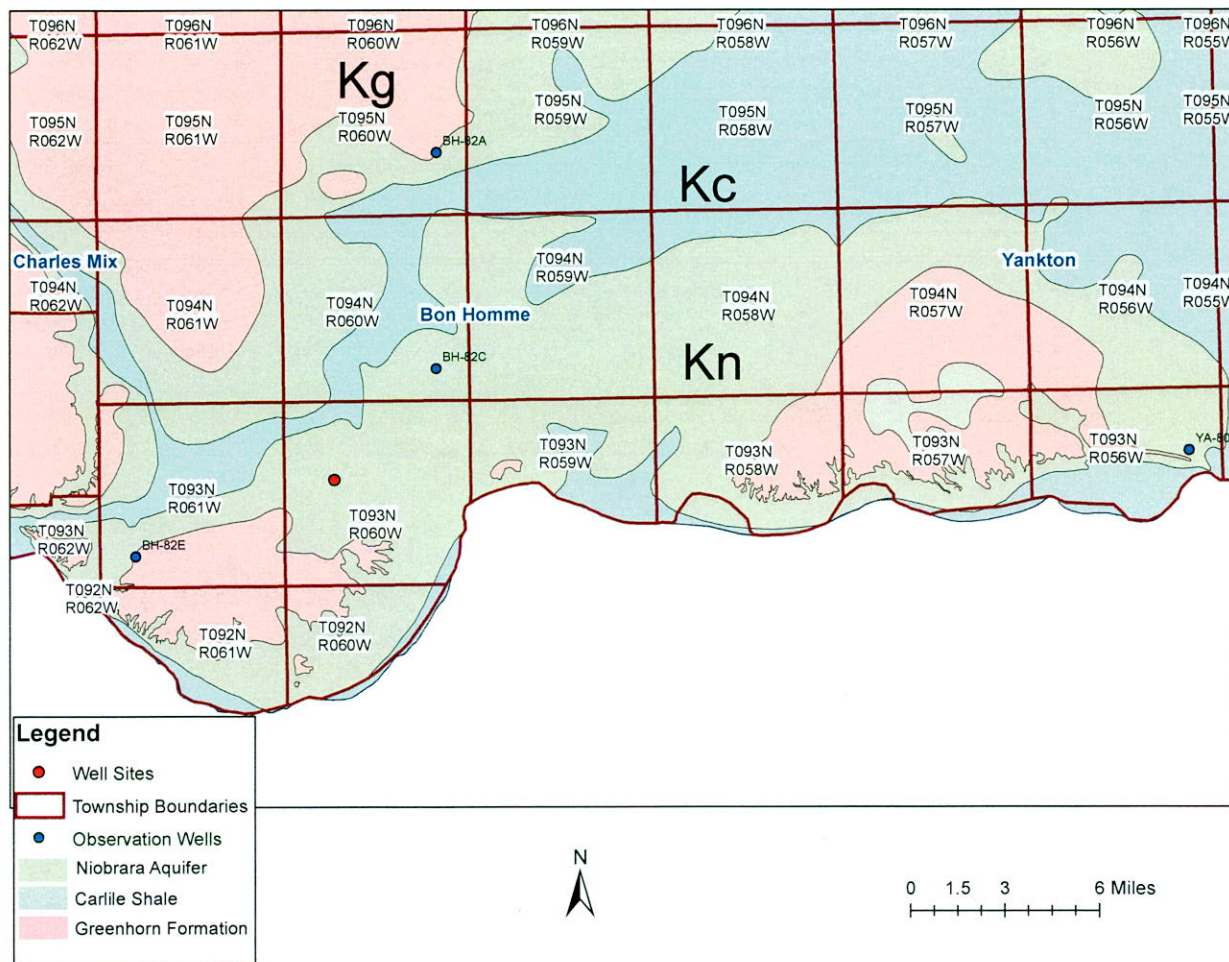


Figure 1: Aerial extent of disconnected portion of Niobrara aquifer including proposed well site and observation well locations (Modified from Tomhave et al., 2004; Water Rights, 2014c)

SDCL 46-2A-9:

In accordance with SDCL 46-2A-9, a permit may be issued to appropriate water 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. This report will review the availability of unappropriated water from the Niobrara aquifer to supply the amount needed for Water Permit Application No. 8053-3 and the potential for the proposed construction to interfere with existing wells.

WATER AVAILABILITY:

This application proposes to appropriate water from the Niobrara aquifer at a rate of 1.58 cfs to irrigate 140 acres. If approved, it is not expected that actual water use will exceed 140 acre feet

per year (ac-ft/yr). The probability of unappropriated water being available from the aquifer can be evaluated using SDCL 46-6-3.1 which stipulates “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 the groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, a public water system is not involved and the aquifer is not older or lower than the Greenhorn Formation, therefore the withdrawal/recharge issue must be considered.

In applying SDCL 46-6-3.1, the Sixth Judicial Circuit Court ruled in 2005 that if the Water Management Board uses average annual recharge, then it should also use average annual withdrawals to determine if unappropriated water is available from the aquifer (*Hines v. South Dakota Dept. of Environ. and Nat'l. Resources, Hughes County 04-37*) (Memorandum Decision, April 29, 2005).

A 2012 First Judicial Circuit Court’s rulings basically stated that data must be presented to show it is probable the average annual recharge exceeds the average annual discharge by at least the amount requested by the water permit application being considered (*Hanson County Dairy v. Robert Bender and Stace Nelson*) (Memorandum Decision, April 11, 2012).

Later in 2012, the First Judicial Circuit Court stated that the determination whether or not it is probable that the quantity of water withdrawn will exceed the quantity of the average estimated annual recharge is to be based on the best information reasonably available, and that nothing in South Dakota law requires a recharge study (*Longview Farms, LLP v. South Dakota Dept. of Environ. and Nat'l. Resources*), (Memorandum Decision, May 17, 2012).

Discharge:

Discharge from the Niobrara aquifer is by evapotranspiration where the aquifer is close to the ground surface, flow to the springs in the Missouri River Valley, and well withdrawals. Within the disconnected area of the Niobrara aquifer shown in Figure 1, there are currently 12 water rights/permits appropriating water (Water Rights, 2014b). These water rights/permits consist of one municipal water right, one water permit used for geothermal and 10 water rights/permits used for irrigation. The municipal water right is held by the City of Tabor and is not in regular use as Tabor purchases water from a regional rural water system.

Assuming the one non-irrigation user (Water Right 7176-3, held by the Yankton School District for geothermal use) diverts water at the maximum allowed diversion rate continuously, the average amount of water pumped from this portion of the Niobrara since the earliest water permit began diverting in 1981 is 438.4 ac-ft-yr (Water Rights, 1981-2014). Table 1 shows the number of water permits/rights and the historic irrigation use in ac-ft/yr since 1981.

Year	No. of Permits/ Rights	Water Diverted (ac-ft)
1981	3	99.69
1982	4	225.29
1983	5	330.68
1984	5	221
1985	5	216
1986	5	185
1987	5	266
1988	5	315.1
1989	5	324
1990	4	172
1991	4	310
1992	4	20
1993	4	0
1994	4	425.8
1995	5	333.98
1996	5	544.05
1997	5	322
1998	5	295.1
1999	5	317.55
2000	6	460.78
2001	6	456.09
2002	6	575.8
2003	7	615.39
2004	7	349.16
2005	6	373.16
2006	6	363.7
2007	6	336.25
2008	6	403.56
2009	5	184.75
2010	5	170.92
2011	5	321.42
2012	9	1535.88
2013	9	767.46
Avg	5.33	358.71

Table 1: Historic irrigation use from the disconnected portion of the Niobrara aquifer in Bon Homme County (Water Rights, 1981-2014)

In 2012, dry climatic conditions resulted in above average pumping from this portion of the Niobrara. Using irrigation questionnaire data from the region and again assuming the geothermal water permit limited by diversion rate is pumped at that diversion rate continuously, the total amount pumped from this portion of the Niobrara aquifer in 2012 was 1,615.5 ac-ft (Water Rights, 2013).

Recharge:

Recharge to the Niobrara aquifer occurs through subsurface inflow and by percolation through the overlying till, outwash, and shale deposits (Jorgensen, 1971). Given that the area of this portion of the aquifer is approximately 275 square miles (176,000 acres), recharge to the aquifer would have to equal approximately 0.03 inches per year to exceed the average diversion rate from this portion of the aquifer and 0.1 inches per year in order to exceed the withdrawals in 2012. To date, the actual rate of recharge to this portion of the aquifer and to the aquifer as a

whole has not been calculated. However, these recharge rates fall below the range of 0.15 to 0.60 inches per year estimated by Hedges et al. (1982) for the region and are likely less than actual recharge.

Goodman (2003) speculates that there is a strong possibility that recharge to the Niobrara is occurring through sand and gravel which fills the area where this portion of the Niobrara has been eroded away from the main formation. The base of this sand and gravel deposit (the Choteau aquifer) rests on exposed portions of the Codell aquifer where the Carlile Shale has been eroded away. Both the Codell and the Choteau have sufficient hydraulic conductivity to allow water to pass through them. Without the shale in place, these two formations would be in direct contact and would be able to transfer water between them given a sufficient hydraulic gradient. Since the Choteau has filled the area where the Niobrara and the Carlile shale have been incised down to the Codell, the Choteau is at the same elevation and is in direct contact with the Niobrara as well as the Codell. Since the Niobrara is flowing to the Missouri River to the south, it follows that water would be flowing from the Choteau in the north and west. However, given that no observation wells have been completed into the Codell in this area, the hydraulic gradient between the Choteau and the Codell is not known.

OBSERVATION WELL DATA:

The DENR Water Rights Program monitors three observation wells completed into this portion of the Niobrara aquifer (Water Rights, 2014c). The closest of these wells (BH-82C) is located approximately 4.7 miles to the northeast of the proposed well site (Water Rights, 2014a). Observation well BH-82C shows water levels that reflect seasonal withdrawals but are primarily controlled by climatic conditions (see Figure 2). Because water levels are controlled primarily by climatic conditions, recharge and natural discharge greatly exceed well withdrawals. Therefore, unappropriated water is available for the proposed use.

Two other observation wells are completed into this disconnected (Tomhave et al., 2004) portion of the Niobrara aquifer. BH-82E and YA-80L are located 7.2 miles to the southwest and 24 miles to the east of the proposed well site, respectively. Although water levels in BH-82E and YA-80L show similar climatically controlled fluctuation as BH-82C, water levels in these two wells are significantly lower. Using mean sea level, BH-82E shows potentiometric surfaces that have historically been approximately 50 feet lower than BH-82C and water levels in YA-80L have been approximately 100 feet lower. This inconsistency implies that the majority of recharge is occurring in the area surrounding BH-82C. Consistent with this conclusion is the fact that BH-82C lies at a regional low point with a relatively large (300 square miles) drainage basin to the north. It is likely that increased flow over this area due to its lower elevation and large contributing area is responsible for a disproportionately large amount of recharge occurring at and around this observation well site.

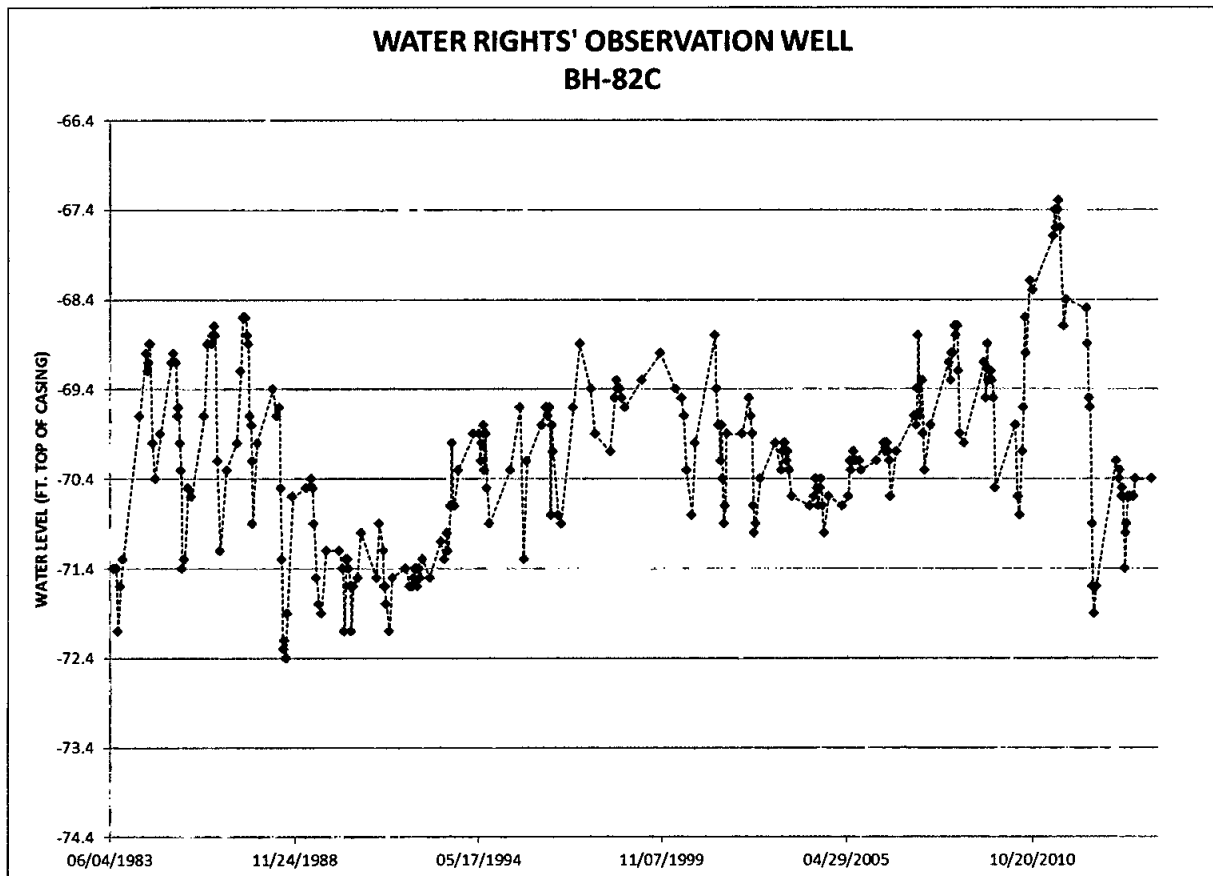


Figure 2: Historic water levels in observation well BH-82C (Water Rights, 2014a).

The Water Rights program does not maintain any observation wells completed into the Codell aquifer in the area of interest. However, approximately 40 miles to the north in Hutchinson County there are two wells that have been completed into the Niobrara and Codell aquifers approximately 1.75 miles apart. The wells, HT-78A (completed into the Niobrara) and HT-68D (completed into the Codell), show similar fluctuations in water levels. The potentiometric surface of the Codell is approximately 15-20 feet higher than the potentiometric surface of the Niobrara in the vicinity of these observation wells. Although these facts alone do not mean the two aquifers are hydraulically connected, there is a potential for groundwater movement from the Codell to the Niobrara, at least in the vicinity of the observation wells.

EXISTING WATER RIGHTS:

The DENR water rights database was reviewed for the nearest existing water rights/permits and domestic wells on file. The closest water rights/permits to the proposed well site that is completed into this portion of the Niobrara aquifer are Water Permit Nos. 7269-3 and 7266-3 (Water Rights, 2014b) with wells located approximately 1.4 miles to the northeast and 1.4 miles to the northwest of the proposed well site. Given this distance, impairment of Water Permit Nos. 7269-3 and 7266-3 as well as any other water rights/permits in the region is not expected to occur. Although under water table conditions in many areas, the Niobrara is confined in the area that this application proposes to divert from. South Dakota Water Rights Law does not protect artesian head pressure as a means of delivery, and it is not expected that the proposed pumping

will lower water levels to unconfined conditions in the area. Therefore, adequately constructed domestic wells are not expected to experience unlawful impairment as a result of the proposed diversion. In summary, it is not expected that any domestic wells or water rights/permits in the area will be affected by the approval of this application.

CONCLUSIONS:

1. Water Permit Application No. 8053-3 proposes to appropriate water at a maximum diversion rate of 1.58 cfs for the irrigation of 140 acres from one well to be completed into the Niobrara aquifer in Bon Homme County.
2. There is a reasonable probability that unappropriated water is available from the Niobrara aquifer to supply this proposed diversion.
3. There is a reasonable probability that the diversion rate requested by this application can be made without adversely impacting existing water rights/permits and domestic users.



Bracken Capen
SD DENR-Water Rights Program

Approved by:



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Goodman, J.A. 2003. Report on Water Permit Application No. 6373-3, Ernest R. Namminga. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, South Dakota.
- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-water Resources in Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Jorgensen, D. G., 1971, Geology and Water Resources of Bon Homme County, South Dakota, Bulletin 21, Part II: Water Resources, SD DENR, SDGS, Vermillion, SD, 57069.
- Tomhave, D.W., Shultz, L.D., 2004, Bedrock Geology Map Showing Configuration of the Bedrock Surface in South Dakota east of the Missouri River. SD DENR, SDGS, Vermillion, SD 57069.
- Water Rights. 1981-2014. "Irrigation Summaries by Aquifer and County": SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.
- Water Rights. 2014a. Observation Well Files. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.
- Water Rights. 2014b. Water Right/Permit Files. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.
- Water Rights. 2014c. Well Completion Reports. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, SD.

Affidavit of Publication

State of South Dakota }
County of Bon Homme } SS

Rebecca D. Nagel Being first duly sworn says that the **Springfield Times** is a legal weekly newspaper for publication of legal and other official notices as required by Chapter 298 of the Session Laws of South Dakota, 1939; that it has bona fide paid circulation of more than two hundred copies weekly; that it is published in English language in the City of Springfield, Bon Homme County, South Dakota, and has been admitted to the United States mail under second class mailing privilege for more than one year prior to the first publication of the notice herein mentioned, and that it is printed in an office maintained at the place of publication at Springfield, South Dakota, and that deponent is the publisher in charge of the advertising department of said newspaper; that the advertisement headed

Blane Nagel
Notice of Application No. 8053-3
W5 @ 37.2

a printed copy of which is hereto attached, was printed and published in said newspaper for One successive weeks, upon the following dates:

.....Nov. 26.....20.14	20.....
.....20.....	20.....
.....20.....	20.....
.....20.....	20.....

That the full amount of the fee charged for the publication of said notice, \$ 24.18....., inures to the benefit of the publisher of said newspaper, that no agreement or understanding for the division thereof has been made with any other person, and that no part has been agreed to be paid to any person whomsoever.

Rebecca D. Nagel Publisher
Subscribed and sworn to before me this
..... day of Nov 20.14.
Peggy Schuler
Notary Public, South Dakota
My Commission Expires Oct 24, 2015

NOTICE OF APPLICATION NO. 8053-3

to Appropriate Water

Notice is given that Blane Nagel, 31164 Equal Rights School Road, Springfield SD 57062 has filed an application for a water permit to appropriate 1.58 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (140 feet deep) located in the NE 1/4 SE 1/4 Section 17 for irrigation of 140 acres located in the SE 1/4 NW 1/4, E 1/2 SW 1/4, W 1/2 SE 1/4, NE 1/4 SE 1/4, S 1/2 NE 1/4 Section 17; all in T93N-R60W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8053-3 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. 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 December 8, 2014.

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. Information concerning this application is available at <http://denr.sd.gov/public>. 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 \$24.18

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DEC 01 2014

WATER RIGHTS
PROGRAM

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AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

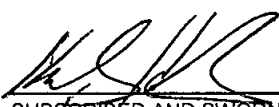
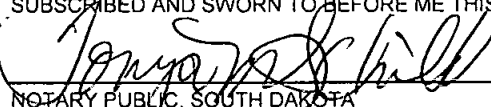
STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
Application No. 8053-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 26th DAY OF November 2014
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$27.64 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 11/26/2014

FILED ON: 11/28/2014


SUBSCRIBED AND SWORN TO BEFORE ME THIS 28th DAY OF November 2014

NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 8/19/2015

Notice is given that Blane Nagel, 31164 Equal Rights School Road, Springfield SD 57062 has filed an application for a water permit to appropriate 1.58 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (140 feet deep) located in the NE 1/4 SE 1/4 Section 17 for irrigation of 140 acres located in the SE 1/4 NW 1/4, E 1/2 SW 1/4, W 1/2 SE 1/4, NE 1/4 SE 1/4, S 1/2 NE 1/4 Section 17; all in T93N-R60W.

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Published once at the total approximate cost of \$27.64.



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



November 20, 2014

Springfield Times
PO Box 465
Springfield SD 57062

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 8053-3 to Appropriate Water. Please publish the notice once on November 26, 2014. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Blane Nagel, 31164 Equal Rights School Road, Springfield SD 57062 (Ph # 605-369-2628).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

Schlaak, Karen

From: Schlaak, Karen
Sent: Friday, November 21, 2014 8:42 AM
To: times@gwtc.net
Subject: Public notice - 8053-3
Attachments: 8053-3public.short.docx

Please publish the attached notice on November 26, 2014. Blane Nagel, 31164 ERS Rd, Springfield SD 57062 (605 369-2628 or c 605 464-1187) has been notified to contact you to authorize publication and arrange for payment. You will be receiving this information in the mail also.

Please send the affidavit ASAP.

Thanks,

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



November 20, 2014

Press & Dakotan
319 Walnut
Yankton SD 57078

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Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

Schlaak, Karen

From: Schlaak, Karen
Sent: Friday, November 21, 2014 8:44 AM
To: 'Tera Schmidt'
Subject: Public notice - 8053-3
Attachments: 8053-3public.short.docx

Please publish the attached notice on November 26, 2014. Blane Nagel, 31164 ERS Rd, Springfield SD 57062 (605 369-2628 or c 605 464-1187) has been notified to contact you to authorize publication and arrange for payment. You will be receiving this information in the mail also.

Please send the affidavit ASAP.
Thanks,

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.**

November 20, 2014

Blane Nagel
31164 Equal Rights School Road
Springfield SD 57062

Dear Mr. Nagel:

Water Permit Application No. 8053-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Springfield Times printed at Springfield SD (Ph # 605-369-2441) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). 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.

Instruction to Newspaper - Publish the Notice on November 26, 2014. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 8053-3 to Appropriate Water

Notice is given that Blane Nagel, 31164 Equal Rights School Road, Springfield SD 57062 has filed an application for a water permit to appropriate 1.58 cubic feet of water per second from one well to be completed into the Niobrara Aquifer (140 feet deep) located in the NE 1/4 SE 1/4 Section 17 for irrigation of 140 acres located in the SE 1/4 NW 1/4, E 1/2 SW 1/4, W 1/2 SE 1/4, NE 1/4 SE 1/4, S 1/2 NE 1/4 Section 17; all in T93N-R60W.

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Published once at the total approximate cost of _____.



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov



DEC 18 2014

Blane Nagel
31164 Equal Rights School Rd
Springfield SD 57062

Dear Mr. Nagel:

Enclosed is Water Permit No. 8053-3 authorizing construction of your 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

RECEIVED

JUL 10 2015

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 5-25-15TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Blane Nagel

(name)

31164 E.R.S. Rd

(address)

Springfield, SD 57062

(city, state, zip)

605-369-2628(phone) 464-1187
cell

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. 8053-3 states that the water use system is to be constructed by

12-8-19

(date)

, and water is to be put to beneficial use by 12-8-23

(date)

The water use system was completed on June 1, 2015

(date)

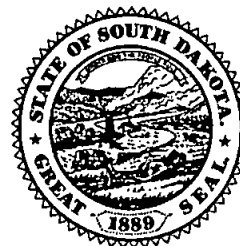
Applying the water to beneficial use was completed on June 8, 2015

(date)

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

Blane Nagel

(signature)





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

July 13, 2015

8053-3

Blane Nagel
31164 Equal Rights School Rd
Springfield SD 57062

Dear Mr. Nagel:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your irrigation system.

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

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

Sincerely,

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

Licensing of Acreage Outside of Permitted Area

NAME: Blane Nagel

ADDRESS: 31164 ERS Rd, Springfield SD 57062

DATE: July 24, 2018 COUNTY: Bon Homme TELEPHONE:

AUTHORITY

Pursuant to SDCL 46-5-30.5, acreage developed for irrigation outside of the area described on the permit may be licensed provided the following conditions are met:

NO INCREASE IN PERMITTED ACREAGE OR WATER APPROPRIATED:

Water Permit No. 8053-3 was issued in 2014 for irrigation of 140 acres. A licensing investigation was conducted July 9, 2018. The investigation found 140 acres being irrigated. However, there are 2.5 acres irrigated in the SE ¼ SE ¼ of Section 17-T93N-R60W what were not included in the original water permit.

UNPERMITTED ACREAGE:

- **Contiguous to Permitted Acreage**

Yes – the acreage is irrigated using a center pivot system. The pivot rotation includes irrigation of 2.5 acres in the SE ¼ SE ¼ Section 17-T93N-R60W not originally envisioned when the application was filed.

- **Owned by Same Property Owner**

Yes – based on the 2016 plat book

- **Developed Prior to Expiration of Construction Period**

Yes – the date to complete construction of works is December 8, 2019.

RECOMMENDED ACTION

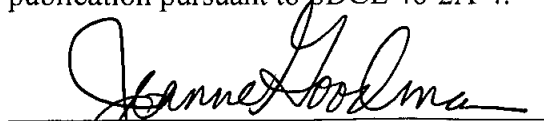
Based on the above criteria, it is recommended that the xx acre area be included in the water license.



Eric Gronlund, Engineer
Water Rights Program

The Chief Engineer makes a finding pursuant to SDCL 46-5-30.5 that:

This acreage change does not impair existing water rights and the overall project, as developed, is consistent with the original application. Licensing of the unpermitted acreage may occur without application or publication pursuant to SDCL 46-2A-4.



Jeanne Goodman, Chief Engineer
Water Rights Program

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8053-3

I have this day, July 9, 2018, made a thorough examination of the water use system constructed by Blane Nagel, 31164 ERS Rd., Springfield, SD 57062, holder of Permit No. 8053-3, bearing the priority of September 17, 2014 authorizing the diversion of 1.58 cu. ft. per second of the waters of groundwater (Niobrara Aquifer) for irrigation purposes, in Bon Homme County.

Inspection contact: Blane Nagel, Owner

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Thein Well Co., Inc.
- 2) No. of Wells 1
- 3) Depth(s) 139 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 12 inches
- 2) Length 61 feet
- 3) Type PVC

Screen:

- 1) Type Open Hole
- 2) Length 78 feet
- 3) Static water level 13 feet

Pump:

- 1) Make Layne/Verti-Line
- 2) Model 1CRM
- 3) Capacity 650 GPM

Motor:

- 1) Make US
- 2) Model No. BF48A
- 3) Horsepower rating 40 hp

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

- 1) Type PVC
- 2) Size 8 inches
- 3) Length 1,310 feet

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make T&L
- 2) Overall length 1,298 feet
- 3) Number of towers 8
- 4) End gun Yes
- 5) Capacity 650 GPM

Chemigation Equipment:

- 1) Does chemigate Yes
- 2) Main line check valve Yes
- 3) Inspection port/air relief Yes
- 4) Low pressure drain Yes
- 5) Discharge is 20' from source Yes
- 6) Interlock type mechanical
- 7) Injection pump positive displacement
- 8) Injection check valve Yes
- 9) Injection line check valve or positive displacement pump Yes

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Yes
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Yes
- 3) Exceptions to compliance are: None

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: Well: 650 feet west and 1,860 feet north of the SE corner of Section 17-T93N-R60W (Latitude 42.87072, Longitude -97.95345 – NE1/4 of the SE1/4).
2. The works are capable of diverting and conveying to the place of use 1.45 cu. ft. per second of water which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows: all in Section 17-T93N-R60W

<u>SE1/4NW1/4</u>	<u>6.5 acres</u>	<u>SW1/4NE1/4</u>	<u>26 acres</u>	<u>SE1/4NE1/4</u>	<u>8 acres</u>
<u>NE1/4SW1/4</u>	<u>19 acres</u>	<u>NW1/4SE1/4</u>	<u>40 acres</u>	<u>NE1/4SE1/4</u>	<u>21 acres</u>
<u>SE1/4SW1/4</u>	<u>2 acres</u>	<u>SW1/4SE1/4</u>	<u>15 acres</u>	<u>SE1/4SE1/4</u>	<u>2.5 acres</u>

comprising a total of 140 acres of land and the license should be issued for 1.45 cfs.

3. All structures, wells and lands on map Yes

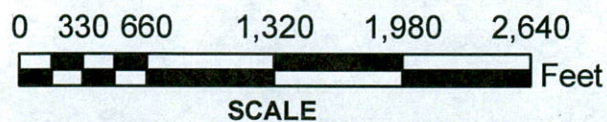
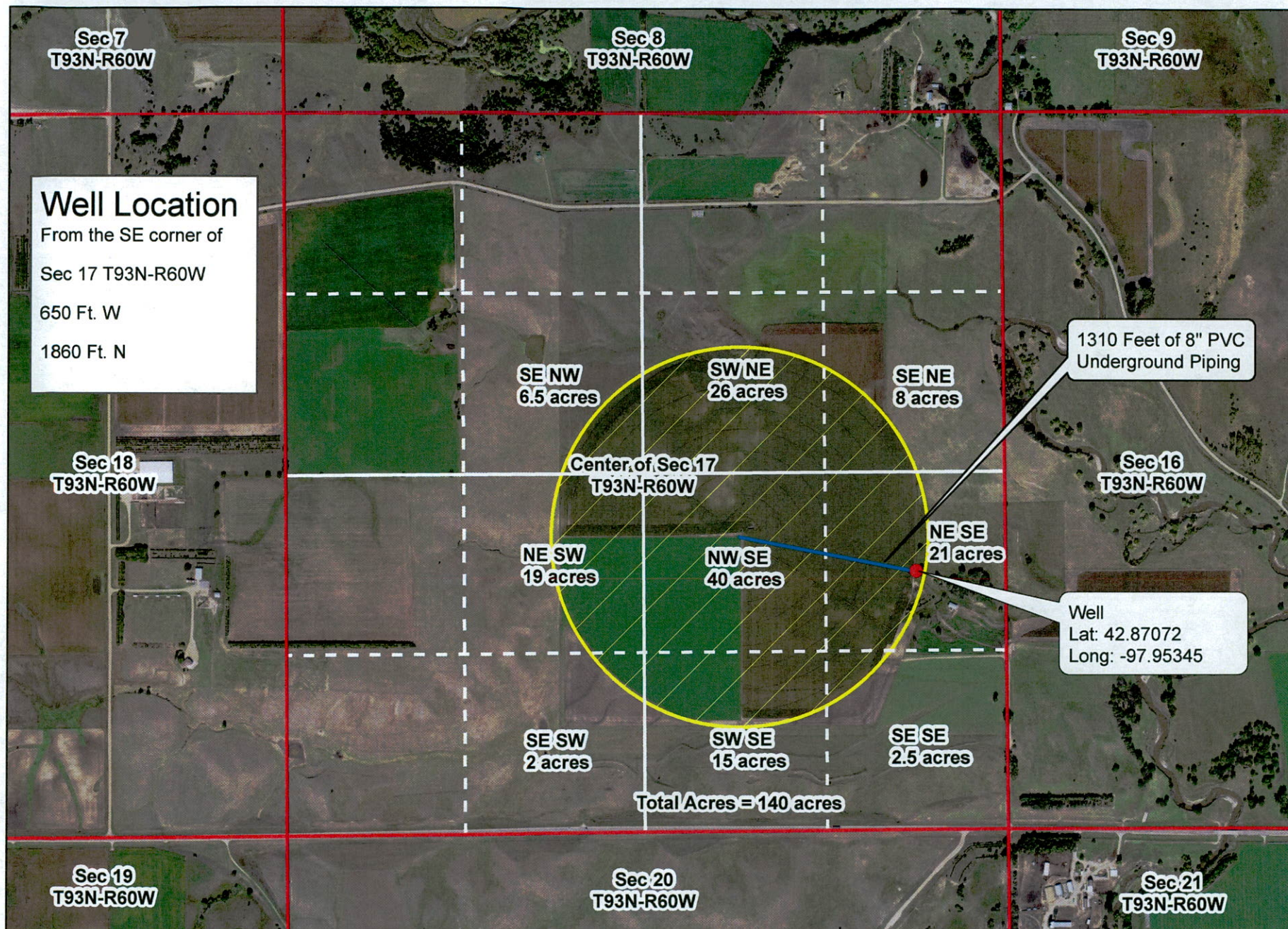
F. Comments or other permit(s) associated with the project: None

Keith DeJong

Keith DeJong
Water Rights Inspector
DENR, Water Rights Program

Date report completed: July 20, 2018

Water Right No. 8053-3



Keith DeJong
Keith DeJong, PE
Staff Engineer
July 20, 2018



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

SEP 06 2018

8053-3

Blane Nagel
31164 ERS Rd
Springfield SD 57062

Dear Mr. Nagel:

Enclosed is Water License No. 8053-3. 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.

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. 8053-3**

(1) Blane Nagel, 31164 ERS Rd., Springfield SD 57062 made Application No. 8053-3, September 17, 2014 for a water permit to divert 1.58 cubic feet of water per second from ground water, one well (Niobrara Aquifer), Bon Homme County, South Dakota for irrigation purposes. Permit No. 8053-3, with a priority date of September 17, 2014 was approved December 8, 2014 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 8, 2019 and for the application to beneficial use of water on or before December 8, 2023.

The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on July 10, 2015. The "*Notice*" stated the water use system was completed and the water placed to beneficial use in June, 2015.

An investigation conducted for licensing purposes found a 2.5 acre area developed for irrigation outside of the permitted area. The total number of acres irrigated is still 140 as authorized. Pursuant to SDCL 46-5-30.5, the Chief Engineer made a finding that existing water rights will not be impaired and the overall project, as developed, is consistent with the original application.

(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 1.45 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 650'W and 1,860'N of the SE corner of Section 17, T93N, R60W (NE ¼ SE ¼)
Latitude 42.87072, Longitude -97.95345

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

Section 17, T93N, R60W					
SE ¼ NW ¼	6.5 acres	SW ¼ NE ¼	26.0 acres	SE ¼ NE ¼	8.0 acres
NE ¼ SW ¼	19.0 acres	NW ¼ SE ¼	40.0 acres	NE ¼ SE ¼	21.0 acres
SE ¼ SW ¼	2.0 acres	SW ¼ SE ¼	15.0 acres	SE ¼ SE ¼	2.5 acres
Total 140 acres					

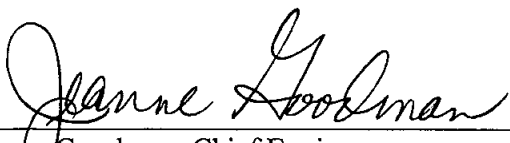
(4) Pursuant to South Dakota Water Law 46-5-30.1 Blane Nagel, 31164 ERS Rd., Springfield SD 57062 the holder and/or owner of Water Right No. 8053-3 is issued a license to appropriate water, the right to use 1.45 cubic feet of water per second from ground water, one well (Niobrara Aquifer) with a priority date of September 17, 2014 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8053-3 and subject to the following qualifications:

- The well approved under this Permit 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.

continued

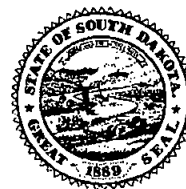
- The well authorized by Permit No. 8053-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***The well was drilled in March, 2014 by Thein Well Co., Inc. A copy of the well completion report is on file with the Water Rights Program.***
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

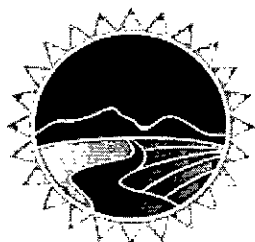


Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 06 2018

date





DENR
SOUTH DAKOTA

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

October 29, 2020

8053-3

Blane Nagel
31196 412th Ave
Springfield SD 57062-5901

Dear Mr. Nagel:

Enclosed is a "Notice" dated October 23, 2020 concerning the 2020 irrigation questionnaire.

The notice was originally mailed to 31164 Equal Rights School Rd, Springfield. Thank you for calling me back and clarifying the address. I will update our records accordingly.

If you have any questions, please contact me.

Sincerely,

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

enclosures