

WATER PERMIT NO. 7961-3

Name of Applicant: Hoffman Farms

Address: 13754 323rd Ave, Bowdle SD 57428

Phone: 605 285-6346

Amount of Water Claimed: 1.78 cfs

Total Acres: 132

Source of Water Supply: groundwater (three wells)

Water to be used for: irrigation

County: Edmunds

Type of Waste Disposal System:

Location: 3 miles southwest of Bowdle

PRIORITY

Date Received: 2-7-14

Application/License Fee: \$ 1050

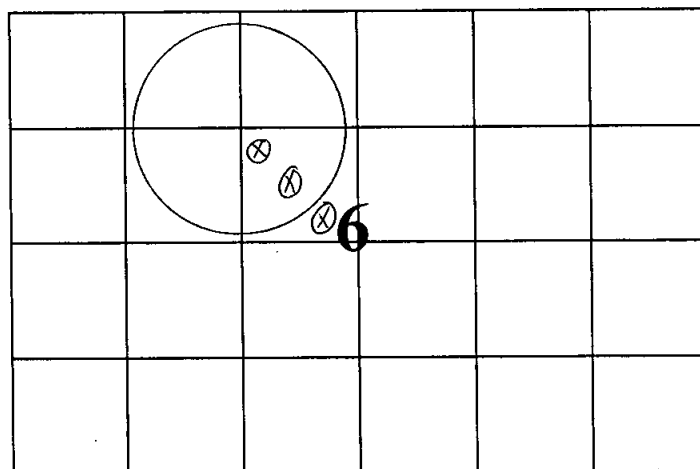
Corrected Application Received:

Period of Annual Use: May 1 – Sept 30

Remarks:

Diversion Point: SE 1/4 NW 1/4 Sec 6-T122N-R73W

Land to be Irrigated: NW 1/4 Sec 6-T122N-R73W



Depth of Well: 45 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 2-10-14

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. 7961-3 Hydrologic Unit 10130105
Basin Missouri River 605-285-6161
Newspaper Pride of the Prairie Box 514, Bowdle 57428
605-285-4100
American News Box 4430 Aberdeen 57401

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FEB - 7 2014

WATER RIGHTS
PROGRAM

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 Hoffman Farms

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

(name and complete address if different than above name)

Mailing Address 13754 323rd Ave Bowdle SD 57428
(Address) (City) (State) (Zip Code)

Home Phone 285-6346 Cell 281-1103 Email hoffmanfarms@venturecomm.net

2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 132.0
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Wells

4. Location of point of diversion 3 wells in NW 1/4 of Section 6 - T122N - 73W

(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Edmunds

5. County or counties where water will be used Edmunds

6. Annual period during which water is to be used May 1- September 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
NW 1/4 NW 1/4 6-122-73	33.0		
NE 1/4 NW 1/4 6-122-73	33.0		
SE 1/4 NW 1/4 6-122-73	33.0		
SW 1/4 NW 1/4 6-122-73	33.0		

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

Plan to install a new irrigation pivot in NW 1/4 of section 6-122-73. Water quality and availability are good for the existing 3 wells that we operate in the SE 1/4 of section 6-122-73. Please reference those well drilling reports for depth of gravel and water. We plan to drill 3 new wells to service the new irrigation system.

I, Jerrad Hoffman of Hoffman Farms, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

SOUTH DAKOTA
WATER PERMIT NO. 7961-3

Date of first receipt of application February 7, 2014.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7961-3 to Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Ave, Bowdle SD 57428 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. 7961-3 appropriates 1.78 cubic feet of water per second from three wells to be completed into the Bowdle:Edmunds Aquifer (30-45 feet deep) located in the SE 1/4 NW 1/4 Section 6 for irrigation of 132 acres located in the NW 1/4 Section 6; all in T122N-R73W.
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 February 7, 2014.
4. The date of approval of Permit No. 7961-3 is April 14, 2014.
5. One-fifth of the construction is to be completed on or before October 14, 2016.
6. All construction is to be completed on or before April 14, 2019.
7. Water is to be put to beneficial use on or before April 14, 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 wells approved under Permit No. 7961-3 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 wells authorized by this Permit 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, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

APR 29 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 3 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 Please use well completion reports from 3 earlier wells on same section.
(attached)
- c) Well Depth _____ Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest existing domestic well:
On applicant's property 1 mile On property owned by others 1 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

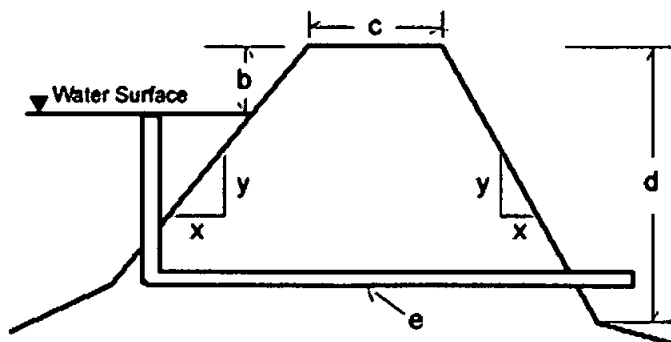
3. Dugout Information

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

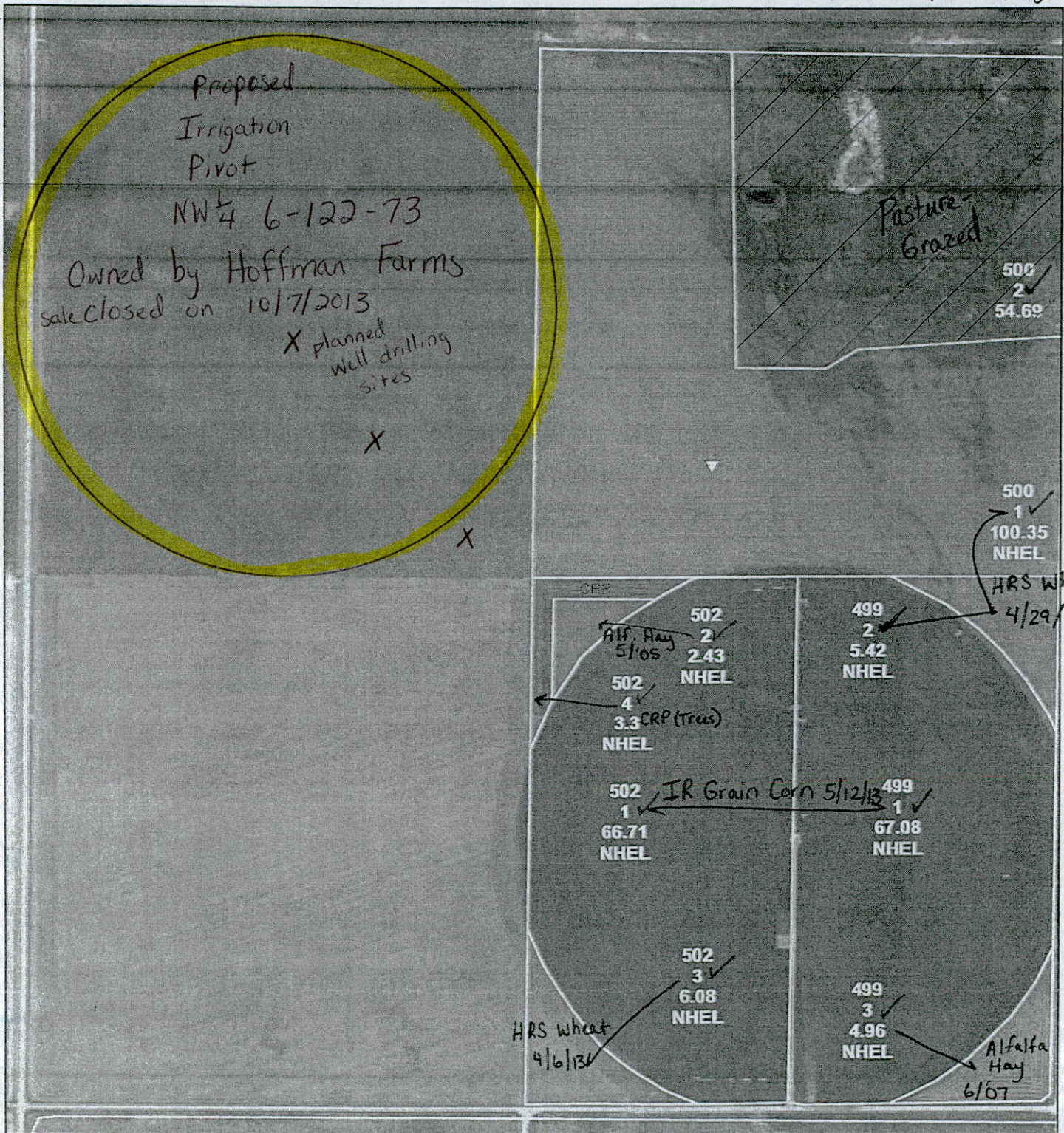
4. Water Storage Dams

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

Edmunds County

1:12,103

January 20, 2011

PLSS: 6_122_73
Farm: 5683



Wetland Determination Identifiers

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

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Common Land Units

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

2010 Ortho-Photography - Not to Scale

2013 Hoffman Farms

WATER RIGHTS PROGRAM

SOUTH DAKOTA WATER WELL COMPLETION REPORT

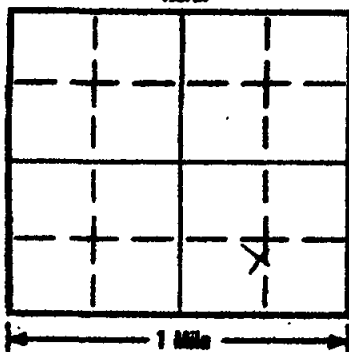
07-02

Location SW 1/4 SE 1/4 Sec 4 Twp 122 Rg 73County Edmunds

Please mark well location with an "X"

No. 20
350' sq. foot.

Well Completion Date

11/8/04

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, food lot, etc.) 1/2 mi ft. from farm (Identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

ForwardCASING DATA: ☐ Steel ☐ Plastic ☐ OtherIf other describe NONE

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
____	____	____ lb./gal	____ ft.	____ ft.
____	____	____ lb./gal	____ ft.	____ ft.

Describe grouting procedure Outcrops to 20' - clay
Outcrops to 5' - bag of dry mud to 3'SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN 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? _____

____ NO, Why Not? _____

Laboratory sent to for water quality analysis

Well Owner: _____

Business Name: Hoffmann FarmsAddress: Boarder, S.D.

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>sand & gravel brown</u>	<u>2</u>	<u>13</u>
<u>sand & gravel dark</u>	<u>13</u>	<u>41</u>
<u>sil grey</u>	<u>41</u>	<u>45</u>

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WATER RIGHTS PROGRAM

STATIC WATER LEVEL 14 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: _____☐ Sealed _____☐ Other _____

Pumping Level Below Land Surface

____ ft. After _____ Hrs. pumped _____ GPM

____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

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WATER RIGHTS PROGRAM

This well was drilled under license # 432

And this report is true and accurate.

Drilling firm X & K Well Drilling

Signature of License Representative:

Ray Lawrence

Signature of Well Owner or Equitable Property Holder:

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-02

Location NE 1/4 SW 1/4 Sec 8 Twp 122 Rg 23
 County Edmunds North

Please mark well location with an "X"

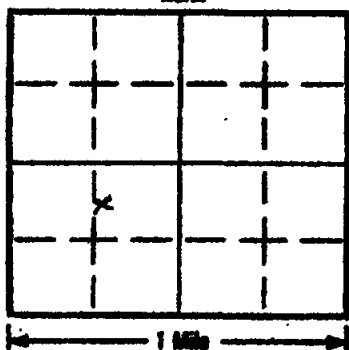
Mo. 14

600' NO of center.

Well Completion Date

CAGC

11/7/04



LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.) 1/2 mile ft. from farm (Identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Forward

ASHING DATA: ☐ Steel ☐ Plastic ☐ Other

If other describe NONE

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN

GROUTING DATA

GROUT Type	No. of Sacks	GROUT Weight	From	To
____	____	____ lb./gal	____ ft.	____ ft.
____	____	____ lb./gal	____ ft.	____ ft.

Describe grouting procedure Outcrops to 20'-day
Outcrops to 5'-bag of dry mud to 3'

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN 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? _____

DISINFECTED: Was well disinfected upon completion?

____ YES, How: _____

____ NO, Why Not? _____

laboratory sent to for water
 quality analysis

Well Owner: _____

Business Name: Hoffman Farms

Address: Beardle, S.D.

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>gravel - brown</u>	<u>0</u>	<u>15</u>
<u>gravel - dark</u>	<u>15</u>	<u>43</u>
<u>clay shale</u>	<u>28</u>	<u>80</u>

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WATER RIGHTS
 PROGRAM

STATIC WATER LEVEL 14 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: _____

☐ Grouted _____

☐ Other _____

Pumping Level Below Land Surface

____ ft. After _____ Hrs. pumped _____ GPM

____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

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WATER RIGHTS
 PROGRAM

This well was drilled under license # 432

And this report is true and accurate.

Drilling firm X & K Well Drilling

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

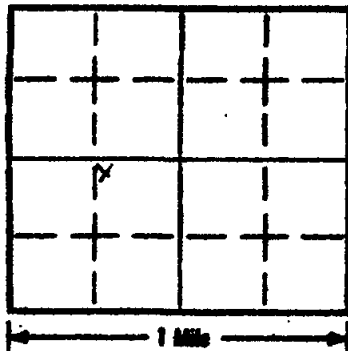
1-50-82-2

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location NE 1/4 SW 1/4 Sec 6 Twp 132 Rg 23
County Edmunds North

Please mark well location with an "X"
Mo 15
1200' N of center



Well Completion Date
CABB
11/10/04

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? 1/2 mile from farm (Identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Forward

casing DATA: ☐ Steel ☐ Plastic ☐ Other

If other describe NONE

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN
____ LB/FT	____ IN	____ FT	____ FT	____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
____	____	____ lb./gal	____ ft.	____ ft.
____	____	____ lb./gal	____ ft.	____ ft.

Describe grouting procedure Outcrops to 20'-day
Outcrops to 5'-bag of dry mud to 3'

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN 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: _____

____ NO, Why Not? _____

laboratory sent to for water
quality analysis

Well Owner: _____
Business Name: Hoffman Farms
Address: Bondie, S.D.

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>gravel brown</u>	<u>0</u>	<u>14</u>
<u>gravel dark</u>	<u>14</u>	<u>47</u>

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WATER RIGHTS
PROGRAM

STATIC WATER LEVEL 14' Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: _____

☐ Sealed _____

☐ Other _____

Pumping Level Below Land Surface

____ ft. After _____ Hrs. pumped _____ GPM

____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

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WATER RIGHTS
PROGRAM

This well was drilled under license # 432

And this report is true and accurate.

Drilling firm K&K Well Drilling

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

2-28-05

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 2/7, 20 14

RECEIVED OF Hoffman Barnes 13754 323rd Ave Bowdle SD 57428

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

Fee for Application for Permit No. <u>7961-3</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>7961-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	1050 00

No. **06733**

By J. James Hoffman
Chief Engineer



**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. 7961-3, Hoffman Farms**

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. 7961-3, Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Avenue, Bowdle SD 57428.

The Chief Engineer is recommending APPROVAL of Application No. 7961-3 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 wells approved under Permit No. 7961-3 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 wells authorized by this Permit 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
March 27, 2014

REPORT TO THE CHIEF ENGINEER
WATER PERMIT APPLICATION NO. 7961-3
Hoffman Farms c/o Jerrad Hoffman
March 12, 2014

Water Permit Application No. 7961-3 proposes to appropriate groundwater at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) from three wells to be completed into the Edmunds management unit of the Bowdle aquifer. The wells are expected to be 30 to 45 feet deep and located in the SE¼ NW¼ of Section 6, T122N-R73W. Water will be used to irrigate 132 acres located in the NW¼ of Section 6, T122N-R73W.

AQUIFER: Edmunds management unit of the Bowdle aquifer (B: E)

HYDROGEOLOGY:

The Edmunds management unit of the Bowdle aquifer consists of surficial outwashes and alluvial deposits that are under water table conditions (Hamilton, 1974; Kume, 1979; Rich, 2008; Rich, 2010). Based on Hamilton's (1974) delineation of the aquifer in Edmunds and Faulk Counties and Kume's (1979) delineation of the aquifer in Walworth County, Hedges and others (1982) estimated the Bowdle: Edmunds aquifer underlies 46,900 acres in Walworth, Edmunds, Faulk, and Potter Counties. Kume and Howells (1987) further delineated the aquifer in Walworth County. Rich (2010) further defined the areal extent of the surficial aquifer materials in Edmunds County. Rich (2008) did not record any glacial aquifer materials in northwestern Faulk County. Although aquifer materials have not been studied in northeastern Potter County, the aquifer appears to extend into this county to some extent (Water Rights, 2013b). The updated areal extent of the aquifer is approximately equal to Hedges and others' (1982) estimate.

The aquifer has a maximum thickness of 50 feet but averages approximately 25 feet thick (Hamilton, 1974; Kume and Howells, 1987). Water levels in the aquifer range from just below ground surface down to 40 feet, averaging 11 feet below ground surface (Hamilton, 1974; Kume, 1979). The saturated thickness is 15 feet on average (Kume, 1979; Kume and Howells, 1987). Water movement in the aquifer is southerly (Kume and Howells, 1987).

In the area of the proposed well sites, aquifer materials occur from ground surface down to approximately 50 feet (SD Geological Survey, 2014; Water Rights, 2014c). Water levels in the aquifer are expected to occur at approximately 15 feet below ground surface (Water Rights, 2014a; Water Rights, 2014c).

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 from the aquifer and the potential for impairment of existing rights.

WATER AVAILABILITY:

The probability of unappropriated water available from an aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a 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 withdrawal/recharge issue must be considered.

Hydrologic Budget:*Recharge:*

Recharge to the Bowdle: Edmunds aquifer occurs by infiltration of precipitation (Kume and Howells, 1987). Hedges and others (1985) estimated the recharge rate based on observation well analysis to be 2.7 inches per year (in/yr). Applying a conservative estimate of the areal extent of the aquifer of 40,000 acres, and assuming the aquifer is able to be recharged at this rate throughout the areal extent, estimated average annual recharge is 9,000 ac-ft/yr.

Discharge:

Discharge from the Bowdle: Edmunds aquifer occurs by evapotranspiration and well withdrawals (Kume and Howells, 1987). Currently there are 16 water rights/permits appropriating water from this aquifer, 13 for irrigation use and three for municipal use (Water Rights, 2014b).

The City of Bowdle holds two water rights with a total maximum diversion rate of 0.39 cfs. The Town of Tolstoy holds one water right with a maximum diversion rate of 0.25 cfs. These two municipalities are connected to rural water systems, so no annual use is expected (Water Rights, 2014b).

The historic irrigation water use from water rights/permits authorized to the Bowdle: Edmunds aquifer is shown in Figure 1. The average irrigation pumpage over the period of record is 337 ac-ft/yr. The annual pumpage seems to be dependent primarily on climatic conditions (Water Rights, 1980-2013). The expected use of irrigation water rights/permits is estimated to be the average pumpage reported over the entire period of record.

While there are many domestic wells on file, many are no longer used as primary sources since rural water systems have been introduced in the area. Considering this and the relatively small withdrawal of a domestic well, the annual quantity of water withdrawn due to domestic wells is not significant to the hydrologic budget of the aquifer (Water Rights, 2014c).

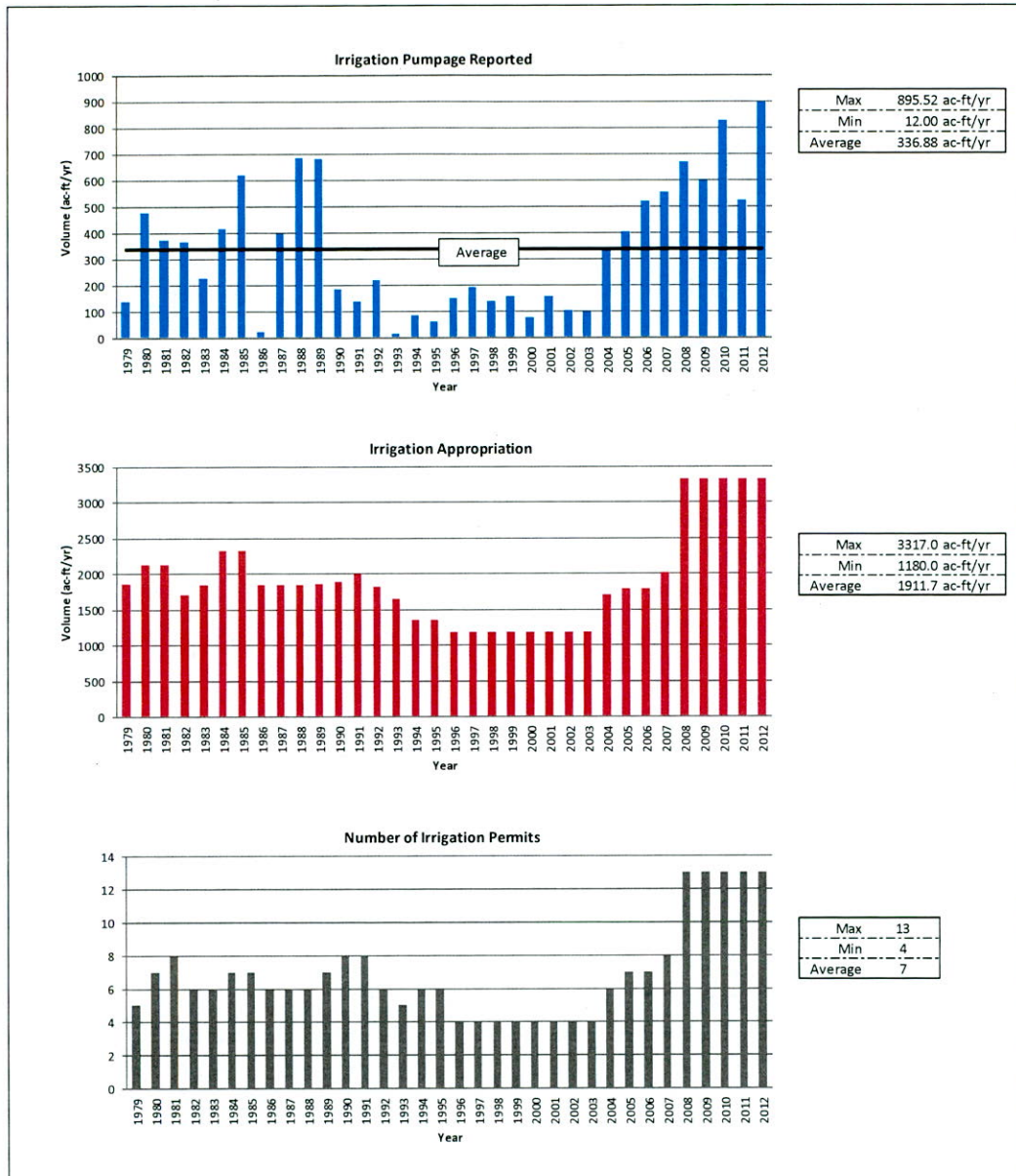


Figure 1: Historic irrigation water use from the Bowdle: Edmunds aquifer (Water Rights, 1980-2013)

Hydrologic Budget:

Courts have ruled that if average annual recharge is used, average annual withdrawals should also be used to determine if unappropriated water is available. 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 (Memorandum Decision, April 29, 2005; Memorandum Decision, April 11, 2012).

Total average withdrawal from the Bowdle: Edmunds aquifer is estimated to be 337 ac-ft/yr, while the average annual recharge is estimated to be 9,000 ac-ft/yr. Therefore, unappropriated water is available from the Bowdle: Edmunds aquifer to support the proposed appropriation.

Observation Well Data:

Administrative Rule of South Dakota Section 74:02:05:07 requires that “the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.”

The SD DENR-Water Rights Program monitors eight observation wells completed into the Bowdle: Edmunds aquifer. The nearest observation wells, ED-75A and WL-75U, are located approximately one mile north and one mile south of the proposed well sites. The hydrographs for these observation wells are shown in Figures 2 and 3.

These hydrographs are typical of observation wells recording water levels in the Bowdle: Edmunds aquifer. Observation well data documents cyclic yet somewhat linear water levels. Temporal well withdrawal is evident but generally masked by climatic conditions. All observation wells record either increasing or steady water levels over the respective period of record, indicating that withdrawals have not exceeded recharge. Therefore, unappropriated water is available from the Bowdle: Edmunds aquifer for the proposed appropriation.

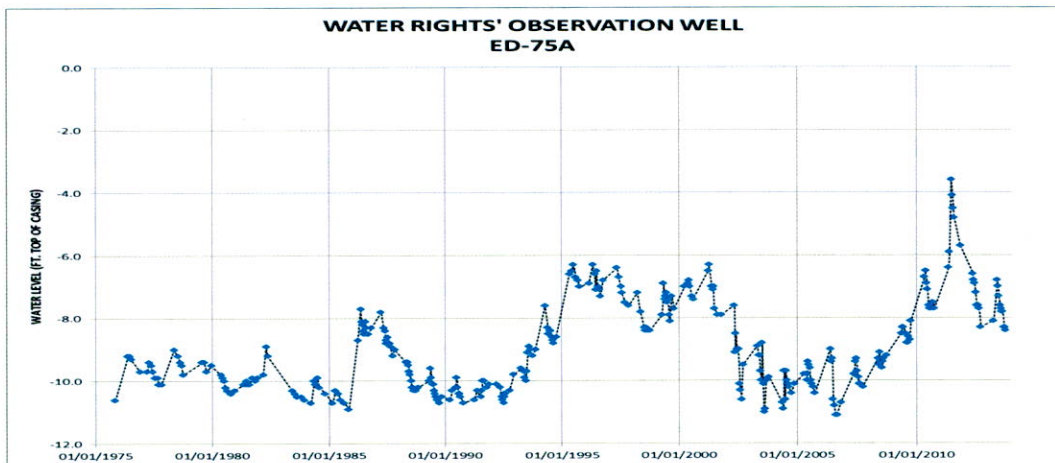


Figure 2: Hydrograph for observation wells ED-75A (Water Rights, 2014a)

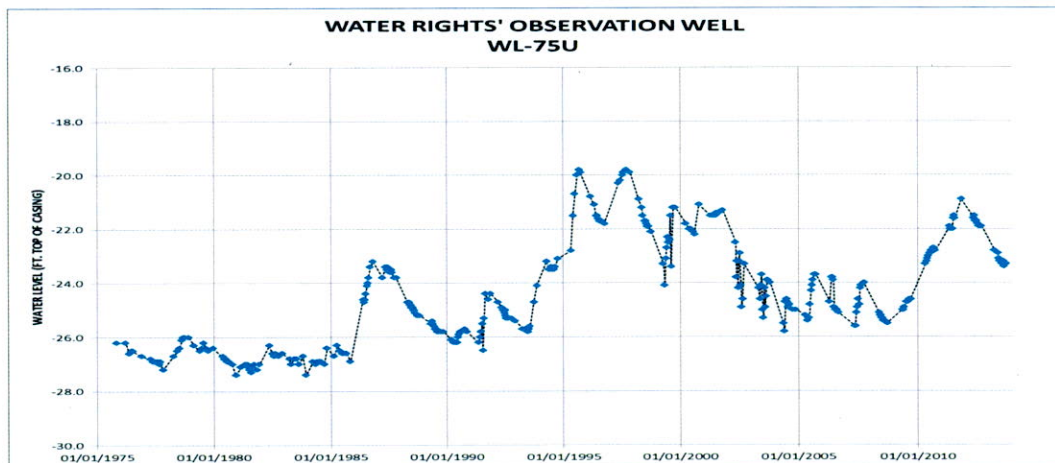


Figure 3: Hydrograph for observation wells WL-75U (Water Rights, 2014a)

EXISTING WATER RIGHTS:

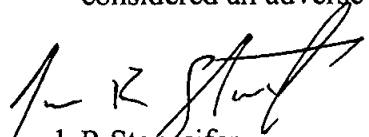
There are four water rights/permits within one mile of the proposed well sites; all of these are authorized to Hoffman Farms, the applicant. The next nearest water right/permit, No. 7013-3, authorized to Richard Beitelspacher, is located approximately two miles from the proposed well sites (Water Rights, 2014b). The nearest domestic well on file that appears to be completed into the Bowdle: Edmunds aquifer, under the name Alvin Schuh, is located approximately one half mile from the nearest proposed well site (Water Rights, 2014c).

The water table conditions of the aquifer dictate that withdrawals will cause some drawdown in aquifer water levels in the area of pumping. The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. Therefore, nearby adequate wells defined by ARSD 74:02:20(7) are not expected to be adversely impaired due to the diversion from the proposed well.

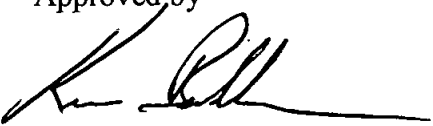
Conditions could occur where withdrawal exceeds the average annual recharge. When this occurs, the saturated thickness of the already thin aquifer could be reduced. If the saturated thickness is reduced to the extent that water rights/permits can no longer pump at their developed or "historically established" diversion rates, this may be considered an adverse impact.

CONCLUSIONS:

1. The water permit application proposes to appropriate groundwater at a maximum diversion rate of 1.78 cfs from three wells to be completed into the Bowdle: Edmunds aquifer for the irrigation of 132 acres.
2. Unappropriated water is available from the Bowdle: Edmunds aquifer to supply the proposed appropriation.
3. The proposed diversion will not adversely impair existing nearby wells.
4. If the saturated thickness is reduced in this thin aquifer to the extent that water rights/permits can no longer pump at their developed diversion rates, this may be considered an adverse impact.



Joseph R. Stonesifer
SD DENR-Water Rights Program
Approved by



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Hamilton, L.J. 1974. Major Aquifers in McPherson, Edmunds, and Faulk Counties, South Dakota. Information Pamphlet No. 8. S.D. Geological Survey, Vermillion, South Dakota.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources 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.
- Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- In the Matter of Water Permit Application No. 7239-3, by Hanson County Dairy v. Robert Bender and Stace Nelson, South Dakota First Judicial Court Civ. No. 11-54 (Memorandum Decision, April 11, 2012)
- In the Matter of Water Permit Application No. 6431-3, by Phillip W. Hines v. SD Department of Environment and Natural Resources, South Dakota Sixth Judicial Court Civ. No. HU04-37 (Memorandum Decision, April 11, 2012)
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- Rich. T.B. 2010. First Occurrence of Aquifer Materials in Edmunds County, South Dakota. SD DENR-Geological Survey-Aquifer Materials Map 26. Vermillion, South Dakota.
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- Water Rights. 2014a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2014b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2014c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

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APR - 3 2014

Form 8

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Edmunds) SS

I, Tim Dewald

certify that the attached printed Notice was taken

from the Department of Environment and Natural Resources

printed and published in The Pride of the Prairie

County of Edmunds and

state of South Dakota. The notice was published

in the newspaper on the following date:

Thursday, April 3, 2014

Cost of Printing \$19.14
Tim Dewald

Joel L. Bieber
(Signature)

Notary Public
(Title)

4/2/14
(Date Signed)

NOTICE OF APPLICATION NO.
7961-3 TO Appropriate Water

Notice is given that Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Ave, Bowdle SD 57428 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from three wells to be completed into the Bowdle:Edmunds Aquifer (30-45 feet deep) located in the SE 1/4 NW 1/4 Section 6 for irrigation of 132 acres located in the NW 1/4 Section 6; all in T122N-R73W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7961-3 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 April 14, 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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pimer,

Published once at the total approximate cost of \$19.14 at .01 cents per reader.

Joel L. Bieber
Notary Public South Dakota
My Commission Expires 4-2-2020

RECEIVED

APR - 7 2014

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of

Brown

) SS

by May Bashercertify that the attached printed Notice was
taken

from the

American News

printed and published in

Aberdeen

County of

Brown

and

State of South Dakota. The notice was
published

in the newspaper on the following date:

April 3, 2014

Cost of Printing

\$43.75

May Basher
(Signature)Adv. Billing Specials
(Title)April 3, 2014
(Date Signed)(No. 1753775)
(April 3, 2014 - 1T)NOTICE OF APPLICATION NO. 7961-3
to Appropriate Water

Notice is given that Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Ave, Bowdle SD 57428 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from three wells to be completed into the Bowdle-Edmunds Aquifer (30-45 feet deep) located in the SE 1/4 NW 1/4 Section 6 for irrigation of 132 acres located in the NW 1/4 Section 6; all in T122N-R73W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7961-3 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.

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DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



March 27, 2014

The Pride of the Prairie
PO Box 514
Bowdle SD 57428

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7961-3 to Appropriate Water. Please publish the notice once on April 3, 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 Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Ave, Bowdle SD 57428 (Ph # 605-285-6346).

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



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



March 27, 2014

American News
PO Box 4430
Aberdeen SD 57402

ATTENTION: Legal Public Notice

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Sincerely,

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Natural Resources Engineer
605 773-3352

enclosures



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.**

March 27, 2014

Hoffman Farms
Jerrad Hoffman
13754 323rd Ave
Bowdle SD 57428

Dear Mr. Hoffman:

Water Permit Application No. 7961-3 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 Pride of the Prairie printed at Bowdle SD (Ph # 605-285-6161) and the American News printed at Aberdeen SD (Ph # 605-225-4100). 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 April 3, 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. 7961-3 to Appropriate Water

Notice is given that Hoffman Farms, c/o Jerrad Hoffman, 13754 323rd Ave, Bowdle SD 57428 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from three wells to be completed into the Bowdle-Edmunds Aquifer (30-45 feet deep) located in the SE 1/4 NW 1/4 Section 6 for irrigation of 132 acres located in the NW 1/4 Section 6; all in T122N-R73W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7961-3 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.

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Published once at the total approximate cost of _____.



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



APR 29 2014

Hoffman Farms
Jerrad Hoffman
13754 323rd Ave
Bowdle SD 57428

Dear Mr. Hoffman:

Enclosed is Water Permit No. 7961-3 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

7961-3
RECEIVED

MAY - 4 2017

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 11/12/2014TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181FROM: Hoffman Farms
(name)
13754 323rd Ave
(address)
Bowdle SD 57428 (605) 285-6346
(city, state, zip) (phone)

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

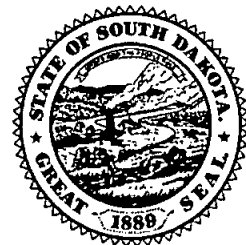
Water Permit No. 7961-3 states that the water use system is to be constructed by
4/14/19, and water is to be put to beneficial use by 4/14/2023
(date) (date)

The water use system was completed on 7/21/2014
(date)

Applying the water to beneficial use was completed on 7/22/2014
(date)

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

H. Farby
(signature)





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

May 4, 2017

7961-3

Hoffman Farms
13754 323rd Ave
Bowdle SD 57428

Dear Sirs:

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