

WATER PERMIT NO. 8380-3

Name of Applicant: National Field Archery Association Foundation

Address: 800 Archery Lane, Yankton SD 57078 Phone: 605 260-9279

Amount of Water Claimed: no add'l Total Acres: 7 add'l acres

Source of Water Supply: groundwater (one existing well)

Water to be used for: irrigation County: Yankton

Type of Waste Disposal System:

Location: city limits of Yankton

PRIORITY Date Received: 11-13-18 Application/License Fee: \$ 500

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

Remarks: Additional acres to Water Permit No. 7225-3

Diversion Point: SW 1/4 NE 1/4 Sec 17-T95N-
R55W

Land to be Irrigated: SW 1/4 NE 1/4 Sec 17-T95N-
R55W

			⊗		
			17		

Depth of Well: 40

Well Driller: Christensen Well & Irrigation

Remarks:

Type of Map: plat

Prepared by:

Reviewed and the Number Assigned on: 11-13-18

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

RECEIVED

NOV 13 2018

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8380-3</u>	(office use only) Hydrologic Unit <u>10170101</u>	WATER RIGHTS PROGRAM
	Basin <u>Missouri R.</u>		
	Newspaper <u>Press & Dakotan</u>		

PAID

NOV 13 2018

Ck# 9495

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☐ New ☐ Vested Right ☒ Amendment/Correction to Permit No. 7225-3
(Use predates Mar 2, 1955)

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

Additional 7 acres.1. Name to Appear on Irrigation Permit National Field Archery Association Foundation

Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address 800 Archery Lane Yankton ☒ SD ☒ 57078
(Address) (City) (State) (Zip Code)

Phone 605-260-9279 Mobile (no add'l) Email ptramp@nfaausa.com

2. Amount of water claimed 0.44 *CFS or (no add'l) **GPM 7 add'l acres ***AF Total Acreage 9
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Irrigation Well(SW 1/4 NE 1/4)4. Location of point of diversion One well located forty five feet (45') south and ten feet (10') west of the NE

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

corner of lot B of GOV lot 2 of section 17-93-55. Located within city limits. County Yankton ☒5. County or counties where water will be used Yankton6. Annual period during which water is to be used May 1 - Oct 31

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
SW 1/4 NE 1/4 Section 17 T93N R55W	9		

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

Drill irrigation well to use for underground lawn sprinklers for an archer range/soccer field.

I, Bruce Cull President, the applicant, certify under
Name of Person Title (if applicable)

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

**SOUTH DAKOTA
WATER PERMIT NO. 8380-3**

Date of first receipt of application November 13, 2018.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8380-3 to National Field Archery Association Foundation, 800 Archery Lane, Yankton SD 57078 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. 8380-3 authorizes irrigation of 7 additional acres. Water Permit No. 7225-3 appropriates 0.44 cubic feet of water per second from one well completed into the Missouri:Elk Point Aquifer (40 feet deep) located in the SW 1/4 NE 1/4 (Lot B of Government Lot 2) Section 17 for irrigation of 2 acres of an archery/soccer field located in the W 1/2 NE 1/4 Section 17; all in T93N-R55W. This permit authorizes irrigation of 7 additional acres located in the same area described above from the existing well. This permit does not authorize any increase in the developed diversion rate. The site is located within the city limits of Yankton SD.
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 – October 31.
3. The date from which applicant may claim right is November 13, 2018 (7 acres).
4. The date of approval of Permit No. 8380-3 is December 24, 2018.
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

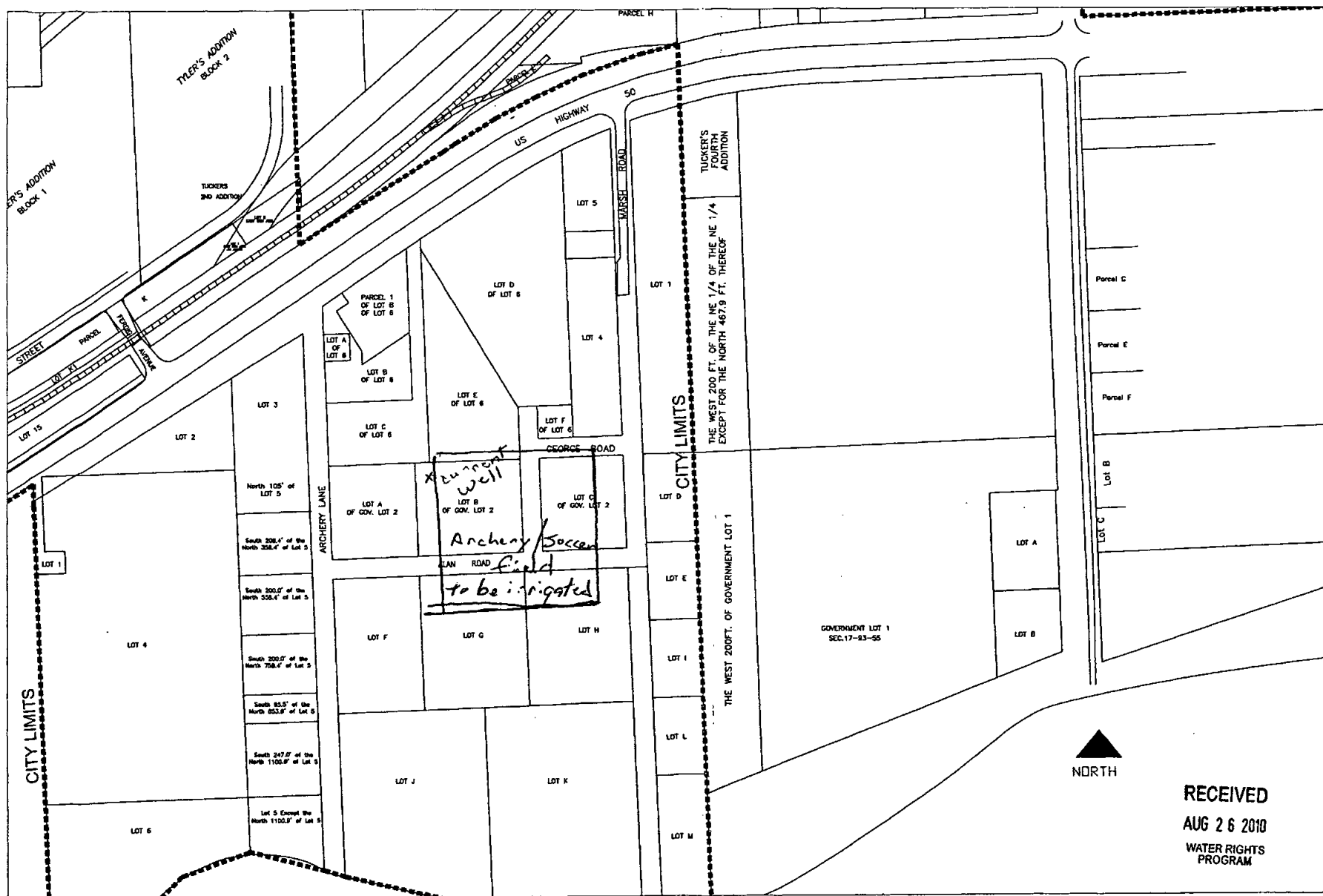
1. The well approved under Water Permit Nos. 7225-3 and 8380-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

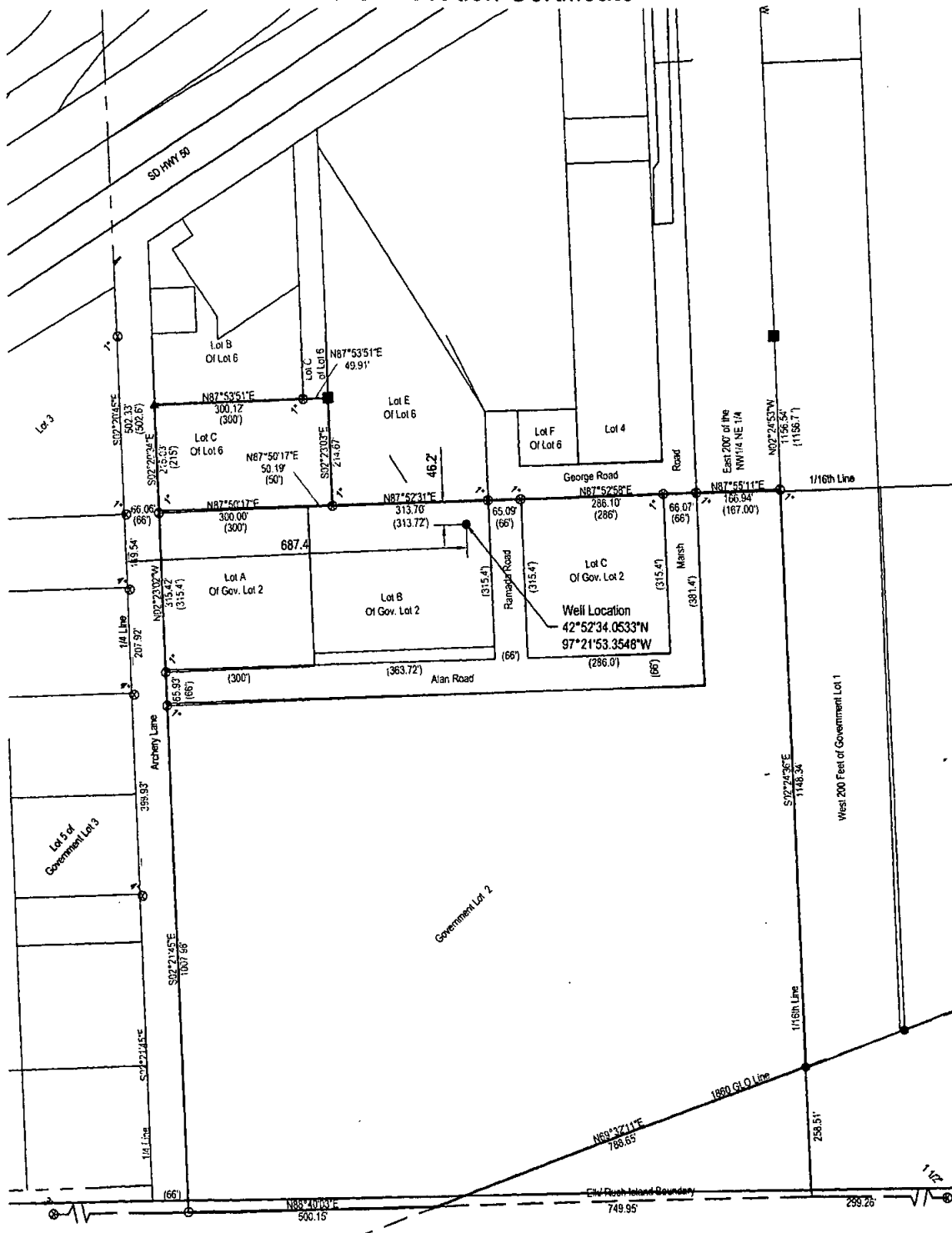
By: Jeanne Goodman
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 04 2019
date

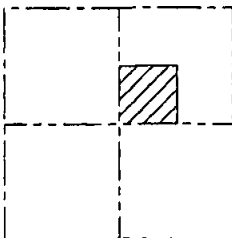




Well Location Certificate



Sec. 17- T93N - R55W



Location Map
NTS

I, Mark E. Johnson, a Registered Land Surveyor in the State of South Dakota, do hereby certify that at the request of Ken Buhl, did prepare this map depicting the location of one well in the SW1/4 of the NE1/4 of Section 17, Township 93 North, Range 55 West of the 5th P. M., Yankton County.

Dated this 1ST day of NOVEMBER, 2010.



Mark E. Johnson
Mark E. Johnson, LS 5816

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NOV 22 2010
WATER RIGHTS
PROGRAM



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date **November 13**, 20 **18**

RECEIVED OF **National Field Archery Association Foundation 800 Archery Ln Yankton SD** **57078**

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

Fee for Application for Permit No. <u>8380-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	500 00

No. **08805**

By Jeanne Goodman
Chief Engineer Jm

363 5558
Secretary of State Office
500 E Capitol Ave
Pierre, SD 57501
(605)773-4845

NON-STOCK APPLICATION FOR CERTIFICATE OF AUTHORITY

FOREIGN NONPROFIT CORPORATION

Please Type or Print Clearly in Ink

Please submit one **Original** and one **Photocopy**

FILING FEE: \$100 payable to SECRETARY OF STATE

RECEIVED

NOV 19 2008

S.D. SEC. OF STATE

115 19th day of Nov, 2008
Chris Nelson
SECRETARY OF STATE

Telephone # _____

FAX # _____

Application must be accompanied by a one page original certificate of existence issued by the Secretary of State or other official having custody of the corporate records in the state or country under whose law it is incorporated.

1. The name of the corporation is National Field Archery Association Foundation

2. State where incorporated California

3. Date of its incorporation is

4. The period of its duration perpetual

5. The address of its principal office in the state or country under whose laws it is incorporated,

4148 ShadyGlide Avenue	Studio City	CA	91604-1637
Street Address	City	State	ZIP+4

Mailing Address (Optional)	City	State	ZIP+4
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6. The South Dakota Registered Agent name David Hosmer

329 Broadway	Yankton	SD	57078
Street Address (Required to be a South Dakota Address)	City	State	ZIP+4

Mailing Address (Optional - Required to be a South Dakota Address)	City	State	ZIP+4
--	------	-------	-------

When listing a Commercial Registered Agent, please state their CRA #.
This number can be obtained from the Commercial Registered Agent.

7. The purpose or purposes that the corporation is to engage in South Dakota.

The NFAAF is dedicated a foundation, dedicated to assisting the NFAA through financial gifts and promotion.

7/11/06

8. The names and business addresses of its principal officers and directors. Please place a check mark next to the name if the principal officer serves as a director.

☒	D. BRUCE CHU	2301 E. HWY 50	YANKTON	SD	57078
	President	Street Address	City	State	ZIP+4
☒	BILLY SHEFFLER	7006 GEARGRASS CT	INDIANAPOLIS	IN	46241
	Vice President	Street Address	City	State	ZIP+4
☒	MARIELEEN ROGERS	800 BREMER LANE	YANKTON	SD	57078
	Secretary / MEMBER	Street Address	City	State	ZIP+4
☐	ERIK WATTS	5040 W. Harold Gatty Dr	PORT CITY	UT	84116
	Treasurer / DIRECTOR	Street Address	City	State	ZIP+4
☐	DAVE GORDON	2350 AIR PARK WAY	MONTICELLO	CO	81401
	Director	Street Address	City	State	ZIP+4
☐	DOUG JOYCE	30 WILLOW AVE	SOMERSET	NJ	08873
	Director	Street Address	City	State	ZIP+4
☐	BOB McCUTCHEON	23358 VIKEN RD	VIKEN	IL	62690
	Director	Street Address	City	State	ZIP+4

The application must be signed by an authorized officer of the corporation.

Dated 11/17/08


 (Signature of an authorized officer)
D. BRUCE CHU
 (Printed Name)
PRESIDENT
 (Title)



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

July 27, 2018

~~MacKenzie Kieborz~~ *gone*
National Field Archery Foundation
800 Archery Lane
Yankton SD 57078

Dear Ms. Kieborz:

National Field Archery Foundation holds Water Permit No. 7225-3 authorizing 0.44 cubic feet of water per second (200 gallons per minute) from a well completed into the Missouri:Elk Point Aquifer to irrigate 2 acres located in the SW 1/4 NE 1/4 Section 17-T93N-R55W (copy enclosed). Based on information reported on the annual Irrigation Questionnaire, approximately 7 additional acres have been irrigated since 2014.

Enclosed is an application form and instruction sheet which needs to be completed to obtain a permit for the additional acres. The irrigation questionnaire indicates a pump rate of 100 gallons per minute. Based on that information, the amount of water claimed on the application would be no additional water.

Obtaining a water permit that accurately reflects water use ultimately benefits the foundation by protecting it's right to use water. Except for domestic use, any water user without a water right is not entitled to receive protection in the event of interference by a new or future user who has a water right.

If you want more information regarding the permitting process, please go to our web site at <http://denr.sd.gov/des/wr/wr.aspx>

If you have any questions, please contact Eric Gronlund or me.

Sincerely,

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

enclosures

2017 Water Management Board Irrigation Questionnaire

Please fill out and return before December 1, 2017

REMEMBER! Return of this questionnaire is required whether or not you irrigated this year.

Return the completed form(s) to the Water Rights Program at 523 E Capitol, Pierre, SD 57501 3181 ph. (605) 773 3352 or send your form(s) electronically over the internet at <http://denr.sd.gov/iq.aspx>

Permit No. 7225-3

~~BILL HEWES~~ Mackenzie Kieborz
NATIONAL FIELD ARCHERY FOUNDATION
800 ARCHERY LANE
YANKTON SD 57078

Any address/ownership corrections?

Email MKieborz@NEYAE.ORG

Phone 605-260-9282

1. Did you irrigate in 2017? *yes ☒ **no ☐

*If yes, number of acres irrigated? 9

**If no, check reason(s) for not irrigating acres covered by Permit No. 7225-3

sufficient moisture ☐ no water available ☐

system not constructed ☐ use abandoned ☐

enrolled in CRP ☐, through what year? _____

other ☐, please explain in the Comment Box:

Comment Box

2. If your answer to question No. 1 is "no," you are done!
If you answered "yes," please complete Nos. 3, 4 & 5.

3. Did you apply chemicals or fertilizer through the system in 2017? yes ☐ no ☒

4. If more than one water source is listed below, circle each source used. A. GROUNDWATER

5. Provide your water use on the back of this form.



NUNW	NENW	NUNE	NENE
☒ NW		☒ NE	
SUNW	SENW	SWNE	SENE
NWSW	NESW	NWSE	NESE
☒ SW		☒ SE	
SUSW	SESW	SWSE	SESE

1 square mile

Office use only

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DEC 07 2017

WATER RIGHTS
PROGRAM

Acreage permitted for irrigation under No. 7225-3

(see above section map for help reading legal descriptions)

sec 17-T093N-R55W, SW1/4NE1/4 - 2.0 acres

Permit is for 2 acres.
In 2017 - 9 acres

2016 - 7.5 acres

2015 - 7.5 acres

2014 - 8 acres

2013 - 2 acres

2012 - 2 acres

2011 - 2 acres

OK

Please provide your 2017 water use to irrigate the above acreage on the REVERSE side of this form.

Type of system used: center pivot ☐ towline ☐ big gun ☐ flood ☐ sprinklers ☒ other _____
 (check all that apply) If center pivot, how many? _____ Please note, pivots need end gun stops to prevent overspray!

If more room is needed, copies of this page may be made or complete blank pages and attach to this form.

MONTH IRRIGATED	CROP TYPE	*NUMBER OF ACRES IRRIGATED	PUMP RATE IN GALLONS PER MINUTE	DAYS PER MONTH WATER WAS APPLIED	AVERAGE HOURS PER DAY
MARCH					
APRIL					
MAY					
JUNE	Gross (Archery field)	9	100 gal/min	20	8
JULY	// //	//	// //	30	8
	// //	//			
AUGUST	// //	//	// //	30	8
SEPTEMBER	// //	// //	//	10	8
OCTOBER					

*Total number of acres irrigated should be the same as your answer in question No. 1 on reverse side of this form.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8380-3, National Field Archery Association Foundation**

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. 8380-3, National Field Archery Association Foundation, c/o Bruce Cull, 800 Archery Lane, Yankton SD 57078.

The Chief Engineer is recommending APPROVAL of Application No. 8380-3 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 Water Permit Nos. 7225-3 and 8380-3 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. 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
December 4, 2018

WATER PERMIT APPLICATION NO. 8380-3

National Field Archery Association Foundation

November 15, 2018

National Field Archery Association Foundation has filed Water Permit Application No. 8380-3 to irrigate 7 acres for an archery/soccer field located in the same area and using the existing well currently authorized by Water Permit No. 7225-3. Water Permit No. 7225-3 appropriates 0.44 cubic feet of water per second (cfs) from one well completed into the Elk Point management unit of the Missouri aquifer (40 feet deep) located in the SW ¼ NE ¼ (Lot B of Government Lot 2) Section 17 for irrigation of 2 acres of an archery/soccer field located in the W ½ NE ¼ Section 17; all in T93N-R55W. The site is located within the city limits of Yankton, SD.

This application is a result of reported irrigated acres being greater than what was permitted by Water Permit No. 7225-3. Therefore, this permit application proposes to correct the number of acres being irrigated without any increase in the diversion rate already authorized by Water Permit No. 7225-3. Water Permit Application 8380-3, if approved, and Water Permit No. 7225-3 combined, will authorize a total diversion rate of 0.44 cfs for the irrigation of 9 acres.

Aquifer: Missouri: Elk Point (M: EP)

Hydrogeology

The Missouri: Elk Point aquifer in South Dakota is located in Clay, Union, and Yankton Counties, below the floodplains of the Big Sioux and Missouri rivers. The Elk Point management unit of the Missouri aquifer is composed of unconsolidated glacial outwash deposits that range from fine sand to very coarse gravel (Niehus, 1994). The areal extent of the aquifer was estimated by Hedges, Burch, Iles, Barari, & Schoon (1982) to be 219,100 acres, with 3,287,100 acre-feet of recoverable water in storage. The direction of water movement in the aquifer is generally from the northwest to southeast (Niehus, 1994).

The Elk Point management unit of the Missouri aquifer is confined in the northwestern part of the aquifer due to deposits of laterally extensive clay overlying the aquifer (Niehus, 1994). The well completion report for Water Permit No. 7225-3 shows that the well site is comprised of clay from ground surface to 12 feet and sand and gravel from 12 to 40 feet at this well site the aquifer is expected to be under water table conditions (Water Rights, 2018a). The static water level at the time of construction (October 12, 2010) was 12 feet (Water Rights, 2018b).

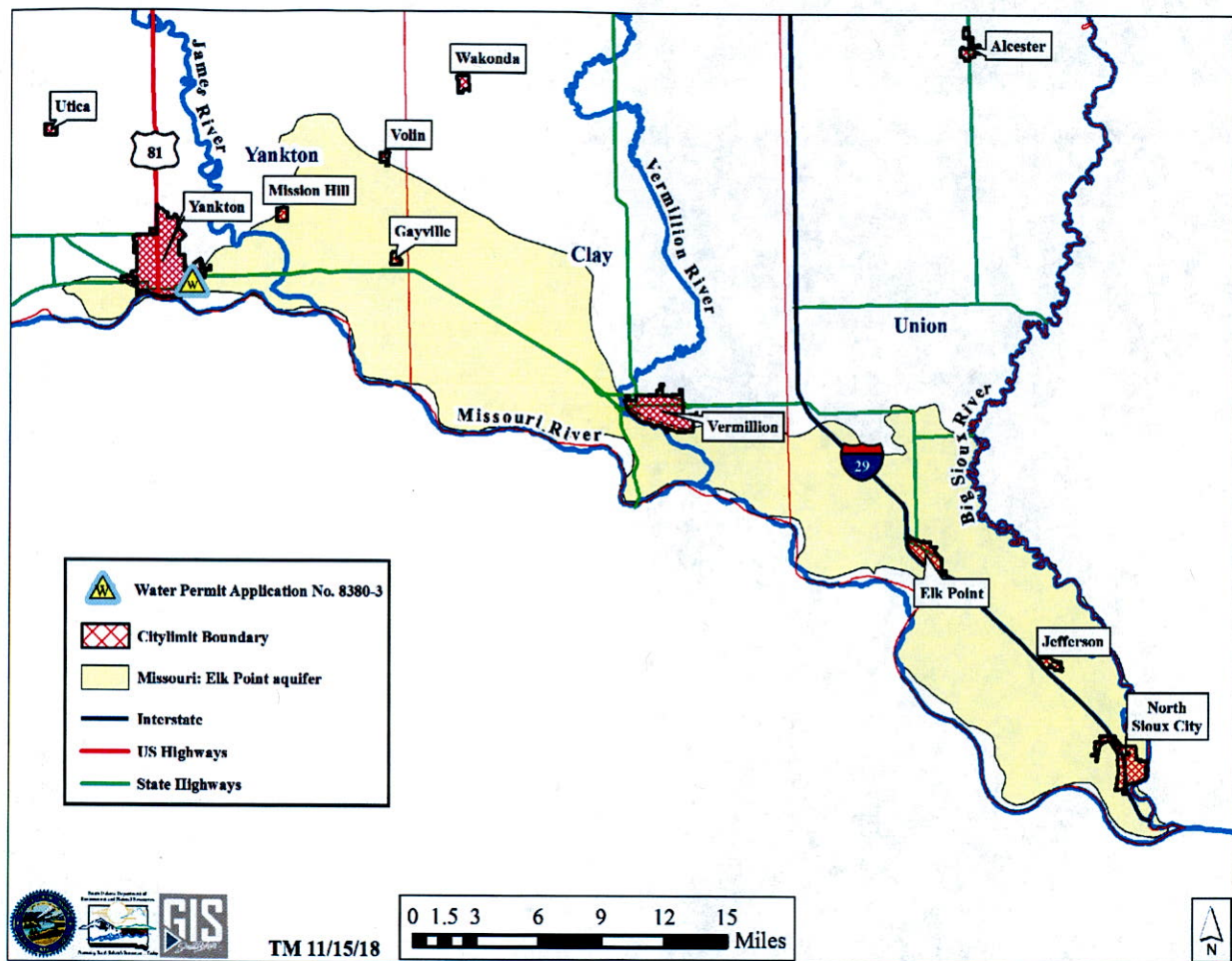


Figure 1: Map showing the Missouri: Elk Point aquifer from Hedges, Burch, Iles, Barari, & Schoon (1982), the diversion point, and the city limits of Yankton.

South Dakota Codified Law 46-2A-9

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

Water Availability

SDCL 46-6-3.1 is considered when evaluating the probability of unappropriated water from an aquifer and states "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically

lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Missouri: Elk Point aquifer is not older or lower than the Greenhorn Formation, and there is no water distribution system involved. Therefore, the recharge and withdrawal rates must be considered.

Hydrologic Budget

Recharge

Recharge to the Missouri: Elk Point aquifer occurs by infiltration of precipitation, inflow from the Lower Vermillion-Missouri aquifer, leakage from the Dakota aquifer and seepage from the Missouri, Vermillion, James, and Big Sioux Rivers (Bugliosi, 1983; Niehus, 1994; Stonesifer, 2013). Recharge to the aquifer was estimated by Hedges, Allen, & Holly (1985) to be approximately 3.83 inches per year. The areal extent was also estimated to be 219,100 acres. Using this information the average annual natural recharge can be estimated to be 69,382 ac-ft/yr. Stonesifer (2013) estimated the induced recharge to the aquifer from the Missouri River due to the operation of the Lewis and Clark Rural Water System to be 22,582 ac-ft/yr.

Combining the estimated natural recharge from Hedges (69,382 ac-ft/yr) and the estimated induced recharge from Stonesifer (2013) (22,582 ac-ft/yr) the Missouri: Elk Point aquifer recharges approximately 92,000 ac-ft/yr.

Discharge

Discharge from the Missouri: Elk Point aquifer occurs through evapotranspiration in areas where the aquifer is near land surface, well withdrawals and outflow to the Missouri and Big Sioux Rivers (Bugliosi, 1983; Niehus, 1994). Currently, there are a total of 619 water rights/permits including 3 future use permits appropriating water from the Missouri: Elk point aquifer (Water Rights, 2018a). The 3 future use permits assuming full appropriation total 14,900 ac-ft/yr. All current non-irrigation water rights/permits appropriating water from the Missouri: Elk Point aquifer, are described in Table 1. The amount of water that can be expected to be withdrawn by the non-irrigation water rights/permits can be estimated by assuming water rights/permits limited by an annual volume will pump the entire volume appropriated annually. Non-irrigation water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time.

Table 1: Summary of expected water use of non-irrigation water rights/permits (Water Rights, 2018a).

Use Type	No. of Water Rights/Permits	Appropriation (cfs)	Appropriation (ac-ft)	Expected Annual Use (ac-ft)
REC	1	3.110		1,350.92
MUN	11	11.660	7,211.00	12,275.88
IND	5	0.878		381.39
DOM	2	2.780		1,207.58
RWS	2		32,165.00	32,165.00
COM	10	1.540	637.00	1,305.95
FWP	4	9.430		4,096.21
SHD	2	0.199		86.44
Total	37	29.597	40,013.00	52,869.37
REC = Recreation, MUN = Municipal, IND = Industrial, DOM = Domestic, RWS = Rural Water System, COM = Commercial, FWP = Fish and Wildlife Propagation, SHD = Suburban Housing Development				

Lewis and Clark Rural Water System is required to report water use to the Chief Engineer for both rural water system use permits, and the City of Vermillion is required to report water use for three of four municipal use rights/permits. Clay Rural Water System is also required to report water use. These systems have rights/permits in the Missouri: Elk Point aquifer and their corresponding usages are reported in Table 2 with the relevant permits listed.

Table 2: Reported annual water use in acre-feet from non-irrigation water rights/permits from the years 2006 to 2017 (Water Rights, 2018a)

	City of Vermillion	Lewis and Clark RWS	Clay RWS
	147-3, 6236-3	6736-3, 7207-3	5998A-3, 7388-3
2006	1,252		170
2007	1,344		217
2008	1,199		213
2009	1,140		215
2010	1,071		183
2011	1,127	92	137
2012	1,317	3,836	525
2013	1,183	9,368	301
2014	1,121	11,532	307
2015	1,161	15,591	278
2016	1,175	17,091	231
2017	1,215	18,051	276
Max	1,344	18,051	525
Min	1,071	92	137
Average	1,192	10,794	254

The reported water use for these non-irrigation water rights/permits show that the Clay Rural Water System and the City of Vermillion have both remained steady from 2006 to 2017 whereas the Lewis and Clark Rural Water System started pumping in 2011 and is still undergoing development.

Clay Rural Water System has two permits in the Missouri: Elk Point aquifer 5998A-3 (2.22 cfs) and 7388-3 (2.0 cfs). These permits withdraw an estimated total of 1,833 ac-ft/yr assuming a 60 percent pumping rate. However, the reported average pumping is 254 ac-ft/yr. This average pumping rate has increased due to the addition of permit 7388-3 in 2012. The City of Vermillion holds two permits 147-3 (2.66 cfs) and 6236-3 (2.67 cfs, 1,161 ac-ft/yr). These permits are estimated to use a combined 2,316 ac-ft/yr assuming a 60 percent pumping rate with an average reported pumping rate of 1,192 ac-ft/yr. Lewis and Clark Rural Water System holds permits 6736-3 (27.85 cfs, 20,165 ac-ft/yr) and 7207-3 (12,000 ac-ft/yr); combined these permits appropriate 32,165 ac-ft/yr and the average reported pumping rate is 10,794 ac-ft/yr. Lewis and Clark Rural Water System is still undergoing development, and as a result, their full appropriation is the estimated withdrawal.

Clay Rural Water System and the City of Vermillion have steady pumping rates and are not undergoing development. Therefore their reported average pumping rate should be considered. Combined the estimated pumping rate is 4,150 ac-ft/yr based on the permits issued; however, the reported pumping rate is 1,446 ac-ft/yr. Using the reported average pumping rate rather than the permitted values reduces the expected use from non-irrigation water rights/permits by 2,703 ac-ft/yr totaling 50,166 ac-ft/yr.

Irrigation data from 1979 to 2016 was analyzed by Farmer (2018), and it was determined that from 1979 to 2005, the number of acres permitted for irrigation in the Missouri: Elk Point aquifer remained steady. In 2006 there was an increase in permits that adjusted the long-term ratio of constructed to unbuilt irrigation systems. For this reason, Farmer (2018) calculated the average application rate on all acres permitted for irrigation using data from 1979 to 2005 and determined the average application rate to be 0.35 ft (a little less than 4.2 inches).

Currently, there are 579 water rights/permits for irrigation (Water Rights, 2018a). Combined, these permits total 80,929.7 acres of irrigated land. Of these permitted acres, there are 13 water rights/permits shown in Table 3 that are irrigating a total of 747.1 acres of turf, due to the water requirements of turf, the estimated usage should be determined separately from crop irrigation and are calculated as fully appropriated resulting in an estimated average annual use of 1,911.2 ac-ft per year (Farmer, 2018). Using Farmer's (2018) average application rate of 0.35 ft on the remaining permitted crop irrigation acres results in an estimated average annual use for irrigation purposes of 28,064 ac-ft/yr.

Table 3: Water rights/permits for irrigation of turf modified from Farmer (2018) (Water Rights, 2018a)

Permit No.	Name	Acres	Appropriation (ac-ft)
1294-3	Recreation Dev Assn Inc	102	306
1961C-3	Yankton Missouri River Koa	17	51
2011-3	Two Rivers Golf Club	95	285
5786-3	Dakota Dunes Golf Course	173	519
5935-3	Ted Waitt	1	2
5936-3	Applied Engineering Inc	1.8	3.6
5998-3	Clay Rural Water System Inc	300	600
7225-3	National Field Archery Assoc	2	4
8010-3	Ryan Rusher	2.5	5
8029-3	Dakota Dunes Comm Improvement District	17.8	35.6
8040-3	Heine Electric & Irrigation Inc	1	2
8175-3	Gayville-Volin School District 63-1	4	8
8354-3	Two Rivers Inc	30	90
Total		747.1	1,911.2

Hydrologic Budget Summary

The estimated withdrawals from the Missouri: Elk Point aquifer are 50,166 ac-ft/yr from non-irrigation users, 14,900 ac-ft/yr from future use permits assuming full appropriation, 28,064 ac-ft/yr from crop irrigation and 1,911.2 ac-ft/yr from turf irrigation assuming full appropriation. If approved Permit Application No. 8380-3 will use 14 ac-ft/yr assuming full appropriation. Therefore the total estimated average annual withdrawal from the Missouri: Elk Point aquifer is 95,055 ac-ft/yr.

The estimated annual recharge to the Missouri: Elk Point aquifer is approximately 92,000 ac-ft/yr. This estimated annual recharge does not include the recharge induced by well withdrawals aside from Lewis and Clark Rural Water System; the actual recharge is likely to be more than 92,000 ac-ft/yr. Due to the relatively small development of this significant resource and the ability to induce recharge to the aquifer from nearby bodies of surface water, there is a reasonable probability there is unappropriated water available from the Missouri: Elk Point aquifer for the proposed appropriation.

Observation Well Data

In determining the availability of unappropriated water for a permit application, Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires the Water Management Board to rely on the record of observation well measurements, in addition to other data, to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer.

The DENR-Water Rights Program monitors 37 observation wells completed into the Missouri: Elk point aquifer (Water Rights, 2018c). The location of this proposed application is within a reasonable distance of several observation wells. These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. Two nearby observation wells that can be used for analysis of Permit Application No. 8380-3 are YA-57D (4.27 miles northeast) and YA-79H (5.09 miles northeast) as seen in Figure 2.

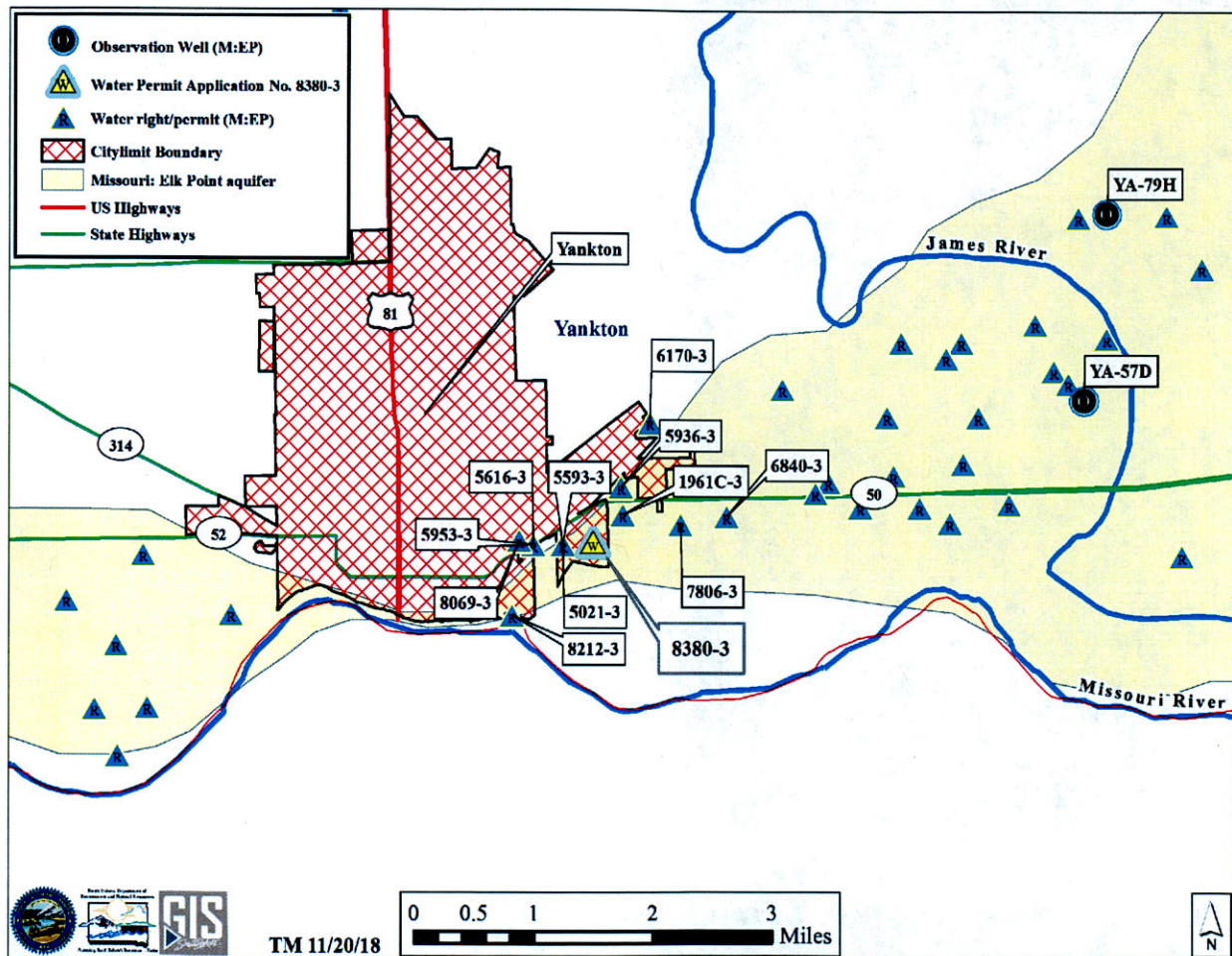


Figure 2: Map showing the location of Water Permit Application No. 8380-3, water rights/permits and nearby observation wells in the Missouri: Elk Point aquifer (M:EP) (Water Rights, 2018a; Water Rights, 2018c).

The hydrographs for YA-57D and YA-79H are shown in Figure 3. These observation well hydrographs are representative of the Missouri: Elk Point aquifer and show that the aquifer responds well to hydrologic conditions, recharging during wetter periods and declining during drier periods. The hydrograph of the Missouri River in Figure 4 generally shows the same peaks, rising periods, and declining periods as the hydrographs of the Missouri: Elk Point aquifer, indicating that the aquifer is hydraulically connected to the Missouri River.

The water levels in the observation wells show that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping

conditions between irrigation seasons. The graph also shows a gradual downward trend due to the construction of the Gavins Point Dam in Yankton, SD; the Missouri River is entrenching below the dam, lowering the water surface elevation of the river (Goodman, 2007). This downward trend is not due to an over-appropriation of the Missouri: Elk Point aquifer but rather a reflection of the entrenchment. Therefore, recharge to, and natural discharge from the Missouri: Elk Point aquifer can be captured for pumping, and the hydrographs document that unappropriated water is available for this proposed appropriation.

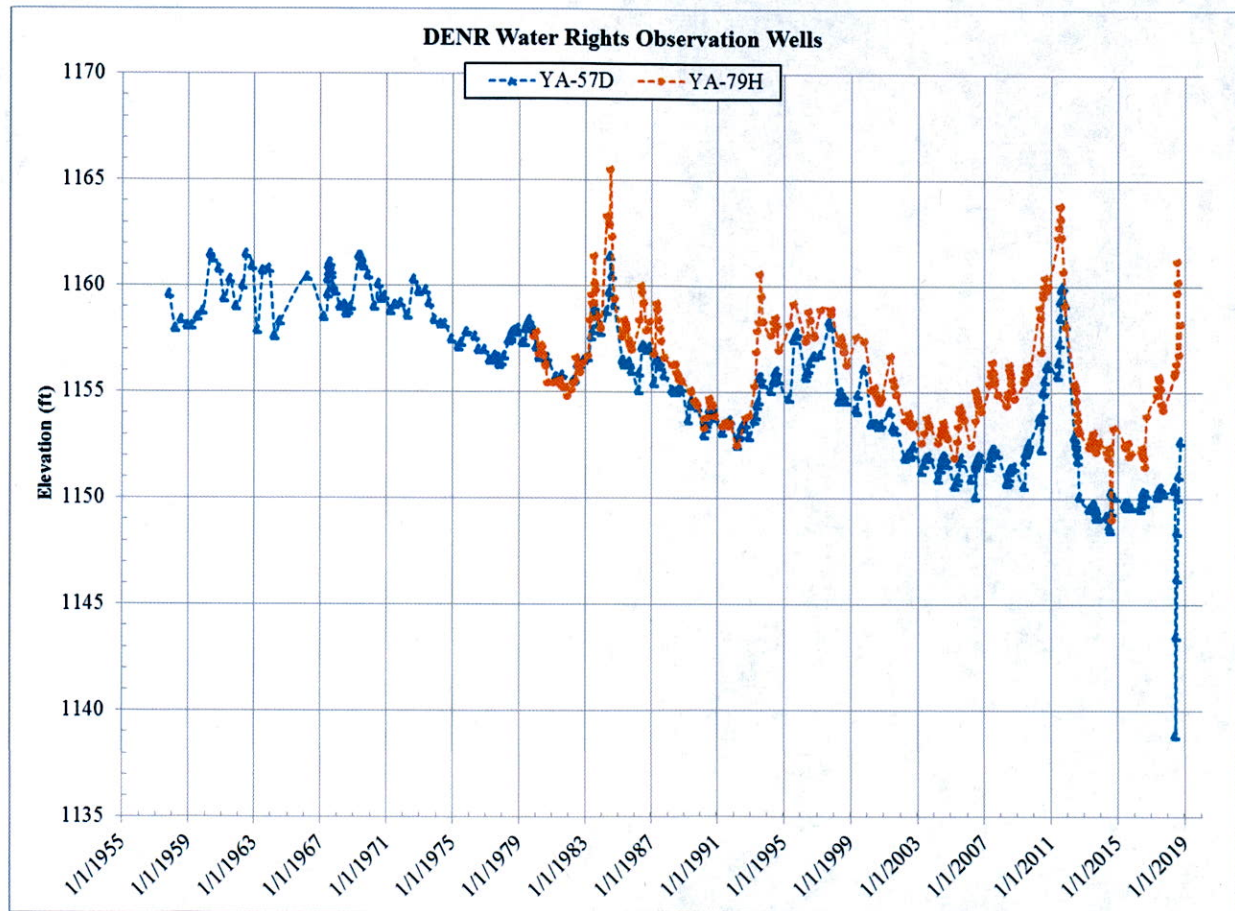


Figure 3: Hydrographs for Observation Wells YA-57D and YA-79H (Water Rights, 2018c).

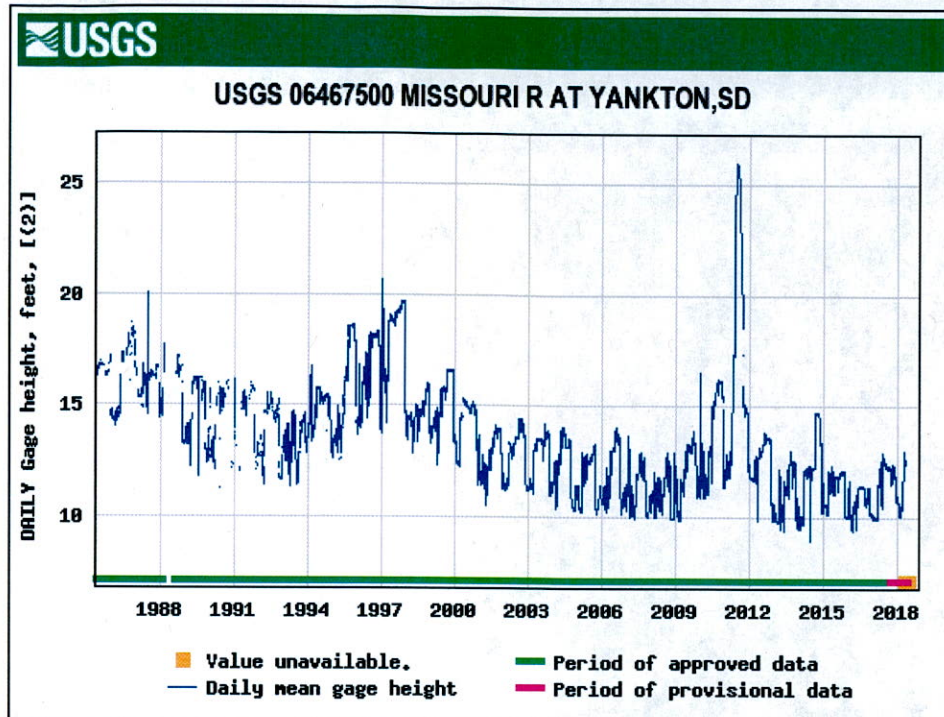


Figure 4: Hydrograph for USGS Stream Gage 06467500 Missouri River at Yankton, SD (USGS, 2018)

Existing Water Rights

Currently, there are 616 water rights/permits appropriating water from the Missouri: Elk point aquifer (Water Rights, 2018a). There are 11 water right/permit diversion points currently authorized to withdraw water located within an approximately 1.5-mile radius of the proposed application, listed in Table 4 and illustrated in Figure 2. The nearest water right/permit completed into the Missouri: Elk Point aquifer is located approximately a quarter mile to the west. There are a number of domestic wells on file with the SD DENR-Water Rights Program within approximately 1.5-miles of the diversion point that appear to be completed into the Missouri: Elk Point aquifer (Water Rights, 2018b).

Table 4: Water rights/permits appropriating water from the Missouri: Elk Point aquifer in the vicinity of the well site proposed by Permit Application No. 8380-3 (Water Rights, 2018a).

Permit No.	Name	Status	Use	Rate (cfs)	Acres
1961C-3	Yankton Missouri River Koa	LC	IRR	0.24	17
5021-3	Vishay-Dale Electronics Inc	LC	IND	0.10	
5593-3	Vishay-Dale Electronics Inc	LC	IND	0.06	
5616-3	Cimpls Inc	LC	COM	0.44	
5936-3	Applied Engineering Inc	LC	IRR	0.10	1.8
5953-3	H & K Oil Co	LC	COM	0.04	
6170-3	Concrete Materials	LC	IND	0.22	
6840-3	Ron & Angela Kneip	PE	IRR	1.25	67
7225-3	National Field Archery Assoc	PE	IRR	0.44	2
7806-3	C & C Hauling And Construction Inc	PE	IRR	1.08	25
8069-3	Cimpls Llc	PE	COM	0.44	
8212-3	City Of Yankton	PE	MUN	20.12	
LC = water right, PE = water permit, IRR = irrigation, IND = industrial, COM = commercial, MUN = municipal					

The Missouri: Elk Point aquifer is expected to be under water table conditions in this area, so drawdown from pumping is not expected to extend a significant distance from the proposed well site. Observation well data can provide insight into how the aquifer reacts to local pumping. The hydrograph for observation well YA-57D had a dip June 6, 2018, due to routine maintenance. Over the period of record, the water levels shown in the hydrographs for observation wells YA-57D and YA-79H (Figure 3) show water levels varying between 3 and 23 feet below grade. Saturated thickness of the Missouri: Elk Point aquifer in this area is expected to be approximately 80 to 100 feet (Water Rights, 2018a; Water Rights, 2018c). This would allow sufficient saturated thickness for a pump to be placed 20 feet below the top of the aquifer. An adequate well should not be adversely impacted by pumping at this proposed diversion rate.

An adequate well has been defined in Administrative Rule of South Dakota (ARSD) 74:02:04:20(6) as:

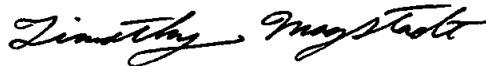
“A well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.”

The applicant holds Water Permit No. 7225-3, and there have been no reports or complaints of adverse effects associated with the permit. Considering the lack of well interference complaints and the saturated thickness of the Missouri: Elk Point aquifer in the area, well interference from this proposed diversion is not expected to cause an adverse impact. Therefore, there is a

reasonable probability that any interference created by pumping for this proposed appropriation will not be adverse.

Conclusions

1. Water Permit Application No. 8380-3 requests 7 acres to irrigate an archery/soccer field. This permit if approved does not authorize any increase in the developed diversion rate.
2. Water Permit Application 8380-3, if approved, and Water Permit No. 7225-3 combined, will authorize a total diversion rate of 0.44 cfs for the irrigation of 9 acres.
3. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer.
4. There is a reasonable probability that the diversion proposed by this application will not adversely impact adequate wells for existing water rights and domestic use.



Timothy Magstadt
SD DENR – Water Rights Program

References

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AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

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JAN 02 2018⁹

WATER RIGHTS
PROGRAM

NATIONAL FIELD ARCHERY ASSOCIATION
800 ARCHERY LANE
YANKTON SD 57078

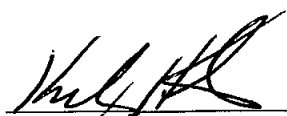
STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

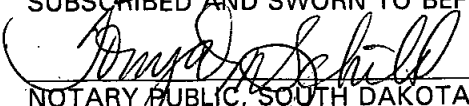
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
12+12 NOTICE OF APPLICATI

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 12th DAY OF December, 2018
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$29.97 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: 12/12/2018

FILED ON: 12/26/2018


SUBSCRIBED AND SWORN TO BEFORE ME THIS 26th DAY OF December, 2018


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 08/19/2021

Ad text : 12+12

NOTICE OF APPLICATION NO. 8380-3 to Appropriate
Water

Notice is given that National Field Archery Association Foundation, c/o Bruce Cull, 800 Archery Lane, Yankton SD 57078 has filed an application for a water permit to irrigate 7 additional acres. Water Permit No. 7225-3 appropriates 0.44 cubic feet of water per second from one well completed into the Missouri:Elk Point Aquifer (40 feet deep) located in the SW 1/4 NE 1/4 (Lot B of Government Lot 2) Section 17 for irrigation of 2 acres of an archery/soccer field located in the W 1/2 NE 1/4 Section 17; all in T93N-R55W. This application proposes to irrigate 7 additional acres located in the same area described above from the existing well. This application, if approved, does not authorize any increase in the developed diversion rate. The site is located within the city limits of Yankton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8380-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineers recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352) and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 24, 2018.

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

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.
Published once at the total approximate cost of \$29.97.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, December 04, 2018 9:07 AM
To: 'brenda.willcuts@yankton.net'
Subject: FW: 8380-3, National Field Archery Association
Attachments: 8380-3public.short.docx; FORM8.FRM.doc

Got the auto reply from Jackie, so I'm sending this to you.
Karen

From: Schlaak, Karen
Sent: Tuesday, December 04, 2018 9:04 AM
To: Jackie Lammers (jackie.lammers@yankton.net)
Subject: 8380-3, National Field Archery Association

Attached is a notice to be published on December 12, 2018.

National Field Archery Association Foundation, c/o Bruce Cull, 800 Archery Lane, Yankton SD 57078 (605 260-9279) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

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

Karen Schlaak

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





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

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

December 4, 2018

National Field Archery Association Foundation
c/o Bruce Cull
800 Archery Lane
Yankton SD 57078

Dear Mr. Cull:

Water Permit Application No. 8380-3 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 Press and Dakotan printed at Yankton SD (Ph # 605 665-7811). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

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

NOTICE OF APPLICATION NO. 8380-3 to Appropriate Water

Notice is given that National Field Archery Association Foundation, c/o Bruce Cull, 800 Archery Lane, Yankton SD 57078 has filed an application for a water permit to irrigate 7 additional acres. Water Permit No. 7225-3 appropriates 0.44 cubic feet of water per second from one well completed into the Missouri:Elk Point Aquifer (40 feet deep) located in the SW 1/4 NE 1/4 (Lot B of Government Lot 2) Section 17 for irrigation of 2 acres of an archery/soccer field located in the W 1/2 NE 1/4 Section 17; all in T93N-R55W. This application proposes to irrigate 7 additional acres located in the same area described above from the existing well. This application, if approved, does not authorize any increase in the developed diversion rate. The site is located within the city limits of Yankton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8380-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 24, 2018.

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

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

JAN 04 2019

National Field Archery Association Foundation
c/o Bruce Cull
800 Archery Lane
Yankton SD 57078

Dear Mr. Cull:

Enclosed is Water Permit No. 8380-3 authorizing irrigation of additional acres to the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,


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

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

8530-3

7225-3

8380-3

OCT 25 2021

National Field Archery Association Foundation
c/o Bruce Cull, President
800 Archery Lane
Yankton SD 57078

Dear Mr. Cull:

Enclosed are Water Permit and License No. 8530-3. This is the final water right document completing your process of obtaining a Water Right. Also, included with your license is a map prepared by the staff engineer who conducted the investigation.

For your information SDCL 46-6-27 requires that if in the future the owner drills a replacement well and has no plan to use the old existing 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,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

Note: The applicable portions of Nos. 7225-3 and 8380-3 are incorporated into Water License No. 8530-3.

enclosures