

WATER PERMIT NO. 1791-1

Name of Applicant: **Bart Burdick**

Address: **HC73 Box 5036, Baker MT**

Phone: **406 775-6380**

Amount of Water Claimed: **1.8 cfs**

Total Acres: **126**

Source of Water Supply: **Box Elder Creek**

Water to be used for: **irrigation**

County: **Harding**

Type of Waste Disposal System:

Location: **in very northwest corner of the state**

PRIORITY

Date Received: **4-1-03**

Application/License Fee: **\$300**

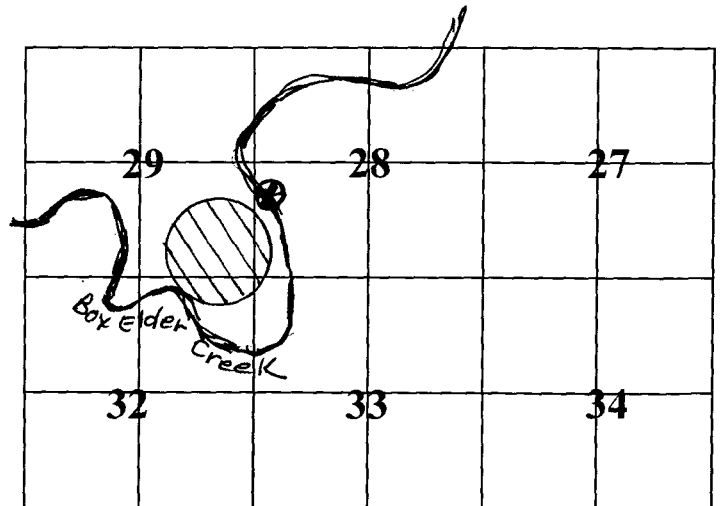
Corrected Application Received:

Period of Annual Use: **May 1 – October 31**

Remarks:

Diversion Point: **NW ¼ SW ¼ Sec 28-T23N-R1E**

Land to be Irrigated: **SE ¼ Sec 29, W ½ SW ¼ Sec 28 and N ½ NE ¼ Sec 32; all T23N-R1E**



Depth of Well:

Well Driller :

Remarks:

Type of Map: **topo**

Prepared by: **Thomas VerHelst, NRCS**

Reviewed and the Number Assigned on: **4-2-03**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 1791-1**

Date of first receipt of application April 1, 2003.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1791-1 to Bart Burdick, HC 73, Box 5036, Baker MT 59313-9706 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. 1791-1 appropriates 1.8 cubic feet of water per second from Box Elder Creek located in the NW ¼ SW ¼ Section 28 to irrigate 126 acres located in the SE ¼ Section 29, W ½ SW ¼ Section 28 and N ½ NE ¼ Section 32; all in T23N-R1E.
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 April 1, 2003.
4. The date of approval of Permit No. 1791-1 is August 11, 2003.
5. One-fifth of the construction is to be completed on or before February 11, 2006.
6. All construction is to be completed on or before August 11, 2008.
7. Water is to be put to beneficial use on or before August 11, 2012.
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. Low flows as needed for downstream domestic use, including livestock water must be by-passed. Dewatering of the river is not allowed.
2. The diversion of water shall be in accordance with any written orders issued by the Chief Engineer.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

AUG 28 2003

date



FORM 2: Application for irrigation in South Dakota
(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>1791-1</u> (office use only)
	Hydrologic Unit <u>10110202</u>
	Basin <u>Little Missouri</u>
	Newspaper <u>Nation's Center News, Spearfish</u>

RECEIVED
APR - 1 2003
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 of Applicant Bart Burdick Phone 406-775-6380
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address HC 73 Box 5036 Baker, MT State 59313-9706
(Street, RR, or Box and City) (Zip Code)
2. Amount of water claimed 1.8*CFS or **GPM ***AF Total Acreage 126
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Box Elder Creek
4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Harding
Surface water in Box Elder Creek in NW 1/4, SW 1/4, Section 28, T23N-R1E
5. County or counties where water will be used Harding
6. Annual period during which water is to be used May-October 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
NW1/4 SE1/4 Sec29 T23N-R1E	11	SE1/4 SE1/4 Sec29 T23N-R1E	40
NE1/4 SE1/4 Sec29 T23N-R1E	27	SW1/4 SW1/4 Sec28 T23N-R1E	11
NW1/4 SW1/4 Sec28 T23N-R1E	4	NW1/4 NE1/4 Sec32 T23N-R1E	2
SW1/4 SE1/4 Sec29 T23N-R1E	23	NE1/4 NE1/4 Sec32 T23N-R1E	8

8. Give a description of the project. (Attach sheet if more space is needed)
The project plans to pump out of Box Elder Creek into a 1320' long center pivot to irrigate 126 acres of cropland.

STATE OF SOUTH DAKOTA) SS

County of _____

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, BARTON BURDICK, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Barton Burdick

Subscribed and sworn to before me this 26 day of March 2003

Lila Leigen
Notary Public signature

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter N/A Depth _____
- b) Casing Type _____ Diameter _____ Thickness _____
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
On applicants property _____ On property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) N/A
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

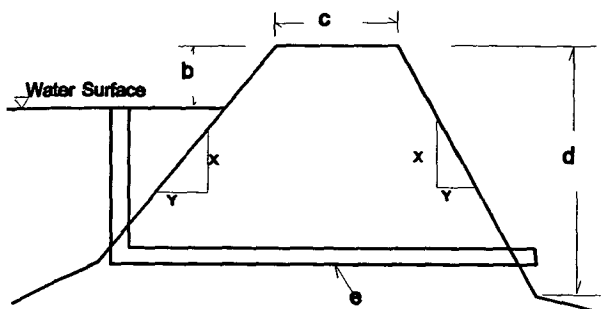
3. Dugout Information

- a) Surface Dimensions N/A 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 _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date April 1, 2003

RECEIVED OF Burdick Farms, Barton Burdick, HCR 73 Box 5036, Baker MT 59313

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

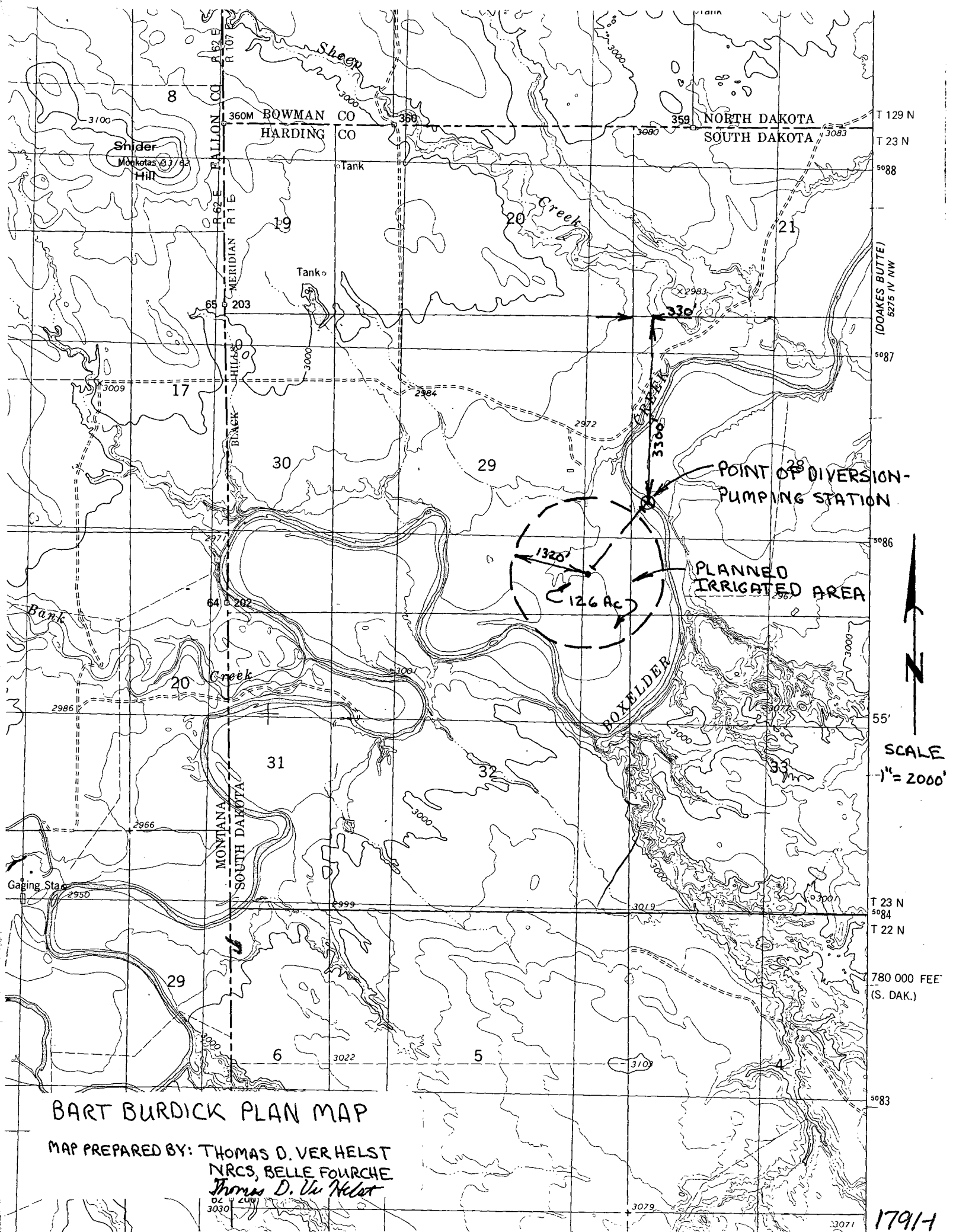
Fee for Application for Permit No. <u>1791-1</u> to Appropriate Water, to construct and to put water to beneficial use	250	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1791-1</u>	50	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	300.00

No.

000708

By

Darlene Ebel
Chief Engineer *gm*



(DOAKS BUTTE)
5275 N NW



SCALE
1" = 2000'

T 23 N
5084
T 22 N

780 000 FEET
(S. DAK.)

5083

1791-1

BART BURDICK PLAN MAP

MAP PREPARED BY: THOMAS D. VERHELST
NRCS, BELLE FOURCHE
Thomas D. Verhelst
02 11 2001
3030



BART BURDICK SOILS MAP

MAP PREPARED BY: THOMAS D. VER HELST
 NRCS, BELLE FOURCHE
Thomas D. Ver Helst

1791-1

Proper stocking rates and timely deferment of grazing or rotation grazing help to maintain maximum productivity.

This soil is suited to cultivated crops and to tame pasture and hay. Crested wheatgrass and intermediate wheatgrass are examples of suitable pasture plants. Spring wheat, winter wheat, oats, and alfalfa are the main cultivated crops. Controlling wind erosion and conserving moisture are the main management needs in cultivated areas. Examples are leaving crop residue on the surface, including grasses and legumes in the cropping system, stripcropping, and minimizing tillage. Establishing field windbreaks also helps to control wind erosion.

This soil is suited to windbreaks and environmental plantings. All climatically suited trees and shrubs grow well, except for those that require an abundant supply of moisture. Preparing the site for planting in the spring helps to control wind erosion.

The capability unit is 111e-4; Sandy range site; windbreak suitability group 5.

AsB—Assinniboine fine sandy loam, 3 to 6 percent slopes. This deep, well drained, gently sloping soil is on fans, terraces, and uplands. Areas are irregular in shape and 10 to 80 acres in size.

Typically, the surface layer is grayish brown fine sandy loam about 8 inches thick. The subsoil is about 35 inches thick. It is friable. It is brown loam and sandy clay loam in the upper part and grayish brown, calcareous fine sandy loam in the lower part. The underlying material to a depth of 60 inches is grayish brown, calcareous loamy sand. In some areas soft bedrock is at a depth of 20 to 40 inches. In places the subsoil and underlying material contain more clay and less sand.

Included with this soil in mapping are small areas of Archin, Arnegard, Bullock, and Gerdrum soils and Slickspots. These inclusions make up less than 15 percent of any one mapped area. Archin, Bullock, and Gerdrum soils have a sodium affected subsoil. Archin and Gerdrum soils are on small flats. Bullock soils are in small pits and depressions. Arnegard soils are dark to a depth of more than 16 inches. They are in swales. Slickspots are in small pits and depressions. They have a dispersed surface and a high content of salts throughout. They generally do not support vegetation.

The content of organic matter is moderate in the Assinniboine soil, and fertility is medium. Tilth is fair. Permeability is moderate in the subsoil and moderately rapid in the underlying material. Available water capacity is moderate. Runoff is slow or medium. The shrink-swell potential is low.

Most of the acreage supports native grasses and is used for grazing. Generally, no major hazards or limitations affect the use of this soil for range. Wind erosion is a hazard, however, if the range is overgrazed. Proper stocking rates and timely deferment of grazing or rotation grazing help to maintain maximum productivity.

This soil is suited to cultivated crops and to tame pasture and hay. Crested wheatgrass and intermediate wheatgrass are examples of suitable pasture plants. Spring wheat, winter wheat, oats, and alfalfa are the main cultivated crops. Measures that control wind erosion and conserve moisture are the main management needs in cultivated areas. Examples are stripcropping, minimizing tillage, leaving crop residue on the surface, and including grasses and legumes in the cropping system. Establishing field windbreaks also helps to control wind erosion.

This soil is suited to windbreaks and environmental plantings. All climatically suited trees and shrubs grow well, except for those that require an abundant supply of moisture. Planting on the contour helps to control water erosion. Preparing the site for planting in the spring helps to control wind erosion.

The capability unit is 1Ve-6; Sandy range site; windbreak suitability group 5.

★ **AtA—Assinniboine-Archin fine sandy loams, 0 to 3 percent slopes.** These deep, well drained, nearly level soils are on terraces and fans. The Assinniboine soil is on the higher parts of the landscape. The Archin soil is in small depressions. Areas are 30 to more than 150 acres in size. They are 50 to 60 percent Assinniboine soil and 20 to 30 percent Archin soil. The two soils occur as areas so closely intermingled or so small that mapping them separately is not practical.

Typically, the surface layer of the Assinniboine soil is grayish brown fine sandy loam about 8 inches thick. The subsoil is about 35 inches thick. It is friable. It is brown loam and sandy clay loam in the upper part and grayish brown, calcareous fine sandy loam in the lower part. The underlying material to a depth of 60 inches is grayish brown, calcareous loamy sand. In some areas the subsoil contains less clay. In places the soil is dark to a depth of more than 16 inches.

Typically, the surface layer of the Archin soil is grayish brown fine sandy loam about 4 inches thick. The next layer is light brownish gray loam about 2 inches thick. The subsoil is grayish brown and light brownish gray, friable loam about 22 inches thick. In the lower part it is calcareous and has nests of gypsum crystals and other salts. The underlying material to a depth of 60 inches is light brownish gray, calcareous loam. In some areas the subsoil contains more clay.

Included with these soils in mapping are small areas of Attewan, Bullock, Gerdrum, and Marmarth soils. These included soils make up less than 25 percent of any one mapped area. Attewan soils are 20 to 40 inches deep to sand and gravel. They are on knolls. Bullock and Gerdrum soils have a surface layer that is thinner than that of the Archin soil. They are in small pits and depressions. Marmarth soils are 20 to 40 inches deep over soft bedrock. They are higher on the landscape than the Assinniboine soil.

The content of organic matter is moderate and fertility medium in the Assinniboine soil. The content of organic matter and fertility are low in the Archin soil. The Archin soil has a sodium affected subsoil that restricts the penetration of plant roots. Tilth is fair in the Assinniboine soil and poor in the Archin soil. Permeability is moderate in the upper part of the Assinniboine soil and moderately rapid in the underlying material. It is slow or very slow in the Archin soil. Available water capacity is moderate in both soils. Runoff is slow. The shrink-swell potential is low in the Assinniboine soil and moderate in the Archin soil.

Most of the acreage supports native grasses and is used for grazing. Generally, no major hazards or limitations affect the use of these soils for range. Wind erosion is a hazard, however, if the range is overgrazed. Proper stocking rates and timely deferment of grazing or rotation grazing help to maintain maximum productivity.

These soils are suited to cultivated crops and to tame pasture and hay, but the sodium affected subsoil in the Archin soil is a limitation. Intermediate wheatgrass, crested wheatgrass, and alfalfa are examples of suitable pasture plants. Spring wheat, alfalfa, winter wheat, and oats are the main cultivated crops. Measures that control wind erosion, conserve moisture, and improve tilth are the main management needs in cultivated areas. Examples are strip cropping, leaving crop residue on the surface, and including grasses and legumes in the cropping system.

These soils are suited to windbreaks and environmental plantings, but the sodium affected subsoil in the Archin soil is a limitation. Windbreaks can be established on the Archin soil, but optimum growth is unlikely. Preparing the site for planting in the spring helps to control wind erosion.

The Assinniboine soil is in capability unit IIIe-4, Sandy range site, and windbreak suitability group 5; the Archin soil is in capability unit IVe-12, Claypan range site, and windbreak suitability group 9.

AwB—Attewan loam, 2 to 6 percent slopes. This well drained, undulating soil is on terraces and upland fans. It is moderately deep to gravelly material. In some areas scattered stones are on the surface. Areas are irregular in shape and 10 to more than 100 acres in size.

Typically, the surface layer is brown loam about 5 inches thick. The subsoil is about 27 inches thick. It is grayish brown and friable. It is clay loam and loam in the upper part and calcareous sandy clay loam in the lower part. The underlying material to a depth of 60 inches is light yellowish brown, calcareous, stratified very gravelly loamy sand and very gravelly loam. In places it is gravelly loam. In some areas the depth to the gravelly underlying material is more than 40 inches.

Included with this soil in mapping are small areas of Archin, Bullock, and Nihill Variant soils and Slickspots. These inclusions make up less than 15 percent of any

one mapped area. Archin and Bullock soils have a sodium affected subsoil. They are on small flats and in small pits and depressions. Nihill Variant soils are 10 to 20 inches deep over sand and gravel. They are higher on the landscape than the Attewan soil. Slickspots have a dispersed surface and a high content of salts throughout. They do not support vegetation. They are in small pits and depressions.

The content of organic matter is moderate in the Attewan soil, and fertility is medium. Tilth is good. Permeability is moderate in the subsoil and rapid in the underlying material. Available water capacity is low. Runoff is slow or medium. The shrink-swell potential is moderate in the subsoil and low in the underlying material.

Most of the acreage supports native grasses and is used for grazing. No major hazards or limitations affect the use of this soil for range; however, the soil is droughty. Proper stocking rates and timely deferment of grazing or rotation grazing help to maintain maximum productivity.

This soil is suited to cultivated crops and to tame pasture and hay, but it is droughty. Intermediate wheatgrass and crested wheatgrass are examples of suitable pasture plants. Spring wheat, winter wheat, and oats are the main cultivated crops. Measures that control erosion and conserve moisture are the main management needs in cultivated areas. Examples are minimizing tillage, leaving crop residue on the surface, and including grasses and legumes in the cropping system.

This soil is suited to windbreaks and environmental plantings. Optimum growth is unlikely, however, because the soil is droughty.

The capability unit is IVe-2; Silty range site; windbreak suitability group 6G.

Ba—Badlands. This map unit consists of moderately sloping to nearly vertical exposures of soft bedrock dissected by many intermittent drainageways. In many areas thin seams of lignite are throughout the bedrock. Areas range from 10 to 100 acres in size.

Included with the Badlands in mapping are small areas of Archin, Blackhall, Bullock, Cabbart, Glendive, Kirby, and Parchin soils and Slickspots. These inclusions make up less than 15 percent of any one mapped area. The sodium affected Archin, Bullock, and Parchin soils are on small flats and in small pits and depressions. Blackhall and Cabbart soils are on the crest of narrow ridges. Glendive soils are along narrow drainageways. Kirby soils are on the steeper ridges. Slickspots have a dispersed surface and a high content of salts throughout. They do not support vegetation. They are in small pits and depressions near areas of Bullock soils.

Runoff is very rapid on the Badlands. This map unit is subject to severe geologic erosion. It is unsuited to range, cultivated crops, tame pasture and hay, and

throughout. In other areas it contains more clay throughout.

Included with this soil in mapping are small areas of Archin, Bullock, Hanly, Kremlin, and Lallie soils. These soils make up less than 15 percent of any one mapped area. The sodium affected Archin and Bullock soils are in small depressions and pits. The somewhat excessively drained Hanly soils are slightly lower on the flood plains than the Havre soil. Kremlin soils have a dark surface layer. They are adjacent to the uplands. The poorly drained Lallie soils are in old stream channels on the flood plains.

The content of organic matter and fertility are low in the Havre soil. Tilth is good. Permeability is moderate. Available water capacity is moderate or high. Runoff is slow. The shrink-swell potential is moderate.

Most of the acreage supports native grasses and is used for grazing. Generally, no major hazards or limitations affect the use of this soil for range. Some areas support a sparse stand of deciduous trees and shrubs, which help to protect the livestock.

This soil is suited to cultivated crops and to tame pasture and hay. Intermediate wheatgrass, crested wheatgrass, and alfalfa are examples of suitable pasture plants. Spring wheat, winter wheat, alfalfa, and oats are the main cultivated crops. Measures that control erosion, improve fertility, and conserve moisture are the main management needs. Examples are minimizing tillage, leaving crop residue on the surface, and including grasses and legumes in the cropping system.

This soil is suited to windbreaks and environmental plantings. All climatically suited trees and shrubs grow well.

The capability unit is Illic-2; Loamy Terrace range site; windbreak suitability group 1.

★ **Hh—Havre-Harlem complex.** These deep, nearly level, well drained soils are on flood plains. They are subject to rare flooding. The loamy Havre soil is on the high parts of the flood plains, and the clayey Harlem soil is on the low parts. Areas are irregular in shape and 10 to 100 acres in size. They are 45 to 50 percent Havre soil and 20 to 35 percent Harlem soil. The two soils occur in areas so closely intermingled or so small that mapping them separately is not practical.

Typically, the surface layer of the Havre soil is grayish brown loam about 5 inches thick. The underlying material to a depth of 60 inches is light brownish gray and grayish brown, calcareous, stratified loam, clay loam, and fine sandy loam. In places the soil contains more sand throughout.

Typically, the surface layer of the Harlem soil is grayish brown silty clay about 9 inches thick. The underlying material to a depth of 60 inches is grayish brown, gray, olive gray, and olive, calcareous, stratified silty clay, clay, and silty clay loam. In the lower part it

has thin strata of silt loam, loam, and clay loam and has gypsum crystals and other salts.

Included with these soils in mapping are small areas of Archin, Bullock, Hanly, Lallie, and Sage soils. These included soils make up less than 25 percent of any one mapped area. The sodium affected Archin and Bullock soils are adjacent to the uplands. The sandy Hanly soils are adjacent to stream channels. The poorly drained Lallie soils are in partially filled stream meanders. Sage soils have a high content of salts throughout. They are in positions on the flood plains similar to those of the Havre and Harlem soils.

The content of organic matter and fertility are low in the Harlem and Havre soils. Tilth is good in the Havre soil and fair in the Harlem soil. Permeability is moderate in the Havre soil and slow in the Harlem soil. Available water capacity is moderate or high in both soils. Runoff is slow. The shrink-swell potential is moderate in the Havre soil and high in the Harlem soil.

Most of the acreage supports native grasses and is used for grazing. Generally, no major hazards or limitations affect the use of these soils for range, but the Harlem soil is subject to compaction if the range is grazed when wet. Restricted grazing during wet periods helps to prevent surface compaction and the deterioration of tilth.

These soils are suited to cultivated crops and to tame pasture and hay. Alfalfa, intermediate wheatgrass, crested wheatgrass, and smooth brome grass are suitable pasture plants. Spring wheat, winter wheat, oats, and alfalfa are the main cultivated crops. Measures that conserve moisture and improve fertility and tilth are the main management needs in cultivated areas. Examples are minimizing tillage, leaving crop residue on the surface, and including grasses and legumes in the cropping system.

These soils are suited to windbreaks and environmental plantings. All climatically suited trees and shrubs grow well.

The capability unit is Illic-2, and the windbreak suitability group is 1; the Havre soil is in Loamy Terrace range site, and the Harlem soil is in Clayey Overflow range site.

Hk—Heil silt loam. This deep, poorly drained, level soil is in depressions on uplands. It is ponded during wet periods. Areas are 5 to 50 acres in size and are circular or oval.

Typically, the surface layer is gray, mottled silt loam about 1 inch thick. The subsoil is gray silty clay about 34 inches thick. It has gypsum crystals and other salts in the lower part. The underlying material to a depth of 60 inches is olive gray and light olive gray, mottled, calcareous clay loam.

Included with this soil in mapping are small areas of Daglum, Grail, and Rhoades soils and Slickspots. These inclusions make up less than 15 percent of any one

WATER PERMIT APPLICATION No. 1791-1

**Bart Burdick
HC 73 Box 5036
Baker, MT 58313-9706
(406)775-6380**

Water Permit Application No. 1791-1, Bart Burdick, proposes to appropriate 1.8 cubic feet per second (cfs) of Boxelder Creek water in Harding County, SD for irrigation of 126 acres. Water would be diverted from Boxelder Creek in the NW¼ SW¼ Section 28 to irrigate land by a center pivot system in portions of Sections 28, 29, and 32, all T23N R1E. (Attachment 1) The proposed annual period of use would be from May 1 to October 31.

Water Source and Existing Water Rights

The water source for the proposed project is Boxelder Creek in Harding County, SD. Boxelder Creek originates near Hammond, MT and flows north-northeast joining the Little Missouri River in North Dakota. A small section of the creek flows through the extreme northwest corner of Harding County, SD. No stream flow data are available for Boxelder Creek, but a U.S. Geological Survey (USGS) gaging station is operational on the Little Missouri River near Camp Crook, SD. The Little Missouri River upstream of Camp Crook, SD and Boxelder Creek upstream of the proposed project have similar climatic, area, topography, and drainage characteristics.

USGS historical data from 1956 to 2001 for the Little Missouri River at Camp Crook, SD indicate there is a 50-percent probability monthly median flows could range from 5 to 57-cfs or greater for any given May 1 to October 31 annual period. There is a 75-percent probability monthly median flows at this same location could be in the 2 to 12-cfs range or greater for the same period. (Table 1 and Hydrograph 1)

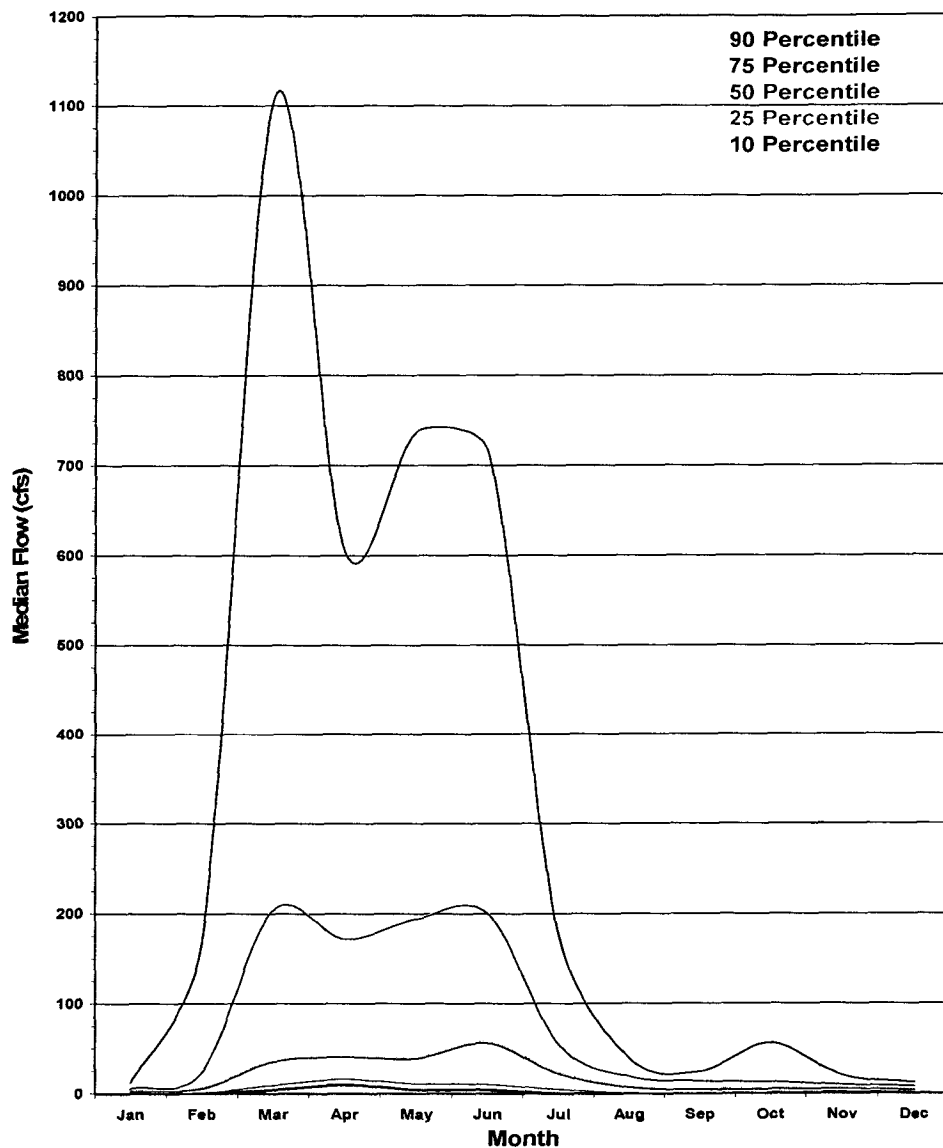
The USGS Little Missouri River historical data indicates sufficient water should be available in Boxelder Creek for the proposed project during normal and greater stream flow conditions throughout the annual May 1 through October 31 period. Boxelder Creek cannot be considered a reliable source of water in late summer and early fall months during periods of below normal stream flow conditions.

Table 1. Little Missouri River Monthly Median Flow (cfs)

Percentile	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
10	1	1	4	10	4	4	0	0	1	2	2	2
25	2	2	11	18	12	12	6	2	2	2	3	3
50	4	7	37	42	40	57	23	8	5	6	6	5
75	7	25	205	173	195	201	56	20	15	14	11	9
90	14	169	1110	605	739	714	177	41	26	57	21	14

Hydrograph 1

Little Missouri River
Camp Crook, SD
1956-2001



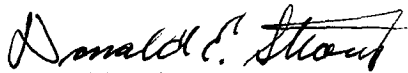
There are no prior rights for diversion of water from Boxelder Creek in Harding County, SD.

Conclusions

1. Water Permit Application No. 1791-1 proposes to appropriate 1.8 cubic feet per second of Boxelder Creek water in Harding County, SD for irrigation of 126 acres.
2. USGS historical data for the Little Missouri River, a stream with similar characteristics, indicate sufficient water should be available in Boxelder Creek during normal and greater

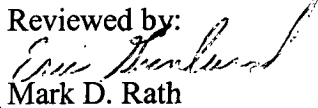
stream flow conditions during the May 1 through October 31 annual period for the proposed project.

3. Boxelder Creek cannot be considered a reliable source of water in late summer and early fall months during periods with below normal stream flow conditions.
4. There are no prior water rights on Boxelder Creek, Harding County, SD.
5. Low flows as needed for downstream domestic use; to include livestock watering should be bypassed.



Donald E. Stroup
Natural Resources Project Engineer
DENR Water Rights Program

Reviewed by:



for Mark D. Rath

Natural Resources Engineering Specialist
DENR Water Rights Program

References

South Dakota Department of Environment and Natural Resources, Water Rights Program Records

USGS National NWISWeb Water Information System, Historical Stream Flow for South Dakota

1791-1

Bart Burdick

HC 73 Box 5036

Baker, MT 58313-9706

(406)775-6380

T23N R1E

Diversion
Point

Irrigated
Acres

1 Miles



Donald E. Stroup

Donald E. Stroup
Natural Resources Project Engineer
DENR Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1791-1, Bart Burdick**

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. 1791-1, Bart Burdick, HC 73, Box 5036, Baker MT 58313-9706.

The Chief Engineer is recommending APPROVAL of Application No. 1791-1 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. Low flows as needed for downstream domestic use, including livestock water must be bypassed. Dewatering of the river is not allowed.
2. The diversion of water shall be in accordance with any written orders issued by the Chief Engineer.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year

See report on application for additional information.

Garland Erbele, Chief Engineer
April 17, 2003

NOTE: Boxelder Creek may not be a reliable source of water, especially during periods of drought. As the permit holder you will need to limit your withdrawals so the downstream prior rights are not impaired. The permit may be subject to periodic shut-off orders issued by the Chief Engineer.



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

April 17, 2003

Bart Burdick
HC 73 Box 5036
Baker MT 59313-9706

Dear Mr. Burdick:

Water Permit Application No. 1791-1 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Nation's Center News printed at Spearfish, SD (Ph # 605-642-2761). 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 a 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 of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. 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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

April 17, 2003

Nation's Center News
PO Box 7
Spearfish SD 57783

ATTENTION: Legal Public Notice

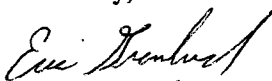
Enclosed is a Notice of Hearing on Application No. 1791-1 to Appropriate Water to be published twice. Please publish the first notice on April 24, 2003 with the second publication 7 days later.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Bart Burdick, HC 73 Box 5036, Baker MT 59313-9706 (Ph # 406-775-6380).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** 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

-----CUT HERE-----

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

No. 1791-1

Date _____

We are in receipt of your letter of April 17, 2003 enclosing Notice of Hearing to Appropriate Water by Application No. 1791-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper

Instruction to Newspaper - Publish first Notice on April 24, 2003 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1791-1 to Appropriate Water

Notice is given that Bart Burdick, HC 73 Box 5036, Baker MT 58313-9706 has filed an application for a water permit to appropriate 1.8 cubic feet of water per second from Box Elder Creek located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 28 to irrigate 126 acres located in the SE $\frac{1}{4}$ Section 19, W $\frac{1}{2}$ SW $\frac{1}{4}$ Section 28 and N $\frac{1}{2}$ NE $\frac{1}{4}$ Section 32; all in T23N-R1E.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1791-1 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 the 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 the 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 May 12, 2003.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

RECEIVED

MAY 07 2003

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

) SS

County of Harding)I, Shirley Rehmcertify that the attached printed Notice was
takenfrom the Nation's Center Newsprinted and published in Spearfish, SDCounty of Lawrence and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

April 24, 2003May 1, 2003Cost of Printing \$30.04Shirley Rehm
(Signature)Acts Receivable Clerk
(Title)5/6/03

(Date Signed)

NOTICE OF APPLICA-
TION NO. 1791-1 to
Appropriate Water

Notice is given that Bart Burdick, HC 73 Box 5036, Baker Mt 58313-9706 has filed an application for a water permit to appropriate 1.8 cubic feet of water per second from Box Elder Creek located in the NW1/4 SW1/4 Section 28 to irrigate 126 acres located in SE1/4 Section 19, W1/2 SW1/4 Section 28 and N1/2 NE1/4 Section 32, all in T23N-R1E.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1791-1 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 the 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 the 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 May 12, 2003.

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

Water Rights Program address to request copies of information pertaining to this application: Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

#646
April 24, May 1

WATER RIGHT PROGRAM
SOUTH DAKOTA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

FACSIMILE TRANSMITTAL SHEET

TO: Nation's Center News	FROM: Eric Gronlund
COMPANY: c/o Black Hills Pioneer	DATE: 7/18/2003
FAX NUMBER: 642-9060	TOTAL NO. OF PAGES INCLUDING COVER: 3
PHONE NUMBER:	SENDER'S TELEPHONE NUMBER: (605) 773-3352
RE: Water permit publication notice	SENDER'S FAX NUMBER: (605) 773-4068

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ AS YOU REQUESTED

NOTES/COMMENTS:

Here is a notice on a water permit application to be published in the Nation Center News on July 24 and 31, 2003. If you recall this notice was published last April but is being public noticed again because of an error in the legal description. The error was the fault of the Water Rights Program.

I am sending this to the Black Hills Pioneer's fax number because it is my understanding that you now publish the Nation's Center News. If this is incorrect, please let me know. Thanks

A hardcopy of this is also being sent to you via US Mail.

Eric Gronlund
Water Rights Program, DENR

WATER RIGHTS PROGRAM
JOE FOSS BUILDING
523 E. CAPITOL AVE.
PIERRE, SD 57501



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 18, 2003

Nation's Center News
PO Box 7
Spearfish SD 57783

ATTENTION: Legal Public Notice

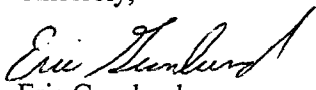
Enclosed is a Notice of Hearing on Application No. 1791-1 to Appropriate Water to be published twice. Please publish the first notice on July 24, 2003 with the second publication 7 days later.

Please BILL the Water Rights Program for the cost of publication.

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** 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

-----CUT HERE-----

No. 1791-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of July 18, 2003 enclosing Notice of Hearing to Appropriate Water by Application No. 1791-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



July 18, 2003

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

Bart Burdick
HC 73 Box 5036
Baker MT 59313-9706

Dear Mr. Burdick:

The legal notice on Water Permit Application No. 1791-1 published in the Nation's Center News was not correct. The location of the acres to be irrigated were incorrectly published as located in the SE ¼ Section 19, W ½ SW ¼ Section 28 and N ½ NE ¼ Section 32; all in T23N-R1E. The correct location is the SE ¼ Section 29, W ½ SW ¼ Section 28 and N ½ NE ¼ Section 32; all in T23N-R1E.

As a result of the error, the Notice of Application No. 1791-1 to Appropriate Water needs to be readvertised in the Nation's Center News. The readvertisement is needed to ensure the permit is free from legal problems due to inaccurate public notice. The information needed to readvertise the notice is enclosed. The Water Rights Program will pay the cost of this publication.

We are sorry for any inconvenience this delay may cause. If you have any questions, please contact me.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

c: Nation's Center News

Instruction to Newspaper - Publish first Notice on July 24, 2003 with the second publication 7 days later.

NOTICE OF APPLICATION NO. 1791-1 to Appropriate Water

Notice is given that Bart Burdick, HC 73 Box 5036, Baker MT 58313-9706 has filed an application for a water permit to appropriate 1.8 cubic feet of water per second from Box Elder Creek located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 28 to irrigate 126 acres located in the SE $\frac{1}{4}$ Section 29, W $\frac{1}{2}$ SW $\frac{1}{4}$ Section 28 and N $\frac{1}{2}$ NE $\frac{1}{4}$ Section 32; all in T23N-R1E.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1791-1 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 the 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 the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by August 11, 2003.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Affidavit of Publication

STATE OF SOUTH DAKOTA)

COUNTY OF HARDING

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

Notice of Application No. 1791-1

a printed copy of which is hereto attached, was printed and published in said newspaper for 2 successive and consecutive weeks, the first publication being made on the 24th day of July, 2003, and the last publication on the 31st day of July, 2003, that the full amount of fees charged for publishing same, to-wit: The sum of \$ 3326, insures solely to the benefit of the publisher of the NATION'S CENTER NEWS, that no agreement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

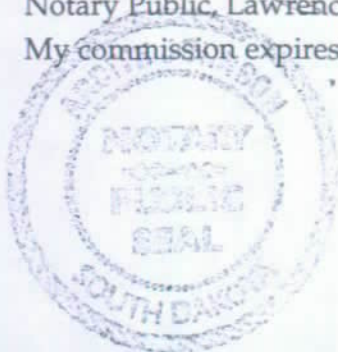
Stewart Huntington

Subscribed and sworn to before me this 31st day of July, 2003.

Adith Johnson

Notary Public, Lawrence County, South Dakota

My commission expires: 10-24-2004



NOTICE OF APPLICATION NO. 1791-1 to Appropriate Water

Notice is given that Bart Burdick, HC 73 Box 5036, Baker MT 58313-9706 has filed an application for a water permit to appropriate 1.8 cubic feet of water per second from Box Elder Creek located in the NW 1/4 SW 1/4 Section 28 to irrigate 126 acres located in the SE 1/4 Section 29, W 1/2 SW 1/4 Section 28 and N 1/2 NE 1/4 Section 32; all in T23N-R1E.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1791-1 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 the 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 the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting his 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 Capi-

tol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by August 11, 2003.

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. Pirmer, Secretary, Department of Environment and Natural Resources.

#689

July 24, 31

RECEIVED

AUG - 8 2003

WATER RIGHTS PROGRAM

PAYMENT REQUEST FORM

PAYEE: Nation's Center News
PO Box 7
Spearfish, SD 57783

FROM: Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Publication of Notice of Hearing for Application #1791-1 Bart Burdick

AMOUNT: \$33.26

FUNDING SOURCE:

GENERAL: X

FEDERAL:

COMMENTS:

AUTHORIZATION:

Bart Burdick

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct. I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.

**P.O. Box 7
Spearfish, South Dakota 57783
(605) 642-2761**

Water Rights Program
Joe Foss Building
Pierre, SD 57501-3181

July 2003

AMOUNT PAID

[illegible]

RECEIVED

AUG - 8 2003

WATER RIGHTS
PROGRAM



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

April 17, 2003

Dave Ripley
North Dakota State Water Commission
900 E. Boulevard
Bismarck ND 58505-0850

Dear Mr. Ripley:

Please find enclosed a copy of the report, recommendation and public notice for South Dakota Water Permit Application No. 1791-1 filed by Bart Burdick. The notice is scheduled to be public noticed on April 24 and 31, 2003 in the Nation Center News which is the legal newspaper in Harding County, South Dakota. Petitions to intervene to cause a hearing before the Water Management Board must be filed by May 12, 2003.

If you have any question on the application, please feel free to contact Don Stroup or myself.

Sincerely,

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

enclosure



Office of the State Engineer
WATER APPROPRIATION DIVISION
(701) 328-2754

RECEIVED
MAY - 8 2003
WATER RIGHTS
PROGRAM

May 5, 2003

Mr. Garland Erbele, Chief Engineer
Water Rights Program
Foss Building
523 East Capitol
Pierre, SD 57501

RE: Water Permit Application No. 1791-1, Bart Burdick

Dear Mr. Erbele:

The purpose of this letter is to provide comments regarding South Dakota Water Permit Application No. 1791-1 filed by Bart Burdick. This application requests an appropriation of 1.8 cfs from Box Elder Creek in the SW 1/4 of Section 28, T23N, R1E, for the irrigation of 126 acres. We are concerned that the proposed appropriation may unduly impact an existing water permit on Box Elder Creek in North Dakota.

Perfected Water Permit No. 352, held by Scott Bradac, authorizes an annual appropriation of 160.0 acre-feet of water from Box Elder Creek at a pumping rate of 1,700 gallons per minute for the irrigation of 104.0 acres. The points of diversion are located in the SW 1/4 of Section 29, T129N, R106W and the NE 1/4 of Section 32, T129N, R106W, Bowman County, North Dakota. Perfected Water Permit No. 352 has a priority date of July 24, 1950.

The report for Water Permit Application No. 1791-1 that was provided to us states that "sufficient water should be available in Boxelder Creek during normal and greater stream flow conditions during the May 1 through October 31 annual period for the proposed project," based on USGS historical data for the Little Missouri River, which has similar characteristics to Box Elder Creek. However, review of the historical data provided in the report for the Little Missouri River indicates that in drier years, flows in Box Elder Creek may not be sufficient to support the proposed appropriation without jeopardizing the availability of water to Perfected Water Permit No. 352 in North Dakota. The data

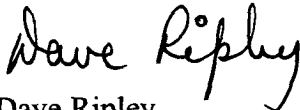
Mr. Erbele
May 5, 2003
Page 2

provided in Table 1 of the report indicates that in July, the 25th percentile monthly median flow is only 6 cfs and that in August, September, and October, the 25th percentile monthly median flow is only 2 cfs. The proposed appropriation in addition to Perfected Water Permit No. 352 represents a total demand of 5.6 cfs.

The USGS also operated a gaging station on Box Elder Creek at Webster, Montana (USGS gage #06334630) from October, 1960 through September, 1973. This gage was located just west of the South Dakota-Montana border. Over the 13-year period of record at the gage, the median flow in August was only 4 cfs, the median flow in September was 4.7 cfs, and the median flow in October was only 4 cfs. This data further indicates that during the late summer and early fall months flows in Box Elder Creek may not be sufficient to support both the proposed appropriation and Perfected Water Permit No. 352 in many years.

We ask that the potential impacts to Perfected Water Permit No. 352 be considered in the evaluation of Water Permit Application No. 1791-1. Thank you for notifying us of this application and giving us the opportunity to provide comments. If you have any questions regarding this matter, please contact Karen Goff at (701) 328-2754.

Sincerely,



Dave Ripley
Director, Water Appropriation Division

DR:KG:mb

Cc: Bart Burdick
Scott Bradac



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

May 20, 2003

NOTICE

TO: Bart Burdick
HC 73 Box 5036
Baker MT 59313

Dave Ripley, Director
Water Appropriation Division
Office of the State Engineer
900 E. Boulevard
Bismarck ND 58505

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Notice of Hearing on Water Permit Application No. 1791-1, Bart Burdick

A letter has been submitted by the North Dakota Office of the State Engineer regarding Water Permit Application No. 1791-1 filed by Bart Burdick. The petition was filed in response to the Notice of Application to appropriate water published April 24 and May 1, 2003 in the Nation's Center News. This letter which provides comments regarding Application No. 1791-1 constitutes a petition which causes a hearing to be held before the Water Management Board.

As specified in the publication notice, the application proposes to appropriate 1.8 cubic feet of water per second from Box Elder Creek located in the NW ¼ SW ¼ Section 28 to irrigate 126 acres located in the SE ¼ Section 19, W ½ SW ¼ Section 28 and N ½ NE ¼ Section 32; all in T23N-R1E.

The Water Management Board will conduct a hearing to consider Application No. 1791-1 at 10:00 AM, on Thursday, July 10, 2003, in the Conference Room, Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD 57501. Pursuant to SDCL 46-2-9, 46-2-11, and 46-2A-23, the Board has legal authority and jurisdiction to conduct this hearing. The hearing time is an estimate and may be delayed due to prior agenda items. Future notice will be provided to all parties if there is a change in the hearing date or time.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1791-1 with conditions intended to protect downstream prior rights because 1) there is a reasonable probability that there is unappropriated water 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 is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the evidence presented at the public hearing.

The July 10, 2003, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by June 27, 2003.

This hearing may be an adversarial proceeding. Any party of record and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Notice is further given to persons with disabilities that this hearing is being held in a physically accessible place and that interpreter services will be provided, upon request, during the hearing. Please notify Eric Gronlund at (605) 773-3352 by June 27, 2003, if you have any questions about the hearing process or have special needs for which the department will make arrangements.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-23; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

c: Diane Best, Assistant Attorney General

NOTE: Based on South Dakota Codified Law 1-26-17, 1-26- 18.3 and 1-26D-10, parties to all administrative contested cases must receive notice that if the amount in controversy exceeds two thousand five hundred dollars or if a property right may be terminated, any party may require the use of the Office of Hearing Examiners by giving notice of the request to the agency, no later than ten days after service of this notice of hearing. The matter at issue in this case does not, however, meet the criteria and the permit applicant and parties do not have the automatic right to a hearing examiner.

CERTIFICATION

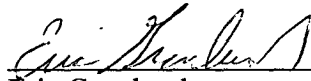
I hereby certify that on May 20, 2003 , I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 20, 2003 regarding Notice of Hearing on Water Permit Application No. 1791-1 addressed as stated below:

Bart Brudick
HC 73 Box 5036
Baker MT 59313

Dave Ripley, Director
Water Appropriation Division
Office of the State Engineer
900 E Boulevard
Bismarck ND 58505

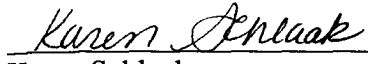
A copy of the above described Notice was sent Inter-office to:

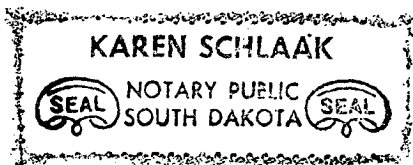
Diane Best, Assistant Attorney General, Capitol Building


Eric Gronlund
Natural Resource Engineer
Water Rights

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 20th day of May, 2003.


Karen Schlaak
Notary Public
My Commission expires April 1, 2007





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

AUG 28 2003

Bart Burdick
HC 73 Box 5036
Baker MT 59313-9706

Dear Mr. Burdick:

Enclosed is Water Permit No. 1791-1 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,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

Form 10

1791-1

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

Date 12-1-05

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

BART BURDICK
(name)2700 Webster Rd
(address)BAKER, MT 59313
(city, state, zip)406-775-6380
(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. 1791-1 states that the water use system is to be constructed by

8-11-2008
(date)

, and water is to be put to beneficial use by 8-11-2012
(date)

The water use system was completed on

4-05

(date)

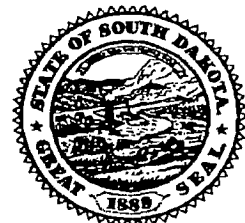
Applying the water to beneficial use was completed on

5-05

(date)

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

Bart Burdick
(signature)



1791-1

Burdick's

Bart & Maralee Burdick
Quentin, Lisa, & Halle Burdick
2700 Webster Road
Baker, MT 59313

Phone 406-775-6380 406-775-8805
Fax 406-775-6380

December 01, 2005

Water Rights Program, DENR
523 E Capitol
Pierre, SD 57501-3181

Attn: Genny McMath

Dear Genny,

In preparation to answer my 2005 Water Management Board Irrigation questionnaire, I found a notice of completion of works, I had received in August 2003. I should have completed this form in May of 2005 and returned it to the water rights program. I have now completed form #10 and it will be returned with my questionnaire.

I contacted the Gentleman that engineered and sold me the pivot system to help in answering the questionnaire. We again referred to the information I recieved on Aug. 28, 2003. I discovered in reviewing the permit and answering the questionnaire that we are under the two acre feet we are allowed to use in a year, but because of engineering, we pumped .5 cubic feet per second more than was requested.

Sincerely,



Bart Burdick

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 1791-1

I have this day, November 2, 2016 made a thorough examination of the water use system constructed by Bart Burdick, 2667 Webster Rd, Baker, MT 59313-9706, of Permit No. 1791-1, bearing priority of 4/1/2003 authorizing the diversion of 1.8 cu. ft. per second of water of Box Elder Creek for irrigation purposes in Harding County.

Inspection contact & relationship to permit holder : **Bart Burdick, owner**
406-775-6380

A. Works used to divert the water:

Pump:

- 1) Make Cornell
- 2) Model 4RBF16
- 3) Size 12.75" imp
- 4) Capacity 1,000 gpm

Power:

- 1) Source diesel
- 2) Horsepower rating 50+ hp

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

- 1) Type PVC pipe
- 2) Size 8 inches
- 3) Length 1,005 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make Valley 8000
- 2) Machine length 1317.2 feet
- 3) Number of towers 7 End Gun No
- 4) Capacity 1,000 gpm
- 5) Acres 125.3

D. Chemigation Equipment:

- 1) Does chemigate: no

E. Compliance with Permit Requirements:

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

F. Condition and Location:

1. The system is in good condition with the point of diversion located as follows:
2,045' N and 185' E of the SW corner Section 28 T23N R1E (45.927160, - 104.016349).

2. The works are capable of diverting and conveying to the place of use 2.23 cu. ft. per second of water (1,000 gpm) which is to be used for sprinkler irrigation. Water has been put to beneficial use to the maximum extent as follows:

<u>Section 29 T23N R1E</u>	<u>Section 28 T23N R1E</u>	<u>Section 32 T23N R1E</u>	<u>Section 33 T23N R1E</u>
NW ¼ SE ¼ 5.2 acres	NW ¼ SW ¼ 2.8 acres	NW ¼ NE ¼ 3.5 acres	NW ¼ NW ¼ 1.5 acres
NE ¼ SE ¼ 20.0 acres	SW ¼ SW ¼ 15.2 acres	NE ¼ NE ¼ 15.5 acres	
SW ¼ SE ¼ 21.6 acres			
SE ¼ SE ¼ 40.0 acres			

comprising a total of 125.3 acres of land and the license should be issued for 1.8 cfs.

All structures, wells and lands on map: Yes

G. Comments or other permits associated with the project:

The license is issued for 1.8 cfs which is the statutory limit based on 1 cfs for each 70 acres.



Steven Quissell
 Water Rights Inspector
 DENR, Water Rights Program

Date report completed: 11/3/2016



pivot at distance



Valley pivot

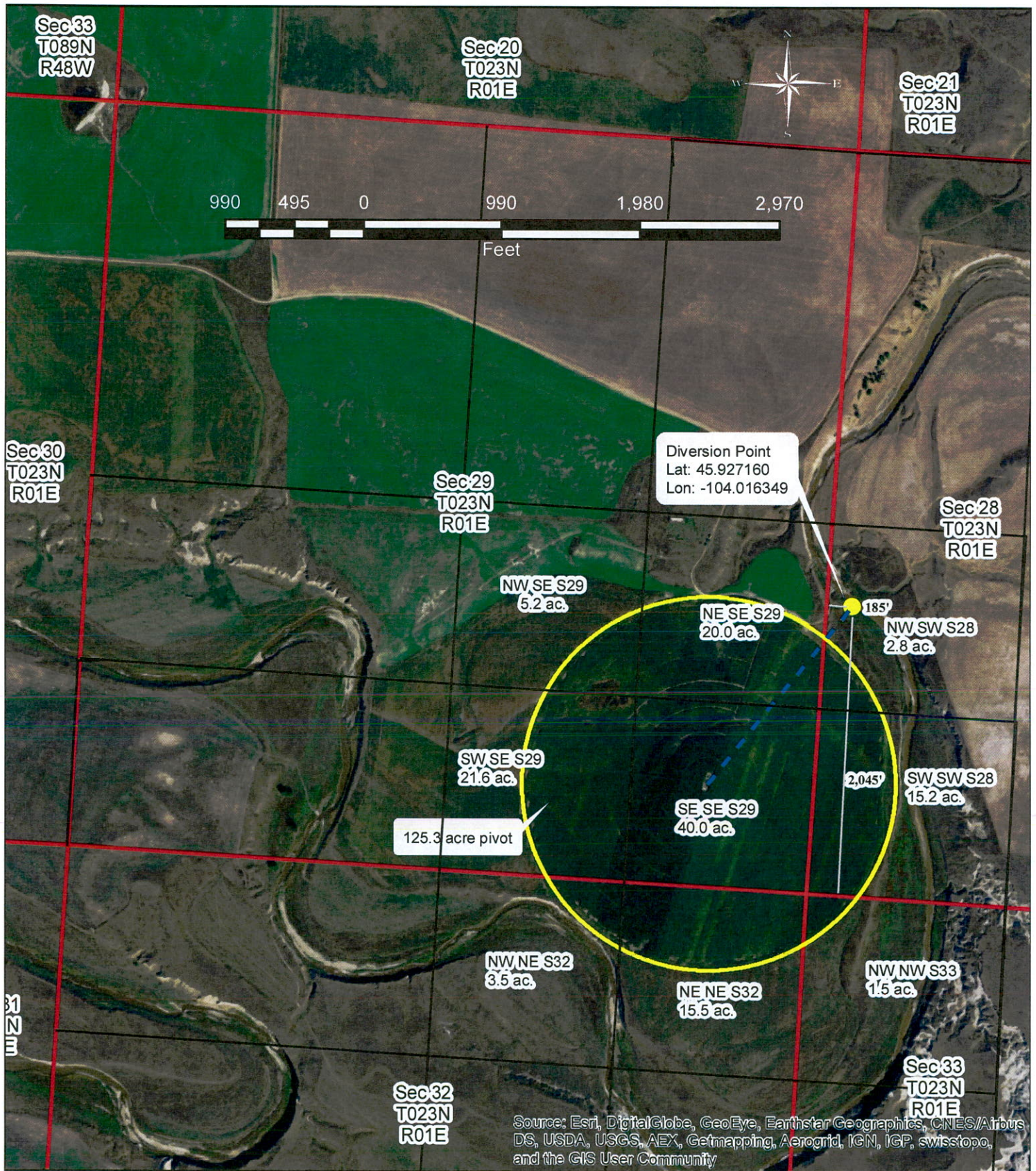


trailer mounted pump



Box Elder creek downstream of pump site 11/2/16

Water Right #1791-1
Bart Burdick
11/2/2016



Steven Quissell

Steven Quissell
Water Rights Inspector
DENR Water Rights Program



Licensing of Acreage Outside of Permitted Area

NAME: Bart Burdick

ADDRESS: 2667 Webster Rd, Baker MT 59313

DATE: November 8, 2016 **COUNTY:** Harding **TELEPHONE:** (406) 775-6380

AUTHORITY

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

NO INCREASE IN PERMITTED ACREAGE OR WATER APPROPRIATED:

The acreage developed for irrigation is 125³/₃ acres as compared to 126 acres authorized by the permit.

UNPERMITTED ACREAGE:

- **Contiguous to Permitted Acreage**

All in T023N-R01E:

SW¹/₄ SW¹/₄ Section 28 4.2 acres

NE¹/₄ NE¹/₄ Section 32 7.5 acres

NW¹/₄ NE¹/₄ Section 32 1.5 acres

NW¹/₄ NW¹/₄ Section 33 1.5 acres

- **Owned by Same Property Owner**

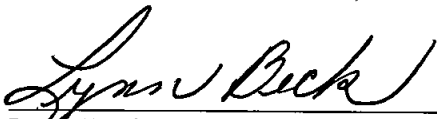
YES

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

YES

RECOMMENDED ACTION

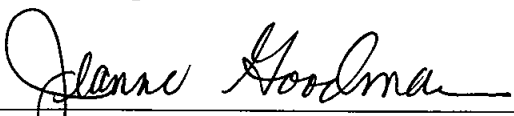
Based on the above criteria, it is recommended that the 14.7 acre area be included in the water license.



Lynn Beck, Natural Resources Engineer III
Water Rights Program

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

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



Jeanne Goodman, Chief Engineer
Water Rights Program

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1791-1

(1) Bart Burdick, 2667 Webster Rd, Baker MT 59313-9706 made Application No. 1791-1, April 1, 2003 for a water permit to divert 1.8 cubic feet of water per second from Box Elder Creek, Harding County, South Dakota for irrigation purposes. Permit No. 1791-1, with a priority date of April 1, 2003 was approved August 11, 2003 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before August 11, 2008 and for the application to beneficial use of water on or before August 11, 2012.

An investigation conducted for licensing purposes found acreage developed for irrigation outside of the area described on the permit. Pursuant to SDCL 46-5-30.5, the Chief Engineer makes a finding that existing water rights will not be impaired and the overall project, as developed, is consistent with the original application.

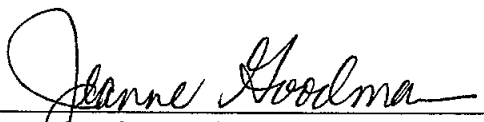
(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owners of Water Right No. 1791-1 is issued a license, bearing a priority date of April 1, 2003 to appropriate 1.8 cubic feet of water per second from Box Elder Creek to irrigate 125.3 acres.

The diversion point is located: 2,045 feet N and 185 feet E of the SW corner Section 28-T23N-R1E (NW 1/4 SW 1/4). The acres authorized for irrigation are as follows:

<u>Sec 29-T23N-R1E</u>	<u>Sec 28-T23N-R1E</u>	<u>Sec 32-T23N-R1E</u>	<u>Sec 33-T23N-R1E</u>
NW 1/4 SE 1/4 5.2 ac	NW 1/4 SW 1/4 2.8 ac	NW 1/4 NE 1/4 3.5	NW 1/4 NW 1/4 1.5 ac
NE 1/4 SE 1/4 20.0 ac	SW 1/4 SW 1/4 15.2 ac	NE 1/4 NE 1/4 15.5	
SW 1/4 SE 1/4 21.6 ac			
SE 1/4 SE 1/4 40.0 ac			
		Total 125.3 acres	

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 1791-1 including the following qualifications:

- Low flows as needed for downstream domestic use, including livestock water must be by-passed. Dewatering of the river is not allowed.
- The diversion of water shall be in accordance with any written orders issued by the Chief Engineer.
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year



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

JAN 30 2017

date





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

1791-1

JAN 30 2017

Bart Burdick
2667 Webster Rd
Baker MT 59313-9706

Dear Mr. Burdick:

Enclosed is Water License No. 1791-1. 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.

The investigation found your irrigation system is capable of diverting 2.23 cubic feet of water per second (cfs) which is equivalent to approximately 1000 gallons per minute. The statutory limit for irrigation of 125.3 acres is 1.8 cfs (equivalent to 810 gpm). Diversion of water under this water license is limited to 1.8 cfs.

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

Sincerely,

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

enclosures