

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONExam Date: 01/10/20241. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y ___ N

- a. X Irrigation of 5 acres or less
 b. ___ Storage of up to 14.6 AF for stockwater purposes only
 c. ___ Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less.
 d. ___ Other < >

2. Current Owner: **BRIANNE DIRKS**

Owner of Record Correct? ___ N

Address of Record Correct? ___ N

If No Explain:

3. Beneficial Use Fees have been paid: X Y ___ N Receipt No: N044276

4. Source: Tributary:

LAKE PEND OREILLE**PEND OREILLE RIVER**Method of Determination: Bonner County Maps, GIS, and Tax Parcel DataChange in Source: ___ Y X N**B. OVERLAP REVIEW**1. Other water rights with the same place of use: X No Overlap

Water Right No.	Source	Purpose of Use	Basis
96-7011	LAKE PEND OREILLE	MUNICIPAL	ADJ CLAIM
96-8953	LAKE PEND OREILLE	MUNICIPAL	LICENSE

Comments: Only the municipal service areas for claim 96-7011 and right 96-8953 overlap the permit place of use (POU).
There are no concerns regarding interactions between the irrigation permit under review and municipal rights/claims.

2. Other water rights with the same point of diversion: X NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: There are no rights sharing the permit point of diversion (POD).

C. DIVERSION AND DELIVERY SYSTEM

1. Location of Point(s) of Diversion:

Source	Govt. Lot	1/4	1/4	1/4	Sec.	Twp.	Rge.		County
Inlet in Lake to Pump			NE	SE	10	57N	01W	B.M.	BONNER

Method of Determination: GIS and Tax Parcel DataChange in POD? ___ Y X N Amendment Required? ___ Y X N2. Place of Use: **IRRIGATION**

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
57N	01W	10													0.4				0.4
		Lot #																	
Total Acres =																			0.4

Method of Determination: Bonner County Maps, GIS, and Tax Parcel Data

Change in POU? Y X N Amendment Required? Y X N Delivery System Diagram Attached (required). Indicate all major components and distances between components.X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be

1:24,000 or greater.

X Aerial Photo Attached (required for irrigation of 10+ acres).X Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Pump Model	Pump Make	Pump Serial No. or Discharge Size
Screened inlet in Lake	Unknown	1.5	FP5172-01	FLOTEC	Unknown

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE	NA	NA	NA	NA	NA	NA

2. Measurement Comments: The permit holder stated that the system uses a 1.5 Hp pump and curve. A maximum head of about 20 ft was estimated to the licensed POU using the DRG map.**E. FLOW CALCULATIONS** Additional Computation Sheets Attached

Measured Method:

A theoretical calculation and Administrative Memo #17 were used to determine a reasonable rate of diversion.

$$Q = (1.5\text{Hp})(8.8)(0.80 \text{ efficiency}) / (20 \text{ ft lift}) + (2.31) * (45 \text{ psi}) = 0.09\text{cfs}$$

Theoretical Calculation= 0.09cfs

Permit allowed = 0.02cfs

Recommendation= 0.01cfs

Comments:

Upon request the permit holder provided a description of the irrigated areas, approximately 0.4-acre total. The system was described as a 1 1/2 Hp pump to hose that runs to portable sprinklers used throughout the POU.Approximately 0.09cfs is possible with the 1 1/2 Hp pump. According to Administrative memo #17 up to 0.03cfs per acre is standard for the irrigation of up to 5 acres. Administrative memo #6 requires that the rate be reported for licensing rounded to hundredths place. I am recommending a diversion rate of 0.01cfs for the license.**F. VOLUME CALCULATIONS**

1. Volume Calculations for Irrigation:

$$V_{\text{I.R.}} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.4\text{-acre} \times 3.0 \text{ AF} = 1.2 \text{ AF}$$

$$V_{\text{D.R.}} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.01\text{cfs} \times 214 \text{ days} \times 1.9835 = 4.2\text{AF}$$

$$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 1.2 \text{ AF}$$

Comments:

I am recommending an annual volume of 1.2 AF on the license, as per the standard headgate calculation above.**G. PURPOSE OF USE**Irrigation X Y N # Stock NA Domestic # of Homes NA

Change in Purpose of Use? Y XNMethod of Determination: Bonner County Maps, GIS, and Tax lot Data**H. NARRATIVE/REMARKS/COMMENTS**

This permit for the irrigation of 0.6 acres qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use, received by IDWR on December 28, 2023, stating in section #3 that the beneficial use was developed for 0.6 acres of irrigation. I was able to confirm approximately 0.3 acres irrigation was developed using aerial imagery, so I called the permit holder (no answer, left VM) on January 10, 2024, requesting additional information including a map of the area development and a system diagram. An email was received from the permit holder explaining that the system was a 1 ½ Hp pump delivering water from the dock through a hose to a portable sprinkler. The area irrigated area is described by the permit holder as all the grassy areas not under tree cover visible in the aerial image attached to the emailed response. Review of Bonner County aerial imagery was used to measure and confirm the suggested total irrigated area of 0.4 acres (see figures 1 & 2).

After reviewing the permit holder's response to the information request an area of approximately 0.4 acres of irrigation could be confirmed (figure 3). A theoretical calculation confirmed that the pump can provide the 0.02cfs rate on the permit. However, as the place of use is approximately 0.4 acre in area, I am recommending the license be issued with a rate of 0.01cfs (as per Administrative Memos #17 and 6) and an annual volume of 1.2 AF.

I am recommending the license be issued with conditions 004, and X31. Condition 029 was removed at licensing as the permit holder confirmed there is a screen installed at the intake, and no comment was ever received from IDFG.

Have conditions of permit approval been met? X Yes No**I. RECOMMENDATIONS**

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 TO 10/31	0.01CFS	1.2 AF
	<u>Totals:</u>	0.01CFS	1.2 AF

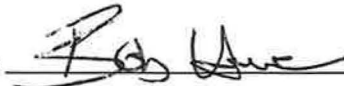
2. Recommended Amendments:

 Change P.D. as reflected above Add P.D. as reflected above XNone Change P.U. as reflected above Add P.U. as reflected above XNone

Other: < >

J. AUTHENTICATION- Bob Howe- Water Resource Agent

Field Examiner's



Date

2/29/2024

Reviewer



Date

3/1/24

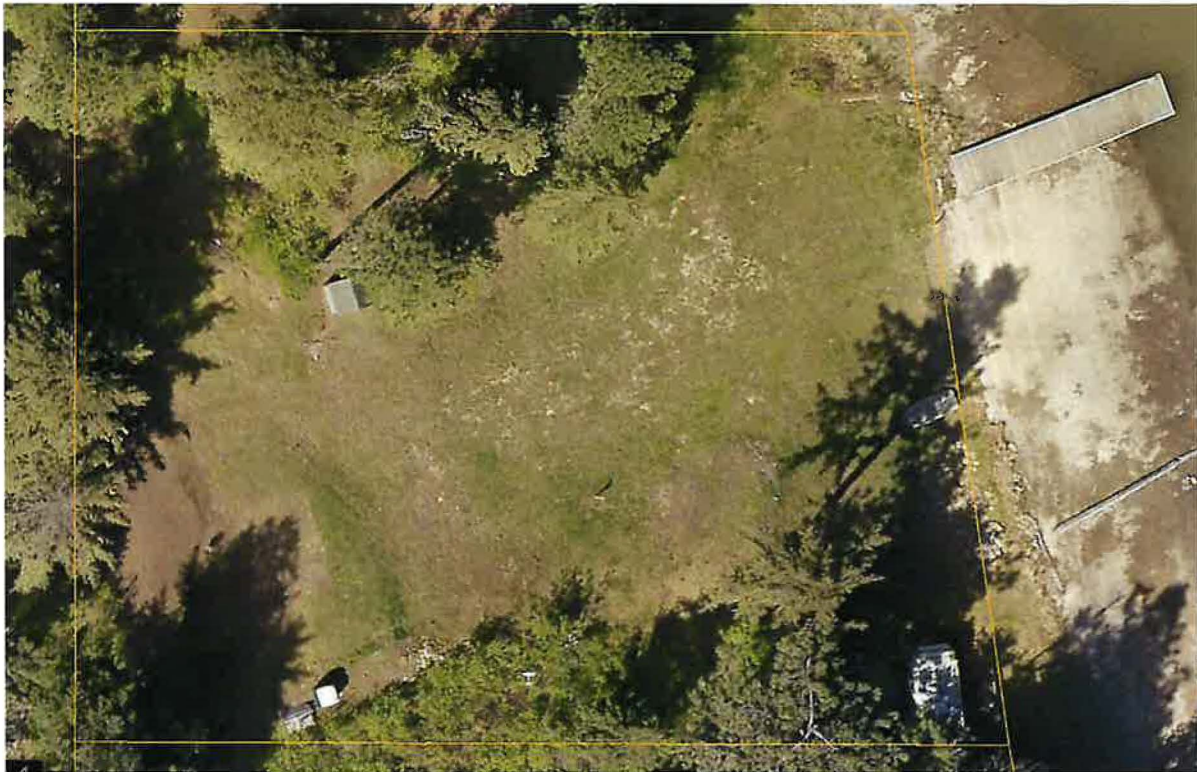


Figure 1- Bonner County GIS imagery- appurtenant parcel (boundary in yellow).



Figure 2- Bonner county GIS imagery- Approximated measurement of areas watered.

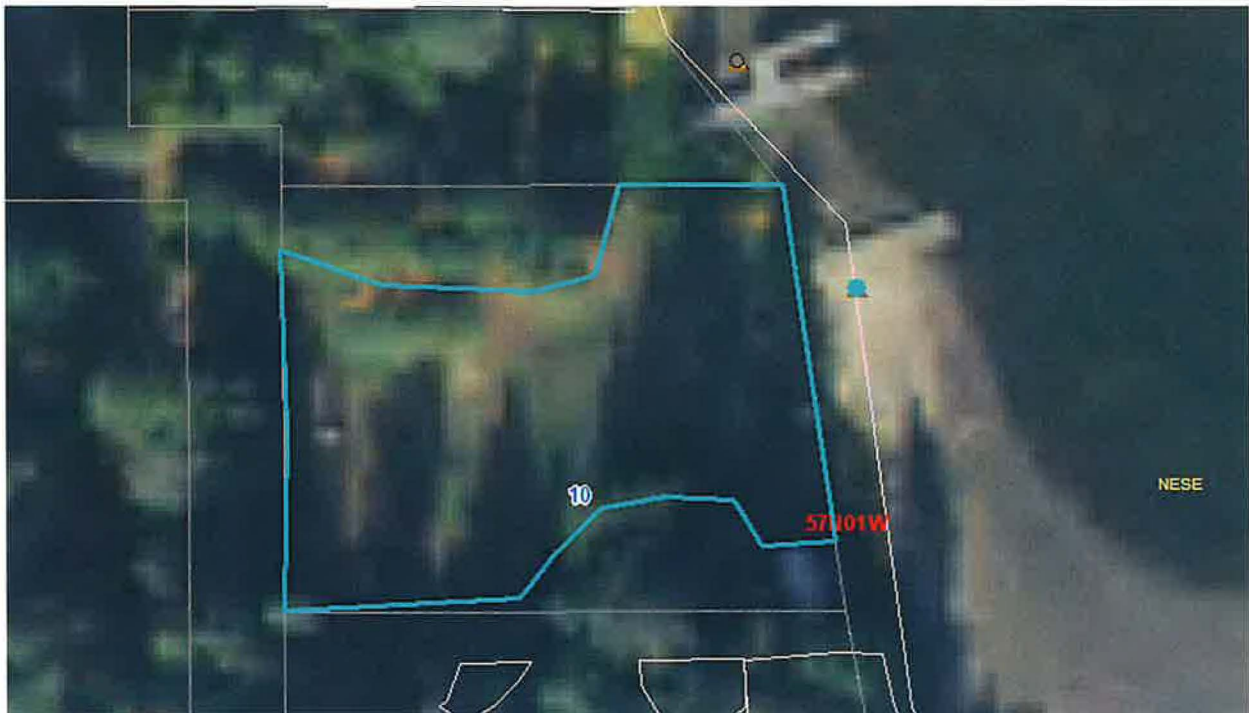


Figure 3- GIS Aerial image of the Irrigation POU (outlined in blue) and the POD (blue point).