

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

A. GENERAL INFORMATION

Exam Date: 03/05/2023

1. 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: **VALENCIA WETLAND MANAGEMENT LLC**Owner of Record Correct? NAddress of Record Correct? N

If No Explain:

3. Beneficial Use Fees have been paid: X Y N Receipt No: N044202

4. Source: Tributary:

GROUND WATER**NA**Method of Determination: GIS Wellsite Data, 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
97-7218	SPRING	IRRIGATION	LICENSE

Comments: Right 97-7218 has 1/2 acre of irrigation within the SWNW of Gov Lot 2. The permit POU has 1 acre of irrigation in the SWNW of Gov Lot 2. However, the irrigation right and permit have different sources and based on the permit place of use (POU) boundary, the area where any overlap could occur is within a parcel owned by the permit holder or a county roadway. Additionally, the recommended license POU area does not fall within any neighboring irrigable land diminishing any likelihood of overlap.

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	¼	¼	¼	Sec.	Twp.	Rge.		County
Ground Water	3		NW	SW	19	56N	04W	B.M.	BONNER

Method of Determination: GIS Well Data and Tax Parcel DataChange in POD? Y X N Amendment Required? Y X N

2. Place of Use: IRRIGATION / DOMESTIC

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	04W	19								0.6									0.6
56N	04W	19								D									
Total Acres =																			0.6

Method of Determination: Bonner County Maps, GIS, and Tax Parcel DataChange in POU? Y X N Amendment Required? Y X N

- ☒ Delivery System Diagram Description Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.(information included with application was confirmed)
- ☒ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☒ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☐ Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0056753	Unknown	1.0	Unknown	Unknown	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 the well has a 1.0 Hp submersible pump. An elevation gain of about 60 ft was estimated using the DRG map and the well drillers report states the well to be 160ft total depth (static water 2') with the permit holder reporting the pump is down hole.

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.

$$Q = (1.0\text{Hp})(8.8)(0.90 \text{ efficiency}) / (120 \text{ ft lift}) + (2.31)(40 \text{ psi}) = 0.04 \text{ cfs}$$

Theoretical Calculation= 0.04cfs

Permit allowed = 0.16cfs

Recommendation= 0.04cfs

Comments:

The permit holder submitted a system diagram, which outlined the boundary of the irrigated area, approximately 0.6 acre (including the greenhouse). The system was described as a 1 1/4" PVC pipe line from the wellhead to the pole barn where there is a pressure tank. From the pole barn there are 2 pipelines, one 1 1/4" PVC to the Greenhouse and a 1 1/4" PVC to the home. Garden Hoses and sprinklers are attached to hose bibs at the greenhouse, pole barn, and home for watering the garden and within the greenhouse and the lawn and plants around the home and pole barn. Including a small greenhouse along side of the pole barn.

Approximately 0.04 cfs is possible with the 1.0 Hp pump. According to Administrative memo #17 up to 0.03 cfs per acre is standard for the irrigation of up to 5 acres. I am recommending a rate of 0.02 cfs for irrigation on the license. The standard rate for domestic use in 1 home is 0.04 cfs, as per Administrative Memo #22. I am recommending a total combined diversion rate of 0.04 cfs on the license (limited by the system output).

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.6 \text{ acre} \times 3.0 \text{ AF} = 1.8 \text{ AF}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02\text{cfs} \times 213 \text{ days} \times 1.9835 = 8.5 \text{ AF}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 1.8 \text{ AF}$$

Comments:

The headgate calculation above was used to determine an annual volume of 1.8 AF for irrigation. The standard annual volume for 1 domestic home with separate irrigation is 0.6 AF, as per Administrative Memo #22. I am recommending a total annual volume of 2.4 AF on the license.

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock ☐ NA Domestic # of Homes ☐ 1

Change in Purpose of Use? ☐ Y ☒ N

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

H. NARRATIVE/REMARKS/COMMENTS

This permit for the irrigation of 0.6 acres and domestic use in one home qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use, received by IDWR on November 15, 2023, stating in section #5 that the beneficial use was developed 2 acres of irrigation and 1 domestic home. I was only able to confirm approximately 0.6-acre of irrigation (including a greenhouse) was developed using aerial imagery (see figures 2 & 3), so I called the permit holder on December 8, 2023, requesting that he identify the structures in imagery emailed to him, and a system diagram. The permit holder provided an outline of the irrigated areas, identified which structure is the home, and some system details (Figure 1). However, an additional phone call was necessary to confirm a total of 0.6-acre of irrigation could be supported within the POU submitted by the permit holder and 2023 GIS imagery (see figures 1 & 3).

I am recommending the license be issued for a rate of 0.02 cfs and an annual volume of 1.8 AF for irrigation, as per Administrative Memo #17. One home was identified in the POU. I am recommending the license be issued with the standard rate of 0.04 cfs for domestic use, as per Administrative Memo #22.

A theoretical calculation was used to determine a maximum 0.04cfs rate is possible for a 1 Hp submersible pump. I am recommending the license be issued with a total combined rate of 0.04 cfs (limited by the system description) and conditions 132, 01M, X31, and 004. Condition r66 was replaced with condition X31 at licensing, as the irrigated area is less than 1 acre. Condition 046 was removed at licensing as the development is complete.

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	0.02 CFS	1.8 AF
DOMESTIC	01/01 TO 12/31	0.04 CFS	0.6 AF
<u>Totals:</u>		0.04 CFS	2.4 AF

2. Recommended Amendments:

Change P.D. as reflected above Add P.D. as reflected above X None

Change P.U. as reflected above Add P.U. as reflected above X None

Other: < >

J. AUTHENTICATION- Bob Howe- Water Resource Agent

Field Examiner's Bob Howe Date 4/02/24

Reviewer pk Date 4/11/24



Figure1- System diagram emailed by permit holder. Includes the domestic location and the system layout.



Figure 2- Bonner County GIS-2022 Imagery- Measurement of areas irrigated.

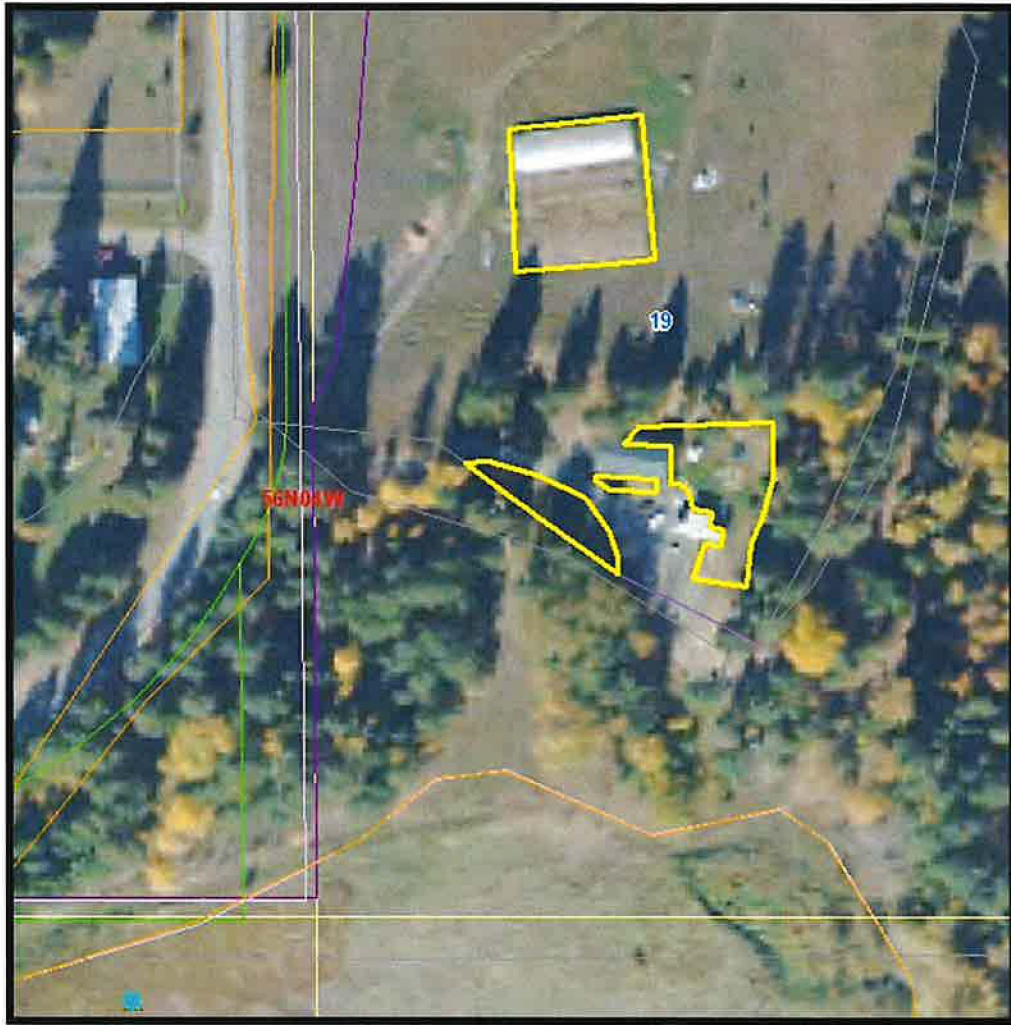


Figure 3- GIS 2023 Imagery-Irrigation POU is outlined in yellow. Includes greenhouse and garden to the north, as well as lawn around the home and plants around the pole barn (with other small green house). The wellhead (POD) is represented by the light blue point in the southwest corner of the image.