

2. 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	
58N	01W				0.1											0.1			0.2
		Lot #																	
Total Acres =																			0.2

Method of Determination: GIS, Tax Parcel Data, 2023 Bonner County Aerial Imagery, and a phone conversation with the permit holder on January 9th, 2023. A portion of the place of use, in the SWNE Quarter/Quarter, is not authorized on the permit. Therefore, an amendment is required to change the legal description of the place of use to include the SWNE Quarter/Quarter.

Change in POU? X Y N Amendment Required? X Y N

 Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

X Aerial Photo Attached, including the location of POD/POU (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
		1		Wayne	

*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
N/A						

2. Measurement Comments: The permit holder provided a pump horsepower of 1 and a lift of 1 ft was determined using Google Earth. Therefore, a diversion rate calculation is possible.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: Since the permit holder provided a pump horsepower of 1 and a lift of 1 ft was determined a diversion rate calculation was possible. According to the calculation the system can handle 0.07 cfs with a 40-psi discharge pressure. According to Administrative Processing Memo #17 the standard diversion rate per acre for irrigation of less than 5 acres is 0.03 cfs/acre, 0.2 acres * 0.03 cfs/acre = 0.006 cfs or 0.01 cfs rounded. The permit authorized 0.03 cfs. I am recommending a 0.01 cfs diversion rate.

$$Q = (1 \text{ Hp}) (8.8) (70\% \text{ efficiency}) / (1 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.07 \text{ cfs}$$

Measurement = 0.07 cfs

Permit allowed = 0.03 cfs

F. VOLUME CALCULATIONS

2. Volume Calculations for Other Uses: According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.viii if a permit authorizes irrigation diverting from a naturally flowing stream/river or spring a diversion volume is not required at licensing.

G. PURPOSE OF USE

Irrigation X Y N # Stock N/A Domestic # of Homes N/A

Change in Purpose of Use? Y X N

H. NARRATIVE/REMARKS/COMMENTS

This permit qualifies for an in-office examination. According to Tax Parcel Data the property was developed in 1947. The permit authorized 1 acre of irrigation. However, after reviewing 2023 and 2022 Bonner County Aerial Imagery it seemed roughly 1.7 acres of yard and garden irrigation occurred within and outside the authorized place of use. The permit holder was contacted on January 9th, 2023. They stated the majority of the greenery is caused by a high-water table, the property being within a low-lying area directly and being adjacent to the Pack River and Rapid Lightning Creek. The permit holder confirmed two garden areas were irrigated with Pack River water. Pairing the permit holders' statement and 2023 Bonner County Aerial Imagery 0.2 acres of irrigation were confirmed. A portion of the place of use is outside the authorized place of use on the permit, within the NWSE Quarter/Quarter. 0.1 acres were within the SWNE Quarter/Quarter. Therefore, an amendment is required to add the SWNE Quarter/Quarter to the legal description of the place of use.

According to the Statement of Completion for Proof of Beneficial Use a fish screen was installed and maintained with a mesh size of ¼ in or smaller at the point of diversion. Since the permit holder provided a pump horsepower of 1 and a lift of 1 ft was determined using Google Earth, a diversion rate calculation was possible. According to the calculation the system can handle 0.07 cfs with a 40-psi discharge pressure. The standards set in Administrative Processing Memo #17 were used to make a diversion rate recommendation. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.viii a diversion volume is not required at licensing if the permit authorized irrigation diverting from a naturally flowing stream/river or spring. All of the conditions have been met and it was confirmed a beneficial use was developed but not completely within authorization on the permit without amendment. Therefore, I am recommending a 0.01 cfs diversion rate.

Conditions 004, X15 and X16 should remain on the license. Condition R66 should be changed to X31 because irrigation is less than 1 acre. All other conditions should be removed as standard with licensing.

Have conditions of permit approval been met? ☒ Yes ☐ No

I. RECOMMENDATIONS

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>
Irrigation	04/01-10/31	0.01 CFS
<u>Totals:</u>		0.01 CFS

2. Recommended Amendments:

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☒ Add P.U. as reflected above ☐ None

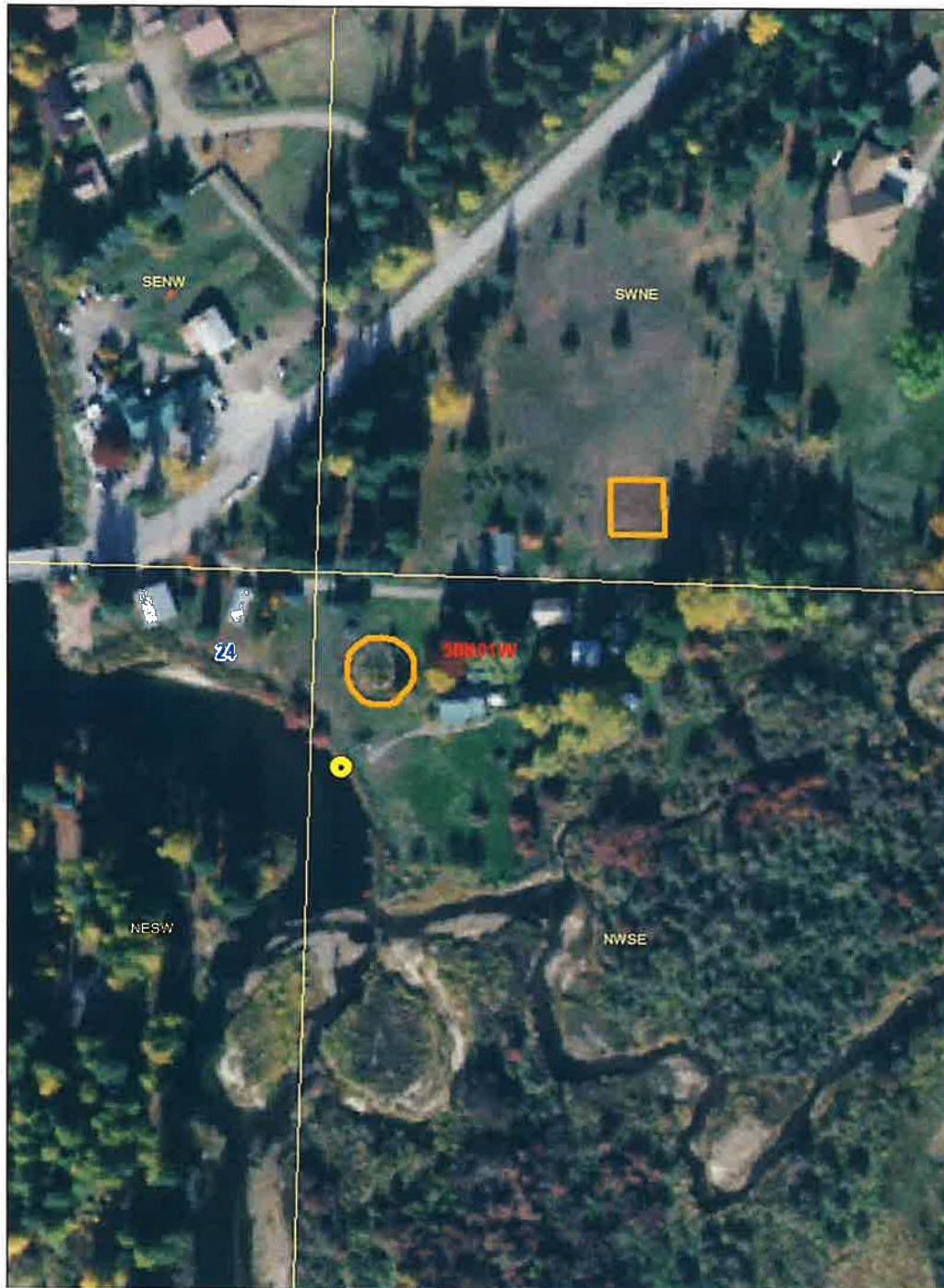
J. AUTHENTICATION

Field Examiner's  Date 1/10/2024

Reviewer  Date 4/10/24

Field Exam Map

Map showing the authorized point of diversion (yellow point) and irrigated place of use (orange outline).



2023 Bonner County Aerial Imagery

Imagery and statements from the permit holder confirmed 0.2 acres of irrigation occurred within the development period.

96-12371 Irrigation Map



1/10/2024

Road Centerlines

- Primary
- Secondary
- Local; Ramp

Parcels

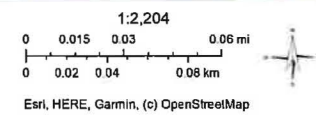
- World Boundaries and Places
- World Imagery
- Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

60cm Resolution Metadata



THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-12371

Examiner: Skyler C.

Date of Field Exam: 1/9/2024

Option 1

P/D No.:

PUMP HORSEPOWER 1
BOOSTER HORSEPOWER 0

PUMPING LEVEL 1

DISCHARGE PRESSURE 40

FRICTION 0

RATE OF FLOW (cfs) 0.07
(gpm) 29.6

The above calculates the formula =

$$Q = \frac{8.8 * (\text{Efficiency}) * \text{hp}}{\text{depth to water} + 2.31 * (\text{psi}) + \text{friction}}$$

Assumptions: %70 efficiency.

Examiners Notes:

Lift was determined using Google Earth. Hp was provided by the permit holder on thier Statment of Completion for Proof of Benifical Use. A standard psi for domestic use of 40 to 60 psi was used to estimate the pressure against the pump.