

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

A. GENERAL INFORMATIONExam Date: 3/13/20241. 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: Diana Nelson

Owner of Record Correct? NAddress of Record Correct? N

If No Explain: N/A

3. Beneficial Use Fees have been paid: X Y N Receipt No: C117877

4. Source: Tributary:
Lake Pend Oreille Pend Oreille River

Method of Determination: GIS, Tax Parcel Data, and the permit holders Statement of Completion for Proof of Beneficial Use.Change 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
96-8431B	Lake Pend Oreille	Irrigation	License
96-8431A	Lake Pend Oreille	Irrigation	License

Comments: Water rights 96-8431A and 96-8431B overlap the proposed place of use according to GIS Data. However, after investigating the water right backfiles it was determined the water rights do not overlap.

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

Water Right No.	Source	Purpose of Use	Basis
N/A			

Comments: N/A**C. DIVERSION AND DELIVERY SYSTEM**

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Lake Pend Oreille	2		NW	NE	11	56N	01E	B.M.	Bonner
								B.M.	
								B.M.	

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

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	
56N	01E	11		0.2															0.2
		Lot #		2															
Total Acres =																			0.2

Method of Determination: GIS, Tax Parcel Data, and 2023 Bonner County Aerial Imagery.Change in POU? Y X N Amendment Required? Y X NDelivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

X 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
		1			

*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 15 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 15 ft was determined a diversion rate calculation was possible. The calculation determined the system can handle 0.06 cfs with a 40psi discharge pressure. According to Administrative Processing Memo #17 the standard diversion rate/acre for the irrigation of less than 5 acres is 0.03 cfs/acre. The permit authorizes 0.03 cfs. I am recommending a 0.01 cfs diversion rate.

$$Q = (1 \text{ hp}) (8.8) (70\% \text{ efficiency}) / (15 \text{ ft of lift}) + (2.31) * (40 \text{ psi discharge pressure}) = 0.06 \text{ cfs}$$

$$(0.2 \text{ acres}) * (0.03 \text{ cfs/acre}) = 0.006 \text{ cfs or } 0.01 \text{ cfs rounded.}$$

Diversion Rate Calculation = 0.06 cfs

Administrative Memo Calculation = 0.01 cfs

Permit allowed = 0.03 cfs

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = (0.2 \text{ acres}) * (3.0 \text{ af/acre}) = 0.6 \text{ af}$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 0.6 \text{ af}$$

G. PURPOSE OF USEIrrigation X Y N # Stock N/A Domestic # of Homes N/AChange in Purpose of Use? Y X NMethod of Determination: GIS, Tax Parcel Data, 2023 Bonner County Aerial Imagery, and the permit holders Statement of Completion for Proof of Beneficial use.**H. NARRATIVE/REMARKS/COMMENTS**

This permit qualifies for an in-office examination. According to Tax Parcel Data the property was developed in 1995. The permit authorized the irrigation of 0.7 acres diverting from Lake Pend Oreille. 2023 Bonner County Aerial Imagery indicated 0.2 acres of irrigation occurred within the development period. The Tax Parcel boundary and visual property boundary were inconsistent. The visual property boundary was used to determine the irrigated place of use. Condition 029 on the permit required the permit holder to install a fish screen meeting the fish screening and passage requirements of the Idaho Department of Fish and Game. However, the permit holder did not indicate on their Proof Statement a fish screen was installed. The permit holder was contacted via email on March 11, 2024, and confirmed a fish screen was installed on March 13, 2024.

Since the permit holder provided a pump horsepower of 1 and a lift of 15 ft was determined using Google Earth a diversion rate calculation was possible. According to the calculation the system can handle 0.06 cfs with a 40-psi discharge pressure. The standards set in Administrative Processing Memo #17 was used to make a diversion rate recommendation. All of the conditions have been met and development of beneficial use was confirmed within authorization on the permit. Therefore, I am recommending a 0.01 cfs diversion rate.

Conditions X60, X31, and 004 should remain on the license. Condition X31 should be updated to match the recommended diversion rate and volume. Condition 029 should be removed because the permit holder confirmed a fish screen was installed meeting the fish screening and passage requirements of the Idaho Department of Fish and Game.

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	04/01-10/31	0.01 CFS	0.6 AF
	<u>Totals:</u>	0.01 CFS	0.6 AF

2. Recommended Amendments:

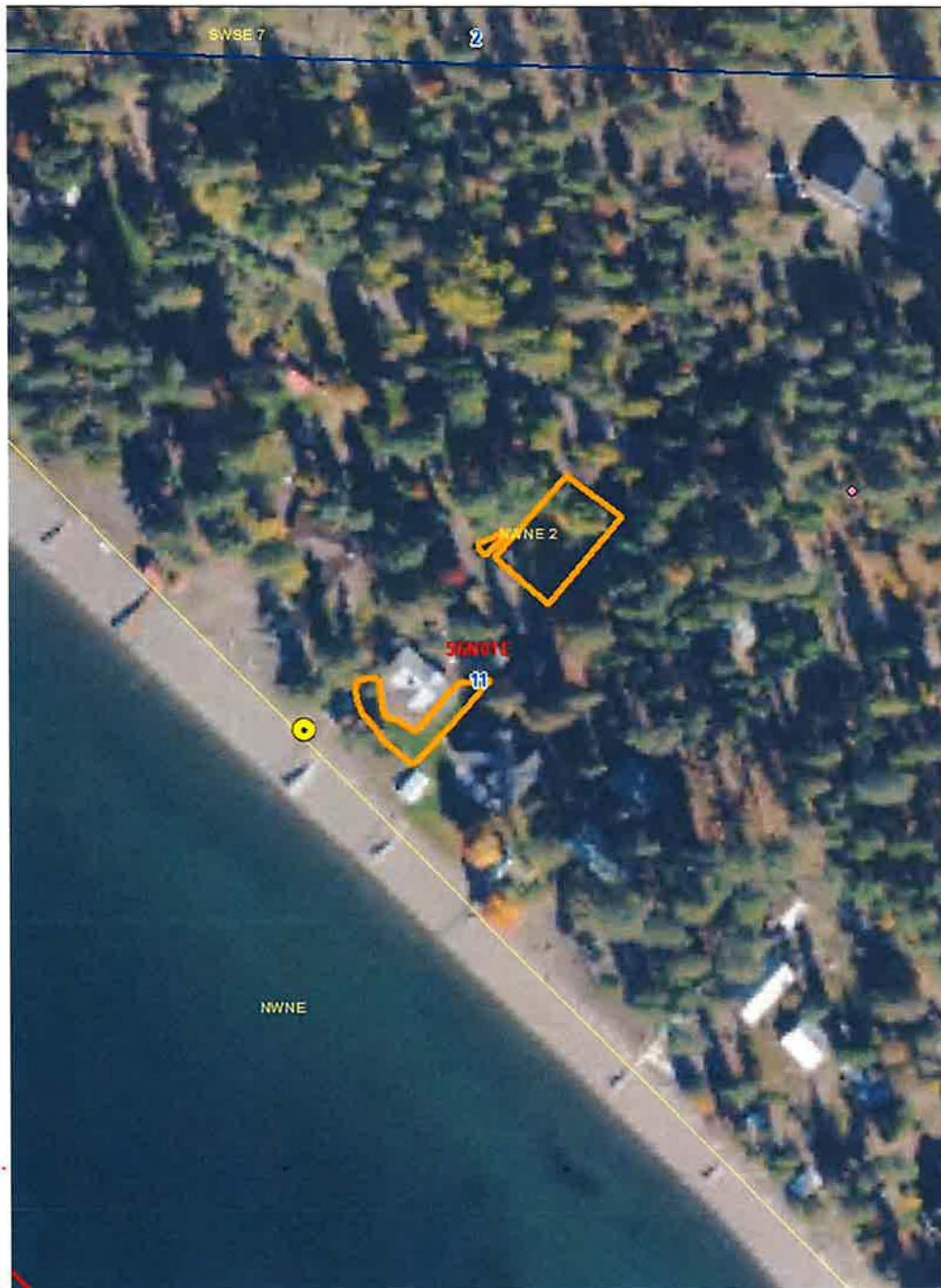
 Change P.D. as reflected above Add P.D. as reflected above X None Change P.U. as reflected above Add P.U. as reflected above X None

Other: < >

J. AUTHENTICATIONField Examiner: **Skyler Cheever – Water Resource Agent**Field Examiner's  Date 3/13/2024Reviewer  Date 4/16/24

Field Exam Map

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



2023 Bonner County Aerial Imagery

Imagery indicated 0.2 acres of irrigation occurred within the development period.

96-14682 Irrigation Map



3/8/2024

Parcels
World Boundaries and Places
World Imagery

Low Resolution 15m Imagery
High Resolution 60cm Imagery
High Resolution 30cm Imagery

Citations
30cm Resolution Metadata

1:1,079
0 0.0075 0.015 0.03 mi
0 0.01 0.02 0.04 km
Esri, HERE, Garmin, (c) OpenStreetMap

THEORETICAL HORSEPOWER EQUATION WORKSHEET (cjh 1/92)

Water Right No.: 96-14682

Examiner: Skyler C.

Date of Field Exam: 3/8/2024

Option 1

P/D No.:

PUMP HORSEPOWER 1

BOOSTER HORSEPOWER 0

PUMPING LEVEL 15

DISCHARGE PRESSURE 40

FRICTION 0

RATE OF FLOW (cfs) 0.06
(gpm) 25.7

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 taken determined from Google Earth. Hp was provided on the permit holders Statment of Completion for Proof of Benefical Use. A standard psi for domesti c use of 40 to 60 psi was used to estimate the pressure

Cheever, Skyler

From: Diana Nelson <philipdiananelson@gmail.com>
Sent: Wednesday, March 13, 2024 12:21 PM
To: Cheever, Skyler
Subject: Re: In-Office Examination review of Permit 96-14682 Diana Nelson

CAUTION: This email originated outside the State of Idaho network. Verify links and attachments BEFORE you click or open, even if you recognize and/or trust the sender. Contact your agency service desk with any concerns.

Skyler,

Sorry it's taken me so long to get back to you but I finally got in touch with the installer of my irrigation pump. He said a PDC fish screen was installed. So hopefully that completes everything I need for the permit.

Thank you,
Diana Nelson

T

On Mon, Mar 11, 2024 at 7:32 AM Cheever, Skyler <Skyler.Cheever@idwr.idaho.gov> wrote:

Hello Ms. Nelson,

I have almost completed my In-Office Review of permit 96-14682 for licensing. However, there is a condition on the permit that requires you to install a fish screening device meeting the fish screening and passage requirements of the Idaho Department of Game be installed on the intake for your irrigation pump. According to your Statement of Completion for Proof of Beneficial use a fish screen was not installed. This device does not have to be anything specific, a screen, perforations on the intake pipe, or even a foot valve. All I need to conclude this review is a reply to this email or a verbal confirmation over the phone stating a fish screening device has been or will be installed ASAP. If you have any questions or concerns, please let me know.

Best,

Skyler

Skyler Cheever

Water Resource Agent, State Office

Email: skyler.cheever@idwr.idaho.gov

Phone: 208-287-4913