

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-9836
Exam Date: 08/31/2021

1. Current Owner:
SUSIE LEWIS 285 PRIVATE DR SAGLE ID 83860-8827 AND/OR
STEVEN P KLATT 285 PRIVATE DR SAGLE ID 83860-8827
2. Accompanied by: Susie Lewis
Phone No: 208-263-4834
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
UNNAMED POND

Tributary
LAKE PEND OREILLE

Method of Determination: Arcmap and DRG

B. OVERLAP REVIEW

1. Other water rights with the same place of use: NO Overlap
2. Other water rights with the same point-of-diversion: NO Overlap

C. DIVERSION AND DELIVERY SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

UNNAMED POND NW¼ SW¼, Sec. 15, Twp 56N, Rge 01W, B.M. BONNER County

Method of Determination: GPS; intake pipe in pond located at -116°26.146, 48°12.042.

PLACE OF USE: IRRIGATION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
56N	01W	15							2.5				4.6						7.1

Total Acres: 7.1

Method of Determination: Field exam and Arcmap aerial imagery.

3.
 - ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components.
 - ☒ Indicate weir size/pipe as applicable.
 - ☒ 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

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
PUMP & INTAKE PIPE	CENTRIPRO	1.0		GOULDS	06017CH

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5-GAL BUCKET MEASUREMENT						

2. Measurements: Three 5-gallon bucket tests were completed from a hose bib at the pump, with average of three resulting in a diversion rate of 5 gal / 31.04 sec x 60 sec/min = 9.66 gpm = **0.02 cfs**, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-GAL Bucket Test = (5 gal / 31.93 sec) x 60 sec/min = 9.40 gpm
 = (5 gal / 30.75 sec) x 60 sec/min = 9.76 gpm
 = (5 gal / 30.43 sec) x 60 sec/min = 9.86 gpm

Average of 3ea 5-GAL Bucket Tests = (9.40 gpm + 9.76 gpm + 9.86 gpm) / 3 = 9.67 gpm = 0.02 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 7.1 \text{ ac} \times 3.0 \text{ afa} = 21.3 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 8.5 \text{ af considering department rounding standards.}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \mathbf{8.5 \text{ af}}$$

2. Volume Calculations for Other Uses: N/A

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 8/31/21 with the applicant, Susie Lewis, showed water being diverted from a beaver pond for irrigation uses. At the POD, a Goulds 1 HP pump operating at 100 PSI and screened intake pipe serve as the diverting works for the water system. A stretch of approximately 30 feet of 2-inch PVC serves as the intake pipe, with small platform built to house the irrigation system pump and main trunk line connections. A flow measurement was completed from a hose bib located at the pump, with 3ea trunk line shut off valves isolating pump flow to the hose bib. Three 5-gallon bucket tests were completed from a hose bib at the pump, with average of three resulting in a diversion rate of 5 gal / 31.04 sec x 60 sec/min = 9.66 gpm = **0.02 cfs**, considering department rounding standards which is recommended as the maximum diversion volume for licensing purposes. The permit was approved for a greater diversion rate, but the licensing value is limited by pump performance found during the B.U. field exam.

During the exam, the irrigation POU was walked with Mrs. Lewis, and the irrigation system was operating at time of exam. The irrigation system consists of 3ea main trunk lines that can be activated by manual shutoff valves at the POD. Each trunk line provides irrigation services to a different portion of the POU, which are rotated daily throughout the irrigation season. The 1.5-inch main trunk line(s) each have 3ea irrigation riser points that allow multiple hose to sprinklers to be connected allowing irrigation access to the farthest reaches of the POU identified during the exam. Sketches of the water system and irrigation POU were drawn out during the exam, and during licensing review Arcmap aerial imagery was used to accurately trace out the irrigation POU, which equals 7.1 acres. The Department standard annual volume associated with 7.1 acres equals $7.1 \text{ ac} \times 3.0 \text{ afa} = 21.3 \text{ af}$.

This volume is not recommended for licensing purposes, as the applicant's system is limited by maximum pumping performance validated during the exam, which equals:

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 8.5 \text{ af}$$

considering department rounding standards.

The $V_{D.R.}$ value of **8.5 af** is recommended as the annual volume and maximum diversion volume for licensing purposes. As the POU was walked, Mrs. Lewis explained that irrigation practices were used to keep grass feed for a couple horses kept on the property (stockwater use covered under domestic use from separate well system), garden areas, treed orchard areas, flower gardens, and lawn space. At the beginning of each year, the inlet screen is cleaned off prior to use using a boat, as the intake pipe extends to far into the pond to allow foot traffic without sinking in the mud.

Condition 029 was removed from the Permit during licensing review. All other conditions on the Permit shall be carried forward to licensing. There are no overlap concerns for this water right, and the applicant stated they will be filing claims for the domestic use from a well during the future adjudication of Basin 96.

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

H. RECOMMENDATIONS

1. Recommended Amounts

<u>Beneficial Use</u>	<u>Period of Use</u>	<u>Rate of Diversion</u>	<u>Annual Volume</u>
IRRIGATION	04/01 to 10/31	0.02 CFS	8.5 AF
Totals:		0.02 CFS	8.5 AF

2. Recommended Amendments

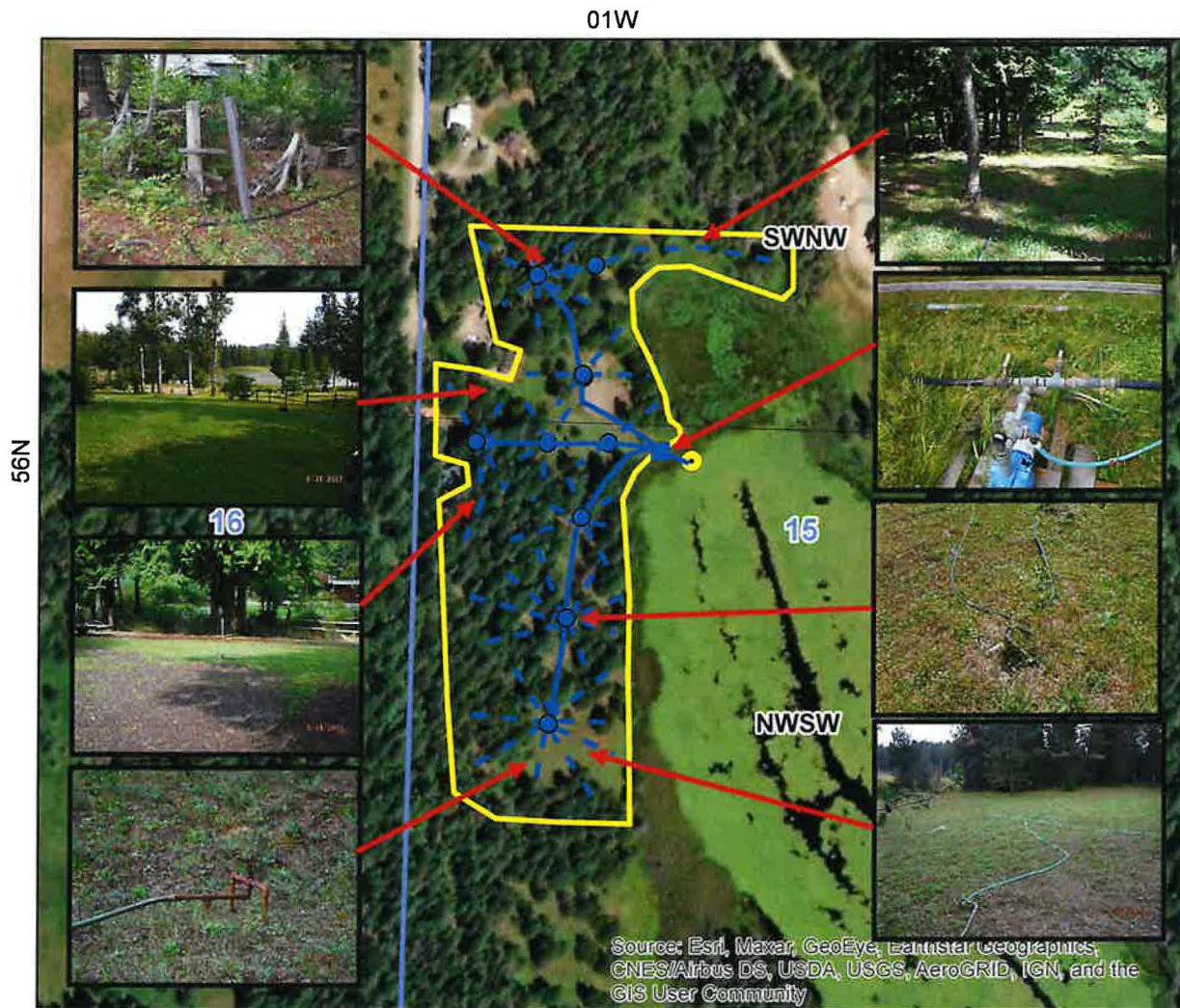
☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name  Date 9/13/2021
 Reviewer  Date 10/21/2021

State of Idaho
Department of Water Resources
Attachment to Water Right License
96-9836

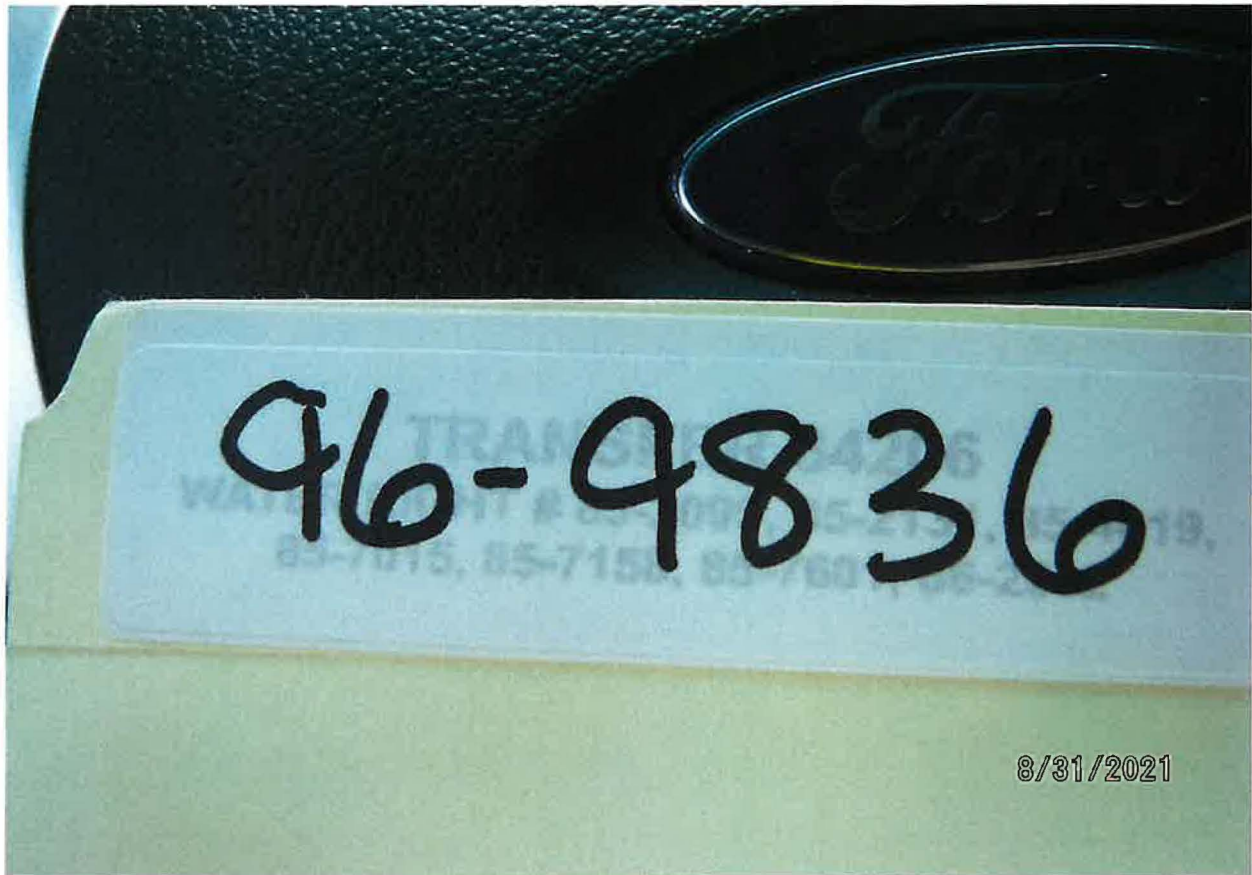
IRRIGATION system diagram.



- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles





FIELD EXAM DATE 8/31/2021



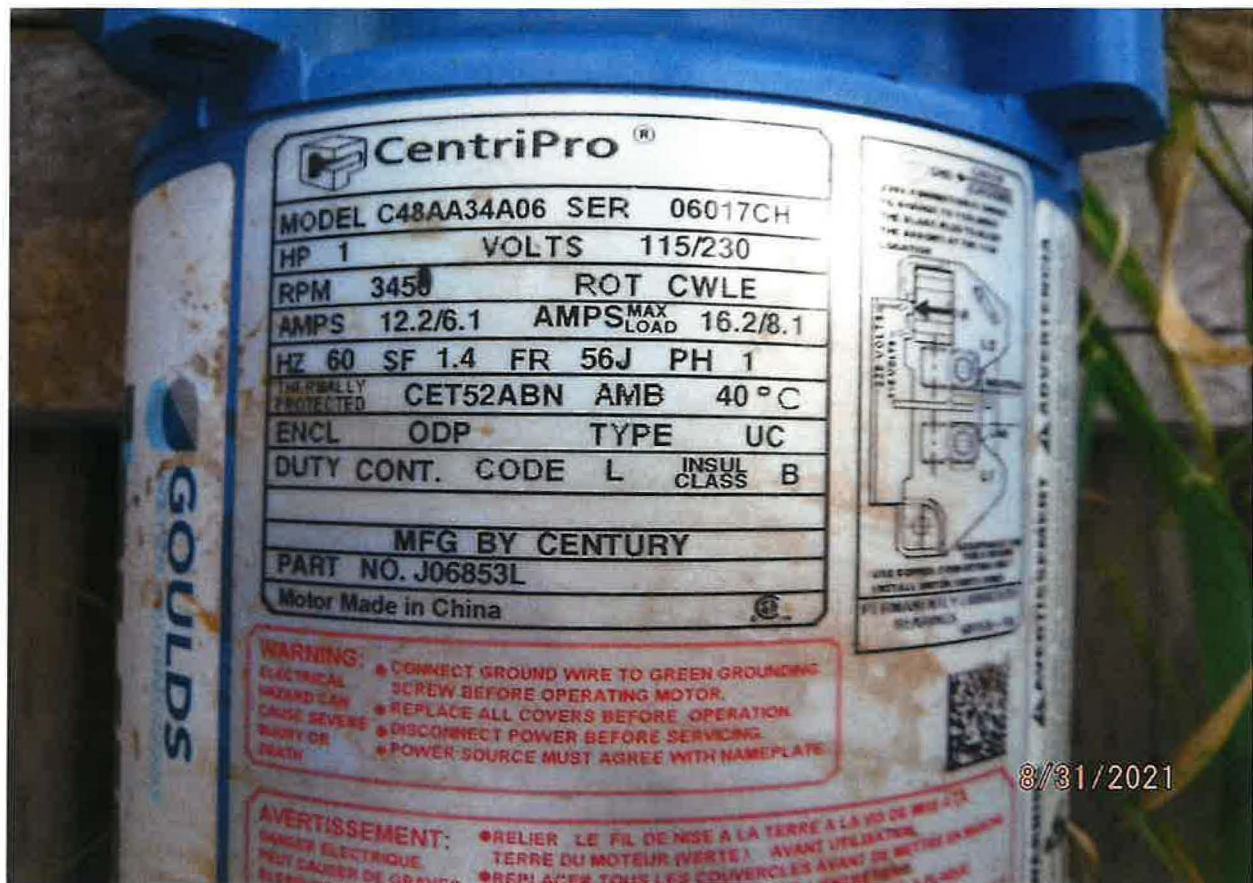
POD – SCREENED INTAKE PIPE IN BEAVER POND



INTAKE PIPE ROUTING TO PUMP



DIVERTING WORKS – 1 HP GOULDS PUMP



1 HP GOULD PUMP



100 PSI OPERATING PRESSURE



3EA 1 ½ INCH MAIN IRRIGATION TRUNK LINES TO DIFFERENT AREAS WITHIN POU



IRRIGATION POU



IRRIGATION POU – RISER PIPES TO HOSE BIB & SPRINKLER ATTACHMENTS



IRRIGATION POU – PASTURE AREA

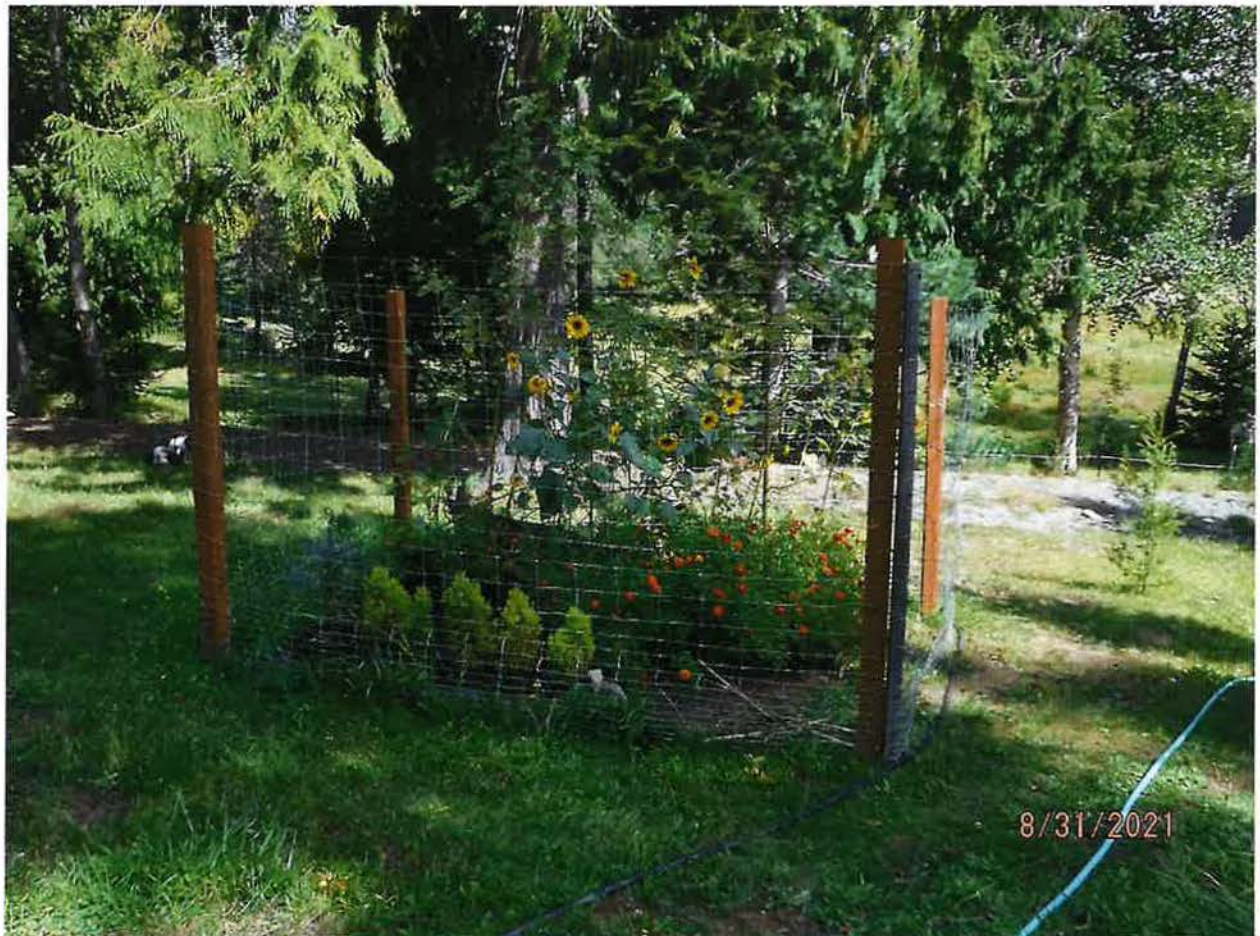


EXAMPLE IRRIGATION BY SPRINKLERS





IRRIGATION POU





IRRIGATION POU – SPLITTER IN MAIN TRUNK IRRIGATION LINE



IRRIGATION POU



IRRIGATION POU – FOR HORSE FEED GRASS GROWTH



IRRIGATION POU