

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 97-7576
Exam Date: 07/01/2021

1. Current Owner:
MICHELE HART 17975 CRESTLINE DR LAKE OSWEGO OR 97034-6216 AND/OR
BRADLEY HART 17975 CRESTLINE DR LAKE OSWEGO OR 97034-6216
2. Accompanied by: Bradley Hart
Phone No: 503-849-3302
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
PRIEST LAKE

Tributary
PRIEST RIVER

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:**

PRIEST LAKE L1 (NW¼ NE¼), Sec. 33, Twp 61N, Rge 04W, B.M. BONNER County

Method of Determination: GPS. POD is located at -116°51.4892, 48°36.1531.

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	
61N	04W	33		0.3 L1															0.3

Total Acres: 0.3

PLACE OF USE: FIRE PROTECTION

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
61N	04W	28															X L8		
61N	04W	33		X L1															

Method of Determination: Field exam and Arcmap aerial imagery

3.

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

X 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.

XX Aerial Photo Attached (required for irrigation of 10+ acres).X 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
SUBMERSIBLE PUMP		3			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Three 5-gallon bucket measurements were taken from one of two fire hose attachment points. The average of the three measurements resulted in a flow rate equal to 34.97 gpm or 0.08 cfs considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5 GAL Bucket Test = (5 gal / 8.97 sec) x 60 sec/min = 33.44 gpm
 = (5 gal / 8.17 sec) x 60 sec/min = 36.72 gpm
 = (5 gal / 8.63 sec) x 60 sec/min = 34.76 gpm

Average of 3ea 5 GAL Bucket Tests = (33.44 gpm + 36.72 gpm + 34.76 gpm) / 3 = 34.97 gpm = **0.08 cfs**

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ acres} \times 3.0 \text{ afa} = 0.9 \text{ af}$$

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

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 0.9 \text{ af}$$

2. Volume Calculations for Other Uses:

This right uses a surface water source & has fire protection as a direct flow beneficial use, and does not receive a maximum diversion volume.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 7/1/2021 with the applicant, Brad Hart, showed water being diverted from Priest Lake for irrigation and fire protection uses. At the POD, the applicant's water conveyance system incorporates a 3 HP submersible pump with intake pipe, which routes up-hill to a small pump station shed. The water system is direct flow, and does not include storage nor a pressure tank. Three 5-gallon bucket measurements were taken from one of two fire hose attachment points. The average of the three measurements resulted in a flow rate equal to 34.97 gpm or **0.08 cfs** considering department rounding standards that is being recommended as the fire protection diversion rate and maximum diversion rate for licensing purposes. The irrigation component diversion rate recommended for licensing reflects the department standard for 0.3 acres of irrigated acreage, which equals **0.01 cfs**. Government Lot 1 designation was added to the POD legal description during licensing review, as the intake line along the shore is in the NWNE1.

During the field exam, the beneficial uses authorized for development on the permit were discussed with Mr. Hart, who clarified that domestic uses were not developed under this permit's water system. As a result, the domestic beneficial use was removed from the permit during licensing review. The irrigation POU was sketched out using field maps, and during licensing review Arcmap aerial imagery was used to trace out the irrigation POU equaling 0.3 acres considering department rounding standards. The annual volume associated with the irrigation of 0.3 acres = 0.9 af, but as this is a direct flow surface source water right there is not maximum diversion volume associated with licensing this permit. The irrigation system is a pressurized pop up sprinkler system with multiple zones that water around the main home, landscape plants & trees, and a small area of green space located between the two homes. Irrigation had not been developed on the up-hill side of the homes associated with PLSS Section 28, and that acreage was not included during licensing review.

The fire protection POU was observed during the field exam. There is a fire hose attachment located along the shore-line, and a fire hose w/reel point located in the small pump station shed up-hill from the POD. The fire protection system allows fire suppression on the entirety of the applicant's property, and was used to show flow capacity during the field exam. The maximum diversion rate for licensing purposes aligns with the 3 HP pumping capacity, which was validated via phone conversation with the Brian Brkinkmeyer, H2O Well Services, the company that installed the system. The pump install records identify the maximum diversion capacity of 35 gpm that was verified during field exam.

Condition 132 and WB9 was removed from the permit during licensing review. Condition R66 was replaced with X31 to better describe small irrigation acreage < 1.0 acres occurring at the applicant's property. All other conditions on the permit shall remain on license. There are no overlap concerns with this water right.

Have conditions of permit approval been met? X 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	0.01 CFS	0.9 AF
FIRE PROTECTION	01/01 to 12/31	0.08 CFS	

Totals: 0.08 CFS

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

I. AUTHENTICATION Luke Bates - Water Resource Agent

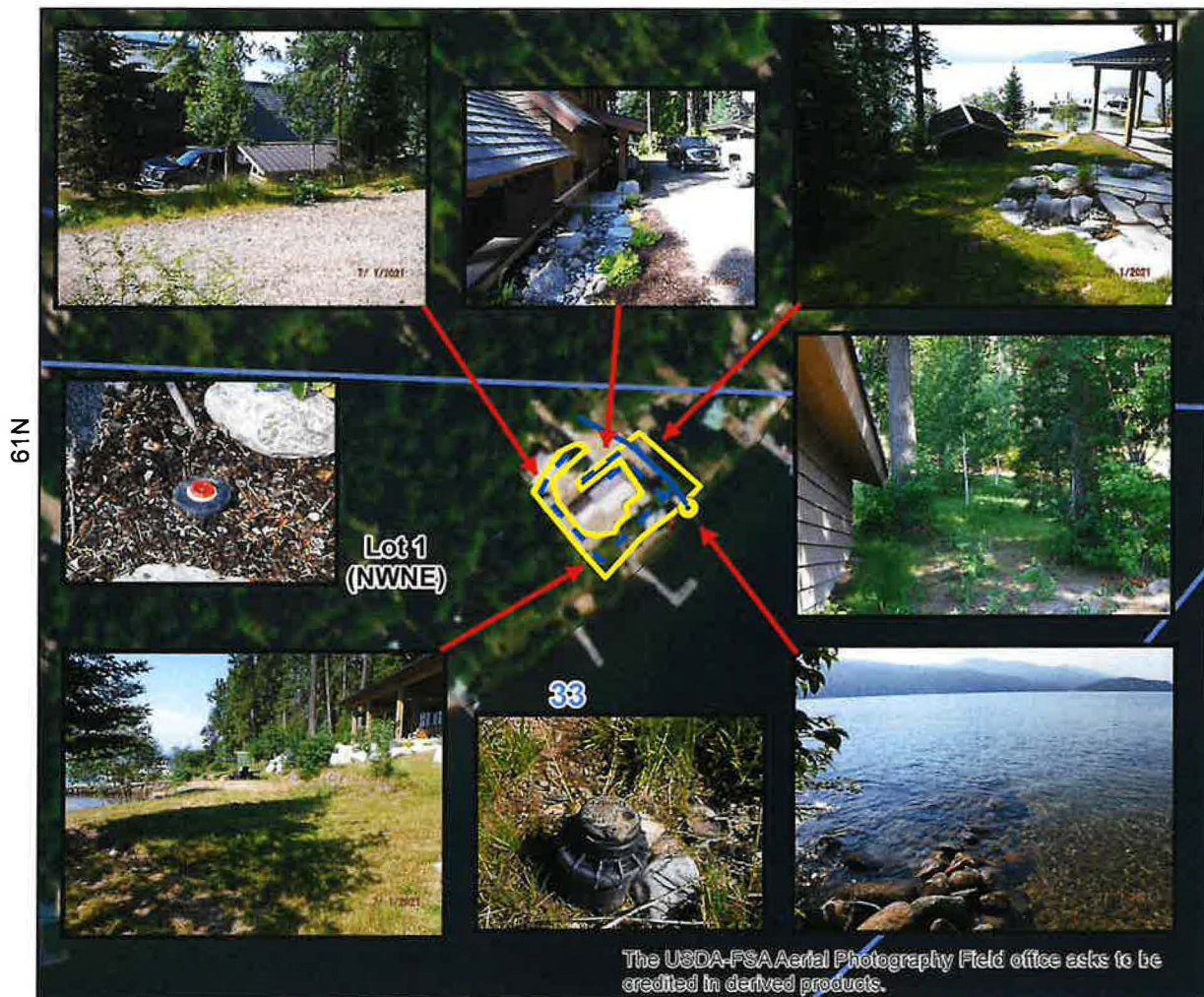
Field Examiner's Name  Date 7/19/2021

Reviewer  Date 8/2/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
97-7576

IRRIGATION system diagram.

04W



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

0 0.025 0.05 0.1 Miles

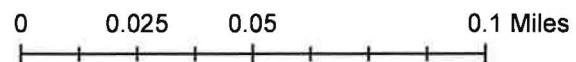


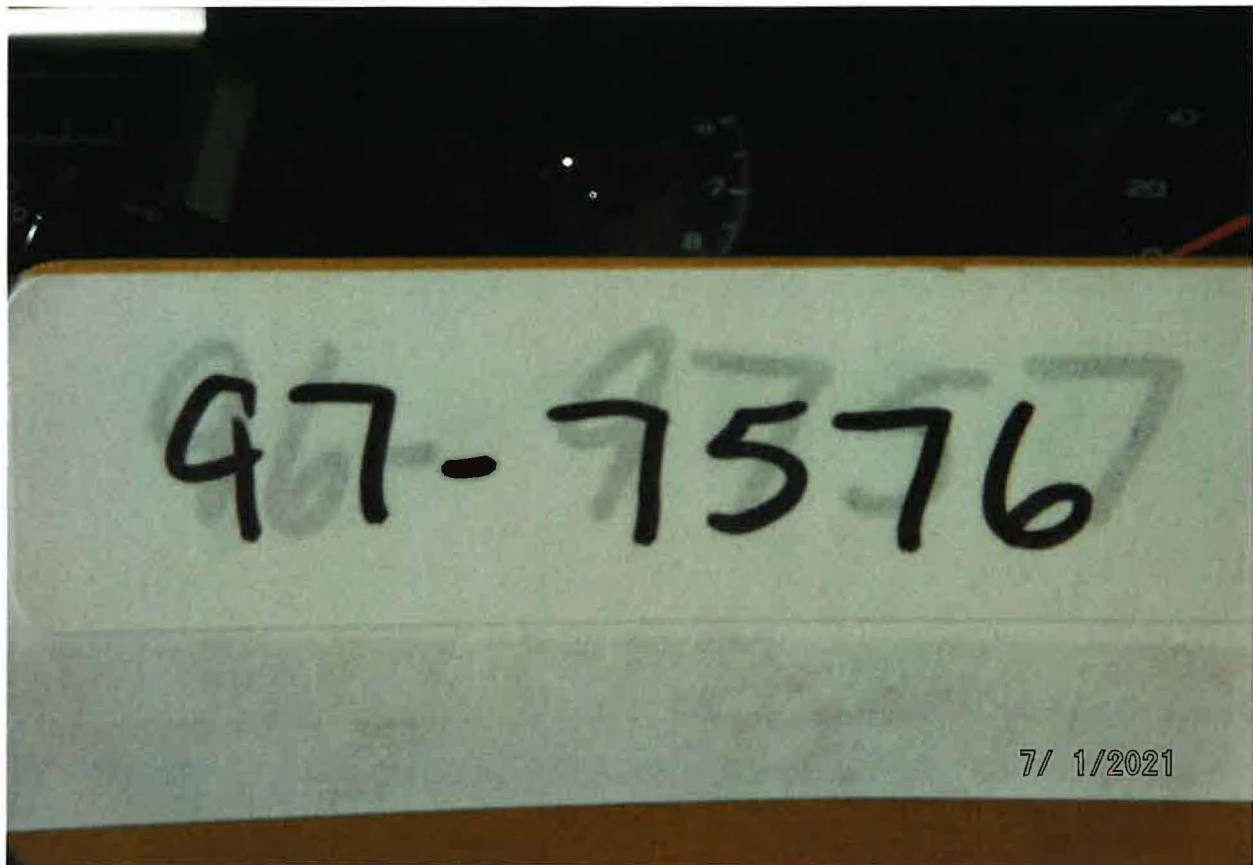
FIRE PROTECTION system diagram.

61N



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





FIELD EXAM DATE 7/1/2021



POD – SUBMERGED INTAKE PIPE W/PUMP IN PRIEST LAKE



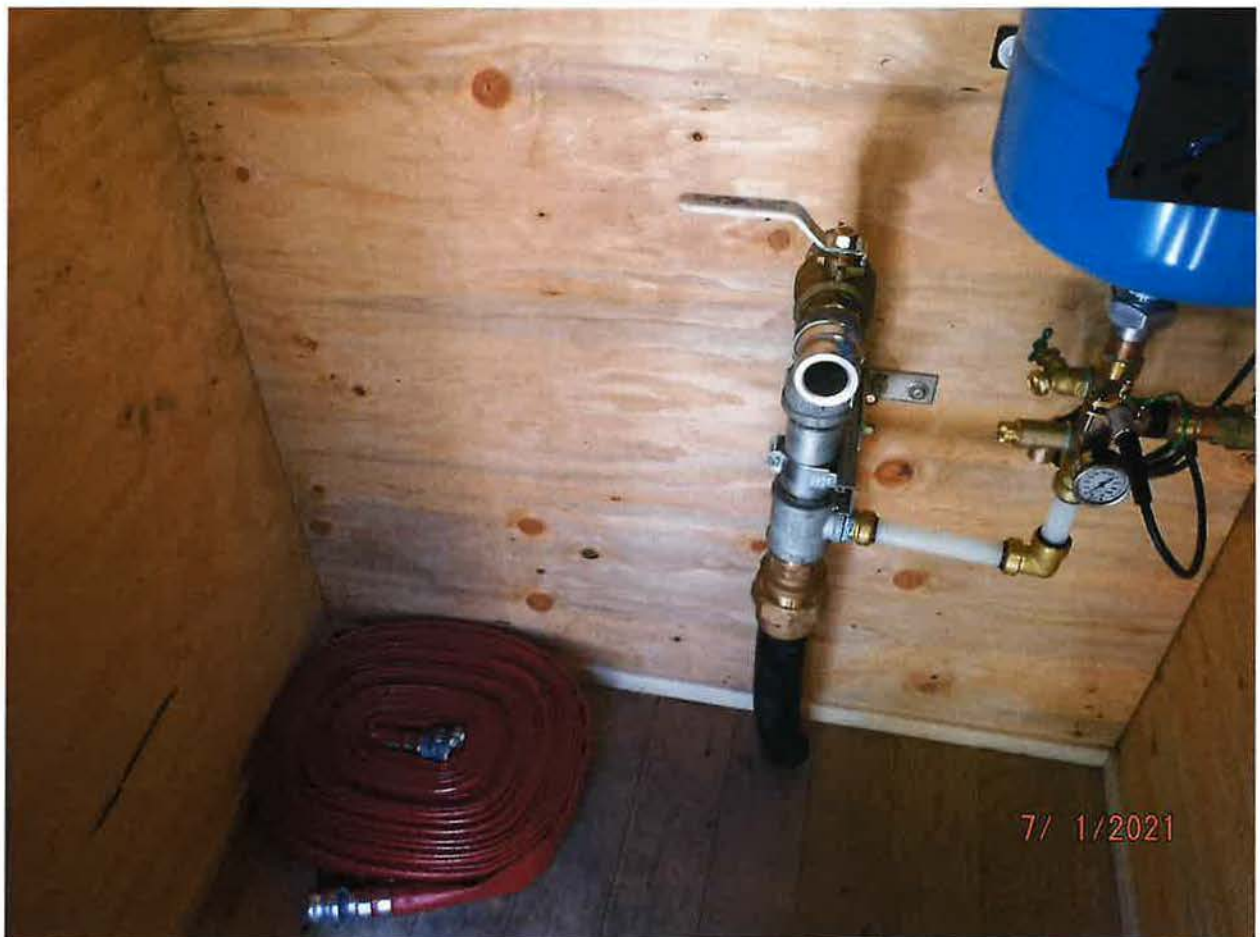
FIRE PROTECTION – 1 OF 2 FIRE HOSE HOOK UP CO-LOCATED WITH POD ALONG SHORELINE



SMALL PUMP HOUSE LOCATED UPGRADE FROM HOME



FIRE PROTECTION -- 2 OF 2 FIRE HOSE HOOK UPS WITH REEL



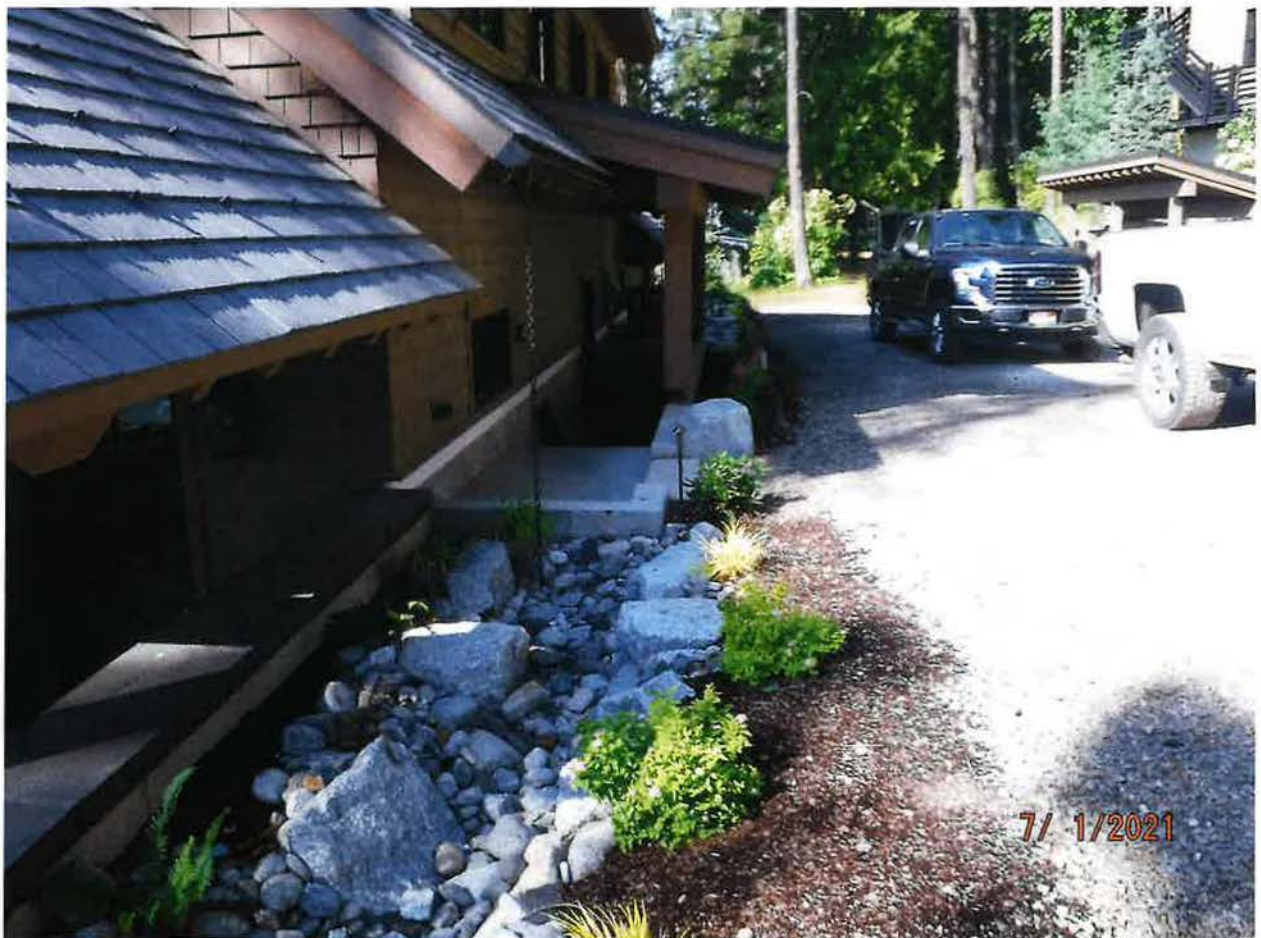


IRRIGATION & FIRE PROTECTION POU





IRRIGATION & FIRE PROTECTION POU





IRRIGATION & FIRE PROTECTION POU





EXAMPLE FIRE SUPPRESSION SPRAY NOZZLE



IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM



IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM









