

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-15019
Exam Date: 10/28/2021

1. Current Owner:
JOEL W PHILLIPS 7209 S EDDYVILLE RD HARRISON ID 83833-8504 AND
SALLY A PHILLIPS 7209 S EDDYVILLE RD HARRISON ID 83833-8504
2. Accompanied by: Joel Phillips
Phone No: 650-996-2995
Address: 520 Portola Road Portola Valley, CA 94028 joel_phillips@icloud.com
Relationship to permit Holder:

3. SOURCE:
GROUND WATER

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 SYSTEM**1. LOCATION OF POINT(S) OF DIVERSION:**

GROUND WATER SW¼ SW¼, Sec. 4, Twp 49N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS; groundwater well D0039687 located at -116°44.414, 47°37.035.

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	
49N	03W	4											1.0						1.0

Total Acres: 1.0

PLACE OF USE: STOCKWATER and DOMESTIC

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
49N	03W	4											X						

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
D0039687	FRANKLIN ELECTRIC	3			

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE						

2. Measurements: Unable to perform flow measurements due to inadequate pipe requirements. Main water line from well routed direct to a pressure tank prior to distribution for water uses.

E. FLOW CALCULATIONS

X Additional Computation Sheets Attached

Measured Method: a theoretical pumping equation was developed to determine the flow rate as follows:

- D0039687 – 3 hp pump at 175 ft with 45 PSI operating pressure equals 34.0 gpm or **0.08 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1 \text{ ac} \times 3.0 \text{ afa} = 3.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 14.6$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{3.0 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Stockwater annual volume = 4 horse x 12 gpd x 365 day = 17,520 gal per year / 325,850 gal per af = 0.05 af which rounds up to **0.1 af** considering department rounding standards.
- Maximum diversion volume = 3.0 af (irrigation) + 0.1 af (stockwater) + **0.6 af** (domestic in-home use only) = **3.7 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 10/28/2021 with the current permit holder, Joel Phillips, showed a groundwater well D0039687 being used for domestic, irrigation, & stockwater purposes. At the POD, a vaulted well is in the permit holder's driveway accessible by a manhole cover ring and lid. I was unable to perform flow measurements due to inadequate pipe requirements. Main water line from well routed direct to a pressure tank prior to distribution for water uses. A theoretical pumping equation was developed to determine the flow rate as follows: 3 hp pump at 175 ft with 45 PSI operating pressure equals 34.0 gpm or **0.08 cfs** considering department rounding standards which is recommended for licensing purposes. This flow rate is supported by the well driller report from which 30 gpm was achieved when the well was drilled.

There was less irrigation acreage developed than permit approved for, which results in a reduction in irrigation diversion rate & maximum diversion rate recommended for licensing purposes. Both domestic & stockwater diversion rates remain the same as permit approved, but the irrigation component diversion rate is equivalent to the department standard rate for 1 acre = 0.03 cfs. The maximum diversion rate recommended for licensing purposes is 0.01 cfs less than the sum of the three beneficial use rates, as the permit holder is limited by pump performance as installed at time of field exam. Each beneficial use benefits from their full respective rate of diversion, but cumulatively are capped at 0.08 cfs vice the sum of three which equals 0.09 cfs.

During the exam, the domestic POU was observed as a single residence with a large footprint. Arcmap aerial imagery was used to accurately trace out the house during licensing review & the annual volume for the domestic beneficial use equals **0.6 af** for in-home use only as irrigation is covered under a separate component. The stockwater POU was observed as large pastureland adjoining the house. Mr. Phillips has recently purchased the home from the prior owner, and it was stated cattle were pastured annually on the property during the development period. While Mr. Phillips has not run cattle yet, he does own 4 horses pastured on the property with stockwater beneficial use annual volume equaling $4 \text{ horse} \times 12 \text{ gpd} \times 365 \text{ day} = 17,520 \text{ gal per year} / 325,850 \text{ gal per af} = 0.05 \text{ af}$ which rounds up to **0.1 af** considering department rounding standards. The stockwater POU recommended for licensing does not include all parcels owned by Mr. Phillips, rather portions of the pastureland parcel RP49N03W04S900 that include the water source and distribution to stock tanks used by the permit holder residing in the SW¼SW¼ of Section 4 as permit approved to develop.

The irrigation POU was walked with Mr. Phillips during the field exam and consists of lawn spaces from the entry gate to the home, landscaping plants and trees around the home and up to the foundation of the home, & landscaping with lawn space south of the home. There are two pressurized sprinkler systems both with multiple zones using rainbird pop-up sprinklers to irrigate the POU. Mr. Phillips had the irrigation system running at time of exam to enable verification of water put to beneficial use. The POU was sketched out on field maps, and during licensing review Arcmap aerial imagery was used to trace out the irrigation POU equaling 1.0 acres. The irrigation beneficial use annual volume recommended for licensing equals $1.0 \text{ ac} \times 3.0 \text{ afa} = \mathbf{3.0 \text{ af}}$.

Conditions 26A, X02, & 046 were 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.

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	01/01 to 12/31	0.03 CFS	3.0 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.04 CFS	0.6 AF

Totals: 0.08 CFS 3.7 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
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I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name FLB Date 11/1/2021

Reviewer Ad Finkel Date 11/18/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-15019

IRRIGATION system diagram.

03W

49N



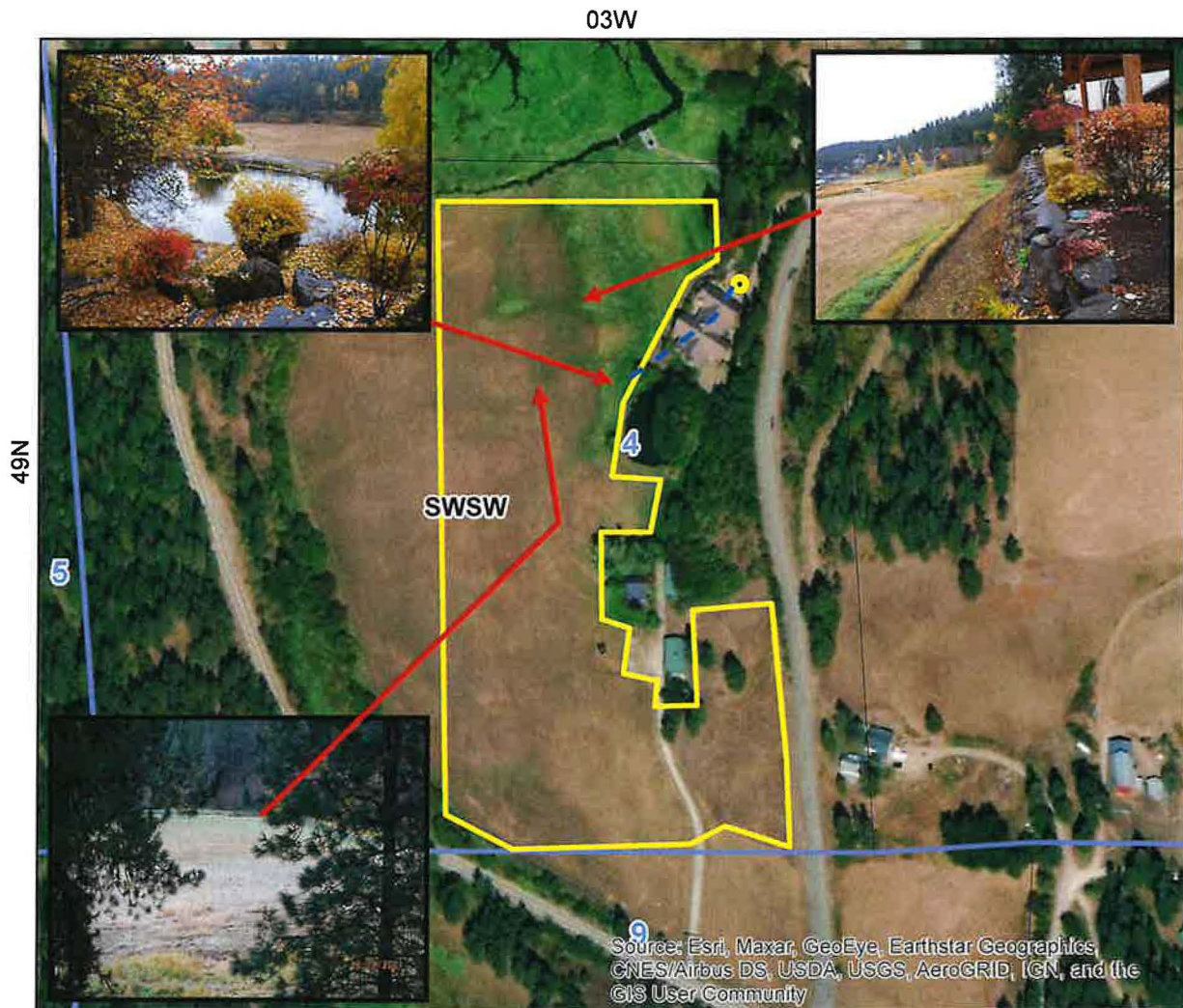
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



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STOCKWATER system diagram.



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

0 0.0375 0.075 0.15 Miles



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DOMESTIC system diagram.



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

0 0.03 0.06 0.12 Miles



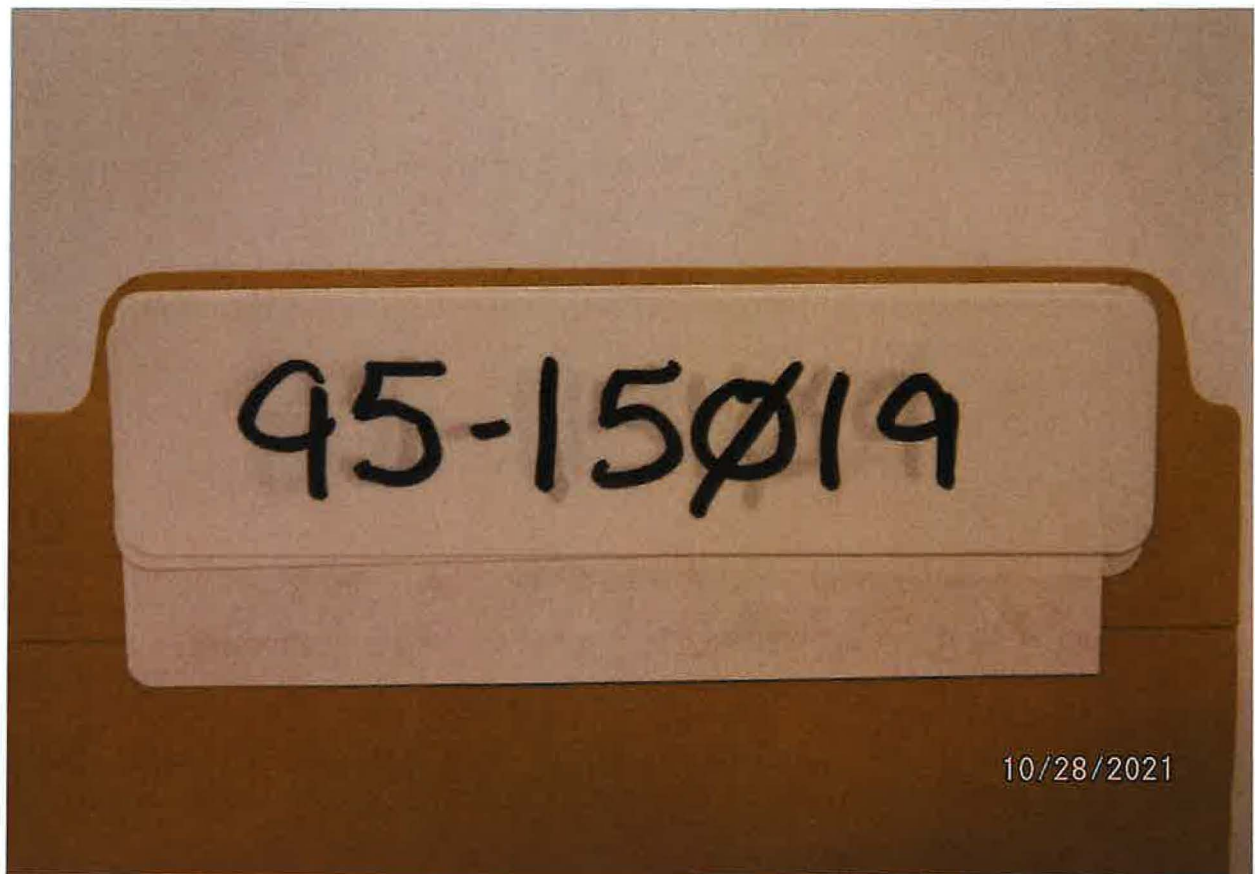
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-15019

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 175 ft, and running at 45 psi.

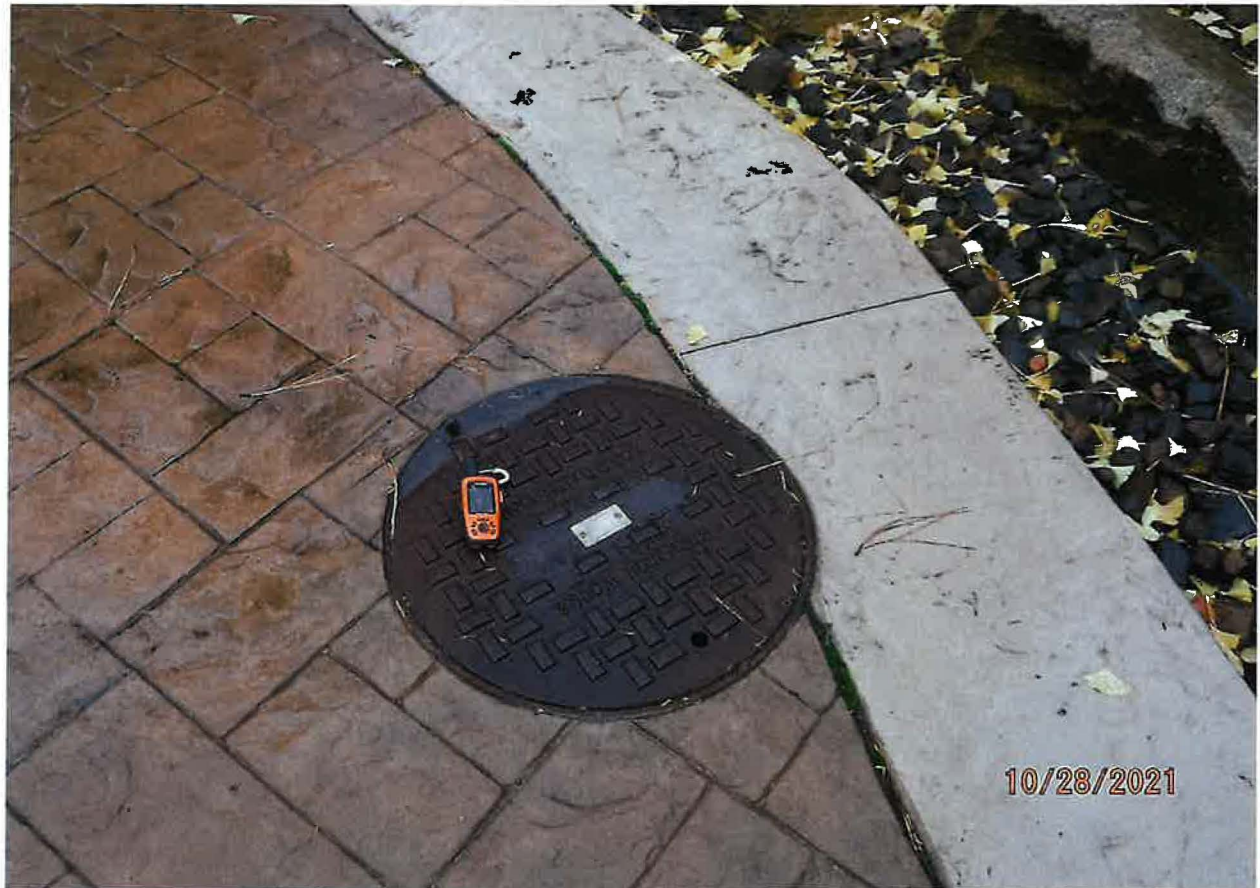
PUMP EQUATIONS

WATER RIGHT No. 95-15019

D0039687	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q = HP*8.8*Eff/H	3	279.0816	0.8	175	45
Q = 0.076 cfs 34.0 gpm					



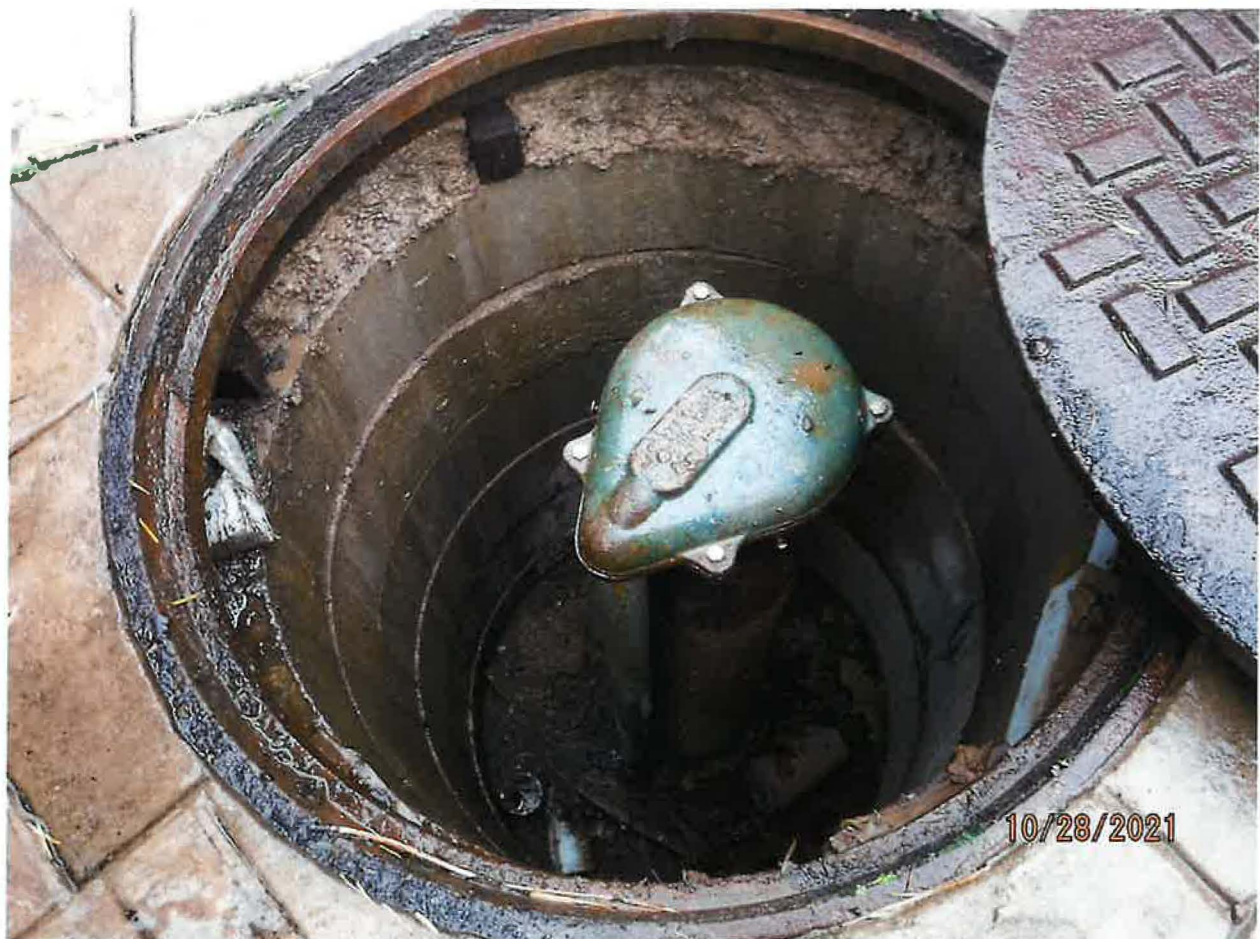
FIELD EXAM DATE 10/28/2021



VAULTED WELL LOCATED IN DRIVEWAY AREA



POD – WELL D0039687





3 HP FRANKLIN ELECTRIC PUMP MOTOR



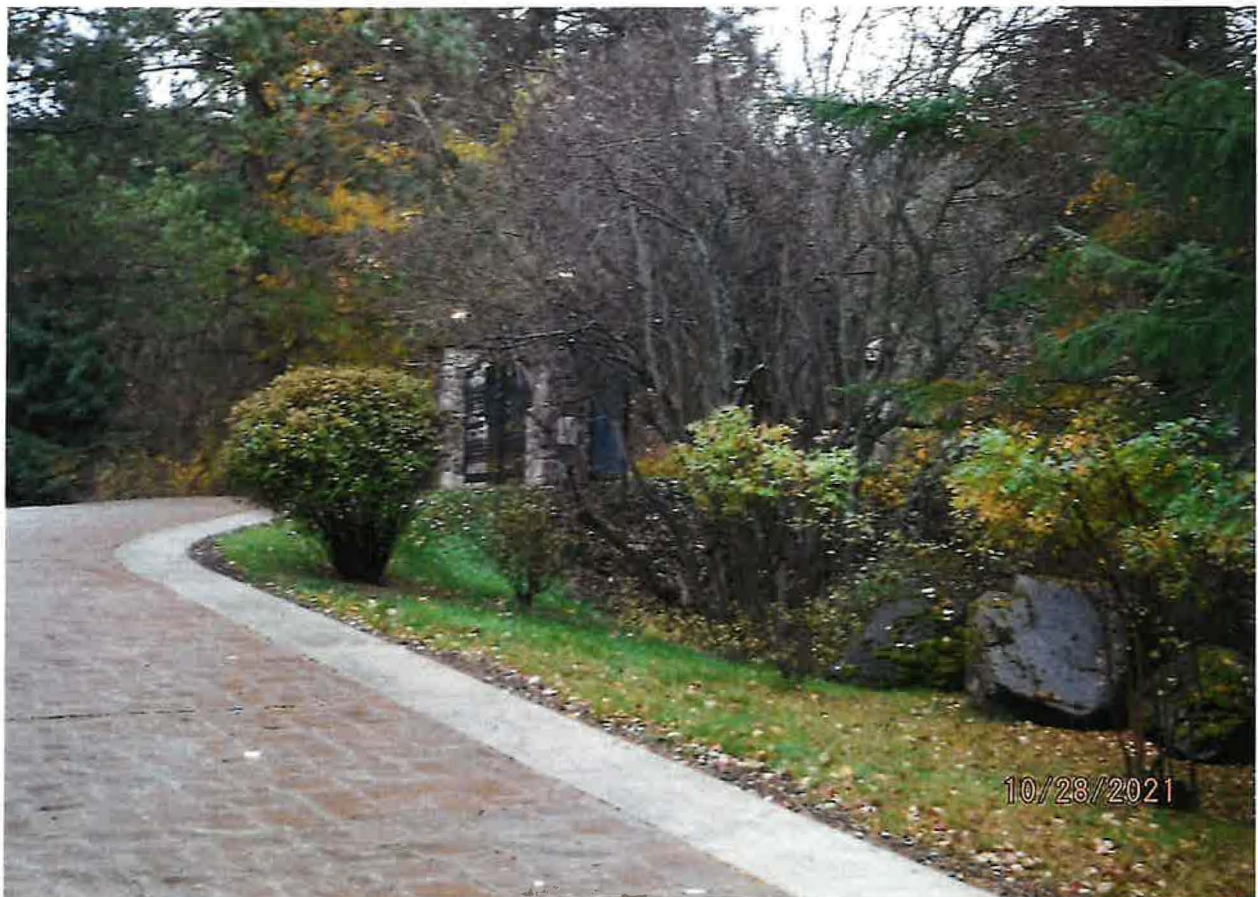


DOMESTIC POU

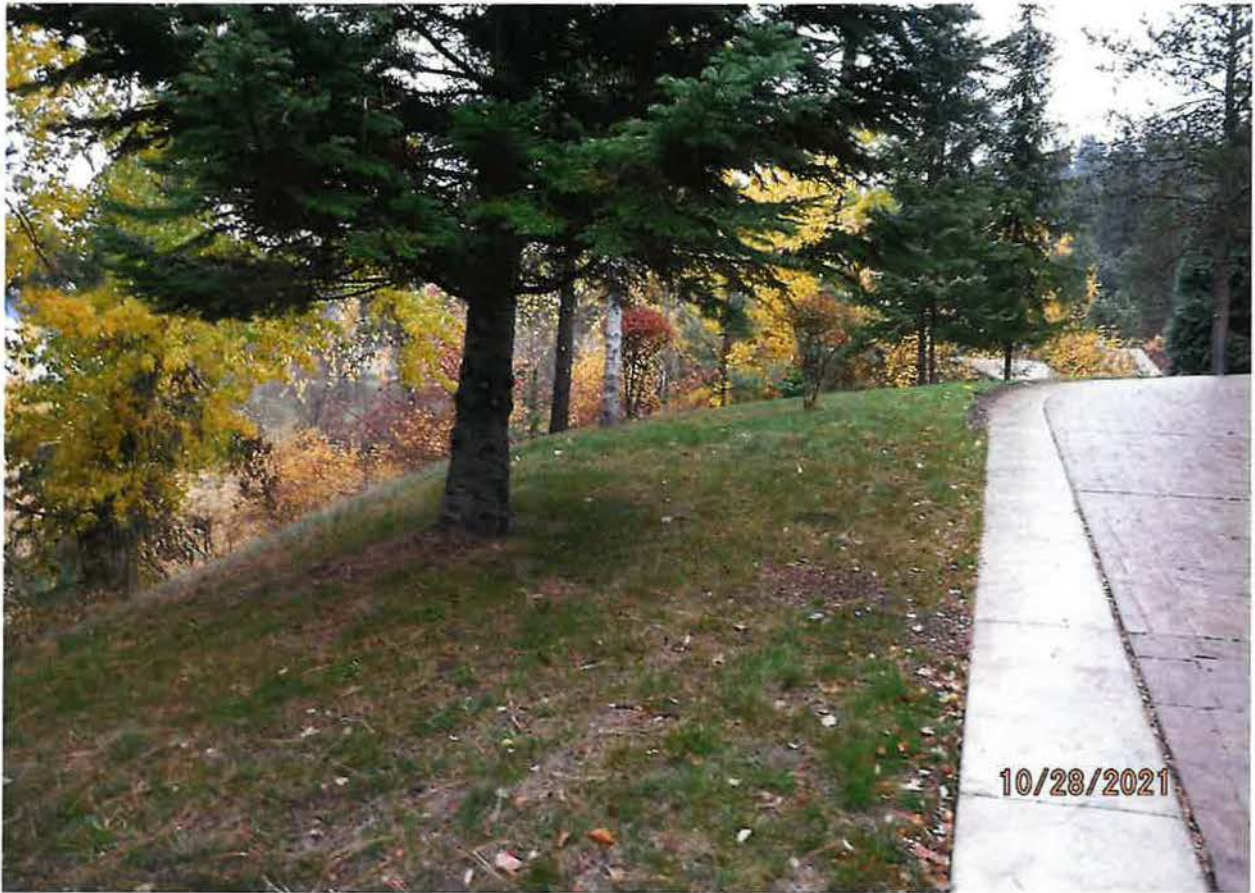




STOCKWATER POU – PASTURELAND ON PROPERTY

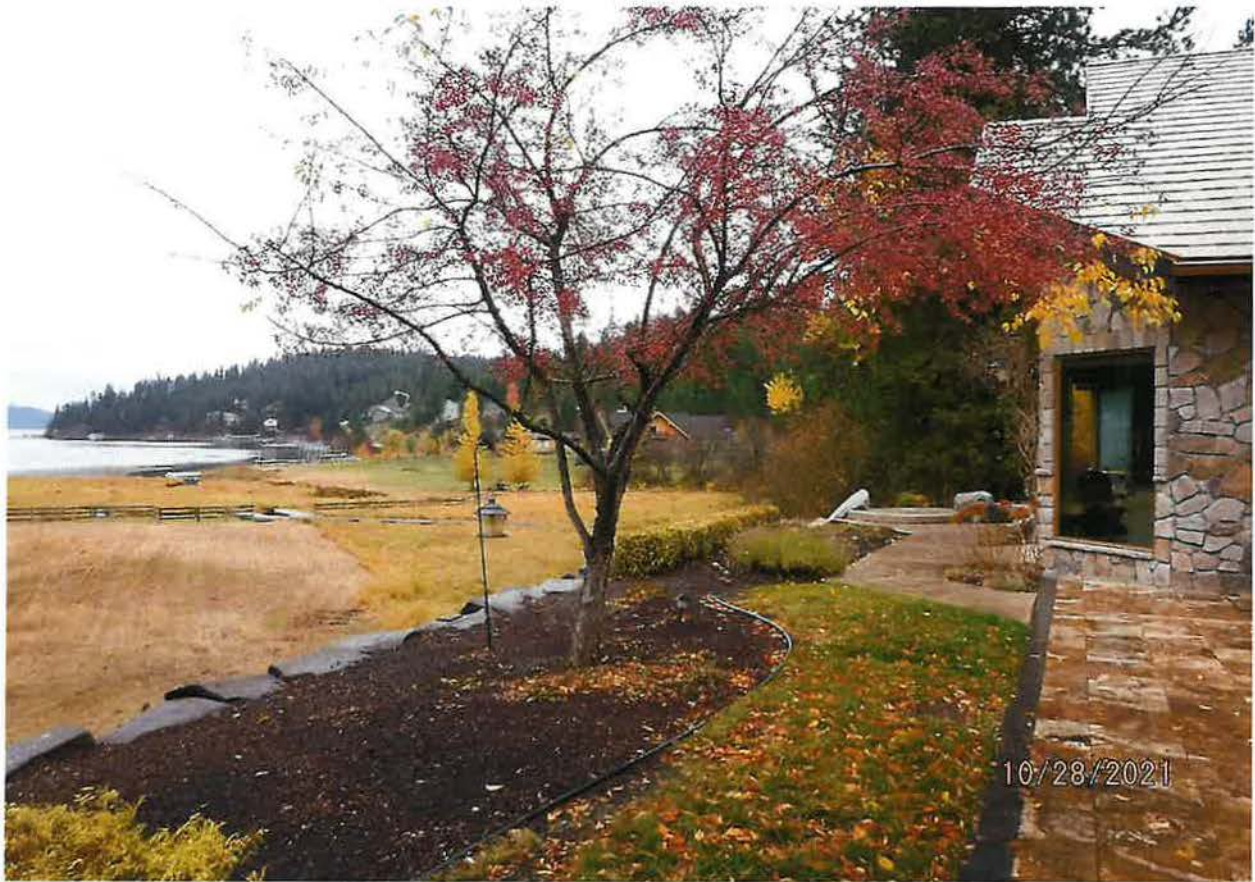


IRRIGATION POU



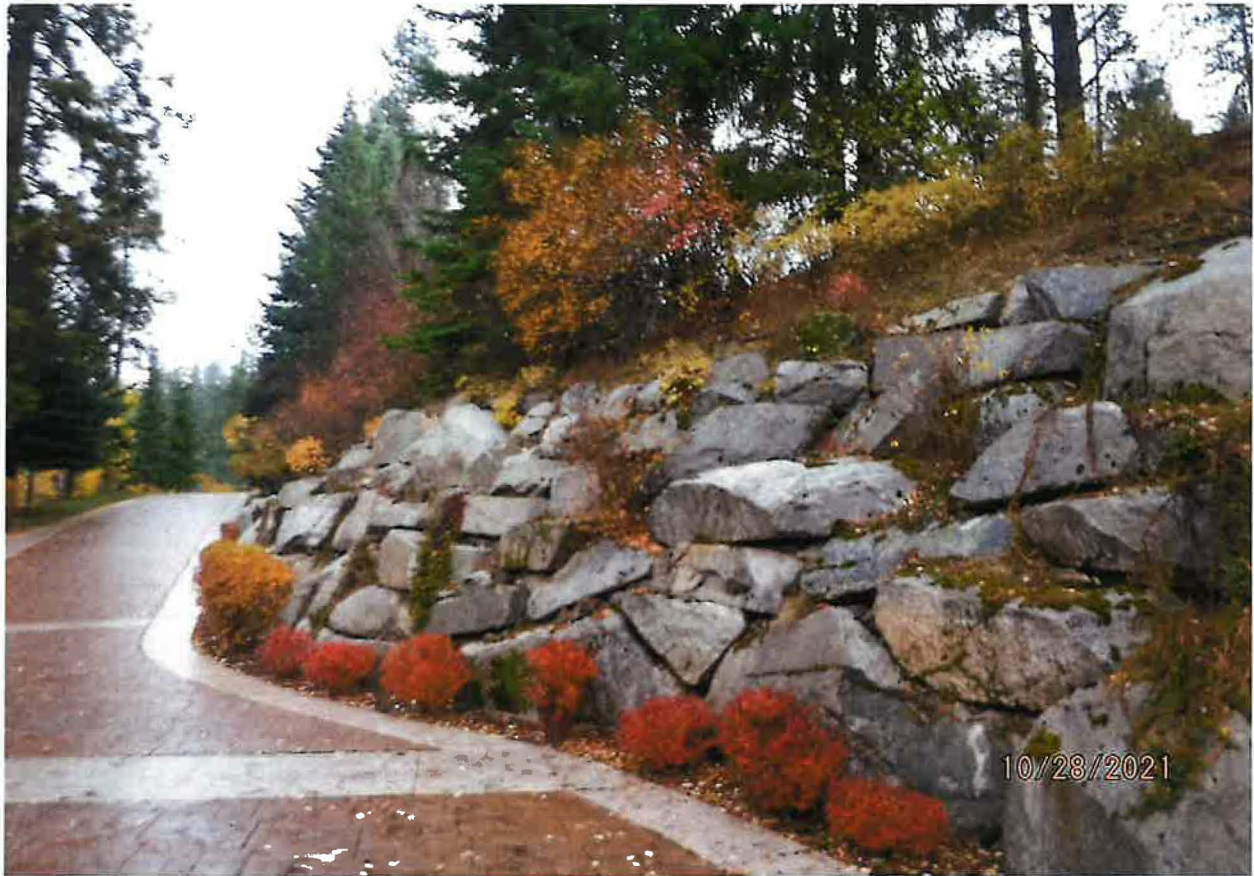
IRRIGATION POU – LAWN SPACE USES PRESSURIZED RAINBIRD SPRINKLER SYSTEM





IRRIGATION POU – LANDSCAPE AND TREE WATERING BY PRESSURIZED SYSTEM, MICRO EMITTERS





IRRIGATION POU



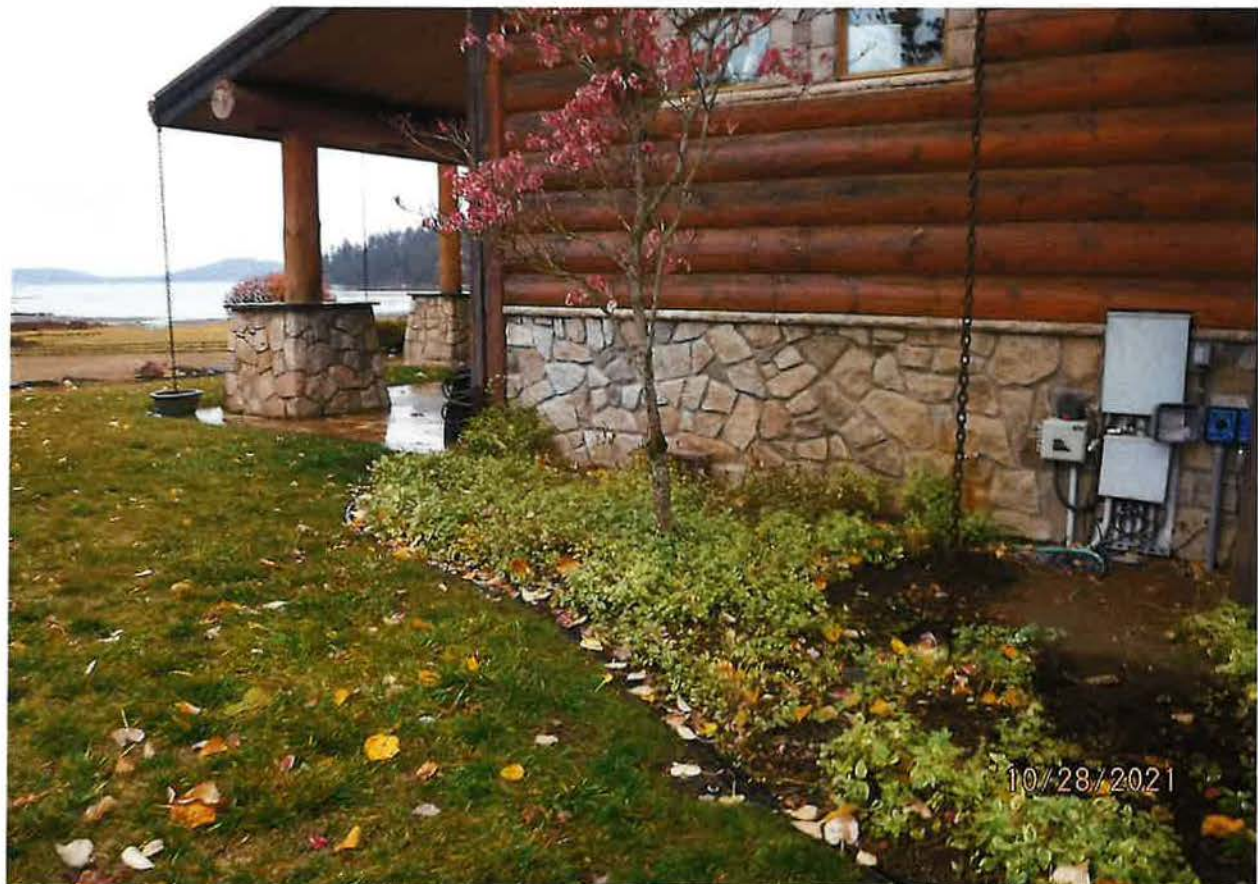


IRRIGATION POU





IRRIGATION POU





IRRIGATION SYSTEM CONTROL PANEL – NORTHERN PORTION OF IRRIGATION POU



IRRIGATION SYSTEM CONTROL PANEL – SOUTHERN PORTION OF IRRIGATION POU