

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17977
Exam Date: 05/24/2021

1. Current Owner:
TOERY UCHYTIL 8171 W OSPREY RIDGE RD RATHDRUM ID 83858-7837
2. Accompanied by: Randy Uchytel
Phone No: 208-660-7260
Address: Same as above
Relationship to permit Holder: Representative of Permit Holder

3. **SOURCE:**
TWIN LAKES

Tributary
RATHDRUM CREEK

Method of Determination: DRG and Arcmap.

B. OVERLAP REVIEW

1. Other water rights with the same place of use: YES Overlap

Comments: Numerous North Kootenai Water District municipal water rights overlap this right's POU, but use groundwater source(s) and are not a concern for overlap with this right.

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

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

TWIN LAKES L4 (SW¼ SW¼), Sec. 31, Twp 53N, Rge 04W, B.M. KOOTENAI County

Method of Determination: GPS. POD located at -116°53.623, 47°53.447.

PLACE OF USE: 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	
52N	04W	6						X L3											
52N	05W	1	X L1																
53N	04W	31											X L4						
53N	05W	36																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. 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
SUBMERSIBLE PUMP	A.Y. MCDONALD SUBMERSIBLE	0.5			

D. FLOW MEASUREMENTS

1.

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

2. Measurements: Unable to perform flow measurement due to inadequate pipe requirements; poly pipe from POD ran direct to storage reservoir without access to perform a flow measurement. A Theoretic Pumping Equation derives a flow rate of 6.8 gpm with ½ HP pump lifting 130 ft of elevation gain, with a system operating pressure of 45 PSI.

E. FLOW CALCULATIONS

☒ Additional Computation Sheets Attached

Measured Method: Theoretical pumping equation derives a flow rate of 6.8 gpm, with pump lifting approximately 130 feet in elevation, operating at 45 PSI. The resulting diversion rate equals **0.02 cfs**, considering department rounding standards. This supports the initial storage reservoir fill data provided by Mr. Uchtyl listed below:

- Initial fill of the storage reservoir (1800 gallon capacity) was timed to identify how long it would take to fill from empty during future uses. Applicant stated it took 4.5 hours to fill from empty.
- 4.5 hrs = 270 minutes, and 1,800 gal / 270 min = 6.67 gpm = **0.02 cfs** considering department rounding standards.

F. VOLUME CALCULATIONS

- Volume Calculations for irrigation: N/A
- Volume Calculations for Other Uses: Domestic annual volume = **1.2 af** (1 home with ½ acre irrigation)

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 5/24/2021 with the applicant's representative, Randy Uchtyl, showed water being diverted from Twin Lake for domestic use. At the POD, the applicant has installed a submerged intake pipe with ½ HP pump, which was not visible from the shoreline. The applicant installed 1 inch black poly line routed uphill, approximately 130 ft of elevation

gain, from the POD to a 1,800 gallon storage reservoir prior to distribution to a pressure tank and home system. No flow measurement was completed due to inadequate pipe requirements. Theoretical pumping equation derives a flow rate of 6.8 gpm, with pump lifting approximately 130 feet in elevation, operating at 45 PSI. The resulting diversion rate equals **0.02 cfs**, considering department rounding standards which is recommended for licensing purposes. The theoretic pump equation is supported by initial storage reservoir fill data provided by Mr. Uchytel as listed below:

- Initial fill of the storage reservoir (1800 gallon capacity) was timed to identify how long it would take to fill from empty during future uses. Applicant stated it took 4.5 hours to fill from empty.
- 4.5 hrs = 270 minutes, and $1,800 \text{ gal} / 270 \text{ min} = 6.67 \text{ gpm} = \mathbf{0.02 \text{ cfs}}$ considering department rounding standards.

During the field exam, a new home with detached garage was observed, and serves as the domestic POU. Current year Arcmap aerial imagery does not illustrate the newly built home, and photographs were taken to demonstrate the development of domestic beneficial water use. The water distribution system is located in the garage, and a transfer pump is used to distribute water from the storage reservoir to in home use and external use by frost free hydrant(s). As the home has just been built, there is limited irrigation occurring, but hoses with spray nozzles were on site and are used to water starter plants in pots getting ready for spring planting. Toward this end, I recommend including the ½ acre of irrigation toward licensing this permit. The domestic annual volume & maximum diversion volume recommended for licensing equals **1.2 af.**

Condition 029 was removed from the permit during licensing review. All other conditions on the permit will be carried forward to licensing. Numerous North Kootenai Water District municipal water rights overlap this right's POU, but use groundwater source(s) and are not a concern for overlap with this right as the property is not service connected with North Kootenai Water District. There are no additional overlap concern for this 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>
DOMESTIC	01/01 to 12/31	0.02 CFS	1.2 AF

Totals: 0.02 CFS 1.2 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

I. AUTHENTICATION

Luke Bates - Water Resource Agent

Field Examiner's Name F. AB Date 5/26/2021

Reviewer Ash Kuntz Date 5/28/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-17977

DOMESTIC system diagram.



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

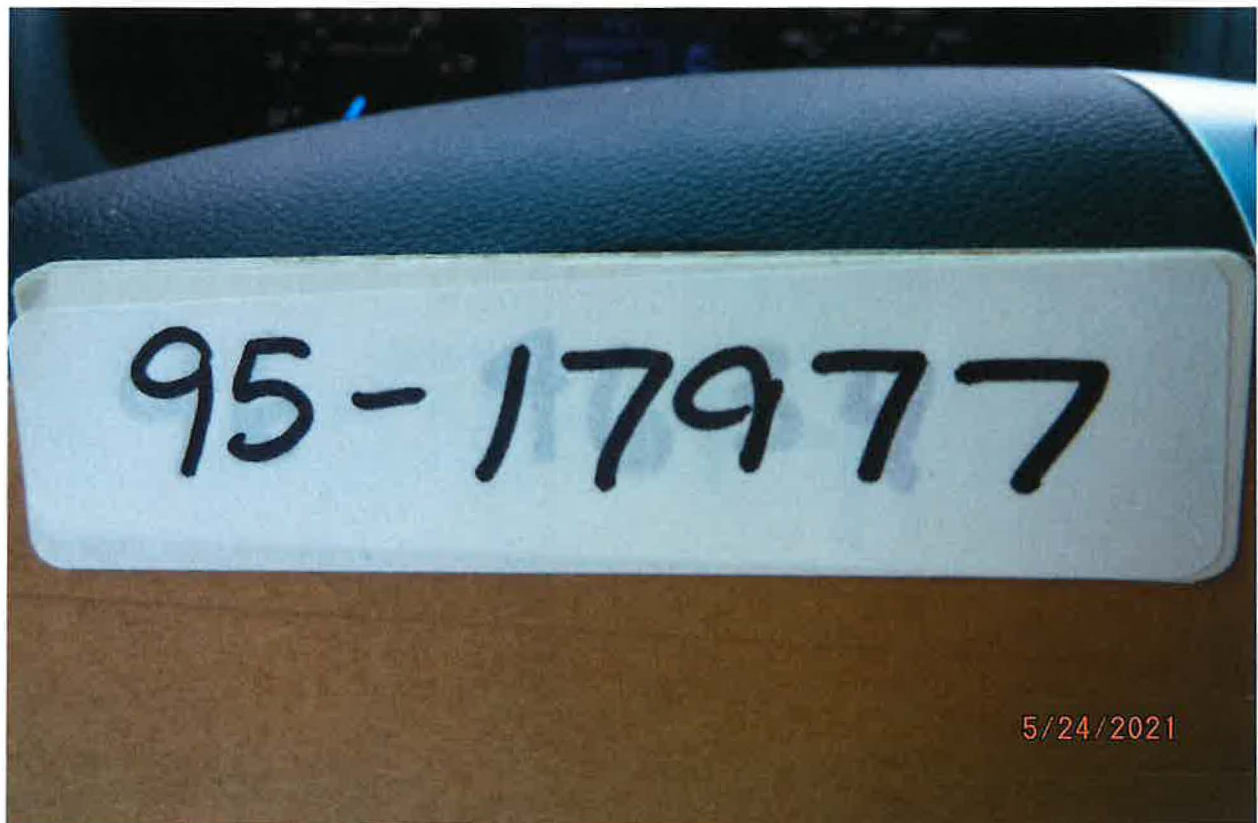
THEORETICAL PUMPING EQUATION(S) FOR WR# 95-17977

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 130 ft, and running at 45 psi.

PUMP EQUATIONS

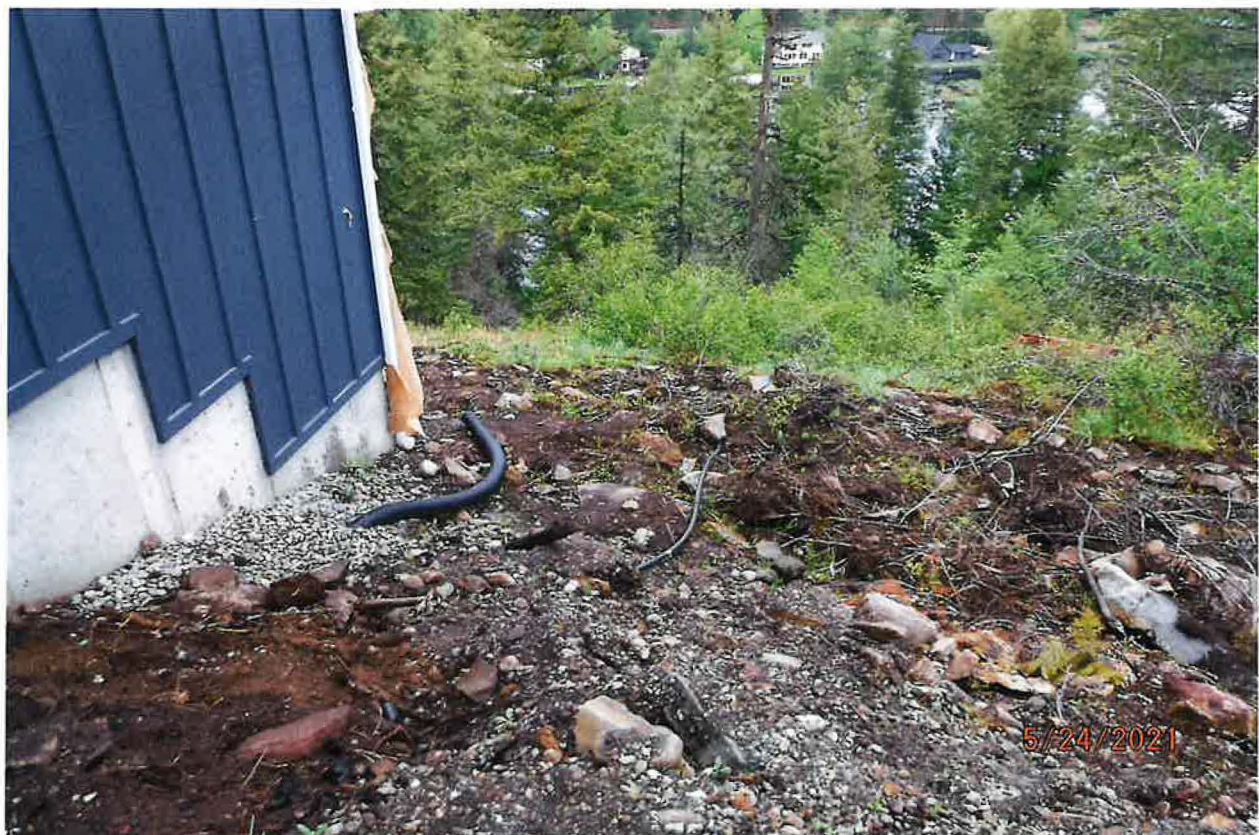
WATER RIGHT No. 95-17977

SUMBERSIBLE PUMP	HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
$Q = \frac{HP * 8.8 * \text{Eff}}{H}$	0.5	234.0816	0.8	130	45
$Q =$ 0.015 cfs 6.8 gpm					



FIELD EXAM DATE 5/24/2021

POD IS A SUBMERGED, SCREENED INTAKE PIPE LOCATED ALONG THE BANK OF TWIN LAKE ON APPLICANTS PROPERTY; THERE IS NO PICTURE ILLUSTRATION FOR THE INLET PIPE



1 INCH POLY-PIPE ROUTES FROM POD TO STORAGE RESERVOIR AT DOMESTIC POU

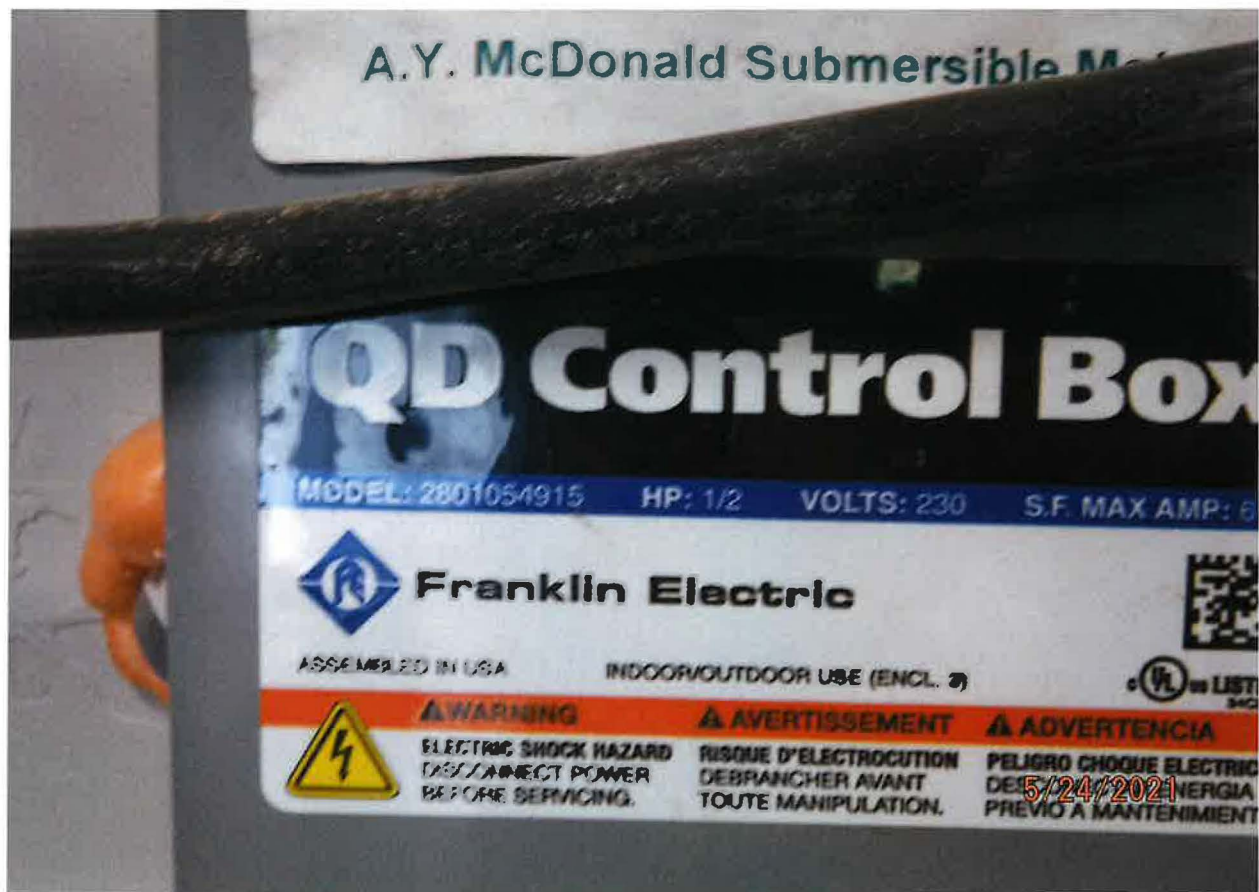


DOMESTIC POU – 1,800 GAL STORAGE RESERVOIR





WATER CONVEYANCE SYSTEM – SET UP IN GARAGE NEXT TO RESIDENCE



½ HP SUBMERSIBLE PUMP INSTALLED IN WATER SYSTEM

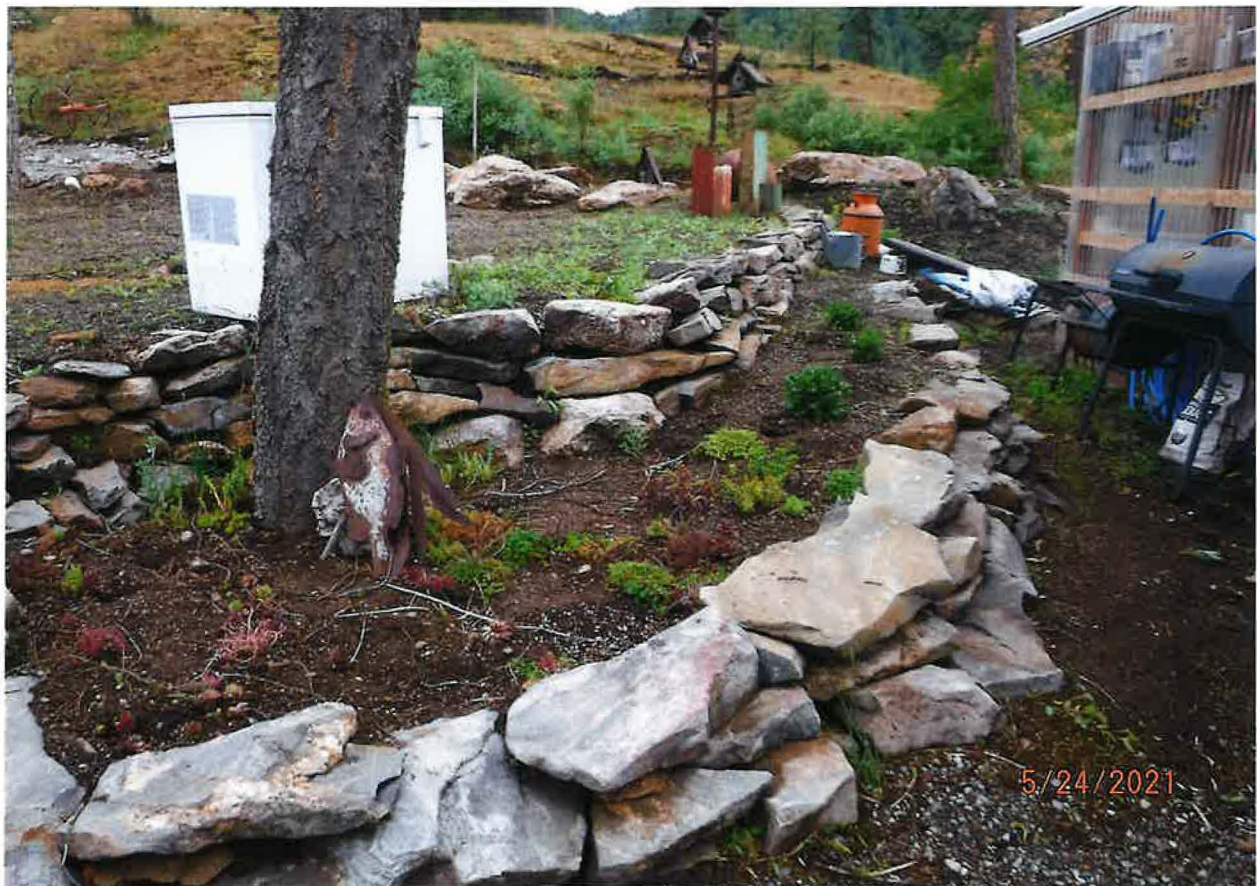


DOMESTIC POU





HOSE BIB TO GARDEN HOSE AND SPRINKLER FOR EXTERNAL DOMESTIC IRRIGATION USE



LANDSCAPE IRRIGATING AT DOMESTIC POU



STARTER PLANTS RECEIVING WATER AT DOMESTIC POU

