

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-18357
Exam Date: 03/26/2024

1. Current Owner:
RON ROCK 479 S WINDSWEPT TRL POST FALLS ID 83854-5768 AND/OR
ELLEN ROCK 479 S WINDSWEPT TRL POST FALLS ID 83854-5768
2. Accompanied by: Ron & Ellen Rock
Phone No: 208-755-1761
Address: Same as above
Relationship to permit Holder: Permit Holders.

3. **SOURCE:**
SPOKANE RIVER

Tributary
COLUMBIA RIVER

Method of Determination: ArcMap and DRG.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
95-9251	Groundwater	Domestic, Irrigation	Decree

Comments: Decreed WR 95-9251 authorizes Post Falls Ponderosa Water Assn to divert groundwater from well(s) for domestic use and irrigation of 9 homes associated with the community system; the applicant's parcel is served water for domestic use from 95-9251 and the irrigation beneficial use directly overlaps this Permit's irrigation POU. I've recommended adding condition X35 that describes combined use limitations between Right(s) 95-9251 and 95-18357 which shall not exceed 4.5 acres. This Permit's 2.0 acres irrigation is covered, in part, by the 4.5 acres authorized by 95-9251. X35 mitigates overlap concerns between the two WRs.

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

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

SPOKANE RIVER L11 (SE¼ SW¼), Sec. 5, Twp 50N, Rge 05W, B.M. KOOTENAI County

Method of Determination: GPS; POD is located at -116°59.469, 47°42.130.

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	
50N	05W	8		0.8			1.1												1.9
50N	05W	5											0.1						0.1
													L11						

Total Acres: 2.0

Method of Determination: Site visit to confirm irrigation acreage, GPS located POD during site visit.

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 Model No. or Discharge Size
CENTRIFUGAL PUMP	BERKELEY	2	196553	BERKELEY	B82456-01, 1 1/4 inch discharge

D. FLOW MEASUREMENTS

Flow measurement not required as per IDAPA RULE 37.03.02.035.01.r.iii.

E. FLOW CALCULATIONS

The diversion rate for this irrigation right is limited to **0.06 cfs** or 27 gpm.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 2.0 \text{ ac} \times 3.0 \text{ afa} = 6.0 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.06 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 29.3$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 6.0 \text{ af}$$

2. Volume Calculations for Other Uses: the irrigation use from the Spokane River source is exempt from the volume reporting requirements in accordance with IDAPA 37.03.02, Section 035.

G. NARRATIVE/REMARKS/COMMENTS

This permit qualified for an in-office exam and was initially processed by IDWR State Office staff for licensing purposes; due to overlap concerns and dual water systems (groundwater/surface water) present on the applicant's property a site visit was recommended to validate water system information prior to licensing. I performed a drive-by exam on 3/26/204 with the applicants, Ron & Ellen Rock, and am recommended licensing as an in-office exam.

The applicants didn't develop a domestic beneficial use under this surface water system. The applicant's residence and shop are service connected to a community groundwater source system covered by 95-9521. I have removed the domestic beneficial use from this permit during licensing review. The POD is a screened flexible intake pipe to Berkeley 2 HP centrifugal pump located on a riverfront rock outcropping. I found the irrigation system still winterized and inoperable at time of my site visit, but pump performance specifications illustrate the 2 hp pump is capable of producing 27 gpm or 0.06 cfs. The permit authorized development of 3.0 acres irrigation, but the irrigation system schematics provided by the applicant show 2.0 acres active irrigation occurs. I've recommended a maximum diversion rate of **0.06 cfs** based on department standards (0.03 cfs per acre up to 5 acres).

From the POD a 1 ¼ inch poly line routes up slope with an elevation gain of 100 ft (including 15 ft suction lift from river to pump) to a 1,700-gal cistern. With the irrigation system winterized, I was unable to determine operating pressures to evaluate head pressure for the system. Irrigation of lawn, landscape, gardens, and treed areas occurs by pressurized zone irrigation. There are a total of 9 zones with 6 sprinklers per zone & soaker hoses for tree watering. Zone watering occurs in rotation with only one active zone watering at a time. Photographs were taken of the irrigation POU and sketched out on field maps during my site visit. I used ArcMap aerial imagery to trace out the 2.0-acre irrigation POU. The annual volume required for 2 acres equals 6.0 af but there are no volumetric reporting requirements toward licensing this surface water source.

I removed condition 029 from the permit during licensing review; the applicant asserts a fish screen is installed by designation on the statement of completion form. I removed 132 associated with domestic use and have added condition X35 to describe irrigation overlap between 95-9521 & 95-18357. All other conditions on the permit have been carried forward to licensing. Aside from 95-9521 discussed on PG1 of this report, there are no other overlapping water right concerns for licensing this permit.

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>
IRRIGATION	03/15 to 11/15	0.06 CFS

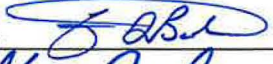
Totals: 0.06 CFS

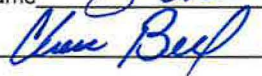
2. Recommended Amendments

 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 – Sr. Water Resource Agent

Field Examiner's Name  Date 3/26/2024

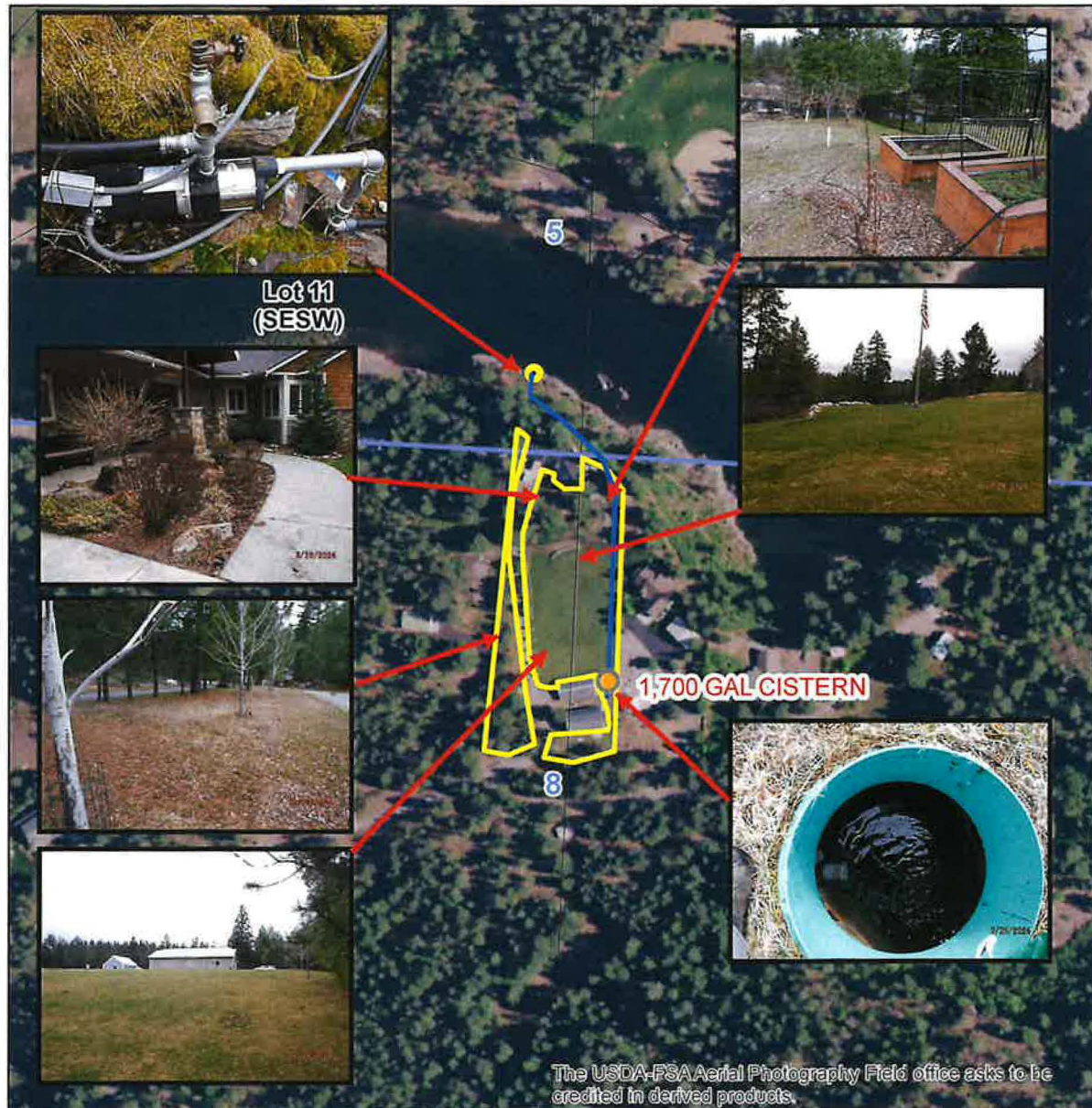
Reviewer  Date 2/4/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-18357

This map depicts the IRRIGATION system diagram.

05W

50N



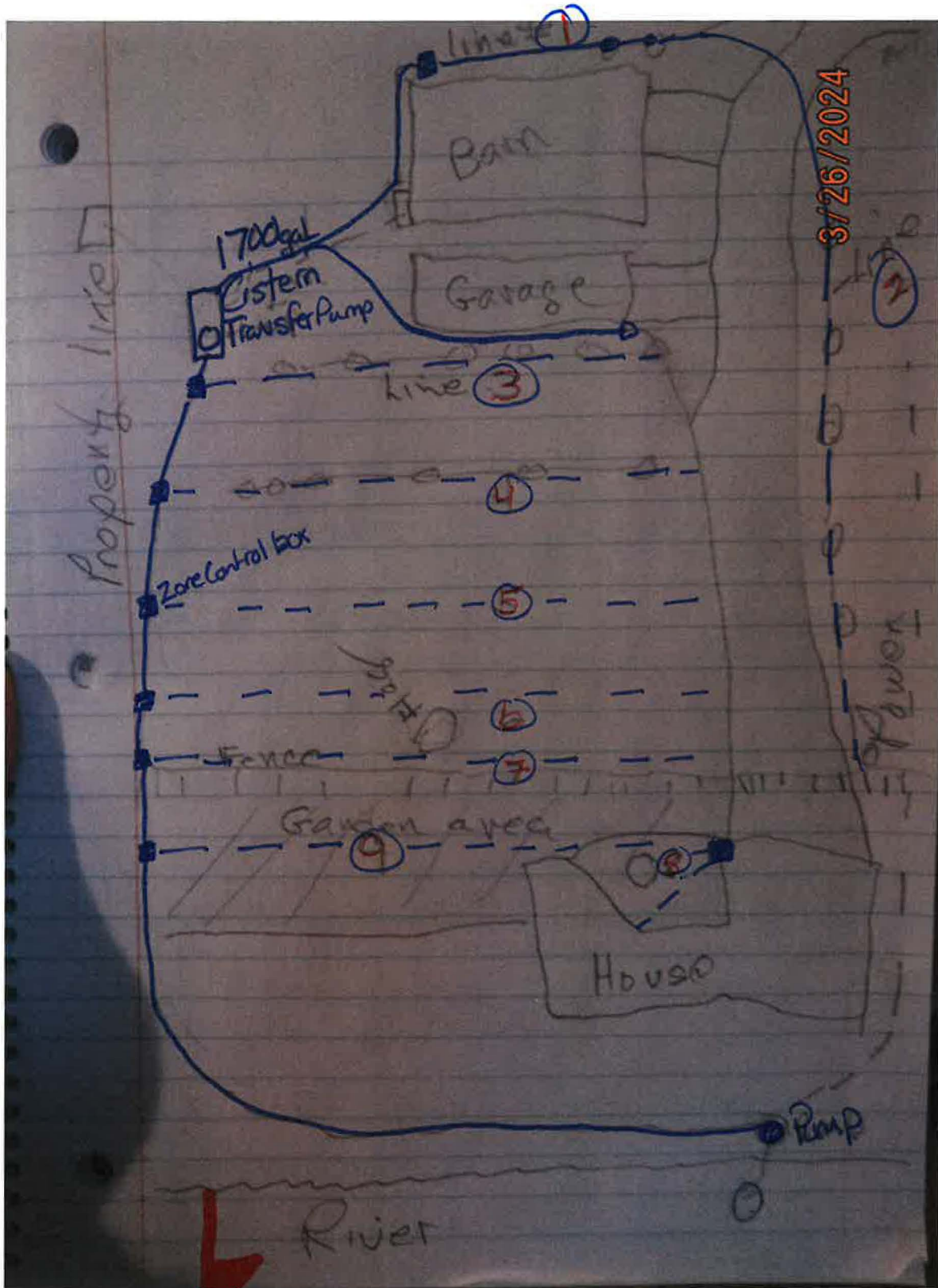
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters
- Point of Diversion

0 0.035 0.07 0.14 Miles



SEE ATTACHED WATER SYSTEM SCHEMATIC

WATER SYSTEM SCHEMATIC



- Zone Control Box
- Main 1 1/4" Water Line
- - - Zones 1-9 Water Lateral Lines

BERKELEY® SSHM Series Self-Priming Multi-Stage Centrifugal Pumps



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APPLICATIONS

- Residential and commercial turf irrigation
- Residential water systems
- Shower and washing systems
- Water transfer
- Heating and air conditioning systems
- Water features and fountains

ORDERING INFORMATION

Catalog Number	HP	Pipe Tapping Sizes		Motor Voltage	Approx. Wt. Lbs.
		Suction	Discharge		
B82456	2	1-1/2" NPT	1-1/4" NPT	230	95
B82639	2	1-1/2" NPT	1-1/4" NPT	230/460	95

SPECIFICATIONS

Motor Bracket and Integral Pump

Base – Close-grained cast iron, 1-1/2" NPT inlet connection, stable heavy-duty design for rigid pipe and solid base mountings

Discharge – Close-grained cast iron, 1-1/4" NPT discharge connection, with easy-access drain-port for end of season draining and winterization

Impellers and Diffusers – Noryl® precision molded extra-smooth ports to maximize efficiency and performance

Outer Shell – Polished 304 stainless steel

Shaft – 303 stainless steel

Priming Valve – Special brass priming valve, patented for trouble-free operation during the initial pump priming

Mechanical Seal – High-pressure seal, carbon-ceramic seal faces, Buna-N elastomers

Heavy Duty Motor – 2 HP, single-phase, 3450RPM, 230 Volt, high-service factor, capacitor-start/capacitor-run, open-drip proof motor, rated for continuous-duty operation. 230/460 TEFC available

Maximum Inlet Pressure – 20 PSI

Maximum Discharge Pressure – 130 PSI

Maximum Operating Temperature – 120°F (49°C)

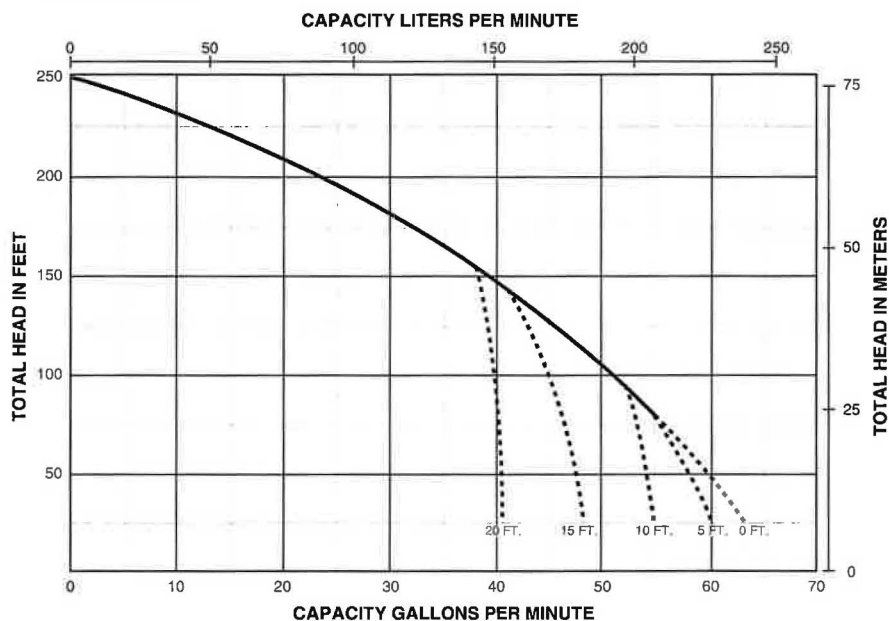
Maximum Suction Lift – 20 feet

Number of Stages – 4

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PUMP PERFORMANCE

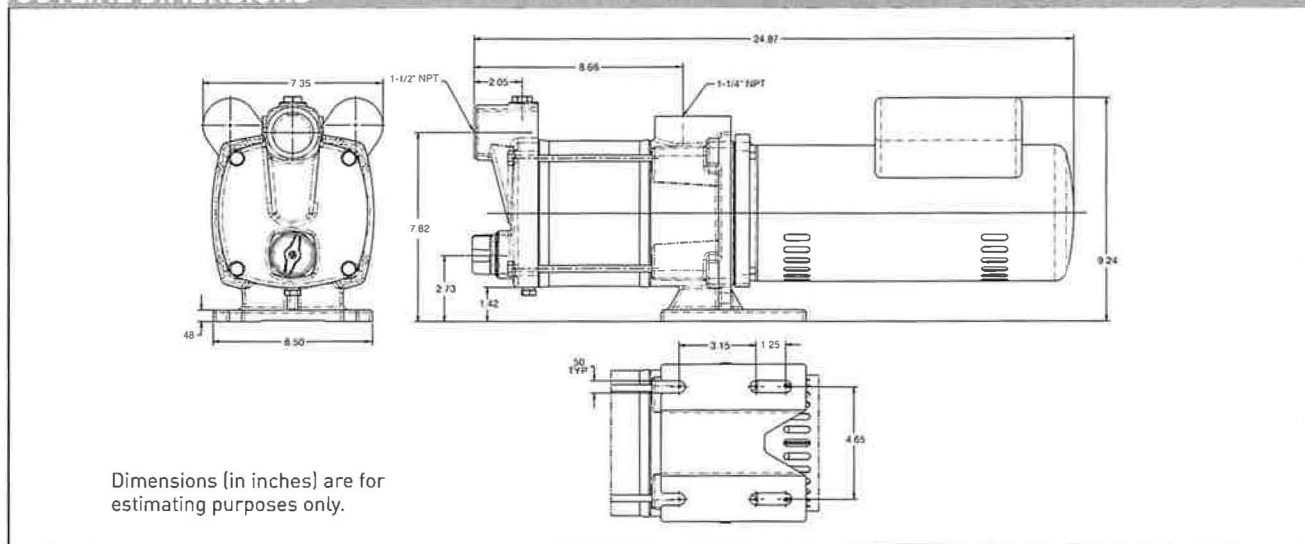


NOTE: Dotted lines indicate performance reduction at high suction lift.

PUMP PERFORMANCE (Capacity in Gallons Per Minute)

Catalog Number	HP	Discharge Pressure		Suction Lift in Feet			
		PSI	Feet Head	5'	10'	15'	20'
B82456 B82639	2	20	46	57	54	47	40
		30	69	56	53	46	39
		40	92	52	50	44	39
		50	115	47	46	43	38
		60	138	43	42	41	37

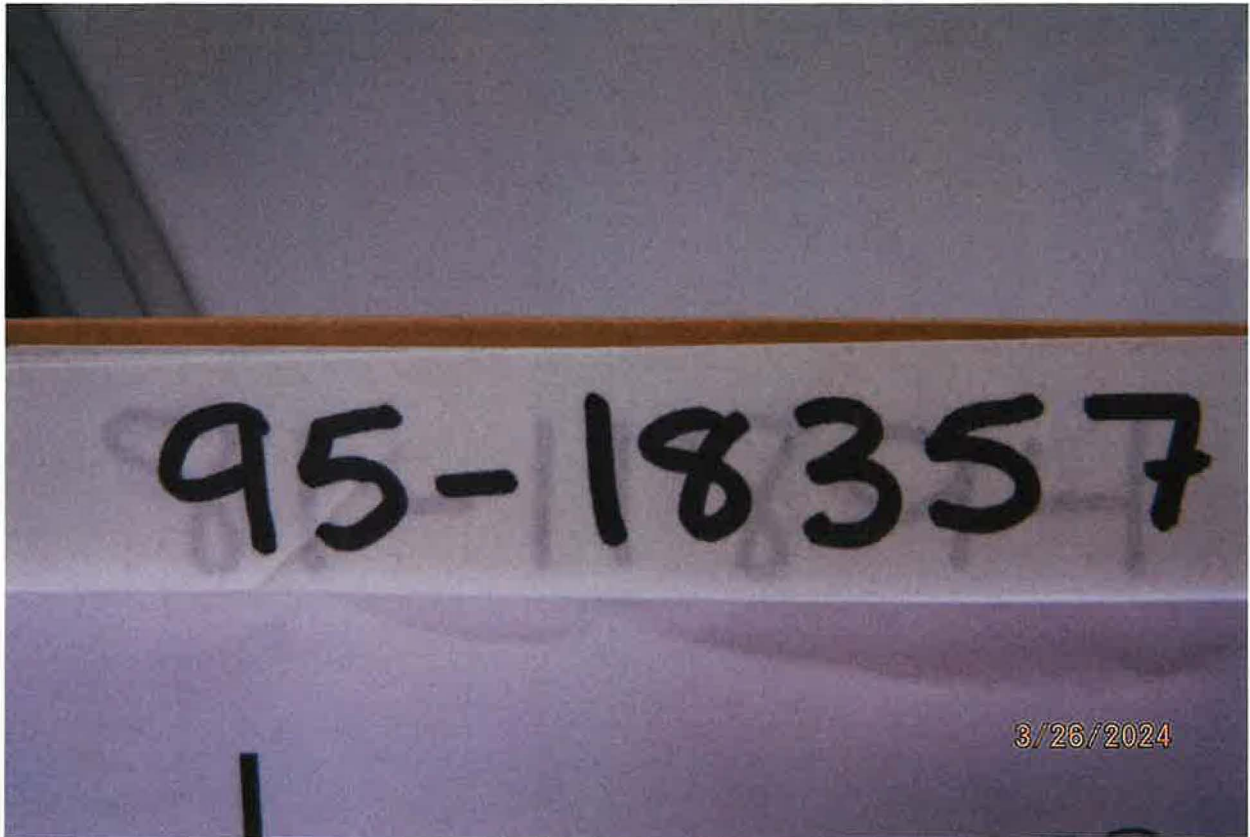
OUTLINE DIMENSIONS



Dimensions (in inches) are for estimating purposes only.



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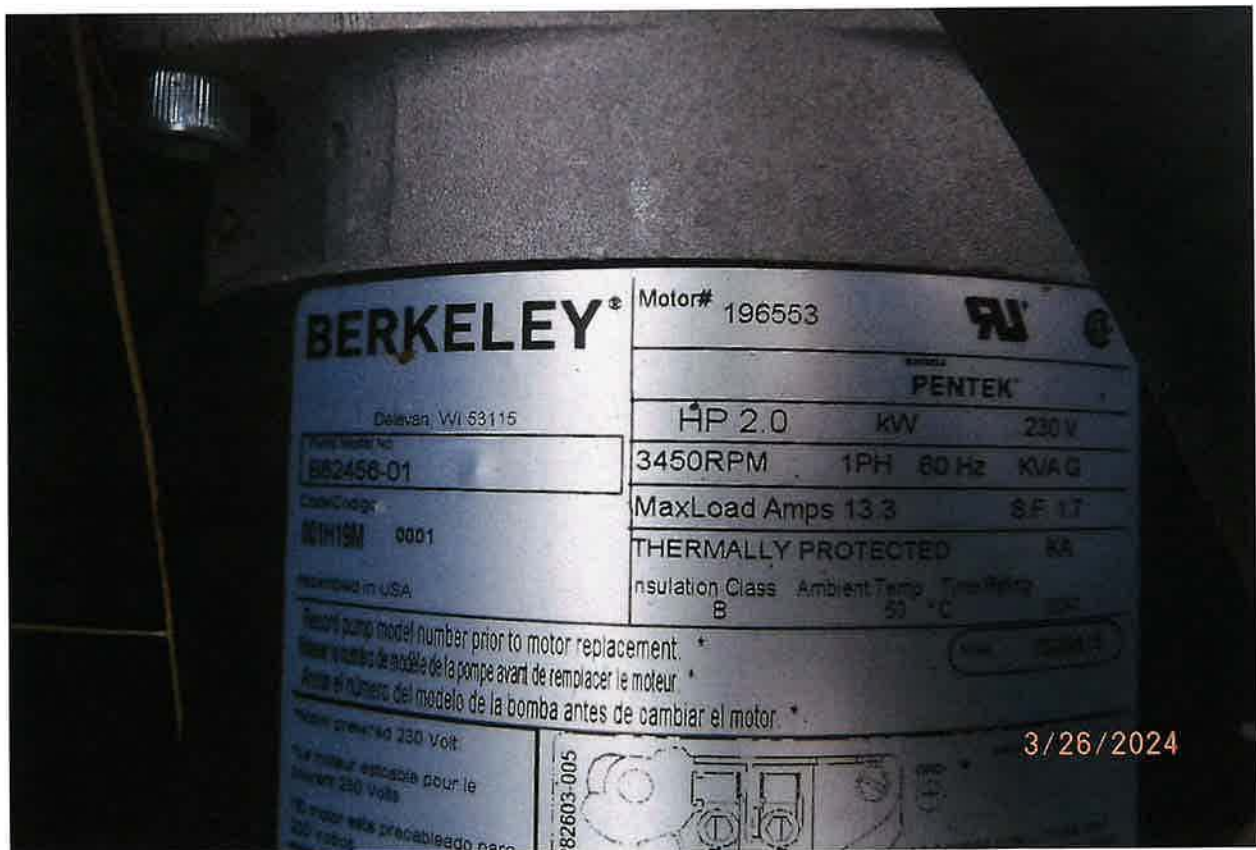
BENEFICIAL USE FIELD EXAM DATE 3/26/2024



POD – SCREENED FLEXIBLE PIPE FROM SPOKANE RIVER TO DIVERTING PUMP



POD – 2 HP SINGLE PHASE BERKELEY PUMP MODEL B82456-01 / MOTOR # 196553





POD – PUMP LOCATED ALONG RIVER WITH 1.5 INCH POLY PIPE RUN FROM POD TO STORAGE CISTERN



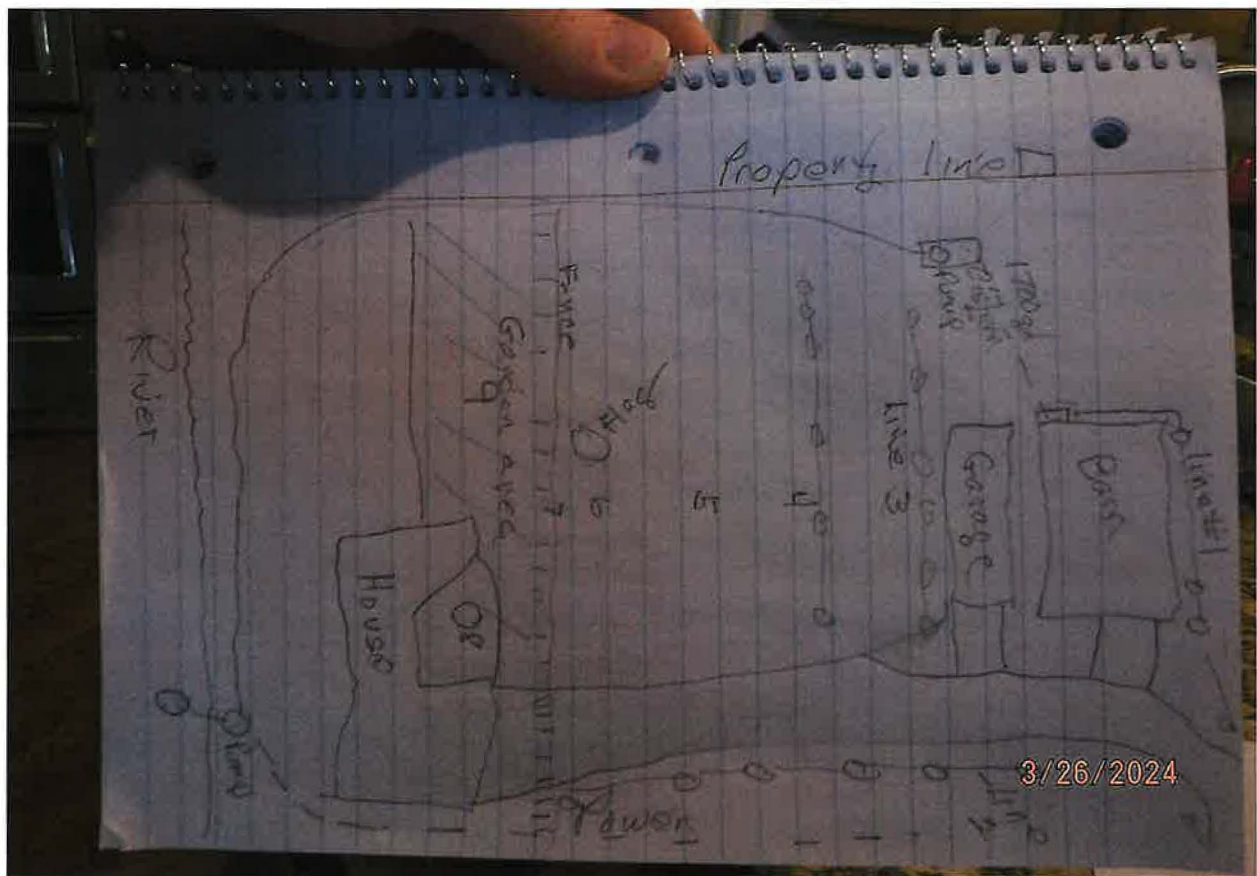


1,700 GAL STORAGE CISTERN WITH 1.5 HP PENTEK TRANSFER PUMP USED FOR PRESURIZED IRRIGATION SYSTEM: 9 ZONES WITH 6 HEADS PER ZONE





STORAGE CISTERN PUMP CONTROL LOCATED ON BACK OF BARN



IRRIGATION SYSTEM SCHEMATIC

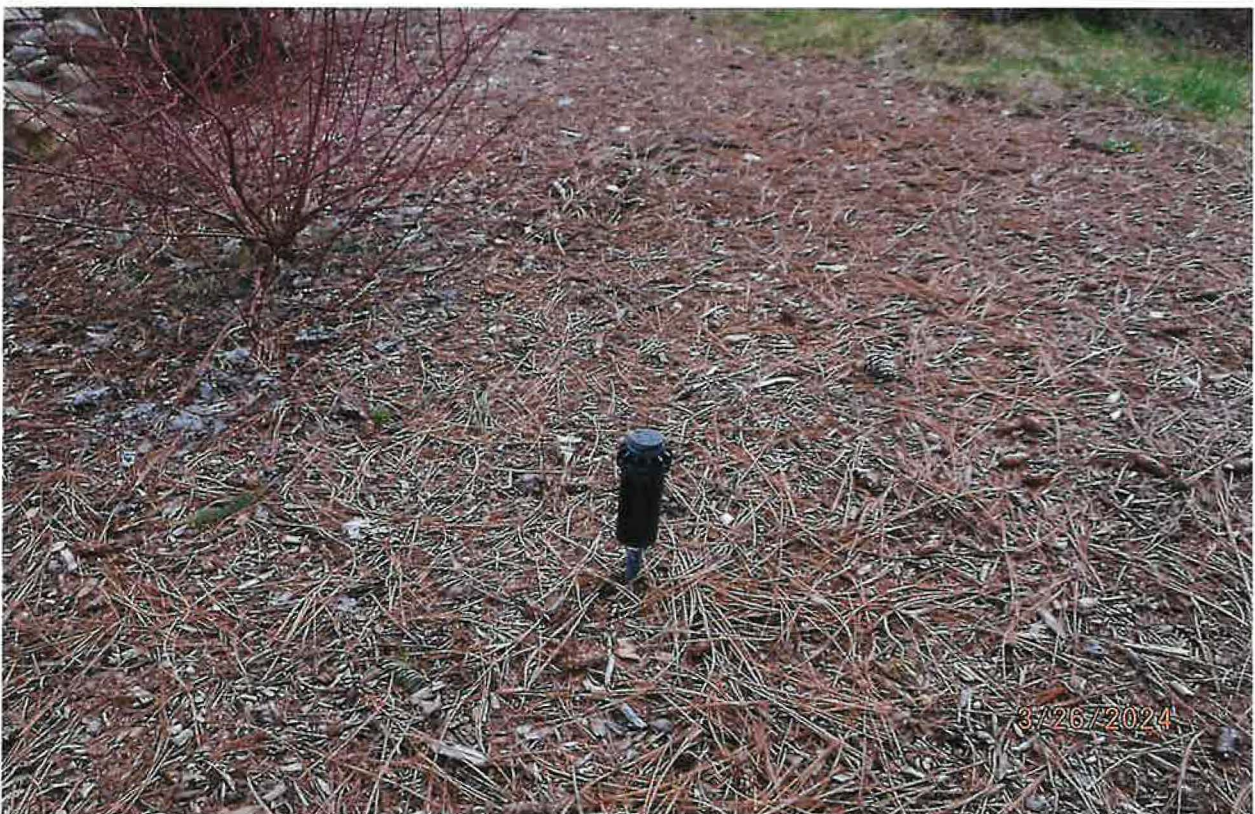


IRRIGATION POU – EXAMPLE ZONE CONTROL BOX





IRRIGATION POU – EXAMPLE OF PRESSURIZED SPRINKLER USED FOR ZONE IRRIGATION – HUNTER I-20
MODEL





IRRIGATION POU – TREE LINE WATERED BY SOAKER HOSES ALONG WESTERN BORDER OF PARCEL IN POU





IRRIGATION POU – ZONE 1 IN FRONT OF BARN AND BEHIND BARN





IRRIGATION POU – ZONE 2 TREE LINE BETWEEN DRIVEWAYS



IRRIGATION POU – ZONE(S) 3-7 LARGE FIELD LOCATED BETWEEN RESIDENCE AND BARN



IRRIGATION POU – ZONE 8 LANDSCAPE AND LAWN WATERING AROUND RESIDENCE





IRRIGATION POU – ZONE 9 LAWN, GARDEN, ORCHARD TREE WATERING





AREA BETWEEN GARAGE AND BARN IS NOT IRRIGATED