

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-10743
Exam Date: 07/18/2024

1. Current Owner:
MELINDA WOODY 241 RAYS WAY SANDPOINT ID 83864 OR
GREG STURGEON 241 RAYS WAY SANDPOINT ID 83864
2. Accompanied by: Greg Sturgeon
Phone No: 208-255-9792
Address: Same as above.
Relationship to permit Holder: Permit holder.

3. SOURCE:
SPRING CREEK

Tributary
RAPID LIGHTNING CREEK

Method of Determination: ArcMap and DRG layer.

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-10895	Groundwater	Domestic	Notice of Claim filed in CFPRBA
96-13641	Groundwater	Domestic	Notice of Claim filed in CFPRBA

Comments:

- 96-10895 – Applicants have filed a claim in the Clark Fork Pend Oreille River Basin Adjudication (CFPRBA) process for their groundwater well, which is used for domestic purposes. The groundwater system is separate from this surface water source system and for beneficial uses that are different from each other. There is no concern for overlap between the two WRs.
- 96-13641 – This domestic use claim from a groundwater well was filed by Adam & Ambler Schroder, who own a neighboring parcel; it is likely the POU shape will be changed during the review and recommendation process to align with the Schroder's property, but regardless this claim doesn't constitute overlap between water systems and uses related to this surface water source Permit.

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

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

SPRING CREEK NE¼ SE¼, Sec. 16, Twp 58N, Rge 01E, B.M. BONNER County

Method of Determination: GPS; POD is located at -116°23.5420, 48°54.3905.

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	
58N	01E	16													0.3				0.3

Total Acres: 0.3

PLACE OF USE: STOCKWATER

Twp	Rng	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
58N	01E	16													X				

Method of Determination: In-office exam with drive by to validate irrigation acreage and GPS locate the POD.

3.

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

X Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.

X 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
Creek diversion with Pump	RPS solar pump	Unknown	Unknown	RPS solar pump	¾" discharge poly pipe from RPS 400V+ model

D. FLOW MEASUREMENTS

1.

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

2. Measurements: No measurement required for an in-office exam.

E. FLOW CALCULATIONS

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

F. DIVERSION RATES

The diversion rate for this irrigation and stockwater right is limited to **0.03 cfs** or 13.5 gpm considering department rounding standards.

G. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.3 \text{ ac} \times 3.0 \text{ afa} = 0.9 \text{ af}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.03 \text{ cfs} \times 214 \text{ days} \times 1.9835 = 12.7 \text{ af}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 0.9 \text{ af}$$

2. Volume Calculations for Other Uses:

- The irrigation beneficial use from the Spring Creek water source is exempt from the volume reporting requirements in accordance with IDAPA 37.03.02, Section 035.
- Stockwater annual volume equals 0.1 af as illustrated in the table below using department standard volumetric values:

WR 96-10743 STOCKWATER ANNUAL VOLUME CALCULATIONS				
STOCK ANI	# HEAD	GPD	DAYS/YR	GPY
GOATS	6	2	365	4380
COWS	2	12	365	8760
HORSE / DONKEY	2	12	365	8760
PIGS	3	4	365	4380
TURKEYS / GEESE	100	18 (total)	365	6570
CHICKEN / GINEA / QUAIL	100	10 (total)	365	3650
GAL PER YEAR				36500
ACRE-FEET PER YEAR				0.112

H. NARRATIVE/REMARKS/COMMENTS

Permit 96-10743 qualifies for an in-office exam, but I wasn't able to validate irrigation acreage using aerial imagery and a site visit was conducted on 7/18/2024 to collect irrigation acreage information and photographic evidence of water usage at the irrigation & stockwater POU. Mr. Greg Sturgeon accompanied me during my site visit where I observed the POD in Spring Creek and the applicant's water system. A Rural Power Solution (RSP) model RSP 400V+ solar pump diverts from the creek to a 3/4-inch poly-pipeline water conveyance system up-slope approximately 65 feet in elevation change to a 1,000-gallon storage tank before distribution to water uses. I wasn't able to capture the flow rate as the pipeline is a single pipe attached to the storage tank located within a small structure.

RSP website information was reviewed to determine the flow rate I'm recommending for licensing purposes. A "Pump Performance Plots" diagram illustrates the RSP 400V+ flow rates with total pump head of 66 ft to be 11.5 gpm, which rounds up to 0.03 cfs considering department rounding standards. Although the Permit authorized larger diversion rates for both the irrigation & stockwater beneficial uses, the applicants are limited by the pump capacity found at time of site visit for licensing purposes or **0.03 cfs** as the maximum diversion rate.

I walked the irrigation POU with Mr. Sturgeon which consists of a fenced garden plot (hoop garden), a small, fenced orchard fruit tree plot, a narrow strip of grass area between a drive and stock pens, and a small lawn space located near the primary residence. Irrigation occurs from multiple frost-free hydrant risers off a main pipeline from the storage tank to hose and sprinklers. I sketched out the irrigation POU on field maps and during licensing review used ArcMap aerial imagery to trace out the irrigation POU consisting of 0.3 acres. The annual volume related to 0.3 acres equals 0.9 af but as this water systems source is a surface creek the irrigation beneficial use is exempt from volume reporting. As such, I've not recommended licensing with an annual volume for irrigation nor a maximum diversion volume on the face of the license. I've assigned **0.03 cfs** as the irrigation POU based on department standards for small irrigation acreage rate allowances of 0.03 cfs per acre up to 5 acres in size.

The stockwater POU was observed as several penstock areas with numerous small avian species and other assorted stock animals portrayed in the table above. I captured several photographs to illustrate the stock usage and the annual volume associated with the permit's development equals **0.1 af** considering department rounding standards. I've added this as the

annual volume for stockwater on the face of the license. The applicant has over 50 head of stock but in count less than 100 toward evaluating volume; chickens and turkeys consume less water and are calculated using 5-10 gpd (100 chickens) and 10-18 gpd (100 turkeys). I've recommended the diversion rate of **0.03 cfs** which is consistent with stock animals between 51 – 100 head, which is also the maximum diversion capacity of the system's pump found at time of licensing.

I removed condition X02 from the Permit during licensing review; the license designates total stockwater volume but doesn't maintain a description of the stock types in condition for licensing purposes. I replaced condition R66 with X31 to accurately describe the irrigation of less than 1 acre occurring at the POU. All other conditions on the Permit are carried forward to licensing. There are no overlapping water right concerns toward licensing this Permit.

Have conditions of permit approval been met? X Yes No

I. 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	0.03 CFS	
STOCKWATER	01/01 to 12/31	0.03 CFS	0.1 AF

Totals: 0.03 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

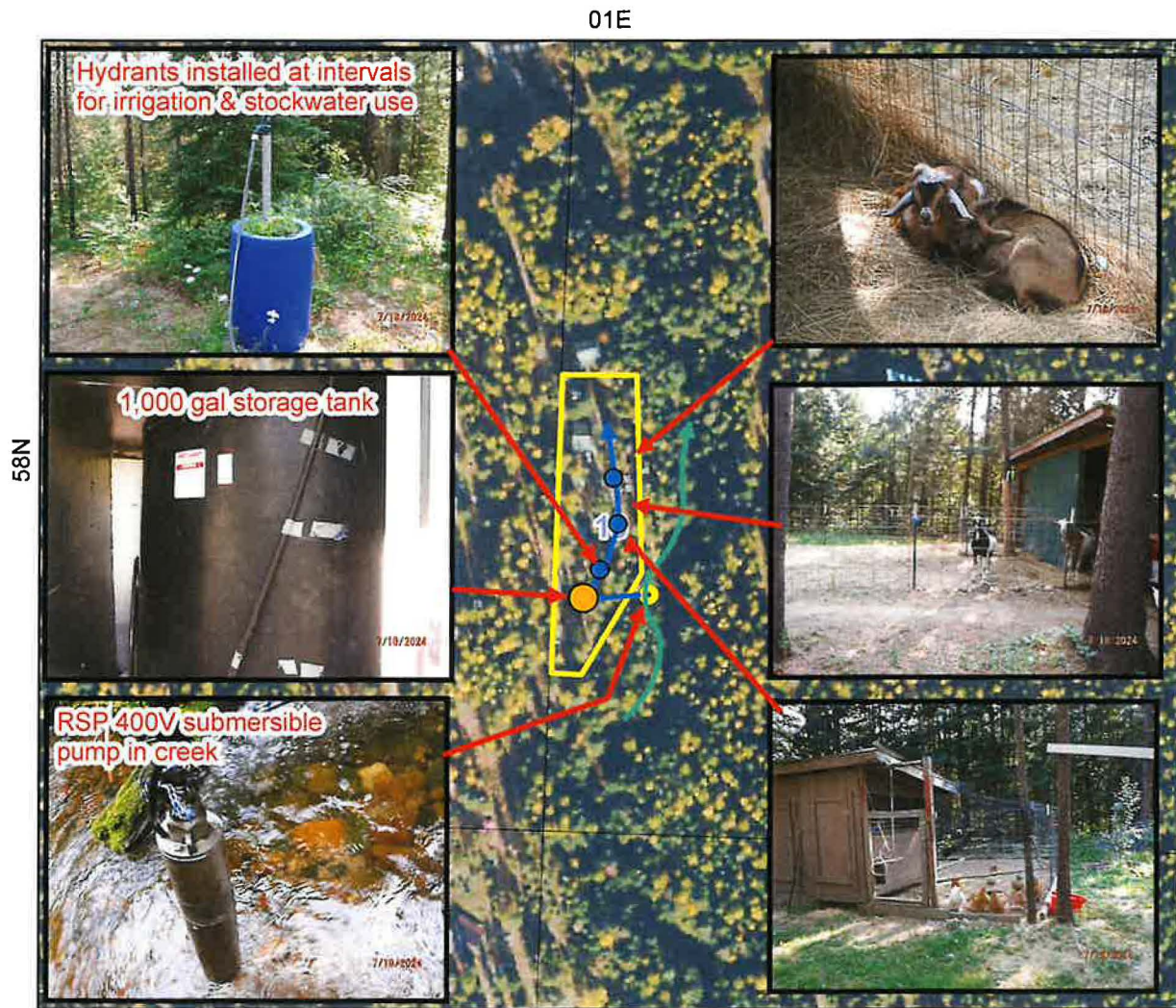
J. AUTHENTICATION Luke Bates – Sr Water Resource Agent

Field Examiner's Name S. B. P. Date 7/19/2024

Reviewer Chris Bell Date 1/17/2025

State of Idaho
Department of Water Resources
Attachment to Field Exam
96-10743

This map depicts the STOCKWATER system diagram.



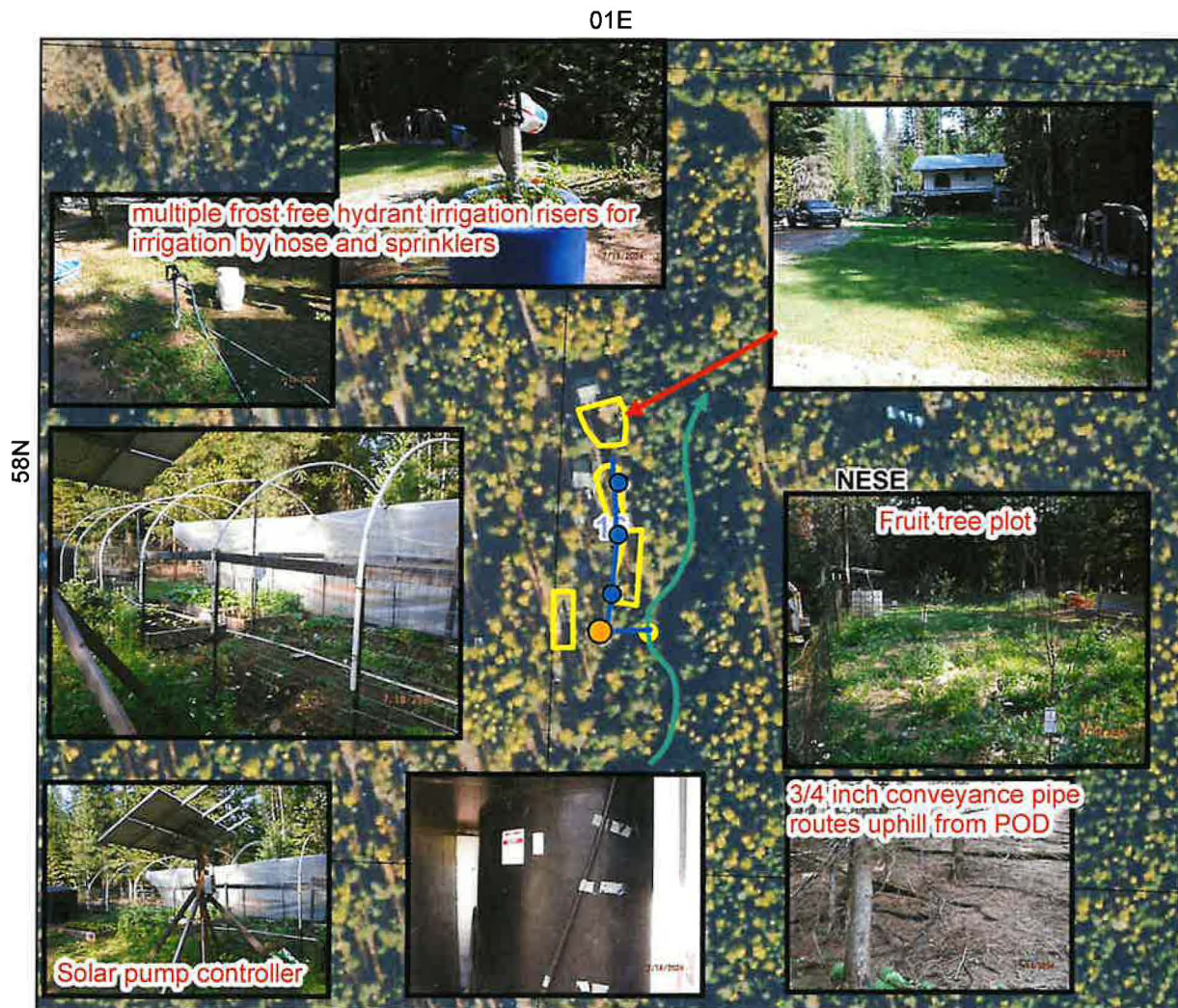
0 0.035 0.07 0.14 Miles

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



State of Idaho
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This map depicts the IRRIGATION system diagram



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



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The **RPS 200** is the small workhorse of the family. It comes standard with two **100 watt solar panels**, a 'smart' controller, wires and sensors. It operates at a **maximum head of 164 feet** and generates flow rates up to 5.8 gallons per minute.

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The **RPS 800V+** with centrifugal pump is a higher volume, lower head option delivering up to **16GPM** at low heads.

PUMP PERFORMANCE PLOTS

Total Pump Head (ft) vs Gallons Per Day (6 hours pumping)

Conservative estimate for most of the USA in spring, summer, and fall. Northern states will see slightly less output in the winter months.

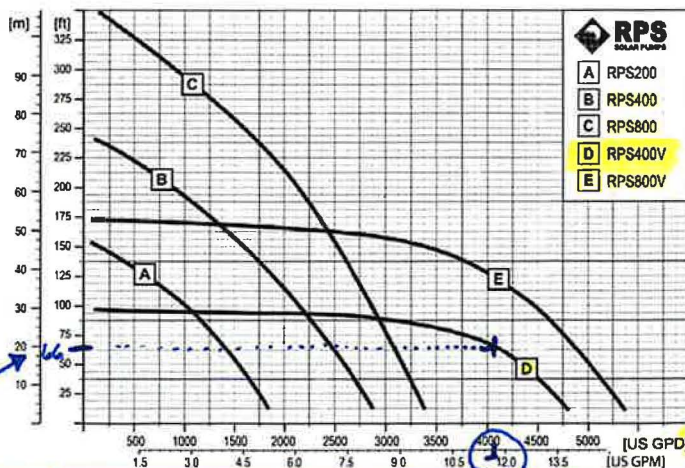
NEED A LARGER PUMP?

For volumes up to 50,000 gallons per day or depths up to 1,000 feet, see our RPS Pro Series at RPSsolarpumps.com.

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~66 Ft of head



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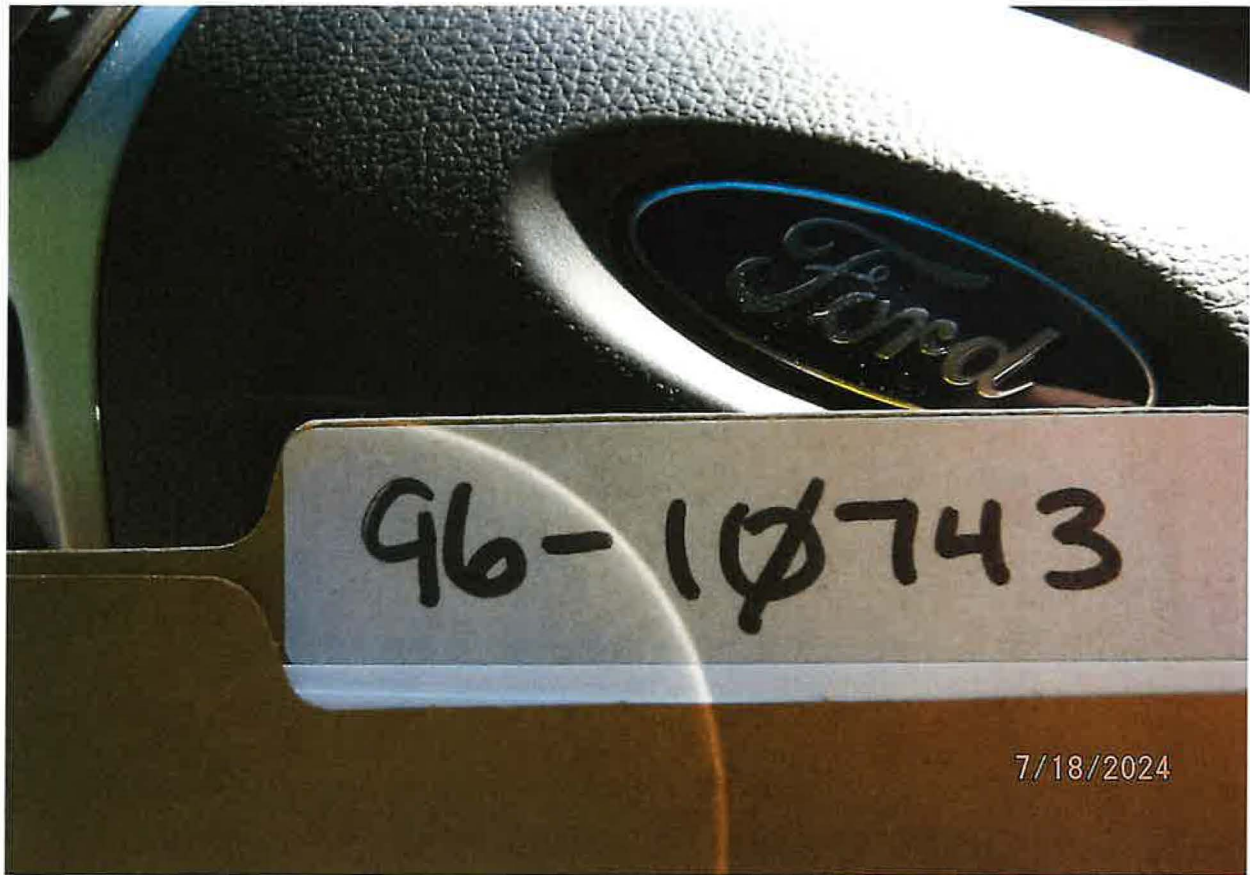
support@ruralsystems.com



888-637-4493



28301 Industrial Blvd.
Hayward CA 94545



BENEFICIAL USE FIELD EXAM DATE 7/18/2024



POD – SUBMERSIBLE PUMP IN CREEK



POD – RURAL POWER SOLUTIONS (RSP) PUMP – RSP400V+



¾-INCH CONVEYANCE POLY PIPELINE FROM POD UP-SLOPE TO 1,000-GAL STORAGE TANK



RSP PUMP CONTROLLER AND SOLAR PANEL CONFIGURATION





1000-GAL STORAGE TANK TEMPORARILY STORES WATER FOR STOCKWATER AND IRRIGATION USES



IRRIGATION POU – HOOP GARDEN



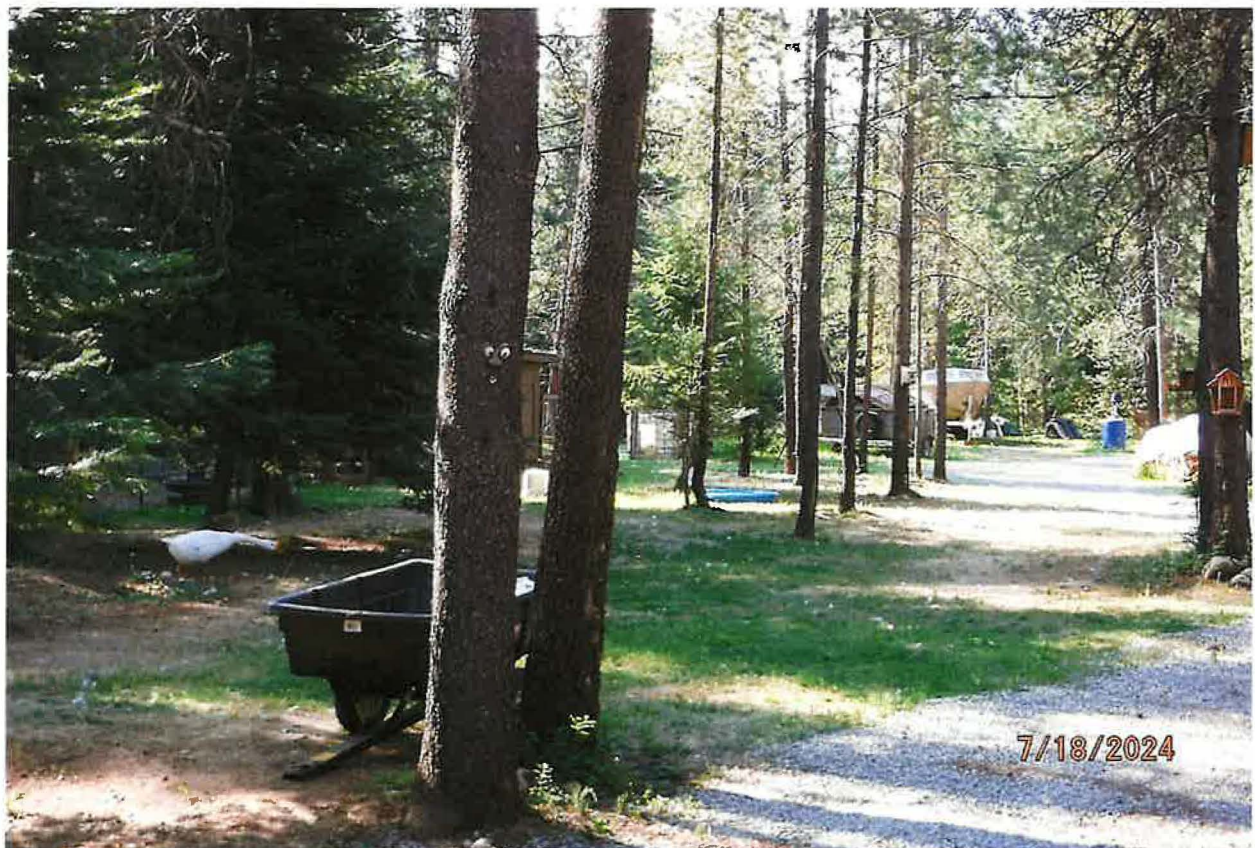
IRRIGATION POU – MULTIPLE FROST-FREE HYDRANT RISERS FROM MAIN SERVICE LINE (FROM STORAGE TANK) TO HOSE AND SPRINKLERS FOR WATERING USES



IRRIGATION POU – FRUIT TREE PLOT WATERED WITH HOSE AND SPRINKLERS



IRRIGATION & STOCKWATER USES FROM RISER HYDRANTS & HOSES

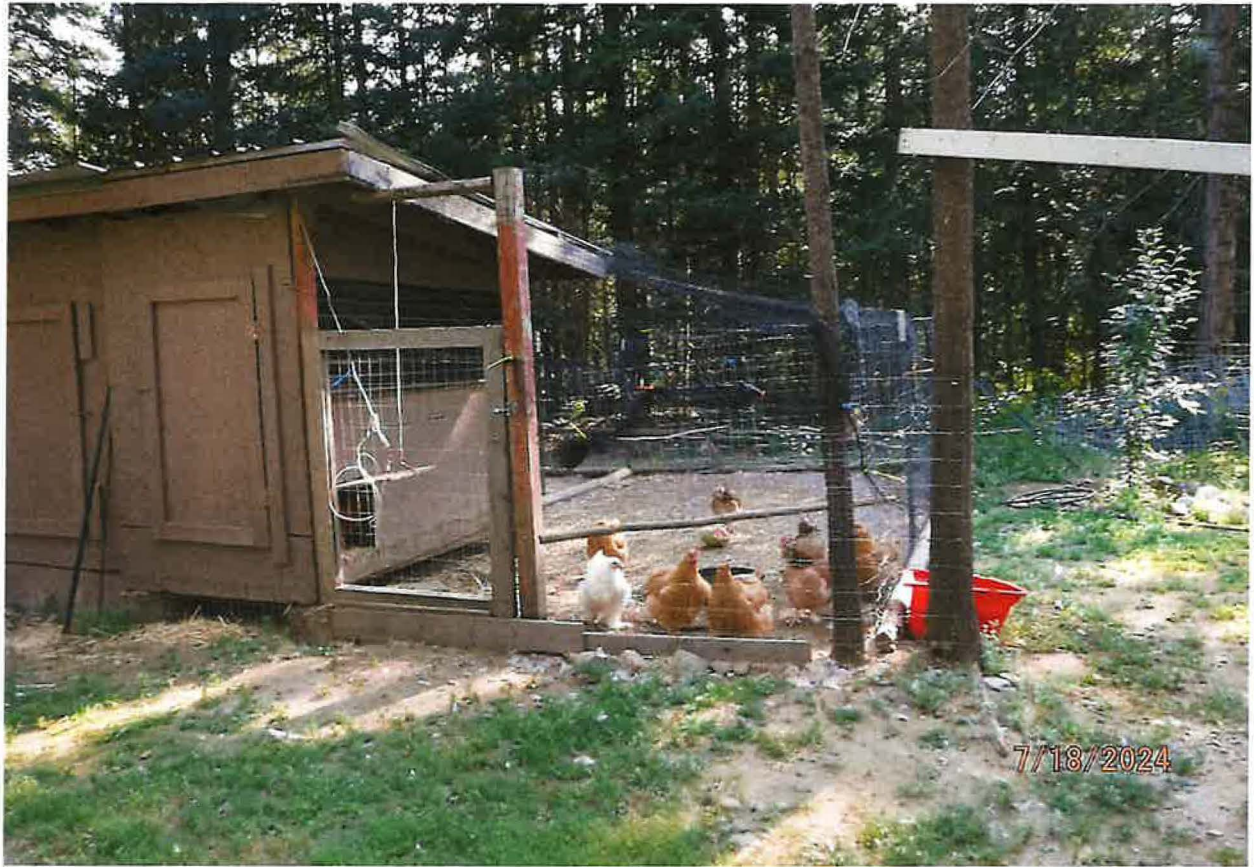


IRRIGATION POU – NARROW CORRIDOR OF GRASS BETWEEN DRIVE AND STOCK PENS

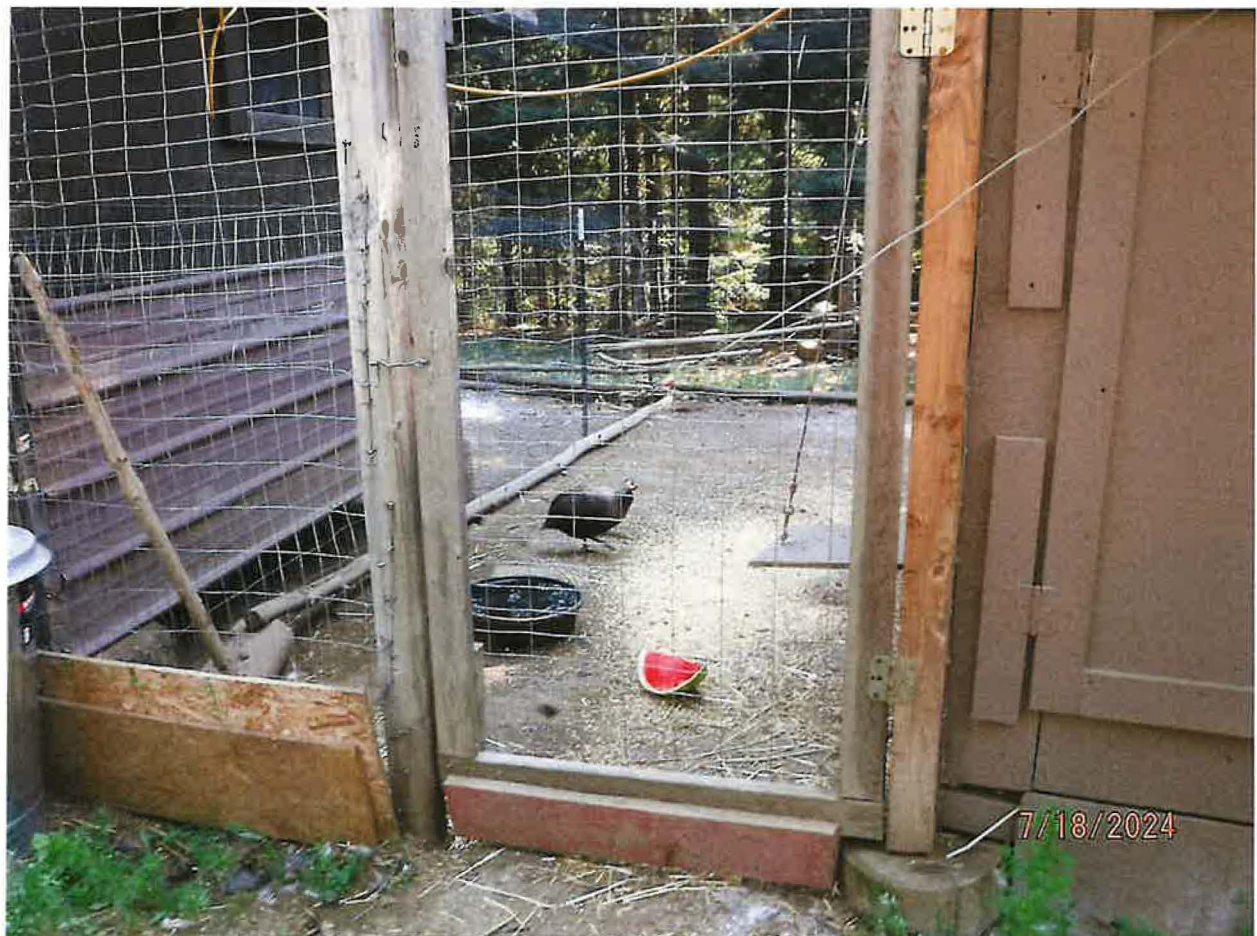


IRRIGATION POU –





STOCKWATER POU –





STOCKWATER POU –





STOCKWATER POU -