

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 96-10098
Exam Date: 05/18/2023

1. Current Owner:
THOMAS J LENEHAN 230 WILD FAWN LN SAGLE ID 83860-7035
2. Accompanied by:
Phone No: (208) 597-2776
Address: Same as above
Relationship to permit Holder: Current Permit Holder

3. **SOURCE:**
GROUND WATER

Method of Determination: ArcMap & DRG

B. OVERLAP REVIEW

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

Water Right No.	Source	Purpose of Use	Basis
96-10099	Groundwater	Domestic & Stockwater	Notice of Claim filed in the CFRBA

Comments: A Notice of Claim 96-10099 has been filed by Thomas Lenehan, in the Clark Fork Pend Oreille River Basin Adjudication (CFPRBA) process. The claim POD and POU designate a separate GW well source than this right but has stockwater use directly overlaps this permit. Mr. Lenehan asserts both water systems are cycled during the year to serve stockwater on both parcels. The standard diversion rate for up to 50 head of stock is 0.02 cfs. This is the limit for the combined stockwater use. I have recommended licensing with condition 928 applied which states:

Some of the water use authorized by this right is claimed with an earlier priority date on Clark Fork-Pend Oreille River Basins Adjudication Claim No. 96-10099. If Claim 96-10099 is decreed as it is claimed, Rights 96-10098 and 96-10099 when combined shall not exceed the stockwater use of 0.02 cfs.

Addition of condition 928 with combined use limitations mitigate overlap concerns between the 96-10098 and beneficial use claim 96-10099.

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

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

GROUND WATER SW¼ SW¼, Sec. 22, Twp 56N, Rge 02W, B.M. BONNER County

Method of Determination: **GPS Locator POD is located at -116 33.7517, 48 10.8946**

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	
56N	02W	22											8.6	0.5					9.1

Total Acres: 9.1

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	
56N	02W	22											X	X					

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	
56N	02W	22											X						

Method of Determination: Beneficial Use 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.

X

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
PRE-1987 WELL NO DATA	FRANKLIN ELECTRIC	1			

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 having a pressure tank on the main line from well.

E. FLOW CALCULATIONS

Measured Method: Theoretic Pump Equation estimates flow as follows:

- Well has 1hp pump and is estimated to be at approximately 150 ft deep so the pump would be placed at approx. 135 ft with pressure measured at 40 psi. This equates to 13.9 gpm or 0.03 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 9.1 \text{ acres} \times 3.0 \text{ af} = 27.3 \text{ af}$$

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

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 12.7 \text{ af}$$

2. Volume Calculations for Other Uses:

- Domestic annual volume based on a RV (trailer) with individual bath units connected to a sewer connection which allows 50 gpm per person per year. There are 4 people who use the RV at least half of the year.
 - 4 people x 50 gpm x 365 days divided by 325,850 (per acre foot) = 0.2 af
- Stockwater annual volume based on 5 horses and 40 chickens
 - 5 horses x 12 gpd x 365 days divided by 325,850 = 0.07 af

- Based on department standards, 40 chickens equates to 10 gpd (up to 100 chickens) x 365 days divided by 325,850 = 0.01 af

Combined Stockwater totals 0.08 af which department standards allows only to tenths in volume making the total for stockwater 0.1 af

Water Right License 96-10098 uses of 12.7 af for Irrigation + 0.2 af for Domestic + 0.1 af for Stockwater for a Total Annual Volume of 13 af considering department rounding standards.

G. NARRATIVE/REMARKS/COMMENTS

Department staff performed an initial field examination on 5/18/2023 with the permit holder, Thomas J. Lenehan showing an older groundwater well being used for irrigation, domestic, and stockwater uses. The flow measurement was not able to be done due to the pressure tank where main service lines are routed to the RV & a main trunk line for irrigation purposes. At time of exam, the applicant operated the system with the farthest irrigation zones running. The water system incorporates a Franklin Electric Motor which is 1 hp, a pressure gauge which reads 40 psi. There was no well tag or information on the well and attempts to locate the well in ArcMap were not successful. There are 6 wells in the center of the ¼ ¼ on ArcMap and the depths of these wells were 145, 145, 117, 140, 138, & 150 feet (casing depth. I used the deepest one which was 150 ft less the 15 feet rise to place the pump (which is standard office calculation) used a pump lift calculation of 135 feet. The Theoretical Pump Equation (TPE) calculated the diversion rate capacity of the well pump to be 0.03 cfs or 13.9 gpm.

The permit holder is limited by the permit approved which is 0.20 cfs maximum diversion rate for licensing considerations. The irrigation acreage diversion rate authorized equals **0.03 cfs** which was demonstrated as the production of the system for irrigation, the domestic diversion rate is limited to **0.03 cfs** & the stockwater diversion rate is limited to **0.02 cfs** which is the department standard for each beneficial use. The diversion rate recommended for licensing is calculated on values based on the TPE with a maximum diversion rate of **0.03 cfs**, which is what the pump will produce. We are recommending a combined maximum diversion volume of 13 afa for all uses.

The domestic POU was traced out on field maps and consists of one recreational vehicle (RV) that is service connected. Arcmap aerial imagery was used to accurately trace out the domestic POU during licensing review. The annual volume recommended for domestic use of a well connected to service an RV (trailer) equals **0.2 af** for 4 people at 50 gpd per person, with irrigation as a separate beneficial use component.

The stockwater POU is used on both parcels, which they currently have horses & chickens at time of field exam. There are portable water troughs, movable fencing for horses and some of the chickens were roaming the parcel. I am recommending the stockwater annual volume be designated using the Stockwater Annual Volume Calculations for 10 horses and 40 chickens. The stockwater annual volume equates to 10 horses x 12 gpd x 365 days = 21,900 gal per year / 325,850 gal per acre-foot = **0.07 af** plus 40 chickens at 10 gpd x 365 days = 3,650 gal per year / 325,850 gal per acre-foot = 0.01 af with a combined total being **0.1 af** using department rounding standards.

The irrigation POU was walked with Mr. Lenehan and incorporates a main water line to the RV and many irrigation lines (pvc pipe, shut off valves & hoses) run from irrigation risers at intervals throughout the entire parcel. Applicant uses a mixture of tripod sprinklers, rainbird impact drive heads. Irrigation also occurs in the garden, lawns, pastures & trees throughout the property. Following review of aerial imagery on ArcMap, which illustrates active irrigation has been occurring at the parcel. Arcmap was used to accurately trace out the irrigation POU consisting of 9.1 acres. The annual volume recommended for licensing equals 9.1 ac x 3.0 afa = **12.7 af**. The maximum diversion volume designated during licensing review equals 0.2 af (domestic) + 0.08 af (stockwater) + 12.7 af (irrigation) = **13 af**.

Condition 046 was removed from the permit during licensing review. Addition of condition 928 with combined use limitations to mitigate overlap concerns between the 96-10098 and beneficial use claim 96-10099. Stockwater is used by both systems for stockwater on parcels RP56N02W226465A & RP56N02W226455A but from 2 different wells. I've included description of combined use limitations for stockwater between the two rights if the claim is decreed as claimed. All other conditions on the permit shall be carried to licensing. There are no other overlap concerns for this water right.

Have conditions of permit approval been met? ☒ 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	0.03 CFS	12.7 AF
STOCKWATER	01/01 to 12/31	0.02 CFS	0.1 AF
DOMESTIC	01/01 to 12/31	0.03 CFS	0.2 AF

Totals: 0.03 CFS 13 AF

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

I. AUTHENTICATION Tammy Alleman -

Field Examiner's Name Tammy Alleman Date 12/13/23

Reviewer _____ Date _____

This map depicts the DOMESTIC system diagram.

56N



A horizontal number line representing distance in miles. The line starts at 0 and ends at 0.14 Miles. There are major tick marks at 0, 0.035, 0.07, and 0.14 Miles. Between these major ticks, there are four smaller tick marks, dividing each 0.035-mile segment into five equal parts of 0.007 miles each.

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

→ Picture Location



State of Idaho
Department of Water Resources
Attachment to Field Exam
96-10098

This map depicts the STOCKWATER system diagram.



0 0.035 0.07 0.14 Miles

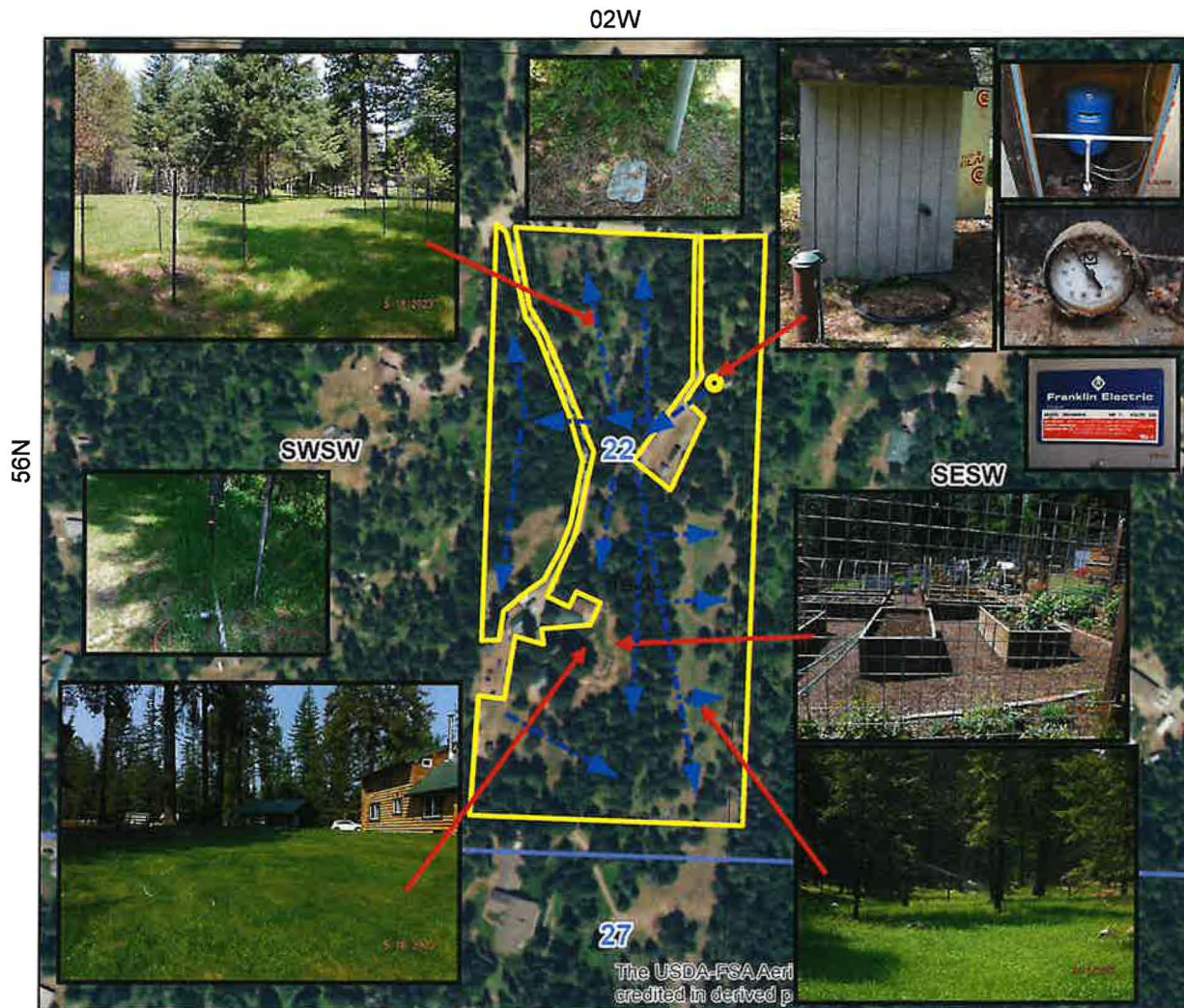
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters
- Point of Diversion

Picture Location



State of Idaho
Department of Water Resources
Attachment to Field Exam
96-10098

This map depicts the IRRIGATION System Diagram.



0 0.035 0.07 0.14 Miles

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

-  Location of Picture
-  Irrigation Lines

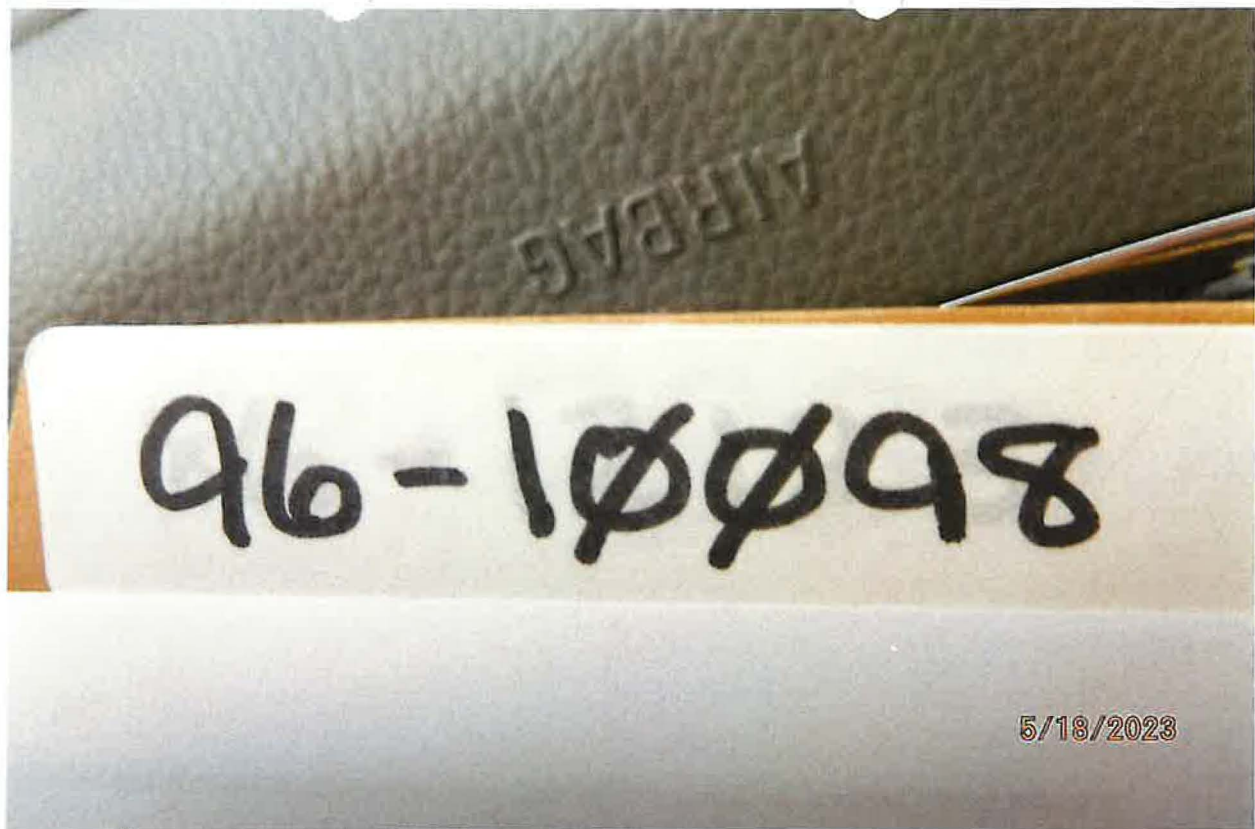


THEORETICAL PUMPING EQUATION(S) FOR WR# 96-10098

Theoretical Pumping Equation is required because system did not allow for a proper measurement. Pump is estimated to lift 135 ft, and running at 40 psi.

<u>PUMP EQUATION</u>						
WATER RIGHT No. 96-10098						
Pump in Unknown Well		HP	H in feet	Efficiency as a decimal	Pumping lift in feet	System pressure in PSI
Q =	HP*8.8*Eff/H	1	227.517	0.8	135	40
Q = 0.031 cfs 13.9 gpm						

WR 96-10098 STOCKWATER ANNUAL VOLUME CALCULATIONS				
STOCK ANIMAL	# HEAD	GPD	DAYS/YR	GPY
HORSES	5	12	365	21900
CHICKENS	40	10	365	3650
GAL PER YEAR				25550
ACRE-FEET PER YEAR				0.07841



BENEFICIAL USE FIELD EXAM DATE 5/18/2023



POD – GROUNDWATER WELL – OLDER WELL NO TAG INFORMATION



ILEGIBLE WELL INSPECTION TAG ON WELL CASING



SMALL PUMP HOUSE WITH PRESSURE TANK



1 HP FRANKLIN ELECTRIC PUMP MOTOR INSTALLED IN WELL



40 PSI OPERATING PRESSURE



DOMESTIC ELECTRIC CONTROL PANEL BOARD



DEDICATED WATER LINE FOR DOMESTIC USE 1 RV



DOMESTIC POU – 1 RV



DEDICATED POWER METER FOR RV SITE



IRRIGATION POU – CONVEYANCE SYSTEM INCORPORATES PVC MAIN TRUNK LINES WITH HOSE BIBS AT INTERVALS THROUGHOUT THE ENTIRE POU, HOSE TO TRIPOD IMPACT SPRINKLERS WITH 5/32ND NOZZLES.



IRRIGATION MAIN LINE



IRRIGATION RISER TO HOSE AND SPRINKLER





IRRIGATION POU



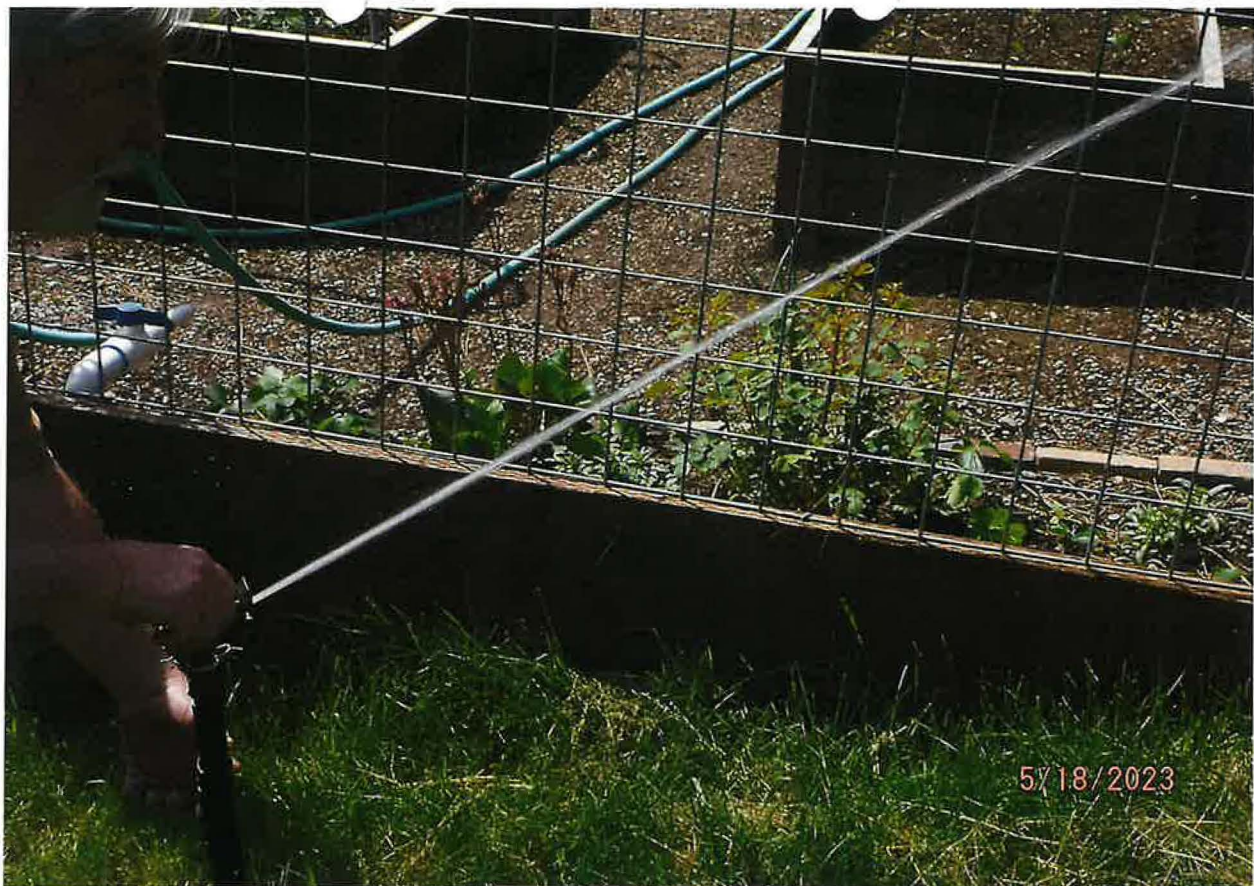
IRRIGATION POU – FURTHEST SOUTHEASTERN REACH OF SYSTEM; ACTIVE IRRIGATION IN USE DURING EXAM



IRRIGATION POU – PARCEL WATERED FOR STOCK USE



IRRIGATION POU – LARGE GARDEN SPACE NEAR HOUSE ON PROPERTY



IRRIGATION POU – RAINBIRD IMPACT SPRINKLERS THROUGHOUT POU



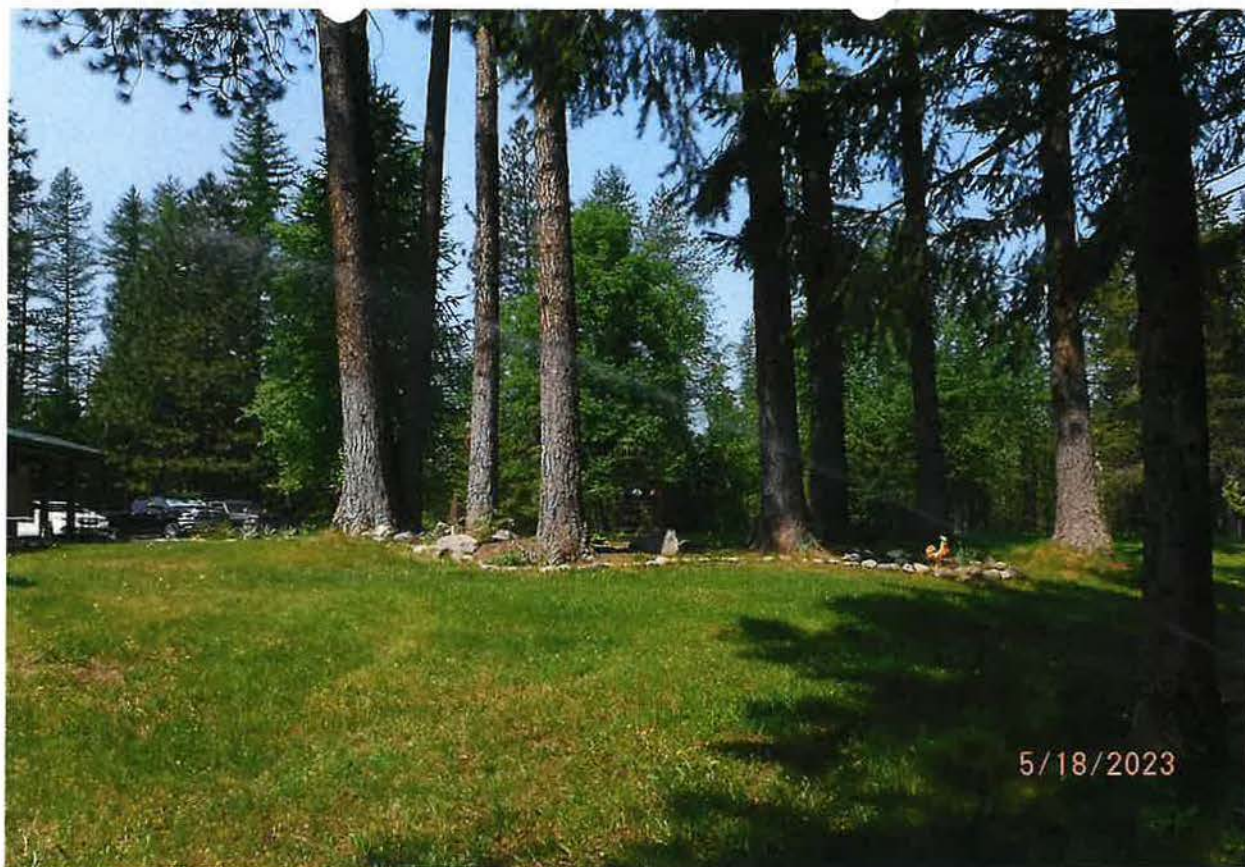
IRRIGATION RISER PIPE WITH IMPACT SPRINKLER



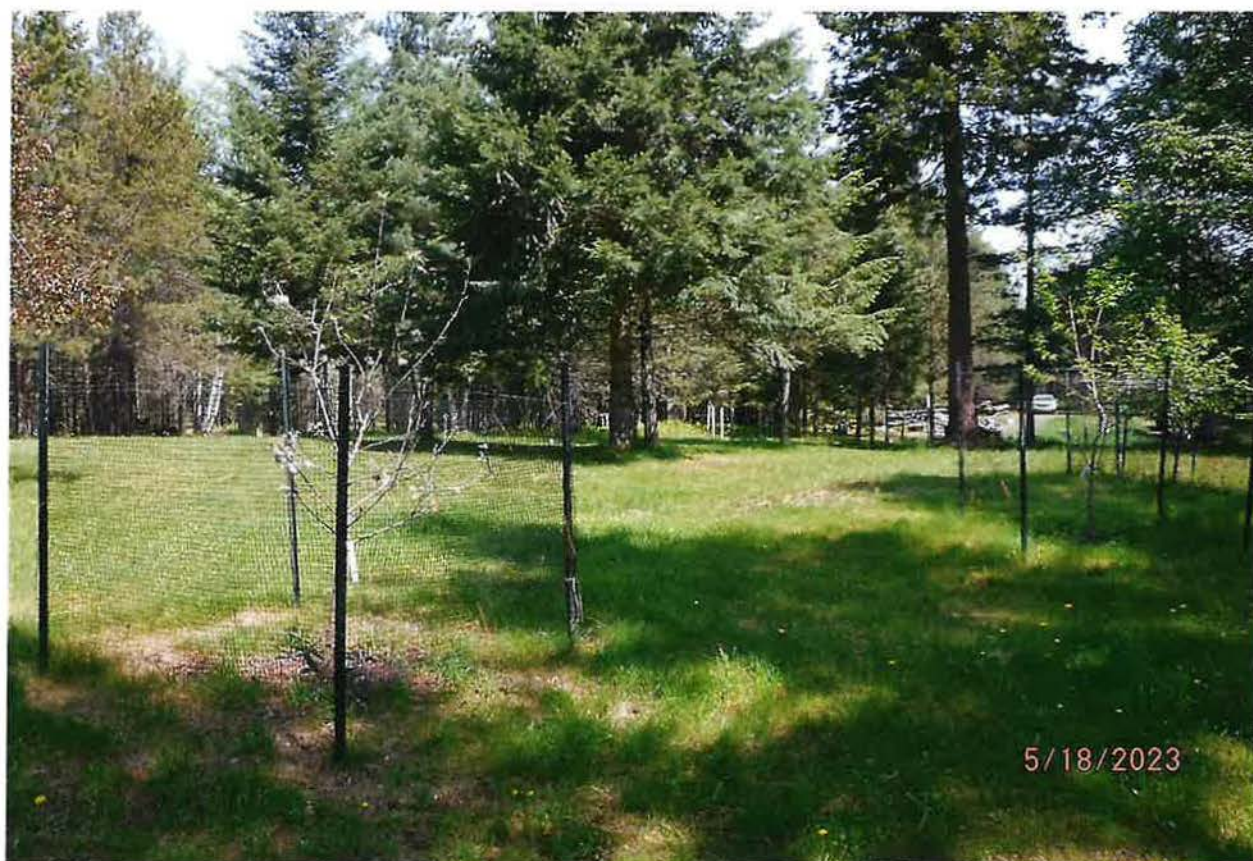
IRRIGATION POU – LAWN SPACE AROUND MAIN RESIDENCE



IRRIGATION POU



IRRIGATION POU



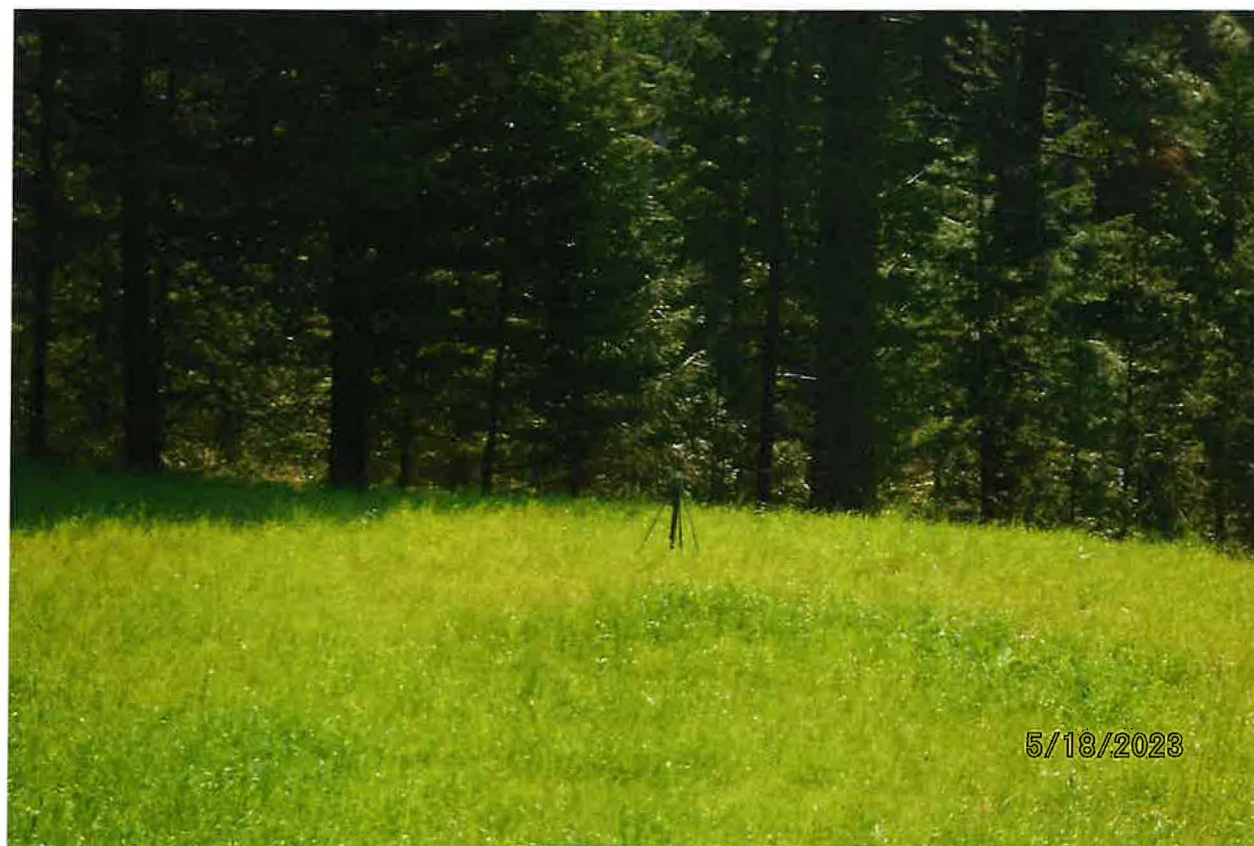


IRRIGATION POU – SPRINKLER RISER PIPE OFF MAIN TRUNK LINE





EXAMPLE IMPACT SPRINKLERS USED BY APPLICANT FOR IRRIGATION – 5/32ND NOZZLE



IRRIGATION POU



IRRIGATION POU





STOCKWATER POU – SIMILAR RISER PIPE TO HOSE FOR USE IN STOCK PENS



STOCKWATER POU



PORTABLE STOCK WATER BUCKETS MOVED THROUGHOUT THE PROPERTY DURING SUMMER MONTHS
FOR HORSE/CATTLE GRAZING USE



STOCKWATER POU – STOCK ROTATED THROUGHOUT PROPERTY TO EAT DOWN VEGETATION
THROUGHOUT THE GROWING SEASON ANNUALLY