

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-17892
Exam Date: 06/01/2021

1. Current Owner:
GFR99 TRUST 15183 N MORGAN LN HAYDEN ID 83835-5161
2. Accompanied by: Shaun Joshi
Phone No: 208-457-2386
Address: Same as above
Relationship to permit Holder: Permit holder (trustee)

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 NW¼ SE¼, Sec. 33, Twp 52N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS. POD is a well located at -116°42.401, 47° 48.363, D0069976.

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	
52N	03W	33														5.9			5.9

Total Acres: 5.9

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	03W	33													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
D0069976	CENTRIPRO	5		GOULDS	

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
5 GAL BUCKET MEASUREMENT						

2. Measurements: Three 5-gallon bucket tests were completed from a frost-free hydrant co-located with the well, with average of three resulting in a diversion rate of 5 gal / 5.40 sec x 60 sec/min = 55.56 gpm = **0.12 cfs**, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method: 5-GAL Bucket Test = (5 gal / 5.56 sec) x 60 sec/min = 53.96 gpm
 = (5 gal / 5.23 sec) x 60 sec/min = 57.36 gpm
 = (5 gal / 5.4 sec) x 60 sec/min = 55.56 gpm

Average of 3ea 5-GAL Bucket Tests = (53.96 gpm + 57.36 gpm + 55.56 gpm) / 3 = 55.6 gpm = 0.12 cfs considering department rounding standards.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 5.9 \text{ ac} \times 3.0 \text{ afa} = 17.7 \text{ af}$

$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.12 \text{ cfs} \times 246\text{-days} \times 1.9835 = 58.6 \text{ af}$

$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 17.7 \text{ af}$

2. Volume Calculations for Other Uses:

- Domestic annual volume = 2 homes x 0.6 af (in-home use only) = **1.2 af**
- Maximum diversion volume = 17.7 af (irrigation) + 1.2 af (domestic) = **18.9 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/1/2021 with the applicant, Shaun Joshi (trustee), showed a groundwater well supplying water for irrigation and domestic uses. At the POD, well D0069976 had a 5 HP 3 phase pump installed. Three 5-gallon bucket tests were completed from a frost-free hydrant co-located with the well, with average of three resulting in a diversion rate of 5 gal / 5.40 sec x 60 sec/min = 55.56 gpm = 0.12 cfs, considering department rounding standards. **0.12 cfs** is recommended as the maximum diversion rate for licensing purposes and is consistent with the well driller report that identified 60+ gpm at time of drilling completion. Each beneficial use shall maintain the permit approved diversion rates based on field examination findings of development on the applicant's property.

From the well, water is routed to two 3,000-gallon storage tanks, as well as a direct service line that runs west across the road to barn and pasture irrigation area on the property. The domestic POU consists of two homes, each of which receives

water from one of the 3,000-gal storage tanks & 1 HP transfer pump for in-home use. During licensing review Arcmap aerial imagery was used to trace out each of the homes designating the domestic POU. The domestic annual volume equals 2 homes x 0.6 af = **1.2 af**.

During the exam the irrigation POU was walked with the applicant, who had active irrigation taking place to demonstrate portions of the system. The irrigation POU consists of well-manicured lawn space & landscape plants around each of the homes, a covered dog run area with grass, treed areas between the homes, fenced in garden areas, a small indoor greenhouse area, and pasture acreage. Frost-free hydrants were installed at multiple locations throughout the property to allow hose-to-sprinkler irrigation. Pressurized irrigation with rainbird sprinklers occurs around the two homes and in parts of the garden space in the western part of the property. Pasture acreage is watered using a big gun wheel & hose-to-nozzle irrigation system. Photographs were taken to illustrate each of the types of irrigation occurring as well as the entirety of the POU being sketched out on field maps.

During licensing review, Arcmap aerial imagery was used to accurately trace out the irrigation POU which equaled 5.9 acres of the property when all the small zones were combined. The annual volume associated with the irrigation beneficial use equals 5.9 ac x 3.0 afa = **17.7 af** which is recommended for licensing. The maximum diversion volume recommended to license this water right equals 1.2 af (domestic) + 17.7 af (irrigation) = **18.9 af**. There were a few stock animals on the property, but stockwater was not applied for on this permit and will require a new application for permit to receive credit for stockwater use. Due to the limited number of animals (2 horses, couple goats, and chickens), it is likely the two homes domestic use water will more than cover the minimal water use from the animals and the applicants' pets.

Condition 046 was removed from the permit during licensing review. All other conditions shall be carried forward to the license. 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	03/15 to 11/15	0.12 CFS	17.7 AF
DOMESTIC	01/01 to 12/31	0.06 CFS	1.2 AF
<u>Totals:</u>		0.12 CFS	18.9 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 -

Field Examiner's Name

[Signature]

Date

11/5/2021

Reviewer

Ad F...

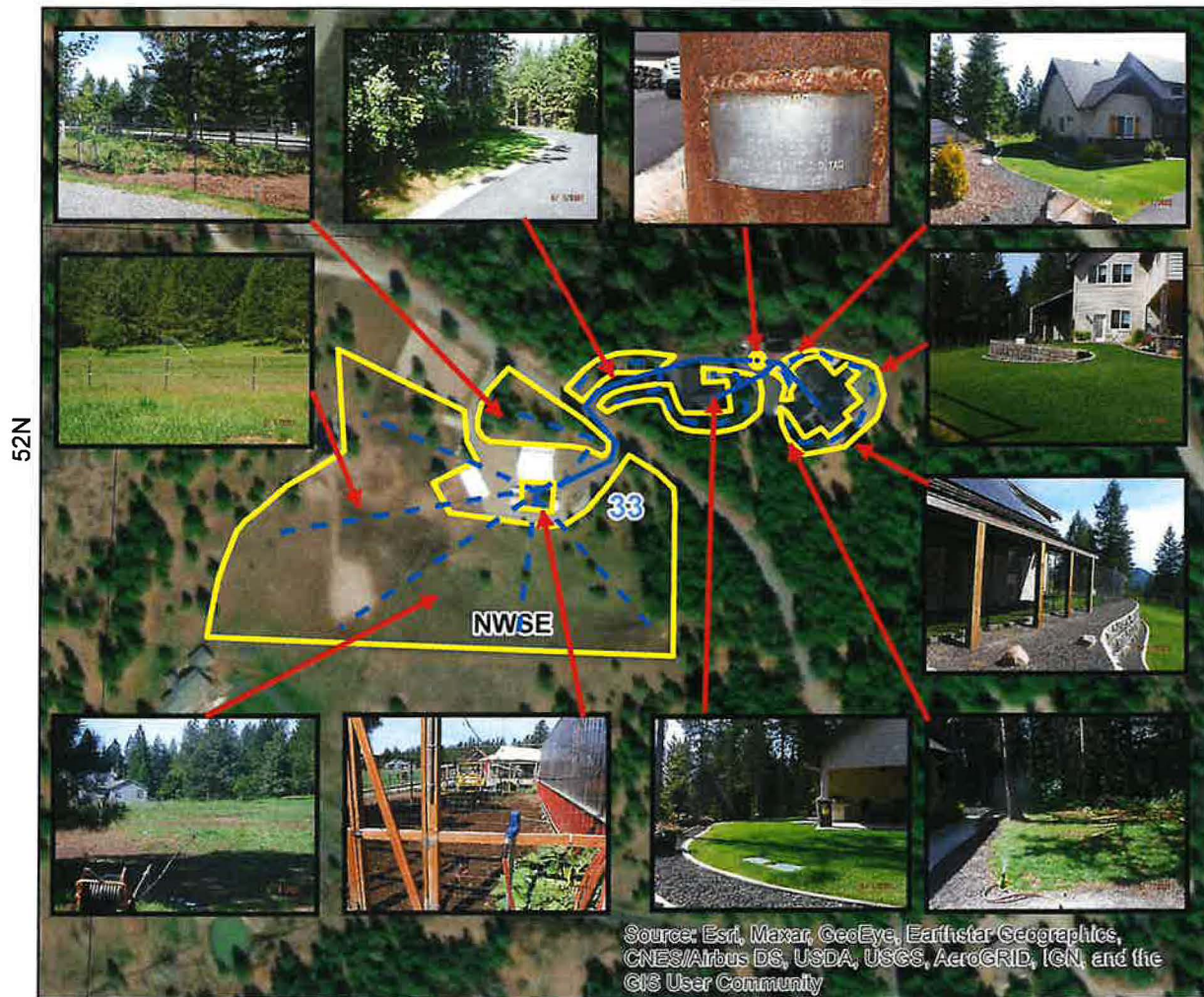
Date

11/18/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-17892

This map depicts the IRRIGATION place of use boundary for this water right at the time of this approval and is attached to the approval document solely for illustrative purposes.

03W



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

0 0.035 0.07 0.14 Miles

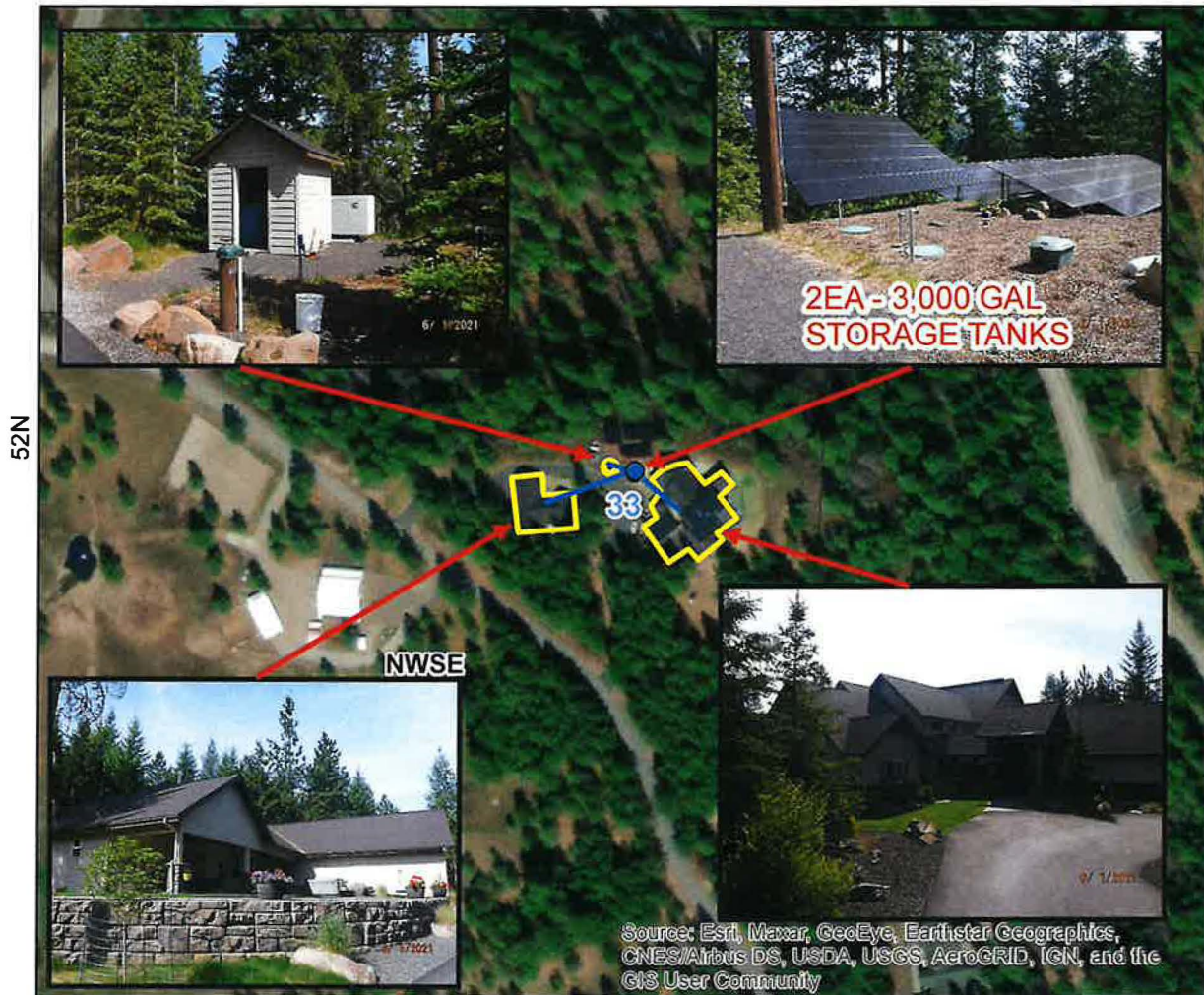
A horizontal scale bar with tick marks at 0, 0.035, 0.07, and 0.14 miles.



State of Idaho
Department of Water Resources
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DOMESTIC system diagram.

03W



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

0 0.03 0.06 0.12 Miles



Inland Pump Co. LLC

P.O. Box 630
Rathdrum, Id. 83858
Ph # 208-687-5260
inlandpump5@yahoo.com

Invoice

Date	Invoice #
10/16/2017	330

Bill To
Steve S&L Construction snlcontracting5@gmail.com

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
1	5 HP CentriPro motor 3 phaze 230 volt <i>Well Pump</i>	1,117.50	1,117.50T
1	5 HP 10 GPM Goulds pump end	1,481.25	1,481.25T
1	3AS50 CentriPro Goulds drive	2,524.50	2,524.50T
807	#4-4 flat subwire	3.65799	2,952.00T
800	1 1/4 galvanized drop pipe	2.505	2,004.00T
7	1 1/4 brass check valves	40.92143	286.45T
1	S-12 pitless	221.80	221.80T
1	6w Baker HD well cap	163.70	163.70T
3	2" tape	7.33333	22.00T
2	#4 splice kits	10.44	20.88T
4	#10 splice kits	3.375	13.50T
2	86 gallon well-x-trol pressure tanks	515.00	1,030.00T
1	Tank tee kit	120.00	120.00T
2	1 1/4 brass union	30.075	60.15T
1	1 1/4 x 12 brass nipple	17.16	17.16T
1	1 1/4 x 10 brass nipple	15.27	15.27T
1	1 1/4 x 4 brass nipple	10.60	10.60T
6	1 1/4 brass poly inserts	19.455	116.73T
12	#24 clamps	1.395	16.74T
1	1 1/4 brass tee	18.18	18.18T
8	1 1/4 brass 90	14.565	116.52T
2	1 1/4 x 3/4 brass bushing	8.175	16.35T
5	1 1/4 x 2 brass nipple	4.304	21.52T
3	1 1/4 x 6 brass nipple	15.46667	46.40T
3	1 1/4 poly packjoint	69.43667	208.31T
3	1 1/4 brass ballvalves	40.44	121.32T
10	1 1/4 copper pipe	4.695	46.95T
4	1 1/4 copper ma	19.80	79.20T
3	1 1/4 copper 90	12.52667	37.58T
2	1" baker vents	52.725	105.45T
5	1" galvanized pipe	6.792	33.96T
2	1" galvanized street 90	5.10	10.20T
1	2' galvanized plug	10.30	10.30T
2	1 1/4 brass plug	4.59	9.18T

Total

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Invoice

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10/16/2017	330

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Steve S&L Construction snlcontracting5@gmail.com

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
2	1 1/4 galvanized plug	4.125	8.25T
4	4" pvc pipe	3.705	14.82T
1	4x4x36 gutter box	117.75	117.75T
1	6x6x4 J box	17.05	17.05T
1	30 AMP contactor	40.72	40.72T
1	alarm panel	224.62	224.62T
3	1" off set nipple	4.60667	13.82T
2	3/4 off set nipple	3.93	7.86T
10	1/2 in liquid tight	0.615	6.15T
4	1 1/2 pvc LB	8.865	35.46T
3	1 1/4 copper tee	26.17667	78.53T
3	1 1/4 copper FA	23.20667	69.62T
1	LDS-12 pitless	134.70	134.70T
1	1 1/4 brass check valve	49.05	49.05T
1	pump structure	150.00	150.00T
1	4 x 1 1/4 pvc well seal	17.05	17.05T
15	1 1/4 pvc pipe sch 120	1.81467	27.22T
6	1 1/4 sch 80 pvc 90	3.12	18.72T
1	1 HP 15 GPM Berkeley pump and motor TRANSFER PUMP	866.22	866.22T
1	1 HP Control box	89.98	89.98T
1	PMD float	44.62	44.62T
2	PMU float	54.345	108.69T
9	2" Galvanized pipe	4.74	42.66T
3	2" Galvanized 90	19.14	57.42T
2	2 x 3 Galvanized nipple	3.00	6.00T
1	2 x 2 1/2 fire port	153.32	153.32T
35	#10-3 wg uf wire	1.66514	58.28T
105	12-2 wg uf wire	0.79495	83.47T
40	1 1/2 pvc conduit sch 40	1.03875	41.55T
20	1 1/2 pvc conduit sch 80	1.5405	30.81T
3	1 1/2 pvc sweep	4.60333	13.81T
160	# 4 THHN wire	1.125	180.00T
2	8' ground rods	12.78	25.56T
2	5/8 Acorn clamps	2.40	4.80T
		Total	

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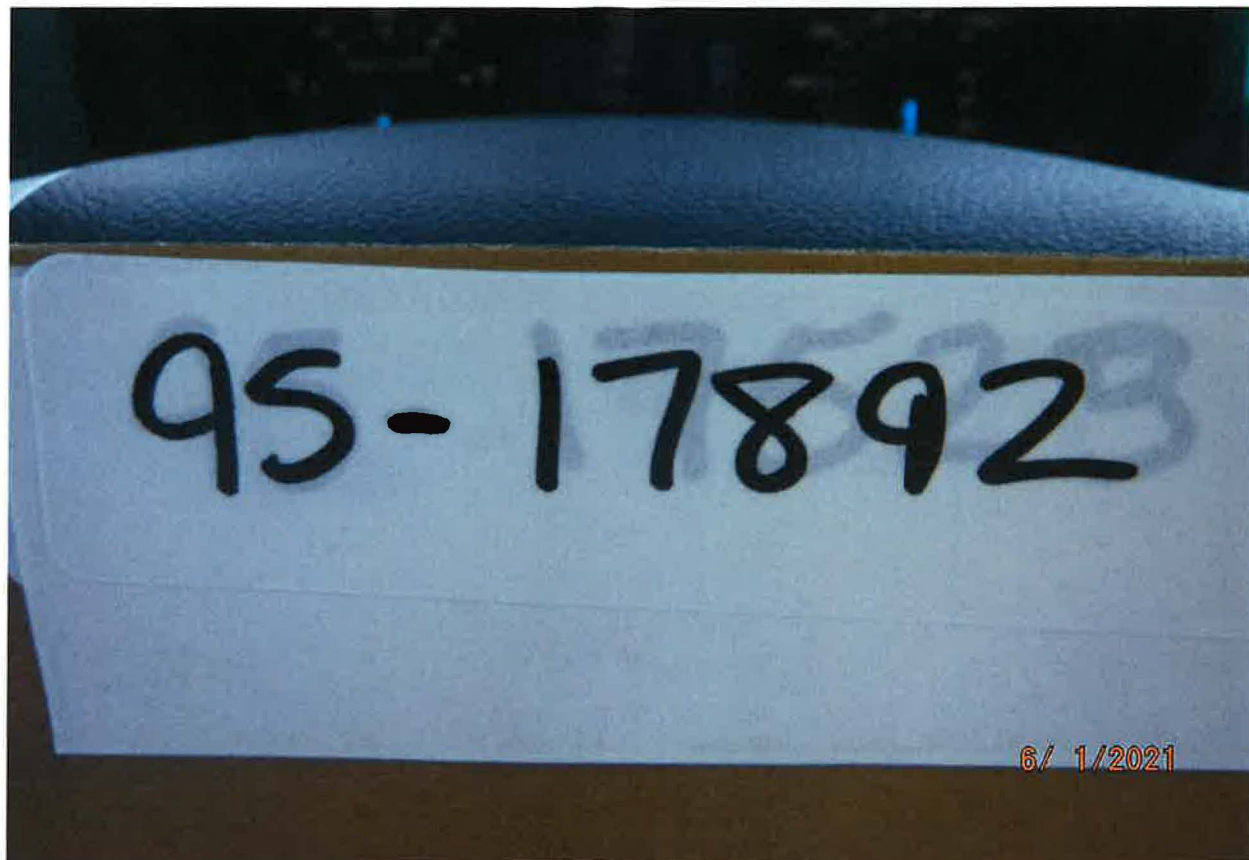
Invoice

Date	Invoice #
10/16/2017	330

Bill To
Steve S&L Construction snlcontracting5@gmail.com

P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
30	#6 bare copper wire	0.652	19.56T
1	mis electrical	150.00	150.00T
3	1/2 uf box conn.	7.68333	23.05T
1	3/4 uf box conn.	8.64	8.64T
1	3/4 boiler drain	11.43	11.43T
2	3000 gallon reservoir tanks	3,387.00	6,774.00T
1	delivery	410.00	410.00T
3	electrical permits	71.66667	215.00T
5	Hoist truck	45.00	225.00
25	Labor	85.00	2,125.00
	Sales Tax	6.00%	1,411.55
		Total	\$27,287.46



FIELD EXAM DATE 6/1/2021



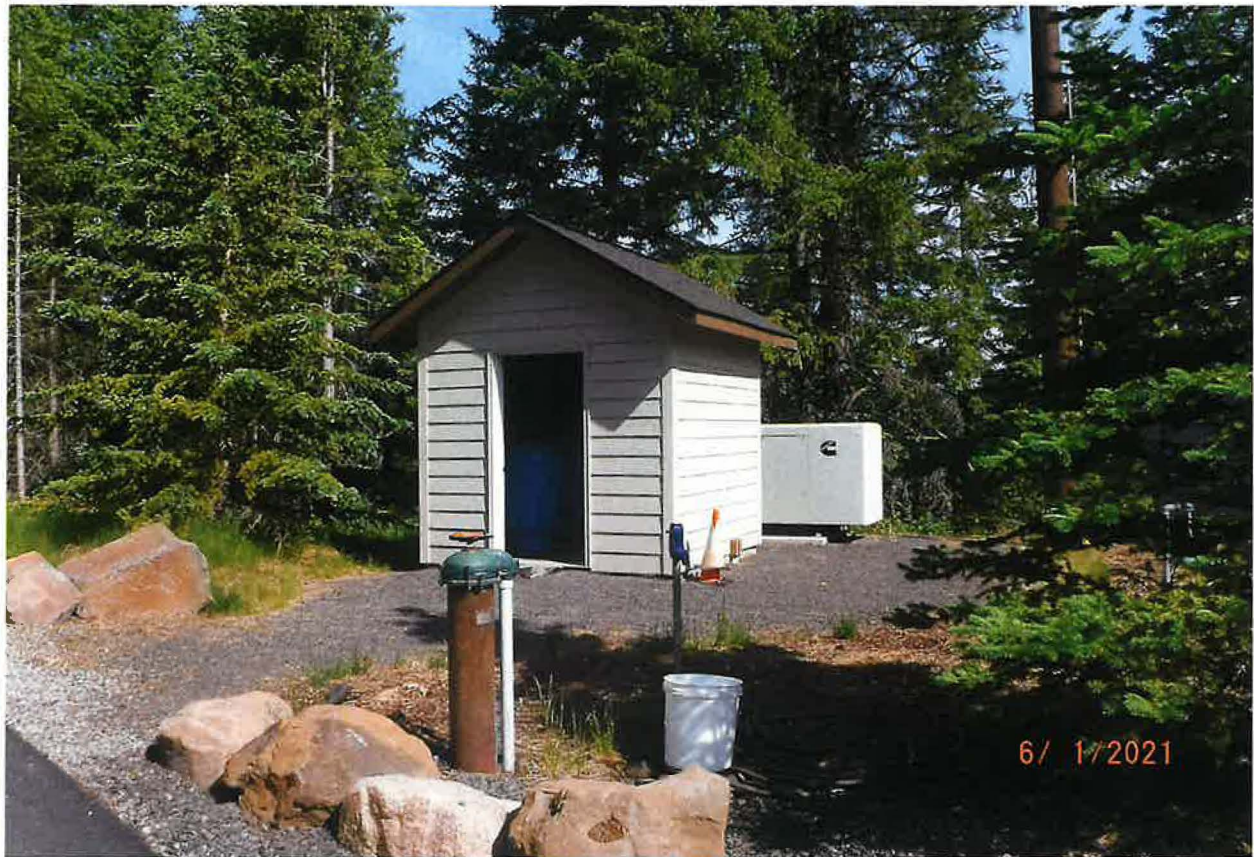
POD – GROUNDWATER WELL D0069976



WELL D-TAG D0069976



2 EA 3,000 GALLON VAULTED STORAGE RESERVOIRS – 1 FOR EACH HOME



PUMP HOUSE – FROST FREE HYDRANT INSTALLED PRIOR TO PRESSURE TANKS



WELL PUMP 5 HP 3 PHASE (NO DATA PLATE); TRANSFER PUMP FROM STORAGE TANK(S)-1 HP



55 PSI OPERATING PRESSURE



FROST FREE HYDRANT CO-LOCATED WITH WELL



DOMESTIC POU – 1 OF 2 HOMES



DOMESTIC POU – 2 OF 2 HOMES



IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM





IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM





IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM

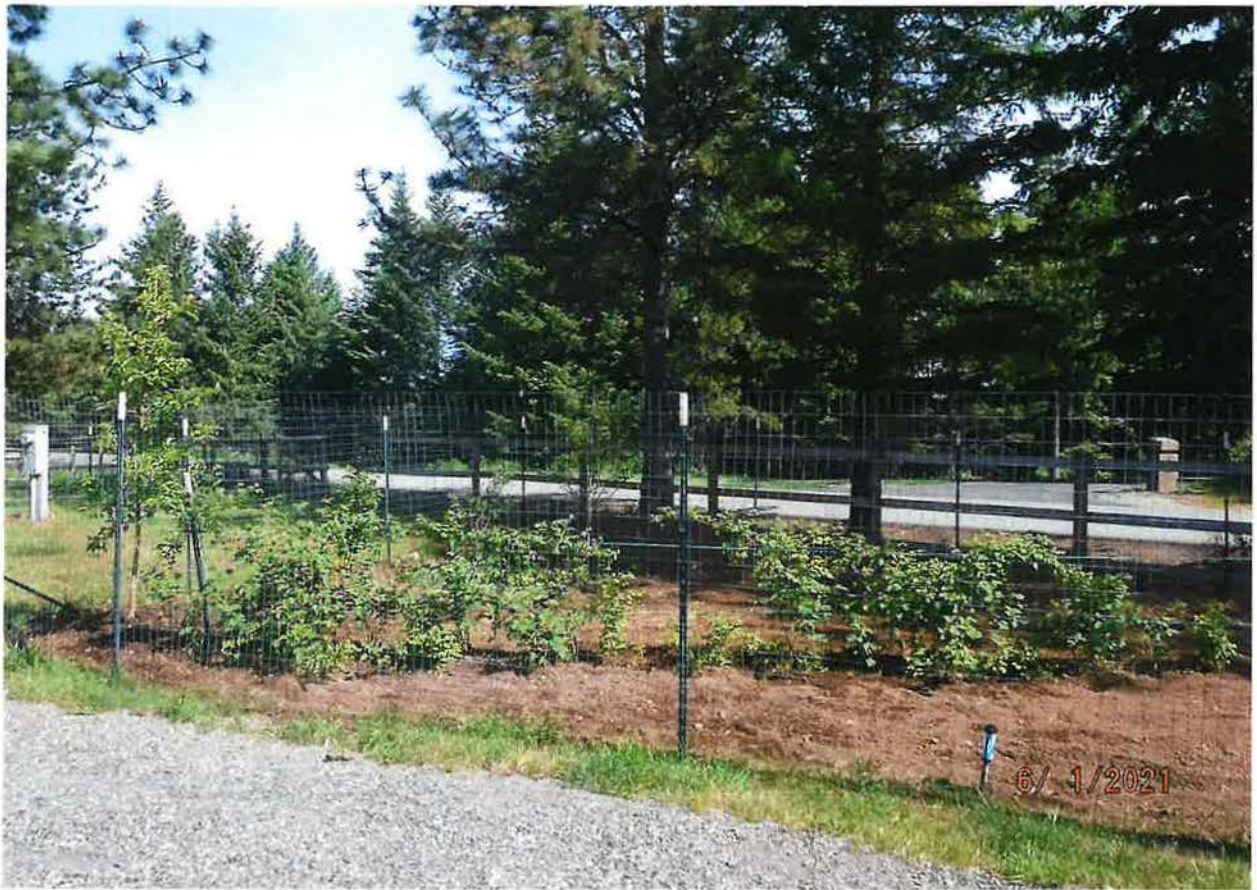




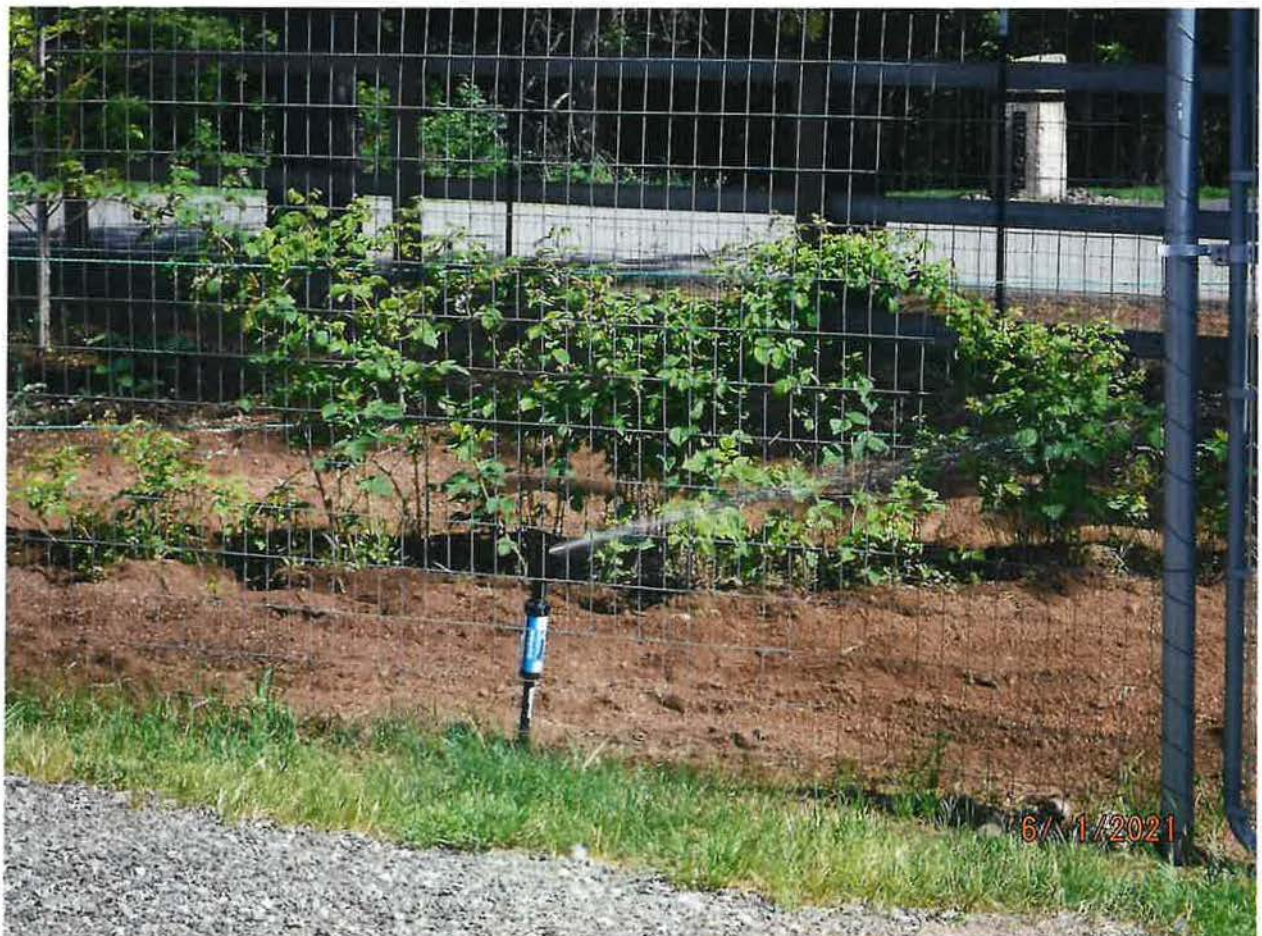
IRRIGATION POU – PRESSURIZED SPRINKLER SYSTEM



IRRIGATION POU – HOSE AND PORTABLE SPRINKLER



IRRIGATION POU – ACROSS STREET FROM DOMESTIC POU – GARDEN WITH PRESSURIZED SPRINKLERS

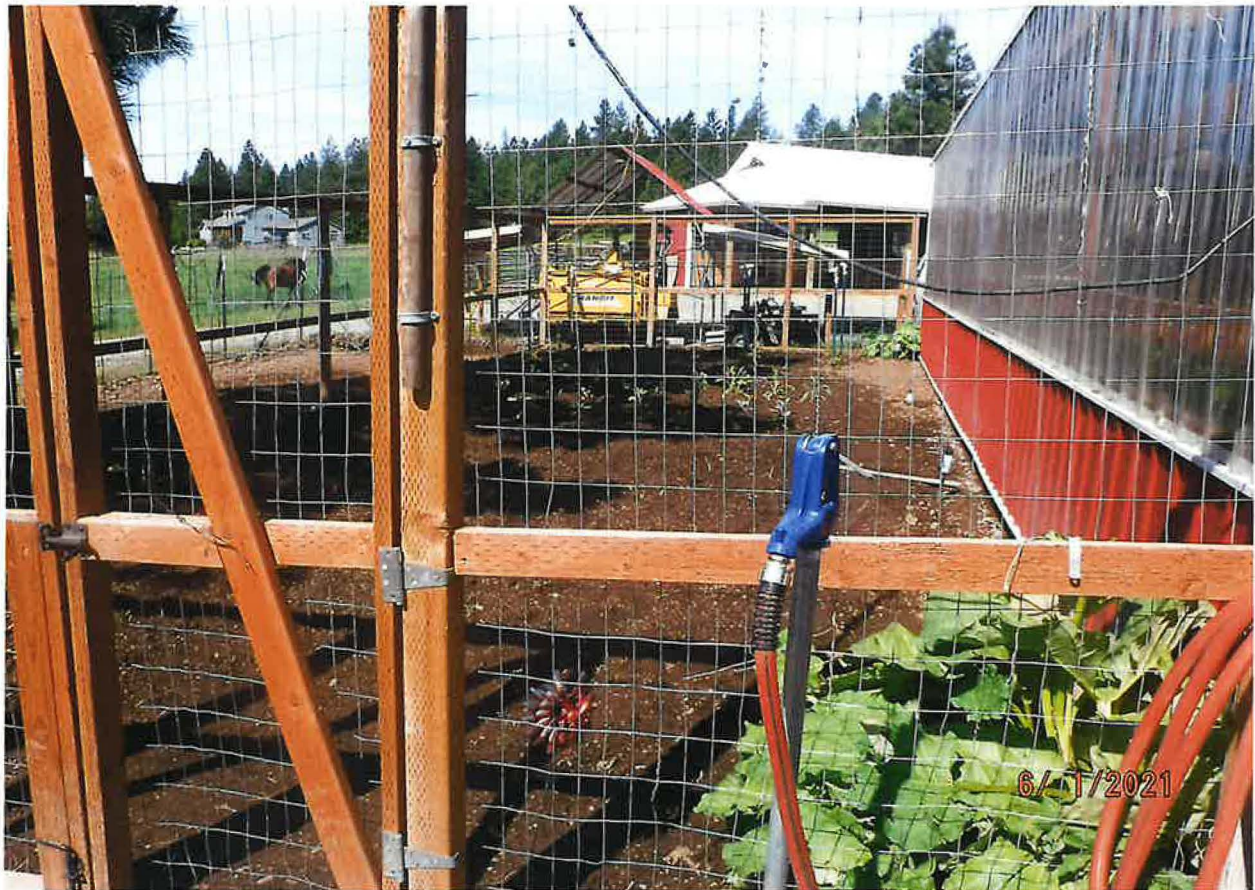




IRRIGATION POU



IRRIGATION POU – SMALL GREENHOUSE WITH DRIP LINE TO PLANTS



IRRIGATION POU – GARDEN



IRRIGATION POU – 2 PASTURES IRRIGATED BY RETRACTABLE HOSE REEL SYSTEM



IRRIGATION POU





IRRIGATION POU

