

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-11411
Exam Date: 07/30/2020

1. Current Owner:
LEON HARDY 5419 S STATELINE RD POST FALLS ID 83854 AND/OR
LINDA HARDY 5419 S STATELINE RD POST FALLS ID 83854
2. Accompanied by: Leon Hardy
Phone No: 208-252-4271
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
CABLE CREEK

Tributary
SPOKANE 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
95-14468	GROUND WATER	STOCKWATER/DOMESTIC	DECREED

Comments: Decreed right 95-14468 is for the same applicant that uses well water for domestic and stockwater purposes that overlap this rights POU. The decreed right does not specify exact acreage linked to the domestic beneficial use up to ½ acre, but the GIS shape for 95-14468's POU is overlapped entirely by this right, and condition X35 was added to mitigate overlap concerns between 95-11411 and 95-14468.

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

Water Right No.	Source	Purpose of Use	Basis

Comments: _____

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

CABLE CREEK SE¼ SW¼, Sec. 25, Twp 50N, Rge 06W, B.M. KOOTENAI County
CABLE CREEK SE¼ SW¼, Sec. 25, Twp 50N, Rge 06W, B.M. KOOTENAI County

Method of Determination: GPS. PODs are two separate screened intake pipes to pumps co-located at -117°02.318, 47°38.654.

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	06W	25												10.0					10.0

Total Acres: 10.0

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	
50N	06W	25									X			X					

Method of Determination: 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

Aerial Photo Attached (required for irrigation of 10+ acres).

X

Photo of Diversion and System Attached

X

4.

Well or Diversion ID No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
N/A					

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 measurements were completed for each diversion point where the diverted water discharges into a small 24 hour impoundment pond prior to use by applicant. The average of each three measurements were taken, resulting in a diversion rate of 0.19 cfs, considering department rounding standards.

E. FLOW CALCULATIONS

Measured Method:

- 2 HP pump POD – 5 GAL Bucket Measurement = (5 gal / 12.05 sec) x 60 sec/min = 24.9 gpm
 = (5 gal / 12.65 sec) x 60 sec/min = 23.7 gpm
 = (5 gal / 12.21 sec) x 60 sec/min = 24.6 gpm
 Average of 3ea 5 GAL Bucket Measurement = (24.9 gpm + 23.7 gpm + 24.6 gpm) / 3 = 24.4 gpm
- 8 HP pump POD – 5 GAL Bucket Measurement = (5 gal / 5.10 sec) x 60 sec/min = 58.8 gpm
 = (5 gal / 5.05 sec) x 60 sec/min = 59.4 gpm
 = (5 gal / 5.13 sec) x 60 sec/min = 58.5 gpm
 Average of 3ea 5 GAL Bucket Measurement = (58.8 gpm + 59.4 gpm + 58.5 gpm) / 3 = 58.9 gpm
- Combined total for 5 Gal Bucket Measurements = 24.4 gpm + 58.9 gpm = 83.3 gpm = **0.19 cfs**

F. VOLUME CALCULATIONS**1. Volume Calculations for irrigation:**

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 10 \text{ ac} \times 3.0 \text{ afa} = 30 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.19 \text{ cfs} \times 246 \text{ days} \times 1.9835 = 92.7 \text{ af}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 30 \text{ af}$$

2. Volume Calculations for Other Uses:

This is a surface water right; there will be no annual volume applied to the irrigation component, nor a maximum diversion volumes applied to this water right.

Stockwater component annual volume = 15 head mixed stock x 12 gpd x 365 days = 65,700 gal / 325,850 gal per af = **0.2 af** considering department rounding standards.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 7/30/2020 with applicant, Leon Hardy, showed water being diverted from Cable Creek for irrigation and stockwater purposes. At the POD, applicant had two separate diversion systems; one electric 2 hp submersible pump with screened inlet diverted water from the creek, and one generator operated 8 hp water transfer pump with screened intake pipe diverted water from the creek. Both PODs used pvc pipe pushing water up grade to approximately 130 ft to a small 24hr impoundment pond prior to distribution by applicant for irrigation and stockwater usage. Flow measurements were taken from discharge pipes as they entered the impoundment pond, with two separate sets of 5 gallon bucket measurements taken per discharge pipe; the resulting combined diversion rate equals 24.4 gpm (2 hp pump) + 58.9 gpm (8 hp pump) = 83.3 gpm = **0.19 cfs**, considering department rounding standards, which will be applied as the irrigation beneficial use diversion rate and the maximum diversion rate for license. The stockwater beneficial use diversion rate equals **0.02 cfs**, which is the department standard for 15 head of mixed stock.

Mr. Hardy uses a distribution pump from the 24 hr impoundment pond, routing water through a series of pvc irrigation trunk lines to multiple risers found throughout the irrigation and POU. Each pastures irrigation system was turned on and operated during the field exam, with irrigation lines walked to determine the coverage area for the POU. Mr. Hardy irrigates three main pasture areas in order to grow grass feed for stock throughout the season. Mr. Hardy cycles irrigation doing ½ a day on upper pasture land, and ½ a day on lower pasture land, then allowing the pump to refill the impoundment pond at night for use the next day. Irrigation occur by above ground rainbird sprinklers from several irrigation riser pipes. During field exam, the irrigated area was sketched out on field maps, and during licensing review arcmap aerial imagery was used to accurately trace out the irrigation POU that equaled 10 acres. The annual volume for irrigation equals 10 ac x 3.0 afa = 30 af, but as this is a surface water source, there is no volume applied to the irrigation component nor as a maximum diversion volume.

Stock was present at time of field exam, with 6 horses and 9 cows being rotated throughout the pasture land during the irrigation season for range feed, and then using a central barn and feed area for winter months. The applicant allowed stock to drink directly from the 24 hr impoundment pond, as well as using stock tanks filled from irrigation riser points for stockwater. The stockwater annual volume is consumptive in nature, and equals 15 head mixed stock x 12 gpd x 365 days = 65,700 gal / 325,850 gal per af = **0.2 af** considering department rounding standards, which will be applied at time of licensing. The stockwater POU is established as the entirety of the applicant's parcel, as stock free graze it all throughout the year.

observed diverting from Cable Creek. An application for amendment of permit to add the additional POD prior to licensing was developed, adding the second POD, and mailed to the applicant on 9/16/2020.

Conditions 26A and X02 were removed from permit during licensing review. Condition X35 was added to describe the limitations for stockwater and irrigation water usage based on overlap between decreed right 95-14468 and this right. Right 95-14468 is for the same applicant that uses well water for domestic and stockwater purposes that overlap this rights POU's. The decreed right does not specify exact acreage linked to the domestic beneficial use up to ½ acre for irrigation, but the GIS shape for 95-14468's POU is overlapped entirely by this right, and condition X35 was added to mitigate overlap concerns between 95-11411 and 95-14468 for stockwater and irrigation purposes. There are no other overlapping concerns for this 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	03/15 to 11/15	0.19 CFS	
STOCKWATER	01/01 to 12/31	0.02 CFS	0.2 AF

Totals: 0.19 CFS

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 Luke Bates - Water Resource Agent

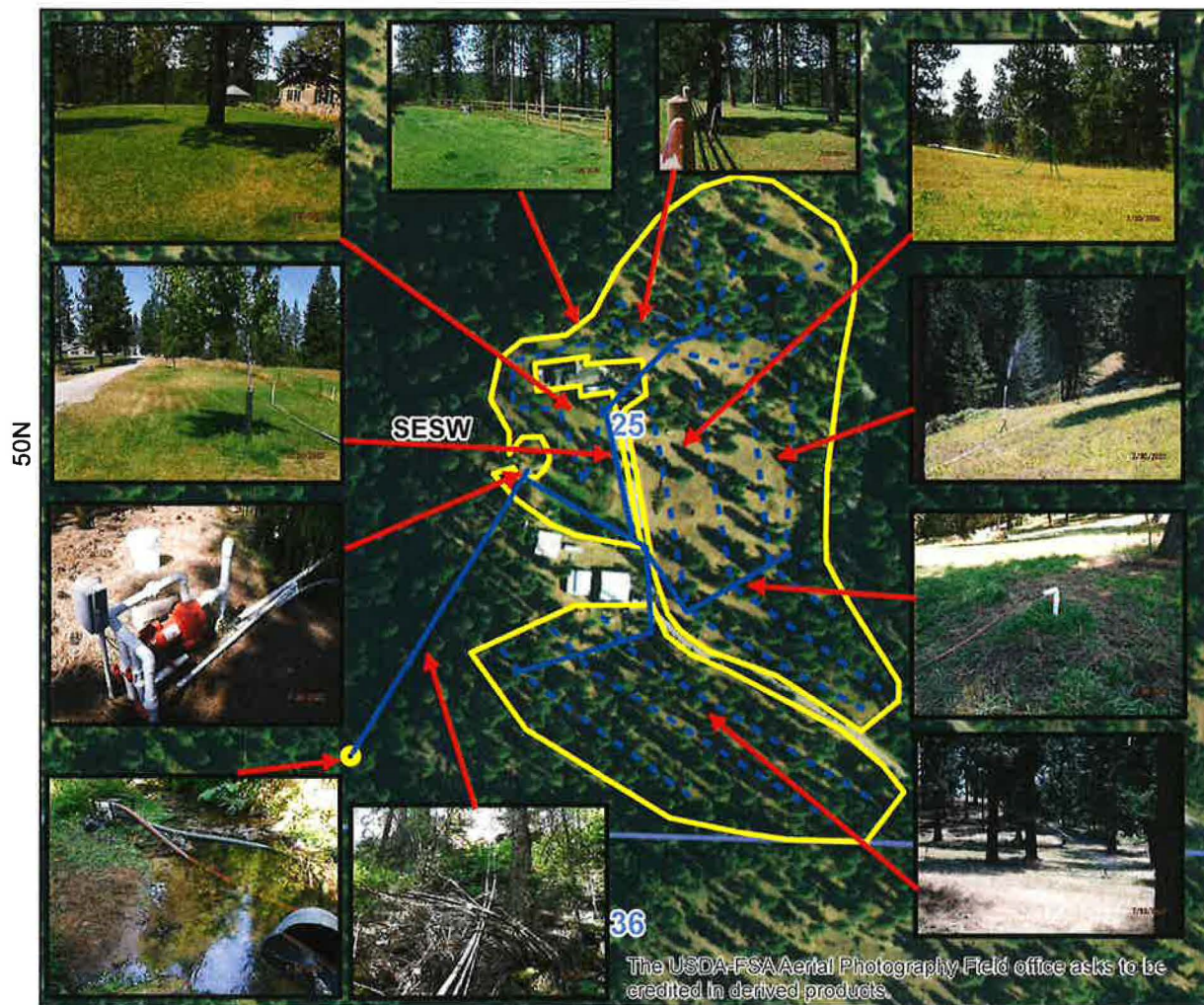
Field Examiner's Name *L. Bates* Date 9/16/2020

Reviewer *Adam Fink* Date 9/30/2020

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-11411

IRRIGATION system diagram.

06W



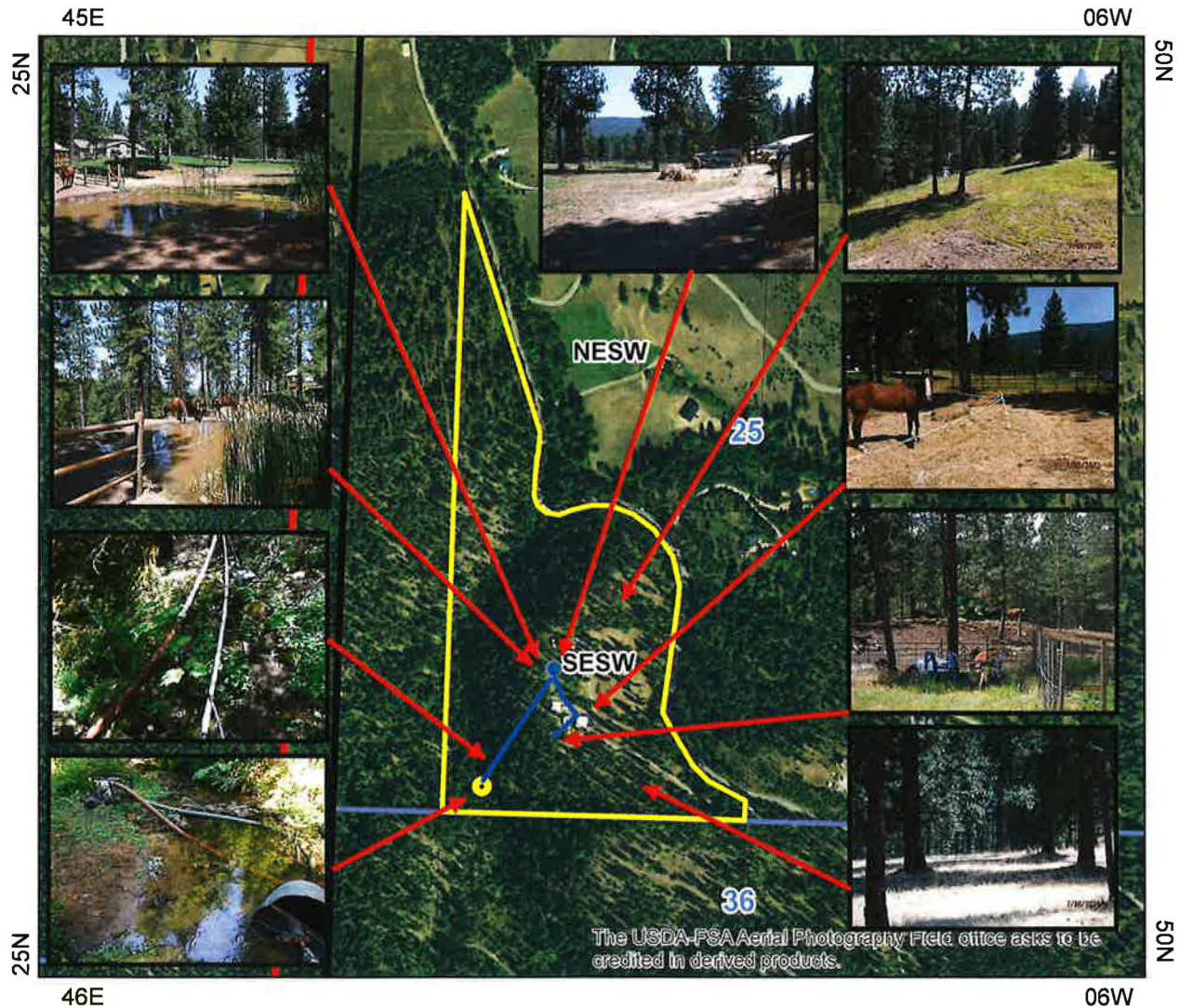
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



State of Idaho
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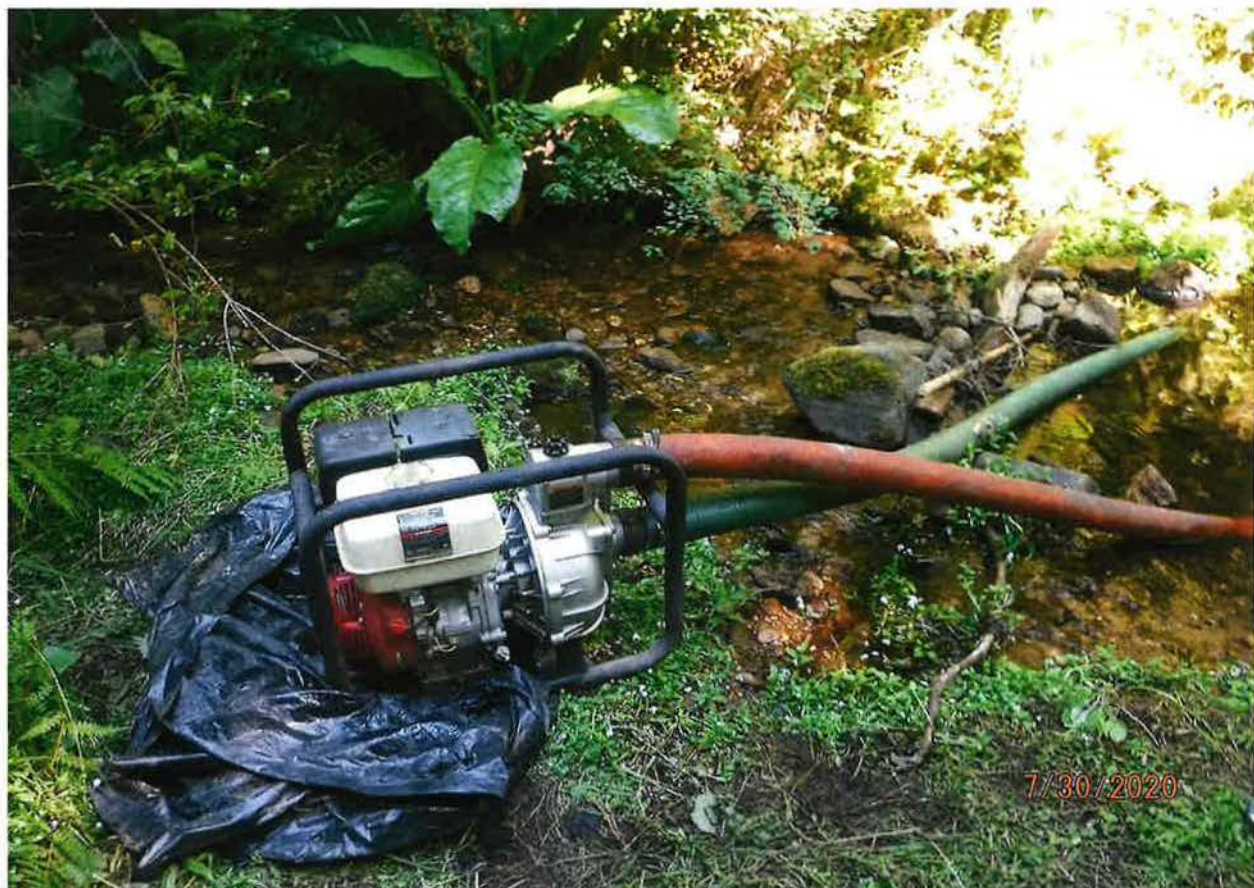
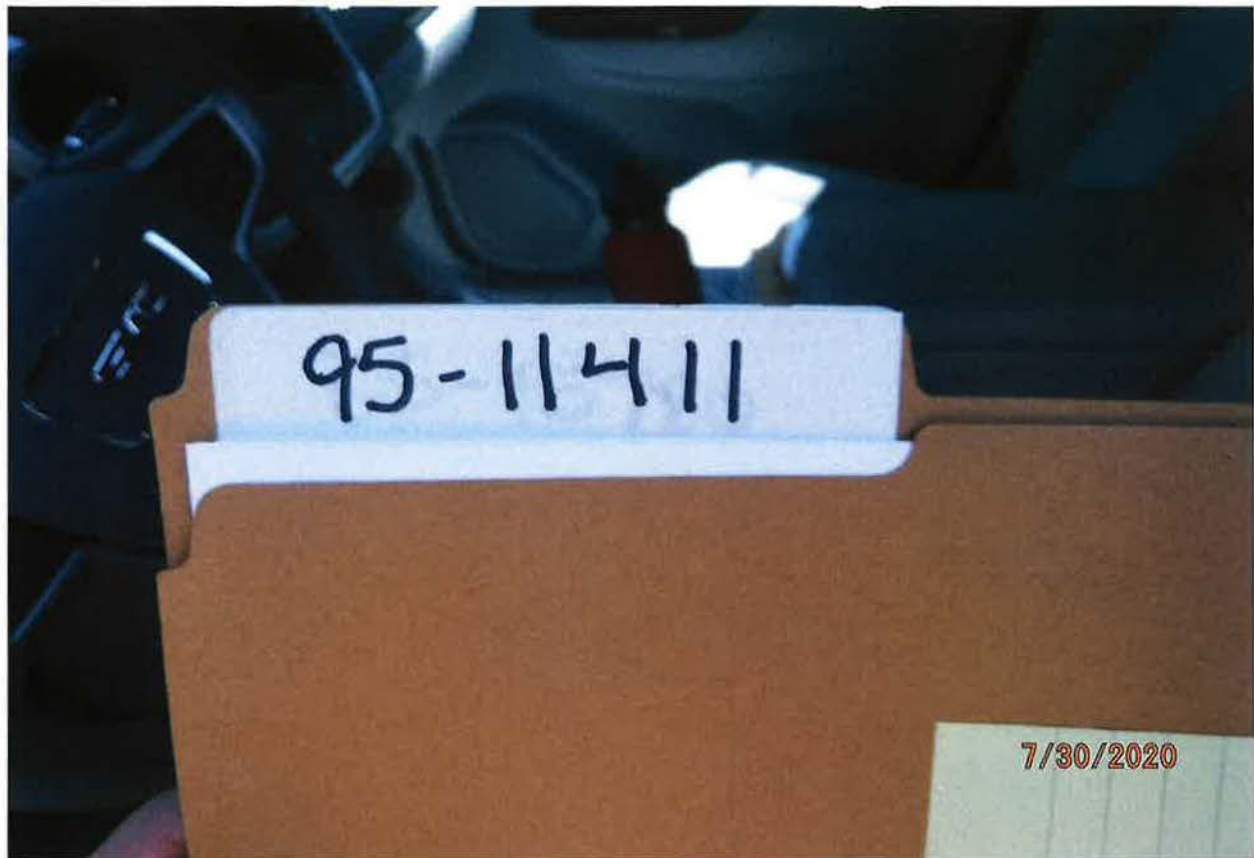
STOCKWATER system diagram.



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

0 0.075 0.15 0.3 Miles





1ST POD – 8 HP HONDA GX270 WATER TRANSFER PUMP WITH PIPE IN CREEK



2ND POD – 2 HP ELECTRIC SUBMERSIBLE PUMP IN CREEK



2EA POD SAME LOCATION IN CREEK



8 HP PORTABLE WATER TRANSFER PUMP



2 HP ELECTRIC SUBMERSIBLE WATER PUMP



WATER CONVEYANCE SYSTEM, 2 PIPES UPHILL 130 FEET TO POU





8 HP PUMP DISCHARGING TO 24 HR CONTAINMENT POND



1.5 HP PUMP DISCHARGING TO 24 HR CONTAINMENT POND



2 HP PUMP FROM 24HR CONTAINMENT POND SERVICING IRRIGATION AND STOCKWATER POU's



24HR CONTAINMENT POND & STOCKWATER POU

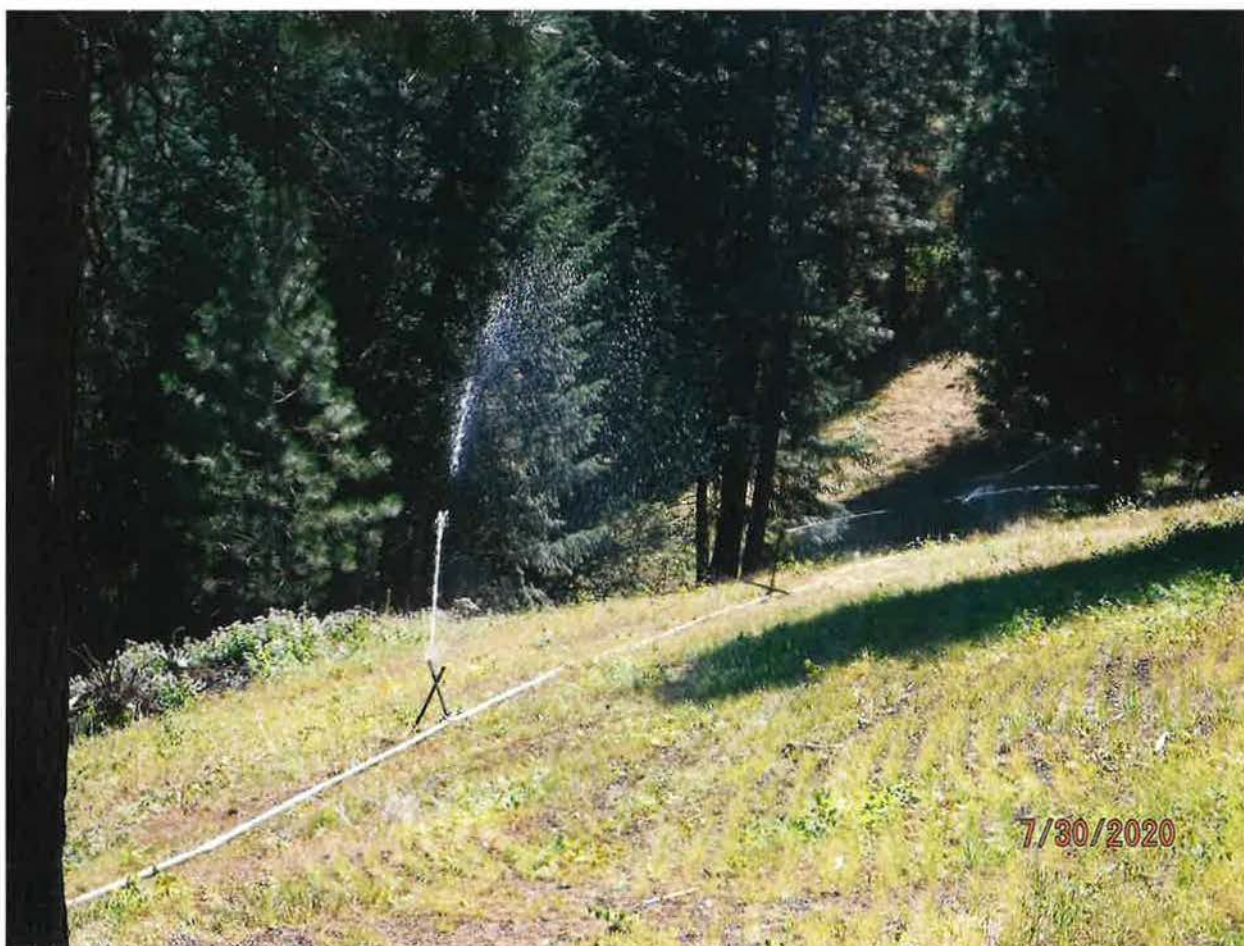


IRRIGATION POU RISER PIPES





IRRIGATION AND STOCKWATER POU





IRRIGATION POU





IRRIGATION POU





IRRIGATION AND STOCKWATER POU





IRRIGATION AND STOCKWATER POU



STOCKWATER POU



STOCKWATER POU

