

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 95-18295
Exam Date: 07/13/2023

1. Current Owner:
SHEILA JARVELIN 4968 E FRENCH GULCH RD COEUR D ALENE ID 83814-7721 AND/OR
ISMO JARVELIN 4968 E FRENCH GULCH RD COEUR D ALENE ID 83814-7721
2. Accompanied by: Ismo & Sheila Jarvelin
Phone No: 208-818-1088
Address: Same as above
Relationship to permit Holder: Permit holders.

3. **SOURCE:**
UNNAMED STREAM

Tributary
SINKS

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
95-4231	Groundwater	Domestic	Statutory Claim
95-7000	Groundwater	Stockwater	License
95-7754	Groundwater	Stockwater	License

Comments: WRs 95-4231, 95-7000, & 95-7754 all have POU shapes that overlap this right's POU. All three have designated groundwater sources and their respective POU shapes are generic 40-acre tract shapes. There is no concern for overlap between rights, as the three GW rights were not claimed in the CSRBA process to date, and none of the rights are associated with the applicant's property according to the Jarvelin's. Likely the right(s) will be disallowed upon conclusion of a basin wide decree.

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

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

UNNAMED STREAM SW¼ NE¼, Sec. 8, Twp 50N, Rge 03W, B.M. KOOTENAI County

Method of Determination: GPS. The pond's outflow channel is the POD, located at -116°43.7688, 47°41.6618.

PLACE OF USE: IRRIGATION STORAGE, FIRE PROTECTION STORAGE, & AESTHETIC STORAGE

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	03W	8			X														

PLACE OF USE: IRRIGATION FROM STORAGE

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	03W	8			0.5														0.5

Total Acres: 0.5

Method of Determination: Beneficial use field examination 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.☒ 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
POND EARTHEN DAM					

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
N/A						

2. Measurements: NONE

E. FLOW CALCULATIONS

Measured Method: in-stream pond, permit incorporates from storage beneficial uses and there is no diversion rate recommended for licensing purposes.

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \text{ ac} \times 3.0 \text{ afa} = 1.5 \text{ af}$$

$$V_{DR} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = \text{N/A no diversion rate associated with WR.}$$

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 1.5 \text{ af}$$

2. Volume Calculations for Other Uses: See attached pond analysis worksheet.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 7/13/2023 with the applicants, Ismo & Sheila Jarvelin, showed water from an unnamed stream being impounded for Irrigation Storage, Fire Protection Storage, Aesthetic Storage, & Irrigation from Storage purposes. At

the POD, the applicants raise & lower the pond levels by using wooden planks at the pond's outflow channel to create a check dam. A small foot bridge allows access to both sides of the stream channel for access to add & remove the planks. At time of exam the unnamed stream was already at low flow conditions and the pond was not receiving water from the stream, which inflows to the pond from a large culvert beneath the paved roadway. There isn't a diversion rate associated with the in-stream pond as developed.

During the exam photographs and field maps were used to sketch out the multiple beneficial use storage pond. During licensing review Arcmap aerial imagery was used to accurately trace out the pond's surface area which equals 0.1 acres. The pond's maximum depth = 5 ft, average depth = 2 ft, pond volume capacity = 0.2 af, seepage and evaporation rate loss = 0.7 af, irrigation storage/from storage multiple fill volume = 1.5 af, and total volume required annually = **2.4 af**, which is recommended as the maximum diversion volume for licensing purposes. The fire protection storage & aesthetic storage component(s) annual diversion volume equals 0.2 af (pond capacity) + 0.7 af (seepage/evaporation loss rate) = **0.9 af**.

The irrigation from storage POU was sketched out on field maps, and during licensing review Arcmap aerial imagery was used to trace out the POU equal to 0.5 ac. The annual volume for irrigation storage/from storage beneficial uses equals 0.5 acres x 3.0 afa = **1.5 af**. The from storage system uses a ½ HP Flowtec pump (model FP4012-10) with 1-inch poly intake from pond to a 5/8-inch garden hose discharge. The applicants use several segments of garden hose and assorted sprinklers for irrigation around the pond and a portion of side slope on the property. At the time of the exam active irrigation was observed. Irrigation is for lawn space & tree watering. The volumetric values were reduced during licensing review to reflect pond volume data and observed irrigation practices; it's likely the application was applied for with minor buffer on the high side to ensure adequate volume was permit approved.

The applicant has a separate Honda GX160 water transfer pump set up to move water to the furthest extent of the irrigation from storage POU and flood irrigates using flexible fire hoses. There is a dedicated fire hose connection stem installed to the pond for fire truck access in the event fire suppression is required. The applicant has a small fire truck with an 800-gallon tank that he fills from the local fire station at the beginning of each year and sits in standby. The fire truck is also used as a 24-hr impoundment tank to flood irrigate trees located within the irrigation from storage POU. The applicants assert that the pond's water level fluctuates year to year depending on seasonal climate variations and storm events. During years when water is readily available in the stream & pond, the applicants irrigate the entire season of use; when water is low, they stop watering early in favor of keeping some water in the pond.

Conditions 029 & 220 were removed from the permit during licensing review. 220 was removed based on licensing guidance from Shelley Keen – IDWR Regional Operations Bureau Chief. Condition 259 was revised to reflect accurate pond volume & irrigation from storage volume data derived during licensing review. All other conditions on the permit shall be carried to licensing. 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>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31	1.5 AF
IRRIGATION FROM STORAGE	03/15 to 11/15	1.5 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	0.9 AF
AESTHETIC STORAGE	01/01 to 12/31	0.9 AF

Totals: 2.4 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

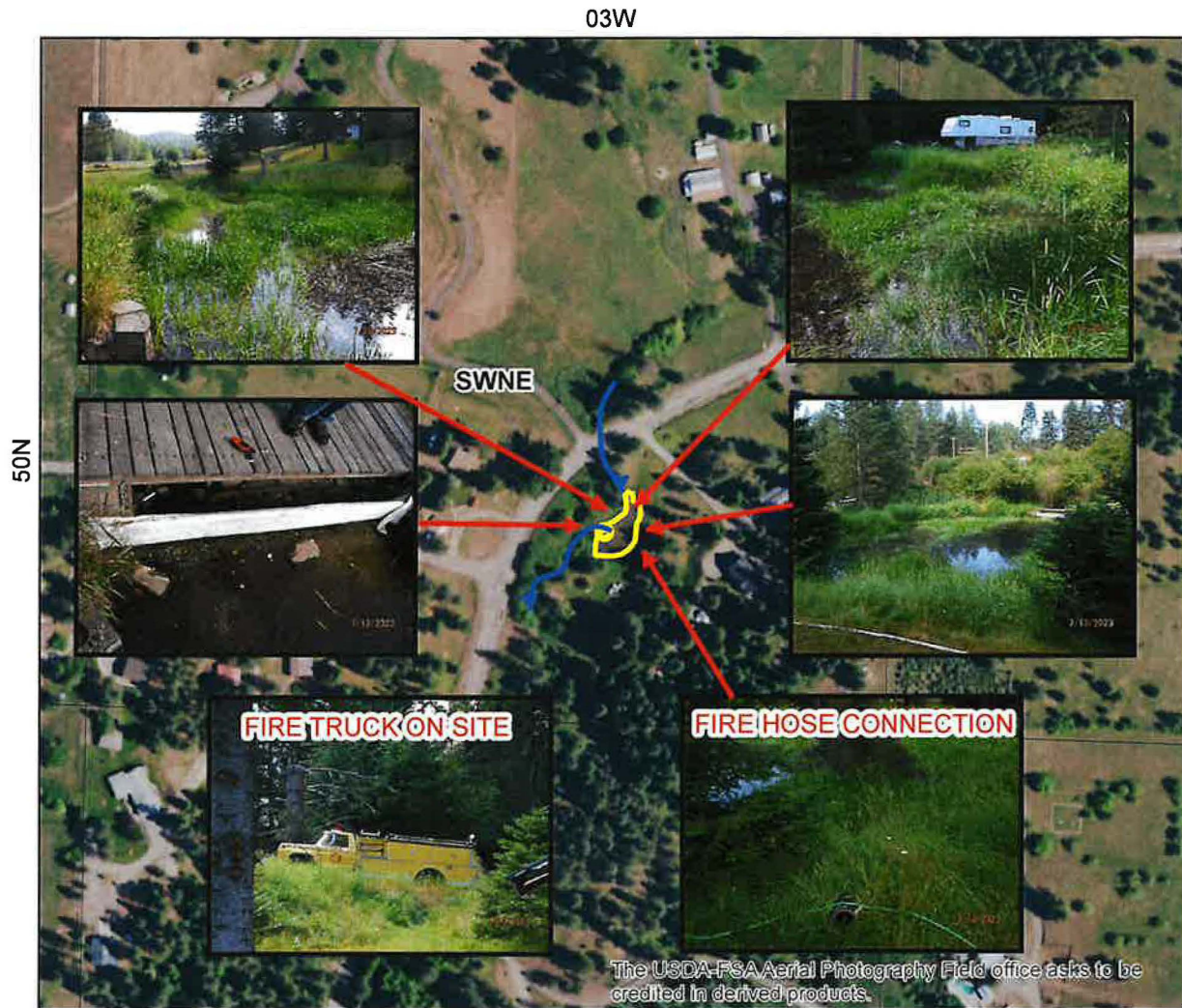
Luke Bates -

Field Examiner's Name *F. D. S. P.* Date *11/14/23*

Reviewer *Chase Bell* Date *5/23/24*

State of Idaho
Department of Water Resources
Attachment to Field Exam
95-18295

This map depicts the IRRIGATION STORAGE, FIRE PROTECTION STORAGE,
& AESTHETIC STORAGE system diagram.



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



State of Idaho
Department of Water Resources
Attachment to Field Exam
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This map depicts the IRRIGATION FROM STORAGE system diagram.



0 0.035 0.07 0.14 Miles

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



Total Storage Calculations

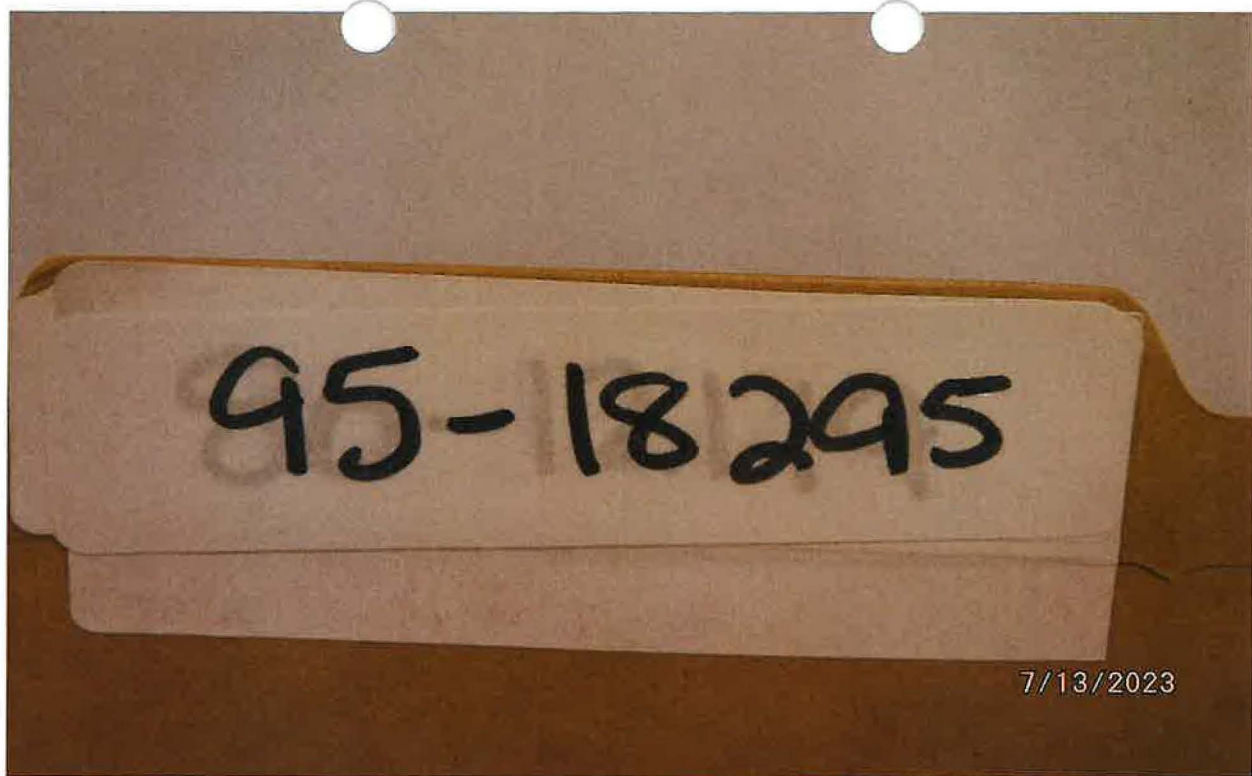
FILE NUMBER	95-18295
REVIEWER	Luke Bates
DATE	11/13/2023

This spreadsheet has been designed by Idaho Department of Water Resources to estimate the total seepage, evaporation and fill capacity required for a pond.

User Input
Calculated value
Formula Explanations

Surface Area (AC.)	0.1	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	2	"Average Pond Depth" depicts the actual depth of the pond either measured or estimated. Note: If you know the maximum depth and not the average depth, the Field Examiner's Handbook suggests multiplying the maximum depth by 0.4 to get the average depth, or you can use any method that seems reasonable to attain average depth.
Pond Capacity (AF)	0.2	Pond Capacity is calculated by multiplying the Pond Surface Area by the Average Pond Depth. If you know the capacity, divide the capacity by surface area and enter the average pond depth in the space above. Note: If pond capacity is determined using a method shown on the "Pond Capacity" sheet, the user may need to modify the value of "Pond Capacity" (cell B9) manually. Note that if the value is modified manually, the formula will be altered for future use.

Multiple Fill Volume Above Initial Fill to Fulfill From Storage Needs- "Multiple Fills" (AF)	1.5	The "Multiple Fill Volume Above Initial Fill" is the acre-feet of water required to meet a <i>from storage</i> component if the <i>from storage</i> component exceeds a one time fill. This section should not include the amount of water needed to fill the pond initially or the amount of water needed to maintain the pond level due to evaporation or seepage. For example: if a pond has a capacity of 5 acre feet and 2.5 acre feet of seepage and evaporation, but the pond is used for irrigation that requires 10 acre feet of from storage for the irrigation use, then you would insert 5 acre feet into this location (10 acre feet needed - 5 acre feet from the initial fill = 5 acre feet of additional storage needed). Note: You must have a " <u>From Storage</u> " component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	0.3	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.4	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	2.4	The "Total Volume Required" is calculated by adding the Pond Capacity, Multiple Fills, Seepage Loss, and Evaporation Loss amounts to determine the total amount of storage required.



BENEFICIAL USE FIELD EXAM DATE 7/13/2023



EARTHEN POND DAM WITH ROCKED FLOWTHROUGH CHANNEL WITH BOARD SEGMENTS USED TO
RAISE/LOWER POND LEVEL



POD – EARTHEN POND DAM IMPOUNDS UNNAMED STREAM WATER



POU – IRRIGATION STORAGE, FIRE PROTECTION STORAGE, & AESTHETIC STORAGE POND

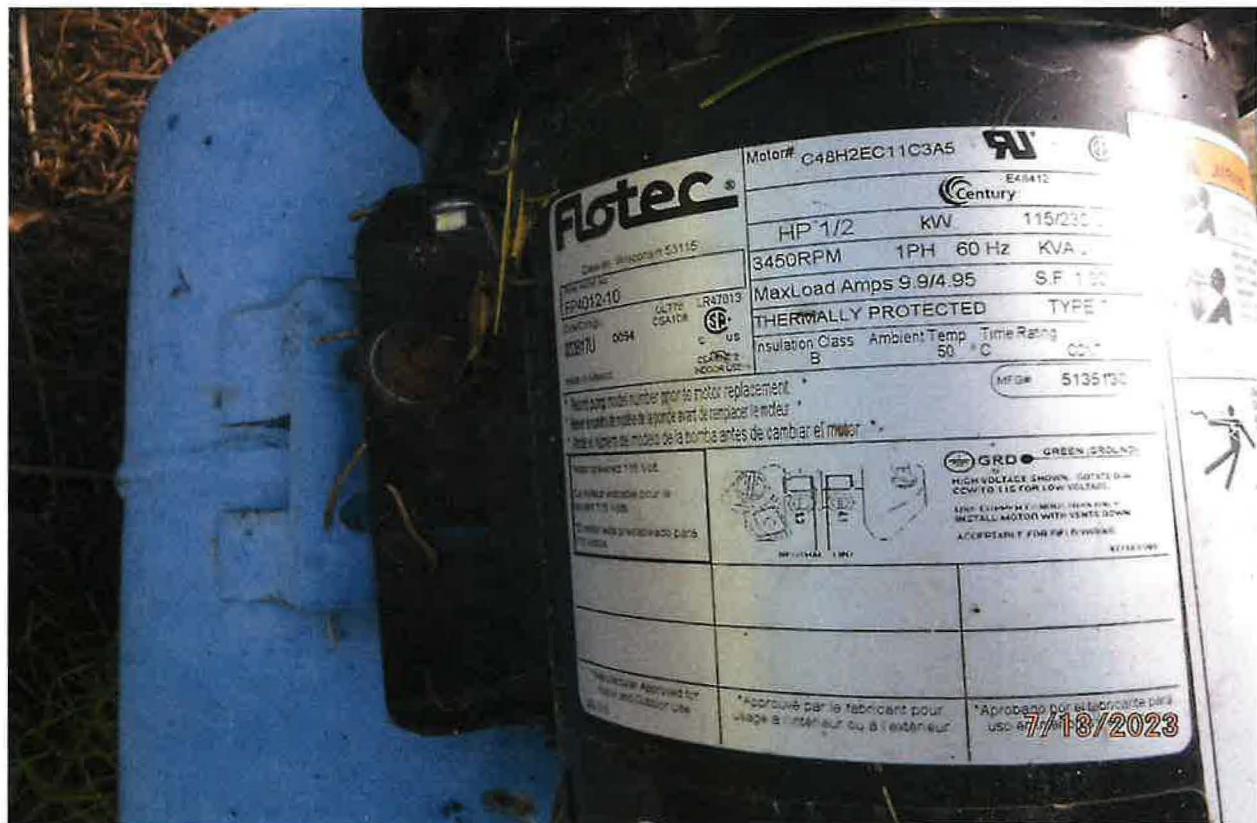


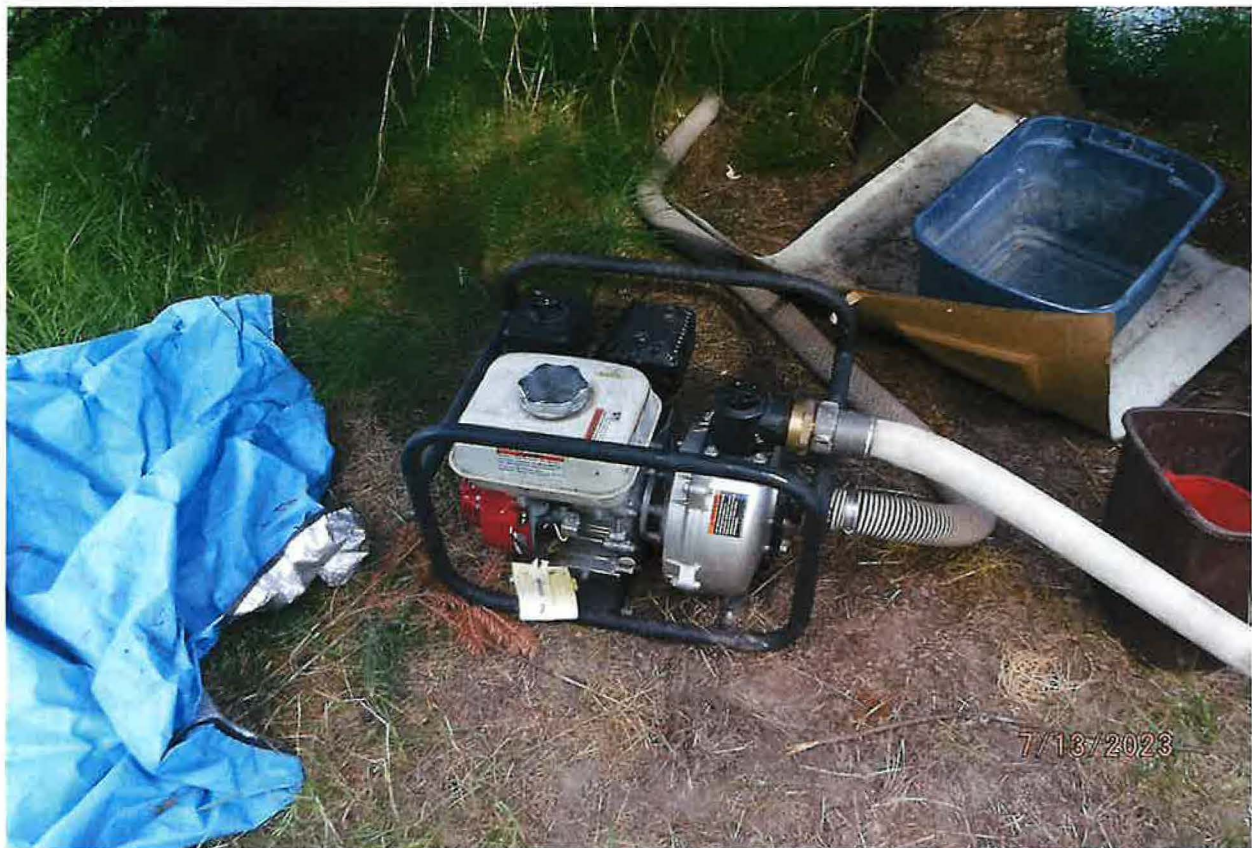
POU – STORAGE POND AT LOW LEVEL IN 2023





IRRIGATION FROM STORAGE SYSTEM – ½ HP FLOWTEC PUMP, 1 INCH POLY IN POND & 5/8 INCH GARDEN HOSE DISCHARGE





FIRE PROTECTION STORAGE – PORTABLE HONDA TRANSFER PUMP PREPARED FOR USE IN EVENT OF FIRE





FIRE TRUCK HOSE ATTACHMENT FOR USE IN EVENT OF FIRE





IRRIGATION FROM STORAGE POU





IRRIGATION FROM STORAGE POU – HOSE & SPRINKLERS FROM PUMP





IRRIGATION FROM STORAGE POU

