

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 85-15764
Exam Date: 06/16/2021

1. Current Owner:
WILFRED WEMHOFF 905 CYPRESS ST. LEWISTON ID 83501 AND/OR
THERESA WEMHOFF 905 CYPRESS ST. LEWISTON ID 83501
2. Accompanied by: Wilfred Wemhoff
Phone No: 928-580-2488
Address: Same as above
Relationship to permit Holder: Applicant

3. **SOURCE:**
SPRING
UNNAMED STREAM

Tributary
LAWYER CREEK
LAWYER CREEK

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 SYSTEM1. **LOCATION OF POINT(S) OF DIVERSION:**

UNNAMED STREAM NW¼ NE¼, Sec. 34, Twp 32N, Rge 01W, B.M. IDAHO County
SPRING NE¼ NW¼ NE¼, Sec. 34, Twp 32N, Rge 01W, B.M. IDAHO County

Method of Determination: GPS. POD is a pond earthen dam; location -116°26.255, 46°4.657. A single POD centroid serves as 2ea PODs for both the Unnamed Stream and Spring sources.

PLACE OF USE: IRRIGATION STORAGE, STOCKWATER STORAGE, RECREATION STORAGE, and FIRE PROTECTION 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	
32N	01W	34	X	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	
32N	01W	27																0.2	0.2

Total Acres: 0.2

PLACE OF USE: STOCKWATER 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	
32N	01W	27																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
N/A					

D. FLOW MEASUREMENTS

1.

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

2. Measurements: N/A

E. FLOW CALCULATIONS

Measured Method: N/A

F. VOLUME CALCULATIONS

1. Volume Calculations for irrigation:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.2 \text{ ac} \times 3.0 \text{ afa} = 0.6 \text{ af}$$

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

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = \mathbf{0.6 \text{ af}}$$

2. Volume Calculations for Other Uses:

- Stockwater storage & stockwater from storage annual volume = 50 head cattle x 12 GPD x 365 days = 219,000 gal per year / 325,850 gal per af = **0.7 af** considering department rounding standards
- See pond analysis worksheet
- Maximum Diversion volume = 0.6 af (irrigation) + 0.7 af (stockwater) + 3.9 af (pond capacity) + 3.7 af (seepage & evaporation loss) = **8.9 af**

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 6/16/2021 with the applicant, Wilfred Wemhoff, showed an instream pond being used for multiple storage uses and irrigation/stockwater from storage use. At the POD, the applicant has excavated an earthen dam to impound unnamed stream water and spring water. The unnamed stream channel has forked over time up stream and west of the pond allowing water to flow to the pond, but the DRG layer in Arcmap shows the stream channel flowing west of the pond. I walked the stream up to the fork, and it appears natural in how it has forked over time and does not show sign of man-made alteration. The spring source flows from South to North at the bank of the pond. A single centroid was designated during licensing review and is applied to 2ea water source PODs. There is no diversion rate associated with the development of the pond and the diversion to storage beneficial use was removed from the permit during licensing review.

During the field exam the storage pond was sketched out on field maps and serves as the irrigation storage, stockwater storage, recreation storage, & fire protection storage POU. During licensing review Arcmap aerial imagery coupled with field notes were used to trace out the pond's surface area, which equals 0.7 acres. The pond has a maximum depth of 14 feet, an average depth of 5.6 feet, a pond capacity of 3.9 af, and an estimated seepage and evaporation loss of 3.7 af. The pond includes a multiple fill volume equal to 1.3 af (irrigation & stockwater storage/from storage use). Based on pond development and current department pond analysis worksheet calculations, the annual volume equals **8.9 af**, which is recommended as the maximum diversion volume for licensing purposes. This volume is much less than the permit approved volume, resulting from current pond analysis worksheet factors versus the old model used at time of application submission. The recreation storage and fire protection storage annual volume is derived by adding the pond capacity + seepage & evaporation loss = $3.9 \text{ af} + 2.8 \text{ af} + 0.9 \text{ af} = \mathbf{7.6 \text{ af}}$ respectively.

There is an evident shift in Arcmap aerial imagery layers versus the DRG layer resulting in the pond visually shown in Section 27 – SW¼SE¼ and not in Section 34 - NW¼NE¼. Based on this shift, the permit designated POU shall remain the same as permit approved for, and no amendment of permit is recommended for licensing purposes. Additionally, the irrigation from storage and stockwater from storage POU was permit approved in Section 27 – SE¼SE¼, but due to the shift in aerial imagery current maps illustrate the POU also located in Section 27 – SW¼SE¼; no amendment of permit is recommended for licensing purposes based on this evident shift in imagery.

During the exam the irrigation from storage POU and stockwater from storage POU was walked with Mr. Wemhoff. Water is drafted from the pond using a buried poly pipe that daylights north of the pond at a riser pipe, before continuing to a stock tank with dedicated frost-free hydrant located in a field NE of the pond. Mr. Wemhoff uses a trailer mounted 100-gal water tank filled at the irrigation riser to water trees located within the POU. The irrigation POU is designated as a permissible POU, as the applicant only applied to irrigate 0.2 acres based on tree diameter as referenced in the permit's backfile. This resulted in the recommended POU for licensing being larger than 0.2 acres, but the applicant is limited by volume conditions for licensing purposes equal to $0.2 \text{ ac} \times 3.0 \text{ afa} = \mathbf{0.6 \text{ af}}$, which serves as the irrigation storage and irrigation from storage volume for licensing purposes.

The stockwater from storage POU was traced as the same shape as the irrigation from storage POU, and the 50 head of free-range cattle using the applicant's property(s) come to the stock tank for water use. The annual volume recommended for licensing equals $50 \text{ head cattle} \times 12 \text{ GPD} \times 365 \text{ days} = 219,000 \text{ gal per year} / 325,850 \text{ gal per af} = \mathbf{0.7 \text{ af}}$ considering department rounding standards. Both the irrigation storage and stockwater storage annual volumes were revised during licensing review to reflect the actual annual volume requirements as developed by the applicant in permit's development period.

Conditions X02, 082, and 26A were removed from the permit during licensing review. Condition R58 was replaced with R70 to better describe the annual volume limitations for irrigation storage and from storage use. Condition 220 was updated to reflect current pond analysis worksheet values following the field exam validation of the beneficial uses developed by the applicant. Condition 219 was replaced with 259 to describe pond size and volume metrics more accurately in addition to multiple fill volume metrics for licensing purposes. Condition 227 was added describing minimum stream flow requirements associated with right 85-15616 for Lawyer Creek. Condition WB9 was added describing minimum stream flow requirements for right 85-15621 associated with an Unnamed Stream & for right 85-7583 for the Clearwater River. All other conditions on the permit shall be carried forward 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	0.6 AF
IRRIGATION FROM STORAGE	04/01 to 10/31	0.6 AF
STOCKWATER STORAGE	01/01 to 12/31	0.7 AF
STOCKWATER FROM STORAGE	01/01 to 12/31	0.7 AF
RECREATION STORAGE	01/01 to 12/31	7.6 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	7.6 AF

Totals: 8.9 AF

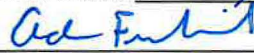
2. Recommended Amendments

 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

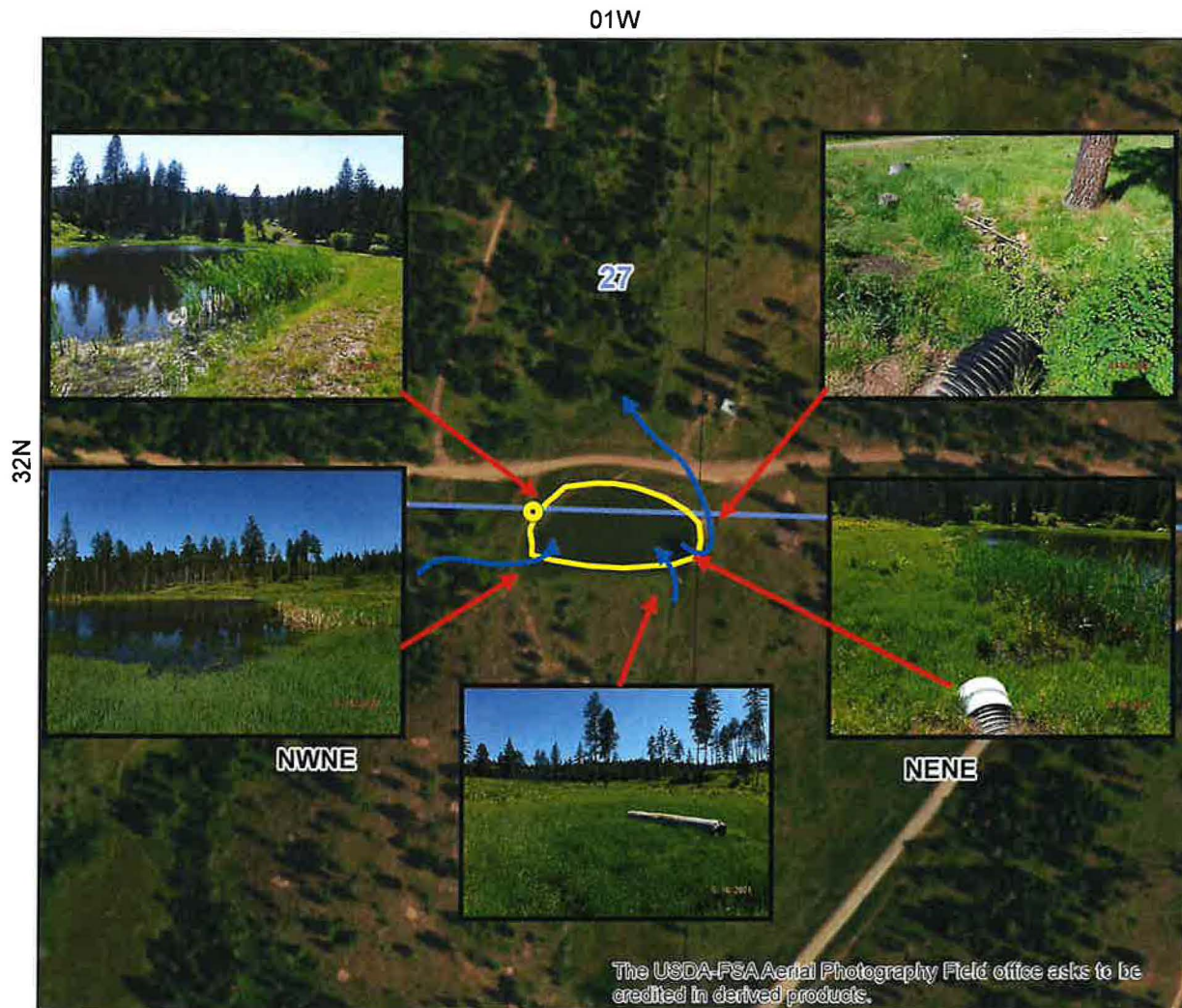
I. AUTHENTICATION Luke Bates - Water Resource Agent

Field Examiner's Name  Date 11/18/2021

Reviewer  Date 11/18/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
85-15764

IRRIGATION STORAGE, STOCKWATER STORAGE, RECREATION
STORAGE, and FIRE PROTECTION STORAGE system diagram.



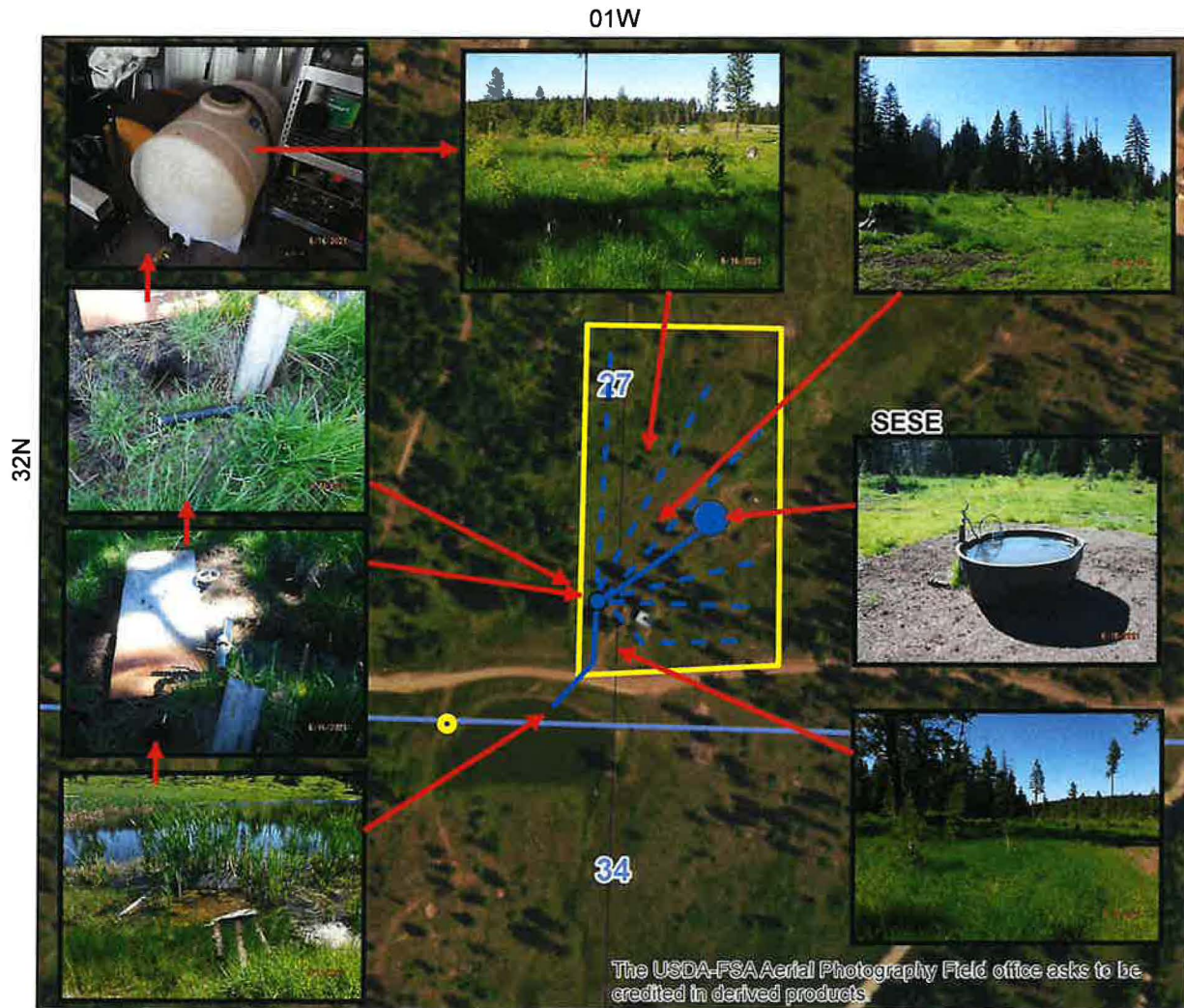
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



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IRRIGATION FROM STORAGE and STOCKWATER FROM STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles



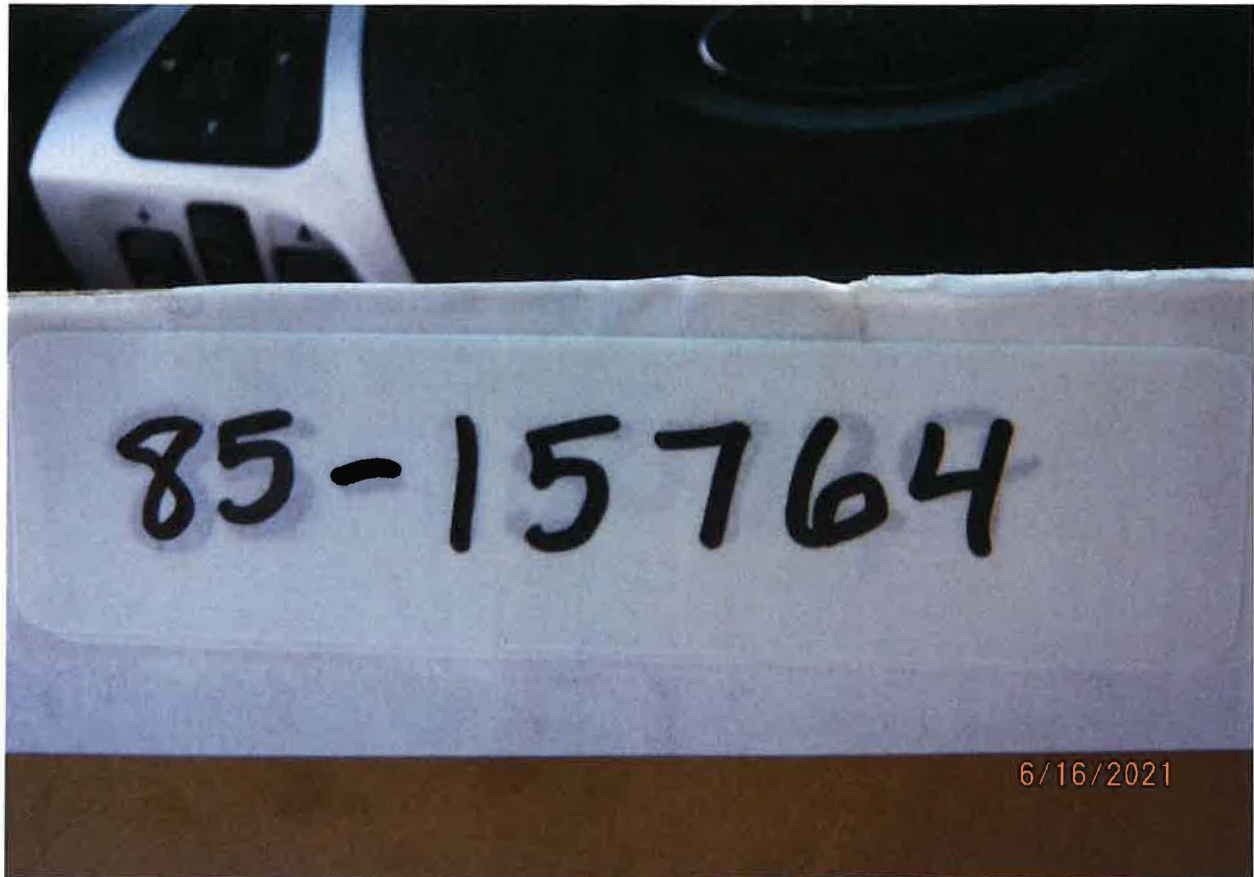
Total Storage Calculations

FILE NUMBER	85-15764
REVIEWER	Luke Bates
DATE	9/21/2021

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.)	0.7	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	5.6	"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)	3.9	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)	1.3	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 "From Storage" component exceeding the initial fill on the permit to include a volume in this space.
Estimated Seepage Loss (AF)	2.8	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	0.9	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	8.9	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.



FIELD EXAM DATE 6/16/2021



POD – EARTHEN POND DAM CAPTURES FLOW FROM SPRING & UNNAMED STREAM FLOW



WEST SIDE OF POND – UNNAMED STREAM FLOWING INTO POND



SOUTH SIDE OF POND – SPRINGFLOWING INTO POND

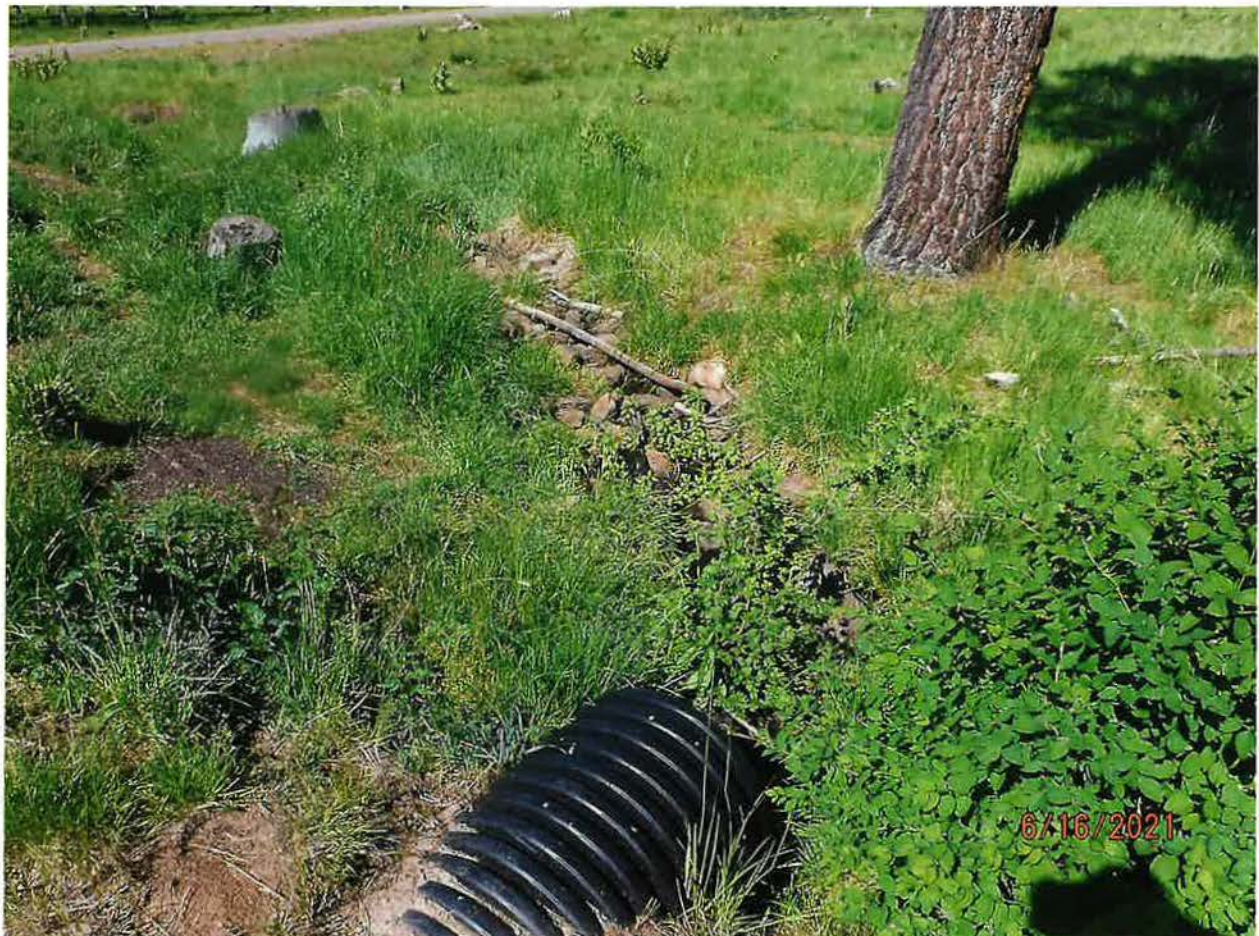


IRRIGATION STORAGE, STOCKWATER STORAGE, FIRE PROTECTION STORAGE, & RECREATION STORAGE
POU – POND





OVERFLOW DISCHARGE PIPE FROM POND





POLY PIPE ROUTES WATER FROM POND DOWNGRADE ACROSS ROAD FOR IRRIGATION FROM STORAGE
AND STOCKWATER FROM STORAGE USES



FROM STORAGE USE(S) RISER PIPE AND VALVE



CONNECTOR TUBE USED TO FILL TRAILER TRANSPORTED WATER TANK



IRRIGATION FROM STORAGE – TANK MOUNTED ON 4WHEELER TRAILER FOR USE



IRRIGATION FROM STORAGE POU – TREES IRRIGATED REGULARLY DURING SEASON OF USE





STOCKWATER FROM STORAGE USE – PIPE ROUTED FROM POND TO FROST FREE HYDRANT AND TANK

