

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 87-11020
Exam Date: 03/23/2021

1. Current Owner:
CONNIE SALISBURY 400 MILL RD MOSCOW ID 83843-8407 OR
EDWIN SALISBURY 400 MILL RD MOSCOW ID 83843-8407
2. Accompanied by: Edwin Salisbury
Phone No: 208-882-3542
Address: Same as above
Relationship to permit Holder: Permit holder

3. **SOURCE:**
UNNAMED STREAM

Tributary
SOUTH FORK PALOUSE 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
87-10554	GROUNDWATER	DOMESTIC	Beneficial use claim; recommended (active status)

Comments: 87-10554 is a Beneficial Use claim filed by the applicant in the Palouse River Basin Adjudication pending court decision to become a decreed right. 87-10554 uses groundwater for domestic purposes that overlap this rights irrigation from storage POU. Condition 928 was added to the permit during licensing review to mitigate potential overlap concerns regarding the 1/2 acre irrigation use included with domestic beneficial use.

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 SW1/4 SE1/4, Sec. 10, Twp 39N, Rge 05W, B.M. LATAH County

Method of Determination: GPS. Pond earthen dam location -116°56.704, 46°44.020.

PLACE OF USE: IRRIGATION 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	
39N	05W	10															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	
39N	05W	10															1.0		1.0

Total Acres: 1.0

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:

$$V_{IR} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 1.0 \text{ acres} \times 3.0 \text{ AFA} = 3.0 \text{ af}$$

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

$$V = \text{Smaller of } V_{IR} \text{ and } V_{DR} = 3.0 \text{ af}$$

2. Volume Calculations for Other Uses:

See attached pond analysis sheet.

G. NARRATIVE/REMARKS/COMMENTS

Field exam performed on 3/23/2021 with the applicant, Edwin Salisbury, showed a pond receiving water from an unnamed stream. The applicant uses the pond for irrigation storage, fire protection storage, and irrigation from storage purposes. The POD is an earthen dam, with a natural overflow channel that allows overflow to discharge into a roadside ditch adjacent the pond's dam. There is no diversion rate applied to this water right.

The pond which serves as the irrigation storage and fire protection storage POU has a surface area of 0.9 acres and a pond capacity of 3.6 af. The pond has a maximum depth of 10 feet, an average depth of 4 feet, a seepage rate of 1.0 af, and an evaporation rate of 1.1 af. The pond has a multi-fill component equaling irrigation from storage volume of 3.0 af annually. The total volume required for pond equals 8.7 af, the sum of afore mentioned pond components.

The Maximum diversion volume recommended for this water right equals **8.7 af**. The applicant is permit approved for 5.7 af for fire protection storage annual volume. The annual fire protection storage volume for licensing equals 3.6 af (pond capacity) + 2.1 af (seepage and evaporate rate) = **5.7 af**.

During the exam photographs were taken of the irrigation from storage POU and water conveyance system. The applicant uses a floating intake pipe that extends 30 feet out to the deepest portion of the pond, and a 1 hp pump with fire hose to withdraw water from the pond. Fire hose is routed to high portions of the applicant's yard & property to flood irrigate, and Mr. Salisbury stated he spent a lot of time moving fire hose throughout the summer. The permit was approved for 3.0 acres of irrigation from storage, but during the exam Mr. Salisbury stated he is limited by the amount of fire hose on hand which limits the extent of irrigation he is able to do annually. The irrigation from storage POU was sketched out on field maps, and during licensing review Arcmap aerial imagery was used to accurately trace out the POU, equaling 1.0 acres. The irrigation from storage beneficial use annual volume equals 1.0 acres x 3.0 afa = **3.0 af**, which is recommended for licensing purpose.

Condition 259 was updated to reflect post-field exam pond volume factors. 928 was added describing a current beneficial use claim by the applicants in the PRBA (read below). All other conditions on the permit will remain on the license. Overlap concerns: 87-10554 is a Beneficial Use claim filed by the applicant in the Palouse River Basin Adjudication pending court decision to become a decreed right. 87-10554 uses groundwater for domestic purposes that overlap this rights irrigation from storage POU. Condition 928 was added to the permit during licensing review to mitigate potential overlap concerns regarding the ½ acre irrigation use included with domestic beneficial use. 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>Annual Volume</u>
IRRIGATION STORAGE	01/01 to 12/31	3.0 AF
IRRIGATION FROM STORAGE	03/15 to 10/31	3.0 AF
FIRE PROTECTION STORAGE	01/01 to 12/31	5.7 AF

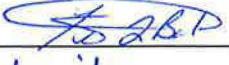
Totals: 8.7 AF

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

Luke Bates - Water Resource Agent

Field Examiner's Name  Date 3/29/2021
 Reviewer  Date 4/30/2021

State of Idaho
Department of Water Resources
Attachment to Field Exam
87-11020

IRRIGATION STORAGE and FIRE PROTECTION STORAGE system diagram.



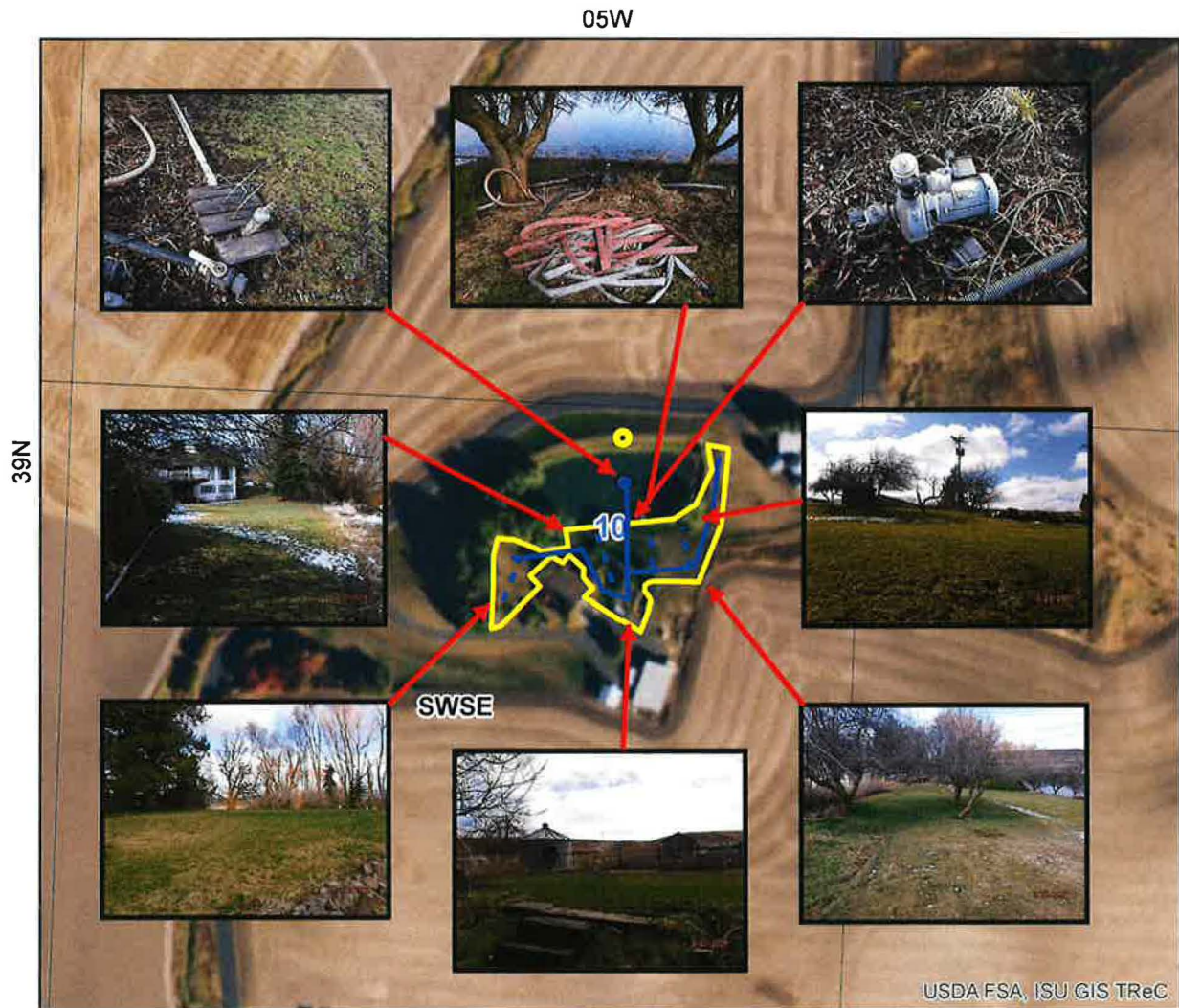
- Point of Diversion
- Place Of Use Boundary
- Townships
- PLS Sections
- Quarter Quarters

0 0.035 0.07 0.14 Miles



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IRRIGATION FROM STORAGE system diagram.



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

0 0.035 0.07 0.14 Miles



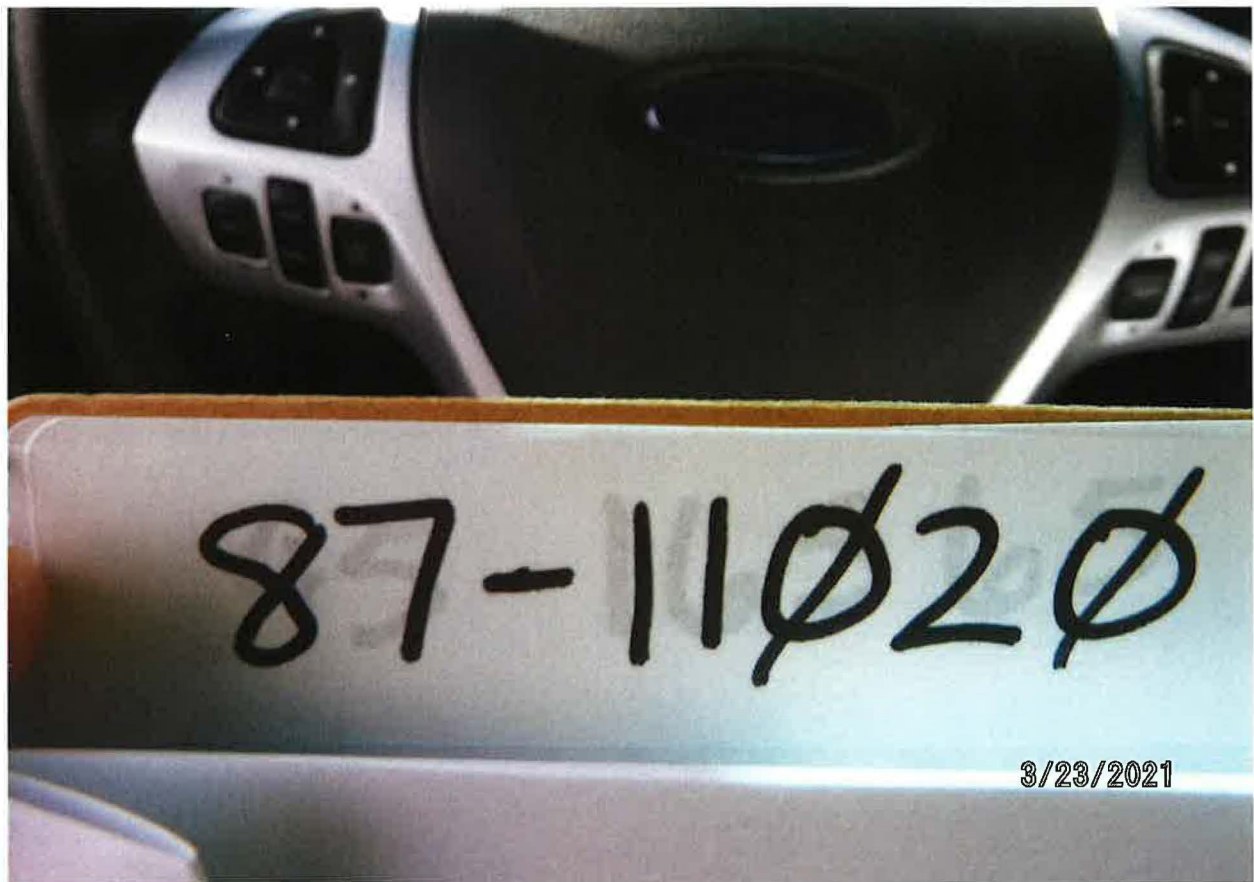
Total Storage Calculations

FILE NUMBER	87-11020
REVIEWER	LUKE BATES
DATE	3/23/2021

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.)	0.9	"Surface Area" is automatically carried over from the "Seepage Loss" sheet.
Average Pond Depth (FT.)	4	"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)	3.6	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)	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)	1.0	The "Estimated Seepage Loss" is automatically carried over from the "Seepage Loss" sheet.
Estimated Evaporation Loss (AF)	1.1	The "Estimated Evaporation Loss" is automatically carried over from the "Evaporation Loss" sheet.
Total Volume Required (AF)	8.7	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 – 3/23/2021



POD – EARTHEN DAM



INFLOW TO POND – INTERMITTENT UNNAMED STREAM





OVERFLOW DISCHARGE BY NATURAL LOW CHANNEL ALONG SIDE OF POND TO ROADSIDE DITCH



POU – IRRIGATION STORAGE & FIRE PROTECTION STORAGE



IRRIGATION FROM STORAGE – 30 FOOT FLOATING INTAKE PIPE TO PUMP





IRRIGATION FROM STORAGE – FLOOD IRRIGATION PRACTICES USING FIRE HOSE



IRRIGATION FROM STORAGE POU – FLOOD IRRIGATED



IRRIGATION FROM STORAGE POU – FLOOD IRRIGATED





IRRIGATION FROM STORAGE POU – FLOOD IRRIGATED





IRRIGATION FROM STORAGE POU – FLOOD IRRIGATED





IRRIGATION FROM STORAGE POU – FLOOD IRRIGATED

